



Technical Bulletin

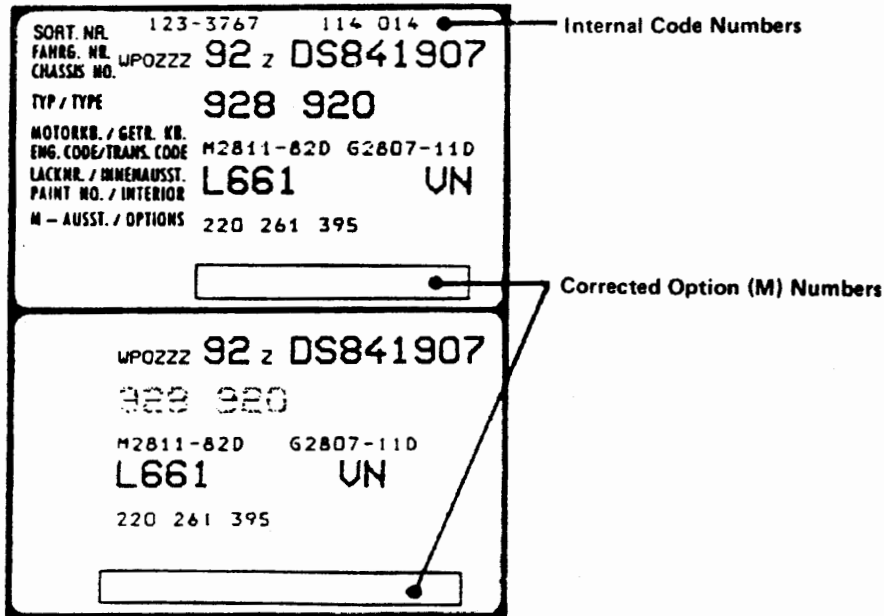
Model 911SC, 928S	Group 00
Part Identifier N/A	Number 83-01

Subject: Location of VIN Label

A VIN/code label is now installed behind the hood lock in the luggage compartment of all 911 vehicles as of May 16, 1983;

VIN - 91DS 12 2223	Coupe
91DS 16 1395	Targa
91DS 17 1147	Cabrio
93DS 05 0065	Turbo/Canada

In 928 vehicles, the label is installed in the luggage compartment next to the spare wheel well



SERVICE

Page 1 of 1
August 23, 1983

Technical Bulletin

Model

All

Group

0

Subject:

**Approximate Oil/Fluid Capacities
for All Models from 1985**

Part Identifier

N/A

Number

9401

ATTENTION: Service Manager / Service Technician

Models	Engine Oil w/Filter *1&*2 Dry	Engine Oil w/Filter Service Fill *8	Engine Coolant *1&*5	ATF Auto Trans *1,*2&*3 Dry	ATF Service Fill *8	Final Drive Auto Trans *1&*7	Manual Trans *1&*4	Brake Fluid *1&*6	Washer Fluid
944	6.4	6.0	9.0	6.3	3.0	1.1	2.1	0.3	6.3
944S/S2/T	6.8	6.0	9.0	N/A	N/A	N/A	2.1	0.3	6.3
968	7.4	6.5	8.4	7.4	3.0	0.6	2.9	0.3	6.9
928S	8.0	7.5	17.0	6.3	5.0	2.8	4.0	0.3	9.5
928 S4	8.0	7.5	17.0	7.7	6.0	3.0	4.7	0.3	7.9
928 GTS	8.0	7.5	17.0	9.8	8.0	2.0	5.0	0.3	7.9
911	13.0	10.0	N/A	N/A	N/A	N/A	3.2	0.3	8.4
911 Turbo up to 1989	13.0	10.0	N/A	N/A	N/A	N/A	3.9	0.3	8.4
911 C2	12.0	10.0	N/A	9.0	3.0	1.0	3.8	0.4	7.8
911 C4	12.0	10.0	N/A	N/A	N/A	N/A	4.0	0.8	7.8
911 Turbo from 1991	13.0	10.0	N/A	N/A	N/A	N/A	3.9	0.8	7.8
993	12.0	10.0	N/A	9.5	3.0	0.9	3.8	0.4	7.7

NOTE: ALL CAPACITIES ARE GIVEN IN QUARTS

- *1. Filling capacities are approximations; actual fill will usually be less.
- *2. Dry capacity is the capacity after complete disassembly of an entire system including coolers and lines.
- *3. Automatic transmission fluid is Dexron IID.
- *4. Manual transmission oil is multigrade gear oil 75W90 with API classification GL5.
- *5. Antifreeze must be phosphate free.
- *6. From model year 1993 use only DOT 4 brake fluid. (Porsche Part Number 000 043 202 09)
- *7. Up to model year 1988 use SAE 90W with API classification GL5; from model year 1989 use multigrade gear oil 75W90 with API classification GL5.
- *8. Service fill is the amount of oil required when performing normal maintenance.

IMPORTANT-After initial filling, adhere to the manufacturer's instructions for checking and correcting oil/fluid levels with regard to engine temperature. Top up oil/fluid levels as required.

PORSCHE CARS NORTH AMERICA INC.



Technical Bulletin

Model
911, 928S
944

Group
0

Subject:

Changes On Model 1985

Part Identifier

N/A

Number

8502

Below is a brief outline of the changes for the 1985 models. For detailed information please refer to the 85 "Information Technic" booklets.

911 CARRERA

Engine

Finned oil cooler in the right front wheel well (introduced in late 84 cars)

Fuel Tank

Volume increased from 80 (21.1 Gal.) to 85 (22.4 Gal.) liters

Shift Lever

Travel of shift lever shortened by 10%

Transmission

Standardized CV joint flanges

Modified synchronization

Limited slip differential with improved lubrication

Chassis/Brakes

Rear axle CV joint shafts, with new standardized joints on the transmission and friction welded joints on the axle shafts

Modified stabilizers

Turbo look, including:

- Lower brake pedal force

- New brake force regulator

- Double tube gas pressure shock absorbers (optional)

Exterior and Interior

Different body colors

Exterior and Interior (continued)

Black inside trim-black roof liner (coupe only)

Green tinted glass all around

Four spoke leather steering wheel with lettering on impact pad

Shift lever dust cover in leather

New seat generation

Semi leather seats with backrest release on both sides

Rear seat backrest lock same as Cabriolets

Additional Cabriolet top colors: burgundy, gray, green

Central door locks with central locking button

Electrical Systems

Heated windshield washer jets

Windshield antenna, four radio speakers, speaker balance and antenna amplifier

Power windows with modified circuit

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Technical Bulletin

Model
911, 928S
944

Group
0

Subject:

Changes On Model 1985

Part Identifier

N/A

Number

8502

928S

Engine

Displacement increased from 4.7 to 5.0 liter

Horsepower increased from 234 to 288

Equipped with four valves per cylinder

New hydraulic lifter

New connecting rod nuts

Modified main bearings

Camshaft drive belt with electric tension control

Oil pump with wider pump gears

Electro-radiator fan with afterrun systems

Visc-fan with changed ratio

Exhaust manifold out of double-walled sheet metal pipes

New EZF ignition system with dual ignition distributors

Fuel System

New LH jetronic injection system

Transmission-Manual

Five-speed with new synchronization

Shift lever moved approximately 30 mm lower

Limited slip differential with improved lubrication

Standardized CV joint flanges

Transmission-Automatic

Elimination of drive plate adjustment

Modified torque converter

Additional selector lever indicator in tachometer

New neutral safety starting switch

Modified valve body

Chassis

New power steering pump

Rear axle with universal CV joints

Exterior and Interior

Four spoke leather steering wheel

New seat generation

Windshield antenna, with amplifier

New bracket for windshield wiper motor

Electrical System

New combi instruments

Modified central electric board

Improved electrical connectors on the central electric board and combi instrument

Alternator with increased capacity-115 amp.

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SERVICE

Page 2 of 4
February 19, 1985

<h1>Technical Bulletin</h1>	Model 911, 928S 944	Group 0
	Part Identifier N/A	Number 8502

Subject:

Changes On Model 1985

944

The 85 model comes in two versions, one from start of production to the end of January 1985 (85/1) and the second version (85/2) from February 1985 on.

Engine Up To January 85 Model 85/1

- New balance shafts and bearings
- Oil pump with wider gears and modified suction channels in the crankcase
- Modified main bearings
- Modified oil pressure relief valve
- New coolant temperature switch
- New connecting rod nuts

Chassis

- Improved electrical connectors for the brake pad wear indicator
- Forged alu rims 7Jx15 with tim star in white/gold metallic (M-485)

Body

- New colors
- Tinted glass-standard

Electrical System

- Heated windshield washer jets
- As of February 1985 Model 85/2

Engine

- Modified combustion chamber and pistons
- New cylinderhead gasket
- New camshaft

Engine (continued)

- Modified exhaust valves
- Larger radiator
- Idle stablizer
- New fuel line manifold
- New airflow meter and DME control unit
- Timing light pick-up
- Plastic engine splash pan

Transmission

- New transmission mount location
- Modified transmission housing
- Electronic speedometer transmitter

Chassis

- Front A-arms and rear trailing arms made of cast aluminum
- New hand brake lever
- New pressure cast wheels 7Jx15

Body

- Windshield flush with body
- Windshield antenna with amplifier
- New front hood with modified reinforcements
- Front body portion bolted on
- Modified front spoiler
- New rain gutter moldings
- Plastic wheel well inserts



SERVICE

<h1>Technical Bulletin</h1>	Model 911, 928S 944	Group 0
	Part Identifier N/A	Number 8502

Subject:

Changes On Model 1985

Body (continued)

- New windshield washer system
- New dashboard and center console
- New inner door panels
- New fuel tank, 80 liter (21.1 Gal.)
- New seat generation
- New car jack
- New transmission mount bracket

Electrical System

- New alternator, 115 Amp.
- New electronically operated heater and A/C system
- New A/C compressor and climate control
- New electrical outside mirrors
- New central electrical board
- New instruments and wire harnesses
- New electrical connectors
- Modified cooling fan wiring



SERVICE

Technical Bulletin

Model
911, 928S
944

Group
0

Subject:

Maintenance Requirements - M.Y. 1985

Part Identifier

N/A

Number

8503

This Technical Bulletin contains the maintenance schedules for the 1985 models. Suggested repair times for these operations are also included.

Note: The checking and adjusting of the Camshaft Drive belt is now a requirement at the 15,000 Mile Maintenance Service intervals. The time allowance for this service has been increased to include the added operations.

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SERVICE

Page 1 of 8
March 6, 1985

Technical Bulletin	Model 911, 928S 944	Group O
	Subject: Maintenance Requirements - M.Y. 1985	Part Identifier N/A

1000 Mile Maintenance Service

	<u>911</u>	<u>928</u>	<u>944</u>
1. Change engine oil	X	X	X
2. Replace engine-oil filter	X	X	X
3. Check and adjust valve clearance (replace cover gasket)	X		
4. Cooling and heating system: check coolant level, outside of radiator for foreign particles and hoses for tightness - correct if necessary		X	X
5. Check engine and transmission for leakage		X	
6. Check and correct ATF level in automatic transmission and final drive oil level		X	X
7. Check and correct oil level in manual transmission			X
8. Check and adjust engine idle speed	X	X	X
9. Check and adjust clutch and brake pedal free play	X	X	X
10. Check operation of lights, horns, wipers and washers	X	X	X
11. Check headlight adjustment	X	X	X
12. Check and correct tire pressure	X	X	X

During Road and Dynamometer Test:

13. Check braking, clutch, steering, heating, ventilation, A/C and cruise control systems.	X	X	X
14. Check all instruments, control and warning lights	X	X	X
15. Check operation of central warning system		X	

Note: The maintenance point "check front wheel bearing play" is carried out initially at 15,000 miles and then at every 15,000 mile interval.

Note: 944: Although not needed to fulfill emission warranty requirements, the manufacturer recommends that the camshaft and balance shafts drive belts are checked and adjusted at the 1000 mile maintenance service.



SERVICE

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March 6, 1985

Technical Bulletin	Model 911, 928S 944	Group O
	Subject: Maintenance Requirements - M.Y. 1985	Part Identifier N/A

15,000 Mile Maintenance Service (required every 15,000 miles)

	<u>911</u>	<u>928</u>	<u>944</u>
1. Change engine oil	X	X	X
2. Replace engine oil filter	X	X	X
3. Check and adjust valve clearance (replace cover gaskets)	X		
4. Check and adjust tension of camshaft and balance shaft drive belts.			X
5. Cooling and heating system: check coolant level, outside of radiator for foreign particles and hoses for tightness - correct if necessary		X	X
6. Check engine and transmission for leakage		X	
7. Check and correct ATF level in automatic transmission and final drive oil level		X	X
8. Check and correct oil level in manual transmission	X	X	X
9. Check and adjust clutch and brake pedal free play	X	X	X
10. Check clutch and brake systems, all lines and hoses (including wear and leaks)	X	X	X
11. Check and adjust front wheel bearing play	X	X	X
12. Front axle: check for tightness and leaks in the steering servo unit (correct fluid level), tie-rod connections and rubber boots	X	X	X
13. Lubricate accelerator linkage		X	
14. Lubricate accelerator linkage on throttle housing	X		
15. Door and top weather strips: remove rubber residue from contacting areas and coat with Talcum powder or other suitable rubber lubricant.	X	X	X
16. Check and lubricate door hinges	X	X	
17. Check and correct windshield and headlight washer system - operation and fluid level	X	X	X
18. Check operation of lights, horns, wipers and washers	X	X	X
19. Check and correct headlight adjustment	X	X	X
20. Check and correct battery electrolyte level	X	X	X
21. Check and correct tire pressure	X	X	X
22. Check ignition/steering lock, safety belt warning light and buzzer or gong	X	X	X
<u>During Road or Dynamometer Test:</u>			
23. Check braking, clutch, steering, heating, ventilation, A/C and cruise control systems.	X	X	X
24. Check all instruments, control and warning lights	X	X	X
25. Check operation of central warning system		X	



SERVICE

Technical Bulletin	Model 911, 928S 944	Group O
	Subject: Maintenance Requirements - M.Y. 1985	Part Identifier N/A

30,000 Mile Maintenance Service (required every 30,000 miles)

	911	928	944
1. Change engine oil	X	X	X
2. Replace engine oil filter	X	X	X
3. Check and adjust valve clearance (replace cover gaskets)	X		
4. Check and adjust tension of camshaft and balance shaft drive belt			X
5. Adjust or replace if necessary V-belts and drive belts, check tension and condition: new V-belts must be readjusted after the first 1000 miles			
6. Check and replenish oil level in drive-belt tensioner		X	
7. Replace spark plugs (at least every two years)	X	X	X
8. Replace air cleaner filter element	X	X	X
9. Replace filter element for air pump		X	
10. Cooling and heating system: check coolant level, outside of radiator for foreign particals and hoses for tightness - correct if necessary		X	X
11. Check engine and transmission for leakage		X	X
12. Change ATF fluid in automatic transmission		X	X
13. Change oil in final drive and manual transmission	X	X	X
14. Check and correct oil level in manual transmission and final drive on automatics			X
15. Check and adjust clutch and brake pedal free play	X	X	X
16. Check clutch and brake system, all lines and hoses (include wear and leaks)	X	X	X
17. Check and adjust front wheel bearing play	X	X	X
18. Front axle: check for tightness and leaks in the steering servo unit (correct fluid level), tie-rod connections and rubber boots.	X	X	X
19. Lubricate accelerator linkage		X	
20. Lubricate accelerator linkage on throttle housing	X		
21. Doors and top weather strips: remove rubber residue from contacting areas and coat with Talcum powder or other suitable rubber lubricant	X	X	X
22. Check and lubricate door hinges	X	X	
23. Check and correct windshield and headlight washer system - operation and fluid level	X	X	X
24. Check operation of lights, horns, wipers and washers	X	X	X
25. Check and correct headlight adjustment	X	X	X
26. Check ignition/steering lock, safety belt warning light and buzzer or gong	X	X	X
27. Check and correct battery electrolyte level	X	X	X



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DORSEY CAR SERVICE
 11102 NORTH AMERICA
 A-102-1

Technical Bulletin	Model 911, 928S 944	Group O
	Subject: Maintenance Requirements - M.Y. 1985	Part Identifier N/A

30,000 Mile Maintenance Service (cont)

	<u>911</u>	<u>928</u>	<u>944</u>
28. Check and correct tire pressure	X	X	X
<u>During Road or Dynamometer Test:</u>			
29. Check braking, clutch, steering, heating, ventilation, A/C and cruise control systems	X	X	X
30. Check all instruments, control and warning lights	X	X	X
31. Check operation of central warning system		X	



SERVICE

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March 6, 1985

Technical Bulletin

Model
911, 928S
944

Group
0

Subject:
Maintenance Requirements - M.Y. 1985

Part Identifier
N/A

Number
8503

Repair Operation numbers and working time units.

MODEL 928 S

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Unit</u>
01 01 740	Maintenance, 500-2,000 miles, manual transmission. Includes all operations listed in bulletin.	160
01 01 742	Maintenance, 500-2,000 miles, automatic transmission. Includes all operations listed in bulletin.	180
03 15 00 00	Maintenance, 15,000, 45,000, 75,000 miles etc., manual transmission. Includes all operations listed in bulletin.	340
03 15 00 03	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	360
03 30 00 00	Maintenance, 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	340
03 30 00 03	Maintenance, 30,000, 60,000, 90,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	430
37 35 17 50	Every 30,000 miles, change automatic transmission fluid.	80
19 38 17 50	Every 2 years, change coolant.	20
20 69 19 56	Every 60,000 miles, replace fuel filter.	30
47 08 55 00	Every 2 years, change brake fluid.	60

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SERVICE

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Technical Bulletin	Model 911, 928S 944	Group 0
Subject: Maintenance Requirements - M.Y. 1985	Part Identifier N/A	Number 8503

Repair operation numbers and working time units.

MODEL 944

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Units</u>
03 05 00 00	Maintenance, 500-2000 miles, manual transmission. Includes all operations listed in bulletin.	200
03 05 00 01	Maintenance, 500-2000 miles, manual transmission and power assisted steering. Includes all operations listed in bulletin.	200
03 05 00 02	Maintenance, 500-2000 miles, automatic transmission. Includes all operations listed in bulletin.	220
03 05 00 03	Maintenance, 500-2000 miles, automatic transmission and power assisted steering. Includes all operations listed in bulletin.	240
03 15 00 01	Maintenance, 15,000, 45,000, 75,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	300
03 15 00 03	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	330
03 30 00 01	Maintenance, 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes: all operations listed in bulletin.	350
03 30 00 03	Maintenance, 30,000, 60,000, 90,000 miles, etc., automatic transmission. Includes: all operations listed in bulletin.	370
37 35 17 50	Every 30,000 miles, change ATF transmission fluid.	70
19 38 17 50	Every 2 years, change coolant.	20
47 08 55 00	Every 2 years, change brake fluid.	60



SERVICE

Technical Bulletin

Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
Part Identifier N/A	Number 8505

Subject: Maintenance Requirements - M.Y. 1986

This Technical Bulletin contains the maintenance schedules for the 1986 models. Suggested repair times for these operations are included.

944 - 944 Turbo

Note: The checking and adjusting of the camshaft and balance shaft drive belts is now a requirement at 1,000, 15,000 and 30,000 mile Maintenance Service intervals.

The increased time allowance is reflected in the suggested repair times.

PORSCHE CARS NORTH AMERICA - INC.



SERVICE

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Dec. 2, 1985

Technical Bulletin

Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
Part Identifier N/A	Number 8505

Subject: Maintenance Requirements - M.Y. 1986

Repair operation numbers and working time units.

MODEL 911, 911 Turbo

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Units</u>	
		<u>911</u>	<u>911 Turbo</u>
01 01 740	Maintenance, 500-2000 miles. Includes all operations listed in bulletin.	370	650
03 07 00 00	Maintenance 7500, 22,500, 37,500, miles, etc. Includes all operations listed in bulletin.	---	70
03 15 00 00	Maintenance, 15,000, 45,000, 75,000 miles, etc. Includes all operations listed in bulletin (M.Y. '78-85).	390	---
03 15 00 06	Maintenance, 15,000, 45,000, 75,000 miles, etc. Includes all operations listed in bulletin (M.Y. '86)	460	700
03 30 00 00	Maintenance, M.Y. 1978-1983, 30,000, 60,000, 90,000, miles, etc. Includes all operations listed in bulletin.	430	---
03 30 00 03	Maintenance, as of M.Y. 1984, 30,000, 60,000, 90,000 miles, etc. Includes all operations listed in bulletin.	480	---
03 30 00 06	Maintenance, as of M.Y. 1986, 30,000, 60,000, 90,000 miles, etc. Includes all operations listed in bulletin.	500	760
47 08 55 00	Every two years, brake fluid change.	60	60
34 35 17 50	Every 60,000 miles, change transmission oil	30	30

NORSEWICK NORTH AMERICA - INC.



SERVICE

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Oct. 23, 1985

Technical Bulletin	Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
	Subject: Maintenance Requirements - M.Y. 1986	Part Identifier N/A

Repair operation numbers and working time units.

MODEL 928 S

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Unit</u>
01 01 740	Maintenance, 500-2,000 miles, manual transmission. Includes all operations listed in bulletin.	160
01 01 742	Maintenance, 500-2,000 miles, automatic transmission. Includes all operations listed in bulletin.	180
03 15 00 00	Maintenance, 15,000, 45,000, 75,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	340
03 15 00 03	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	360
03 30 00 00	Maintenance, 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	340
03 30 00 03	Maintenance, 30,000, 60,000, 90,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	430
37 35 17 50	Every 30,000 miles, change automatic transmission fluid.	80
19 38 17 50	Every 2 years, change coolant.	20
20 69 19 56	Every 60,000 miles, replace fuel filter.	30
47 08 55 00	Every 2 years, change brake fluid.	60
34 35 17 50	Every 60,000 miles, change transmission oil	20
39 09 17 50	Every 60,000 miles, change differential oil	20

PORSCHE CARS NORTH AMERICA, INC.



SERVICE

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Oct. 23, 1985

Technical Bulletin

Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
Part Identifier N/A	Number 8505

Subject: Maintenance Requirements - M.Y. 1986

Repair operation numbers and working time units.

MODEL 944, 944 Turbo

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Units</u>	
		<u>944</u>	<u>944 Turbo</u>
03 05 00 01	Maintenance, 500-2,000 miles, manual transmission and power assisted steering. Includes all operations listed in bulletin.	290	320
03 07 00 00	Maintenance, 7,500, 22,500, 37,500 miles, etc.	---	70
03 05 00 03	Maintenance, 500-2,000 miles, automatic transmission and power assisted steering. Includes all operations listed in bulletin.	330	---
03 15 00 01	Maintenance, 15,000, 45,000, 75,000 miles, etc., manual transmission. Includes all operations in bulletin.	300	330
03 15 00 03	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	330	---
03 30 00 01	Maintenance 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	350	460
03 30 00 03	Maintenance, 30,000, 60,000, 90,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	370	---
37 35 17 50	Every 30,000 miles, change ATF transmission fluid.	70	---
19 38 17 50	Every 2 years, change coolant.	20	20
47 08 55 00	Every 2 years, change brake fluid.	60	60
34 35 17 50	Every 60,000 miles, change transmission oil.	20	20
39 09 17 50	Every 60,000 miles, change differential oil.	20	---



SERVICE

Technical Bulletin

Model
911, 911 Turbo
928, 944, 944 Turbo

Group
0

Subject:
Maintenance Requirements - M.Y. 1986

Part Identifier
N/A

Number
8505

1000 Mile Maintenance Service

PORSCHE CARS NORTH AMERICA, INC.

	911	911 Turbo	928	944	944 Turbo
1. Change Oil	x	x	x	x	x
2. Replace engine oil filter	x	x	x	x	x
3. Check and adjust valve clearance (replace cover gaskets); check tightness of rocker arm shafts	x	x			
4. Check and adjust tension of camshaft and balance shaft drive belt				x	x
5. Cooling and heating system; check coolant level, anti-freeze content, outside of radiator for foreign particles and hoses for tightness; correct if necessary.			x	x	x
6. Check tightness of hose connections on the crankcase ventilation	x	x	x	x	x
7. Check intake air hoses, lines and connections for tightness.	x	x	x	x	x
8. Exhaust system; visual inspection of the exhaust system for leaks and damage, check all connections for tightness.	x	x	x	x	x
9. Check engine and transmission for leakage.	x	x	x	x	x
10. Check and correct ATF level in automatic transmission and final drive oil level.			x	x	
11. Check and correct oil level in manual transmission.	x	x	x	x	x
12. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion. Check brake fluid level, top up if necessary.	x	x	x	x	x
13. Check play and if necessary correct on rear wheel bearings.		x			
14. Check and correct tire pressure.	x	x	x	x	x
15. Check/adjust engine idle and CO content.	x	x	x	x	x



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Technical Bulletin

Model
911, 911 Turbo
928, 944, 944 Turbo

Group
0

Subject:
Maintenance Requirements - M.Y. 1986

Part Identifier
N/A

Number
8505

During Road and Dynamometer Test:

- 16. Check braking, parking brake, clutch, steering, heating, ventilation, A/C, and cruise control systems.
- 17. Check kick-down operations
- 18. Check all instruments, control and warning lights.
- 19. Engine: visual inspection for leaks.

	911	911 Turbo	928	944	944 Turbo
16. Check braking, parking brake, clutch, steering, heating, ventilation, A/C, and cruise control systems.	x	x	x	x	x
17. Check kick-down operations			x	x	
18. Check all instruments, control and warning lights.	x	x	x	x	x
19. Engine: visual inspection for leaks.	x	x	x	x	x

P O R S C H E N O R T H A M E R I C A - I N C .



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Dec. 12, 1985

Technical Bulletin	Model	Group
	911, 911 Turbo 928, 944, 944 Turbo	0
Subject:	Part Identifier	Number
Maintenance Requirements - M.Y. 1986	N/A	8505

7,500, 22,500, 37,500 Miles Ext. Maintenance Service

1. Change Engine Oil
2. Replace engine oil filter

	911 Turbo	928	944	944 Turbo
	x			x
	x			x

PORSCHE CARS NORTH AMERICA INC.



SERVICE

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Technical Bulletin

Model
911, 911 Turbo
928, 944, 944 Turbo

Group
0

Subject:
Maintenance Requirements - M.Y. 1986

Part Identifier
N/A

Number
8505

15,000, 45,000, 75,000 Mile Maintenance Service

PORSCHE CARS NORTH AMERICA INC.

	911	911 Turbo	928	944	944 Turbo
1. Change engine oil	x	x	x	x	x
2. Replace engine oil filter	x	x	x	x	x
3. Check and adjust valve clearance (replace cover gaskets)	x	x			
4. Check and adjust tension of camshaft and balance shaft drive belt				x	x
5. Cooling and heating system: check coolant level, anti-freeze content, outside radiator for foreign particles and hoses for tightness, correct if necessary			x	x	x
6. Check tightness of hose connections on the crankcase ventilation	x	x	x	x	x
7. Fuel system; visual inspection for leaks and tightness of line connections	x	x	x	x	x
8. Check intake air hoses, lines and connections for tightness	x	x	x	x	x
9. Exhaust system; visual inspection of the exhaust system for leaks and damage, check all connection for tightness	x	x	x	x	x
10. Check engine and transmission for leakage	x	x	x	x	x
11. Check and correct ATF level in automatic transmission and final drive oil level			x	x	
12. Check and correct oil level in manual transmission	x	x	x	x	x
13. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion, check brake fluid level, top up if necessary	x	x	x	x	x
14. Parking brake: check free travel of parking brake lever and if necessary correct	x	x	x	x	x
15. Brake system: visual inspection of brake pads and discs for wear	x	x	x	x	x
16. Clutch; check disc for wear and the hydraulic clutch cylinder for leaks			x	x	x



SERVICE

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Oct. 23, 1985

Technical Bulletin	Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
	Subject: Maintenance Requirements - M.Y. 1986	Part Identifier N/A

PORSCHE CARS NORTH AMERICA, INC.

	911	911 Turbo	928	944	944 Turbo
17. Steering; check bolt connection for tightness, visual inspection of the rubber boots. Tie rod ends; check play, tightness and dust boots	x	x	x	x	x
18. Powersteering: visual inspection for leaks, check fluid level and correct if necessary			x	x	x
19. Suspension ball joints: visual inspection of dust boots for damage. A-arm: check bolt connections for tightness	x	x	x	x	x
20. Front wheel bearings: check play and if necessary adjust	x	x	x	x	x
21. Rear wheel bearings: check play and if necessary correct		x			
22. Lubricate clutch release lever and secondary spring	x	x			
23. Drive shafts/CV joints: visual inspection of boots for leaks and damage	x	x	x	x	x
24. Tires: check condition and correct pressure	x	x	x	x	x
25. Doors: lubricate hinges	x	x			
26. Check operation and lubricate door check rods	x	x	x	x	x
27. Check door, engine hood locks and safety hooks on front hood for tightness and function	x	x	x	x	x
28. Door and top weather strips: remove rubber residue from contacting areas and coat with suitable rubber lubricant	x	x	x	x	x
29. Check operation of safety switch for fuel pump		x			
30. Check operation of safety switch for boost pressure		x			
31. Check operation of all lights, horns, wipers and washers	x	x	x	x	x
32. Check and correct headlight adjustments	x	x	x	x	x
33. Lubricate retractable headlight adjustments				x	x
34. Lubricate accelerator linkage, check for smooth operation	x	x	x	x	x
35. Check and correct aim of headlight and washer nozzles, operation and fluid level	x	x	x	x	x



SERVICE

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Oct. 23, 1985

Technical Bulletin

Model
911, 911 Turbo
928, 944, 944 Turbo

Group
0

Subject:
Maintenance Requirements - M.Y. 1986

Part Identifier
N/A

Number
8505

	911	911 Turbo	928	944	944 Turbo
36. Check and correct battery electrolyte level	x	x	x	x	x
37. Check the operation of all electrical control equipment and optional extras	x	x	x	x	x
38. Check operation of heater, ventilation and A/C fans	x	x	x	x	x
During Road or Dynamometer Test:					
39. Check operation of brakes, parking brake, clutch, steering, heating, ventilation, A/C, cruise control system, instruments and warning lights	x	x	x	x	x
40. Check kick-down operations			x	x	
41. Engine: visual inspection for leaks	x	x	x	x	x

PORSCHÉ CARS NORTH AMERICA, INC.



SERVICE

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Oct. 23, 1985

Technical Bulletin

Model
911, 911 Turbo
928, 944, 944 Turbo

Group
0

Subject:
Maintenance Requirements - M.Y. 1986

Part Identifier
N/A

Number
8505

30,000, 60,000, 90,000 Mile Maintenance Service

PORSCHE CARS NORTH AMERICA INC.

	911	911 Turbo	928	944	944 Turbo
1. Change engine oil	x	x	x	x	x
2. Replace engine oil filter	x	x	x	x	x
3. Check and adjust valve clearance (replace cover gaskets)	x	x			
4. Check and adjust tension of camshaft and balance shaft drive belts			x	x	x
5. V-Belt and Polyrib belt: check condition and tension, correct if necessary	x	x	x	x	x
6. Check and replenish oil level in drive belt tensioner			x		
7. Check ignition timing and if necessary correct		x			
8. Replace spark plugs (at least every two years)	x	x	x	x	x
9. Replace filter element for auxiliary air pump		x	x		
10. Replace air filter element	x	x	x	x	x
11. Cooling and heating system: check coolant level, anti-freeze content, outside radiator for foreign particles and hoses for tightness, correct if necessary			x	x	x
12. Check tightness of hose connections on the crankcase ventilation	x	x	x	x	x
13. Fuel systems: visual inspection for leaks and tightness of line connections	x	x	x	x	x
14. Check intake air hoses, lines and connection for tightness	x	x	x	x	x
15. Exhaust system: visual inspection for leaks and damage, check all connections for tightness	x	x	x	x	x
16. Check engine and transmission for leakage	x	x	x	x	x
17. Change ATF fluid, clean ATF strainer, check oil level in final drive			x	x	
18. Check and correct oil level in manual transmission, check for leak	x	x	x	x	x



SERVICE

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Oct. 23, 1985

Technical Bulletin

Model
911, 911 Turbo
928, 944, 944 Turbo

Group
0

Subject:
Maintenance Requirements - M.Y. 1986

Part Identifier
N/A

Number
8505

DORSENE CORP NORTH AMERICA INC.

	911	911 Turbo	928	944	944 Turbo
19. Check and adjust clutch and brake pedal free play, visually, inspect hoses and lines for leaks, damage and corrosion, check brake fluid level, top up if necessary.	x	x	x	x	x
20. Parking brake: check free travel of brake lever and if necessary, correct.	x	x	x	x	x
21. Brake system: visual inspection of brake pads and discs for wear.	x	x	x	x	x
22. Clutch: check disc for wear and the hydraulic cylinders for leaks.			x	x	x
23. Steering: check bolt connection for tightness, visual inspection of the rubber boots, tie rod ends; check plug tightness and dust boots.	x	x	x	x	x
24. Power steering: visual inspection for leaks, check fluid level and correct if necessary.			x	x	x
25. Suspension ball joints: visual inspection of dust boots for damage, A-arm; check bolt connections for tightness.	x	x	x	x	x
26. Front wheel bearings: check play and adjust if necessary.	x	x	x	x	x
27. Rear wheel bearings; check play and if necessary correct.		x			
28. Lubricate clutch release lever and secondary spring.	x	x			
29. Drive shafts/cv joints: visual inspection of boots for leaks and damage.	x	x	x	x	x
30. Tires: check condition and correct pressure.	x	x	x	x	x
31. Doors: lubricate hinges.	x	x			
32. Check operation and lubricate door, check rods	x	x	x	x	x
33. Check door, engine hood locks and safety hooks on front hood for tightness and function.	x	x	x	x	x



SERVICE

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Oct. 23, 1985

Technical Bulletin	Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
	Subject: Maintenance Requirements - M.Y. 1986	Part Identifier N/A

DOES NOT COVER NORTH AMERICA - CA - NZ

	911	911 Turbo	928	944	944 Turbo
34. Door and top weatherstrips: remove residue from contacting areas and coat with suitable rubber lubricant.	x	x	x	x	x
35. Check operation of safety switch for fuel pump.		x			
36. Check operation of safety switch for boost pressure.		x			
37. Check operation of all lights, horns, wipers and washers.	x	x	x	x	x
38. Check and correct headlight adjustments.	x	x	x	x	x
39. Lubricate retractable headlight linkage.				x	x
40. Lubricate accelerator linkage, check for smooth operation.	x	x	x	x	x
41. Check and correct aim of windshield and headlight washer nozzles, operation and fluid level.	x	x	x	x	x
42. Check and correct battery electrolyte level.	x	x	x	x	x
43. Check the operation of all electrical control equipment and operational extras.	x	x	x	x	x
44. Check operation of heater, ventilation and A/C fans.	x	x	x	x	x
During road or dynamometer test:					
45. Check operation of brakes, parking brake, clutch steering, heating, ventilation A/C, cruise control system instruments and warning lights.	x	x	x	x	x
46. Check kick-down operations.			x	x	
47. Engine: visual inspection for leaks.	x	x	x	x	x
48. Check and adjust tension of air pump drive belt.		x			



SERVICE

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Technical Bulletin

Model 911, 911 Turbo 928, 944, 944 Turbo	Group 0
Part Identifier N/A	Number 8505

Subject: Maintenance Requirements - M.Y. 1986

In addition required every 60,000 miles

1. Replace fuel filter.
2. Replace oxygen sensor.
3. Change oil in manual transmission.
4. Change oil in final drive on automatic transmission.

	911 Turbo	928	944 Turbo	944 Turbo
1. Replace fuel filter.	x	x	x	x
2. Replace oxygen sensor.	x	x	x	x
3. Change oil in manual transmission.	x	x	x	x
4. Change oil in final drive on automatic transmission.		x	x	

NOTE: The brake and coolant fluid must be replaced every two years, regardless of mileage.

PORSCHÉ CARS NORTH AMERICA, INC.



SERVICE

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Oct. 23, 1985

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

Labels for parts markings 928S

New Vehicle



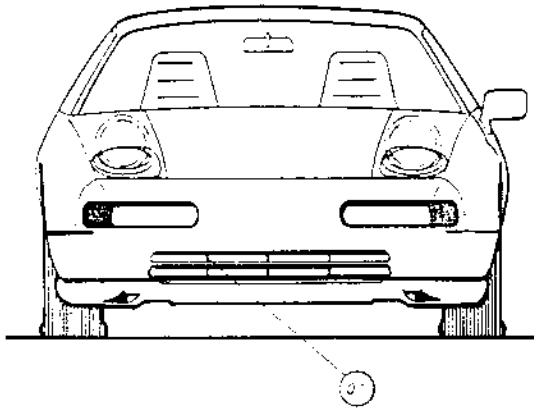
VIN

Location of Markings 928S

Original Part "O"

01 Bumper front.

Upper cooling air inlet



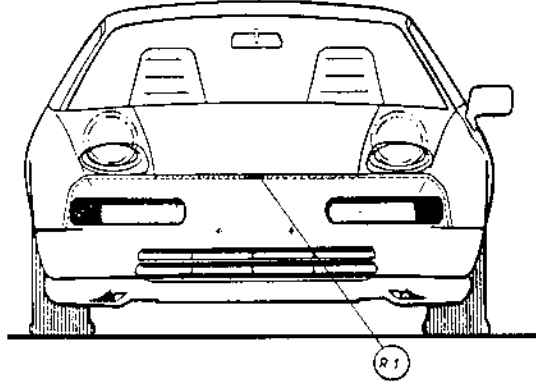
Replacement Part "R"



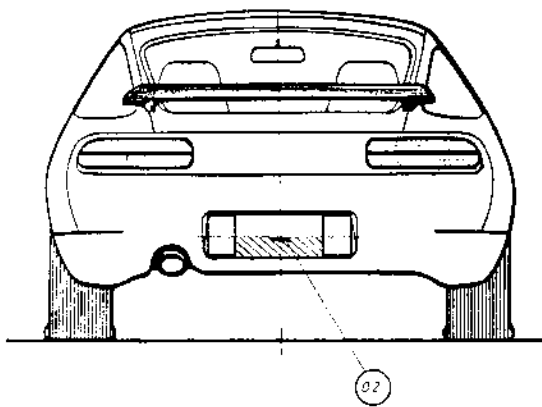
Replacement Part "R"

R1 Bumper front.

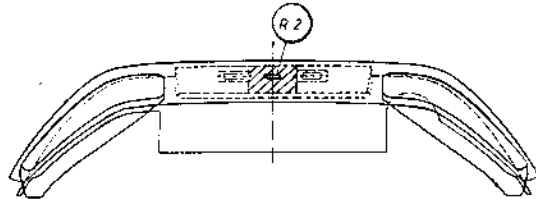
mounting center



02 Bumper rear
under license plate bracket



R2 Bumper rear
between license plate lights



PORSCHE CARS NORTH AMERICA INC.



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

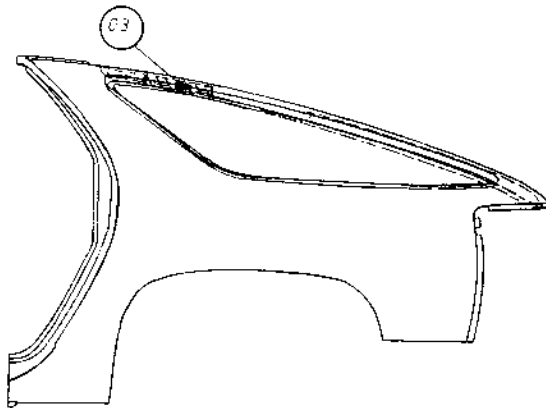
Part Identifier
N/A

Number
8601

Location of Markings 928S

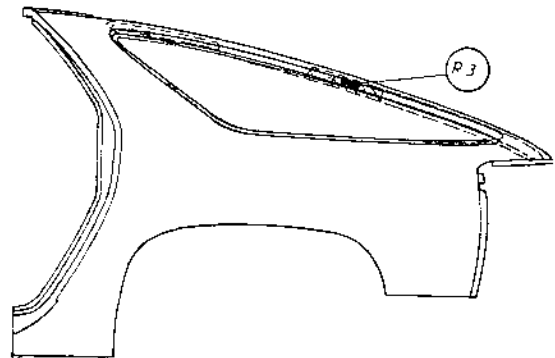
Original Part "O"

03 Quarter panel left and right.
Rear hatch opening in front of gas
filled strut bracket.

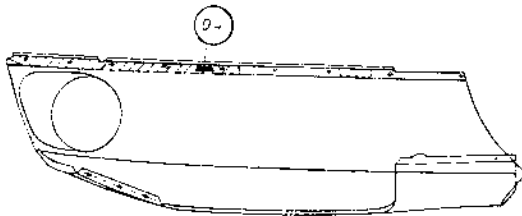


Replacement Part "R"

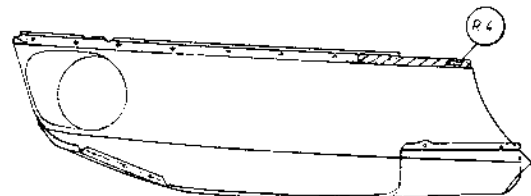
R3 Quarter panel left and right.
Rear hatch opening behind rubber
guide.



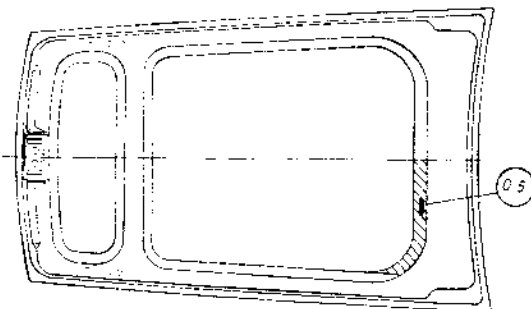
04 Fender front left and right.
Mounting flange engine compartment
front.



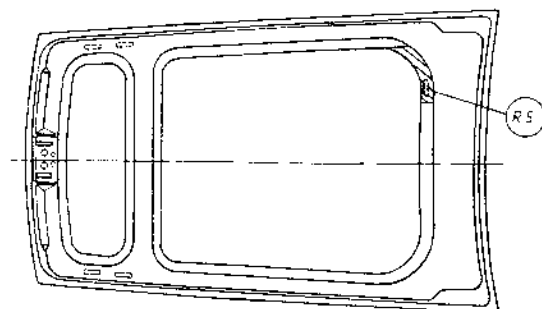
R4 fender front left and right.
Mounting flange engine compartment
rear.



05 Front hood
front hood frame rear right



R5 Front hood
front hood frame rear left



PORSCHE CARS NORTH AMERICA - INC.



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

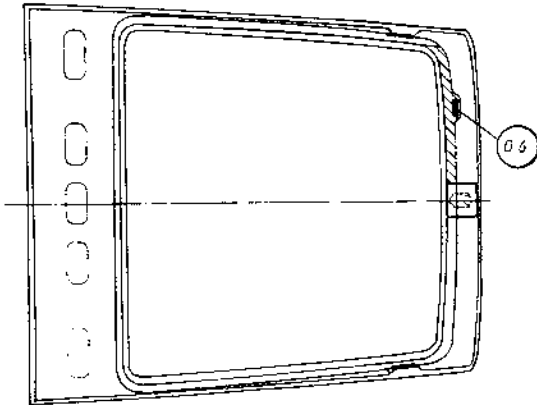
Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

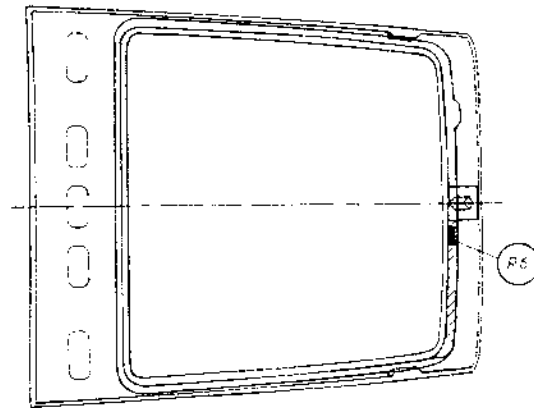
Part Identifier
N/A

Number
8601

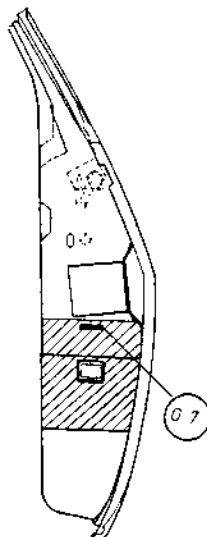
Location of Markings 928S
Original Part "O"
06 Rear hatch
Hatch frame rear left



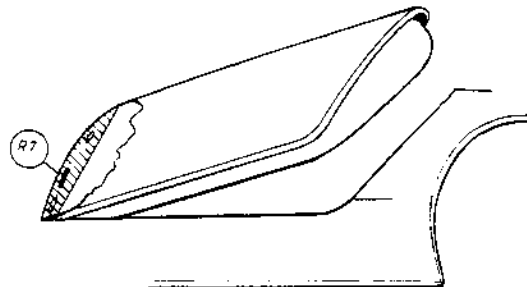
Replacement Part "R"
R6 Rear hatch
Hatch frame rear right



07 Door left and right
Door inside under the lock



R7 /door left and right
Door inside between hinges



Porsche Cars North America - 20



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

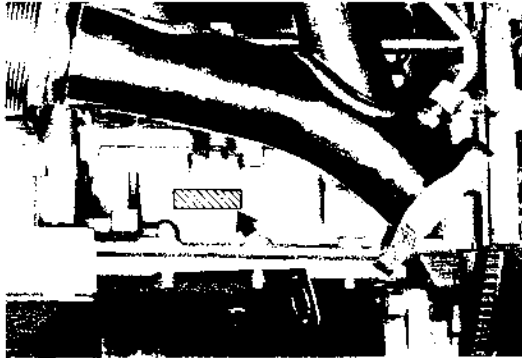
Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

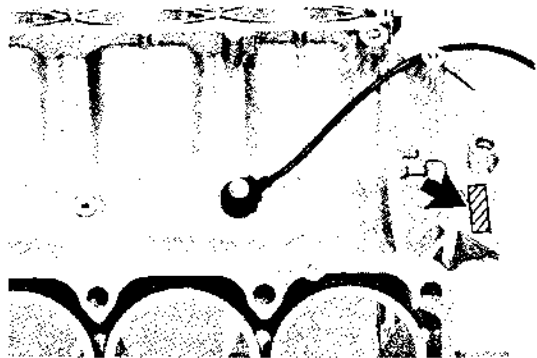
Location of Markings 928S
Engine Original

Engine left side

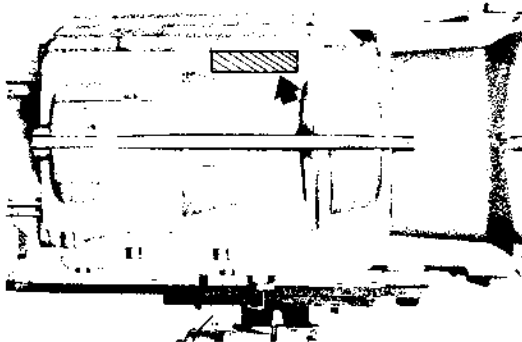


Engine Replacement

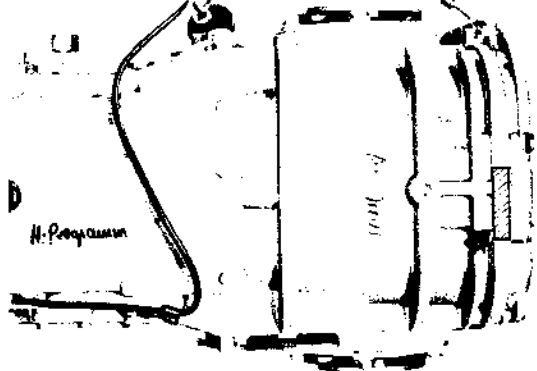
Engine top rear



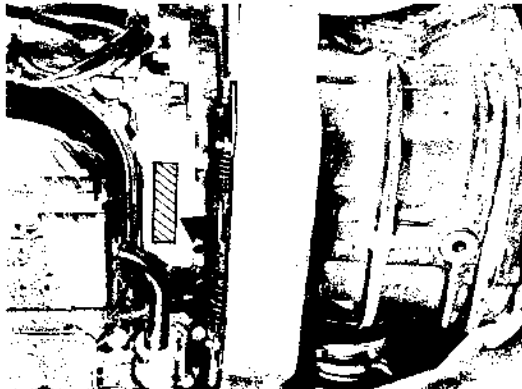
Manual transmission, original
Bottom of transmission



Manual transmission, replacement
Top of transmission



Automatic transmission, original
Bottom of transmission



Automatic transmission, replacement.
Top of transmission



DODGE CARS NORTH AMERICA INC.



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

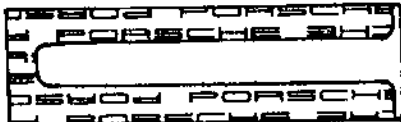
Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

Labels for Parts Markings 911 Carrera and
911 Turbo
New Vehicle

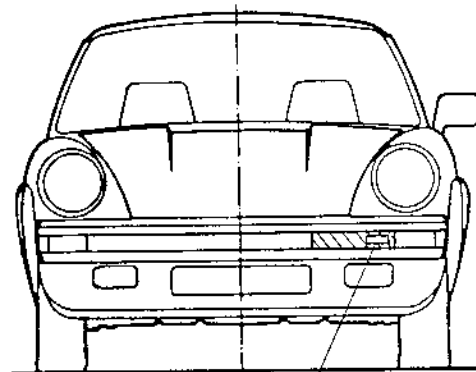
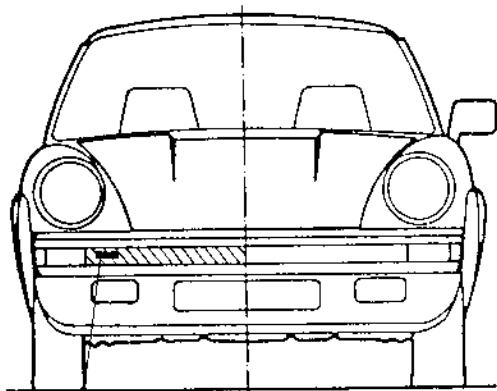


Replacement Part



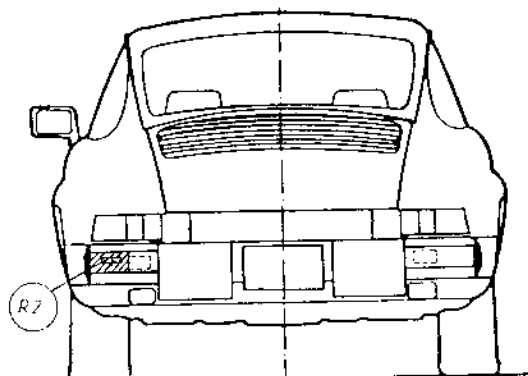
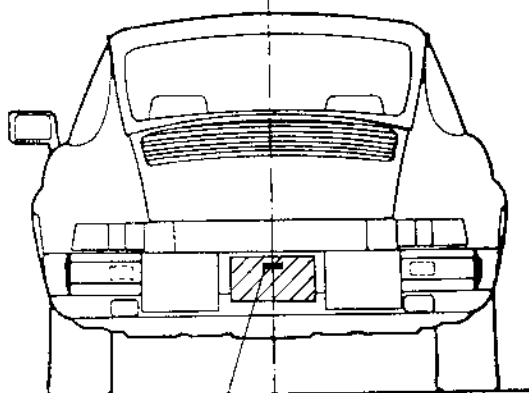
Location of Markings 911 and 911 Turbo
Original Part "O"
01 Bumper front
Behind bumper molding right

Replacement Part "R"
R1 Bumper front
Behind bumper molding left



02 Bumper rear
Behind license plate bracket

R2 Bumper rear
Behind left bumper molding



DODGE CARS NORTH AMERICA INC.



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

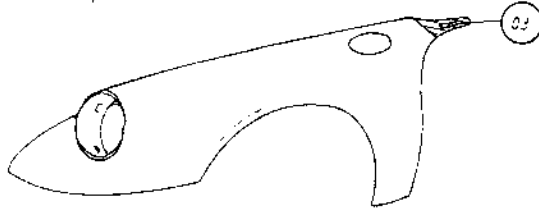
Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

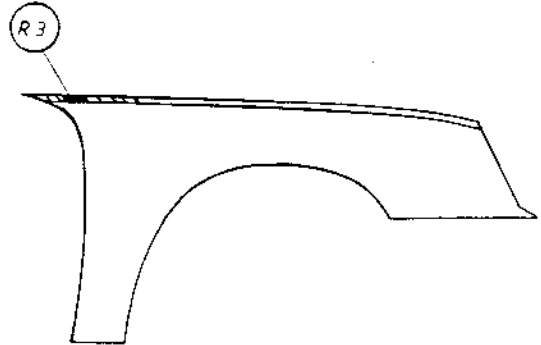
Location of Markings 911 and 911 Turbo
Original Part "O"

03 Fender front left and right
Rear top inside fender seam

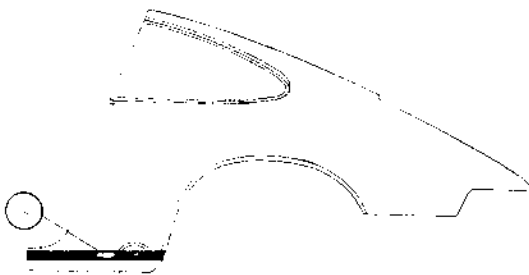


Replacement Part "R"

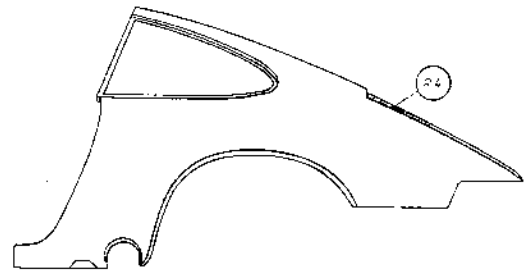
R3 Fender front left and right
Mounting flange rear inside



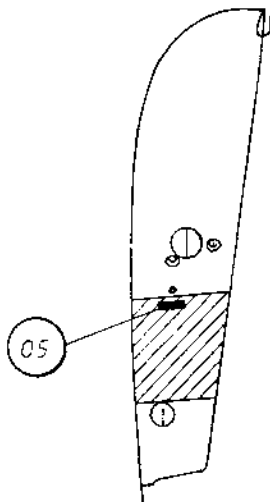
04 Rear quarter panel left and right
Under molding



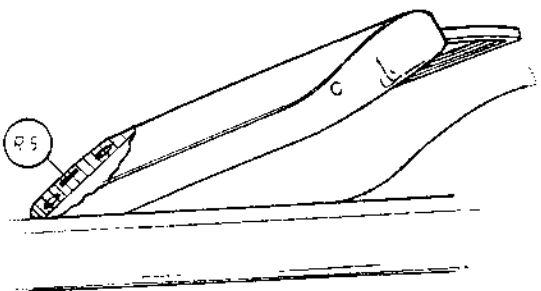
R4 Rear quarter panel left and right
Inside engine lid opening



05 Door, left and right
Door inside under the lock



R5 Door, left and right
Door inside between hinges



DODGE CHRYSLER CREDIT CORPORATION



SERVICE

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Dec 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

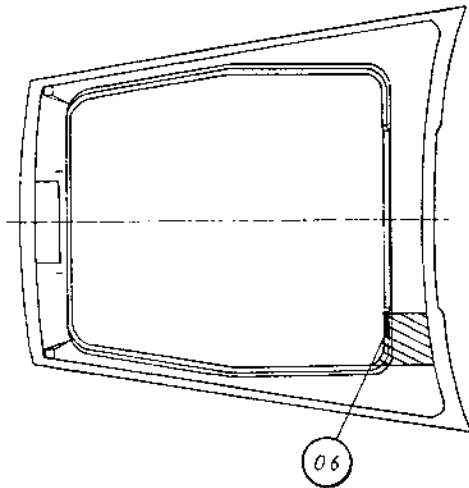
Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

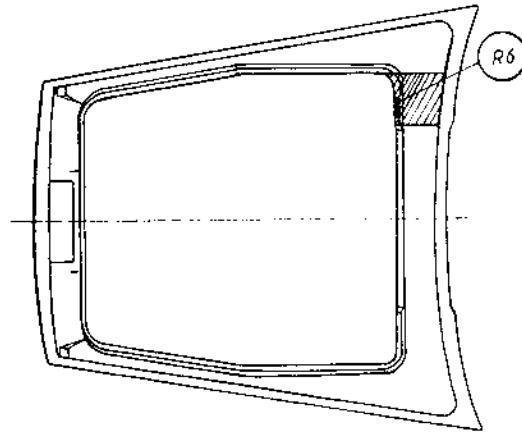
Part Identifier
N/A

Number
8601

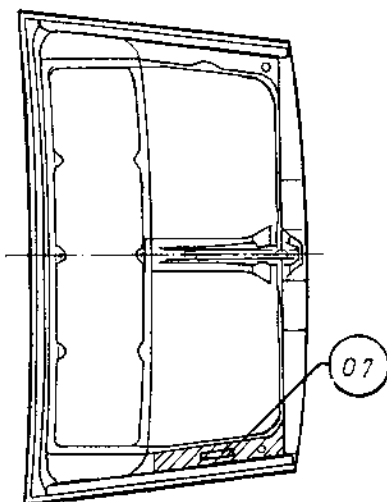
Location of Markings 911 and 911 Turbo
Original Part "O"
06 Front hood
Hood frame rear right



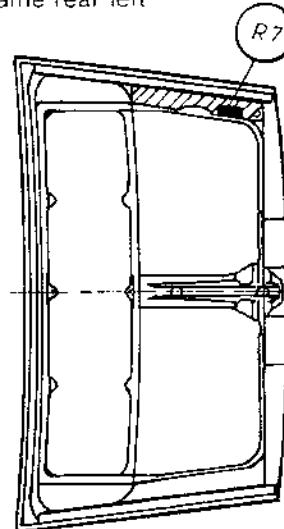
Replacement Part "R"
06 Front hood
Hood frame rear left



07 Engine lid
Lid frame rear right



07 Engine lid
Lid frame rear left



DODGE CARS NORTH AMERICA INC.



SERVICE

Page 8 of 9
Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

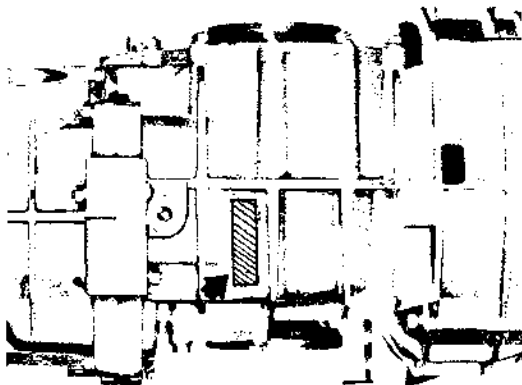
Location of Markings 911 and 911 Turbo
Engine Original
Bottom of engine



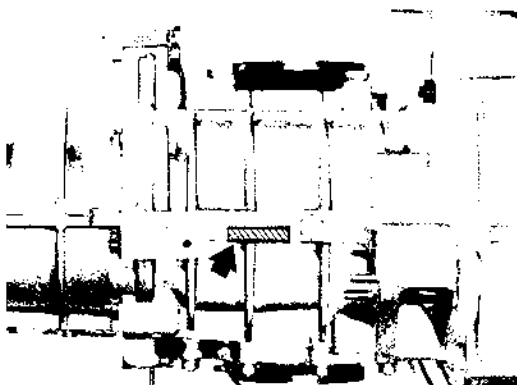
Engine Replacement
Bottom of engine



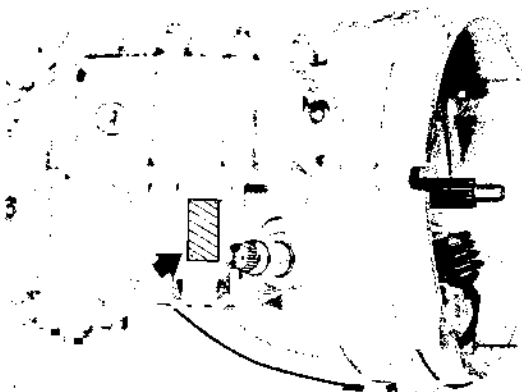
Transmission Original
Bottom of Transmission



Transmission Replacement
Top of transmission



911 Turbo
Bottom of transmission



911 Turbo
Top of transmission



DO NOT WRITE IN THESE SPACES



SERVICE

Page 9 of 9
Dec. 12, 1986

Technical Bulletin	Model All	Group 0
Subject: Maintenance Requirements MY 1986	Part Identifier N/A	Number 8602

Technical Bulletin: Group 0
Number 8505
Date October 23, 1985

Page 8 Point 13
Page 12 Point 19

Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion.

This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.

DOES NOT COVER NORTH AMERICA - NO.



SERVICE

Page 1 of 1
June 25, 1986

1986-1987 VOLVO 740 GLE

Technical Bulletin	Model All	Group 0
	Subject: Winterization	Part Identifier N/A

Number 8604

Before this year's winter season, we recommend, besides the regular maintenance services, that the following points of the vehicle be checked/adjusted/ repaired to assure proper operation during the cold season.

Check Points

- Check function of brakes
- Check brake pad thickness
- Check brake fluid level
- Check tire profile depth, if requested, install snow tires
- Check tire pressure
- Check complete exhaust system including hangers and brackets
- Check vehicle undercoating, touch up area when undercoating is damaged
- Clean all door and hood seals, then treat with a silicon spray or silicon grease to retain the flexibility
- Lubricate door and rear lid lock with an antifreeze lock oil
- Lubricate fuel filler cap, hood locks and cables, door hinges, wiper linkage and antenna
- Test battery electrolyte level and charge status
- Check battery cable for tightness, if necessary clean clamps and posts, lubricate posts/clamps
- Starter: Check cable for tightness and corrosion

- Alternator: Check belt tension and output of alternator
- Check function of all lights, instruments, and check headlight aim; adjust if necessary
- Check ground connections between battery and body, body and engine
- Check wiper blades, W/S washer system if necessary replace and fill up
- Heater: Check function of blowers, control boxes and cables
- Check rear window defroster and mirror heaters
- Check coolant level and antifreeze. Concentration should be at minus 36 degrees C (minus 32 degrees F); correct if necessary
- Check for correct engine oil viscosity (Check with customer if he changes his own oil)

The suggested time for the above operations is:

- 150 T.U. for air cooled engines
- 170 T.U. for water cooled engines



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Technical Bulletin

Model

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**Subject: Maintenance Requirements -
M.Y. 1987-1988**

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Number

8701

This Technical Bulletin contains the maintenance schedules for all 1987/1988 Porsche models. Suggested repair times for these operations are included.

—924S, 944, 944S, 944 Turbo—

Note: The checking and adjusting of the camshaft and balance shaft drive belts is required at 1,000, 15,000 and 30,000 mile Maintenance Service intervals.

PORSCHE CARS NORTH AMERICA, INC.



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8701

Repair operation numbers and working time units.

MODEL 911, 911 Turbo

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Units</u>	
		<u>911</u>	<u>911 Turbo</u>
03 05 00 00	Maintenance, 500-2000 miles. Includes all operations listed in bulletin.	370	650
03 07 00 00	Maintenance 7500, 22,500, 37,500 miles, etc. Includes all operations listed in bulletin.	---	70
03 15 00 00	Maintenance, 15,000, 45,000, 75,000 miles etc. Includes all operations listed in bulletin (M.Y. '78-85).	390	---
03 15 00 06	Maintenance, 15,000, 45,000, 75,000 miles, etc. Includes all operations listed in bulletin (M.Y. '86).	460	700
03 30 00 00	Maintenance, M.Y. 1978-1983, 30,000, 60,000, 90,000 miles, etc. Includes all operations listed in bulletin.	430	---
03 30 00 03	Maintenance, as of M.Y. 1984, 30,000, 60,000, 90,000 miles, etc. Includes all operations listed in bulletin.	480	---
03 30 00 06	Maintenance, as of M.Y. 1986, 30,000, 60,000, 90,000 miles, etc. Includes all operations listed in bulletin.	500	760
47 08 55 00	Every two years, brake fluid change.	60	60
34 35 17 50	Every 60,000 miles, change transmission oil.	30	30
20 60 19 03	Every 60,000 miles change fuel filter	30	30

DORRIS CATS NORTH AMERICA INC.



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Repair operation numbers and working time units.

MODEL 928 S4

<u>Operation No.</u>	<u>Maintenance Service</u>	<u>Time Unit</u>
03 05 00 00	Maintenance, 500-2,000 miles, manual transmission. Includes all operations listed in bulletin.	140
03 05 00 03	Maintenance, 500-2,000 miles, automatic transmission. Includes all operations listed in bulletin.	160
03 15 00 00	Maintenance, 15,000, 45,000, 75,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	230
03 15 00 01	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	250
03 30 00 00	Maintenance, 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	510
03 30 00 04	Maintenance, 30,000, 60,000 90,000 miles etc., automatic transmission. Includes all operations listed in bulletin.	600
19 38 17 50	Every 2 years, change coolant.	60
20 69 19 56	Every 60,000 miles, replace fuel filter.	30
47 08 55 00	Every 2 years, change brake fluid.	60
34 35 17 50	Every 60,000 miles, change transmission oil.	20
39 09 17 50	Every 60,000 miles, change differential oil.	20



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Repair operation numbers and working time units.

MODEL 944, 944S, 944 Turbo, 924S

Operation No. Maintenance Service

Time Units

944 944S 944 Turbo 924S

03 05 00 01	Maintenance, 500-2,000 miles, manual transmission and power assisted steering. Includes all operations listed in bulletin.	180	180	350	180
03 05 00 03	Maintenance, 500-2,000 miles, automatic transmission and power assisted steering. Includes all operations listed in bulletin.	200			200
03 07 00 00	Maintenance, 7,500, 22,500, 37,500 miles, etc.			70	
03 15 00 01	Maintenance, 15,000, 45,000, 75,000 miles, etc., manual transmission. Includes all operations in bulletin.	340	340	530	340
03 15 00 03	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	360			360
03 30 00 01	Maintenance 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	390	390	660	390
03 30 00 03	Maintenance, 30,000, 60,000, 90,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	400			400
37 35 17 50	Every, 30,000 miles, change ATF transmission fluid.	70			70
19 38 17 50	Every 2 years, change coolant.	20	20	20	20
47 08 55 00	Every 2 years, change brake fluid.	60	60	60	60
34 35 17 50	Every 60,000 miles, change transmission oil.	20	20	20	20
20 60 19 00	Remove and install fuel filter.	40	40	40	40

20-10-1987 AMERICAN NORTH STAR SERVICE



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**Subject: Maintenance Requirements -
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8701

1000 Mile Maintenance Service

944

944S

944

911 Turbo 928 924S Turbo

1. Change oil	X	X	X	X	X
2. Replace engine oil filter	X	X	X	X	X
3. Check and adjust valve clearance (replace cover gaskets); check tightness of rocker arm shafts	X	X			
4. Check and adjust tension of camshaft and balance shaft drive belt				X	X
5. Cooling and heating system; check coolant level, anti-freeze content, outside of radiator for foreign particles and hoses for tightness; correct if necessary			X	X	X
6. Check thightness of hose connections on the crankcase ventilation	X	X	X	X	X
7. Check intake air hoses, lines and connections for tightness	X	X	X	X	X
8. Exhaust system; visual inspection of the exhaust system for leaks and damage, check all connections for tightness	X	X	X	X	X
9. Check engine and transmission for leakage	X	X	X	X	X
10. Check and correct ATF level in automatic transmission and final drive oil level			X	X	X
11. Check and correct oil level in manual transmission	X	X	X	X	X
12. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion. Check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.	X	X	X	X	X

DODGE CREDIT NORTH AMERICA INC.



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8701

DOES NOT APPLY TO NORTH AMERICA - NC

	911	911 Turbo	928	924S	944 944S 944 Turbo
13. Check play and if necessary correct on rear wheel bearings		X			
14. Check and correct tire pressure	X	X	X	X	X
15. Check/adjust engine idel and CO content	X	X	X	X	X
<u>During Road and Dynamometer Test:</u>					
16. Check braking, parking brake, clutch, steering, heating, ventilation, A/C, and cruise control systems	X	X	X	X	X
17. Check kick-down operations			X	X	X
18. Check all instruments, control and warning lights	X	X	X	X	X
19. Engine: visual inspection for leaks	X	X	X	X	X



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911 Turbo,
944 Turbo

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7,500, 22,500, 37,500 miles, etc. maintenance service

Turbo engines only

1. Change engine oil
2. Replace engine oil filter

	911 Turbo	928	924S	944 Turbo
1. Change engine oil	X			X
2. Replace engine oil filter	X			X

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15,000, 45,000, 75,000 Mile Maintenance Service

				944
				944S
				944
	911			
	Turbo	928	924S	Turbo

	911	Turbo	928	924S	Turbo
1. Change engine oil	X	X	X	X	X
2. Replace engine oil filter	X	X	X	X	X
3. Check and adjust valve clearance (replace cover gaskets)	X	X			
4. Check and adjust tension of camshaft and balance shaft drive belt				X	X
5. Cooling and heating system: check coolant level, anti-freeze content, outside radiator for foreign particles and hoses for tightness, correct if necessary			X	X	X
6. Check tightness of hose connections on the crankcase ventilation	X	X	X	X	X
7. Fuel system: visual inspection for leaks and tightness of line connections	X	X	X	X	X
8. Check intake air hoses, lines and connections for tightness	X	X	X	X	X
9. Exhaust system: visual inspection of the exhaust system for leaks and damage, check all connections for tightness	X	X	X	X	X
10. Check engine and transmission for leakage	X	X	X	X	X
11. Check and correct ATF level in automatic transmission and final drive oil level			X	X	X
12. Check and correct oil level in manual transmission	X	X	X	X	X
13. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion, check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.	X	X	X	X	X

FOR SUBS. USE ONLY - NORTH AMERICA - 20



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944
944S
944
911 928 924S
911 Turbo Turbo

14. Parking brake: check free travel of parking brake lever and if necessary correct	X	X	X	X	X
15. Brake system: visual inspection of brake pads and discs for wear	X	X	X	X	X
16. Clutch: check disc for wear and the hydraulic clutch cylinder for leaks			X	X	X
17. Steering: check bolt connections for tightness, visual inspection of the rubber boots. Tie rod ends; check play, tightness and dust boots	X	X	X	X	X
18. Powersteering: visual inspection for leaks, check fluid level and correct if necessary			X	X	X
19. Suspension ball joints: visual inspection of dust boots for damage. A-arm: check bolt connections for tightness	X	X	X	X	X
20. Front wheel bearings: check play and if necessary adjust	X	X	X	X	X
21. Rear wheel bearings: check play and if necessary correct		X			
22. Lubricate clutch release lever and secondary spring	X	X			
23. Drive shafts/CV joints: visual inspection of boots for leaks and damage	X	X	X	X	X
24. Tires: check condition and correct pressure	X	X	X	X	X
25. Doors: lubricate hinges	X	X			
26. Check operation and lubricate door check rods	X	X	X	X	X
27. Check door, engine hood locks and safety hooks on front hood for tightness and function	X	X	X	X	X

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DODGE CARS NORTH AMERICA INC.

944
944S
944
911 Turbo 928 924S Turbo

- 28. Door and top weather strips; remove rubber residue from contacting areas and coat with suitable rubber lubricant
- 29. Check operation of safety switch for fuel pump
- 30. Check operation of safety switch for boost pressure
- 31. Check operation of all lights, horns, wipers and washers
- 32. Check and correct headlight adjustments
- 33. Lubricate retractable headlight adjustments
- 34. Lubricate accelerator linkage, check for smooth operation
- 35. Check and correct aim of headlight and washer nozzles, operation and fluid level
- 36. Check and correct battery electrolyte level
- 37. Check the operation of all electrical control equipment and optional extras
- 38. Check operation of heater, ventilation and A/C fans

	911	911 Turbo	928	924S	944 Turbo
28.	X	X	X	X	X
29.		X			
30.		X			
31.	X	X	X	X	X
32.	X	X	X	X	X
33.				X	X
34.	X	X	X	X	X
35.	X	X	X	X	X
36.	X	X	X	X	X
37.	X	X	X	X	X
38.	X	X	X	X	X
<u>During Road or Dynamometer Test:</u>					
39.	X	X	X	X	X
40.			X	X	
41.	X	X	X	X	X



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30,000 60,000 90,000 Mile Maintenance Service

944
944S
944
911 Turbo 928 924S Turbo

1. Change engine oil	X	X	X	X	X
2. Replace engine oil filter	X	X	X	X	X
3. Check and adjust valve clearance (replace cover gaskets)	X	X			
4. Check and adjust tension of camshaft and balance shaft drive belts			X	X	X
5. V-Belt and Polyrib belt; check condition and tension, correct if necessary	X	X	X	X	X
6. Check and replenish oil level in drive belt tensioner			X		
7. Check ignition timing and if necessary correct		X			
8. Replace spark plugs (at least every two years)	X	X	X	X	X
9. Replace filter element for auxiliary air pump		X	X		
10. Replace air filter element	X	X	X	X	X
11. Cooling and heating system: check coolant level, anti-freeze content, outside radiator for foreign particles and hoses for tightness, correct if necessary			X	X	X
12. Check tightness of hose connections on the crankcase ventilation	X	X	X	X	X
13. Fuel systems: visual inspection for leaks and tightness of line connections	X	X	X	X	X
14. Check intake air hoses, lines and connections for tightness	X	X	X	X	X
15. Exhaust system: visual inspection for leaks and damage, check all connections for tightness	X	X	X	X	X
16. Check engine and transmission for leakage	X	X	X	X	X
17. Change ATF fluid, clean ATF strainer, check oil level in final drive			X	X	X

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	911	911 Turbo	928	924S	944 944S 944 Turbo
18. Check and correct oil level in manual transmission, check for leak	X	X	X	X	X
19. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion, check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.	X	X	X	X	X
20. Parking brake: check free travel of brake lever and if necessary, correct	X	X	X	X	X
21. Brake system: visual inspection of brake pads and discs for wear	X	X	X	X	X
22. Clutch: check disc for wear and the hydraulic cylinders for leaks			X	X	X
23. Steering: check bolt connections for tightness, visual inspection of the rubber boots, tie rod ends; check plug tightness and dust boots	X	X	X	X	X
24. Power steering: visual inspection for leaks, check fluid level and correct if necessary			X	X	X
25. Suspension ball joints: visual inspection of dust boots for damage, A-arm: check bolt connections for tightness	X	X	X	X	X
26. Front wheel bearings: check play and adjust if necessary	X	X	X	X	X
27. Rear wheel bearings: check play and if necessary correct		X			
28. Lubricate clutch release lever and secondary spring	X	X			
29. Drive shafts/cv joints: visual inspection of boots for leaks and damage	X	X	X	X	X



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	911	911 Turbo	928	924S	944 944S 944 Turbo
30. Tires: check condition and correct pressure	X	X	X	X	X
31. Doors: lubricate hinges	X	X			
32. Check operation and lubricate door, check rods	X	X	X	X	X
33. Check door, engine hood locks and safety hooks on front hood for tightness and function	X	X	X	X	X
34. Door and top weatherstrips: remove residue from contacting areas and coat with suitable rubber lubricant	X	X	X	X	X
35. Check operation of safety switch for fuel pump		X			
36. Check operation of safety switch for boost pressure		X			
37. Check operation of all lights, horns, wipers and washers	X	X	X	X	X
38. Check and correct headlight adjustments	X	X	X	X	X
39. Lubricate retractable headlight linkage				X	X
40. Lubricate accelerator linkage, check for smooth operation	X	X	X	X	X
41. Check and correct aim of windshield and headlight washer nozzles, operation and fluid level	X	X	X	X	X
42. Check and correct battery electrolyte level	X	X	X	X	X
43. Check the operation of all electrical control equipment and operational extras	X	X	X	X	X
44. Check operation of heater, ventilation and A/C fans	X	X	X	X	X



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8701

During road or dynamometer test:

- 45. Check operation of brakes, parking brake, clutch, steering, heating, ventilation, A/C, cruise control system, instruments and warning lights
- 46. Check kick-down operations
- 47. Engine: visual inspection for leaks
- 48. Check and adjust tension of air pump drive belt

	911	911 Turbo	928	924S	944 944S 944 Turbo
45.	X	X	X	X	X
46.			X	X	
47.	X	X	X	X	X
48.		X			

DODGE CREDIT CORPORATION



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8701

In addition required every 60,000 miles

1. Replace fuel filter
2. Replace oxygen sensor
3. Change oil in manual transmission
4. Change oil in final drive on automatic transmission

	911	911 Turbo	928	924S	944 944S 944 Turbo
1. Replace fuel filter	X	X	X	X	X
2. Replace oxygen sensor	X	X	X	X	X
3. Change oil in manual transmission	X	X	X	X	X
4. Change oil in final drive on automatic transmission			X		
Airbag: check operations security					X

NOTE: The brake and coolant fluid must be replaced every two years, regardless of mileage.

Required after 4, 8, 10 years and then every 2 years

Airbag: check operations security

PORSCHE CARS NORTH AMERICA, INC.

Important Notice

PCNA Technical Bulletins are intended for use by professional technicians, not a "Do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

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Technical Bulletin		Model All	Group 0
Subject: New Vehicle Storage		Part Identifier 0300	Number 8801

The following instructions should be observed when putting new vehicles in storage.

Tires: Increase the tire pressure to 4 Bars (58psi). It is not recommended to lift the vehicle, due to the possibility of corrosion on shock absorber pistons.

The vehicle should be moved slightly, approximately every 4 weeks, to prevent flat spots on the tires.

Climate control: The air conditioning system should be in good working condition and fully charged.

Engine, watercooled: Check antifreeze concentration and correct if necessary.

Engine all: Seal the air intake ducts and the muffler tailpipe using towels or tape.

Windshield/Headlight washer: Check anti-freeze/cleaning solution.

Electric: The battery should be removed from the vehicle and stored in a cool and dry place, not on a cement floor. Recharge battery every 3 months. If the battery remains in the vehicle with cables connected, it is necessary to check, remove and recharge the battery every 2-3 weeks.

Do not fast charge batteries. Charge batteries at a rate of 4-6 amps for 10-12 hours.

Caution: Not following this procedure may cause battery sulphation and render the battery unusable. Refer to Technical Bulletin Group 2, Number 8801.

Vehicle Interior: The interior must be dry, especially in the area of the floor carpets. The use of drying agents (Silica-Gel) is recommended in vehicles with leather interior and in areas with high humidity. The recommended amount is 3 fabric bags of 500 grams each placed on the floor carpets.

Windows, doors, lids and top must be closed.

On cars with manual heating/ventilation systems, air flaps should be open.

Brakes and shifting: Brake discs and brake pads should be completely dry to prevent corrosion. Do not apply handbrake.

Engage 1st or 2nd gear on 4 cyl. cars and 2nd or 4th gear on 6 and 8 cyl. cars with manual transmission to prevent shift rod corrosion.

Vehicles stored outdoors in direct sunlight: Precautions should be taken to prevent sunlight from entering the car's interior. Cover windshield, door, side and rear glass.

Putting vehicle in service: Remove intake duct and tailpipe sealing. Check for nesting creatures under the hood and evidence of fluid leaks under the car. Install battery. Start engine.

Do not depress the accelerator pedal. Do not run engine at high RPM during warm up.

Switch on A/C at idle RPM and check state of charge. Correct if necessary.

Adjust tire pressure to specified pressure.

Caution: Brakes may not have the highest possible braking efficiency after long storage. Apply brakes several times at low road speed.



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January 29, 1988

Technical Bulletin

Model

All

Group

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Subject:

Used Vehicle Storage

Part Identifier

0300

Number

8802

In order to address customer inquiries regarding storage of their Porsche, the following information can be made available to them.

Clean vehicle thoroughly inside and outside.

Clean engine and engine compartment.

Under carriage and chassis components should be free of dirt and salt deposits.

If required, apply cosmoline to under carriage.

Caution: Do not apply cosmoline to brake system components.

Fuel Tank: Fill up fuel tank.

Tires: Increase the tire pressure to 4 bars (58psi). It is not recommended to lift the vehicle, due to the possibility of corrosion on shock absorber pistons.

The vehicle should be moved slightly, approximately every 4 weeks, to prevent flat spots on the tires.

Climate Control: The air conditioning system should be in good working condition and fully charged.

Engine, water-cooled: Check antifreeze concentration and correct if necessary.

Engine:

Change oil and filter. Run engine for several minutes.

Spray cold engine with corrosion inhibitor. (Do not spray it on the exhaust system or belts.)

If the vehicle remains in storage for more than 3 months, remove spark plugs and disconnect coil wire(s) from distributor cap(s). Ground the coil wire(s) using jumper cable(s).

Squirt 3-5cm³ engine oil into each combustion chamber.

Reinstall spark plugs and torque to 25-30 Nm (18-22 ft. lbs.).

Do not connect spark plug wires.

Crank engine for 5-8 seconds.

Do not operate gas pedal.

Connect spark plug and coil wires.

Do not operate engine until vehicle is put back in service.

Seal the air intake ducts and the muffler tailpipe using towels or tape.

Windshield/Headlight Washer: Check and correct antifreeze/cleaning solution level as necessary.

Electric: The battery should be removed from the vehicle and stored in a cool and dry place, not on a cement floor. Recharge battery every 3 months. If the battery remains in the vehicle with cables connected, it is necessary to check, remove and recharge the battery every 2-3 weeks.

Do not fast charge batteries. Refer to Technical Bulletin Group 2, Number 8801 for charging information.

Vehicle Interior: The interior must be dry, especially in the area of the floor carpets. The use of drying agents (Silica-Gel) is recommended in vehicles with leather interior and in areas with high humidity. The recommended amount is 3 fabric bags of 500 grams each placed on the floor carpets.

Windows, doors, lids and top must be closed.

On cars with manual heating/ventilation systems, air flaps should be open.

ADDITIONAL INFORMATION



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March 25, 1988

Technical Bulletin

Model

All

Group

0

Subject:

Used Vehicle Storage

Part Identifier

0300

Number

8802

Brakes and shifting: Brake discs and brake pads should be completely dry to prevent corrosion. Do not apply hand brake.

Engage a gear on cars with manual transmission to move the shift rod all the way into the transmission to prevent shift rod corrosion.

Vehicles stored outdoors in direct sunlight: Precautions should be taken to prevent sunlight from entering the car's interior. Cover windshield, door, side and rear glass.

Putting vehicle in service: Remove intake duct and tailpipe sealing. Check for nesting creatures under the hood and evidence of fluid leaks under the car. Install battery. Start engine.

Do not depress the accelerator pedal. Do not run engine at high RPM during warm up.

Should the engine not start after two starting attempts, remove spark plugs and check for oil deposits. If necessary, clean or replace spark plugs.

Caution: Do not crank engine with spark plugs removed.

Switch on A/C at idle RPM and check state of charge. Correct if necessary.

Adjust tire pressure to specified pressure.

Caution: Brakes may not have the highest possible braking efficiency after long storage. Apply brakes several times at low road speed.

Important Notice

PCNA Technical Bulletins are intended for use by professional technicians, not a "Do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

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March 25, 1988

Technical Bulletin

Model

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**Subject: Maintenance Requirements —
M.Y. 1989**

Part Identifier

03..

Number

8803

This Technical Bulletin contains the maintenance schedules for 1989 Porsche Models 944, 944 Turbo, 911, 911 Turbo, and 928 S4. Suggested repair times for these operations are also included.

Important changes in the maintenance schedules for M.Y. '89 are listed below:

Changes

- **First service is now at 2,000-2,500 miles.**
- Required every 45,000 miles - Replace camshaft belt on 4 cylinder cars.
- Required every 60,000 miles - Replace camshaft belt on 928 S4.

Additional Operations to 2000-2500 Mile Service

- Front axle toe check (all models)
(A warranty claim is to be filed if adjustment is required.)
- Check operation of convertible top (911, 911 Turbo)
- Diagnosis system - Readout fault memory and perform system adaption (928 S4 all services).

Deleted Operations from 2000-2500 Mile Service

- Check and correct rear wheel bearing play (911 Turbo and Turbo-look).
- Check tightness of rocker shaft seats (911 and 911 Turbo).
- Engine idling test (928 S4).

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Operation No.	Maintenance Service	944		911		928 S4
		944	Turbo	911	Turbo	
03 05 00 09	Maintenance, 2,000–2,500 miles, manual transmission and power assisted steering. Includes all operations listed in bulletin.	270	370	370	630	190
03 05 00 10	Maintenance, 2,000–2,500 miles, automatic transmission and power assisted steering. Includes all operations listed in bulletin.	280				200
61 01 01 00	Cabrio top-check operation.			20	20	
03 07 00 00	Maintenance, 7,500, 22,500 37,500 miles, etc.		70		70	
03 15 00 07	Maintenance, 15,000, 45,000, 75,000 miles etc., manual transmission. Includes all operations in bulletin.	310	450	460	700	250
03 15 00 08	Maintenance, 15,000, 45,000, 75,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	320				270
03 30 00 07	Maintenance 30,000, 60,000, 90,000 miles, etc., manual transmission. Includes all operations listed in bulletin.	360	490	500	760	480
03 30 00 08	Maintenance, 30,000, 60,000, 90,000 miles, etc., automatic transmission. Includes all operations listed in bulletin.	420				580
42 58 05 50	Every 15,000 miles on vehicles with Turbo-look. Check and adjust rear wheel bearing play, both sides.			100		
37 35 17 50	Every 30,000 miles, change automatic transmission fluid.	70				120
15 24 19 50	Every 45,000 miles, replace camshaft belt. Check condition and tension after 2,000–2,500 miles and document in space provided in vehicle maintenance booklet.	140	140			
24 69 19 00	Every 60,000 miles, replace oxygen sensor.	20	30	40	40	130

02-10-1988 11:00 AM NORTH AMERICA



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Operation No.	Maintenance Service	944		911		928 S4
		944	Turbo	911	Turbo	
34 35 17 50	Every 60,000 miles, change transmission oil	20	20	20	20	20
39 01 17 50	Every 60,000 miles, change differential oil.	20				20
20 60 19 53	Every 60,000 miles, change fuel filter.	20	20	20	20	30
15 24 19 50	Every 60,000 miles, replace camshaft belt. Check condition and tension after 2,000-2,500 miles and document in space provided in vehicle maintenance booklet					330
19 38 17 50	Every 2 years, change coolant.	20	20			60
47 08 55 00	Every 2 years, change brake fluid.	60	60	60	60	60
03 37 00 50	Every 4, 8, 10 and then every 2 years, air bag system check as per maintenance procedure	20	20			

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2,000-2,500 Mile Maintenance Service

1. Front axle - check toe adjustment, tire condition and tire pressure.
2. Diagnosis system - Read out fault memory and perform system adaption.
3. Change engine oil.
4. Replace engine oil filter.
5. Check and adjust valve clearance (replace cover gaskets, sealing nuts and washers).
6. Check and adjust tension of camshaft and balance shaft drive belt.
7. Cooling and heating system; check coolant level, anti-freeze content, outside of radiator for foreign particles, and hoses for tightness; correct if necessary.
8. Check tightness of hose connections on the crankcase ventilation.
9. Check intake air hoses, lines and connections for tightness.
10. Exhaust system: visual inspection of the exhaust system for leaks and damage, check all connections for tightness.
11. Check engine and transmission for leakage.
12. Check and correct ATF level in automatic transmission and oil level in final drive.
13. Check and correct oil level in manual transmission

	944		911		
	944	Turbo	911	Turbo	928 S4
1. Front axle - check toe adjustment, tire condition and tire pressure.	x	x	x	x	x
2. Diagnosis system - Read out fault memory and perform system adaption.					x
3. Change engine oil.	x	x	x	x	x
4. Replace engine oil filter.	x	x	x	x	x
5. Check and adjust valve clearance (replace cover gaskets, sealing nuts and washers).			x	x	
6. Check and adjust tension of camshaft and balance shaft drive belt.	x	x			
7. Cooling and heating system; check coolant level, anti-freeze content, outside of radiator for foreign particles, and hoses for tightness; correct if necessary.	x	x			x
8. Check tightness of hose connections on the crankcase ventilation.	x	x	x	x	x
9. Check intake air hoses, lines and connections for tightness.	x	x	x	x	x
10. Exhaust system: visual inspection of the exhaust system for leaks and damage, check all connections for tightness.	x	x	x	x	x
11. Check engine and transmission for leakage.	x	x	x	x	x
12. Check and correct ATF level in automatic transmission and oil level in final drive.	x				x
13. Check and correct oil level in manual transmission	x	x	x	x	x

PORSCHE CARS NORTH AMERICA, INC.



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2,000–2,500 Mile Maintenance Service (continued)

14. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion. Check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.

15. Check operation of convertible top.

16. Check and adjust engine idle and CO content

During Road and Dynamometer Test:

17. Check braking, parking brake, clutch, steering, heating, ventilation, A/C, and cruise control systems.

18. Check kick-down operations.

19. Check all instruments, control and warning lights.

20. Engine: visual inspection for leaks after road test.

**7,500, 22,500, 37,500 Miles, etc.,
Maintenance Service
Turbo engines only**

1. Change engine oil

2. Replace engine oil filter

	944		911		
	944	Turbo	911	Turbo	928 S4
14. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion. Check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.	x	x	x	x	x
15. Check operation of convertible top.			x	x	
16. Check and adjust engine idle and CO content	x	x	x	x	
17. Check braking, parking brake, clutch, steering, heating, ventilation, A/C, and cruise control systems.	x	x	x	x	x
18. Check kick-down operations.	x				x
19. Check all instruments, control and warning lights.	x	x	x	x	x
20. Engine: visual inspection for leaks after road test.	x	x	x	x	x
1. Change engine oil		x		x	
2. Replace engine oil filter		x		x	

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15,000, 45,000, 75,000 Mile Maintenance Service

944 911
944 Turbo 911 Turbo 928 S4

1. Diagnosis system: read out fault memory and perform system adaption.
2. Change engine oil.
3. Replace engine oil filter.
4. Check and adjust valve clearance (replace cover gaskets, sealing nuts and washers).
5. Check and adjust tension of balance shaft drive belt. Note: Camshaft belt is replaced at 45,000 miles. See note at the end of this bulletin.
6. Cooling and heating system: check coolant level, anti-freeze content, outside radiator for foreign particles and hoses for tightness, correct if necessary.
7. Check tightness of hose connections on the crankcase ventilation.
8. Fuel system: visual inspection for leaks and tightness of line connections.
9. Check intake air hoses, lines and connections for tightness.
10. Exhaust system: visual inspection of the exhaust system for leaks and damage, check all connections for tightness.
11. Check engine and transmission for leakage.
12. Check and correct ATF level in automatic transmission and oil level in final drive.
13. Check and correct oil level in manual transmission.

				X
X	X	X	X	X
X	X	X	X	X
		X	X	
X	X			
X	X			X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X

DOES NOT APPLY TO NORTH AMERICAN CARS



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15,000, 45,000, 75,000 Mile Maintenance Service (continued)

	944		911		
	944	Turbo	911	Turbo	928 S4
14. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion, check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.	x	x	x	x	x
15. Parking brake: check free travel of parking brake lever and correct if necessary.	x	x	x	x	x
16. Brake system: visual inspection of brake pads and discs for wear.	x	x	x	x	x
17. Clutch: check disc for wear (except 911 and 911 Turbo) and the hydraulic clutch cylinders for leaks.	x	x	x	x	x
18. Steering: check bolt connections for tightness, visual inspection of the rubber boots. Tie rod ends; check play, tightness and dust boots.	x	x	x	x	x
19. Power steering: visual inspection for leaks, check fluid level and correct if necessary.	x	x			x
20. Suspension ball joints: visual inspection of dust boots for damage. A-arm: check bolt connections for tightness.	x	x	x	x	x
21. Front wheel bearings: check play and adjust if necessary.	x	x	x	x	x
22. Rear wheel bearings: check play and correct if necessary (also 911 Turbo-look).				x	
23. Drive shaft/CV joints: visual inspection of boots for leaks and damage.	x	x	x	x	x

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15,000, 45,000, 75,000 Mile Maintenance Service (continued)

944 911
944 Turbo 911 Turbo 928 S4

24. Tires: check condition and correct pressure.	x	x	x	x	x
25. Doors: lubricate hinges.			x	x	
26. Check operation and lubricate door check rods.	x	x	x	x	x
27. Check door, engine hood locks and safety hooks on front hood for tightness and function.	x	x	x	x	x
28. Door and top weather strips; remove rubber residue from contacting areas and coat with suitable rubber lubricant.	x	x	x	x	x
29. Check operation of safety switch for fuel pump.				x	
30. Check operation of safety switch for boost pressure.				x	
31. Check operation of all lights, horns, wipers and washers.	x	x	x	x	x
32. Check and correct headlight adjustments.	x	x	x	x	x
33. Lubricate retractable headlight linkage (also: 911 Slant-nose).	x	x			
34. Check accelerator linkage for smooth operation	x	x	x	x	x
35. Check and correct aim of headlight and washer nozzles, operation and fluid level.	x	x	x	x	x
36. Check and correct battery electrolyte level.	x	x	x	x	x
37. Check the operation of all electrical control equipment and options.	x	x	x	x	x
38. Check operation of heater, ventilation and A/C fans.	x	x	x	x	x

DO NOT WRITE IN THESE SPACES



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During Road or Dynamometer Test:

- 39. Check operation of brakes, parking brake, clutch, steering, heating, ventilation, A/C, cruise control system, instruments and warning lights.
- 40. Check kick-down operations.
- 41. Engine: visual inspection for leaks after road test.

	944		911		928 S4
	944	Turbo	911	Turbo	928 S4
x	x	x	x	x	x
x					x
x	x	x	x	x	x

DOTSIE EATS NORTH AMERICA INC.



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**Subject: Maintenance Requirements —
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03..

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8803

30,000, 60,000, 90,000 Mile Maintenance Service

1. Diagnosis system: read out fault memory and perform system adaption
2. Change engine oil.
3. Replace engine oil filter.
4. Check and adjust valve clearance (replace cover gaskets, sealing nuts and washers).
5. Check and adjust tension of camshaft and balance shaft drive belts. Note: See camshaft belt replacement information at the end of this bulletin.
6. V-belt and Polyrib belt; check condition and tension, correct if necessary.
7. Check and replenish oil level in drive belt tensioner.
8. Check ignition timing and correct if necessary.
9. Replace spark plugs (at least every two years).
10. Replace filter element for auxiliary air pump.
11. Replace air filter element.
12. Cooling and heating system: check coolant level, anti-freeze content, outside radiator for foreign particles and hoses for tightness, correct if necessary.
13. Check tightness of hose connections on the crankcase ventilation.
14. Fuel systems: visual inspection for leaks and tightness of line connections.
15. Check intake air hoses, lines and connections for tightness.

	944		911		928 S4
	944	Turbo	911	Turbo	928 S4
					X
	X	X	X	X	X
	X	X	X	X	X
			X	X	
	X	X			X
	X	X	X	X	X
	X	X			X
				X	
	X	X	X	X	X
				X	X
	X	X	X	X	X
	X	X	X	X	X



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30,000, 60,000, 90,000 Mile Maintenance Service (continued)

16. Exhaust system: visual inspection for leaks and damage, check all connections for tightness.
17. Check engine and transmission for leakage.
18. Change ATF fluid, clean ATF strainer, check oil level in final drive.
19. Check and correct oil level in manual transmission, check for leaks.
20. Check and adjust clutch and brake pedal free play, visually inspect hoses and lines for leaks, damage and corrosion, check brake fluid level, top up if necessary. This should also include checking brake lines and hoses for correct routing and sufficient clearances to fuel and hydraulic lines, electrical wiring, body parts and moving suspension components.
21. Parking brake: check free travel of brake lever and correct if necessary.
22. Brake system: visual inspection of brake pads and discs for wear.
23. Clutch: check disc for wear (except 911 and 911 Turbo) and the hydraulic cylinders for leaks.
24. Steering: check bolt connections for tightness, visual inspection of the rubber boots, tie rod ends; check plug tightness and dust boots.
25. Power steering: visual inspection for leaks, check fluid level and correct if necessary.
26. Suspension ball joints: visual inspection of dust boots for damage. A-arm: check bolt connections for tightness.

	944	944 Turbo	911	911 Turbo	928 S4
16.	x	x	x	x	x
17.	x	x	x	x	x
18.	x				x
19.	x	x	x	x	x
20.	x	x	x	x	x
21.	x	x	x	x	x
22.	x	x	x	x	x
23.	x	x	x	x	x
24.	x	x	x	x	x
25.	x	x			x
26.	x	x	x	x	x

C O R S I E M A C S H A R S N O R I A E R I C A - N O .



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30,000, 60,000, 90,000 Mile Maintenance Service (continued)

- 27. Front wheel bearings: check play and adjust if necessary.
- 28. Rear wheel bearings: check play and correct if necessary (also Turbo-look).
- 29. Drive shafts/cv joints: visual inspection of boots for leaks and damage.
- 30. Tires: check condition and correct pressure.
- 31. Doors: lubricate hinges.
- 32. Check operation and lubricate door check rods.
- 33. Check door, engine hood locks and safety hooks on front hood for tightness and function.
- 34. Door and top weatherstrips: remove residue from contacting areas and coat with suitable rubber lubricant.
- 35. Check operation of safety switch for fuel pump.
- 36. Check operation of safety switch for boost pressure.
- 37. Check operation of all lights, horns, wipers and washers.
- 38. Check and correct headlight adjustments.
- 39. Lubricate retractable headlight linkage (also 911 Slant-nose).
- 40. Check accelerator linkage for smooth operation.

	944		911		
	944	Turbo	911	Turbo	928 S4
27. Front wheel bearings: check play and adjust if necessary.	x	x	x	x	x
28. Rear wheel bearings: check play and correct if necessary (also Turbo-look).				x	
29. Drive shafts/cv joints: visual inspection of boots for leaks and damage.	x	x	x	x	x
30. Tires: check condition and correct pressure.	x	x	x	x	x
31. Doors: lubricate hinges.			x	x	
32. Check operation and lubricate door check rods.	x	x	x	x	x
33. Check door, engine hood locks and safety hooks on front hood for tightness and function.	x	x	x	x	x
34. Door and top weatherstrips: remove residue from contacting areas and coat with suitable rubber lubricant.	x	x	x	x	x
35. Check operation of safety switch for fuel pump.			x	x	
36. Check operation of safety switch for boost pressure.			x	x	
37. Check operation of all lights, horns, wipers and washers.	x	x	x	x	x
38. Check and correct headlight adjustments.	x	x	x	x	x
39. Lubricate retractable headlight linkage (also 911 Slant-nose).	x	x			
40. Check accelerator linkage for smooth operation.	x	x	x	x	x

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30,000, 60,000, 90,000 Mile Maintenance Service (continued)

- 41. Check and correct aim of windshield and headlight washer nozzles, operation and fluid level.
- 42. Check and correct battery electrolyte level.
- 43. Check the operation of all electrical control equipment and options.
- 44. Check operation of heater, ventilation and A/C fans.

During Road or Dynamometer Test:

- 45. Check operation of brakes, parking brake, clutch, steering, heating, ventilation, A/C, cruise control system, instruments and warning lights.
- 46. Check kick-down operations.
- 47. Engine: visual inspection for leaks after road test.
- 48. Check and adjust tension of air pump drive belt after road test.

	944		911		
	944	Turbo	911	Turbo	928 S4
41. Check and correct aim of windshield and headlight washer nozzles, operation and fluid level.	x	x	x	x	x
42. Check and correct battery electrolyte level.	x	x	x	x	x
43. Check the operation of all electrical control equipment and options.	x	x	x	x	x
44. Check operation of heater, ventilation and A/C fans.	x	x	x	x	x
45. Check operation of brakes, parking brake, clutch, steering, heating, ventilation, A/C, cruise control system, instruments and warning lights.	x	x	x	x	x
46. Check kick-down operations.	x				x
47. Engine: visual inspection for leaks after road test.	x	x	x	x	x
48. Check and adjust tension of air pump drive belt after road test.				x	

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Number

8803

Required Every 45,000 Miles

Replace camshaft drive belt. Check condition and adjust tension 2,000-2,500 miles after replacement and document in space provided in the warranty and maintenance booklet.

944 911
944 Turbo 911 Turbo 928 S4

x	x			
				x
x	x	x	x	x
x	x	x	x	x
x	x	x	x	x
x				x
x	x	x	x	x
x	x			x
x	x			

Required Every 60,000 Miles

Replace camshaft drive belt. Check condition and adjust tension 2,000-2,500 miles after replacement and document in space provided in the warranty and maintenance booklet.

Replace fuel filter.

Replace oxygen sensor.

Change oil in manual transmission.

Change oil in final drive on automatic transmission.

Required every 2 years

Change brake fluid

Change coolant

Required after 4, 8, 10 years and then every 2 years

Airbag: check as per maintenance procedure.

Important Notice

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Technical Bulletin

Model
911

Group
10

Subject: Unstable Idle Speed

Part Identifier
N/A

Number
81-07

1980-81 Model Year

At lower ambient temperatures, engine idle speed can be unstable due to adjustment tolerances.

To Correct:

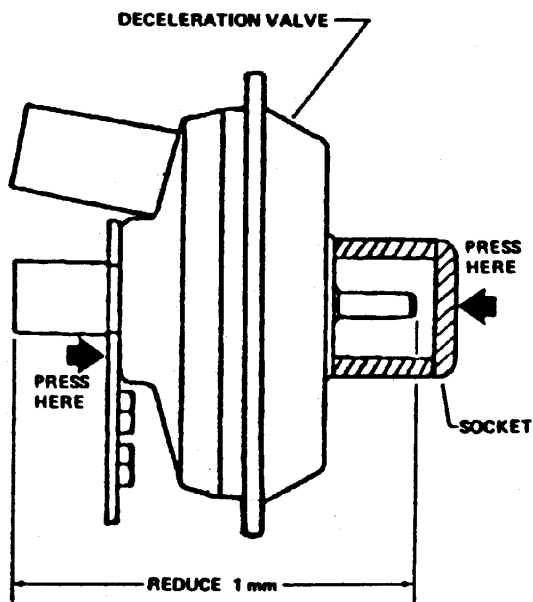
- Adjust ignition timing at operating temperature to 5°BTDC (vacuum hose disconnected).
- Adjust idle RPM at operating temperature to 850 RPM.
- Adjust CO at idle to $0.6 \pm 0.2\%$.

Note:

To avoid measuring errors, do not use ignition timing light with timing advance feature.

If above procedure does not stabilize idle speed:

- Remove deceleration valve
- Using a suitable socket, compress valve by 1mm as shown.
- Reinstall valve.



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Technical Bulletin	Model 911 Carrera	Group 10
Subject: A/C Related Idle Problems	Part Identifier N/A	Number 83-07

1984 Model Year

If engine performance problems such as a drop in RPM or stalling at idle are encountered when turning off the A/C, replace the A/C relay, Part Number 911 615 109 01, with Part Number 911 615 108 01

Caution

Part numbers are listed for reference only. Always consult with the Parts Department for latest information.

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Technical Bulletin

Model
911, 924,
924 Turbo, 928

Group
10

Subject: Tune-up Specifications
1981 Model Year

Part Identifier
1001

Number
81-02

	911	924	924T	928
Ignition Timing	5° BTDC vac. hose off	0° ± 1° idle stab. bypass., hose on	6 – 10° BTDC not adjustable	23° BTDC at 3000 RPM, hose off
Idle RPM	900 ± 50	750–800	less than 900	750 ± 50
CO-Value	0.4 to 0.8%	0.5 to 1.0%	0.5 to 1.0%	0.6 ± 0.2%
Spark plugs	W5D	WR6DS	WR6DS	WR8DS
Spark Plug Gap	0.7 + 0.1 mm	0.7 + 0.1 mm	0.7 + 0.1 mm	0.7 + 0.1 mm
Valve Tappet Clearance	cold 0.10 mm (both)	warm Int. 0.20 mm Exh. 0.45 mm	warm Int. 0.20 mm Exh. 0.45 mm	—

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Model

All

Group

10

**Subject: Tune-up Specifications
1982 Model Year**

Part Identifier

1001

Number

81-06

	911	924	924T	928
Ignition Timing	5° BTDC vac. hose off	0° ± 1° idle stab. bypass., hose on	6 – 10° BTDC not adjustable	23° BTDC at 3000 RPM, hose off
Idle RPM	900 ± 50	750–800	less than 900	750 ± 50
CO-Value *	0.4 to 0.8%	0.5 to 1.0%	0.5 to 1.0%	0.6 ± 0.2%
Spark plugs	W5D	WR6DS	WR6DS	WR8DS
Spark Plug Gap	0.7 ± 0.1 mm	0.7 ± 0.1 mm	0.7 ± 0.1 mm	0.7 ± 0.1 mm
Valve Tappet Clearance	cold 0.10 mm (both)	warm Int. 0.20 mm Exh. 0.45 mm	warm Int. 0.20 mm Exh. 0.45 mm	—

* measured ahead of catalytic converter (oxygen sensor disconnected)

928 cars only: Remove secondary air injection hose at engine end
and plug hose

SERVICE

Page 1 of 1
November 6, 1981

Technical Bulletin

Model

911

Group

1

Subject:

**BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier

N/A

Number

8512

Below are all basic emission components and adjustment data listed for all cars as of M.Y. 1968.

DOUGLASS NORTH AMERICA INC.

M.Y. Vehicle Type	1968	1969-T	1969-E
Fuel System	Carb. Weber 40IDTP3C	Carb. Weber 40IDTP3C	Bosch Mech. Fuel Inj.
Sec. Air Pump	Yes	No	No
Throttle Compensator	Yes	Yes	No
Ignition Distr. Vacuum Unit	Yes	No	No
Diverter Valve	Yes	No	No
Spark Plugs	W250P21	W225T30	W265P21
Spark Plug Gap	0.35 mm	0.6 mm	0.55 mm
Ignition Distributor	Bosch 0231.159.001	Marelli S112AX	Bosch 0.231.159.006
Dwell Angle	38° ± 3°	40° ± 3°	38° ± 3°
Ignition Timing	30° BTDC/6000	35° BTDC/6000	30° BTDC/6000
Idle RPM	900 ± 50	900 ± 50	900 ± 50
CO %	4.5 Sec. air pump disc.	3.5±0.5 Sec. Air pump disc.	3.5±0.5 at idle
Exhaust System	Regular	Regular	Regular
Engine Code No.	901/14,901/17	901/17,901/19	901/09,901/11



SERVICE

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Technical Bulletin

Model

911

Group

1

**Subject: BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier

N/A

Number

8512

DO NOT WRITE IN THESE SPACES

M.Y. Vehicle Type	1969-S	1970/71-T	1970/71-E
Fuel System	Bosch Mech. Fuel Inj.	Carb. Zenith 40 TIN	Bosch Mech. Fuel Inj.
Sec. Air Pump	No	No	No
Throttle Compensator	No	No	No
Ignition Distr. Vacuum Unit	No	No	No
Diverter Valve	No	No	No
Spark Plugs	W265P21	W225T30	W265P21
Spark Plug Gap	0.55 mm	0.6 mm	0.55 mm
Ignition Distributor	Bosch 0.231.159.007	Bosch 0.231.159.008	Bosch 0.231.159.006
Dwell Angle	38° ± 3°	40° ± 3°	38° ± 3°
Ignition Timing	30° BTDC/6000	35° BTDC/6000	30° BTDC/6000
Idle RPM	900 ± 50	900 ± 50	900 ± 50
CO %	3.5±0.5 at idle	3.5 ± 0.5	3.0±0.5 at idle
Exhaust System	Regular	Regular	Regular
Engine Code No.	901/10	911/07,911/08	911/01,911/04



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Technical Bulletin

Model

911

Group

1

Subject:

**BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier

N/A

Number

8512

DOMESTIC CARS NORTH AMERICA INC.

M.Y. Vehicle Type	1970/71-S	1972-T	1972-E
Fuel System	Bosch Mech. Fuel Inj.	Bosch Mech. Fuel Inj.	Bosch Mech. Fuel Inj.
Sec. Air Pump	No	No	No
Throttle Compensator	No	No	No
Ignition Distr. Vacuum Unit	No	Yes	Yes
Diverter Valve	No	No	No
Spark Plugs	W265P21	W265P21	W265P21
Spark Plug Gap	0.55 mm	0.6 mm	0.55 mm
Ignition Distributor	Bosch 0.231.159.007	Bosch 0.231.169.003	Bosch 0.231.169.004
Dwell Angle	38° ± 3°	38° ± 3°	38° ± 3°
Ignition Timing	30° BTDC/6000	5° ATDC	5° ATDC
Idle RPM	900 ± 50	900 ± 50	900 ± 50
CO %	3.0 ± 0.5 at idle	1.5-2.0 at idle	2.0-2.5 at idle
Exhaust System	Regular	Regular	Regular
Engine Code No.	911/02	911/51,911/61	911/52,911/62



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Technical Bulletin

Model
911

Group
1

Subject:

**BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier

N/A

Number

8512

M.Y. Vehicle Type	1972-S	1973-T	1973-E
Fuel System	Bosch Mech. Fuel Inj.	First half production Mech. Fuel Inj., Second half, CIS Fuel Inj.	Bosch Mech. Fuel Inj.
Sec. Air Pump	No	No	No
Throttle Compensator	No	Decel valve for CIS Fuel Inj.	No
Ignition Distr. Vacuum Unit	Yes	Yes	Yes
Diverter Valve	No	No	No
Spark Plugs	W265P21	W235P21	W265P21
Spark Plug Gap	0.55 mm	0.6 mm	0.55 mm
Ignition Distributor	Bosch 0.231.169.005	Bosch	Bosch
Dwell Angle	38° ± 3°	38° ± 3°	38° ± 3°
Ignition Timing	5° ATDC	5° ATDC	5° ATDC
Idle RPM	900 ± 50	900 ± 50	900 ± 50
CO %	2.0-2.5 at idle	1.5-2.0	2.5 ± 0.5
Exhaust System	Regular	Regular	Regular
Engine Code No.	911/53	911/51/91/92	911/52/62

DORSENE CORP. - 2001 W. WASHINGTON ST. - ANN ARBOR, MI 48106



SERVICE

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Technical Bulletin

Model
911

Group
1

Subject:
**BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier
N/A

Number
8512

DORSEY CARS NORTH AMERICA INC.

M.Y. Vehicle Type	1973-S	1974	1974-S
Fuel System	Bosch Mech. Fuel Inj.	CIS Fuel Inj.	CIS Fuel Inj.
Sec. Air Pump	No	No	No
Throttle Compensator	No	Decel. Valve	Decel. Valve
Ignition Distr. Vacuum Unit	Yes	Yes	Yes
Diverter Valve	No	No	No
Spark Plugs	W265P21	W215P21	W235P21
Spark Plug Gap	0.55 mm	0.55 mm	0.55 mm
Ignition Distributor	Bosch	Bosch	Bosch
Dwell Angle	38° ± 3°	38° ± 3°	38° ± 3°
Ignition Timing	5° ATDC	5° ATDC	5° ATDC
Idle RPM	900 ± 50	900 ± 50	900 ± 50
CO %	2.5 ± 0.5	1.5 ± 0.5	1.5 ± 0.5
Exhaust System	Regular	Regular	Regular
Engine Code No.	911/53	911/92/97	911/93/98



SERVICE

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Technical Bulletin

Model
911

Group
1

Subject:
**BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier
N/A

Number
8512

DOCSITE CARBON NORTH AMERICA INC.

M.Y. Vehicle Type	1975	1976	1977
Fuel System	CIS Fuel Inj.	CIS Fuel Inj.	CIS Fuel Inj.
Sec. Air Pump	Yes	Yes	Yes
Throttle Compensator	Decel. Valve	Decel. Valve	Decel. Valve
Ignition Distr. Vacuum Unit	Yes	Yes	Yes
Diverter Valve	No	No	No
Spark Plugs	W235P21	W235P21	W235P21
Spark Plug Gap	0.55 mm	0.55 mm	0.55 mm
Ignition Distributor	Bosch	Bosch	Bosch
Dwell Angle	38° ± 3°	38° ± 3°	38° ± 3°
Ignition Timing	5° ATDC	5° ATDC	OT ± 2° 49ST 15° ± 2° ATDC Calif.
Idle RPM	900 ± 50	900 ± 50	950 ± 50 49ST 1000 ± 50 - Calif.
CO %	1.5-2.0 sec. air disc.	2.0-3.5 sec. air disc.	1.5-3.0 sec. air disc.
Exhaust System	49 States-Regular Calif.-Thermo reactors and EGR	49 States-Regular Calif.-Thermo reactors and EGR	EGR, Thermo reactors
Engine Code No.	49 States-911/43/48 Calif.-911/44/49	49 States-911/82/89 Calif.-911/84/89	9/11/85/90



SERVICE

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Technical Bulletin

Model
911

Group
1

Subject:
BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS

Part Identifier
N/A

Number
8512

M.Y. Vehicle Type	1978/79, SC	1980-SC	1981/82/83-SC
Fuel System	CIS Fuel Inj.	CIS Fuel Inj.	CIS Fuel Inj.
Sec. Air Pump	Yes	No	No
Throttle Compensator	Decel. Valve	No	No
Ignition Distr. Vacuum Unit	Yes	Yes	Yes
Diverter Valve	No	No	No
Spark Plugs	W145T30	W225T30	W5D (225T30)
Spark Plug Gap	0.8 mm	0.8 mm	0.8 mm
Ignition Distributor	Bosch 0.237.306.001	Bosch 0.237.304.016	Bosch 0.237.304.016
Dwell Angle	Pointless	Pointless	Pointless
Ignition Timing	5° ± 2° BTDC	5° ± 2° BTDC	5° ± 2° BTDC
Idle RPM	950 ± 50	900 ± 50	900 ± 50
CO %	2.5±1.0 sec. air disc.	0.4-0.8 oxygen sensor disc.	0.4-0.8 oxygen sensor disc.
Exhaust System	CAT, EGR	3 way CAT- oxygen sensor	3 way CAT- oxygen sensor
Engine Code No.	930/04 Calif-930/06	930/07	930/16

ADDITIONAL INFORMATION



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Model
911

Group
1

Subject:
**BASIC EMISSION EQUIPMENT AND
TUNE UP SPECIFICATIONS**

Part Identifier
N/A

Number
8512

2011 AMERICAN
 2010 AMERICAN
 2009 AMERICAN
 2008 AMERICAN
 2007 AMERICAN
 2006 AMERICAN
 2005 AMERICAN
 2004 AMERICAN
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M.Y. Vehicle Type	1984/85	1986
Fuel System	L-Jetronic Fuel Inj.	L-Jetronic Fuel Inj.
Sec. Air Pump	No	No
Throttle Compensator	Idle Stabilizer	Idle Stabilizer
Ignition Distr. Vacuum Unit	No	No
Diverter Valve	No	No
Spark Plugs	Bosch W7DC, WR7DC, WR7DP Champion RN7YC	Bosch WR7DC Champion RN7YC
Spark Plug Gap	0.7 + 0.1 mm	0.7 ± 0.1 mm
Ignition Distributor	Bosch 0237.505.001	Bosch 0237.505.001
Dwell Angle	DME - 0.261.200.050	DME
Ignition Timing	3° ± 3° ATDC	3° ± 3° ATDC
Idle RPM	800 ± 20	800 ± 20
CO %	0.8±0.2 oxygen sensor disc.	0.8±0.2 oxygen sensor disc.
Exhaust System	3 way CAT-oxygen sensor	3-way CAT-oxygen sensor
Engine Code No.	930/21	930/21



SERVICE

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DISPATCH INFORMATION

Technical Bulletin	Model 911 Turbo	Group 1
Subject: BASIC EMISSION EQUIPMENT AND TUNE-UP SPECIFICATIONS	Part Identifier N/A	Number 8513

Below are all basic emission components and adjustment data for all cars as of M.Y. 1976

M.Y. Vehicle Type	1976	1977	1978/79
Fuel System	CIS Fuel Inj.	CIS Fuel Inj.	CIS Fuel Inj.
Sec. Air Pump	Yes	Yes	Yes
Throttle Compensator	Decel Valve	Decel Valve	Decel Valve
Ignition Distr. Vacuum Unit	Yes	Yes	Yes
Diverter Valve	Yes	Yes	Yes
Spark Plugs	P280P21	P280P21	P280P21
Spark Plug Gap	0.6 mm	0.6 mm	0.6 mm
Ignition Distributor	Bosch	Bosch	Bosch 0.237.302.009
Dwell Angle	Pointless	Pointless	Pointless
Ignition Timing	5°±2° ATDC	7°±2° ATDC	10°±2° ATDC 5°±2° ATDC Calif.
Idle RPM	950 ± 50	1000 ± 50	1000 ± 50
CO %	1.0-3.0 sec. air disc.	2.0-4.0 sec. air disc.	2.5±0.5 sec. air disc.
Exhaust System	Thermo reactors	Thermo reactors, EGR	Thermo reactors, EGR
Engine Code	930/51	930/53	930/61/63



SERVICE

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Technical Bulletin

Model
911 Turbo

Group
1

Subject:
BASIC EMISSION EQUIPMENT AND
TUNE-UP SPECIFICATIONS

Part Identifier
N/A

Number
8513

M.Y. Vehicle Type

1981/82 Canada

1983/84/85 Canada

Fuel System

CIS Fuel Inj.

CIS Fuel Inj.

Sec. Air Pump

Yes

Yes

Throttle Compensator

Decel Valve

Decel Valve

Ignition Distr. Vacuum Unit

Yes

Yes

Diverter Valve

Yes

Yes

Spark Plugs

W3DP0

W3DP0

Spark Plug Gap

0.7 + 0.1 mm
- 0 mm

0.7 + 0.1 mm
- 0 mm

Ignition Distributor

Bosch 0237.301.004

Bosch 0237.302.034

Dwell Angle

Pointless

Pointless

Ignition Timing

29° BTDC/4000

29° BTDC/4000

Idle RPM

1000 ± 50

900 ± 50

CO %

2.5±0.5 sec. air disc.

2.0±0.5 sec. air disc.

Exhaust System

Regular

Regular

Engine Code No.

930/60



930/66

02-1-AC-DEMA-1-1-202-5123-000000000



SERVICE

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Technical Bulletin		Model 911 Turbo	Group 1
Subject: BASIC EMISSION EQUIPMENT AND TUNE-UP SPECIFICATIONS		Part Identifier N/A	Number 8513
M.Y. Vehicle Type		1986 USA	
Fuel System		CIS Fuel Inj.	
Sec. Air Pump		Yes	
Throttle Compensator		Decel Valve	
Ignition Distr. Vacuum Unit		Yes	
Diverter Valve		Yes	
Spark Plugs		W3DPO	
Spark Plug Gap		0.7 + 0.1 mm - 0 mm	
Ignition Distributor		Bosch 0237.302.034	
Dwell Angle		Pointless	
Ignition Timing		26°±1° BTDC at 4000 RPM vac. hoses disc.	
Idle RPM		900 ± 50	
CO %		0.4-0.8 measured before CAT, oxy. sen. discon.	
Exhaust System		3 way CAT	
Engine Code No.		930/68	
 		SERVICE	
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P O R S C H E
 C A R S
 N O R T H
 A M E R I C A
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Technical Bulletin

Model

912

Group

1

Subject:

**BASIC EMISSION EQUIPMENT AND
TUNE-UP SPECIFICATIONS**

Part Identifier

N/A

Number

8514

Below are all basic emission components and adjustment data for all cars as of M.Y. 1968

**FORSENE
CARS
NORTH
AMERICA
INC.**

M.Y. Vehicle Type	1968	1969	1976 (E)
Fuel System	Carb. Solex 40 P11-4	Carb. Solex P11-4	L-Jetronic Fuel Inj.
Sec. Air Pump	Yes. Air pump may be deleted by modifying to 1969 specs.	No	Yes
Throttle Compensator	Yes	Yes	Decel Valve
Ignition Distributor Vacuum Unit	No	No	Yes
Diverter Valve	Yes-Service installed	No	No
Spark Plugs	W200T35	W200T35	W175M30
Spark Plug Gap	0.6-0.7 mm	0.6-0.7 mm	0.7 mm
Ignition Distributor	Bosch 0231.129.022	Bosch 0231.129.022	Bosch 0.231176.060
Dwell Angle	50° ± 3°	50° ± 3°	47° ± 3°
Ignition Timing	3° BTDC	3° ATDC	27° BTDC/3500 vacuum hose disc.
Idle RPM	850 ± 50	900 ± 50	925 ± 50
CO %	3.5 sec. air disc.	4.0±0.5	0.5-1.2 sec. air disc.
Exhaust System	Regular	Regular	Thermo reactors EGR
Engine Code No.	616/39	616/40	923/02



SERVICE

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Technical Bulletin

Model
All

Group
10

Subject: Tune-up Specifications
1984 Model Year

Part Identifier
1001

Number
83-05

	911 Carrera	928S	944	911 Turbo (Canada)
Ignition timing	DME $3^{\circ} \pm 3^{\circ}$ ATDC at idle	20° BTDC at 3000 RPM	DME $5^{\circ} \pm 2^{\circ}$ BTDC at idle	$29^{\circ} \pm 1^{\circ}$ BTDC at 4000 RPM vac. hoses disconnected
Idle RPM	800 ± 20	750 ± 50	900 ± 50	900 ± 50
CO—Value	0.6—1.0 % Measure before cat. Oxy. sensor disconnected	0.4—0.8 % Measure before cat. Oxy. sensor disconnected	0.4—0.8 % Measure before cat. Oxy. sensor disconnected	1.5—2.5 % secondary air pump hose disconnected and plugged
Spark plugs Bosch Beru Champion	W7DC 14/7DU N7YC	WR8DS RS35 —	WR8DS RN10GY —	W3DP — —
Spark plug gap	$0.7 + 0.10$ mm	$0.7 + 0.10$ mm	$0.7 + 0.10$ mm	$0.7 + 0.10$ mm
Valve tappet clearance (cold)	0.10 mm (both)	—	—	0.10 mm (both)
Fuel pump min. delivery $\text{cm}^3 / 30 \text{ sec.}$	850	—	850	1170
System pressure (Bar)	$2.5 + 0.20$ vac. hose disconnected Approx. 2.0 bar connected	$2.5 + 0.20$ vac. hose disconnected Approx. 2.0 bar connected	$2.5 + 0.20$ vac. hose disconnected Approx. 2.0 bar connected	$6.0 - 6.7$
Injection system leakage test min. pressure: After 10 min. After 20 min.	— 1.0 bar	— 1.0 bar	— 1.0 bar	1.7 bar 1.5 bar
Valve timing (at 0.10 mm tappet clearance)	$1.10 - 1.40$ mm	—	—	$0.65 - 0.80$ mm

Unless specified, all engine checks or adjustments should be made with engine oil temperature at approx. 90°C (194°F). If possible, all adjustments should be made at an ambient temperature of 20°C (68°F).

SERVICE

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September 29, 1983

Technical Bulletin

Model
911 Carrera

Group
10

**Subject: Idle Adjustment and Performance
Diagnosis**

Part Identifier
1001

Number
83-10

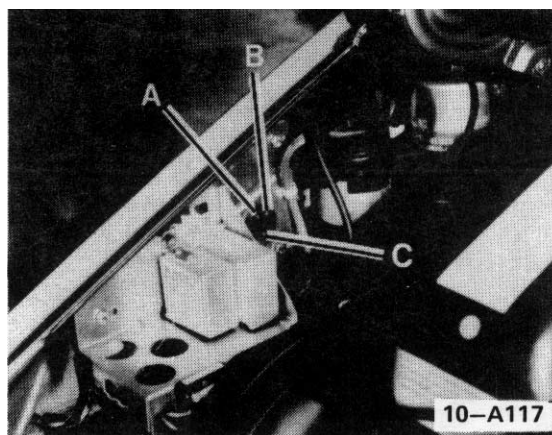
Idle adjustment procedure

Engine oil temperature must be approximately
90°C (194°F)

Intake air temperature must be approximately
15 to 35°C (59 to 95°F)

CO tester connected in front of catalytic converter

- disconnect oxygen sensor
- check/adjust CO% at idle
 - Specifications = 0.6 to 1.0%
- reconnect oxygen sensor
- bridge terminals B and C on the test connection receptacle (see illustration). This makes the idle stabilizer inoperative.



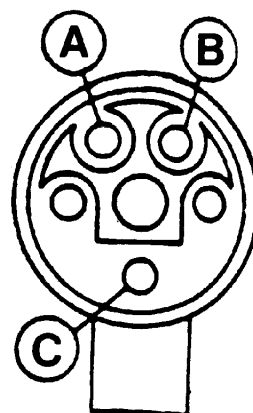
- check/adjust idle RPM
 - Specifications = 800 ± 20 RPM

Adjustments are made with the throttle housing
adjustment screw

- remove bridge from test receptacle
- recheck CO% and idle RPM
- remove CO probe and close catalytic converter
connection

Note

For accurate adjustments, it is absolutely essential
to follow the prescribed sequence



10-A118

Diagnosing engine performance problems

Incorrect idle RPM

- RPM higher than 820: The deceleration fuel shut off valve is activated, causing idle surge, jerking in stop and go traffic
- RPM lower than 780: May cause stalling at idle when operating A/C, hesitation upon acceleration

Incorrect CO adjustment

- CO valve greater than 1%: May cause idle surge after cold start
- CO valve lower than 0.6%: Idle unstable, possible hesitation upon acceleration

SERVICE

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December 30, 1983

Technical Bulletin

Model 911 Carrera	Group 10
Part Identifier 1001	Number 83-10

Subject: Idle Adjustment and Performance Diagnosis

Temperature Sensor II, responsible for correct warm-up enrichment (located in left cylinder head by number 3 cylinder).

Temperature	Resistance values
10°C (50°F)	3.3 to 4.1 K Ohms
20°C (68°F)	2.2 to 2.8 K Ohms
40°C (104°F)	1.0 to 1.3 K Ohms
80°C (176°F)	290 to 350 Ohms
100°C (212°F)	160 to 210 Ohms

- if sensor is disconnected (resistance = ∞) the engine will run too rich and stall at idle
- if sensor is shorted to ground (resistance = 0 Ohms) the engine will experience difficulties in cold start and warm-up

Engine speed sensor and reference mark

- Specification: Distance for engine speed sensor to flywheel = 0.8 ± 0.3 mm
- at a distance of approximately 2 mm: Longer cranking time, more starts necessary, will not start at lower temperatures. During warm-up engine will run normally; at operating temperature will idle higher than normal (see Incorrect idle RPM)
- at a distance of approximately 3 mm: The engine experiences ignition misses and hesitation upon acceleration. Due to heat expansion, engine may quit running for short periods at a time

Fuel return hose

- if the fuel return hose is kinked or blocked, fuel pressure will rise causing rich running and stalling at idle

Note

If CO% cannot be adjusted to specifications or engine surges at idle when cold or under partial load, test fuel pressure

- Specifications = 2 bar at idle (vacuum hose connected)

Spark plugs

- wear limit for electrode gap = 1.3 mm

Hot start problems

At operating temperature, the fuel pressure drop is approximately 0.5 bar in 30 minutes. If pressure drop exceeds specifications, check the following:

- pressure regulator for internal leak. Test by closing off fuel return hose.
- check valve in fuel pump for internal leak. Test by closing off fuel pressure hose.
- injectors for internal leaks. Test by closing off both pressure and return hoses.

Acceleration linkage adjustment

- the long rod on the transmission relay lever must have a clearance of 0.5 to 1.0 mm for proper operation of the idle microswitch

Idle microswitch

Inoperative (open) switch will produce an increased idle (approximately 1100 RPM) and the ignition timing will be advanced. The following may also occur:

- when decelerating from over 5000 to under 4000 RPM, the engine will hesitate upon re-acceleration
- with a cold engine, acceleration delayed by approximately 1° of throttle opening; engine surges

SERVICE

Technical Bulletin

Model
911 Carrera
928S, 944

Group
I

Subject:
Tune-up Specifications for Model Year 1985

Part Identifier
1001

Number
8405

	911 Carrera	928 S	944	911 Turbo (Canada)
Ignition timing	DME 3° ± 2° ATDC at idle	10° ± 2° BTDC at idle	DME 5° ± 3° BTDC at idle	29° ± 1° BTDC at 4000 RPM vac hoses disconnected
Idle RPM	800 ± 20	680 ± 20	840 ± 40	900 ± 50
CO-value	0.6-1.0% measure before cat. Oxy sensor disconnected	0.4-0.6% measure before cat. Oxy sensor disconnected	0.4-0.8% measure before cat. Oxy sensor disconnected	1.5-2.5% measure before cat. Oxy sensor disconnected
Spark plugs Bosch Beru Champion	WR7DC ----- RN7YC	WR7DC	WR8DS ----- RN10GY	W3DP/W3CP
Spark plug gap	0.7+0.10 mm	0.7+0.10 mm	0.7+0.10 mm	0.6 mm
Valve tappet clearance cold	0.10 mm (both)	-----	-----	0.10 mm (both)
Fuel pump min delivery cm ³ /30 sec	850	1350	850	1170 (both pumps)
System pressure (Bar)	2.5±0.20 vac hose disconnect. appr 2.0 bar connected	2.5±0.20 vac hose disconnect, approx 2.0 bar connected	2.5±0.20 vac hose disconnect. appr 2.0 bar connected	6.0-6.7
Injection system Leakage test min pressure After 10 min After 20 min	----- 1.0 bar	----- 1.0 bar	----- 1.0 bar	1.7 bar 1.5 bar
Valve timing (at 0.10 mm tappet clear- ance)	1.10-1.40 mm	-----	-----	0.65-0.80 mm

Unless specified, all engine checks or adjustments should be made with engine oil temperature at approx. 90°C (194°F). If possible, all adjustments should be made at an ambient temperature of 20°C (68°F).

NOZ-AC-EM-10-11-2000000000



SERVICE

Page 1 of 1
December 17, 1984

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
1

Subject:
Tune-Up Specifications for M.Y. 86

Part Identifier
1001

Number
8524

DOROSCH MICHIGAN NORTH AMERICA - 201

	911 Carrera	928S	911 Turbo
Ignition timing	DME 3°±3° ATDC at idle	EZF 10° ± 2° BTDC at idle	CDI 26 ± 1° BTDC at 4000 RPM vac hoses disconnected
Idle RPM	800±20	680±20	900±50
CO-value	0.6-1.0% measure before cat. oxy sensor disconnected	0.4-0.8% measure before cat. oxy sensor disconnected	0.4-0.8% measure before cat. oxy sensor disconnected
Spark plugs Bosch Beru Champion	WR7DC/WRFDP ----- RN7YC	WR7DC	W3DPO
Spark plug gap	0.7 ^{+0.1} mm -0 mm	0.7 ^{+0.1} mm -0 mm	0.7 mm
Valve tappet Clearance cold	0.10 mm intake and exhaust	-----	0.10 mm intake and exhaust
Fuel pump min delivery cm³/30 sec	850	1350	1170 (both pumps)
System pressure (Bar)	2.5±0.20 vac. hose disconnect. appr. 2.0 bar connected	2.5±0.20 vac. hose disconnect. appr. 2.0 bar connected	6.2-6.7
Injection system Leakage test min. pressure After 10 min	-----	-----	1.7 bar
	1.0 bar	1.0 bar	1.5 bar
Valve timing (at 0.10 mm tappet clearance)	1.10-1.40 mm	-----	0.65-080 mm



Unless specified, all engine check or adjustments should be made with engine oil temperature at approx. 90°C (194°F). If possible, all adjustments should be made at an ambient temperature of 20°C (68°F).



SERVICE

Page 1 of 1
Sept. 24, 1985

P O R S C H E C A R S N O R T H A M E R I C A - I N C .

Technical Bulletin		Model 911 Carrera 911 Turbo, 928S	Group 1
Subject: Tune-up Specifications for M.Y. 87		Part Identifier 1001	Number 8619
	911 Carrera	928S	911 Turbo
	DME	EZK	CDI
Ignition Timing	3°±3° ATDC at idle From Prod. 10/86 3° BTDC to TDC (OT)	10°±2° BTDC at idle	26°±1° BTDC at 4000 RPM Vac. Hose (red) disconnected
Idle RPM	800±20 from Prod. 10/86 880±20	680±40	900±50
C.O. Value	0.6% - 1.0% Measured before CAT Oxy sensor disconnected	0.4% - 1.2% Measured before CAT Oxy sensor connected. EZK/LH Controlled	0.4% - 0.8% Measured before CAT Oxy sensor disconnected.
Spark Plugs Bosch Champion	WR7DC/WR7DP RN7YC	WR7DC	W3DPO
Spark Plug Gap	0.7 ^{0.1} ₀ mm	0.7 ^{0.1} ₀ mm	0.7 mm
Valve Tappet Clearance Cold	0.10 mm intake and exhaust	-----	0.10 mm intake and exhaust
Fuel Pump Min. delivery cm ³ /30 sec.	850	1250	1170 (both pumps)
System Pressure Bar	2.5±0.20 Vac. Hose disconnected. Approx. 2.0 Vac. Hose connected	3.8±0.20 Vac. Hose disconnected. Approx. 3.2 Vac. Hose connected	Test value 6.1-6.8 Adj. value 6.3-6.5
 		SERVICE	
		Page 1 of 4 October 24, 1986	

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
1

Subject: Tune-up Specifications for M.Y. 87

Part Identifier
1001

Number
8619

911 Carrera

928S

911 Turbo

Injection System
Leakage Test
min. pressure
After 10 min.
After 20 min.

1.0 Bar

3.0 Bar

1.7 Bar
1.5 Bar

Valve Timing
at 0.10 mm tappet
clearance

1.10-1.40 mm

0.65-0.80 mm

Unless specified otherwise, all engine checks and adjustments should be made with engine oil temperature at approximately 90°C (194°F).

If possible, all adjustments should be made at an ambient temperature of 20°C (68°F).

NOTE: 928S idle RPM, timing and C.O., not adjustable (EZK/LH controlled).

911 Carrera timing, not adjustable (DME controlled).

PORSCHE CARRERA NORTH AMERICA, INC.



SERVICE

Page 2 of 4
October 24, 1986

Technical Bulletin	Model 944S, 924S	Group 1
	Subject: Tune-up Specifications for M.Y. 87	Part Identifier 1001

	944S	924S
Ignition Timing	DME 10°±3° BTDC at idle	DME 5°±3° BTDC at idle
Idle RPM	840 ± 40 DME Controlled	840 ± 40
C.O. Value at Idle	0.4% - 1.2% Measured before CAT Oxy sensor <u>connected</u> DME controlled	0.4% - 0.8% Measured before CAT Oxy sensor disconnected
Spark Plugs Bosch Champion	WR7DC -----	WR7DC RN9YC
Spark Plug Gap	0.7 ^{0.1} / ₀ mm	0.7 ^{0.1} / ₀ mm
Fuel Pump Min. Delivery cm ³ /30 sec.	780	750
System Pressure (Bar) at Idle Speed	3.8±0.20 Vac. Hose disconnected. Approx. 3.2 Vac. Hose connected	2.5±0.20 Vac. Hose dis- connected. Approx. 2.0 Vac. Hose connected
Injection System Leakage Test Min. Pressure After 20 minutes	3.0 Bar	2.0 Bar

Unless specified otherwise, all engine checks or adjustments should be made with engine oil at approx. 90°C (194°F).

If possible, all adjustments should be made at an ambient temperature of 20°C (68°F).

Note: 944S idle RPM, timing and CO not adjustable (DME controlled).

924S timing, not adjustable (DME controlled).



SERVICE

Page 4 of 4
October 24, 1986

Technical Bulletin

Model
911 SC

Group
10

Subject: Crankcase and Related Parts

Part Identifier
1010

Number
83-06

1983-84 Model Years

A new version crankcase is being used in production as of March, 1983.

Engine numbers are as follows:

911 SC	64D3717
911 Turbo (Canada)	67D0712

Part numbers:	Old	New
911 SC	930 101 915 00	930 101 917 00
911 Turbo	930 101 916 00	930 101 918 00

To increase crankcase strength, the removable oil filter screen and cover plate with oil drain plug have been eliminated. (Fig. 1, arrow)

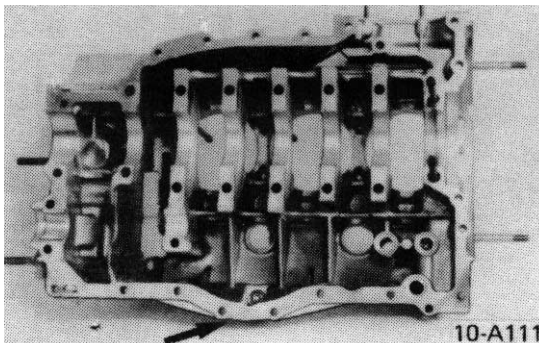


Fig. 1 Crankcase half

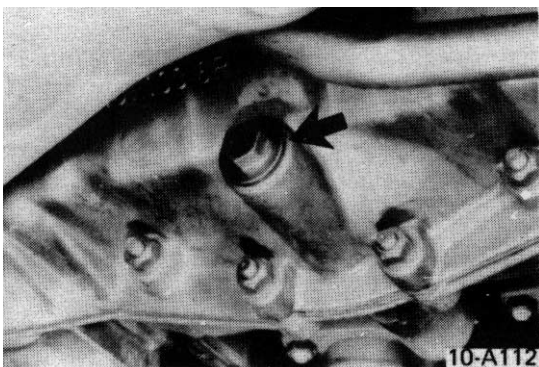


Fig. 2

Oil drain plug is now located on left side of crankcase. (Fig. 2, arrow)

Oil pump

With new engine crankcase, a new oil pump is used. This oil pump has a filter screen on the oil pick-up pipe.

New oil pumps

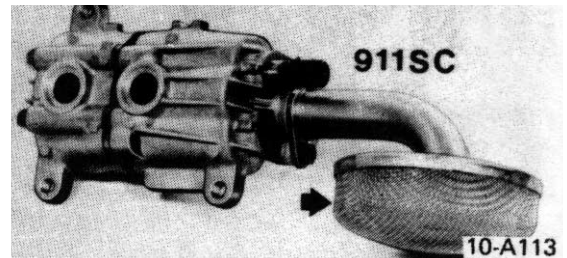


Fig. 3 911 SC, P/N 911 107 008 05

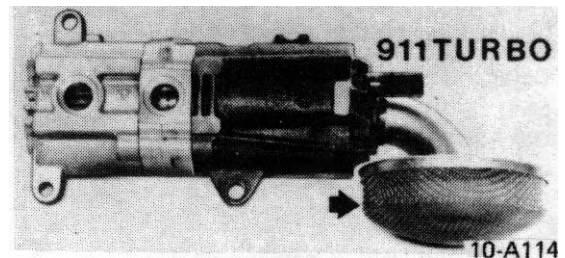


Fig. 4 911 Turbo, P/N 930 107 008 04

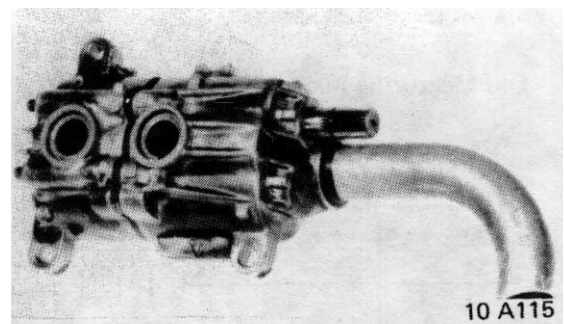


Fig. 5 Old oil pump
911 SC P/N 911 107 008 01
911 Turbo P/N 930 107 008 02

SERVICE

Page 1 of 3
October 24, 1983

Technical Bulletin

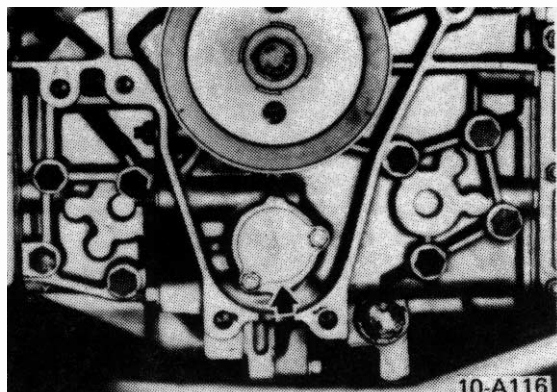
Model
911SC

Group
10

Subject: Crankcase and Related Parts

Part Identifier
1010

Number
83-06



Caution

If a new crankcase is used to repair an earlier engine, the new oil pump and intermediate shaft bore cover must be used.

Fig. 6 Intermediate shaft bore cover

Intermediate shaft bore cover

A new intermediate shaft bore cover is also being used. (Fig. 6). The cover is retained by 2 M6X16 mm hex head bolts and is sealed by an O- ring.

Cover	P/N 930 105 165 00
Seal	P/N 999 701 658 40
Bolt	P/N N010 287.1

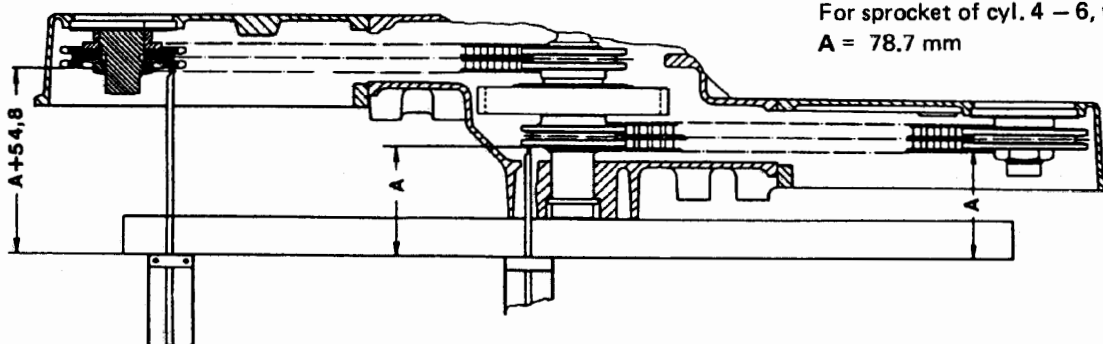
New repair procedures

Parallel alignment of camshaft sprockets

Because of the change in the intermediate shaft cover area, a new method of checking parallel alignment of camshaft sprockets is necessary.

Old Measuring Method:

Example: Measured distance $A = 78.7$ mm
For sprocket of cyl. 1 - 3, we have
 $A + 54.8$ mm = 133.5 mm
For sprocket of cyl. 4 - 6, we have
 $A = 78.7$ mm



SERVICE

Page 2 of 3
October 24, 1983

Technical Bulletin

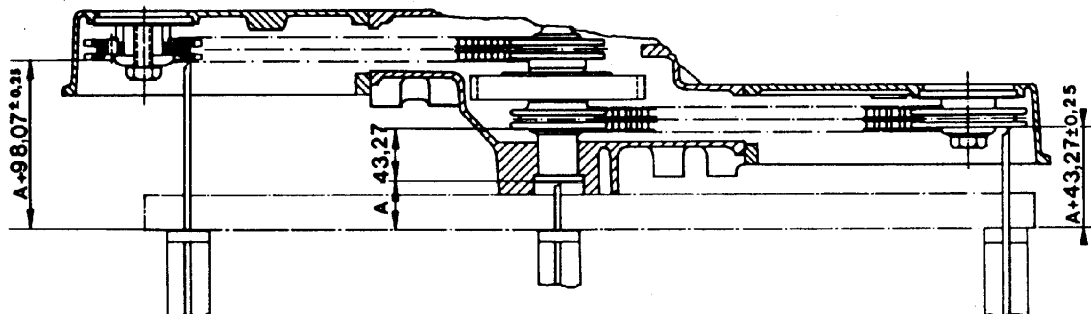
Model
911SC

Group
10

Subject: Crankcase and Related Parts

Part Identifier
1010

Number
83-06



New method

Distance **A** is measured from front edge of crankcase to face of intermediate shaft.

Design distances between sprockets:

- from face of intermediate shaft to face of rear camshaft sprocket (cyl 1–3) = 98.07 mm
- from face of intermediate shaft to face of front camshaft sprocket (cyl 4–6) = 43.27 mm

Design distance plus measured distance **A** = position of sprockets on camshafts.

Example: Measured distance **A** = 35.5 mm
For sprocket of cyl 1 – 3 we have:
 $A + 98.07$ mm or
 $35.5 + 98.07 = 133.57$ mm (± 0.25 mm)
For sprocket of cyl 4 – 6 we have:
 $A + 43.27$ mm or
 $35.5 + 43.27$ mm = 78.77 mm (± 0.25 mm)

Sprocket adjustment procedure is unchanged.

Normally, 3 shims underneath left camshaft sprocket (cyl 1 – 3) and no shims underneath right camshaft sprocket.

Shim P/N 901 105 561 00
● 0.5 mm thickness

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information

SERVICE

Page 3 of 3
October 24, 1983

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
1

Subject: Sealing Crankcase Cast-on Oil Pipe

Part Identifier
1010

Number
8911

Oil leaks from the cast-in oil pipe in the right crankcase half (oil cooler area, Figure 1) can be repaired with engine removed or installed.

Work Procedure:

- Remove oil cooler
- Clean and degrease the crankcase thoroughly in the area of the pipe (circle in Figure 1) using acetone, alcohol or something similar.
- Apply a coat of Silastic 732 RTV sealing compound (Porsche PN 999 915 451 40) with light pressure uniformly until the depression (arrows in Figure 1) is filled. Smooth over the protruding sealing compound with a water coated putty knife or similar tool. Smoothing the compound is possible for a maximum of 5 minutes after application. Complete hardening time is 24 hours. Test running the engine will not disturb the hardening process.

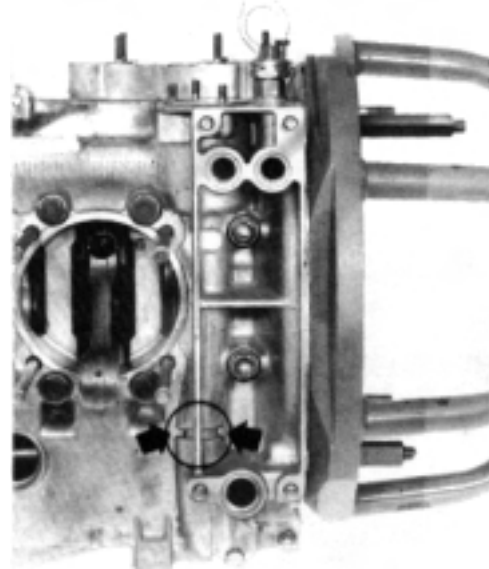


Figure 1

Note: Replacement crankcases should be sealed in the same manner.

Sealed crankcases are installed from production date: March 1989.

Engine Number 64 K 04 691 911 Carrera
Engine Number 68 K 01 028 911 Turbo

Important Notice

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SERVICE

Page 1 of 1
October 13, 1989

Technical Bulletin

Model
911

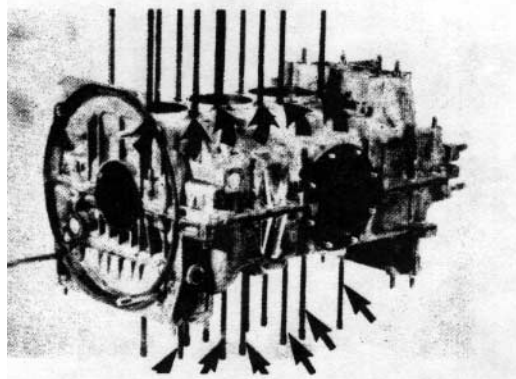
Group
10

Subject: Cylinder Head Studs Exhaust Side

Part Identifier
1012

Number
77-04

When cylinder head is removed during major engine repairs, include the following operation:



Note:

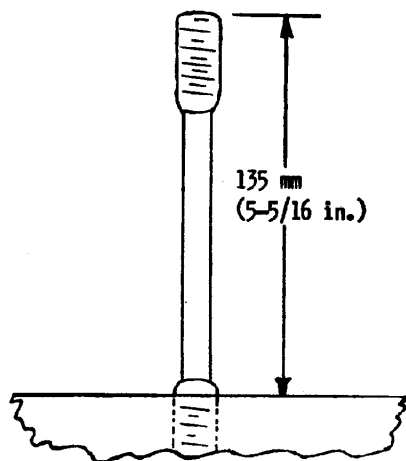
Part numbers for identification only. Always consult Parts Department for correct numbers.

- remove cylinder head mounting studs on exhaust side of crankcase (6 on each side).
- install "Dilavar" studs (shiny), Part Number 930 101 170 02

Note:

Always replace studs on both banks of cylinders.

- use Loctite Number 270 on end of stud that goes into crankcase.
- screw stud into crankcase until protruding length is 135mm (5-5/16 in.).



SERVICE

Page 1 of 1
July 11, 1977

Technical Bulletin

Model
911
911 Turbo

Group
10

Subject: Broken Cylinder Head Studs

Part Identifier
1012

Number
83-03

If a cylinder head stud is broken above the threads in the crankcase, the following should be applied:

Repair Procedure

- Grind broken stud flat
- Center punch stud
- Using a ¼ in. (6.35mm) carbide tip drill bit in a drill press, drill approximately 15mm into the stud.
- Drive a Number 3 Snap-On screw extractor approximately 10mm into the bore.
- Heat housing in oven or with a torch to approximately 200°C to loosen the grip of the loctite. It is very important to heat the crankcase properly.
- Turn out the broken stud.
- Retap threads in crankcase and install new Dilavar stud with Loctite 270, Part Number 928 101 921 00.

SERVICE

Page 1 of 1
August 29, 1983

Technical Bulletin

Model
911

Group
1

Subject
Crankcase Cylinder Studs

Part Identifier
1012

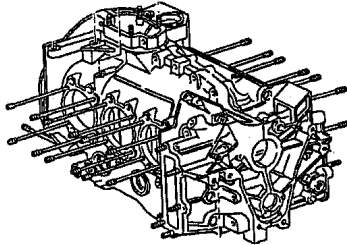
Number
9604

ATTENTION: Service Manager / Service Technician

Models Affected: *All 911 models using Dilavar cylinder head studs.*

General Information: The Dilavar cylinder head stud, part number 930 101 170 02, has been superseded to cylinder head stud, part number 993 101 170 51.

Repair Information: The following precautions should be followed when using the new version cylinder head stud:



1. The new version cylinder head stud is micro-encapsulated with a stud locking compound, therefore, when installing the stud into the engine case, the threaded portion of the case must be clean of debris and oil free. If necessary, chase the threaded hole for the cylinder head stud with a tap.
2. There is no change in torque specifications for the cylinder heads and no change in the cylinder head nut.
3. The new cylinder head stud can be used for individual replacement. It is not necessary to replace the cylinder head stud in groups.

Installation:

Model and Year

Installation Height

911 Carrera (993)	130.2 mm -5 mm
911 Carrera 2/4 (964)	130.2 mm -5 mm
911 Carrera up to 1989	135 mm

Parts Information:

New Version

Former Version (Dilavar)

993 101 170 51	930 101 170 02 (not available)
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SERVICE

Page 1 of 1
November 7, 1996

PORSCHE
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Technical Bulletin

Model
911 Carrera

Group
10

Subject: Oil Leaks From Engine Mount Bolt

Part Identifier
1030

Number
83-09

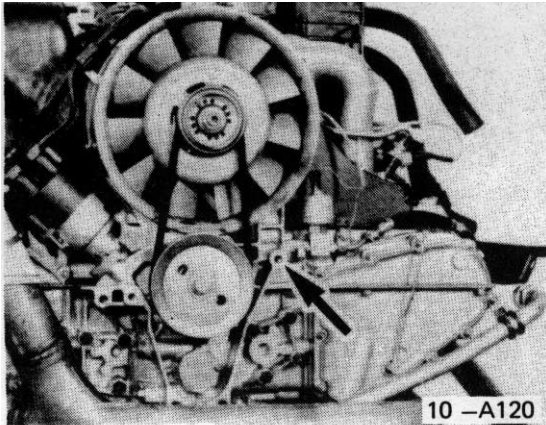


Fig. 1, Mounting bolt location

On some vehicles, oil may leak from the upper right mounting bolt for the rear engine carrier (Fig. 1, arrow)

These leaks are due to porous areas between the engine oil passage and threads.

To prevent oil leaks from this area, the factory has replaced the M10 X 22 mm mounting bolt with an M10 X 15 mm stud secured with Loctite 270.™

Production change as of Sept. 23, 1983
Engine number 930/21 64E00657
930/66 67E00188 (Turbo/Canada)

In response to oil leak complaints, install stud with Loctite 270™

Parts:
Stud P/N 999 061 056 02
Washer N012 242 3
Nut N011 133 04

SERVICE

Page 1 of 1
December 30, 1983

Technical Bulletin

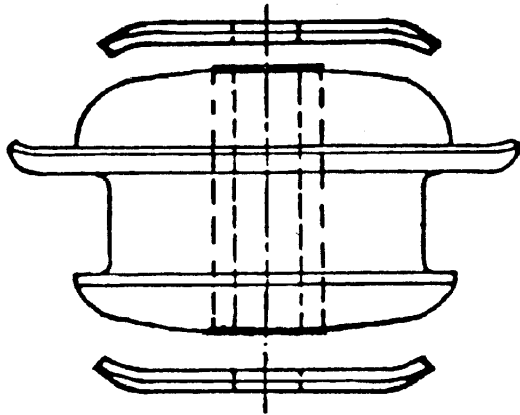
Model
911, Turbo

Group
10

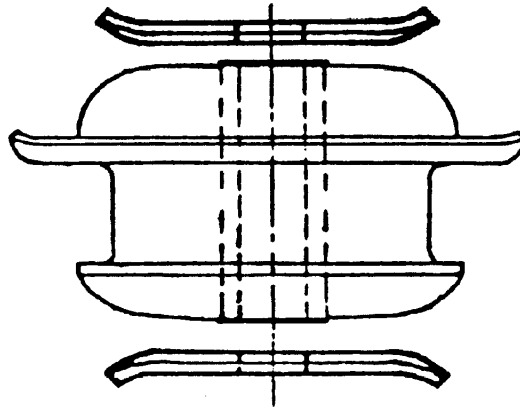
Subject: Engine/Transmission Mounts

Part Identifier
1043

Number
78-01



NEW



OLD

10 A021

Installation of stop plates for engine/transmission mounts on all 911 SC and Turbo vehicles produced from November 23, 1977 has been changed.

Stop plate is now installed with concave side facing mount.

Stop plates on older vehicles can be installed in new position to reduce transmission vibrations.

Note:

Return stop plates to old installation position if (rumbling) noise is present.

SERVICE

Page 1 of 1
September 1, 1978

Technical Bulletin

Model
911, Turbo

Group
13

Subject: Replacement Pistons

Part Identifier
1310

Number
81-01

Beginning with 1980 models, factory-installed pistons have a weight differential of 4 grams max.

Weight identification is stamped in top of piston (—, — —, +, or ++).

For replacement, however, weight differentials up to 8 grams are allowed.

Piston, replacing

Only two piston weight classes are available for replacement of the four weight classes used in production. Therefore, pistons with — and — — identification marks take one class and those identified with + and ++ take the other class for replacement.

Note

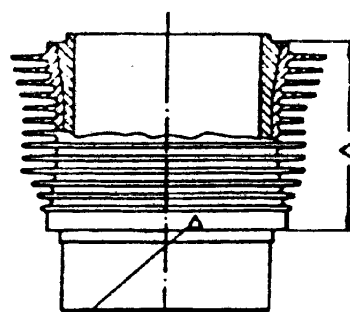
Early 1980 models and before had no piston-weight identification. When replacing pistons in these cars:

- weigh piston, together with rings, wrist pin and wrist-pin lock rings
- find weight class from table (p. 2)
- obtain pistons by part number given in table (or consult your Parts Department)

Pistons, installing

Two manufacturers, Mahle and Schmidt, make Porsche pistons.

- install pistons of only one company in any one engine
- install pistons of only one weight class in any one engine



A Cylinder height tolerances

Mark A	Cylinder height
△ 5	85,400-85,425
△ 6	85,425-85,450

- install cylinders (pistons and cylinders available only as sets) of same height on one side of engine (see mark 5 or 6 on side of cylinder wall as shown)

CAUTION

Wrist pins are matched to pistons and must always be reinstalled in same pistons from which removed.

SERVICE

Page 1 of 2
March 27, 1981

Technical Bulletin

Model
911, Turbo

Group
13

Subject: Replacement Pistons

Part Identifier
1310

Number
81-01

Replacement Pistons

Mahle Piston

Vehicle/engine type	Weight/identification mark (on piston head)	Part No.	
		Piston with cylinder (Gr. 5)	Piston with cylinder (Gr. 6)
911 SC, 78/79 models			
USA/Calif. - 930/04/06	no specifications	930.103.962.01 N/A	930.103.962.02 N/A
	660 - 668g -- or --	930.103.962.03	930.103.962.05
	668 - 676g + or ++	930.103.962.04	930.103.962.06
911 SC, 80 models only			
USA/Calif. - 930/07	no specifications*	930.103.977.01	930.103.977.02 N/A
	636 - 644g -- or --	930.103.977.03	930.103.977.05
	644 - 652g + or ++	930.103.977.04	930.103.977.06

*Some early 80 model engines were built with pistons having no weight specification.
If these need to be replaced, pistons with weight specification can be used.

911 Turbo, 78/79 models

USA - 930/61	no specifications	930.103.969.01 N/A	930.103.969.02
Calif. - 930/63	601 - 609g -- or --	930.103.969.03	930.103.969.05
	609 - 617g + or ++	930.103.969.04	930.103.969.06

Schmidt Piston

911 SC, 78/79 models

USA/Calif. - 930/04/06	no specifications	930.103.966.01	930.103.966.02
	695 - 703g -- or --	930.103.966.03	930.103.966.05
	703 - 711g + or ++	930.103.966.04	930.103.966.06

SERVICE

Page 2 of 2
March 27, 1981

Technical Bulletin

Model
911C/C2/C4/T

Group
1

Subject: Tightening Procedure for
Connecting Rods

Part Identifier
1344

Number
9006

ATTENTION: Service Manager/Service Technician

Models Affected: **911 Carrera (from M.Y. 1984)**
911 Turbo (from M.Y. 1978)
911 Carrera 2 and 4

Concern: Tightening torque procedure for the connecting rod nuts changed during 1989 production year because of a material change for the connecting rod bolts.

- Repair Information:**
- A. Tightening procedure for new version bolts 12.9 marking on the bolt head (Figure 1).
Slightly oil threads and nut contact surface.
Step 1: Torque nuts to 15 Nm (10.5 ft. lbs.).
Step 2: Torque nuts 90 ± 2 degrees.
Step 3: Torque nuts an additional 90 ± 2 degrees.
 - B. Tightening procedure for old version bolts with 00 marking on bolt head (Figure 2).
Slightly oil threads and nut contact surfaces.
Step 1: Torque nuts to 20 Nm (14 ft. lbs.).
Step 2: Torque nuts an additional 90 ± 2 degrees.
- Important:** Replace connecting rod bolts and nuts after removal. Do not reuse connecting rod bolts and nuts.
- Mixed installation of old and new version connecting rod bolts in one engine is permissible. However, only one version must be installed on each individual connecting rod.

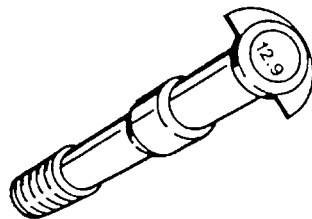


Figure 1

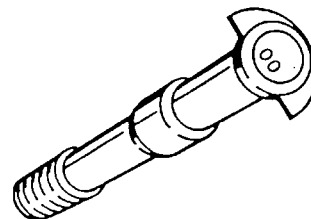


Figure 2



Technical Bulletin

Model
911C/C2/C4/T

Group
1

Subject: Tightening Procedure for
Connecting Rods

Part Identifier
1344

Number
9006

Parts Information:

Old version connecting rod bolts (00) will no longer be available once old stock has been used up.

New version connecting rod bolts (12.9): PN 964 103 176 00

Connecting rod nuts PN 930 103 174 00 did not change.

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Porsche Service
Publications



SERVICE

Page 2 of 2
February 16, 1990

Technical Bulletin

Model
911 Turbo

Group
1

Subject:
Starter Gear on Clutch Pressure Plate

Part Identifier
1361

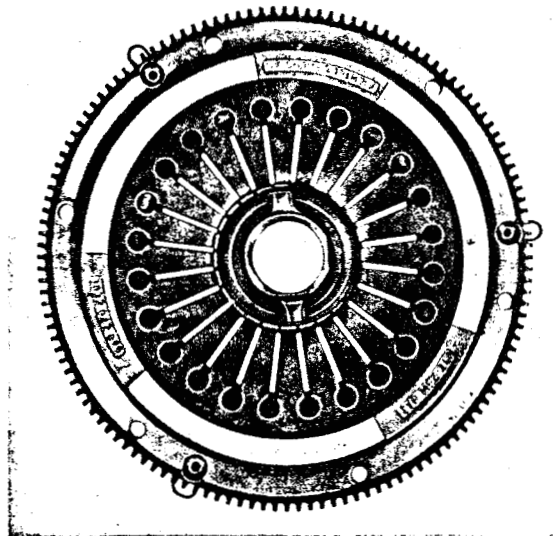
Number
8624

The three 13.5mm diameter drillings on the starter gear, Part Number 930 116 230 02, were omitted as of production date: May 27, 1986, Engine Number: 62 G 0 1314.

Only new style ring gears are available as spare parts.

In case of starter gear replacement on older cars, these drillings are necessary only on 1976 and 1977 model vehicles. The new gear has to be reworked accordingly.

13.5mm diameter drillings



POSCHE CAR S NORTH AMERICA INC.



SERVICE

Page 1 of 1
November 10, 1986

Technical Bulletin

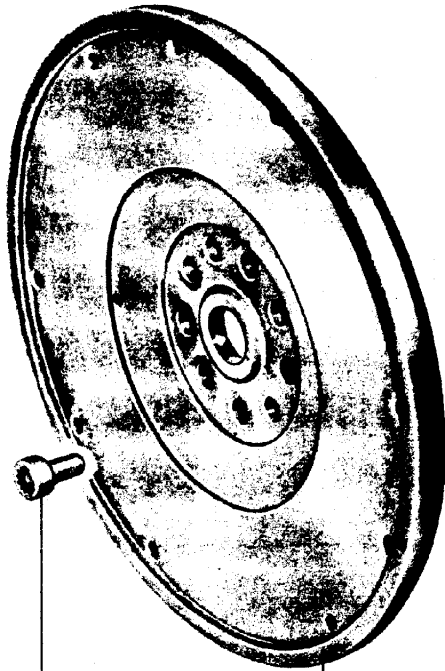
Model
911

Group
13

Subject: Reuse Flywheel Bolts

Part Identifier
1365

Number
79-01



Flywheel bolt
Torque: 90 Nm (65 ft. lbs.)

Flywheel

From 1978 on flywheel bolts are reusable when replacing or reinstalling flywheel. It is no longer necessary or of any advantage to use new bolts.

SERVICE

Page 1 of 1
February 20, 1979

Technical Bulletin

Model
911 Carrera

Group
13

Subject: Distributor Drive Gear on Crankshaft

Part Identifier
1371


Number
83-04


It is essential to install the distributor drive gear properly on the crankshaft during repairs.

Caution


Incorrect installation will cause initial ignition timing to be off by approximately 13°.

Installation procedure

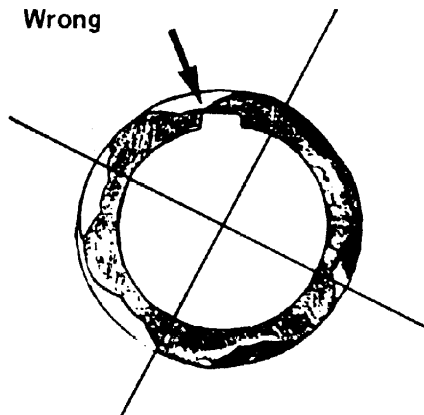
Gears marked with  only (Porsche registered trademark)

–  should face the V-belt drive pulley

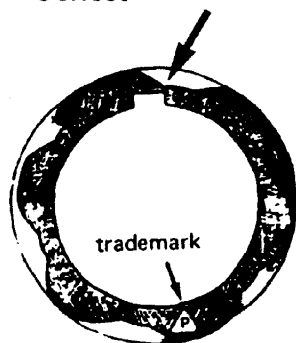
Gears marked with an additional X (scribed with an electric engraver)

– X should face the V-belt drive pulley. The location of the  on this gear does not matter.

Wrong



Correct



SERVICE

Page 1 of 1
December 8, 1983

Technical Bulletin

Model
911 Carrera

Group
28

Subject: Crankshaft Pulley Timing Mark

Part Identifier
1376

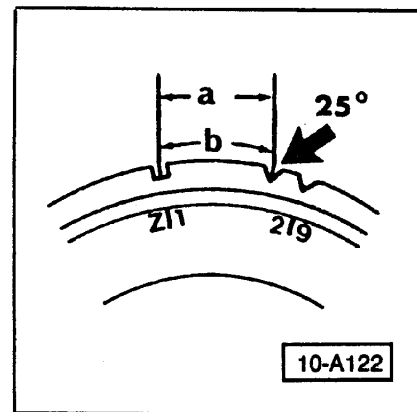
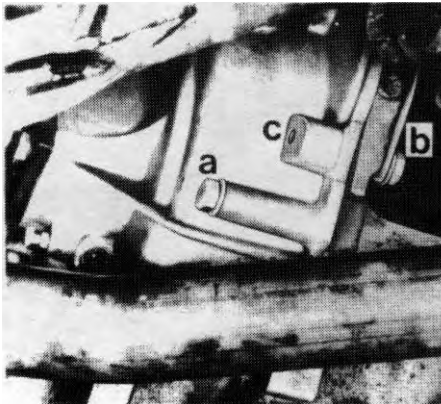
Number
84-02

Crankshaft pulleys installed in 1984 models in production as of September 14, 1983; Engine no. 64E00474, have a 25° mark for checking ignition timing.

Previously produced vehicles are equipped with a crankshaft pulley that has a 29° timing mark. This mark is not applicable to 911 Carrera engines.

Procedure for correcting pulleys with 29° mark

- turn engine to TDC on cylinder #1, then turn engine counter-clockwise until TDC notch is approximately 30 mm from center line.
- make a mark on pulley 27 mm to the right of TDC notch, using calipers or a compass to measure.



a = 27 mm (25° cord length)
b = 27.7 mm (25° arc length)

Pulleys with correct 25° timing mark can be installed on these earlier vehicles.

Pulleys with 25° timing mark:

- Part no. 930.102.128.08 without A/C
- Part no. 930.102.024.03 with A/C

- using small triple-edged file, make 1 mm deep notch
- paint notch with bright colored paint

SERVICE

Page 1 of 2
March 16, 1984

Technical Bulletin

Model
911 Carrera

Group
28

Subject: Crankshaft Pulley Timing Mark

Part Identifier
1376

Number
84-02

Full throttle ignition timing, checking

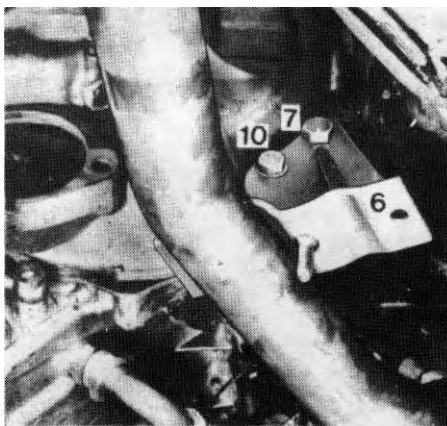
- Specification = $25 \pm 3^\circ$ BTDC @ 3800 RPM

Timing value can be checked with VAG 1367 tester or with a stroboscope lamp on 25° timing mark.

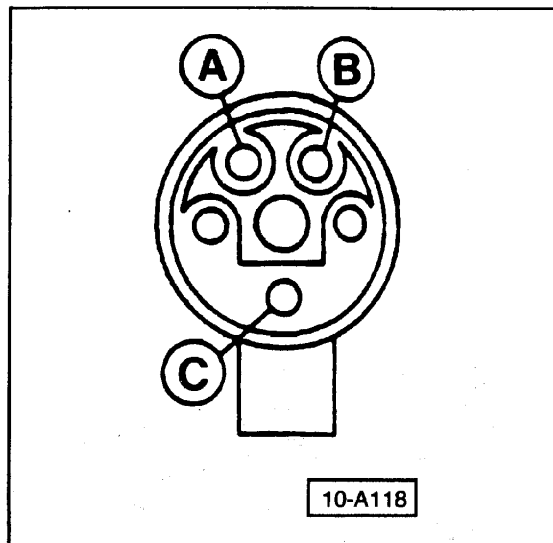
Note

The value is not adjustable

Procedure requirements



- terminals **B** and **C** of test jack must be bridged together. This simulates full throttle on control unit and stops operation of idle regulator.



- engine oil temperature approximately 90° C (194° F)
- all electrical consumers switched **OFF**
- distributor rotor correctly installed in relation to mark on distributor housing

Note

Idle speed ignition timing can only be checked with VAG 1367 tester. This requires bridging terminals **B** and **C** of test jack to stop operation of idle regulator.

- Idle speed ignition timing specification = $3 \pm 3^\circ$ ATDC @ 800 ± 40 RPM

SERVICE

Page 2 of 2
March 16, 1984

<h1>Technical Bulletin</h1>	Model 911	Group 1
Subject: Torquing Of The Crankshaft Pulley	Part Identifier 1376	Number 8506

When removing the crankshaft pulley or loosening the crankshaft pulley bolt, it is possible that the hole for the locating pin in the pulley may get damaged. Reinstallation of the damaged part with an elongated hole could cause the valve/ignition timing to be maladjusted. To avoid this, inspect pulley for elongated hole. If damaged, replace.

A new pulley, part number 930.102.024.03, has been introduced with two bores. A pulley holder, tool number 9236, is available to aid in easier removal and preventing the possibility of damage.

Introduction Date: December 1984
 Engine Number: 64F01513



SERVICE

Technical Bulletin

Model
911, Turbo

Group
15

Subject: Gasket Kit to Repair Oil Leaks

Part Identifier
N/A

Number
77-03

If oil leaks occur, such leaks can be corrected by installing special engine gasket kit,

Part No. 930 100 909 00

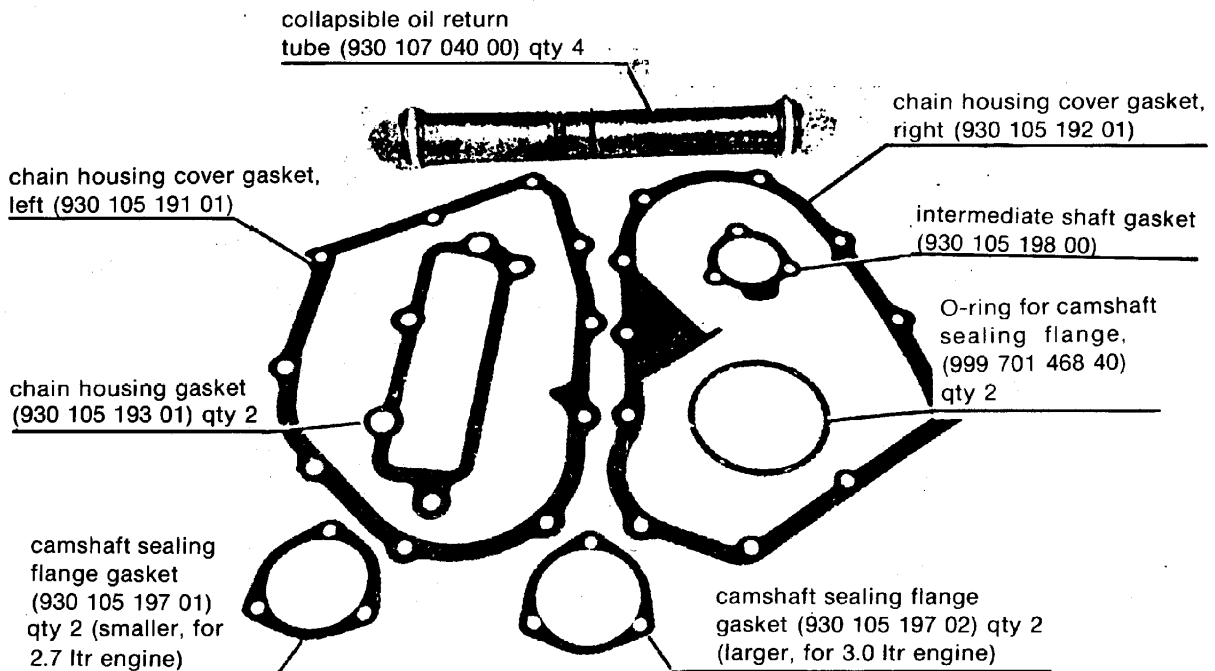
Kit installation

Work sequence (engine not removed):

- remove air cleaner
- remove A/C compressor (where applicable)
- remove air pump
- remove heater hose
- remove A/C mounting plate (where applicable)
- remove muffler with EGR filter
- remove air injection lines and air pump hose
- remove air pump support bracket
- remove back plate
- remove A/C bracket (where applicable)
- drain engine oil

Kit 930 100 909 00

ALWAYS VERIFY PART NUMBERS
WITH PART DEPARTMENT



SERVICE

Page 1 of 4
September 20, 1977

Technical Bulletin

Model
911, Turbo

Group
15

Subject: Gasket Kit to Repair Oil Leaks

Part Identifier
N/A

Number
77-03

Replace oil return tubes as follows:

Removing

- cut tubes in half and remove
- clean sealing areas at crankshaft and camshaft housing

Installing

- apply thin film of oil to all O-rings on oil return tubes
- move circlip half way down the tube
- push short tube in and install
- move circlip back into groove

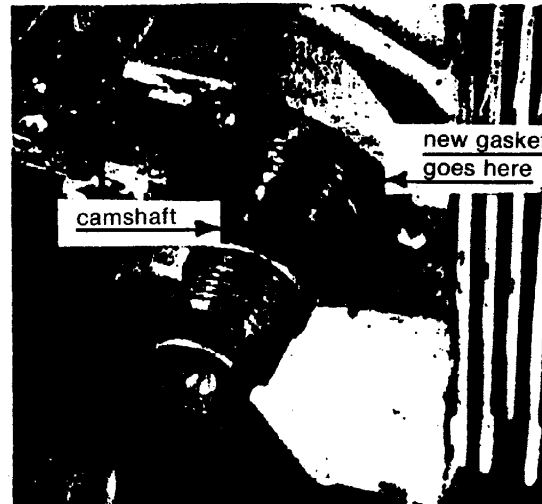
Caution

Be sure both sealing rings fit properly at crankshaft and camshaft housing

- remove heater hose with pan (left and right side) from heat exchanger
- remove support bracket for A/C (where applicable)
- remove plate at right side air shroud
- remove oil lines, both sides
- remove side pans
- remove thermo time switch
- remove distributor ground wire from chain housing cover, left side
- turn engine over until no. 1 piston is on TDC (valve timing made easier later)
- loosen oil line, left side
- remove lower bolt from air shroud, left side
- remove top nut of chain housing cover, left side
- remove chain housing cover
- remove chain tensioner, cam gear and sprocket, complete

Caution

When removing shims for sprocket, do not discard - must be used again when reinstalling



- remove camshaft sealing flange



- remove chain guide (1 each side)
- remove chain housing

Note

Replace all 6 chain guides if damaged with Part Part No. 911 105 222 05

SERVICE

Page 2 of 4
September 20, 1977

Technical Bulletin

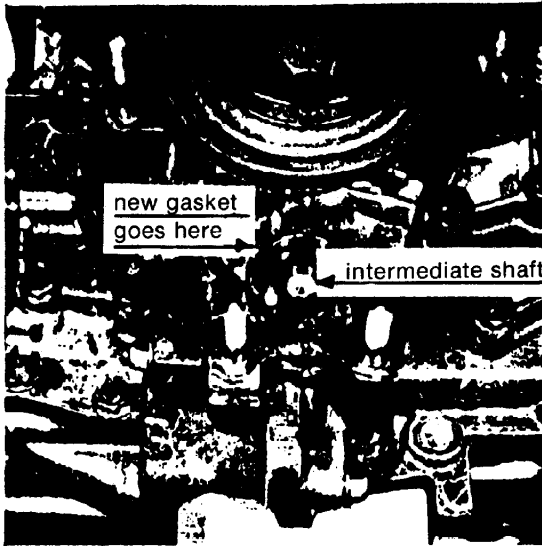
Model
911, Turbo

Group
15

Subject: Gasket Kit to Repair Oil Leaks

Part Identifier
N/A

Number
77-03



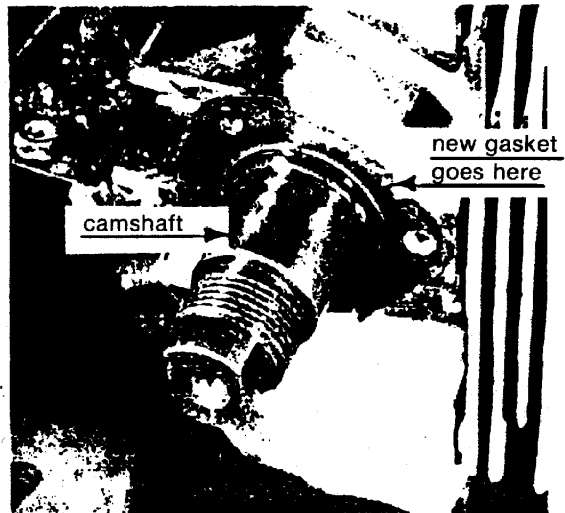
Replace intermediate shaft gasket as follows:

- support engine with crane
- remove engine mount
- remove intermediate shaft cover
- clean all sealing surfaces on chain housing/cover, camshaft/sealing flange and intermediate shaft/cover
- install intermediate shaft cover with new gasket

Caution

Gaskets are graphite coated, both sides. **Do not use sealing compound.**

- install chain housing (both sides) with new gasket
- install engine mount
- remove crane



- install camshaft sealing flange with new gasket and O-ring

SERVICE

Page 3 of 4
September 20, 1977

Technical Bulletin

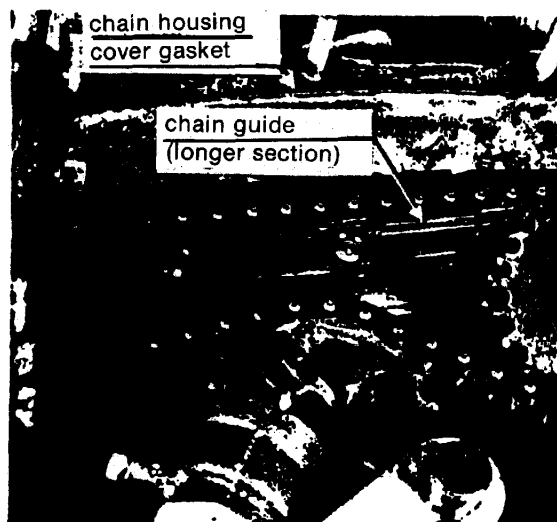
Model
911, Turbo

Group
15

Subject: Gasket Kit to Repair Oil Leaks

Part Identifier
N/A

Number
77-03



- install guide rails (1 each side) in chain housing. Be sure longer part faces out
- install spacer shims, woodruff key, cam gear and sprocket

Caution

Be sure correct shims are installed for each side and thrust washer is closest to camshaft. Assure woodruff key does not move out of position.

When installing camshaft sprocket, flat side must face to rear **for right side**, to front **for left, side**.

Install chain tensioner as follows:

- collapse chain tensioner

Caution

Put tensioner in vise and move piston in very slowly (otherwise, seals will be damaged). Check with tool P214 before installing

- install tensioner in position
- time valves
- Refer to W/M Section 3EN, page E36 for For correct specs refer to Workshop Manual for respective model/year
- install upper nut for chain housing, left side
- install plate for air shroud, right side
- install heater hose, left and right side
- install oil line, right side
- fasten heater hoses to heat exchanger
- install chain housing covers with new gaskets (see illustration above)
- connect ground wire and thermo time switch on left cover
- install support bracket for A/C (where applicable)
- install end plate
- install bracket for air pump
- install heater hose, right side; fasten to air shroud
- install A/C bracket (where applicable)
- install air injection lines
- install muffler with BGR filter
- install air pump with belt
- install A/C compressor with belt (where applicable)
- attach heater hoses
- check ignition wires for proper fit
- install air cleaner

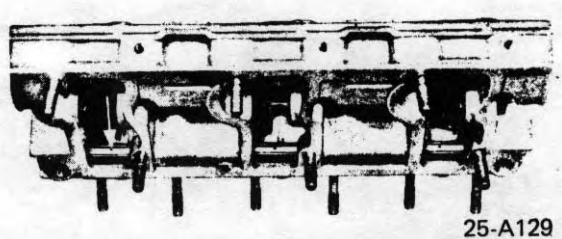
SERVICE

Page 4 of 4
September 20, 1977

Technical Bulletin

Model 911,911 Turbo	Group 15
Part Identifier 1505	Number 80-03

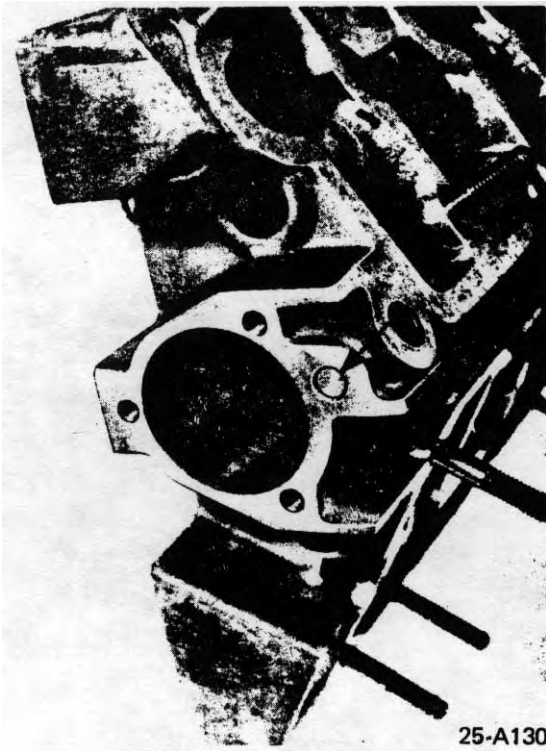
Subject: Clogged Oil Splash Tubes



25-A129

During major engine repairs, check oil splash tubes (arrow) for possible clogging. Clogged tubes can cause premature wear of cam lobes and rocker arms

Splash tubes, cleaning



25-A130

- remove plug (Part No. 901 105 379 00) at end of splash tube (arrow)
- clean splash tube (Part No. 930 105 362 00)

Note

If splash tube is to be removed for cleaning or replacement, see "Removing/Installing" instructions in Workshop Manual, Vol. III, p. 5.1-1/1

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information

SERVICE

Page 1 of 1
December 22, 1980

Technical Bulletin	Model 911, 911 Turbo	Group 15
	Subject: Camshaft Timing	Part Identifier 1507

Specifications for checking/adjusting camshaft timing.

Note

When adjusting camshaft timing, adjust to center of specified range.

Example: Specification: 4.20—4.60mm
Adjust to: 4.40mm

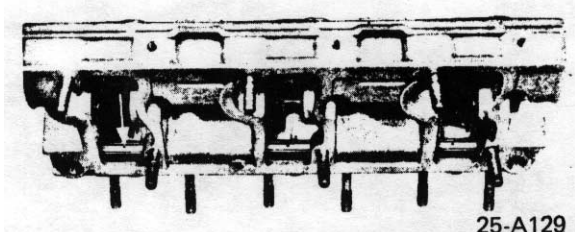
Model Year	911	911E	911T	911S	911L	911SC	Turbo
	mm	mm	mm	mm	mm	mm	mm
1965	4.20—4.60						
1966	4.20—4.60						
1967	4.20—4.60(a) 3.00—3.30(b)			5.00—5.40			
1968	3.00—3.30		2.30—2.70	5.00—5.40	3.00—3.30		
1969		3.00—3.30	2.30—2.70	5.00—5.40			
1970		3.00—3.30	2.30—2.70	5.00—5.40			
1971		3.00—3.30	2.30—2.70	5.00—5.40			
1972		2.70—3.10	2.40—2.80	5.00—5.40			
1973		2.70—3.10	2.40—2.80(c) 0.90—1.10(d)	5.00—5.40			
1974	0.70—0.90			0.40—0.54			
1975				0.40—0.54			
1976				0.40—0.54			0.65—0.80
1977				0.40—0.54			0.65—0.80
1978						0.90—1.10	0.65—0.80
1979						0.90—1.10	0.65—0.80
1980						1.40—1.70	
1981						1.40—1.70	

- a—up to engine No. 909 927
- b—from engine No. 911 001
- c—mechanical fuel injection
- d—CIS

SERVICE

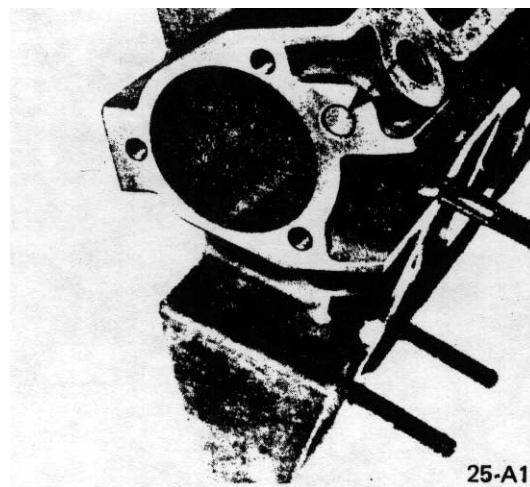
Technical Bulletin	Model 911, 930	Group 15
	Subject: Chain Tensioner Mounting	Part Identifier 1526

The chain tensioner now installed in production, Part No. 930 105 053 00, has a narrower upper mounting flange. This new-type tensioner can be installed on earlier vehicles if a spacer, Part No. 930 105 513 00, is used and installed as shown



Note

Tensioner, Part No. 930 105 049 00, used on earlier vehicles, is no longer available as a spare part



Technical Bulletin

Model

911

Group

15

Subject: Hydraulic Chain Tensioner Kit

Part Identifier

1526

Number

84-01

Hydraulic chain tensioners were introduced with the start of production for the 1984 Model Year. These new chain tensioners may be retrofit to all 1968 and later 911 vehicles by using the following conversion kits:

Installation kit for left chain tensioner

Part No. 930.105.911.00

Consists of:

1 cover, left	Part No. 930.105.063.08
1 plug	N 016.155.3
1 seal	N 013.814.2
1 oil hose	930.107.347.01
1 oil hose	930.107.347.02
1 chain tensioner	930.105.058.03
1 seal	999.701.690.40
1 hollow union bolt	N 021.073.1
2 seals	N 013.807.2
1 coupling nut	900.104.003.02
1 self-tapping ring	N 020.825.1

Installation kit for right chain tensioner

Part No. 930.105.912.01

Consists of:

1 cover, right	Part No. 930.105.064.07
1 oil hose	930.107.348.02
1 oil hose	930.107.348.03
1 chain tensioner	930.105.058.03
1 seal	999.701.690.40
1 hollow union bolt	N 021.073.1
2 seals	N 013.807.2
1 coupling nut	900.104.003.02
1 self-tapping ring	N 020.825.1

Installation procedure

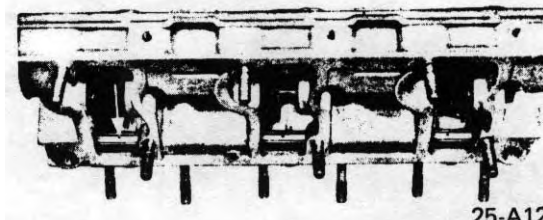
Note

The procedure for installing hydraulic chain tensioners is the same as for replacing the non-hydraulic version.

- remove timing case covers
- install new hydraulic tensioners in place of original tensioners

CAUTION

The replacement tensioner piston is locked in pressed position with a pin. Remove this pin after installing tensioner.



Note

The chain tensioners each have an oil feed boss (white arrow) which will protrude through bores in the new timing case covers. External oil lines connect to this inlet and a fitting on the new camshaft supply hoses (dark arrow).

SERVICE

Page 1 of 2
May 11, 1984

Technical Bulletin

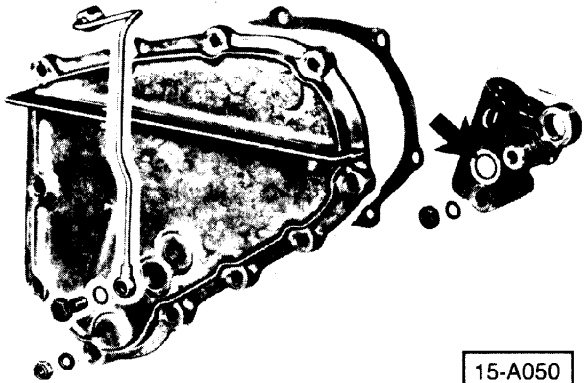
Model
911

Group
15

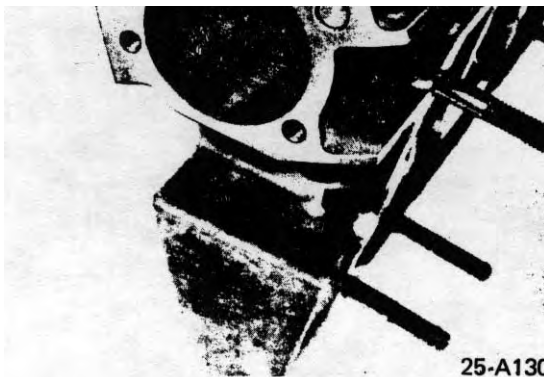
Subject: Hydraulic Chain Tensioner Kit

Part Identifier
1526

Number
84-01

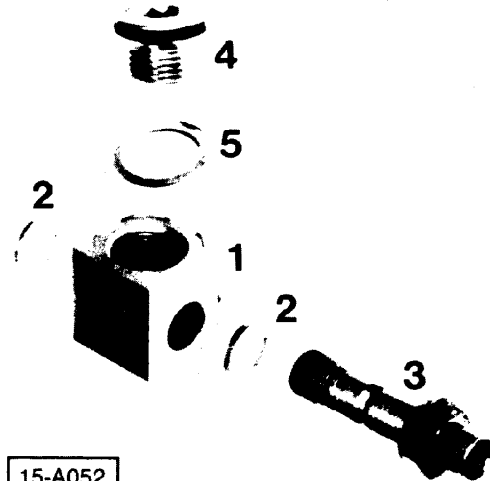


- mount 0-ring seals (arrow) on oil feed boss of chain tensioners to provide seal between tensioners and timing case covers
- install new timing case covers
- replace oil supply hoses to camshafts with hoses supplied in kits



Note

On 1968 through 1973 Models, the right side oil supply hose will not be long enough as provided. To correct, install adaptor block where inboard end of hose connects to case (arrow).



Additional parts required

- | | |
|-----------------------|-------------------------|
| 1 - adaptor block | Part No. 911.107.704.00 |
| 2 - seal ring | N 013.812.5 |
| 3 - hollow union bolt | 911.107.709.01 |
| 4 - threaded plug | 900.219.009.30 |
| 5 - seal ring | 900.123.009.20 |

- install oil feed lines from fittings on camshaft supply hoses to inlets of chain tensioners
- when all reassembly is complete, run engine and check for leaks

CAUTION

Part numbers listed are for reference only. Always consult with the Parts Dept. for latest information.

SERVICE

Page 2 of 2
May 11, 1984

Technical Bulletin

Model

911

Group

15

Subject: Chain Sprocket Support

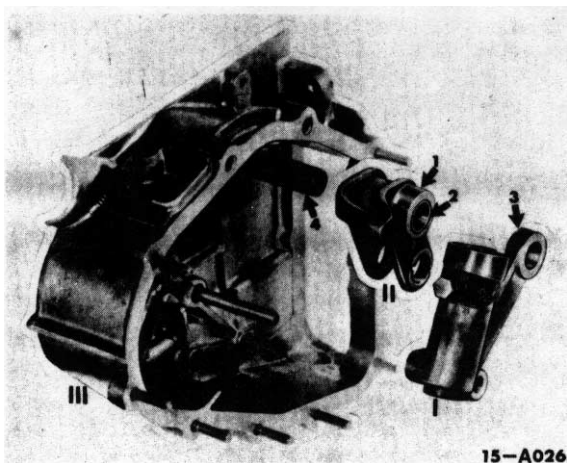
Part Identifier

1528

Number

80-02

Modifications during 1980 model year:
(as of Engine No. 930/07 640 0451)



Retrofitting earlier cars

New parts can be installed in earlier cars as follows:

- install chain tensioner, Part No. 930 105 053 00, and sprocket support, Part No. 930 105 509 00/510 00, together. (Previous chain tensioner, Part No. 930 105 049 00, cannot be used with new sprocket support or vice versa)
- use either new or old chain housing; however, when installing new sprocket support into old chain housing, Part No. 930 105 061 00/062 00, upper chain tensioner support shaft in housing must be polished with a fine polishing cloth

Note

Both new and old parts are available as replacement parts

- chain sprocket supports have wider bearing (1) and additional bushing (2)
- upper mounting boss (3) on chain tensioner has been narrowed
- upper mounting shaft (4) in chain housing is now polished

Parts comparison

Parts	Old	New
I Chain Tensioner	930 105 049 00	930 105 053 00
II Chain Sprocket Support, L. Chain Sprocket Support, R.	901 105 505 02 901 105 506 02	930 105 509 00 930 105 510 00
III Chain Housing, Left Chain Housing, Right	930 105 061 00 930 105 062 00	930 105 061 02 930 105 062 01
Note: Bushing in chain sprocket support is not available as spare part		

SERVICE

Page 1 of 1
July 25, 1980

Technical Bulletin

Model

911

Group

15

Subject: Valve Clearance

Part Identifier

1560/62

Number

78-06

1979 Porsche 911 vehicles have an additional Emission Label inside the engine compartment lid.

Valve clearance is listed on this label as 0.004 ± 0.002 in.

For maximum performance, the adjustment should be 0.004 in. without the tolerance for both intake and exhaust valves.

SERVICE

Technical Bulletin

Model
911 Carrera 2/4,
911T, 944T

Group
1

Subject: **Scrapping Sodium Filled Valves**

Part Identifier
1562

Number
9003

ATTENTION: Service Manager/Service Technician

911 Carrera 2 and 4 intake valves and 911 Turbo and 944 Turbo exhaust valves are sodium filled.

DANGER:

Sodium reacts strongly when in contact with water. There is a possibility of detonating gases or fire. Contact with skin leads to burns.

When discarding sodium filled exhaust valves, care must be taken to avoid injury. Used valves should be marked and stored in a separate dry area until scrapping. The scrap dealer must be informed of the sodium filled valves.

The valves must not be cut open or used for any other purpose (e.g. punches or drivers).

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Distribution	Asst. manager _____	Warranty admin. _____	Service technician _____	_____	_____
Routing					

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SERVICE

Page 1 of 1
February 2, 1990

Technical Bulletin

Model
911, 911 Turbo

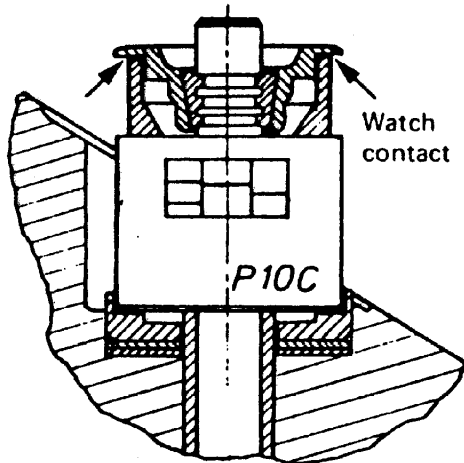
Group
15

Subject: Tool "P10c" for Checking Valve Spring Length

Part Identifier
1566

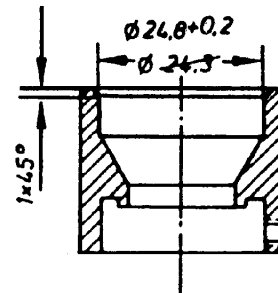
Number
81-04

During 1980 model year, valve spring seats, Part No. 901 105 421 03, were introduced. These new seats have modified dimensions at the outer spring seating surface.

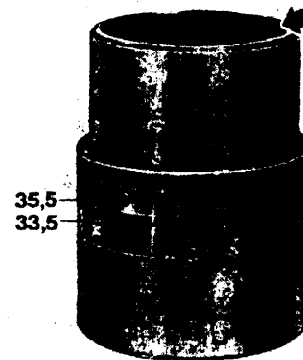


When making repairs, it may be found that, due to combination of unfavorable tolerances, the spring seat does not properly contact special tool "P 10c Setting Gauge" when measuring assembled valve spring length.

Existing P 10c tools should be modified as follows:



— increase inside diameter of the inner tube from 24.3 mm to 24.8 mm by turning or grinding



— provide chamfer of 1.0 mm x 45°

Caution

Do not damage contact surface when machining.

Note

All P 10c tools now being supplied have the new dimensions.

SERVICE

Page 1 of 2
August 28, 1981

Technical Bulletin

Model	Group
911, 911 Turbo	15
Part Identifier	Number
1566	81-04

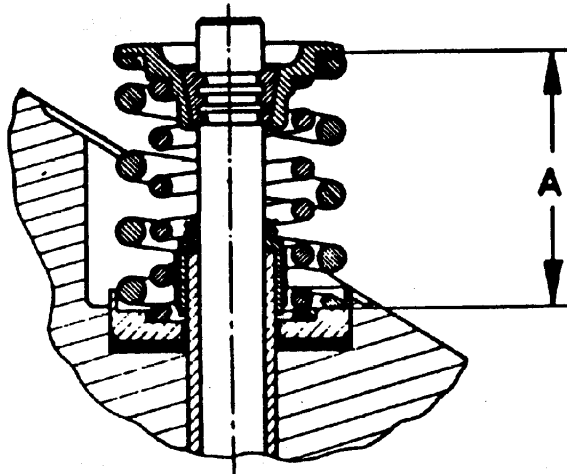
Subject: Tool "P10c" for Checking Valve Spring Length

Valve spring installed dimensions:

For manufacturing reasons, the tolerances on 911SC cylinder heads have been reduced. Valve spring installed dimension "A" = 34.5 mm should not be exceeded. Try to keep the lower tolerance limit shown in the table.

Installed valve spring dimensions for 911 - 2.4 and 2.7 liter, and 911 SC engines:

	Vehicle Model	
	911 2.4 and 2.7 liter	911 SC
Engine	911/...	930/...
Inlet valve spring	35.0 ± 0.3 mm	34.5 - 0.3 mm
Exhaust valve spring	35.5 ± 0.3 mm	34.5 - 0.3 mm



SERVICE

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August 28, 1981

Technical Bulletin

Model

All

Group

1

Subject: **Tightening Procedure
 for Cylinder Heads**

Part Identifier

1570

Number

8703

Cylinder head tightening procedures as well as head gaskets, bolts, nuts and washers have changed for some Porsche models.

The following pages outline current valid repair procedures and replacement parts required for each engine. They are arranged by vehicle model.

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SERVICE

Page 1 of 10
March 6, 1987

Technical Bulletin

Model

924

Group

1

Subject: **Tightening Procedure
for Cylinder Heads**

Part Identifier

1570

Number

8703

This technical information replaces all previous instructions concerning the tightening of cylinder heads on 924 vehicles produced from 1977 to 1982 (except Turbo).

The torque angle tightening method in conjunction with the following parts is valid for all 924 naturally aspirated engines since the beginning of 1977 production.

Cylinder Head Gasket

Part Number 047 103 383

Polygon Tooth Head Bolts

Part Number 046 103 385

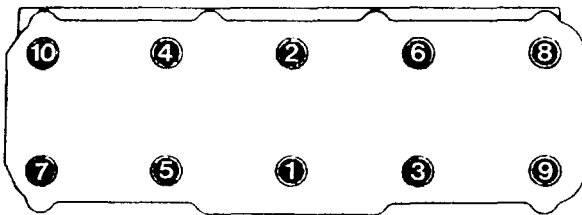
Washers

Part Number N 901 157 01

Tightening specifications to torque angle method. Tightening is done in two steps:

Step 1: 65 Nm (48 ft. lbs.)

Step 2: 180 degrees (½ turn)



Important:

Sequencing as shown must be kept for each step. Threads and bearing surfaces of bolts must be lightly lubricated with oil prior to installation. Washers must not turn while tightening. Create a reference mark if necessary. Replace head bolts at each repair. When using torque angle method, cylinder head retorque is not necessary.

PORESCHE CARS NORTH AMERICA INC.



SERVICE

Page 2 of 10
March 6, 1987

Technical Bulletin

Model
924 Turbo

Group
1

Subject: **Tightening Procedure
for Cylinder Heads**

Part Identifier
1570

Number
8703

This technical information replaces all previous instructions concerning the tightening of cylinder heads on 924 Turbo vehicles produced from 1980 to 1982. The following parts are valid for repairs.

Cylinder Head Gasket

Part Number 931 104 337 03

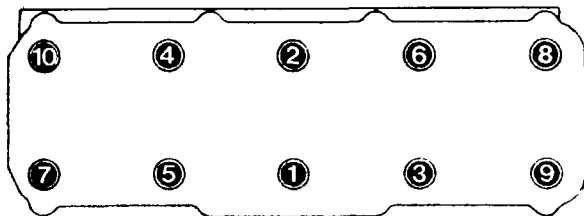
Cylinder Head Bolt

Part Number N 014 731 2

Washer

Part Number 059 103 377 A

Tightening is done in 5 steps but not to the torque angle method:



- Step 1: Tighten head bolts to 40 Nm (29 ft. lbs.) following sequence
- Step 2: Tighten head bolts to 80 Nm (59 ft. lbs.) following sequence
- Step 3: Tighten head bolts to 110 Nm (81 ft. lbs.) following sequence
- Step 4: After at least 60 minutes, retighten cylinder head bolts by first loosening No. 1 bolt (see sequence) by ½ turn and then retightening to 110 Nm (81 ft. lbs.) Apply procedure to remaining bolts in sequence.

Run engine to operating temperature (oil temp. approx. 80°C).

Step 5: Let engine cool down and tighten cylinder head bolts as in Step 4.

Note: Cylinder head bolts do not have to be retorqued. Threads and bearing surfaces of bolts must be lightly lubricated with oil prior to installation. Washers must not turn while tightening. Create a reference mark if necessary. Cylinder head bolts of this type can be reused.



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March 6, 1987

POISSONNIERE 2011-04-01

Technical Bulletin

Model
924S, 944, 944S,
944 Turbo

Group
1

Subject: **Tightening Procedure
for Cylinder Heads**

Part Identifier
1570

Number
8703

This technical information replaces all previous instructions concerning the tightening of cylinder heads on 924S, 944, 944S and 944 Turbo vehicles.

The torque angle tightening method is now valid for all engines of types 924S, 944, 944S and 944 Turbo including all earlier engines from start of 944 production. When making repairs, the following parts must be used:

Cylinder Head Gaskets

Part Number 944 104 374 14 - 924S,944,944S
Part Number 951 104 374 01 - 944 Turbo only

Cylinder Head Nuts (12mm high)

Part Number 999 076 028 02 - all types

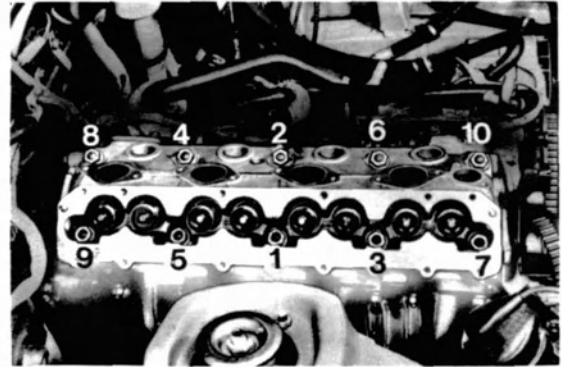
Washers

Part Number 944 104 229 00 - all types

Tightening Specifications to Torque Angle Method

Tightening is done in 3 steps:

- Step 1: 20 Nm (15 ft. lbs.)
- Step 2: 90 degrees (¼ turn)
- Step 3: 90 degrees (¼ turn)



Important:

Sequencing as shown must be kept for each step. Threads and bearing surfaces of nuts must be lightly lubricated with oil prior to installation. Washers must not turn while tightening. Create a reference mark if necessary.

Note:

The 12mm high cylinder head nuts might protrude above the studs slightly on engines produced prior to Feb. 1986. In addition, new head nuts must be used at each repair.

POWERSPORTS NORTH AMERICA INC.



SERVICE

Page 4 of 10
March 6, 1987

Technical Bulletin

Model
911 Carrera

Group
1

Subject: Tightening Procedure
for Cylinder Heads

Part Identifier
1570

Number
8703

This technical information replaces all previous instructions in repair publications concerning the tightening of cylinder heads on the 911 Carrera.

Torque angle tightening method is used for all 911 Carrera cylinder heads from Model Year 1984 in conjunction with new cylinder head nuts, Part Number 901 104 382 02 (yellow color).

Nuts must be replaced in each repair (not reusable).

Work Sequence:

Step 1: Torque all nuts to 15 Nm (11 ft. lbs.) in proper order.

Step 2: Torque all nuts an additional 90 degrees in proper order (see sketch).

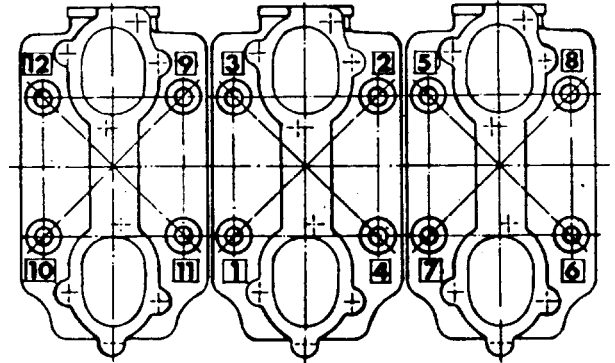
The bearing surface of the cylinder head nuts and the threads must be coated lightly with Optimoly HT. Never use lubricants between washer and bearing surface on the cylinder head.

Washers must not turn while tightening. Create a reference mark if necessary.

Previous tightening method is still valid for 911 cylinder heads up to 1983 Model Year and all 911 Turbos even when using the new type nuts.

Step 1: Torque to 10 Nm (7 ft. lbs.) in correct order.

Step 2: Final torque to 32 Nm (23 ft. lbs.) in correct order (see sketch).



**Cylinder Head
Tightening Sequence**

FORSALE
CARRERA
NORTH
AMERICA
-20-



SERVICE

Page 5 of 10
March 6, 1987

Technical Bulletin

Model
928, 928S,
928 S4

Group
1

Subject: Tightening Procedure
for Cylinder Heads

Part Identifier
1570

Number
8703

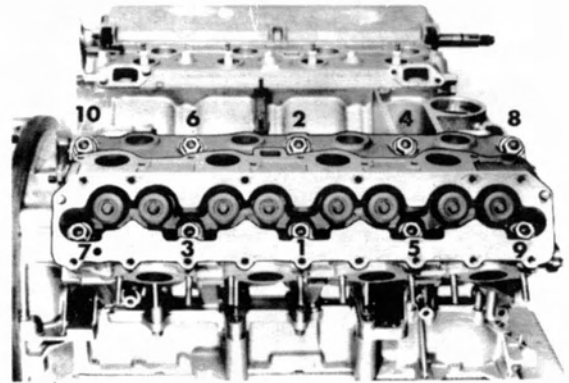
This technical information replaces all previous instructions in repair publications concerning the tightening of the cylinder heads on the 928, 928S and 928 S4.

First Version

From Model introduction 1978 up to 1983 models engine numbers:

81 D 0812 - M 28/19 manual transmission
81 D 5829 - M 28/20 automatic transmission

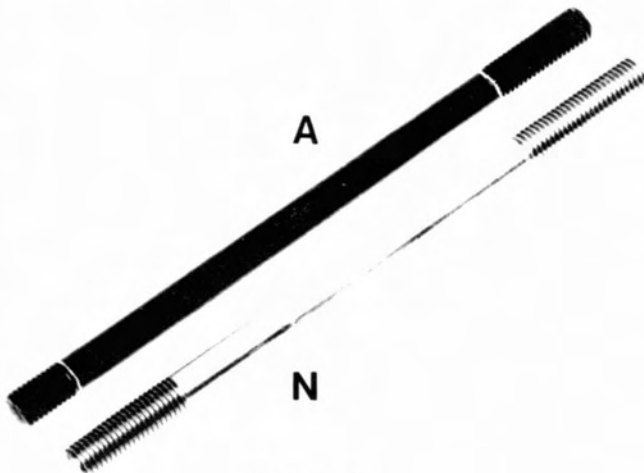
Cylinder head studs black-grey color short threads (A in Picture 1).



Picture 2

Important:

Tightening sequence must be kept for each step (Picture 2). Bearing surface of the cylinder head nuts and threads must be lightly coated with oil. Never use lubricants between washer and surface on the cylinder head. Washers must not turn while tightening. Create a reference mark if necessary.



Picture 1

Tightening Specifications:

Step 1: 20 Nm (15 ft. lbs.)
Step 2: 50 Nm (37 ft. lbs.)
Step 3: 90 Nm (66 ft. lbs.)



SERVICE

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March 6, 1987

Technical Bulletin

Model
928, 928S,
928 S4

Group
1

Subject: Tightening Procedure
for Cylinder Heads

Part Identifier
1570

Number
8703

Cylinder Head Gaskets

4.5 1 engine types M 28/03 and 04, M 28/13 to 16

Part Number Right side 928 104 371 11
Part Number Left side 928 104 372 11

4.7 1 engine types M 28/19 and 20

Part Number Right side 928 104 361 06
Part Number Left side 928 104 362 06

Cylinder Head Nuts

Part Number 999 076 028 02

Washers

Part Number 928 101 301 02

Second Version

From 1983 Models beginning with engine numbers:

81 D 0813 - M 28/19 manual transmission
81 D 5830 - M 28/20 automatic transmission
81 F 0050 - M 28/43 32 valve manual trans.
81 F 0560 - M 28/44 32 valve automatic trans.

Cylinder head studs gold-yellow color longer threads (N in Picture 1).

Tightening Specifications Torque Angle Method:

Step 1: 20 Nm (15 ft. lbs.)
Step 2: 90 degrees (¼ turn)
Step 3: 90 degrees
Step 4: 90 degrees

Important:

First version studs (A in Picture 1) were used in production from July 21, 1983 to September 6, 1983 (1984 Model cars). Engine Numbers:

81 E 00097 - 00113 M 28/19 manual trans.
81 E 05194 - 05307 M 28/20 automatic trans.

When repairing these engines, it is especially important to remember that cylinder head tightening specifications from first version are applicable.

However, if new studs (gold-yellow) have been installed on older engines, the torque angle tightening method is applicable.



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March 6, 1987

PORESCHE CARS NORTH AMERICA - INC.

Technical Bulletin

Model
928, 928S,
928 S4

Group
1

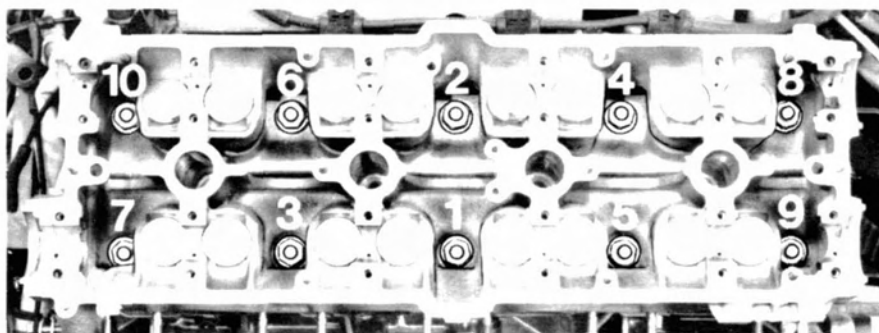
Subject: Tightening Procedure
for Cylinder Heads

Part Identifier
1570

Number
8703

Important:

Tightening sequence must be kept for each step (Picture 2 - 16 valve, Picture 3 - 32 valve). Bearing surface of the cylinder head nuts and threads must be lightly coated with oil. Never use lubricants between washer and surface of the cylinder head. Washers must not turn while tightening. Create a reference mark if necessary.



Picture 3

Cylinder Head Gaskets

928S 16 valve engines

Part Number Right side 928 104 361 06

Part Number Left side 928 104 362 06

928S 32 valve engines

Part Number Right side 928 104 367 02

Part Number Left side 928 104 368 02

Cylinder Head Studs

Part Number 928 101 187 06 (193mm)

Part Number 928 101 186 04 (142mm)

Cylinder Head Nuts

Part Number 999 076 028 02

Washer

Part Number 928 101 301 02

Note:

New cylinder head nuts (12mm high) must be used for each repair in conjunction with the torque angle tightening method, even on older engines.



SERVICE

Page 8 of 10
March 6, 1987

Technical Bulletin

Model
928, 928S,
928 S4

Group
1

Subject: Tightening Procedure
for Cylinder Heads

Part Identifier
1570

Number
8703

Third Version

928S engines with hexagon head bolts from
April 1986 engine numbers:

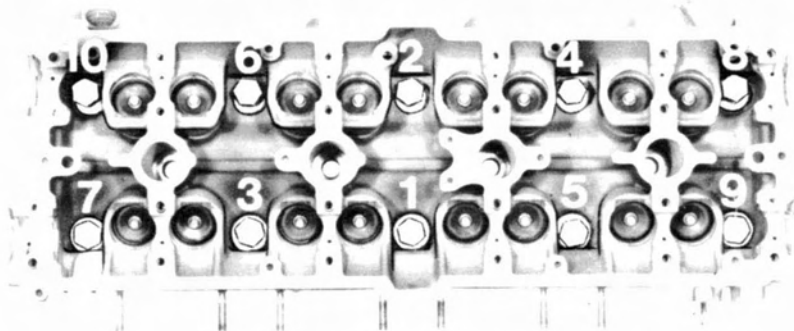
81 G 00705 M 28/43 manual transmission
81 G 06827 M 28/44 automatic transmission

Tightening Specifications Torque Angle
Method:

Step 1: 20 Nm (15 ft. lbs.)
Step 2: 90 degrees (¼ turn)
Step 3: 90 degrees

Important:

Tightening sequence must be kept for each
step (Picture 4). Bearing surface of the
cylinder head bolts and threads must be
lightly coated with oil. Never use lubricants
between washer and surface of the cylinder
head. Washers must not turn while
tightening. Create a reference mark if
necessary.



Picture 4



SERVICE

Page 9 of 10
March 6, 1987

Technical Bulletin

Model
928, 928S,
928 S4

Group
1

Subject: Tightening Procedure
for Cylinder Heads

Part Identifier
1570

Number
8703

Cylinder Head Gaskets

928S 32 valve engine

Part Number Right side 928 104 367 02

Part Number Left side 928 104 368 02

Cylinder Head Bolts

Part Number 928 101 231 00 - M 12x180

Part Number 928 101 233 00 - M 12x130

Washers

All engines up to 1986 models

Part Number 928 101 301 02 (25.8mm dia.)

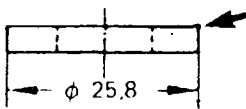
From 1987 models

Part Number 928 104 229 00 (27.7mm dia.)

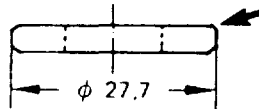
Note:

Hexagon head bolts can also be installed in older engines. Threads in engine block must be cleaned when replacing studs with bolts. Torque angle tightening method in three steps is also applicable to older engines in conjunction with hexagon head bolts. Hexagon head bolts can be reused in repairs.

New washer, Part Number 928 104 229 00 may not be used on engines before 1987 model year (see sketch).



928 101 301 02



928 104 229 00



SERVICE

Page 10 of 10
March 6, 1987

FORSALE NORTH AMERICA INC.

Technical Bulletin	Model 911 Carrera	Group 1
	Subject: Cylinder Head Torque	Part Identifier 1572

The torquing procedure for the cylinder head nuts has been changed as of production date June 30, 1986 from engine numbers: 64G07073
64H00089

Work Sequence:

1. Torque all nuts to 15 Nm (11 ft. lbs.) in proper order.
2. Torque all nuts an additional 90° in proper order.

The bearing surfaces of the cylinder head nuts and the threads must be coated lightly with "Optimoly H T", Part Number: 000 043 004 00, prior to any torquing.

This new torquing procedure can be applied to all engines from model year 1978 in conjunction with the new cylinder head nut. Part Number 901 104 382 02 (yellow color).

Note: The new torquing procedure does not apply to 911 Turbo engines.



SERVICE

Page 1 of 1
November 10, 1986

Technical Bulletin

Model
911 Turbo

Group
15

Subject: Exhaust Valve Guide

Part Identifier
1576

Number
78-01

New exhaust valve guides (of Thermoheadul FS material) are now being installed in all 911 and Turbo cars.

Exhaust valve guide, replacing

engines to 2.2 liter:

- install guides as before
- install guides as before
Part No. 901 104 321 51
- install new-material guides
Part No. 930 104 321 50

2.4 and 2.7 liter engines:

- install **only** first-oversize new-material guides
Part No. 930 104 321 50

Note

New exhaust valve guide is bronze colored, previous type is copper colored.

Caution

When new guides are installed, new valves **must** also be used.

Note

Part numbers given are for identification only. Always consult Parts Department for latest parts information.

SERVICE

Page 1 of 1
January 9, 1978

Technical Bulletin

Model
All Turbo

Group
10

Subject: Engine Oil Additives

Part Identifier
N/A

Number
77-01

Use no engine oil additives.

Note:

Additives can cause carbon deposits on fins of turbine, resulting in failure of turbocharger.

SERVICE

Page 1 of 1
April 1, 1977

Technical Bulletin	Model All	Group 17
Subject: Synthetic Engine Oil	Part Identifier N/A	Number 80-01

Synthetic oils may be used as follows:

- oil labeled " For Service API/SE, API/SF" for use in all gasoline engines

The terms SE or SF may appear on oil containers singly or in combination with other designations; for example "API Service SD, SE/CC, SF/CC, CD".

- effective viscosity of the synthetic oil must conform to the values specified in the Owner's Manual for the vehicle
- oil change intervals specified in the Warranty and Maintenance booklet accompanying the vehicle must be adhered to, including intervals for filter change

<p>CAUTION</p> <p>As required with all engine lubricating oils, the following Owner's Manual, Warranty and Maintenance Booklet instructions must be observed:</p> <ul style="list-style-type: none"> • classifications • viscosity ratings • oil and filter change intervals
--

It is important that instructions contained in the Owner's Manual and Warranty and Maintenance Brochure under paragraphs entitled classifications, viscosity ratings, and oil and filter change intervals be carefully followed

Technical Bulletin

Model 911 Carrera	Group 1
Part Identifier 17....	Number 8618

Subject: Oil Drain Plug Torque

Some 911 Carrera Owners Manuals do not have the correct torque instructions for the oil drain plugs.

"Changing engine oil" paragraph 3 should read:

Clean and reinstall oil drain plugs.

Tighten the engine crankcase plug to 51 ft.

lbs. (70 Nm) and the oil tank plug to 30 ft. lbs.

(42 Nm).

PORSCHE CARS NORTH AMERICA, INC.



SERVICE

Page 1 of 1
October 17, 1986

Technical Information

All
1/05 1701 **1**

Engine Oils Approved by Porsche

Service Technical Binder, Group 1
This bulletin replaces multiple bulletins, see filing information for list.

Vehicle Type: **Sports Cars/Cayenne S/Cayenne Turbo (Not V6)**

Model Year: **1984 - on**

Filing Information: **This bulletin replaces the following bulletins:**

Boxster (986) Group 1 #1/05 Dated 3-31-05
Boxster (987) Group 1 #2/05 Dated 3-31-05
911 (996) Group 1 #1/05 Dated 3-31-05
911 Turbo (996) Group 1 #1/05 Dated 3-31-05
911 (997) Group 1 #1/05 Dated 3-31-05
Carrera GT Group 1 #1/04 Dated 2-25-04
Cayenne V8 Group 1 #2/05 Dated 3-31-05

Please remove the above-mentioned bulletins from the appropriate workshop manual and file this bulletin in the single Service Technical Bulletin binder.

Concern: **Engine oils approved by Porsche.**

Information: **Approved Oil Availability**

Porsche approved oil availability varies by global region. Some oils on the following **"Approved List"** may not be available in certain regions of the North American market, or, may only be available in overseas markets exclusively.

When searching the "Approved List" for a particular manufacturer or brand name, keep in mind that the below listed "Sales Region Codes" are marketed for the North American region:

CDN Canada
N-A North America
USA United States of America
WW World-Wide

Explanations: **Oil Quality**

The engine oil is not only a lubricant, but also fulfills many functions at the same time such as component cooling, component cleaning, and protection from corrosion. To be able to fulfill this task, the oil contains specially-developed additives. Mineral oils are extracted directly from crude oil. Using a series of chemical processes, these oils can be further refined (hydrocracked oils) or completely transformed (synthetic oils). These oils provide a higher level of performance than pure mineral oils.

Only hydrocracked or synthetic oils are now approved by Porsche.

Explanation:
(cont'd)

Non-seasonal Light-running Oils

Non-seasonal oils are distinguished by their low viscosity at low temperatures as well as a high level of temperature stability and a particularly low tendency to evaporate at high temperatures due to their composition. Oils which can meet such high performance requirements can be used as non-seasonal oils while taking into consideration the correct temperature range (see the temperature range point). These oils also have good light-running properties because of their small low-temperature viscosity and can therefore be referred to as non-seasonal light-running oils.

Only non-seasonal light-running oils are now approved by Porsche.

Viscosity

The viscosity of an engine oil is specified by the SAE viscosity class. The first number and the letter W (winter) identify the viscosity at lower temperatures. For example: 0W or 5W, where 5W is more viscous than 0W. The second number indicates the viscosity at higher temperatures. For example: 40 or 50, where 40 is less viscous than 50. Multi-grade oils are identified by both viscosity specifications. For example, SAE 0W40 or 5W40 or 5W50.

Examples:

0W40 and 5W40 oils have the same viscosity at higher temperatures, however, at lower temperatures, the 5W oil is more viscous.

5W40 and 5W50 have the same viscosity at low temperatures, but at higher temperatures, the oil having viscosity class 40 is less viscous.

Temperature Ranges

Above -12° F. (-25° C): all oils approved by Porsche for the vehicle type to be considered

Below -12° F. (-25° C): all oils approved by Porsche for the vehicle type to be considered which have the SAE class 0W at lower temperatures.

Miscibility

The engine oils approved by Porsche can be mixed to the extent that it is not necessary to flush the engine when the oil is changed, or another type of oil is used. This holds true for mineral oils and synthetic oils.

However, since every brand of oil has a specially adapted unique composition, the same oil should be used for any topping up that might become necessary between oil change intervals, whenever possible.

Overview:

Manufacturer	Trade name	SAE class	Sales area
ADDINOL	HIGH STAR	5W-40	EU, E-EU, ASI
	Super Light MV 0546	5W-40	EU, E-EU, ASI
AGIP	Extra HTS	5W-40	WW
	Agip Synthetic PC SAF 5W-40	5W-40	WW
AMAG	GAMAPARTS Gold-Synt SAF 5W-40	5W-40	WW
ARAL	High Tronic 5W-40	5W-40	
BEIJING TONGYI PETROLEUM Co. Ltd.	Pinnacle 5W-40 Synthetic	5W-40	P. R. China
BP	BP Visco 5000	5W-40	WW
	BP Visco 5000 Turbo Diesel	5W-40	WW
	Visco 7000	0W-40	WW
CASTROL	Formula RS Road and Track	5W-40	WW
	Formula RS Power and Protection	0W-40	WW
	GTX 7 Dynatec	5W-40	WW
	GTX Magnatec 5W-40	5W-40	LU
	Performance 5W-40	5W-40	WW
	Syntec 5W-40	5W-40	WW
	TXT Softec	5W-40	WW
C.FPSA LUBRICANTES	Star Mega Synthetic	5W-40	EU
ChevronTexaco Global Lubricant Solutions	Havoline Ultra	5W-40	WW
Conoco Phillips	76 Pure Synthetic Motor Oil	5W-40	WW
	Kendall GT-1 Pure Synthetic Motor Oil	5W-40	WW
DF OLIEBRON B.V.	Tor Hypersynth	5W-40	EU, M F, F-F
DEUTSCHE PENTOSIN-WERKE	Pento High Performance	5W-40	WW
Deutsche Shell GmbH	Helix Ultra AK SAF 5W-40	5W-40	WW
DOLLBERGLN	MOTOR GOLD SUPERTEC	5W-40	LU
EMKA Schmiertechnik GmbH	Supersint FE 5W-40	5W-40	WW

Manufacturer	Trade name	SAE class	Sales area
EXXONMOBIL Corporation	Esso Ultron	5W-40	EU, ASI, AFR,N-/S-AM, M-E
	Esso Ultron 5W-40	5W-40	WW
	Mobil 1 SAE 0W-40	0W-40	WW
	Mobil 1 SAE 5W-40	5W-40	WW
	Mobil 1 SAE 5W-50	5W-50	WW
	Mobil Synt S	5W-40	WW
	Mobil Synt S 5W-40	5W-40	WW
	Mobil Syst S	5W-40	EU, ASI, AFR,N-/S-AM, M-E
	Mobil Syst S 5W-40	5W-40	WW
	Motor Oil Plus 5W-40	5W-40	WW
FEU VERT	FEU VERT 100% SYNTHÈSE 5W-40	5W-40	E, F
FUCHS PETROLUB AG	TITAN Supersyn SL SAE 5W-40	5W-40	EU
Great Wall Lubricating Oil Group Co., Sinopec	ULTRA GOLD SAE 5W-40	5W-40	P. R. China
GRUPA LOTOS SA (previously called Rafineria Gdanska)	Synthetic SL/SJ/CD/CF SAE 5W-40	5W-40	PL, E-EU
IGOL	PROCESS F6 5W-40	5W-40	WW
LIQUI MOLY GmbH	Leichtlauf HC 7	5W-40	WW
	Synthoil High Tech	5W-40	WW
MEGUIN GmbH & Co. KG	megol Super Leichtlauf engine oil (fully synthetic)	5W-40	WW
	megol Ultra Performance Longlife	5W-40	WW
MOL	DYNAMIC STAR	5W-40	E-EU
MOTOREX - Bucher	XPERIENCE FS-X	5W-40	WW
MOTUL	8100 Xcess 5W-40	5W-40	WW
Müller Hubert Math. Handelsgesellschaft, Eschweiler (Starto)	SYNT-XL, SAE 5W-40	5W-40	EU
ÖLWERKE JULIUS SCHINDLER GmbH	Econo Veritas XL-HC	5W-40	D
PANOLIN	INDY SV	5W-40	EU

Manufacturer	Trade name	SAE class	Sales area
PENNZOIL - QUAKER STATE INTERNATIONAL	Quaker State Full Synthetic European Formula	5W-40	USA, CDN, MEX
	Synthetic European Formula	5W-40	USA, CDN, MEX
PETRONAS DAGANGAN BERHARD	Syntium 800	5W-40	SE-ASI, AFR
	Syntium 900	5W-40	SE-ASI, AFR
Ravensburger Schmierstoffvertrieb GmbH, RAVENOL	RAVENOL VSI 5W-40	5W-40	EU, ASI
REPSOL YPF	ELITE COMPETITION SAE 5W-40	5W-40	WW
SINGAPORE PETROLEUM	SPC SYN ACE SAE 5W-40 API SL/CF	5W-40	ASI
SRS SALZBERGEN - Germany	Wintershall Viva topsynth 5W-40	5W-40	EU
STATOIL	GT S 5W-40	5W-40	S, N, BS, SF, IRL
	LazerWay 5W-40	5W-40	S, N, BS, SF, IRL
TAMOIL	Sint Future Racing SAE 5W-40	5W-40	EU, AFR
UNICORN - SINGAPORE	Ultrasynt	5W-40	ASI
UNIL OPAL	Opaljet 24 S	5W-40	EU
	Opaljet 24 S 5W-40	5W-40	F, B, NL, SP
United Oil Company PTE Ltd.	United 1 Fully Synthetic Engine Oil SAE 5W-40 API SL/CF	5W-40	ASI
VEEDOL - International	Veedol Special R Plus 5W-40	5W-40	WW
WAKO'S Chemical Company Limited	ex Synthe 5W-40	5W-40	EU
WESTFALEN	Gigatron 0W-40	0W-40	
WOLF OIL CORPORATION	MASTERLUBE SYNFLOW DC (5W-40)	5W-40	EU
YACCO	VX 1000	5W-40	WW
	VX 600	5W-40	WW

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Technical Bulletin	Model 911, 911 Turbo	Group 1
	Subject: Oil Pump	Part Identifier 1720

Oil pumps, Part No. 911.107.008.01 and 930.107.008.02 are no longer available as spare parts. These pumps were used as of M.Y. 1976.

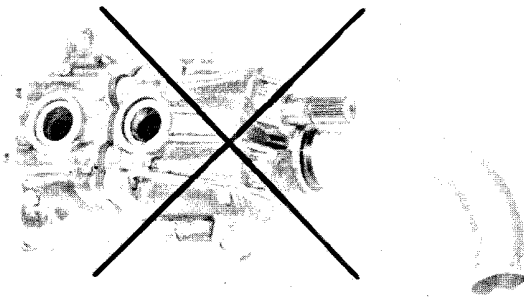
Effective immediately, only oil pumps with a permanent fixed oil screen will be available.

Part #911.107.008.05 - 911, Turbo 3.0 ltr.
Part #930.107.008.04 - Turbo 3.3 ltr.

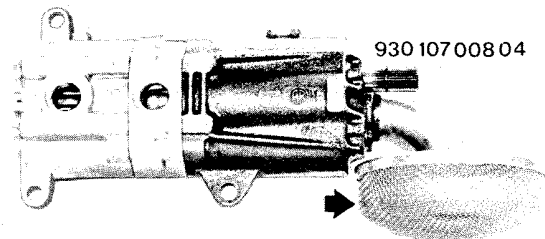
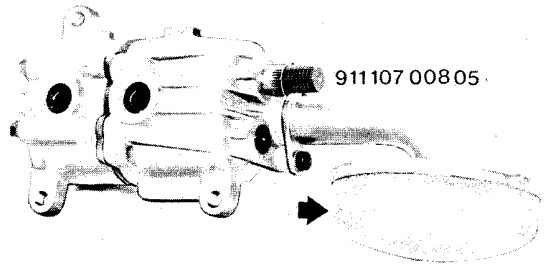
The new version oil pumps were installed during production as of March 1983, engine #64D3717 and can be installed in the following engines:

- 911s - as of engine #646 0672, 911/82
646 0458, 911/84
- 911 turbo, 3.0 ltr - as of engine
#686 0021, 930/51

NOTE: Oil pumps for engines before M.Y. 1976 are still available under Part #901.107.002.06.



Old Version



New Version



SERVICE

Page 1 of 2
June 17, 1985

Technical Bulletin

Model
911,
911 Turbo

Group
1

Subject:

Oil Pump

Part Identifier

720

Number

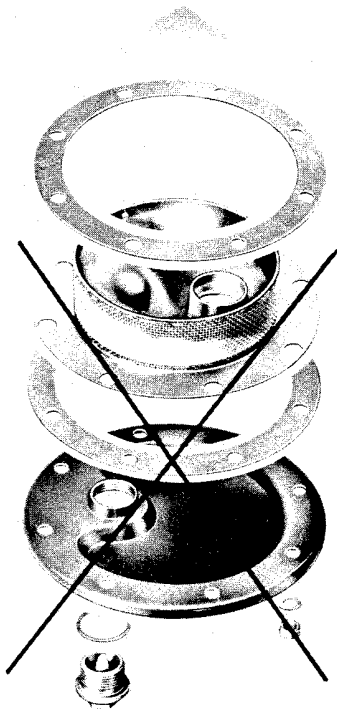
8510

With the installation of the new oil pump in an older engine, the following additional parts must be changed:

- Discard loose oil screen
- Old cover, Part #901.101.386.00, with drain plug must be replaced with new cover, Part #930.101.902.00. The new cover does not have a drain plug, but does have a round recessed bowl.

The cover of this version has to be removed when changing oil.

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Old Version



930.101.902.00

New Version, to be used in conjunction with oil pumps, Part #911.107.008.05 and 930.107.008.04



SERVICE

Page 2 of 2
June 17, 1985

Technical Bulletin

Model
911, Turbo

Group
17

Subject: Oil Pressure Relief and Safety Valves

Part Identifier
1724/26

Number
78-03

Oil pressure relief and safety valve springs and screws were modified during 1978 model year beginning with engine numbers as follows:

Vehicle	49 States	California
911SC	628 2539	658 1060
Turbo	688 0290	688 1179

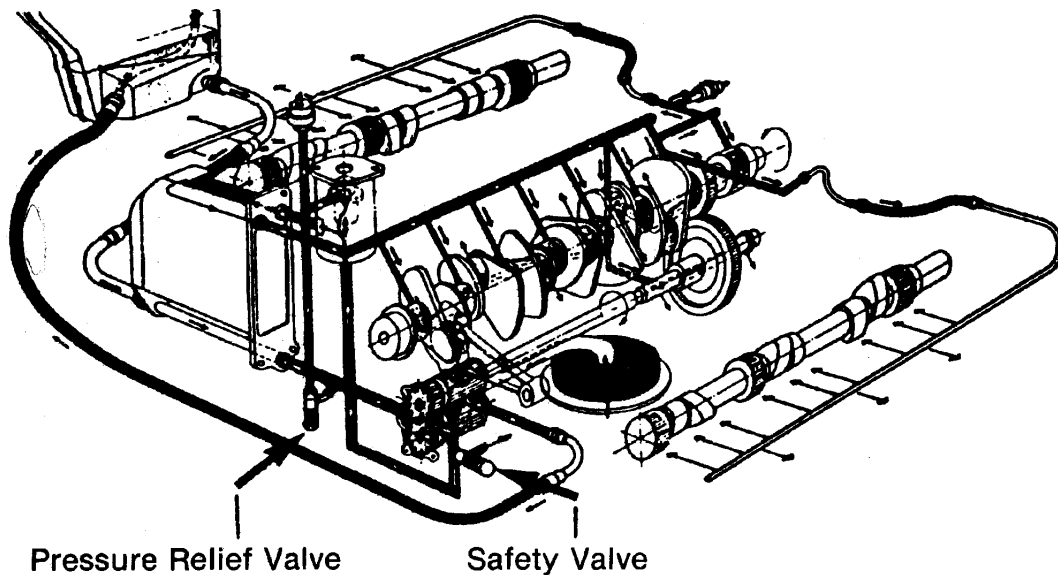
If oil pressure and oil level drop suddenly during high-speed driving, and 1978 vehicle engine number is prior to those listed,

— replace Safety Valve and Pressure Relief Valve parts with new parts shown

Caution

Part numbers shown are for reference only. Always consult your Part Department for latest parts information

OIL FLOW CIRCUIT



Latest part numbers:

Safety Valve	Pressure Relief Valve
Spring, Part # 901 107 531 00	Spring, Part # 930 107 531 01
Screw, Part # 999 064 026 02	Screw, Part # 999 064 026 02
	Spring Guide, Part # 930 107 533 00

SERVICE

Page 1 of 1
September 22, 1978

Technical Bulletin

Model
911 and
911 Turbo

Group
I

Subject:

Oil Cooler in Right Front Fender

Part Identifier

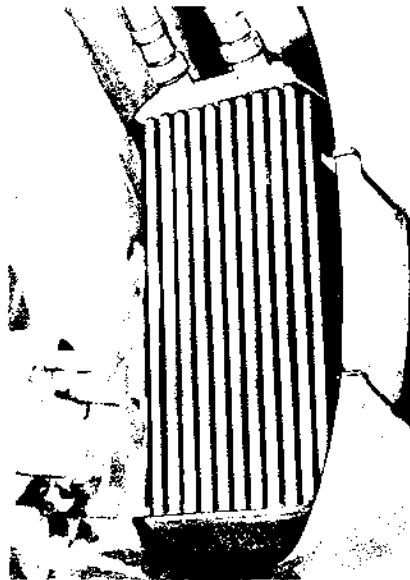
1741

Number

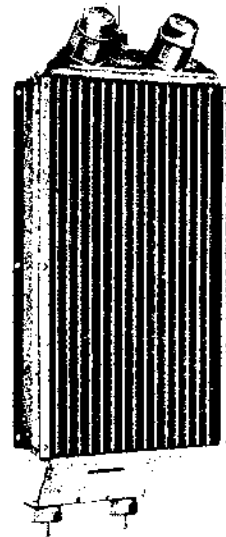
8406

A finned oil cooler, Part No. 930.207.053.00, is installed in the right front wheel house instead of the former tube oil cooler, Part No. 930.207.050.03, beginning with the below mentioned introduction date. In addition, the bumper has a larger opening in the area of the right fog lamp.

Date: July 1984, VIN 91 ES 12 1927 911 Carrera Coupe
 91 ES 16 1909 911 Carrera Targa
 91 ES 17 1032 911 Carrera Convertible
 93 ES 05 0077 911 Turbo — Canada



Old Tube Oil Cooler



New Finned Oil Cooler

Repairing Information:

The old tube oil cooler is no longer available for replacements. In case of replacement, cars have to be converted for the new finned oil cooler — on 1984 models.

A cooling tube coil, Part No. 930.207.050.01, is still available for replacements in cars before the mentioned model year

PORSCHE CARS NORTH AMERICA INC



SERVICE

Page 1 of 6
December 17, 1984

Technical Bulletin

Model
911 and
911 Turbo

Group
I

Subject:
Oil Cooler in Right Front Fender

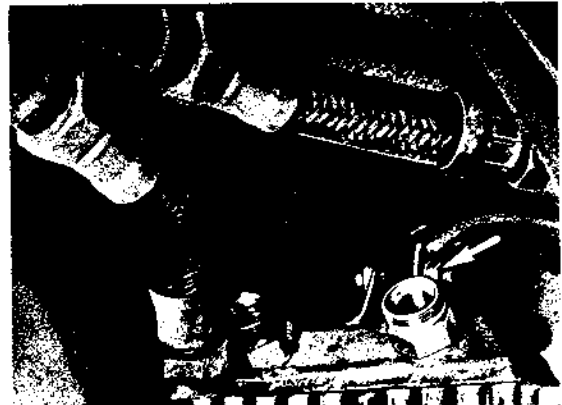
Part Identifier
1741

Number
8406

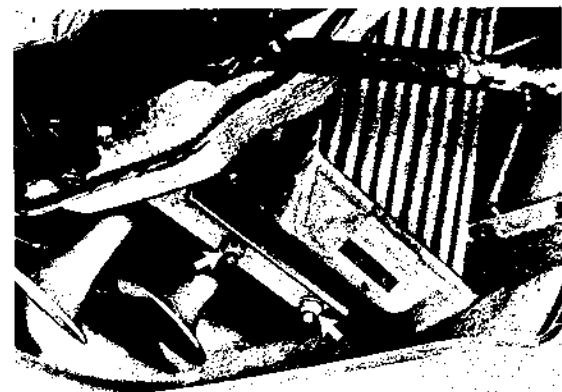
Procedure for Conversion from Tube to Finned Oil Cooler

Note: It is recommended to clean the wheel house in the oil cooler area before beginning with the work.

1. Take off right front wheel.



2. Remove old oil cooler.
First disconnect oil hoses on oil cooler, counterholding with a second wrench.
Catch escaping oil. Plug, e.g. with tape or plastic plugs (no rags), oil hoses to prevent entry of dirt.
Unscrew nut on upper rubber pad and lower nut. Remove oil cooler.



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INC

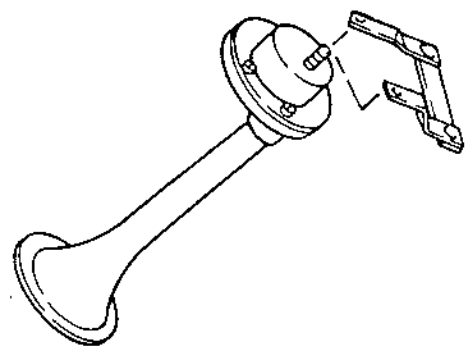


SERVICE

Page 3 of 6
December 17, 1984

Technical Bulletin	Model 911 and 911 Turbo	Group I
	Subject: Oil Cooler in Right Front Fender	Part Identifier 1741

- Unscrew two-tone horns with holder.
 Remove both old holders and mount two-tone horns on new holder, Part No. 911.635.091.00; bolting long horn on short bracket.
 Bolt complete unit on fender support from below in such a manner that the two-tone horns are suspended vertically in front of the support.



- Assemble holder (5) and rubber/metal pad (6) and bolt on upper fender bracket. Use large washer (8) — screw on nut only finger tight.
- Bolt rubber/metal pad (6) on new oil cooler (1) at bottom.
- Place oil cooler without cover in holder in wheel house.
 Align upper holder with bore in oil cooler and tighten mounting nut for holder.
 Remove oil cooler again.



SERVICE

Technical Bulletin

Model
911 and
911 Turbo

Group
I

Subject:

Oil Cooler in Right Front Fender

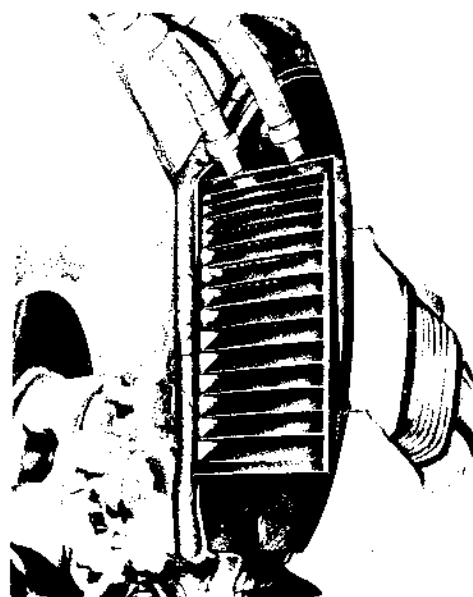
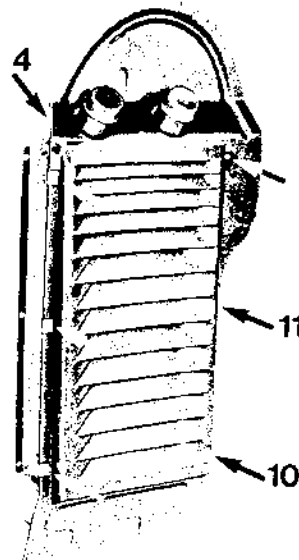
Part Identifier

1741

Number

8406

7. Assemble oil cooler.
 - 7.1 Place rubber seal (4) over hose connections.
 - 7.2 Install cover (2) and fasten on oil cooler with U-clamps (10) and spreader rivets (11).
As seen in installed position, use 3 U-clamps on inside as well as 2 spreader rivets and 1 U-clamp on outside.
 - 7.3 Bolt guide (3) between rubber/metal pad (6) and bottom of oil cooler.
 - 7.4 Press seal (12) on outer edges of cover and guide, cutting off protruding ends at bottom if applicable. Lower edge of guide is free.
 - 7.5 Coat oil hose connections with Optimoly TA.
8. Guide assembled oil cooler into wheel house. Mount on bottom holder with locknuts (7) and washers (8).
9. Screw on oil hoses.
Important: It must be possible to screw on the coupling nuts by hand.
10. Mount oil cooler on upper holder (use large diameter washer 8).
Tighten bottom nuts.
Tighten oil hose coupling nuts, counterholding on cooler connections with a second wrench to avoid damage.
11. **Start Engine and check oil level and connections for leaks.** The regulator for the front oil cooler has to be open for this purpose — engine oil temperature above 80°C (176°F).



Technical Bulletin	Model 911 and 911 Turbo	Group I
Subject: Oil Cooler in Right Front Fender	Part Identifier 1741	Number 8406

Time for converting tube oil cooler to finned oil cooler = 1.50 hours.

Modified Fenders Beginning With 1985 Models

A fender, on which the upper oil cooler holder is changed, is introduced beginning with 1985 models.

The holder of this fender version is mounted laterally. For this reason holder (5), Part No. 930.207.927.00, is no longer required for installation of the new finned oil cooler.

After depletion of stocks of old fenders the new version fender will also be valid for replacements in cars before 1985 models.

In the repair sector this could mean that a new fender would be installed together with an old tube oil cooler.

This will then require the use of rubber/metal pad, Part No. 930.207.239.00, and holder, Part No. 930.207.921.00, on the upper holder for installation of the oil cooler.



SERVICE

Technical Bulletin

Model
911 Carrera
911 Turbo

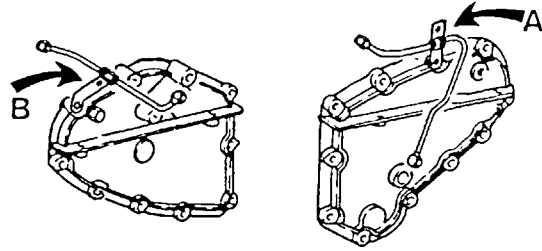
Group
1

Subject: Oil Supply Lines
For Chain Tensioner

Part Identifier
1747/48

Number
8719

The right chain tensioner oil supply line was modified and the right and left oil supply lines are installed with an additional bracket on the chain housing cover. (Arrows in picture).



From Production Date: January 9, 1987

Engine Numbers:

911 Carrera: 64 H 04818 930/25
911 Turbo: 68 H 00730 930/68

New Part Numbers:

Right oil line: 930 107 348 09
Right bracket: 930 107 342 01
Left bracket: 930 107 341 00
2 Hose clamps: 999 511 174 02
2 Screws: 900 119 059 02
(4x10mm)

New style parts should be installed when performing engine or oil leak repairs in the area of oil supply lines.

Important Notice

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SERVICE

Page 1 of 1
August 12, 1987

Technical Bulletin

Model
911 Carrera

Group
1

Subject: New Ambient Air Valve
to Eliminate Rattling Noises

Part Identifier
1783

Number
8705

The ambient air valve for oil tank breathing and the mounting bracket have been modified to eliminate rattling noises.

From production date October 1986 VIN:

91 HS 120684	911 Coupe
91 HS 160454	911 Targa
91 HS 170623	911 Cabriolet

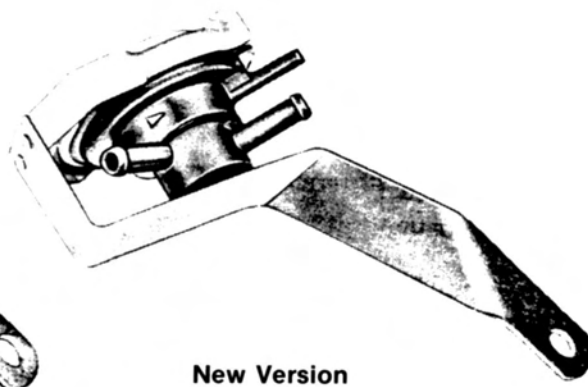
The old version air valve is no longer available as a spare part.

When installing the new valve on older cars, the following parts have to be replaced:

<u>Part Numbers</u>	<u>Description</u>
1. 930 207 227 01	Ambient air valve
2. 930 207 237 02	Bracket
3. 930 207 236 01	Hose, long
4. 930 207 235 01	Hose, short
5. N 023 5702	Clamp (2 required)



Old Version



New Version

Figure 1



SERVICE

Page 1 of 2
February 20, 1987

PORSCHÉ CARS NORTH AMERICA INC.

Technical Bulletin

Model
911 Carrera


Group
1

Subject: New Ambient Air Valve
to Eliminate Rattling Noises

Part Identifier
1783

Number
8705

Work sequence to install new air valve:

1. Remove air filter and air flow meter.
2. Remove bracket and air valve together with hoses (3 and 4 in Figure II). Pull off small hose (A in Figure II).
3. Mount new bracket.
4. Install new hoses (3 and 4) on air valve. Do not tighten clamps at this time. Connection for short hose (4) is marked with an arrow  on air valve. (See Figure I) Hose's diameter at air valve is 9mm (was 10mm).
5. Install air valve in clamping bracket. Install hoses on throttle valve housing and regulator valve and small hose on ambient air valve. Check hoses for proper routing. Do not kink hoses. Tighten all hose clamps.
6. Install air flow meter and air filter.

Note:

Incorrect vacuum hose connection on temperature switch (B in Figure II) can cause rattling noise. Angled connection of temperature switch connects to vacuum source and straight connection to air valve.

Repair Time:

Labor Operation 17 83 19 00 80 T.U.

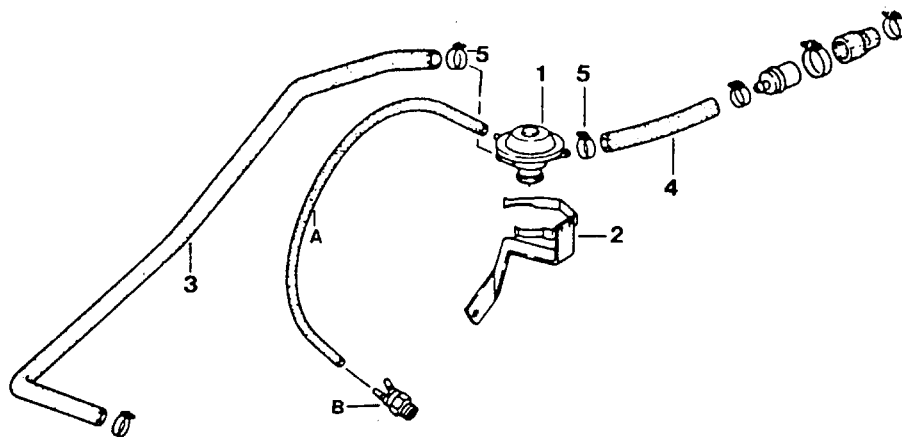


Figure II



SERVICE

Page 2 of 2
February 20, 1987

Technical Bulletin

Model
911, 911 Turbo, 924
924 Turbo, 928

Group
2

Subject:

Checking The Intake Systems For Leaks

Part Identifier
N/A

Number
8502

Past experience has shown that leaks in the Intake System may result in performance problems. These leaks are at times difficult to detect and often overlooked if not diagnosed systematically.

To perform the respective leak tests rationally, a plate can be made (drawing #1) which permits a 100% checkup for leaks on vehicles Type 928, 911 Turbo, and 924 Turbo. A different self-made tool will be used for the 922 and 924 (drawing #3).

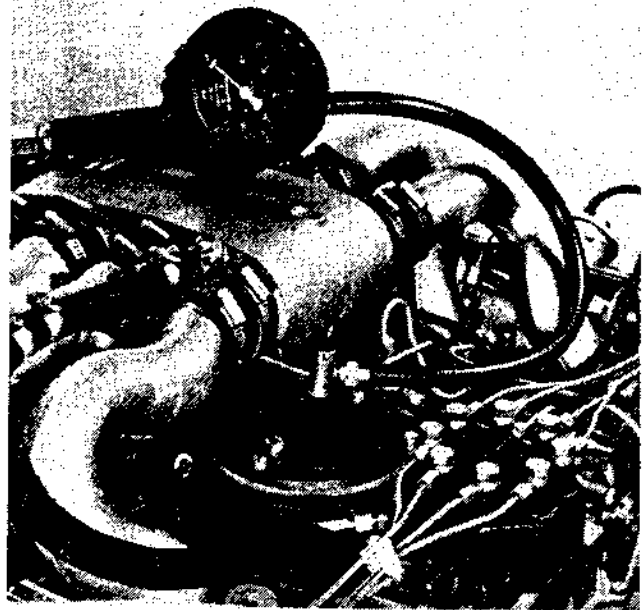
Checking the 928 and 911 Turbo

Remove sensor plate stop and install sealing plate and seal using the two screw points (see photo).

Pressurize system with air to 0.5 bar (7 PSI).

There is no need to seal the exhaust system since the engines usually stop in such a manner that at least 1 valve per cylinder is closed, so that the pressure of approximately 0.5 bar obtained via sealing plate will not be reduced through exhaust system.

With pressure built up, larger leaks can be heard, slight leaks can be made visible by means of a leak detecting spray, which is non flammable and non-toxic, or soapy water.



ROSCHE CARS NORTH AMERICA - INC.



SERVICE

Page 1 of 8
April 16, 1985

Technical Bulletin

Model
911, 911 Turbo, 924
924 Turbo, 928

Group
2

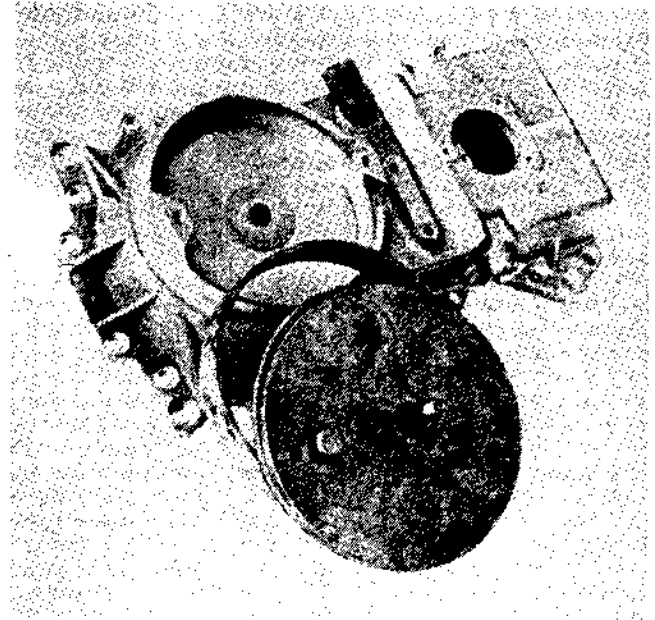
Subject:

Checking The Intake Systems For Leaks

Part Identifier
N/A

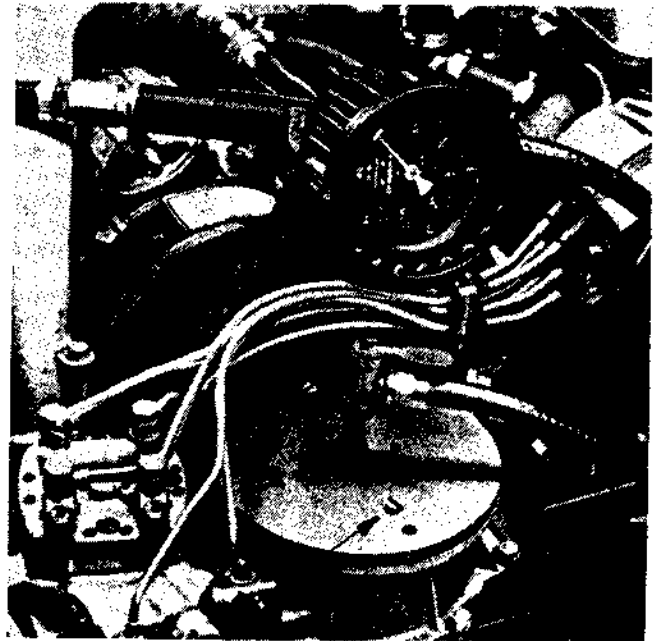
Number
8502

On all 911 Turbos with flanged air flow meter, a ring of 130 mm diameter together with sealing ring 930.110.122.00 is placed between the sealing plate and the air flow meter (drawing #2).



924 Turbo

The system is also sealed through the air flow meter. Due to the smaller diameter of the air flow meter, the sealing M8 bolt (picture) must be removed from the sealing plate, so the plate can be fastened through this hole.



DO NOT WRITE IN THESE SPACES



SERVICE

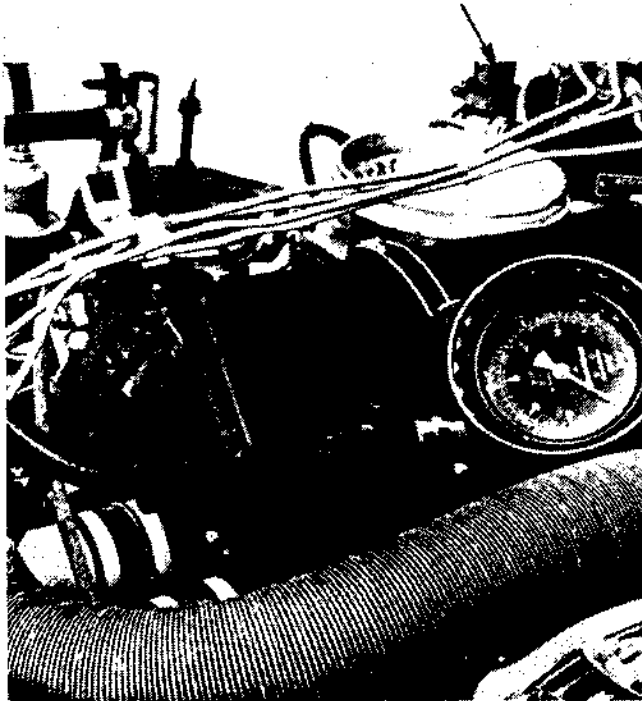
Page 2 of 8
April 16, 1985

Technical Bulletin	Model 911, 911 Turbo, 924 924 Turbo, 928	Group 2
	Subject: Checking The Intake Systems For Leaks	Part Identifier N/A
		Number 8502

911

The throttle housing is sealed by means of a self-made tool, (see drawing #4), and the rubber boot removed.

Cars equipped with an Auxiliary air valve and Regulator, the hose from the rubber boot must be sealed with a round object. (see arrow).



PORSCHE CARS NORTH AMERICA - INC.



SERVICE

Page 3 of 8
April 16, 1985

Technical Bulletin	Model 911, 911 Turbo, 924 924 Turbo, 928	Group 2
	Part Identifier N/A	Number 8502

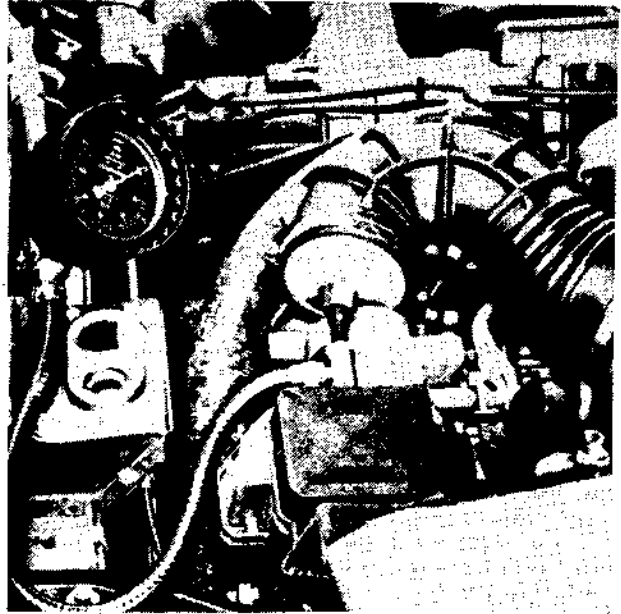
Subject:

Checking The Intake Systems For Leaks

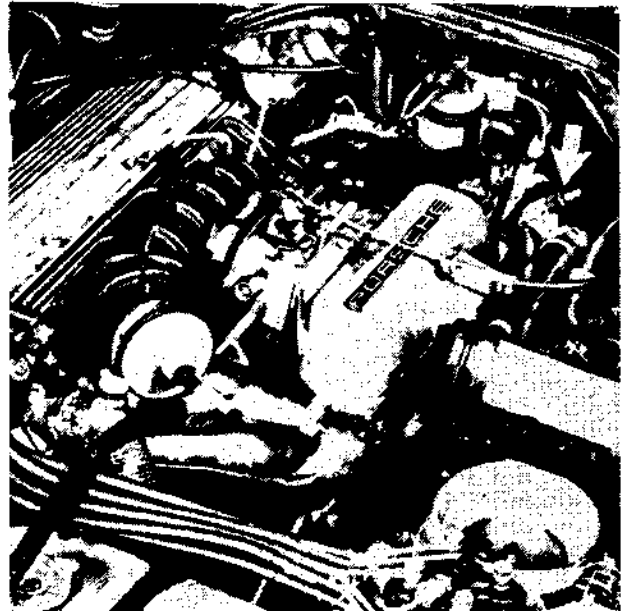
944 and 924

A sawed-off fuel filter 928.110.147.05 is modified with a tubeless valve (drawing 3).

On the 944 this device is installed behind the air flow meter, into the intake hose.



On the 924 this device is installed in the connecting hose in front of the throttle valve. In addition, when installed, the vacuum hose in front of the vacuum booster must be pinched (see arrow).



SERVICE

Technical Bulletin

Model
911, 911 Turbo, 924
924 Turbo, 928

Group
2

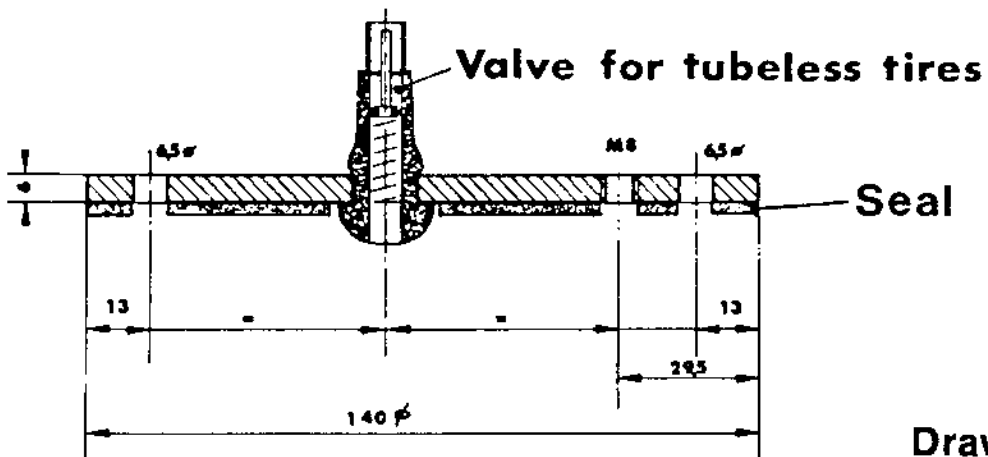
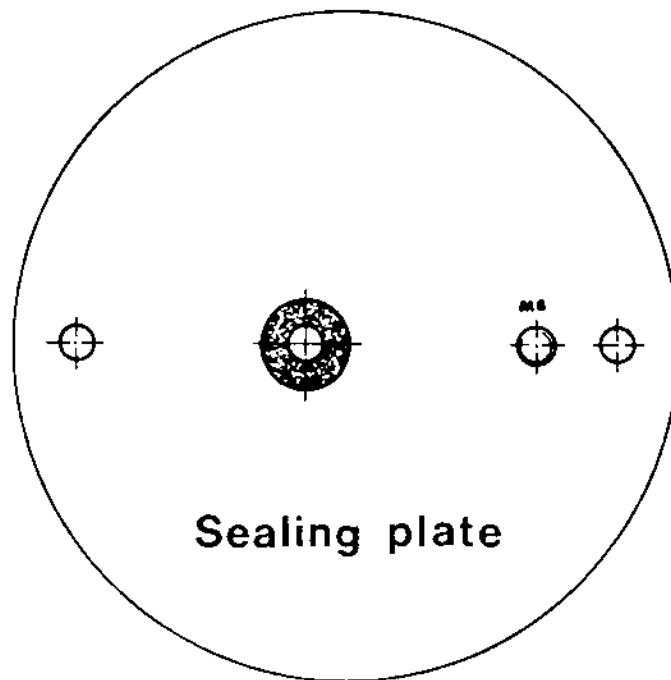
Subject:
Checking The Intake Systems For Leaks

Part Identifier
N/A

Number
8502

Device for pressure testing K-jetronic intake system

911 TURBO, 924 turbo, 928



Drawing 1



SERVICE

Page 5 of 8
April 16, 1985

DOCSITE CAR S NORTH AMERICA INC.

Technical Bulletin

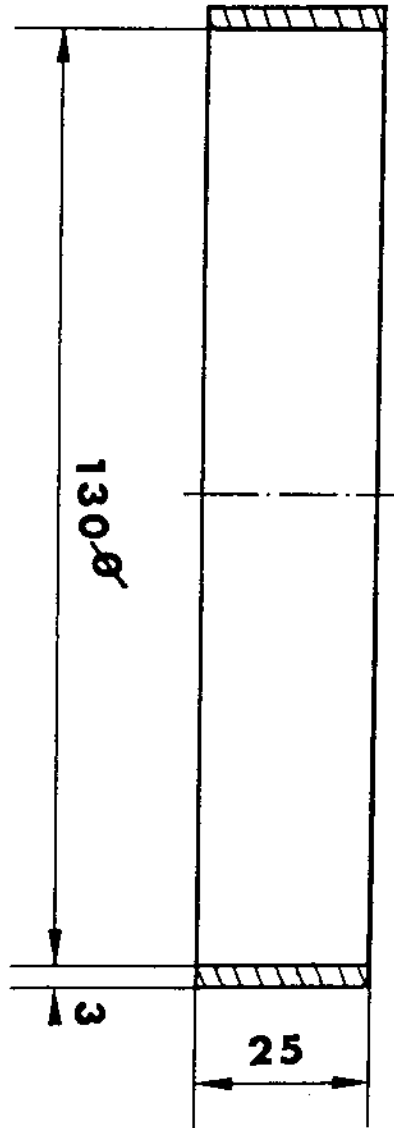
Model
911, 911 Turbo, 924
924 Turbo, 928

Group
2

Subject:
Checking The Intake Systems For Leaks

Part Identifier
N/A

Number
8502



Ring for turbo vehicles with flanged air flow meter

Drawing 2



SERVICE

Page 6 of 8
April 16, 1985

Technical Bulletin

Model
911, 911 Turbo, 924
924 Turbo, 928

Group
2

Subject:
Checking The Intake Systems For Leaks

Part Identifier
N/A

Number
8502

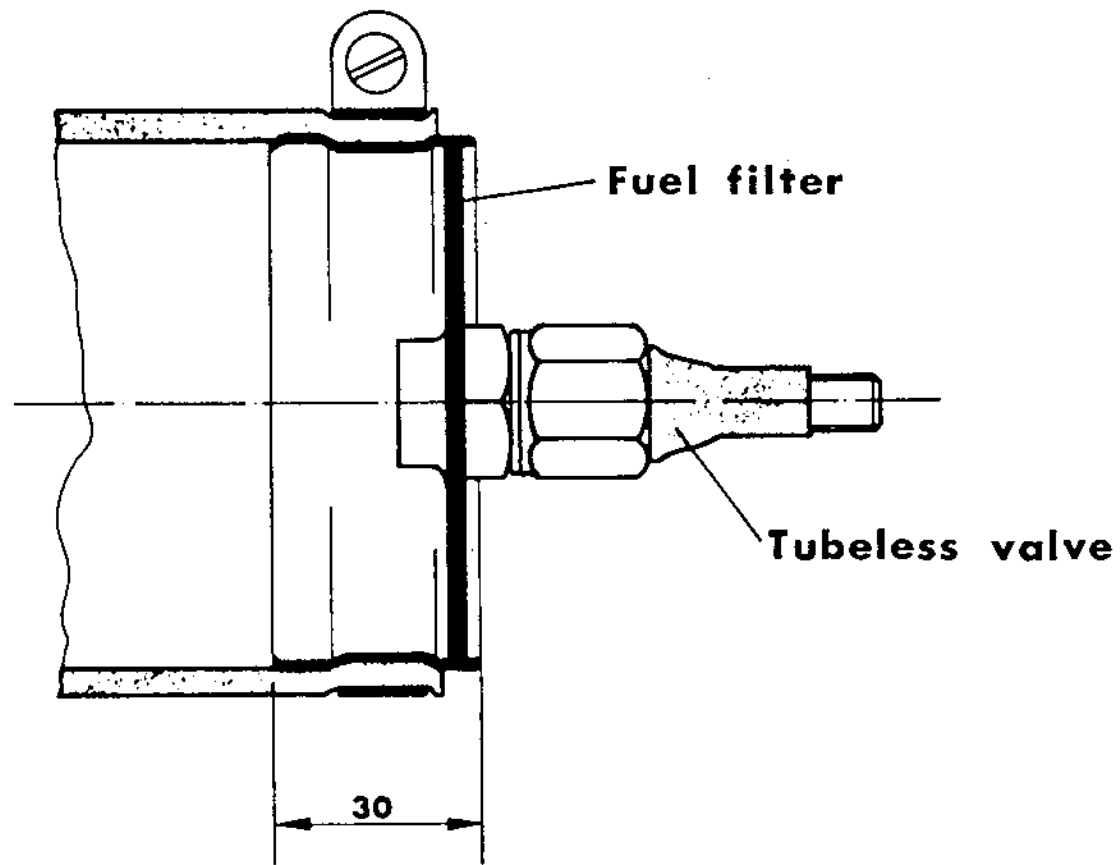
Testing intake system for leaks:

Self-made tool:

Saw off fuel filter 928.110.147.05 approx.
30 mm behind input end.
Press tubeless valve into hollow screw.

This adapter is inserted into connecting
hose instead of the air flow meter and is
fastened with hose clamp. Establish
approx. 0.5 bar pressure in intake system
by means of a tire inflator and spray all
connections with a leak-detecting spray.
The leaking spot will be indicated by
bubbles.

POISSONNIERE 0485 20011 AMER-0A-120



Drawing 3



SERVICE

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April 16, 1985

Technical Bulletin

Model
911, 911 Turbo, 924
924 Turbo, 928

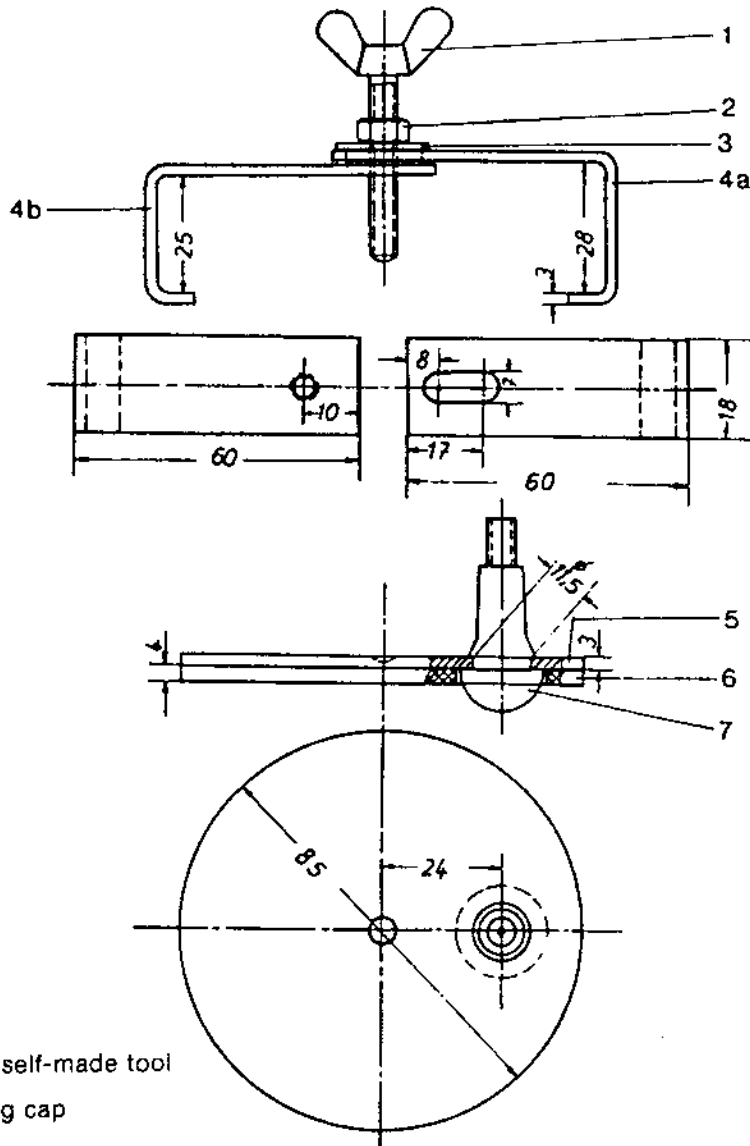
Group
2

Subject:
Checking The Intake Systems For Leaks

Part Identifier
N/A

Number
8502

Pressure testing device 911



Require material for self-made tool

Closing cap

1 each wing screw M 6 x 40 mm	Item 1
1 each nut M 6	" 2
1 washer B 6.4	" 3
2 each flat steel 18 x 3 x 100 mm	" 4 a+b
1 each washer Dia. 85 x 3 mm	" 5
1 each sealing rubber Dia. 85 x 4 mm	" 6
1 each valve (rubber or metal)	" 7

Make part according to drawing.

Drawing 4



SERVICE

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April 16, 1985

Technical Bulletin

Model
911 Carrera

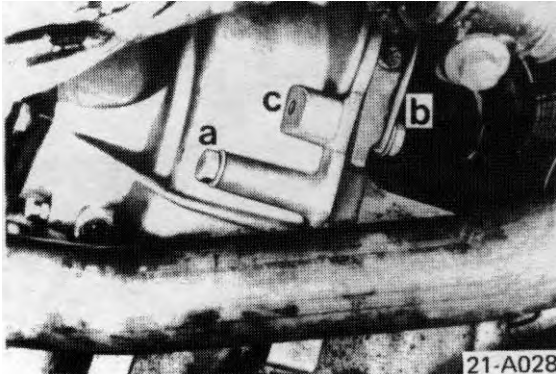
Group
28

Subject: DME System Modification to Prevent Stalling and Surging at Idle

Part Identifier
N/A

Number
84-07

Surging or stalling at idle may be caused by spark plug cable induced voltage to the DME/injection valve harness.



These additional brackets and clips have been installed in production as of:

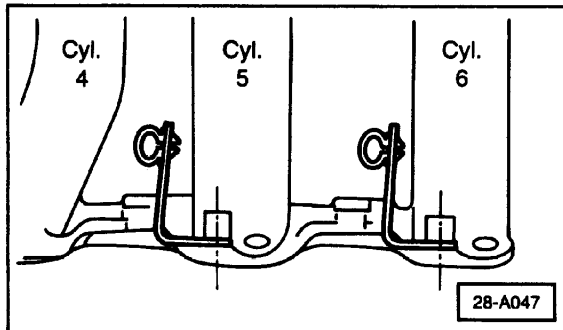
- March 6, 1984
- Engine no. 64E03573

Brackets and clips can be installed on earlier vehicles.

Parts required	Quantity	Part no.
Bracket	2	911 602 187 00
Clip	2	477 971 851

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information.



Brackets and securing clips for spark plug cables on cylinders no. 4 and 5 have been introduced in production to maintain sufficient clearance. This prevents possible current induction.

SERVICE

Page 1 of 1
July 16, 1984

Technical Bulletin

Model
911, Turbo

Group
28

Subject: Ignition Timing and Dwell Angle Specs

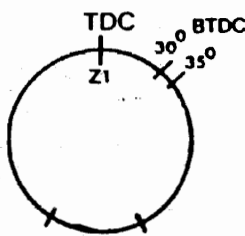
Part Identifier
2829

Number
77-01

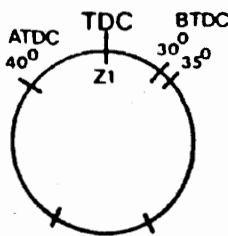
Ignition timing must be set according to specifications and markings on crankshaft pulley, as given in following table:

Ignition Timing/Dwell Angle Specifications

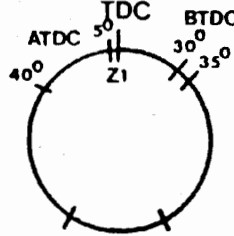
Pulley markings - PORSCHE 911



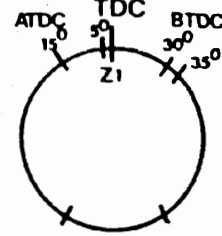
Years: 65,66,67,68



40° mark for mech. inj. pump timing
69,70,71



72,73,74,75,76



77

NOTE:

All ignition timing adjustments and checking should be made with engine at operating temperature.

Model Year	Model	Ignition Timing	Dwell Angle
1965/66/67	911	30° BTDC at 6000 RPM	38° ± 3°
1967	911S	30° BTDC at 6000 RPM	38° ± 3°
1968	911/911L	30° BTDC at 6000 RPM	38° ± 3°
1969	911T	35° BTDC at 6000 RPM	40° ± 3°
1969	911E	30° BTDC at 6000 RPM	38° ± 3°
1969	911S	30° BTDC at 6000 RPM	38° ± 3°
1970/71	911T	35° BTDC at 6000 RPM	40° ± 3° - Marelli Distributor 38° ± 3° - Bosch Distributor
1970/71	911E	30° BTDC at 6000 RPM	38° ± 3°
1970/71	911S	30° BTDC at 6000 RPM	38° ± 3°

SERVICE

Technical Bulletin

Model
911, Turbo

Group
28

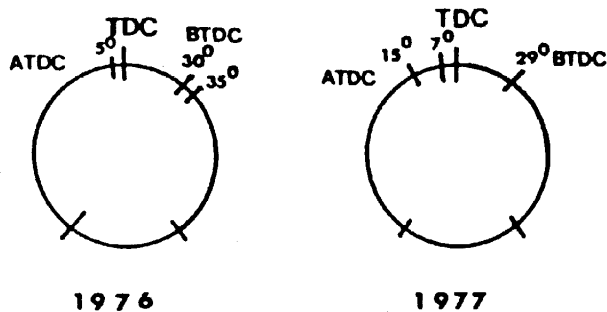
Subject: Ignition Timing and
Dwell Angle Specs

Part Identifier
2829

Number
77-01

Model Year	Model	Ignition Timing	Dwell Angle
1972/73	911T	5° ATDC at Idle	37° ± 3° - Marelli Distributor 38° ± 3° - Bosch Distributor
1972/73	911E	5° ATDC at Idle	38° ± 3°
1972/73	911S	5° ATDC at Idle	38° ± 3°
1974	911	5° ATDC at Idle	37° ± 3° - Marelli Distributor 38° ± 3° - Bosch Distributor
1974	911S	5° ATDC at Idle	37° ± 3° - Marelli Distributor 38° ± 3° - Bosch Distributor
1975	911S	5° ATDC at Idle	38° ± 3°
1976	911S	5° ATDC at Idle	37° ± 3° - Marelli Distributor 38° ± 3° - Bosch Distributor
1977	911S	TDC ± 2° (49 States) Hose on 15° ATDC ± 2° (Calif.) Hose on	38° ± 3°

Pulley markings - PORSCHE TURBO



Model Year	Model	Ignition Timing	Dwell Angle
1976	Turbo	5° ATDC - Hose on	N/A
1977	Turbo	7° ± 2° ATDC - Hose on	N/A

SERVICE

Technical Bulletin

Model
911, Turbo

Group
28

Subject: Distributor Changes

Part Identifier
2830

Number
78-04

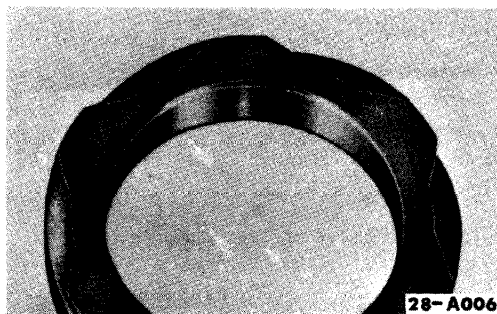
Crankshaft drive gear and distributor pinion have been changed for 1978 models to reduce backlash at distributor shaft.

Engine numbers when changes were made:

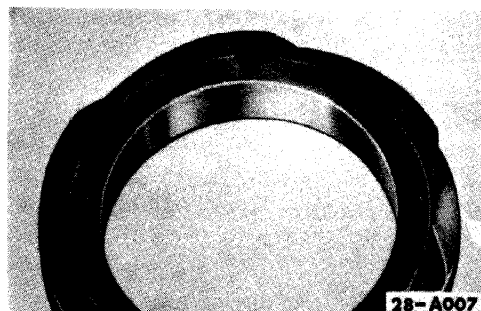
911 SC -628 0907

Turbo -688 0067

Drive gear



NEW
(930 102 115 01)

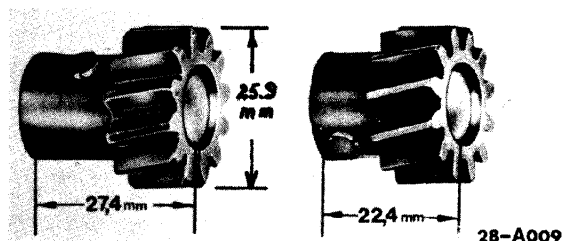


OLD
(930 102 115 00)

New drive gear is identified by "T" on face and is light yellow. Old gear is no longer available as spare part

Pinion

New pinion as follows:



For 911 SC
(930 602 422 03)

For Turbo
(930 602 422 02)

Distributor with new pinion

911 SC -No. 930 602 021 02

Turbo -No. 930 602 101 07

Note

New-type distributors cannot be installed in earlier engines without change of distributor pinion

SERVICE

Page 1 of 3
July 14, 1978

Technical Bulletin

Model
911, Turbo

Group
28

Subject: Distributor Changes

Part Identifier
2830

Number
78-04

Repair instructions

Excessive backlash, correcting

Excessive backlash between distributor shaft pinion and drive gear on earlier 1978 engines can be corrected as follows:

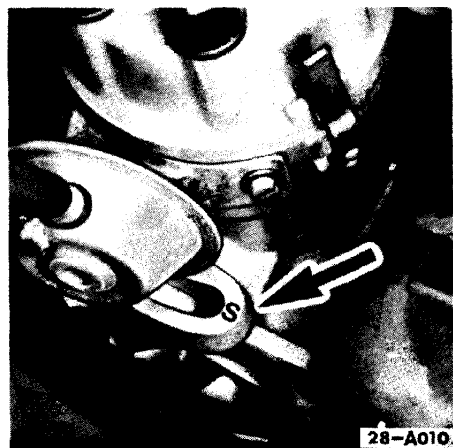
- remove distributor
- remove distributor pinion (see "Distributor pinion, changing" below)
- install "Special pinion",
Part No. 930 602 422 90/91

Note

When earlier version 1978 engines are disassembled, new combination of distributor drive gear and pinion should be installed

To avoid disassembly of earlier engine when installing new-type distributor, replace new-type pinion with "special pinion",

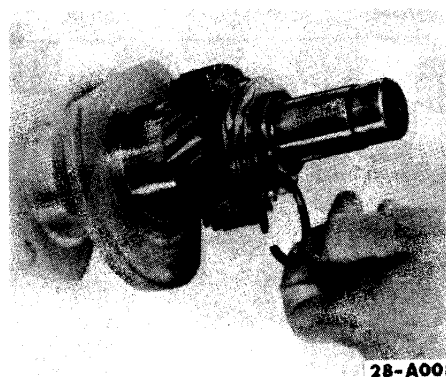
Part No. 930 602 422 90/91



Note

After installing distributor which has "special pinion", stamp "S" into distributor flange as shown. If engine is disassembled and new drive gear and distributor pinion are installed, stamp "T" on distributor flange. If "S" was previously stamped on flange, grind this off or X it out

Distributor drive, changing



Note

Retaining rings of different thickness are available to prevent axial play of distributor drive gear.

Retaining rings are available as follows:

Part No.	Thickness (mm)	Marking
901 102 148 00	2.4	0
901 102 148 01	2.3	1
901 102 148 02	2.2	2
901 102 148 03	2.1	3

- install timing gear, retaining ring and distributor drive gear onto crankshaft, against shoulder
- select and install correct retaining ring to take up play

SERVICE

Page 2 of 3
July 14, 1978

Technical Bulletin

Model
911, Turbo

Group
28

Subject: Distributor Changes

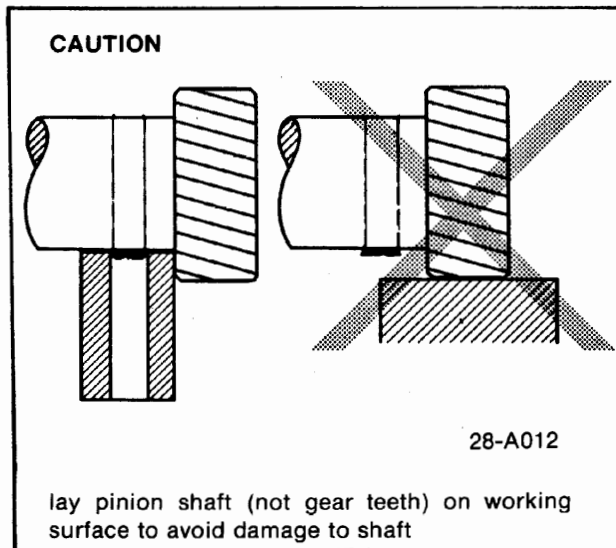
Part Identifier
2830

Number
78-04

Distributor pinion, changing

- remove distributor
- file off or drill one end of pinion retaining pin
- tap out retaining pin with drift

- install new pinion together with thrust and fiber washers and selected shim or shims
- partially insert new retaining pin (Part No. 930 602 922 00) and check axial play of distributor shaft with feeler gauge
 - must be 0.2 ± 0.1 mm

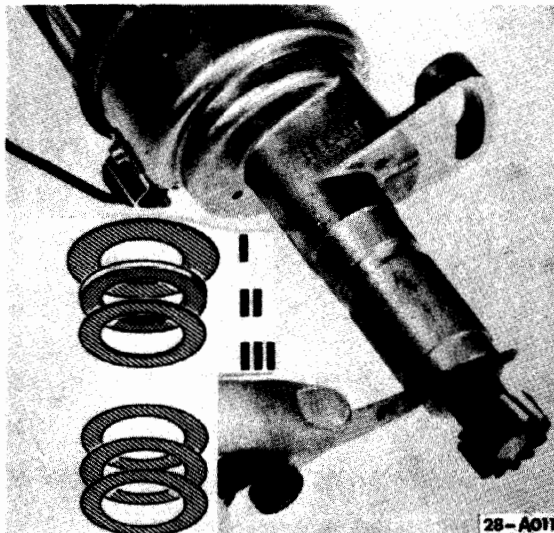


Note

Thrust washer (I) 0.2 mm thick, fiber washer (II) 0.8 mm thick and at least one steel shim (III) must always be installed

- tap retaining pin in so it protrudes equally on both sides
- peen both ends of retaining pin
- reinstall distributor
- set ignition timing

- withdraw pinion from shaft



SERVICE

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July 14, 1978

Technical Bulletin

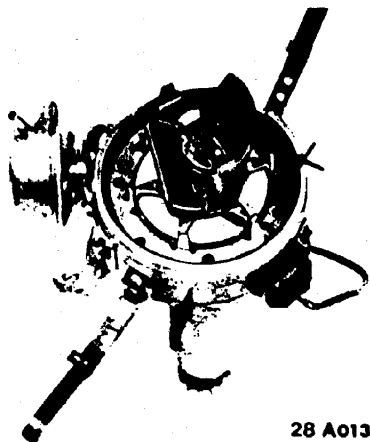
Model
911 Turbo

Group
28

**Subject: Marking on Distributor IS NOT Rotor
Position for Number One Cylinder**

Part Identifier
2830

Number
78-05



28 A013

From start of 1978 model production, all 3.3 ltr Turbo engines have distributors on which marking (X) does not correspond to number one cylinder position

This applies to the following distributors:

Part No.	Engine Type
930 602 101 07	930/61 U.S.A
930 602 101 08	930/63 California

When installing these distributors have engine at TDC number 1 cylinder and point rotor to middle of Bosch number on side of housing (arrow)

SERVICE

Page 1 of 1
August 23, 1978

Technical Bulletin	Model 911 Targa Cabrio	Group 2
	Subject: Lockable Fuel Tank Cap	Part Identifier 2005
		Number 8602

For improved protection, it is possible to install the lockable fuel tank cap from 944 vehicles on 911 model cars.

Part Numbers:

944 201 061 01	Fuel Tank Cap
477 201 594	Lock Cylinder with Key

PORSCHE CARS NORTH AMERICA INC.



SERVICE

Page 1 of 1
June 25, 1986

Technical Bulletin

Model
All

Group
20

Subject: Replacement Fuel Pump Check Valve

Part Identifier
2067

Number
80-02

Replacement check valves are now available for late model CIS vehicles, eliminating requirements that entire fuel pump be replaced if check valve malfunctions

911, Turbo (911), 928

Parts required:

810 906 093 check valve (incl. copper washer)

N013 8182 copper gasket (2 required)

N011 0691 cap nut

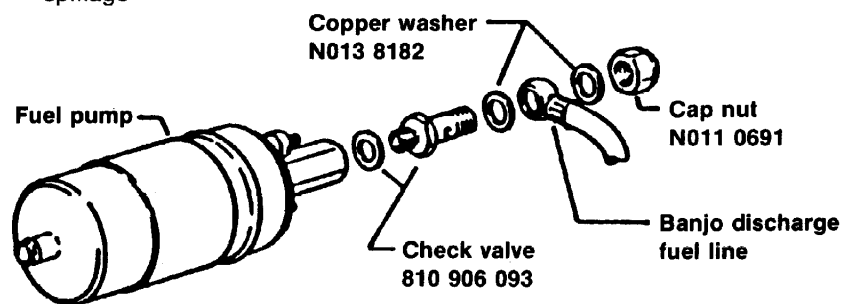
New check valve may be installed as of:

911 — from VIN 911 920 0885 Coupe
— from VIN 911 921 0893 Targa
— from VIN 930 980 0351 Turbo

924, } — all 1979/1980 vehicles
924 Turbo }
928 — all 1978/1979 vehicles

Check valve, replacing

- pinch suction hose to pump to prevent fuel spillage



20-A073

- remove existing discharge hose fitting together with copper washers
- install new check valve using new washers as illustrated
- torque check valve and cap nut to 20 Nm (14 ft lbs)

WARNING

Fire hazard! Do not smoke or have anything in area that can ignite fuel. Also disconnect battery ground strap

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information

- remove clamping device used to pinch suction hose
- start engine and check for leaks

SERVICE

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December 23, 1980

Technical Bulletin

Model

All

Group

20

Subject: Replacement Fuel Pump Check Valve

Part Identifier

2067

Number

80-02

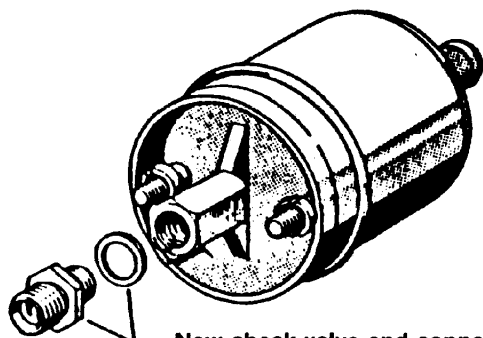
924, 924 Turbo

Parts required:

911 608 951 00 check valve (incl. copper washer)

Check valve, replacing

- pinch suction hose to pump to prevent fuel spillage
- remove discharge hose from pump by unscrewing coupling nut



New check valve and copper washer;
Part No. 911 608 951 00

20-A074

- remove original fuel line adapter from pump and install new check valve as illustrated
- torque check valve to 20 Nm (14 ft lbs)
- connect discharge hose to new check valve and torque to 20 Nm (14 ft lbs)
- remove clamping device from suction hose
- start engine and check for leaks

SERVICE

Page 2 of 2
December 23, 1980

Technical Bulletin

Model
911, 928,
944

Group
2

Subject:

Fuel Injectors For L-Jetronic Vehicles

Part Identifier

2440

Number

8503

Fuel injectors installed in Porsche vehicles have different internal resistance values for different models, even though they may look the same externally. If the wrong injector is installed, the injection control unit may be damaged.

The injector can be identified by the imprinted Bosch number on the injector.

Type	Model Year	Bosch Number	Porsche Number	Approximate Ohm Resistance*
911	84/85	0280.150.158	930.606.120.00	2.5
928	80-84	0280.150.154	928.606.110.01	2.5
928	85	0280.150.706	928.606.120.00	16.0
944	83-85/1	0280.150.201	944.606.110.01	2.5
944	1985/2	0280.150.158	930.606.120.00	2.5

*Resistance in ohms at room temperature.

PORSCHE CARS NORTH AMERICA - INC.



SERVICE

Page 1 of 1
May 9, 1985

Technical Bulletin

Model
911, 928S
944, 944 Turbo

Group
2

Subject:
Cleaning of Fuel Injectors

Part Identifier
2440

Number
8510

Partially restricted fuel injectors can be cleaned through the following procedure and material:

1. Fill up fuel tank.
2. Pour 20 ounces of "Techron" into the fuel tank.

Note: Techron is marketed by Chevron

3. The car should be driven until the fuel tank is half empty.
4. Refill the fuel tank.
5. This procedure, as outlined from point 1 to 4 should then be repeated 2 additional times.
6. To keep injectors clean; we recommend adding 20 ounces of Techron after 5 fuel tank refills. However, never more than 20 ounces per 3,000 miles.

PORSCHER
CORPORATION
NORTH AMERICA
-20-



SERVICE

Page 1 of 1
Dec. 6, 1985

Technical Bulletin

Model

All

Group

2

Subject: Intake System Cleaning
After Engine Damage

Part Identifier

2446

Number

8603

If mechanical engine defects require engine repair or if rebuilt units are installed, it is very important to check the complete intake system for foreign objects, remove them and clean the system.

PORSCHE CARS NORTH AMERICA, INC.



SERVICE

Page 1 of 1
September 19, 1986

Technical Bulletin

Model
911 Carrera

Group
2

Subject: Troubleshooting Temperature
Sensor NTC II

Part Identifier
2462

Number
8709

Engine performance problems such as erratic running or stalling may appear to be caused by a malfunctioning temperature sensor NTC II.

In most cases, however, the temperature sensor is not defective. Excessive resistance between the engine and temperature sensor from corrosion or a loose sensor will normally be the cause.

To correct this condition, unscrew the temperature sensor slightly and then retorqued to 15 Nm (11 ft. lbs.) using special tool 9222.

For checking temperature sensor NTC II, refer to 911 Carrera DME test plan order number WKD 490 921.

Important Notice

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SERVICE

Page 1 of 1
August 12, 1987

Technical Bulletin

Model
All

Group
2

Subject: Survey of DME, LH/EZF and LH/EZK Control Units

Part Identifier
2470/2825

Number
8806

This Technical Bulletin contains a listing of control unit part numbers and coding plug, adapter plug and oxygen sensor applications. Always consult with the Parts Department for the latest part number information.

4 Cylinder Cars from Model Year 1984

Vehicle Type	Control Unit	Coding Plug	Adapter Plug	Oxygen Sensor
944 Model Year 1984 and 1985 (85/1)	944 618 111 01			944 606 133 00 49 States 944 606 135 00 California
944 Model Year 1985 (85/2)	944 618 121 02 Standard until about 5/85 944 618 121 04 Standard from about 6/85 and Replacement Part for 944 618 121 02			944 606 135 01
944 Model Year 1986	944 618 121 04	944 612 525 01 Calif. only		944 606 135 01
944 Turbo Model Year 1986	951 618 121 02	944 612 525 01 Calif. only		951 606 135 00
924S Model Year 1987	944 618 121 04	944 612 525 01 Calif. only		944 606 135 01
944 Model Year 1987	944 618 121 04	944 612 525 01 Calif. only		944 606 135 01
944 Turbo Model Year 1987	951 618 121 02	944 612 525 01 Calif. only		951 606 135 00
944S Model Year 1987	944 618 124 00 Replacement Part: 944 618 124 01		928 607 421 00 Calif. only	944 606 135 01



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September 23, 1988

Technical Bulletin

Model

All

Group

2

Subject: Survey of DME, LH/EZF and LH/EZK Control Units

Part Identifier

2470/2825

Number

8806

911 Carrera from Model Year 1984

Vehicle Type	Control Unit	Plug Terminal 10	Oxygen Sensor
911 Carrera Model Year 1984 and 1985	911 618 111 01 Standard equipment 911 618 111 05 Replacement Part		930 606 124 00
911 Carrera Model Year 1986	911 618 111 05		930 606 124 00
911 Carrera Model Year 1987	911 618 111 14 Standard equipment up to 10/86 911 618 111 20 Standard equipment from 11/86 and replacement part for 911 618 111 14	Connected Calif. only	930 606 124 00
911 Carrera Model Year 1988	911 618 111 20	Connected Calif. only	930 606 124 00
911 Carrera Club Sport Model Year 1988	911 618 111 16		930 606 124 00

NOTE: Part numbers apply for 49 States and California cars.

PORSCHER CARRE NORTH AMERICA INC.



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September 23, 1988

Technical Bulletin

Model

All

Group

2

Subject: Survey of DME, LH/EZF and LH/EZK Control Units

Part Identifier

2470/2825

Number

8806

928S and 928 S4 from Model Year 1985

Vehicle Type	LH Control Unit	EZF/EZK Control Unit	Coding Element	Oxygen Sensor
928S Model Year 1985	928 618 123 03	928 618 124 05		928 606 128 00
928S Model Year 1986	928 618 123 04	928 618 124 05		928 606 128 00
928 S4 Model Year 1987	928 618 123 10	928 618 124 11 ¹	928 607 433 00 Manual Trans. 928 607 434 00 Auto. Trans.	928 606 128 01
928 S4 Model Year 1988	928 618 123 11	928 618 124 15 ²	928 607 433 00 Manual Trans. 928 607 434 00 Auto. Trans.	928 606 128 01

- 1 EZK control unit part number 928 618 124 10 was installed in 1987 Model at beginning of production for a short time.
Use part number 928 618 124 11 for replacements.
- 2 EZK control unit part number 928 618 124 12 was installed in the first half of 1988 model year.
Use part number 928 618 124 15 for replacements.

NOTE: Part numbers apply for 49 States and California cars.

Important Notice

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SERVICE

Page 4 of 4
September 23, 1988

Technical Bulletin

Model
911C

Group
2

Subject: DME Wiring Diagram Update

Part Identifier
2470

Number
9002

ATTENTION: Service Manager/Service Technician

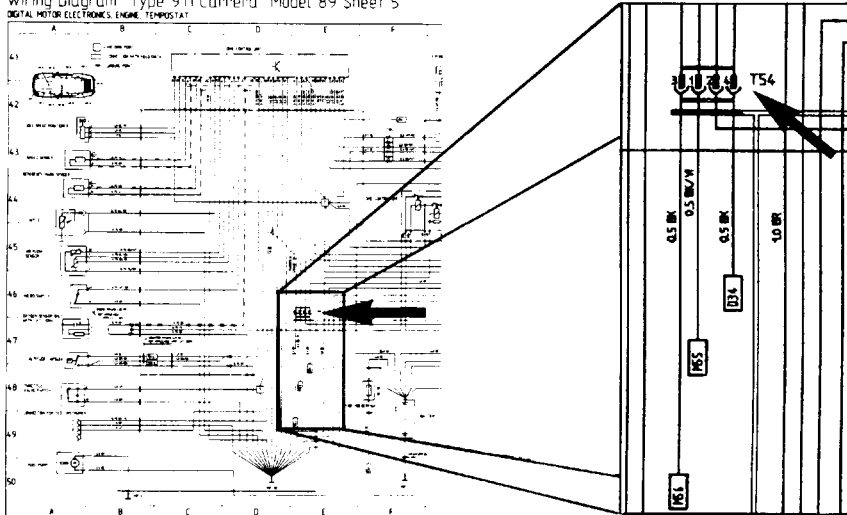
Models Affected: *911 Carrera*

Concern: Repair Manual Wiring Diagrams, Model 1988, Sheet 5, Field E46
 Repair Manual Wiring Diagrams, Model 1989, Sheet 5, Field E46
 Wiring Diagram Book 1988 PNA 000 061, Sheet 6, Field E46
 Wiring Diagram Book 1989 PNA 000 066, Sheet 5, Field E46

The wire designation on the female side of wiring plug connection T54, terminal 1 and 2, is reversed on the wiring diagrams.

Correction: Terminal 1, female connector, should connect to terminal 2 of male connector.
 Terminal 2, female connector, should connect to terminal 1 of male connector.
 Please update your wiring diagrams.

Wiring Diagram Type 911 Carrera Model 89 Sheet 5



PORSCHE CARS NORTH AMERICA, INC.

Dealership _____	Service manager _____	Shop foreman _____	Service technician _____	_____	_____
Distribution _____	Asst. manager _____	Warranty admin. _____	Service technician _____	_____	_____
Routing _____					

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SERVICE

Page 1 of 1
February 16, 1990

Technical Bulletin

Model
All

Group
2

Subject: DME Aftermarket Microchips

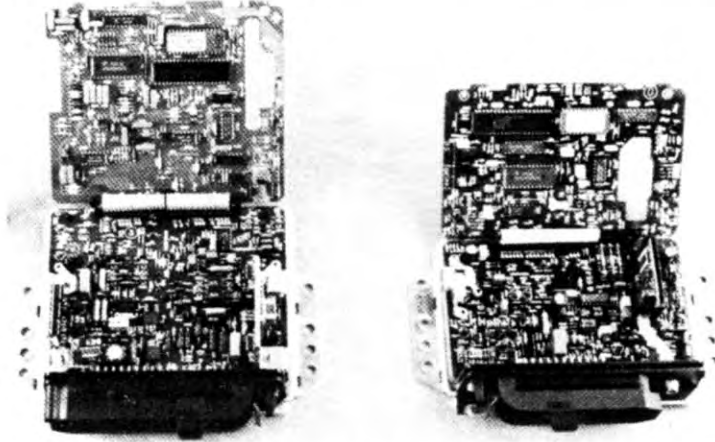
Part Identifier
2470

Number
9008

ATTENTION: Service Manager/Service Technician

Models Affected: All

Concern: Use of non-approved microchips in fuel and/or ignition control units (DME, LH, EZK, KLR units).



General Information: The microchips Porsche uses for fuel and ignition control are optimized for performance, engine longevity, fuel economy and driveability while meeting emission requirements.

Caution: Aftermarket microchips are not recommended by Porsche. They have not been tested or approved and may result in driveability problems (poor cold starting, hesitation, surge, etc.), excessive emissions and possible engine damage.

Should these or similar problems be found in vehicles using aftermarket microchips, warranty assistance will be denied.

Note: Any dealer installing these non-approved microchips may be liable for fines levied by the Federal Government in the amount of \$10,000 per vehicle.

PORSCHE CARS NORTH AMERICA, INC.

Dealership _____	Service manager _____	Shop foreman _____	Service technician _____	_____	_____	_____	_____
Distribution _____	Asst. manager _____	Warranty admin. _____	Service technician _____	_____	_____	_____	_____
Routing _____							

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Porsche Technical Publications



SERVICE

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October 9, 1990

Technical Bulletin

Model
911, 924

Group
25

**Subject: Bleed CIS System if Fuel Lines
are Opened**

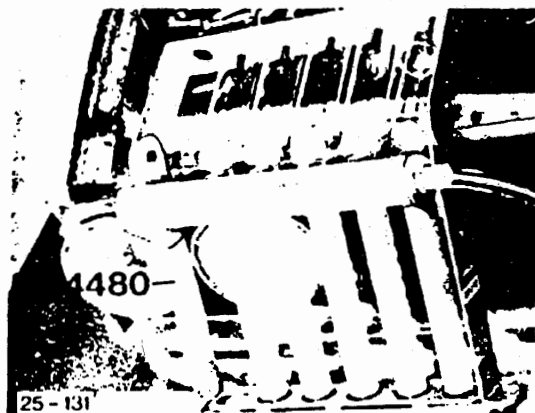
Part Identifier
N/A

Number
77-02

Bleeding of system is necessary if, during CIS repairs, any fuel lines are loosened or removed.

CIS bleeding operation

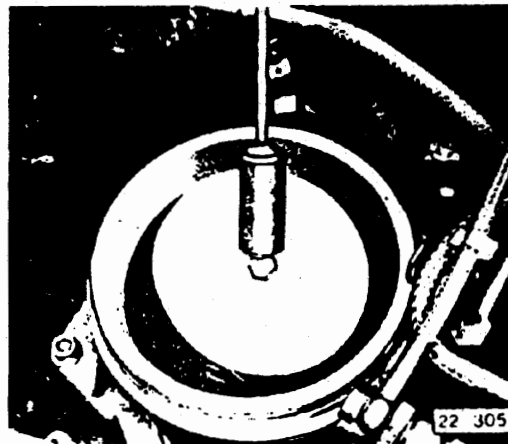
- remove all injectors at engine



- place injectors in Tester US4480. Typical set-up on bumper is shown
- remove rubber elbow from top of air flow sensor



- remove fuel pump relay at fuse/relay panel and install jumper switch adapter US4480/3
- switch fuel pump on with switch on US4480/3



- move airflow sensor plate up and down over its full travel for approximately 2 minutes
- switch off fuel pump
- reinstall rubber elbow over sensor plate
- reinstall fuel pump relay on fuse/relay panel
- re-insert injectors in engine (use new rubber seals, Part No. 063 133 557)
- pour accumulated fuel in tubes of US4480 back into fuel tank
- start engine and check for proper operation

SERVICE

Page 1 of 1
October 24, 1977

Technical Bulletin

Model
911, 924,
924 Turbo

Group
25

Subject: Oxygen Sensor System Quick Check

Part Identifier
2510

Number
80-02

When diagnosing poor engine operation, first perform a quick-check of the Oxygen Sensor System

Work procedure:

Preliminary conditions

- engine in proper tune (ignition timing, idle speed etc.)
 - no exhaust leaks
 - engine at operating temperature
- connect Siemens 451 tester as follows:
- "+" lead to battery ⊕ terminal or equivalent
 - "—" lead to ground point
 - "dwell" lead to OXS test connection No. II (marked on the back of plug)
 - "%" button on test instrument pressed in
 - tester set for four cylinders

Note

When making OXS test, do not connect any other test leads. Ignore figures in "RPM" window

SERVICE

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December 10, 1980

Technical Bulletin

Model
911, 924,
924 Turbo

Group
25

Subject: Oxygen Sensor System Quick Check

Part Identifier
2510

Number
80-02

— note readings as follows:

Test Condition	Vehicle	Test Instrument Reading
<ul style="list-style-type: none">oxygen sensor unplugged	all	50 ± 5%
<ul style="list-style-type: none">oxygen sensor lead grounded	all	min. 87% (rich limit)
<ul style="list-style-type: none">1.5 Volts ⊕ on oxygen sensor lead that goes to control unit	all	max. 20% (lean limit)
<ul style="list-style-type: none">“-” lead to ground point (Size D flashlight battery)		
<ul style="list-style-type: none">oxygen sensor warm and connected (engine at idle)	all	reading pulsates about an average of 50 ± 5%
<ul style="list-style-type: none">oxygen sensor warm and connected (engine slightly above idle)	all	reading pulsates faster
<ul style="list-style-type: none">full throttle (Oxygen sensor warm and connected)	911/924 Turbo	65 ± 5%
<ul style="list-style-type: none">engine above 3500 rpm (not full throttle)	924 Turbo	65 ± 5%
<ul style="list-style-type: none">full throttle and engine above 3500 rpm	924	65 ± 5%
<ul style="list-style-type: none">temperature switch* lead grounded and oxygen sensor unplugged	911	85 ± 5%
<ul style="list-style-type: none">temperature switch* grounded and oxygen sensor connected (engine at operating temp.)	911	65 ± 5%

* 911 temperature switch located on right timing-chain cover. Switch is normally closed (grounded) below about 15°C (60°F), open above 15°C (60°F).

SERVICE

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December 10, 1980

Technical Bulletin

Model

All

Group

25

**Subject: Special Adaptor for Checking
Oxygen Sensor**

Part Identifier

2510

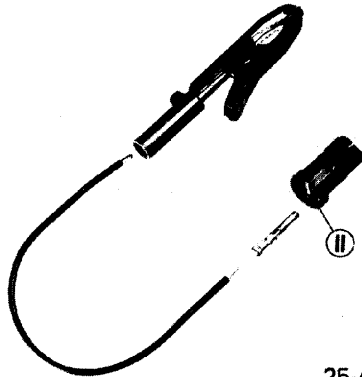
Number

82-05

Oxygen sensor operation checking may require special adaptor to pick up signal at test connector. Such adaptor should be fabricated locally

Note

When checking oxygen sensor system, always check for good ground

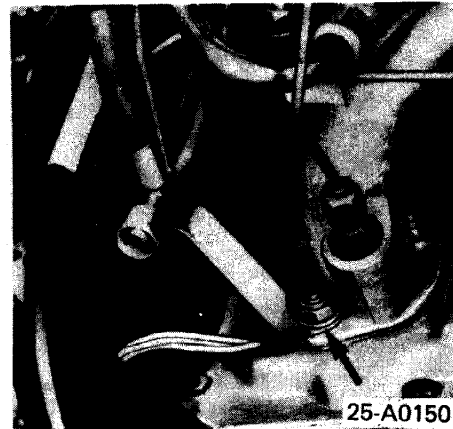


25-A0149

Parts required

- 1 connector housing, 3 pin,
- 1 round connector sleeve,
- 1 insulated clip
- 1 10-in. length of hook-up wire (No. 18 AWG or larger)

- insert wire connector into terminal marked II as shown



25-A0150

Particularly important on the Type 911 SC is the ground connection on the intake manifold at left rear (arrow)

SERVICE

Page 1 of 1
March 16, 1982

Technical Bulletin

Model
911 Turbo

Group
2

Subject: Engine Performance

Part Identifier
2511

Number
8811

Loose or poor ground connections may cause intermittent loss of power or poor engine performance. To check for this condition, inspect MP XII (location A in Figure 1) and correct as follows:

1. Remove intercooler.
2. Remove M8 nuts from locations A, B, and C.
3. Lift coil bracket and use sandpaper to remove the paint from bracket in the area of stud hole C top and bottom and stud hole B topside.
4. Clean ground wire terminal and check terminal crimping.
5. Apply light coat of battery pole grease on all cleaned bracket surfaces.
6. Reinstall coil bracket. Relocate ground wire A onto location B and torque M8 nuts to 20 Nm (14 ft. lbs.).
7. Reinstall intercooler using new O-ring seals.

Time Allowance: 50 T.U.

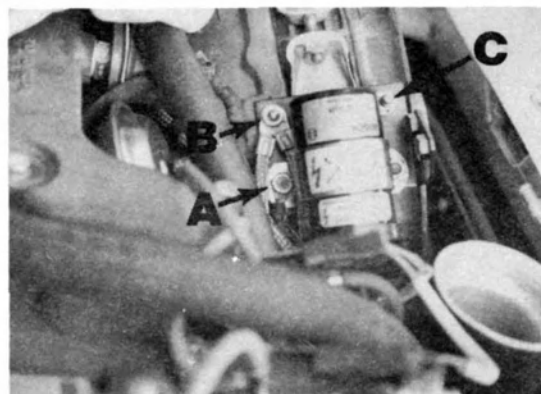


Figure 1

Important Notice

PCNA Technical Bulletins are intended for use by professional technicians, not a "Do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

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SERVICE

Page 1 of 1
December 23, 1988

Technical Bulletin

Model

911

Group

25

Subject: New Type Control Pressure Regulator

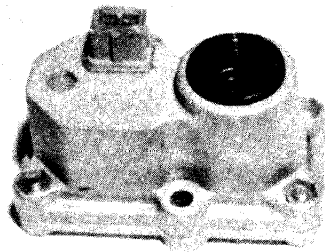
Part Identifier

2546

Number

81-01

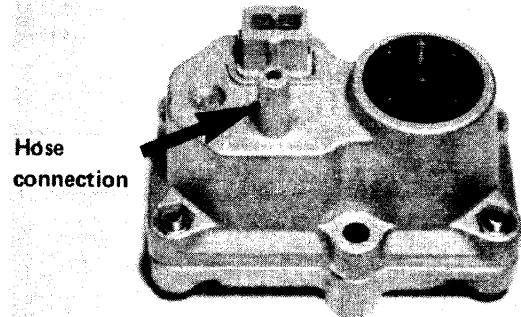
A new-type control-pressure regulator is used on 1980 cars. It is the only type now available as spare part. Old regulator is no longer available. New regulator has vacuum-hose connection on top (arrow) to vent moisture



25-A131

Old

(Part No. 911 606 105 07)



Hose connection

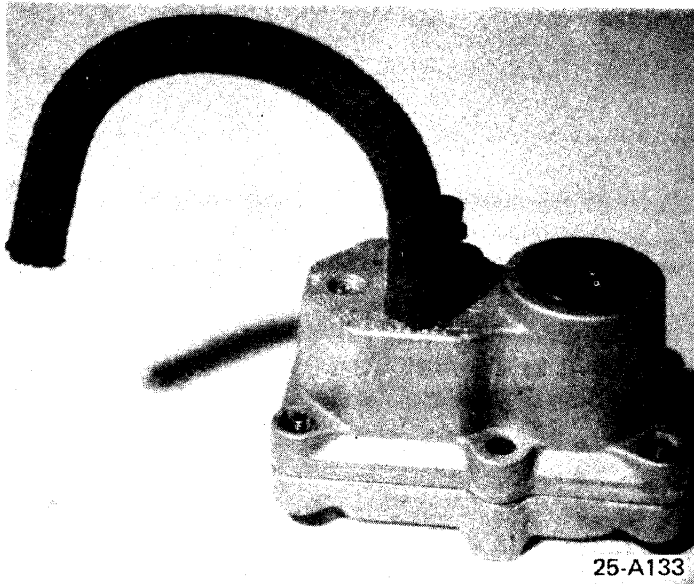
25-A132

New

(Part No. 911 606 105 10)

Note

When installing new-type regulator on cars previously equipped with old type



25-A133

- install 150-mm long hose (Part No. 999 181 709 50) on vacuum connection of new regulator and point open end of hose down as shown

CAUTION

Part Numbers are for reference only. Always check with your Parts Department for latest parts information.

SERVICE

Page 1 of 1
February 17, 1981

Technical Bulletin

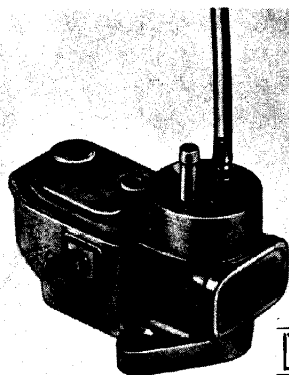
Model
911T, 911,
911S, Carrera

Group
25

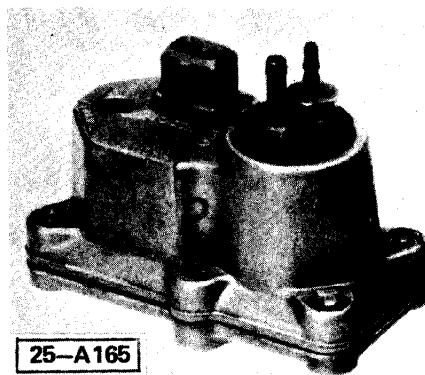
**Subject: Control Pressure Regulator
Superseded**

Part Identifier
2546

Number
83-02

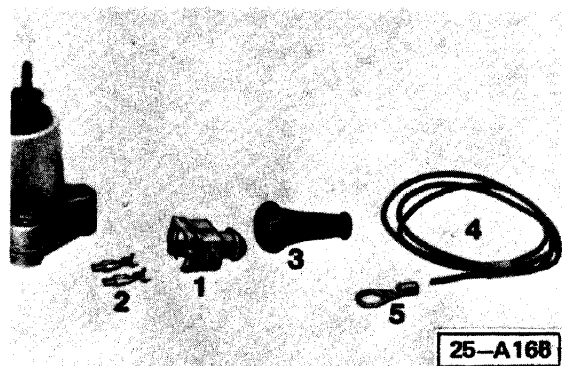


Old Type



New Type

Control pressure regulator, Part No. 911 606 903 00, is the new replacement control regulator for these vehicles. It supersedes Part No. 911 606 103 01



CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information

Parts supplied with the new control pressure regulator:

Item	Description	Part No.	Quantity
1	plug connector	022 906 231A	1
2	connector pin	N 017 182 2	2

Parts required but not supplied:

3	boot	022 906 102	1
4	wire	20 AWG (brown) 350mm (14 in.)	
5	connector	for 20 gauge wire	1
-	screw	N 014 744 1	2

SERVICE

Page 1 of 2
April 15, 1983

Technical Bulletin

Model
911T, 911,
911S, Carrera

Group
25

**Subject: Control Pressure Regulator
Superseded**

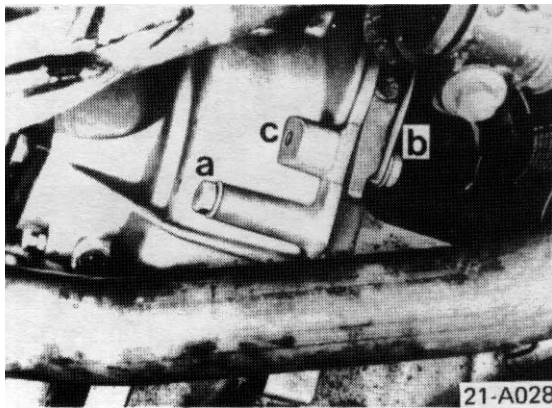
Part Identifier
2546

Number
83-02

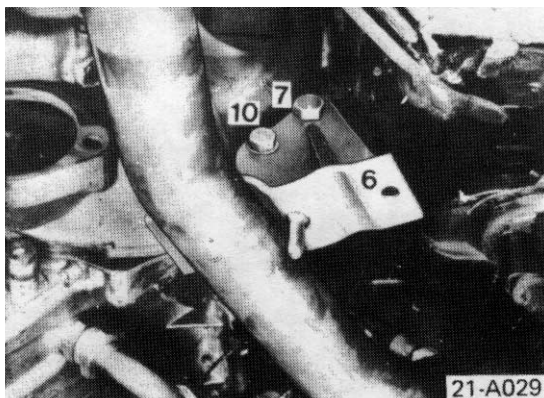
Control pressure regulator, initial installation

WARNING

Fire hazard! Do not smoke or have anything in area that can ignite fuel



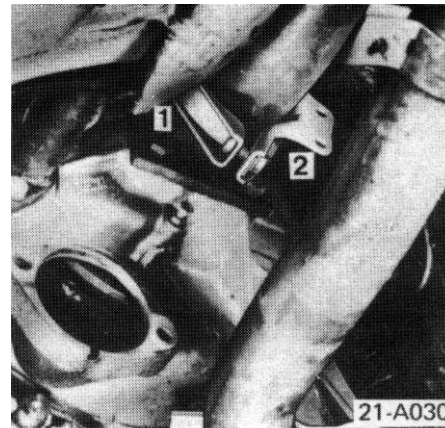
- remove electrical connector and clamped-on fuel line from control pressure regulator
- cut off plastic fuel line from regulator directly above connection (black line in photo) and remove other end from fuel distributor
- remove bolts and remove old regulator from car



- using brass jaw covers, clamp new regulator in vise

- clamp plastic fuel line in tool P 385 with length of line required to fit on adapter protruding beyond tool
- install line so that bend in line is positioned as it was before removing
- remove tool P 385
- install regulator and reconnect fuel line to fuel distributor
- reattach fuel return line onto regulator and tighten hose clamp
- cut connector off wire to regulator

- install additional ground wire. Can be attached underneath a mounting nut for the ignition transformer
- slide boot and plug connector over both wires
- attach pins to wires and slide plug connector down onto pins (polarity not important)



- connect plug to control pressure regulator
- start engine and check for leaks
- recheck idle speed/CO and adjust if necessary

SERVICE

Page 2 of 2
April 15, 1983

Technical Bulletin

Model
911 SC

Group
25

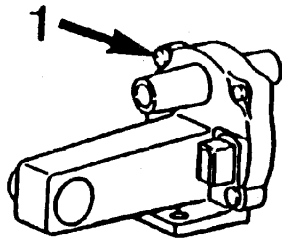
Subject: High Idle After Warm-up

Part Identifier
2550

Number
83-03

To prevent high idle after the warm up cycle at low ambient temperatures, the heating element resistance of the auxiliary air regulator has been reduced from 33 Ohms to 26 Ohms as of May, 1982.

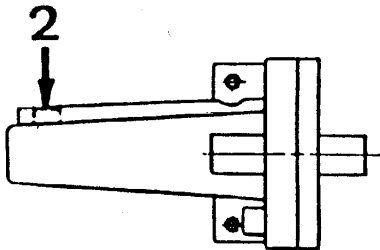
The new version regulator, which has a production date code number of 244 or higher (arrow 1), may be retrofit to earlier vehicles.



25-A170

Should the engine idle remain abnormally high after the warm up period with the new version regulator, the following modification should be performed:

- remove auxiliary air regulator
- carefully drive in end cap (arrow 2) exactly 0.5 mm. The distance of 0.5 mm must not be exceeded.
- reinstall auxiliary air regulator.



25-A171

SERVICE

Page 1 of 1
September 16, 1983

Technical Bulletin

Model
928,
911 Turbo

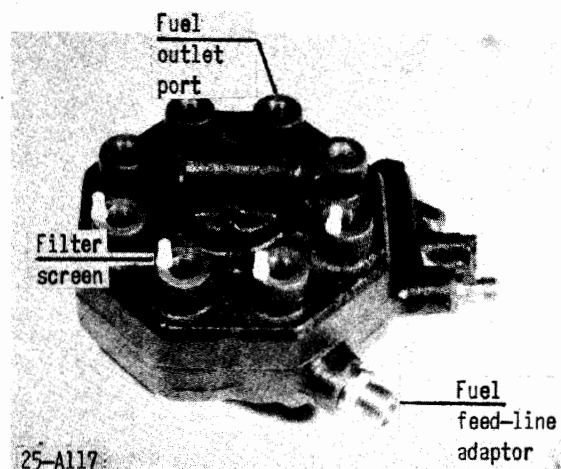
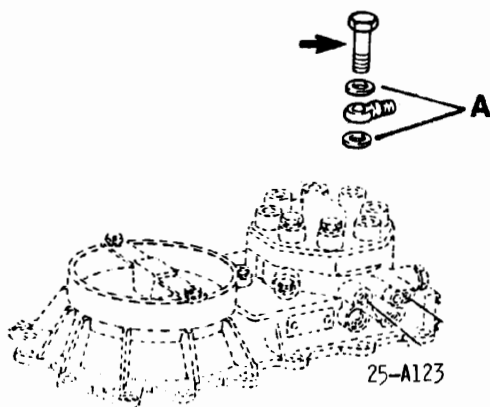
Group
25

Subject: Correcting Engine Misfiring

Part Identifier
2560

Number
80-01

Engine misfiring may result from fuel restriction to one or more injectors



- check for loose fuel filter screens in fuel outlet ports of fuel distributor
- if loose, replace all 8 bolts (arrow) with new bolts, Part # 930 110 547 00

- clean filter screen in fuel feedline adaptor
- run engine and check performance

Note

Do not replace outlet port filter screens or fuel distributor unless replacement of bolts fails to correct misfiring

CAUTION

Always replace gasket A when replacing bolts

SERVICE

Page 1 of 1
January 16, 1980

Technical Bulletin

Model
911, 924,
924 Turbo

Group
25

Subject: CO Adjusting Procedure

Part Identifier
2562

Number
80-03

To prevent "tampering" with CO adjustment, CO adjusting access hole is plugged. To adjust CO proceed as follows:

Porsche 911 SC

CO, adjusting

- remove mixture control unit
- remove fuel distributor from mixture control unit
- center-punch plug in CO adjusting access hole
- drill 2 mm (5/64 in.) hole in center of plug to a depth of approx. 3.5 mm (9/64 in.)

CAUTION

Remove all metal shavings

- remove plug using a suitable screw extractor
- reinstall fuel distributor on mixture control unit
- reinstall mixture control unit
- adjust CO
- install new break-away screw (Part No. 930 110 647 00) in CO adjusting access hole and tighten until screw breaks, leaving hole plugged

CAUTION

Do not let vehicle leave dealership without installing new plug. Failure to install it is considered by the Federal Environmental Protection Agency to be "tampering"

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information

Porsche 924 and 924 Turbo

CO, adjusting

- remove mixture control unit
- using 2 mm (5/64 in.) drift from lower side of mixture control unit, drive out ball which is used to plug CO adjusting access hole
- reinstall mixture control unit
- check and adjust CO to specifications
- drive "anti-tampering" ball (Part No. 900 108 041 00) into CO adjusting access hole using drift until it "bottoms" in hole

CAUTION

Do not let vehicle leave dealership without installing new plug. Failure to install it is considered by the Federal Environmental Protection Agency to be "tampering"

SERVICE

Page 1 of 1
December 22, 1980

Technical Bulletin

Model
911 Turbo

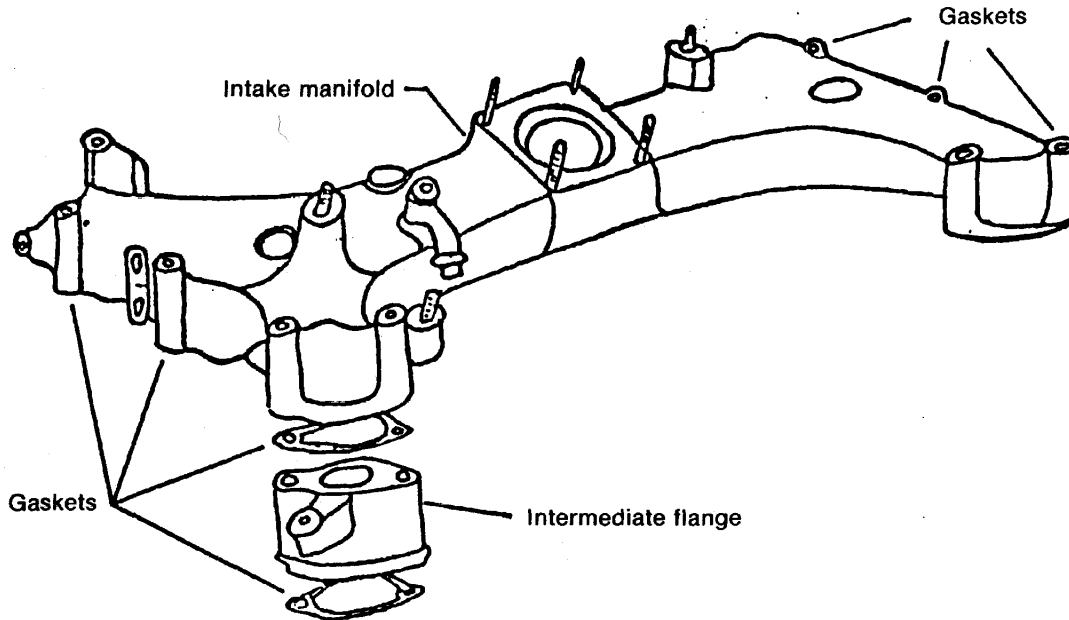
Group
25

Subject: Part - Load Surging

Part Identifier
2587

Number
77-03

Engine surging at part throttle under load (similar to ignition misfiring) can be caused by a leaking intake manifold gasket.



— replace gasket or gaskets as required (see illustration)

Part required:

Gasket Part Number 930 110 197 01

Note:

There are 12 identical gaskets - 6 between intake manifold and intermediate flanges; 6 between intermediate flanges and heads. Any of these, if leaking, could cause erratic engine performance.

SERVICE

Technical Bulletin

Model
911 Turbo

Group
2

Subject: Fuel Return Pipe Clamp
On Additional Air Pump

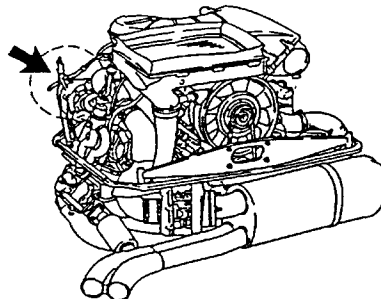
Part Identifier
2665

Number
8707

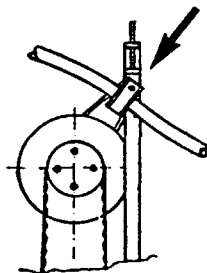
When working on the additional air injection pump, the position of the fuel return pipe should be checked. (Sketch 1)

The clamp for the pipe guide must face toward the center of the pump pulley. (Sketch 2)

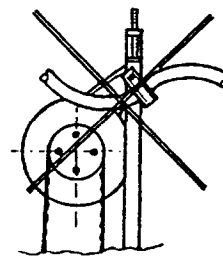
Otherwise, there could be contact with the pump pulley. (Sketch 3)



Sketch 1



Sketch 2



Sketch 3

Important Notice

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SERVICE

Page 1 of 1
June 3, 1987

Technical Bulletin	Model All	Group 26
Subject: Catalytic Converter Checking Procedure	Part Identifier 2673	Number 82-01

Determining need for converter replacement

If exhaust "rattles":

- check that flanges of exhaust system are tight and heat shields are correctly installed
 - if rattle was not due to loose exhaust system or loose heat shields, converter may have failed

If exhaust system is tight:

- remove catalytic converter
- look through flange opening
 - if ceramic insert appears broken or melted converter must be replaced
 - if ceramic insert appears OK, check whether ceramic insert is firmly seated in converter housing. Check as follows:

While holding converter vertically, firmly tap flange onto solid wood from a distance of 8 in. (20 cm).

Turn converter over and firmly tap other flange as before.

- if no knocking sound, converter is okay.
- if no movement of ceramic insert, converter is okay
- if light knocking sound is heard inside converter, ceramic insert is loose and converter must be replaced

	SERVICE	Page 1 of 1 September 24, 1982
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Technical Bulletin	Model 911SC	Group 26
	Part Identifier 2686	Number 83-02

Subject: Modified CO Pickup

The externally threaded CO pickup point which was previously closed off with a cap nut has been changed as of:

Production Date: July 28, 1983

Engine Number: 64D5294 (Type 930/16)

The new externally threaded version is closed off with a hex bolt and sealing ring.

Torque specification: 12 Nm (8 ft. lbs.)

New style convertor Part Number: 930 113 230 09

CAUTION

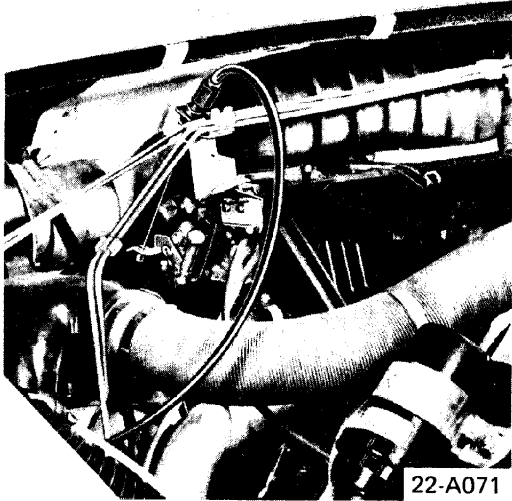
Part numbers are for reference only. Always check with your Parts Department for latest parts information

SERVICE

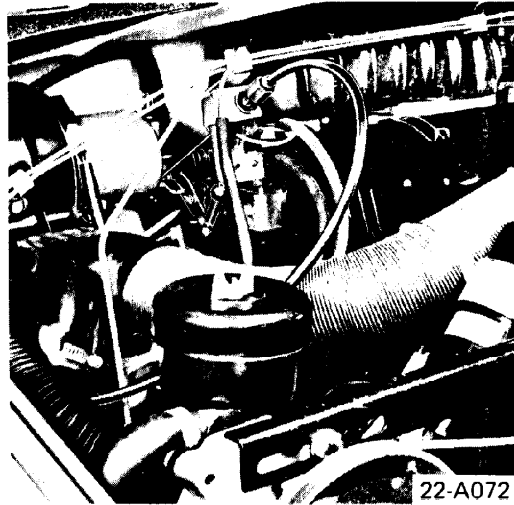
Page 1 of 1
September 19, 1983

Technical Bulletin	Model 911	Group 27
	Subject: Cruise Control Has Modified Cable Bracket	Part Identifier N/A

Cruise-control cable bracket has been modified in production (beginning May, 1981).



Previous version



New version

SERVICE

Page 1 of 2
January 12, 1982

Technical Bulletin

Model

911

Group

27

Subject: Cruise Control Has Modified Cable Bracket

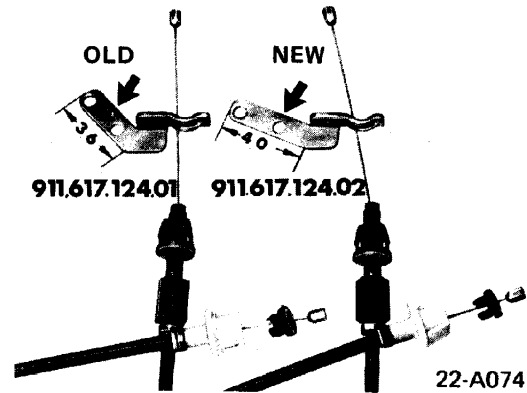
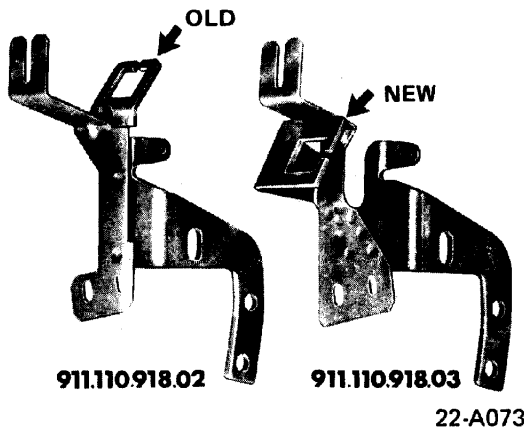
Part Identifier

N/A

Number

82-01

Parts comparison



Part	Previous Part No.	New Part No.
Bracket	911 110 918 02	911 110 918 03
Cable	911 617 124 01	911 617 124 02
Throttle housing with bracket	930 110 248 09	930 110 248 15

Bracket/Cable, replacing

Both versions of bracket and cable remain available, **but parts must not be mixed**. When stocks of previous-type housing have been used up, only the new type will be supplied.

When a new bracket or a throttle housing with a new bracket are installed for the first time, the new-type cable must also be installed. (The cables can only be identified by the bracket on the cable). If a new cable is not available, the previous bracket can be installed on the new type throttle housing.

Installing and adjusting instructions for the cruise-control cable will not be affected by the new parts. This applies also to the microswitch.

SERVICE

Page 2 of 2
January 12, 1982

Technical Bulletin

Model
All

Group
27

Subject: Maintenance-Free Battery: Check State of Charge Before Installing

Part Identifier
2706

Number
79-01

Maintenance-free batteries in Dealer stock should not be installed in vehicles unless at least $\frac{3}{4}$ charged. Since battery is sealed, hydrometer test cannot be made. Consequently, open-circuit voltage test must be made using accurate-reading voltmeter (digital type or vane type having 1% or better accuracy)

State of charge, determining

- read voltage with no connection of consumers to battery. Charge is as given in table:

Open-circuit voltage	State of charge (%)
11.7 or less	0
12.0	25
12.2	50
12.4	75
12.6	100

- if charge is less than 75%, recharge battery to 12.6 V (open circuit)
- load-test battery at three times (3x) ampere-hour rating of battery for 15 seconds
 - voltage must not drop below 9.6
 - If above 9.6 V, install battery
 - If below 9.6 V, discard battery

CAUTION

Quick-charge only in emergency. Use slow charger. When quick-charger is used, maintenance-free battery will not accept as high a rate of charge as other-type batteries making it necessary to charge for up to 6 hours (twice as long as for other batteries). Also, voltmeter reading will not increase as rapidly as when charging other batteries.

SERVICE

Page 1 of 1
May 11, 1979

Technical Bulletin

Model

All

Group

27

Subject: Changing Discharged Standard Batteries

Part Identifier

2706

Number

80-01

Discharged batteries, caused by prolonged storage (vehicle storage or warehouse) must be slow-charged for at least 10 hours before being put into service

Discard battery only if slow charge fails to restore specific gravity of each cell to 1.250 or more after charging.

WARNING

"Boosting" a sulphated battery at a high charging rate can cause an explosion!

SERVICE

Page 1 of 1
June 26, 1980

Technical Bulletin

Model
All Types

Group
2

Subject:
Battery Discharging

Part Identifier
2706

Number
8601

When not in use, a filled and charged battery loses up to 1% of its capacity daily. (Self-discharging) Discharging will be accelerated by the following factors:

- Contamination of battery acid.
- Ambient temperature above 20 degrees C (68 degrees F), the higher the temp., the faster the discharging.
- Excessively dirty battery housing, possible leakage.
- Battery age.

In addition, there are the permanent consumption instruments and accessories such as the clock, lights, alarm.

In extreme cases the battery capacity could drop to its critical limit of approx. 33% in 2 to 3 weeks for a 928S.

Recommendation: If a vehicle will be stored, or not operated for an extended period, the battery should be disconnected or removed and stored in a cool, dry room.

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SERVICE

Page 1 of 1
June 25, 1986

Technical Bulletin

Model

All

Group

2

Subject:

Battery Check Sheet

Part Identifier

2706

Number

8704

PCNA has developed a battery check sheet to assist technicians in checking and charging batteries properly, and therefore making the correct decision if a battery needs replacement or merely recharging.

PCNA Warranty Department will request that battery check sheets be completed when replacing batteries under warranty. A Warranty Bulletin is in process.

The check sheet, of course, can also be used with "Customer Pay" repair orders. The original of the check sheet can be given to the customer and the copy should go into the vehicle file.

An initial supply of battery check sheets is included with this bulletin. Additional sheets are available in packages of 50 through PCNA's Warranty Department.

Important:

For new vehicles in dealer stock, batteries must be slow (trickle) charged every 2-3 weeks to maintain an adequate charge level. A battery that has been allowed to run down in storage is not a warranty matter.

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NORTH
AMERICA
INC.



SERVICE

Page 1 of 1
March 4, 1987



Battery Check Sheet

Dealer #

R O #

Repair Date

VIN

Delivery Date

Mileage

Tested by _____

Verified by PCNA's FSM _____

Part I

1) Clean terminals and cell connections if necessary.
Check housing for cracks or leaks.

No leaks or cracks
Go to Step 2

Leaking or cracked
Replace battery

2) Check electrolyte level

Level O.K.
Go to Step 3

Level low
Fill with distilled water
and fast charge for 15 min.
at 15-25 amps. Go to Step 3

3) Hydrometer Test: Cell reading 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____

All cells are above 1225 (at approx. 70° F)
and variation between cells is less than 50.

Yes
Go to Step 4

No
Go to Part II

4) Load Test

At three times battery capacity
after 10-15 sec.
Voltage Reading: _____ Volts

Above 9.6V
Battery condition
satisfactory

Below 9.6V
Go to Part II

Part II

1) Charge battery for approximately 10 hours or overnight at 4-6 amps.

2) Hydrometer Test: Cell reading 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____

All cell readings are above 1225 (at approx. 70° F)
and variation between cells is less than 50

Yes
Go to Step 3

No
Replace Battery

3) Load Test

At three times Battery capacity
after 10-15 sec.
Voltage Reading: _____ Volts

Above 9.6V
Battery condition
satisfactory

Below 9.6V
Replace Battery

Notes:

- During battery charging, reduce charging rate if cells begin gassing strongly. Slight gassing is normal.
- Temperature of electrolyte may not exceed 125 degrees F during charging.
- For vehicles in stock, batteries must be recharged every 2-3 weeks at a rate of 4-6 amps for approximately 10-12 hours.
- Do not charge or store batteries on cement floors.

Technical Bulletin

Model
911 Carrera Coupe
911 Turbo Coupe

Group
2

Subject: Discharged Battery

Part Identifier
2706

Number
8715

911 Carrera Coupe and 911 Turbo Coupe Only

When diagnosing a battery that discharges, check for current draw. The interior lights ground connection could contact the positive lead. This activates the power window motor relay and discharges the battery in a relatively short time.

From production date end of May 1987 the body ground connection is bent to the side and additionally insulated.

To repair cars prior to the above production date, bend the ground connection to obtain the necessary clearance and insulate it.

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SERVICE

Page 1 of 1
December 4, 1987

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Technical Bulletin

Model

All

Group

2

**Subject: Checking Batteries on
New Cars in Inventory**

Part Identifier

2706

Number

8801

New car pre-delivery inspection includes checking the battery condition. This is especially important if a car had long transportation and/or storage time. New cars in inventory during cold weather are especially prone to battery discharge.

Checking the battery should be done often because a battery that is not recharged periodically can become permanently damaged. Batteries must always be fully charged prior to delivery of the car to the customer.

Check:

- a) external condition (poles, housing and cleanliness)
- b) electrolyte level (correct if necessary)
- c) electrolyte density (hydrometer test)

Recharge battery if the density is less than 1250 at approximately 80 degrees F. electrolyte temperature. Compensate for temperature differences. Refer to chart.

If it is necessary to charge a battery, the following precautions (from the owner's manual) should be observed:

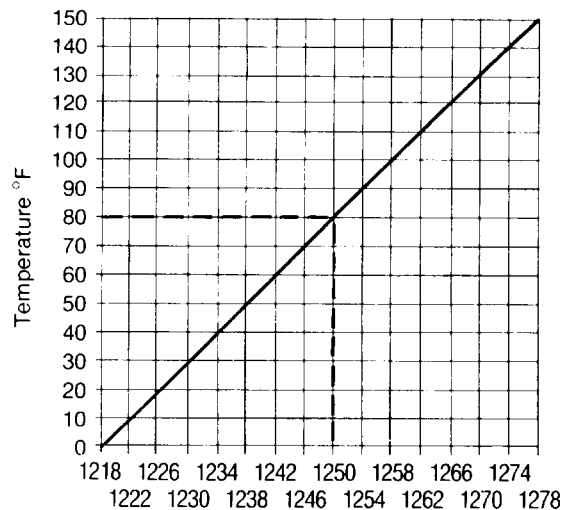
- Remove the battery from the vehicle.
Remove all vent caps.
- Charge the battery in a well-ventilated area away from flame or electrical spark.
- Wash away any spilled electrolyte from the battery and from skin and eyes.
- Never charge a frozen battery.

Do not fast charge batteries.

It is recommended to charge the battery at a rate of 4-6 amp for 10-12 hours or until electrolyte reaches specified density.

In any event, do not exceed the maximum charging current which is 10% of the rated battery capacity (Ah).

- 4 cyl. cars 6.3 Amp
- 6 cyl. cars 8.8 Amp
- 8 cyl. cars 7.2 Amp



Fully charged
electrolyte density

Important Notice

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SERVICE

Page 1 of 1
January 29, 1988

911 Battery

Vehicle Type: **911 / 911 Carrera and 911 Turbo (911 Carrera RS excluded)**

Model Year: **As of 1974**

Concern: Battery

Information: New battery with 70 Ah rating.

From production date 1-22-97, all 911 Carrera (993) and 911 Turbo (993) have the 70Ah battery installed.

The 75Ah battery will continue to be used for 911 and Turbo models from Model Year, 1974-on until the current stock is exhausted.

Parts Information:	Part Number	Description	Comments
	999 611 070 20	Battery 70Ah	Boxster / 993
	999 611 075 20	Battery 75Ah	Until current stock exhausted

Still Available:

Part Number	Description	Comments
999 611 088 20	Battery 88Ah	Large capacity battery
999 611 036 20	Battery 36Ah	Carrera RS version

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Dealership	Service Manager	Shop Foreman	Service Technician	_____	_____	_____	_____
Distribution	Asst. Manager	Warranty Admin.	Service Technician	_____	_____	_____	_____
Routing							

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Technical Bulletin

Model

911

Group

27

Subject: New Alternator has Integrated Regulator

Part Identifier

2722

Number

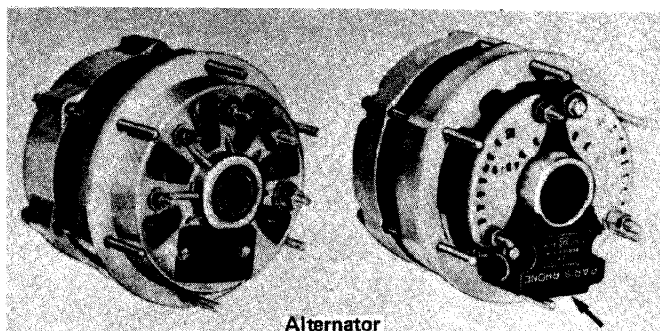
82-02

New-type alternator, Part No. 911 603 120 04, with integrated regulator, is now installed instead of former version, Part No. 911 603 120 02, which used separate regulator. Regulator of new version, Part No. 911 603 913 01 is located on back of alternator and can be replaced separately. Threads on alternator shaft for installation of pulley have also been changed from M 16 x 1 to M 17 x 1.5.

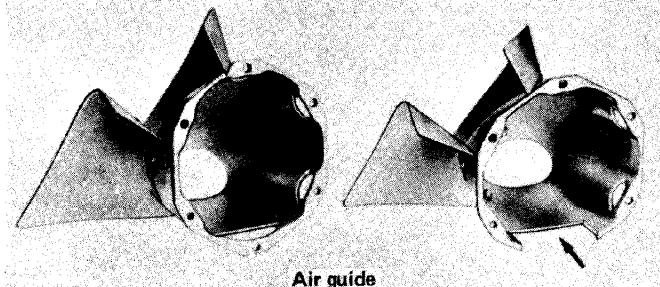
The hub extension (air guide) has been modified to provide an opening for the regulator. Battery charge indicator lamp is changed from 2 W to 4 W, and the DF wire was removed from engine wire harness

Note

These changes were effective with 1982 model production



Alternator



Old Version

New Version

27-A034

SERVICE

Page 1 of 4
February 12, 1982

Technical Bulletin

Model
911

Group
27

Subject: New Alternator has Integrated Regulator

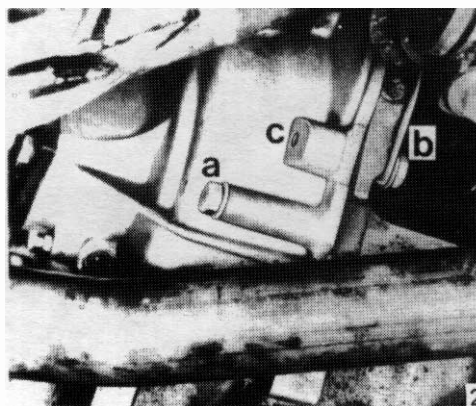
Part Identifier
2722

Number
82-02

CAUTION

Missing ground wire

Ground wire, Part No. 911 612 233 00, was not installed between engine crankcase and alternator on some early 1982 model cars. A poor ground connection can cause radio interference and a discharged battery



If above problems develop, or if alternator has to be removed for repairs, install missing ground wire as shown

Note

Only new-type alternator will be available for replacement after existing stocks of old version are used up

SERVICE

Page 2 of 4
February 12, 1982

Technical Bulletin

Model

911

Group

27

Subject: New Alternator has Integrated Regulator

Part Identifier

2722

Number

82-02

New alternator, installing (cars prior to 1982 models)

Parts required

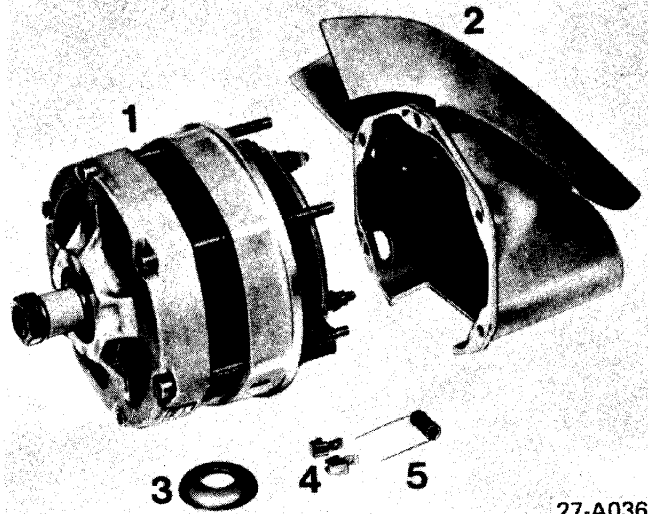
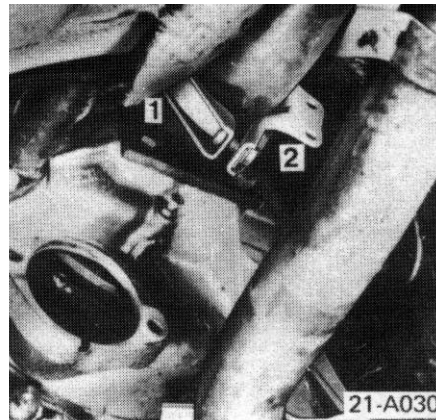


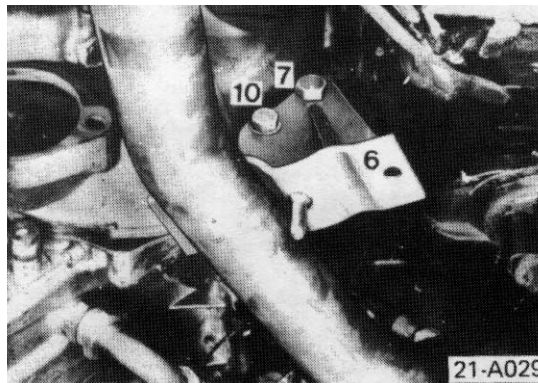
Fig. No.	Description	Part Number
1	Alternator	911 603 120 04
2	Hub extension	911 106 033 05
3	Clamping cap	911 603 428 01
4	Plug distr. (2 req.)	111 971 511
5	Resistor	911 641 981 00

Work procedure:

- disconnect battery
- remove old alternator
- remove old hub extension



- remove alternator regulator
- fasten multiple-pin plug of removed regulator on wire harness
- install new alternator in blower housing



- cut off DF wire (black) at wire branch

SERVICE

Page 3 of 4
February 12, 1982

Technical Bulletin

Model

911

Group

27

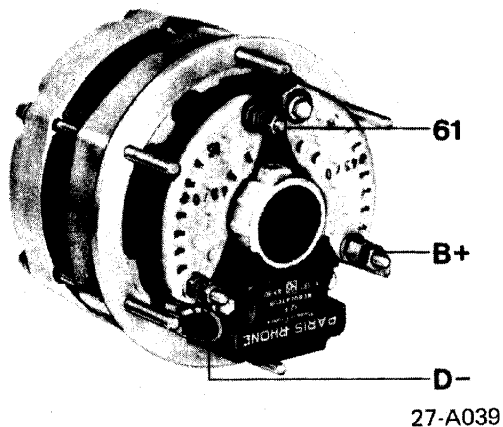
Subject: New Alternator has Integrated Regulator

Part Identifier

2722

Number

82-02



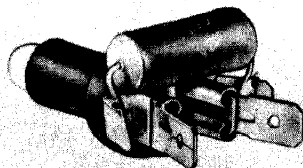
- push new hub extension onto wire harness and connect alternator
 - B+ = red wire
 - D- = brown wires/ground (2 req.)
 - 61 = blue wire
- mount hub extension on alternator and install blower housing
- tighten drive belt as specified
- if applicable, install air conditioner compressor with drive belt
- reconnect battery

Note

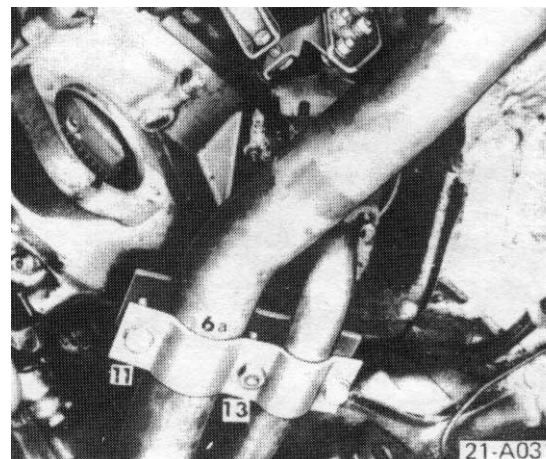
If battery charge indicator lamp does not go out after starting engine, exciter current is too weak because of 2 watt lamp. In this case, supplied resistor (911 641 981 00/91 ohms, 5 W) must be installed parallel to battery charge indicator lamp

Resistor, installing

- remove instrument cluster and take out battery charge indicator lamp socket



- install both piggyback connectors (111 971 511) on bulb socket and solder resistor on outer flat male terminals as shown



- connect bulb socket again and install instrument cluster
- recheck battery charge indicator lamp operation and, after running engine briefly, tightness of drive belt

CAUTION

1982 model cars have a 4 watt indicator lamp; however, the larger socket cannot be inserted in the instrument clusters of older models

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information

SERVICE

Page 4 of 4
February 12, 1982

Technical Bulletin

Model
911, 928

Group
27

Subject: New Voltage Regulator

Part Identifier
2750

Number
83-01

To prevent voltage regulator failure due to high temperatures, a new regulator is being installed as of start of production 1984 model year.

The new regulator is identifiable by its aluminum housing and two cable connections.

New part numbers:

Voltage regulator 911 603 913 01

Angled connector* 911 603 911 00

*supplied with new regulator

The new voltage regulator will fit 1982-1983 vehicles.

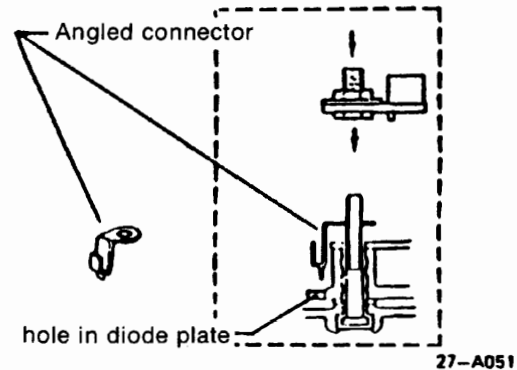


Fig. 2 Angled connector, installation

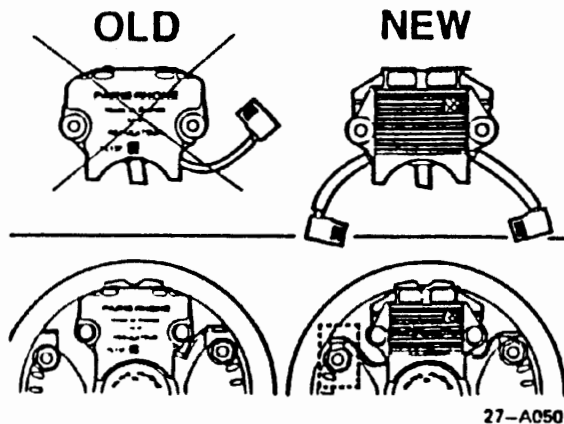


Fig. 1 Old and new voltage regulators

Work sequence:

- remove old voltage regulator
- install angled connector on terminal B+ of alternator making sure that the bottom tip of connector is inserted in hole of diode plate (Figure 2)
- install new voltage regulator
- connect blue wire from voltage regulator to negative terminal (—) of alternator
- connect yellow wire from voltage regulator to new angled connector on B+ terminal of alternator

CAUTION

Before working on any part of electrical system, disconnect battery ground cable.

SERVICE

Page 1 of 1
October 20, 1983

Technical Bulletin

Model
911 Carrera

Group
2

Subject: Starter Motor/Gear Damage

Part Identifier
2760/1361

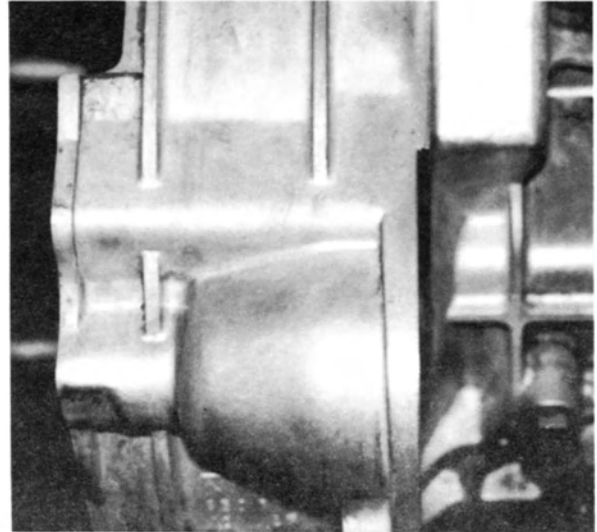
Number
8708

To assure good starter engagement, the engine mounting flange/starter motor mounting flange dimension on the 1987 Model 911 Carrera transmission housing was reduced from 117 - 0.2mm to 115 - 0.2mm (see picture).

From Production Date: September 6, 1986
Transmission number: 74H00889

When replacing starter motors with gear damage, the starter ring gear should also be checked for damage and replaced if necessary. Transmission dimension "a" should also be checked.

If transmission housing measurement "a" is 117 - 0.2mm, starter mounting flange should be machined to dimension 115 - 0.2mm. This machining can be accomplished without disassembling the transmission.



← a = 115 - 0.2 mm →

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SERVICE

Page 1 of 1
June 3, 1987

PORSCHER CARS NORTH AMERICA INC.

Technical Bulletin

Model
911 Carrera
Group
2

Subject:
Poor Starter Engagement

Part Identifier
2760/1361
Number
8902

911 Carrera with G50 Transmission

To improve starter engagement a wider ring gear is installed beginning with Model Year 1989.

Engine number 64 K 01999 to 64 K 02208 and then from engine number 64 K 03112 on.

When repairing cars with starter engagement problems outside of the above engine number ranges, the ring gear should be checked for damage. If the ring gear is damaged, install the new wider ring gear PN 950 116 143 01. Also the starter gear should be checked for damage. If necessary replace starter.

Important

Make sure the ring gear is installed correctly:
Flat surface towards pressure plate
Recessed surface towards bolt head (Fig. 2)
Bolt torque: 24Nm (18 ft. lbs.)

For transmission case dimensions refer to Technical Bulletin Group 2, Number 8708, Book D, page 101. Correct as necessary.

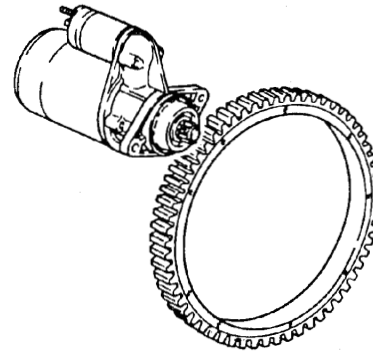


Figure 1

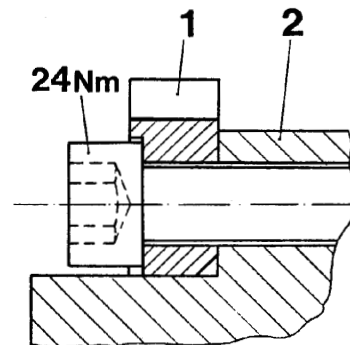


Figure 2

1-Ring Gear

2-Pressure Plate

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SERVICE

Page 1 of 1
February 17, 1989

Technical Bulletin	Model 911 Carrera	Group 2
	Subject: Cruise Control Troubleshooting	Part Identifier 2778

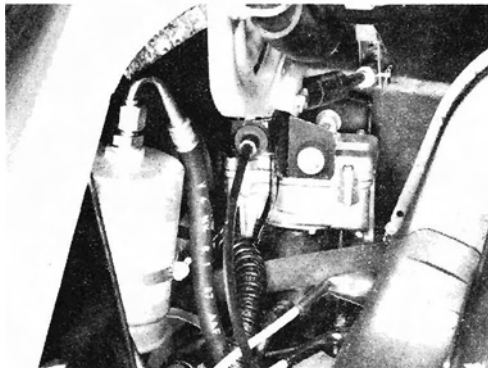
ATTENTION: Service Manager/Service Technician

911 Carrera from Model Year 1988

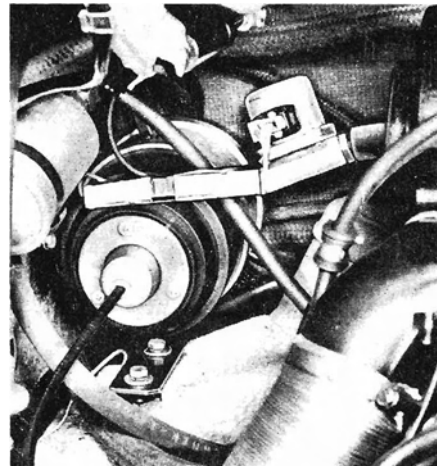
The pneumatic cruise control system was replaced with an electrically controlled version (Tempostat E) as of model year 1988. The cruise control unit of this version is identical with the control unit used in 928 S4 models.

When troubleshooting the cruise control system on 911 Carrera cars up to and including model year 1987 (pneumatic version), use troubleshooting guide from 911 Carrera Workshop Manual, Volume 1, Page 27-3.

For 911 Carreras as of model year 1988 (electrically controlled version), use troubleshooting guide from 928 Workshop Manual, Volume 1-A, Pages 27-21 through 27-23.



**Electrically Controlled
Cruise Control Servo**



**Pneumatic Controlled
Cruise Control Servo**

Thank you.

PCNA Service Department

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 Distribution Asst. manager _____ Warranty admin. _____ Service technician _____
 Routing



Technical Bulletin

Model
911 Carrera

Group
28

Subject: Modified Distributor and Drive Gear Installation

Part Identifier
2830/1371

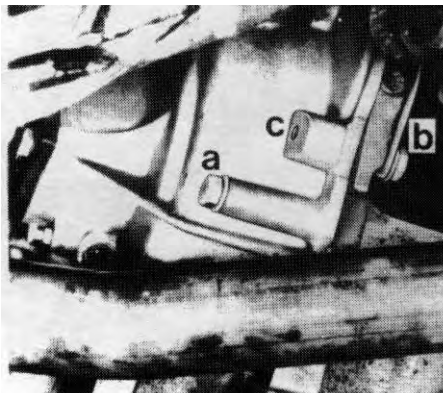
Number
84-03

Ignition distributors in 1984 model 911 Carreras are needed only for high voltage distribution.

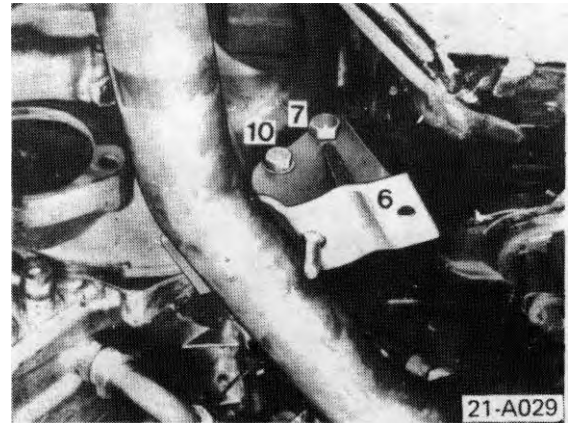
Distributor adjustment is no longer necessary since ignition timing is triggered by the DME control unit.

Only a basic installation adjustment is required so the standard distributor, Part no. 930.602.023.00, does not have a slotted mounting flange.

**Fixed distributor (without slot),
basic installation adjustment**



— turn engine to TDC in cylinder no. 1



— mount distributor so center of rotor electrode points to notch in distributor housing.

With this fixed distributor, the rotor can only be positioned correctly when the distributor drive gear, Part no. 930.102.112.00, has been mounted correctly on the crankshaft.

Note

Installation position of the distributor drive gear was **not** checked on engines up to number 64 E 00127 930/21.

If the drive gear is improperly positioned, the distributor rotor angle will be incorrect (center of rotor electrode will not point to notch in housing with engine at TDC in cylinder no. 1).

Engines with this condition have a distributor equipped with slotted mounting flange. Distributor Part no. 930.602.923.00

SERVICE

Page 1 of 2
April 13, 1984

Technical Bulletin

Model
911 Carrera

Group
28

Subject: Modified Distributor and Drive Gear Installation

Part Identifier
2830/1371

Number
84-03

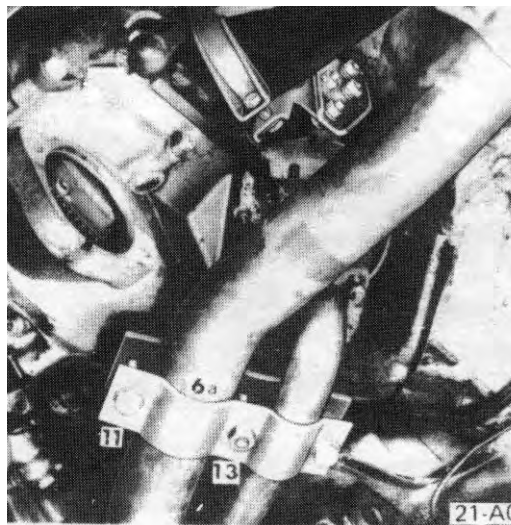
Slotted distributor, basic installation adjustment

- turn engine to TDC in cylinder no. 1
- install distributor so center of rotor electrode is pointed as close as possible to notch in distributor housing.
- center rotor electrode exactly on distributor housing notch by rotating distributor in slot and tighten mounting bolt.

Note

Both style distributors are available as replacement parts

Distributor survey

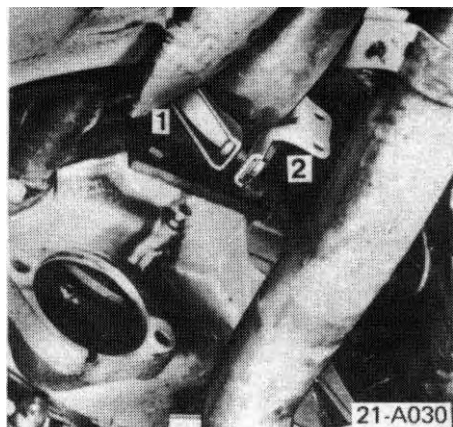


Distributor with slot:

- Part no. 930.602.923.00
- Standard/replacement for engines used since start of production 1984 to engine number 64 E 00127

Distributor drive gear, installing on crankshaft

During engine repairs check that distributor drive gear is correctly positioned on crankshaft.

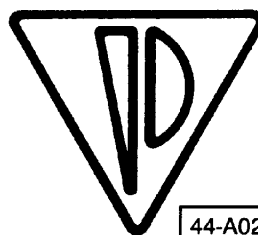


Distributor without slot:

- Part no. 930.602.023.00
- Standard/replacement part for engines beginning with no. 64 E 00128

CAUTION

Incorrect installation of distributor drive gear will cause ignition timing to be off by approx. 13°.



- install gears marked only with Porsche trade emblem so that emblem faces V-belt drive pulley
- install gears marked with both a Porsche trade emblem and an X (scribed with an electric engraver) so that the X faces the V-belt drive pulley. Location of the Porsche emblem on these gears does not matter.

SERVICE

Page 2 of 2
April 13, 1984

Technical Bulletin	Model 911 Carrera	Group 2
	Subject: Spark Plug Connector	Part Identifier 2858

The spark plug connectors have been modified on the 1985 model.

New part # - 911.609.312.00

In cases where the spark plug connectors on 84 models have to be replaced, the modified version should be installed.

PORSCHE NORTH AMERICA - 201



SERVICE

Page 1 of 1
March 1, 1985

Technical Bulletin

Model
All

Group
28

**Subject: Anti-Seize Lubricant for Spark Plug
Threads**

Part Identifier
2870

Number
78-03

When replacing spark plugs, coat plug threads with one of the following lubricants or equivalent:

- "Anti-seize Lubricant"
(Loctite) Cat.No. 767-64
- "Molykote 505 Paste"
(Dow Corning)

Molykote Paste HTP specified in brochure is not generally available

Bulletin Group 28 No. 78-03 dated 3-20-78, replaced by Bulletin Group 2 No. 9102 dated 6-14-91.
SUPERSESSION
Affix this label across page 297 of Technical Bulletin Book A (PNA 000 056)

SERVICE

Technical Bulletin

Model
911SC,
911T (Can.),
928,944

Group
28

Subject: Spark Plug 1983 Application Chart

Part Identifier
2870

Number
83-01

Spark Plug Table — — 1983 Porsche Cars

Vehicle Type	Engine Type	Spark Plug	Spark Gap - mm (in.)
911 SC	930/16	Bosch W 5 D Beru 225/14/3A	0.7 ± 0.1 (0.028 ± 0.004 in.)
911 Turbo (Canada)	930/66	Bosch W 3 DP	0.6 (0.024 in.)
928S	M28/19;20	Bosch WR 8 DS Beru RS 35	0.7 ± 0.1 (0.028 ± 0.004 in.)
944	M44/02;04	Bosch WR 8 DS Champion RN 10 GY	0.7 ± 0.1 (0.028 ± 0.004 in.)

SERVICE

Page 1 of 1
January 11, 1983

Technical Bulletin

Model
912 All, 911 All
911 Turbo

Group
2

Subject:
Spark Plugs

Part Identifier
2870

Number
8508

Below is a listing of all tested and approved spark plugs.

Type/Model Year	Make	Type	Electrode Gap in mm
912 1966-69	Bosch Champion	W6BC L82Y	0.6 - 0.7 0.6 - 0.7
912E 1976	Bosch	WR7DC	0.7 ^{+0.1} ₋₀
911, 911L 1965-68	Bosch Champion	W4DPO N6YC	0.55 0.70
911S 1966-68	Bosch	W3DPO	0.55
911T 1969-71	Bosch	W5DC	0.60
911E 1969-71 911S	Bosch	W3DPO	0.55
911T 1972-73	Bosch	W5DPO	0.55
911E 1972-73 911S	Bosch	W3DPO	0.55
911 1974-75	Bosch	W6DPO	0.55
911S 1974-77	Bosch	W5DPO	0.55
911 1976-79 Turbo	Bosch	W3DPO	0.60

DORSENE NORTH AMERICA INC.



SERVICE

Page 1 of 2
Sept. 27, 1985

Technical Bulletin

Model
912 All, 911 All
911 Turbo

Group
2

Subject:
Spark Plugs

Part Identifier
2870

Number
8508

Type/Model Year	Make	Type	Electrode Gap in mm
911SC 1978-79	Bosch	W8DC	0.7 ^{+0.1} ₋₀
911SC 1980-83	Bosch	W5DC	0.7 ^{+0.1} ₋₀
911 Carrera	Bosch	WR7DC	0.7 ^{+0.1} ₋₀
	Bosch	WR7DP	0.7 ^{+0.1} ₋₀
	Champion	RN7YC	0.7 ^{+0.1} ₋₀
911 Turbo	Bosch	W3DP	0.7 ^{+0.1} ₋₀

NOTE:

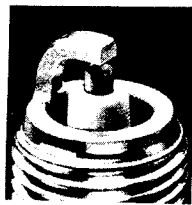
- spark plug tightening torque: 30 Nm / 21.6 ft. lbs.
- it is recommended to lubricate the threads of spark plugs lightly with graphite grease (Molykote paste HTP white), or equivalent, prior to installation. Make sure paste is kept off the electrode and inside of the spark plug!

Bosch Platinum Spark Plugs

Spark plugs designated with the letters "DPO", or W3DPO on the new Bosch spark plug Designation System correspond with the conventional design platinum spark plugs from the old system which were W28OP21.

Spark plugs with the letters "DP" or CP or W5DP or W3CP are platinum spark plugs of the new design with a sintered center electrode. These spark plugs must not be installed when conventional design platinum spark plugs "P21" or "DPO" only are specified.

Bosch Spark Plugs



Super



Platin - old
(DPO)



Platin - new
(DP or CP)



SERVICE

Page 2 of 2
Sept. 27, 1985

Technical Bulletin

Model
All

Group
2

Subject:

Spark Plugs

Part Identifier
2870

Number
8805

Model	Model Year	Make	Type	Electrode Gap in mm
911T	1969-71	Bosch	W5DC	0.7 + 0.1
911E 911S	1969-71	Bosch	W3DPO	0.55
911T	1972-73	Bosch	W5DPO	0.55
911E 911S	1972-73	Bosch	W3DPO	0.55
911	1974-75	Bosch	W6DPO	0.55
911S	1974-77	Bosch	W5DPO	0.55
911 Turbo	1976-79	Bosch	W3DPO	0.60
911SC	1978-79	Bosch	W8DC	0.7 + 0.1
911SC	1980-83	Bosch	W5DC	0.7 + 0.1
911 Carrera	1984-89	Bosch Bosch Champion	WR7DC WR7DP* RN7YC	0.7 + 0.1 0.7 + 0.1 0.7 + 0.1
911 Turbo	1986-89	Bosch	W3DPO	0.7 + 0.1

*Platinum plugs may only be installed at customers request and not during warranty repairs.

Model	Model Year	Make	Type	Electrode Gap in mm
928	1978-79	Bosch	W8DC	0.7 + 0.1
928/ 928S	1980-84	Bosch	WR8DS	0.7 + 0.1
928S	1985-86	Bosch	WR7DC	0.7 + 0.1
928 S4	1987-89	Bosch	WR7DC	0.7 + 0.1

DODGE CHRYSLER - 02



SERVICE

Page 2 of 4
September 23, 1988

Technical Bulletin

Model
All

Group
2

Subject:
Spark Plugs

Part Identifier
2870

Number
8805

- spark plug tightening torque: 30 Nm (21.6 ft. lbs.)
- it is recommended to lubricate the threads of spark plugs lightly with graphite grease (Molykote paste HTP white), or equivalent, prior to installation. Make sure paste is kept off the electrodes and the inside of the spark plug!

Resistor Type Spark Plugs

Resistor spark plugs are used since M.Y. 1985 to eliminate radio interference. These spark plugs may also be used in older models. Resistor spark plugs can be identified by the "R" in the type designation, e.g. WR7DC.

Bosch Platinum Spark Plugs

Spark plugs designated with the letters "DPO", or W3DPO on the new Bosch spark plug Designation System correspond with the conventional design platinum spark plugs from the old system which were W28OP21.

Spark plugs with the letters "DP" or CP or W5DP or W3DP are platinum spark plugs of the new design with a sintered center electrode. These spark plugs must not be installed when conventional design platinum spark plugs "P21" or "DPO" only are specified.

Bosch Spark Plugs



Super



Platin - old
(DPO)



Platin - new
(DP or CP)

DOTSUIE M UAPS NORTH AMERICA - 20.



SERVICE

Page 3 of 4
September 23, 1988

Technical Bulletin

Model

All

Group

2

Subject:

Spark Plugs

Part Identifier

2870

Number

8805

ORDERING INFORMATION

Bosch	to	Porsche
W3CC		999 170 162 90
W3DP		Use W3DPO
W3DPO		999 170 128 90
W4CS		999 170 140 90
W4DPO		999 170 008 90
W5DC		999 170 165 90
W5DPO		999 170 017 90
W6BC		999 170 167 90
W6D		999 170 056 90
W6DPO		999 170 049 90
WR6DS		999 170 175 90
WR7DC		999 170 158 90
WR7DP		999 170 174 90
WR7DS		N 017 811 37
W8D		999 170 134 90
W8DC		999 170 170 90
WR8DS		999 170 062 90

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SERVICE

Page 4 of 4
September 23, 1988

Technical Bulletin

Model
911SC, Carrera,
Turbo

Group
3

Subject:
Clutch Chatter

Part Identifier
N/A

Number
8403

For a complaint of clutch chatter, first check that the clutch cable guide tube is not contacting the accelerator linkage.

If contact is being made, adjust the guide tube to ensure adequate clearance will be maintained.

PORSCHE CARS NORTH AMERICA - INC.



SERVICE

Page 1 of 1
December 17, 1984

Technical Bulletin

Model
911 Carrera

Group
3

Subject: Torque Specifications for Manual
Transmission Type 950, Model 87

Part Identifier
N/A

Number
8608

Location	Description	Torque Nm (ft. lb.)
Transmission Case (Oil Drain)	Plug with magnet	30 (21.5)
Oil Filler	Plug	30 (21.5)
Gearbox and Transmission Case Side and Front Covers Tensioning Plate	Nut	23 (16.5)
Gear Box	Backup light switch	35 (25)
Input Shaft	Collar Nut M30	250 (180)
Input Shaft	Collar Nut M14	140 (101)
Drive Pinion	Collar Nut	250 (180)
Transmission Case	Breather	35 (25)
Selector Fork/ Selector Rod	Bolt	23 (16.5)
Ring Gear	Bolt	165 (119)
Axle Flange	Bolt	44 (32)
Reverse Gear II Front Transmission Cover	Collar Bolt	23 (16.5)
Selecting Guide Tensioning Plate	Bolt	10 (7)
Tensioner, Speedo Transmitter	Bolt	10 (7)
Reversing Lever, Gear Box	Bolt	23 (16.5)
Guide Tube Release Bearing	Screw	10 (7)
Small Cover Differential Housing	Bolt	23 (16.5)

DORRUM UGAP NORTH AMERICA - 20



SERVICE

Page 1 of 1
October 17, 1986

Technical Bulletin

Model

All

Group

3

Subject:

Lubrication of Clutch Parts

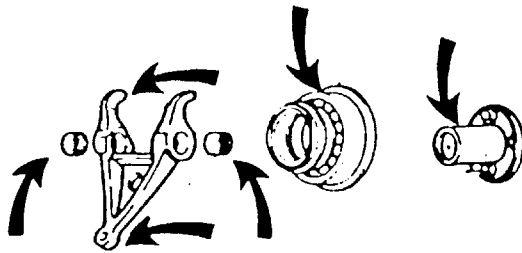
Part Identifier

3001

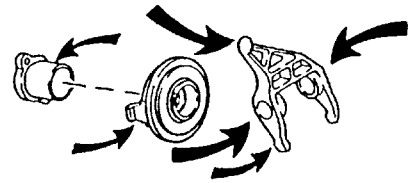
Number

8805

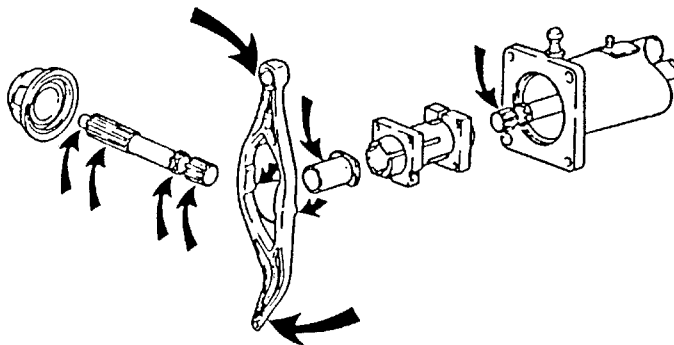
When making repairs in the area of the clutch, always use Olista Longtime 3 EP grease, PN 000 043 024 00 to lubricate the parts in areas indicated by arrows.



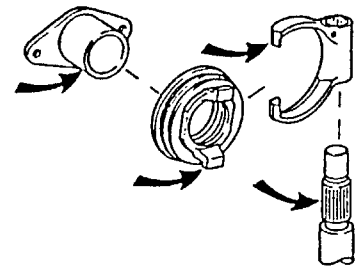
All 4 Cylinder



911



All 8 Cylinder



911 Turbo

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SERVICE

Page 1 of 1
December 30, 1988

Technical Bulletin

Model
911

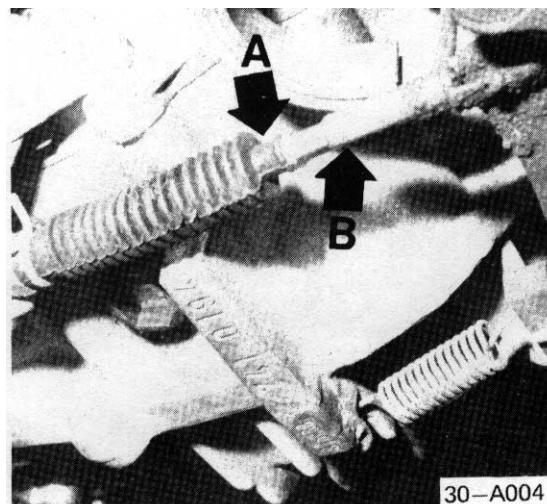
Group
30

Subject: Clutch Cable Binding

Part Identifier
3012

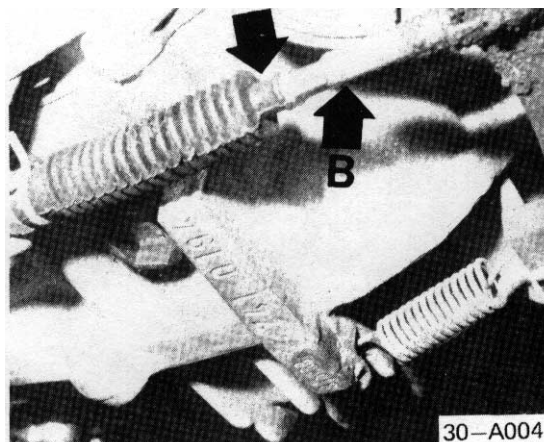
Number
81-03

If rubber sleeve over clutch cable is installed as shown at A (not all the way to clutch release lever), the clutch cable could bind



If binding occurs, check and correct (if necessary) as follows:

- apply grease to exposed section of cable (B) toward release lever



- move rubber sleeve all the way to release lever as shown at (C)

Note

Rubber sleeve was installed as instructed here on vehicles beginning with VIN 91BS120582 (Coupe) and VIN 91BS160565 (Targa)

SERVICE

Page 1 of 1
July 27, 1981

Technical Bulletin

Model
911 Carrera

Group
3

Subject:
Clutch Pedal Clatter

Part Identifier
3030

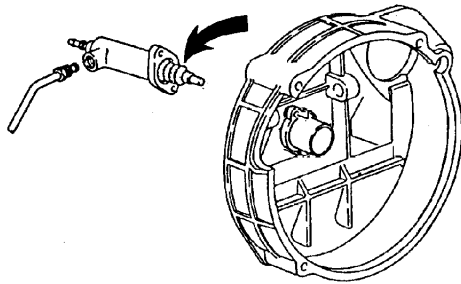
Number
8904

911 Carrera from Model Year 1987 up to Model Year 1989, Production Date February 1989

To repair clutch pedal clatter (noise that goes away when depressing clutch pedal slightly), a modified clutch slave cylinder should be installed.

New slave cylinder PN 950 116 237 10

The new type slave cylinder can be identified by the extended rubber boot (arrow in figure) and a spring installed inside the boot.



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SERVICE

Page 1 of 1
June 16, 1989

P O R S C H E C A R S N O R T H A M E R I C A I N C .

<h1>Technical Bulletin</h1>	Model 911 Carrera	Group 3
	Part Identifier 3040	Number 8902

Subject: Modified Clutch Release Lever Shaft Bearings

ATTENTION: Service Manager/Service Technician

The bearings on the clutch release lever were changed from needle bearings to friction bearings. The release lever shaft bearings in the transmission case were changed from friction bearings to needle bearings.

From production date: April 6, 1989.

Transmission Numbers:

- G5001 1K 03381
- G5001 2K 01159 — Limited Slip Differential

G50 Transmissions, model years 1987 through 1989, prior to the above transmission numbers should always be converted to the new version when performing transmission or clutch repairs. The old version parts are no longer available.

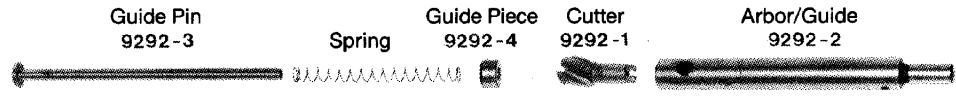
Required Tools and Supplies

- Electric Drill
- Special Tool kit #9292, Porsche PN 000 721 929 20 (see Special Tool Bulletin number 8915, dated 12-12-89 for ordering instructions)
- Oil can with ATF
- Olista Longtime 3 EP, Porsche PN 000 043 024 00
- 1 bolt 6 mm approx. 80 mm long and 6 mm nut

Conversion Instructions

1. Engine and transmission must be removed and transmission detached from engine.
2. Remove old release lever shaft and release lever. Discard old parts.
3. Both release lever shaft bearing support bores in the transmission housing must be cut to fit the new needle bearings.
 - Assemble cutter (9292-1), arbor/guide (9292-2) guide piece (9292-4), spring and guide pin (9292-3) as shown in Figure 1.
 - Lubricate cutter and release lever shaft support bores in transmission housing with ATF.
 - Guide preassembled cutting tool into release lever shaft support bores (Figure 2).

Note: The spring should be preloaded. If necessary, install spacer (10 mm nut) between guide pin and spring. Please make sure 9292-4 is properly positioned in the housing.



9292
Figure 1

Technical Bulletin

Model
911 Carrera

Group
3

Subject: Modified Clutch Release Lever
Shaft Bearings

Part Identifier
3040

Number
8902

— Use slow speed (approx. 500 rpm) electric drill to cut bearing support A in Figure 2.

4. Cut bearing support B in Figure 3 with guide pin (9292-3), cutter (9292-1) and arbor/guide (9292-2) until cutter bottoms out (noticeable resistance).

Note: Make sure electric drill chuck does not contact transmission housing.

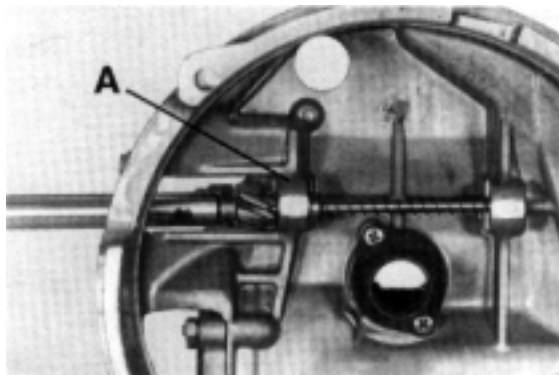


Figure 2

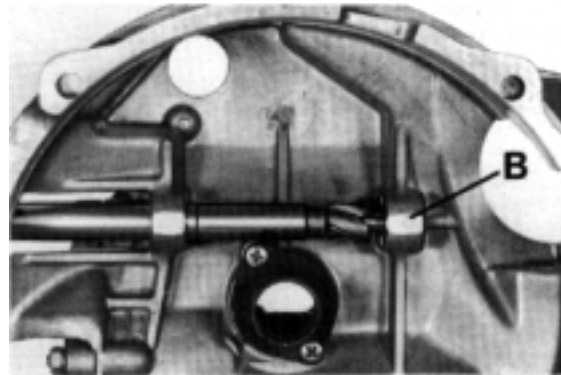


Figure 3

5. Deburr bearing supports and clean bell housing.
6. Guide the closed bearing (8 in Figure 4) on the release lever shaft and tap bearing into support B. Remove release lever shaft and lubricate bearing with Olista Longtime 3 EP.
7. Lubricate release lever bushings with Olista Longtime 3 EP. Insert new release lever in release bearing and use a piece of adhesive tape to hold release lever in installation position.
8. Attach transmission to engine.
9. Install both seals (6 in Figure 4) on release lever shaft. **Check installed direction of seals** (Figure 4). Lubricate bearing (4 in Figure 4) with Olista Longtime 3 EP and install on release lever shaft.
10. Install 6 mm nut approximately 15 mm on bolt 6x80 mm. Install bolt in threaded part of release lever shaft. Insert release lever shaft in release fork from outside. Light tapping on bolt during installation is permissible.

Remove 6 mm bolt and nut. Remove adhesive tape.

11. Fill cover (3 in Figure 4) with Olista Longtime 3 EP and install in bearing support A. Install holder and bolt (1 and 2 in Figure 4).

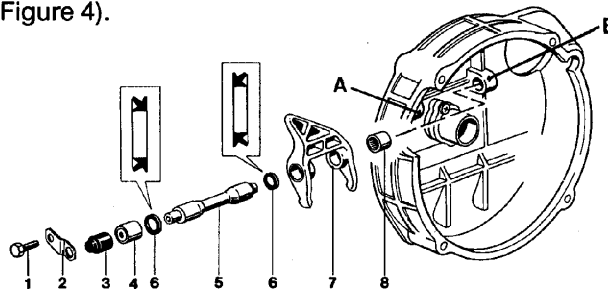


Figure 4



Technical Bulletin

Model
911 Carrera

Group
3

Subject: Modified Clutch Release Lever Shaft Bearings

Part Identifier
3040

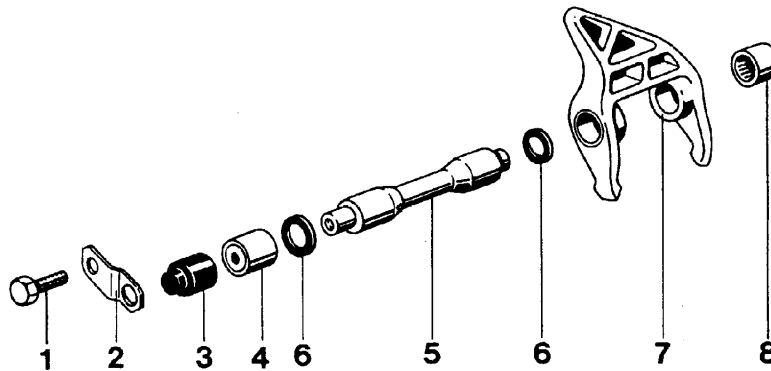
Number
8902

Labor operation for converting bearings on release lever shaft:

30 40 55 5A — 60 time units

Parts Information:

Item	Description	Part Number
1	Bolt	N 010 287 1
2	Holder	950 116 713 02
3	Cover	950 116 725 00
4	Needle bearing (open)	999 201 339 00
5	Release lever shaft	950 116 710 04
6	Seal (two needed)	999 113 418 40
7	Release lever	950 116 086 05
8	Needle bearing (closed)	999 201 365 00



Thank you.

PCNA Service Department

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Publications



SERVICE

Page 3 of 3
December 12, 1989

PORSCHE CARS NORTH AMERICA, INC.

Technical Bulletin

Model
911 Carrera

Group
3

Subject: Scraping Noise
When Operating Clutch

Part Identifier
3041

Number
8707

1987 Model (950 Transmission)

Scraping noise when operating the clutch or vibration in the clutch pedal could be caused by the release fork back side making contact with the release bearing.

The back of the release fork is machined from production date: January 21, 1987.

Transmission number: 74 H 048 34

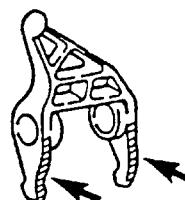
When repairing cars prior to the above transmission number for scraping noise or pedal vibration when operating clutch pedal, check clutch pedal travel before removing the release fork.

Pedal travel up to the stop must be 140mm to 150mm.

Pedal travel must be measured horizontally (e.g. with a measuring tape from the driver's seat).

The pedal stop can be adjusted on the floor plate.

If there is no improvement after adjustment, replace release fork.



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SERVICE

Page 1 of 1
September 4, 1987

02-AC-DEMA-1-120-00000000

Technical Bulletin

Model
All

Group
3

Subject: Determining Rubber Clutch Hub Damage

Part Identifier
3056

Number
8811

The purpose of this bulletin is to aid you in diagnosing causes of rubber hub deterioration of clutches. The examples reflect conditions which are a result of excessive slippage. This may be caused by a mechanical problem or abusive treatment of the clutch.

Defects in material or workmanship are warrantable, whereas abuse is not.

Generally, molten rubber of the hub and/or blistering and heat cracking will be accompanied by other indications of abuse such as distinct signs of overheating on the clutch lining and heat spots and/or discoloration of flywheel, pressure plate, or both. Examples with descriptions are shown in the pictures that follow.

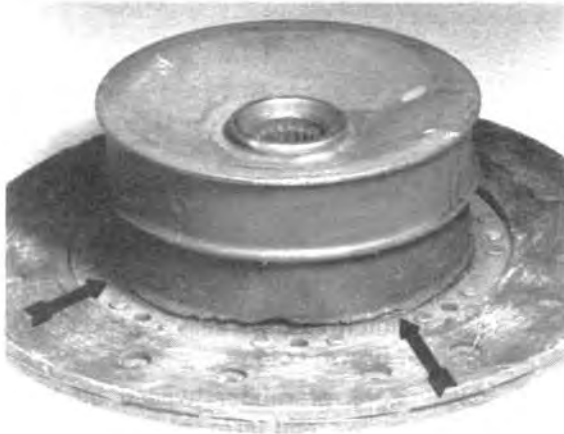


Figure 1

- Rubber hub broken loose from the metal disc plate.
- Corrosion on the metal disc plate (arrows) caused by overheating.
- Rubber adjacent to the metal disc is cracking, shiny, and sticky.

Cause: Abuse, unless mechanical failure of throwout bearing or bearing sleeve is evident.



Figure 2

- Rubber hub broken loose from the metal disc plate.
- Pieces of the rubber hub are broken out.
- Rubber surface adjacent to the metal disc is cracking, shiny, and sticky.

Cause: Abuse, unless mechanical failure of throwout bearing or bearing sleeve is evident.



Figure 3

- The rubber hub shows large cracks adjacent to the metal disc.
- The rubber surface is shiny and sticky in that area.

Cause: Abuse, unless mechanical failure of throwout bearing or bearing sleeve is evident.

AMERICAN NORTH WEST SERVICE



SERVICE

Page 1 of 2
August 12, 1988

Technical Bulletin

Model

All

Group

3

Subject: Determining Rubber Clutch Hub Damage

Part Identifier

3056

Number

8811

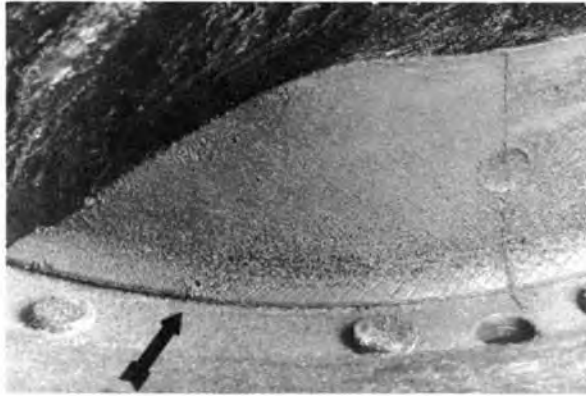


Figure 4

- The rubber hub shows small cracks adjacent to the metal disc (arrow).
- The rubber surface is shiny and sticky in that area.

Cause: Abuse, unless mechanical failure of throwout bearing or bearing sleeve is evident.



Figure 5

- Metal on clutch disc corroded to reddish-brown color (arrows) caused by excessive heat.
- No black, shiny adhesive visible on metal disc.
- Clear signs of rubber twisted off the clutch plate metal.

Cause: Abuse, unless mechanical failure of throwout bearing or bearing sleeve is evident.



Figure 6

- Metal clutch disc partially corroded to reddish-brown color.
- Clear signs of rubber twisted off the clutch plate metal (arrows).

Cause: Abuse, unless mechanical failure of throwout bearing or bearing sleeve is evident.

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SERVICE

Page 2 of 2
August 12, 1988

Technical Bulletin

Model

All

Group

3

Subject:

Manual Transmission Oil

Part Identifier

3400

Number

8813

Transmission oil labeled **API service classification GL 5 or MIL-L 2105 B** must be used on all Porsche models.

Oil classifications such as GL 6 and GL 7 may cause synchronizer failure and are not recommended.

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SERVICE

Page 1 of 1
October 14, 1988

Technical Bulletin	Model	Group
	911 Carrera	3
Subject:	Part Identifier	Number
Shortened Shift Lever Travel with M-241	3404-08	8509

With the option M-241 a 20% shorter shift lever travel can be ordered.

As of July 18, 1985, VIN 91GS120145
91GS160097
91GS170073

This option can be service installed on older cars, as of MY 1984 if the following parts are being replaced:

- 911.424.017.11-Shift Lever
- 954.424.147.00-Plate
- 954.424.131.00-Spring
- 954.424.144.00-Guide Plate
- 954.424.124.00-Shift Lever Bearing
- 954.424.129.00-Shaft
- 954.424.063.00-Carrier Plate

DOES NOT APPLY TO NORTH AMERICAN CARS



SERVICE

Page 1 of 1
Dec. 6, 1985

Technical Bulletin	Model	Group
	911 Carrera	3
Subject:	Part Identifier	Number
Fifth Gear - Linkage Adjustment	3408	8505

In cases where 5th gear is difficult to shift into neutral, the shift travel may be adjusted too short in the 5th gear gate. The locking panel can no longer return to the original position and binds the shift lever tube.

To release the shift lever from this binding, press the shift lever forward against the stop in the 5th gear gate. This will separate the shift lever tube from the locking panel.

To prevent this condition, lengthen 5th gear travel by adjusting the shift rod coupling.

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SERVICE

Page 1 of 1
Dec. 22, 1985

Technical Bulletin

Model
911 Carrera

Group
3

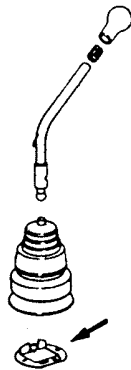
Subject:
Gear Shift Lever Adjustment

Part Identifier
3408

Number
8508

As of M.Y. 1985 vehicles, when a gear noise is noticeable while shifting from 5th to 4th gear, the carrier plate in the gear shift lever tower must be adjusted.

Move the carrier plate to the left against the stop (as seen in driving direction).



PORETTI & CO. NORTH AMERICA INC.



SERVICE

Page 1 of 1
Dec. 6, 1985

Technical Bulletin

Model 911 Carrera	Group 3
Part Identifier 3417	Number 8704

Subject: Shift Rod Clatter at Idle, Coast or 2500-3500 RPM

To reduce shift rod clatter noise at idle, while coasting, or at 2500-3500 RPM, the shift linkage received a rubber ring (1 in picture), insulating hose (2 in picture), and a softer rubber washer (4 in picture).

From Production Date: August 28, 1986

VIN: 910HS120200
91-HS125061
914HS160121
918HS170165

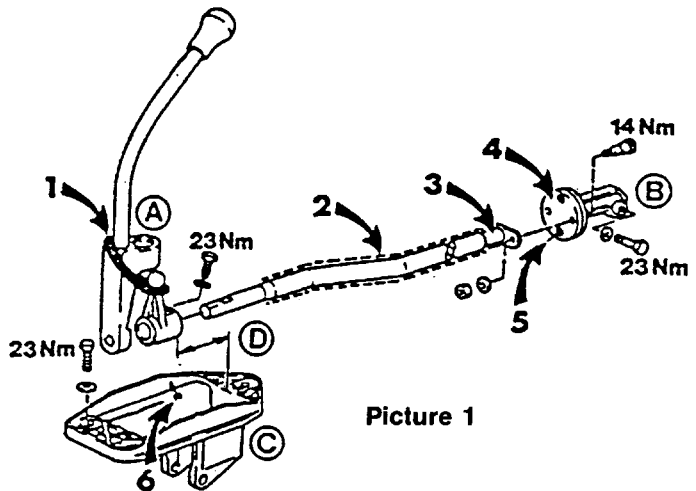
To convert 1987 model cars prior to the above vehicle identification numbers, the following parts are required:

- 1) 999 701 969 40 1 Rubber ring
- 2) 999 615 047 40 1 Insulating hose
- 3) 999 513 002 40 1 Wire strap
- 4) 950 424 227 00 1 Rubber washer
- 5) 900 120 046 02 2 Rivets
- 950 424 224 03 1 Bushing
(arrow in picture 2)

Alternative for rivets:

- 900 075 134 02 2 Bolts M8x32
- N 011 525 13 2 Washer
- 999 084 019 02 2 Nuts

- 1 - Rubber ring
 - 2 - Insulating hose 700mm
 - 3 - Wire strap/insulating hose
 - 4 - Rubber washer
 - 5 - Rivet or bolt connection
M 8 (torque: 23 Nm)
 - 6 - Round casting
mould bumps
- A - Shift
B - Mount
C - Shift base
D - Distance adjusted: 5mm



Picture 1



SERVICE

Page 1 of 3
July 31, 1987

Technical Bulletin

Model 911 Carrera	Group 3
Part Identifier 3417	Number 8704

Subject: Shift Rod Clatter at Idle,
Coast or 2500-3500 RPM

Additionally the shift rod bushing (arrow in picture 2) inside diameter was reduced to 17.9mm (was 18.2mm)

From Production Date: February 4, 1987

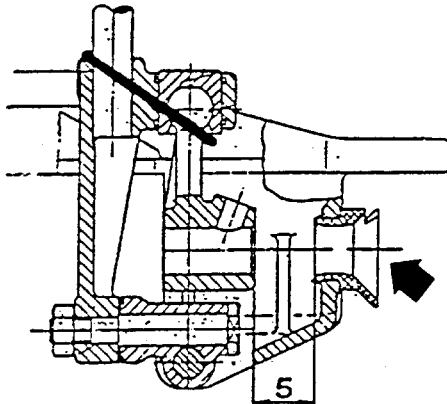
VIN: 91 HS 12 1787
91 HS 12 5061
91 HS 16 1318
91 HS 17 1733

New Part Number: 950 424 224 03

This bushing can also be service installed. On cars built after August 28, 1986 but before February 4, 1987, it may only be necessary to replace this bushing.

If only replacing bushing, omit work sequence step 11 through 17.

Detail Section View:
5mm adjusted
distance.
4th gear engaged.



Picture 2

Work Sequence:

- 1) Lift car on hoist.
- 2) Lift shift diagram cap off shift lever knob carefully using knife, screwdriver or similar tool.
- 3) Unscrew shift lever knob allen screw (don't turn the knob, pull it off).
- 4) Dismantle the center console, guide over shift lever and lay aside (electrical equipment remains connected).
- 5) Unscrew tunnel cover in front of rear seat.
- 6) Disconnect the shift rod on rear mount (B in picture 1).
- 7) Unscrew and remove mount with rubber washer.
- 8) Unscrew front shift rod bolt. Remove shift base (C in picture 1) with shift lever (A in picture 1).
- 9) Clean the shift rod in shift base area.
- 10) Replace shift rod bushing (arrow in picture 2).
- 11) Slide insulating hose (2 in picture 1) as far as possible on the shift rod from the front.
- 12) Secure the insulating hose with wire strap (3 in picture 1).
- 13) Drill out rivets on rubber washer using 8mm drill bit.



Technical Bulletin

Model
911 Carrera

Group
3

Subject: Shift Rod Clatter at Idle,
Coast or 2500-3500 RPM

Part Identifier
3417

Number
8704

14) Mount new rubber washer on rear mount (4 in picture 1) with rivets (5 in picture 1).

Alternative: M8 bolts instead of rivets.
Torque 23 Nm (17 ft. lbs.)

15) File down round casting mold bumps left and right on shift base (6 in picture 1).

16) Clean the shift base and shift lever in area of the rubber ring.

17) Install rubber ring (1 in picture 1).

18) Reinstall parts in the following order:
Mount shift rod in shift base.
Torque bolts to 23 Nm (17 ft. lbs.).
Install shift base, do not torque bolts at this time.

19) Slide the rear mount on the transmission shift rod. Torque bolts to 23 Nm (17 ft. lbs.).

20) Connect the shift rod rubber washer. Torque bolts to 14 Nm (10 ft. lbs.).

21) Engage 4th gear. Adjust distance between shift base bushing and shift lever to 5mm by moving the shift base (D in picture 1). Torque shift base bolts to 23 Nm (17 ft. lbs.).

22) Reinstall tunnel cover, center console and shift lever knob.

Conversion Time Units: 180

Note:
Shift rod linkage and bushing must be lubricated with grease (Optimally HT or similar) in sliding areas.

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SERVICE

Page 3 of 3
July 31, 1987

Technical Bulletin

Model
911 Carrera

Group
3

Subject:
Shift Rod Rattle

Part Identifier
3417

Number
8802

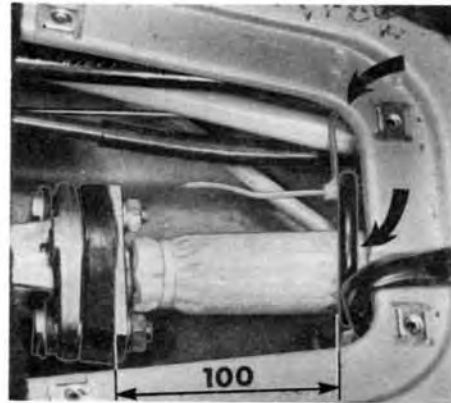
To further reduce shift rod rattle on 1987 and 88 models, an additional rubber ring may be installed on the shift rod.

First check, and if applicable, repair vehicle according to Bulletin Group 3, Number 8704, dated July 31, 1987.

If a shift rod rattle is still noticeable proceed as follows:

- 1) Remove shift rod coupling access plate.
- 2) With shift lever in neutral, disconnect front shift rod from coupling.
- 3) Move shift lever in 3rd gear position and slide rubber ring over front shift rod.
Rubber ring: Part Number 999 701 969 40.
- 4) Reconnect shift coupling.
- 5) With shift lever in neutral, slightly tension the rubber ring with a tie down strap attached to the left side hand brake cable guide tube. The distance from the shiftrod flange to the rubber ring should be approx. 100mm (see picture).
- 6) Reinstall the access plate. Roadtest car. If rattle is still audible increase tension on rubber ring slightly.

Conversion time: 30 TU



Front of Car
→

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SERVICE

Page 1 of 1
March 4, 1988

Technical Bulletin

Model
911 Carrera

Group
3

Subject:
Transmission Noise While Coasting

Part Identifier
3435

Number
8708

Tightening torque: 24 Nm (17 ft. lbs.)
Conversion time: 30 T.U.

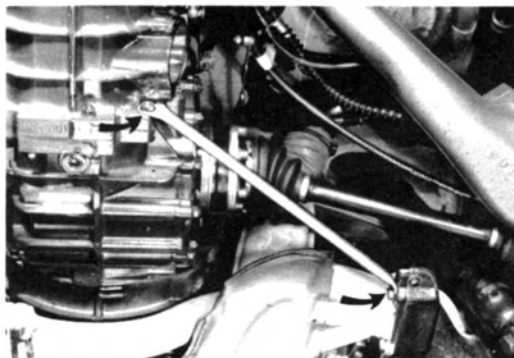
G50 Transmission

A support brace is installed between the transmission and the left side exhaust manifold (arrow in picture) to avoid noise from 2nd and 3rd gear while coasting at engine speed of 3000 to 4000 RPM.

From Production Date: August 24, 1987

VIN (approximate)

91JS 12 0323 Coupe
91JS 12 5061 Club Sport
91JS 16 0290 Targa
91JS 17 0296 Cabrio



This support brace can be installed retroactively in 911 Carreras with G50 transmission (from Model Year 1987) when repairing cars with the above mentioned symptoms.

Part Numbers:

Brace: 950 301 401 00
Lock Nut: 999 084 423 02

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SERVICE

Page 1 of 1
December 4, 1987

Technical Bulletin

Model
911 Carrera
Coupe, Targa

Group
3

Subject: Transmission Noise

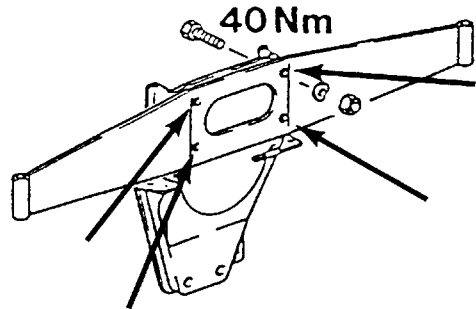
Part Identifier
3435

Number
8806

G50 Transmission from 1987 Model Year

Misalignment between the transmission and engine mounts may cause stress resulting in the transfer of transmission noises to the vehicle body.

In case of transmission noise complaints, loosen all four engine carrier bolts together (see picture) and retorque to 40 Nm (29 ft. lbs.).



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SERVICE

Page 1 of 1
April 8, 1988

Technical Bulletin

Model	Group
911 Carrera	3

Subject: **New Shift Rod Seal**

Part Identifier	Number
3448	8803

- 02 - AC - PER - I - 202 - 0300 - 0000000000

G50 Transmission

The shift rod seal material has been changed.

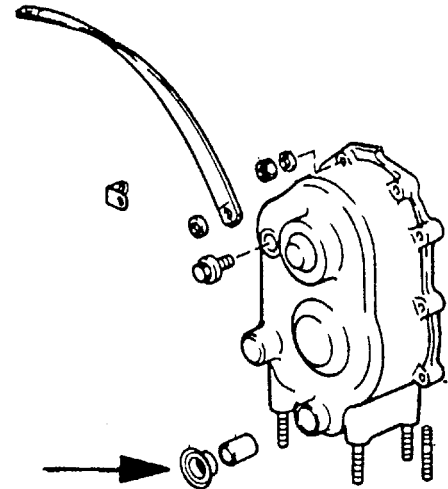
From production date: March 31, 1988
 Transmission numbers: G 5001 1J 04 704
 G 5001 2J 11 420 (limited slip)

New part number: 999 113 404 40

The new seal should not be glued in place.

Old type seal part number 999 113 354 40 must be glued in place with loctite 495, instant adhesive super bonder, available from local suppliers.

Old seal has been superseded and will no longer be sold.



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SERVICE

Page 1 of 1
 July 29, 1988

Technical Bulletin

Model
911 Turbo

Group
3

Subject: Hard Shifting 1st and 2nd Gear:
Reverse Gear Operating Fork

Part Identifier
3500

Number
8702

When repairing 911 Turbo transmissions for hard shifting of 1st and 2nd gears, the reverse gear operating fork (figure 1) should be checked for damage or distortion.

The fork should be replaced if it is bent or not symmetrical. See figure 2.

An asymmetrical or bent fork can put pressure on the detent between the reverse gear shift rod and the 1st and 2nd gear shift rod resulting in 1st and 2nd gear hard shifting.

The reverse gear operating fork material thickness was increased from 3.5 to 4.5mm.

From Production Date: October 9, 1987.

Transmission numbers:

930 361 J 00 641

930 361 J 10 997

(limited slip differential)

New Part Numbers

Operating fork: 930 303 019 01

Pivot pin: 930 303 123 01

When replacing the operating fork on transmissions prior to the above transmission numbers pivot pin must also be replaced.

It might be necessary to remove material from the inside of the front transmission cover in the area of the reverse gear fork to obtain sufficient clearance.

Shift transmission into reverse several times before installing in vehicle to ensure reverse gear fork does not contact the housing.

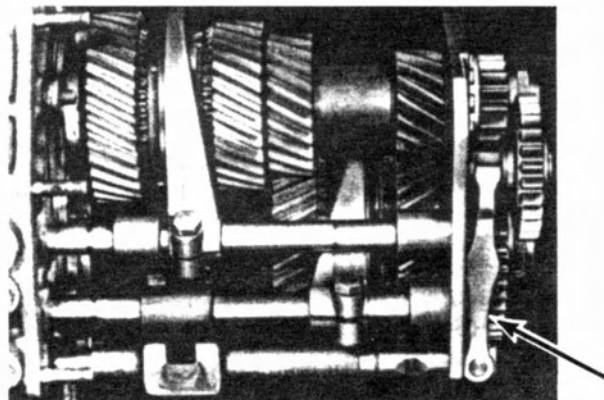


Figure 1

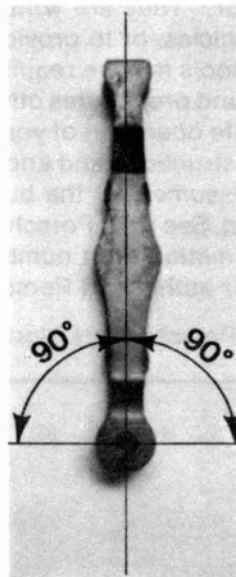


Figure 2



SERVICE

Page 1 of 2
December 31, 1987

02-AC-JMSA-I-1102-SDAP-MIC000100

Technical Bulletin

Model
911 Turbo

Group
3

Subject: Hard Shifting 1st and 2nd Gear:
Reverse Gear Operating Fork

Part Identifier
3500

Number
8702

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PCNA TECHNICAL BULLETIN



SERVICE

Page 2 of 2
December 31, 1987

Technical Bulletin

Model
911 Carrera

Group
3

Subject: First and Fifth Gear Thrust Washers

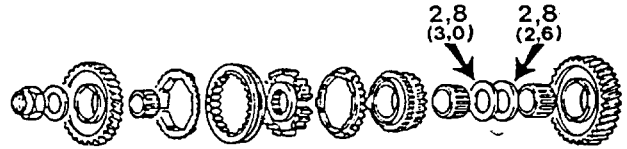
Part Identifier
3500

Number
8712

G50 Transmission from Model Year 1987

The thrust washers for 1st and 5th gear are now identical.

Thrust washer: 1st gear New 2.8mm
Old 2.6mm
5th gear New 2.8mm
Old 3.0mm



New Part Number: 950 302 295 07

Install both new type thrust washers when repairing the transmission.

Combining old and new type thrust washer is not approved.

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SERVICE

Page 1 of 1
December 31, 1987

DOES NOT APPLY TO ALL MODELS

Technical Bulletin

Model

911

Group

3

Subject:

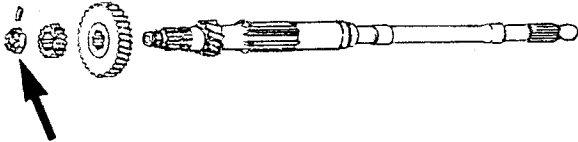
Transmission Mainshaft Nut

Part Identifier

3541

Number

8402



The torque specification for the castellated nut on the mainshaft (M18 x 1.5) has been increased to 160 Nm (118 ft lb).

This increase has been in effect in production as of January 24, 1984:

VIN 91 ES 121121 (Coupe)
91 ES 161110 (Targa)
91 ES 170632 (Cabrio)

During repairs on older transmissions built as of the 1972 Model Year, torque the nut to the new 160 Nm specification.

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SERVICE

Page 1 of 1
December 17, 1984

Technical Bulletin

Model

911

Group

3

Subject:

Mainshaft Seal And Guide Tube

Part Identifier

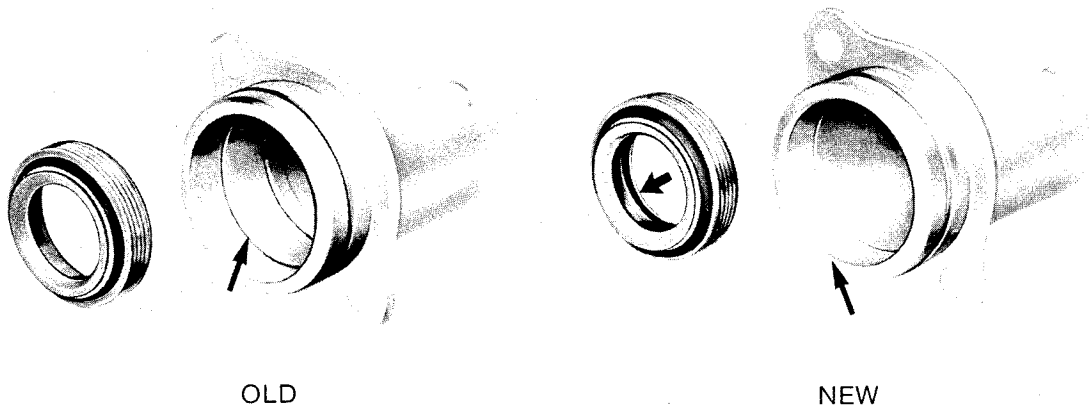
3550
3047

Number

8501

As of the below VIN's, the seal and guide tube were modified:

914ES121832 - Coupe
91XES161758 - Targa
918ES170968 - Cabriolet



Parts Information:

OLD

999.113.283.40 - Seal
915.116.087.03 - Guide Tube

NEW

999.113.327.40 - Seal
915.116.087.04 - Guide Tube

The new seal has an additional dust lip (arrow) and its location in the guide tube has been moved 10mm to assure proper alignment with the shaft.

In case of repair, you should be aware of the following:

- Only the new seal is available
- The new guide tube can be installed in all older models including M.Y. 1976.
- The main shaft with shorter sealing surface were factory installed on transmissions up to M.Y 1976 (Fig. 2)
- Transmissions as of Model Year 1976 could be field repaired using a main shaft with a shorter sealing surface.

POISSONNIERE NORTH AMERICA INC.



SERVICE

Page 1 of 4
April 25, 1985

Technical Bulletin

Model

911

Group

3

Subject:

Mainshaft Seal And Guide Tube

Part Identifier

3550
3047

Number

8501

Therefore, it is very important to measure the sealing surface (Fig. 2 and 3) before guide tube replacement.

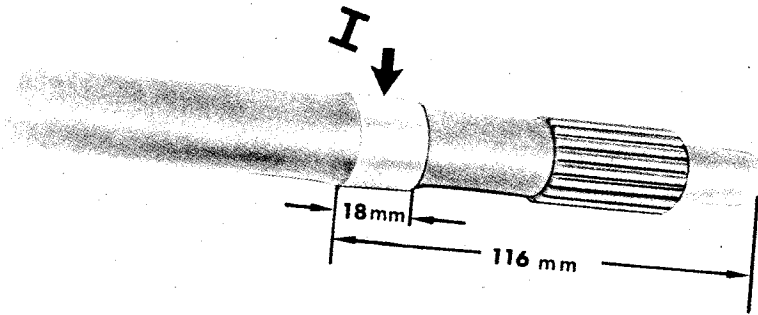


Fig. 2

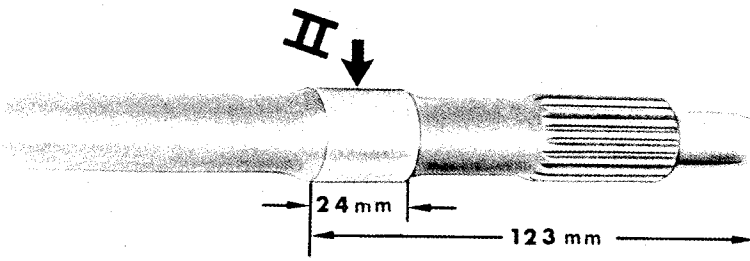
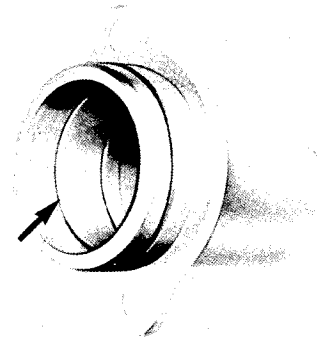
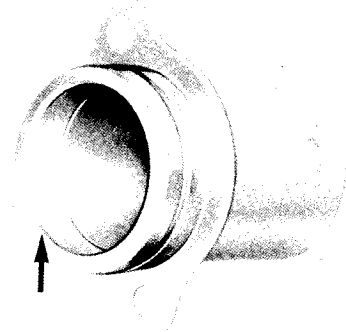


Fig. 3



- I - Old version mainshaft
- II - New version mainshaft

Important

Due to the different location of the seal in the guide tube, the installation tool has been modified (was P381, now P381a).



Technical Bulletin

Model

911

Group

3

Subject:

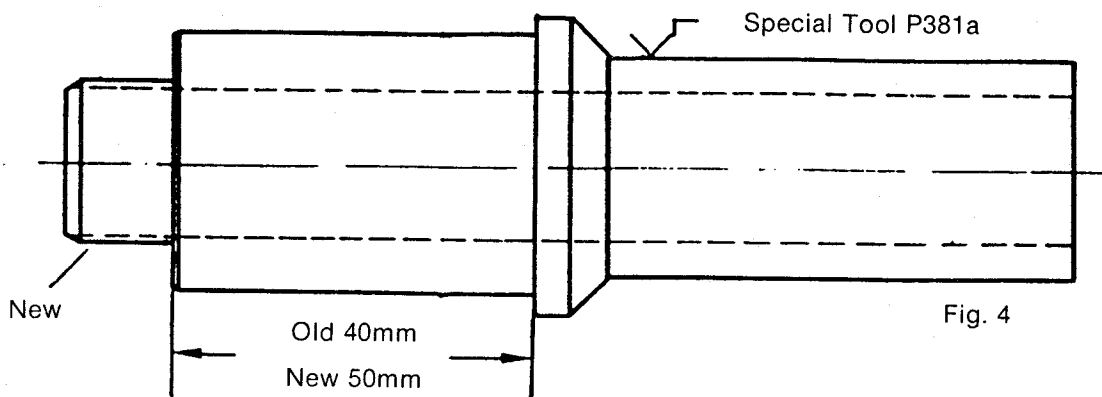
Mainshaft Seal And Guide Tube

Part Identifier

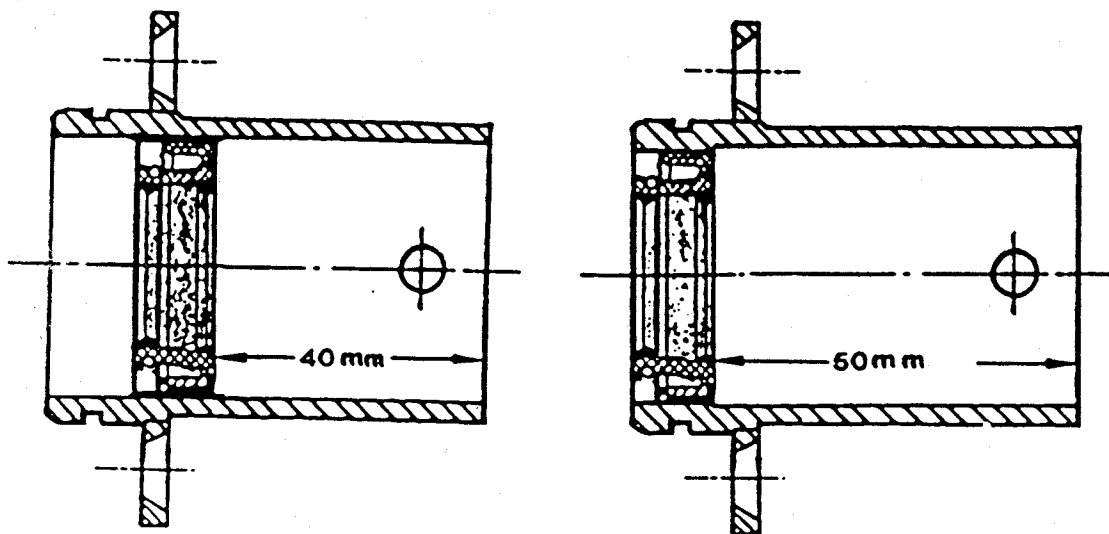
3550
3047

Number

8501



Installation Instructions



The old seal installation tool P381 must be used for the old version tube (40mm) and P381a only for the new version (50mm)

Since P381a has a guide tube for the oil seal, the guide sleeve should be held in a vise during the seal installation (Fig. 6) and not on a flat surface.

•02-AC-DEMA-1102-00000000



SERVICE

Page 3 of 4
April 25, 1985

Technical Bulletin	Model 911	Group 3
	Subject: Mainshaft Seal And Guide Tube	Part Identifier 3550 3047

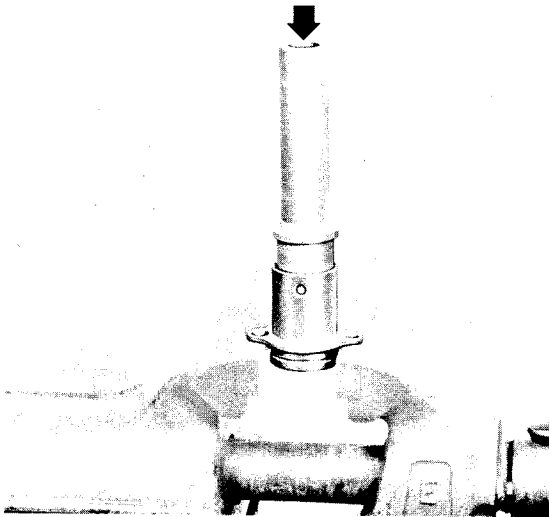


Fig. 6

Coordination of Parts

	Guide Tube - Old 915.116.087.03	Guide Tube - New 915.116.087.04	Seal - New 999.113.327.40
Mainshaft with small sealing surface	X	—	X
Mainshaft with large sealing surface	—	X	X

Note: Before installation of the guide tube/seal into transmission, fill seal between the two lips with chassis grease.

The seal of the guide tube is the same as before, with O-ring, Part #999.701.359.40



SERVICE

Technical Bulletin

Model
911 Turbo

Group
3

Subject: Reverse Idler Shaft Update

Part Identifier
3557

Number
8901

Model Year 1989 with G50/50 Transmission

A modified reverse gear idler shaft was installed from transmission numbers:

G50/50 1K 0575

G50/50 2K 1113 (limited slip differential)

When repairing reverse gears before the above mentioned transmission numbers the following parts should be installed:

Reverse idler shaft: PN 950 302 228 03 (arrow 1)
1 thrust washer: PN 950 302 297 10 (arrow 2)
2 thrust washers: PN 950 302 297 12 (arrows 3)

The early version idler shaft PN 950 302 228 02 must no longer be used.



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SERVICE

Page 1 of 1
January 20, 1989

Technical Bulletin

Model
911 Carrera,

Group
35

**Subject: 5th and Reverse Gears Modification
to Ease Shifting**

Part Identifier
3578

Number
83-01

To ease shifting from 5th gear to neutral after coming to a stop, the operating sleeve for 5th/ reverse gears has been modified.

Production change occurred October 13, 1983,
transmission numbers: 915/68 – 74 E 01085
915/70 – 74 E 10107

New operating sleeve P/N 915.302.227.09

SERVICE

Page 1 of 1
December 23, 1983

Technical Bulletin

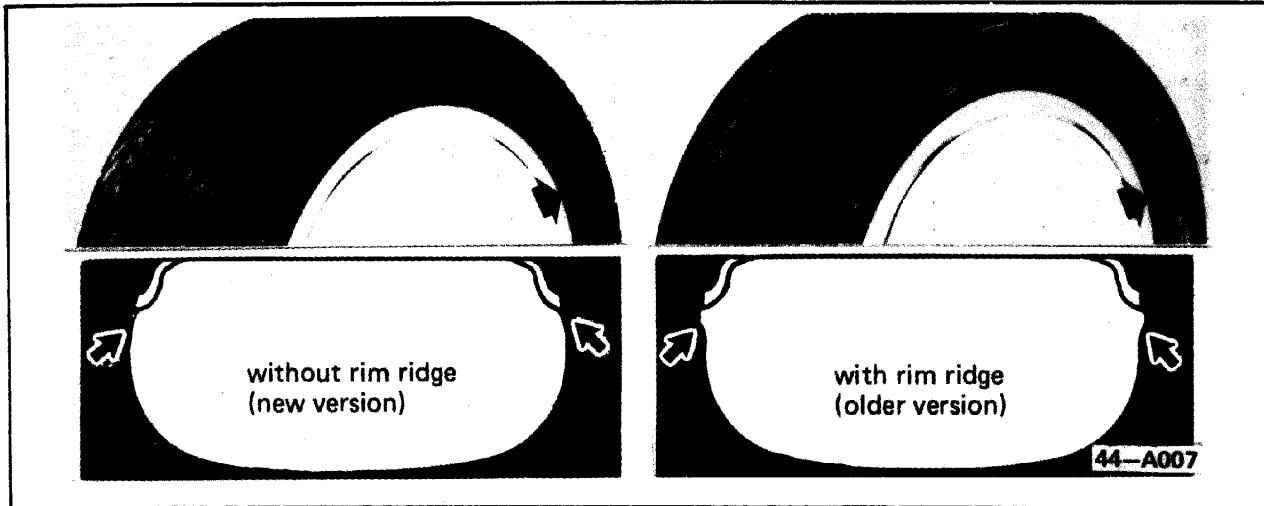
Model
All

Group
44

**Subject: New Pirelli P7 Tires;
Do Not Mix with Older Version**

Part Identifier
4440

Number
80-01



P 7 205/55 VR 16 and P 7 225/50 VR 16 tires are now available in two versions. The latest version can be recognized by the absence of a rim ridge at the inside of the sidewalls (arrow). Both tire versions will be available for replacement

The changed design modifies

- forward and sideward stability
- road contact
- adaptability to road irregularities
- resistance to tire damage
- driving comfort

CAUTION

Since the two versions of the Pirelli P 7 205/55 VR 16 and P 7 225/50 VR 16 tires are different in design and therefore performance characteristics, they cannot be intermixed on same vehicle

Vehicle Application

Model Year	Model	Wheel	Tire Size	Standard or Option
1978-80	911 SC	6J X 16	205/55 VR 16	(optional) front
1978-80	911 SC	7J X 16	225/50 VR 16	(optional) rear
1977-79	930	7J X 16	205/55 VR 16	(front)
1977-79	930	8J X 16	225/50 VR 16	(rear)
1980	924 - Turbo	6J X 16	205/55 VR 16	(optional) front/rear
1978-79	928	7J X 16H2	225/50 VR 16	Std. trans. front/rear
1980	928	7J X 16H2	225/50 VR 16	(optional) front/rear

SERVICE

Page 1 of 1
June 12, 1980

Technical Bulletin		Model 911 Carrera	Group 3
Subject:	Transmission Jumps Out Of 1st or 2nd Gear	Part Identifier 3581	Number 8807

G50 Transmission from Model Year 1987

The guide sleeve for 1st and 2nd gear is now coated with a sliding lubricant to prevent the transmission from jumping out of gear.

From production date: August 19, 1987

Transmission numbers:

- G5001 1J 01190
- G5001 2J 10672 (limited slip differential)

Furthermore, the guide sleeve and shifting sleeve are now only available as a set.

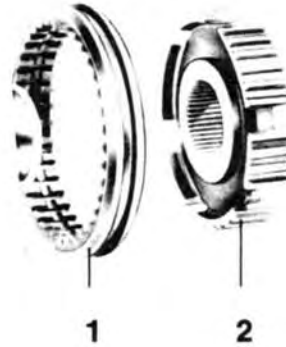
New Part Number:

Guide sleeve with shift sleeve:
950 304 031 03

Important

In case of complaints of jumping out of gear, always check the shift rod adjustment first.

Refer to Technical Bulletin Group 3, Number 8705, Book D, Page 140.



1 - Shift Sleeve
2 - Guide Sleeve

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SERVICE

Technical Bulletin

Model 911 Carrera	Group 3
Part Identifier 3582/83	Number 8705

Subject: Transmission Jumps
Out of 4th Gear

Model Year 1987
(type 950 transmission)

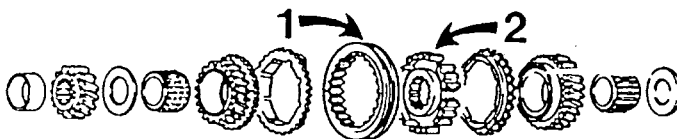
The 4th gear sliding sleeve (1 in picture 1) and the guide sleeve (2 in picture 1) were modified to prevent the 4th gear from moving back into the neutral position while driving.

The groove around the inside of the sliding sleeve has been omitted. Instead, three pockets are machined on the inside of the sleeve. Also, the new guide sleeve is coated with a sliding lubricant.

From production dates:
January 13, 1987 sliding sleeve
January 21, 1987 guide sleeve

Transmission numbers:
950/01 74 H 04571 sliding sleeve
950/01 74 H 04834 guide sleeve

Part numbers:
928 304 231 06 sliding sleeve 3rd-4th gear
930 304 221 06 guide sleeve 3rd-4th gear



Picture 1

ROSSIEM CARS NORTH AMERICA INC.



SERVICE

Page 1 of 2
August 19, 1987

Technical Bulletin

Model 911 Carrera	Group 3
Part Identifier 3582/83	Number 8705

Subject: Transmission Jumps
Out of 4th Gear

Work procedure:

In case of complaints of jumping out of 4th gear while driving, first check the shift rod adjustment as follows:

1. Lift shift diagram cap off shift lever knob.
2. Unscrew shift lever knob allen screw and pull off knob.
3. Dismantle center console, slide over shift lever and put aside (electrical equipment remains connected).
4. Measure distance between shift base bushing and shift lever with 4th gear engaged. Should be 5mm (picture 2). If necessary, loosen shift base bolts and move shift base to obtain correct adjustment. Torque bolts to 23 Nm (17 ft. lbs.).
5. Reinstall center console and shift knob.

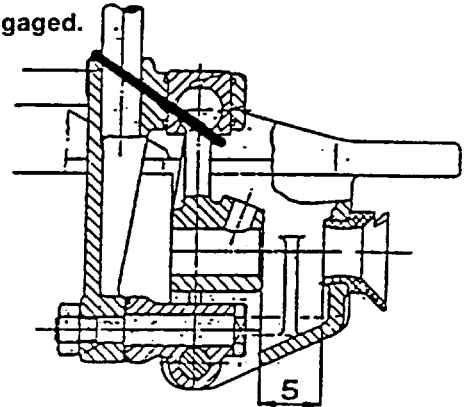
If no improvement, install both new type sleeves.

Refer to 911 Repair Manual Volume II Group 30 through 35 for repair instructions.

Note: Punch marks on level end of sliding sleeve (3 marks) must be aligned with balls of guide sleeve.

Detail Section View:

5mm adjusted
distance.
4th gear engaged.



Picture 2

Important Notice

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SERVICE

Page 2 of 2
August 19, 1987

PORSCHÉ CARS NORTH AMERICA INC.

Technical Bulletin

Model
All

Group
3

**Subject: Determining Synchronizing
Ring Damage**

Part Identifier
3590

Number
8801

This bulletin will aid in diagnosing synchronizing ring failures. All of the examples shown are the result of improper operation such as "speed shifting" where the hand is faster than the foot or forcing gears.

The synchronizing rings are over-worked if the clutch pedal is not all the way depressed when shifting and the engine torque is transferred via the synchronizing rings to the intercept stops. This damages the synchronizing rings and causes cracks, breaks, heat spots and metal transfer between synchronizing rings and gear cones.

The described damages are not covered by warranty.

DOES NOT COVER AMERICAN



SERVICE

Page 1 of 5
February 12, 1988

Technical Bulletin

Model
All

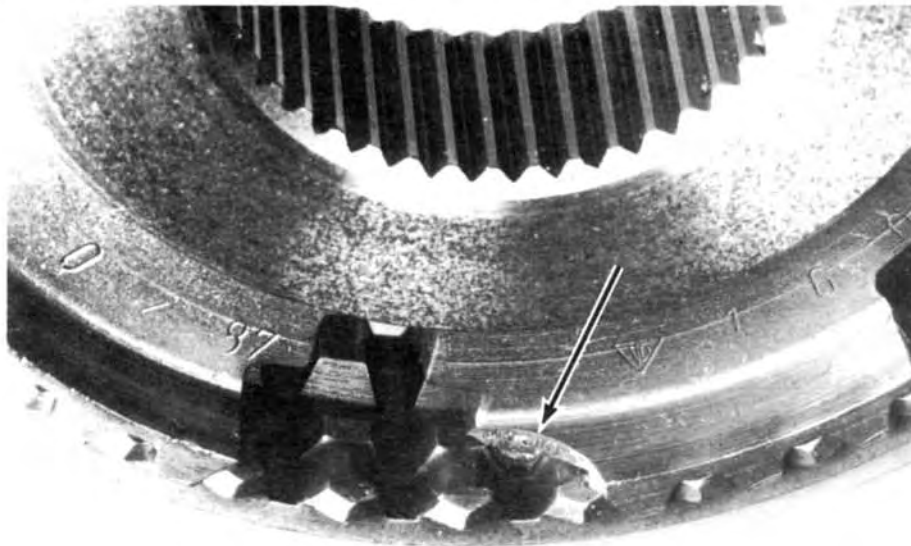
Group
3

Subject: Determining Synchronizing
Ring Damage

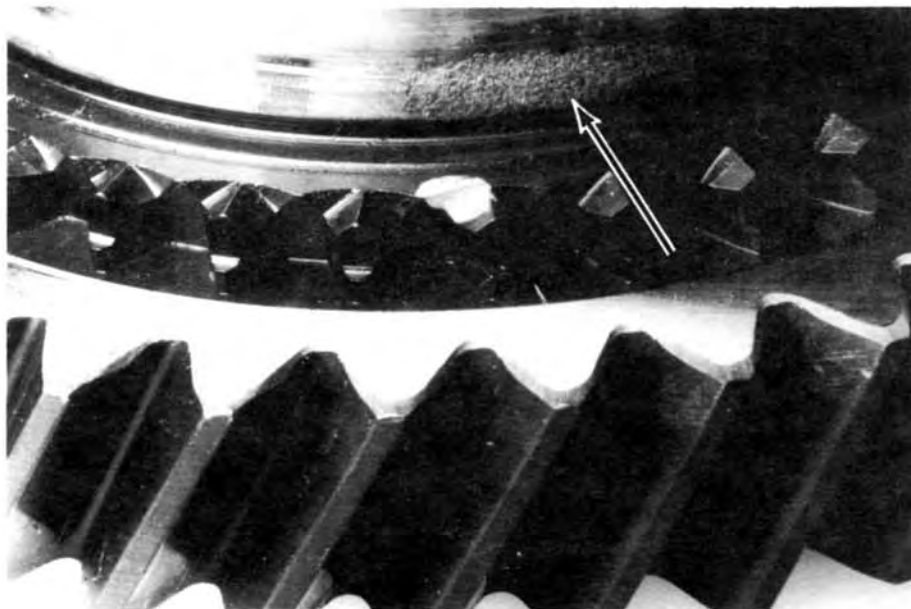
Part Identifier
3590

Number
8801

911 Carrera G50 Transmission
928S and 928 S4 from 1985



Broken stop for sliding sleeve



Metal transfer from synchronizing ring

ADDSOUE OARS NORTH AMERICA INC.



SERVICE

Page 2 of 5
February 12, 1988

Technical Bulletin

Model
All

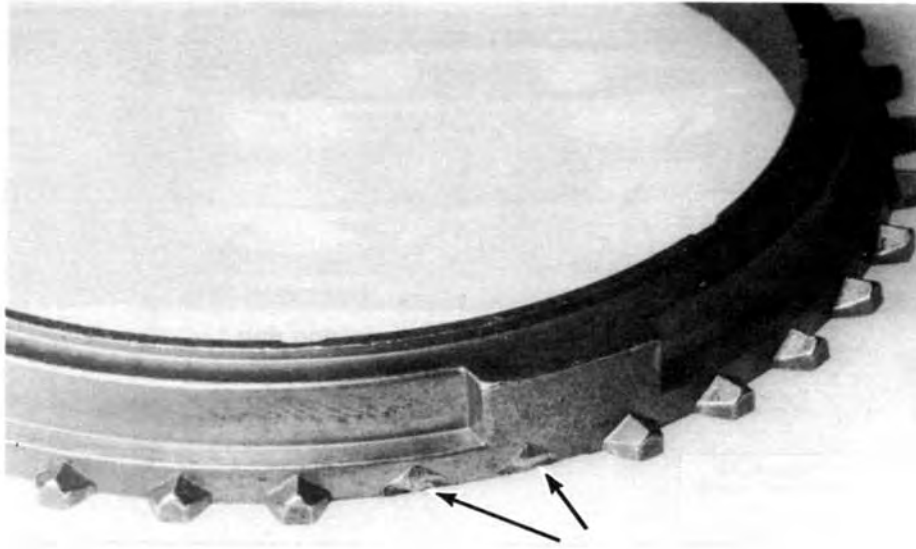
Group
3

Subject: Determining Synchronizing
Ring Damage

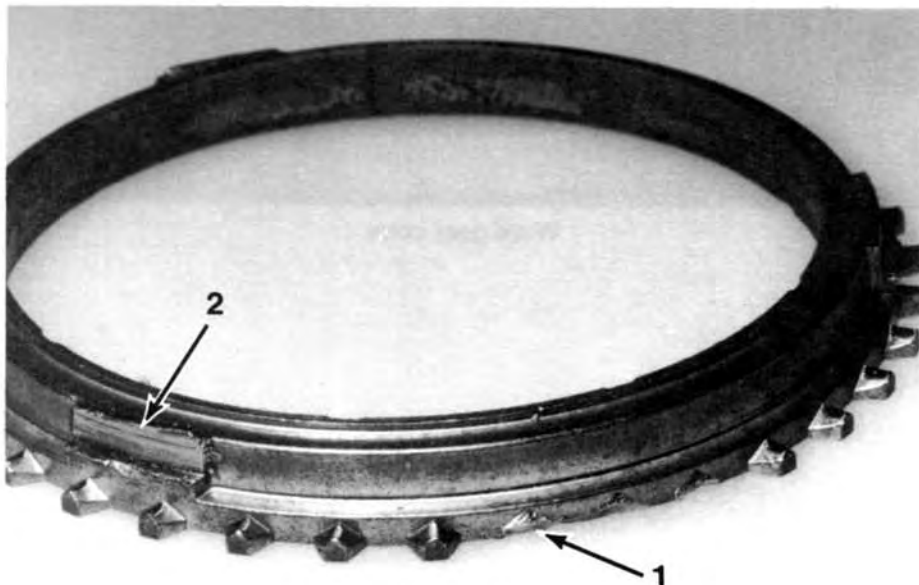
Part Identifier
3590

Number
8801

911 Carrera G50 Transmission
928S and 928 S4 from 1985



Broken teeth



Broken teeth (1) and damaged stop (2)

DOES NOT COVER NORTH AMERICA INC.



SERVICE

Page 3 of 5
February 12, 1988

Technical Bulletin

Model
All

Group
3

Subject: Determining Synchronizing
Ring Damage

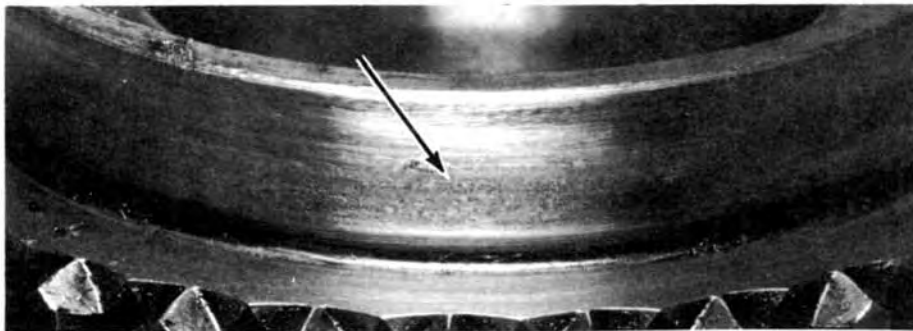
Part Identifier
3590

Number
8801

4 Cylinder Cars



Metal transfer from synchronizing ring



Worn gear cone

DOESQUE CAR S PARTS NORTH AMERICA INC.



SERVICE

Page 4 of 5
February 12, 1988

Technical Bulletin

Model
All

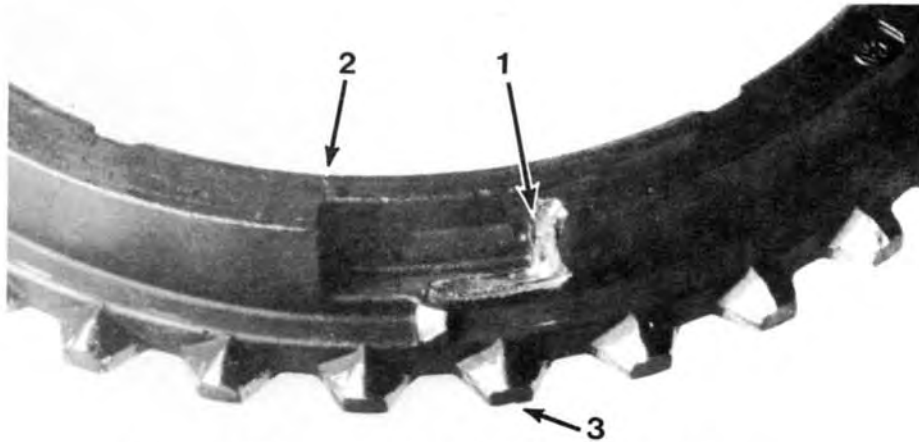
Group
3

Subject: Determining Synchronizing
Ring Damage

Part Identifier
3590

Number
8801

4 Cylinder Cars



Damaged intercept stop (1) crack on intercept stop (2)
rounded teeth (3)



Worn synchronizing ring and damaged teeth

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SERVICE

Page 5 of 5
February 12, 1988

Technical Bulletin

Model
911 Carrera

Group
3

Subject:
Adjusting Ring Gear

Part Identifier
3908

Number
8812

Update to 911 Carrera Workshop Manual
Volume II. G50 Transmission page 39-122.
Step 9, second paragraph should read:

"Shim S₁ is selected 0.70mm thinner and
Shim S₂ 0.70mm thicker in order to have
reserve for subsequent backlash adjustment."

Please correct your Workshop Manuals
accordingly.

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SERVICE

Page 1 of 1
September 30, 1988

Technical Bulletin

Model
911, 911 Carrera, 911SC,
911 Turbo, 912

Group
4

Subject:

Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8402

Listed below are winter tires / wheel rims suitable for Porsche vehicles.

Recommended winter tires and matching wheel rims (all previous Information is through this Bulletin superseded.)

Type: 924, 924 Turbo, 944 — 1984/85

Tire Size	Tire Make	912, 911 All	Rim Size 911SC, Carrera, 911 Turbo*	Remarks
SR Winter Tires up to 160 km/h (100 mph) 185/70 SR 14 M + S 86 Q or 88 Q	Goodyear Ultra Grip III Continental Contact TS740 Michelin XM + S 100 Uniroyal M + S Plus	-	5 1/2 J x 14 (not for 911 Turbo since 1978 models)	Only for cars which have 15" series 50 summer tires as standard equipment. It is better to replace speedometer and mount 185/70 HR 15 M +S tires.
HR Winter Tires up to 190 km/h (118 mph) 185/70 HR 15 M + S 88 T	Continental Super Contact TS730 Vredestein + Pirelli Winter 190	5 1/2 J x 15 or 6 J x 15 front and rear	6 J x 15 front and rear or 6 J x 15 front 7 J x 15 rear 7 J x 15 front and rear	
185/70 HR 14 M + S 88 T or 86 T or 87 T	Pirelli Winter 190 Uniroyal M + S Super Plus T Goodyear Ultra Grip III Semperit Hi Grip M529	-	5 1/2 J x 14 (not for 911 Turbo since 1978 models)	Only for cars which have 15" series 50 summer tires as standard equipment. It is better to replace speedometer and mount 185/70 HR 15 M +S tires.
205/55 HR 16 M + S 88 T	Pirelli Winter 190	6 J x 16	6 J x 16 front and rear or 6 J x 16 front and 7 J x 16 rear or 7 J x 16 front and rear	Not for cars which have 15" series 50 summer tires as standard equipment. Steering lock stop required by installing cover holder. Part No. 911.347.056 .00 (except 911 SC, Carrera 3.0 since 1977 models and 911 Turbo)
185/70 HR 15 M + S 88 T front ----- 215/60 HR 15 M + S 90 T rear	Pirelli Winter 190	-	6 J x 15 front and 7 J x 15 rear or 7 J x 15 front and 8 J x 15 rear	
205/55 HR 16 M + S 88 T front ----- 225/50 HR 16 M + S 92T rear	Pirelli Winter 190	-	6 J x 16 front and 7 J x 16 rear or 7 J x 16 front and 8 J x 16 rear	Not for cars which have 15" series 50 summer tires as standard equipment. Steering lock stop required by installing cover holder. Part No. 911.347.056 .00 (except 911 SC, Carrera 3.0 since 1977 models and 911 Turbo)

WARNING

ONLY forged aluminum wheel rims may be used on 911 Turbo vehicles.

Inflation Pressure for Winter Tires

Type	Tire Inflation Pressure (cold)	
	Front Wheels	Rear Wheels
912	2.0 bar (29 p.s.i.)	2.4 bar (34 p.s.i.)
911	2.0 bar (29 p.s.i.)	2.4 bar (34 p.s.i.)
911SC + Turbo		
3.0 ltr.	2.0 bar (29 p.s.i.)	2.4 bar (34 p.s.i.)
911 Carrera (since 1984)	2.0 bar (29 p.s.i.)	2.5 bar (36 p.s.i.)
911 Turbo		
3.3 ltr.	2.0 bar (29 p.s.i.)	3.0 bar (44 p.s.i.)



SERVICE

Page 1 of 3
December 17, 1984

DORRIS E CARP NORTH AMERICA - 20

<h1>Technical Bulletin</h1>	Model 911, 911 Carrera, 911SC, 911 Turbo, 912	Group 4
	Part Identifier N/A	Number 8402

Subject:
Winter Tire - Wheel Rim Summary

Always use new rubber valves or tubes when replacing tires. Rubber valve Part No. 900.265.001.50

Always coat tire beads with rubber lubricant when mounting tire on rim.

Work sequence

- install new valve stem and remove insert
- install tire on rim and inflate to 4.0 bar (60 psi)
- ensure tire is seated on rim
- install valve stem insert and inflate tire to correct pressure

Tires and tubes

Do not use tubes and tires of different makes.

Tubes are not available for series 50/55 tires.

Tubeless tires should only be mounted with tubes in an emergency situation.

New tire instructions

Always use tires of the same make and type.

When changing tires of only one axle set, new tires should be mounted on wheels of front axle

If replacing only one tire of an axle set, the difference in tread depth between tires must not exceed 30%.

- d. Part No. 999.182.003.36 aluminum, for all Porsche rims with 5 mounting holes (especially aluminum rims) tightening torque 130 Nm (13 mkp)
- e. Part No. N.020.121.1 or 900.182.001.01 steel, for all rims with 5 mounting holes (especially steel rims) tightening torque 130 Nm (13 mkp)

Aluminum wheel nuts (d)

Aluminum wheel nuts require special care.

Before installing:

- lubricate threads and shoulders of aluminum nuts with Optimoly HT, Part No. 999.917.728.00 (Optimoly HT does not affect tightening torque)

Note

Tighten and loosen aluminum nuts with a socket that grasps entire depth of nut.

CAUTION
 Other socket wrenches or wheel wrenches are not approved.
 Never use impact tools.



SERVICE

Technical Bulletin

Model
911, 911 Carrera, 911SC,
911 Turbo, 912

Group
4

Subject:
Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8402

Break-In time for new tires

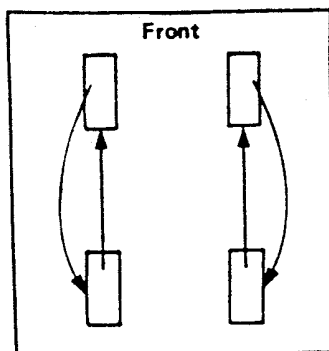
New tires have a vulcanization skin that can cause poor vehicle handling. Handling characteristics improve measurably during the tire break-in period of 600 miles (1000 km).

Vehicle handling characteristics should not be evaluated immediately after tire replacement.

Driving conservatively during the first 600 miles (1000 km) will help to maximize tire life.

After the break-in period, check wheel balance.

Obtain even tire wear by rotating tires after 3000 miles (5000 km).



Recommended tire rotation sequence

PORSCHER NORTH AMERICA INC.



SERVICE

Page 3 of 3
December 17, 1984

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
4

Subject:
Brake Fluid Level in Reservoir

Part Identifier
N/A

Number
8605

The brake fluid level in the reservoir is lowered to eliminate the possibility of brake fluid loss through the vent line when loading, unloading or transporting the vehicle in a tilted position.

During the Delivery Inspection at the dealership, the brake fluid level must be topped up.

Brake fluid level in mm above the top edge of the container holding strap is:

- For transportation: 0 - 5 mm
- For normal operation: 13 - 18 mm

PORSCHE CARS NORTH AMERICA INC.



SERVICE

Page 1 of 1
March 14, 1986

Technical Bulletin

Model
912, 911, All Carrera, 911 Turbo

Group
4

Subject:

Summer Tire And Wheel Rim Summary

Part Identifier
N/A

Number
8506

Tires tested for Porsche must fulfill a wide range of requirements.

For example:

- service life
- high speed strength
- handling on wet and dry road surfaces
- adaption to vehicle design
- comfort
- rolling noise
- wear

Listed below are tires and matching wheel rim sizes recommended by Porsche for Types 912, All 911, Carrera and Turbo:

Tire Size	Make and Type	Rim Size
185/70 VR 15	Dunlop Sport Super D4 Pirelli P 6	6J or 7J x 15
215/60 VR 15	Dunlop Sport Super D4 Pirelli P 6	7J or 8J x 15
205/55 VR 16	Goodyear NCT Pirelli P 7 Dunlop Sport Super D4	6J or 7J x 16
225/50 VR 16	Goodyear NCT Pirelli P 7 Dunlop Sport Super D4	7J or 8J x 16

Other summer tires and wheel rim combinations are not approved by Porsche.

Notes on Pirelli P 6 tires

Three different versions of P 6 tires have been produced:

- A - no special markings
- B - cross in circle below size code

215/60 VR 15



- C - five-pointed stars in circles, each side of size code

⊗ 215/60 VR 15 ⊗

Always use only version C

Listed below are tires and matching wheel rim sizes approved by Porsche in past years. These tires are no longer tested by Porsche:

Tire Size	Make and Type	Rim Size
165 HR 15	Michelin XAS Uniroyal Rallye 240	4½J or 5½J x 15
185 HR 14	Continental TS 772 Michelin XVS Uniroyal Rallye 240 Pirelli CN 36 SM	5½J x 14
185/70 VR 15	Dunlop SP Sport Super D1 Michelin XWX Pirelli CN 36 SM*	6J or 7J x 15
215/60 VR 15	Dunlop SP Sport Super D1 Pirelli CN 36 CM*	7J or 8J x 15
205/50 VR 15	Pirelli P 7	6J or 7J x 15
225/50 VR 15	Pirelli P 7	7J or 8J x 15

*not for 911 Carrera from 1984 Model

Note for Dunlop SP Sport Super tires

Dunlop SP Super Sport D 1 and D 4 tires must **NOT** be mixed on one car, either independently or by axle.

The D 1 version is still available, but in limited quantities only. If fitting a complete set of new tires, conversion should be made to the D 4.

New tire instructions

Always use tires of the same make, type and size.

When changing tires of only one axle set, new tires should be mounted on wheels of front axle

If replacing only one tire of an axle set, the difference in tread depth between tires must not exceed 30%.



SERVICE

Page 1 of 5
March 15, 1985

Technical Bulletin

Model
912, 911, All Carrera. 911 Turbo

Group
4

Subject:
Summer Tire And Wheel Rim Summary

Part Identifier
N/A

Number
8506

General Installment Instructions

Always use new rubber valves, Part No. 900.265.001.50, when replacing tires.

Always coat tire beads with rubber lubricant when mounting tire on rim.

Work sequence

- install new valve stem and remove insert
- install tire on rim and inflate to 4.0 bar (60 psi)
- ensure tire is seated on rim
- install valve stem insert and inflate tire to correct pressure

Tires and tubes

Do not use tubes and tires of different makes.

Tubes are not available for series 50/55 tires.

Tubeless tires should only be mounted with tubes in an emergency situation.

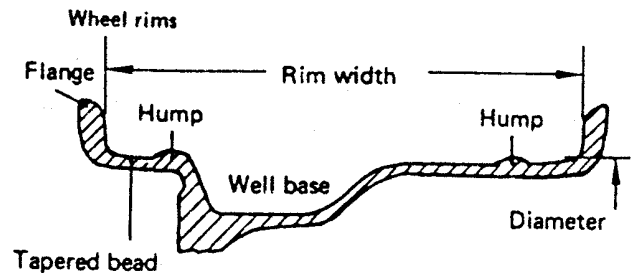
When installing tubes with steel valves make sure that the valve is screwed in only after the tire has been inflated. Do not twist the valve.

If necessary, 215/60 R 15 tubes fitted with steel screw valves (Pirelli or Dunlop only) can be used for the installation of 185/70 VR 15 tires on 7J x 15 rims. On pressure cast rims with a cast valve boss, the cover or nut of the bottom venting ring can be removed to ensure sufficient thread length for installation of the screw valve. It is essential to install the venting ring itself so that air can escape from between the tube and rim.

The 7" and 8" Porsche rims must be fitted with valve supports, Part No. 911.361.561.00 and 01, to avoid lateral stress on rubber valves caused by the design position of the valve bore.

The 7J x 15 pressure cast rims (from ATS) will sometimes have a special cast boss in the area of the valve bore which provides safe valve support.

On rims which have this cast boss, the wall thickness at the valve hole will be so large that when installing tubeless tire valves the 3 mm wide bead ring must not be pulled through — as is common for steel rims. Pulling the valve bead through would cause excessive expansion of the valve.



Example: 6J x 15 H2
6=rim width in inches
J=flange version
x=well base
15=diameter in inches
H2=double hump

Tubeless tires must be mounted without tubes only on rims with double humps. An appropriate tube would have to be used with these tires when mounting on earlier rims.

When necessary, a tubeless tire may be matched with a tube tire on the same axle if make, size and type are identical.

Rims with double humps were introduced on the 1976 models.



2011-2012 Porsche Carrera GT



SERVICE

Page 2 of 5
March 15, 1985

Technical Bulletin

Model
912, 911, All
Carrera, 911 Turbo

Group
4

Subject:

Summer Tire And Wheel Rim Summary

Part Identifier

N/A

Number

8506

Original Porsche rims can be identified by the Porsche part number on the rim:

- 901.361.xxx.xx - rim without humps
- 911.361.xxx.xx - rim with double humps

x=digits for internal designation of version and paint

Pressure cast rims are not always sufficiently airtight because of the rougher structure. Consequently, they are suitable for use with tubeless tires only after appropriate testing. Beginning with some 1976 models, Porsche pressure cast rims are tested for gas leaks and are approved for use with tubeless tires.

Rim Size	Not Tested (use tubes)	Tested (use tubeless tires)
6J x 15 (silver)	911.361.023.10	911.361.023.40
6J x 15 (unpainted)	911.361.023.14	911.361.023.44
7J x 15 (silver)	911.361.023.20	911.361.023.54

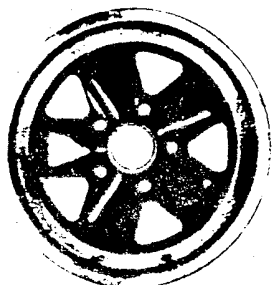
Note

Always use self-centering rims on vehicles with selfcentering hubs.

Use only steel wheel nuts on steel rims.

Matching tires with forged, perforated disc wheel rims,

- Part No. 911.361.020.43 (6J x 16)
- Part No. 911.361.020.44 (7J x 16)
- Part No. 911.361.020.45 (8J x 16)



Tires and perforated disc wheel rims are matched during vehicle assembly to minimize radial run-out.

Matching procedure

- a machined depression on the rim well of the perforated disc wheel rim marks the point of highest radial run-out
- a red locating dot is pasted on the outside of the rim to mark the same point of highest radial run-out
- tires are marked with a green dot
- align red and green dots when installing tire on rim
- dots must be within 30 mm (1 3/16 in.) of each other

Note

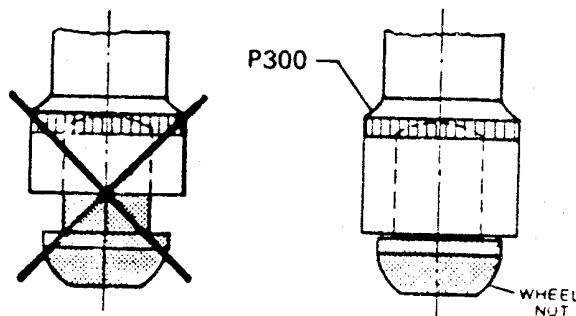
If the red locating dot is missing, mark the location of machined depression with chalk or tape before installing tire

Aluminum wheel nuts

Aluminum wheel nuts require special care.

Before installing:

- lubricate threads and shoulders of aluminum nuts with Optimoly HT, Part No. 999.917.728.00 (Optimoly HT does not affect tightening torque)



— torque nuts to 130 Nm (96 ft lb)

Note

Tighten and loosen aluminum nuts with a socket that grasps the entire depth of nut.

CAUTION

Other socket wrenches or wheel wrenches are not approved.

Never use impact tools.



SERVICE

Page 3 of 5
March 15, 1985

<h1>Technical Bulletin</h1>	Model 912, 911, All Carrera, 911 Turbo	Group 4
	Part Identifier N/A	Number 8506

Subject:
Summer Tire And Wheel Rim Summary

Break-In time for new tires

New tires have a vulcanization skin that can cause poor vehicle handling. Handling characteristics improve measurable during the tire break-in period of 600 miles (1000 km).

Vehicle handling characteristics should not be evaluated immediately after tire replacement.

Driving conservatively during the first 600 miles (1000 km) will help to maximize tire life.

After the break-in period, check wheel balance.

Balance weights

Use only single balance weights, a maximum of 40 grams each, on 15 inch wheel rims on vehicles with brake pad wear indicators (standard on 911 Carrera/911 Turbo as of 1984 Model Year). Sufficient clearance cannot be guaranteed if larger weights are used.

Obtain even tire wear by rotating tires after 3000 miles (5000 km).

Front

Recommended tire rotation sequence
(not possible on Types 911 SC, Carrera and 911 Turbo)

Tire pressures

Measure tire pressure only when tires are cold. Air pressure increases as tires get hotter and must not be decreased.

	912, 911 All, & Turbo 3.0L	Turbo 3.3L
Front	2.0 bar (29 psi)	2.0 bar (29 psi)
Rear	*2.4 bar (34 psi)	3.0 bar (44 psi)

Collapsible spare wheel: 2.2 bar (32 psi)
*2.5 bar (36 psi) specified for rear wheels of 911 Carrera from 1984 Model Year

Conditions leading to slow air loss or structural damage

- damage to bead during installation
- installation damage from excessive expansion of bead core; tire could part from rim
- installation damage to inside of tire; could cause loss of air or ply separation
- punctures from foreign objects (nails, glass, rocks, etc.); moisture can cause rust at puncture
- squeezing damage (from driving over potholes, curbs, or similar objects)
- sidewall damage (from rubbing against curb or slipping off road shoulders)
- cuts in tire (especially sidewalls)
- damage from underinflation

Damage that impairs true-running of wheels

- flat spots from standing. Under high temperature conditions. Tires may develop flat spots on the contact surfaces during long periods of standing. Driving the car should correct this condition.
- uneven wear from damaged suspension parts or misalignment. Checking/correcting wheel alignment is necessary along with the replacing of damaged parts.

Technical Bulletin	Model 912, 911, All Carrera, 911 Turbo	Group 4
	Subject: Summer Tire And Wheel Rim Summary	Part Identifier N/A

- uneven wear from improper balancing. Correct balancing must be performed before damage occurs.
- flat spots from locked wheels while braking. This damage usually remains noticeable and cannot be repaired.

When checking tire pressure, also check condition of tires. Look for uneven tire wear, damage to tires and rims and damage to suspension parts.

Porsche recommends checking wheel alignment following the first 600 miles (1000 km) of driving, or after any repairs to the suspension system.

CAUTION
Porsche recommends replacing a tire if there is damage to the tread or sidewall and any possibility of structural deterioration exists.

Note
Repairing tires with pressurized sealants or tubes is not acceptable.
Retreading tires is not acceptable.

Storing tires
Rubber ages and is sensitive to certain substances. Ozone, fuels, oils, greases and solvents have a damaging effect.

- Storage information**
- store tires indoors when cool and dry. Temperatures between — 10°C and +20°C (14°F and 68°F)
 - clean tires with water before storing
 - store tires in a dark room
 - store tires on rims and inflate to higher pressures
 - do not store tires near heat radiators, electrical equipment, fuels, lubricants, solvents or chemicals
 - do not store tires in direct sunlight or under constant fluorescent lighting. Avoid blue light protection paint on windows.

- do not store tires by suspending on hooks or in stacks

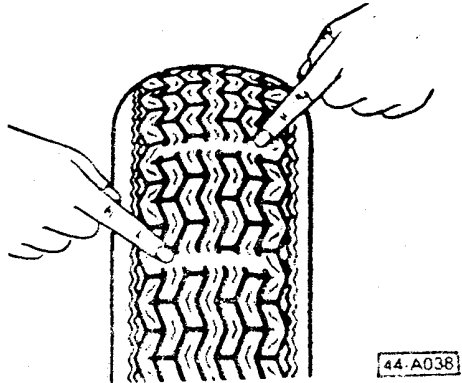
Note
The assumption that tires are more wear resistant after aging is not valid. VR rated tires should not be used if older than 6 years.

Age can be determined by the last three digits of the DOT code on the tire sidewall.

For example:
If the last three digits are 193, the tire was manufactured in the 19th week of 1983.

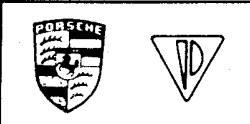
Wear
Excessive, rapid tire wear is usually attributed to driving habits.
Almost all tires have tread wear indicators specified for the U.S.

The tread wear indicator is a ridge across the tread base at 6 points on the circumference of the tire.



Tread wear indicators

The ridge has a height of 1.6 mm. When tread wear reaches this point, the ridges become visible. The appearance of the wear indicators signals the need for tire replacement.



SERVICE

Technical Bulletin	Model	Group
	All	4
Subject:	Part Identifier	Number
Winter Tire - Wheel Rim Summary	N/A	8613

ATTENTION: This bulletin replaces Bulletins:

- Group 4, Number 8601 dated Feb. 14, 1986
- Group 4, Number 8606 dated Mar. 14, 1986
- Group 4, Number 8607 dated Mar. 14, 1986

Winter Tire Recommendations

Winter Tires may be used in the same size as summer tires.

Standard Size Tires may not give you the same grip in deep snow as the narrower tires, however, they are equivalent on ice or packed snow. They also have better handling properties on dry and wet roads.

Narrow Size Tires should be selected if driving is frequently done in deep snow, as in snow belt areas.

It is just as important to check the air pressure of M&S tires, as that of summer tires.

The maximum road speed with SR winter tires "Q" is 100 mph (160 km) and for the HR winter tires "T" is 119 mph (190 km).

Winter tire treads will usually have supporting webs in the tread base, which could stop the drainage grooves already when the treads are worn to a height of approximately 4mm. It is then necessary to drive especially carefully on wet roads.

It must not be expected that M&S tires will offer the same behavior on dry roads in regards to handling, rolling comfort and wear, as summer tires.

General Installation Instructions

Always use new rubber valves or tubes when replacing tires. Rubber Valve Part No. 900 265 001 50.

Always coat tire beads with an approved tire lubricant when mounting tire on rim. Do not use silicone.

Work Sequence

- install new valve stem and remove insert
- ensure tire is seated on rim
- install valve stem insert and inflate tire to correct pressure

Tires and tubes

Do not use tubes in tubeless tires, except in an emergency situation. The combination of different makes of tires on one car cannot be recommended.

Tubes are not available for series 50/55 tires.

New Tire Instructions

Always use tires of the same make and type.

When changing tires of only one axle set, new tires should be mounted on wheels of front axle.

Research has proven that the handling of a new tire improves considerably after a "Break-in Period" of approximately 600 miles. The period of the break-in phase will depend on the driving habits of the driver, the surface conditions of the roads and the rubber composition of the tire brand. Please inform the customer accordingly. The handling should not be overrated immediately after installation of new tires.

Uniform tire wear may be obtained by rotating the wheels regularly, (e.g. 3000 miles). Always exchange the wheels on the same side only, i.e., left rear to left front and vice versa, so that the running direction of the wheels is always the same.

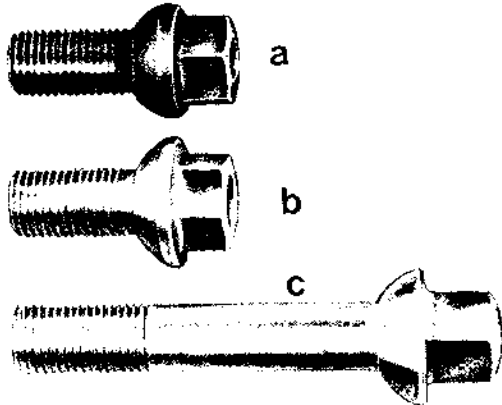


SERVICE

<h1>Technical Bulletin</h1>	Model All	Group 4
	Part Identifier N/A	Number 8613

Subject: Winter Tire - Wheel Rim Summary

Wheel bolts



- a. Part No. 431 601 139 14x1.5mm, length 25.5mm, shoulder diameter 24mm, for 5½x14 in. steel rims, tightening torque 110 Nm (11 mkp).
- b. Part No. 477 601 139B 14x1.5mm, length 25mm, shoulder diameter 28mm, for 6Jx14 in. light alloy rims, tightening torque 130 Nm (13mkp).
- c. Part No. 477 601 139C 14x1.5mm, length 70mm, shoulder diameter 28mm, for 6Jx15 in. light alloy rims, tightening torque 130 Nm (13 mkp).

Wheel nuts



- d. Part No. 999 182 003 36 aluminum, for all Porsche rims with 5 mounting holes (especially aluminum rims) tightening torque 130 Nm (13 mkp).
- e. Part Number N 020 112 1 or 900 182 001 01 steel, for all rims with 5 mounting holes (especially steel rims) tightening torque 130 Nm (13 mkp).

Aluminum Wheel Nuts

Aluminum wheel nuts require special care.

Before installing:

- lubricate threads and shoulders of aluminum nuts with Optimoly HT Part No. 999 917 728 00 (Optimoly HT does not affect tightening torque.)

Note

Tighten and loosen aluminum nuts with a socket that grasps entire depth of nut.

CAUTION

Other socket wrenches or wheel wrenches are not approved.

NEVER USE IMPACT TOOLS.

Refer to the tables on the following pages for specific tire and rim applications on each Porsche model.



SERVICE

DO NOT REMOVE THIS LABEL

Technical Bulletin	Model 928, 928S	Group 4
	Subject: Winter Tire - Wheel Rim Summary	Part Identifier N/A

ATTENTION: This bulletin replaces Bulletin Group 4, Number 8601 dated February 14, 1986. Recommended winter tires and matching wheel rims Models 928 928S and 928S4.

Tire Size	Tire Make	Rim Size	Remarks
185/70 R 15 ¹	Continental Super-Contact TS 730	7Jx15	Cast aluminum rims ²
88T M&S	Vredestein Snow + Pirelli Winter 190		
215/60 R 15	Continental Super-Contact TS 740	7Jx15	Cast aluminum rims ²
90T M&S or 93T M&S	Goodyear Ultra Grip 3 Michelin X M&S 300 Semperit Top Grip 65		
205/55 R 16	Continental Super-Contact TS 740	7Jx16 front and rear or	Cast aluminum rims ²
88T M&S	Goodyear NCT Ultra Grip Goodyear Eagle MS	7Jx16 front and 8Jx16 rear	Forged aluminum rims
225/50 R 16	Pirelli Winter 190	7Jx16 front and rear or	Cast aluminum rims ²
92T M&S		7Jx16 front and 8Jx16 rear	Forged aluminum rims

1. Recommended only for Porsche 928.
2. Can be used only up to end of 1985 model year. From 1986 models on new brake system is installed. Cast aluminum rims (Telephone Dial Type) cannot be used, no clearance on brake calipers.

Tire inflation pressure cold:

front 2.5 Bar (36 psi)
rear 3.0 Bar (44 psi)

Refer to Wheel Rim Summary



SERVICE

Technical Bulletin

Model
928, 928S

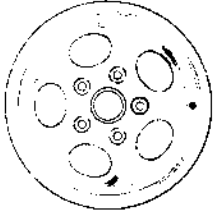
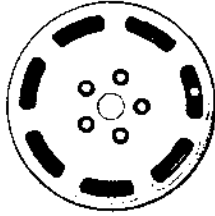
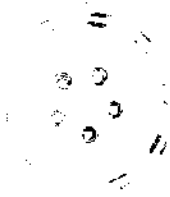
Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

Wheel Rim Summary 928/928S/928S4
Winter Tires

Rim Design	Rim Dimension	Offset mm	Porsche Part Number	928/928S up to 1986	928S 928S4 from 1986
1. Cast aluminum "Telephone Dial" 	7Jx15	65.0	928 361 919 00	x	
	7Jx15	65.0	928 361 019 00	x	
	7Jx16	65.0	928 361 916 00	x	
	7Jx16	65.0	928 361 016 00	x	
2. Forged aluminum "Disc Type" 	7Jx16	65.0	928 361 021 05	x	x
			08	x	x
	7Jx16	65.0	928 362 115 00	x	x
			01	x	x
3. Cast aluminum Winter use only 	8Jx16	52.3	928 362 117 00	x	x
			01	x	x
3. Cast aluminum Winter use only	7Jx16	65.0	928 362 114 20	x	x

11-11-86 10:30 AM



SERVICE

Page 4 of 15
Dec. 12, 1986

Technical Bulletin

Model
912, 911, 911SC
911 Carrera, 911 Turbo

Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

ATTENTION: This bulletin replaces Bulletin Group 4, Number 8607 dated March 14, 1986

Recommended winter tires and matching wheel rims.

Tire Size	Tire Make	Rim Size ¹		Remarks
		912, 911	911SC, Carrera Turbo, Turbo Look	
185/70 R 15 88T M&S	Continental Super-Contact TS 730 Pirelli Winter 190 Vredestein Snow+	5½J+15 or 6Jx15 front and rear	Recommended Sizes 6Jx15 front 7Jx15 rear Possible Sizes: 6Jx15 front and rear or 7Jx15 front and rear	Not recommended for 911 Turbo
195/65 R 15 91T M&S	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM+S300 Pirelli Winter 190 Semperit Top Grip 65	6Jx15	Recommended Sizes: 6Jx15 front 7Jx15 rear Possible Sizes: 6Jx15 front and rear or 7Jx15 front and rear	Not recommended for 911 Turbo
195/65 R 15 91T M&S, front 215/60 R 15 90T M&S or 93T M&S rear	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM+S300 Semperit Top Grip 65		Possible Sizes: 6Jx15 front 7Jx15 rear or 7Jx15 front 8Jx15 rear	No chain clearance with 8" rims

FORSALE IN NORTH AMERICA - 20



SERVICE

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Dec. 12, 1986

PORSCHE CARS NORTH AMERICA - INC.

Technical Bulletin	Model 912, 911, 911SC 911 Carrera, 911 Turbo	Group 4
	Subject: Winter Tire - Wheel Rim Summary	Part Identifier N/A
		Number 8613

Tire Size	Tire Make	Rim Size ¹		Remarks
		912, 911	911SC, Carrera Turbo, Turbo Look	
205/55 R 16 88T M&S	Continental Super-Contact TS 740 Goodyear NCT Ultra Grip Goodyear Eagle MS	6Jx16	Recommended Sizes: 6Jx16 front 7Jx16 rear Possible sizes: 6Jx16 front and rear 7Jx16 front and rear 7Jx16 front and 8Jx16 rear	Not for cars with 15" series 50 summer tires as standard equipment. With 16" wheels steering lock stop required. Install cover holder Part # 911 347 056 00 (except 911SC, Carrera 3.0 from Mod. 1977 and 911 Turbo
205/55 R 16 88T M&S front 225/50 R 16 92T M&S rear	Pirelli Winter 190		Recommended Sizes: 7Jx16 front 8Jx16 rear Possible sizes: 6Jx16 front 7Jx16 rear	Recommendation only for 911 Turbo and Turbo Look. On other models no chain clearance.

1. Only forged aluminum wheel rims may be used on 911 Turbo vehicles. Exception: For winter use Cast Aluminum Telephone Dial Type Rim, size 7Jx16 and 8Jx16 may be used.

Refer to wheel rim summary.

Tire inflation pressure cold

Model	Front	Rear
912	2.0 Bar (29 psi)	2.4 Bar (35 psi)
911, 911SC 911 Carrera, Turbo 3.0C	2.0 Bar (29 psi)	2.5 Bar (36 psi)
911 Turbo 3-3C Turbo-Look	2.0 Bar (29 psi)	3.0 Bar (44 psi)



SERVICE

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Technical Bulletin

Model
912, 911, 911SC
911 Carrera, 911 Turbo


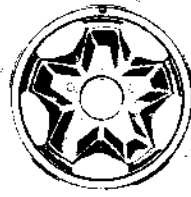
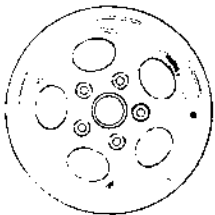
Group
4

Subject:
Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

Wheel Rim Summary 912, 911, 911SC, Carrera, 911 Turbo

Rim Design	Rim Dimension	Offset mm	Porsche Part Number	912/911 up to '77	911SC Carrera from '78	911 Turbo Turbo-Look
1. Steel Rim 	5 1/2 Jx15	42.0	911 361 022 10 11	x x		
	6 Jx15	36.0	911 361 021 00'	x	78-83	
2. Cast Aluminum Star design 	6 Jx15	36.0	911 361 023.40	x	x	
			.44	x	x	
			.45	x	x	
	7 Jx15	23.3	911 361 023.50 .54 .55		x x x	
3. Cast Aluminum "Telephone Dial" 	6 Jx15	36.0	911 361 023 46	x	x	
	7 Jx15	23.3	951 362 104 00		x	
	7 Jx16	23.3	951 362 114 00		x	
	8 Jx16	23.3	951 362 116 00			x x

DODGE CARS NORTH AMERICA - 20



SERVICE

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Dec. 12, 1986

Technical Bulletin


Model
912, 911, 911SC
911 Carrera, 911 Turbo

Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

Rim Design	Rim Dimension	Offset mm	Porsche Part Number	912/911 up to '78	911SC Carrera from '78	911 Turbo Turbo-Look	
4. Forged Aluminum "Fuchs" 	6Jx15	36.0	911 361 020.10 .90	x x	x x		
	7Jx15	23.3	911 361 020.41 .93		x x	x x	
	8Jx15	10.6	911 361 020.42 .94		x x	x x	
	6Jx16	36.0		911 361 020.43 .97	x x	x x	x x
				911 362 113.00 .90	x x	x x	x x
				911 361 020.44 .98		x x	x x
	7Jx16	23.3		911 362 115.00 .90		x x	x x
				951 362 115.00 .90		x x	x x
	8Jx16	10.6		911 361 020.45 .99		x x	x x
	8Jx16	23.3		951 362 117.00 .90			x x

1. Steel Rim without hub centering.

PORSCHE CARS NORTH AMERICA, INC.



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
924, 924S, 924T
944, 944S, 944T

Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

ATTENTION: This Bulletin replaces Bulletin Group 4, Number 8606 dated March 14, 1986.

Recommended winter tires and matching wheel rims 924, 924S, 924T, 944, 944S, 944T

P O R S C H E U S A S E A S N O R T H A M E R I C A I N C .

Tire Size	Tire Make	Rim Size 924	
SR-Winter tires up to 100 mph 165 R 14 84 QM-S	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM-S 100 Uniroyal Rallye M-S Plus	5½Jx14	
185/70 R 14 86 QM-S or 88 QM-S	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM-S 100 Uniroyal Rallye M-S Plus	5½Jx14 or 6Jx14	
HR Winter tires up to 119 mph 185 70 R 14 86T M&S or 87T M&S or 88T M&S	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM-S100 Vredestein Snow!	5½Jx14 or 6Jx14	
185/65 R 15 87T M&S	Continental Super-Contact TS 740 Goodyear NCT Ultra Grip Goodyear Eagle MS Semperit Top Grip	6Jx15	



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
924, 924S, 924T
944, 944S, 944T

Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

Tire Size	Tire Make	Rim Size 924 Turbo	Rim Size 924S
HR Winter tires up to 119 mph 185/70 R 15 88T M&S	Continental Super- Contact TS 730 Vredestein Snow+ Pirelli Winter 190	5½Jx15 or 6Jx15	
195/65 R 15 91T M&S	Continental Super- Contact TS 740 Goodyear Ultra Grip 3 Michelin XM+S 300 Semperit Top Grip 65 Pirelli Winter 190	5½Jx15 or 6Jx15	5½Jx15 or 6Jx15
205/55 R 16 88T M&S	Continental Super- Contact TS 740 Goodyear NCT Ultra Grip Goodyear Eagle MS	6Jx16 No chain clearance	6Jx16 No chain clearance

DOMESTIC CARS NORTH AMERICA - 20



SERVICE

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Dec. 12, 1986

<h1>Technical Bulletin</h1>	Model 924, 924S, 924T 944, 944S, 944T	Group 4
	Part Identifier N/A	Number 8613

Tire Size	Tire Make	Rim Size 944, 944S	Rim Size 944 Turbo
HR Winter tires up to 119 mph 185/70 R 15 88T M&S	Continental Super-Contact TS 730 Vredestein Snow+ Pirelli Winter 190	5½Jx15 or 6Jx15 or 7Jx15 front and rear	
195/65 R 15 91T M&S	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM+S 300 Semperit Top Grip 65 Pirelli Winter 190	6Jx15 or 7Jx15 front and rear	7Jx15
215/60 R 15 90T M&S or 93T M&S	Continental Super-Contact TS 740 Goodyear Ultra Grip 3 Michelin XM-S 300 Semperit Top Grip 65	7Jx15 front and rear or 7Jx15 front and 8Jx15 rear (8Jx15 no chain clearance)	7Jx15 front and rear
205/55 R 16 88T M&S	Continental Super-Contact TS 740 Goodyear NCT Ultra Grip Goodyear Eagle MS	6Jx16 or 7Jx16 front and rear	7Jx16 front and rear
205/55 R 16 88T M&S 225/50 R 16 92T M&S	Pirelli Winter 190	7Jx16 front 8Jx16 rear (No chain clearance)	7Jx16 front 8Jx16 rear (Only with chain Part Number 951 361 901 00)



SERVICE

Technical Bulletin

Model
924, 924S, 924T
944, 944S, 944T

Group
4

Subject: Winter Tire - Wheel Rim Summary


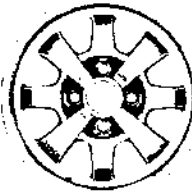

Part Identifier
N/A

Number
8613

Tire inflation pressure cold:

Model	Front	Rear
924	2.0 Bar (29 psi)	2.0 Bar (29 psi)
924S, 924 Turbo 944, 944S	2.0 Bar (29 psi)	2.5 Bar (36 psi)
944 Turbo	2.5 Bar (36 psi)	2.5 Bar (36 psi)

Wheel Rim Summary 924, 924T, 924S, 944,
944S, 944T

Rim Design	Rim Dimension	Offset mm	Porsche Part Number	924
1. Four Lock Bolts Steel Rim 	5½Jx14	20.0	477 601 029A	x
2. Cast Aluminum 	6Jx14	20.0	477 601 031B D	x x
3. Cast Aluminum "Spokes" 	6Jx15	20.0	477 601 031 H	

PORSCHE CARS NORTH AMERICA, INC.



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Technical Bulletin

Model
924, 924S, 924T
944, 944S, 944T

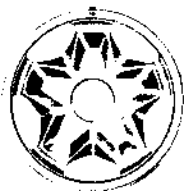
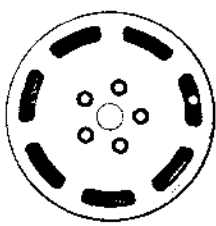
Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

Wheel Rim Summary 924, 924S, 924T, 944,
944S, 944T

Rim Design	Rim Dimension	Offset mm	Porsche Part Number	924S 924T	944 up to 1986	944S 944 from '87	944T	
7. Cast Aluminum "Star Design" 	6Jx15	36.0	911 361 023.40 .44 .45		x x			
	7Jx15	23.3	911 361 023.50 .54 .55		x x x			
	8. Forged Aluminum Disc type 	6Jx16	53.0	477 601 026 D	x			
		6Jx16	52.3	944 362 113.00 .01	x x		x x	
		7Jx16	52.3	944 362 115.00 .01			x x	x from 87 x from 87
		8Jx16	52.3	928 362 117.00 .01			x x	x from 87 x from 87

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SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
924, 924S, 924T
944, 944S, 944T


Group
4

Subject: Winter Tire - Wheel Rim Summary

Part Identifier
N/A

Number
8613

Wheel Rim Summary 924, 924T, 924S, 944,
944S, 944T

Rim Design	Rim Dimension	Offset mm	Porsche Part Number	924S 924T	944 up to 1986	944S 944 from '87	944T	
9. Forged Aluminum "Fuchs" 	6Jx15	36.0	911 361 020.10 .90		x			
	7Jx15	23.3	911 361 020.41 .93		x			
	8Jx15	10.6	911 361 020.42 .94		x			
	6Jx16	36.0	911 361 020.43 .97		x			
			or	911 362 113.00 .90		x		
	7Jx16	23.3	911 362 115.00 or 911 361 020.44 .98		x			
			or	951 362 115.00 .90		x		x up to 86 x up to 86
	8Jx16	10.6	911 361 020.45 .99		x			
			or	911 362 117.00 .90		x		
	8Jx16	23.3	951 362 117.00 .90		x			x up to 86 x up to 86

POSSIBLE PARTS NORTH AMERICA - 201



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
4

Subject: Noise From Front Wheel Seal

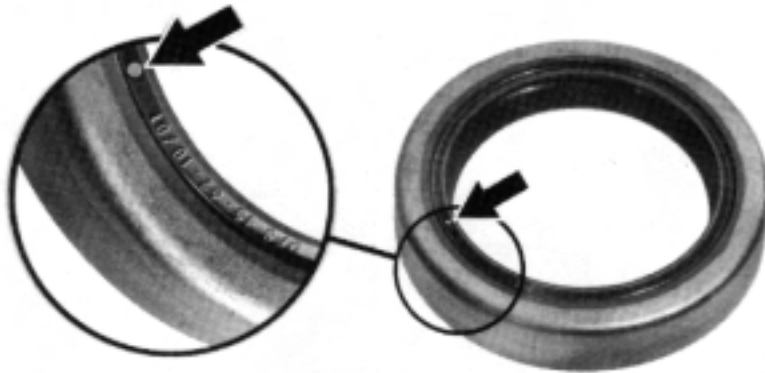
Part Identifier
4060

Number
8904

From production date October 1988, a modified front wheel radial sealing ring is installed. The Part Number 477 405 641 remains unchanged.

When repairing cars with squeaking or whistling noise from the front wheel seals (prior to the above production date) install new type seals which can be identified by a molded rubber dot next to the lettering (arrows in figure).

The space between the sealing lips of the sealing ring should be filled with wheel bearing grease prior to installation. Seals without the marking (rubber dot) may be used up on 924, 944 and 928 Series cars.



Important Notice

PCNA Technical Bulletins are intended for use by professional technicians, not a "Do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

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SERVICE

Page 1 of 1
April 14, 1989

PCNA TECHNICAL BULLETIN 8904-01-02

<h1>Technical Bulletin</h1>	Model 911 Carrera, 928S & 944	Group 4
	Subject: Shock Absorbers	Part Identifier 4090 4293

	Front Axle		System				Make					Shock Absorbers Paint Color Identification
	Front Axle	Rear Axle	Single Chamber	Double Chamber	Pressureless	Gas Pressure	Boge	Bilstein	F&S	Koni	VW	
911 Carrera	x		x	x		x						Black, blue dot
		o		o	o		o					Black, blue ring
911 Carrera Turbo Look	x		x			x	x					Black, brown dot
		o		o		o	o					Black, brown ring
911 Carrera Turbo Look Sport Version	x		x			x		x				Green
		o	o			o		o				Green, blue ring
928S	x		x	x		x						Black
		o		o	o		o					Black
928S Spt. Suspension	x		x			x		x				Gold
		o	o			o		o				Gold
944	x		x	x							x	Black
		o		o	o				o			Grey
944 Sport Suspension	x		x	x						x		Black, blue ring
		o		o	o					o		Up to 85/1-yellow, blue ring
944 Sport Suspension	x		x	x						x		Black, blue ring
		o		o		o				o		As of 85/2-Yellow
944 Clubsport	x		x	x						x		Black
		o		o		o				o		Yellow, green ring

x = Front Axle, o = Rear Axle
 Visible differences between pressureless and gas pressure shock absorbers are:
 —A removed pressureless shock absorber will remain in any position.
 —A gas pressure shock absorber will move against the upper stop.



SERVICE

Technical Bulletin

Model
911 Carrera
911 Turbo
928 S

Group
4

Subject:

Shock Absorbers — M.Y. 1986

Part Identifier
4090
4293

Number
8603

Below is a chart for shock absorbers used for the 1986 Model Year.

*Optional Equipment	Front Axle	Rear Axle	System				Make					Shock Absorbers Paint Color Identification
			Single Chamber	Double Chamber	Pressureless	Gas Pressure	Boge	Bilstein	F&S	Koni	VW	
911 Carrera	X		X	X	X	X						Black-blue point
		O	O	O	O							Black-blue point
911 Carrera Turbo Look	X		X	X	X							Black-brown point
		O	O	O	O							Black-brown ring
Sports Styling *	X	X		X		X						Green
		O	O		O	O						Green-blue ring
911 Turbo	X	X		X		X						Green
		O	O		O	O						Green-blue ring
928 S	X		X	X	X							Grey
		O	O	O	O							Grey
928 S	X		X	X	X							Red
		O	O	O	O							Red
Sports Styling *	X	X		X		X		X				Gold Colored
		O	O		O	O		O				Gold Colored

X = Front Axle O = Rear Axle

Visible differences between pressureless and gas pressure shock absorbers are:

- A removed pressureless shock absorber will remain in any position.
- A gas pressure shock absorber will move against the upper stop.

P O R S C H E C A R S N O R T H A M E R I C A - 1 2 0



SERVICE

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March 14, 1986

Technical Bulletin

Model

All

Group

4

Subject:

Shock Absorbers—M.Y. 1987

Part Identifier

**4090
4293**

Number

8702

Below is a chart for shock absorbers used for the 1987 Model Year.

	Front Axle	Rear Axle	System				Make					Spare Part	Shock Absorbers Paint Color Identification
			Single Chamber	Double Chamber	Pressureless	Gas Pressure	Boge	Bilstein	F&S	Koni	VW		
924S	X		X	X							X		Black
		O	O	O					O				Grey
924S Sport Shocks	X		X	X						X			Black-blue ring
	X										X		Yellow
		O	O		O					O			Yellow
924S Clubsport	X		X	X						X			Black adjustable
	X										X		Yellow-green ring
		O	O		O					O			Yellow-green ring
944, 944S	X		X	X					X				Black
		O	O	O					O				Grey
944 Turbo	X		X		X				X				Black
		O	O		O				O				Grey-green dot
944, 944S, 944 Turbo Sport Shocks	X		X		X					X			Yellow
		O	O		O					O			Yellow
944, 944S, 944 Turbo Clubsport	X		X		X					X			Yellow height adjustable
		O	O		O					O			Yellow

X = Front Axle O = Rear Axle

Visible differences between pressureless and gas pressure shock absorbers are:

- A removed pressureless shock absorber will remain in any position.
- A gas pressure shock absorber will move against the upper stop.



SERVICE

Page 1 of 2
February 13, 1987

DOMESTIC CARS NORTH AMERICA - INC.

Technical Bulletin

Model

All

Group

4

Subject:

Shock Absorbers—M.Y. 1987

Part Identifier

4090

4293

Number

8702

Below is a chart for shock absorbers used for the 1987 Model Year.

	Front Axle	Rear Axle	System				Make				Shock Absorbers Paint Color Identification
			Single Chamber	Double Chamber	Pressureless	Gas Pressure	Boge	Bilstein	F&S	Koni	
911 Carrera	X		X		X	X					Black-blue Dot
		O	O		O	O					Black-blue Ring
911 Carrera Turbo Look	X		X		X	X					Black-brown Dot
		O	O		O	O					Black-brown ring
Sport Shocks	X	X			X		X				Green
		O	O		O		O				Green-blue ring
911 Turbo	X	X			X		X				Green
		O	O		O		O				Green-blue ring
928 S4	X		X		X	X					Grey
		O	O		O	O					Grey
928 S4	X		X		X	X					Red
		O	O		O	O					Red
Sport Shocks	X	X			X		X				Gold Colored
		O	O		O		O				Gold Colored

*Optional Equipment

X = Front Axle O = Rear Axle

Visible differences between pressureless and gas pressure shock absorbers are:

- A removed pressureless shock absorber will remain in any position.
- A gas pressure shock absorber will move against the upper stop.



SERVICE

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February 13, 1987

1-20-10345 NORTH CAROLINA SERVICE

Technical Bulletin

Model
All

Group
4

Subject: Shock Absorbers—M.Y. 1988

Part Identifier
4090, 4293

Number
8802

	System						Make					Spare Part	Shock Absorbers Paint Color Identification
	Front Axle	Rear Axle	Single Chamber	Double Chamber	Pressureless	Gas Pressure	Boge	Bilstein	F & S	Koni	VW		
924S	X			X	X						X		Black
		O		O	O				O				Grey
924S —Sport Shocks	X			X	X					X			Black—blue ring
	X			X	X					X	X		Yellow
944, 944S		O		O	O				O				Yellow
	X			X	X				X				Black
944 Turbo		O		O	O				O				Grey—green stripe
	X			X	X				X				Black
944, 944S 944 Turbo 944 Turbo S —Clubsport —Sport Shocks		O		O	O				O				Grey—green stripe
	X			X	X					X			Yellow
944, 944S 944 Turbo 944 Turbo S —Clubsport —Sport Shocks		O		O	O				O				Yellow
	X			X	X					X			Yellow

X = Front Axle O = Rear Axle

Visible differences between pressureless and gas pressure shock absorbers are:

- A removed pressureless shock absorber will remain in any position.
- A gas pressure shock absorber will move against the upper stop.



SERVICE

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March 25, 1988

Technical Bulletin

Model
All

Group
4

Subject: Shock Absorbers—M.Y. 1988

Part Identifier
4090, 4293

Number
8802

	System						Make				Shock Absorbers Paint Color Identification	
	Front Axle	Rear Axle	Single Chamber	Double Chamber	Pressureless	Gas Pressure	Boge	Bilstein	F & S	Koni		VW
911 Carrera	X			X		X	X					Black—blue dot
		O		O		O	O					Black—blue ring
911 Carrera —Sport Shocks —Turbo Look —Clubsport	X			X		X	X					Black—brown dot
		O		O		O	O					Black—brown ring
911 Turbo	X		X			X		X				Green
		O	O			O		O				Green—blue ring
928 S4	X			X		X	X					Grey
		O		O		O	O					Grey
928 S4 —Sport Shocks —Clubsport	X			X		X	X					Red
		O		O		O	O					Red
	X*		X			X		X				Gold colored
		O*	O			O		O				Gold colored

*Shock absorber make selected at time of assembly by factory.

X = Front Axle O = Rear Axle

Visible differences between pressureless and gas pressure shock absorbers are:

—A removed pressureless shock absorber will remain in any position.

—A gas pressure shock absorber will move against the upper stop.

Important Notice

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SERVICE

Page 2 of 2
March 25, 1988

Porsche Cars North America, Inc.

Technical Bulletin

Model

All

Group

4

Subject:

New CV Joint Grease

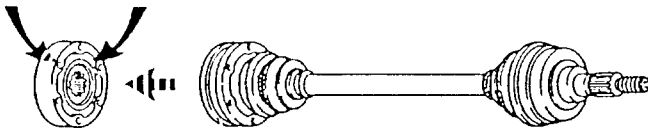
Part Identifier

4224

Number

8809

Effective immediately, a new type grease, Optitemp PU 35, Part Number 000 043 110 00 is supplied for repairs to CV joints. One tube (100 gr.) is required for one CV joint (two tubes per axle). This grease must also be used on repair to earlier cars.



PORSCHE CARS NORTH AMERICA - NO.

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SERVICE

Page 1 of 1
October 21, 1988

Technical Bulletin

Model
911 Carrera,
911 Turbo

Group
4

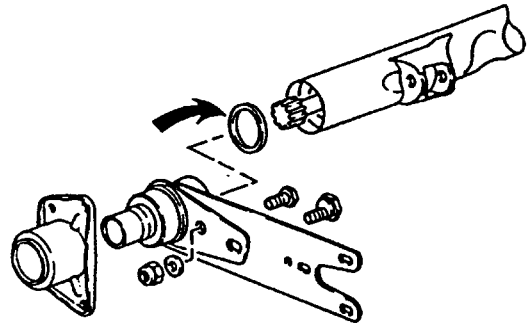
Subject: Spacer Between Spring Plate
and Rear Axle Cross Tube

Part Identifier
4274

Number
8711

A plastic spacer (2mm) is installed on some vehicles between the rear axle cross tube and the spring plate to compensate for body tolerances. This prevents contact between the spring plate mounting bolts and the vehicle body.

This spacer is usually installed on one side only. During repairs the spacer has to be reinstalled.



Spacer Part Number: 911 331 106 00

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SERVICE

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December 4, 1987

PORSCHÉ CARS NORTH AMERICA, INC.

Technical Bulletin

Model

All

Group

4

Subject:

Wheel Balancing

Part Identifier

4400

Number

8701

Models 911 Carrera, 911 Turbo, 928 S4
From Production Date September 15, 1986

The wheel studs closest to the tire valves are marked with red or yellow paint to ensure correct reinstalling of the balanced wheels. The lockable wheel nuts must be installed on these studs.

It is recommended to mark other cars accordingly before removing wheels.

All Models

When balancing front wheels on car, the steering should be in straight ahead position for optimum results.

Off Car Balancing

Prior to balancing wheels with lockable wheel nuts off car, a 5 gram weight should be installed above the tire valve stem on the wheel rim to compensate for the additional weight of the lockable wheel nut. After balancing is completed, this weight must be removed.

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SERVICE

Page 1 of 1
November 20, 1987

DO NOT WRITE IN THESE SPACES

Technical Bulletin

Model
All

Group
4

Subject:

Goodyear "N0" Tires

Part Identifier
4400

Number
8710

Goodyear Eagle VR tires were introduced as original equipment (OE) in 16-inch sizes with Model Year 1988. The OE tires, designated with "N0" (N zero) cast in the sidewall (see illustration), are of a different construction than other European or U.S. produced Goodyear tires.

Caution:

- Goodyear Eagle VR tires without the "N0" designation are not approved for use on Porsches.
- Mixing of non-"N0" tires with "N0" tires on a vehicle is not approved.

Replacement Goodyear "N0" tires can currently be obtained through the Goodyear distributor network in the U.S. When requesting tires, make it absolutely clear that you require Porsche original equipment "N0" tires.



Important Notice

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SERVICE

Page 1 of 1
December 4, 1987

PORSCHE CARS NORTH AMERICA - NO.

Technical Bulletin

Model**All****Group****4****Subject:****Summer Tires
Wheel Rim Summary****Part Identifier****4410/4440****Number****8801**

Listed below are Summer Tire and Wheel Rim dimensions presently approved by Porsche.

924S

Tire Size	Rim Size	Remarks
195/65VR15	6Jx15H2	Front and rear
195/65VR15	6Jx15H2	Front
	7Jx15H2	Rear—no chain clearance
205/55VR16	6Jx16H2	Front and rear or front only
	7Jx16H2	Rear only—check fender clearance, no chain clearance

944, 944S

Tire Size	Rim Size	Remarks
185/70VR15 or 195/65VR15	7Jx15H2	Front and rear
215/60VR15 or 215/60ZR15	7Jx15H2	Front and rear Check front fender clearance
215/60VR15 or 215/60ZR15	7Jx15H2	Front—check fender clearance
	8Jx15H2	Rear—check fender clearance, no chain clearance
205/55VR16 or 205/55ZR16	7Jx16H2	Front and rear
205/55VR16 or 205/55ZR16	7Jx16H2	Front
225/50VR16 or 225/50ZR16	8Jx16H2	Rear—stabilizer required

944 Turbo

Tire Size	Rim Size	Remarks
205/55VR16 or 205/55ZR16	7Jx16H2	Front
225/50VR16 or 225/50ZR16	8Jx16H2	Rear

DORRUM CAPS NOT IN ASSR-CA-20.

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March 4, 1988

Technical Bulletin	Model	Group
	All	4
Subject:	Summer Tires Wheel Rim Summary	Part Identifier 4410/4440
		Number 8801

944 Turbo S

Tire Size	Rim Size	Remarks
225/50VR16 or 225/50ZR16	7Jx16H2	Front
245/45VR16 or 245/45ZR16	9Jx16H2	Rear

Note: Do not mix VR and ZR rated tires on one car.

Caution: 944/944S/944 Turbo wheel rim offset changed from Model Year 1987 on because of the introduction of ABS. Do not use rims from 1987-1988 Model Years on cars prior to 1987 and do not use rims for cars prior to 1987 models on cars from Model 1987 on. Refer to wheel rim summary on the following pages.

911 Carrera

Tire Size	Rim Size	Remarks
185/70VR15	6Jx15H2	Front
215/60VR15	7Jx15H2	Rear
185/70VR15	7Jx15H2	Front
215/60VR15	8Jx15H2	Rear—no chain clearance
195/65VR15	6Jx15H2	Front
215/60VR15	7Jx15H2	Rear
195/65VR15	7Jx15H2	Front
215/60VR15	8Jx15H2	Rear—no chain clearance
205/55VR16 or 205/55ZR16	6Jx16H2	Front
225/50VR16 or 225/50ZR16	7Jx16H2	Rear—no chain clearance
205/55VR16 or 205/55ZR16	6Jx16H2	Front
225/50VR16 or 225/50ZR16	8Jx16H2	Rear—check fender clearance, no chain clearance



SERVICE

Technical Bulletin	Model All	Group 4
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Subject: Summer Tires Wheel Rim Summary	Part Identifier 4410/4440	Number 8801
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911 Turbo and 911 Carrera "Turbo-Look"

Tire Size	Rim Size	Remarks
205/55VR16 or 205/55ZR16	7Jx16H2	Front
225/50VR16 or 225/50ZR16	8Jx16H2	Rear—standard equipment up to 1985
205/55VR16 or 205/55ZR16	7Jx16H2	Front
245/45VR16 or 245/45ZR16	9Jx16H2	Rear—standard equipment from 1987

928, 928S, 928 S4

Tire Size	Rim Size	Remarks
215/60VR15	7Jx15H2	Front and rear, 928 only
225/50VR16 or 225/50ZR16	7Jx16H2	Front and rear up to and including 1986
225/50VR16 or 225/50ZR16	7Jx16H2	Front
225/50VR16 or 225/50ZR16	8Jx16H2	Rear—up to and including 1986
225/50VR16 or 225/50ZR16	7Jx16H2	Front
245/45VR16 or 245/45ZR16	8Jx16H2	Rear—not for 1984 and 1985 Models with ABS

Note: Do not mix VR and ZR rated tires on one car.

Technical Bulletin

Model

All

Group

4

Subject:

Summer Tires
Wheel Rim Summary

Part Identifier

4410/4440

Number

8801

Listed below are Summer Tire dimensions and makes presently approved by Porsche.

924S, 944, 944S, 944 Turbo, 944 Turbo S

Tire Dimensions	Tire Make and Type
195/65VR15	Bridgestone RE71 N0 Continental CV51 Firestone Firehawk 660 N0 Michelin MXV Semperit HiSpeed N0 Pirelli P6
215/60VR15	Bridgestone RE71 N0 Fulda Y 2000 N0 Pirelli P6
215/60ZR15	Dunlop SP Sport D40 N0 Continental CZ51 N0 Yokohama A 008P N0
205/55VR16	BF Goodrich Comp T/A N0 Bridgestone RE71 N0 Dunlop SP Sport D40 Goodyear Eagle VR N0 Pirelli P7
205/55VR16 and 225/50VR16	BF Goodrich Comp T/A N0 Bridgestone RE71 N0 Dunlop SP Sport D40 ^{1 2} Goodyear Eagle VR N0 Pirelli P7 ²
205/55ZR16 225/50ZR16	Pirelli P700-Z N0 Michelin MXX N0
245/45VR16	BF Goodrich Comp T/A N0 Bridgestone RE71 N0 Goodyear Eagle VR N0
245/45ZR16	Pirelli P700-Z N0 Michelin MXX N0

1) Not approved for cars with sport suspension.

2) Not approved for 944 Turbo S.

N0 or N-0 designated tires were introduced as original equipment with 1988 models. N0 designation is cast in the sidewall close to the tire type casting. Tires without N0 designation can be of different construction. Mixing or use of non-"N0" tires on a vehicle is not approved.

DOSSIER CARS NORTH AMERICA - 20



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Technical Bulletin

Model

All

Group

4

Subject:

**Summer Tires
Wheel Rim Summary**

Part Identifier

4410/4440

Number

8801

911 Carrera, 911 Turbo, 911 Carrera "Turbo Look"

Tire Dimension	Tire Make and Type
185/70VR15 ¹ and 215/60VR15	Dunlop SP Sport Super D4
195/65VR15 and 215/60VR15	Bridgestone RE71 N0 Pirelli P6
205/55VR16 and 225/50VR16	BF Goodrich Comp T/A N0 Bridgestone RE71 N0 Dunlop SP Sport D40 Goodyear Eagle VR N0
205/55VR16 and 245/45VR16	BF Goodrich Comp T/A N0 Bridgestone RE71 N0 Dunlop SP Sport D40 Goodyear Eagle VR N0
205/55ZR16 225/50ZR16 245/45ZR16	Pirelli P700-Z N0 Michelin MXX N0

1) Standard equipment up to and including 1986.

928, 928S, 928 S4

Tire Dimension	Tire Make and Type
215/60VR15	Pirelli P6
225/50VR16 245/45VR16	BF Goodrich Comp T/A N0 Bridgestone RE71 N0 Dunlop SP Sport D40 Goodyear Eagle VR N0
225/50ZR16 245/45ZR16	Pirelli P700-Z N0 Michelin MXX N0

N0 or N-0 designated tires were introduced as original equipment with 1988 models. N0 designation is cast in the sidewall close to the tire type casting. Tires without N0 designation can be of different construction. Mixing or use of non-"N0" tires on a vehicle is not approved.

FORSCHE CARB NORTH AMERICA INC.



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Technical Bulletin

Model
All

Group
4




Subject: Summer Tires
Wheel Rim Summary

Part Identifier
4410/4440

Number
8801

Wheel Rim Summary For Summer Tires

924S, 944, 944S, 944 Turbo

Rim Design	Rim Dimension	Offset	Porsche Part Number	924S	944 - 86	944 87 -	944S	944 Turbo - 86	944 Turbo 87 -
1. Cast Aluminum 	6Jx15	53.0 mm	477.601.025.B	x					
2. Cast Aluminum 	7Jx15	23.3 mm	951.362.104.00		x			x	
	7Jx16	23.3 mm	951.362.114.00		x			x	
	8Jx16	23.3 mm	951.362.116.00		x			x	
	6Jx15	52.3 mm	944.362.102.00	x					
	7Jx15	52.3 mm	944.362.104.00	x		x	x		
	7Jx16	52.3 mm	951.362.114.01			x	x		x
	8Jx16	52.3 mm	951.362.116.01			x	x		x
3. Cast Aluminum 	7Jx15	23.3 mm	911.361.023.50 .54 .55		x x x				

DOMESTIC CARS NORTH AMERICA - INC.



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March 4, 1988

Technical Bulletin

Model

All

Group

4

Subject:

**Summer Tires
Wheel Rim Summary**




Part Identifier

4410/4440

Number

8801

924S, 944, 944S, 944 Turbo, 944 Turbo S

Rim Design	Rim Dimension	Offset	Porsche Part Number	924S	944 - 86	944 87 -	944S	944 Turbo - 86	944 Turbo 87 -	944 Turbo S	
	7Jx15	23.3 mm	911.361.020.41 .93		x						
			911.361.020.42 .94		x						
	7Jx16	23.3 mm	911.362.115.00 .90		x						
			911.361.020.44 .98		x						
			951.362.115.00 .90		x			x	x		
	8Jx16	10.6 mm	911.361.020.45 .99		x						
			911.362.117.00 .90		x						
8Jx16	23.3 mm	951.362.117.00 .90		x			x	x			
	6Jx16	53.0 mm	477.601.026D/B	x							
			944.362.113.00 .01	x							
	7Jx16	52.3 mm	944.362.115.00 .01	x		x	x		x		
			928.362.117.00 .01	x		x	x		x		
	7Jx16	65.0 mm	951.362.115.30							x	
	9Jx16	60.0 mm	928.362.119.30							x	

DORVILLE CAR SALES NORTH AMERICA - INC.



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Technical Bulletin

Model

All

Group

4

Subject:

**Summer Tires
Wheel Rim Summary**




Part Identifier

4410/4440

Number

8801

911 Carrera

Rim Design	Rim Dimension	Offset	Porsche Part Number
1. Cast Aluminum 	6Jx15	36.0 mm	911.361.023.40 .44 .45
	7Jx15	23.3 mm	911.361.023.50 .54 .55
2. Cast Aluminum 	6Jx15	36.0 mm	911.361.023.46
	7Jx15	23.3 mm	951.362.104.00
3. Forged Aluminum 	6Jx15	36.0 mm	911.361.020.10 .90
	7Jx15	23.3 mm	911.361.020.41 .93
	8Jx15	10.6 mm	911.361.020.42 .94
	6Jx16	36.0mm	911.361.020.43 .97
			911.362.113.00 .90
	7Jx16	23.3 mm	911.361.020.44 .98
			911.362.115.00 .90
	8Jx16	10.6 mm	911.361.020.45 .99
911.362.117.00 .90			

ADAMS RACING NORTH AMERICA - 201



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March 4, 1988

Technical Bulletin

Model

All

Group

4

Subject:

**Summer Tires
Wheel Rim Summary**

Part Identifier

4410/4440



Number

8801

911 Turbo and Carrera Turbo Look

Rim Design	Rim Dimension	Offset	Porsche Part Number
1. Forged Aluminum 	7Jx16	23.3 mm	911.361.020.44 .98
			911.362.115.00 .90
	8Jx16	10.6 mm	911.361.020.45 .99
			911.362.117.00 .90
	9Jx16	15.0 mm	911.362.119.00 .90

928, 928S, 928 S4

Rim Design	Rim Dimension	Offset	Porsche Part Number
1. Cast Aluminum 	7Jx15*	65.0 mm	928.361.919.00
	7Jx15*	65.0 mm	928.361.019.00
	7Jx16**	65.0 mm	928.361.916.00
	7Jx16**	65.0 mm	928.361.016.00
	8Jx16**	52.3 mm	951.362.116.01
2. Forged Aluminum 	7Jx16	65.0 mm	928.361.021.05 .08
	7Jx16	65.0 mm	928.362.115.00 .01
	8Jx16	52.3 mm	928.362.117.00 .01

*Only for Type 928

**Cast Aluminum Rims can not be used on cars from Model Year 1986 on due to lack of clearance in the area of the 4 piston brake caliper.

PORSHE CARS NORTH AMERICA - INC.



SERVICE

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March 4, 1988

Technical Bulletin

Model

All

Group

4

Subject:

**Summer Tires
Wheel Rim Summary**

Part Identifier

4410/4440

Number

8801

TIRE PRESSURES

General

Tires represent a safety element; they cannot fulfill the requirements placed on them unless the inflation pressures are correct and tread depth is adequate.

The pressures stated below are minimum values; under no circumstances should the pressures be allowed to drop beneath these levels, as this would add the risk of serious tire damage and reduced directional stability.

Valve caps protect the valves from dust and dirt and thus from leaks. Always screw caps on tightly, replace missing caps.

For reasons of safety, the checking of tire pressure should be accompanied by a visual inspection to ensure adequate tread depth and a check for objects piercing the tire, holes, cuts, cracks and bulges in the sidewall.

Measure tire pressure only when the tires are cold. Air pressure increases as the tires get hotter.

Vehicle Type	Front Axle	Rear Axle
924	2.0 bar (29 psi)	2.0 bar (29 psi)
924S, 924 Turbo	2.0 bar (29 psi)	2.5 bar (36 psi)
944, 944S	2.0 bar (29 psi)	2.5 bar (36 psi)
944 Turbo	2.5 bar (36 psi)	2.5 bar (36 psi)
911 Carrera	2.0 bar (29 psi)	2.5 bar (36 psi)
911 Turbo and 911 Carrera Turbo Look	2.0 bar (29 psi)	3.0 bar (44 psi)
928 with tire size 215/60VR15	2.5 bar (36 psi)	3.0 bar (44 psi)
928 with tire size 225/50VR16	2.5 bar (36 psi)	2.5 bar (36 psi)
928S, 928 S4	2.5 bar (36 psi)	3.0 bar (44 psi)

Collapsible Spare Tire:

165—15 4 PR 83 P	2.2 bar (32 psi) ¹
165—15 8 PR 89 P	2.5 bar (36 psi) ²

- 1) This tire may only be used on the front axle on Models 928, 928S, 928 S4, and 911 Turbo
- 2) Standard equipment from Model Year 1986 for 911 Turbo and 928S, 928 S4. Can be used on front and rear axle.

ROBOTECH CARBS NORTH AMERICA - INC.



SERVICE

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March 4, 1988

Technical Bulletin

Model

All

Group

4

Subject:

**Summer Tires
Wheel Rim Summary**

Part Identifier

4410/4440

Number

8801

General Information

Always use new rubber valves when replacing tires. Rubber valve Part No. 900.265.001.50.

Before mounting tires check for directional markings (arrow) or inside/outside markings.

Always coat tire beads with rubber lubricant when mounting tire on rim.

Wipe off lubricant before inflating the tire to reduce the possibility of tire slippage on the rim. For the same reason the customer should be informed to avoid fast acceleration or hard braking during the first 150 miles after tire mounting.

Inflate tubeless tire after mounting, but without valve insert, to approx. 4 bar pressure to guarantee correct fit of tire on rim. Tire beads must jump over the hump of the rim shoulder no later than when reaching a pressure of 3.3 bar, in order to avoid rupturing the bead core.

Screw in valve insert and set the correct tire inflation pressure to specified value.

Forged 7", 8" and 9" Porsche rims must be fitted with specified valve supports to avoid excessive loads on the rubber valves as caused by the designed location of the valve bore.

Support Part Number:

911 361 561 00 or

911 361 561 01

Some 7" cast aluminum rims have a casting boss to support the valve stem and do not need a valve support.

On rims which have this cast boss, the wall thickness at the valve hole will be so large that when installing tubeless tire valves the 3 mm wide bead ring must not be pulled through—as is common for steel rims. Pulling the valve bead through would cause excessive expansion of the valve.

New tire instructions:

Always use tires of the same make and type.

When changing tires of only one axle set, new tires should be mounted on wheels of front axle (unless tires are different front and rear).

If replacing only one tire of an axle set, the difference in tread depth between tires must not exceed 30%.

Before removing a wheel, the wheel stud closest to the tire valve should be marked with paint to ensure correct reinstalling of the balanced wheel. The lockable wheel nut must be installed on this stud. Refer to Bulletin Group 4, Number 8701, for balancing information.

Matching tires with forged rims

A machined depression on the rim well (of the perforated disc wheel rim) marks the point of highest radial run-out.

A red locating dot is pasted on the outside of the rim to mark the same point of highest radial run-out.

Tires are marked with a paint dot.

Align dots when installing tire on rim.

Dots must be within 30 mm (1-3/16 in.) of each other.

If the red locating dot is missing, mark the location of machined depression with chalk or tape before installing tire.

Balance Weights

Use only single balance weights of maximum 40 grams each on vehicles with brake pad wear indicators and 15" wheel rims. Sufficient clearance can not be guaranteed if larger weights are used.

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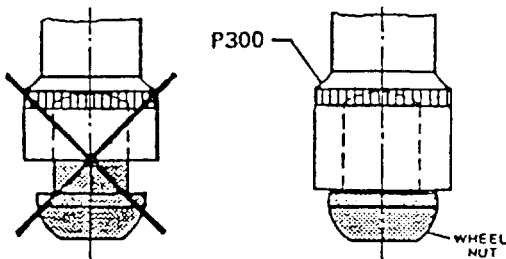
Technical Bulletin	Model	Group
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Summer Tires Wheel Rim Summary	4410/4440	8801

Aluminum wheel nuts

Aluminum wheel nuts require special care.

Before installing:

—lubricate threads and shoulders of aluminum nuts with Optimoly TA, Part No. 000 043 020 00. (Optimoly TA does not affect tightening torque.)



—torque nuts to 130 Nm (96 ft lb).

Note: Tighten and loosen aluminum nuts with a socket that grabs the entire depth of nut.

CAUTION
 Other socket wrenches or wheel wrenches are not approved.
 Never use impact tools.

Break-in time for new tires

New tires have a vulcanization skin that can cause poor vehicle handling. Handling characteristics improve measurably during the tire break-in period of 300 miles (500 km).

Vehicle handling characteristics should not be evaluated immediately after tire replacement.

Driving conservatively during the first 300 miles (500 km) will help to maximize tire life.

After the break-in period, check wheel balance.

Conditions leading to slow air loss or structural damage

- damage to bead during installation

- installation damage from excessive expansion of bead core; tire could part from rim
- installation damage to inside of tire; could cause loss of air or ply separation
- punctures from foreign objects (nails, glass, rocks, etc.); moisture can cause rust at puncture
- squeezing damage (from driving over potholes, curbs, or similar objects)
- sidewall damage (from rubbing against curb or slipping off road shoulders)
- cuts in tire (especially sidewalls)
- damage from underinflation

Damage that impairs true-running of wheels

- flat spots from standing under high temperature conditions. Tires may develop flat spots on the contact surfaces during long periods of standing. Driving the car should correct this condition.
- uneven wear from damaged suspension parts or misalignment. Checking/correcting wheel alignment is necessary along with the replacing of damaged parts.
- uneven wear from improper balancing. Correct balancing must be performed before damage occurs.
- flat spots from locked wheels while braking. This damage usually remains noticeable and cannot be repaired.

When checking tire pressure, also check condition of tires. Look for uneven tire wear, damage to tires and rims and damage to suspension parts.

Porsche recommends checking wheel alignment following the first 1800-3000 (3000-5000 km) of driving, or after any repairs to the suspension system.



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Subject: Summer Tires
Wheel Rim Summary

Part Identifier

4410/4440

Number

8801

CAUTION:

Porsche recommends replacing a tire if there is damage to the tread or sidewall and any possibility of structural deterioration.

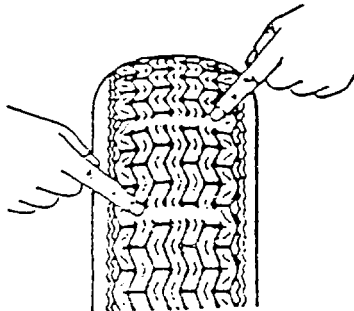
Note: Repairing tires with pressurized sealants or tubes is not acceptable.

Retreading tires is not acceptable.

Tire Wear

Excessive, rapid tire wear is usually attributed to driving habits.

Almost all U.S. tires have tread wear indicators. The tread wear indicator is a ridge across the tread base at 6 points on the circumference of the tire.



Tread wear indicators

The ridge has a height of 1.6 mm. When tread wear reaches this point, the ridges become visible. The appearance of the wear indicators signals the need for tire replacement.

Storing tires

Rubber ages and is sensitive to certain substances. Ozone, fuels, oils, greases and solvents have a damaging effect.

Storage information

- store tires indoors where cool and dry. Temperatures between -10°C and $+20^{\circ}\text{C}$ (14°F and 68°F)
- clean tires with water before storing
- store tires in a dark room
- store tires on rims and inflate to higher pressures
- do not store tires near heat radiators, electrical equipment, fuels, lubricants, solvents or chemicals
- do not store tires in direct sunlight or under constant fluorescent lighting. Avoid blue light protection paint on windows.
- do not store tires by suspending on hooks or in stacks

Note: The assumption that tires are more wear resistant after aging is not valid.

VR rated tires should not be used if older than 6 years.

Age can be determined by the last three digits of the DOT code on the tire sidewall.

For example:

If the last three digits are 197, the tire was manufactured in the 19th week of 1987.

Important Notice

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March 4, 1988

Technical Bulletin

Model
All

Group
4

Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

The following information contains the latest winter tire and wheel rim recommendations for Porsche vehicles. For general information on mounting, balancing and tire care, refer to Technical Bulletin Group 4, Number 8813 and/or the Workshop Manual.

TIRE PRESSURES

Vehicle Type	Front Axle	Rear Axle
924S	2.0 bar (29 psi)	2.5 bar (36 psi)
944, 944S	2.0 bar (29 psi)	2.5 bar (36 psi)
944 Turbo/S	2.5 bar (36 psi)	2.5 bar (36 psi)
911 Carrera	2.0 bar (29 psi)	2.5 bar (36 psi)
911 Turbo and 911 Carrera Turbo Look	2.0 bar (29 psi)	3.0 bar (44 psi)
928 with tire size 215/60 R15	2.5 bar (36 psi)	3.0 bar (44 psi)
928 with tire size 225/50 R16	2.5 bar (36 psi)	2.5 bar (36 psi)
928, 928 S4 with tire size 225/50 R16	2.5 bar (36 psi)	3.0 bar (44 psi)

Collapsible Spare Tire:

165—15 4 PR 83 P 2.2 bar (32 psi)¹
165—15 8 PR 89 P 2.5 bar (36 psi)²

- 1) This tire may only be used on the front axle on Models 928, 928S, 928 S4, and 911 Turbo.
- 2) Standard equipment from Model Year 1986 for 911 Turbo and 928S, 928 S4. Can be used on front and rear axle.

For reasons of safety, the checking of tire pressure should be accompanied by a visual inspection to ensure adequate tread depth and a check for objects piercing the tire, holes, cuts, cracks and bulges in the sidewall.

Measure tire pressure only when the tires are cold. Air pressure increases as the tires get hotter. This increased pressure must not be reduced.

Refer to the tables on the following pages for specific tire and rim applications.

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Technical Bulletin

Model
924S, 944/S
944 Turbo/S

Group
4

Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Recommended Winter tires and matching wheel rims 924S, 944, 944S, 944 Turbo and 944 Turbo S.

Tire Size	Tire Make	App. Range	924S	944-944S	944 Turbo/S	
195/65 R 15	91 T	Gislaved Frost	C	6Jx15 front and Rear or 5½Jx15 front and rear	7Jx15 front and rear or 6Jx15 front and rear** or 6Jx15 front** and 7Jx15 rear	7Jx15 front and rear**
	91 T	Goodyear Ultra Grip 3	A			
	91 H	Michelin X M+S 300	A			
	91 T	Semperit Top Grip	A			
	91 T	Vredestein Snow Star	B			
	91 T	Continental TS 740 E	D			
	91 T	Gislaved Frost Spike	D			
215/60 R 15	93 T	Continental TS 740	A		7Jx15 front and rear or 7Jx15 front and 8Jx15 rear* **	7Jx15 front and rear**
	93 T	Goodyear Ultra Grip 3	A			
205/55 R 16	88 T	Bridgestone WT 04	A	6Jx16* front and rear	7Jx16 front and rear or 6Jx16 front and rear** or 6Jx16 front** and 7Jx16 rear or 7Jx16 front and 8Jx16 rear	7Jx16 front and rear or 7Jx16 front and 8Jx16 rear
	88 H	Dunlop SP Winter Sport	A			
	88 T	Pirelli Winter 190	B			
205/55 R 16	88 H	Dunlop SP Winter Sport Pirelli Winter 190	A		7Jx16 front and 8Jx16 rear*	7Jx16 front and 8Jx16 rear
	88 T		B			
225/50 R 16	92 H 92 T					(only with special tire chain 951 361 901 00)

* No tire chain clearance.

** Only valid up to and including 1986 models.

Application Range A: For all driving conditions.
Application Range B: For frequent highway driving.
Application Range C: For heavy snow regions.
Application Range D: Only where studded tires are permitted.

Important!

The rim offset of rims for 944/944 S/944 Turbo changed since 1987 models.

Wheel rims of cars from 1987 models on may not be used on older models. Also: wheel rims of cars before 1987 models may not be used on cars from 1987 models on (see wheel rim survey).



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Technical Bulletin

Model
911SC-Carrera
911 Turbo

Group
4

Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Recommended Winter tires and matching wheel rims 911SC, 911 Carrera, 911 Turbo.

Tire Size	Tire Make	App. Range	911 SC 911 Carrera and Club Sport Version	911 Turbo/ Turbo Look (Check Wheel Survey)	Remarks
195/65 R 15 front and rear	91 T 91 T 91 H 91 T 91 T 91 T	C A A A B D D	6Jx15 front and 7Jx15 rear	6Jx15 front and 7Jx15 rear	If vehicle was equipped with 15" 50 series summer tires, speedometer may not be accurate with these winter tires.
195/65 R 15 front	91 T	A	6Jx15 front and 7Jx15 rear or 7Jx15 front and 8Jx15 rear*	7Jx15 front and 8Jx15 rear or 6Jx15 front and 7Jx15 rear	*No tire chain clearance
215/60 R 15 rear	93 T				
205/55 R 16 front and rear	88 T 88 H 88 T	A A B	6Jx16 front and 7Jx16 rear	7Jx16 front and 8Jx16 rear or 6Jx16 front and 7Jx16 rear	
205/55 R 16 front	88 H 88 T	A B	6Jx16 front and 7Jx16 rear*	7Jx16 front and 8Jx16 rear or 6Jx16 front and 7Jx16 rear	*No tire chain clearance
225/50 R 16 rear	92 H 92 T		6Jx 16 front and 8Jx16 rear*	6Jx16 front and 7Jx16 rear	

Application Range A: For all driving conditions.
Application Range B: For frequent highway driving.
Application Range C: Only for heavy snow regions.
Application Range D: Only where studs are permitted.

DODGE CARS NORTH AMERICA - NO.



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Model
924S, 944, 944S
944 Turbo/S

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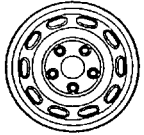

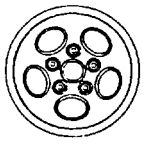

Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Survey of Porsche Wheel Rims for Winter Tires.

IDENTIFICATION: Porsche Part Number and Porsche Trademark

Wheel Rim Version	Wheel Rim Size	Rim Offset	Porsche Part Number	924S	944 -1986	944 1987-	944S	944 Turbo - 1986	944 Turbo 1987-
1. Steel Rim 	5½Jx15	53.0 mm	477 601 030 B	x					
2. Light alloy, cast 	6Jx15	53.0 mm	477 601 025 B	x					
3. Light alloy, cast 	6Jx15	36.0 mm	911 361 023 46		x				
	7Jx15	23.3 mm	951 362 104 00		x			x	
	7Jx16	23.3 mm	951 362 114 00		x			x	
	8Jx16	23.3 mm	951 362 116 00		x			x	
	6Jx15	52.3 mm	944 362 102 00	x					
	7Jx15	52.3 mm	944 362 104 00			x	x		
	7Jx16	52.3 mm	951 362 114 01			x	x		x
	8Jx16	52.3 mm	951 362 116 01			x	x		x
4. Light alloy, cast 	6Jx15	36.0 mm	911 361 023 40		x				
			911 361 023 44		x				
			911 361 023 45		x				
	7Jx15	23.3 mm	911 361 023 50		x				
			911 361 023 54		x				
			911 361 023 55		x				

NOTE: Some of the wheel rims listed are no longer available from parts. Latest version wheel rims will be supplied instead.

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924S, 944, 944S,
944 Turbo/S

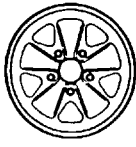
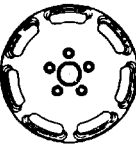
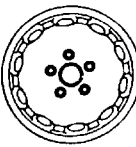
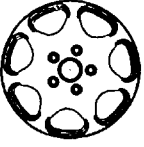
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Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Survey of Porsche Wheel Rims — for Winter Tires (continued)

Wheel Rim Version	Wheel Rim Size	Rim Offset	Porsche Part Number	924S	944 —1986	944 1987—	944S	944 Turbo —1986	944 Turbo 1987—	944 Turbo S 944 Turbo 1989—
5. Light Alloy, forged 	6Jx15	36.0 mm	911 361 020 10 911 361 020 90		x x					
	7Jx15	23.3 mm	911 361 020 41 911 361 020 93		x x					
	8Jx15	10.6mm	911 361 020 42 911 361 020 94		x x					
	6Jx16	36.0 mm	911 361 020 43 911 361 020 97 or 911 362 113 00 911 362 113 90		x x x x					
	8Jx16	23.3 mm	951 362 117 00 951 362 117 90		x x			x x		
6. Light alloy, forged 	6Jx16	53.0 mm	477 601 026 D	x						
	6Jx16	52.3 mm	944 362 113 00 944 362 113 01	x x						
	7Jx16	52.3 mm	944 362 115 00 944 362 115 01			x x	x x		x x	
	7Jx16	65.0 mm	928 362 115 00 928 362 115 01							x x
	8Jx16	52.3 mm	928 362 117 00 928 362 117 01			x x	x x		x x	x x
7. Light alloy, cast 	7Jx16	65.0 mm	928 362 114 20							x
	8Jx16*	52.3 mm	928 362 116 20							x
8. Light alloy, forged  "Club Sport"	7Jx16	65.0 mm	951 362 115 30 951 362 115 31							x x
	8Jx16	60.0 mm	928 362 117 30 928 362 117 31							x x

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Model
911SC Carrera,
911 Turbo

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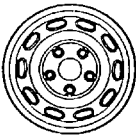

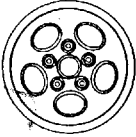
Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Survey of Porsche Wheel Rims - for Winter Tires.

Identification: Porsche part number and Porsche trademark

Wheel Rim Version	Wheel Rim Size	Rim Offset	Porsche Part Number	911 SC/ 911 Carrera 1978→	911 Turbo/ Turbo Look
1. Steel rim 	6Jx15	36.0 mm	911 361 021 00*	x until 1983	
2. Light alloy, cast 	6Jx15	36.0 mm	911 361 023 40	x	
			911 361 023 44	x	
			911 361 023 45	x	
	7Jx15	23.3 mm	911 361 023 50	x	
			911 361 023 54	x	
			911 361 023 55	x	
3. Light alloy, cast 	6Jx15	36.0 mm	911 361 023 46	x	
	7Jx15	23.3 mm	951 362 104 00	x	
	7Jx16	23.3 mm	951 362 114 00		x
	8Jx16	23.3 mm	951 362 116 00		x

*Steel wheel rim without wheel center.

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Model
911SC Carrera,
911 Turbo

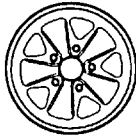
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Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Survey of Porsche Wheel Rims — for Winter Tires (continued)

Wheel Rim Version	Wheel Rim Size	Rim Offset	Porsche Part Number	911SC/ 911 Carrera 1978--	911 Turbo/ Turbo Look
4. Light alloy, forged 	6Jx15	36.0 mm	911 361 020 10	x	x
			911 361 020 90	x	x
	7Jx15	23.3 mm	911 361 020 41	x	x
			911 361 020 93	x	x
	8Jx15	10.6 mm	911 361 020 42	x	x
			911 361 020 94	x	x
	6Jx16	36.0 mm	911 361 020 43	x	x
			911 361 020 97	x	x
			911 362 113 00	x	x
	7Jx16	23.3 mm	911 361 020 44	x	x
			911 361 020 98	x	x
			911 362 115 00	x	x
			911 362 115 90	x	x
	8Jx16	10.6 mm	911 361 117 00	x	x
911 361 117 90			x	x	
8Jx16	23.3 mm	951 362 117 00		x	
		951 362 117 90		x	

NOTE: Some of the wheel rims listed are no longer available from parts. Latest version wheel rims will be supplied instead.

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928, 928S
928 S4

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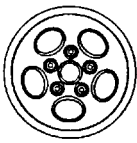
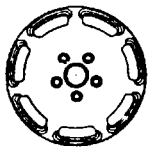
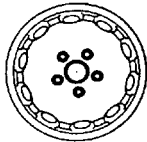
Subject: Winter Tire/Wheel
Rim Summary

Part Identifier
4405

Number
8812

Survey of Porsche Wheel Rims — 928/928S/928 S4 — for Winter Tires.

Identification: Porsche part number and Porsche trademark.

Wheel Rim Version	Wheel Rim Size	Rim Offset	Porsche Part Number	928/ 928S →1985	928S/ 928 S4 1986→
1. Light alloy, cast 	7Jx15	65.0 mm	928 361 919 00	x	
	7Jx15	65.0 mm	928 361 019 00	x	
	7Jx16	65.0 mm	928 361 916 00	x	
	7Jx16	65.0 mm	928 361 016 00	x	
	8Jx16	52.3 mm	951 362 116 01	x	
2. Light alloy, forged 	7Jx16	65.0 mm	928 361 021 05 928 361 021 08	x x	x x
	7Jx16	65.0 mm	928 362 115 00 928 362 115 01	x x	x x
	8Jx16	52.3 mm	928 362 117 00 928 362 117 01	x x	x x
3. Light alloy, cast Only winter driving! 	7Jx16	65.0 mm	928 362 114 20	x	x
	8Jx16	52.3 mm	928 362 116 20	x	x

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Technical Bulletin	Model	Group
	All	4

Subject:	Wheel/Tire General Information	Part Identifier	Number
		4405	8813

Mounting Information

Always use new rubber valves when replacing tires. Rubber valve Part No. 900 265 001 50.

Before mounting tires, check for directional markings (arrow) or inside/outside markings.

Always coat tire beads with rubber lubricant when mounting tire on rim. Do not use silicone.

Wipe off lubricant before inflating the tire to reduce the possibility of tire slippage on the rim. For the same reason the customer should be informed to avoid fast acceleration or hard braking during the first 150 miles after tire mounting.

Inflate tubeless tire after mounting, but without valve insert, to approx. 4 bar pressure to guarantee correct fit of tire on rim. Tire beads must jump over the hump of the rim shoulder no later than when reaching a pressure of 3.3 bar, in order to avoid rupturing the bead core.

Screw in valve insert and set the tire inflation pressure to specified value.

Forged 7", 8" and 9" Porsche rims must be fitted with specified valve supports to avoid excessive loads on the rubber valves.

Support Part Number:
911 361 561 01

Some 7" cast aluminum rims have a casting boss to support the valve stem and do not need a valve support.

On rims which have this cast boss, the wall thickness at the valve hole will be so large that when installing tubeless tire valves the 3mm wide bead ring must not be pulled through—as is common for steel rims. Pulling the valve bead through would cause excessive expansion of the valve.

New Tire Instructions:

Always use tires of the same make and type.

When changing tires of only one axle set, new tires should be mounted on wheels of front axle (unless tires are different front and rear).

If replacing only one tire of an axle set, the difference in tread depth between tires must not exceed 30%.

Before removing a wheel, the wheel stud closest to the tire valve should be marked with paint to ensure correct reinstalling of the balanced wheel. The lockable wheel nut must be installed on this stud. Refer to Bulletin Group 4, Number 8701, for balancing information.

Matching tires with forged rims

A machined depression on the rim well (of the perforated disc wheel rim) marks the point of highest radial run-out.

A red locating dot is pasted on the outside of the rim to mark the same point of highest radial run-out.

Tires are marked with a paint dot.

Align dots when installing tire on rim.

Dots must be within 30mm (1-3/16 in.) of each other.

If the red locating dot is missing, mark the location of machined depression with chalk or tape before installing tire.

Balancing Weights

Use only single balance weights of maximum 40 grams each on vehicles with brake pad wear indicators and 15" wheel rims. Sufficient clearance can not be guaranteed if larger weights are used.



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DOTSUCI UGHS NORI I-103A-02-20

Technical Bulletin		Model All	Group 4
Subject:	Wheel/Tire General Information	Part Identifier 4405	Number 8813

CAUTION:
Porsche recommends replacing a tire if there is damage to the tread or sidewall and any possibility of structural deterioration.

Note: Repairing tires with pressurized sealants or tubes is not acceptable.
Retreading tires is not acceptable.

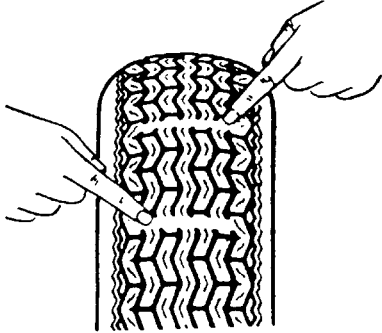
Damage that impairs true-running of wheels

- Flat spots from standing under high temperature conditions. Tires may develop flat spots on the contact surface during long periods of standing. Driving the car should correct this condition.
- Uneven wear from damaged suspension parts or misalignment. Checking/correcting wheel alignment is necessary along with the replacing of damaged parts.
- Uneven wear from improper balancing. Correct balancing must be performed before damage occurs.
- Flat spots from locked wheels while braking. This damage usually remains noticeable and cannot be repaired.

When checking tire pressure, also check condition of tires. Look for uneven tire wear, damage to tires and rims and damage to suspension parts.

Porsche recommends checking wheel alignment following the first 1800-3000 miles (3000-5000km) of driving (through 1988 models), or after any repairs to the suspension system.

Tire Wear — Winter Tires



Supporting Webs

Winter tire treads will usually have supporting webs in the tread base which could stop drainage when the treads are worn to a height of approximately 4mm. It is then necessary to drive especially careful on wet roads.

The appearance of the support webs signals the need for tire replacement.



SERVICE

Technical Bulletin

Model

All

Group

4

Subject:

Wheel/Tire General Information

Part Identifier

4405

Number

8813

TIRE PRESSURES

Vehicle Type

Front Axle

Rear Axle

924S

2.0 bar (29 psi)

2.5 bar (36 psi)

944, 944S

2.0 bar (29 psi)

2.5 bar (36 psi)

944 Turbo/S

2.5 bar (36 psi)

2.5 bar (36 psi)

911 Carrera

2.0 bar (29 psi)

2.5 bar (36 psi)

911 Turbo and

911 Carrera Turbo Look

2.0 bar (29 psi)

3.0 bar (44 psi)

928 with tire size

2.5 bar (36 psi)

3.0 bar (44 psi)

215/60 R15

928 with tire size

2.5 bar (36 psi)

2.5 bar (36 psi)

225/50 R16

928S, 928 S4

2.5 bar (36 psi)

3.0 bar (44 psi)

Collapsible Spare Tire:

165 — 15 4 PR 83 P 2.2 bar (32 psi)¹

165 — 15 8 PR 89 P 2.5 bar (36 psi)²

- 1) This tire may only be used on the front axle on Models 928, 928S, 928 S4 and 911 Turbo
- 2) Standard equipment from Model Year 1986 for 911 Turbo and 928S, 928 S4. Can be used on front and rear axle.

For reasons of safety, the checking of tire pressure should be accompanied by a visual inspection to ensure adequate tread depth and a check for objects piercing the tire, holes, cuts, cracks and bulges in the sidewall.

Measure tire pressure only when the tires are cold. Air pressure increases as the tires get hotter. This increased pressure must not be reduced.

DOTSUCIE WARS NORTH AMERICA - 20



SERVICE

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December 30, 1988

Technical Bulletin		Model All	Group 4
Subject:	Wheel/Tire General Information	Part Identifier 4405	Number 8813

Tire Storage Information

Rubber ages and is sensitive to certain substances. Ozone, fuels, oils, greases and solvents have a damaging effect.

- store tires indoors where cool and dry. Temperatures between - 10°C and +20°C (14°F and 68°F)
- clean tires with water before storing
- store tires in a dark room
- store tires on rims and inflate to higher pressures
- do not store tires near heat radiators, electrical equipment, fuels, lubricants, solvents or chemicals
- do not store tires in direct sunlight or under constant fluorescent lighting
- do not store tires by suspending from hooks or in stacks

Note: The assumption that tires are more wear resistant after aging is not valid. Tires should not be used if older than 6 years.

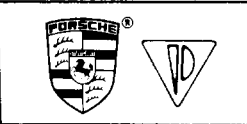
Age can be determined by the last three digits of the DOT code on the tire sidewall.

For example:
If the last three digits are 197, the tire was manufactured in the 19th week of 1987.

Important Notice

PCNA Technical Bulletins are intended for use by professional technicians, not a "Do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

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SERVICE

Technical Bulletin

Model
All

Group
4

Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

ATTENTION: Service Manager/Service Technician

The following information contains the latest winter tire and wheel rim recommendations for Porsche vehicles. For general information on mounting, balancing and tire care, refer to Technical Bulletin Group 4, Number 8813 and/or the Workshop Manual.

Tire Pressures

Vehicle Type	Front Axle	Rear Axle
924S, 944, 944S	2.0 bar (29psi)	2.5 bar (36psi)
944 Turbo —1988, 944 S2 1989	2.5 bar (36psi)	2.5 bar (36psi)
944 Turbo S, 944 Turbo 1989	2.5 bar (36psi)	2.5 bar (36psi)
944 S2 1990 only	2.5 bar (36psi)	3.0 bar (44psi)
911 Carrera	2.0 bar (29psi)	2.5 bar (36psi)
911 Turbo and 911 Carrera Turbo Look	2.0 bar (29psi)	3.0 bar (44psi)
911 Carrera 2 and 4	2.5 bar (36psi)	3.0 bar (44psi)
928, 928S, 928 S4 and 928 GT	2.5 bar (36psi)	3.0 bar (44psi)

For reasons of safety, the checking of tire pressure should be accompanied by a visual inspection to ensure adequate tread depth and a check for objects piercing the tire, holes, cuts, cracks and bulges in the sidewalls.

Measure the tire pressure only when the tires are cold. Air pressure increases as the tires get hotter. This increased pressure must not be reduced.

Collapsible Spare Tire Information

165-15 4 PR 83 P	2.2 bar (32psi)*
165-15 8 PR 89 P	2.5 bar (36psi)**

* This tire may only be used on the front axle on Models 928, 928S and 911 Turbo.

** Standard equipment from Model Year 1986 for 911 Turbo and 928S. Can be used on front and rear axle.

Refer to the tables on the following pages for specific tire and rim applications.

PORSCHE CARS NORTH AMERICA, INC.



Technical Bulletin

Model
924S,
944/S/S2/T

Group
4

Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

Vehicle Type		Rim Size	Rim Offset in mm	Tire Size
944 944 Turbo	→ 86	7 J x 16 front and rear	23.3	205/55 R 16 88 T or H front and rear
	→ 86	or 7 J x 16 front and	23.3	
		8 J x 16 rear	23.3	
		7 J x 16 front and	23.3	
		8 J x 16 rear	23.3	205/55 R 16 88 T or H front and * 225/50 R 16 92 T or H rear
944 944S	87→ all	7 J x 15 front and rear	52.3	195/65 R 15 91 T or H front and rear or 215/60 R 15 93 T or H front and rear
944 944S 944 Turbo	87→	7 J x 16 front and rear	52.3	205/55 R 16 88 T or H front and rear
	all	or 7 J x 16 front and	52.3	
		8 J x 16 rear	52.3	
		7 J x 16 front and	52.3	
		8 J x 16 rear	52.3	205/55 R 16 88 T or H front and * 225/50 R 16 92 T or H rear
	87/88		52.3	

*No tire chain clearance

PORSCHÉ CARS NORTH AMERICA, INC.



Technical Bulletin

Model
924S,
944/S/S2/T/TS

Group
4

Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

Vehicle Type	Rim Size	Rim Offset in mm	Tire Size
944 Turbo S 88	7 J x 16	65.0	205/55 R 16 88 T or H
944 Turbo 89	front and		front and rear or
944 S2 with 90	8 J x 16	52.3	* 225/50 R 16 92 T or H
sport suspension	rear		rear
944 S2 with 90	front and		
sport suspension	8 J x 16	52.3	
	rear		
944 S2 89→	7 J x 16 or	52.3	205/55 R 16 88 T or H
	7 J x 16	55.0	front and rear or
	front and		* 225/50 R 16 92 T or H
	8 J x 16	52.3	rear
	rear		

* No tire chain clearance

Important: The rim offset for 944/944S/944 Turbo changed since 1987 models.

Wheel rims of cars from 1987 models on may not be used on older models. Also: wheel rims of cars before 1987 models may not be used on cars from 1987 models on (see wheel rim survey).

The technically permitted top speed of winter tires is indicated by the "speed index" after the size information.

Q = max. 100mph (160 km/h) (not tested by Porsche)

T = max. 119mph (190 km/h)

H = max. 131mph (210 km/h)

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Porsche Service
Publications



SERVICE

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February 15, 1990

Technical Bulletin

Model
924S,
944/S/S2/T


Group
4

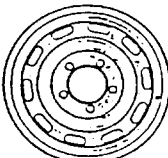
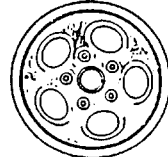

Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

Survey of Porsche Wheel Rims for Winter Tires

Identification: Part number and Porsche trademark 

Rim Version	Rim Size	Rim-Offset	Porsche Part No.	924S	944 ↑ '86	944/944S ↑ '87	944 Turbo ↑ '86	944 Turbo '87/88	944 S2
1. Steel rim 	5½ J x 15	52.3	477 601 030 B	x					
	2. Light alloy, cast 	6 J x 15	36.0 mm	911 361 023 46		x			
7 J x 15		23.3 mm	951 362 104 00		x		x		
7 J x 16		23.3 mm	951 362 114 00		x		x		
8 J x 16		23.3 mm	951 362 116 00		x		x		
6 J x 15		52.3 mm	944 362 102 00	x					
7 J x 15		52.3 mm	944 362 104 00			x			
7 J x 16		52.3 mm	951 362 114 01			x		x	x
8 J x 16		52.3 mm	951 362 116 01			x		x	x
3. Light alloy, cast 	6 J x 15	36.0 mm	911 361 023 40		x				
			911 361 023 44		x				
			911 361 023 45		x				
	7 J x 15	23.3 mm	911 361 023 50		x				
			911 361 023 54		x				
			911 361 023 55		x				

PORSCHE CARS NORTH AMERICA - INC.



Technical Bulletin

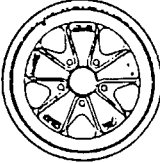
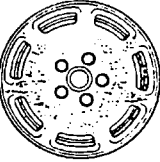
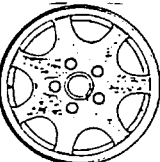
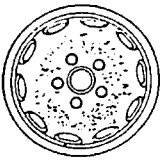
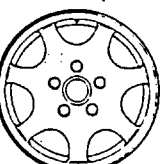
Model
924S,
944/S/S2/T/TS

Group
4

Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

Rim Version	Rim Size	Rim-Offset	Porsche Part No.	924S	944 ↑ '86	944/944S ↑ '87	944 S2	944 Turbo ↑ '86	944 Turbo '87/'88	944 Turbo S '89	944 S2 Sport
4. Light alloy, forged 	6 J x 15	36.0 mm	911 361 020 10/90		x						
	7 J x 15	23.3 mm	911 361 020 41/93		x						
	8 J x 15	10.6 mm	911 361 020 42/94		x						
	6 J x 16	36.0 mm	911 361 020 43/97 or 911 362 113 00/90		x						
	7 J x 16	23.3 mm	951 362 115 00/90		x			x			
	8 J x 16	23.3 mm	951 362 117 00/90		x			x			
5. Light alloy, forged 	6 J x 16	53.0 mm	477 601 026 D	x							
	6 J x 16	52.3 mm	944 362 113 00/01	x							
	7 J x 16	52.3 mm	944 362 115 00/01			x	x		x		
	7 J x 16	65.0 mm	928 362 115 00/01							x	
	8 J x 16	52.3 mm	928 362 117 00/01			x	x		x	x	
6. Light alloy, cast "Design 90" 	7 J x 16	55.0 mm	964 362 114 01				x				
	7½ J x 16	65.0 mm	928 362 114 05							x	
	8 J x 16	52.3 mm	964 362 116 01				x			x	
7. Light alloy, cast 	7 J x 16	65.0 mm	928 362 114 20							x	
	8 J x 16	52.3 mm	928 362 116 20							x	
8. Light alloy, forged "Club Sport" 	7 J x 16	65.0 mm	951 362 115 20/31							x	
	8 J x 16	60.0 mm	928 362 117 30/31							x	

PORSCHÉ CARS NORTH AMERICA - INC.



Technical Bulletin

Model
911C/C2/C4/T

Group
4

Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

Recommended Winter Tires for Porsche 6 Cylinder Engine Cars

Recommended Tire Type	Application-Range	Tire Size	
		195/65 R 15 91 T	215/60 R 15 93 T
Continental TS 750 Contact	A	x	
Gislaved Frost	C	x	
Goodyear Ultra Grip III	A	x	x
Maloya Cresta	C	x	
Semperit Top Grip	A	x	x
Vredestein Snow Star	B	x	

Recommended Tire Type	Application-Range	Tire Size	
		205/55 R 16 88 H	225/50 R 16 92 H
Bridgestone WT 04	A	x	x
Dunlop SP Winter Sport	B	x	x
Goodyear Eagle M+S	C	x	
Michelin X M+S 300	A	x	x
Semperit Direction Grip	C	x	x

- Application Range A: For all driving conditions.
Application Range B: For frequent highway driving.
Application Range C: For heavy snow regions.

911 Carrera 4 Information:

The fact that four wheel drive cars provide improved traction on snow and ice even with Summer tires should not obscure the fact that this drive design does not have any advantages while braking. Winter tires will shorten the braking distance on difficult Winter road conditions to a much greater degree as compared to summer tires. Therefore, in the interest of safety the use of Winter tires should be recommended.

PORSCHE CARS NORTH AMERICA, INC.



<h1>Technical Bulletin</h1>	Model 911C/C2/C4/T	Group 4
	Subject: Winter Tire/Wheel Rim Summary	Part Identifier 4405

Vehicle Type	Rim Size	Rim Offset in mm	Tire Size
911 Carrera and Club Sport Version all model years	6 J x 15 front and 7 J x 15 rear	36.0 23.3	195/65 R 15 91 T or H front and rear or only front and 215/60 R 15 93 T or H rear
	6 J x 16 front and 7 J x 16 rear	36.0 23.3	205/55 R 16 88 T or H front and rear or only front and 225/50 R 16 92 T or H rear
	6 J x 16 front and 8 J x 16 rear	36.0 10.6	205/55 R 16 88 T or H front and 225/50 R 16 92 T or H rear
911 Turbo and 911 Turbo Look all model years	6 J x 15* front and 7 J x 15 rear	36.0 23.3	195/65 R 15 91 T or H front and rear or only front and 215/60 R 15 93 T or H rear
	7 J x 15 front and 8 J x 15 rear	23.3 10.6	195/65 R 15 91 T or H front and 215/60 R 15 93 T or H rear
	6 J x 16 front and 7 J x 16 rear or 7 J x 16 front and 8 J x 16 rear	36.0 23.3 23.3 10.6 or 23.3	205/55 R 16 88 T or H front and rear or only front and 215/50 R 16 92 T or H rear

*only Turbo Look



<h1 style="margin: 0;">Technical Bulletin</h1>	Model 911C/C2/C4/T	Group 4
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Subject: Winter Tire/Wheel Rim Summary	Part Identifier 4405	Number 9004
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Vehicle Type	Rim Size	Rim Offset in mm	Tire Size
Carrera 2 and Carrera 4	6 J x 16 front and	52.3	205/55 R 16 88 T or H front and rear or only front and 225/50 R 16 91 T or H rear
	7 J x 16 rear	52.3 or 55.0	
	or 6 J x 16 front and	52.3	
	8J x 16 rear	52.3	

T = max. 119mph (190 km/h)
H = max. 131mph (210 km/h)

No tire chain clearance:

911 Carrera -	215/60 R 15 on 8 J x 15 and 225/50 R 16 on 7 J x 16 or 8 J x 16
911 Carrera 2/4 -	225/50 R 16 on 7 J x 16 or 8 J x 16, 205/55 R 16 on 8 J x 16

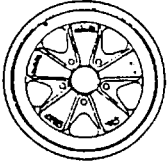
Survey of Porsche Wheel Rims for Winter Tires

Identification: Part number and Porsche trademark

Rim Version	Rim Size	Rim-Offset	Porsche Part No.	911 Carrera	911 Turbo/ Look
1. Light alloy, cast 	6 J x 15	36.0 mm	911 361 023 40/44/45	x	
	7 J x 15	23.3 mm	911 361 023 50 54 55	x	
2. Light alloy, cast 	6 J x 15	36.0 mm	911 361 023 46	x	
	7 J x 15	23.3 mm	951 362 104 00	x	
	7 J x 16	23.3 mm	951 362 114 00		x
	8 J x 16	23.3 mm	951 362 116 00		x


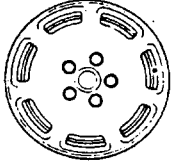


Technical Bulletin	Model 911C/C2/C4/T	Group 4
	Subject: Winter Tire/Wheel Rim Summary	Part Identifier 4405

Rim Version	Rim Size	Rim-Offset	Porsche Part No.	911 Carrera	911 Turbo/ Look
3. Light alloy, forged 	6 J x 15	36.0 mm	911 361 020 10/90	x	x*
	7 J x 15	23.3 mm	911 361 020 41/93	x	x
	8 J x 15	10.6 mm	911 361 020 42/94	x	x
	6 J x 16	36.0 mm	911 362 113 00/90	x	x
	7 J x 16	23.3 mm	911 362 115 00/90 951 362 115 00/90	x x	x x
	8 J x 16	10.6 mm	911 362 117 00/90	x	x
	8 J x 16	23.3 mm	951 362 117 00/90		x

*only Turbo Look

Survey of Porsche Wheel Rims for Winter Tires - 911 Carrera 2 and 911 Carrera 4

4. Light alloy, cast "Design 90" 	6 J x 16	52.3 mm	964 362 112 01
	7 J x 16	55.0 mm	964 362 114 01
	8 J x 16	52.3 mm	964 362 116 01
5. Light alloy, forged 	6 J x 16	52.3 mm	944 362 113 00/01
	8 J x 16	52.3 mm	928 362 117 00/01



Technical Bulletin	Model 928/S/S4/GT	Group 4
	Subject: Winter Tire/Wheel Rim Summary	Part Identifier 4405

Recommended Winter Tires for Porsche 8 Cylinder Engine Cars

Tire Size	Recommended Tire Type	Application Range
215/60 R 15 93 T	Continental TS 740	A
	Goodyear Ultra Grip III	A
	Semperit Top Grip	A
205/55 R 16 88 H	Bridgestone WT 04	A
	Dunlop SP Winter Sport	B
	Goodyear Eagle M + S	C
	Michelin X M + S 300	A
	Semperit Direction Grip	C
225/50 R 16 92 H	Bridgestone WT 04	A
	Dunlop SP Winter Sport	B
	Michelin X M + S 300	A
	Semperit Direction Grip	C

Application Range A: For all driving conditions.
 Application Range B: For frequent highway driving.
 Application Range C: For heavy snow regions.

T = max. 119mph (190 km/h)
 H = max. 131mph (210 km/h)

Winter Wheel Rim and Tire Sizes for Porsche 8 Cylinder Engine Cars

Vehicle Type	Rim Size	Rim Offset in mm	Tire Size
928 928 S →85	7 J x 15 front and rear	65.0	215/60 R 15 93 T or H
928 928 S all 928 S4 87→ (exc. GT)	7 J x 16 front and rear	65.0	205/55 R 16 88 T or H
	7 J x 16 front and 8 J x 16 rear	65.0 52.3	225/50 R 16 92 T or H
928 GT	7 J x 16 front and 8 J x 16 rear	65.0 52.3	205/55 R 16 88 T or H front and rear or 225/50 R 16 92 T or H front and rear



Technical Bulletin

Model
928/S/S4/GT


Group
4

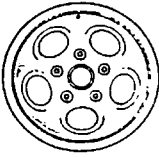
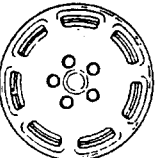
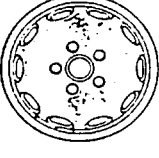
Subject: Winter Tire/Wheel Rim Summary

Part Identifier
4405

Number
9004

Survey of Porsche Wheel Rims for Winter Tires — 928/S/S4/GT

Identification: Porsche Part Number and Porsche trademark 

Rim Version	Rim Size	Rim-Offset	Porsche Part No.	928/928 S → 85	928S/928 S4 86-89	Club Sport- Version	928 S4 90 928 GT
1. Light alloy, cast 	7 J x 15	65.0 mm	928 361 919 00	x			
	7 J x 15	65.0 mm	928 361 019 00	x			
	7 J x 16	65.0 mm	928 361 916 00	x			
	7 J x 16	65.0 mm	928 361 016 00	x			
	8 J x 16	52.3 mm	951 362 116 01	x			
2. Light alloy, forged 	7 J x 16	65.0 mm	928 361 021 05/08	x	x	x	
	7 J x 16	65.0 mm	928 362 115 00/01	x	x	x	
	8 J x 16	52.3 mm	928 362 117 00/01	x	x	x*	
	7 J x 16 (RDK)	65.0 mm	928 362 155 00/01				x
	8 J x 16 (RDK)	52.3 mm	928 362 157 00/01				x
3. Light alloy, cast 	7 J x 16	65.0 mm	928 362 114 20	x	x	x	
	8 J x 16	52.3 mm	928 362 116 20	x	x	x	
	7 J x 16 (RDK)	65.0 mm	928 362 154 20				x
	8 J x 16 (RDK)	52.3 mm	928 362 156 20				x

RDK (Tire Pressure Control System) since 1990 models.

*Mounted without spacers (Club Sport/928 GT 1989).

No tire chain clearance with 225/50 R 16 and 245/45 R 16 on 8 J x 16 rims!

DO NOT REPRODUCE WITHOUT PERMISSION



Technical Bulletin	Model 928/S/S4	Group 4
Subject: Winter Tire/Wheel Rim Summary	Part Identifier 4405	Number 9004

Important: Beginning with 1990 models only wheels with pressure switches for the tire pressure monitoring system (RDK) may be used. (Also refer to 928 Workshop Manual, Volume 4, Group 44 and Technical Bulletin Group 4, Number 8913.)

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Publications



Page 13 of 13
February 15, 1990

Technical Bulletin

Model
All

Group
44

Subject: Lockable Wheel Nuts/Bolts

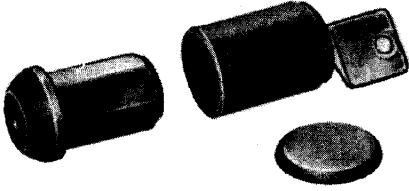
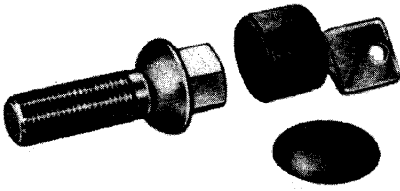
Part Identifier
4407

Number
83-03

To guard against theft, lockable wheel nuts or bolts are available for use on Porsches equipped with factory alloy wheels.

Available on new cars as optional equipment under M No. 455, lockable nut/bolt sets are also available as replacement parts. Use the following chart for applications:

PART NUMBER AND APPLICATION CHART

	Application
<p>Part numbers and contents 928.361.047.01 — 1 complete set contains: 4 wheel nuts 4 locks 4 keys 4 caps</p>	<p>All 5-hole alloy rims used on 911,911 Turbo, 924 Turbo, 928, 928 S, 944 and 924 for rear axle, only if 28 mm spacers are used</p>
	
	44-A030
<p>477.601.041 — 1 complete set contains: 4 wheel bolts, 25 mm (1 in.) long 4 locks 4 keys 4 caps</p>	<p>All 4-hole 14" alloy rims used on 924</p>
	
	44-A031

SERVICE

Page 1 of 2
June 24, 1983

Technical Bulletin

Model
All

Group
44

Subject: Lockable Wheel Nuts/Bolts

Part Identifier
4407

Number
83-03

477.601.041A – 1 complete set contains:

4 wheel bolts, 70 mm (2¾ in.) long

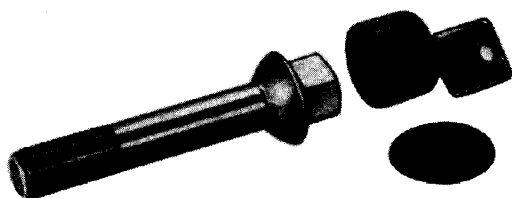
4 locks

4 keys

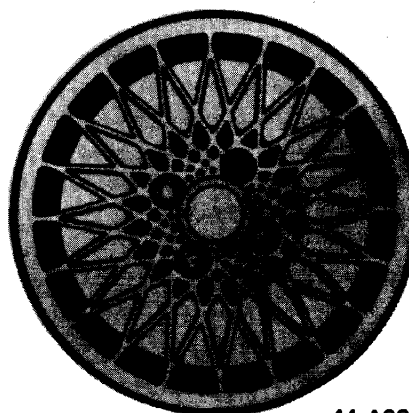
4 caps

Application

Pressure-cast 4-hole 6J x 15" alloy rims used on 924 Turbo and as optional equipment on 924



44-A032



44-A033

Use of Steel Wheels on Vehicles with Lockable Wheel Nuts/Bolts

CAUTION

Do **NOT** use lockable wheel nuts to mount any steel rims such as the emergency wheel or winter tire wheels. Thread length of lockable wheel nuts is not sufficient to mount steel wheels. Normal wheel nuts must be used when mounting steel wheels

Vehicles which are equipped from the factory with lockable wheel nuts have a normal wheel nut included, with the spare keys, for use when installing emergency wheel

If a normal wheel nut is not available and a steel wheel needs to be mounted, a normal wheel nut from another wheel of the vehicle could be exchanged for the lockable one. Be sure when installing a second lockable nut on a wheel that the lockable nuts are separated by a normal wheel nut to avoid excessive wheel imbalance

CAUTION

Lockable wheel bolts, 70 mm (2¾ in.) long may **NOT** be used on any steel wheels. Lockable wheel bolts are not available in the required length for use on rear axle of 924 cars with 15 mm spacers, and cannot be used

SERVICE

Page 2 of 2
June 24, 1983

<h1>Technical Bulletin</h1>	Model ALL	Group 4
Subject: Cleaning Of Light Alloy Wheels	Part Identifier 4412	Number 8504

All light alloy wheels may get dull or become pitted if not cared for properly. Causes for this condition usually are:

- Use of cleaning material which is too alkaline. Examples are lye solutions or detergents with a high phosphorus content.
- Cleaning solutions which have a high acid content.
- Not cleaning the wheels often enough to remove brake dust or road dirt.

An occasional light coating with petroleum (vaseline) has shown to be an effective protection. See Owner's Manual.

Most cleaners do not state their acid or alkaline content. For this reason, we recommend one of the known acid free cleaners with the trade name of P 21 S. It may be obtained through our Parts Department under part #000.005.002.1S We are certain that this item would be a welcome addition to your selection of accessories.



SERVICE

Page 1 of 1
 March 1, 1985

Technical Bulletin

Model
911 Carrera

Group
44

**Subject: Space Saver Spare Wheel
Lockable Lug Nut**

Part Identifier
4427

Number
84-03

911 Carrera now uses modified spare wheel (with collapsible tire) allowing use of lockable lug nut when mounted to vehicle.

Use of spare standard lug nut in tool kit is no longer necessary when installing spare tire. Spare lug nut is deleted from tool kit as of this change.

Modified wheels supplied in production as of February 3, 1984

VIN	91 ES121205	Coupe
	91 ES161186	Targa
	91 ES170669	Cabrio
	93 ES050070	Turbo (Canada)

SERVICE

Technical Bulletin

Model

All

Group

4

Subject:

Bridgestone RE 71 Tires

Part Identifier

4440

Number

8703

Bridgestone RE 71 tires are approved for the following Porsche Models in the sizes as listed below. Applications are based on original equipment wheels.

Approved tire sizes have to be mounted on the front and rear axle.

Mixing of tire sizes or use of types other than approved is not permitted.

911 Carrera

<u>Tire Size</u>	<u>Rim Size</u>
205/55VR16 front	6Jx16
225/50VR16 rear	7Jx16

911 Turbo and Turbo Look

<u>Tire Size</u>	<u>Rim Size</u>
205/55VR16 front	7Jx16
225/50VR16 rear	8Jx16

From Model Year 1986
245/45VR16 rear 9Jx16

928/928S/928 S4

<u>Tire Size</u>	<u>Rim Size</u>
225/50VR16 fr. and rear	7Jx16

From Model Year 1986
245/45VR16 rear 8Jx16

924S

<u>Tire Size</u>	<u>Rim Size</u>
195/65VR15 front and rear	6Jx15
205/55VR16 front and rear	6Jx16

944 and 944S

<u>Tire Size</u>	<u>Rim Size</u>
195/65VR15 front and rear	7Jx15
215/60VR15 front and rear	7Jx15
or	
205/55VR16 front	7Jx16
225/50VR16 rear	8Jx16
or with RE 71 Sport only	
225/50VR16 front	8Jx16
245/45VR16 rear	9Jx16

944 Turbo

<u>Tire Size</u>	<u>Rim Size</u>
205/55VR16 front	7Jx16
225/50VR16 rear	8Jx16
or	
245/45VR16 rear	9Jx16

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SERVICE

Page 1 of 1
March 13, 1987

Technical Bulletin

Model
911 Carrera,
911 Turbo,
928 S4

Group
4

Subject:

Goodrich Comp T/A Tires

Part Identifier

4440

Number

8706

Goodrich Comp. T/A tires are approved in the following sizes:

205/55 VR 16

225/50 VR 16

245/45 VR 16

PORSCHE CARS NORTH AMERICA INC.



SERVICE

Page 1 of 1
March 30, 1987

Technical Bulletin

Model

All

Group

4

Subject: **Tire Manufacturers
Customer Service Phone Numbers**

Part Identifier

4440

Number

8811

Listed below are tire manufacturers' customer service phone numbers to assist you in obtaining new tires. These companies manufacture tires presently approved by Porsche, but not necessarily supplied as original equipment. For presently approved tire information refer to Technical Bulletin Group 4, Number 8801, dated March 4, 1988.

BF Goodrich	800-231-5893 (Texas 800-833-5906)
Bridgestone	800-847-3272
Continental	800-338-6186
Dunlop	800-548-4714
Firestone	800-356-4644
Fulda	800-347-3545
Goodyear	800-321-2136
Michelin	Contact your local dealer
Pirelli	800-327-2442
Semperit	800-526-0326
Yokohama	800-722-9888

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SERVICE

Page 1 of 1
December 2, 1988

Technical Bulletin

Model

All

Group

4

Subject:

VR Summer Tires

Part Identifier

4440

Number

8910

ATTENTION: Service Manager/Service Technician

Models affected: 944, 911 and 928 series cars.

The statement ("**Note:** Do not mix VR and ZR rated tires on one car.") which appeared in Technical Bulletin 8801 Group 4 pages 2 and 3 is now **invalid**. Please delete it from all copies of this bulletin.

Due to reduction or discontinuation of the production of VR summer tires by the manufacturers, mixed mounting of VR and ZR rated summer tires is now permitted providing the approved tires have **identical design**. The statement that only tires of the same make and type may be mounted on one car remains applicable.

If it is only necessary to replace one or two tires on a car having VR rated tires, mixed mounting of VR and ZR rated tires is approved when the replacement tire is identical in design to the original tire. If all tires are being replaced, only ZR rated tires approved for Porsche models should be installed even on older models.

Refer to the following tables for identical design VR and ZR rated summer tires approved for use by Porsche:

944 Series Survey of Identical Design "VR" and "ZR" Tires

The following "VR" and "ZR" tires are identical in design and may even be mounted mixed on one car, for which "VR" tires are specified.

Tire Size	Tire Make and Type
195/65 R 15	Bridgestone RE 71 N0 Firestone Firehawk 660N0 Semperit Hi Speed N0
215/60 R 15	Bridgestone RE 71 N0 Fulda Y 2000 N0
205/55 R 16 and 225/50 R 16 and 245/45 R 16	BF Goodrich Comp T/A N0 Dunlop SP Sport D 40 N0 (VR without N0)
205/55 R 16 225/50 R 16 245/45 R 16	Goodyear Eagle VR 55 N0 or ZR 55 N0 Goodyear Eagle VR 50 N0 or ZR 50 N0 Goodyear Eagle VR 45 N0 or ZR 45 N0

Information: Approved "ZR" tires with the specifications "N 1" are presently approved only for **911 Carrera 2** and 911 Carrera 4 cars.



<h1>Technical Bulletin</h1>	Model All	Group 4
	Part Identifier 4440	Number 8910

Subject: VR Summer Tires

911 Series Survey of Identical Design "VR" and "ZR" Tires

The following "VR" and "ZR" tires are identical in design and may even be mounted mixed on one car, for which "VR" tires are specified.

Tire Size	Tire Make and Type
195/65 R 15 215/60 R 15	Bridgestone RE 71 N0
205/55 R 16 and 225/50 R 16 and 245/45 R 16	BF Goodrich Comp T/A N0 Dunlop SP Sport D 40 N0 (VR without N0)
205/55 R 16 225/50 R 16 245/45 R 16	Goodyear Eagle VR 55 N0 or ZR 55 N0 Goodyear Eagle VR 50 N0 or ZR 50 N0 Goodyear Eagle VR 45 N0 or ZR 45 N0

Information: Approved "ZR" tires with the specification "N 1" may not be mounted together with "N0" tires on one car. Presently "N 1" tires are approved only for 911 Carrera 2 and 911 Carrera 4 cars.

928 Series Survey of Identical Design "VR" and "ZR" Tires

The following "VR" and "ZR" tires are identical in design and may even be mounted mixed on one car, for which "VR" tires are specified.

Tire Size	Tire Make and Type
225/50 R 16 and 245/45 R 16	BF Goodrich Comp T/A N0 Dunlop SP Sport D 40 N0 (VR without N0)
225/50 R 16 245/45 R 16	Goodyear Eagle VR 50 N0 or ZR 50 N0 Goodyear Eagle VR 45 N0 or ZR 45 N0

Information: Approved "ZR" tires with the specifications "N 1" are presently approved only for 911 Carrera 2 and 911 Carrera 4 cars.

Thank you.
PCNA Service Department

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SERVICE

Technical Bulletin

Model
911, 928S
944

Group
4

Subject:
Goodyear Summer Tires
205/55 VR16 And 225/50 VR16

Part Identifier
4471
4481

Number
8508

The Goodyear Summer Tire of the NCT type has been improved/modified in the area of the inner belts.

As of October 1984 this type of tire was installed during production.

The old and new NCT tire version can be identified as follows:

Old Version



Installation is side dependent.

Small markings for inside, large markings for outside.

New Version



Installation not side dependent.

May be installed to run with either side facing outward.

Marked with a star in front and rear of tire size markings on both sides.

Important: Old and new version tires have different construction, and therefore different driving characteristics. Do not mix on car.

DOORSIDE CARS NORTH AMERICA - INC.



SERVICE

Page 1 of 1
March 15, 1985

Technical Bulletin

Model

All

Group

44

Subject: Front Wheel Alignment

Part Identifier

4488

Number

83-04

New toe-in specifications have been established which eliminate the need to laterally preload front wheels when checking/adjusting toe-in. Changes by model are as follows:

Vehicle Type	Toe-in Specifications	
	New (Wheels not pressed)	Old (Wheels pressed)
924, 924 Turbo, 944	+ 10' ± 5'	0° ± $\frac{5'}{15}$
911, 911 Turbo	+ 15' ± 5'	0°
928, 928S		0° ± 5'

SERVICE

Technical Bulletin

Model
911 Turbo

Group
4

Subject: Lowering Vehicle Height

Part Identifier
4496

Number
9002

ATTENTION: Service Manager/Service Technician

911 Turbo Model Year 1989

Porsche does not approve lowering of vehicle height. Lowering a car may constitute a violation of Federal Motor Vehicle Safety Standards as well as a violation of various state laws regarding height of lights and chassis height.

Lowering the vehicle height may also result in damage to the fuel pressure line, which could cause a fire with the potential for injury.

Refer to Workshop Manual Group 44 for vehicle height specifications.

Thank you.

PCNA Service Department

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SERVICE

Page 1 of 1
January 15, 1990

Technical Bulletin

Model

All

Group

46

Subject: Aftermarket Brake Dust Shields

Part Identifier

N/A

Number

80-01

Brake shields, offered in the after-market for installation between wheel hub and brake components to prevent dust from being thrown on wheels, will increase temperature of wheels and brake components and may adversely affect brake performance

PCNA specifically does not endorse their use and will deny warranty claims for damage caused by these shields

SERVICE

Page 1 of 1
March 3, 1980

Technical Bulletin

Model

All

Group

4

Subject: Brake Pad Installation Hardware

Part Identifier

4636/38

Number

8709

The brake pad installation hardware is no longer included in brake pad sets.

Brake pad sets and hardware sets (containing springs, retaining pins and clips) have to be ordered separately.

Refer to part numbers and applications listed below.

	Front Axle		Rear Axle	
	Pad Set	Hardware Set	Pad Set	Hardware Set
924 Model Year '77-'82	477 698 151B	477 698 163	 	
924 Turbo 924S 944 944S thru M.Y. '88	944 351 951 01	944 351 952 01	944 352 951 01	944 352 952 00
944 Turbo thru M.Y. '88	951 351 939 01	1)	951 351 939 01	1)
911 Model Year '74-'77	911 352 950 01	911 351 951 02	911 352 950 01	911 352 951 00
911SC Model Year '78-'83	911 351 950 01	911 351 951 00	911 352 950 01	911 352 951 00
911 Carrera thru M.Y. '88	911 351 950 01	911 351 951 01	911 352 950 01	911 352 951 01
911 Turbo Model Year '76-'77	911 351 944 05	1)	911 352 950 01	911 352 951 00
911 Turbo Model Year thru M.Y. '88	930 351 938 05	1)	930 351 938 05	1)

DODGE CARS NORTH AMERICA INC.



SERVICE

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pad Installation Hardware

Part Identifier

4636/38

Number

8709

	Front Axle		Rear Axle	
	Pad Set	Hardware Set	Pad Set	Hardware Set
928 All M.Y.	928 351 952 00	928 351 958 00	928 352 952 00	928 352 953 00
928S All M.Y.	928 351 931 00	1)	928 352 952 01	928 352 953 00
928 S4 thru M.Y. '88	928 351 939 01	1)	951 351 939 01	1)

1) No hardware set available
Refer to parts catalog for necessary parts

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SERVICE

Page 2 of 2
October 26, 1987

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pads Without Asbestos

Part Identifier

4636/4638

Number

8810

NOTE:

Early 1988 Turbo S vehicles have asbestos-free brake pads with sintered metal plugs (Part Number 928 351 939 03) installed on the front axle up to VIN 95JN151487 (Fig. 3). Existing stock of pads may be used up. **Vibration dampers cannot be installed with these pads.** Pads with and without plugs must not be mixed on a vehicle.

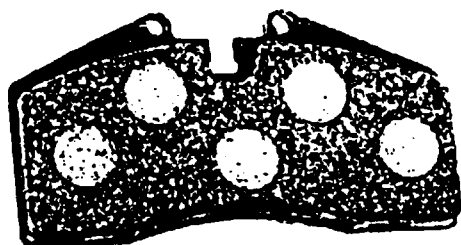


Figure 3

Very Important

Clean seating and guide surface of brake caliper with mineral spirits before installing vibration dampers and pads. Lubricants or grease must not be used in conjunction with vibration dampers. A light coat of sliding lubricant (Optimoly HT Part Number 000 043 004 00) may be applied on the guide surface of the pad carrier plate (Fig. 4).

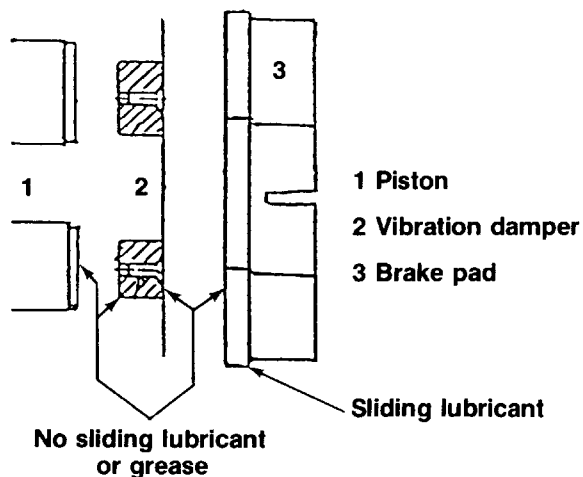


Figure 4

Adjusting Parking Brake with Asbestos-Free Brake Linings

(standard equipment from model year 1987)

Make sure asbestos-free brake linings do not contact the brake disc when turning the wheel since these brake linings expand more with heat than brake linings with asbestos. Refer to Workshop Manual 944, Volume III, page 46-6 for hand brake adjustment and update step 4 as follows:

Insert screwdriver through hole in brake disc and adjust star nut until it is no longer possible to turn the wheel. Then turn star nut in the other direction until the wheel can be turned freely. **Turn star nut an additional two notches.**



SERVICE

Page 2 of 8
November 18, 1988

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pads Without Asbestos

Part Identifier

4636/4638

Number

8810

4 CYLINDER WATER COOLED MODELS - BRAKE PAD, HARDWARE AND VIBRATION DAMPER APPLICATION CHART

Vehicle Type Model Year	Caliper Type Piston Dia. in mm	Asbestos-Free Brake Pads Material and Markings	Asbestos-Free Brake Pads Part Number	Hardware Set	Vibration Dampers
924 76-82	Front Floating dia. 48	Textar T 400 yellow-white-green-yellow with cutouts	928 352 951 02	477 698 163	No
	Rear: Drums	Pink - no cutouts	477 609 537D 477 698 076A oversize	No	No
924 Turbo 80-82 924S 87-88 944 From 82 944S	Front Floating dia. 54	Textar T 400 yellow-white-green-yellow with cutouts	944 351 951 02	944 351 952 01	No
	Rear: Floating dia. 36	Textar T 400 white-green-yellow-yellow with cutouts	944 352 951 02	944 352 952 00	No
944 Turbo 85-88	4 pistons frt. dia. with scrape 36/40 rings 36/38	Textar T 400 white-white with cutouts	951 351 939 04	No set available	No
	rear dia. 28/30	Textar T 400 white-white with cutouts	951 351 939 04	No set available	No
944 Turbo S 88	4 pistons frt. dia. with scrape 36/44 rings	Textar T 400 white-white with cutouts white-white-blue no cutouts	928 351 939 04 928 351 939 03	No set available No set available	951 351 089 00 (2) No/sinter plugs
	rear dia. 28/30	Textar T 400 white-white with cutouts	951 351 939 04 (951 351 939 02)	No set available	No
	4 pistons frt. dia. with 36/44 dust caps rear dia. 28/30	Textar T 400 white-white with cutouts Textar T 400 white-white with cutouts	928 351 939 04 951 351 939 04	No set available No set available	951 351 089 01 (3) No
944 S2 89	4 pistons frt. dia. with 36/40 dust caps rear dia. 28/30	Textar T 400 white-white with cutouts Textar T 400 white-white with cutouts	951 351 939 04 951 351 939 04	No set available No set available	No No

1) Early production 944 Turbo has 4 piston calipers with scraper rings.

Application of vibration dampers can also be determined by measuring the piston inside diameter.

- 2) Pistons with scraper ring inside dia.: 26mm and 34mm
Vibration damper guide dia.: 25.1mm and 33.7mm
- 3) Pistons with dust cap inside dia.: 20.5mm and 27.5mm
Vibration damper guide dia.: 19.6mm and 27.2mm



SERVICE

Page 3 of 8
November 18, 1988

DODGE CHRYSLER NORTH AMERICA INC.

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pads Without Asbestos

Part Identifier

4636/4638

Number

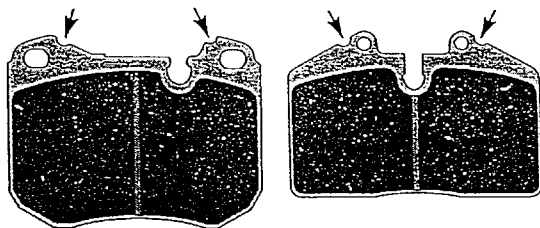
8810

Air Cooled Cars (911, 911 Turbo, 912 and 914)

Color coding and semicircular cutouts (Fig. 1) in the area of the retaining pin holes identify asbestos-free brake pads.

Important:

Free turning of the wheel must also be checked when making fine adjustment after basic adjustment.



911 Carrera

911 Turbo

Figure 1

Note: Asbestos-free rear axle brake pads up to and including 1983 model year do not have semicircular cutouts. Refer to color markings for identification.

Mixed installation of brake pads (with and without asbestos) on a vehicle is not permissible. When installing asbestos-free brake pads on cars before 1989 model year, both front and rear pads must be replaced.

Adjusting Parking Brake With Asbestos-Free Brake Linings

(standard equipment from model year 1987)

Make sure asbestos-free linings do not contact the brake disc when turning the wheel since these linings expand more with heat than brake linings with asbestos.

Refer to Carrera Workshop Manual, Volume III, pages 46-6 and 46-7 for adjustment procedure and update step 5. Check whether both wheels can be turned **freely** after releasing parking brake.



SERVICE

Page 4 of 8
November 18, 1988

Technical Bulletin

Model
All

Group
4

Subject: Brake Pads Without Asbestos

Part Identifier
4636/4638

Number
8810

6 CYLINDER AND 4 CYLINDER AIR COOLED MODEL BRAKE PAD AND HARDWARE APPLICATION CHART

Vehicle Axle	Model Year	Caliper Type Piston dia. in mm	Asbestos-Free Brake Pad Material and Markings	Asbestos-Free Brake Pad Part Numbers	Hardware Set
FRONT AXLE					
911 all types 911 T and E 911 and 911S 912	64-68 69-73 74 66-69	M-Caliper dia. 48	Energit 586 white-red-blue with cutouts	911 352 950 02	911 351 951 02
911 T/E/S 911S 911 Carrera 2.7	69-73 74 73-74	S-Caliper (alum) dia. 48	Energit 586 white-red-blue with cutouts	911 351 950 03	911 351 951 03
911, 911S Carrera 912E 911SC 911 Carrera 911 Turbo	75-77 76 78-83 from 84 76-77	A-Caliper (cast iron) dia. 48	Energit 586 white-red-blue with cutouts	911 351 950 02	911 351 951 01 Carrera from 84
911 Turbo	from 78	4 piston calipers dia. 38/38	Textar T 400 white-white w/cutouts	951 351 939 04	No set available
REAR AXLE					
911 all types 912	64-68 66-68	2-Caliper dia. 35	Energit 582 red-blue-white-blue no cutouts	911 352 939 00	No set available
911 all types 912 911 Turbo 912E	69-83 69 76-77 76	M-Caliper dia. 38	Energit 582 red-blue-white-blue no cutouts	911 352 950 03	911 352 951 00
911 Carrera	from 84	M-Caliper dia. 42	Energit 586 white-red-blue with cutouts	911 352 950 02	911 352 951 01
911 Turbo	from 78	4 piston caliper dia. 30/30	Textar T 400 white-white with cutouts	951 351 939 04	No set available

DORVILLE CARBON NORTH AMERICA - 20



SERVICE

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December 30, 1988

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pads Without Asbestos

Part Identifier

4636/4638

Number

8810

914 BRAKE PAD APPLICATION CHART

Vehicle Type	Model Year	Calliper Piston Dia. In mm	Asbestos-Free Brake Pads Material and Markings	Asbestos-Free Brake Pads Part Numbers
914/4	70-72	Front diameter 42	Energit 586 white-red-blue with cutouts	911 352 950 02
		Rear dia. 33	Textar T 426 white-green-yellow- yellow /no cutouts	914 352 923 01
914/4 - 1.7 914/4 - 1.8 914/4 - 2.0	72-73 73-75 72-75	Front dia. 42	Energit 586 white-red-blue with cutouts	914 352 905 01
		Rear dia. 33	Textar T 426 white-green-yellow- yellow /no cutouts	914 352 923 01
914/6	70-72	Front dia. 48	Energit 586 white-red-blue with cutouts	911 352 950 02
		Rear dia. 38	Textar T 426 white-green-yellow- yellow /no cutouts	914 352 903 01

NOTICE: CARS NORTH AMERICA - INC.



SERVICE

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November 18, 1988

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pads Without Asbestos

Part Identifier

4636/4638

Number

8810

8 Cylinder Cars

Color coding and semicircular cutouts, (Fig. 1) in the area of the retaining pin holes identify asbestos-free brake pads.

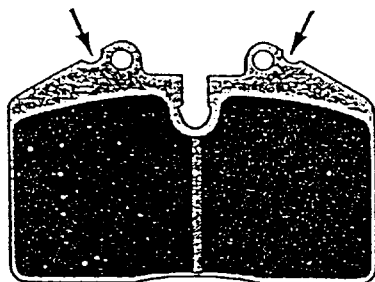


Figure 1

Note: Asbestos-free pads for fist-calipers installed on the front axle model year 1980 from VIN 92A080750 through model year 1985 do not have semicircular cutouts. Refer to color marking for identification.

Mixed installation of brake pads (with and without asbestos) on a vehicle is not permissible. When installing asbestos-free brake pads on cars before 1989 model year both front and rear pads must be replaced.

Vibration dampers (Fig. 2), must be installed on cars from model year 1986 (four piston calipers) on the front calipers between the pistons and the brake pads. Brake pad thickness has been reduced from 18.2 to 17.5mm. When replacing brake pads, the vibration dampers must be replaced also.



Figure 2

Note: Some early 1989 production cars received one-piece vibration dampers. In case of noisy brakes, two-piece vibration dampers should be installed.

Very Important

Clean seating and guide surface of brake caliper with mineral spirits before installing vibration dampers and pads. Lubricants or grease must not be used in conjunction with vibration dampers. A light coat of sliding lubricant (Optimoly HT Part Number 000 043 004 00) may be applied on the guide surface of the pad carrier plate (Fig. 3).

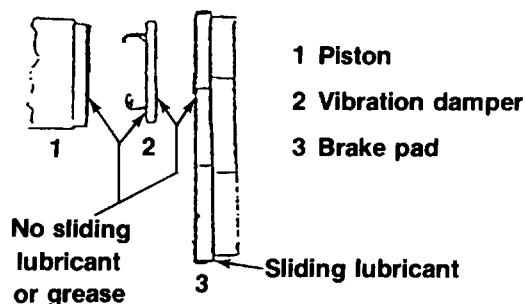


Figure 3

Adjusting Parking Brake with Asbestos-Free Brake Linings.

(standard equipment from model year 1987)

Make sure asbestos-free brake linings do not contact the brake disc when turning the wheel since asbestos-free brake linings expand more with heat than brake linings with asbestos. Refer to Workshop Manual, Volume IV, page 46-21 for hand brake adjustment and update step 4 as follows:

Insert screwdriver through hole in brake disc and adjust star nut until it is no longer possible to turn the wheel. Then turn star nut in other direction until the wheel can be turned easily.

Turn star nut an additional two notches.



SERVICE

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November 18, 1988

Technical Bulletin

Model

All

Group

4

Subject:

Brake Pads Without Asbestos

Part Identifier

4636/4638

Number

8810

8 CYLINDER MODELS - BRAKE PAD, HARDWARE AND VIBRATION DAMPER APPLICATION CHART

Vehicle Type Model Year	Caliper Type Piston dia. in mm	Asbestos-Free Brake Pads Material and Markings	Asbestos-Free Brake Pads Part Numbers	Hardware Set	Vibration Dampers
928 78-80	front: Floating dia. 54 up to 92A0800749	Textar T 400 yellow-white-green-yellow with cutouts	944 351 951 02	928 351 958 00	No
	rear floating dia. 36	Textar T 400 yellow-white-green-yellow with cutouts	928 352 951 02	928 352 953 00	No
928S 80-85	front fist dia. 54 from 92A0800750	Textar T 400 yellow-white-green-yellow no cutouts	928 351 931 01	No set available	No
	rear floating dia. 36	Textar T 400 yellow-white-green-yellow with cutouts	928 352 951 02	928 352 953 00	No
928S 86	4-pistons front dia. with 36/42	Textar T 400 white-white with cutouts	928 351 939 04	No set available	928 351 096 14 (19) 928 351 096 13 (18)
	scraper rear dia. rings 28/30	Textar T 400 white-white with cutouts	951 351 939 04	No set available	No
928 S4 87-88 89 up to VIN 92 KS860282	4-pistons front dia. with 36/44	Textar T 400 white-white with cutouts	928 351 939 04	No set available	928 351 096 14 (19) 928 351 096 12 (17)
	scraper rear dia. rings 28/30	Textar T 400 white-white with cutouts	951 351 939 04	No set available	No
928 S4 89 from VIN 92 KS860282	4-pistons front dia. with 36/44	Textar T 400 white-white with cutouts	928 351 939 04	No set available	928 351 096 11 (16) 928 351 096 10 (15)
	dustcaps rear dia. 28/30	Textar T 400 white-white with cutouts	951 351 939 04	No set available	No

NOTE: Application of vibration damper can also be determined by measuring the piston inside diameter. Refer to chart below.
Vibration dampers with adhesive surface will be made available soon. (Part Number in parenthesis).

VIBRATION DAMPER APPLICATION CHART

Piston diameter Outside — Inside mm		Vibration damper spring approx. dia. mm	Part Number
36	26	26.5	928 351 096 14 (19)
42	32	32.5	928 351 096 13 (18)
36	26	26.5	928 351 096 14 (19)
44	34	34.5	928 351 096 12 (17)
36	20.5	21.0	928 351 096 11 (16)
44	27.5	28.0	928 351 096 10 (15)

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SERVICE

Page 8 of 8
November 18, 1988

Porsche Cars North America, Inc.

PORSCHE CARS NORTH AMERICA, INC.

Technical Bulletin	Model All	Group 4
	Subject: Brake Squeak	Part Identifier 4636

The brake components on Porsche automobiles are subject to many demands. Optimum deceleration from high speed, high wear resistance, and limited noise under all operating conditions are design challenges which must now be met with yet another condition — asbestos-free brake pads. Safety always has priority over other considerations such as noise.

Porsche brake systems use friction materials developed to meet a high level of performance under a wide range of operating conditions. Porsche does not recommend substitution of other than original equipment brake pads in attempts to correct brake squeak. Brake squeak under certain conditions must be considered normal at this time.

Brake squeak is frequently believed to be a symptom of defective or worn brake pads. Actually, brake noise can develop in perfectly good and relatively new brakes. Driving styles and atmospheric conditions such as humidity can contribute to brake squeak.

For example, when decelerating from lower speeds, as in city driving, the brake pads become glazed which may then cause squeaking. This condition does not impair the operation nor performance of the brake system.

The brake system design must be a compromise between deceleration behavior, reliability, wear, and comfort. Presently no brake pads are available for Porsche vehicles which fulfill 100% of all requirements; however, research with brake manufacturers is continuing.

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Technical Bulletin

Model
911 Turbo

Group
46

Subject: Parking Brake Cable and Expander

Part Identifier
4679, 4685

Number
83-01

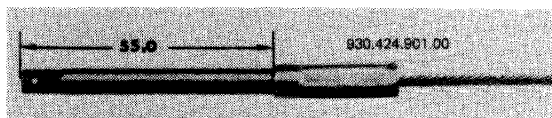
Parking brake cables and expanders have been modified to prevent the possibility of a stretched expander when pulling up the parking brake lever

Note

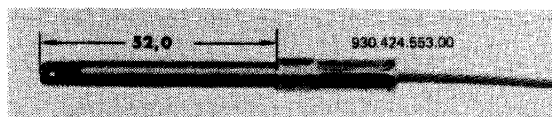
Only new version parts will be available after present stocks are used up

The new parts must always be installed together (both parking brake cables and expander)

Parking brake cables



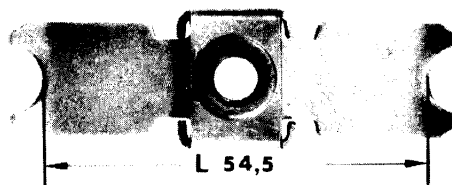
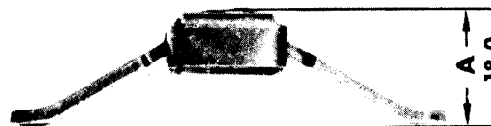
New version



Old version

The guide for the expander on the new parking brake cable is increased in length by 3.0 mm to 55.0 mm

Expander



New expanders are changed in design so that with the expander compressed to 'gauge distance' of 54.5 mm, distance A is now at least 18.0 ± 0.3 mm (instead of previous 16.3 ± 0.3 mm)

Note

Expander surfaces have different color paint for identification purposes:

New version = gold Part No. 911 352 090 00
Old version = white Part No. 901 352 090 10

SERVICE

Technical Bulletin

Model

All

Group

4

Subject: Hand Brake Shoe Retaining System

Part Identifier

4683

Number

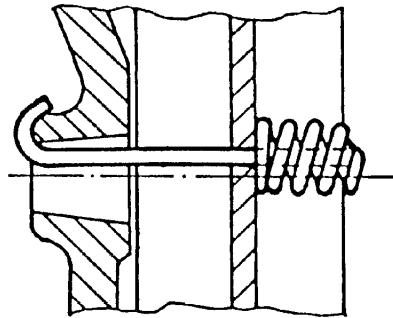
8911

Models Affected: 944 Series, 911 Series, 928 Series

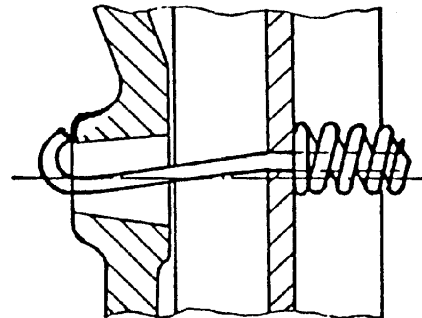
Concern: Correct installation of hand brake shoe retaining spring.

Repair Procedure: When installing hand brake shoes, be certain to correctly position the brake shoe retaining spring (Figure 1).

Incorrect installation (Figure 2) will result in breakage of the retaining spring and possible damage to the brake shoes and related components, which is not a warranty matter.



**Correct
Figure 1**



**Incorrect
Figure 2**

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SERVICE

Page 1 of 1
October 20, 1989

Technical Bulletin

Model

All

Group

47

**Subject: DOT 4 Brake Fluid Now Used in
Production**

Part Identifier

4708

Number

84-01

DOT 4 brake fluid is now used in all production vehicles. The new fluid is recommended for all Porsche brake systems and is completely compatible with the previous DOT 3 fluid.

DOT 4 brake fluid will be phased into the spare parts program during June, 1984.

SERVICE

Page 1 of 1
July 27, 1984

Technical Bulletin

Model
911 Turbo

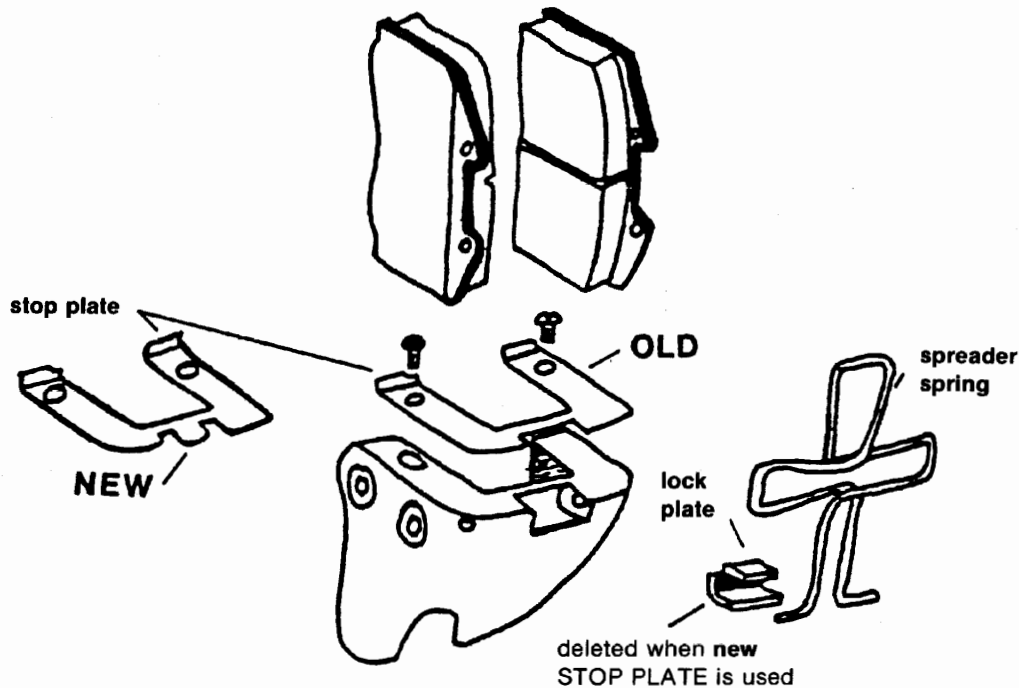
Group
47

Subject: Stop Plate for Brake Pads

Part Identifier
4739

Number
78-01

Stop plate for brake pads has been changed.
Spreader springs now lock into position without
use of separate lock plate



Parts affected:

	Chassis to 930 880 0222	Chassis from 930 880 0223
Stop plate	930 351 541 00 (left) 930 351 542 00 (right)	930 351 541 02 (left) 930 351 542 02 (right)
Lock plate	930 351 559 00	

CAUTION

Part numbers are for identification only.
Always check with Parts Department for any
changes

SERVICE

Technical Bulletin

Model
All

Group
4

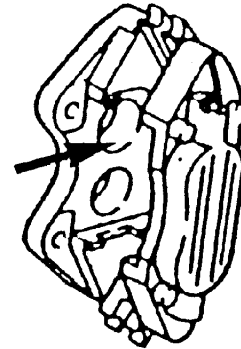
Subject: Brake Pulling/Brake Caliper Sliding Lubricant

Part Identifier
4739/4741

Number
8901

When repairing a vehicle for brake pulling, especially 944 Turbo, 911 Turbo and 911 Turbo look, and no mechanical or hydraulic brake system or suspension defects are evident, proceed as follows:

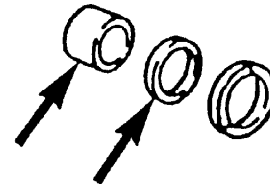
1. Remove front brake calipers and brake pads.
2. Remove caliper pistons with compressed air. **Do not separate the two halves of the caliper.**
3. Remove sealing rings and clean pistons and cylinders.
4. Assemble calipers with new sealing rings and dust caps/scrapper rings.



Important:

A light coat of heat resistant silicon sliding lubricant must be applied to the cylinder bore, piston and sealing ring, (arrows in figure) when assembling brake calipers.

Sliding lubricant: PN 000 043 117 00
(50 gram tube, sufficient for several applications).



Refer to appropriate workshop manual for brake caliper repair instructions.

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PCNA TECHNICAL BULLETIN 8901



SERVICE

Technical Bulletin	Model 911 Carrera	Group 4
	Subject: Brake Pressure Regulating Valve	Part Identifier 4769

To ensure that during repairs the correct brake pressure regulating valve is installed, the valve color was changed from yellow to olive. Below is a listing of all brake pressure regulating valves used in Porsches.

<u>Vehicle Type</u>	<u>Part Number</u>	<u>Color</u>
911 Carrera	928.355.305.01	Olive
911 Carrera with Turbo look	930.355.305.00	Black
911 Turbo	Does not have valve	

As of Jan. 10, 1986, VIN - 91XGS121255
918GS161030
913GS170718

DODGE CARS NORTH AMERICA - INC.



SERVICE

Page 1 of 1
August 25, 1986

Technical Bulletin	Model All	Group 4
	Subject: Testing Steering Gear For Damage	
	Part Identifier 4840	Number 8610

Accidents or similar events could cause damage to the steering gear which may not always be obvious. This may be a risk for driving safely. Damaged parts must always be replaced. Inspection of all steering gear components is not always possible with conventional workshop equipment. Determining damage not visible from the outside is connected with high costs and involvement. Instead, the condition of other, easier to inspect components of the steering system should be checked to decide if the steering gear has to be replaced.

The following instructions will be an aid in making decisions on steering gear replacements after an accident.

The steering gear may still be used if:

- A) There is no visible damage on front axle parts such as rims, steering knuckles, control arms, steering arms, tie rods, front axle carriers, steering and steering intermediate shafts and suspension mounting points on the body, as well as spring struts or absorber struts on 944 and 928 model cars.
- B) Steering wheel turns freely stop to stop without servo support.
- C) The front wheel alignment values are within the specified tolerances.

The steering gear must be replaced if:

- A) Damage can be seen or felt on the steering gear.

B) Parts of the front axle or steering linkage are permanently deformed, in particular:
 Steering gear mounting parts
 Steering arms
 Tie rods
 Steering knuckles
 Control arms or
 Front axle carrier and absorber struts on 944 and 928 model cars.

C) Great tolerance deviations are found while checking the front wheel alignment, which indicates excessive loads on the front axle.

D) When turning steering wheel stop to stop without servo, binding occurs or varying force is needed.

It is recommended to replace the steering gear in case of doubt or if the preceding test instructions are not sufficient to come to a decision.



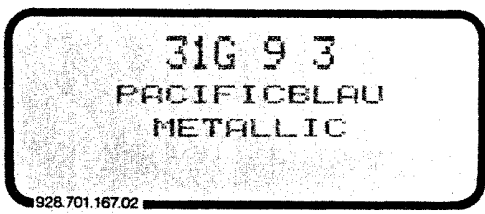
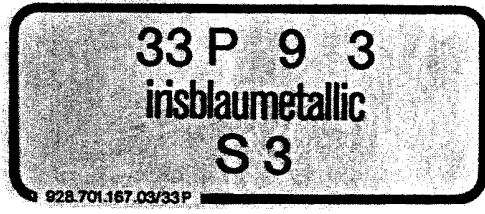
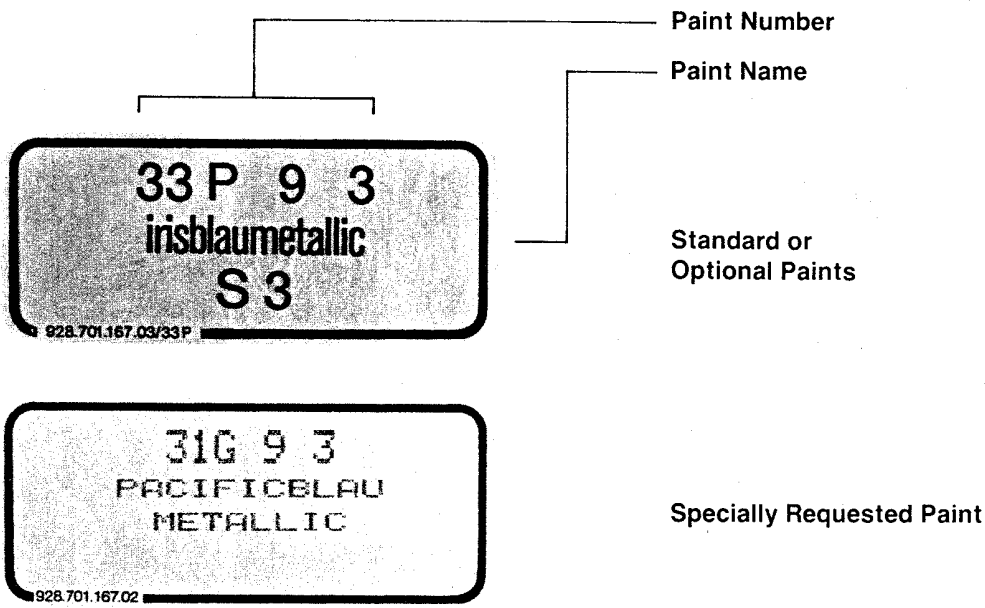
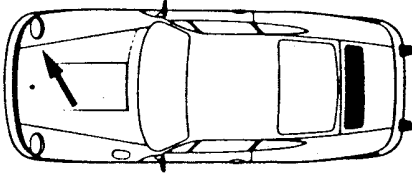
SERVICE

Technical Bulletin

Model 911 Carrera 911 Turbo	Group 5
Part Identifier N/A	Number 8602

Subject:
Paint Identification

To correctly identify the paint code for standard, optional, or special paints, consult the label installed on the right-front of the luggage compartment.



When ordering paint the following information must be supplied:

- Standard or Optional Paints
 - Paint Name
 - Paint Number
 - Example: Irisblau-metallic 33P93
Part No. 911.095.903.80.33P
- Specially Requested Paints
 - Vehicle Identification Number
 - Paint Name
 - Paint Number
 - Example: WPOJB093GS050072,
Pacificblau 31G93
Part No. 911.095.903.80.31G

POSSIBLE CARS NORTH AMERICA - INC.



SERVICE

Technical Bulletin

Model
911 Carrera,
911 Turbo, 928 S4

Group
5

Subject:
Repair Spraying Medium Solid Paint

Part Identifier
N/A

Number
8702

The metallic paint of 1987 Model 911 and 928 S4 cars was changed from Low Solid quality (LS) to Medium Solid quality (MS).

MS paint produces considerably less solvents than LS paint and requires an extensive change in application methods.

In order to avoid changes in application for repair spraying, two-component paint in Low Solid quality can be supplied from parts for 1987 Model cars.

The shade of this repair paint is adapted to that of standard MS paint.

Consequently, the same respraying procedures apply for 1987 Models as in the past (refer to: "Repair Guide - Car Repair Spraying" brochure, order number WKD 458 720).

Important:

The following information is absolutely necessary when ordering paints:

Standard and special body colors:
(Figure 1)

1. Paint name
2. Part number with paint code
e.g. metallic cassis red: 911 095 903 80 80D

"Body color to choice": (Figure 2)

1. Vehicle Identification Number
2. Paint name
3. Complete paint number (instead of part number)
e.g. metallic pacific blue: 31G 93 MS

In some cases different paint codes are used for the same color name for production reasons.

Consequently, it is absolutely necessary to quote the color code found on the paint data plate in the car when ordering paint.

This paint code (three digits) must be added to the part number found in group 0/04/00 of the parts catalog for standard and special body colors.

Location of the paint data plate:

911 Carrera & 911 Turbo: Luggage compartment right side
928 S4: Left door lock pillar



SERVICE

Page 1 of 2
June 16, 1987

Technical Bulletin

Model 911 Carrera, 911 Turbo, 928 S4	Group 5
Part Identifier N/A	Number 8702

Subject: Repair Spraying Medium Solid Paint

It contains the following information:

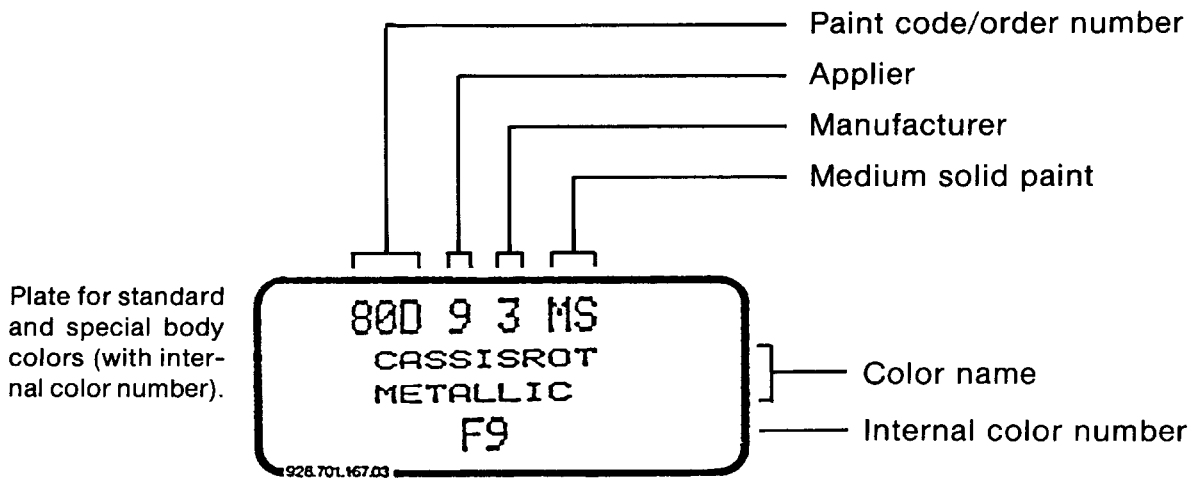


Figure 1

Plate for "body color to choice" (without internal color number).

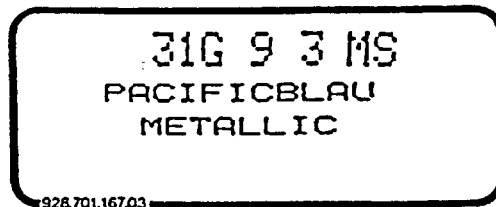


Figure 2

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SERVICE

Page 2 of 2
June 16, 1987

Technical Bulletin

Model
911 Carrera,
911SC

Group
5

Subject: Front and Rear Fender Replacement

Part Identifier
5055/5355

Number
8706

The information printed on the original bulletin is no longer valid.

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SERVICE

Page 1 of 1
December 31, 1987

02-20-2MSA I-1102 0120 MICHOJOT

Technical Bulletin	Model 911, 924, 928	Group 55
Subject: Discarding Gas Filled Struts	Part Identifier 5531 5593	Number 80-02

If you decide to depressurize engine hood or trunk lid struts before discarding, proceed as follows:

- place strut into a metallic box of sufficient length to provide space for extended spring
 - box should be closed on all four sides except for opening where drill, saw or other tool can be inserted

CAUTION

Never place strut into vise for drilling or sawing. Squeezing strut in vise can cause strut caps on either end to pop off and release spring, which is under high compression

Technical Bulletin

Model

All

Group

5

Subject:
Ignition Keys

Part Identifier

57--

Number

8606

The Porsche emblem on the ignition key head is available as a spare part.

Part Number: 944 538 443 00

In case of replacement, the contact surface should be cleaned thoroughly, and a two component glue used.

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SERVICE

Page 1 of 1
June 25, 1986

Technical Bulletin	Model All	Group 5
Subject: Binding/Seized Door Locks	Part Identifier 5709	Number 8501

Binding or seized door locks could be the result of door lock de-icers, etc., which will reduce or wash out the lubricant in the lock cylinders.

In these cases we recommend the use of jelly type door lock grease, part #999.917. 751.00 (approx. 10 g in tube). A small amount should be injected into the door lock, then the lock must be operated several times with the key to assure thorough distribution of the grease.

Wipe excess grease from key. Point out to customer that a small amount of grease might stick to the key for a short time.

DORSCHIE CARS NORTH AMERICA INC.



SERVICE

Page 1 of 1
June 30, 1985

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
5

**Subject: Outer Door Handle/Door Lock
Reduced Operating Effort**

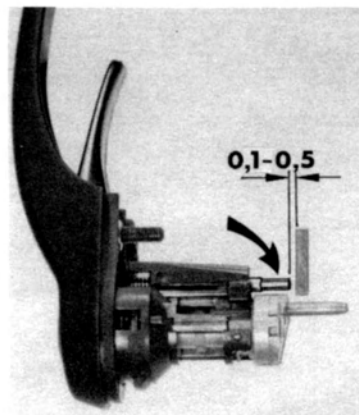
Part Identifier
5711/5717

Number
8701

The 1987 Model 911 Carrera and 911 Turbo received new adjustable outer door handles and new door locks to reduce lock operating effort from the outside.

Adjustment Procedure:

1. Threaded control rod on door handle is adjustable (3mm Hex, arrow).
2. A self-made tool from 2mm thick sheet metal or a spare key without head can be used to turn the control rod to make the adjustment. (See sketches)
3. With door trim panel removed and window glass closed, adjustment can be observed through window glass opening.

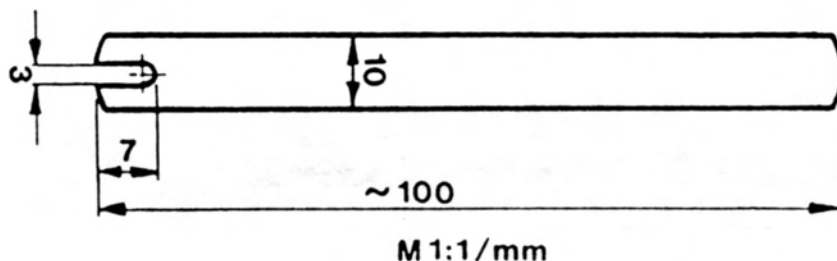


Distance between control rod and lock lever should be adjusted to 0.1-0.5mm (See picture).

New type outer door handle and lock can be installed in older cars separately. However, to improve lock operating effort, both handle and lock should be replaced.

New part numbers:

- | | |
|----------------|--|
| 911 538 941 03 | Door handle left without stipulated lock # |
| 911 538 942 03 | Door handle right without stipulated lock # |
| 911 538 941 02 | Door handle left (made to order with stipulated lock #) |
| 911 538 942 02 | Door handle right (made to order with stipulated lock #) |
| 911 531 053 10 | Door lock left |
| 911 531 054 09 | Door lock right |



SERVICE

ADRESSE UPS NORTH AMERICA - 20

<h1>Technical Bulletin</h1>	Model 911	Group 5
	Part Identifier 5737	Number 8605

Subject:
Inside Door Latch Mechanism

To reduce the operating force on the inside door latch, the mechanism has been modified.

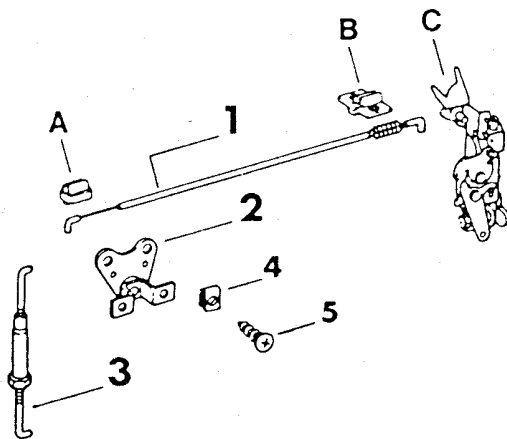
1. Cable is replaced by bowden cable with spring.
2. Reversing bracket with more favorable reversing ratio.
3. Pull rod length changed.

Introduction: March 20, 1985
 As of VIN: 91 7FS 121 227
 91 9FS 161 176
 91 9FS 170 577

New Part Numbers:

- 1) 911 531 509 01 Cable
- 2) 911 531 083 01 Bracket Left
- 2) 911 531 084 01 Bracket Right
- 3) 911 531 091 01 Pull Rod
- 4) 999 507 009 02 Snap Nut 3.5mm
- 5) 900 145 032 02 Metal Screw 3.5 x 13mm

The modified inside door mechanism can be installed retroactively as of M.Y. 1974.



SERVICE

Technical Bulletin

Model

911

Group

5

Subject:

Inside Door Latch Mechanism

Part Identifier

5737

Number

8605

Work Procedures:

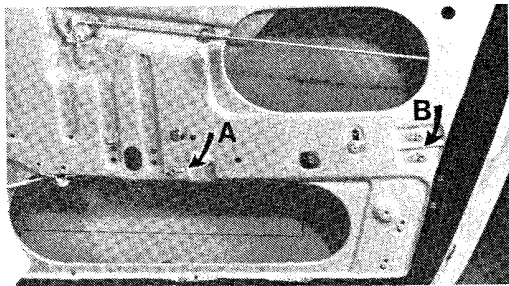
1. Remove door trim panel (window remains closed).
(Special Tool P9231 is needed)
2. Pull off plastic foil.
3. Remove reversing bracket with spring and pull rod.
4. Remove bracket (A) and unclip cable on door lock.
Remove cable (note routing).
5. Pull off both snap nuts.
Mark location of holes (see sketch).
Center punch and drill holes $5 + 0.2\text{mm}$.
(Some 85 model cars already have these holes).
6. Treat edges of holes with rust preventing paint.
7. Connect new cable on door lock and bracket (3).
8. Mount cable with bracket (A).
9. Install new reversing bracket with new pull rod.

IMPORTANT: Pull rod on long lever arm, cable on short lever arm.

10. Paste on plastic foil and reinstall door trim panel.

Conversion time:

One Door 140 T.U.
Both Doors 270 T.U.



POORCHIE CAPS NORTH AMERICA INC.



SERVICE

Page 2 of 3
July 9, 1986

Technical Bulletin

Model
911

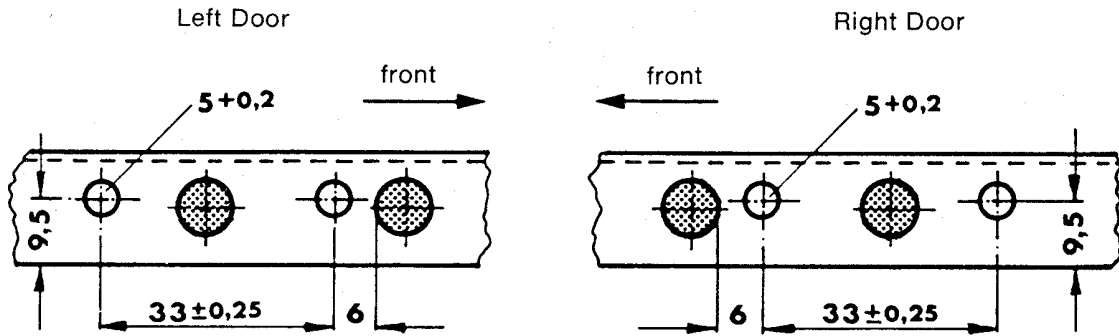
Group
5

Subject:
Inside Door Latch Mechanism

Part Identifier
5737

Number
8605

Hole Pattern (Seen from below) / Scale: 1:1 (mm)



POISSONIERE CARROSSERIE NORTH AMERICA INC.



SERVICE

Page 3 of 3
July 9, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
5

Subject: Air Draft and Wind Noise in Door Area

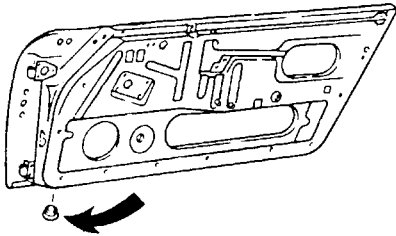
Part Identifier
5751

Number
8802

The front paint drain hole in the lower door shell (arrow in picture) received a rubber plug to prevent air draft and wind noise.

From production date: September 8, 1987
Rubber plug part number: 111 971 911 A

The rubber plug can be installed in early cars.



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SERVICE

Page 1 of 1
July 29, 1988

PORSCHE CARS NORTH AMERICA, INC.

Technical Bulletin

Model
911,
911 Turbo

Group
5

Subject: Modifications on Doors and Hinge Pillars

Part Identifier
5751

Number
8902

ATTENTION: Service Manager/Service Technician

During Model Year 1989 the inside door panel and hinge pillar were modified. Doors of the former version are no longer available. Hinge pillars remain available in both versions.

The new doors can be installed retroactively on all 911 cars back to 1969 models. When installing the new version door on a car with the old version hinge pillar, the door contact switch for the inside light must be positioned 50 mm further down.

This requires drilling a new hole, 8.4 mm diameter, 50 mm below the old door contact switch hole (Figure 1). Deburr edges of the new hole and treat edges with rust preventing paint. Relocate switch into new hole. Install plug PN 911 531 999 00 in old hole.

Important:

Instructions for fitting and welding new door shells, printed in 911 Workshop Manual, Model Years 1965-1971, Volume II, Pages B7 through B13, are still applicable.

Workshop Manual Order Number: WKD 480 520

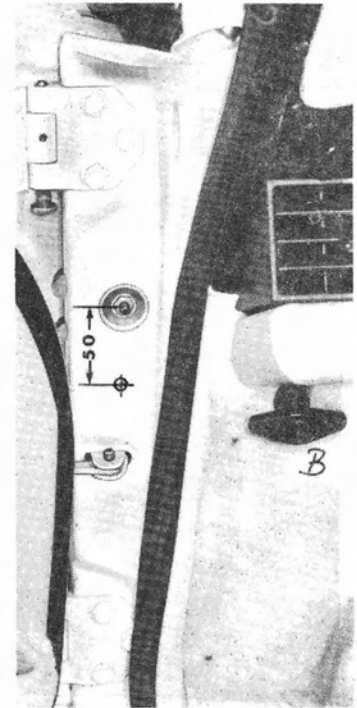


Figure 1

PORSCHÉ CARS NORTH AMERICA, INC.



Technical Bulletin

Model
911,
911 Turbo

Group
5

Subject: Modifications on Doors and
Hinge Pillars

Part Identifier
5751

Number
8902

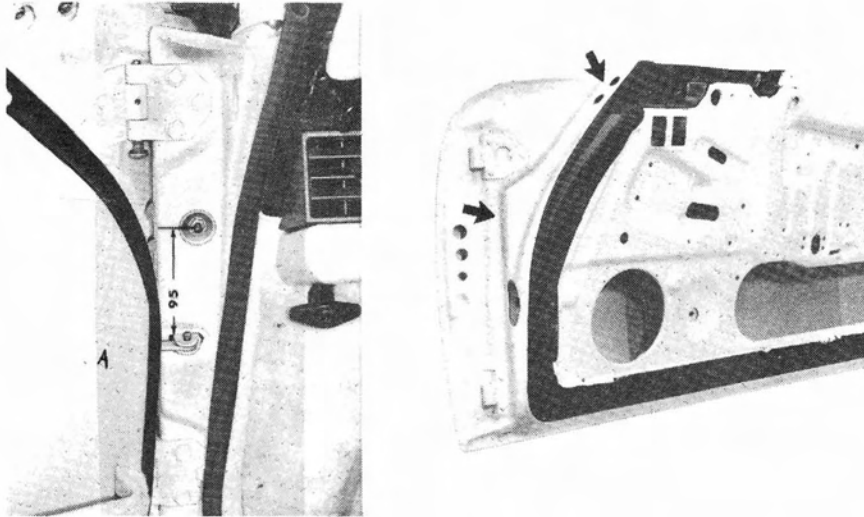


Figure 2 (Old Version)

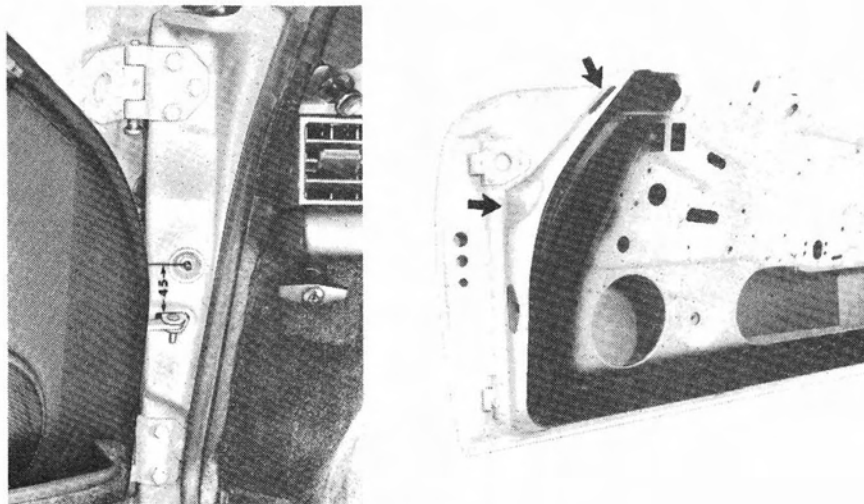


Figure 3 (New Version)



PORSCHE CARS NORTH AMERICA, INC.

Technical Bulletin

Model
911,
911 Turbo

Group
5

Subject: Modifications on Doors and Hinge Pillars

Part Identifier
5751

Number
8902

Parts Information

Door	Old	New
Right	911 531 006 21	911 531 006 22
Left	911 531 005 21	911 531 005 22

Hinge Pillar

Right	911 501 040 02	964 502 040 00
Left	911 501 039 02	964 502 039 00

Additionally, the following parts are needed when converting to the new version door/hinge pillar:

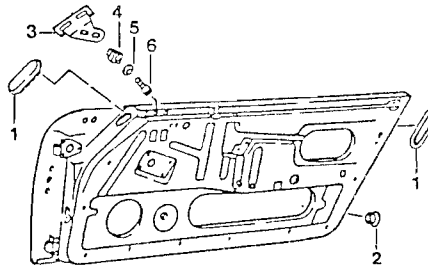


Illustration	Quantity	Description	Part Number	Remarks
1	2	Oval Plug	999 703 345 40	—
2	1	Plug	999 703 344 40	—
3	1	Bracket left door	911 531 955 00	Only up to M.Y. 1986
3	1	Bracket right door	911 531 956 00	Only up to M.Y. 1986
4	2	Nut	999 591 498 40	Only up to M.Y. 1986
5	2	Washer	N 011 524 7	Only up to M.Y. 1986
6	2	Belt M6x12	N 010 212 14	Only up to M.Y. 1986
—	1	Plug	911 531 999 00	For old door contact switch hole
—	1	Grommet	999 703 066 50	Only for new hinge pillar

Thank you.

PCNA Service Department

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Porsche Service
Publications



SERVICE

Page 3 of 3
December 8, 1989

PORSCHÉ CARS NORTH AMERICA, INC.

Technical Bulletin

Model
911/t

Group
5

Subject: Modifications on
Doors and Hinge Pillars

Part Identifier
5751

Number
9102

ATTENTION: Service Manager/Service Technician

This bulletin replaces Technical Bulletin Group 5, Number 8902, Book F, pages 113-115.

Models Affected:

**All 911 and 911 turbos
Model Years 1969 through 1989**

Concern:

Standardization of replacement doors and modifications on hinge pillars.

Service Information:

A standardized replacement door is all that is available for 911 Series vehicles from the Porsche Parts Department. Some modifications are necessary when installing these doors in 911 and 911 turbo vehicles '69 through '89 model years.

Wiring Harness Routing:

The positions for three wiring harness holes are center punch marked on new doors (Figure 1) and must be drilled and deburred as necessary compared to the old door before painting the new door.

- 1 - for electric window lift (20mm diameter)
- 2 - for outside mirror adjustment (16.5mm diameter)
- 3 - for radio speakers (12.5mm diameter)

The hole (arrow in Figure 1) must be closed with grommet Part Number 999 703 066 50.

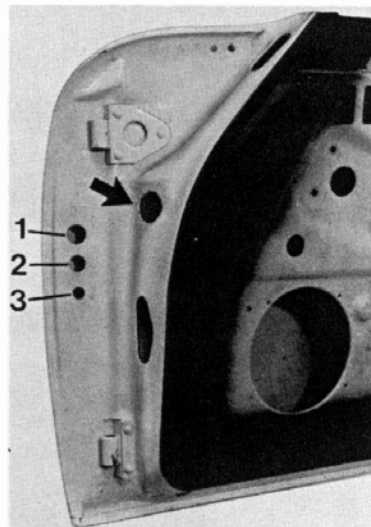


Figure 1

PORSCHER
CARS
NORTH
AMERICA
- 201 -



<h1>Technical Bulletin</h1>	Model 911/t	Group 5
	Part Identifier 5751	Number 9102

Subject: Modifications on Doors and Hinge Pillars

Service Information (cont.): Door Contact Switch for Inside Light Repositioned

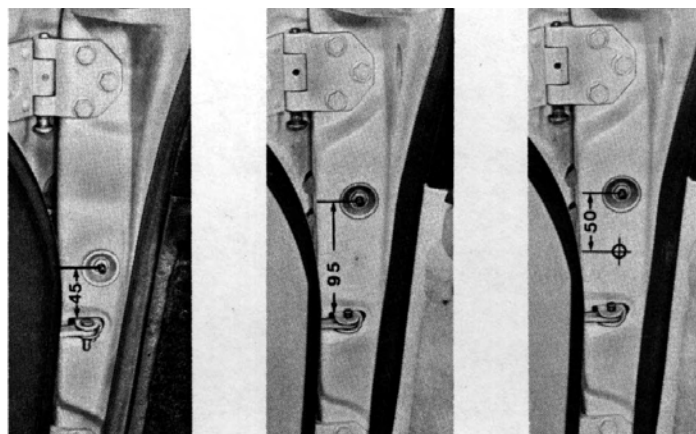
During Model Year 1989, hinge pillars were modified. Hinge pillars remain available in both versions.

When installing the new version door on a car with the old version hinge pillar, the door contact switch for the inside light must be positioned 50mm further down.

This requires drilling a new hole, 8.4mm in diameter, 50mm below the old door contact switch hole (Figure 2). Deburr edges of the new hole and treat edges with rust prevention paint. Relocate switch into new hole. Install plug Part Number 911 531 999 00 in old hole.

Important:
Instructions for fitting and welding new door shells, printed in 911 Workshop Manual, Model Years 1965-1971, Volume II, Pages B7 through B13, are still applicable.

Workshop Manual Order Number: WKD 480 520



New version
Old version
**New version door
Old version hinge pillar**

**Figure 2
Hinge Pillars**

Technical Bulletin

Model
911/t

Group
5

Subject: Modifications on
Doors and Hinge Pillars

Part Identifier
5751

Number
9102

Parts Information:

Door	Old	New
Right	N/A	911 531 006 23
Left	N/A	911 531 005 23
Hinge Pillar		
Right	911 501 040 02	964 502 040 00
Left	911 501 039 02	964 502 039 00

Additionally, the following parts are needed when converting to the new version door.

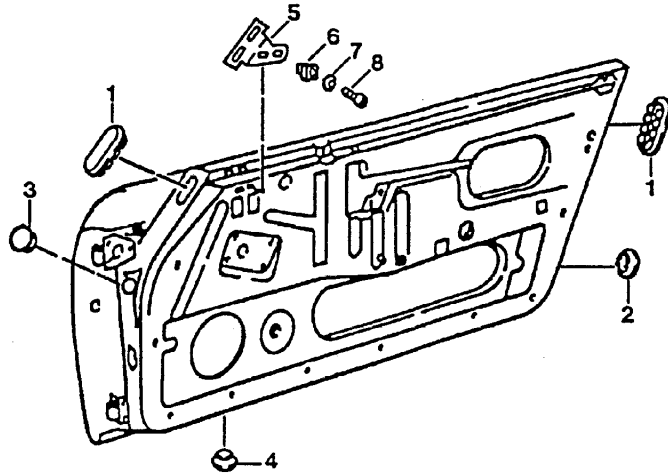


Illustration	Quantity	Description	Part Number	Remarks
—	1	Plug	911 531 999 00	For old door contact switch hole
1	2	Oval plug	999 703 345 40	
2	1	Round plug	999 703 344 40	
3	1	Grommet	999 703 066 50	
4	1	Rubber valve	999 926 018 40	
5	1	Bracket left door	911 531 955 00	Only up to MY 1986
5	1	Bracket right door	911 531 956 00	Only up to MY 1986
6	2	Nut	999 591 498 40	Only up to MY 1986
7	2	Washer	N 011 524 7	Only up to MY 1986
8	2	Bolt M6x12	N 010 212 14	Only up to MY 1986

PORSCHE CARS NORTH AMERICA, INC.



Technical Bulletin

Model
911SC
Cabriolet

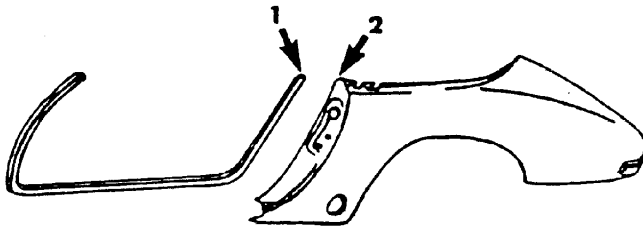
Group
57

Subject: Door Seal Modified to Improve Sealing

Part Identifier
5765

Number
83-03

The door seal has been changed from a lip-profile to a hose-profile configuration.



57-A041

The end of the seal in the B-pillar area (arrow 1) is closed with a mushroom-shaped cover. This cover has a piece which is glued to the B-pillar (arrow 2).

Part No. of the new seal is 911 531 293 60.
Part No. of the new cover is 911 531 523 65.

New parts installed in production as of May 3, 1983:

VIN 91 DS 17 1057

Note

Water leaks in this area on previously produced vehicles may be corrected by installation of the mushroom-shaped cover on the seal

CAUTION

Part numbers are for reference only.
Always check with your Parts Department for latest parts information.

SERVICE

Page 1 of 1
October 24, 1983

Technical Bulletin

Model
911
Cabriolet

Group
6

Subject:
Tonneau Cover

Part Identifier

Number

N/A

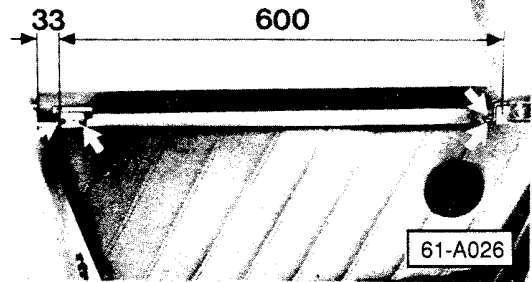
8401

The optional tonneau cover for the 911 Cabriolet is now available through the Parts Dept. for service installation.

Parts required

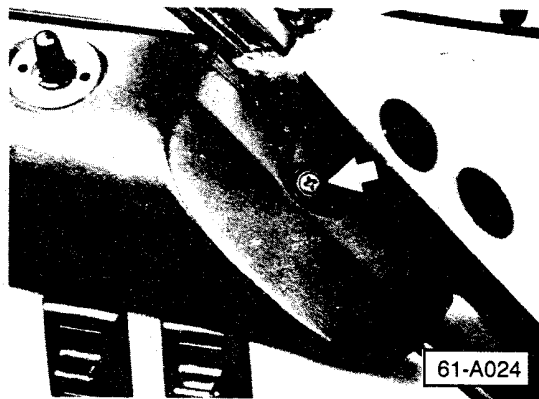
Quantity	Part No.	Description
1	911.561.923.00	Tonneau cover
1	911.561.921.00	mounting parts kits

Installation procedure

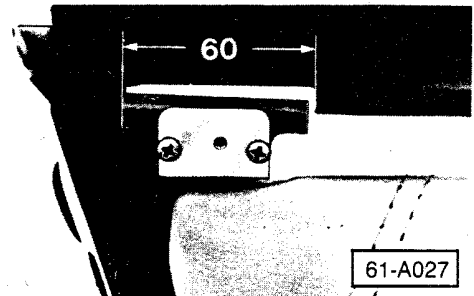


- mount brackets and holders on doors in approximate positions shown
- slide self-tapping nuts onto holders at front of door

PORSCHE CARS NORTH AMERICA INC



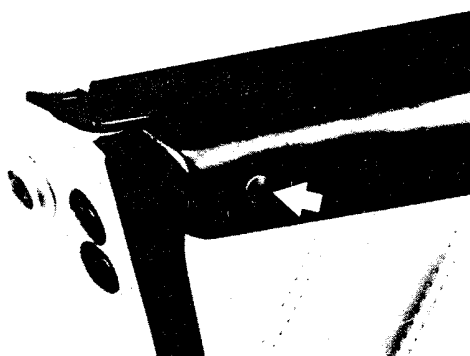
- remove trim covers from upper portion of door (screws located under trim caps)



- cut out 60 mm section of door recess seal for clearance at rear bracket mounting
- drill 3.5 mm holes in tops of brackets for installation of bottom sections of Tenax snaps

Note

Hole locations to be determined by 600 mm dimension in top photo.



61-A025



SERVICE

Page 1 of 4
December 17, 1984

Technical Bulletin

Model
911
Cabriolet

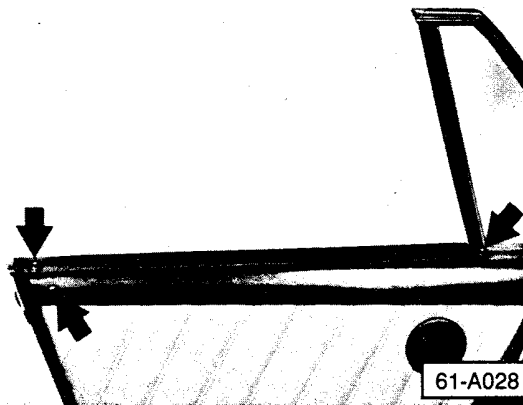
Group
6

Subject: Tonneau Cover

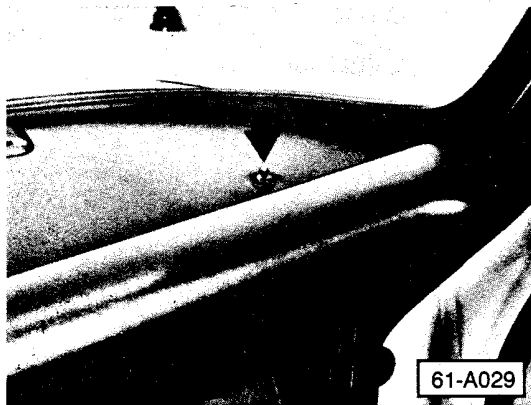
Part Identifier
N/A

Number
8401

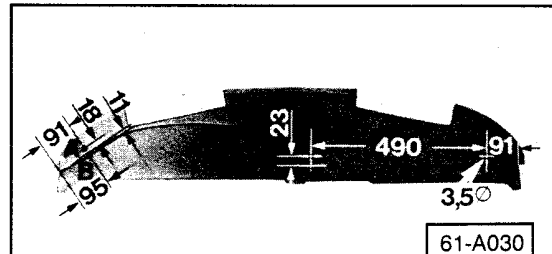
- check to fit of door upper trim covers. Cut out foam on back of trim if necessary
- mark location of holes for Tenax snaps in trim covers
- drill 3.5 mm holes in trim covers



- install trim covers and screw in bottom sections of Tenax snaps (arrows)

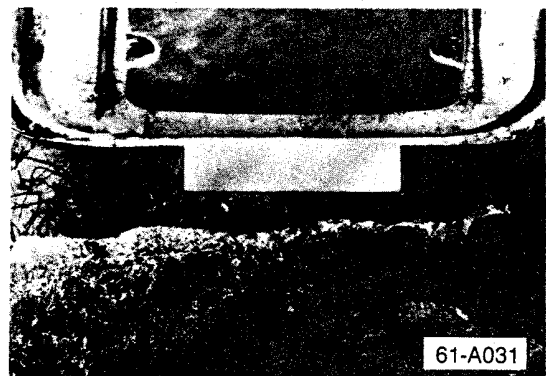


- remove trim caps from instrument panel and screw in bottom sections of Tenax snaps

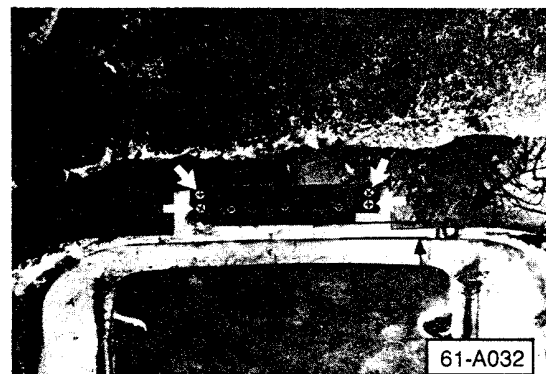


Installing a new dashboard

- drill holes for mounting points as indicated above. On left side of panel drill:
 - point A — up to VIN 91 ES17 0540
 - point B — from VIN 91 ES17 0541



- pull back carpeting from heel plate and shift tunnel at rear



- cut away insulation and install bracket on center of heel plate to dimension indicated. Fasten bracket with four screws (arrows)

PORSCHE CARS NORTH AMERICA INC



SERVICE

Page 2 of 4
December 17, 1984

Technical Bulletin

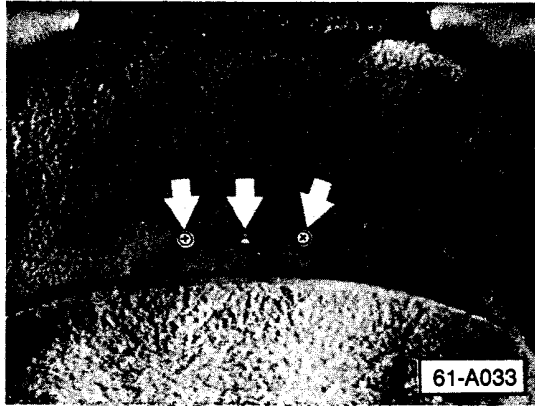
Model
911
Cabriolet

Group
6

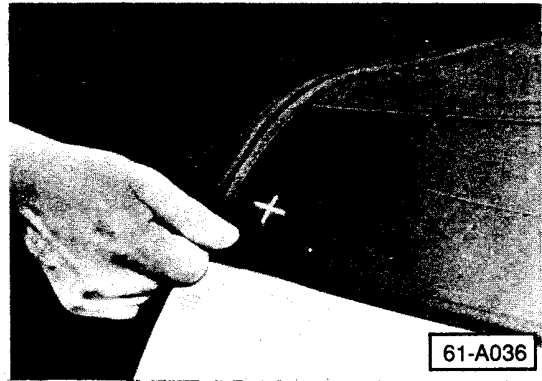
Subject:
Tonneau Cover

Part Identifier
N/A

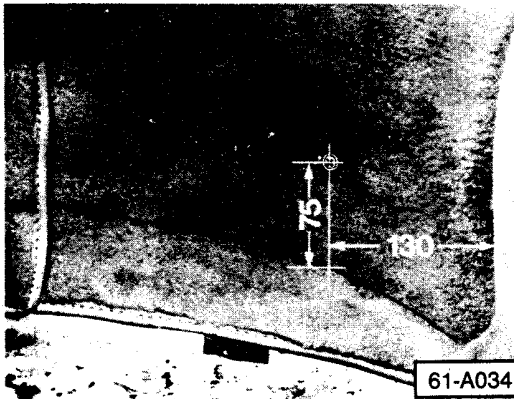
Number
8401



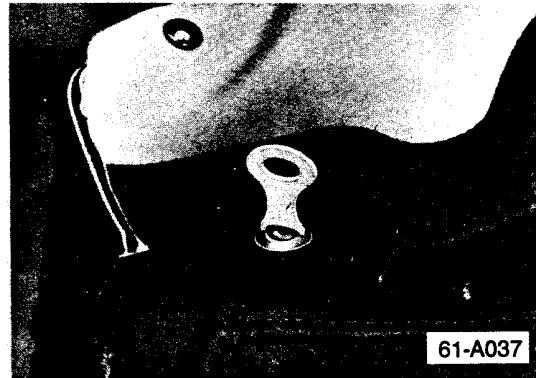
- cement carpeting back over heel plate and bracket
- puncture carpeting at mounting holes
- install two trim screws in outboard holes and one Tenax snap bottom section in center hole (arrows)



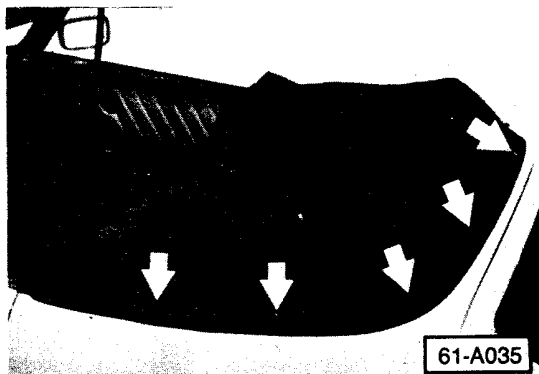
- stretch cover forward and mark location of existing Tenax snap bottom sections which are directly behind doors on each side



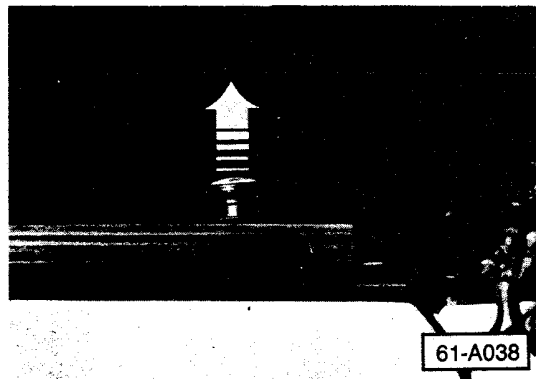
- mount Tenax snap bottom sections on side members at location indicated



- cut 9 mm holes in tonneau cover and install upper sections of Tenax snaps (use special key supplied)
- fasten Tenax snaps at this location



- install tonneau cover to rear of opening on existing snaps (Tenax and standard)



Note

Tenax snaps are fastened and unfastened only with the upper section of snap pulled out

DODGE CARS NORTH AMERICA INC



SERVICE

Page 3 of 4
December 17, 1984

Technical Bulletin

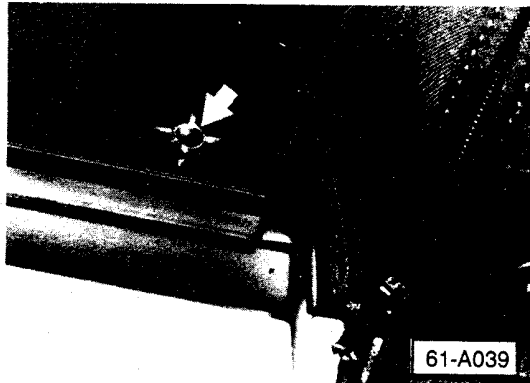
Model
911
Cabriolet

Group
6

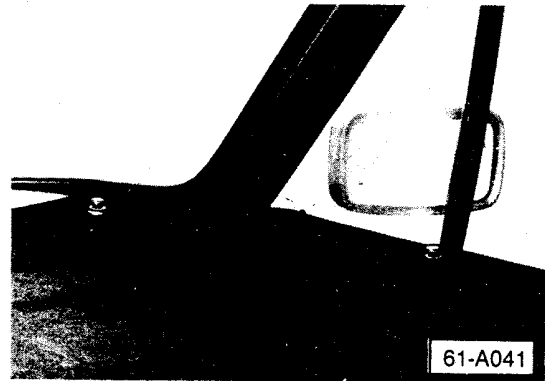
Subject:
Tonneau Cover

Part Identifier
N/A

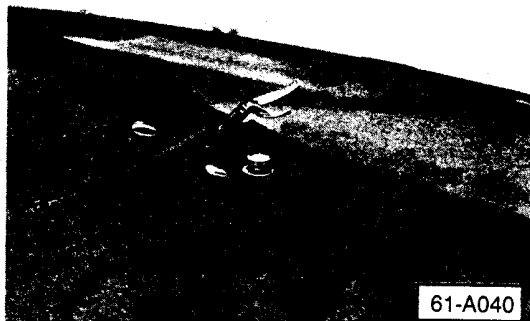
Number
8401



- mark location of mounting points on rear of doors
- cut 9 mm holes in tonneau cover and mount upper sections of Tenax snaps
- fasten Tenax snaps at this location



- stretch cover forward and outward. Mark locations of mounting points at sides of instrument panel and front of doors
- install upper sections of snaps to cover and fasten to instrument panels and doors



- stretch center of cover forward to instrument panel and mark location of mounting point
- install upper section of snap to cover and fasten to instrument panel

PORSCHÉ CARS NORTH AMERICA INC.



SERVICE

Page 4 of 4
December 17, 1984

Technical Bulletin

Model
911/Turbo

Group
6

Subject:
Sunroof Rattles

Part Identifier
6005

Number
8901

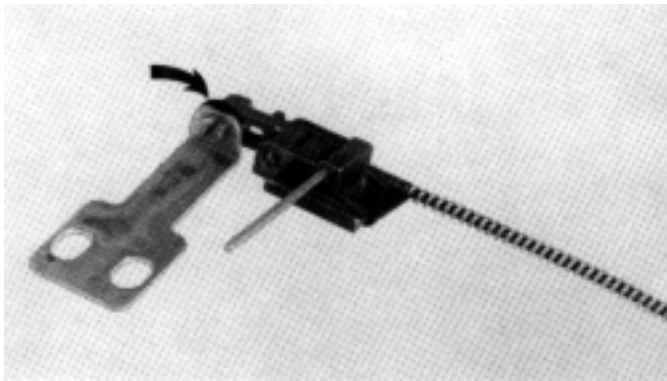
To eliminate rattling noises from a partially opened sunroof, a plastic washer can be installed between the sunroof cable bracket and the guide piece (arrow in figure).

Plastic washer:
Part Number 999 704 137 50

Labor Operations:

R&R sliding roof panel:
60401900 - 60 T.U.

Install washer left and right side:
6040190A - 20 T.U.



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SERVICE

Page 1 of 1
January 13, 1989

Technical Bulletin	Model 911 Carrera 911 Turbo	Group 6
	Subject: Sunroof	Part Identifier 6017
		Number 8601

In order to eliminate possible sunroof rattles, the rear sunroof guides on the left and right sides are installed with plastic slides.

From Production Date May 26, 1986.

VIN 91 6GS 12 2211

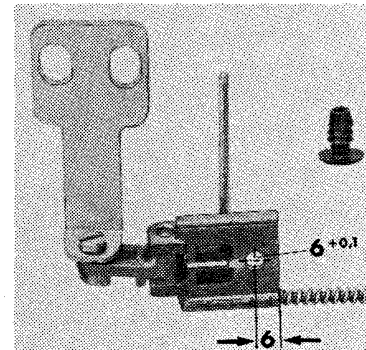
93 0GS 05 1282

New slide Part Number 999 591 774 40.

From Model Year 1983 through May 25, 1986, the slides were made out of metal. The new plastic slides can subsequently be installed in these older cars.

Installation Procedure:

1. Remove sunroof lid and both cables.
2. Shorten the middle web on the sunroof guide by approx. 11mm (machine or grind off). This extra space is required for the plastic plug.
3. Drill 6mm dia. hole into slide. (See photo).
4. Press in slide from below.
5. Lubricate slide and sunroof guide rails with grease and check movement. If movement is too sluggish, file off some material from the slide head.
6. Install sunroof lid.



Conversion Time: For one guide - 170 TU
For both guides - 290 TU



SERVICE

Technical Bulletin

Model
911
Cabrio

Group
6

Subject: Electrical Cabrio Top
Wiring Harness

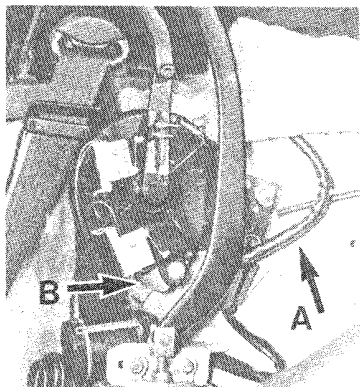
Part Identifier
61...

Number
8606

The harness routing and fastening below the right gear system (A) was improved in production as of June 1986.

In case of wiring interference with the gear linkage on older cars, the 12 pin plug should be relocated to the angled sheet metal bracket.

(B on sketch.)



PORSCHE CARS NORTH AMERICA, INC.



SERVICE

Page 1 of 1
October 17, 1986

Technical Bulletin	Model	Group
	911 Cabrio	6
Subject:	Part Identifier	Number
Cabriolet Top, Basic Adjustments	61...	8708

This Bulletin is based on information found in the booklet "Test Plan Cabriolet" order number WKD 492 620. It contains additional and updated information on basic cabriolet top adjustments.

When repairing mechanical top opening or closing malfunctions, checks and adjustments should be carried out in the following sequence:

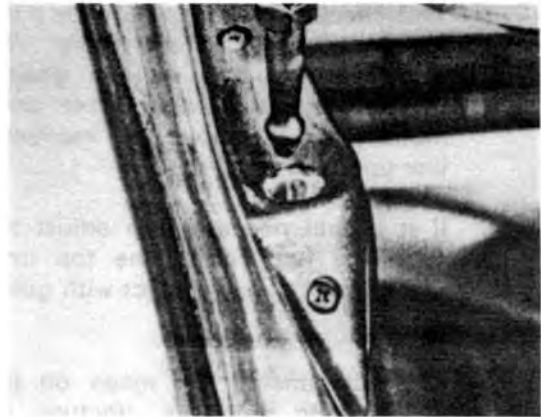
Note: Car should be parked on level and firm surface when making repairs.

1. Check the alignment of the centering lugs to the guide sleeves in the windshield frame. When closing the top, the lugs should contact the front rim of the guide sleeves centrally. (Picture 1)
2. If the adjustment of the centering lugs is okay, check the adjustment of the top frame micro switches left and right.

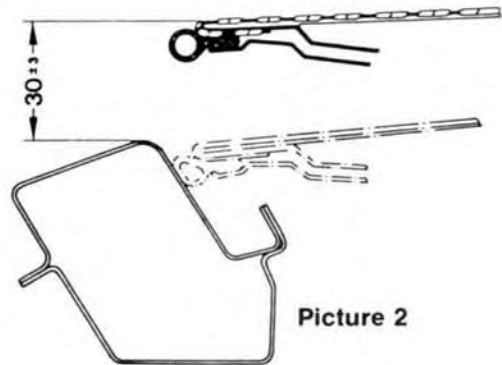
Close the top slowly step by step. Both micro switches should switch at 30mm ± 3mm distance "upper roof edge to upper windshield frame edge" (Picture 2).

If necessary, adjust micro switches using ohmmeter or beeper on disconnected wiring plug (green and white wires).

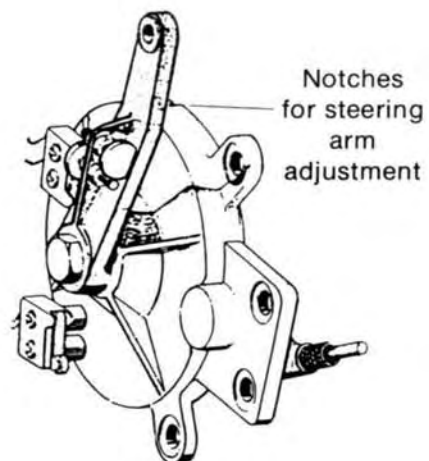
3. If the adjustment of the centering lugs is not okay, first check the synchronization of the left and right swivel gear levers. With the top closed, the marks on the gear housing and on the lever should line up. (Picture 3)



Picture 1



Picture 2



Picture 3



SERVICE

Technical Bulletin

Model
911 Cabrio

Group
6

Subject: Cabriolet Top, Basic Adjustments

Part Identifier
61...

Number
8708

This check should also be made if the swivel gears are noisy. To synchronize the swivel gears, disconnect drive cable from drive motor and turn cable until markings line up. Reconnect cable.

4. If it is still necessary to adjust the centering lugs, close the top until lugs almost make contact with guide sleeves.

- A. Adjustments are made on the bearing brackets (Picture 4).

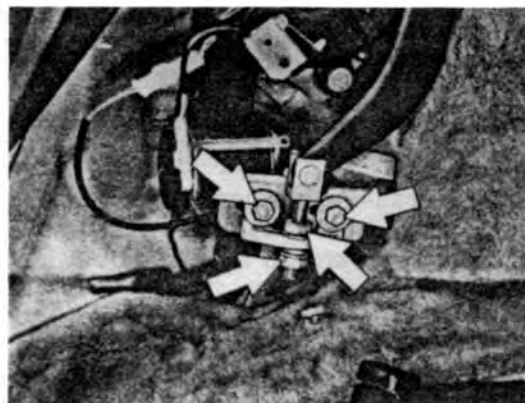
The bearing bracket slotted holes should be centrally located for basic adjustment. Adjustment of the threaded fork upwards (A in picture 5) adjusts the top forward (in driving direction).

Adjustment of the threaded fork downwards (B in picture 5) adjusts the top rearward (against driving direction).

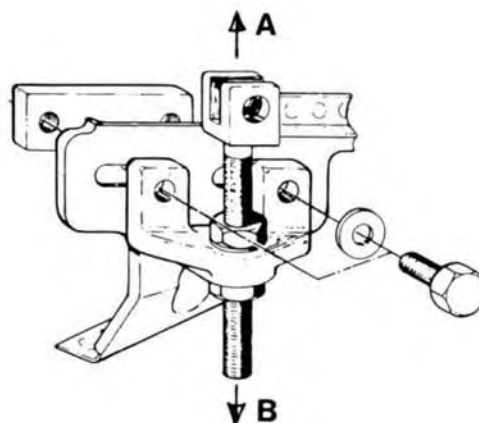
Observe location of centering lugs while making adjustments.

- B. Displacement of the bearing bracket from center position in the slotted holes forward (C in picture 6) produces slight adjustment in driving direction. Displacement of the bearing bracket rearward (D in picture 6) produces slight adjustment against driving direction.

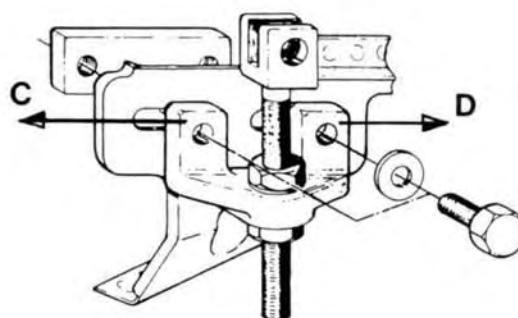
Observe location of centering lugs while making adjustments.



Picture 4



Picture 5



Picture 6

POISSIE CARS NORTH AMERICA INC.



SERVICE

Page 2 of 4
September 21, 1987

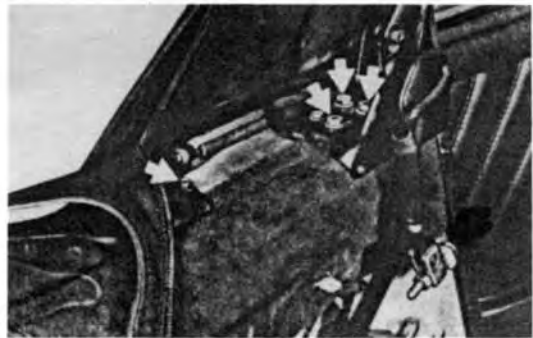
TOP SERVICE CARS NORTH AMERICA - 20

<h1>Technical Bulletin</h1>	Model 911 Cabrio	Group 6
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Subject: Cabriolet Top, Basic Adjustments	Part Identifier 61...	Number 8708
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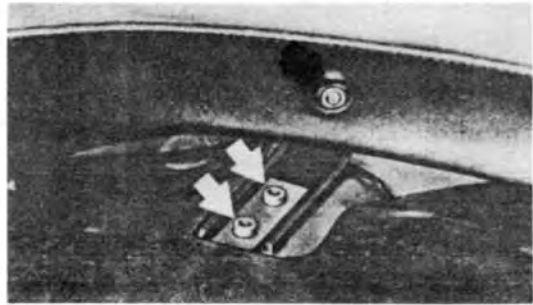
Note: Both these adjustments (Steps 4A and 4B) affect the movement of the top mechanism and should therefore be carried out with appropriate care. If necessary, the opposite side will also have to be adjusted.

5. Should the adjustment of the threaded forks and bearing brackets not be sufficient, the entire top can be moved forward or backward by loosening the rear bow hinge and rear window bracket screws (14 screws, arrows in pictures 7 and 8).



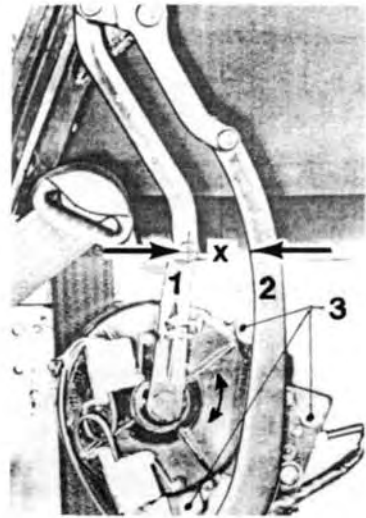
**B - Pillar
Picture 7**

6. Important:
Any tension of the top operating linkage should be eliminated after adjusting the threaded forks or bearing brackets.



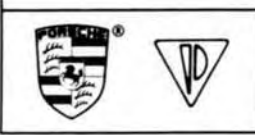
**Rear Bracket
Picture 8**

To do this close the top and loosen the swivel gear mounting bolts (3 in picture 9). Pull the levers together by hand (direction of arrows in picture 9). Tighten swivel gear mounting bolts in this position. Check distance (X in picture 9) between the point of attachment of swivel gear lever/thrust rod (1 in picture 9) and frame arm (2 in picture 9). Maximum difference between left and right side: 5mm.



Picture 9

Note: After adjusting the top, open and close top several times. Recheck adjustment of centering lugs and top frame micro switches. Road test car, and verify proper operation of top several times.



SERVICE

Page 3 of 4
September 21, 1987

Technical Bulletin

Model	Group
911 Cabrio	6

Subject: Cabriolet Top, Basic Adjustments

Part Identifier	Number
61...	8708

Important Notice

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SERVICE

Page 4 of 4
September 21, 1987

Technical Bulletin

Model
911 Cabrio

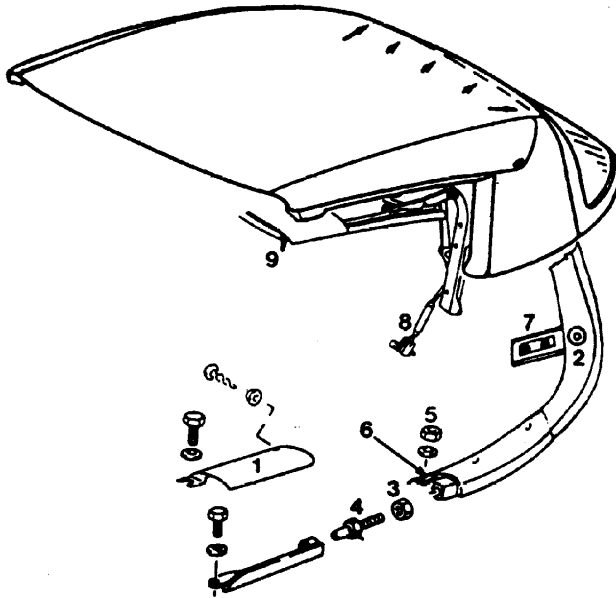
Group
61

Subject: Convertible Top Adjustments

Part Identifier
6101

Number
84-02

1983-1984 Models



Tension on rear window, adjusting

- remove left and right trim covers (1)
- remove 3 plugs (2) and loosen screws
- loosen nuts (5) on left and right sides. Adjustment slots (6) may be lengthened if necessary
- loosen locking nuts (3) on left and right sides.
Tension on top may now be increased by screwing out adjustment bolts (4), or decreased by screwing in

Note

Adjustment slots at rear of frame (7) may be lengthened if necessary

Tension on top when closing, adjusting

- turning adjusting spindles (8) to right causes guide pins (9) to engage at a positive angle (increased tension), turning spindles to left creates a negative engagement angle (decreased tension)

Additional adjustment

- remove interior trim cover on rear frame above window
- loosen retaining points and install 2 or 3 flat washers under frame (arrows) This will decrease tension on top

SERVICE

Page 1 of 1
January 12, 198

Technical Bulletin

Model
911 Cabrio

Group
61

Subject: Convertible Top Operating Instructions

Part Identifier
6101

Number
84-03

Opening and closing the convertible top on 1984-84 models must be done correctly to avoid possible damage to top.

Use the following procedures for proper operation of convertible top:

Convertible top, opening

Work sequence

- remove operating handles from glove compartment.
- insert handles into safety lock receptacles on either side of front windshield frame with handle tips positioned to left
- turn both handles 90° counter-clockwise
- continue turning one handle counter-clockwise while gently pushing up on top with other hand until safety lock disengages. Repeat operation on other side
- lift top slightly and return handles to straight down position. Remove handles and return to glove compartment
- open both doors
- from inside vehicle, unzip rear window and carefully store behind rear seat backrests

Note

To avoid scratches, clean the rear window before storing

- fold top towards rear and press down firmly until the safety latches for roof frame linkage are securely engaged

CAUTION

Damage to top may result if canvas is caught in safety latches or roof linkage

- remove top cover from storage bag in luggage compartment, slide over lowered top and secure with snaps starting at the door lock pillar

Note

If equipped with Tenax studs (4 on each side) buttons must be pulled before fastening takes place

- connect elastic straps behind rear seat backs

WARNING

The top cover must be installed when driving with the top down. Wind force could loosen the padding and damage top

Convertible top, closing

Work sequence

- open both doors
- detach elastic straps from rear seatbacks
- unsnap top cover fasteners (pull to release Tenax buttons) starting at door lock pillar

Note

Snaps lock into place and can be unsnapped easily by sliding hand underneath cover so that snap is between two fingers, then opened by tilting

- place top cover in storage bag provided in luggage compartment
- disengage safety latches from roof linkage and fold top forward until it rests on windshield frame
- from inside vehicle, reinstall rear window and zip up
- insert both roof lock handles in safety lock receptacles with handle tips positioned straight down
- pull top down with both hands and press firmly onto windshield frame until safety latch engages
- pull down on top with one hand while turning handle clockwise with other hand until safety lock is fully engaged. Repeat operation on other side
- remove handles and return to glove compartment

SERVICE

Page 1 of 1
January 25, 1984

Technical Bulletin

Model 911 Cabriolet	Group 6
Part Identifier 6101	Number 8701

Subject: Updated 911 Cabriolet Top
Test Plan

The test plan for the electrically operated 911 Cabriolet top, order number WKD 492 620, has been revised on pages 2, 5, 6, 7 and 9.

Please correct or replace pages involved in your booklets. One set of updated pages is attached.

Corrections are printed in red.

FORN CARS NORTH AMERICA INC.



SERVICE

Page 1 of 1
January 2, 1987

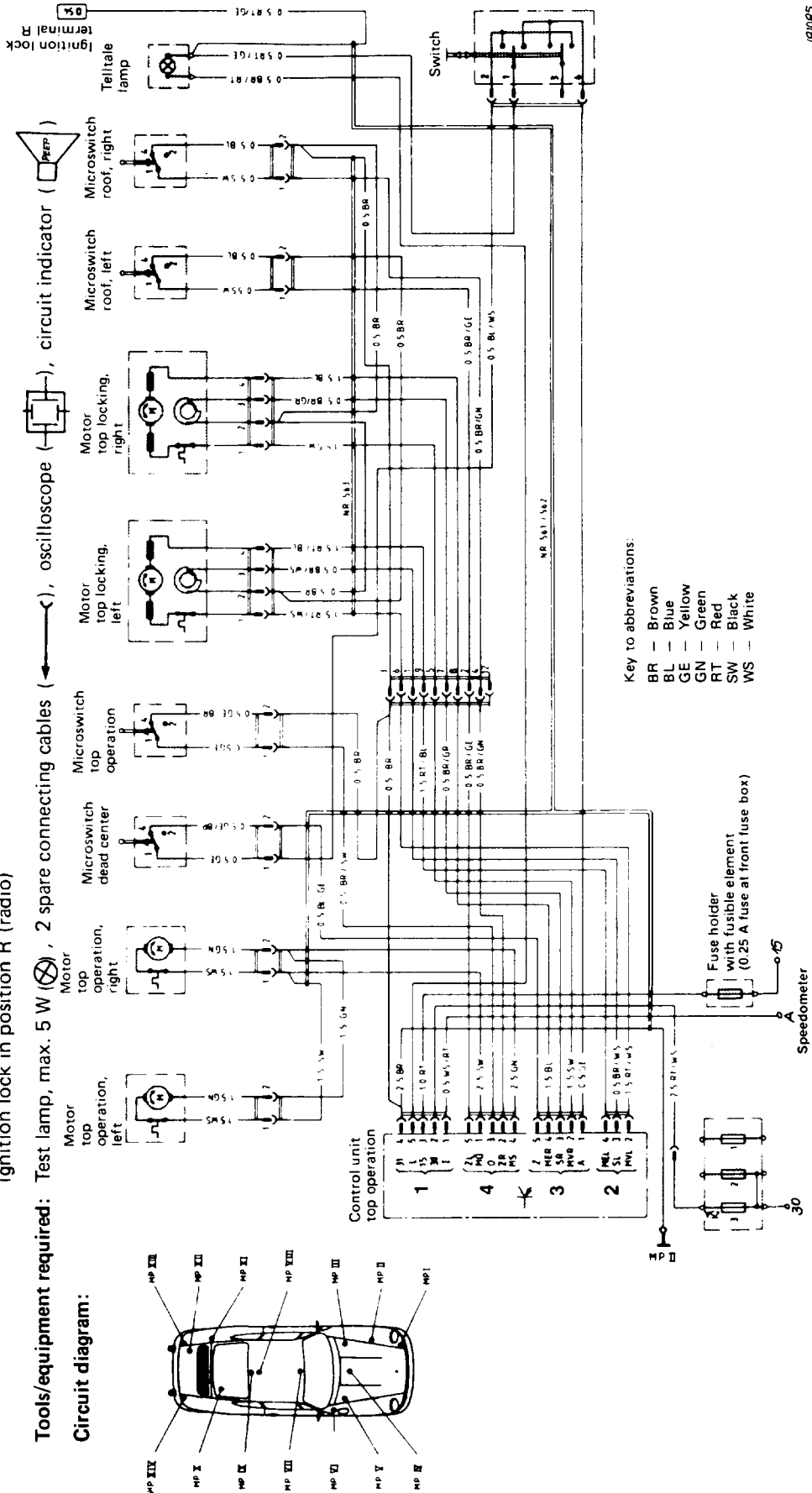
Test conditions:

Battery fully charged
 Top open, positioned vertically upwards
 Ignition lock in position R (radio)

Tools/equipment required:

Test lamp, max. 5 W (⊗), 2 spare connecting cables (↔), oscilloscope (⊞), circuit indicator (⊞), Telltale lamp

Circuit diagram:



Key to abbreviations:

- BR — Brown
- BL — Blue
- GE — Yellow
- GN — Green
- RT — Red
- SW — Black
- WS — White

Speedometer

Fuse holder with fusible element (0.25 A fuse at front fuse box)






NR 581/562

NR 581/562

18085 44





4. Plug

Condition	Terminal No.	Tool	Specified signal	Tested
Connect spare cable to + Connect spare cable to - Connect cable ends alternately to terminals	MÖ and MS (1 and 4)		Top motors must open/close top	Top motor functions + at terminal 1 = open - at terminal 1 = close Caution: Heavy current flow!
Circuit indicator to terminals	ZL and ground (5)		Circuit complete (peep)	Left roof microswitch. With microswitch closed (depressed) = circuit complete open = no circuit
Circuit indicator	ZR and ground (2)		Circuit complete (peep)	Right roof microswitch. With microswitch closed (depressed) = circuit complete open = no circuit
Circuit indicator to ground and terminal	O (3)		Circuit complete (peep)	Top operation microswitch to right gear unit top closed = circuit complete top fully open = no circuit
Circuit indicator to L (Plug 1) and Z (Plug 3) Depress top operating switch towards CLOSE			Circuit complete (peep)	Switch, indicator light and dead-center micro-switch



3. Plug







Condition	Terminal No.	Tool	Specified signal	Tested
Ignition lock in radio position R Depress top operating switch towards OPEN	A (1)		Glows	Power supply from terminal (A) via top switch (switch function)
Connect spare cable to + Connect spare cable to - Connect cable ends alternately to terminal	MVR and MER (2 and 4)		Left locking motor must unlock and lock	Left locking motor function - at terminal 2 = unlock + at terminal 2 = lock Caution: Heavy current flow!
Test lamp to + and terminal	SR (3)		Glows	Left locking motor limit switch must be grounded with locking motor between locked and unlocked positions. No ground connection on either locked or unlocked end-position.
Ignition lock in radio position R Depress top operating switch towards CLOSE	Z (5)		Glows	Power supply from terminal Z via top switch and dead center of microswitch on right gear unit (switch function).





Kundendienstschule

Testing the cabriolet top electrical circuitry

1. Plug

Condition	Terminal No.	Tool	Specified signal	Tested
Ignition on, rear wheels turning	I (1)	Scope 	Square-wave voltage	Speedometer (dry-reed contact) signal
None	30 (2)	Test Light 	Glow	Power supply, terminal 30
Ignition on	15 (3)	Test Light 	Glow	Power supply, terminal 15
Ignition lock in radio position R (spare cable to  and terminal)	L (5)	Jumper wire 	Roof telltale lamp glows	Ground terminal L to telltale lamp
Test lamp to + and terminal	31 (4)	Test Light 	Glow	Ground terminal 31

2. Plug

Condition	Terminal No.	Tool	Specified signal	Tested
Not occupied	(1)	—	—	—
Connect spare cable to +				
Connect spare cable to —			Right locking motor must unlock and lock	Right locking motor function – at terminal 2 = unlock + at terminal 2 = lock Caution: Heavy current flow!
Connect cable ends alternately to terminals	MVL and MEL (2 and 4)			
Test lamp to + and terminal	SL (3)		Glow	Right locking motor limit switch must be grounded with locking motor between locked and unlocked positions. No ground connection in either locked or unlocked end position.
Not occupied	(5)	—	—	—



BASIC ADJUSTMENT

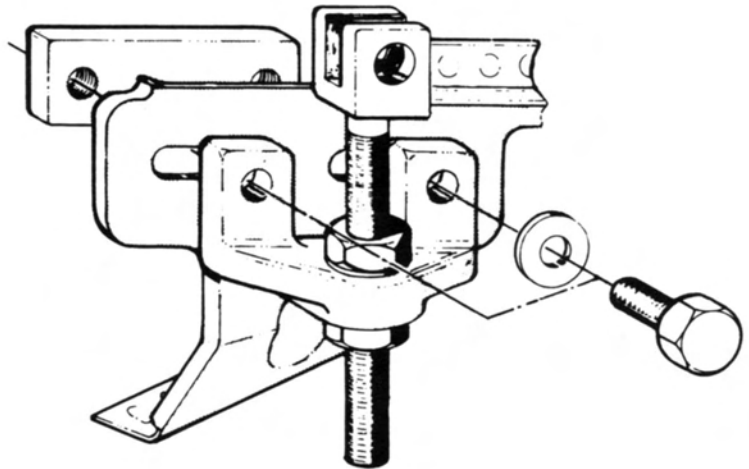
The centering lugs move through a semicircular arc. They should be adjusted in such a way that they come into contact with the front rims of the guide sleeves and locate centrally in them.



Failing this, the movement of the top must be corrected at the bearing bracket.

Adjustment of the threaded fork upwards produces a longitudinal adjustment forwards, a vertical adjustment downwards and a slight lateral displacement.

The bearing bracket should be centrally located for basic adjustment. Displacement from this position also results in slight longitudinal and lateral displacements.



Both these adjustments affect the movement of the top mechanism and should therefore be carried out with appropriate care. If necessary the opposite side will also have to be adjusted.



Technical Bulletin

Model
911 Speedster

Group
6

Subject: Folding Top Snaps

Part Identifier
6101

Number
8904

Opening and Securing Tenax Snaps

Tenax Snaps are used to secure the emergency folding top. The upper part of the snap (Figure 1) consists of the operating button (1) and the housing (2) with three tensioning springs (3).

Pulling the operating button releases the tensioning springs.

The lower part (Figure 2) consists of a ball-head (4) hexagon head (5) and threaded piece (6). In the snapped state the three tension springs surround the ball-head of the lower part and guarantee optimal retainment.

When opening the Tenax Snaps, the operating button must be pulled.

Open the catches on the windshield frame before opening the Tenax Snaps.

When securing, the operating button must be pulled and the upper part must be aligned perpendicular to the axis of the lower part. Do not use force when securing. The fastening capabilities will be impaired if the holding spring inside the Tenax Snap upper part is damaged.

Refer to Technical Bulletin Group 6, Number 8905, dated October 20, 1989 for top opening and closing information.

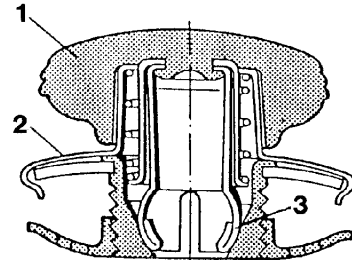


Figure 1

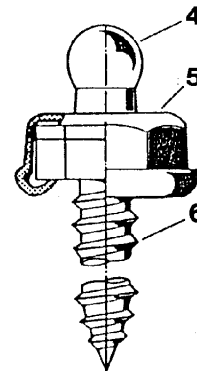


Figure 2

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SERVICE

Page 1 of 1
October 20, 1989

Technical Bulletin

Model
911 Speedster

Group
6

Subject: **Opening and Closing
the Folding Top**

Part Identifier
6101

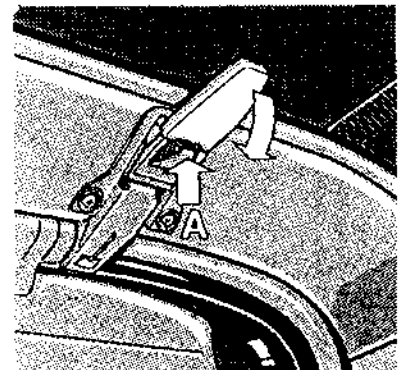
Number
8905

Opening and Closing Emergency Folding Top

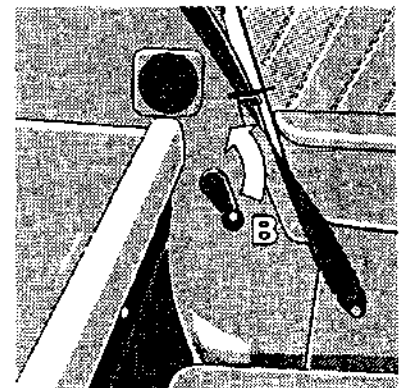
This information is reprinted from the 911 Speedster Supplement to the owners manual.

Opening emergency folding top

1. Press both retaining studs (A) in the folding-top catches on the windscreen frame and open the catches.



2. Unlock the rear lid using the lever (B) on the left side wall.

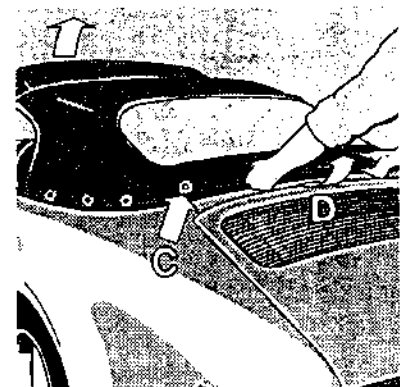


3. Undo all Tenax studs (C) by pulling the head of the stud.

Raise the folding top forwards by approx. 10 cm to slacken it.

Using both hands (thumbs upwards), pull the folding top backwards by the clamping strip (D) and detach.

Pull rear window fully forwards and stow on top of the folding top.



ROSCHE CARBON NORTH AMERICA INC.



SERVICE

Page 1 of 5
October 20, 1989

Technical Bulletin

Model
911 Speedster

Group
6

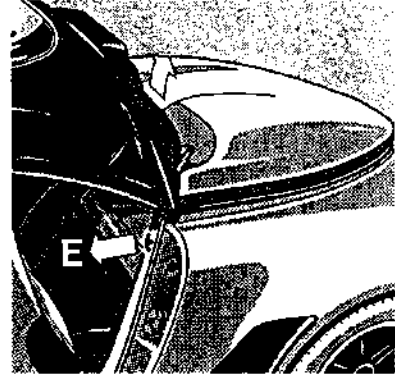
Subject: Opening and Closing
the Folding Top

Part Identifier
6101

Number
8905

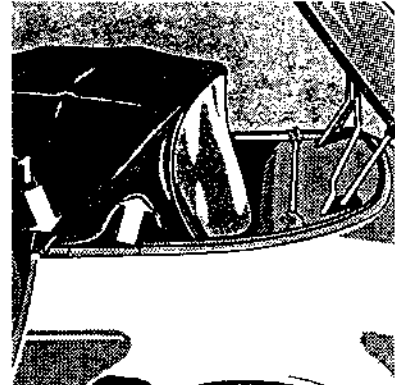
4. Unlock the rear lid with the push stud (E) and raise rear lid forwards in the middle and fold back.

Move rear window backwards into the rear compartment.



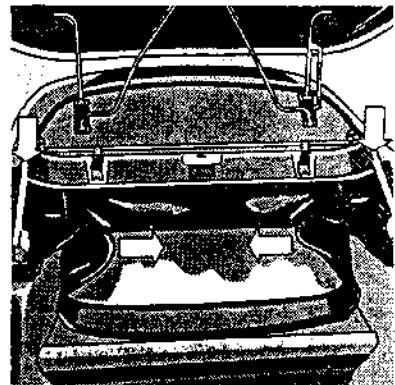
5. In vehicles with the guide bracket, the folding top cover must first be stowed behind the guide bracket (1) before folding the folding top.

Fold side sections of the folding top forwards (see arrow) and pull the rear window forwards from inside when folding back the top.



Ensure that the rear window is not folded and that both sides of the soft top cover are pulled inwards (see illustration) so that the folding top cover is not caught.

Push both sides of the folding top frame downwards.



ADDITIONAL INFORMATION



SERVICE

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October 20, 1989

Technical Bulletin

Model
911 Speedster

Group
6

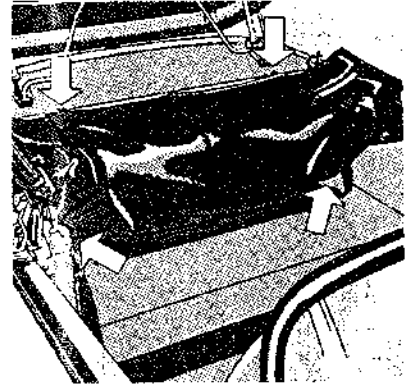
Subject: **Opening and Closing
the Folding Top**

Part Identifier
6101

Number
8905

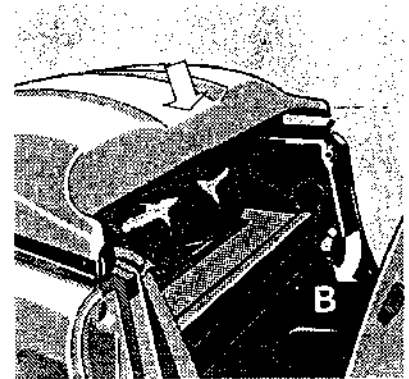
6. Move the folding top catches to the locking position.

Attach protective cover to the folding top catches, raise rear window and fix the cover to the eyes in the left and right sides of the rear compartment.



7. Fold rear lid downwards and press the middle of the lid until it can be heard to engage in the retaining hook.

Lock the rear lid using the lever (B).



DESIGNER NORTH AMERICA INC.



SERVICE

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October 20, 1989

Technical Bulletin

Model
911 Speedster

Group
6

Subject: Opening and Closing the Folding Top

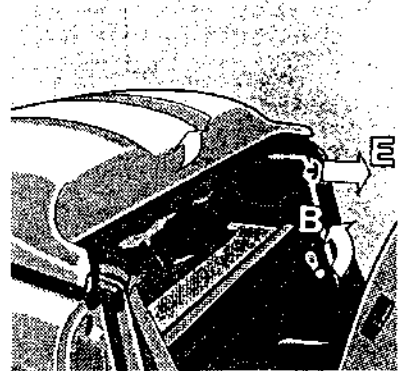
Part Identifier
6101

Number
8905

Closing emergency folding top

1. Unlock the rear lid with the lever (B).

Pull the push stud (E) for the lock hook and raise the rear lid forwards in the middle and fold back.



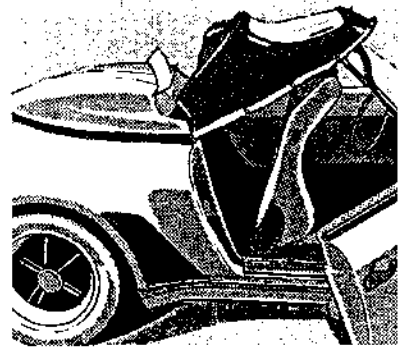
2. Detach the protective cover.

Raise the middle of the folding top and fold forwards.

Pull the rear window fully forwards and stow on top of the folding top.

Fold the rear lid downwards and press the center of the lid until it can be heard to engage in the lock hook.

Lay the rear window over the rear lid.

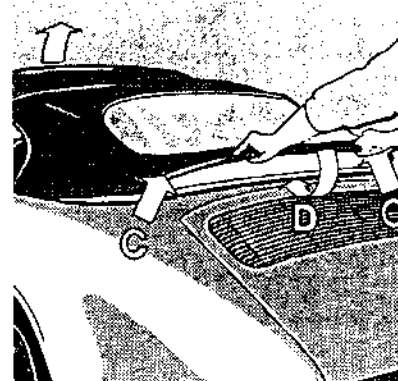


3. Raise the folding top forwards by approximately 10 cm to slacken it.

Using both hands (thumbs downwards), attach folding top clamping strip (D) under the rear lid from behind.

Pull the heads of both rear Tenax studs (C) on the fabric of the folding top and attach them to the lower sections of the Tenax studs.

Pushing the heads of the Tenax studs further locks the studs in place.



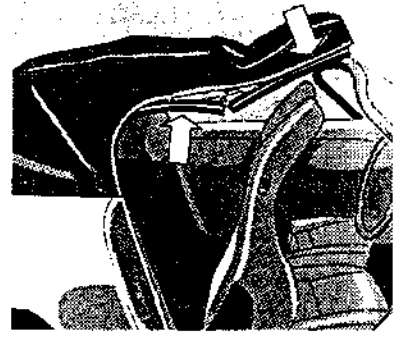
SERVICE

Technical Bulletin	Model 911 Speedster	Group 6
	Part Identifier 6101	Number 8905

Subject: **Opening and Closing the Folding Top**

4. Holding the lower section of the folding top and pressing the top section, tighten the side members of the folding top.

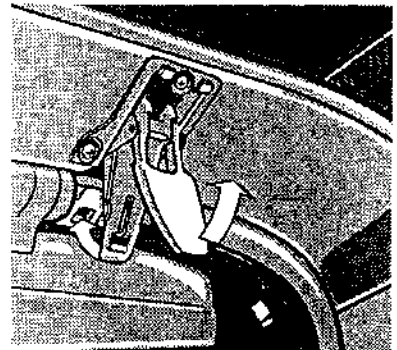
Caution, risk of injury!
Take care not to catch your fingers in the hinges.



5. Move the folding top catches to the lock position from inside.

Holding the handle, pull the soft top downwards from inside; the guide pin of the folding top must engage between the mirror mounting and the windscreen frame.

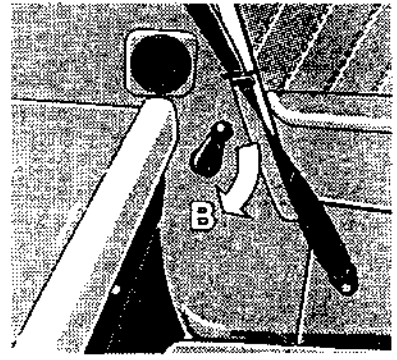
Lock both folding top catches.



6. Lock the rear lid from inside using the lever (B).

Attach all remaining Tenax studs by pulling the head of the stud and pushing it onto the bottom section.

Refer to Technical Bulletin Group 6, Number 8904, dated October 20, 1989 for important information on Tenax Snaps.



Important Notice

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SERVICE

Technical Bulletin

Model
911
Cabriolet

Group
6

Subject: Service Information Video Tape
"Electrically Operated Cabriolet Top"

Part Identifier
6101

Number
8808

The adjusting measurement for the front micro switches given in video tape "Electrically Operated Cabriolet Top" (WKD 457 420 12) is incorrect.

The micro switches are adjusted correctly if both switches switch at $30 \pm 3\text{mm}$ distance "upper roof edge to upper windshield frame edge" (Figure 1).

For complete Cabriolet top adjustment procedures, refer to 911 Carrera Workshop Manual, Volume IV, page 61-48 or Technical Bulletin, Group 6, Number 8708, Book D, page 221.

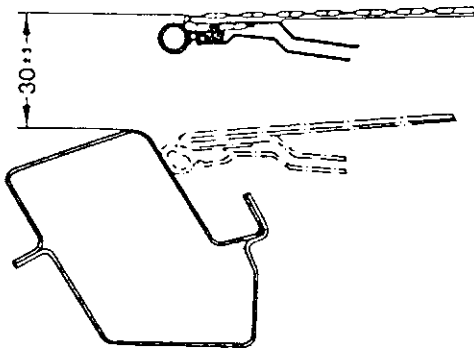


Figure 1

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SERVICE

Page 1 of 1
December 9, 1988

PORSCHÉ CARS NORTH AMERICA, INC.

<h1>Technical Bulletin</h1>	Model 911 Cabrio	Group 6
	Part Identifier 6102	Number 8602

Subject: **Hardtop Modifications**

The front holder and roof inclination have been changed on the 1986 Model Cabriolet top. It is not possible to mount the old hardtop on 1986 model cars. A new hardtop with installation kit is available for 1986 models.

The new hardtop roof can also be mounted on cars with power convertible top. On these cars it is necessary to exchange the installed gate guides with guides for manual operation.

Part Numbers 911 561 729 03 left
 911 561 730 03 right

The guides have to be changed again if the power top is remounted.

Hardtop Part Numbers:

Installation Kit with Hardtop Roof

Up to and including 1985 Models 911 561 901 00
 From 1986 Models 911 561 901 01

Unfinished Hardtop Roof

Up to and including 1985 Models 911 503 969 00
 From 1986 Models 911 503 969 01



SERVICE

Technical Bulletin

Model
911C, 944 S2

Group
6

Subject: Cabrio Top Preservative

Part Identifier
6128

Number
9002

ATTENTION: Service Manager/Service Technician

Cars Affected: *911 Cabriolet, 911 Speedster and 944 S2 Cabriolet*

Condition: Water leaking through seams or through top material.

Parts Required: PN 000 043 123 00 Spray Preservative
PN 000 043 123 10 Cleaner

Repair Procedure:

- With the top up and locked, clean according to instructions in the owners manual or with cleaner mentioned above.
- Hold preservative spray 20-30 cm (approximately 8 to 10 inches) from top material during application. Holding spray can closer may cause staining of the top material. Treat the seams of the top twice.
- For optimum maintenance and protection, the top material should be treated twice a year (once in Spring and once in Fall).

Note: Please take the necessary steps to prevent the preservative overspray from coming in contact with the rear plastic window and painted surfaces. Preservative spray can stain these surfaces.

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Publications



SERVICE

Page 1 of 1
February 16, 1990

Technical Bulletin

Model
911 Cabriolet

Group
6

Subject: Replacing Cabriolet Rear Bow

Part Identifier
6130

Number
8801

In an effort to further minimize repair cost of Cabriolet tops, the replacement of the rear bow as a complete unit is no longer necessary. The rear top bow is now available in three separate pieces; center bow, left side bow support and right side bow support.

PARTS LIST

Qty.	Description	Part Number
1	Bow support left	911 561 927 00 70B
1	Bow Section-Center	911 561 215 00
1	Bow support right	911 561 928 00 70B
5	Counter sunk screws 5 x 12	900 269 017 02
5	Washers	N 011 523 7
5	Nuts M5	N 011 182 1
1	Cap screw M10 x 28	911 561 420 00
1	Cap screw M8 x 24	911 561 421 00

Labor Operations and time units:

61 01 15 06	Adjust electric Cabriolet top (Does not include adjustments on the bow support hinges and/or rear window)	140 TU
61 60 19 06	R and R left or right bow support on electric Cabriolet top. (Includes adjusting Cabriolet top)	450 TU
61 30 20 06	R and R left and right bow support on electric Cabriolet top. (Includes adjusting Cabriolet top)	640 TU

WORK PROCEDURE

The following procedure describes replacing the left or right side section of the rear bow.

Removing Cabriolet Rear Bow Support

- 1) Raise top approx. 2 inches to release tension.

ROOSEVELT CARS NORTH AMERICA INC.



SERVICE

Page 1 of 5
March 4, 1988

Technical Bulletin

Model
911 Cabriolet

Group
6

Subject: Replacing Cabriolet Rear Bow

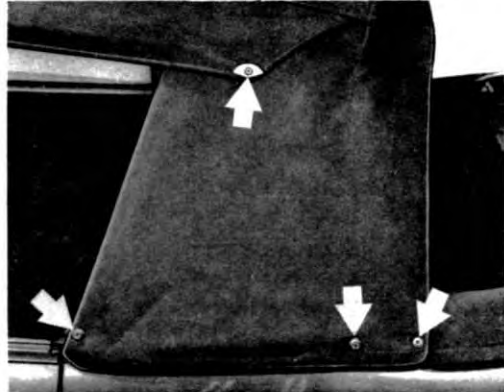
Part Identifier
6130

Number
8801

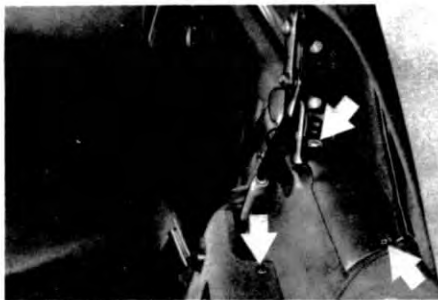
- 2) Remove inside bow cover
7 screws in the front
4 screws in the rear
1 each side bottom



- 5) Remove lower and upper canvas phillips head screws. Remove lower tenax snaps. Note: Upper phillips screw with corner piece and nut.



- 3) Remove lower side trim. Loosen 6mm allen head screws (front) and remove phillips head screws rear.



- 6) Cut stitching at bow lower corner. Retain plastic washer between top and back materials.
7) Remove tightening bow bracket (5mm allen head screws).



- 4) Remove nuts and washers from "B" pillar seal. Raise top to half open and remove "B" pillar seal.

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SERVICE

Page 2 of 5
March 4, 1988

Technical Bulletin

Model
911 Cabriolet

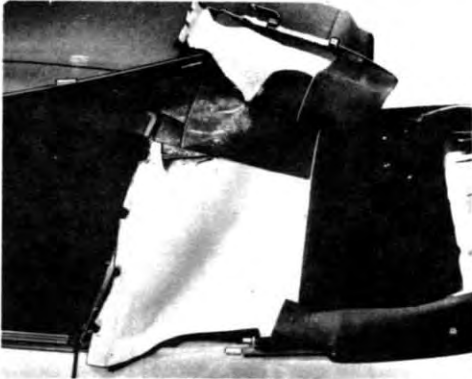
Group
6

Subject:
Replacing Cabriolet Rear Bow

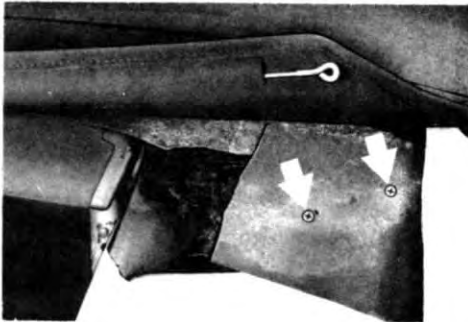
Part Identifier
6130

Number
8801

- 8) Pull off outer side canvas (pull to inside of vehicle).

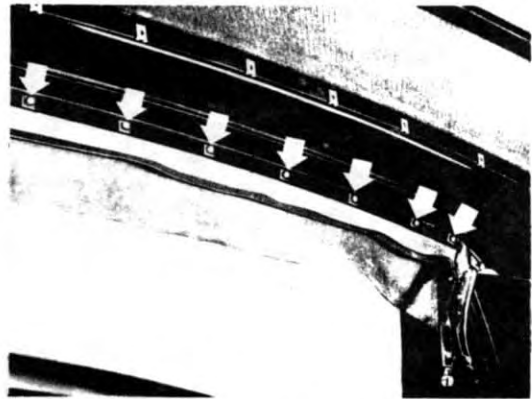


- 9) Pull off inner side covering material. Remove two phillips screws in bow bar.



- 10) Pull canvas off rear bow inside. Start pulling from upper corners (3 canvas layers). The rear and front canvas is glued together here.

- 11) Remove 11 screws from rear bow mounting rail using 7mm socket.



- 12) Pull off three layer canvas to the rear. Detach front from rear canvas.

- 13) With the top closed, pull back outer canvas. Pull back tape and inner lining. Unhook rubber strap for tensioning bow.



- 14) Open top slightly. Disconnect swivel linkage from bow. (Two cap bolts) Detach wiring harness when working on right side.



Technical Bulletin

Model
911 Cabriolet

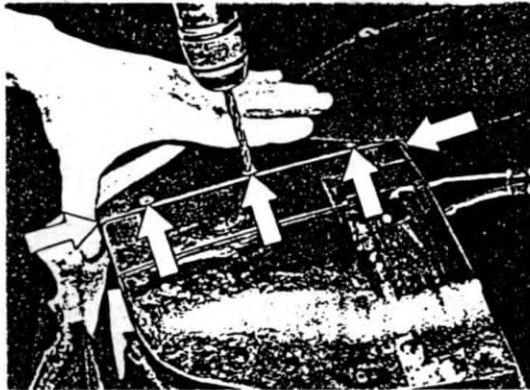
Group
6

Subject: Replacing Cabriolet Rear Bow

Part Identifier
6130

Number
8801

- 15) Drill out rivets between center bow on bow support using a 6mm drill (5 rivets).



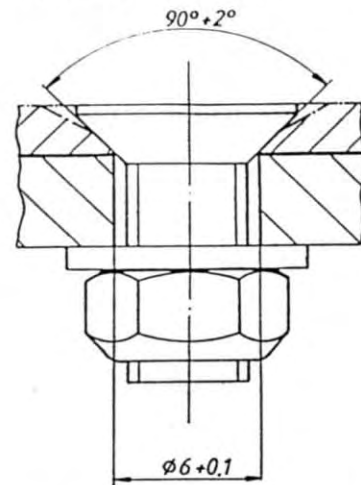
- 16) Unscrew lower bow retainer bolts (3 bolts) and remove bow support.

Note: There are adjustment shims under retainer, normally one shim.



INSTALLING REAR BOW SUPPORT

- 1) The drilled holes must be countersunk 90 degrees from the outside. Installed screws must be flush with outer surface of the bow to prevent poor appearance and top material damage.



- 2) Engage new bow support in U-shaped profile of center bow. Install 5 countersunk screws with washers and nuts. Tighten screws. Cover screw heads and center and side bow joining area with duct tape.



- 3) Install lower bow retainer bolts (do not tighten at this time).



Technical Bulletin

Model
911 Cabriolet

Group
6

Subject: **Noisy Cabriolet
Top Transmission Gears**

Part Identifier
6172

Number
8806

When repairing Cabriolet tops with noisy transmissions, first check synchronization of the left and right swivel gears. Make the necessary adjustments and recheck for noise before replacing parts.

Refer to Technical Bulletin Group 6, Number 8708, Book D, page 221 for adjustment procedure.

Torque value for steering arm bolt (Fig. 1):
35 Nm (25.5 ft. lb.)

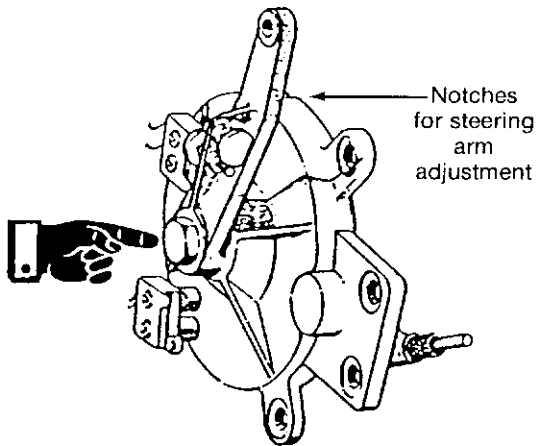


Figure 1

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SERVICE

Page 1 of 1
November 4, 1988

Technical Bulletin

Model

911

Group

6

Subject

Cabriolet Top Control unit

Part Identifier

6182

Number

9613

ATTENTION: Service Manager / Service Technician

Models Affected: *911 Carrera, 911 Turbo, M.Y. 1986 - 89 and 911 Carrera 2/4, M.Y. 1990 to 1994 and 911 Turbo, M.Y. 1991, 92 and 94*

Concern: The Cabrio top control unit is now superceded to the type used in the 911 Carrera (993). The original equipment part for the above mentioned models is no longer available.

General Information: As a result of the parts supersession, when the 993 618 313 00 control unit is installed, additional wiring work is necessary.

For the 911 Carrera and 911 Turbo M.Y. 1986 through 1989, refer to the wiring diagrams and specific instructions found on pages 2 through 5 of this bulletin.

For the 911 Carrera 2/4 and 911 Turbo M.Y. 1990 through 1994, refer to the wiring diagrams and specific instructions found on pages 6 through 8 of this information.

Parts Information: The following additional parts will be required when installing the 993 618 313 00 control unit into the 911 Carrera or 911 Turbo M.Y. 1986 through 1989:

Part Number	Description	Quantity
993 618 313 00	Control unit	1
999 652 351 22	Round connector	2
N 017 242 11	Flat connector (male)	1
999 652 119 40	Flat connector housing	1
911 617 106 01	Diode	1
-----	0.5 mm x 150 cm red wire*	1
-----	0.5 mm x 150 cm brown / white wire*	1
-----	0.5 mm x 150 cm green / white wire*	1
-----	Electrical tape	-
-----	Cable ties	-

* Locally obtained



Technical Bulletin

Model

911

Group

6

Subject

Cabriolet Top Control unit

Part Identifier

6182

Number

9613

Work Procedure:

Refer to the wiring diagrams on page 5.

- 1 - Move the front seats to rearmost position. Note the radio code and disconnect the battery negative clamp.
- 2 - Remove the passenger's side foot board.
- 3 - Remove the old cabrio top control unit and install the new 993 618 313 00 control unit.
- 4 - Remove and disassemble plug M1. Locate the 1.0 mm red wire (Pin 3, Term 15).
 - 4.1 - Join the additional 0.5 mm red wire (locally obtained) to the existing 1.0 mm red wire (term 15, pin 3) and solder. Insulate the connection with electrical tape.
 - 4.2 - Reassemble plug M1 and reinstall onto the control unit.
- 5 - Solder the 2.4 mm round connectors onto one end of the additional 0.5 mm brown / white and green / white wires.
- 6 - Remove plug M2 from the control unit.
 - 6.1 - Install the round connector of the additional brown / white wire into the M2 connector position 1 (term. hd).
 - 6.2 - Install the round connector of the additional green / white wire into the M2 connector position 5 (term. P).
 - 6.3 - Reassemble plug M2 and reconnect onto the control unit.
- 7 - Route the additional 0.5 mm red wire and green / white wire along the under dash and up to the area of the oil pressure/oil temp. gauge. Route the additional wires along the existing harness and secure using cable ties.
 - 7.1 - Pull the oil pressure / oil temperature gauge from the dash panel.
 - 7.2 - Pull the 0.5 mm red / yellow wire connector from the cabrio top control light.



Technical Bulletin	Model 911	Group 6
Subject Cabriolet Top Control unit	Part Identifier 6182	Number 9613

Work Procedure: (Cont'd)

- 7.3 - Join the additional 0.5 mm red wire to the existing 0.5 mm red / yellow wire and solder (see wiring diagram 7.3 on page 5). Insulate the connection with electrical tape and reconnect onto the Cabrio top control light terminal.
- 7.4 - Pull the additional green / white wire through the flat connector housing (999 652 199 40) and crimp the flat male connector (N 017 242 11) onto the end of the wire. Insert the flat connector into the flat connector housing. Connect the additional green / white wire onto terminal G of the oil pressure / oil temperature gauge (see wiring Diagram 7.4, page 5).
- 7.5 - Pull the speedometer from the dash panel. Remove the red / yellow wire on terminal + (plus). Cut off the flat connector. Insulate and tape this wire to the back of the harness.
- 7.6 - Reinstall the speedometer and oil pressure/oil temperature gauges.
- 8 - Route the additional brown / white wire along the center tunnel to the area of the shift coupler cover.
- 8.1 - Remove the shift coupler cover. Locate the wiring harness inside the tunnel and very carefully cut the harness open with a knife.
- 8.2 - Locate the 0.5 mm brown / white wire (from the hand brake switch) in the harness. Connect the additional 0.5 mm brown / white wire to the existing brown/white wire in the harness and solder. Insulate the connection with electrical tape. Approximately 2 cm from the solder connection and toward the rear of the vehicle, cut the brown / white wire in the harness and install the diode (911 617 106 01). Pay attention to the correct installation position of the diode (see wiring diagram 8.2, page 5). Solder the diode into place and insulate the connections with electrical tape. Close the harness using electrical tape and reinstall the shift coupler cover.
- 9 - Reinstall the passenger's is foot board and related parts. Reconnect the battery, reset the vehicle clock, and recode the radio.

Technical Bulletin

Model
911

Group
6

Subject
Cabriolet Top Control unit

Part Identifier
6182

Number
9613

- Work Procedure: (Cont'd)**
- 10 - Function test the system.
 - 10.1 - Pull the hand brake lever up.
 - 10.2 - Place the ignition key in position 2 (ignition on or engine running).
 - 10.3 - Open and close the Cabrio top using the control switch.
 - 11 - Ensure that the vehicle owner is aware of the change in operating instructions for the Cabrio top. The changed operating instructions for the owner's manual are found on page 9 of this bulletin. Copy the page, cut it down to the size of the owner's manual, and insert it into the clear sleeve in the front of the owner's manual.
 - 11.1 - In the vehicle owners manual find the section...." Electrical Operation of Top". Locate the text...."1. Turn ignition key to ignition lock position 1". Strike out this text with a solid line through the center. At this location in the owner's manual, note the following:

Cabrio top operation changed. Refer to the new information in the front of the owners manual.
 - 11.2 - The abbreviated operating instructions found on page 8 of this bulletin are to be copied, cut down to the correct size, and placed on the back side of the driver's sun visor over the old information.
 - 12 - Discuss the new operating instructions directly with the vehicle owner. Show the customer where the new information can be found in the vehicle and demonstrate the Cabrio top operation.

Labor Information: 210 TU



Technical Bulletin

Model

911

Group

6

Subject

Cabriolet Top Control unit

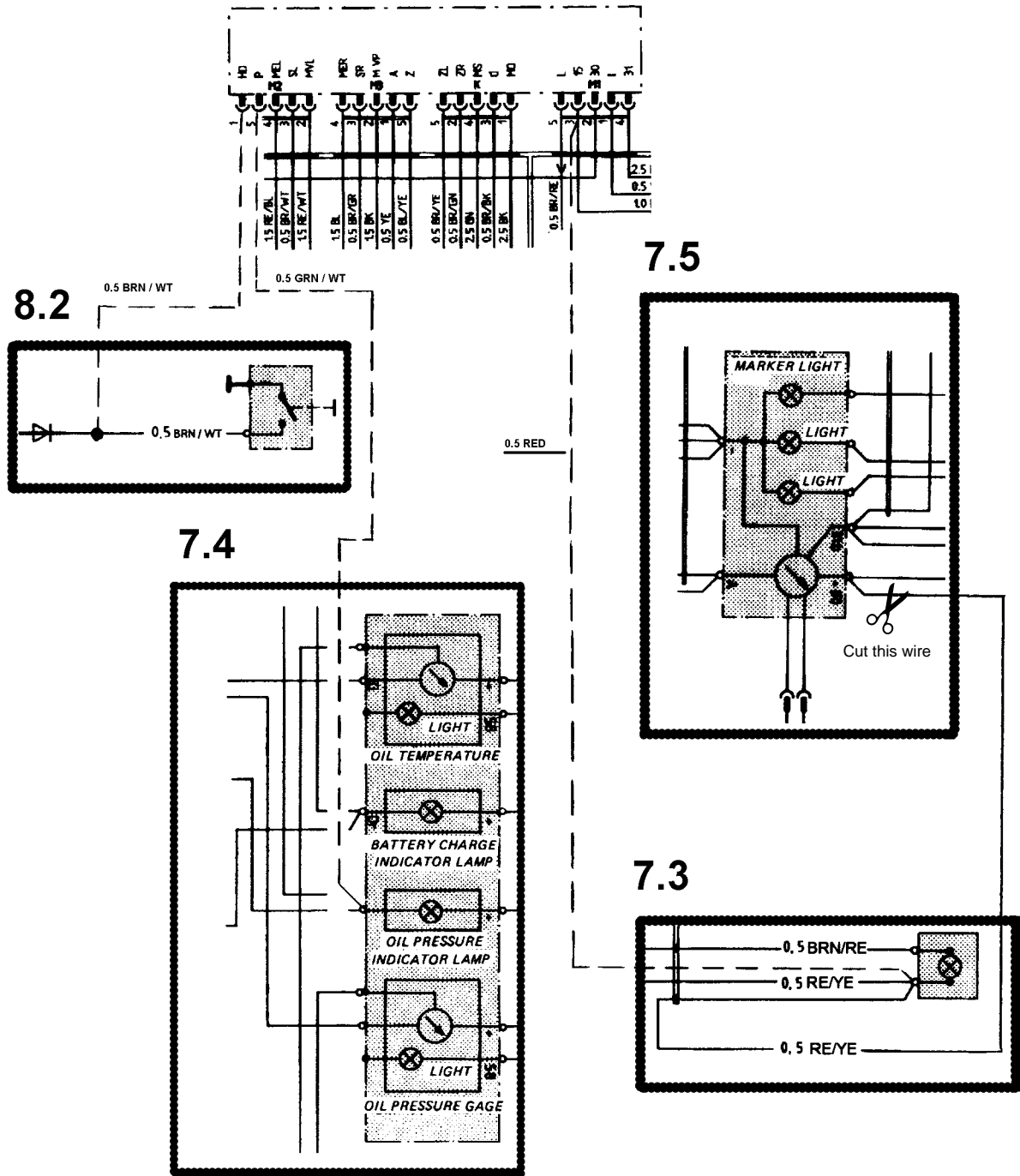
Part Identifier

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Number

9613

PORSCHE CARS NORTH AMERICA INC.



Technical Bulletin

Model

911

Group

6

Subject

Cabriolet Top Control unit

Part Identifier

6182

Number

9613

For the 911 Carrera 2/4 and 911 Turbo M.Y. 1990 through 1994:

Parts Information:

The following additional parts will be required when installing the 993 618 313 00 control unit into the 911 Carrera 2/4 or 911 Turbo M.Y. 1990 through 1994:

Part Number	Description	Quantity
993 618 313 00	Control unit	1
999 652 351 22	Round connector	1
-----	0.5 mm x 40 cm Brown/Red wire*	1
-----	Electrical tape	-

* locally obtained

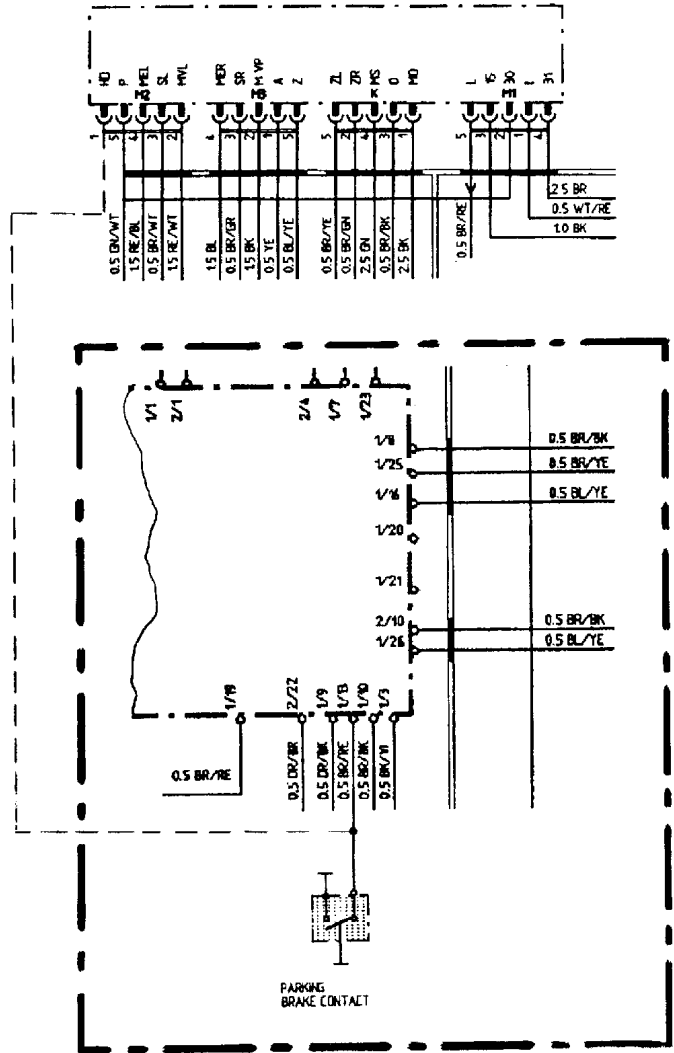
Work Procedure: 1 - Move the drivers seat to the rear most position. Note the radio code and disconnect the battery negative clamp.

2 - Loosen the central informer and remove the old Cabriolet top control unit located in the area under the dash panel on the left side above the knee bar.

3 - Pry open plug connector M2.

3.1 - Solder the round connector (999 652 351 22) to one end of the additional brown / red wire.

3.2 - Install the round connector into plug M2 in position 1 (term.Hd. see diagram 4.1). Close the M2 connector. Install the 993 618 313 00 control unit and connect all wiring plugs.



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Technical Bulletin	Model 911	Group 6
Subject Cabriolet Top Control unit	Part Identifier 6182	Number 9613

Work Procedure: (Cont'd)

4 - Remove plug 1 from the central informer.

4.1 - Join the additional 0.5 mm brown / red wire and the existing 0.5 mm brown / red wire from pin 13, plug 1 of the central informer and solder (see diagram 4.1 on page 6). Insulate the connection with electrical tape and reinstall plug 1 into the central informer.

5 - Reinstall the cabrio top control unit and the central informer.

Caution: Be certain not to dislodge the headlight switch connector while working under the dashboard in this area. Secure the additional brown/red wire with electrical tape.

6 - Reconnect the battery, reset the vehicle clock and recode the radio.

7 - Function test the system.

7.1 - Pull the hand brake lever up.

7.2 - Place the ignition key in position 2 (ignition on or engine running).

7.3 - Open and close the cabrio top using the control switch.

8 - Make the vehicle owner aware of the change in operating instructions for the cabrio top. The changed operating instructions are found on page 9 of this information. Copy the page, cut it down to the size of the owner's manual, and insert it into the clear sleeve in the front of the owner's manual.

8.1 - In the vehicle owner's manual find the section...." Electrical Operation of Top". Locate the text...."1. Turn ignition key to ignition lock position 1". Strike out this text with a solid line through the center. At this location in the owners manual, note the following:

Cabrio top operation changed. Refer to the new information in the front of the owner's manual.



Technical Bulletin

Model

911

Group

6

Subject

Cabriolet Top Control unit

Part Identifier

6182

Number

9613

Work Procedure: (Cont'd)

8.2 - The abbreviated operating instructions found on this page are to be copied, cut down to the correct size and placed on the back side of the driver's sun visor over the old information.

9 - Discuss the new operating instructions directly with the vehicle owner. Show the customer where the new information can be found in the vehicle and demonstrate the Cabrio top operation.

Labor Information:

100 TU

Abbreviated cabrio top operating instructions to be copied, cut to size and placed on the back of the driver's sun visor.

To operate convertible roof electrically observe operating instructions. Operate top only with vehicle at a standstill. (ignition key in pos. 2) and the hand brake pulled. Caution: Drive only with convertible top in final, forward or rear, position (indicator lamp off). At temperatures below freezing, the rear window must be opened first.

For 911 Carrera, 911 Carrera 2/4 and 911 Turbo M.Y. 1986 through 1994

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Technical Bulletin	Model 911	Group 6
Subject Cabriolet Top Control unit	Part Identifier 6182	Number 9613

The folding top can only be opened or closed with the parking brake set.

1. Turn the ignition key to position 2 (engine run- or stopped).
2. Press the rocker switch without interruption, if possible, until the indicator light goes out (fully open position). In the event of danger, release the switch; the operation of the top will be interrupted immediately.

Copy this page, cut it down to the size of the owners manual and insert it into the clear sleeve in the front of the owners manual.
For 911 Carrera, 911 Carrera 2/4 and 911 Turbo M.Y. 1986 through 1994.

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Technical Bulletin	Model 911 Carrera 911 Turbo	Group 6
	Part Identifier 6410	Number 8902

Subject: Modified Windshield Frame

Model Year 1989

The windshield frame pinch weld lip for the windshield seal was increased from approximately 10mm to approximately 15mm. This change required a new type windshield and windshield frame seal.

From production date (approx.): October 13, 1988

- VIN (approx.)
- 91_KS12 0509 — Carrera Coupe
 - 91_KS16 0462 — Carrera Targa
 - 91_KS17 0584 — Carrera Convertible
 - 93_KS05 0265 — Turbo Coupe
 - 93_KS06 0072 — Turbo Targa
 - 93_KS07 0275 — Turbo Convertible

Note: Introduction date and VIN's are approximate. Measure pinch weld lip to determine the correct windshield and windshield seal application.

Approx. 15mm pinch weld lip:

- Windshield Tinted,
- Upper Part Darker PN: 964 541 011 01
- Windshield Tinted PN: 964 541 011 00
- Windshield Seal PN: 964 541 225 00

Approx. 10mm pinch weld lip:

Refer to parts catalog for windshield and windshield seal part numbers.

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SERVICE

Removing & Installing the Speedster Windscreen

Vehicle Type: **911 Speedster**

Model Year: **From '87 (H)**

Concern: **Windscreen replacement parts.**

Information: The Speedster replacement parts windscreen will be supplied without the windscreen frame. The procedure for removing and replacing the windscreen is described in the appendix to the repair instructions: "Removing and installing windscreen - Speedster".

Literature: Since supplements will no longer be prepared and/or supplied for the earlier 911 Repair Manuals, please find attached the repair instructions **"Removing and Installing Windscreen - Speedster"**.

Please make copies of the attached technical manual pages (2-26) and file them according to the instructions below:

911 Carrera Technical Manual, Part Number, WKD 482 020, Volume IV, Rep. Group 64:

Please remove the keyword index in Volume IV and insert the appendix "Removing and Installing Windscreen - Speedster" after Page 64 - 8.

911 Carrera 2 Technical Manual, Part Number, WKD 482 520, Volume V, Rep. Group 64:

Please remove the contents in Volume V and insert the appendix "Removing and Installing Windscreen - Speedster" after Page 64 - 106.

Parts Information: Porsche Electronic Components Catalogue (PEC) under:
 > 911 Porsche 911 1974 >> 1989
 > 911 C2 Porsche 911 Carrera 2/4 1989 >> 1994

Working Time:	Labor Operation	Description	Time Units
64 12 19 10		Removing and installing windscreen: Without: Removing and installing windscreen frame.	260 TU

Attachment: Removing and Installing Windscreen - Speedster (incl. keyword index or contents)

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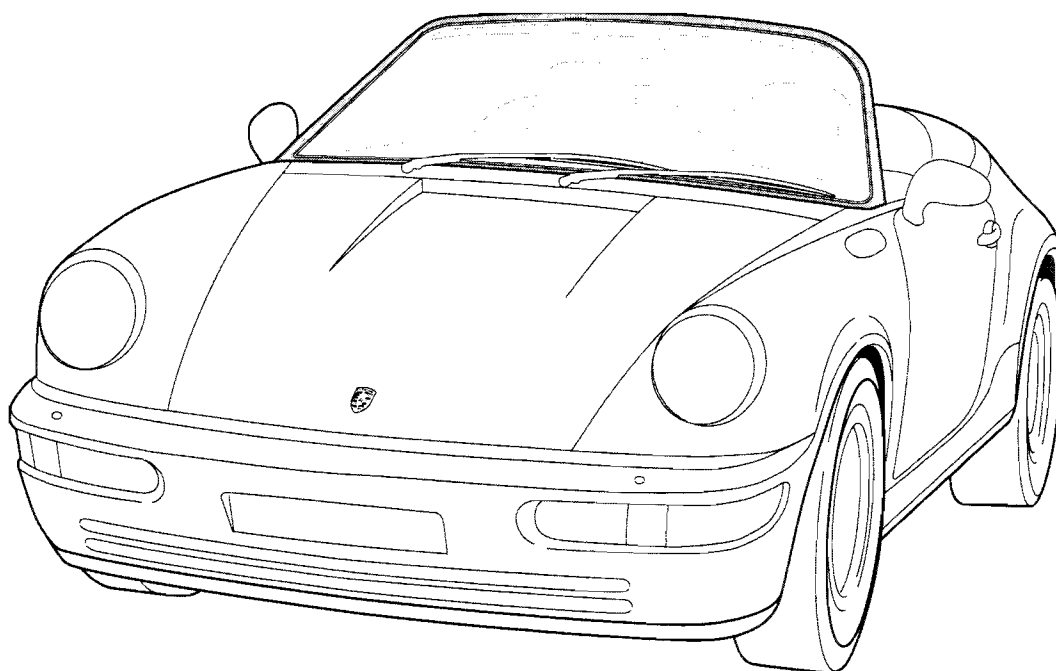
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Removing and installing windscreen without frame – Speedster

Shown on 911 Speedster (964)



Removing the windscreen

Danger!

Danger of cut injuries when removing and installing car windows!

- *Cutting out glued car windows may lead to cut injuries to the skin and the eyes due to flying glass splinters and may cause cut injuries due to the knife of the cutter.*
- *Always wear protective gloves when working on car windows.*
- *Wear protective goggles when cutting out car windows.*
- *Only replace the cutting knife with the power supply disconnected, in order to avoid the cutter being switched on accidentally.*

Note!

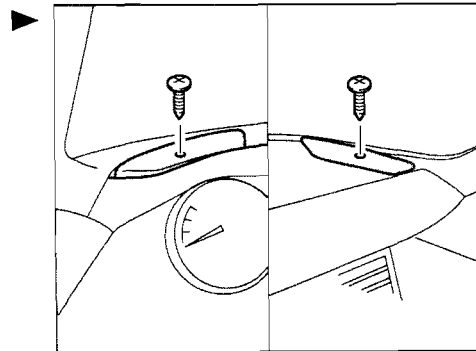
The windscreen can be removed without removing its window frame.

1 - Remove rubber covering

Pull rubber covering out of the surrounding section of the windscreen all the way round.

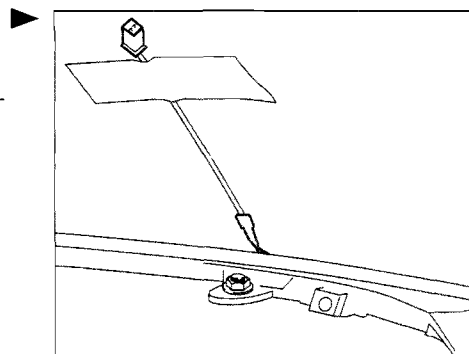
2 - Remove covers

Unscrew and remove fastening screw of the cover on the dashboard.



3 - Disconnect the electrical plug connection

- Disconnect the electrical plug connection of the windscreen antenna and fasten the windscreen lead with adhesive tape.



4 - Remove defroster covers

Unscrew and remove fastening screws from the defroster cover.

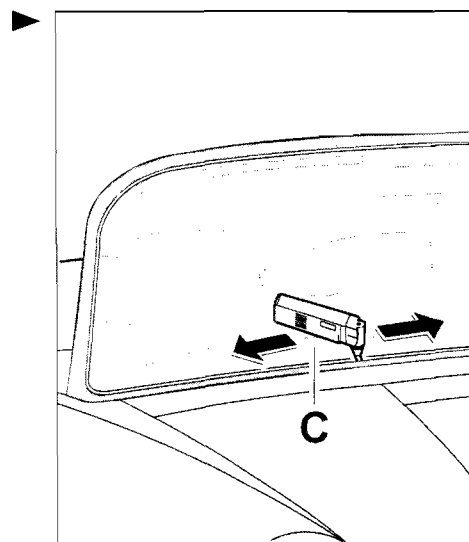
5 - Separate windscreen

1. Fit a cutting knife **-D1-** to the cutter **-C-**.

i **Note!**

Observe the prescribed cutting direction!

1. Insert cutting knife **-D1-** into the rubber seal, and set the frequency controller to level 6. Cut through the bond between the windscreen and the window frame upwards from below in both **-directions of the arrows-**.



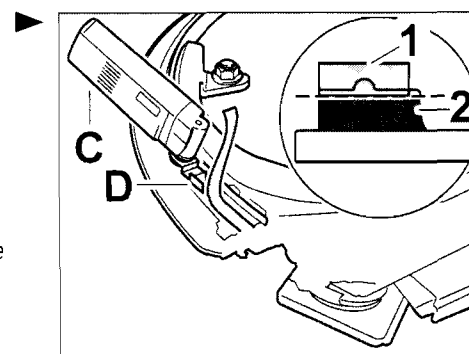
Preparing the window section for installation

1 - Remove adhesive from the window frame

- When removing remaining adhesive **-1-** with the cutting tool **-C-** and the flashing knife **-D-** on the window frame, ensure that a surface coating of adhesive remains **-2-**.

i **Note!**

The surface coating of adhesive remaining helps new adhesive to stick. Keep cut surfaces clean and free of grease and do not clean with cleaning solution.

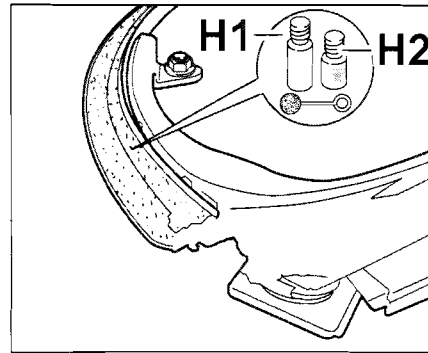


2 - Clean and prime paint damage or newly built-up paint areas in the window aperture of the window frame

- Clean new paint areas or damage to the top coat paint in the non-visible area of the window aperture in the window frame with cleaning solution **-H1-** and patch with primer **-H2-**.

i **Note!**

A ventilation period of at least 10 minutes must be observed between the cleaning of the glass section and the application of the primer! No cleaning solution residues may remain on the window frame or the body.



Preparing the windscreen for installation

1 - Remove adhesive from the windscreen

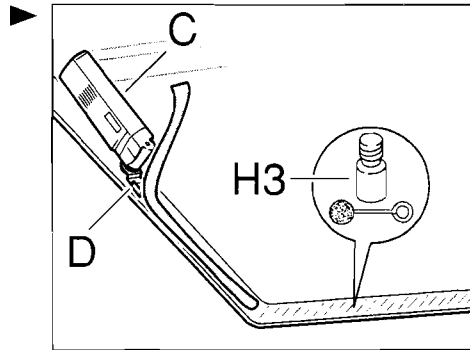
i **Note!**

Only if the windscreen is re-installed

- Fit cutting device **-B-** with the flashing knife **-D-** and remove the remaining adhesive from the windscreen ensuring that a surface coating of adhesive remains.

i **Note!**

The remaining adhesive helps new adhesive to stick. Keep cut surfaces clean and free of grease and do not clean with cleaning solution.



2 - Activate the bonding section of the windscreen

i **Note!**

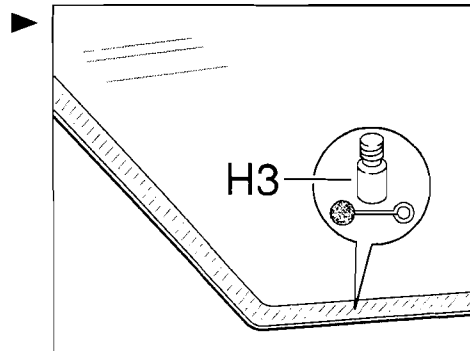
Only if the windscreen is re-installed

- During long idle periods apply activator **-H3-** to the remaining adhesive.

i **Note!**

Only with new windscreens

1. Clean glass with cleaning solution **-H1-**.
2. Apply primer **-H2-** to the glass flange in the area of the marking.



 **Note!**

A ventilation period of at least 10 minutes must be observed between the cleaning of the glass and the application of the primer! No cleaning solution residues may remain on the window frame or the body.

Installing the windscreen **Caution!**

Danger of material damage if specified curing time of adhesive is not observed!

- **The vehicle must not be used until the curing time has elapsed.**

In order to ensure that the bonded joint is sufficiently strong, the following boundary conditions must be adhered to:

- **Curing time: 3 hours**
- **Temperature: at least 10 °C**
- **Fixing time: approx. 1 hour**

 **Note!**

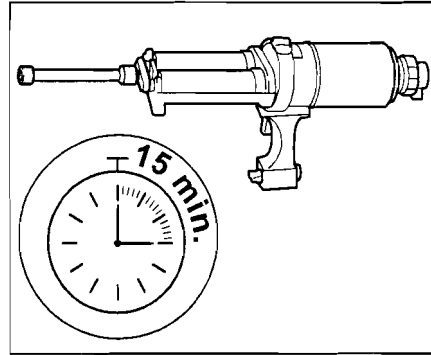
The removed windscreen can be reinstalled if there is no prior damage to the windscreen and the windscreen was removed without damage.

1 - Prepare 2-component bonding material for processing

- ⇒ Rep. Gr. 6; Processing of Porsche 2-component window bonding agents in Cayenne manual

i Note!

- ◆ The bonding material has an open time of **-15 min-**, which means that the bonding material must be applied and the car window must be assembled within this period of time.
- ◆ In order to ensure that the substance is completely mixed, apply a 30 mm long adhesive run of fresh adhesive to a piece of cardboard before processing. ▶

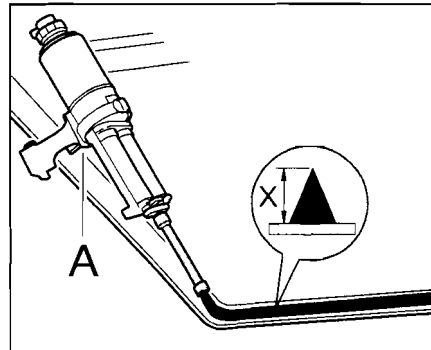


2 - Apply bonding material to the windscreen

- Apply 2-component bonding material with the adhesive gun **-A-** to the windscreen along the preliminary layer or on the primer as a triangular run measuring **-X = approx. 10 mm-**.

i Note!

When applying the adhesive, it is essential to ensure that the adhesive pass overlaps by approx. 30 mm at the beginning and at the end.

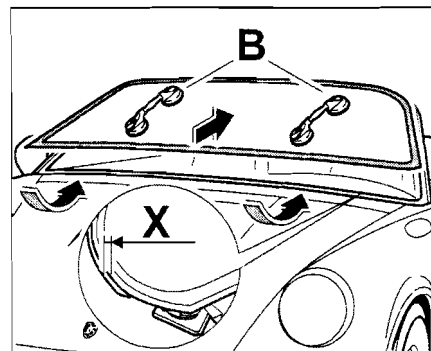


3 - Insert the windscreen into the window frame

i Note!

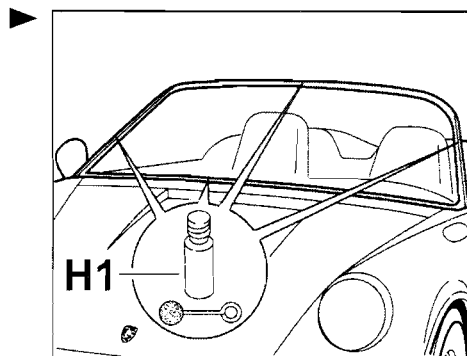
Two persons are needed to insert and adjust the windscreen.

1. Apply suction cups **-B-** to the windscreen and insert the windscreen into the window aperture. Position the windscreen on the lower edge of the window.
2. Set the dimension **-X-** at the seam joining line along the lower edge of the window frame ⇒ "Test and adjustment values" in **64-15**

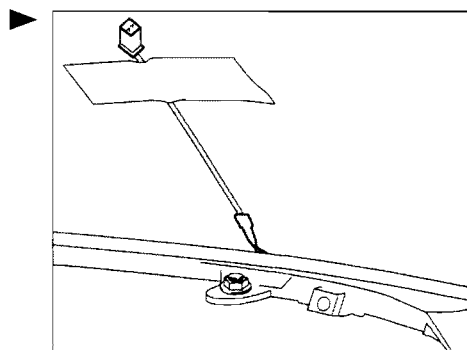


4 - Clean the fields of vision

1. Adhesive which has oozed out must be removed immediately and the affected fields of vision must be cleaned using cleaning agent **-H1-**.

**5 - Connect electrical plug connection**

- Connect electrical plug connection of the windscreen antenna.

**6 - Install cowl panel cover**

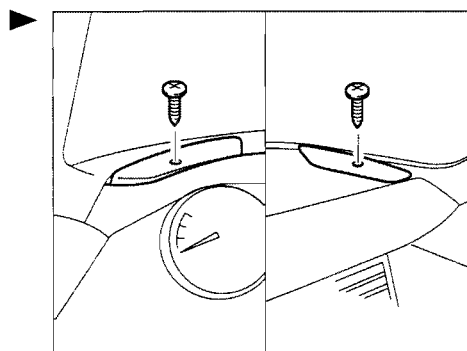
- Position covers on the dashboard and screw them down with the fastening screws.

7 - Install defroster covers

Position defroster cover on the dashboard and screw it down with the fastening screws.

8 - Press rubber covering in

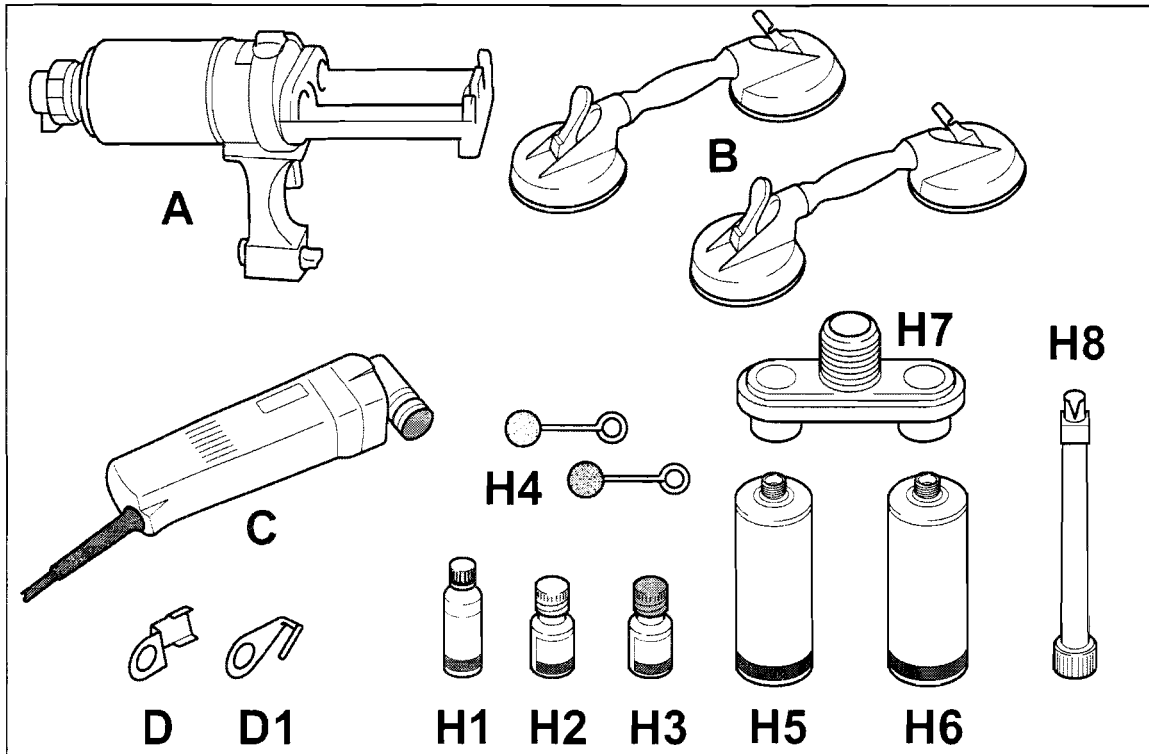
Press rubber covering into the surrounding section of the windscreen.

**9 - Clean windscreen****Test and adjustment values**

Designation	Dimension			Note
Lower edge of windscreen along window frame	-Y-	5.1	mm	Seam joining line

Overview of tools and materials

The following tools and materials are required for removing and installing the windscreen with 2-component adhesive:



Item	Special tool designation	Remarks
-A-	Double cartridge gun No. VAS 5237	⇒ Gr. 3.5; Workshop Equipment Manual
-B-	Pipette No. VAG 1344	⇒ Gr. 3.5; Workshop Equipment Manual
-C-	Special electric cutter (fine) No. VAG 1561 A	⇒ Gr. 3.5; Workshop Equipment Manual
-D-	Flashing knife, U-type No. 639.031.130.22	
-D1-	Cutting knife, U-type No. 639.031.540.10	
-H-	2-component disc adhesive No. 000.043.300.94	Contains set components H1-H8

Item	Designation	Item	Designation
-H1-	Cleaning solution	-H5-	Cartridge, component A
-H2-	Primer	-H6-	Cartridge, component B

Item	Designation	Item	Designation
-H3-	Activator	-H7-	Mixing nozzle
-H4-	Swab	-H8-	Processing nozzle

Technical Bulletin

Model
911 Targa
911 Cabriolet

Group
6

Subject: Improved Window Regulator Stop

Part Identifier
6452

Number
8609

The window regulator was improved to prevent the upper stop from moving, causing the door window to go out of adjustment.

From Production Date: Sept. 30, 1985
VIN 91 0GS 12 0566
91 5GS 16 0403
91 9GS 17 0240
93 7GS 05 0243

The locking of the regulator stop on Targa and Cabriolet models from 1980 to September 30, 1985 can be improved by installing an additional bolt and nut on the upper stop. There should be no gap between the bolt and the upper stop.

See picture.

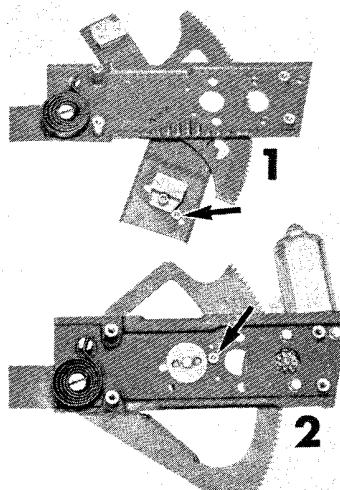
1. Targa Model 1980-1983
Cabriolet Model 1983
2. Targa and Cabriolet
Model 1984 - Sept. 30, 1985

Modification can be done with regulator installed.

Parts required:

Bolt M6x6 Part Number 900 075 007 02
Nut 6mm Part Number 900 910 012 02

Do not use washers.



DO NOT USE WASHERS



SERVICE

Page 1 of 1
Dec. 12, 1986

Technical Bulletin

Model 911 Coupe	Group 6
---------------------------	-------------------

Subject: Service Installation of Cross Arm Window Regulator

Part Identifier 6452	Number 8703
--------------------------------	-----------------------

Left window regulator, Part Number 911 542 929 02 was superseded by Part Number 911 542 935 28.

All 911 Coupes from 1980 through 1984 and 1985 Model:

Up to VIN 91FS121115

When installing this window regulator refer to Workshop Manual 911 Volume VI, Group 8, Page 4.6 - 3/1 for installation procedure. Modify the door shell to the following measurements, referring to picture on page 4.6 - 3/2.

<u>Dimension Shown</u>	<u>Dimension With New Regulator</u>
195	215
135	155
67	72
78	92

NOV 1987 911 542 935 28



SERVICE

Technical Bulletin

Model
911, 924, 928

Group
64

Subject: Correcting Window Binding

Part Identifier
6455

Number
81-01

If power door window binds during operation, a bi-metallic overload switch in the motor causes an audible clicking sound to be heard. This overload switch protects the motor. After a few seconds, the motor will again be supplied with power. If it is still overloaded, the protection circuit will again remove the power.

NOTE

DO NOT REPLACE MOTOR BECAUSE OF THIS CONDITION

To correct window binding,

- check window regulator, window guides and channels
- adjust or replace whatever causes undue friction in window operation

SERVICE

Technical Bulletin

Model
911 Cabrio

Group
64

Subject: Rear Window Care

Part Identifier
6485

Number
83-01

CAUTION

To avoid damage or discoloration of rear window, do not stick or glue anything (such as tape, stickers, etc.) on the rear window

Also do not cover rear window with plastic cover as it might stick to the window

SERVICE

Page 1 of 1
March 7, 1983

Technical Bulletin

Model	Group
911 Cabrio	6

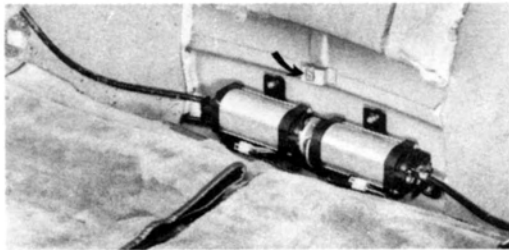
Subject:	Scratches in Middle of the Rear Window
-----------------	---

Part Identifier	Number
6485	8706

An excessively long mounting screw for the rear wall trim panel (arrow in picture) could cause scratches in the middle of the rear window.

To correct this condition, install a shorter screw, 3.5 x 16 mm.

Part Number: 900 145 038 07



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SERVICE

Page 1 of 1
August 12, 1987

PORSCHER CAR NORTH AMERICA INC.

Technical Bulletin

Model
911SC, 928

Group
66

Subject: Sideview Mirror Glass Improved

Part Identifier
6678

Number
83-01

An improved mirror glass for the outside rearview mirrors has been introduced in production (the holding glass behind the mirror glass has been replaced by a black plastic plate). The new mirror glass, Part No. 911 731 035 06, may be retrofit to all previously produced 911 SC and 928 vehicles. New version parts are installed in production as of:

June 28, 1983/ VIN 92 DS 86 2077-928

June 30, 1983/ VIN 91 DS 12 2542-911 Coupe
91 DS 16 1426-911 Targa
91 DS 17 1565-911 Cabrio

SERVICE

Page 1 of 1
September 9, 1983

Technical Bulletin

Model
911, 924,
924 Turbo, 928

Group
66

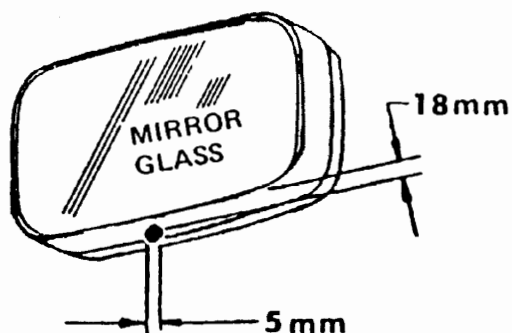
**Subject: Outside Rear View Mirror Housing
Clouding**

Part Identifier
6679

Number
81-01

Outside mirror housing now has water drain hole at bottom to prevent clouding of mirror glass.

To prevent possible mirror clouding on earlier production cars, proceed as follows:



— drill 5 mm (11/64 in.) dia. drain hole centered left to right through bottom of mirror housing 18 mm (11/16 in.) in front of housing

CAUTION

Move mirror glass into extreme down position before drilling hole

SERVICE

Page 1 of 1
February 13, 1981

Technical Bulletin

Model
All

Group
67

Subject: Body Striping Removal Procedure

Part Identifier
6710

Number
81-01

Body striping can be removed with the aid of the tools and materials listed below:

Tools and materials required:

- heat lamp or high heat hair dryer (at least 800 W output)
- plastic scraper
- lacquer thinner
- several clean rags
- fine polishing compound
- good grade auto wax

Stripe, removing

Work sequence

- using heat lamp or hair dryer, apply heat to stripes to be removed, moving on at rate of 1 inch every 20 seconds. Lift edge of stripe that has been heated and gently pull at a 180° angle. If stripe is difficult to remove or rips, reapply heat to this area. Be careful not to burn painted surface. Use this procedure until all stripes are completely removed
- if glue remains on paint surface, allow area to cool off. Apply lacquer thinner on a rag and rub surface on which glue remains. Allow to set for approx. 30 seconds and then rub with a clean, dry rag. The glue should peel off or become soft and roll from the surface; if not, repeat application of lacquer thinner. Be careful not to harm painted surface
- when all glue has been removed, use fine polishing compound and polish area; wipe dry and apply a good grade of auto wax and buff area with a soft cloth

Note

When applying heat, be careful not to heat any plastic parts which are nearby. Also, do not apply any lacquer thinner to plastic parts

CAUTION

If stripes are to be reapplied, DO NOT wax area

SERVICE

Page 1 of 1
May 4, 1981

Technical Bulletin

Model
All

Group
7

Subject: Reconditioning Leather Upholstery

Part Identifier
72 . .

Number
9002

ATTENTION: Service Manager/Service Technician

Concern:

1. Replacing leather seat covers and upholstery rather than repairing.
2. Reconditioning leather seat covers and upholstery due to:
 - a. accident damage
 - b. normal wear

Service Information:

Porsche Cars North America, Inc. recommends **COLOR-PLUS** products for repair to leather seat covers and upholstery (door panels, consoles, steering wheels, etc.).

Their products provide for minor repairs and complete re-dyeing "in-house" with a minimum of disassembly, allowing a substantial reduction in time and expense. Front seats can be dyed without removing seat covers.

Standard Porsche leather colors from M.Y. 1987 (except pearl and 1988 911 jubilee silver blue) will be matched and assigned a formula number for your convenience.

A **Color-Plus** brochure is enclosed, including a list of products, prices and tips on leather care and repair. For additional information on reconditioning leather, call Color-Plus at (201) 659-4708 or write to:

Color-Plus
P.O. Box 404
Kearny, NJ 07032

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Routing						

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SERVICE

Page 1 of 1
June 22, 1990

Technical Bulletin

Model

All

Group

7

Subject:

Paint for Leather Repairs

Part Identifier

7201

Number

8802

Cosmetic repairs to leather interiors can be done with leather dye. Four colors are available in 50ml bottles. (Additional colors will be made available soon)

Part Numbers:

- 000 043 114 00 1AJ — Black
- 000 043 114 00 7LD — Burgundy
- 000 043 114 00 8YD — Pearl White
- 000 043 114 00 7JX — Blue

Directions:

Use according to instructions on container.

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SERVICE

Page 1 of 1
December 9, 1988

Technical Bulletin

Model
All 944, 911
928

Group
7

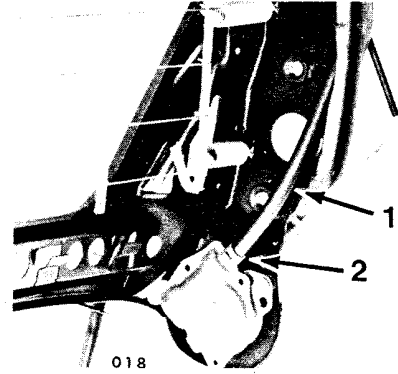
Subject: Power Seat Backrest Control

Part Identifier
7219

Number
8602

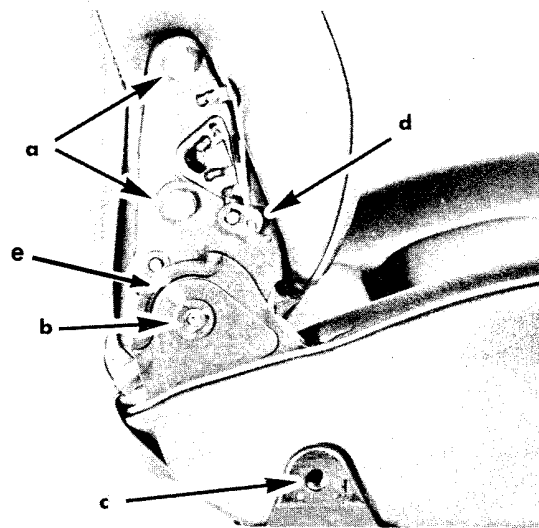
In case of improper operation of the electric backrest adjusting mechanism or excessive backrest flex, the seat back gearbox cables may have become disconnected at the gearbox. To repair this situation, the following procedure should be applied:

1. Remove seat and take off backrest.
2. Loosen backrest trim panel partially.
3. Shorten flexible shaft housing (Arrow 1) on gearbox end by 5 mm.
4. Secure housing to gearbox with suitable hose clamp. (Arrow 2)



When assembling, the square rod is slid into the eccentric pin on the seat and through the gearbox. (Don't knock in with a hammer) Then tighten the backrest bolts finger tight, tighten bolts on the square rods and then tighten backrest bolts completely.

The alignment marks (e) on the outside are important when assembling the seat frame and seat backrest. They must align with each other. Marks may be either painted or stamped in the metal.



- a - Seat backrest bolts
- b - Square rod bolt
- c - Seat belt holder bolt
- d - Backrest unlocking control
- e - Alignment marks

PORECH
NORTH AMERICA - INC.



SERVICE

Page 1 of 1
October 31, 1986

Technical Bulletin

Model
All

Group
7

Subject: **Repairing of Seat Back Frames**

Part Identifier
7219

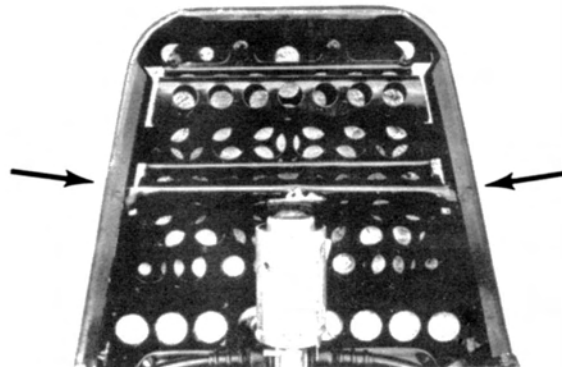
Number
8701

Seat back frame supports may be repaired in the areas indicated by arrows utilizing MIG welding.

If the seat back is twisted, straighten before welding. When welding, make two beads 5mm long or one continuous bead 15mm long. Keep the size of the bead to a minimum.

Use care when welding to avoid excessive heat build up in seat back frame assembly.

Welding in other areas of the seat back frame or seat bottom frame is not allowed.



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SERVICE

Page 1 of 1
June 16, 1987

Technical Bulletin

Model
924S, All 944
911, 911 Turbo
928

Group
7

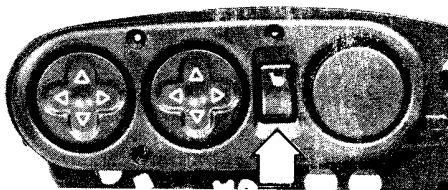
Subject: **Seat Heating System**

Part Identifier
7274

Number
8601

This information describes the operation and function of the optional seat heating system.

Seat heating is activated by switching on the ignition and pressing in the upper half of the heating switch (arrow is pointing to lower half).



Doing so heats the seat cushion surface and backrest in the area of the center section. Heating can be switched off by pressing in the lower half of the heating switch.

As of March 25, 1986, an improved operating switch is used in production. The new switch features a rough surface for the "on" position. This aids the seat occupant in determining the position of the switch without having to look. In addition, the seat heating symbol is placed in the center of the switch lever. (Formerly at the "on" position).

New switch left PN 928 613 187 02
New switch right PN 928 613 188 02

Former version stocks will be depleted.

Switching on seat heating activates two (2) protective circuits.

1.) The seat heating/time relay, located under the seat near the motors, switches off seat heating after 15 minutes of continuous operation. Heating can be switched on again immediately afterwards.

2.) A (bimetal) temperature switch located near the heating element underneath the backrest, stops power flow through the heating elements when a temperature of 43 degrees C (110 degrees F) is exceeded. The heating elements will again receive power when the temperature switch is below 20 degrees C (68 degrees F).

These features ensure no damage from excessive heating.

Checking Heating Elements

The seat bottom and back elements are connected in a series circuit. If the power is interrupted in one of the two elements, neither will function. The heating elements can be checked separately via the pertinent plug connection at the heating elements.

Two methods can be applied:

- 1.) Checking with an ohm meter. Resistance approx. 1 ohm per element.
- 2.) Connect a 6 volt power supply to the heating element and check for heating.

IMPORTANT: Never test with more than 6 volts, heating elements could burn through.



SERVICE

Page 1 of 1
October 17, 1986

Technical Bulletin

Model

All

Group

7

Subject: **Seat Heating
Wiring Diagram Update**

Part Identifier

7272/7274

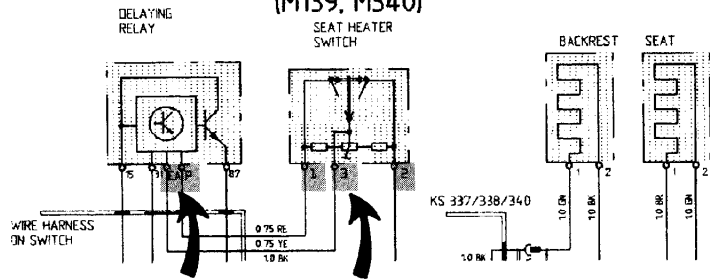
Number

8901

8 cyl. cars wiring diagram Sheet 6, Coordinates M,N 42



ADJUSTABLE SEAT HEATING (M139, M340)



Corrected Version

Delaying Relay

Terminal

E change to P
P change to EA

Seat Heater Switch

Terminal

E change to 1
P change to 3
A change to 2

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SERVICE

Page 2 of 2
January 13, 1989

Technical Bulletin

Model 911 Speedster	Group 7
Part Identifier 7428	Number 9001

Subject: **Seat Heating/Window Lift Relay**

ATTENTION: Service Manager/Service Technician

A window lift relay is installed in 911 Speedsters with seat heating (M139/M340) even though the Speedster is equipped with manually operated window regulators. Seat heating wiring is identical with the wiring of the 911 Carrera. (Power supply from window lift relay).

Refer to Wiring Diagram 911 Carrera, Model 89, Sheets 2 and 3.

PORSCHE CARS NORTH AMERICA INC.

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Distribution	Asst. manager _____	Warranty admin. _____	Service technician _____	_____	_____	_____	_____
Routing							

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Publications



SERVICE

Page 1 of 1
February 2, 1990

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
8

Subject: **Seat Belt Fastener
Touching Heater Control**

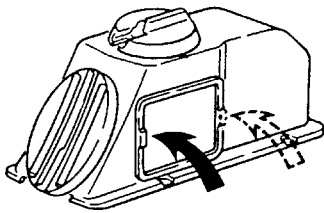
Part Identifier
8009

Number
8804

The heater control housing cover is installed with its handle facing forward (was towards the rear, arrows in picture) to prevent interference with the seat belt fastener.

From production date: March 4, 1988

On early cars, from model year 1985, the cover can be turned 180 degrees. The plastic nose on the inside of the cover plate must be removed.



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SERVICE

Page 1 of 1
July 29, 1988

Technical Bulletin

Model
911 Carrera

Group
8

Subject: Rear Heater Fan Modified

Part Identifier
8018

Number
9202

ATTENTION: Service Manager/Service Technician

Models Affected: *911 Carrera, model years 1984 (E) through 1989 (K)*

Concern: Replacement rear heater fan modified.

Repair Information: The replacement rear heater fan (new Part Number 965 624 151 00) has a repositioned wiring plug. When installing this new version heater fan in the 911 Carrera, model years 1984 (E) through 1989 (K), the fan motor must be repositioned in the fan housing.

Work Procedure: Remove the three fan motor mounting nuts (arrows in Figure 1). Reposition the motor 120° clockwise in the housing. Reinstall nuts and torque to 2.5 Nm (1.85 ft. lbs.).

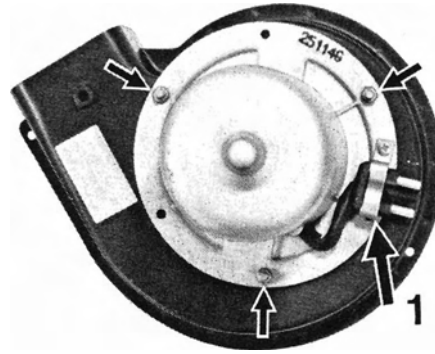


Figure 1 (new version shown)

Warranty Information:

Damage Code: 8018100001

Labor Operations:

80181900	R & R Warm Air Blower	60 Time Units
8018190A	Actual Time	20 Time Units

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Distribution	Asst. manager	Warranty admin.	Service technician				
Routing							

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SERVICE

Page 1 of 1
March 17, 1992

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
8

Subject: Fuses for Additional Heater Fans

Part Identifier
8054

Number
8704

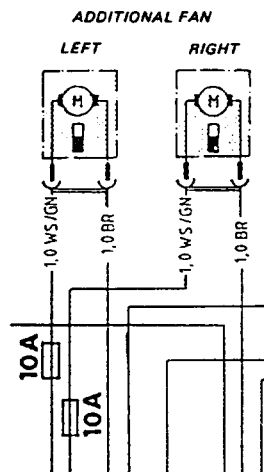
The additional heater fans each have a 10 amp in-line fuse located approximately 80 mm before the fan wiring connectors behind the side footwell trim panels left and right.

From production date: April 23, 1986

VIN 91 0GS 12 1913
91 1GS 16 1516
91 6GS 17 1217
93 1GS 05 1081

Fuse part number: N 017 13 15

The fuses are not shown in the wiring diagrams. Update the 911 Carrera and 911 Turbo 1987 Wiring Diagrams Sheet 4 Field D/E 24 according to the diagram on this page.



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SERVICE

Page 1 of 1
August 12, 1987

Technical Bulletin

Model
911 Carrera

Group
8

Subject: **Repairing Additional Heater Fans**

Part Identifier
8054

Number
8706

When troubleshooting the 911 Carrera Heating System and you find the additional heater fans are not working, check operation of the engine compartment fan first.

The heater relay will not switch the additional heater fans on if the engine compartment fan is not working.

Refer to 911 Carrera Workshop Manual, Volume III, Repair Group 80, Page 80-8. Also refer to Technical Bulletin Group 8, Number 8704.

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SERVICE

Page 1 of 1
December 31, 1987

PO RSCH E C ARS N ORTH A M ER I CA I NC .

Technical Bulletin

Subject: Air-Conditioner Label

Group

87

Model

911SC/911
Turbo

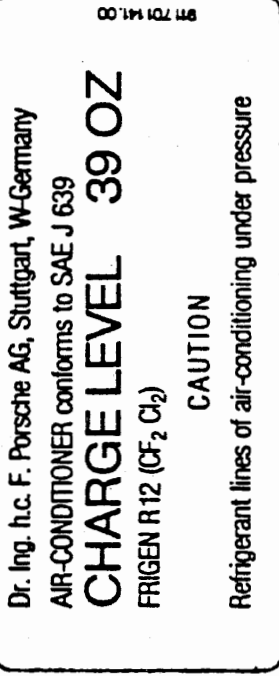
Number

83-01

Part Identifier

87..

The following air-conditioner label is now applied to all 1983 vehicles for U.S.A. and Canada



Note

Application of label started August 30, 1982 beginning with VIN ... 91 DS 12 0283, ...91 DS 16 0282, ...91 DS 17 0068 and for Canada only ...93 DS 05 0061 (911 Turbo)

SERVICE

Technical Bulletin

Model

All

Group

8

Subject: Air Conditioning Oil
Filling Capacities

Part Identifier

87---

Number

8604

Air conditioner refrigerant oil will be distributed throughout the system after operation. The different parts contain approximately the following oil quantities:

Compressor	40%
Condensor	15%
Evaporator	35%
Receiver-Drier & Lines	10%

When replacing parts, oil has to be added or drained so that total oil volume in the system will again be about 100% ± 10%.

New compressors are filled with total oil volume required for vehicle involved. Too much oil causes insufficient cooling.

DOODLE OPS NORTH AMERICA INC.



SERVICE

Page 1 of 3
October 31, 1986

Technical Bulletin		Model 6 & 8 Cylinder	Group 8
Subject:	Air Conditioning Oil Filling Capacities	Part Identifier 87---	Number 8604

Volume of refrigerant oil and refrigerant (R12) required for Porsche factory installed A/C systems.

Vehicle Type	911SC 78-83	911 from 84	930 up to 79	930 from 80	928 up to 79	928 from 80
Refrigerant Oil Total (Ounces)	300 cm ³ (10)	120 cm ³ (4)	250 cm ³ (8.4)	170 cm ³ (5.7)	350 cm ³ (11.7)	280 cm ³ (9.3)
Compressor (Ounces)	120 cm ³ (4)	48 cm ³ (1.6)	100 cm ³ (3.4)	68 cm ³ (2.3)	140 cm ³ (4.7)	112 cm ³ (3.7)
Condensor (Ounces)	45 cm ³ (1.5)	18 cm ³ (1.7)	37.5 cm ³ (1.25)	25.5 cm ³ (0.8)	52.5 cm ³ (1.8)	42 cm ³ (1.4)
Evaporator (Ounces)	105 cm ³ (3.5)	42 cm ³ (1.4)	87.5 cm ³ (2.9)	59.5 cm ³ (2)	122.5 cm ³ (4.1)	98 cm ³ (3.3)
Receiver-drier and lines (Ounces)	30 cm ³ (1)	12 cm ³ (0.4)	25 cm ³ (0.8)	17 cm ³ (0.6)	35 cm ³ (1.2)	28 cm ³ (0.9)
Refrigerant Capacity R12 (Ounces)	1100 gr (38.8) from 81 1250 gr (44.1)	1350 gr (47.6)	1100 gr (38.8)	1300 gr (45.8)	1050 gr (37)	1050 gr (37) from 84 with rear evaporator 1200 gr. (42.3) from 89 1150 gr. (40.5)

Note: A refrigerant oil volume variation of ± 10% is permissible.



SERVICE

Page 2 of 3
October 31, 1986

Technical Bulletin

Model
4 Cylinder

Group
8

Subject: Air Conditioning Oil
Filling Capacities

Part Identifier
87---

Number
8604

Volume of refrigerant oil and refrigerant (R12) required for Porsche factory installed A/C systems.

Vehicle Type	944 up to 85/1	944 and Turbo from 85/2	924 up to 78	924 from 79
Refrigerant oil Total (Ounces)	280 cm ³ (9.3)	100 cm ³ (3.3)	175 cm ³ (5.8)	230 cm ³ (7.7)
Compressor (Ounces)	112 cm ³ (3.7)	40 cm ³ (1.3)	70 cm ³ (2.3)	92 cm ³ (3.1)
Condensor (Ounces)	42 cm ³ (1.4)	15 cm ³ (0.5)	26.25 cm ³ (0.9)	34.5 cm ³ (1.2)
Evaporator (Ounces)	98 cm ³ (3.3)	35 cm ³ (1.2)	61.25 cm ³ (2.1)	80.5 cm ³ (2.7)
Receiver-drier and lines (Ounces)	28 cm ³ (0.9)	10 cm ³ (0.3)	17.5 cm ³ (0.6)	23 cm ³ (0.8)
Refrigerant Capacity R12 (Ounces)	1150 gr (40.5)	950 gr (33.5)	850 gr (30)	850 gr (30)

Note: A refrigerant oil volume variation of $\pm 10\%$ is permissible.

PORSCHER CARREZZI NORTH AMERICA INC.



SERVICE

Page 3 of 3
October 31, 1986

Technical Bulletin

Model

All

Group

8

Subject:

Air Conditioning Survey

Part Identifier

8701

Number

8703

We have improved 1987 air conditioning systems to a point where we believe that previously experienced leaks are taken care of. We need your help to tell us about leakages you may still find.

If you encounter a refrigerant leak on any 1987 car, please fill out the attached form. This survey will run until October 1, 1987. It is important for us to have this information.

Survey forms are included with this bulletin. There are 6 each for 924S, 944 (including S and Turbo), 911 (including Turbo), and 928 S4. If you need more, you may copy them or include a request with a completed survey.

On the survey form, please circle the area where the leak was found and fill out the data on the back side. Be as concise as possible in describing the severity and cause of the leak.

Send the completed form to:

Porsche Cars North America, Inc.
200 South Virginia Street
Reno, NV 89523

Attn: Product Field Support Department

Thank you for your cooperation.

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SERVICE

Page 1 of 1
June 5, 1987

NOV 01 1987

<h1 style="margin: 0;">Technical Bulletin</h1>	Model All	Group 8
	Part Identifier 8700	Number 8902

Subject: Refrigerant Recovery/Recycling

Porsche Cars North America, in order to help preserve and protect the environment, supports the use of refrigerant recovery/recycling equipment by its dealers.

The following is intended to provide general information concerning the use of refrigerant (such as Freon R-12) recovery/recycling systems. In order to better understand the need for recovery/recycling systems, a basic knowledge of the problems caused by the release of refrigerants into the air is necessary.

**CFC's (chlorofluorocarbons)
Specifically refrigerant R-12 and Stratospheric Ozone:**

The earth is surrounded in the extreme upper region of the atmosphere (stratosphere) by a layer of ozone. This layer of ozone protects the earth by blocking harmful ultraviolet radiation emitted by the sun. Scientists have determined that certain synthetic chemicals such as chlorofluorocarbons (CFC's) when released into the atmosphere, rise to the ozone layer and react with high level radiation. This results in molecular breakdown of the CFC molecules into atoms of chlorine, which attack and destroy ozone. A single chlorine atom can destroy over 10,000 ozone molecules.

An increase in ultraviolet radiation due to ozone layer depletion can cause health problems such as cataracts, skin cancer, and damage to the human immune system.

Destruction of the ozone layer could also reduce crop yields and harm plant and animal life. In addition, ozone depleting chemicals are greenhouse gases, and therefore contribute to global warming.

In view of this, the Environmental Protection Agency (EPA) has mandated a reduction in the amount of CFC's produced and, if possible, a complete halt of CFC production within a matter of years. This will no doubt have a significant impact on cost and availability of CFC's such as refrigerant R-12.

Studies show that the largest single source of CFC released into the atmosphere is from the servicing of mobile air conditioning systems such as automotive air conditioners. Until alternatives to R-12 are available, a workable and timely solution is to recover and recycle automotive refrigerant.

Because refrigerant recycling technology is new, equipment manufacturers are currently engaged in design and testing of various models of recycling stations. As these models meet with approval, they will become available.

The refrigerant recovery/recycling station will be designed for use with all types of air conditioning charging equipment. Depending on design, it may also be used by itself for refrigerant charging. Approved equipment will separate oil and filter and store reclaimed refrigerant to industry standards.



SERVICE

Technical Bulletin

Model
911

Group
8

Subject: Air Conditioning Capacities

Part Identifier
8700

Number
8903

**ATTENTION: Service Manager/
Service Technician**

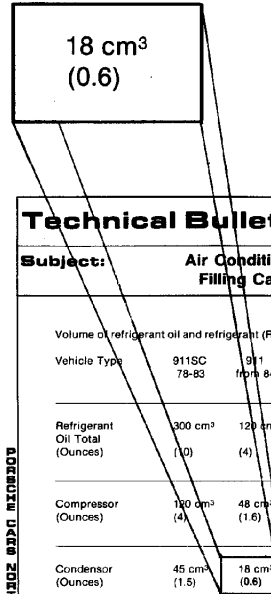
This bulletin updates Technical Bulletin Group 8, Number 8604, Book C, page 198.

The correct oil capacity for 911 from 1984 condenser is 18 cm³ or 0.6 ounces.

Please update your bulletin by affixing the included sticker as shown.

Thank you.

PCNA Service Department



Technical Bulletin		Model		Group		
		6 & 8 Cylinder		8		
Subject:		Part Identifier		Number		
Air Conditioning Oil Filling Capacities		87---		8604		
Volume of refrigerant oil and refrigerant (R12) required for Porsche factory installed A/C systems.						
Vehicle Type	911SC 79-83	911 from 84	930 up to 79	930 from 80	928 up to 79	928 from 80
Refrigerant Oil Total (Ounces)	300 cm ³ (10)	120 cm ³ (4)	250 cm ³ (8.4)	170 cm ³ (5.7)	350 cm ³ (11.7)	280 cm ³ (9.3)
Compressor (Ounces)	120 cm ³ (4)	48 cm ³ (1.6)	100 cm ³ (3.4)	68 cm ³ (2.3)	140 cm ³ (4.7)	112 cm ³ (3.7)
Condenser (Ounces)	45 cm ³ (1.5)	18 cm ³ (0.6)	37.5 cm ³ (1.25)	25.5 cm ³ (0.8)	52.5 cm ³ (1.8)	42 cm ³ (1.4)
Evaporator (Ounces)	105 cm ³ (3.5)	42 cm ³ (1.4)	87.5 cm ³ (2.9)	59.5 cm ³ (2)	122.5 cm ³ (4.1)	96 cm ³ (3.3)
Receiver-drier and lines (Ounces)	30 cm ³ (1)	12 cm ³ (0.4)	25 cm ³ (0.8)	17 cm ³ (0.6)	35 cm ³ (1.2)	28 cm ³ (0.9)
Refrigerant Capacity R12 (Ounces)	1100 gr (38.8) from 81 1250 gr	1350 gr (47.6)	1100 gr (38.8)	1300 gr (45.8)	1050 gr (37)	1050 gr (37) from 84 with rear evaporator 1200 gr (42.3) from 89 1150 gr (40.5)
(Ounces)	(44.1)					
Note: A refrigerant oil volume variation of ± 10% is permissible.						
		SERVICE		Page 2 of 3 October 31, 1986		

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 Distribution _____
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SERVICE

Page 1 of 1
November 22, 1989

PCNA SERVICE DEPARTMENT

Technical Bulletin

Model
All

Group
8

Subject

Use of Correct A/C Refrigerant

Part Identifier
N/A

Number
9602

ATTENTION: Service Manager / Service Technician

Models Affected: *All Porsche Models*

Concern: Use of **non Porsche approved** Air Conditioning Refrigerant.

General Information: **The only Air Conditioning Refrigerants approved for use in Porsche vehicles are R12 or R134a depending on model year or if vehicle has been refitted for R134a use.**

Some substitute refrigerants that are on the U.S. and Canadian market may contain flammable substances such as propane. These substitute refrigerants may cause safety and performance problems in the air conditioning system, along with contaminating recycling equipment and any subsequent vehicles serviced with this equipment.

Specialized test equipment that can identify refrigerant types is available from NEUTRONICS INC. Information regarding these testers can be found in Porsche Equipment Bulletin number 9501.



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Distribution	Asst. Manager _____	Warranty Admin. _____	Service Technician _____	_____	_____	_____	_____
Routing							

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SERVICE

Page 1 of 1
June 6, 1996

Climate Control System-Refrigerant 134a Use

Vehicle Type: **All**

Model Year: **Up to 1992**

Concern: Use of refrigerant substitutes. (sometimes referred to as “drop-in’s”)

Information: In the interest of protecting the ozone layer, the manufacturing of refrigerant type R12 has not been permitted since January 1, 1996. As a replacement for refrigerant R12, most manufacturers, including Porsche, have required the use of refrigerant type R134a. This applies to new vehicles (as of 1993), as well as existing vehicles originally equipped with type R12 climate control systems.

In spite of the R12 restrictions, there are products being developed and sold in the after market as R12 substitutes, or “drop-in’s”. These products have **NOT** been tested for compatibility with Porsche vehicles, and therefore **ARE NOT APPROVED** by Porsche. The only approved replacement for refrigerant type R12 on Porsche vehicles is refrigerant type R134a.

Please refer to Technical Bulletin Group 8, number 9501 when retrofitting a Porsche climate control system from refrigerant R12 to refrigerant R134a. *Special situations apply to those models not referred to in this Technical Bulletin. Contact Technical Services before attempting a refrigerant R134a retrofit on any model not covered in this Technical Bulletin.*

“Drop-in” refrigerant R12 substitutes are not approved for use in Porsche vehicles. Any damage or failure resulting from the use of these “drop-in’s” will not be considered a warranty matter.

Important Notice: Porsche Cars N.A Technical Bulletins are intended for use by professional technicians, not a “Do-it-yourselfer.” They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.
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Technical Bulletin

Model
All

Group
8

Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
8717

Number
9501

ATTENTION: Service Manager / Service Technician

Models Affected: All

Concern: Retrofitting of R12 air conditioning systems to refrigerant R 134a (formerly R12).

General Information: As of January 1, 1995, (January 1, 1996 for USA) production of refrigerant R 12 containing CFC substances is no longer permitted in accordance with legislation in the European Union and several other countries and will be made illegal (with specific exceptions) worldwide in the near future. Starting with Model Year '93 (P), all air conditioning systems of new Porsche vehicles are factory charged with non-CFC refrigerant R 134a. The formerly used refrigerant R 12 was phased out at the same time. A new type of refrigerant oil, ND-Oil 8, must be used in conjunction with refrigerant R 134a. This refrigerant oil is of a synthetic type. The formerly used refrigerant oil based on mineral oils will not mix with the ND-Oil 8 refrigerant oil required for R 134a.

Due to the chemical properties of the new refrigerant R 134a and of the new refrigerant oil, modifications to the materials of various components exposed to refrigerant oil have become necessary.

The maximum refrigerant and refrigerant oil capacities are changed in this retrofitting process!

Retrofitting: In most cases, older vehicles fitted with air conditioners charged with R 12 refrigerant containing CFC can be converted without any major problems.

It is the responsibility of the dealer/retrofitting agent to maintain A/C system integrity during the retrofitting process.

It is of particular importance to draw off the R12 refrigerant and refrigerant oil charge. Recycling service equipment should be used for this purpose and to separate the refrigerant oil from the refrigerant.

Retrofitting operations should only be performed by qualified personnel in Porsche workshops. After retrofitting, a sticker should be attached near the compressor and in the Maintenance Booklet to confirm that retrofitting has been performed according to specifications. This technical information provides you with an overview of the required scope of operations and parts requirements for retrofitting air conditioners to non-CFC refrigerant R 134a.

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Technical Bulletin

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Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
8717

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Procedures:

Retrofitting of air conditioning systems to refrigerant R 134a:

Important: When working on air conditioning systems, observe safety precautions for operations on the air conditioning system and for handling the refrigerant (also refer to Repair Manual, Group 87).

1. Before starting retrofitting, check operation of air conditioning to see if additional repair operations are required on the air conditioning system (e.g. faulty piping, inoperative compressor and/or system leaks).
2. Connect recycling service equipment for refrigerant R 12. Extract and dispose of refrigerant and refrigerant oil properly in accordance with instructions. Measure and make note of the refrigerant oil volume that has been drawn off.
3. Refill the system with the entire R 12 refrigerant volume drawn off **without the refrigerant oil.**
4. Start engine. Switch on A/C system and run engine at approximately 2,000 rpm for approximately 10 minutes. Operate the A/C system to mix any remaining refrigerant oil with the refrigerant so that it can be drawn off.
5. Draw off refrigerant and refrigerant oil. Measure refrigerant oil volume and add to volume determined under item 2. At least 50% of the specified refrigerant oil quantity (see system specifications in brackets) should be removed from the system.

If insufficient refrigerant oil was drawn off or drained, proceed as follows according to the compressor type:

- a) Compressor with drain plug:
Remove drain plug to drain refrigerant oil.
 - b) Compressor without drain plug:
Remove compressor and drain refrigerant oil at port connections.
 - c) Refit compressor.
6. Carry out any repairs that might be required on the air conditioning system (see item 1). Replace the receiver dryer (see chart) and install without any delay after removing the plugs. Replace o-rings and coat them with fresh ND-Oil 8 refrigerant oil.



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Subject
Retrofitting R12 A/C System
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Procedures: (Cont'd)

7. To allow the R 134a service equipment to be connected, fit the required adapters (angle valves or straight adapters, depending on space constraints) to the previously used connections.

New charge:

8. Evacuate system with A/C in maximum position. If system evacuation is successful, proceed with item 9. If not o.k, proceed with troubleshooting (leak) and repair.

9. Fill in fresh ND-Oil 8 refrigerant oil (for volume see charts) using service unit or external filling unit.

Note: Only use new oil, used refrigerant oil extracted from an A/C unit must not be re-used.

10. Evacuate system again for approximately 1 hour. Run leak test in vacuum section (the vacuum generated must be maintained for approximately 2 minutes).

11. Fill with specified quantity of refrigerant R 134a.

12. Run engine. Check for output and leaks at an increased high pressure of approximately 18 bar. To reach this high pressure, switch off the fans briefly by disconnecting the wiring plug.

13. Sign the supplied (figure 1) self-adhesive labels (2 pc.) with a permanent marker to certify that retrofitting was performed correctly. Also enter the new capacities of refrigerant R 134a and refrigerant oil.

Attach one label to the body sheet metal near the compressor.
Attach second label in the maintenance booklet of the vehicle.

Standard self-adhesive label

<p>Vorsicht Achtung: Klimaanlage Umgerüstet auf R-134a Umrüstung durchgeführt Gemäss SAE-Vorschrift SAE J1681 R-134a Füllmenge: 1) PAG-Kompressorschmierung Volumen: 1) Gemäss Porsche Umrüstanleitung</p>	<p>R-134a</p>	<p>Caution Notice: Air Conditioner Retrofitted to R-134a Retrofit Procedure Performed to SAE J1681 R-134a Maximum Operating charge: PAG-Compressor Lubricant Volume: Use Porsche retrofitting instruction</p>
<p>Umrüstung durchgeführt: 1) Retrofit performed by: _____ Address/Address: _____ Datum/Date: _____ Nur qualifiziertes Personal darf am A/C System arbeiten! System to be serviced by qualified personnel only!</p>		

1) = Enter relevant information here.

Figure 1

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Subject
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to Refrigerant R134

Part Identifier
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Warranty Information: A two year parts warranty without mileage limitations applies to all Genuine Porsche parts used for retrofitting.

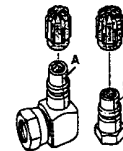
The dealer warrants the A/C system integrity, correct installation and execution of all retrofitting operations.

944 - Model Years 1983 to 1985/1

Description	Qty.	Part Number	Notes
Receiver Dryer	1	944 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 00	Straight Adapter
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 300 ± 20 ml. (270 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 1020 g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note: When fitting Angle Valves (A), remove the formerly used valve inserts.

When fitting straight adapters (B), the former valve inserts remain installed.



Installed Compressor 944 126 008 00 - without drain plug.



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Subject
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to Refrigerant R134

Part Identifier
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Number
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944, 944S, 944 Turbo - Model Years 1985/2 to 1991
924S, Model Years 1987, 88

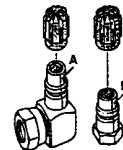
Description	Qty.	Part Number	Notes
Receiver Dryer	1	944 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 oil when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 01	Straight Adapter
Low Pressure Valve	1	928 573 965 00	Straight Adapter
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 130 ± 20 ml. (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 924S=770g 944 = 860g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 944 126 008 00 - without drain plug.



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Subject
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to Refrigerant R134

Part Identifier
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Number
9501

968 Model Year 1992

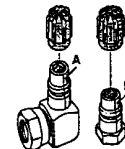
Description	Qty.	Part Number	Notes
Receiver Dryer	1	944 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 01	Straight Adapter
Low Pressure Valve	1	928 573 965 00	Straight Adapter
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 130 ± 20 ml (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 860g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 944 126 008 00 - without drain plug.



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Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
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911 Carrera - Model Year 1984 to 1989

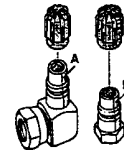
Description	Qty.	Part Number	Notes
Receiver Dryer	1	911 573 939 03	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 02	Angle Valve 90°
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 140 ± 20 ml (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity:1220g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 930 126 021 01 - without drain plug.



PORSCHE CARS NORTH AMERICA INC.



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Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
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Number
9501

911 Carrera 2/4 - Model Years 1989 to 1992

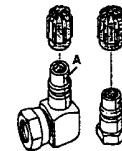
Description	Qty.	Part Number	Notes
Receiver Dryer	1	964 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 02	Angle Valve 90°
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 140 ± 20 ml (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 840g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 964 126 121 01 - without drain plug.



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Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
8717

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9501

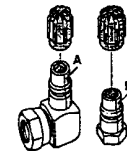
911 Turbo Model Years 1986 to 1989

Description	Qty.	Part Number	Notes
Receiver Dryer	1	911 573 939 03	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 02	Angle Valve 90°
ND-Oil 8		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 140 ± 20 ml (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 1220g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.



Installed Compressor 930 126 021 01 - without drain plug.

PORSCHE CARS NORTH AMERICA INC.



Technical Bulletin

Model
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Subject **Retrofitting R12 A/C System
to Refrigerant R134**

Part Identifier
8717

Number
9501

911 Turbo - Model Years 1991 and 1992

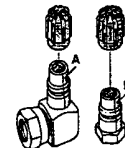
Description	Qty.	Part Number	Notes
Receiver Dryer	1	964 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 02	Angle Valve 90°
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 140 ± 20 ml (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 1220g
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 930 126 021 03 - without drain plug.



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Subject **Retrofitting R12 A/C System
to Refrigerant R134**

Part Identifier
8717

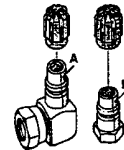
Number
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928, 928S - Model Years 1983 to 1986

Description	Qty.	Part Number	Notes
Receiver Dryer	1	928 573 941 03	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 01	Straight Adapter
Low Pressure Valve	1	928 573 965 00	Straight Adapter
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 300 ± 20 ml (270 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 860g 1030g with rear A/C
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

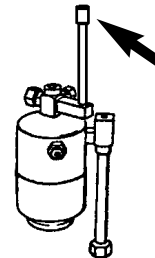
Assembly Note:

When fitting Angle Valves (**A**), remove the formerly used valve inserts.



When fitting straight adapters (**B**), the former valve inserts remain installed.

Fit the straight adapter to the receiver dryer (Arrow). Use a second wrench to counter hold.



Installed Compressor 928 126 010 06 with drain plug.

PORSCHE CARS NORTH AMERICA INC.



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Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
8717

Number
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928 S4, 928 GT - Model Years 1987 to 1989

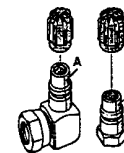
Description	Qty.	Part Number	Notes
Receiver Dryer	1	944 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	928 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 00	Straight Adapter
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 300 ± 20 ml. (270 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 860g 1030g with rear A/C
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 928 126 010 06 with drain plug.



Technical Bulletin

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Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
8717

Number
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928 S4, 928 GT, 928 GTS - Model Year 1990 to 91

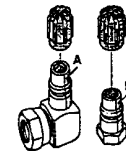
Description	Qty.	Part Number	Notes
Receiver Dryer	1	944 573 943 00	May also be retrofitted to A/C systems using R 12
O-ring 7.5 X 2 mm	2	999 707 247 40	Coat with fresh ND-Oil 8 when installing
Charging Valve (see note)			Tightening Torque: 10 - 12 Nm (7.5 - 9 Ftlbs)
High Pressure Valve	1	928 573 965 03	Angle Valve 90°
Low Pressure Valve	1	928 573 965 00	Straight Adapter
ND-Oil 8 Refrigerant Oil		PNA 573 001 40cc PNA 573 002 250cc	Capacity: 130 ± 20 ml (120 ml) Value in () = Cap. for R 12
Refrigerant R 134a		-----	Capacity: 860g 1030g with rear A/C
Self-Adhesive Label	2	964 701 141 02	Attach the self-adhesive labels in the following places: - on the body work near the A/C compressor - in the Maintenance Booklet

Assembly Note:

When fitting Angle Valves **(A)**, remove the formerly used valve inserts.

When fitting straight adapters **(B)**, the former valve inserts remain installed.

Installed Compressor 928 126 113 00 with drain plug.



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Technical Bulletin

Model
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Group
8

Subject
Retrofitting R12 A/C System
to Refrigerant R134

Part Identifier
8717

Number
9501

Repair Information: Refer to the appropriate workshop manual, Group 87.

Repair Times: 350 TU Covering : Retrofitting air conditioning system to refrigerant R 134a, **All Models** - replace receiver dryer without compressor removal.

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SERVICE

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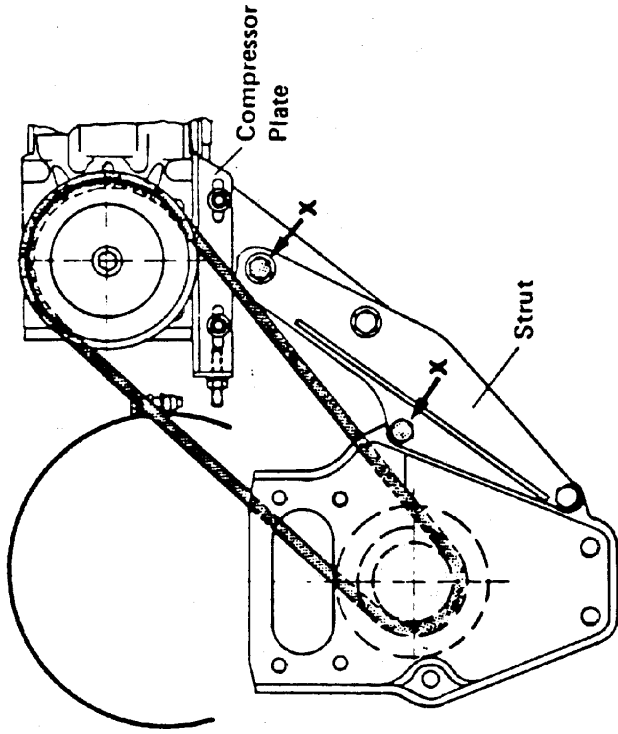
Technical Bulletin

Model 911	Group 87
Subject: Compressor Support Mounting Bolts	Part Identifier 8725
	Number 82-01

Modified bolts are now used on the air-conditioner compressor bracket for mounting of the strut and compressor plate (beginning in May 1982, with engine No. 930/16 64C 4012). This prevents V-belt scuffing due to possible contact between bolts and compressor drive belt if the belt becomes slightly loose

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information



New parts

- M 10 x 20 hexagon head bolts for strut installation now with flat head — 4 mm head height, Part No. 999 075 041 02 (4 required)
- Mounting bolts for compressor plate now M 8 x 20 socket head bolts as for 911 Turbo (formerly hexagon head bolts), Part No. 900 119 057 02 (3 required)

Repair procedure, 1978-1982 earlier-production cars

When replacing a V-belt on earlier-production cars, or to prevent possible V-belt scuffing,

- replace the two bolts marked X as shown with new-type bolts (M 10 x 20 with 4 mm flat head, Part No. 999 075 041 02)

SERVICE

Technical Bulletin

Model

All

Group

8

Subject:

A/C Compressor Survey

Part Identifier

8734

Number

8705

In Porsche's continuing effort to improve every aspect of product quality, we have instituted a survey to obtain more information about air conditioning compressors that are replaced.

If you encounter an air conditioning compressor that requires replacement on any 1987 or 1988 model Porsche, please fill out one of the attached forms. This survey will run until August 1, 1988. It is important for us to have this information.

Five survey forms are included with this bulletin. If you need more, just include a request with a completed survey.

When completing the form, please be as detailed and concise as possible when describing the customer's complaint and your diagnostic (test) procedure.

Send the completed survey form along with the compressor and any other air conditioning parts replaced on that job to:

Porsche Cars North America
Attention: H. Guenther
Technical Service Center
1600 Holcomb Avenue
Reno, NV 89502

Thank you for your cooperation in this important effort towards improving customer satisfaction with the Porsche product.

Important Notice

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SERVICE

Page 1 of 1
November 20, 1987

Technical Bulletin

Model

All

Group

8

Subject:

A/C Compressor Survey

Part Identifier

8734

Number

8801

This reprint of Technical Bulletin Group 8, Number 8705 is to remind you that this survey is still active. It runs until August 1, 1988. We have attached another form for your convenience. If you need more, include a request with a completed survey. Please take the necessary steps to ensure that a form is filled out on all A/C compressor replacements on applicable vehicles.

In Porsche's continuing effort to improve every aspect of product quality, we have instituted a survey to obtain more information about air conditioning compressors that are replaced.

If you encounter an air conditioning compressor that requires replacement on any 1987 or 1988 model Porsche, please fill out one of the attached forms. This survey will run until August 1, 1988. It is important for us to have this information.

When completing the form, please be as detailed and concise as possible when describing the customer's complaint and your diagnostic (test) procedure.

Send the completed survey form along with the compressor and any other air conditioning parts replaced on that job to:

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SERVICE

Page 1 of 1
April 15, 1988

Technical Bulletin

Model
911

Group
87

Subject: Installing Front A/C Condenser

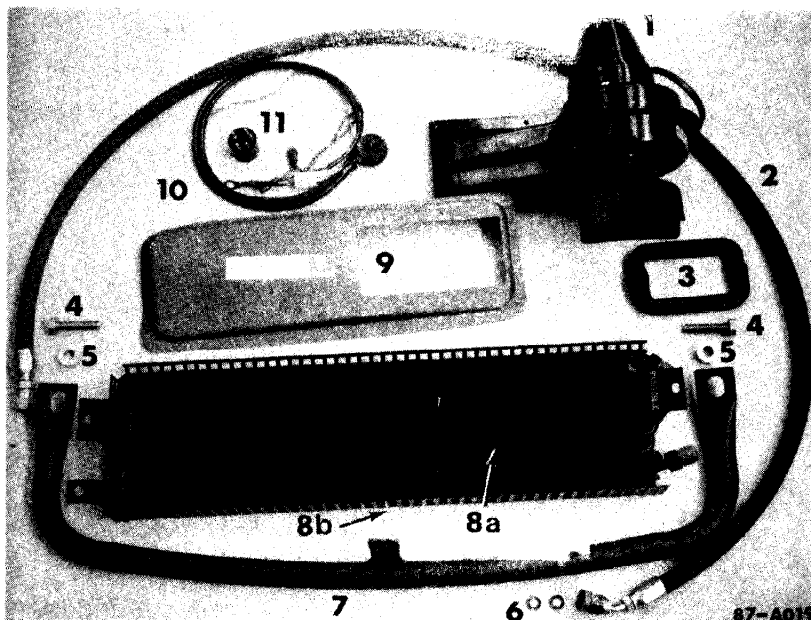
Part Identifier
8750

Number
78-01

To increase cooling capacity on all cars with factory air conditioner, front condenser may be installed

Parts required

Kit (Part No. 911 573 911 00)



Parts in Kit 911 573 911 00

Reference	Part No.	Quantity	Description	Reference	Part No.	Quantity	Description
1	911 624 013 00	1	Blower	8a	911 573 056 00	1	Condenser
2	911 573 154 01	1	Hose	8b	911 573 058 00	1	Protective screen
3	911 573 515 00	1	Gasket	9	911 501 581 01	1	Blower panel
4	900 075 071 02	2	Hex bolt	10	911 612 080 01	1	Electrical harness
5	911 573 513 01	2	Spacer	11	911 615 109 01	1	Relay
6	901 573 148 00	2	Gasket				
7	911 573 055 00	1	Protective bow				

SERVICE

Page 1 of 6
September 5, 1978

Technical Bulletin

Model

911

Group

87

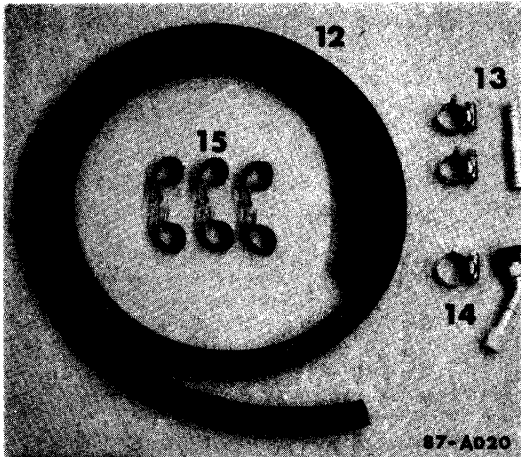
Subject: Installing Front A/C Condenser

Part Identifier

8750

Number

78-01



Reference	Part No.*	Quantity	Description
12	5½ ft	13/32" suction hose
13	1	Splicer kit (hose connector and 2 clamps)
14	1	Hose termination and clamp (to connect suction hose to condenser)
15	6	Cable clamps (for holding 13/32" suction hose in place)
	41 oz.	Freon 12

- place small template (No. 1) between jack support and washer pump on front apron and mark area to be cut out
- cut out rectangular section using air chisel, snips or nibbler

Note

Remove all metal shavings and paint all cut edges after each cutting and drilling operation

- raise car on lift



- place large template (No. 2) in place between front crossmember and apron, and mark area to be cut out

Work sequence

- discharge air conditioning system
- open front hood
- remove spare tire and jack
- disconnect battery ground cable

*Parts to be obtained locally

SERVICE

Technical Bulletin

Model

911

Group

87

Subject: Installing Front A/C Condenser

Part Identifier

8750

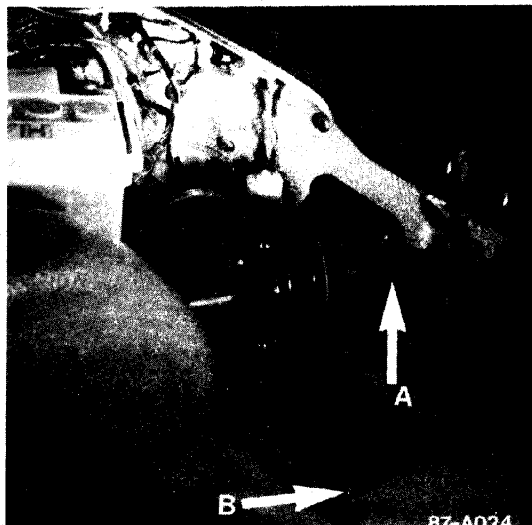
Number

78-01

- cut out rectangular section using air chisel or other suitable tool
- lower car



- install gasket (3) in cutout in front apron
- place blower panel (9) in position over cutout in floor of luggage area
- drill 1/8 in. pop-rivet mounting holes through panel and floor approximately 1 1/2 in. apart around periphery
- lift out blower panel and place strip calk around mounting flange
- put blower panel in place and install 1/8" X 1/4" pop rivets
- spray paint blower panel



- install blower suction flange A into previously installed gasket (use Silicone spray to assist in assembly)
- insert blower mount into blower panel and align openings. Drill 4 1/8" holes B
- lift blower enough to place calk around flange. Drop back into place and install 4 sheet metal screws
- raise car on lift

SERVICE

Page 3 of 6
September 5, 1978

Technical Bulletin

Model

911

Group

87

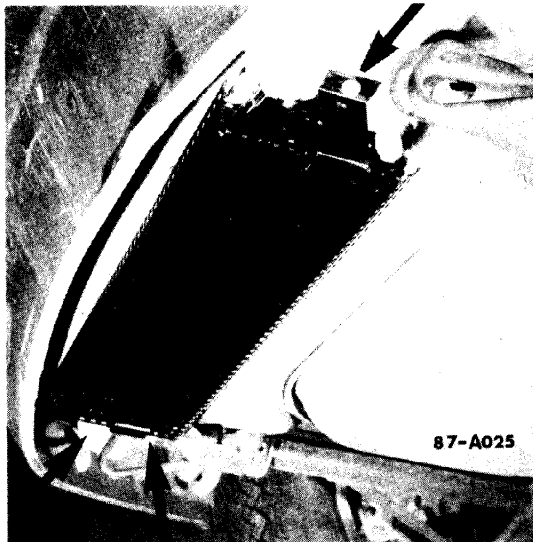
Subject: Installing Front A/C Condenser

Part Identifier

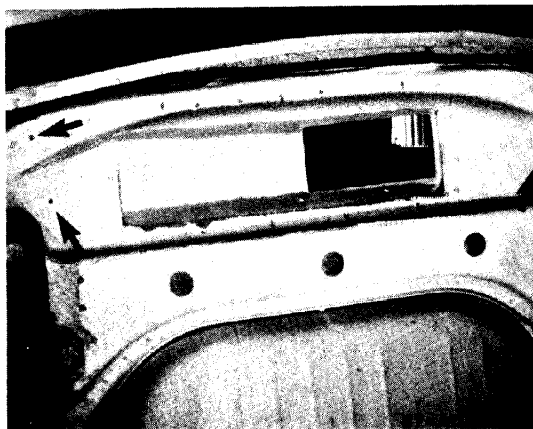
8750

Number

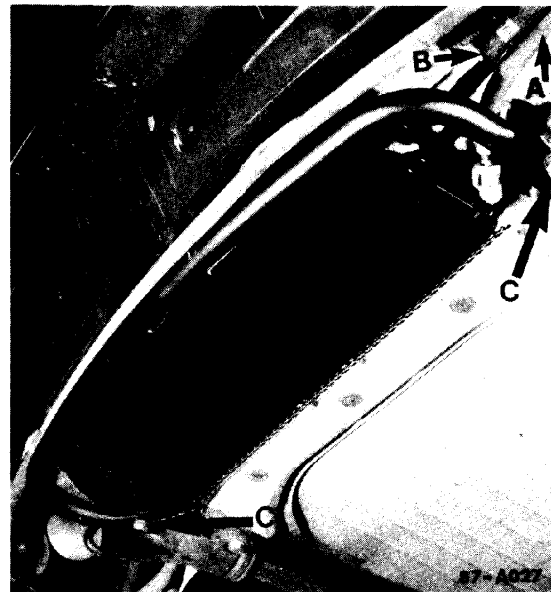
78-01



- hold condenser (8a) squarely over cut-out with hose connections to left (driver's side)
- mark 3 mounting holes (arrows)



- remove condenser and drill the three ¼ in. holes (arrows)



- install condenser (8a) together with protective cover (8b) using two 6 X 20 mm machine screws, lock washers and nuts on passenger side and one sheet metal screw on driver's side
- remove two front suspension arm mounting bolts and discard
- attach protective bow (7) at these points C with bolts (4), using spacers (5) between bow and suspension arm mount. Do not tighten bolts fully at this time
- remove left front wheel
- route hose (2) A and suction extension hose (12) B from fender well to front condenser

CAUTION

Plug hose ends to prevent entrance of dirt or other foreign material

- connect both hoses to front condenser using hose termination and clamp (14) to connect extension hose. Use gasket (6) on connector of hose (2)

SERVICE

Page 4 of 6
September 5, 1978

Technical Bulletin

Model

911

Group

87

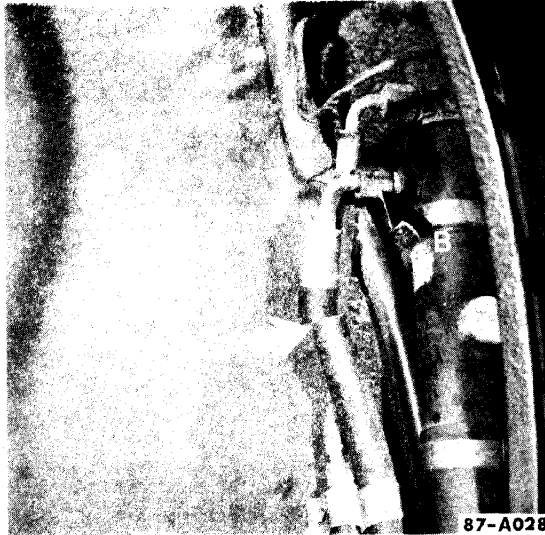
Subject: Installing Front A/C Condenser

Part Identifier

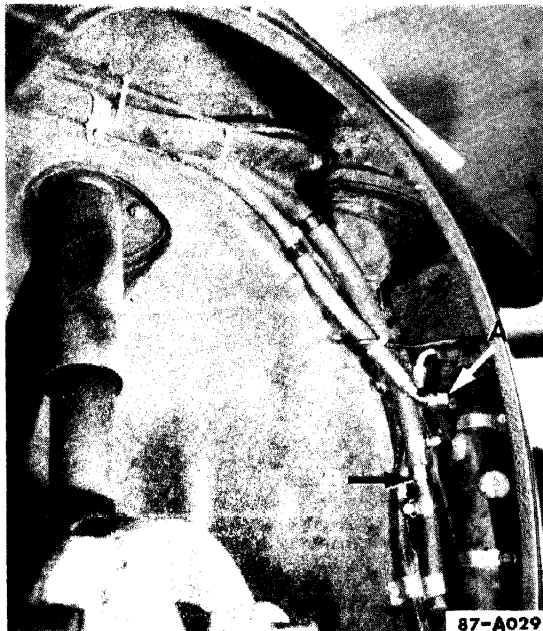
8750

Number

78-01

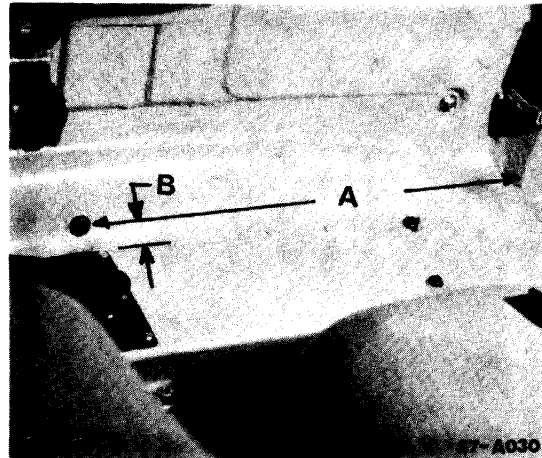


- cut suction hose from rear condenser at A
- remove hose connector B and discard



- attach connector on hose (2) at A in place of discarded connector. Use gasket (6) on connector

- splice extension hose (12) to cut suction hose from rear condenser at B, using connector and two clamps from splicer kit (13)
- secure both hoses (2) and (12) to fender well with cable clamps (15) as required
- replace left front wheel
- lower car



- locate and mark center mounting hole for protective bow from within luggage compartment as follows:
 - A = 15-13/16 in.
 - B = 1 in.
- drill 10 mm hole for M 8 X 20 hex head bolt
- place lock washer and flat washer on bolt and install in protective bow from inside luggage compartment. Tighten securely
- securely tighten protective bow end mounting bolts from underneath. Torque to 2.5 mkg (18 ft lbs)

SERVICE

Page 5 of 6
September 5, 1978

Technical Bulletin

Model

911

Group

87

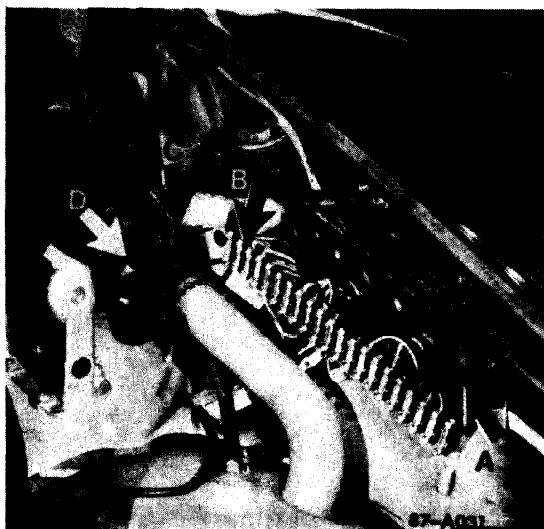
Subject: Installing Front A/C Condenser

Part Identifier

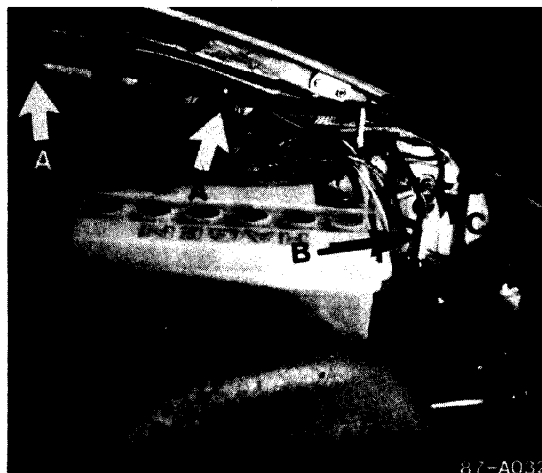
8750

Number

78-01



- remove fuse panel cover
- install socket of electrical harness (10) from behind panel in hole A
- install relay (11) in socket
- run cable with white plastic connector and screw lug along existing cable harness toward front of car
- run other cable behind fuse panel
- fasten red/green wire with bare tinned end under screw on fuse S20 at B
- find white wire connector joining heavy green wire to smaller diameter black wire and located toward left rear of luggage compartment. Pull connector apart to insert green wire from harness (10). One green lead from harness plugs into connector at C. Green lead removed from connector plugs into terminal on remaining free green wire of harness at D



87-A032

- secure electrical cable harness (10) under fasteners A
- connect together at B the white plastic connectors from cable harness and from blower (1) (white/green tracer and brown wires)
- fasten screw terminal lug from harness (10) (two brown wires attached) to common ground terminal C
- reconnect battery ground cable
- replace spare tire and jack
- recharge air conditioning system with 41 oz. of Freon

Note

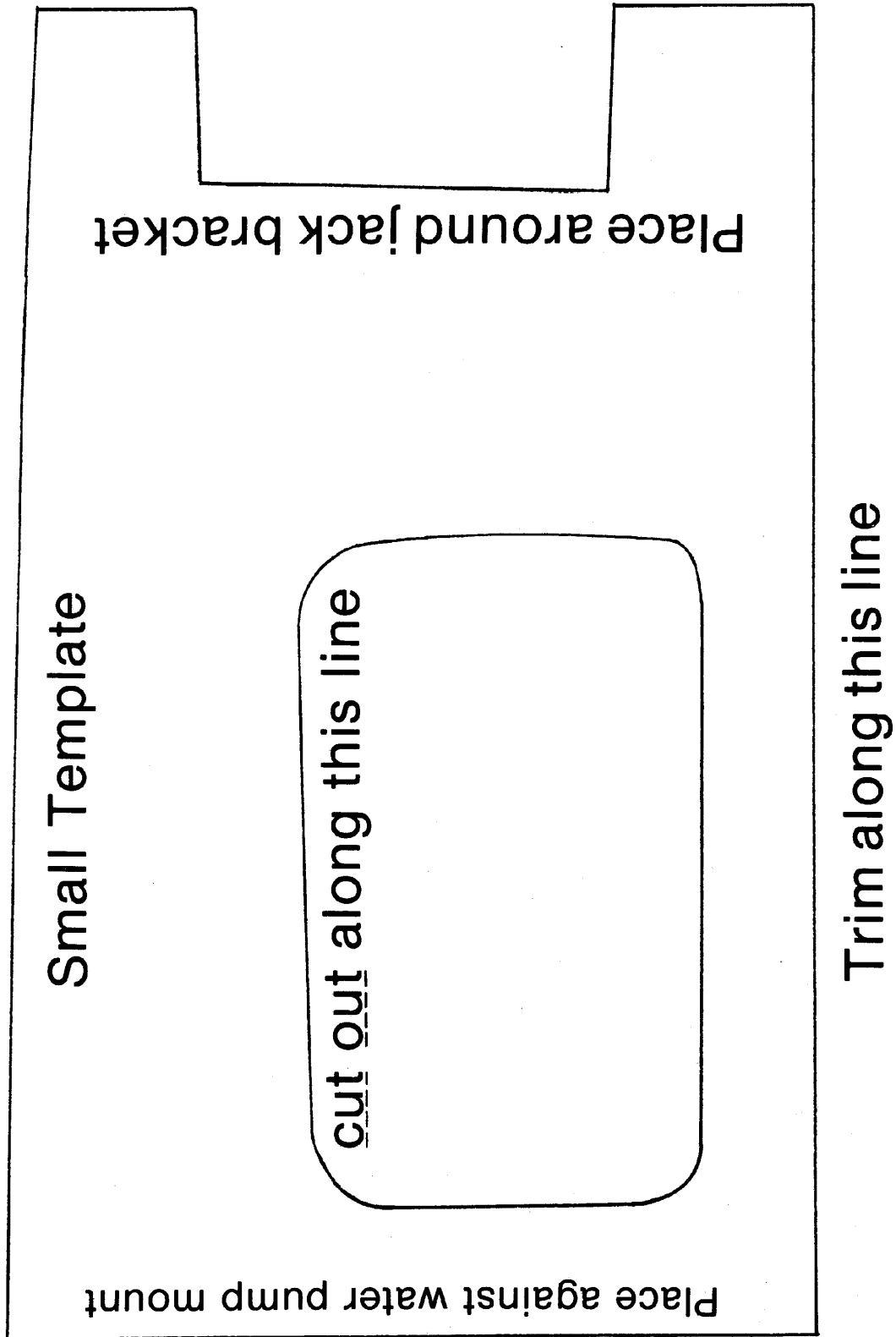
Electrical wiring is in accordance with 911 Workshop Manual Vol. VI, Group 9, page 0.1 — 3/39

SERVICE

Page 6 of 6
September 5, 1978

911 Front Condenser installation template -- 1

Make Copies As Necessary



Technical Bulletin

Model
911 Carrera
911 Turbo

Group
8

Subject: Fuse for Front A/C Condenser Fan

Part Identifier
8753

Number
8803

A wiring harness with a 7.5A inline fuse is installed between the condenser fan wiring plug connector (arrow in Figure 1) and the existing condenser fan wiring harness.

Harness with inline fuse -
Part number: 911 612 077 00

From production date: March 7, 1988

VIN 91 JS 12 1630 - 911 Coupe
91 JS 12 5069 - 911 Club Sport
91 JS 16 1296 - 911 Targa
91 JS 17 1535 - 911 Cabriolet
93 JS 05 0607 - 911 Turbo Coupe
93 JS 06 0116 - 911 Turbo Targa
93 JS 07 0394 - 911 Turbo Cabriolet

This fuse harness can be installed in earlier cars.

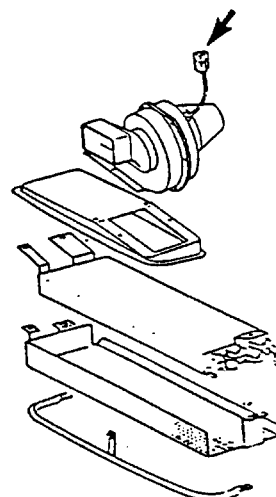


Figure 1

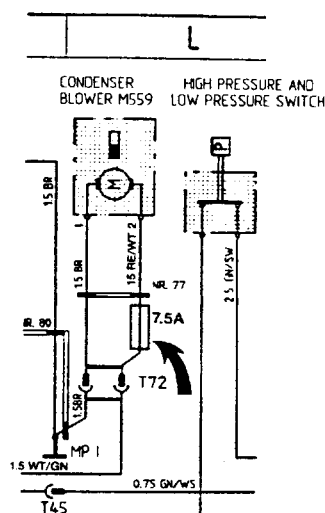


Figure 2

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SERVICE

Page 1 of 1
August 12, 1988

Technical Bulletin

Model
911 Carrera
911 Turbo

Group
8

Subject: Noise From Evaporator Housing

Part Identifier
8762

Number
8701

The evaporator mounting brackets on the 911 Carrera and 911 Turbo from Model Year 1986 were modified to prevent the housing from touching the box cover and causing rattle noises.

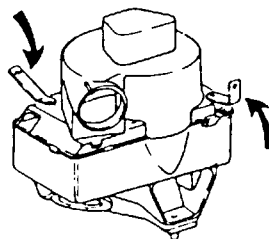
From production date June 6, 1986

VIN: 91XGS122292
913GS161744
913GS171643
933GS051336

New part numbers from 1986 Model Year:

911 572 473 00 Bracket
911 572 471 00 Bracket

Rattle noises from evaporator area on 1986 Model cars prior to the above VIN can be repaired by covering contact area with foam rubber or tape or, in extreme cases, reworking contact area on box cover.



FOR NORTHERN AMERICAN CARS



SERVICE

Page 1 of 1
February 13, 1987

Technical Bulletin

Model
911 Carrera 911 T
944, 944T, 944S

Group
9

Subject: Wiring Diagram Update
Central Locking System Drive Motor

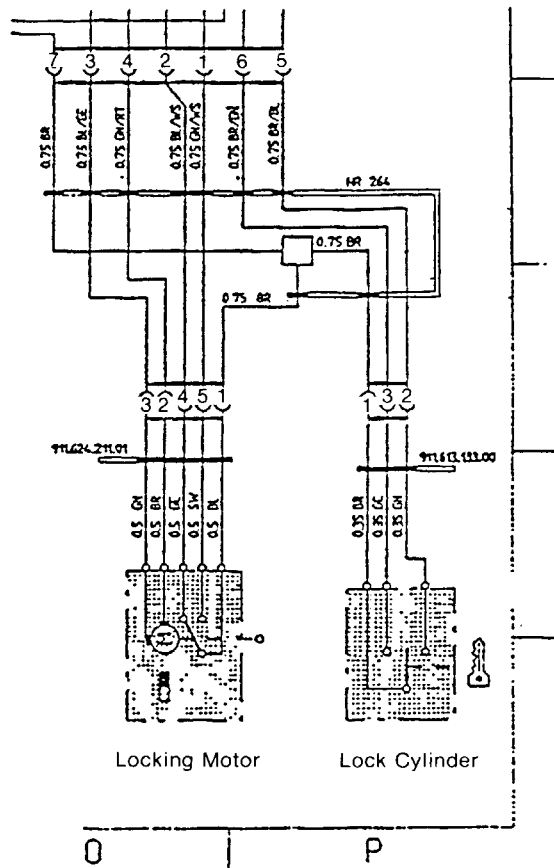
Part Identifier
N/A

Number
8704

Since introduction of the central locking system, the door locking drive motors are supplied with single color wiring. The published wiring diagrams are incorrect or incomplete.

Correct color coding:

Terminal 3	=	0.5 GN
Terminal 2	=	0.5 BR
Terminal 4	=	0.5 GE
Terminal 5	=	0.5 SW
Terminal 1	=	0.5 BL



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SERVICE

Page 1 of 1
July 31, 1987

Technical Bulletin

Model
911 Carrera

Group
9

**Subject: Outside Temperature Instrument
& Sensor Diagnosis**

Part Identifier
9000

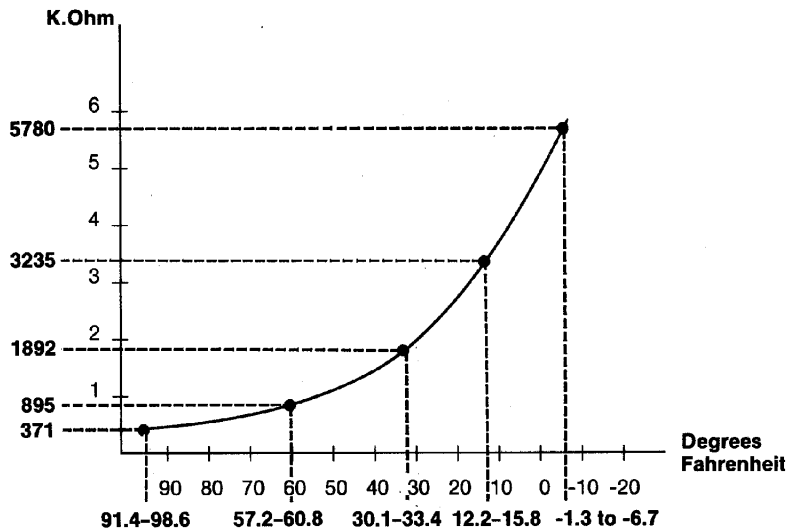
Number
8904

**911 Carrera 1989 Anniversary Edition
with Outside Temperature Gauge in Center Console**

Use the graph below when diagnosing the instrument and the sensor. However, with a certain resistance reading at the sensor, a variation in temperature range of several degrees at the instrument is normal.

Ohms measured at sensor wiring	Outside Temperature on display on instrument (degrees Fahrenheit)
5780	-1.3 to -6.7
3235	12.2 to 15.8
1892	30.1 to 33.4
895	57.2 to 60.8
371	91.4 to 98.6

The temperature sensor is installed on the left fog light mounting.



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SERVICE

Page 1 of 1
October 20, 1989

Technical Bulletin

Model 911 Carrera	Group 9
Part Identifier 9011	Number 8707

Subject: Inoperative Speedometer

911 Carrera Model Year 1987
(Type 950 Transmission)

An inoperative speedometer or no speed reading up to approximately 30 mph could be caused by a malfunctioning pulse sender.

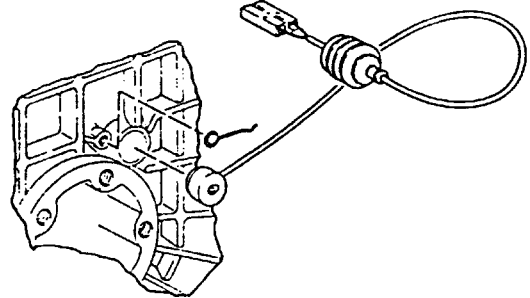
An improved pulse sender is installed as of production date November 1986.

When replacing pulse sender, both sender and spring lock should be replaced.

Part Numbers:

911 606 210 00	Pulse Sender
911 606 219 00	Spring Lock

The pulse sender must be installed in the differential cover clean and absolutely straight in the cover, otherwise an incorrect speedometer display could result.



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SERVICE

Page 1 of 1
August 12, 1987

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Technical Bulletin

Model
912

Group
90

Subject: Oil Temperature Sender and Gauge

Part Identifier
9025

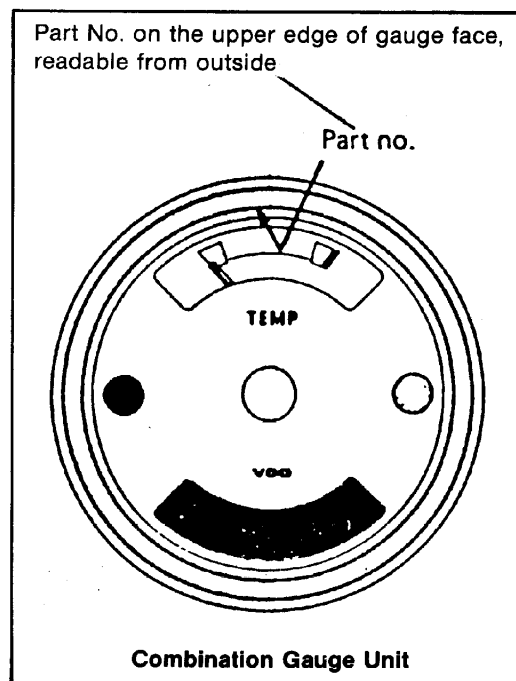
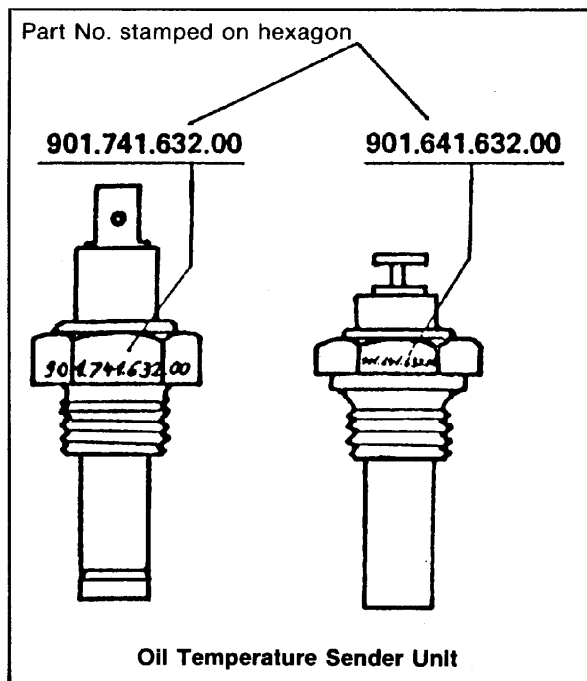
Number
78-04

Two different oil temperature sender units and three different gauges have been installed in production. For replacement, sender unit and gauge must be properly paired; otherwise readings will be inaccurate

Pairing table:

Oil temperature sender unit..	901 741 632 00	901 641 632 00
Combination gauge unit	matches 902 741 501 01 or 901 741 501 02	matches 901 641 501 20

Identification markings



SERVICE

Technical Bulletin

Model
911 Turbo

Group
90

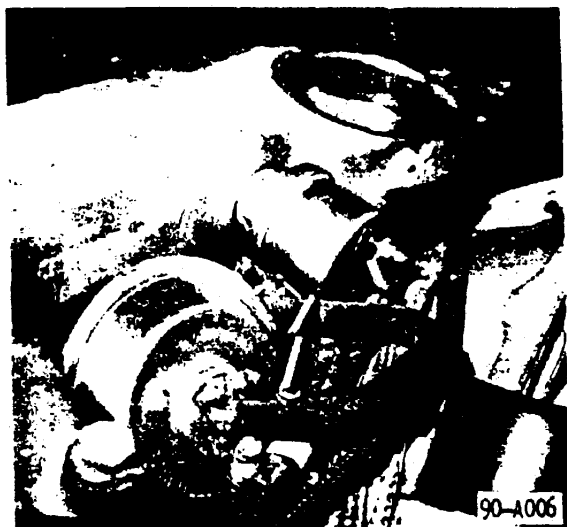
Subject: Low Boost Pressure Reading

Part Identifier
9032

Number
78-05

If boost pressure gauge reads low, especially at high ambient temperatures, boost gauge sending unit may not be properly vented

- gauge reading should be 0.6 to 0.8 bar.
If below 0.6 bar, modify sending unit as follows:



- remove boost pressure gauge sending unit
- drill 1.0 mm (No. 60 drill) hole into metal of sending unit (arrow) so that hole faces downward when sending unit is installed

CAUTION

Grease drill so no metal shavings fall into sending unit.

Stop drilling as soon as hole is made in housing. Do not let drill go further in; otherwise switch will be damaged

SERVICE

Page 1 of 1
December 18, 1978

Technical Bulletin

Model
911
Carrera

Group
9

Subject:
Radio Interference

Part Identifier
91..

Number
8507

Radio interference complaints may be caused by either external factors, vehicle components, or radio system failure. Therefore, a clear differentiation must be made between these areas of possible problems.

Below is a troubleshooting guide for radio reception interference:

1. Interference due to external factors.

Radio reception could be influenced by the following factors:

- landscape (mountains, trees, poles, buildings)
- reflection of radio waves (multiple reception)
- weak broadcasting stations
- Stations with changing broadcasting power
- transmitter frequency not adjusted precisely in radio
- transmitter or frequency overlap (large signal)
- weather clouds (high pressure area)
- interference could be considerably stronger for stereo reception than for mono reception
- strongly changing reception signals

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CARRERA
NORTH
AMERICA
-20-



SERVICE

Page 1 of 3
Sept. 20, 1985

Technical Bulletin

Model

**911
Carrera**

Group

9

Subject:

Radio Interference

Part Identifier

91..

Number

8507

2. Interferences from Engine Components

Type of Interference

Causes

Correction/Remarks

— Tack, sizzle.
speed dependent, noise
remains even after releasing
accelerator pedal.

— Unshielded spark plugs

— Corrosion (green coat)
on spark plug connectors.

— Shielded spark plugs
Standard in all types
since M.Y. 1985.

— Replace connectors.

— Noise occurring
occasionally
(temp. dependent).

— Alternator defective

— Test; take off alternator
drive belt. (Important-911:
cooling air blower). Replace
alternator, if noise has stopped.

— Slight interference
in weak stations

— Ignition system
(spark gaps).

— Replace distributor cap,
distributor rotor, ignition leads,
connectors or spark plugs.

3. Interference from other components

Type of Interference

Causes

Correction/Remarks

— Whistling noise

— Low frequency interference
from alternator.

— Check whether radio or additional
amplifier impedance coil is in-
stalled.

— Check ground connection
between radio and additional
amplifier.

— Hissing, sizzling.
Interference noise amplified
especially in treble range.

— Treble transmission (hi-fi radio,
equalizer, treble regulator).

— Tune in different frequency
range or reduce high frequency.

— Crackling in speakers,
reception interference.

— Loose contact.

— Check oxidation and tightness of
all connections and plugs
between antenna-radio-speakers-
additional amplifier.

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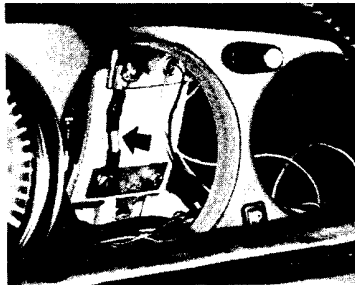
SERVICE

Page 2 of 3
Sept. 20, 1985

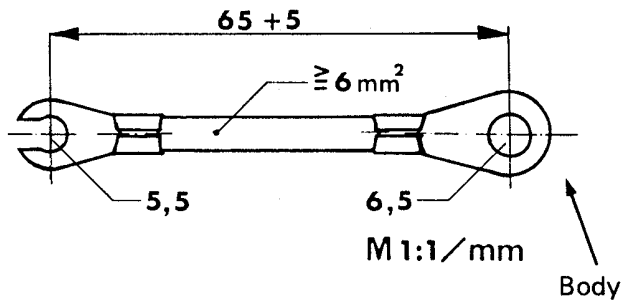
Technical Bulletin	Model 911 Carrera	Group 9
	Subject: Radio Interference	Part Identifier 91..

3. Interferences from other components (cont.)

<u>Type of Interference</u>	<u>Causes</u>	<u>Correction/Remarks</u>
— Weak radio reception on all stations	— Antenna or leads loose. Windshield Antenna: — Antenna amplifier defective — Loose plug connection (amplifier). — Antenna wire broken (visible area). — Amplifier not receiving power from radio (+ positive connection).	— Check tightness, replace if necessary. — Replace amplifier. — Check tightness. — Replace windshield. — Check connections and power flow Check wire tightness.
— Howling, hissing when windshield wipers are used.	— No ground connection between wipers and body.	— Make ground connection according to sketch or pictures (wiper motor must be removed). After installation: check power flow in ground connection.



Body end installation: M 6 x 20 hex. hd. screw, nut and washer.
Hold screw in position with tape to make installation easier.



SERVICE

Technical Bulletin

Model

All

Group

91

Subject: Radio Reception / Troubleshooting

Part Identifier

9120

Number

78-01

Radio complaints may be caused by outside interference or faulty radio components.

Radio reception in a car

Unlike a radio at home, a car radio operates under constantly changing conditions. Reception may be perfect at one location but poor just a short distance away. Even opening and closing a car door can sometimes change reception from perfect to poor.

Radio waves

Radio signals travel about as fast as light. Depending on their wavelength, signals are affected by weather, mountains, buildings, tunnels and other barriers.

AM radio waves are relatively low frequency (530 to 1630 kHz) and travel along the curvature of the earth. AM waves have a maximum range of approx. 150 miles depending on station power.

FM radio waves are much higher frequency (88 to 108 MHz). They do not follow the curvature of the earth and are not reflected by the upper atmosphere as are lower frequency radio waves. FM waves have a maximum range of approx. 30 miles.

Aside from the wavelength of the signal, signal strength will be affected by the height of the transmitting antenna, station power and conditions between radio station and car radio. Best reception is when the car antenna can "see" the station antenna but that is rarely the case. Normally, the signal picked up by the car antenna has been reflected by many solid objects. This makes the transmission path longer or shorter and delays or weakens the signal.

Fading

Signal fading is typical on AM when driving through an underpass. The same fading happens if the radio station is too far away or the car antenna is not pulled out. FM does not fade as much as AM. In the same location where AM fades, FM may come in strong and clear because

the shorter waves are reflected by other metal parts into the "shade".

Flutter-fence effect

In weak FM reception areas you may hear short pops of hissing background noise with otherwise good reception of the radio program. This "flutter" noise is like the sound burst that happens when passing poles or posts close to the side of the road.

Flutter may also cause the stereo light to flicker because the signal has fallen below the minimum level to operate the stereo decoder. Switching to mono on such station will often improve the reception.

Multi-path cancellation

Flutter and distortion is also caused by a mixing of several signals coming from different directions as a result of reflections from various objects. Mixing or "cancellation" effects often happen in cities even when close to the radio station. Switch to mono and reception will improve.

Overloading

When driving close to strong AM or FM transmitters, the signal may be too strong causing distortion and crosstalk. Switch to "local reception" if radio has a switch of lower antenna, leaving out only the lower most section.

Capture

"FM capture" is similar to overloading. When listening to a weak station, a strong station close on the dial may cut in without turning the dial. In such case lower the antenna or switch to "local reception".

Ignition or accessory interference

Flutter, distortion and background noise can be caused by the ignition system or accessories in the car. Such noise can be caused by outside sources or other cars nearby.

SERVICE

Page 1 of 5
February 3, 1978

Technical Bulletin

Model

All

Group

91

Subject: Radio Reception / Troubleshooting

Part Identifier

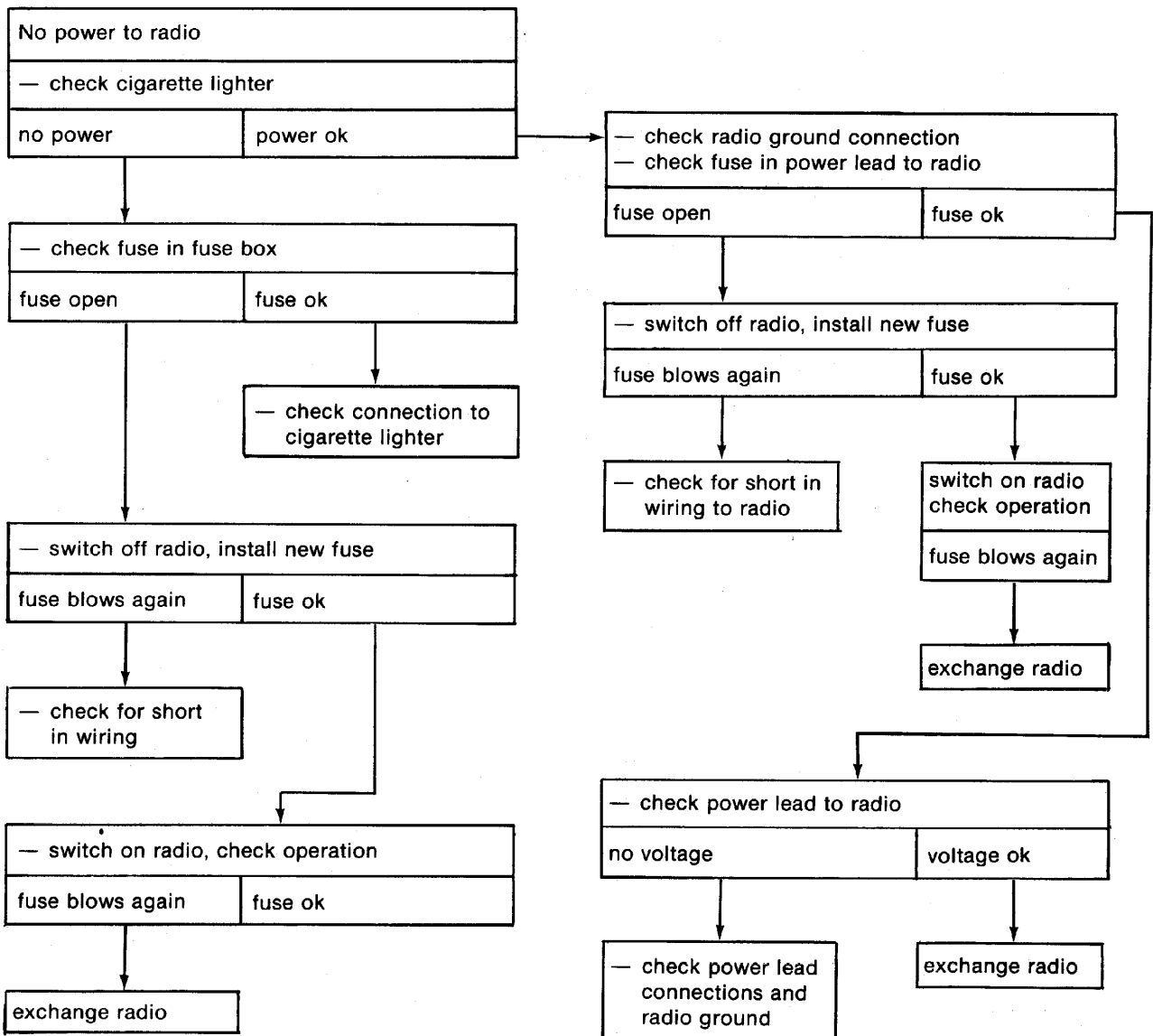
9120

Number

78-01

Check for interference from your own car by moving away from other sources of interference. See also "Troubleshooting".

Troubleshooting — No power to radio



SERVICE

Technical Bulletin

Model
All

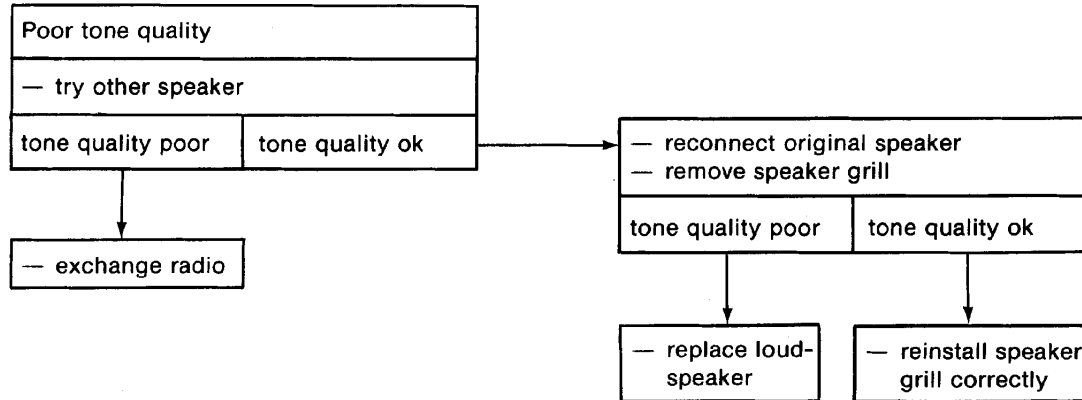
Group
91

Subject: Radio Reception / Troubleshooting

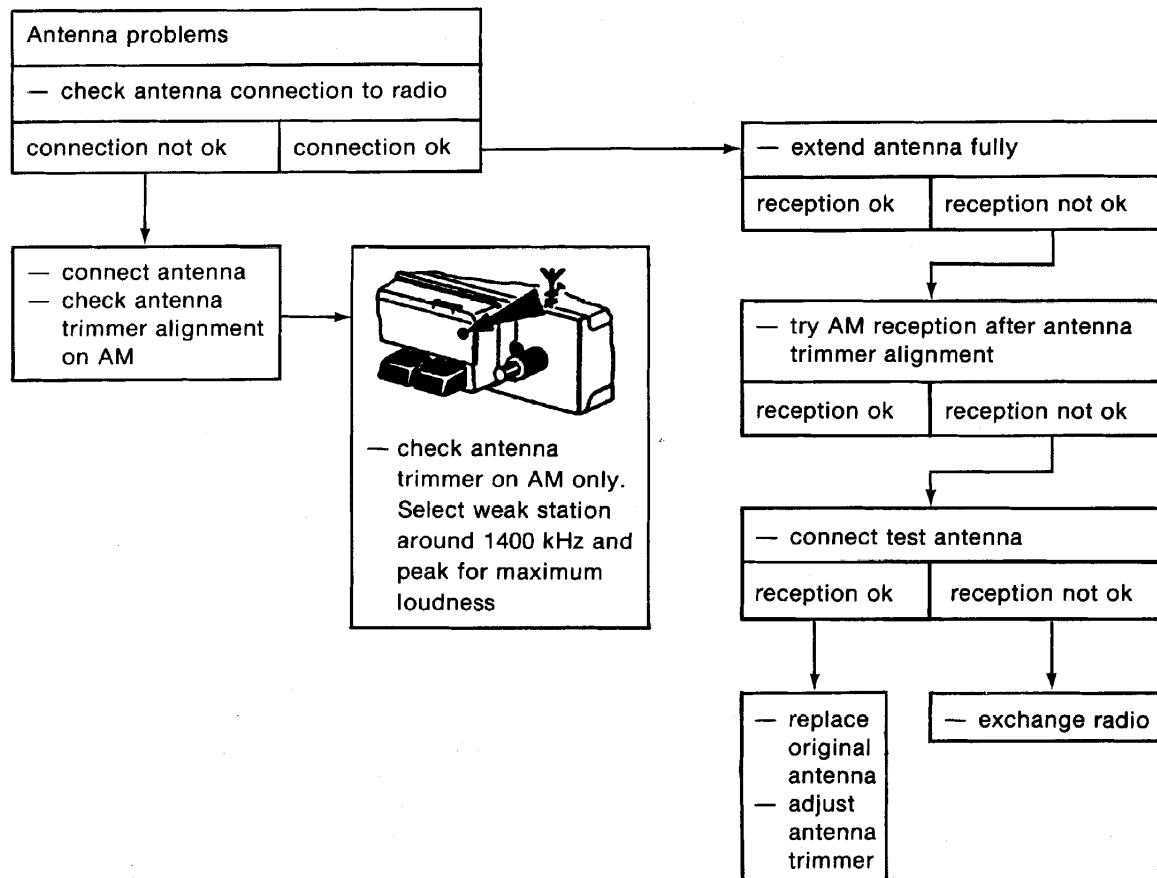
Part Identifier
9120

Number
78-01

Troubleshooting — Poor tone quality



Troubleshooting — Antenna problems



SERVICE

Page 3 of 5
February 3, 1978

Technical Bulletin

Model
All

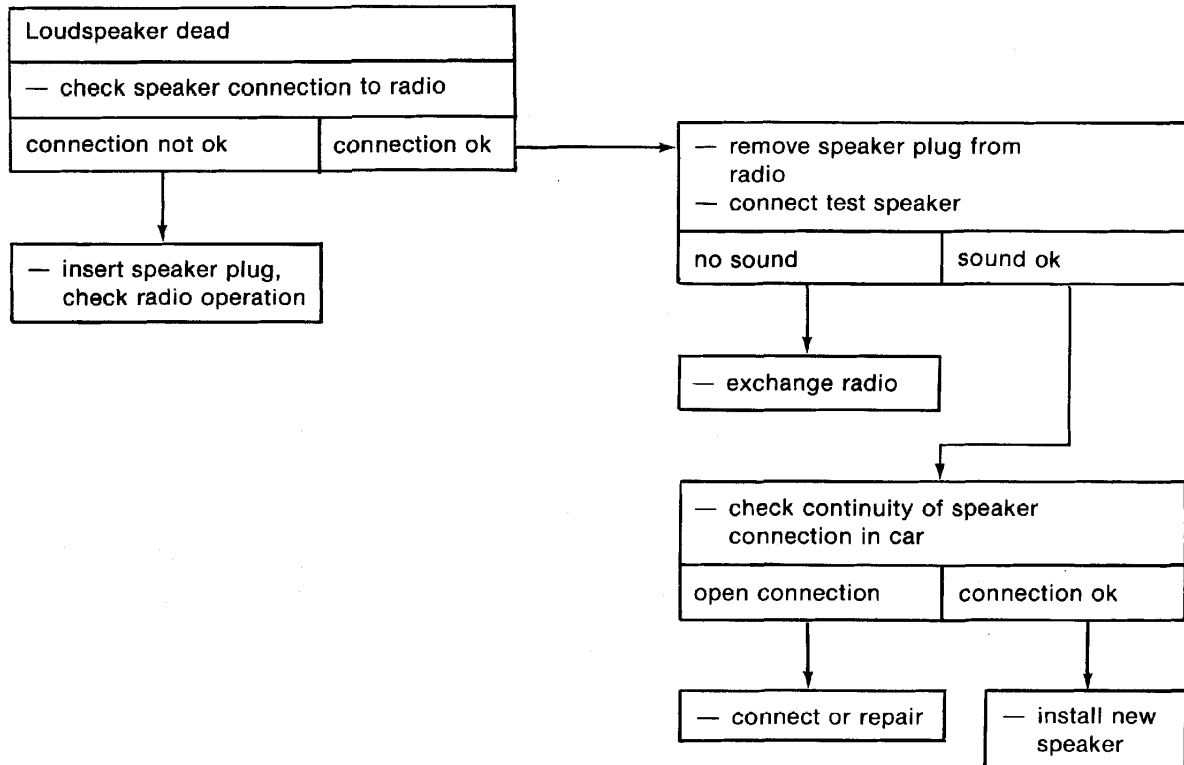
Group
91

Subject: Radio Reception / Troubleshooting

Part Identifier
9120

Number
78-01

Troubleshooting — Loudspeaker dead



SERVICE

Technical Bulletin

Model

All

Group

91

Subject: Radio Reception / Troubleshooting

Part Identifier

9120

Number

78-01

Troubleshooting major radio components for Porsche CR and Bamberg electronics

- Check first to avoid removal of radio components
- Repair or replace; **confirm defect by substitution** of sub-module if possible

	Bamberg	Por CR	fuse	ant	spkr	fader	cleaning	ACR/tape section	receiver/brain	station selector
radio dead, dial light out, auto. cass. rodr. inoperative	■	■	○					●		
on-off switch (does not turn power off)	■	■						●		
no AM reception (FM weak)	■	■		○					●	
weak AM/FM or SW	■	■							●	
no AM or FM reception (cassette plays ok)	■	■		○				●	●	
no stereo reception (check mode switch position) FM mono ok	■	■						●		
poor stereo reception (weak signal area)	■	■		○				●	●	
no search tuning		■						●	●	
no search tuning (manual tuning ok) seeker does not stop	■							●		
playing on one channel only (check bal. contr. position)	■	■			○	○		●		
balance contr. inoperative (one channel cannot be controlled)	■	■						●	●	
sound distorted, radio + cassettes	■	■			○			●		
one or more wavebands inoperative	■	■						●	●	
preselection of stations with contr. unit inop. (manual & search tuning ok)	■									●
station drift (does not hold stations)	■	■						●	●	
station memory inop. (when radio turned on, last station tuned in should still be there)	■	■							●	
dial indicator lights 1 or more lights inoperative in radio mode 4 lights working simultaneously	■	■						●		
balance contr. inoperative (one channel cannot be controlled)	■	■						●	●	
poor cassette performance — playback or recording (excess wow/flutter or speed problems) (eject. mechanism inop. or does not accept tapes)	■	■					○	●		
dictating inop. (check microphone)	■						○	●		

SERVICE

Technical Bulletin

Model

All

Group

91

Subject: Cleaning of Cassette Players

Part Identifier

9120

Number

79-02

Cassette players will malfunction if dirt is allowed to accumulate on mechanism or tape head. Do not replace inoperative unit until it is determined that cleaning will not restore unit to proper operation

- clean tape head and tape path at least once a month as outlined in radio owner's manual
- if dusty conditions prevail or tape player receives heavy usage, periodically remove radio and have tape player cleaned and lubricated professionally

SERVICE

Page 1 of 1
June 21, 1979

PORSCHE CARS NORTH AMERICA INC.

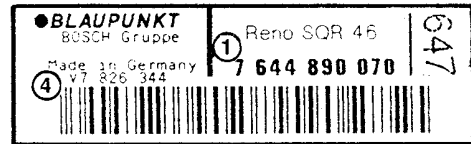
Technical Bulletin	Model	Group
	All	9
Subject:	1987 Model Blaupunkt AM/FM Cassette Radio Survey	Part Identifier
		9120
		Number
		8607

Blaupunkt-Car Radio/Repair-Advice Card completion instruction sample side 1:

Porsche Cars North America is conducting a survey of Blaupunkt AM/FM cassette radios. Until further notice, all radios replaced in 1987 model cars under the Porsche Limited New Vehicle or Parts Warranty and returned to PCNA's warranty return test center must be accompanied by a completed "Blaupunkt-Car Radio/Repair-Advice Card" in addition to the regular warranty submission forms.

- 1 and 4 From label side of radio
- 2 Not required
- 3 Repair Order Date
- 5 Delivery Date, New Vehicle or spare part
- 6 VIN

A supply of 50 "Blaupunkt-Car Radio/Repair-Advice Cards" is included. This is a worldwide form developed by Robert Bosch, and PCNA is using it for uniformity of reporting.



Radio Label

Note: Both sides of Repair-Advice Card must be completed.

BLAUPUNKT-CAR RADIO/REPAIR-ADVICE CARD									
Please fill in card completely! Attach card with adhesive tape on to unit.									
Sender's address (Firm's stamp)	<table border="0"> <tr> <td>REPAIR ORDER</td> <td style="text-align: right;">Repair</td> </tr> <tr> <td>according to expense</td> <td style="text-align: right;"><input type="checkbox"/></td> </tr> <tr> <td>under Consumers Guarantee</td> <td style="text-align: right;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>Guarantee / per 0 Km / stock unit</td> <td style="text-align: right;"><input type="checkbox"/></td> </tr> </table>	REPAIR ORDER	Repair	according to expense	<input type="checkbox"/>	under Consumers Guarantee	<input checked="" type="checkbox"/>	Guarantee / per 0 Km / stock unit	<input type="checkbox"/>
REPAIR ORDER	Repair								
according to expense	<input type="checkbox"/>								
under Consumers Guarantee	<input checked="" type="checkbox"/>								
Guarantee / per 0 Km / stock unit	<input type="checkbox"/>								
COMMISSION/CUSTOMER:									
<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> Important! Please state these points! </div> WAS OR IS THIS UNIT REPORTED TO BLAUPUNKT UNDER THE GUARANTEE CONDITIONS? (FOR EITHER DISMOUNTING, FITTING OR REPAIR ATTEMPTS) yes <input checked="" type="checkbox"/> 1 no <input type="checkbox"/> 2									
Car radio product number 76 ①	Unit number ④								
manufacturing date (FD) ②	date of purchase / first concession ⑤								
Date of complaint ③	vehicle type ⑥								
Was this unit already reported once for this fault? yes <input type="checkbox"/> no <input type="checkbox"/>									
Conditions: Guarantee is only given if the relevant guarantee proof is available from the customer – and stated on the reverse side of card – according to the BP/Guarantee conditions. A price repair is only carried out at the lump-sum-price, if the unit is included in the lump-sum-price offer. A guarantee/exchange is only carried out, if the unit is included in the exchange offer, and the exchange conditions are fulfilled.									
BP/KDB 3 D80 001010									



SERVICE

Technical Bulletin

Model
All

Group
9

Subject: 1987 Model Blaupunkt
AM/FM Cassette Radio Survey

Part Identifier
9120

Number
8607

Completion instructions sample side 2:

Please be as accurate and complete as possible.

Example:

Customer complaint: On AM and FM range only one channel plays intermittent.

FORSALE ONLY NORTH AMERICA - NO.

Summary of Customer Complaints		Is Aerial / suppression free of faults? Is the tape head clean, the cassette in order? Place a cross in relevant column <input type="checkbox"/> for complaint of function <input type="checkbox"/> whether constant or momentarily <input type="checkbox"/> (3 x/column)	
1. <input type="checkbox"/> Operating elements and indicators	2. <input checked="" type="checkbox"/> FM - range ARI	Necessary Tests / Measurements*	3. <input checked="" type="checkbox"/> MW- LW- SW - range
1. <input type="checkbox"/> On / Off	1. <input type="checkbox"/> Not functioning	Aerial, speakers ?	1. <input type="checkbox"/> No reception
2. <input type="checkbox"/> Station tuning	2. <input type="checkbox"/> Not enough stations	Aerial! - extend to full! - terminal connection in vehicle? - check leading to short circuiting / interruptions! Switch off ARI function! Sensitivity switch on sensitive! When stationary* When engine is running* When motoring* Tune in the station precisely! Speakers* Speaker connections**	2. <input type="checkbox"/> Not enough stations
3. <input type="checkbox"/> Station Keys range control	3. <input type="checkbox"/> Distortion / Interference noise	See point 4** and operating instructions	3. <input type="checkbox"/> No performance
4. <input type="checkbox"/> Other control switches - mono / stereo - sensitivity - station finder - start - and others	4. <input type="checkbox"/> No performance / low sound	Speakers* Speaker connections**	4. <input type="checkbox"/> Station movements, must be re - adjusted!
5. <input type="checkbox"/> Regulator - volume strength - others	5. <input type="checkbox"/> Station movement, must be re - adjusted	Operate the mono - stereo - key! Set balance / fader to the middle	5. <input type="checkbox"/> Distortion, inadequate reception
6. <input type="checkbox"/> Cassette insertion	6. <input checked="" type="checkbox"/> Stereo is not functioning, only one channel plays.	Is ARI function activated?	6. <input checked="" type="checkbox"/> Only one channel plays.
7. <input type="checkbox"/> Cassette ejection	7. <input type="checkbox"/> Short term cut - out	Please see Operating instructions!	7. <input type="checkbox"/> Station finder
8. <input type="checkbox"/> Fast forward/rewind automatic reverse	8. <input type="checkbox"/> Blankin out control - not functioning - momentarily interrupted	See point 2 above and 6** operating instructions	See point 2 above, operating instructions, and point 6.1**
9. <input type="checkbox"/> Indicators pointer, digits, light diodes, scale lights.	9. <input type="checkbox"/> No Broadcasting, no warning sound		
	10. <input type="checkbox"/> Station finder		
<input type="checkbox"/> constant <input type="checkbox"/> momentarily	<input type="checkbox"/> constant <input checked="" type="checkbox"/> momentarily		<input type="checkbox"/> constant <input checked="" type="checkbox"/> momentarily
* Underline the applicable	** see application instructions	Cont / d	BP/KDB 3 D80 001 010

Reverse page must be completed!



SERVICE

Page 2 of 2
Dec. 12, 1986

Technical Bulletin

Model

All

Group

9

Subject:

Radio Serial Number Labels

Part Identifier

9120

Number

8705

In case the radio is stolen, four labels with printed radio serial numbers are available for each car from Production Date, February 1987.

Two labels are kept at the factory and two with the car.

Label locations:

Four cylinder cars:

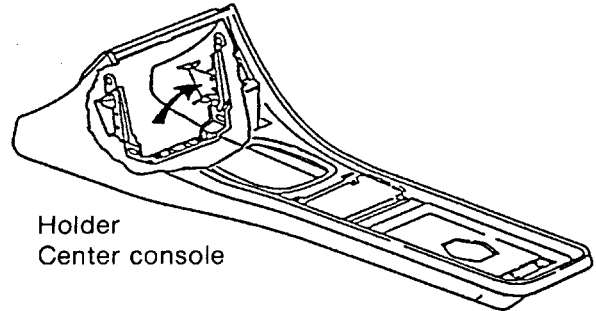
- 1) In radio service book
- 2) On holder for center console
(Picture 1)

Six cylinder cars:

- 1) Bottom of ashtray
- 2) On key card
(Picture 2)

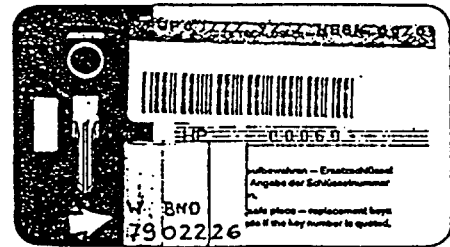
Eight cylinder cars:

- 1) Behind ashtray insert
- 2) On key card
(Picture 2)



Holder
Center console

Picture 1



Key card

Picture 2

Important Notice

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SERVICE

Page 1 of 1
August 12, 1987

Technical Bulletin

Model
911 Carrera
911 Turbo, 928 S4

Group
9

Subject:

Whistling Noise From Radio

Part Identifier
9120

Number
8804

Whistling noises from the radio and/or tape player with the engine running could be caused by a bad ground connection for the radio or radio booster.

Ground points (MP) for radio and booster:

911 Carrera and 911 Turbo

MP I is in the front compartment between the battery and fuse box. Check for tightness, corrosion and wire terminal crimping. Repair as necessary.

928 S4

MP V above central electric board. Check for tightness, corrosion and wire terminal crimping.

If no improvement, disconnect existing ground wire from booster and tape the terminal. Install a new 4mm gauge ground wire approximately 180mm long. Connect terminal to one of the booster mounting bolts.

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SERVICE

Page 1 of 1
April 22, 1988

Technical Bulletin

Model
All

Group
9

Subject: Replacement of Radio Knobs

Part Identifier
9120

Number
9201

ATTENTION: Service Manager/Service Technician

Models Affected: All

Concern: Replacement of broken radio knobs.

Service Information: Blaupunkt - Stuttgart Radio

Replacement volume control knobs for Stuttgart radios (arrow Figure 1) are available as spare parts.
Part Number PNA 645 014.



Figure 1

Porsche CR-1 Radio

Replacement Bass and Treble control knobs for Porsche CR-1 radios (arrows Figure 2) are available as spare parts.
Part Number PNA 645 015.

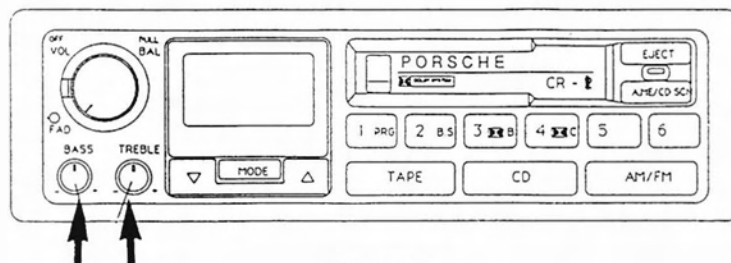


Figure 2

Work Procedure:

Stuttgart Radio

1. Pull off knob with pliers.
2. Push knob on with thumb pressure.

PORSCHE CARS NORTH AMERICA INC.



Technical Bulletin		Model All	Group 9
Subject:	Replacement of Radio Knobs	Part Identifier 9120	Number 9201

Work Procedure:

CR-1 Radio

1. Push knob to release.
2. Adjust knob to center position (white dot point up).
3. Pull off knob with pair of pliers.
4. Align new knob with white dot pointing up then carefully push the knob on with thumb pressure.

Warranty Information:

Damage Code: 9120 15 000 2

Labor Operations: 9120 19 27 R & R 1 Radio Knob 20 TU
 9120 19 28 R & R 2 Radio Knobs 20 TU

Parts Information:

Refer to Parts Bulletin Group 10, Number D1 for CD1 /2 knob kit and face plate part numbers.

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Dealership	Service manager	Shop foreman	Service technician	_____	_____	_____	_____
Distribution	Asst. manager	Warranty admin.	Service technician	_____	_____	_____	_____
Routing							

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 Porsche Technical Publications



SERVICE

Technical Bulletin

Model

All

Group

9

Subject:

CD Player Transport Screw

Part Identifier

9124

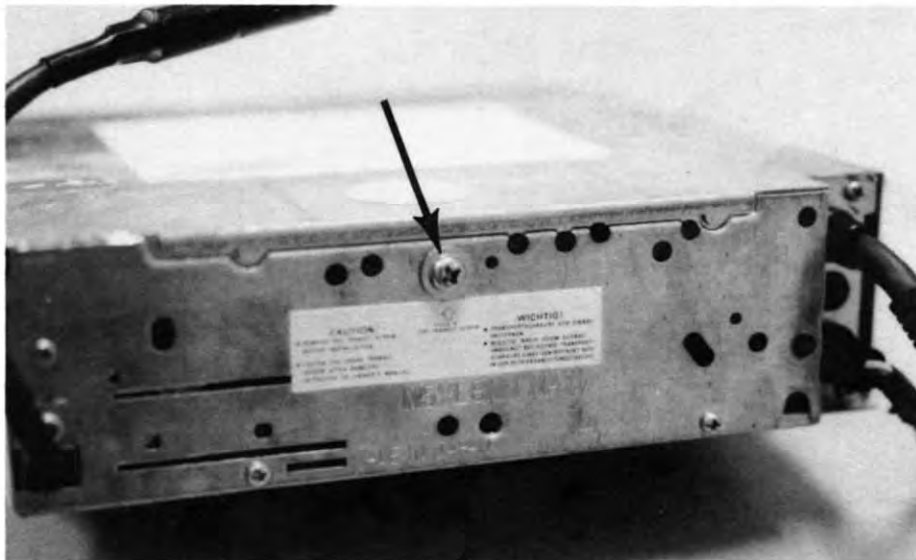
Number

8802

Porsche/Alpine Compact Disc (CD) players have a transport locking screw (arrow) installed at the Alpine factory. This screw prevents damage to the disc transport mechanism during shipment.

When the CD player is installed into the vehicle at the Porsche factory, this screw is removed and placed in the glove compartment with the owner's manual. Should the Porsche/Alpine CD player need repair, the transport screw **MUST** be reinstalled before shipping the unit.

When installing a new Porsche/Alpine CD player, the transport screw must be removed and placed in the glove compartment with the owner's manual. Failure to remove the transport screw before final installation of the CD player into the vehicle will cause skipping of the disc tracking mechanism.



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SERVICE

Page 1 of 1
February 12, 1988

Technical Bulletin

Model
911, 924, 928

Group
91

Subject: Antenna Rod Replacement

Part Identifier
9148

Number
81-01

Replacement antenna rods are now available for power antenna (Rod Part No. 477 035 513)

Antenna rod, replacing

Work procedure

- turn radio ON to raise antenna rod
- using 12-mm wrench, loosen and remove bushing nut at base of rod
- pull antenna rod together with plastic rope from bushing (sometimes it becomes necessary to pull quite hard)
- insert end of plastic rope of replacement antenna rod into bushing

- switch radio OFF
- push plastic rope into bushing until antenna motor takes over and pulls the rope in
- insert antenna rod into bushing
- reinstall and tighten bushing nut
- check antenna operation by raising and lowering antenna several times

SERVICE

Page 1 of 2
March 13, 1981

Technical Bulletin

Model
911, 924, 928

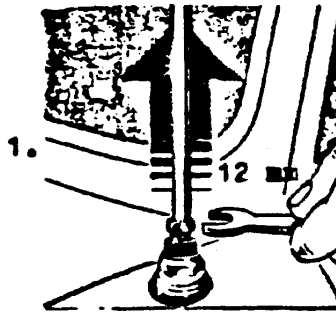
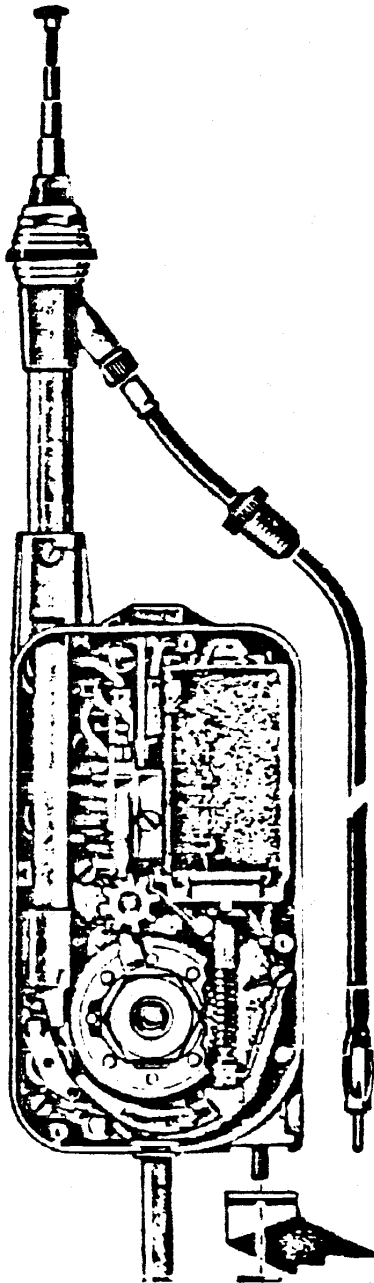
Group
91

Subject: Antenna Rod Replacement

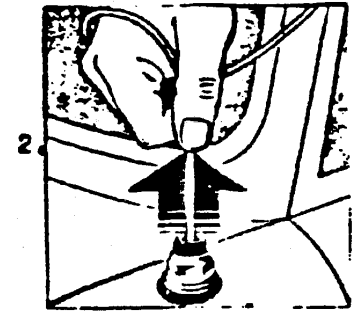
Part Identifier
9148

Number
81-01

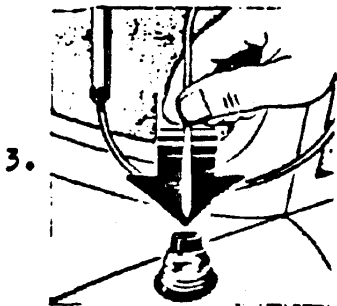
Porsche 911, 924, 928
Repair of Power Antennas



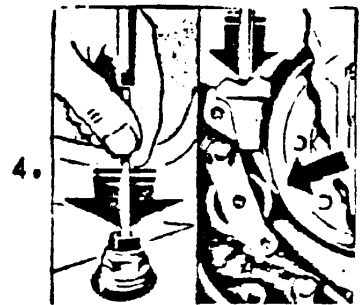
1. Switch on radio, so that antenna rod moves out, loosen nut bushing.



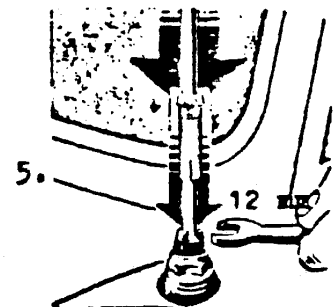
2. Remove antenna rod, including plastic rope. Sometimes it is necessary to pull hard.



3. Insert the plastic rope of spare antenna rod
P/N 477 035 513



4. Switch off radio. It is necessary that the plastic rope be pushed into the antenna until the antenna motor takes over and is pulling the rope.



5. Insert antenna rod in antenna bushing and tighten nut bushing. Operate power antenna several times.

SERVICE

Page 2 of 2
March 13, 1981

Technical Bulletin

Model

911

Group

92

Subject: Windshield Wiper Linkage Locknut

Part Identifier

9219

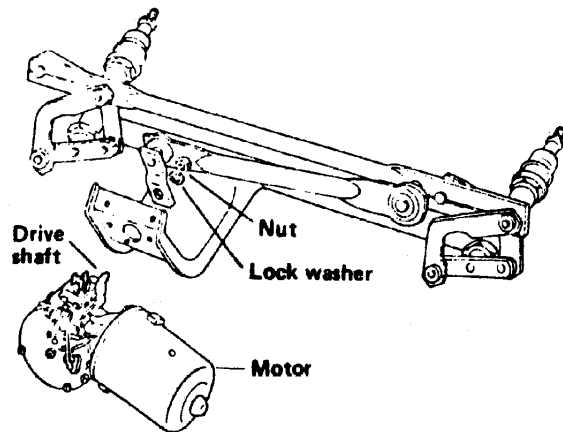
Number

83-03

The self-locking nut at windshield wiper motor drive-shaft has been replaced with hex nut and lock washer, as shown

CAUTION

Part numbers are for reference only. Always check with your Parts Department for latest parts information



92-A030

In case of repairs, use new parts:

Hex nut, Part No. N 011 006 8

Lock washer, Part No. N 012 227 3

Note

Most 1982 cars and early production 1983 vehicles used self-locking nuts. From Oct. 1982, hex nuts with lock washers have been installed. Change in production occurred as follows:

- Coupe VIN ... 91DS120726
- Targa ... 91DS160678
- Cabriolet ... 91DS170068
- Turbo (Canada) ... 93DS050061

SERVICE

Page 1 of 1
April 4, 1983

Technical Bulletin

Model
911 Coupe
911 Targa

Group
9

Subject: Rear Window Wiper Installation

Part Identifier
9234

Number
8709

The A/C condenser in the engine compartment is redesigned with an opening for the rear window wiper motor to allow rear window wiper installation.

Service installation of a rear window wiping system is only possible together with a new condenser, part number 911 513 057 04.

Important Notice

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SERVICE

Page 1 of 1
September 4, 1987

Technical Bulletin

Model
911, 911 Turbo

Group
92

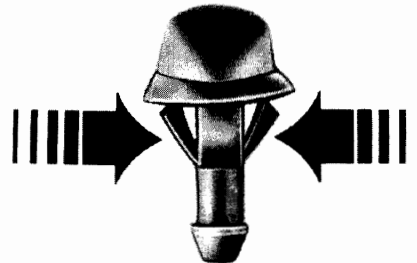
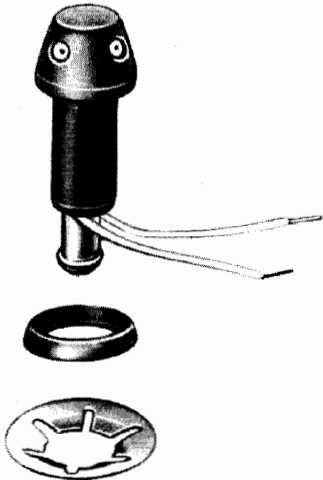
**Subject: Installing Heated Windshield Washer
Jets**

Part Identifier
9266

Number
83-01

Electrically heated windshield-washer jets are available as spare parts and can be service installed.

Washer jets, installing

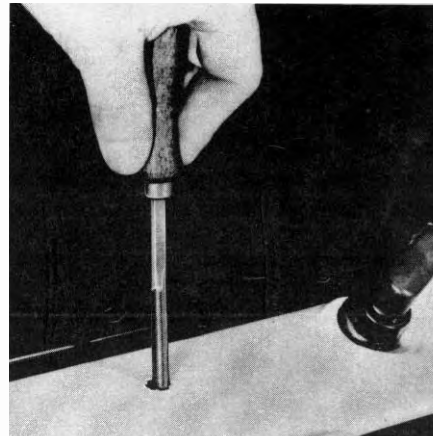


- unscrew luggage compartment trim panel and remove standard jets

The jets are equipped with a heating resistor which can be connected on terminal 15, such that heating occurs when the ignition is on

Parts required:

- 2 windshield washer jets, Part No. 944 628 911 00
- wire — red 20 AWG, approx. 10½ ft long
- wire — brown 20 AWG, approx. 10 ft long
- insulating tubing for 1 20 AWG wire, approx. 4 in. long
- for 2 20 AWG wires, approx. 40 in. long
- for 4 20 AWG wires, approx. 36 in. long
- 1 wire connector 6.5 mm dia.



- open up holes in cowl panel to 10 mm (13/32 in.) dia. Touch up area around holes with a suitable paint

SERVICE

Page 1 of 2
January 19, 1983

Technical Bulletin

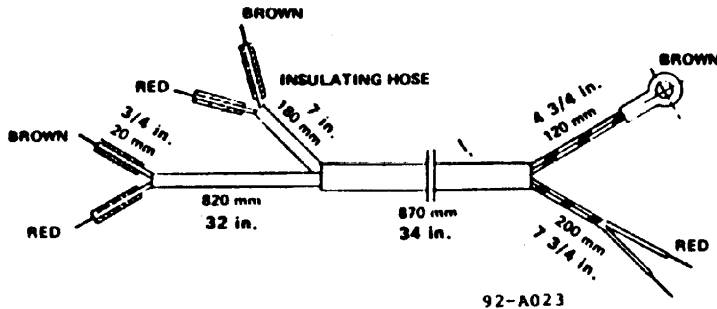
Model
911, 911 Turbo

Group
92

**Subject: Installing Heated Windshield Washer
Jets**

Part Identifier
9266

Number
83-01



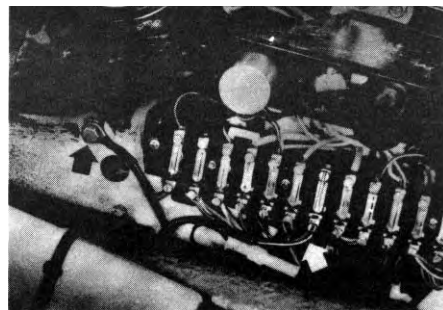
- make up extra wire harness as shown

Note

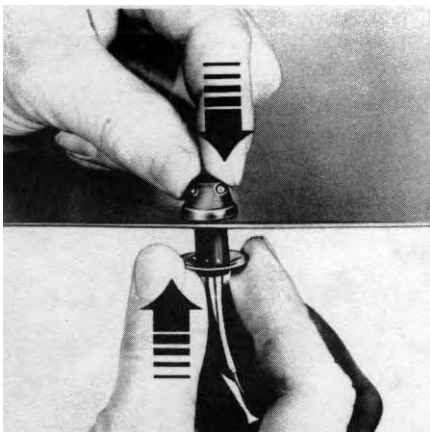
Voltage is supplied from the stop light/cruise control fuse (No. 15)



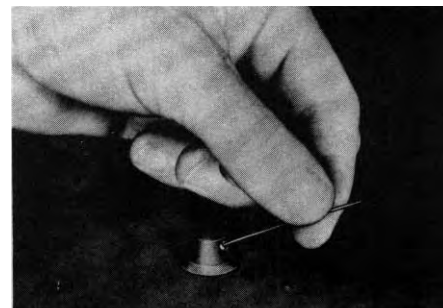
- pull in "extra wire harness". Place lock washers on wires and route wires out through the holes. Solder wires on jets. Insulate soldered points with insulating tubing



- connect positive wire (red) on bottom of fuse. Screw ground wire (brown) on ground point next to fuse box
- operate windshield washer. Check hoses for leaks



- insert and aim jets. Press on lock washers firmly from below
- connect water hoses on jets. Press down on jets from above while connecting hoses to prevent jets from becoming loose



- aim jets with a pin
- turn on ignition. Heat must be felt on jets after waiting several minutes

SERVICE

Page 2 of 2
January 19, 1983

Technical Bulletin

Model
911SC
911 Turbo, 928S

Group
94

Subject: Reduced Wattage of Low Beam Elements

Part Identifier
9425

Number
83-01

To eliminate the possibility of sealed beam headlamp burn-out due to overheating, the wattage of the low beam element has been reduced.

New sealed beam headlamp Type SB H 6024
P/N 999 631 126 90

replaces

Old sealed beam headlamp Type H 6014
P/N 999 631 126 90

Part numbers are unchanged. New type sealed beam supplied under this part number as of Sept., 1983

Note

New type headlamps and old type headlamps are interchangeable. One of each type may be installed on the same vehicle.

New type headlamps are being installed in production as of the following V.I.N.:

911 SC/Coupe	91DS122300
911 SC/Targa	91DS161402
911 SC/Cabrio	91DS171275
911 Turbo/Canada	start of production 1984
928S	92DS861898

CAUTION

Part numbers are for reference only.
Always check with your Parts Department
for latest parts information

SERVICE

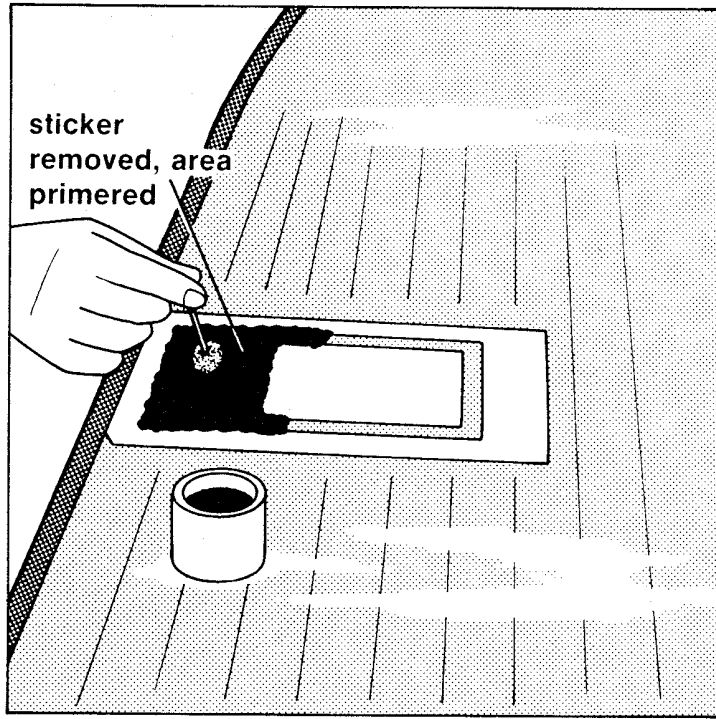
Page 1 of 1
September 19, 1983

<h1>Technical Bulletin</h1>	Model 911 and 944	Group 9
	Part Identifier 9470	Number 8608

Subject: Service Installation of Center Mounted Brake Light on Porsche 911 and 944

- I. Installation instructions for 944, 911 Coupe and Targa without rear spoiler.
 1. Clean inside of rear glass with window cleaner and wipe dry. Apply primer with even strokes. Allow at least 30 minutes, to a maximum of 3 hours, to dry. **Do not reapply primer on dried areas.**
 2. Mark window and put sticker in center. 944 sticker is marked with T for window top, 911 sticker is marked with B for window bottom. (Round edges point up.)
 3. Apply body primer on stop lamp excluding the taped area. Allow to dry.
 4. Fill round cutout on frame approximately 1/3 with adhesive sealant (Beta seal). Remove backing from tape and stick frame to window. Mount housing on frame.

Line up markings and apply sticker to window carefully. Remove center part of sticker and blacken this area with glass primer using an applicator as shown in picture. (Picture shows 944 window removed.)



SERVICE

Technical Bulletin

Model
911 and 944

Group
9

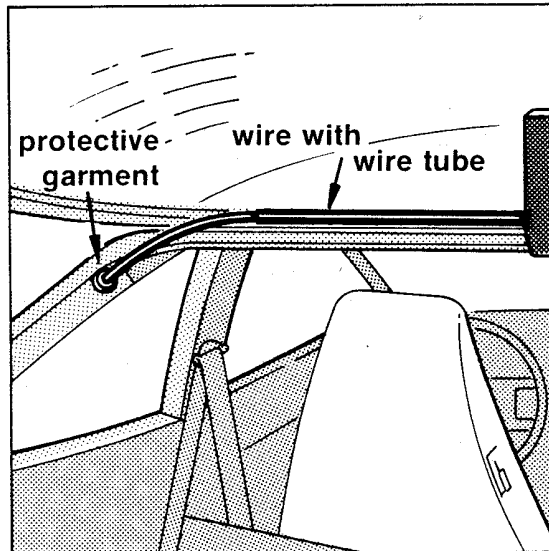
Subject: Service Installation of Center Mounted Brake Light on Porsche 911 and 944

Part Identifier
9470

Number
8608

II. Wiring for Porsche 944.

1. Connect 1.0 mm gauge wire to center stop lamp positive and ground. Feed wires through 7 mm diameter wire tube and fasten tube into groove between glass and outer frame using black silicon sealer (see picture).
2. Guide wiring through grommet for rear wiper wiring. Use new protective grommet Part Number 111 971 911A. Push wiring through C-pillar and tighten with wire ties underneath ventilation slots.
3. Unplug socket for left taillight. Install positive on pin #2 and ground lead on pin #6 of male socket using new cylindrical connectors. Part Number N 017 592 2 (picture).



Parts Required 944

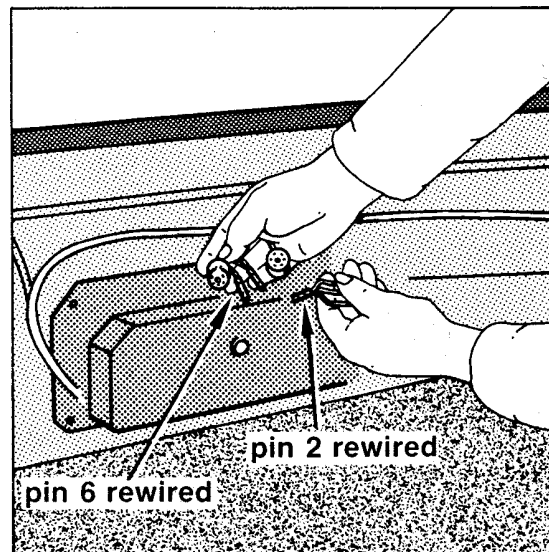
- | | | |
|---|----------------|--------------|
| 1 | 928 631 070 00 | Lamp |
| 1 | 000 043 069 00 | Adhesive Set |
| 1 | 111 971 911 A | Grommet |
| 2 | N 017 592 2 | Connector |

1.0 mm gauge wire

7 mm wire tube

Note: Adhesive Set includes:

Sticker, Glass and Body Primers,
Applicator, Window Cleaner, Beta
Seal



Technical Bulletin	Model 911 and 944	Group 9
	Part Identifier 9470	Number 8608

Subject: Service Installation of Center Mounted Brake Light on Porsche 911 and 944

III. Wiring for Porsche 911 Coupe and Targa without rear spoiler.

1. Unplug socket for left taillight wiring. Splice 0.75 mm gauge wiring into pin #3 on wiring socket. Tape spliced area.
2. Route wiring along left side of engine compartment. Secure with existing wire clamps and push wire through harness opening which leads into driver's compartment (see picture). Replace grommet, Part Number 477 971 871 A, if necessary.
3. Guide wire underneath rear wall lining and connect to stop lamp positive using a flat connector, Part Number 111 971 960. Install ground wire on rear wall using cable shoe, Part Number N 017 505 4.

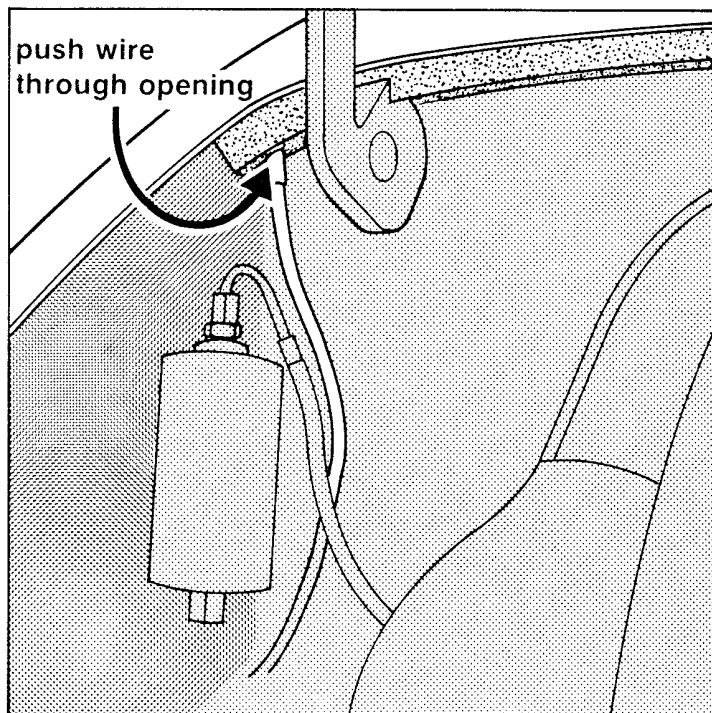
Parts Required 911 Coupe and Targa Without Rear Spoiler

- 911 631 080 00 Lamp 911 Coupe
- 911 631 071 01 Lamp 911 Targa
- 000 043 069 00 Adhesive Set
- 111 971 960 Connector
- N 017 505 4 Cable Shoe

0.75 mm gauge wire

Note: Adhesive Set includes:

Sticker, Glass and Body Primer, Applicator, Window Cleaner, Beta Seal



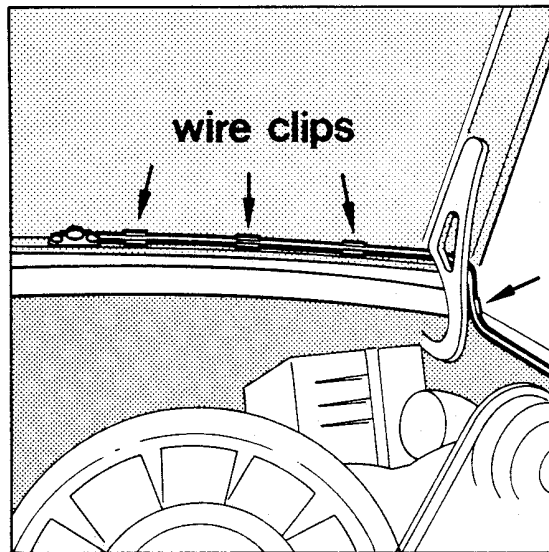
SERVICE

Page 3 of 5
Dec. 12, 1986

Technical Bulletin	Model 911 and 944	Group 9
	Subject: Service Installation of Center Mounted Brake Light on Porsche 911 and 944	Part Identifier 9470

IV. Installation instructions for 911 Cabriolet and 911 Models with rear spoiler.

1. Lower A/C condensor without disconnecting hoses.
2. Rear lid should be removed to drill hole pattern (see sketch next page).
3. Install wiring and mount lamp. Reinstall engine lid.
4. Use common wire clips in existing holes and run wire along engine lid groove. Fasten wire on clamps at the right hinge (picture) and connect ground wire to hinge bolt. Guide positive wire along right side of engine compartment.
5. Unplug taillight wiring socket and splice wire into pin #3. Tape spliced connection.



Parts Required 911 Cabriolet and 911 Models with Rear Spoiler

911 Cabriolet	911 631 071 00	includes wiring
911 with spoiler	911 631 072 00	includes wiring

P O R S C H E C A R S N O R T H A M E R I C A - C O .



SERVICE

Page 4 of 5
Dec. 12, 1986

Technical Bulletin

Model
911 and 944

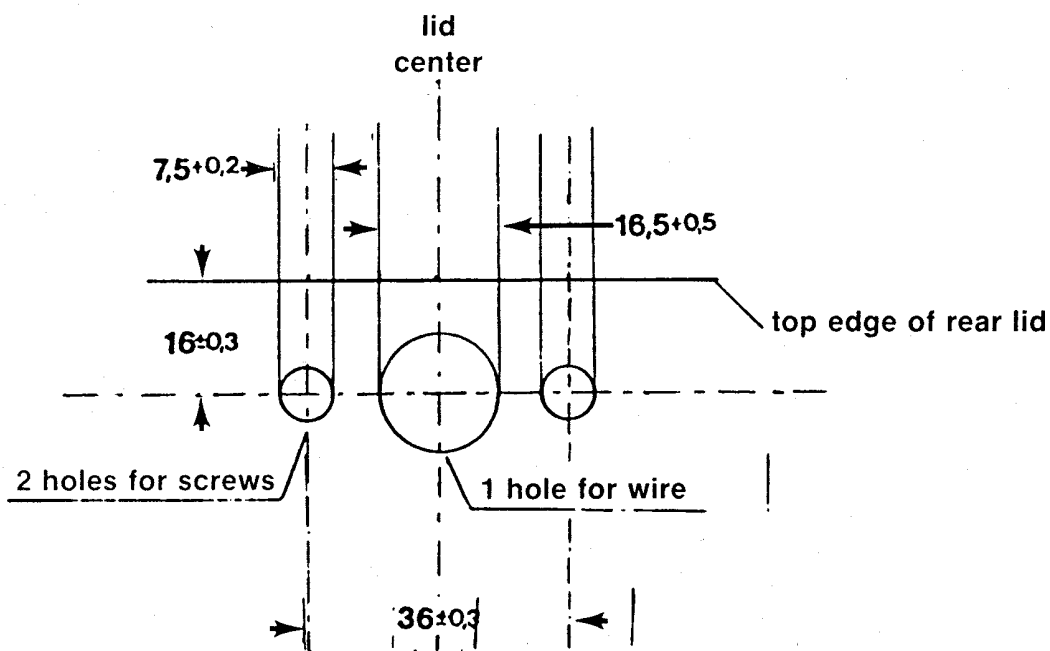
Group
9

Subject: Service Installation of Center Mounted Brake Light on Porsche 911 and 944

Part Identifier
9470

Number
8608

Sketch Hole Pattern 911 Cabriolet and 911 Models with Spoiler (Scale 1:1)



PORSCHE CARS NORTH AMERICA INC.



SERVICE

Page 5 of 5
Dec. 12, 1986

Technical Bulletin

Model
911 Carrera 911 T
944, 944T, 944S

Group
9

Subject: **Wiring Diagram Update**
 Central Locking System Drive Motor

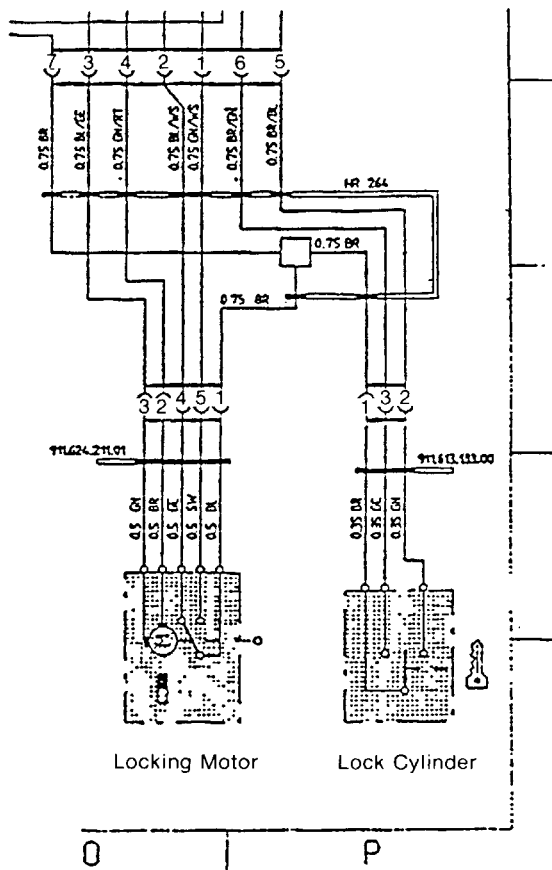
Part Identifier
N/A

Number
8704

Since introduction of the central locking system, the door locking drive motors are supplied with single color wiring. The published wiring diagrams are incorrect or incomplete.

Correct color coding:

- Terminal 3 = 0.5 GN
- Terminal 2 = 0.5 BR
- Terminal 4 = 0.5 GE
- Terminal 5 = 0.5 SW
- Terminal 1 = 0.5 BL



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SERVICE

Page 1 of 1
July 31, 1987

PORSCHE CARS NORTH AMERICA INC.

Technical Bulletin

Model
911 Carrera

Group
9

Subject: Wiring Diagram Update

Part Identifier
9700

Number
8905

ATTENTION: Service Manager/Service Technician

Model Year 1988 Wiring Diagram Sheet 6

Model Year 1989 Wiring Diagram Sheet 5

Field coordinate L50

Connection with field indication N8 should read K8

Field coordinate M50

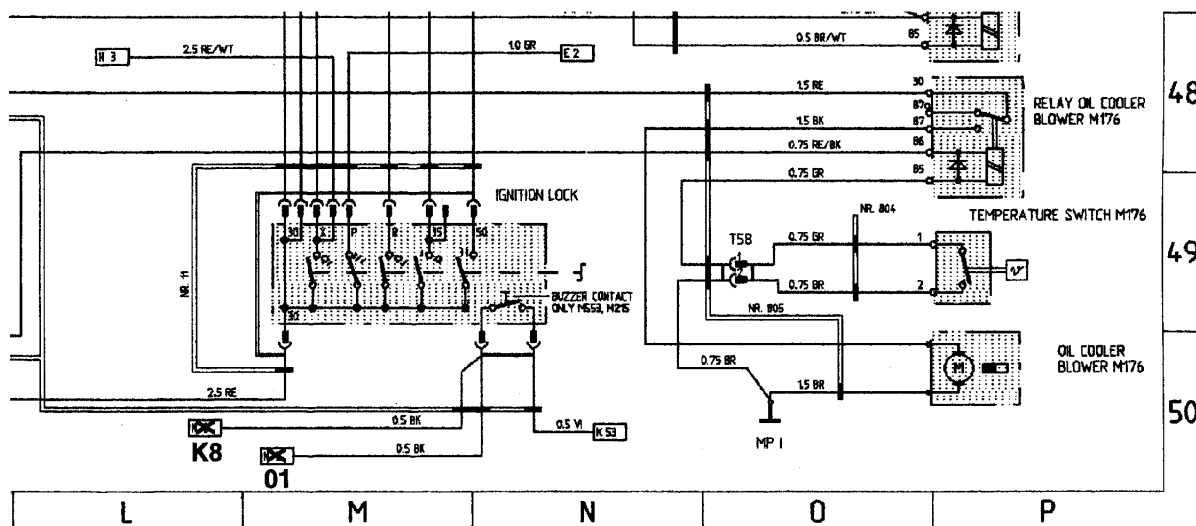
Connection with field indication N2 should read 01

Please correct your wiring diagrams.

Thank You.

PCNA Service Department

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Distribution _____	Asst. manager _____	Warranty admin. _____	Service technician _____
Routing _____			

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Porsche Service Publications



SERVICE

Page 1 of 1
November 22, 1989

Technical Bulletin

Model
All

Group
9

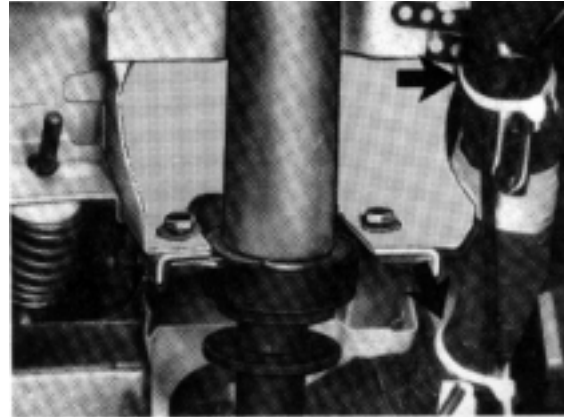
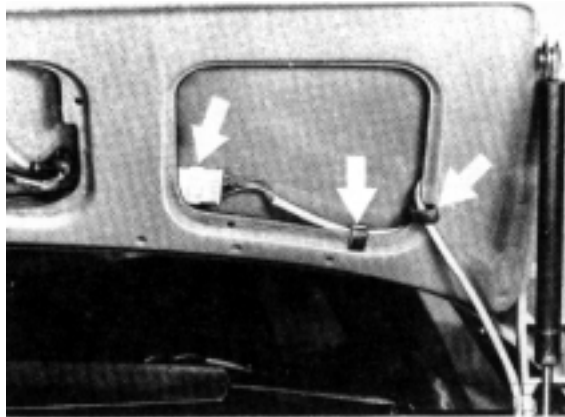
Subject: Routing and Securing of Electrical Harnesses

Part Identifier
9709

Number
8906

ATTENTION: Service Manager/Service Technician

When working on a vehicle, it is often necessary to move and/or disconnect a wiring harness to facilitate repairs. When reinstalling such a harness, it is absolutely necessary to properly route and fasten it. The routing and installation of wiring harnesses in Porsche vehicles is carefully designed to prevent any contact with other parts of the vehicle that have the potential to damage the harness; therefore, the reinstallation must duplicate the original installation. All wire ties and harness clips should be attached in their original location. All electrical plugs and connectors should be checked to ensure proper engagement. Any insulation pads, bushings, grommets, shields and/or covers removed during repairs must be reinstalled in their original location and in a manner that will not damage the harness or related components.



Failure to properly route and secure a wiring harness after repair can result in unwanted squeaks, rattles or damage to the harness and other parts of the vehicle electrical system. Damage to the harness, if undetected, may result in short circuits and under some circumstances may result in an electrical fire.

Thank you.

PCNA Service Department

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Dealership _____	Service manager _____	Shop foreman _____	Service technician _____
Distribution _____	Asst. manager _____	Warranty admin. _____	Service technician _____
Routing _____			

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SERVICE

Page 1 of 1
December 15, 1989

PORSCHE CARS NORTH AMERICA - INC.

Technical Bulletin

Model

911

Group

97

Subject: A/C or Heater Fan Cuts Off

Part Identifier

9795

Number

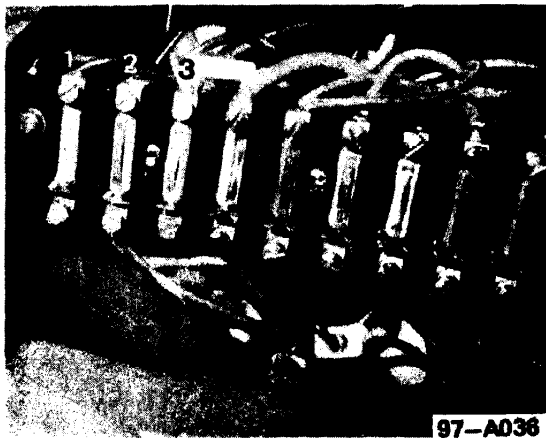
81-02

If air conditioner fails to operate or if heater fan does not come on, loose connection at respective fuse panel may be the cause

A/C not working

Checking and repair procedure

- check auxiliary fuse panel (in luggage compartment) for loose connection at terminal #2



If connection is loose,

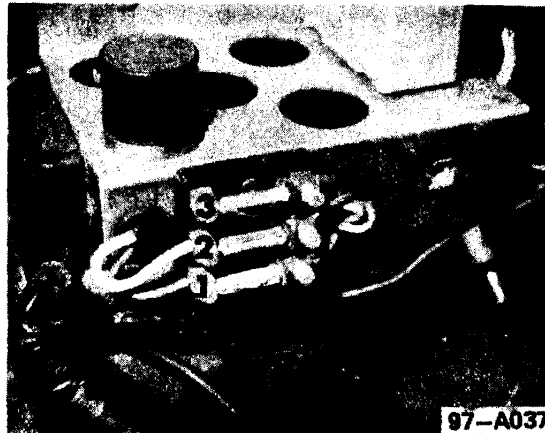
- bridge terminals #2 and #3 (arrow) with jumper, Part # 901 612 835 01, or use jumper wire (at least 12 AWG)

Note

Tighten screw securely

Heater fan not working

Checking and repair procedure



- check auxiliary fuse panel (in engine compartment) for loose connection at terminal #2

If connection is loose, move red wire from fuse terminal #2 to terminal #3

- bridge terminal #2 and #3 with jumper, Part # 901 612 835 01, or use jumper wire (at least 12 AWG)

Note

Tighten screws securely

SERVICE

Page 1 of 1
November 19, 1981

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

Congress passed this act which requires that certain new cars and their replacement parts be marked in a way that would prevent theft rings and chop shops from disposing of parts easily. The act is administered by the National Highway Traffic Safety Administration (NHTSA) and the manufacturer certifies compliance by means similar to the safety certification.

The marking begins as of
Production Date: Sept. 1, 1986.


Porsche models involved are:
911 Carrera
911 Turbo
928S4

Parts to be marked are:

Bumpers - front and rear
Fenders/Quarter Panels - front and rear
Doors - left and right
Hood and Rear Hatch
Engine and Transmission Housing

The marking and their location differs between "Original part on new car" and "Replacement part". Refer to pages 2 to 9.

All original parts show vehicle VIN.
Replacement parts show the symbol

R  DOT

on a special label with a clear plastic mask. It is the dealers' responsibility to remove the clear plastic mask from the label after painting or undercoating the replacement part so that the marking is clearly legible.

Factory rebuilt engines and transmissions utilizing already marked housings won't have new markings.

When replacing marked parts dealer may use:

1. Marked Porsche replacement parts
2. Marked after-market parts
3. Unmarked Porsche parts which were in stock before April 1986

When repairing marked parts the original markings must still be legible.

When installing unmarked replacement parts from dealer inventory, marked parts from another car or rebuilt engines or transmissions on marked cars, the dealer should provide the customer with detailed documentation, e.g. explanation on Repair Invoice.

This law also applies to U.S. tourist vehicles repaired outside of the U.S.A.

Thank you,

PORSCHE PARTS PUBLICATIONS

PORSCHE CARS NORTH AMERICA INC.



SERVICE

Page 1 of 9
Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

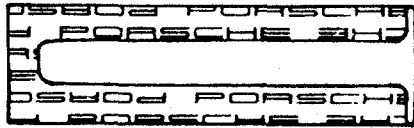
Part Identifier
N/A

Number
8601

Labels for parts markings 928S

Replacement Part "R"

New Vehicle



VIN

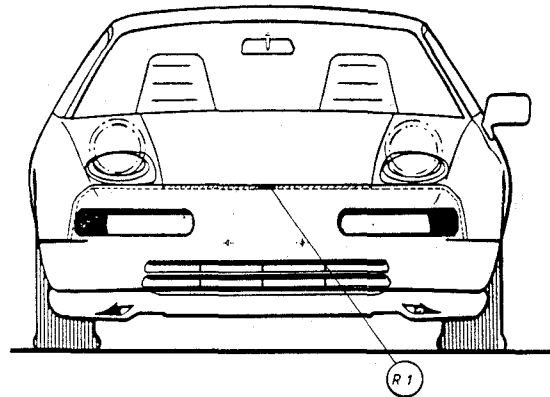
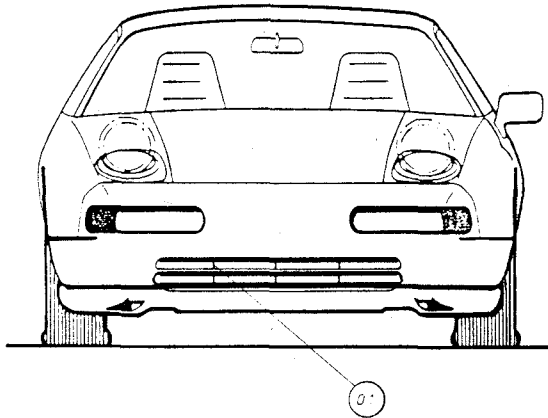
Location of Markings 928S

Original Part "O"

01 Bumper front,
Upper cooling air inlet

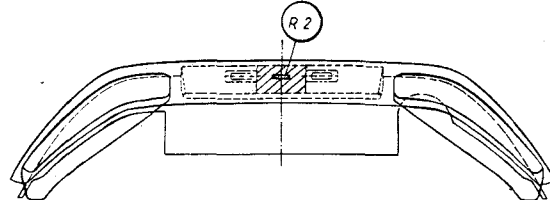
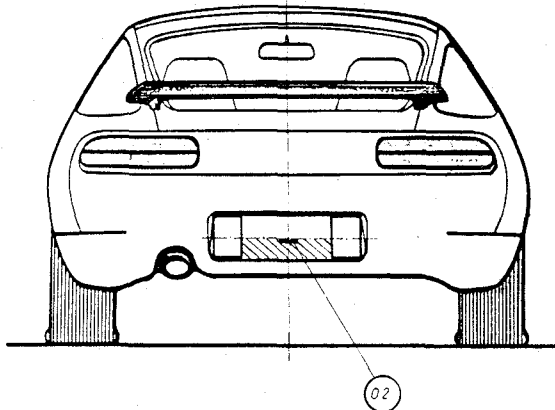
Replacement Part "R"

R1 Bumper front,
mounting center



02 Bumper rear
under license plate bracket

R2 Bumper rear
between license plate lights



PORSCHE CARS NORTH AMERICA, INC.



SERVICE

Page 2 of 9
Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

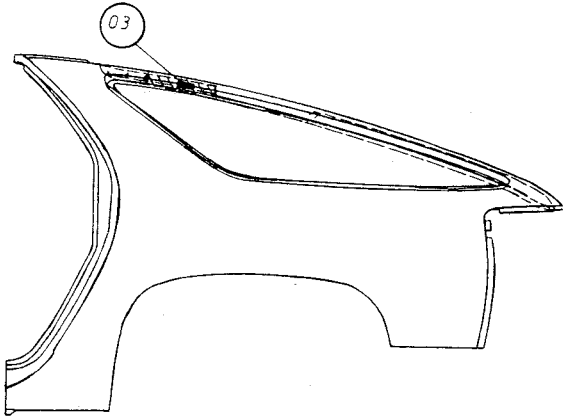
Part Identifier
N/A

Number
8601

Location of Markings 928S

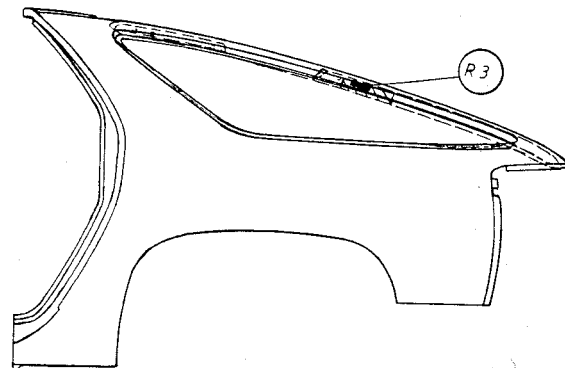
Original Part "O"

03 Quarter panel left and right.
Rear hatch opening in front of gas
filled strut bracket.

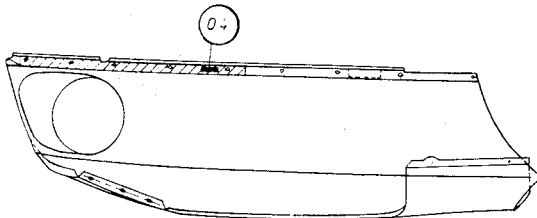


Replacement Part "R"

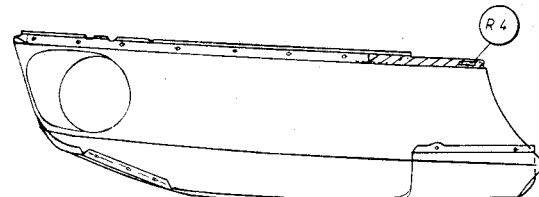
R3 Quarter panel left and right.
Rear hatch opening behind rubber
guide.



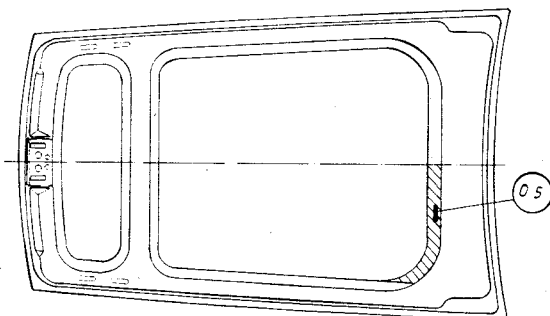
04 Fender front left and right.
Mounting flange engine compartment
front.



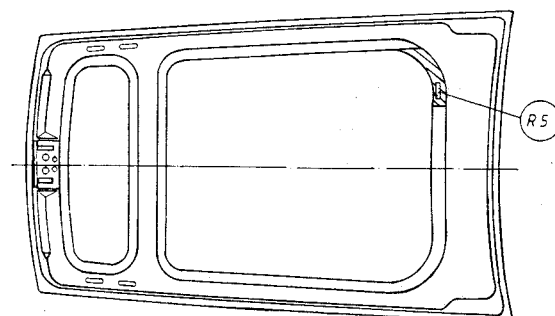
R4 fender front left and right.
Mounting flange engine compartment
rear.



05 Front hood
front hood frame rear right



R5 Front hood
front hood frame rear left



PORSCHE CARS NORTH AMERICA - INC.



SERVICE

Page 3 of 9
Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

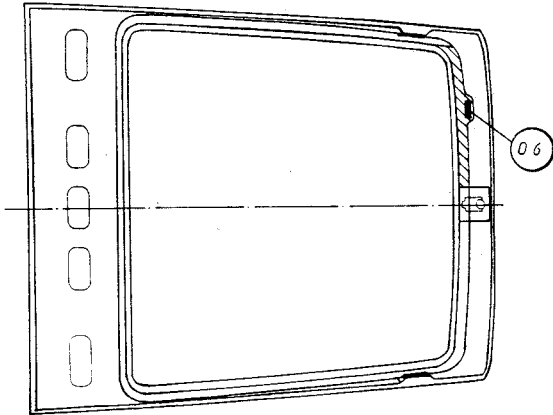
Part Identifier
N/A

Number
8601

Location of Markings 928S

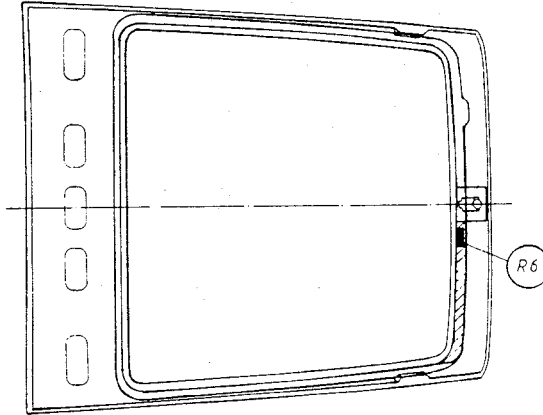
Original Part "O"

06 Rear hatch
Hatch frame rear left

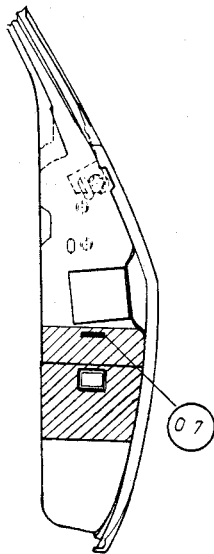


Replacement Part "R"

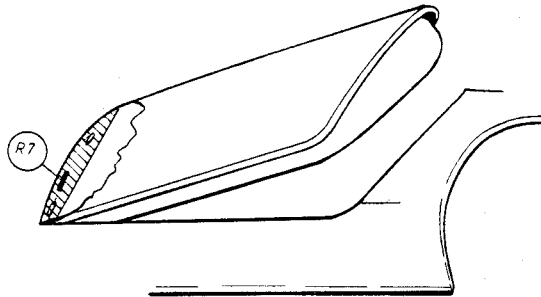
R6 Rear hatch
Hatch frame rear right



07 Door left and right
Door inside under the lock



R7 /door left and right
Door inside between hinges



PORECHIA CARBON 20011 AMERICA - NO.



SERVICE

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Dec. 12, 1986

Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

Group
X

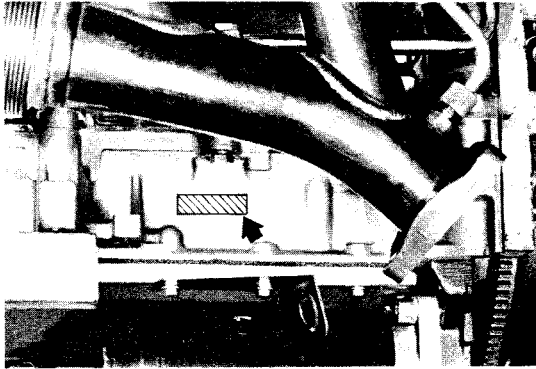
Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

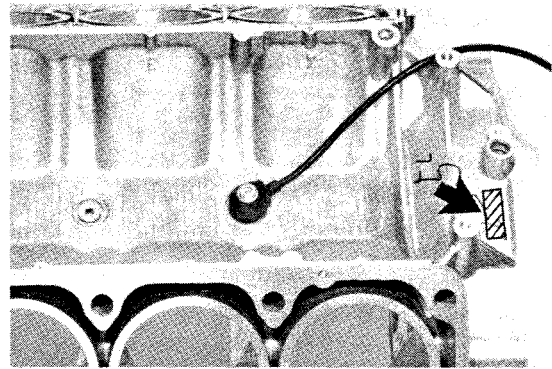
Location of Markings 928S
Engine Original

Engine left side

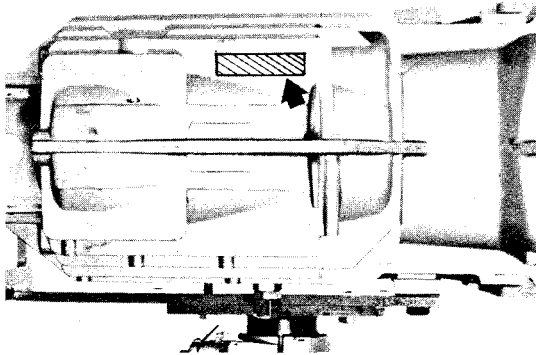


Engine Replacement

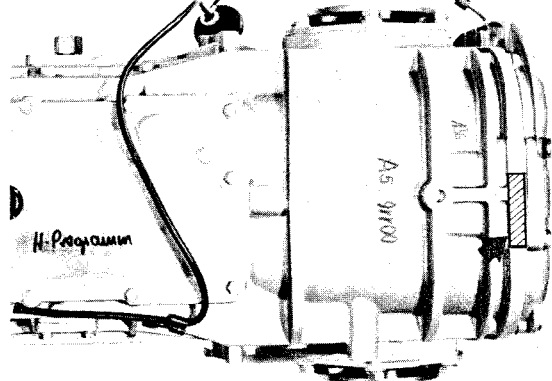
Engine top rear



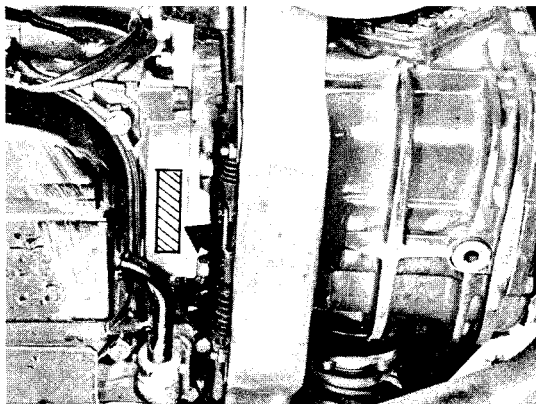
Manual transmission, original
Bottom of transmission



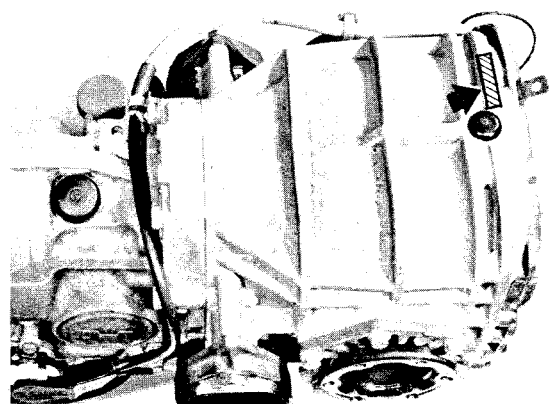
Manual transmission, replacement
Top of transmission



Automatic transmission, original
Bottom of transmission



Automatic transmission, replacement.
Top of transmission



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Model
911 Carrera
911 Turbo, 928S

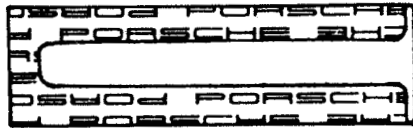
Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

Part Identifier
N/A

Number
8601

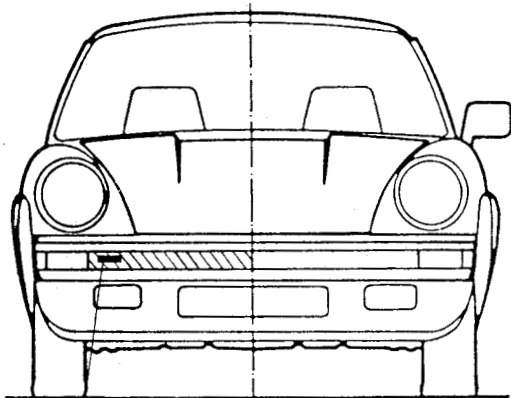
Labels for Parts Markings 911 Carrera and
911 Turbo
New Vehicle



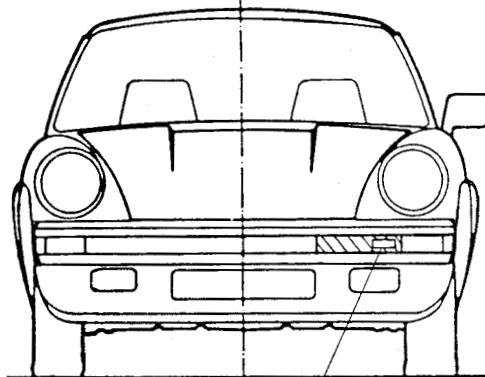
Replacement Part



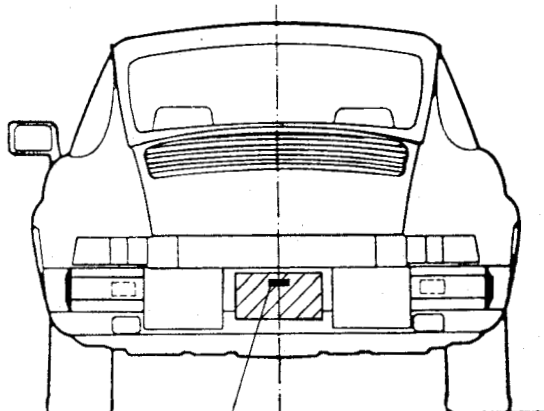
Location of Markings 911 and 911 Turbo
Original Part "O"
01 Bumper front
Behind bumper molding right



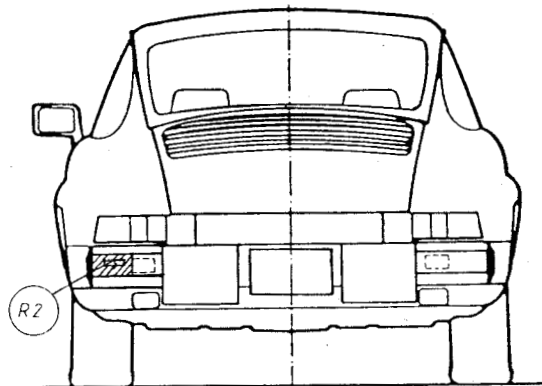
Replacement Part "R"
R1 Bumper front
Behind bumper molding left



02 Bumper rear
Behind license plate bracket



R2 Bumper rear
Behind left bumper molding



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Model
911 Carrera
911 Turbo, 928S

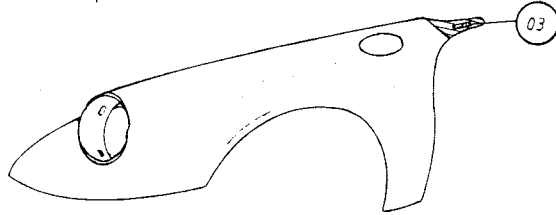
Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

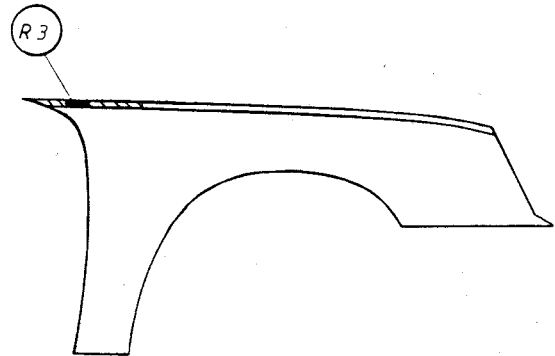
Part Identifier
N/A

Number
8601

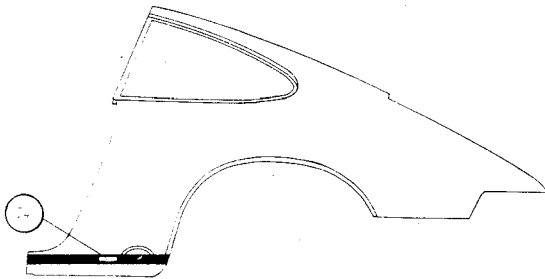
Location of Markings 911 and 911 Turbo
Original Part "O"
03 Fender front left and right
Rear top inside fender seam



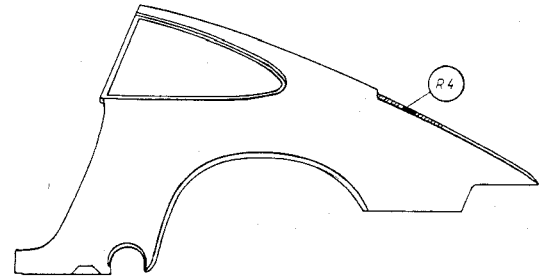
Replacement Part "R"
R3 Fender front left and right
Mounting flange rear inside



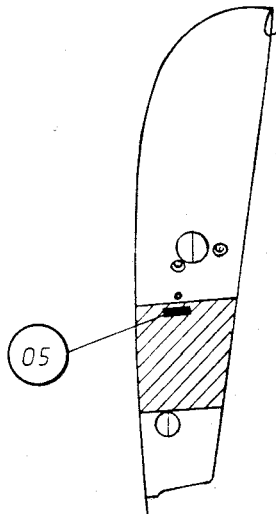
04 Rear quarter panel left and right
Under molding



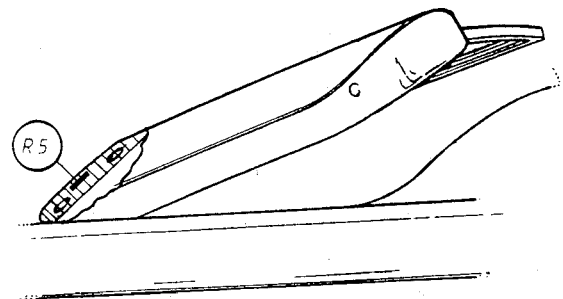
R4 Rear quarter panel left and right
Inside engine lid opening



05 Door, left and right
Door inside under the lock



R5 Door, left and right
Door inside between hinges



DORSENI E CASPARI NORTH AMERICA INC.



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Technical Bulletin

Model
911 Carrera
911 Turbo, 928S

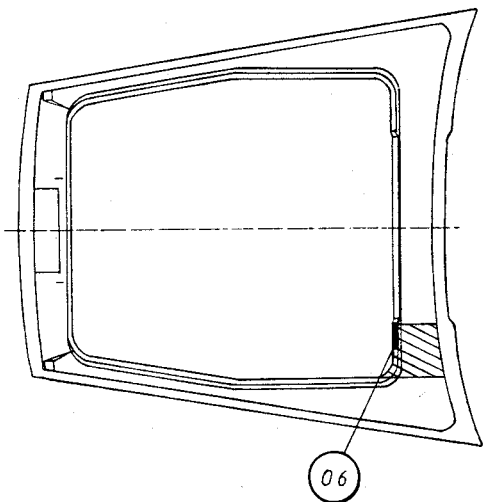
Group
X

Subject: Motor Vehicle Theft Law
Enforcement Act of 1984

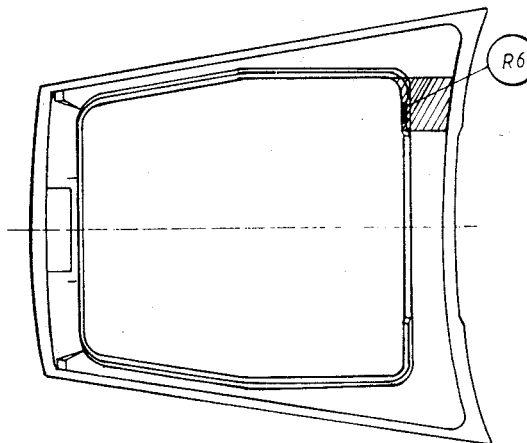
Part Identifier
N/A

Number
8601

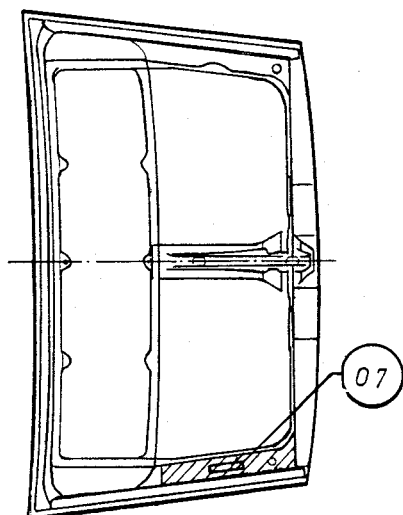
Location of Markings 911 and 911 Turbo
Original Part "O"
06 Front hood
Hood frame rear right



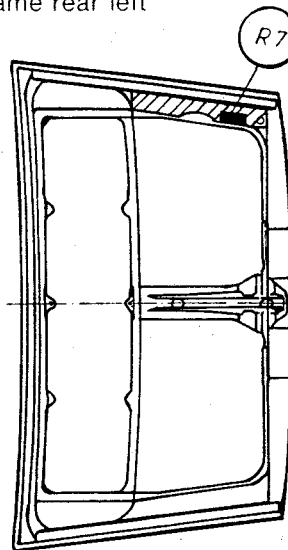
Replacement Part "R"
06 Front hood
Hood frame rear left



07 Engine lid
Lid frame rear right



07 Engine lid
Lid frame rear left



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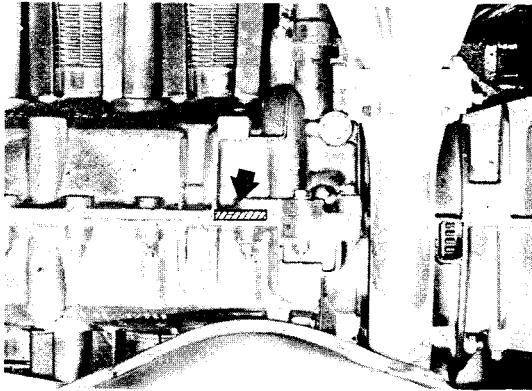
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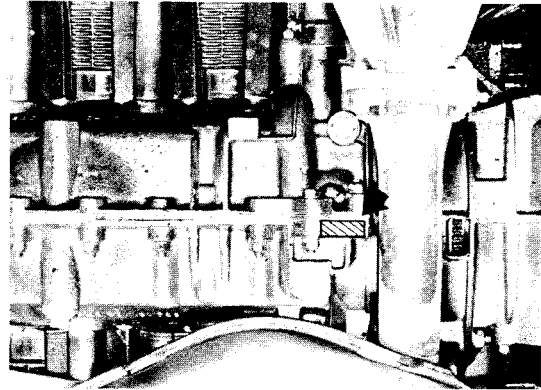
Model 911 Carrera 911 Turbo, 928S	Group X
Part Identifier N/A	Number 8601

Subject: Motor Vehicle Theft Law Enforcement Act of 1984

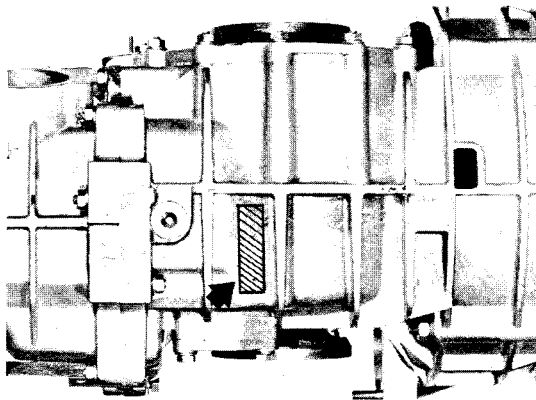
Location of Markings 911 and 911 Turbo
Engine Original
Bottom of engine



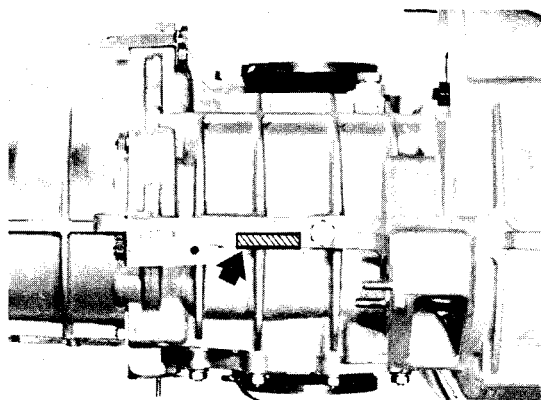
Engine Replacement
Bottom of engine



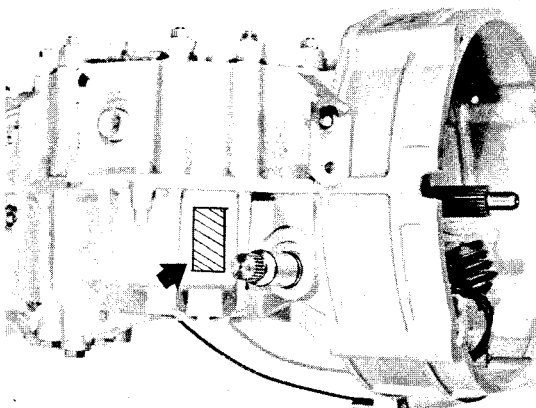
Transmission Original
Bottom of Transmission



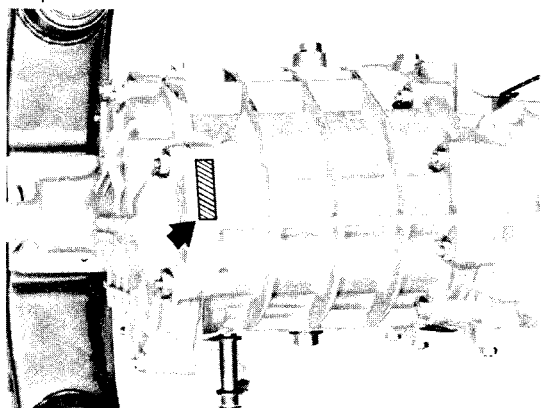
Transmission Replacement
Top of transmission



911 Turbo
Bottom of transmission



911 Turbo
Top of transmission



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<h1>Technical Bulletin</h1>	Model All	Group X
Subject: Motor Vehicle Theft Law Enforcement Act Parts Marking	Part Identifier N/A	Number 8904

In 1984, Congress passed this act which requires that certain new cars and their replacement parts be marked in a way that would prevent theft rings and "chop shops" from disposing of parts easily. Porsche complied with the law by attaching stickers bearing the vehicle identification number to the front and rear bumpers, front fenders, rear quarter panels, both doors, the hood and rear hatch or lid, and the engine and transmission housings of the following cars:

Model Years	Models
1988	924S
1988-1989	944, 944S, 944 S2, 944 Turbo
1987-1989	911, 928

Refer to Technical bulletins Group X, Numbers 8601 and 8703 for more details.

Since the alarm system is standard equipment on 1990 model Porsches, this parts marking on new cars is no longer required. Replacement parts that fit the above models will continue to be marked with the replacement parts stickers.

Important Notice

PCNA Technical Bulletins are intended for use by professional technicians, not a "Do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Special tools may be required to perform certain operations identified in these bulletins. Use of tools and procedures other than those recommended in these bulletins may be detrimental to the safe operation of your vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Porsche Dealer for information on whether your vehicle may benefit from the information. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

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