

PORSCHE

924

924turbo

Service Information

MODEL 82

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Porsche 924, 924 turbo – 1982 models

Major Changes on Type 924 Cars in Model Year 1982:

- Exterior Equipment:
 - Stronger roof for more roof load (75 kg)
 - Rear spoiler (optional for 924)
- Interior Equipment:
 - Three spoke sport steering wheel (924)
 - Carpet covered door pockets
 - Instrument carrier also in brown
 - Porsche coat of arms above glove box lock
- Engine/Ignition System:
 - Installed position of air cleaner changed (924)
- Fuel System:
 - Modified tank vent (on 62 ltr. tank)
- Manual Transmission (016/8/9):
 - Deflector for transmission vent
 - Improved synchronizer rings
 - 40 % limited slip differential (924, optional extra)
- Automatic Transmission (RK, RL):
 - Seal to prevent draining of torque converter
 - Key to locate one-way clutch on planet gear set
 - Altered shift points in partial throttle range (only RK)
 - Improved centrifugal governor drive
- Running Gear:
 - Changed caster adjustment values
- Heating/Ventilating:
 - New heater with improved air flow rate
 - Air conditioner adapted to new heater

Air Filter Cartridge (924)

The instructions on the air cleaner cover – “Lettered side of air filter cartridge faces in direction of arrow”.
– are no longer applicable.
In the future the air filter cartridge must be turned 90° when installed, so that filter plates are vertical. Arrow and lettering will be changed.

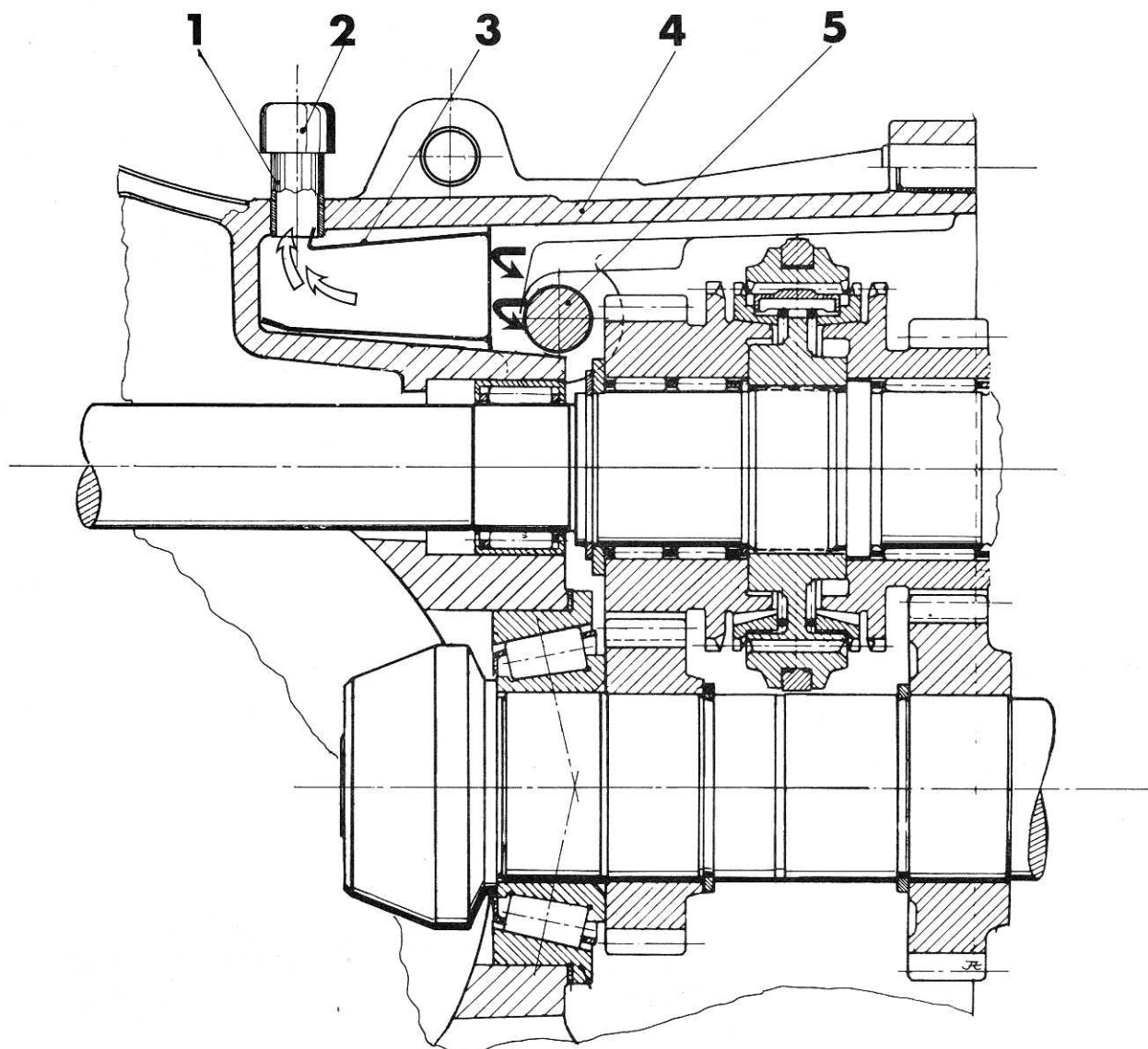
Cover on Transmission Vent

To prevent throwing oil from the gears into the transmission vent at high road speed, transmission case (4) is fitted with a cover (3) in front of the transverse selector shaft (5).

The cover is attached in the tube of vent (1) with a tab.

If the plate cover has to be removed for cleaning, this is done by taking off cap (2), pushing down the cover with a small screwdriver and pulling out.

The cover can be installed on transmissions of Type 016/8 with a manufacturing date prior to 1982. The plastic sponge located in front of the vent tube must then be removed.



- 1 Vent tube
- 2 Cap
- 3 Cover
- 4 Transmission case
- 5 Selector shaft

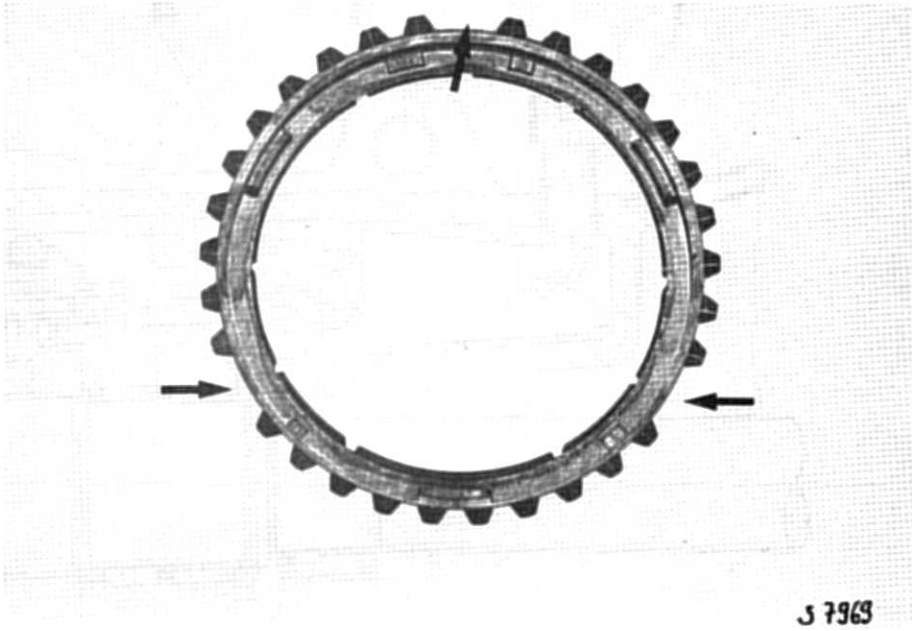
Synchronization

The synchronizer rings have been changed.

Identification of Synchronizer Rings:

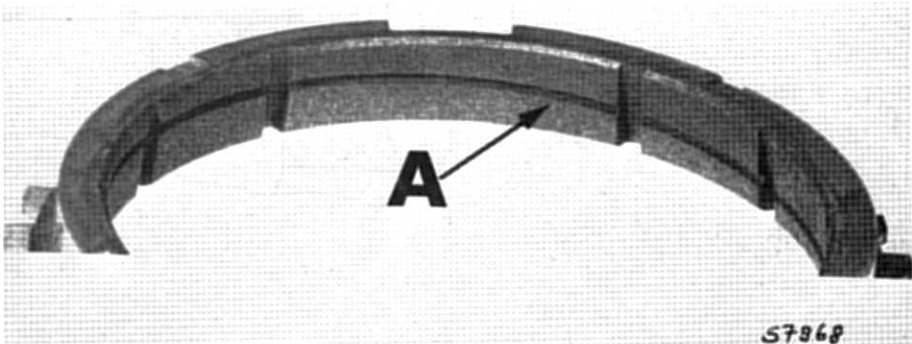
1st Gear Synchronizer Ring

Basic material: special brass.
Synchronizing cone without molybdenum coat, with internal threads.
Modified tooth angle –110°.
Special Identification:
Three teeth missing on circumference.



2nd Gear Synchronizer Ring

Basic material: special brass.
Synchronizing cone with molybdenum coat and spiral groove (A).
Standard tooth angle: 115°.
No teeth missing on circumference.



Synchronizer Ring for 3rd and 4th Gear

Basic material: special brass.
Synchronizing cone with molybdenum coat, without spiral groove.
Standard tooth angle.
No teeth missing on circumference.

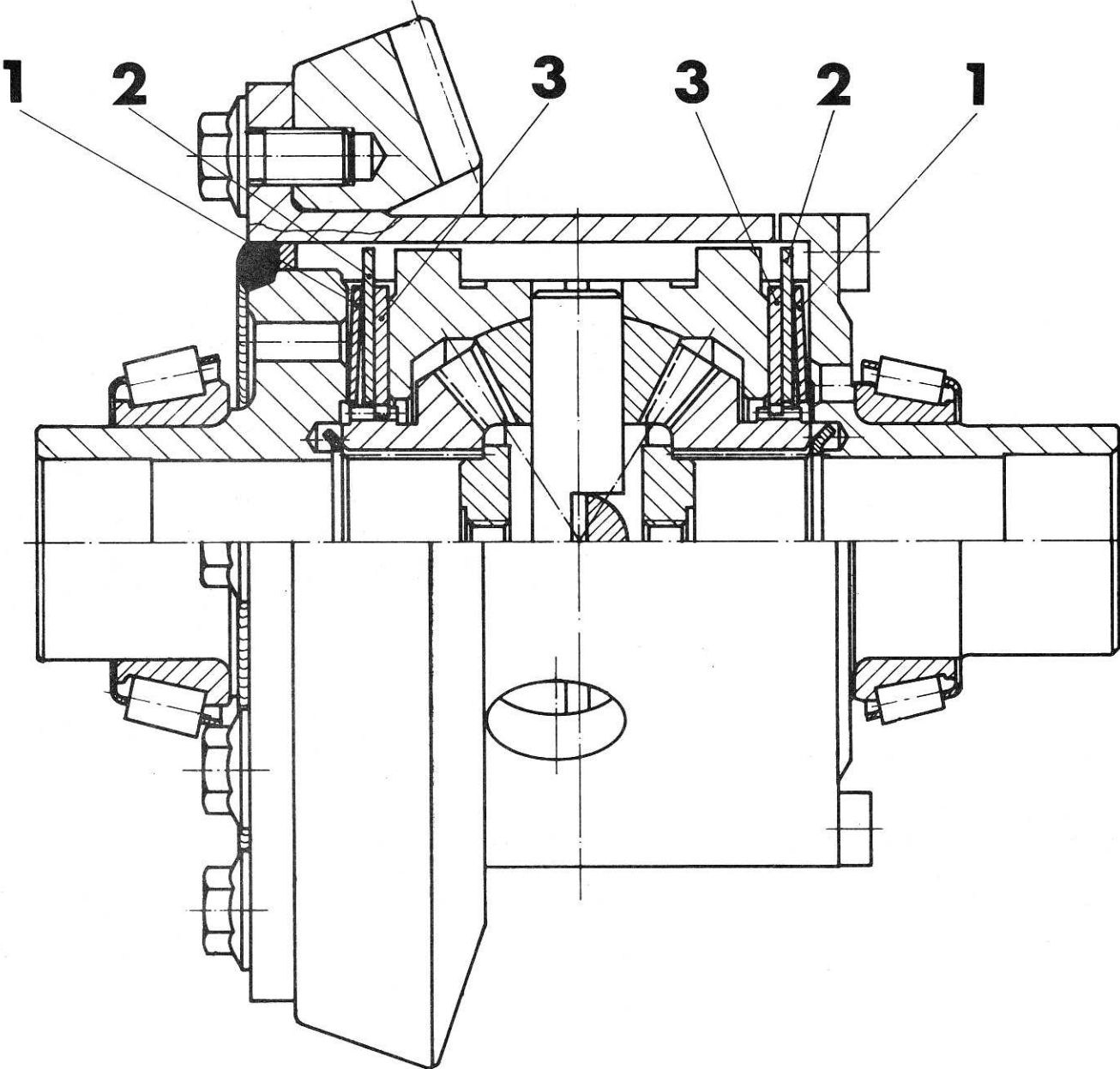


5th Gear Synchronizer Ring

Basic material: special brass.
Synchronizing cone with internal threads, without molybdenum coat.
Special Identification:
Much smaller in diameter.

Limited Slip Differential

A plate-type limited slip differential is now available as optional equipment for the five speed manual transmission 016/8/9. The ZF limited slip differential is manufactured with a locking factor of 40 %.



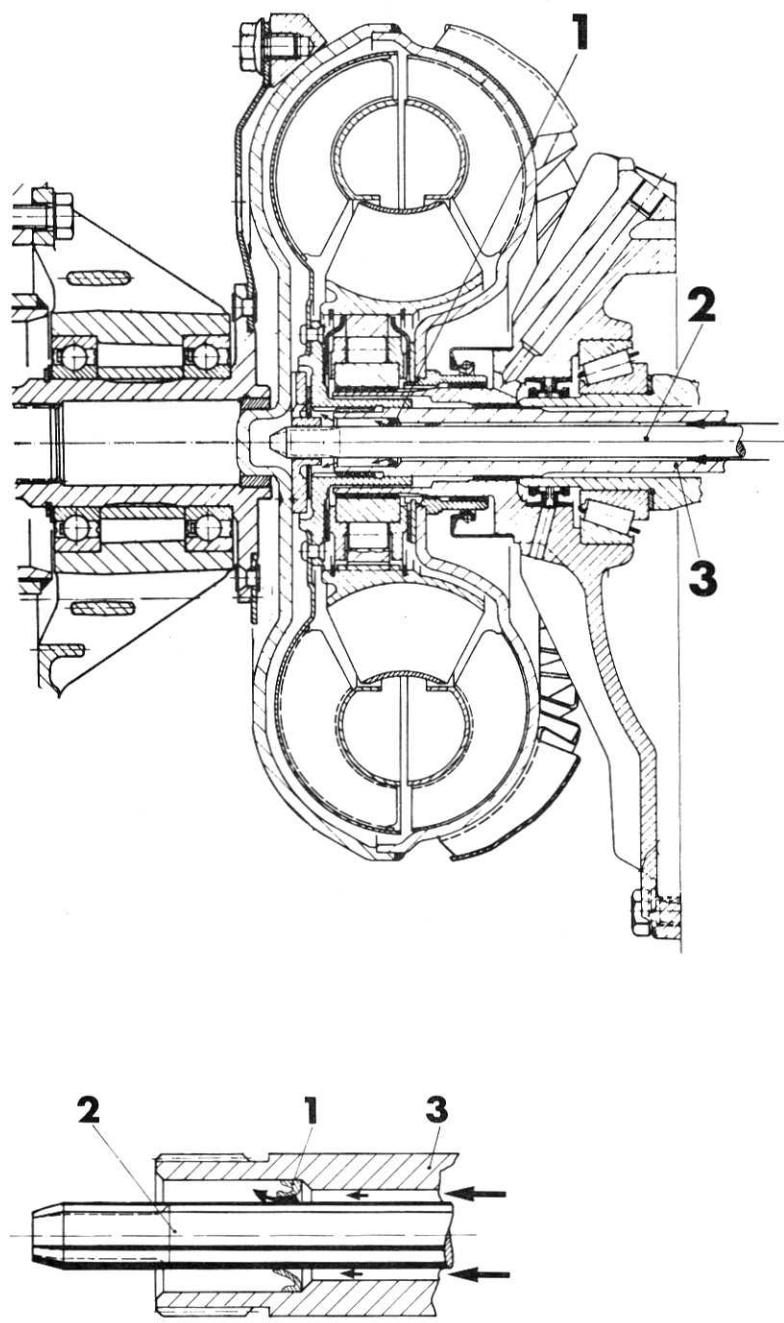
Identification:

	Transmission without Limited Slip Differential	Transmission with Limited Slip Differential
924 USA/Canada	016/9 MF	016/9 5Q
924Turbo USA/Canada	016/G MB	016/G 6Q

Seal to Prevent Draining of Torque Converter

If a car with an automatic transmission is not operated for several days, some of the ATF in the torque converter could drain through the feed bores. After starting the engine, moving off would only be possible after the ATF pump refills the torque converter with ATF, i.e. after the engine has run for 10 to 20 seconds. To prevent this draining even for longer periods of nonoperation, a soft lipped seal (1) is installed between pump input shaft (2) and turbine shaft (3). The torque converter can still be filled with ATF (black arrows) in spite of the seal, since the sealing lip will open as the pressure increases. The sealing lip closes automatically when the engine is stopped to prevent the converter from draining.

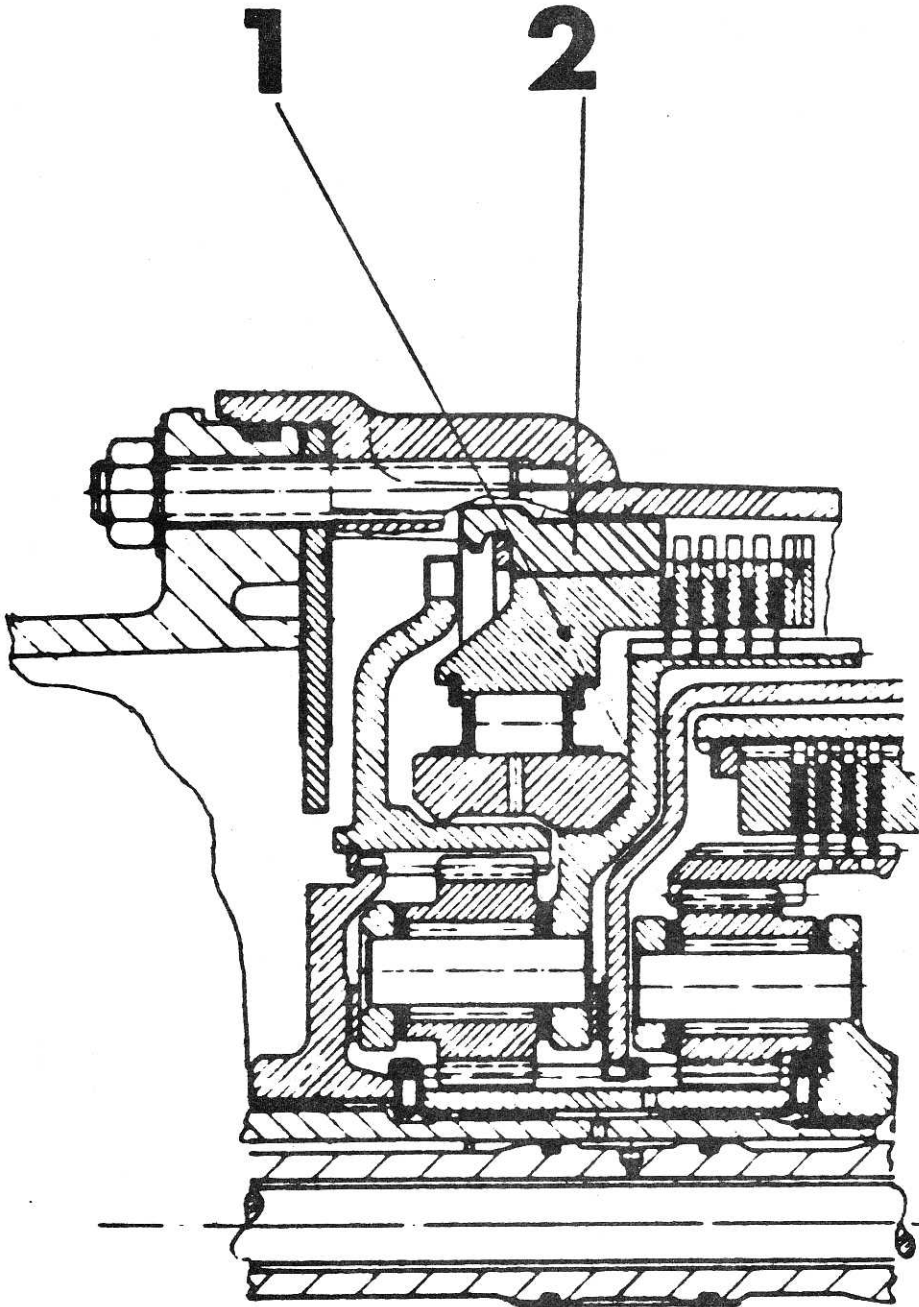
- 1 Seal
- 2 Pump input shaft
- 3 Turbine shaft



Key to Hold One-way Clutch on Planet Gear Set

The one-way clutch locks when driving in 1st gear. When the automatic transmission shifts into 2nd gear, the one-way clutch releases.

The housing of one-way clutch (1) is in grooves in the transmission case to prevent turning. To hold the one-way clutch in the case without play a key (2) is placed in one of the grooves, which prevents a clicking noise when engaging 1st gear.



Altered Shift Points in Partial Throttle Range

In the partial throttle range between closed throttle and full throttle, the upshift points were fixed.

This characteristic has now been changed so that the automatic transmission **shifts up earlier in the partial throttle range**.

Advantages of this design:

- Less noise in city traffic and cross country in the partial throttle range.
- Less fuel consumption.
- Smoother and more comfortable ride.

The same characteristic also provides for **partial throttle downshifts** at lower speeds.

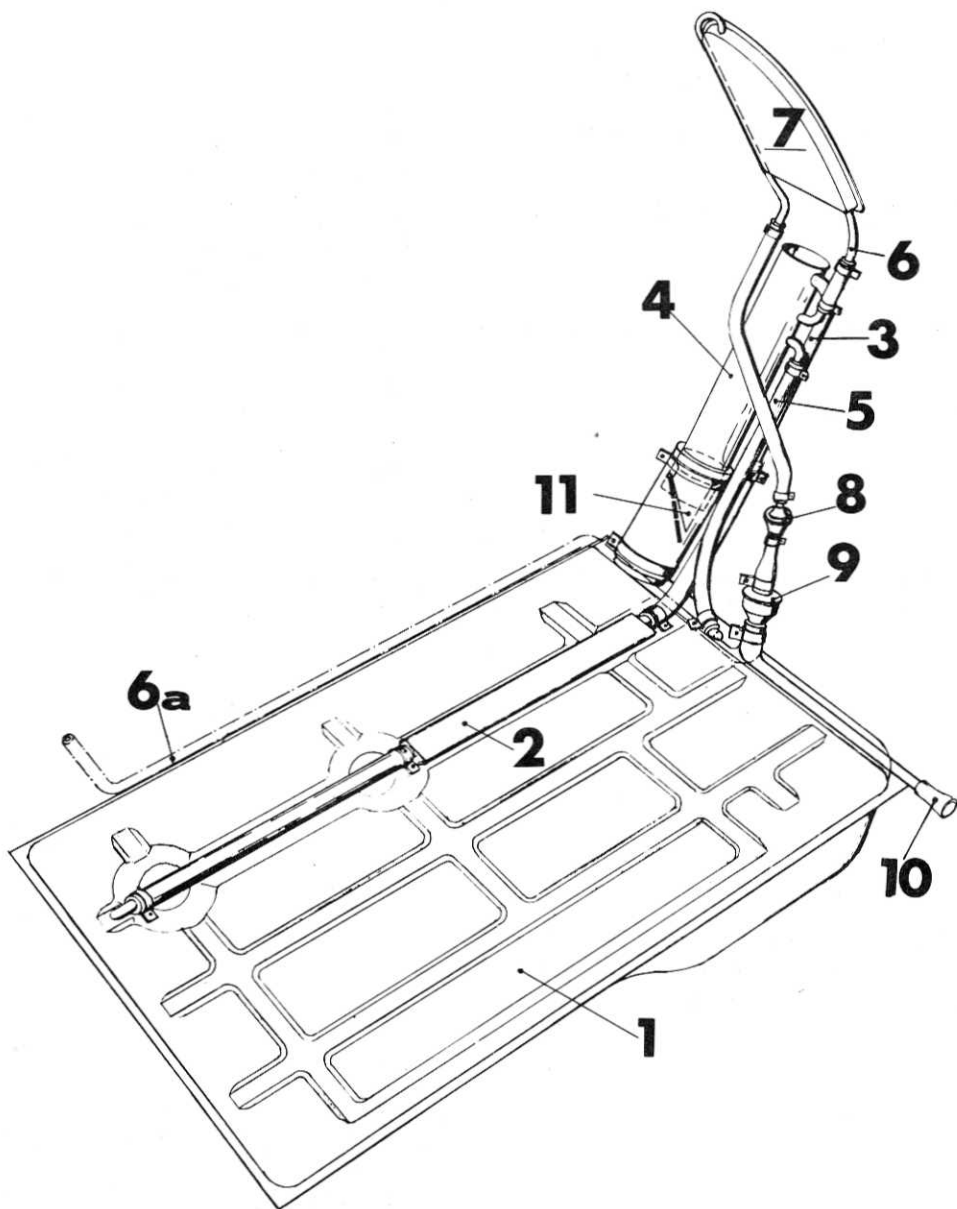
Wheel Alignment (924, 924 Turbo)

The caster adjusting value is now $2^{\circ}30' \pm 30'$
 $-15'$.
Left to right difference: 30'; adjustment at DIN curb weight.
Former caster adjusting value was $2^{\circ}45' \pm 30'$.

The fuel tank and tank vent system have been revised.

Design

On the top surface of the tank (1) there is an expansion tank (2), from which a vent line (3) runs to the tank filler neck (4). Both vent lines (3/5) are used for venting and discharging the fuel tank. A third vent line (6) runs from filler neck (4) to a vapor tank (7) and from its upper surface via a pressure maintaining valve and a shutoff valve (9). On USA cars the vent line goes from shutoff valve (9) forward (6a) to an active charcoal filter. To prevent the gasoline from sloshing out of the tank into the filler neck when driving in curves, the lower end of the filler neck is fitted with a check flap (11).



Heating – Ventilating

The heating and ventilating system is new. There are several changes between the old and new systems. Considerably improved air flow rate from a new heater with a radial blower. Improved ventilation of passenger compartment from changes on the air ducts, which can be regulated individually by a new control switch with a separate blower switch.

Details:

Control Switch

The new control switch has two air distribution levers at the top, which can be operated separately. The left lever distributes air to the footwell/center vent and side vents.

Positioned left = footwell

Positioned right = center and side vents

The center and side vents can be opened and closed manually.

The right lever distributes air to the windshield (DEF).

Positioned right = DEF

Positioned left = DEF – closed

The temperature control lever is located at the bottom.

Positioned left = cold

Positioned right = warm

The rotary blower switch is located to the left of the control levers.

It has four speed positions (0 – 1 – 2 – 3).

With the blower switch set to 0 the blower runs at its slowest speed continuously after turning on the ignition switch.

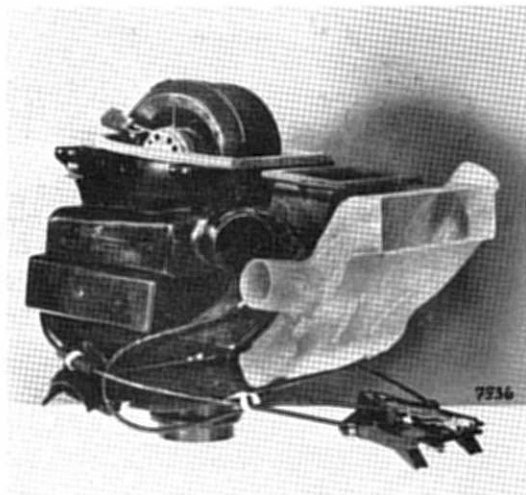


The ballast resistors for the different blower speeds are held on the blower motor by a separate holder and are accessible after removal of the air cowl.

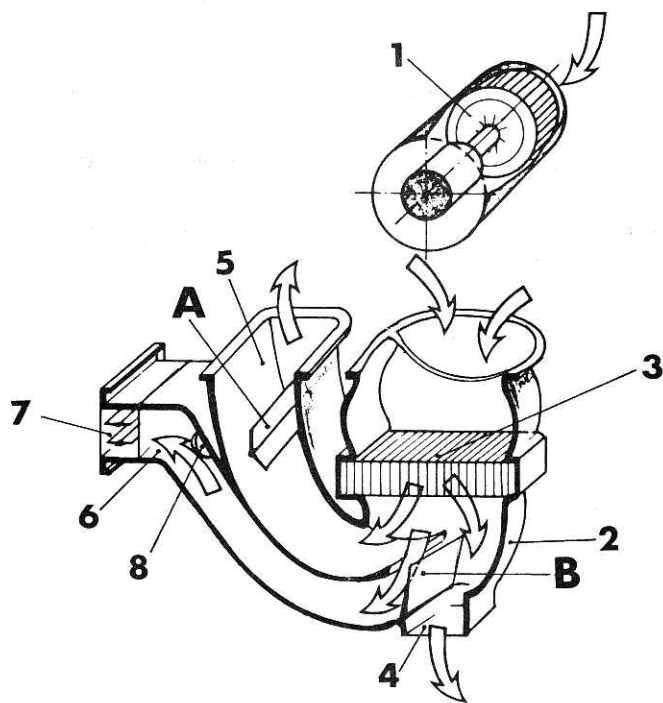


Heater / Blower

The air flow rate is twice as great as that of the former 924 heating system. The blower is a radial blower. The fresh air is drawn in from both sides of the fan wheel and forced into the air distribution box. The air distribution box houses the heat exchanger and the blower. Also housed in this box are the various air distribution and shutoff flaps.



Sketch of Design and Air Distribution in New Heater

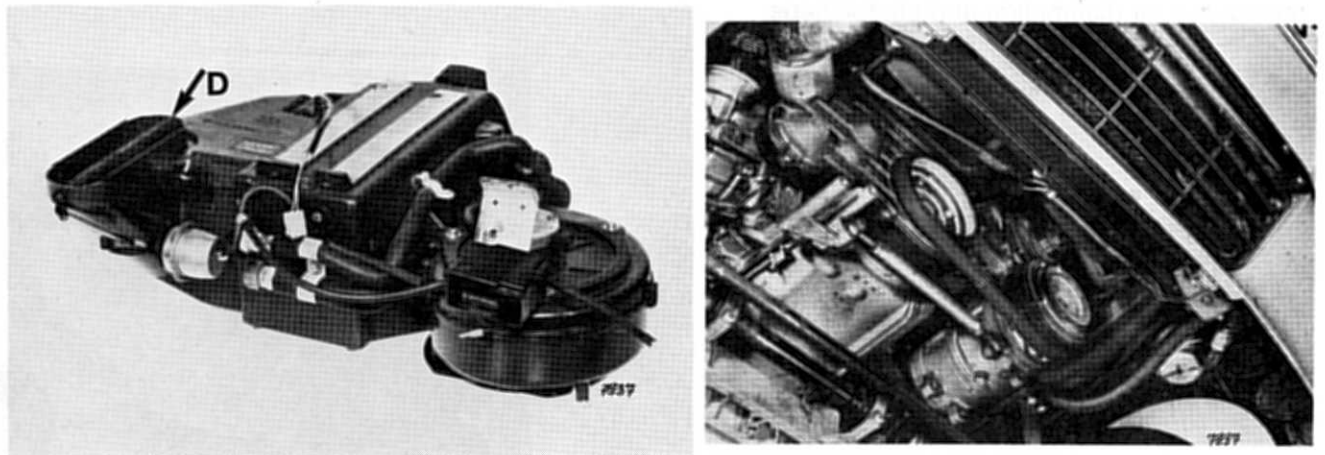


- 1 – Radial blower
- 2 – Air distribution box
- 3 – Heat exchanger
- 4 – Footwell outlet
- 5 – To windshield
- 6 – To center vent
- 7 – Center vent shutoff flaps
- 8 – Side vent, left (right)

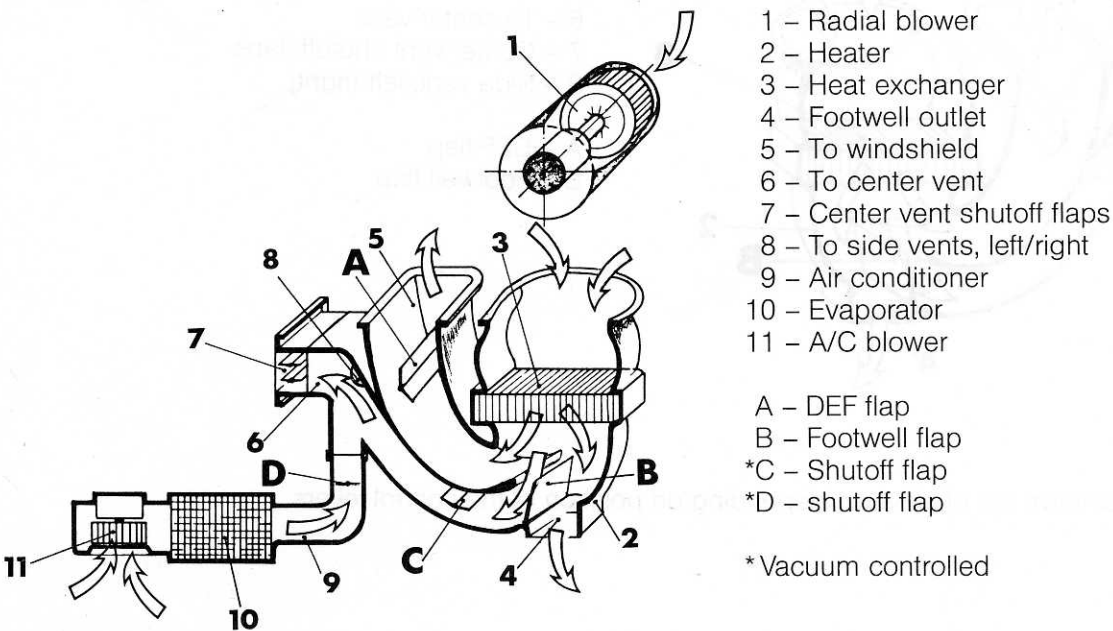
A – DEF flap
B – Footwell flap

Warm, or cool air flows out of all vents depending on position of the control levers.

In conjunction with the new heater, the air conditioner has been revised, in order to improve air conditioning in the passenger compartment.

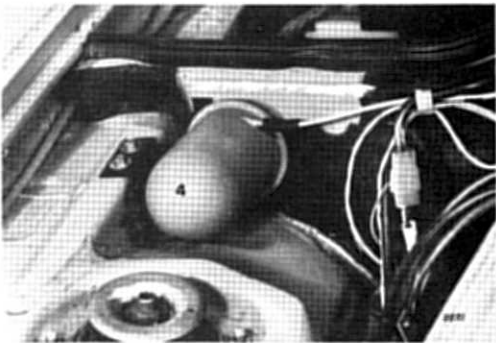
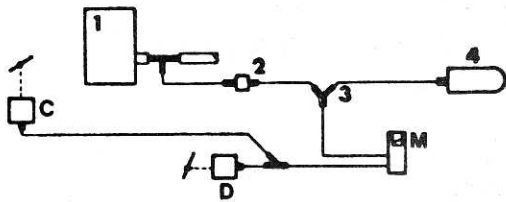


With the air conditioner on, the supply of fresh air is stopped and switched to recirculated air. This is accomplished with 2 vacuum operated flaps (C and D). Flap C shuts the fresh air duct to the center vent. Flap D opens the duct between evaporator (1) and the center vent recirculated air. The air conditioned air can only flow out through the center vent and side vents. However, it is possible to mix in warm or cold fresh air via the DEF and footwell vents.

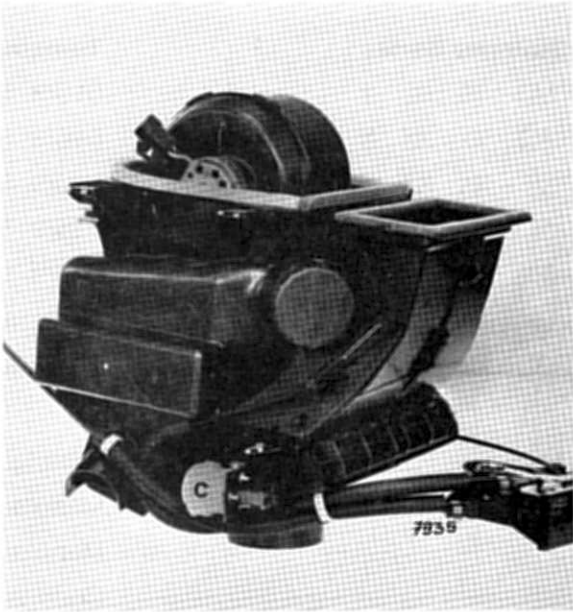
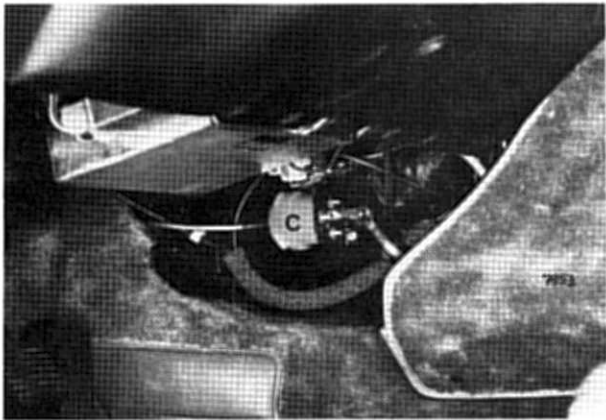
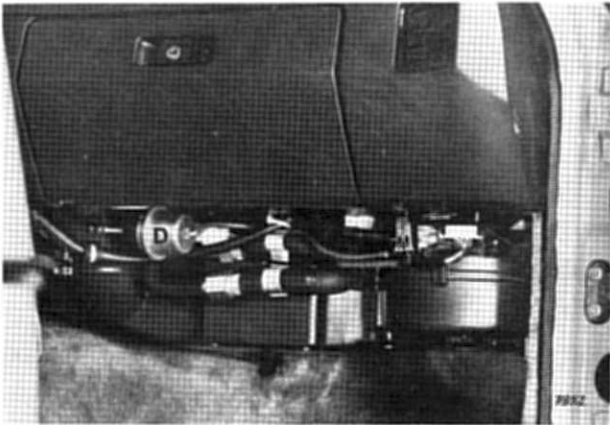


Vacuum Flow

The necessary vacuum is taken from the brake booster (1), passes through a vacuum check valve (2) and a distributor (3) to a vacuum reservoir (4) in the engine compartment on the right side.

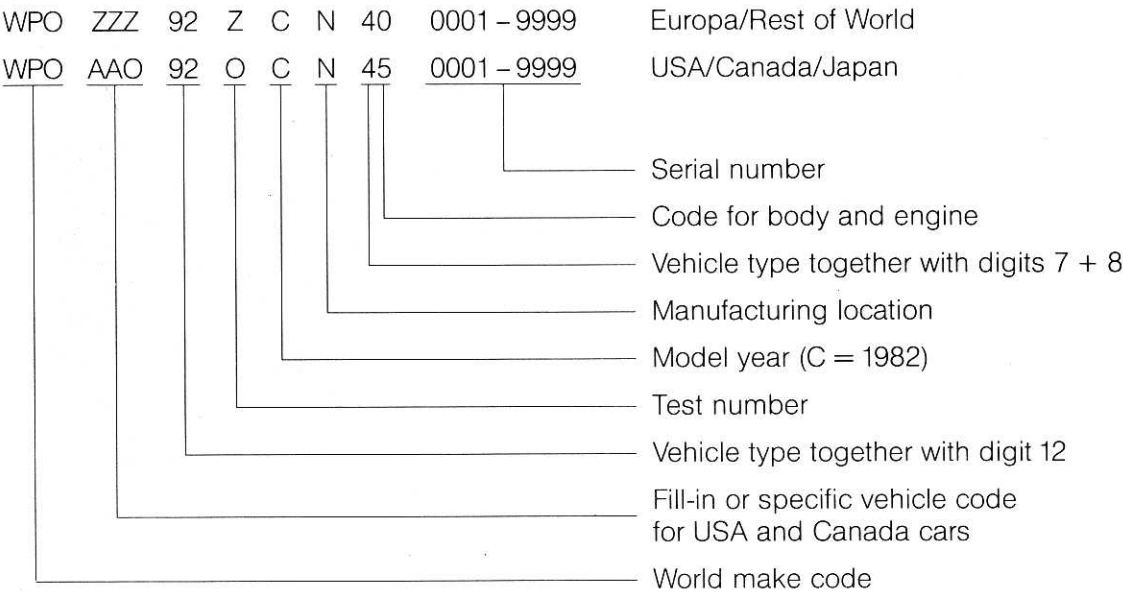


From the distributor (3) the vacuum goes to solenoid (M) on the A/C blower box. Turning on the air conditioner supplies voltage to the solenoid and vacuum is applied to the servos for flaps C and D (fresh air closed, recirculated air opened).



Chassis, Engine and Transmission Numbers

Chassis Numbers



Engine Numbers

Number Series	Vehicle Type	Engine Type and Power
XK 000001 – and on	Europe/R. o. W. (LHD)	047.8/047.9, 92 kW/125 HP
XJ 000001 – and on	Europe/R. o. W. (RHD)	047.8/047.9, 85 kW/115 HP
VC 000001 – and on	USA/Canada/Japan	047.E/047.F, 85 kW/115 HP

The diagram illustrates the structure of engine numbers. It shows how specific letters and digits in the number correspond to various engine specifications.

- Continuous serial number for same code letters (regardless of model year).
- Engine version (same for manual and automatic transmissions)

Transmission Numbers

Number Series	Transmission Type	Vehicle Type
MD 19 02 1	016/8 5-speed manual	Europe/Rest of World
4Q XX XX X	016/8 5-speed manual with limited slip dif.	Europe/Rest of World
MF XX XX X	016/9 5-speed manual	USA/Canada
5Q XX XX X	016/9 5-speed manual with limited slip dif.	USA/Japan
ME XX XX X	016/9 5-speed manual	Japan
RK XX XX X	087.3 automatic (11:38)	Europe/Rest of World
RL XX XX X	087.6 automatic (11:41)	USA/Canada/Japan

The diagram illustrates the structure of transmission numbers. It shows how specific digits and letters in the number correspond to various transmission specifications.

- Manufacturing year
- Manufacturing month
- Manufacturing day
- Code letters

Chassis, Engine and Transmission Numbers

Chassis Numbers

[illegible]

Engine Numbers

Number Series	Vehicle Type	Engine Power
3103 0001 – 9999	Europe/R. o. W. (LHD/RHD)	130 kW/177 HP
3104 0001 – 9999	USA/Canada/Japan	115 kW/156 HP
	Continuous serial number (regardless of model year for same engine type)	
	Engine type code	

Transmission Numbers

Number Series	Transmission Type	Vehicle Type
3101 00001 (/12) – 99999 	31/01 5-speed (8:33)	Europa/Rest of World
MB 1 9 0 2 1	016 G, 5-speed (9:35)	USA/Canada
MX X X X X X	016 G, 5-speed (9:35)	Japan
6Q X X X X X 	016 G, 5-speed with limited slip differential	USA/Canada/Japan

924, 924 Turbo, – Specifications

Engine		924 Europe, Rest of World	924 USA, Canada, Japan	924 Turbo Europe, Rest of World	924 Turbo USA, Canada, Japan
Type		924 XK, 924 XJ as RHD	924 VC	M 31/03	M 31/04
Number of cylinders		4	=	=	=
Bore	mm/in.	86.5/3.41	=	=	=
Stroke	mm/in.	84.4/3.32	=	=	=
Total displacement	cm³/cu. in.	1984/121.06	=	=	=
Compression ratio		9.3 : 1	9.0 : 1	8.5 : 1	8.0 : 1
Max. engine power, DIN 70020	kW/HP	92/125	85/115	130/177	115/156
at engine speed	rpm	5800	5750	5500	5750
Max. torque, DIN 70020	Nm/kpm	165/16.8	156/15.9	250/25.5	210/21.4
at engine speed	rpm	3500	3500	3500	3500
Max. liter output, DIN 70020	kW l/HP l	46/63	43/58	65.5/89.2	58/78.6
Max. permissible engine speed	rpm	6500	6500	6500	6500
Engine weight (dry)	kg	136	142	165	165
Valve play, cold, approx. 20° C	Intake	0.10 mm	=	=	=
	Exhaust	0.40 mm	=	=	=
	operating temperature	Intake	=	=	=
	Exhaust	0.20 mm 0.45 mm	=	=	=
Timing with 1 mm valve play	Intake opens	6° before TDC	=	=	=
	Intake closes	42° after BDC	=	=	=
	Exhaust opens	47° before BDC	=	=	=
	Exhaust closes	2° after TDC	=	=	=
Engine cooling		Closed coolant system, electric fan with temperature switch			
Coolant thermostat, opens at		87° C	=	=	=

924, 924 Turbo, – Specifications

Electric equipment		924	924 Turbo	924 Turbo
		Europe, Rest of World	USA, Canada, Japan	Europe, Rest of World
				USA, Canada, Japan
Battery		12 V 45 Ah/ 12 V 63 Ah (opt. extra)	=	=
		1050 W/75 A	=	=
Alternator		TCl (breakerless transistor ignition)	= with EIS	DITC (fully electronic transistor ignition)
Spark plug caps		without series spark	=	with series spark
Firing order		1 – 3 – 4 – 2	=	=
Basic ignition timing setting		10° before TDC	TDC, with vacuum, EIS pulled off and bridged	8 – 14° before TDC
	at engine speed	950±50 (idle speed)	750 – 800 (Japan 3° after TDC/ 950 rpm)	900 (idle speed)
Spark plugs		W 5 D/ W 5 DC	WR 6 DS	WR 6 DS
		14 – 5 D 14 – 5 DU	RS 37	14 – 4 CS
Electrode gap		–	–	N 7 GY
		0.7 + 0.1	=	0.7
Drive belt		9.5 x 888	=	9.5 x 1050
Engine lubrication		Forced circulation with pump, oil filter in full flow	=	Forced circulation wit pump, oil filter and oil cooler in full flow
	Oil pressure	n = 5000 rpm up to approx. 6 bar, at 80 – 100° C	=	=
Exhaust system		Twin pipes up to primary muffler, center and final mufflers	Twin pipes up to catalytic converter, then center and final mufflers	Turbocharger, single pipe up to primary muffler, primary and final mufflers, bypass valve for charge pressure control

EIS = Electronic Idle Stabilizer
DITC = Digital Ignition Timing Control

924, 924 Turbo, – Specifications

		924	924 Turbo	924 Turbo
		Europe, Rest of World	USA, Canada, Japan	Europe, Rest of World
		USA, Canada, Japan	USA, Canada, Japan	USA, Canada, Japan
Emission control		not applicable	oxygen sensor with 3-way catalytic converter	oxygen sensor with 3-way catalytic converter
Fuel system				
Fuel delivery		CIS (cont. fuel injection)	=	=
		2 electric pumps, of which 1 is in tank	=	=
Fuel grade		98, premium acc. to DIN 51600	91, leadfree	91, leadfree
Fuel consumption DIN 70030		5-speed Autom.	5-speed manual transm.	5-speed manual transm.
a) at 90 km/h (constant) b) at 120 km/h (constant) c) EC driving test d) average (a + b + c divided by 3)	1/100 km	6.6	6.7	6.7
	1/100 km	8.1	8.6	8.6
	1/100 km	12.4	11.3	11.3
	1/100 km	9.0	8.9	8.9
Power transmission				
Via input shaft		20 mm dia. 4 bearings	25 mm dia. 3 bearings	25 mm dia. 4 bearings
5-speed manual transmission		016/8 MD	016.9 MF(USA, Canada)	016 G MB(USA, Canada)
			016.9 ME (Japan, without crash guard)	016 G MX (Japan, without crash guard)
Transmission ratios	1st gear	(10/36) = 3.6000 : 1	(12/38) = 3.166 : 1	(10/36) = 3.6000 : 1
	2nd gear	(16/34) = 2.1250 : 1	(18/32) = 1.777 : 1	(16/34) = 2.1250 : 1
	3rd gear	(24/35) = 1.4583 : 1	(23/28) = 1.217 : 1	(24/35) = 1.4583 : 1
	4th gear	(28/31) = 1.1071 : 1	(29/27) = 0.932 : 1	(28/31) = 1.1071 : 1
	5th gear	(35/30) = 0.8571 : 1	(34/24) = 0.706 : 1	(37/27) = 0.7297 : 1
	Reverse gear	(12/42) = 3.5000 : 1	(22/38) = 12/16) = 2.909 : 1	(12/42) = 3.5000 : 1
Final drive ratio		(9/35) = 3.889 : 1	(9/37) = 4.111 : 1	(9/35) = 3.8889 : 1
Clutch		Single plate dry clutch with diaphragm spring in pressed version and mech. operation via cable	=	Single plate dry clutch with hydraulic operation in pulled version

924, 924 Turbo, – Specifications

	924 Europe, Rest of World	924 USA, Canada, Japan	924 Turbo Europe, Rest of World	924 Turbo USA, Canada, Japan
Pressure plate/clutch plate	MF 215 K/215 PSD	=	MFZ 225/GUD 225	MFZ 225/TD 225

A limited slip differential (locking factor 40%) is available as optional extra equipment for the 924 Turbo and 924 Carrera GT

Automatic Transmission/Type

	RK	RL	
Number of gears	3 forward, 1 reverse parking lock	=	not applicable
Transmission ratios	Range 1 Range 2 Range 3 Reverse	= = = = = =	
Final drive ratio	3.454 : 1 (11/38)	3.7272 (11/41)	
Clutch	hydrodynamic torque converter, 244 mm dia.	=	
Stall speed	2500 ± 200 rpm	2450 ± 200	

Performance

at DIN curbweight plus 1/2 payload
Automatic transmission in ()

Top speed	204 (195) km/h	120 (116) mph/ 192 (185) km/h	230 km/h / 143 mph	134 mph/ 215 km/h
Acceleration 0 – 100 km/h / 0 – 62 mph	9.6 (11.4) seconds	11.2 (13.0) seconds	7.7 seconds	9.3 seconds
Kilometer from standing start	30.5 (32.2) seconds	32.3 (33.6) seconds	27.9 seconds	29.8 seconds
1/4 mile from standing start		17.8 (18.4) seconds		16.2 seconds

Hill climbing ability

(calculated values for DIN curbweight and 1/2 payload)

Automatic transmission ()				
1st gear	%	approx. 59 (34)	approx. 60	approx. 60
2nd gear	%	approx. 32 (17)	approx. 38.5	approx. 38.5
3rd gear	%	approx. 21 (9)	approx. 23.5	approx. 23.5
4th gear	%	approx. 14	approx. 16	approx. 16
5th gear	%	approx. 9.5	approx. 9.5	approx. 9.5

924, 924 Turbo, – Specifications

	924 Europe, Rest of World	924 USA, Canada, Japan	924 Turbo Europe, Rest of World	924 Turbo USA, Canada, Japan
Running gear				
Front axle				
	Independent wheel suspension from control arms and spring struts (Mc Phearson) - negative scrub radius -	=	=	=
Suspension	Each wheel one coil spring coaxial with shock absorber	=	=	=
Stabilizer	Standard Optional extra	= =	23 mm dia. -	21 mm dia. 23 mm dia.
Steering wheel	Standard Optional extra	= =	380 mm dia., 3 spokes 360 mm dia., 4 spokes	= =
Steering wheel ratio in center	19.15 : 1	=	22.39 : 1	19.15 : 1
No. of steering wheel turns from lock to lock	4.02	=	=	=
Rear axle				
	Independent wheel suspension from trailing arms	=	=	=
Torsion bar	23.5 mm dia.	=	=	=
Stabilizer	Standard Optional extra	= =	14 mm dia. -	none 14 mm dia.
Spacers per wheel	Standard	=	21 mm	none

924, 924 Turbo, – Specifications

		924 USA, Canada, Japan	924 Turbo Europe, Rest of World	924 Turbo USA, Canada, Japan
Brakes				
Service brakes (foot-operated)				
		hydraulic dual circuit brake system with diagonal division, brake booster, front axle with sliding caliper disc brakes, rear axle with simplex drum brakes	hydraulic dual circuit brake system with diagonal division, brake booster, inboard vented sliding caliper brake discs on front and rear axles	Standard: as 924 Europe, Rest of World Optional extra: as 924 Turbo Europe, Rest of World
Brake booster dia.		9"	=	=
Master		23.81 mm	=	=
Brake disc. dia.	front/rear	257 mm/ rear drum brakes	282.5/289 mm	257 mm/ rear drum brakes
Brake disc thick ness	front/rear	13 mm/ rear drum brakes	20.5/20.0 mm	13 mm/ rear drum brakes
Brake pad surface per wheel	front/rear	65/170 cm²	92/63 cm²	65/170 cm²
Piston dia. in brake caliper	front/rear	48/19.05 mm (wheel brake cylinder)	54/36 mm	48/19.05 mm (wheel brake cylinder)
Parking brake (hand-operated)		mechanical action on both rear wheels (drum brakes)	=	=
Parking brake drum dia.		230 mm	180 mm	230 mm
Brake shoe width		38.6 mm	25 mm	38.6 mm
Brake shoe surface per wheel		170 cm²	85 cm²	170 cm²

924, 924 Turbo, – Specifications

Wheel Rims, Tires		924 Europe, Rest of World	924 USA, Canada, Japan	924 Turbo Europe, Rest of World	924 Turbo USA, Canada, Japan
Standard tires		185/70 HR 14 on 6 J x 14 rims front and rear	=	185/70 VR 15 on 6 J x 15 rims front and rear	185/70 VR 15 on 6 J x 15 (4-hole) front and rear
		205/60 HR 15 on 6 J x 15 rims front and rear	=	205/55 VR 16 on 6 J x 16 rims front and rear	205/55 VR 16 on 6 J x 16 (5-hole) front and rear
Special tires					
Tire pressure (for all road speeds, cold tires)		2.0 bar front and rear	=	front 2.0 bar rear 2.5 bar collapsible tire front and rear 2.2 bar	= = =
Weights (acc. to DIN 70020)					
Curbweight		1130 kg	1185 kg/2612 lbs.	1180 kg	1260 kg/2779 lbs (incl. all M equipment)
					1550 kg/3418 lbs.
Permissible total weight		1450 kg	1500 kg/3307 lbs.	1500 kg	700 kg/1544 lbs.
Permissible front axle load *		650 kg	660 kg/1455 lbs.	660 kg	900 kg/1985 lbs.
Permissible rear axle load *		850 kg	880 kg/1940 lbs.	880 kg	290 kg/639 lbs.
Payload		320 kg	315 kg/694 lbs.	320 kg	not applicable
Permissible trailer load without brakes **/**...		500 kg	500 kg/1102 lbs.	500 kg	
Permissible trailer load with brakes **/**...		800 kg	800 kg/1764 lbs.	1200 kg	not applicable
Permissible car/trailer weight		2250 kg	2200 kg/4850 lbs.	2700 kg	not applicable
Permissible roof load */...		75 kg	75 kg	75 kg	75 kg
Permissible drawbar load ***		40 ± 10 kg	40 ± 10 kg/88 ± 22 lbs.	40 ± 10 kg	not applicable

* Max. permissible total weight may not be exceeded. Important: payload will be reduced accordingly when installing extra equipment (air conditioner, etc.).
** Up to 12% gradients
*** Only applicable when using original Porsche spare parts.

	924 Europe, Rest of World	924 USA, Canada, Japan	924 Turbo Europe, Rest of World	924 Turbo USA, Canada, Japan
Dimensions (at DIN curbweight)				
Wheelbase	2400 mm	2400 mm/94.488 in.	=	=
Front track width	1418 mm	1418 mm/55.886 in.	=	=
Rear track width	1372 mm	1372 mm/54.015 in.	1392 mm/54.803 in.	1375 mm Standard/ 1394 mm M-equipment
Length	4212 mm	4320 mm/170.078 in.	4212 mm/165.826 in.	4320 mm/170.078 in.
Length with light alloy bumper and impact absorbers (optional extra)	4290 mm	–	4290 mm/168.898 in.	–
Width	1685 mm	1685 mm/66.338 in.	=	=
Height	1270 mm	1270 mm/49.999 in.	=	1273 mm/50.118 in.
Ground clearance (at max. total weight)	125 mm	125 mm/4.921 in.	120 mm/4.724 in.	125 mm/4.921 in.
Curved road surface clearance	48 mm	48 mm/1.889 in.	=	=
Front overhang angle, limited by front spoiler (at max. total weight)	19.7°	20°	20°	20°
Rear overhang angle, limited by exhaust (at max. total weight)	15°	15°	16.4°	16.4°

Adjusting Values / Survey of Equipment *

Engine	Europe, Rest of World 924	USA, California 924	Canada 924	Japan 924	Sweden 924	Australia 924
Engine Type (RHD)	XK (XJ)	M 31/04	M 31/04	M 31/04	M 31/03	M 31/03
Valve play (warm)						
Intake	0.20	=	=	=	=	=
Exhaust	0.45	=	=	=	=	=
Camshaft part no.	046.109.021	=	=	=	=	=
Bucker tappets	046.109.309 A	=	=	=	=	=
Ignition	TCl-i	TCl-i, EIS	TCl-i, EIS	DITC	DITC	DITC
Distributor	breaker/less					
Bosch code	0237 003 055	0237 501 001	0237 022 020	0237 501 001	0237 003 055	0237 501 001
Vacuum control	advance	advance/retard	advance/retard	advance/retard	advance	advance
Basic ignition setting	10° BTDC	0° with vacuum, EIS disc +bgd.	0° with vacuum, EIS disc +bgd.	3° ATDC with vacuum	10° BTDC w/o vacuum	10° BTDC w/o vacuum
at speed (idle)	950±50	705 – 800	750 – 800	950 ± 50	950 ± 50	950 ± 50
Control value	36±2° BTDC	6–10° BTDC	6–10° BTDC	max. 41° BTDC	36±2° BTDC	36±2° BTDC
at speed	3500 w/o vac.	900	900	4500–5000 without vacuum	3500 w/o vac.	3500 w/o vac.
Spark plugs	Bosch Beru Champion	WR 6 DS RS 37	WR 6 DS RS 37	WR 6 DS RS 37	W3DP/W4CS 14-4 CS 1	W3DP/W4CS 14-4 CS 1
Electrode gap	0.7 + 0.1	0.6...0.7	0.7	0.7	0.6...0.7	0.6...0.7
Ignition coil, Bosch code	0221 122 008	0221 122 023				
Ign. contr. unit, Bosch code	0227 100 010					
DITC contr. unit**	931 602 071 00	931 602 073 00	931 602 073 00	931 602 073 00	931 602 175 01	931 602 075 01
Oxygen contr. unit, Bosch		0280 800 037	0280 800 037	0280 800 006		
Engine lubrication/cooling						
Oil pressure at 5000 rpm and 80–90° C oil temp.	up to approx. 6 bar	=	=	=	=	=
Oil consumption in l/1000 km	approx. 0.8	=	=	=	=	=
Max oil temperature	150° C	=	=	=	=	=
Coolant thermostat opens at	87° C	=	=	=	=	=

* The specified code numbers are important to be able to identify the different components easier. The equipment surveys are not kept up to date by supplements. Always use valid Porsche part numbers when ordering spare parts.

** DITC control unit: 931.602.071.01 for France, Great Britain, Belgium, Spain, Portugal, Greece and Luxembourg
931.602.075.01 for Sweden, Austria, New Zealand and Hongkong

	Europe, Rest of World		USA, California		Canada		Japan		Sweden		Australia	
	924	924 Turbo	924	924 Turbo	924	924 Turbo	924 Turbo	924	924 Turbo	924 Turbo	924	924 Turbo
Exhaust system												
Emission control	not applicable	not applicable	oxygen sensor with 3-way catalytic converter	=	=	=	=	=	not applicable	not applicable	not applicable	not applicable
CO level at idle speed %	1.0 ... 2.0	05 ... 1.5	0.5 ... 1.0	=	=	=	=	=	1.0 ... 2.0	1.0 ... 2.0	1.0 ... 2.0	1.0 ... 2.0
Turbo charger part no.	-	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02	931123 004 02
Cade on data plate	-	6020	6020	6020	6020	6020	6020	6020	6020	6020	6020	6020
Charge pressure control valve	-	12	14	14	14	14	14	14	12	12	12	12
Code on housing	-	0.64	0.44	0.44	0.44	0.44	0.44	0.44	0.64	0.64	0.64	0.64
Charge pressure bar	-											
Fuel System												
Fuel distributor code	0438 100 005	0438 100 096	0438 100 065	0438 100 048	0438 100 065	0438 100 048	0438 100 065	0438 100 005	0438 100 096	0438 100 096	0438 100 005	0438 100 096
Air flow sensor code	0438 120 060	0438 120 141	0438 100 151	0438 100 152	0438 100 151	0438 100 092	0438 100 151	0438 100 092	0438 120 060	0438 120 141	0438 120 060	0438 120 141
Vacuum control code	-	0280 160 322	0280 160 124	0280 160 302	0280 160 124	0280 160 302	0280 160 124	0280 160 302	0280 160 124	0280 160 302	0280 160 124	0280 160 302
Throttle bypass valve code	0280 140 110	0280 140 220	0280 140 104	0280 140 220	0280 140 104	0280 140 220	0280 140 100	0280 140 220	0280 140 110	0280 140 220	0280 140 110	0280 140 220
Warm-up control code	0438 140 011	0438 140 062	0438 140 088	0438 140 091	0438 140 088	0438 140 091	0438 140 011	0438 140 091	0438 140 011	0438 140 098	0438 140 011	0438 140 098
Control pressure "cold" (at approx. 20°C) bar	1.3 ... 1.7	2.0 ... 2.4	1.7 ... 2.1	2.4 ... 2.8	1.7 ... 2.1	2.4 ... 2.8	1.7 ... 2.1	2.4 ... 2.8	1.3 ... 1.7	2.0 ... 2.4	1.3 ... 1.7	2.0 ... 2.4
Control pressure "warm" bar	3.4 ... 3.8	3.45 ... 3.85	3.4 ... 3.8	3.45 ... 3.85	3.4 ... 3.8	3.45 ... 3.85	3.4 ... 3.8	3.45 ... 3.85	3.4 ... 3.8	3.45 ... 3.85	3.4 ... 3.8	3.45 ... 3.85
at charge press. (from 0.3 bar) bar	-	2.7 ... 3.1	-	2.7 ... 2.9	-	2.7 ... 2.9	-	2.7 ... 2.9	-	2.7 ... 3.1	-	2.7 ... 3.1
Max. control time	3.5 min.	2.5 min.	2.0 min.	5.5 min.	2.0 min.	5.5 min.	2.0 min.	5.5 min.	3.5 min.	2.5 min.	3.5 min.	2.5 min.
Fuel pump EXP 4 code	0580 254 967	=	=	=	=	=	=	=	=	=	=	=
Min. delivery rate in cc/30 sec.	750	=	=	=	=	=	=	=	=	=	=	=
Leak test:												
Min. press. after 10 min bar	1.7	=	=	=	=	=	=	=	=	=	=	=
Min. press. after 20 min bar	1.5	=	=	=	=	=	=	=	=	=	=	=
Power Transmission												
Clutch pressure plate	MF 215 K	MFZ 225	MF 215 K	MFZ 225	MF 215 K	MFZ 225	MF 215 K	MFZ 225	MF 215 K	MFZ 225	MF 215 K	MFZ 225
Part no.	035 141 117 E	931 116 001 03	035 141 117 E	931 116 001 02	035 141 117 E	931 116 001 02	035 141 117 E	931 116 001 02	035 141 117 E	931 116 001 03	035 141 117 E	931 116 001 03
Contact pressure	4810 ... 5490	7200 ... 7900	4810 ... 5490	7200 ... 7900	4810 ... 5490	7200 ... 7900	4810 ... 5490	7200 ... 7900	4810 ... 5490	7200 ... 7900	4810 ... 5490	7200 ... 7900
Clutch plate	215 PSD	GUD 225	215 PSD	TD 225	215 PSD	TD 225	215 PSD	TD 225	215 PSD	GUD 225	215 PSD	GUD 225
Transmission type	016/8 MD	G 31/01	016/9 MF	016 GMB	016/9 MF	06 GMB	016/9 ME	016 GMB	016/8 MD	G 31/01	016/8 MD	G 31/01

	Europe, Rest of World 924 924 Turbo		USA, California 924 924 Turbo		Canada 924 924 Turbo		Japan 924 924 Turbo		Sweden 924 924 Turbo		Australia 924 924 Turbo	
Running gear												
Front Axle												
Coil spring part no.												
Stabilizer dia	mm	21	23		21	23	21	23	21	23	21	23
Rear Axle												
Torsion bar dia	mm	23.5										
Stabilizer dia	mm	-	14		-	14	-	14	-	14	-	14
Wheel Alignment (at DIN curbweight)												
Front Axle												
Toe (pressed with 150 N)		0° + 5°										
Camber		-20° ± 10°										
Max. left/right difference		10°										
Caster		2° 30' + 30°										
Max. left/right difference		30° - 15°										
Toe difference angle at												
20° lock		-1° ± 20°										
Rear Axle												
Toe (total)		0° ± 10°										
Max. left/right difference		10°										
Camber		-25° ± 30°										
Max. left/right difference		30°										
Spring strut angle		19° 30'										
Max. left/right difference		0.5°										
Height Adjustment												
Torsion bar center below wheel center	mm	5 ± 10										
Max. left/right difference with front end lifted	mm	10										
1° spring strut angle change = change in car height by approx.	mm	5										
Brakes												
Front brake pad make		Textar 276 GG										
Rear brake pad make		Jurid 334 PGG										