PORSCHE

Service Information

Technical Bulletins
January 1987 - December 1987

Book D

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Technical Bulletin

Model	Group
924S, 944 944T	1

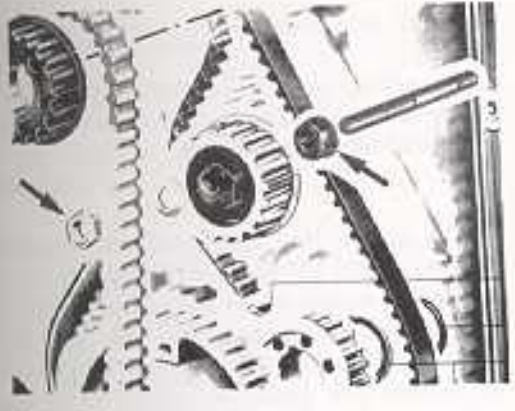
Subject: Cam Belt Tensioner Nut Torque —All Models Through 1986

Part Identifier	Number
N/A	8701

1

When making repairs or adjustments to the camshaft drive belt, be certain to torque the retaining nut of the tensioning roller and the shouldered nut behind the tensioning roller (arrows) to 45 Nm (32.4 ft. lbs.)

Failure to ensure proper torque of these nuts may cause breakage of the tensioning roller stud and result in severe engine damage.



Technical Bulletin

Model	Group
944,944T, 924S	1

Subject:	Part Identifier	Number
Short Block Installation Modifications	1003	8702

1

When installing replacement short block Part Number 944 100 902 01 into 1986 or earlier model cars, some additional parts and modifications are necessary.

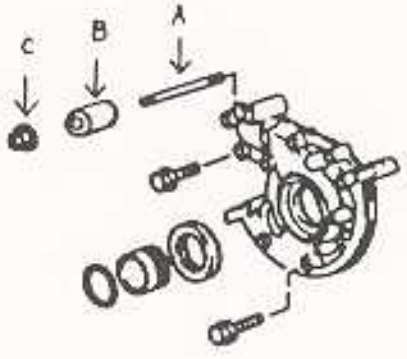
Parts required:

1	944 107 025 01	Dipstick
1	944 101 027 05	Dipstick housing
1	944 107 911 00	Spacer
1	944 102 216 01	Stud
1	944 102 243 00	Shouldered nut

Modify the following: (Engines up to 1987)

To ensure proper fit of rear toothed belt cover in the area of the oil pump, grind or file cover material away until clearance is obtained.

Remove 10x45mm hex bolt at top of oil pump and install stud 944 102 216 01 (Arrow A) using Loctite 270. Place spacer (Arrow B) 944 107 911 00 over stud and install shouldered nut 944 102 243 00 (Arrow C) with collar facing oil pump and torque to 32.5 ft. lbs. (45 Nm).



When short engine, Part Number 944 100 902 01 is installed in cars up to 85/2, coolant temperature sensor 928 606 201 01 must also be used (different threads). In addition, a new oil separator, Part Number 944 107 180 08, must be used (larger holes).

For additional parts information, refer to Parts Bulletin Group 1, Number D1.

Technical Bulletin	Model	Group
	All	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.

Technical Bulletin

Model	Group
924	1

Subject: Tightening Procedure for Cylinder Heads

Part Identifier	Number
1570	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.

Technical Bulletin	Model	Group
	924 Turbo	1
Subject: Tightening Procedure for Cylinder Heads	Part Identifier	Number
	1570	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

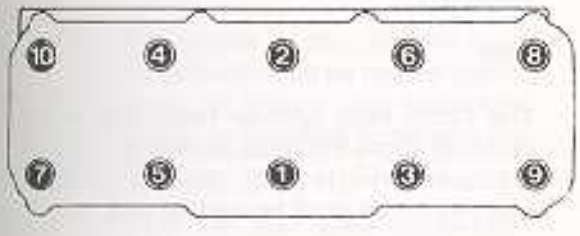
Cylinder Head Bolt

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.

Technical Bulletin

Model	Group
924S, 944, 944S, 944 Turbo	1

Subject:	Part Identifier	Number
Tightening Procedure for Cylinder Heads	1570	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

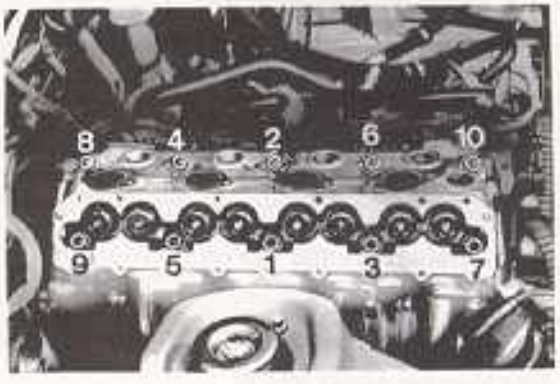
Washers

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.

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:

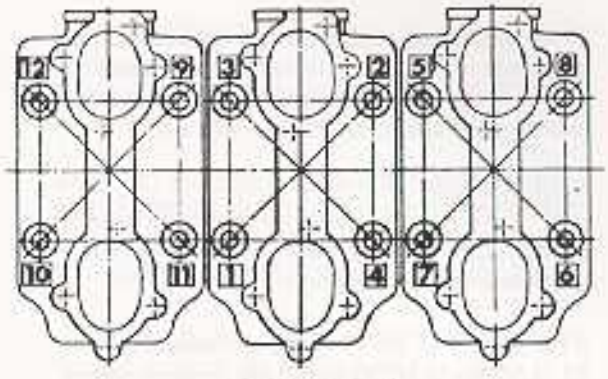
Step 1: Torque all nuts to 15 Nm (11 ft. lbs.) in proper order.
Step 2: Torque all nuts an additional 90 degrees in proper order (see sketch).

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

Technical Bulletin

Model	Group
928, 928S, 928 S4	1

Subject:	Part Identifier	Number
Tightening Procedure for Cylinder Heads	1570	8703

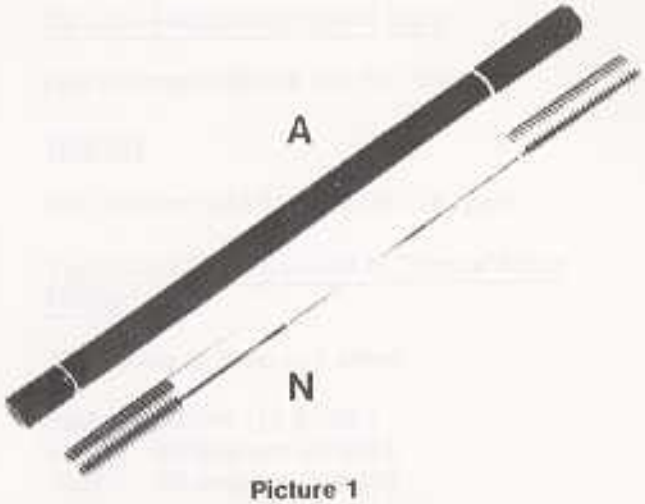
This technical information replaces all previous instructions in repair publications concerning the tightening of the cylinder heads on the 928, 928S and 928 S4.

First Version

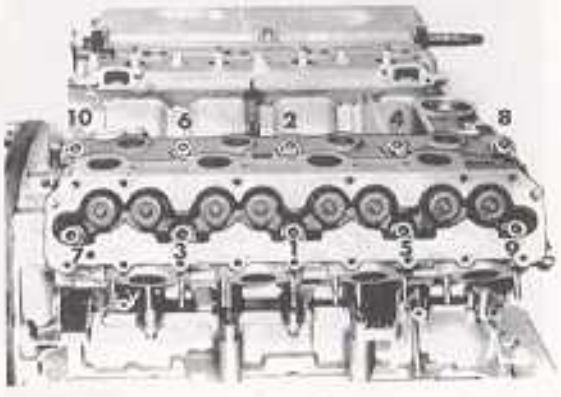
From Model introduction 1978 up to 1983 models engine numbers:

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 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.

Tightening Specifications:

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

Cylinder Head Gaskets

4.5 l 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 l 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:

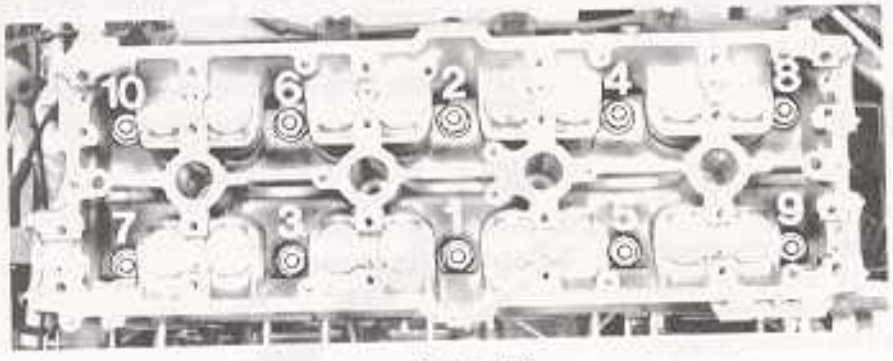
81 E 00097 - 00113 M 28/19 manual trans.
81 E 05194 - 05307 M 28/20 automatic trans.

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.

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.

Third Version

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

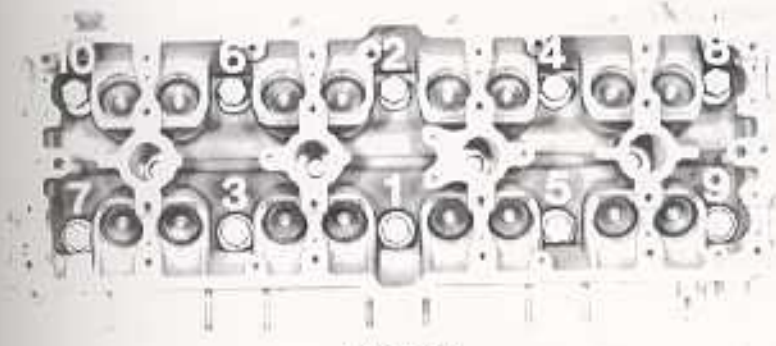
81 G 00705 M 28/43 manual transmission
81 G 06827 M 28/44 automatic transmission

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

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.)

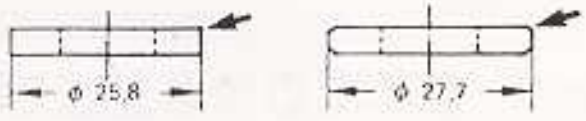
From 1987 models

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

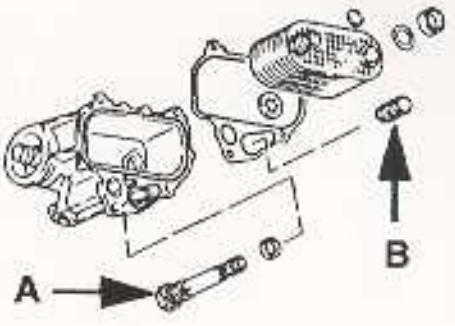
Technical Bulletin

Model	Group
924S, 944, 944 Turbo	1

Subject: Installing New Type Oil Pressure Relief Valve When Repairing Older Cars

Part Identifier	Number
1726	8704

When repairs are made to the oil cooler or for oil pressure related problems, new oil pressure relief valve (Arrow A) Part Number 944 107 035 11 should be installed. This part will retrofit into all 944 engines from beginning of production 1983 through '86 models. It is important that the sleeve (Arrow B) be firmly installed in the crankcase. In addition, the oil cooler housing must be properly centered. Check with special tool P-9215 Part Number 000 721 921 50 and adjust if necessary.



Note:

Some 924S (early production cars) will have the former version piston and spring installed. When repairing them, the above mentioned valve should also be used.

Information in this bulletin is consolidated in Technical Bulletin Group 1, Number 8904, dated March 17, 1989 along with other pertinent information.

Technical Bulletin

Model	Group
911 Carrera	1

Subject: New Ambient Air Valve to Eliminate Rattling Noises

Part Identifier	Number
1783	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:

Part Numbers	Description
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)

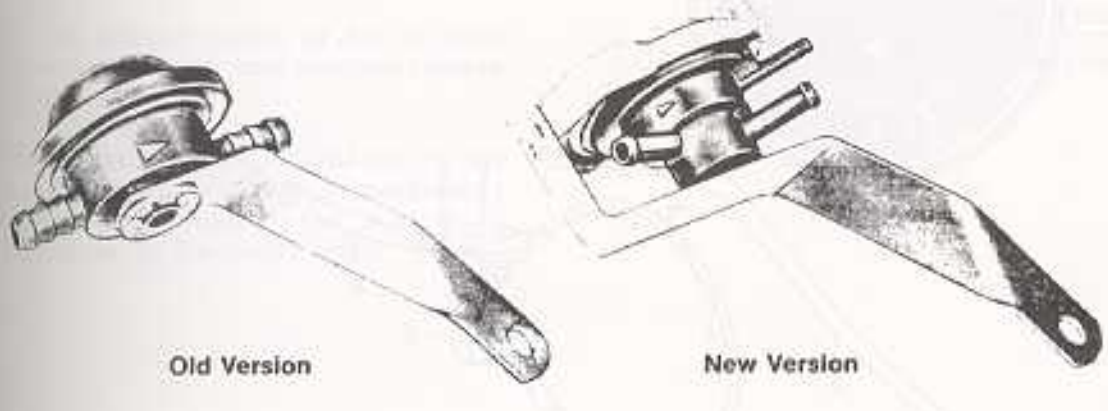


Figure I

Technical Bulletin

Model	Group
911 Carrera	1

Subject: New Ambient Air Valve to Eliminate Rattling Noises

Part Identifier	Number
1783	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.

Repair Time:

Labor Operation 17 83 19 00 80 T.U.

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.

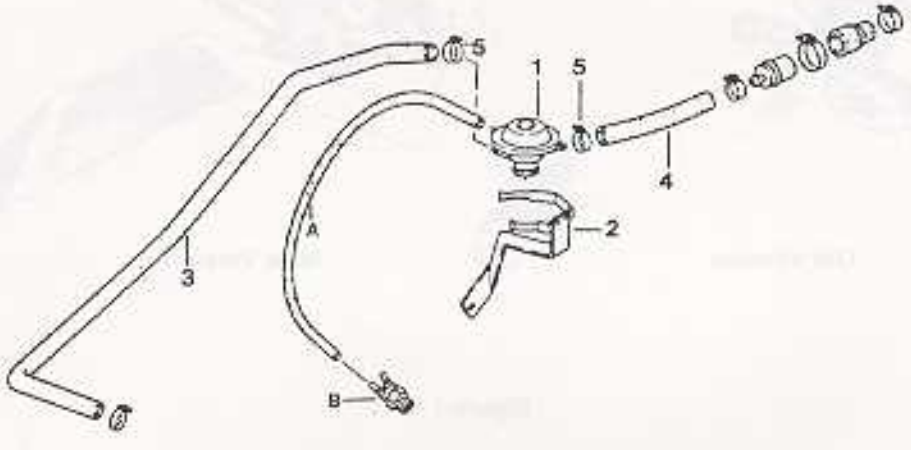


Figure II

Technical Bulletin	Model 924S,944,944S 944 Turbo	Group 1
Subject: Oil Level Warning System Stages of Installation in Production	Part Identifier 17--	Number 8706

1

During the 1987 model year production, components for the oil level warning system were installed in stages.

Therefore, it is possible, depending on the date of production, that a given 924S, 944, 944S, or 944 Turbo may have an oil level sender and related wiring but not have the combination instrument with warning lamp installed.

Introduction stages were as follows:

1. Related wiring installed.
2. Oil level sender added to oil sump.
3. Combination instrument with warning lamp added.

Oil level warning system completely installed as of VIN:

924S	- 92 HN 454504
944	- 94 HN 473616
944 Auto	- 94 HN 474396
944S	- 94 HN 452679
944 Turbo	- 95 HN 151471

Do not attempt repairs of the oil level warning system on cars produced before the above VINs.

On cars partially equipped with the oil level warning system, installation of components needed to complete the system is considered not a warranty matter.

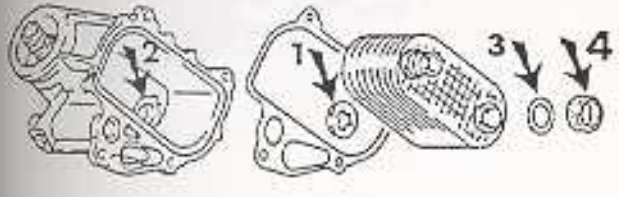
944, 944S, 944 Turbo

924S

Technical Bulletin	Model	Group
	924S, 944, 944S	1
Subject: Improved Oil Cooler Mounting	Part Identifier 1740	Number 8707

The oil cooler mounting was modified as follows:

1. Plastic washer installed between housing and oil cooler.
2. Housing - Guide drilling reworked.
3. Adjustment shims between cooler and crankcase installed.
4. Rubber ring - Always replace.



Information in this bulletin is consolidated in Technical Bulletin Group 1, Number 8904, dated March 17, 1989 along with other pertinent information.

Determining thickness of shims:

Install cooler with plastic washer into housing. Use straightedge on housing and determine distance between oil cooler guide tap and straightedge. (Shim size) Installed measurement should be 0 ± 0.25mm. The oil cooler housing gasket is **NOT** included in the measurement.

Thickness of shims is 0.5mm.

Introduction date August 18, 1986. From engine number:

43 H 02505	924S and 944 Standard Trans.
43 H 60517	924S and 944 Automatic Trans.
43 H 00522	944S

Technical Bulletin

Model	Group
924S, 944, 944S	1

Subject: Improved Oil Cooler Mounting	Part Identifier	Number
	1740	8707

New Part Numbers:

944 107 149 06	Housing
944 107 154 00	Plastic Washer
944 107 219 00	Adj. Shim (Aluminum 0.5mm)

Part No. 944 107 165 01 or 944 107 165 03 for the oil cooler and Part No. 944 107 153 02 for the rubber ring remains unchanged.

Important:

When repairing leaks or replacing the oil cooler on older cars, the new housing, plastic washer and adjusting shims have to be installed.

Note:

In case of leaks at the oil cooler, the cooling system needs to be flushed. The connecting rod bearings should be checked for wear if engine oil level was below "minimum" or if coolant entered the engine lubrication system.

Repair Times	Cars with Manual Steering	Power Assist Steering
Remove and reinstall oil cooler	170 TU	220 TU
Remove and reinstall oil pan	430 TU	530 TU
Check connecting rod bearings	50 TU	50 TU

Technical Bulletin

Model	Group
924S - 944	1

Subject: Right Engine Mount: Replacing With Turbo Type

Part Identifier	Number
1035	8708

1

The 944 Turbo engine mount Part Number 951 375 042 01 or 951 375 042 05 is now approved for installation on the right side only of 924S and 944 models.

Engine mount Part Number 944 375 042 02 must still be used for the left side of the engine.

Bulletin Group 1 No. 8708 dated 6-3-87, replaced by Bulletin Group 1 No. 9011 dated 11-13-90.

SUPERSESSION

Affix this label across page 39 of Technical Bulletin Book D (PNA 000 062)

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Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

Technical Bulletin	Model 924S, 944, 944S, 944 Turbo	Group 1
Subject: Engine Main Bearing Torque Changed For Pre - 1987 Models	Part Identifier 1010	Number 8709

The higher tightening torque (90Nm — 65 ft. lbs.) specified for the M12 x 1.5 nuts of the main bearing cradle of the 1987 models is also applicable to all older engines from start of production model year 1983.

TIGHTENING TORQUE FOR ENGINE

Location	Tightening Procedures	Torque in Nm	Threads
Crankcase upper and lower sections (studs)	3 steps: 1st step 2nd step 3rd step Lubricate stud threads lightly with oil.	20 50 90	M 12x1,5

Technical Bulletin

Model	Group
924S, 944 944S, 944 Turbo	1

Subject: Radiator Thermoswitch Mounting Modified

Part Identifier	Number
1920	8710

1

For model year '86 and '87, the thermoswitch in the radiator tank for the cooling fans can be mounted in one of two ways:

1. Thermoswitch into plastic threads or,

2. Thermoswitch into threaded brass insert.

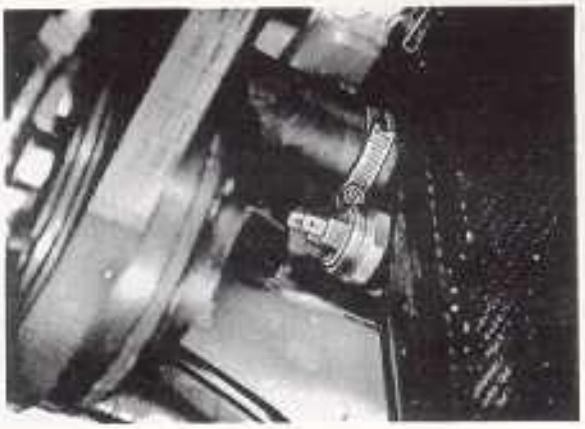
When repairing, proceed as follows:

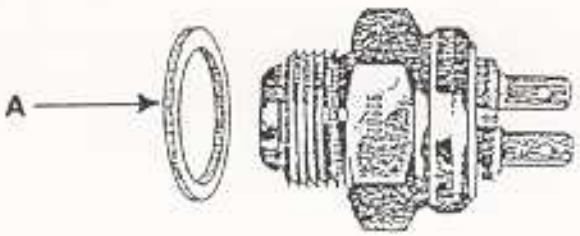
1. To avoid breakage of the plastic threads in the radiator tank, always use fiber washer Part Number 900 123 012 70 (arrow A) and torque thermoswitch to 20 Nm (14 ft. lbs.).

2. On radiators with threaded brass insert, use fiber washer Part Number 900 123 012 70 (arrow A) and torque thermoswitch to 28 Nm (20 ft. lbs.).

Radiators with threaded brass inserts are installed in production as of the following VIN's:

92HN451193
94HN471588
94HN450798
95HN150140





Use fiber washer Part Number 900 123 012 70 (arrow A) when repairing leaks or replacing thermoswitches on older models. Metal sealing rings must no longer be used.

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Technical Bulletin

Model	Group
928 S4	1

Subject: Camshaft Bearing Sealing Washer

Part Identifier	Number
1518	8711

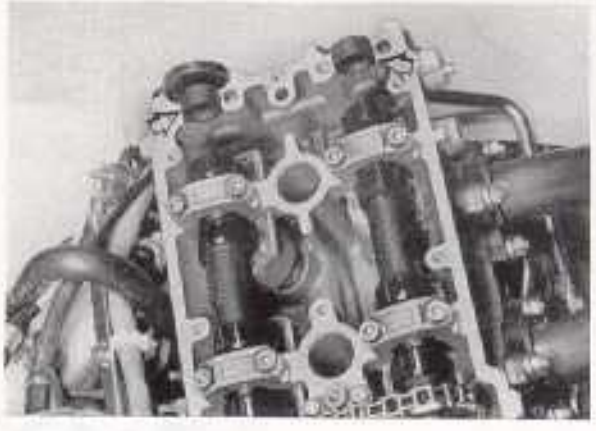
The camshaft bearing sealing washers (picture) on the 1987 Model 928 S4 with short camshafts received a longer guide pin to improve sealing and to prevent excessive oil from entering the camshaft housings.

From Production Date: February 9, 1987
Engine Numbers: 81H00824 5 speed
81H07020 Automatic

New sealing washer Part Number: 928 105 261 02
Four required per engine, guide pin 9mm long. (Was 4mm)

On engines prior to the above engine numbers, old sealing washer guide pin diameter should be measured before installing new type sealing washer.

Some engines use 3mm diameter guide pins (the new size is 3.5mm diameter). On these engines new guide pins have to be reworked to 3mm diameter.



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Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify correct part numbers.

Technical Bulletin

Model	Group
924S, 944, 944S, 944 Turbo	1

Subject: Installing New Type Coolant Pump

Part Identifier	Number
1950	8713

1

A new coolant pump is installed on all 4 cylinder engines since July 1986 beginning with the following engine numbers:

43G61921 - 944 Manual transmission
924S Manual transmission

43G61921 - 944 Automatic transmission
924S Automatic transmission

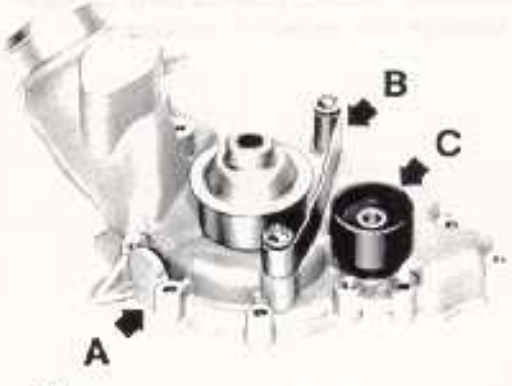
43H01467 - 944 Manual transmission
924S Manual transmission

43H60310 - 944 Automatic transmission
924S Automatic transmission

42H00140 - 944S
45H00086 - 944 Turbo

This new version pump has modifications to the seals and pump body in the area of the vent bore (Arrow A). In addition, a guard rail (Arrow B) is installed and the toothed belt roller (Arrow C) is offset to guide the toothed belt.

Old



New

Coolant Pump Part Numbers	Old	New
924S, 944, 944S	944 106 021 13	944 105 021 16
944 Turbo	951 106 021 01	951 106 021 04

Technical Bulletin

Model	Group
924S, 944, 944S, 944 Turbo	1

Subject: Installing New Type Coolant Pump

Part Identifier	Number
1950	8713

Note:
951 106 021 04 will not be available for pre-1987 models until current inventory of 951 106 021 01 is depleted.

When repairing cars from start of production 1983, install the new version coolant pump. The following parts must also be ordered for use with the new version coolant pump: (The following parts may or may not come with the new pump).

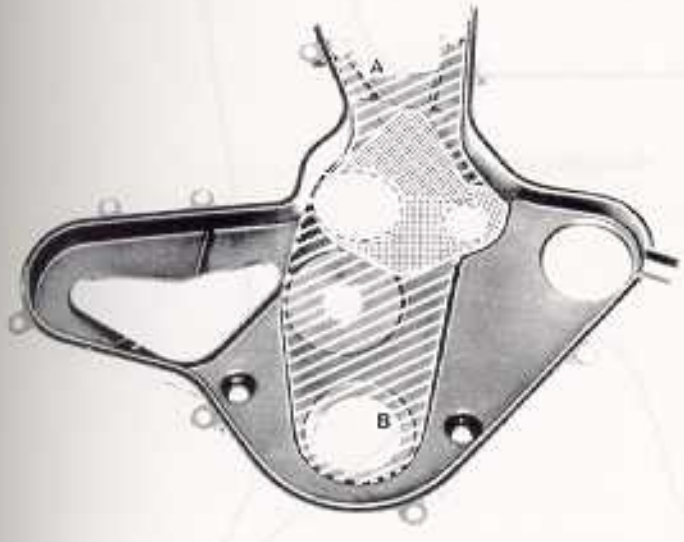
1 - Guard rail - PN 944 105 213 01- Qty. 1
2 - Lock nuts - PN 999 084 092 02- Qty. 2
3 - Roller - PN 944 105 241 03- Qty.1
Roller diameter is 46.2mm (formerly 32.0mm)

The gasket between the coolant pump and the crankcase has not been changed.

Important:

Mark the running direction of the camshaft and balance shaft belts prior to removal to assure the same running direction on reassembly. Inspect toothed belts for wear or damage and replace if necessary.

When installing the new type coolant pump on earlier engines, the rear toothed belt cover must be modified to conform with the larger roller and new guard rail. To accomplish this, place the supplied upper and lower template inside the rear toothed belt cover and mark the opening between them. This is the material to be removed. Remove the belt cover material by grinding or filing.



A - Template upper
B - Template lower

- Material to be removed

Note:

The adjusting values for new and used toothed belts with previous-type idler pulley adjustment is found in Technical Bulletin Group 1, Number 8601 dated February 14, 1986. On cars with the new mechanical belt tensioner, the adjustment procedure is found in Technical Bulletin Group 1, Number 8620 dated October 17, 1986.

Technical Bulletin

Model	Group
924S, 944, 944S, 944 Turbo	1

Subject: Installing New Type Coolant Pump

Part Identifier	Number
1950	8713

No other modifications are required for installation of the new type coolant pump.

Labor Operations and Times

		924S/944/944S	944 Turbo
19 50 19 00	R&R Coolant Pump	540 TU	—
19 50 19 01	R&R Coolant Pump w/power steering	550 TU	580 TU
15 31 47 50	Modify rear toothed belt cover (cover removed)	40 TU	40 TU

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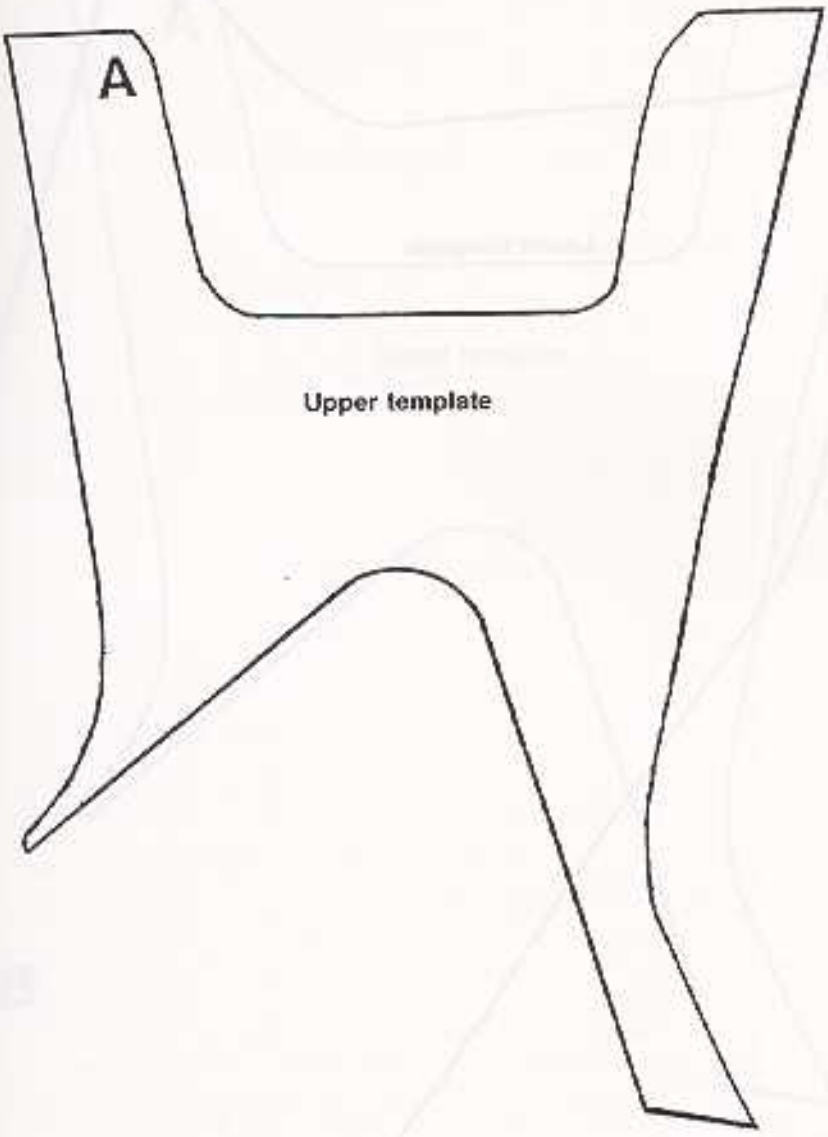
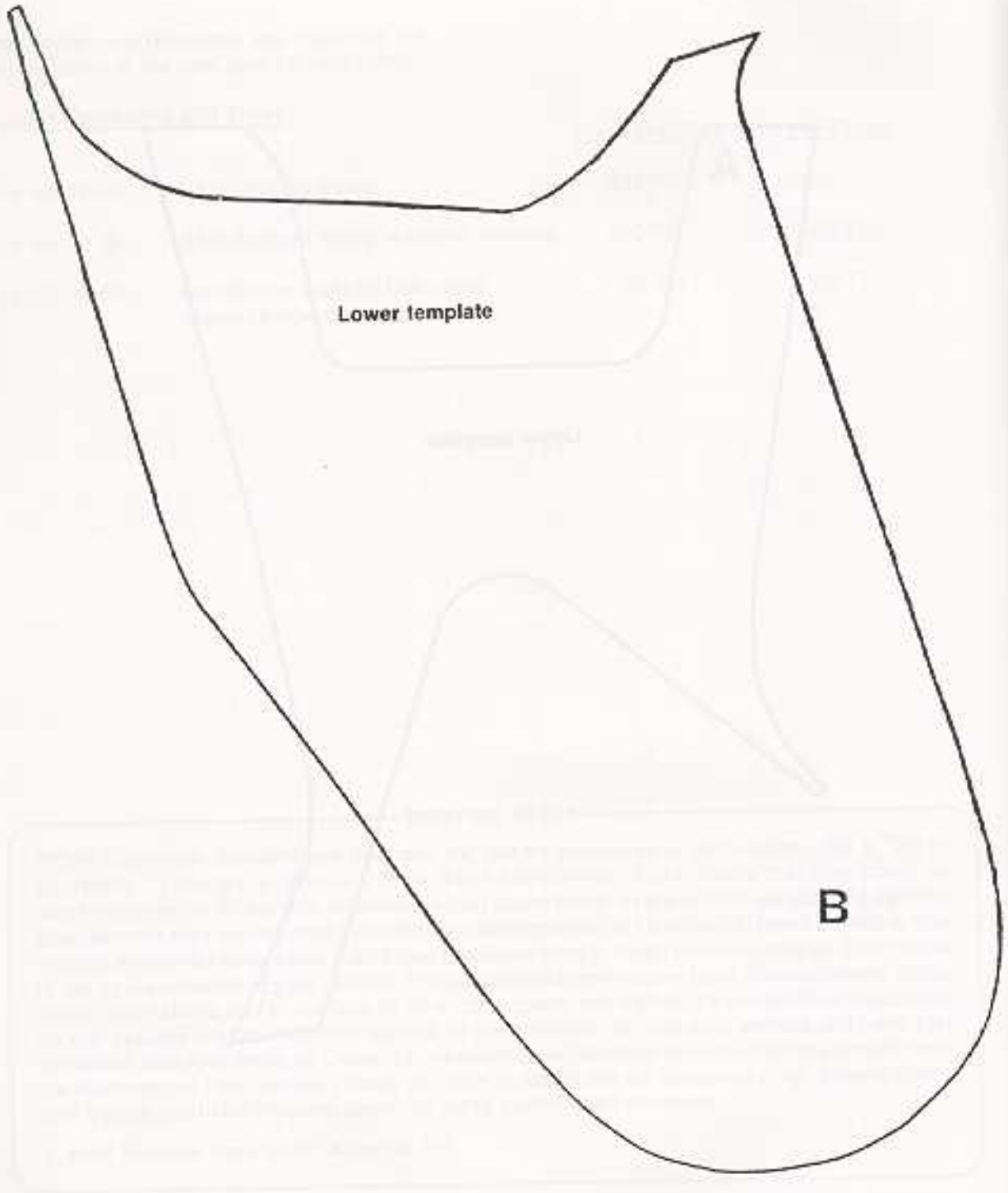


Upper template

Technical Bulletin	Model 924S, 944, 944S, 944 Turbo	Group 1
Subject: Installing New Type Coolant Pump	Part Identifier 1950	Number 8713



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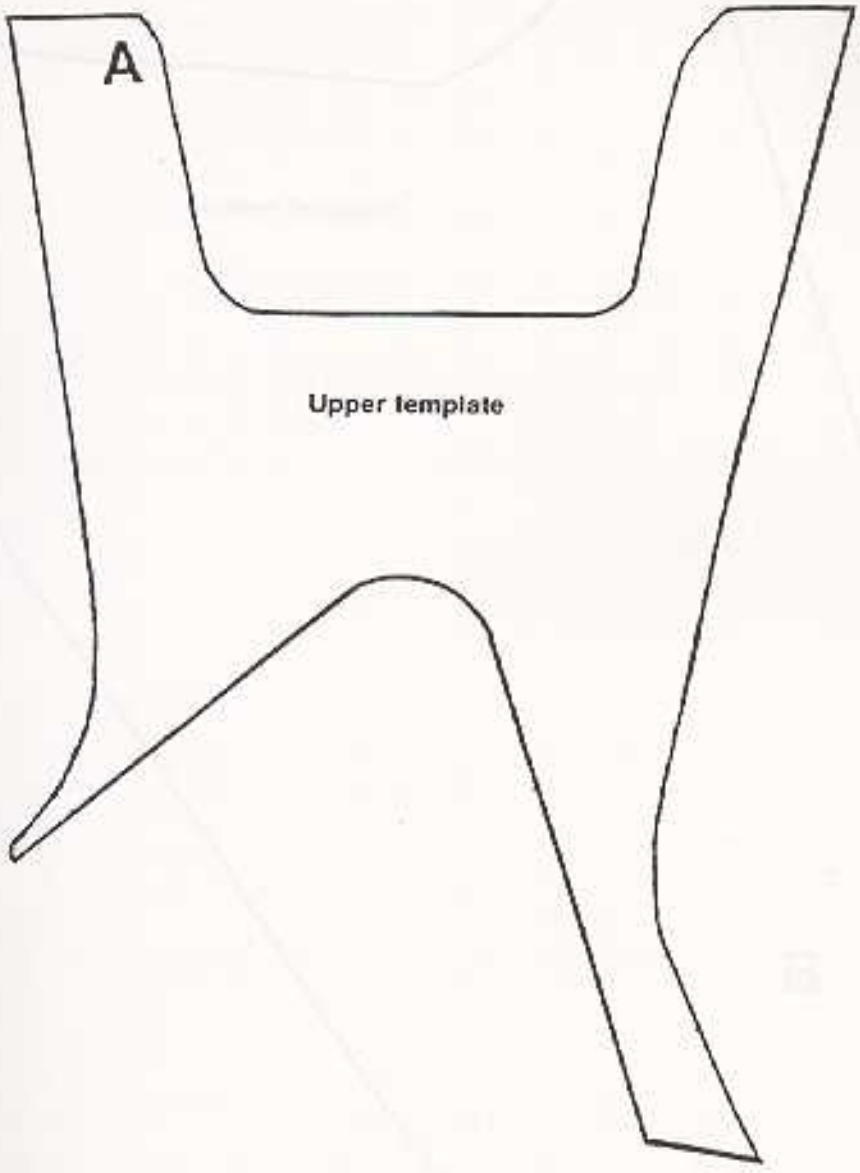

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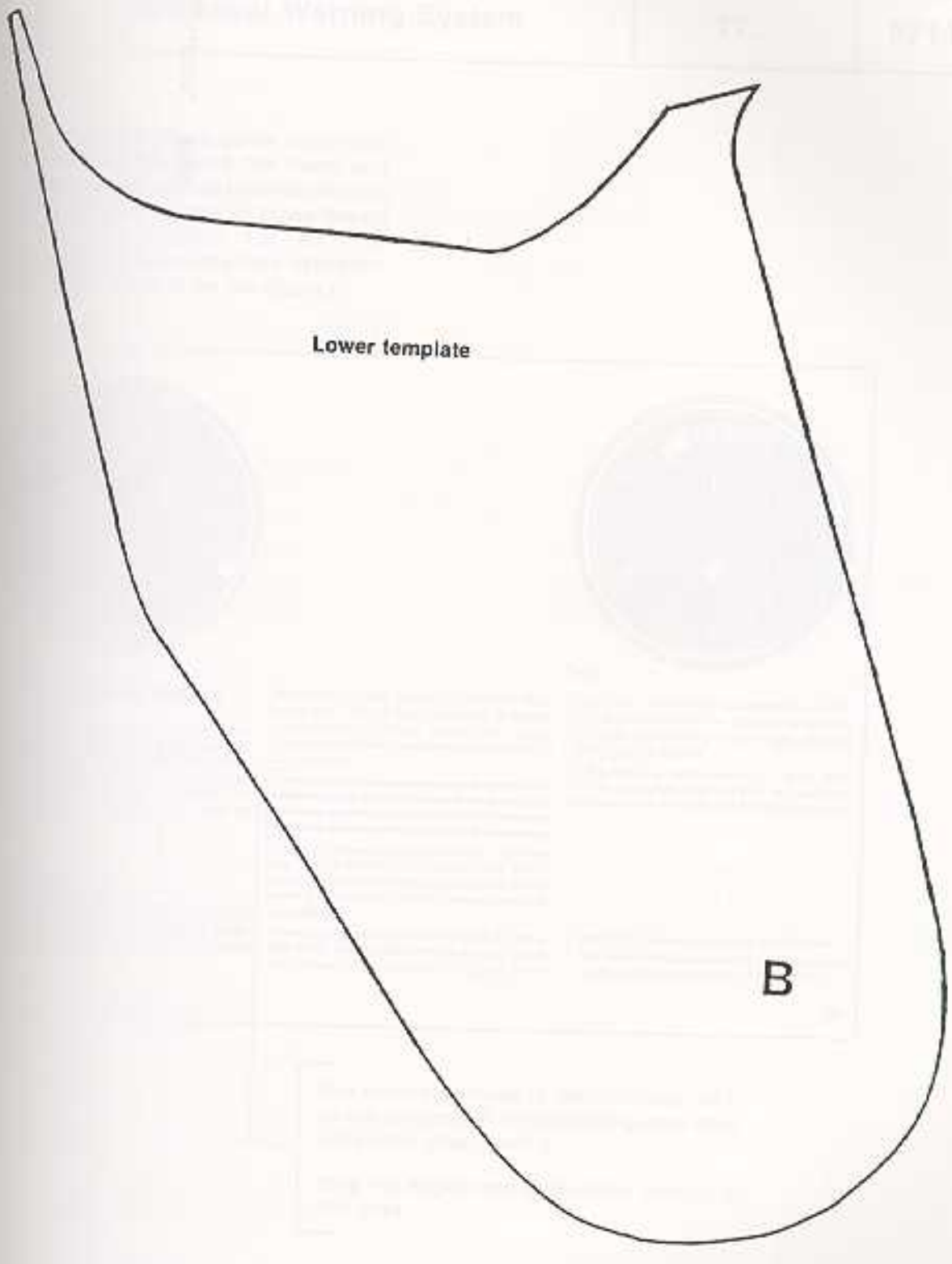
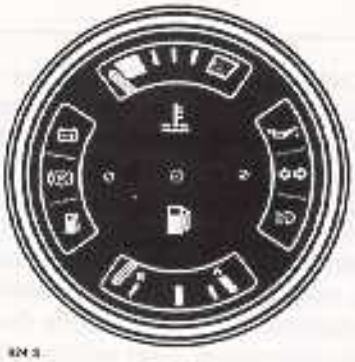


1

The information outlined below taken from the insert to the 944, 944S, 944 Turbo and 924S Owner's Manual has been clarified as indicated. Do not attempt to repair the oil level warning system for minimal discrepancies between the light activation and oil level indication on the dipstick.

944 / 944 S / 944 Turbo



924 S

Oil-Level Warning System

If your car is equipped with an oil-level warning system, a float in the oil sump measures the engine-oil level. If the oil level is too low, a warning lamp* in the instrument cluster lights up once the engine is running. For correct measurement, the vehicle must be standing level.

Method of Operation:

The oil level is measured with the ignition on before the engine starts. The warning lamps light up at the same time to indicate correct operation.

When the engine starts the warning lamp goes out if the oil level is correct. A repeat-measurement inhibitor means that no further measurement can be made for some 1.5 to 2 minutes.

~~If the warning lamp fails to go out once the engine starts, the engine oil level is beneath the min. mark on the dipstick. In this case, stop the engine and switch off the ignition.~~

The first measurement indicating "oil level too low" is stored in the control unit, which means that the warning lamp will not go out even if the engine is started several times in succession.

After waiting for approx. 2 minutes (to allow the oil to drain back into the sump), check the oil level at the dipstick and top up to the max. mark. The difference between the min. and max. marks on the dipstick is approx. 1.5 litres. The warning lamp will go out once the engine is started.

If the warning lamp remains lit even after the oil level has been topped up, seek the assistance of an authorized Porsche dealer.

* 924 S: the oil-pressure warning lamp flashes
944 / 944 S / 944 Turbo: the "OIL LEVEL" warning lamp and the central warning lamp light up.

820

The oil level is close to the minimum mark on the oil dipstick, if the warning lamp does not go out after starting.

Stop the engine and turn off the ignition in this case.

The following information is intended to aid the technician in diagnosing the condition of the toothed drive belts for the cam and balance shafts.

Part A discusses belt adjustment procedures.

Part B contains some general hints that apply to all toothed drive belts.

Part C illustrates some different types of toothed belt damage and how to correct the cause.

Part A — Belt Adjustment Procedures

For engines up to model 1986 with tensioning roller, refer to Workshop Manual 944, Vo. 1, Page 15-3 or Technical Bulletin Group 1 No. 8601 dated February 14, 1986 for belt adjusting procedure and specifications. Always use special tool 9201 when adjusting the toothed belts.

Camshaft Belt	New Belt Up to 2000 Miles	Used Belt More than 2000 Miles
Adjusting Value	4.0 ± 0.3	2.7 ± 0.3
Checking Value	2.4 to 4.3	2.7 ± 0.3
Balance Shaft Belt		
Adjusting and checking value		
Roller w/o slot (early '83)	4.3 ± 0.3	4.0 ± 0.3
Roller with slot	2.7 ± 0.3	2.7 ± 0.3

Technical Bulletin

Model	Group
924S, 944 944S, 944 Turbo	1

Subject: Diagnosing Condition of Toothed Drive Belts

Part Identifier	Number
1381-1524	8715

The procedure for engines from Model 1987 with mechanical tensioner are found in Technical Bulletin Group 1, No. 8620 dated October 13, 1986 and in the 944S servicing, assembling and adjusting guide WKD 493 521.

Adjustment procedures are as follows:

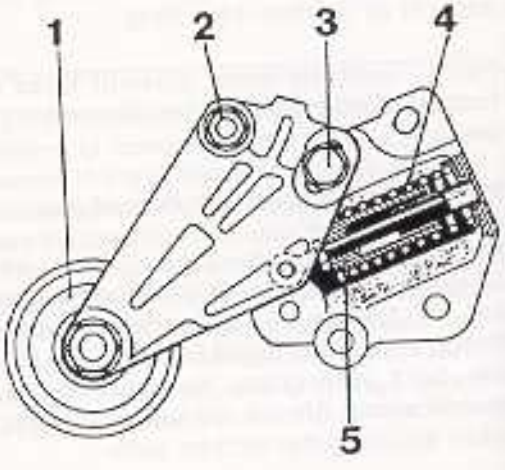
1. Engine must be cold.
2. Cylinder No. 1 set to TDC.
3. Loosen nut (2) and bolt (3).
4. Calibrated spring will press tensioning roller against belt.
5. Tighten nut (2) and bolt (3) to 14 ft. lb. (20Nm).

Do not change the factory set tension of the mechanical tensioner.

Never turn the engine with the tensioner loose. The belt may jump the roller.

When setting engine cylinder No. 1 to TDC, do not reverse direction. If necessary, complete additional revolutions and pull up to T.D.C. No. 1. After adjustment, checking of the belt tension is no longer necessary.

Balance shaft belt adjustment and assembly procedures can be found in the 944 Workshop Manual Vol. I Pages 13.3 to 13.11



1-Tensioning Roller
2-Nut
3-Bolt
4-Tensioning Spring
5-Screw (Factory Set)

Part B — General Toothed Drive Belt Hints

Always mark the running direction of the toothed belts for the camshaft and balance shafts prior to removal to ensure the same running direction after reinstallation.

If when making repairs, the original running direction of a removed belt cannot be determined, the belt must be replaced.

Besides checking for proper tension, the belt must also be inspected for damage over its entire length.

Proceed as follows:

– Remove upper belt cover.

– Mark the front edge of the belt with chalk or a paint dot.

– Turn the engine clockwise by hand and check the entire belt, teeth, top, and both edges for damage. Two complete turns of the crankshaft are required to inspect the entire belt.

Part C — Belt Condition Diagnosis

The following examples list the condition, cause and correction of different types of toothed belt damage. They apply to both camshaft and balance shaft belts. Some additional remarks are also included.

Technical Bulletin

Model	Group
924S, 944 944S, 944 Turbo	1

Subject: Diagnosing Condition of Toothed Drive Belts

Part Identifier	Number
1381-1524	8715

1

Condition: Cracks at base of teeth.

Cause: Improper (too loose) belt tension.

Correction: Replace belt and set to correct tension.

Remarks: With belt installed, this condition is not easily seen. Bend the belt outward or if removed, bend belt as shown in photo. Use caution not to kink belt.

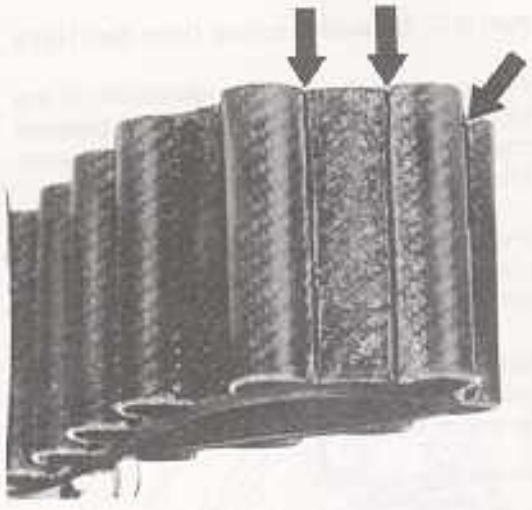


Figure 1

2

Condition: One or more teeth cracked or broken. Teeth may be partially or completely broken out.

Cause: Improper (too loose) belt tension or foreign objects in the belt. Also damaged belt wheel teeth or a seized belt tensioner roller.

Correction: Replace belt and set to correct tension. Check for and remove foreign objects and replace damaged gear wheels or seized belt tensioning roller.

Figure 2

3

Condition: Teeth shaved off (top black arrow) or cracked at base (white arrows).

Cause: Improper (too loose) belt tension.

Correction: Replace belt and set to correct tension.

Remarks: By applying thumb pressure on the teeth in the direction of curved arrows, the base cracks can be more easily detected.

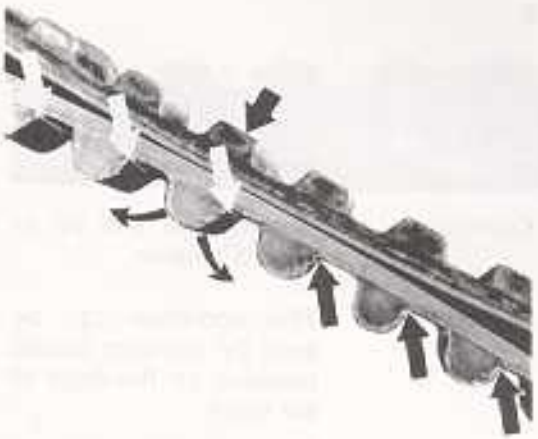


Figure 3

4

Condition: Front edge of belt frayed.

Cause: Through improper (too loose) belt tension, the belt edges rub against the belt wheel shields.

Correction: Replace belt and set to correct tension. (see also example 7).

Figure 4

5

Condition: Crack in edge of tooth.

Cause: Improper (too loose) belt tension.

Correction: Replace belt and set to correct tension.

Remarks: This condition can be seen by applying thumb pressure on the edge of the tooth.

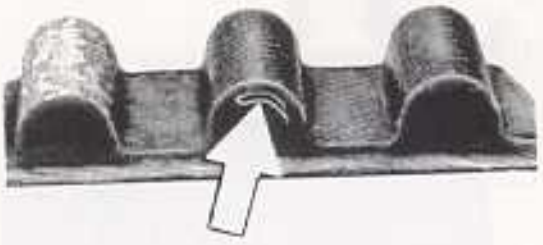


Figure 5

6

Condition: Mechanical damage to the backing of the toothed belt. This condition can also occur on the edge of the belt.

Cause: Foreign objects.

Correction: Check for and remove foreign objects, replace belt, and set to correct tension.

Figure 6

7

Condition: -Front edge of belt glazed.
-Belt runs up on edge of water pump pulley.
-Belt shredded lengthwise.
-Belt not running properly on tensioning roller.

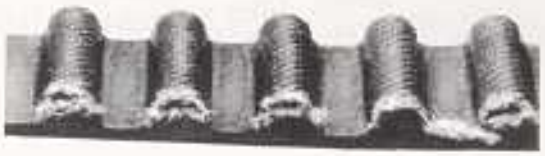


Figure 7

Cause: Belt tensioning roller out of alignment.

Correction: Refer to Technical Bulletin Group 1, No. 8502 dated April 26, 1985 for modification of the oil pump housing. Replace belt and set to correct tension.

8

Condition: Oil on belt.

Cause: Leaking engine seals.

Correction: Locate and seal engine oil leaks. Replace belt and set to correct tension.

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Technical Bulletin	Model	Group
	944 Turbo	1
Subject: Turbo Oil Supply O Ring	Part Identifier	Number
	1056	8717

1

When replacing turbo chargers on 1986 models where the turbine bearings are worn, the turbo charger outer oil supply side O Ring, located in the left side balance shaft cover, must also be replaced. Swelling of this O Ring could seriously impair flow of oil to the turbo charger. It must also be replaced whenever the balance shaft cover is removed for other repairs.

O Ring Part Number 951 107 241 02.

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Technical Bulletin

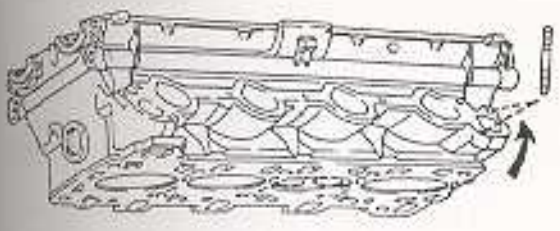
Model	Group
944S	1

Subject: Water Outlet Flange Mounting Changed

Part Identifier	Number
1960	8718

1

The water outlet flange connection at the rear of the cylinder head has been changed. Two M8x16 studs (arrow) are now installed and cemented into the cylinder head. They replace the 2 Fillister head bolts used previously.



Engines with the following numbers have received these studs.

42 H 01592 - 01602 M44/40
01914 - 01943
02011 - 02024

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Technical Bulletin

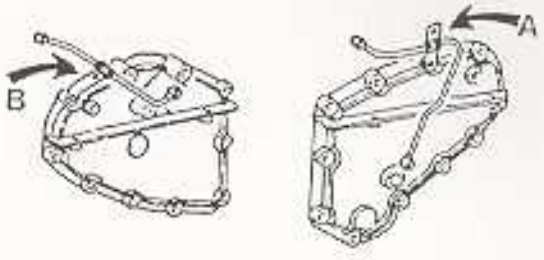
Model	Group
911 Carrera 911 Turbo	1

Subject: Oil Supply Lines For Chain Tensioner

Part Identifier	Number
1747/48	8719

1

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: (4x10mm)	900 119 059 02

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

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Technical Bulletin	Model: All Water Cooled	Group: 1
Subject: Radiator Plugged From Corrosion	Part Identifier: 19----	Number: 8720

1

Antifreeze may cause plugging and corrosion of the cooling system if it is:

—too old (older than two years or 30,000 miles).

—extremely diluted (mixing ratio).

—not conforming to Porsche specifications.

The coolant or antifreeze used in Porsche vehicles must always conform with the specifications published by Porsche. This information can be found in the 1986 Technical Bulletin Group 1, Number 8629, titled "Corrosion in the Cooling System".

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Technical Bulletin

Model	Group
928S, 928 S4, 944S	1

Subject: Machining Valve Seats and Checking Valve Guides on 4 Valve Cyl. Heads

Part Identifier	Number
1560	8722

Hydraulic lifters will not operate properly if the valve stem protrudes too high.

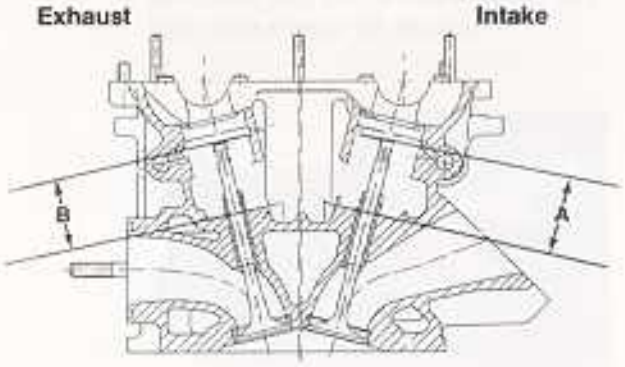
After machining valve seats, distance A and B (valve stem end to cylinder head contact surface for the valve spring retainer) should not exceed the following values:

928S Model Year 1985 and 1986
Intake valve max. 43.0mm (A)
Exhaust valve max. 42.1mm (B)

928 S4 and 944S from Model Year 1987
Intake valve max. 44.4mm (A)
Exhaust valve max. 43.4mm (B)

Measurement should be taken with valve spring, spring retainer, and shim removed.

If distance exceeds the specified value, measure it again using a new valve. If distance still exceeds the specified value, replace the valve seat or cylinder head.



Checking Valve Guide for Wear

Wear limit 0.8mm for 2 valve and 4 valve engines measured with a new valve.

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Technical Bulletin	Model	Group
	928 S4	1
Subject: Camshaft Timing—32 Valve Engine	Part Identifier	Number
	1505	8723

1

Camshaft timing checking and adjusting procedure.

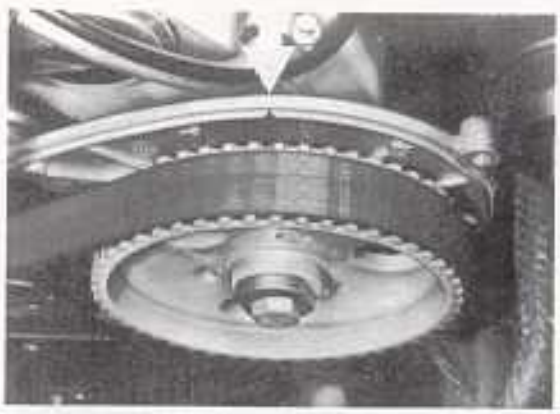
1) Check adjustment of drive belt, correct if necessary. Adjusting value: 5.0+0.3 (Refer to 928 Repair manual Volume I, Pages 15-102).
2) Turn crankshaft in direction of engine rotation to cylinder 1 TDC.

In this position:

a) Both distributor rotors should point to the left (driving direction).

b) The markings on the camshaft sprockets and flange bearings left and right side should be aligned.

Cylinder bank 1-4



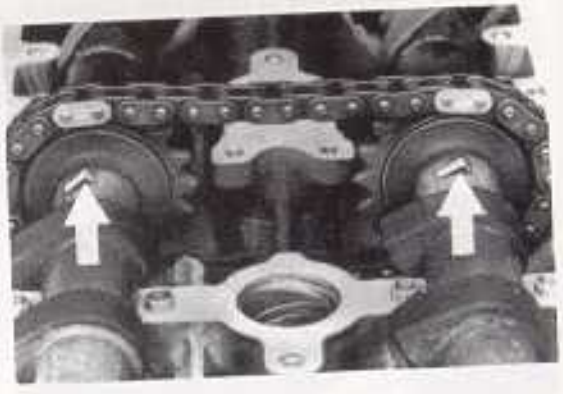
Cylinder bank 5-8

c) The markings (old version) or casting tabs (new version) on all camshafts should face the exhaust side of the cylinder heads.

Cylinder bank 1-4

Cylinder bank 5-8

The picture below shows the new casting tabs. The picture does not show the TDC position of the tabs. At cyl. 1 TDC the tabs should also face the exhaust side of the cylinder heads.

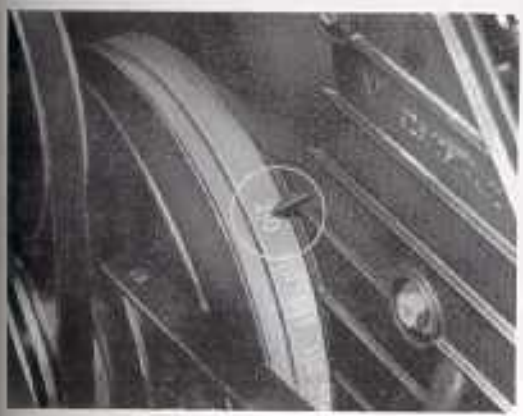


3) Checking Cylinder Bank 1-4

Install dial gauge holder, order number PNA 721 003 (VW387) with dial gauge and extension (tool number 9232) on the right cylinder head, cylinder 1 intake valve. The dial gauge must be perpendicular to the intake valve. Set dial gauge to 0 with 5mm pre load.

Right bank cylinders 1-4

4) Turn crankshaft in engine rotation direction away from TDC cylinder 1 while observing the dial gauge. Continue turning until a valve lift of 1.6 ± 0.1 mm for 85 and 86 model year cars or 1.8 ± 0.1 mm for cars from model year 87 on is reached. The 20 degrees mark (after TDC cyl. 6) must now be lined up with the pointer on the drive belt cover.



5) If the 20 degrees mark does not align with the pointer, proceed as follows:

a) Remove the ignition rotor and install and tighten three bolts 5x15 mm into the camshaft sprocket (arrows in picture) to prevent the camshaft and sprocket from turning while loosening the camshaft bolt.

b) Loosen camshaft bolt, while counter-holding. Make sure dial gauge still indicates desired value. If not, turn crankshaft in direction of engine rotation until the correct valve lift is reached again. Loosen the three 5x15mm bolts.

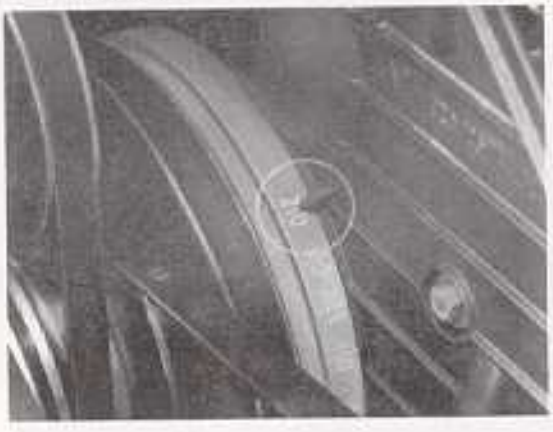
c) Turn crankshaft until 20 degrees mark lines up with the pointer.

d) Tighten the three 5x15mm bolts and then torque the camshaft bolt to 65 Nm (47ft. lbs.) Remove the three 5x15mm bolts. Recheck the camshaft timing.

6) Checking Cylinder Bank 5-8

Turn crankshaft in engine rotation direction to TDC cylinder 6. Install dial gauge holder with dial gauge and extension, on the left cylinder head, cylinder 6 intake valve. The dial gauge must be perpendicular to the intake valve. Set dial gauge to 0 with 5mm preload.

7) Turn crankshaft in engine rotation direction away from TDC cylinder 6 while observing the dial gauge. Continue turning until a valve lift of 2.0 ± 0.1mm (for all model years) is reached. The 20 degrees mark (after TDC cyl. 1) must now be lined up with the pointer on the drive belt cover.



8) If the 20 degrees mark does not line up with the pointer follow procedure outlined in step 5.

Technical Bulletin

Model	Group
924S, 944, 944S, 944T	1

Subject: Oil Intake Pipe Seal

Part Identifier	Number
1718	8724

The rubber seal (arrow) for the oil intake pipe has been changed in size to prevent possible distortion during installation.

New seal Part Number 944 107 136 03.

The new seal specifications are:
Outside Diameter—27.0mm
Inside diameter—21.5mm
Wall thickness—2.75mm

The new oil pipe seal is installed in production as of the following engine numbers:
46 J 01286—924S, 944—Man. Trans.
46 J 60336—924S, 944—Auto. Trans.
42 J 00304—944S
45 J 00466—944 Turbo

When repairing older engines, use only the new type oil pipe seal.

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Technical Bulletin

Model	Group
928 S4	2

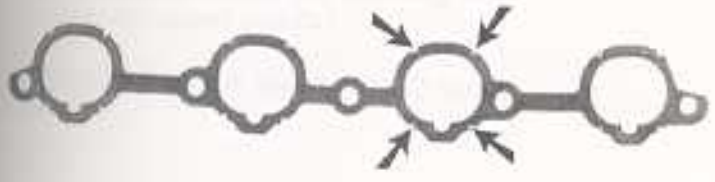
Subject: Engine Performance
Intake Manifold Leaks

Part Identifier	Number
2447	8701

The intake manifold gasket now has metal inserts (arrows in picture 1) and a stiffer sealing surface. The spacer sleeve (arrow in picture 2) is 25.8 mm long.

When repairing intake leaks on cars prior to the above engine numbers, new type gaskets and correct length spacers should be installed. The gaskets must be installed dry and without grease.

Manifold locking nut torque: 15 Nm (11 ft. lbs.)



Picture 1

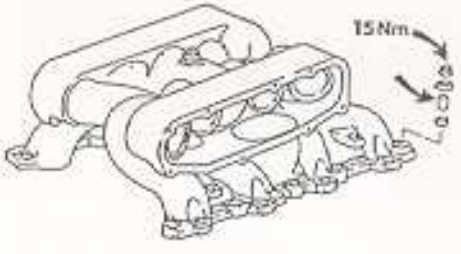
From Production Date: March 5, 1987

Engine Numbers:

M28/41 (5 speed)	81H00961
M28/42 (automatic)	81H07318

Part Numbers:

Gasket:	928 110 580 02
Spacer Sleeve: (25.8 mm long)	928 110 698 01



Picture 2

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Technical Bulletin	Model	Group
	928S, 928 S4	2
Subject: Checking Idle Speed and CO EZF/LH and EZK/LH	Part Identifier	Number
	24...	8702

When checking or adjusting idle speed and CO on 928S vehicles for the Model Years of 1985 and 1986 (EZF/LH) and 928 S4 (EZK/LH), the engine air filter must be installed. Failure to comply results in incorrect readings and maladjustments.

Refer to Workshop Manual 928 Volume I Pages 24-201 to 24-207 for checking and adjusting idle speed and CO.

928 S4 (EZK/LH) idle speed and CO is not adjustable.

Technical Bulletin

Model	Group
924S, 944, 944S, 944 Turbo	2

Subject: Shielding Sleeve for Reference Mark Sensor to Correct Hard Starting and Detonation (Ping)

Part Identifier	Number
N/A	8703

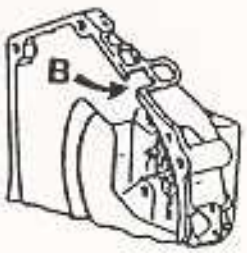
For Model '87 the opening in the clutch housing (Arrow B) for the speed and reference sensors is slotted. Because of this, it is possible the reference mark sensor may be inadequately shielded from magnetic interference from the starter during cranking.

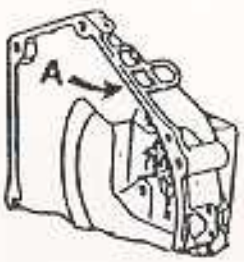
If detonation (pre-ignition) occurs during cranking and starter operation is labored, a reference sensor shielding sleeve and bracket should be installed.

The reference sensor shielding sleeve is installed in production from VIN:

92 HN 453769	924S
94 HN 472809	944
94 HN 451857	944S
95 HN 151023	944 Turbo

It is planned to modify the clutch housing opening for the speed and reference sensors (Arrow A) for improved shielding effect later in production. Holes instead of slots will be used.





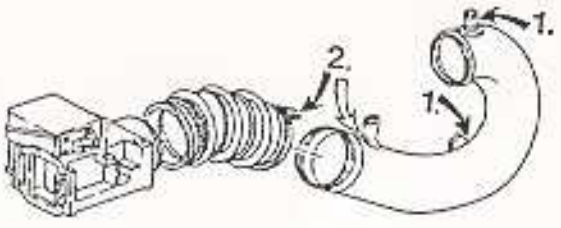
Technical Bulletin

Model	Group
944S	2

Subject: Intake Air Pipe; Check For Leaks

Part Identifier	Number
24...	8705

When repairing high idle or low CO% conditions on 944S cars, first check the intake air bellows and connecting pipe for leaks. Be certain all hose connections (arrow 1) on the connecting pipe and air bellows are not damaged, swollen or cracked.



When replacing, only improved version parts are available. The air bellows received an installation guide (arrow 2) and the connecting pipe ends were reinforced with metal sleeves.

Air bellows: Part Number 944 110 317 02
Connecting pipe: Part Number 944 110 323 05

These parts are installed in production as of VIN 946HN450824.

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Technical Bulletin	Model 924S, 944, 944S, 944 Turbo	Group 2
Subject: Troubleshooting Engine Fuel/Electrical System	Part Identifier N/A	Number 8706

When diagnosing poor starting behavior, erratic engine running, misfiring or backfiring, or engine stalling, check for dirt or moisture in any of the plug connections of the engine electrical system. Where necessary, clean plug connections with compressed air and a hot air blower.

Check also for cleanliness of plug connections when removing and installing engine.

Technical Bulletin

Model	Group
911 Turbo	2

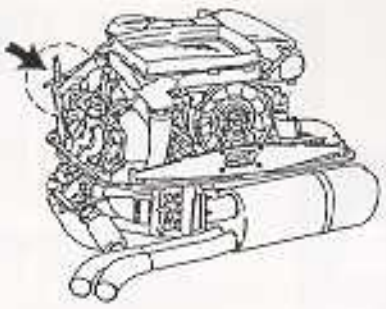
Subject: Fuel Return Pipe Clamp On Additional Air Pump

Part Identifier	Number
2665	8707

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

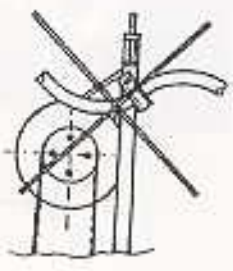
The clamp for the pipe guide must face toward the center of the pump pulley. (Sketch 2)

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



Sketch 1

Sketch 2



Sketch 3

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Technical Bulletin

Model	Group
911 Carrera	2

Subject: Starter Motor/Gear Damage

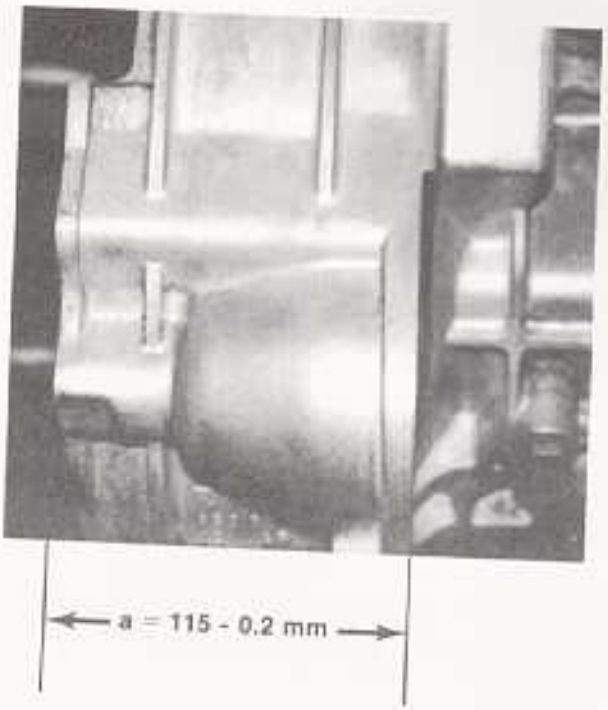
Part Identifier	Number
2760/1361	8708

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.



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Technical Bulletin

Model	Group
911 Carrera	2

Subject: Troubleshooting Temperature Sensor NTC II

Part Identifier	Number
2462	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 retorque 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.

2

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Technical Bulletin

Model	Group
928 S4, 944S	2

Subject: Control Unit Memory

Part Identifier	Number
2470	8710

For model year 1987, 944S and 928 S4 DME or EZK/LH injection control units have performance curve memory which is maintained by terminal 30 (battery voltage).

By disconnecting the battery or removing the injection control unit plug, this memory will be lost.

Therefore, each time the battery or the DME or EZK/LH injection control unit is disconnected, it is necessary to run the engine for about 10 minutes at operating temperature to re-establish the performance curve memory. During this 10-minute period, performance may be erratic.

Consequently, engine specifications such as idle speed, CO % and ignition timing can only be checked after the control unit memory has been re-established.

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Technical Bulletin	Model	Group
	944 Turbo	2
Subject: New Exhaust Manifold and Exhaust Cross Pipe	Part Identifier	Number
	2146/2610	8711

During the 1986 and 1987 model year several modifications were made to the exhaust system of the 944 Turbo prior to engine number 45H01768. The purpose of this bulletin is to aid you in identifying the latest style components and determining which parts to replace. In addition, removal and installation procedures and some important repair hints are also included.

This information is arranged in the following manner:

Part A - Modification information

Part B - Parts information

Part C - Repair information

Part A - Modification Information

Photo 1

Fig. 1 - Exhaust Manifold Cylinders 1 and 4
Has new expansion element and modified flanges.

Fig. 2 - Exhaust Manifold Cylinders 2 and 3
Has modified flanges to adapt to exhaust manifold 1 and 4.

Fig. 3 - Shield
A recess (arrow) is added for expansion element.

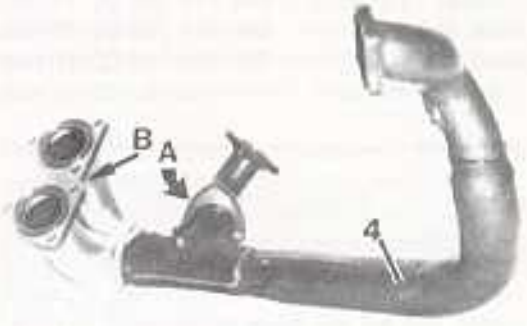

Photo 2

Fig. 4 - Exhaust Cross Pipe
Has new removable pipe for wastegate (Arrow A) and one piece flange for manifolds (Arrow B).

Note: As interim production, exhaust cross pipes with removable pipe for wastegate only and previous 2 piece manifold flange were installed as of VIN 95HN151297.

Part B - Parts Information

Only new style parts are supplied for replacement. They are delivered as kits, Part Number 000 043 076 01, which includes the following:

Exhaust Manifold 1 and 4	951 111 131 05
Exhaust Manifold 2 and 3	951 111 133 04
Shield	951 107 065 02
Exhaust Cross Pipe	951 111 096 09

These parts are also available separately under their respective part numbers.

The following gaskets and seal rings must be ordered in addition to the exhaust manifold kit.

Gasket - Exhaust	944 111 196 00 (4 required)
Seal Ring	944 111 205 04 (3 required)
Seal Ring	931 123 195 00 (1 required)
Gasket - Intake	944 110 163 00 (4 required)

Part C - Repair Information

When repairs are completed, the car should have all new type parts installed. In some cases, the kit will have to be used. In other cases, only the parts of older design should be replaced.

Removal:

When repairing cars which require use of all parts listed in Part B, remove the exhaust cross pipe first. Removal of the intake manifold is therefore, advised. This has two advantages:

— Easier access to the top cross pipe-to-Turbo mounting bolts and nuts and

— once the cross pipe is removed, the 1 and 4 and 2 and 3 manifolds can be removed from the bottom without removal of the exhaust manifold-to-head studs.

For removal of the intake manifold, refer to the 944 Turbo Workshop Manual, section 21, pages 21.6 to 21.7 up to and including step 9. In addition, remove the front manifold support bolt M8 and the dipstick tube bracket bolt. Also disconnect throttle switch plug. (Photo 3)

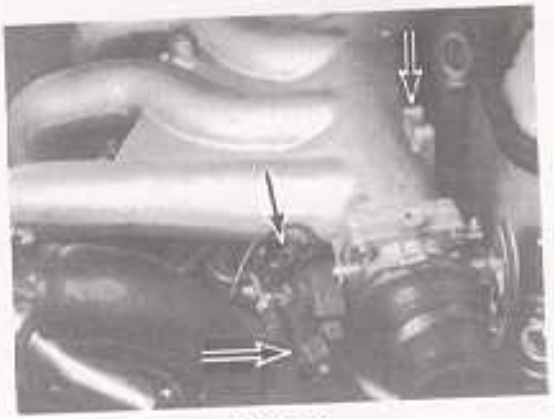

Photo 3

Loosen the M6 bolt from the speed and reference sensor plug bracket and remove the two M6 socket head screws from the rear manifold support brace (Photo 4) and remove intake manifold.

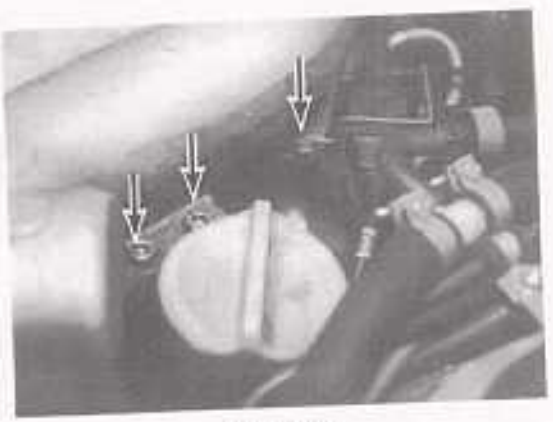

Photo 4

Before disassembly of exhaust parts, spray all bolts and nuts with penetrating oil to avoid seizing.

From above, remove the top cross pipe-to-Turbo mounting bolts and nuts. (Photo 5)

Photo 5

The lower bolts and nuts (Photo 6) should be removed from below after removal of the engine mount heat shield and steering shaft heat shields.

Photo 6

To avoid possible damage to the Lambda sensor or wiring, disconnect the Lambda sensor plug and route the wire downward. Unscrew and remove the sensor.

Remove all remaining bolts and nuts, unscrew the CO sample tube connector and remove the exhaust cross pipe from under the vehicle.

From below, remove the two M6 nuts retaining the exhaust manifold heat shield and permit the shield to drop downward.

Remove all nuts and washers from the exhaust manifold-to-head connections. First remove from below the 2 and 3 manifold and then the 1 and 4 manifold and gaskets. Remove the old version manifold heat shield.

Installation:

Loosely install the new version exhaust manifold heat shield. On final assembly, the shield must be pressed downward as far as possible. A distance of at least 6mm must be achieved between the expansion element and shield to avoid contact and rattling.

When installing the new exhaust manifold gaskets onto the cylinder head, note the type of gasket. Two types can be found in use.

1. Gray composite on one side - steel on the other.

   This gasket may be installed in either direction, but be sure to install all 4 gaskets in the same direction.

2. Blue coating on one side - steel on the other.

   This gasket must be installed with the steel towards the manifold side.

From below, install new version 2 and 3 manifold first and then install the 1 and 4 manifold (Photo 7). Loosely install all nuts and washers.

Install new sealing rings into the new cross pipe (seam faces groove) and loosely install cross pipe.

Photo 7

With all nuts and bolts loosely installed, lightly and evenly tighten connections in the following order:

1 - Cross pipe to turbo (M10)
2 - Exhaust manifolds to cylinder head (M8)
3 - Exhaust manifolds to cross pipe (M8)
4 - Wastegate pipe to wastegate (M8)
5 - Connection for removable wastegate pipe (M6)

Important:

The M6 connection between the wastegate pipe and the cross pipe (Photo 8) must be tightened uniformly to the specified torque in several steps.

Photo 8

When all flange connections are properly aligned and pulled evenly together, final tighten the exhaust assembly.

Tightening torque of nuts and bolts:

M10	40+5 Nm	(29+3.6 ft. lbs.)
M8	20+2 Nm	(14+1.4 ft. lbs.)
M6	10+1 Nm	(7+.7 ft. lbs.)

Note: If the wastegate connection is not properly aligned, the wastegate must be adjusted. The wastegate mounting bolt holes are slotted for this purpose.

Complete the installation of the exhaust manifold heat shield, CO tube, engine mount heat shield and steering shaft heat shield, and Lambda sensor. Be certain to correctly route the sensor wire to prevent damage.

Reinstall intake manifold and related parts.

Test drive car after completion of repairs long enough to allow the exhaust assembly to reach operating temperature. Check the exhaust assembly for leaks and allow the exhaust system to cool down.

2

Retighten all accessible nuts and bolts on the exhaust assembly to the specified torque.

Important:

Retighten the flanges of the wastegate pipe connection on the exhaust cross pipe (three hole flange) (Photo 9) and the connection between the wastegate outlet pipe and the catalyst connecting pipe. (Photo 10)

Photo 9

Photo 10

When reinstalling the lower engine splash guard, make sure the 3 hole flange for the removable wastegate pipe has sufficient clearance to avoid touching and rattling.

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Technical Bulletin

Model	Group
924S - 944	2

Subject:	Part Identifier	Number
Fuel Distribution Pipe Spacer	2430	8712

For Model Year 1987, engines have a 1 mm spacer installed between the fuel distribution pipe and the intake manifold at the rear mounting point only. (Arrow)

The following engine number ranges have the spacer installed.

43 H 04426 04826 M44/07 Manual transm.
43 H 61057 61148 M44/08 Auto transm.

During repair work, this spacer must be reinstalled, otherwise it will not be possible to mount the fuel injector holding clip.

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Technical Bulletin

Model	Group
944S	2

Subject: Frozen Carbon Canister May Impair Engine Performance

Part Identifier	Number
2025	8714

Water which enters the active carbon canister through the extended air inlet hose (arrow 1) may impede fuel tank venting and could freeze in winter weather. If this happens, the fuel tank could collapse and the engine performance could possibly be impaired.

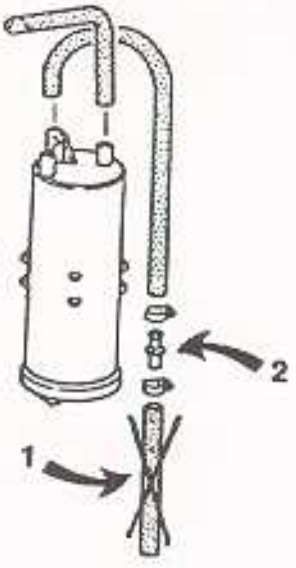
If this condition is found when repairing, proceed as follows:

- Remove the left front wheel house lining and disconnect the extended air inlet hose at the coupling (arrow 2).
- Tape over the end of the disconnected air inlet hose. Secure hose out of the way with a tie-wrap. Complete removal of the extended hose is not necessary.
- Reinstall wheel house lining.

Note: A frozen active carbon canister must be replaced.

The extended inlet air hose was discontinued in 944S production from the following VIN:

94 HN 45 3032



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Technical Bulletin	Model	Group
	928 S4	2
Subject: Check Ignition System After Engine Repairs	**Part Identifier**	**Number**
	2800	8717

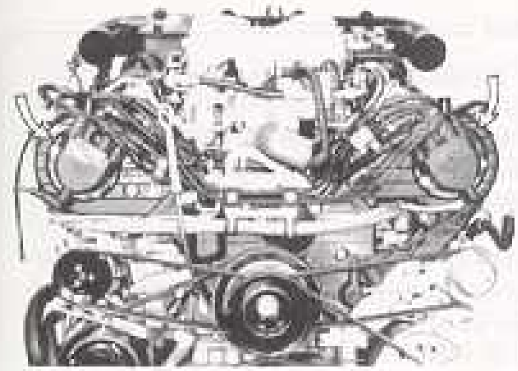
An ignition circuit which is not functioning properly causes excessive temperatures at the catalytic converter and therefore influences its functions.

After performing any repairs on the engine, in the engine compartment, or near the central electric board, always check the following ignition wiring connections for tightness and good contact.

Caution: Turn off the ignition when working on the ignition system. (dangerous high voltage)

Ignition coil left: Terminal 1 and 15, High tension ignition lead term. 4

Ignition coil right: Terminal 1 and 15, High tension ignition lead term. 4



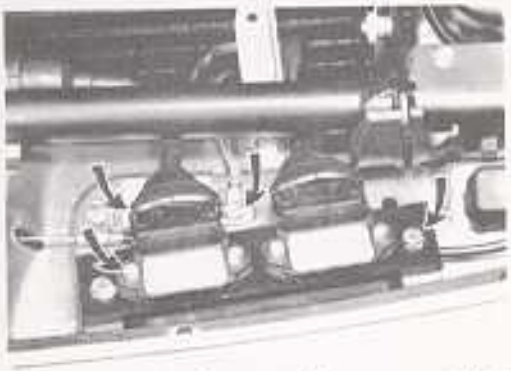
Ignition Distributor left and right: Distributor cap and ignition wire plugs

Spark Plugs: Spark plug connectors and high tension wires

PORSCHE CARS NORTH AMERICA, INC.

2

Technical Bulletin	Model	Group
	928 S4	2
Subject: Check Ignition System After Engine Repairs	Part Identifier	Number
	2800	8717



Ignition Final Stages: Plug connectors, ground connection and mounting bolts

Central Electric: Plug Q, EZK control unit plug and plug connection for ignition final stages (green and white wire)

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Technical Bulletin

Model	Group
924S, 944, 944S, 944T	2

Subject: Improved Fuel Filler Sealing

Part Identifier	Number
2007	8718

The sealing hoses for the fuel filler neck, (arrows) now have 5mm wide beads. This prevents rolling or folding of the hoses during assembly.

New sealing hose Part Number 944 201 217 00

These new type hoses are installed as of the following VINs:

92 HN 45 4884—924S
94 HN 45 2787—944S
94 HN 47 4887—944
95 HN 15 1970—944 Turbo

When repairing older cars, new type sealing hoses must be installed.

2

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Technical Bulletin

Model	Group
944 Turbo	2

Subject: Exhaust Flange Tightness

Part Identifier	Number
2146	8719

Rattles in the exhaust system can be caused by loose bolts in the three bolt flange connection (arrow).

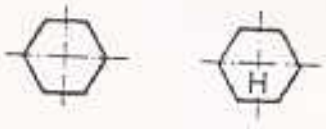
This concerns the following VINs:
95 HN 151297 to 95 HN 152794

If this condition is found, replace the bolts and nuts with the following parts:

Hex Bolt (three required)	900 074 267 02
Lock Nut (three required)	999 084 051 02

Tighten these bolts uniformly in several steps to a torque of 10+1 NM (7+.7 ft. lbs.).

New type bolt heads are marked with an "H" or are blank.



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Technical Bulletin	Model	Group
	928S, 928S4	3
Subject: Replace Torque Converter When Replacing Transmission	Part Identifier	Number
	3250/3736	8701

When replacing an automatic four speed "short" transmission, the torque converter has to be replaced also. If the repair was covered by Porsche warranty, the old transmission and torque converter will be requested. Please return both units to:

PORSCHE CARS NORTH AMERICA
Attn. Technical Service Center
1600 Holcomb Avenue
Reno, Nevada 89502

Technical Bulletin	Model	Group
	911 Turbo	3
Subject: Hard Shifting 1st and 2nd Gear: Reverse Gear Operating Fork	Part Identifier	Number
	3500	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.

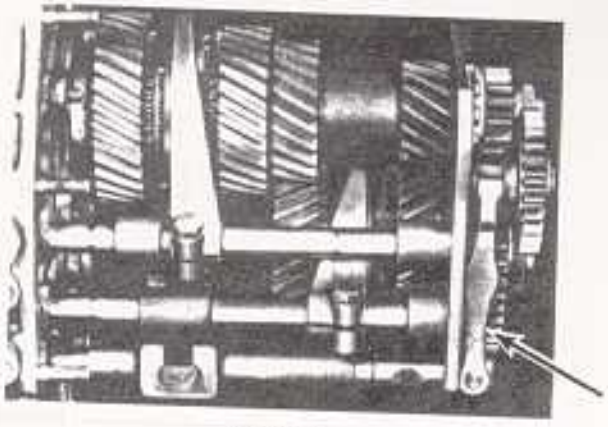


Figure 1

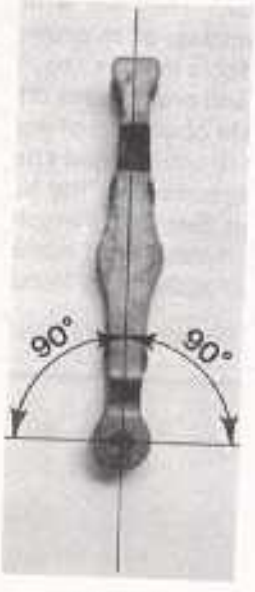


Figure 2

Technical Bulletin	Model	Group
	928 S4	3
Subject: Automatic Transmission Starts Out in 2nd Gear	Part Identifier	Number
	3735	8703

To reduce creeping when the vehicle is standing still at idle speed, and to reduce fuel consumption, the transmission valve body has been changed.

From Production Date: October 15, 1986
Transmission Number: 16 H 00564

With shift lever in position "3" or "D" and a throttle valve opening of 0 degree to 27 degrees, second gear is engaged. When accelerating from a stop under these conditions the vehicle starts out in second gear.

With shift lever in position "2" the transmission still starts in first and shifts to second.

Technical Bulletin	Model	Group
	911 Carrera	3
Subject: Shift Rod Clatter at Idle, Coast or 2500-3500 RPM	Part Identifier	Number
	3417	8704

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

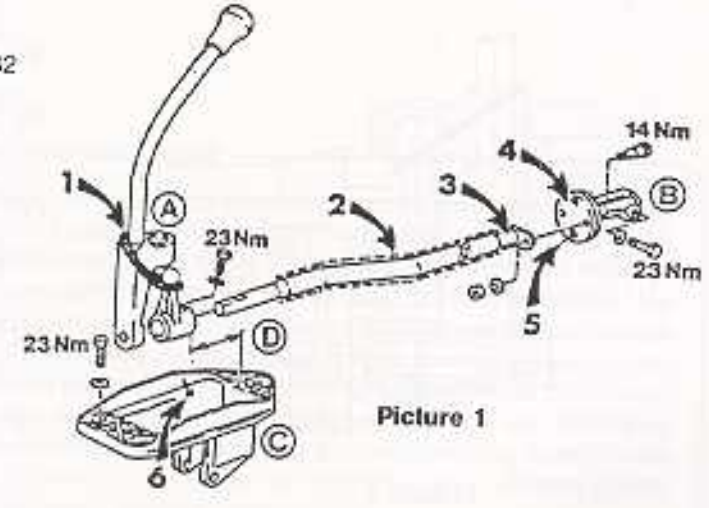
To convert 1987 model cars prior to the above vehicle indentification numbers, the following parts are required:

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

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

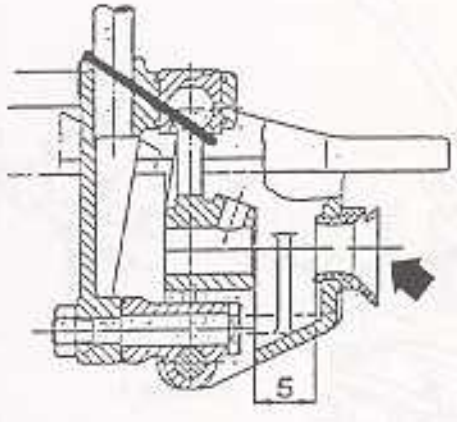
VIN: 91 HS 12 1787
91 HS 12 5061
91 HS 16 1318
91 HS 17 1733

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.

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.

Technical Bulletin	Model	Group
	911 Carrera	3
Subject: Transmission Jumps Out of 4th Gear	Part Identifier	Number
	3582/83	8705

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:

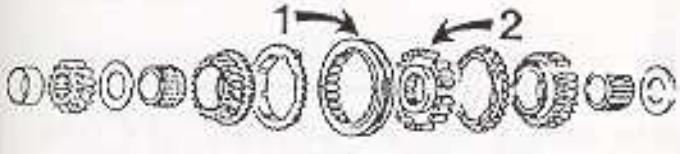
January 13, 1987	sliding sleeve
January 21, 1987	guide sleeve

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

Technical Bulletin	Model	Group
	911 Carrera	3
Subject: Transmission Jumps Out of 4th Gear	Part Identifier	Number
	3582/83	8705

Work procedure:

In case of complaints of jumping out of 4th gear while driving, first check the shift rod adjustment as follows:

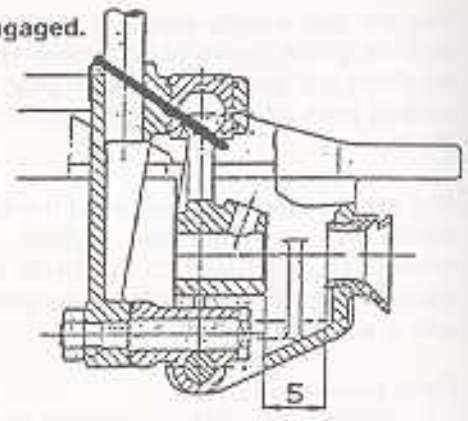
1. Lift shift diagram cap off shift lever knob.
2. Unscrew shift lever knob allen screw and pull off knob.
3. Dismantle center console, slide over shift lever and put aside (electrical equipment remains connected).
4. Measure distance between shift base bushing and shift lever with 4th gear engaged. 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

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Technical Bulletin	Model	Group
	928S	3
Subject: Automatic Transmission Jolts When Shifting	Part Identifier	Number
	3735	8706

928 Automatic
Model Year 1985 and 1986 only!

In case of complaints of strong jolts when the transmission shifts, the following checks and adjustments should be made before replacing components.

1. Test drive the car to verify the complaint.

2. If the complaint is verified, check engine tuning (ignition timing, idle speed, C.O. value, cold running performance, transition and power output).

3. Check ATF level and, if necessary, correct to specifications.

4. Check control pressure cable adjustment. Refer to 928 Workshop Manual Volume III, Page 37-115.

5. Low vacuum at modulator valve causes shift jolts. Disconnect vacuum line from transmission and check vacuum with engine running. Test value approx. 0.6 bar (600 millibar) or 17.7 in. Hg. If necessary, blow out vacuum line or repair leaks.

6. Too high modulator pressure causes shift jolts. Connect pressure gauge and check modulator pressure. If necessary, adjust to 4.4 + 0.05 bar. Refer to 928 Repair Manual Volume III, Page 38- 108.

   Test conditions:
   ATF temperature, approx. 80 degrees Celcius (176 degrees F). Vacuum line disconnected and plugged. Drive car on the road and accelerate to 30 mph with shift lever in position 'D'. Check reading on pressure gauge.

Disconnect pressure gauge and reconnect vacuum line.

Test drive car again.

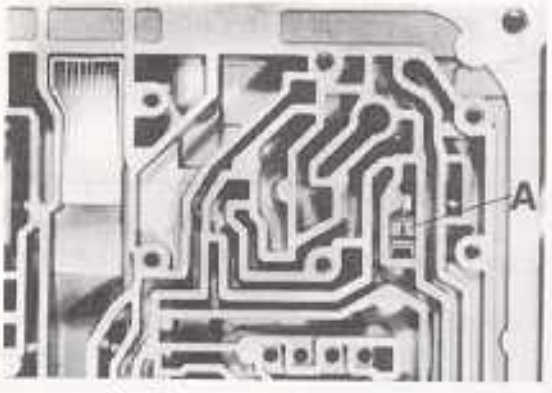
If shifting did not improve, the following parts should be replaced.

Part Numbers:

722 270 300 7	Valve body
126 277 961 4	Transfer plate
126 277 078 0	Gasket
126 270 105 0	Temperature restrictor (red) (A in picture)
126 270 267 9	Modulating pressure valve (green)

Refer to Workshop Manual 928 Volume III Group 38, Page 123-134.

Recheck modulator pressure and, if necessary, adjust to 4.4 + 0.05 bar.



A = Temperature restrictor in transmission housing

Technical Bulletin	Model	Group
	911 Carrera	3
Subject: Scraping Noise When Operating Clutch	Part Identifier	Number
	3041	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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Technical Bulletin

Model	Group
911 Carrera	3

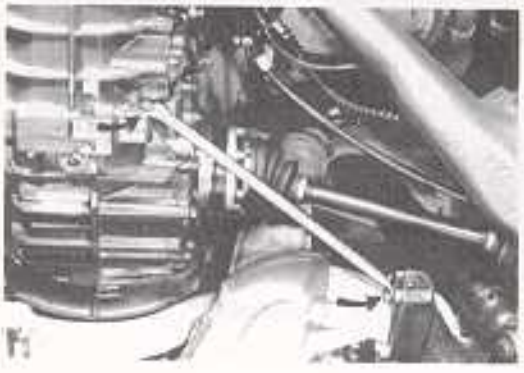
Subject: Transmission Noise While Coasting

Part Identifier	Number
3435	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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Technical Bulletin	Model	Group
	928 S4	3
Subject: Checking Clutch Hose	Part Identifier	Number
	3027	8709

928 S4 with Manual Transmission

The condition and the routing of the hydraulic clutch hose should be checked (picture 1) and the engine protective plate (picture 2) should be modified on 928 S4 vehicles Model Year 1987 and Model Year 1988 prior to Production Date, August 24, 1987. VIN WPOJB0929JS860330

Vehicles in inventory should be checked/modified as soon as possible but prior to delivery. Customer owned vehicles should be checked/modified at the next visit to the dealership service department.

Proceed as follows:

1) Check routing of the clutch hose. The hose should not have sharp bends or kinks in the area of the threaded flanges. If necessary, bend the hose support brackets.

2) The hose should be replaced with new type hose if there is evidence of cracks, kinks or chafings. When installing a new hose, make sure the hose is not twisted or kinked. If necessary, bend the support brackets.

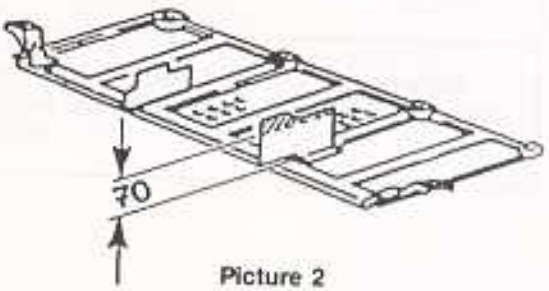
   Bleed the hydraulic clutch system after hose replacement.

3) The starter shielding plate on the engine protective plate should be shortened to 70mm using metal snips or a similar tool (picture 2).

4) Checked/modified vehicles should be marked with two white paint dots on the brake booster (picture 3).

New clutch hose Part Number:
928 423 077 03

Picture 1



Picture 2

Picture 3

Technical Bulletin	Model 928 S4	Group 3
Subject: Automatic Transmission Pressure Values	Part Identifier 3720/21/22	Number 8710

Transmission type A 28.12 from 1987 Model Year

Pressure in Bar

Test pressure	Transmission type A 28.12	Testing Conditions
Modulator pressure	4.2 ± 0.05	ATF temperature approx. 80 degrees C. Selector lever at "D," roadspeed approx. 30 mph. Vacuum line disconnected from modulator pressure nozzle
Working or operating pressure	16.0 ± 1	ATF temperature approx. 80 degrees C. Vacuum line disconnected from modulator pressure nozzle. Apply parking brake fully and depress brake pedal with left foot. Selector lever at "D." Accelerate to approx. 1200 RPM. Never test longer than 5 seconds because of great heat development.
Control or governor pressure[1]	approx. 0.17 approx. 0.96 approx. 1.74 approx. 2.35	at 12 mph at 31 mph at 62 mph at 93 mph Selector lever at "D," vehicle traveling under partial throttle, vacuum line disconnected from the modulator pressure nozzle.

[1]Should be checked on a dynamometer. Obey local speed laws.

3

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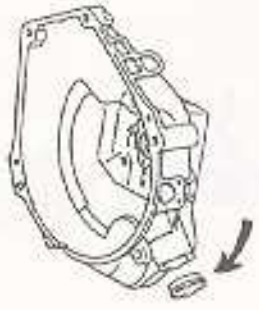
Technical Bulletin	Model 924S, 944, 944S 944 Turbo	Group 3
Subject: Dust Cap in Clutch Housing	Part Identifier 3065	Number 8711

In order to prevent dirt and moisture from entering the clutch area, the rubber dust cap (arrow) located at the lower left side of the clutch housing, must be installed.

Dust Cap Part Number: 931 116 177 00

The dust cap must fit tightly in the clutch housing. If necessary, line the cap with adhesive tape for a tight fit.



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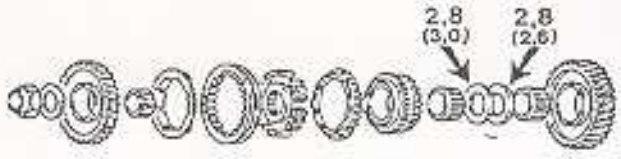
Technical Bulletin	Model	Group
	911 Carrera	3
Subject: First and Fifth Gear Thrust Washers	Part Identifier	Number
	3500	8712

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.

3

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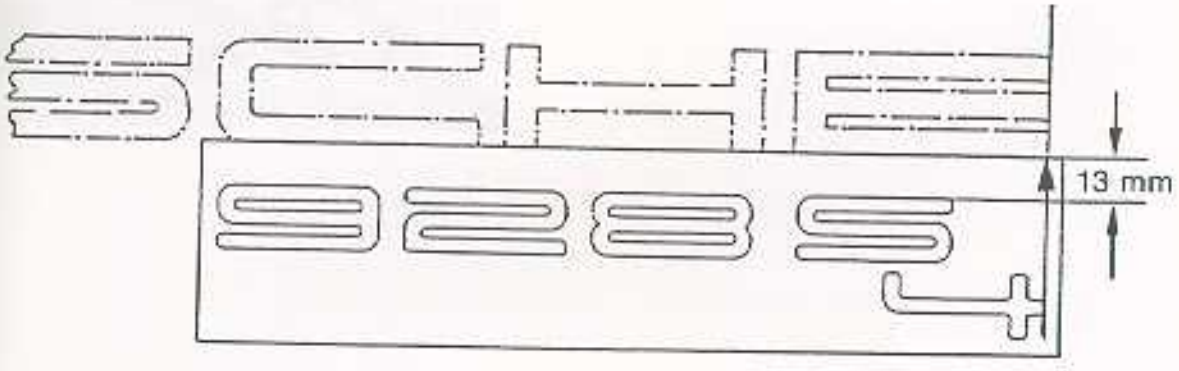
Technical Bulletin	Model	Group
	928 S4	6
Subject: Model Sign "928 S4"	Part Identifier	Number
	6650	8705

The model sign "928 S4" installed on the rear end panel as optional equipment (M302) is available for subsequent installation on 1987 model cars without option M302.

Part Number 928 505 335 06 Dark Grey
928 505 335 07 Light Grey

The model sign "928 S4" must be installed below the "PORSCHE" sign on the rear panel, flush with the letter "E". See sketch.

The panel surface must be cleaned thoroughly prior to installation of the sign.



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Technical Bulletin

Model	Group
924S - 944 944S - 944T	6

Subject: Lifting Roof Gear Replacement	Part Identifier	Number
	6171	8709

When replacing the plastic double gear wheels in the lifting element housings proceed as follows:

Step 1 - Pivot the drive motor console over and detach the drive cable from the pivoting arm. Measure distance "A" (photo 1). Distance must be 284 ± 1.5mm. If necessary, adjust the drive cable length by turning the drive cable in the guide pipe.

Step 2 - Install new plastic double gear wheels.

Important Note: In order to prevent damage to the gear wheels, be certain the lifting element fingers are installed against stop in the fully retracted position and are even side to side (photo 2).

Recheck the drive cable length and correct if necessary. Reconnect the drive cable to the pivoting arm and complete the installation of the drive console.

Step 3 - Check the adjustment of the drive motor friction clutch (photo 3). Manually operate the roof to a partially open position. This will ensure adequate cable travel. Using a torque wrench on the 21mm nut, check the friction clutch adjustment. Turn until clutch movement is felt and note reading.

Specification 5.5Nm (48 in. lbs.). If necessary, adjust by loosening the lock nuts and turning to obtain proper turning torque.

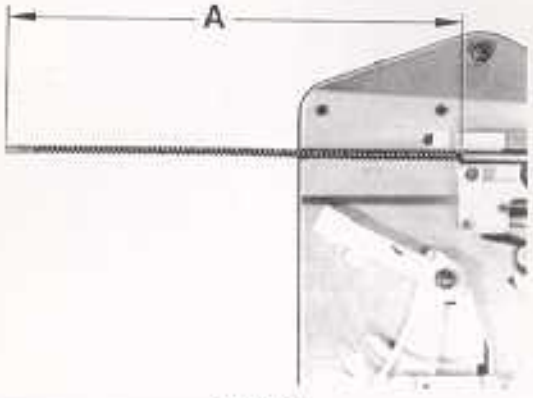

Photo 1

Photo 2

Photo 3

Technical Bulletin

Model	Group
928 S4	6

Subject: Solid Rear Spoiler

Part Identifier	Number
6658	8710

A solid version rear spoiler replaces the foldable spoiler.

From Production Date: January 12, 1987

VIN: 92_HS861297

Caution:
In automatically operated washing stations in which the washing brushes are moved back and forth over a stopped car, the horizontal brush could get caught on the rear spoiler. To avoid damage to the rear spoiler or rear lid, washing the area of the rear spoiler must be controlled manually.

There is no risk of damaging the rear spoiler in drive-through washing stations if the car is moved through stationary washing brushes.

Technical Bulletin	Model	Group
	All	7
Subject: Repairing of Seat Back Frames	Part Identifier	Number
	7219	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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Technical Bulletin

Model	Group
928 S4	9

Subject: Water Entering Taillights

Part Identifier	Number
9430	8701

To prevent water from entering and remaining in the taillights on 1987 Model vehicles, the polyurethane lining received two drain holes on each side.

From Production Date: Sept. 5, 1986
VIN 92 HS 860288

Cars prior to the above VIN and new linings from parts inventory can be modified by drilling two 10mm holes in each side of the lining in the corner area of reinforcement (see picture).

Technical Bulletin	Model	Group
	928S	9
Subject: Wiring Diagram Update, 1986 Model	Part Identifier	Number
	N/A	8703

Folding headlight motor terminals 2 and 3 are reversed on 928S Wiring Diagram Model 1986

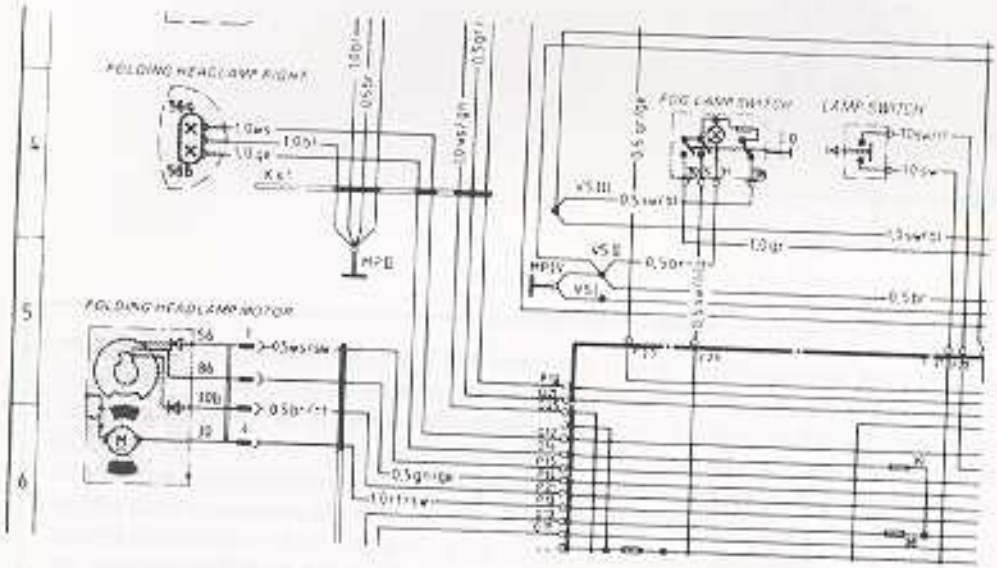
Page 97-235 Ro. W. coordinate field A5
Page 97-237 U.S.A coordinate field A5

Correct terminal designation is:
Terminal 2 =30b 0.5 br/rt wire
Terminal 3 =86 0.5 gn/ge wire

928S Wiring Diagram Model 1986
Page 97-237 U.S.A coordinate field D4
Fog tail lamp switch

Correct designation is: Stop lamp switch

Please make corrections in Wiring Diagram Model 1986 Booklet and Workshop Manual 928 Volume VI



Technical Bulletin

Model	Group
All	9

Subject: Radio Serial Number Labels

Part Identifier	Number
9120	8705

In case the radio is stolen, four labels with printed radio serial numbers are available for each car from Production Date, February 1987.

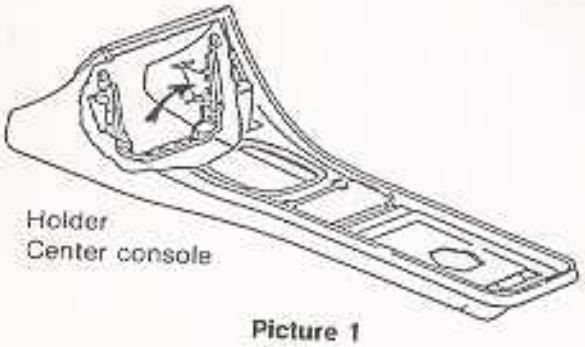
Two labels are kept at the factory and two with the car.

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

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Technical Bulletin

Model	Group
928S, 928S 4	9

Subject: Turn Signal Switch Does Not Cancel

Part Identifier	Number
9442	8706

Insufficient tightness of the combination steering column switch may prevent the turn signal switch from cancelling.

The outer steering tube is no longer painted in the clamping area of the steering column switch to improve tightness of the switch.

From Production Date: October 30, 1987
VIN 92 7 HS 86 0738

If turn signals do not cancel on cars prior to the above VIN, remove steering column switch. Refer to 928 Repair Manual Volume V, Page 94-4 for work procedure. Remove paint from outer steering column in the switch clamping area using emery cloth. Reinstall switch and tighten securely.

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Technical Bulletin

Model	Group
928S/928 S4	9

Subject: "Stop Light" Sign Lights Up When Switching Headlights

Part Identifier	Number
9493	8710

Model Years 1986 and 1987

The "Stop Light" sign in the combination instrument may light up when switching low beam headlights on or off. This could be caused by an insufficient bulb tester ground connection.

The ground wire in the bulb tester wiring harness was increased in size to 1.5mm gauge (was 0.5mm gauge).

From Production Date: July 11, 1986

VIN 92 6 HS 86 0066

When repairing cars prior to the above VIN, disconnect brown wire female connector from bulb tester wiring plug terminal 9.

Connect 1.5mm gauge brown wire to bulb tester plug terminal 9 and to MP V on fire wall behind C.E.B.

Refer to wiring diagram 928S Model 87, page 2 Field N1.

Parts required for modification:

1.5mm gauge brown wire 950mm long	
N 17 516 2	Wire connector 6mm
999 652 351 12	Female plug terminal

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Technical Bulletin

Model	Group
928 S4	9

Subject: Water Entering Car in Area of Taillights

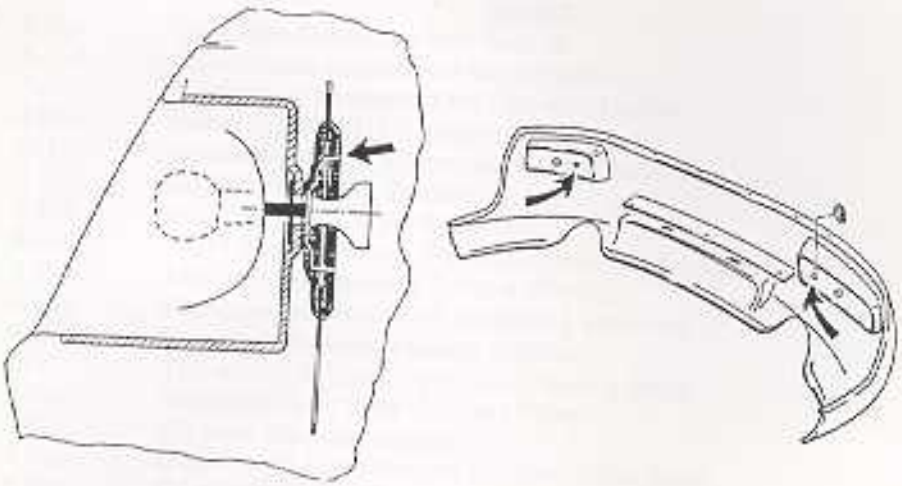
Part Identifier	Number
9430	8711

The foam rubber seal for the taillight screws was replaced with a plug-type grommet.

From Production Date: November 24, 1986

VIN 92 1 HS 86 0976

When repairing water leaks in the area of the taillights on cars prior to the above VIN, the foam rubber seal should be replaced with the plug-type grommet Part Number 999 703 066 50.



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