
Workshop Manual

911

Carrera 4

Structure of the Workshop Manual

This Workshop Manual describes all of the important operations for which special instructions are required to ensure proper completion. This manual is essential for shop foremen and mechanics who need this information to keep the vehicles in safe operating condition. The basic safety rules, of course, also apply to all repairs on vehicles, without exception.

Breakdown of the Workshop Manual

1. Overview of repair groups
2. Record sheet for supplements
3. List of contents
4. Technical data
5. Repair groups

Breakdown of the repair groups

1. Table of tightening torques
2. Special tools required
3. Exploded diagrams
4. Legends for the exploded diagrams
5. Notes on assembly/application of special tools
6. Diagnosis for the repair groups

The Workshop Manual will be updated regularly by means of supplements which must be filed immediately to maintain the usefulness of the manual. Appropriate entries must be made in the record sheet to prove that the manual is complete.

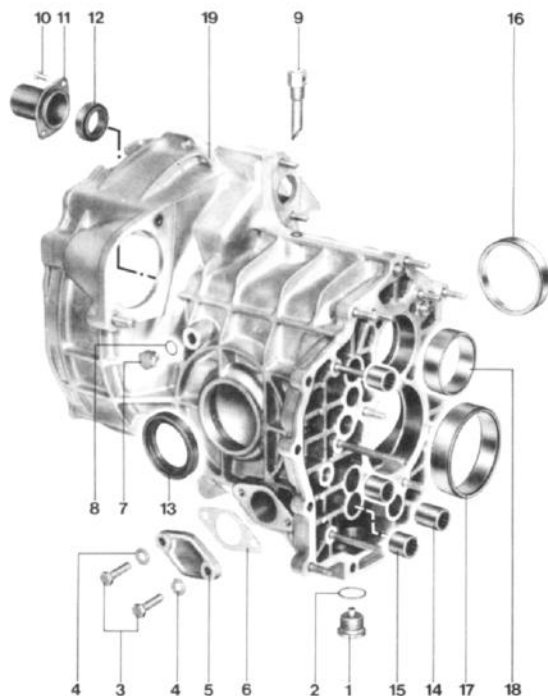
The content of this Workshop Manual will be supplemented with Technical Information Bulletins, which will be integrated into the manual from time to time.

Descriptions of design and function can be found in the service training course reference material.

Layout of the exploded diagram

A 34 B Manual Transmission, Controls, Case C 911 Carrera 4

Disassembling and assembling transmission



C 911 Carrera 4 B Manual Transmission, Controls, Case A 34

G	No	Description	Qty.	H	
				Removing	Installing
	1	Screw plug	1		Clean, tighten with 30 Nm
	2	Sealing ring	1		Replace
	3	Hexagon head screw	2		Tighten with 23 Nm (17 ftlb)
	4	Washer	2		
	5	Flange	1		
	6	Seal	1		Replace
	7	Screw plug	1		Tighten with 23 Nm (17 ftlb)
	8	Sealing ring	1		Replace
	9	Breather	1		Tighten with 35 Nm (26 ftlb). Observe installation position
	10	Fillister head screw	2		Tighten with 10 Nm (7 ftlb)
	11	Guide tube	1		
	12	Rotary shaft seal	1		Only install after assembling the gear set (also refer to Page 34-113)
	13	Rotary shaft seal	1		Drive into position with Special Tool 9252. Pack space between sealing lips with Kübler Silubrin Grease S
	14	Spherical sleeve	1	Pull out with a suitable internal puller (e.g. Schrem 14-20)	Press in with Special Tool 9254

34 - 128 Disassembling and assembling transmission Printed in Germany - VII, 1988

D

E

F

Disassembling and assembling transmission Printed in Germany - VII, 1988

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E

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D

- A - Repair group, numbers
- B - Repair groups, text
- C - Type of vehicle to be repaired
- D - Page number
- E - Operation
- F - Impressum, supplement number, year of printing
- G - Diagram item number in the order of disassembling
- H - Special notes to be observed when installing or removing

The notes on assembly/application of special tools which are given after the exploded diagram are always arranged in the order of text → diagram.

List of Repair Groups Carrera 4

General	Technical Data	Page 0.1
Repair Groups		Group
Volume I	Maintenance, Self-diagnosis	03
	Engine, Crankcase, Suspension	10
Engine, Maintenance	Engine, Crankshaft, Pistons	13
	Engine, Cylinder Head and Valve Drive	15
	Engine, Lubrication	17
	Engine, Cooling	19
	Fuel Supply	20
	Fuel System, Electronic Injection	24
	Exhaust System/Emission Controls	26
	Starter, Power Supply, Cruise Control	27
	Ignition System	28
	Diagnosis	
Volume II	Clutch, Controls	30
	Clutch	32
Transmission (manual)	Manual Transmission, Controls, Case	34
	Manual Transmission, Gears, Shafts	35
	Differential, Transaxle System, All-Wheel Drive	39
	Diagnosis	
Volume III	Clutch, Controls	30
	Torque Converter	32
	Automatic Transmission, Controls, Case	37
Transmission (automatic)	Automatic Transmission, Gears, Shafts	38
	Differential, Transaxle System	39
	Diagnosis	
Volume IV	Front Wheel Suspension	40
	Rear Wheel Suspension, Axle Shaft	42
Chassis	Wheels, Tires, Alignment	44
	Antiblock System	45
	Brakes, Mechanical	46
	Brakes, Hydraulics, Regulator, Booster	47
	Steering	48
	Diagnosis	
Volume VI	Body-Front Section	50
	Body-Center Section	51
Body	Body-Rear Section	53
	Lids	55
	Doors	57
	Electric Sunroof	60
	Hardtop	61
	Bumpers	63
	Glasses, Window Control	64
	Exterior Equipment	66
	Interior Equipment	68
	Seats	72
	Seat Covers	74
Volume VI	Heater	80
	Ventilation	85
Heating, Ventilation, Air Condition	Air Conditioner	87
Electrics	Diagnosis	
	Instruments, Fuel Gauge, Alarm System	90
	Radio, Telephone, On-board-computer	91
	Windshield Wipers and Washer	92
	Exterior Lights, Lamps, Switches	94
	Interior Lights	96
	Diagnosis	
Volume VII	Wiring	97
Electrics		
Wiring Diagrams		

Survey of Information Published in Technical Manual beginning in 1985

**6
Cyl.**

1

	TI/ QI	No.	911 C2/C4	911	911 Turbo	Remarks, Model, Also refer to...	Date
1985							
- Oil Pump with Intake Plate and Filter Screen	T	1/85	●	●	●	New version	29.04.85
- Camshaft Sprocket Installation	Q	1/85	●	●	●	Threads not lubricated with oil	10.04.85
- Engine Carrier/Engine Mounts	Q	2/85	●	●	●	Optimoly HT	07.06.85
- Scrapping Exhaust Valves	Q	3/85			●	Sodium filled valves	13.08.85
1986							
- Thermo Valve Temperature Switch	Q	1/86	●	●	●	Hose routing	18.04.86
- Leakage Lower Valve Cover Gasket	Q	2/86	●	●	●	1987 Models on	20.06.86
- Oil Pressure Switch Oil Pressure Warning Lamp Flickers	Q	3/86	●	●	●	1984 Models on	07.07.86
- New Nuts and New Cylinder Head Tightening Specifications	T	1/86	●	●	●	Torque angle	30.12.86
- Modification on Bypass Valve	T	2/86	●	●	●	Noise	30.12.86
1987							
- Oil Pipes Chain Tensioner	Q	1/87	●	●	●	1987 Model/leakage	18.06.87
1988							
1989							
- Additional Sealing on Crankcase	T	1/89	●	●	●	Silastic 732 RTV	22.05.89
- Protection and Conservation Agent for Engines / Type 959	T	2/89			●	Type 959: VW-Part No.: AKR 320 KD 604	31.05.89
- Tightening Torque of Conrod Nuts	T	3/89	●	●	●	New grade 12.9: 15 Nm and 2 x 90°	20.12.89
1990							
- Camshaft housing cover	T	1/90	●			Additional washers: 6,2x20x4 (aluminium)	28.02.90
◆ = Conversion instructions or workshop campaign ∇ = Brochure ⊕ = Supplement or change for TI/QI							



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	TI/ QI	No.	911 C2/C4	911	911 Turbo	Remarks, Model, Also refer to...	Date
1985							
- Misfiring Because of Ground Strap Corrosion	Q	1/85	●				15.02.85
- Fuel Injector Survey L-Jetronic	Q	2/85	●				15.02.85
- Throttle Housing	Q	3/85	●			Bypass air screw	10.04.85
- Corroded Spark Plug Connectors	Q	4/85	●		●		10.04.85
- Settings of DME Control Units	T	1/85	●				18.07.85
- List of Factory Tested an Approved Spark Plugs	T	2/85	●		●	Invalid/...TI-1/86	08.07.85
- Retrofitting - Catalysor	T	◆ 3/85	●				20.12.85
- Retrofitting - Catalysor	T	◆ 4/85	●				20.12.85
- Retrofitting - Catalysor	T	◆ 5/85	●			Invalid/...TI-1/87	20.12.85
1986							
- Ignition Delay Relay	Q	1/86			●	1985-1986 Models/ Relay voltage 9 volts	16.01.86
- List of Factory Tested an Approved Spark Plugs	T	1/86	●		●	Invalid/...TI-1/88	30.04.86
- BatterieDischarging	Q	2/86	●		●	Removing battery	18.04.86
- Mixture Preparation Engine Stalls While Declutching	Q	3/86	●			1986 Model/"mixture too rich"	20.06.86
- Catalytic Converter Cars Poor Pickup	Q	4/86	●				20.06.86
- Engine Damage Engine Repairs	Q	5/86	●		●	Foreign particles in in- take system	20.06.86
- Information for Cars with Catalytic Converter	T	2/86	●				26.06.86
- Turbocharger Compressor Wheel Damage	Q	6/86			●	foreign particles	10.10.86
- Faulty Wire Bridge - Terminal 28 Lean Hesitation, CO Adjustment	Q	7/86	●			Terminal 28/resistance	25.11.86
1987							
- Additional Air Pump Maintenance	Q	1/87			●	Fuel return line	20.02.87
- Troubleshooting Fuel System/Engine Electrical System	Q	2/87	●			Plug connections (cleanliness)	20.02.87
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2

	TI/ QI	No.	911 C2/C4	911	911 Turbo	Remarks, Model, Also refer to...	Date
- Engine Power Fuel/Air Mixture	Q	3/87		●		1986-1987 Models/ term. 28/oxygen sensor	31.03.87
- Troubleshooting Temperatur Sensor	Q ♦	4/87		●		NTC II	22.05.87
- Service Installation - Catalytic Converter	T ♦	1/87		●			25.10.87
- Starting Motor Transmission Cars	Q	5/87		●		1987 Model/115 mm	31.08.87
- Battery Discharging	Q	6/87		●	●	Only coupe/inside lights	16.10.87
- Battery Discharging New Cars	Q	7/87		●	●	Checking battery con- dition	24.11.87
1988							
- Fuel Grade Exhaust System	Q	1/88		●	●	Exhaust tailpipe dis- coloration/unleaded	19.02.88
- Survey of Factory Tested and Approved Spark Plugs	T	1/88		●	●		06.07.88
- Survey of Control Units	T	2/88		●	●		06.07.88
- Fuel/Air Mixture Throttle Valve Housing	Q	2/88		●		Hose to thermo valve disconnected	19.09.88
- Starter Starter Gear Ring	Q	3/88		●		911 Turbo starter gear- ring/...QI-5/87	30.12.88
1989							
- Unleaded Gasoling Regular RON 91 / Euro Premium RON 95 / Premium RON 98	T	1/89	●	●	●	Fuel grade table.	31.01.89
- New Catalytic Converter Conversion Kit 930.113.911.03	T	2/89		●		...with plastic filling tube.	12.06.89
- Spark Plug connectors which are hard to remove	T	3/89	●			Engine Nos.: 62 K 00607 to 62 K 00788	02.05.89
- DME Control Unit	T ♦	4/89	●			...with green dot.	08.06.89
- Lighting up of Warning Signs and Faults in DME Fault Memory	T	5/89	●			Carrera 4	12.06.89
- Service Installation of Catalytic Converter	T ♦	6/89	●			Carrera 4 M'89 (K) 964.113.911.00	05.10.89
- Fuel Hose to Rear Fuel Pump	T ♦	7/89			●	Hose laid differently.	13.11.89
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2

	Ti/ Qi	No.	911 C2-C4	911	911 turbo	Remarks, Model, Also refer to...	Date
1990							
- Cable harness connector at the air-flow sensor	T ♦	1/90	●			Cable cluster mounted in tight loop.	21.02.90
- Securing heat shield to exhaust system	T	2/90	●			...coat with Optimoly HT	31.08.90
- Engine Temperature Sensor (NTC) II	T	3/90		●		M'84 (E)-'89 (K) spare part: 930.606.915.00	16.11.90

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 ▽ = Brochure
 ⊕ = Supplement or change for Ti/Qi



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The workshop manual of the Carrera 4 also includes that for the Carrera 2.
The Carrera 4 acts as the basis for description of the repairs in the manual.
"Carrera 4" also appears on every page in the header line.

Deviating descriptions for repairs on the Carrera 2 follow those of the Carrera 4. These repair descriptions for both models are separated by a yellow sheet.

"Carrera 2" appears on all pages in the header line after the separating sheet. The page number starts with 100 as an additional distinction.

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