

Wiper Motor

Information: **Replacement of wiper motor during repair work**

Model Year: **As of 1994 up to 1998**

Note: If the wiper motor on the 911 Carrera/Targa/Turbo (993) needs to be replaced, the defective wiper motor is replaced with the wiper motor of similar design used for the 911 (997) model line.

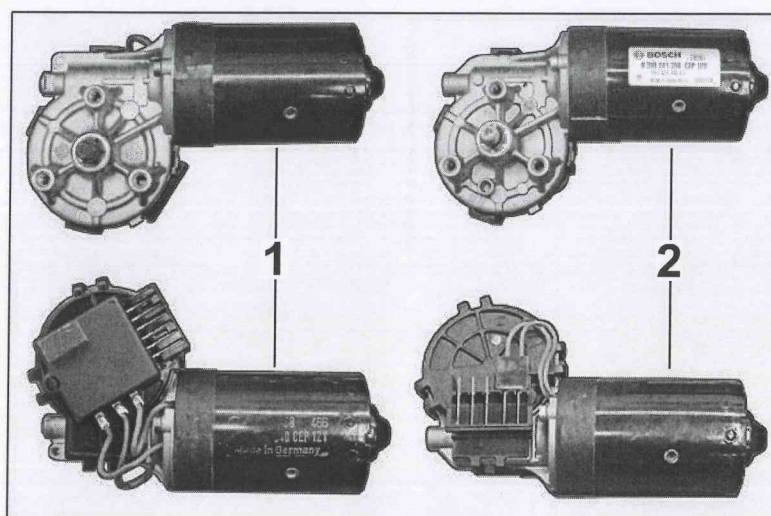


Figure 1

- Comparison of technical features:

Part No.	993.624.105. / 106.00 (Standard ⇒ Figure 1 -1-)	997.624.105. / 106.01 (Replacement ⇒ Figure 1 -2-)
Speed settings:	3	2
Connector housing:	6-pin	5-pin



Information

Please inform the customer of this accordingly.

Parts Info:

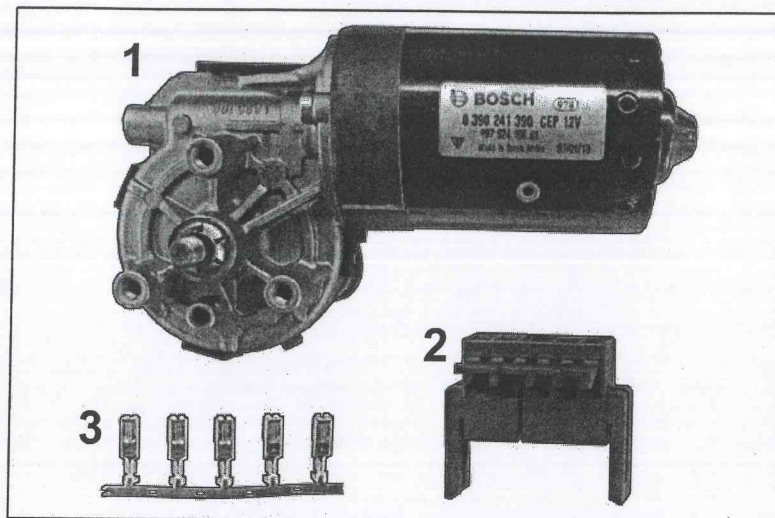


Figure 2

**Information**

On the 911 (997) models - unlike the 911 Carrera/Targa/Turbo (993) - the wiper motor was positioned/fitted inversely to the pivot axis in the wiper linkage.

Given this, a 911 (997) wiper motor for right-hand drive vehicles must be ordered for left-hand drive 911 Carrera/Targa/Turbo (993) vehicles and a 911 (997) wiper motor for left-hand drive vehicles must be ordered for right-hand drive vehicles.

Tools: **9818 - PIWIS Tester II**
Nr.155-1 Pos.1 - Cable repair kit

Nr.155 Pos.1 - Press-out tool set



WARNING

Working on the vehicle electrical system

- Risk of short circuit and fire.
- ⇒ Disconnect and cover the battery.
- ⇒ Route electric wires without tension so that no chafing occurs.
- ⇒ Secure electric wires to existing wires/components using tie-wraps and/or wrapping tape.

Work Procedure: 1 Preparatory work

- 1.1 Disconnect the battery.
- 1.2 Remove wiper motor and linkage (crank drive).
 - 1 – Central electrical system
 - 2 – Expansion tank
 - 3 – Fuel tank
 - 4 – Heating/air-conditioning unit
- 1.2.1 Vehicles WITH air conditioning, see: ⇒ 92 15 19 Removing and installing wiper motor (on vehicles with air conditioning)
- 1.2.2 Vehicles WITHOUT air conditioning, see: ⇒ 92 15 19 Removing and installing wiper motor (on vehicles without air conditioning)

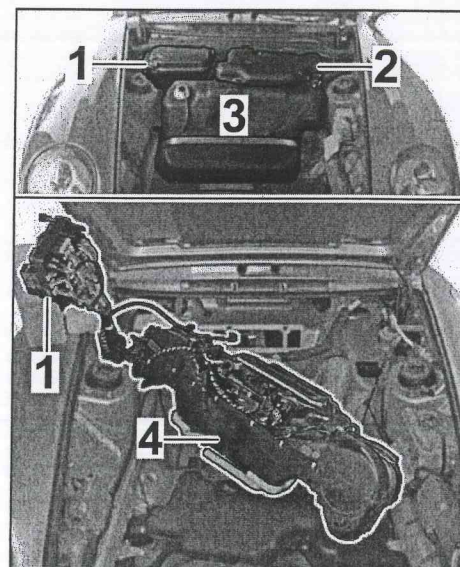


Figure 3

2 Convert wiper motor (\Rightarrow Figure 4)

- 1 – Push/pull rod
- 2 – Wiper motor (standard)
- 3 – Wiper motor (replacement)
- 4 – Screw, M6 x 15

2.1 Loosen push/pull rod from the wiper motor drive shaft and remove old wiper motor with linkage holder (crank drive).

2.2 Install new wiper motor on the linkage holder (crank drive) using three screws (M6 x 15).
Tightening torque 11 Nm (8 ftlb.)

2.3 Secure push/pull rod on the wiper motor drive shaft using a corrugated washer and M8 hexagon nut.

Tightening torque 22 Nm (16 ftlb.)
+/-2 Nm (+/-1.5 ftlb.)

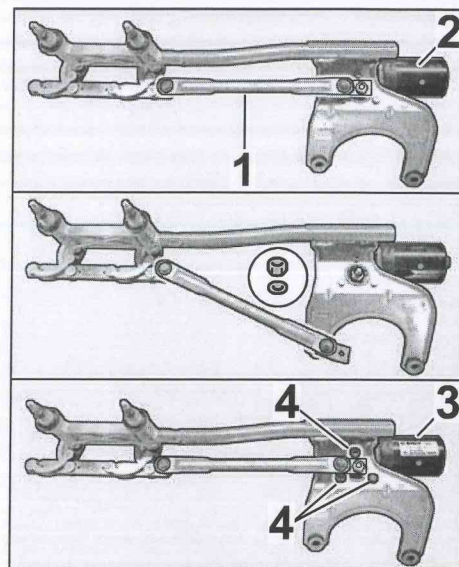


Figure 4

3 Adapt electric wire harness

- 1 – Connector housing (6-pin)
- 2 – Secondary lock

3.1 Open secondary lock on the connector housing (6-pin) (\Rightarrow Figure 5 -inset-) and press out the six connector pins using the required press-out tool.

3.2 Cut connector pin (6 ea.) off the line (6 ea.).

3.3 Crimp GN/GE and SW/BL lines together with a new connector pin. Crimp the remaining connector pins (4 ea.) to the remaining lines (4 ea.).

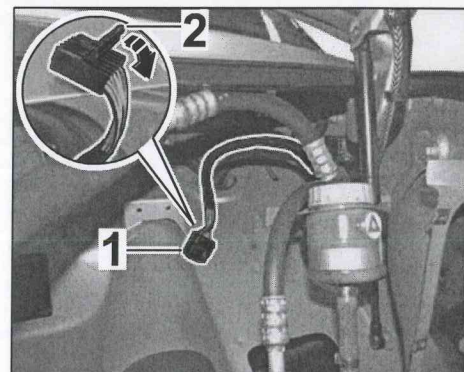


Figure 5

- 3.4 Open secondary lock on the new connector housing (5-pin) and fit lines with new connector pins (5 ea.) in the connector housing according to the following assignment table.

- A** – Connector housing (6-pin)
B – Connector housing (5-pin)

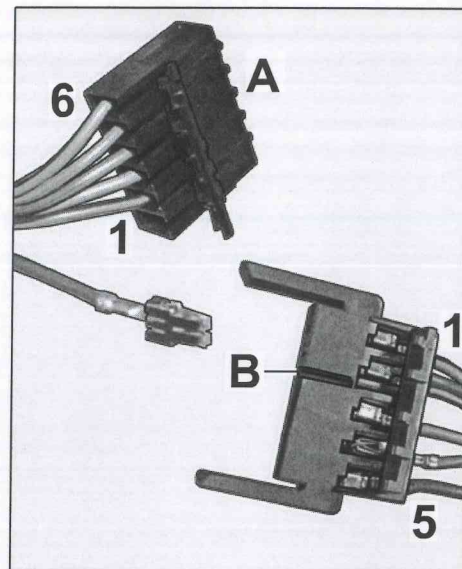


Figure 6

Connector assignment on LHD vehicle:		
Chamber	Old connector assignment (6-pin): Terminal – Colour	New connector assignment (5-pin): Terminal – Colour
1	53 – GN/SW	53 – GN/SW
2	31b – GN/BL	53b – GN/GE and 53i – SW/BL
3	53b – GN/GE	53a – VI
4	53a – VI	31b – GN/BL
5	53i – SW/BL	31 – BR
6	31 – BR	— — —

Connector assignment on RHD vehicle:		
Chamber	Old connector assignment (6-pin): Terminal – Colour	New connector assignment (5-pin): Terminal – Colour
1	31 – BR	53 – GN/SW
2	53i – SW/BL	53b – GN/GE and 53i – SW/BL
3	53a – VI	53a – VI
4	53b – GN/GE	31b – GN/BL
5	31b – GN/BL	31 – BR
6	53 – GN/SW	— — —

- 3.5 Close secondary lock on the new connector housing (5-pin).
- 4 Concluding work
 - 4.1 Install wiper motor and linkage (crank drive).
 - 4.1.1 Vehicles WITH air conditioning, see also: ⇒ 92 15 19 Removing and installing wiper motor (on vehicles with air conditioning)
 - 4.1.2 Vehicles WITHOUT air conditioning, see also: ⇒ 92 15 19 Removing and installing wiper motor (on vehicles without air conditioning)
 - 4.2 Connect battery and battery charger (⇒ *Workshop Manual '2X00IN Battery trickle charging*).
 - 4.3 **9818 - PIWIS Tester II** must be connected to the vehicle and switched on.
 - 4.4 Perform a function test on the windscreen wiper.
 - 4.5 Read out the fault memory of all systems, work through any existing faults and erase the fault memory (⇒ *Workshop Manual '0X03IN Diagnostic maintenance: Diagnostic system and maintenance inter...*).
 - 4.6 Switch off ignition and disconnect **9818 - PIWIS Tester II** and battery charger.

Working Time: 92 15 31 70 –Wiper motor converted–

Labor time: **40 TU**

Includes: Adapting electric wire harness to suit new wiper motor

Without: Wiper motor and wiper linkage removed and installed
(separate LO Nos.)

92 15 19 00 –Removing and installing wiper motor–

Labor time: **300 TU**

92 15 19 03: –Removing and installing wiper motor–

Labor time: **200 TU**

92191900: –Removing and installing wiper linkage–

Labor time: **450 TU**

92191903: –Removing and installing wiper linkage–

Labor time: **460 TU**

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92 15 19 Removing and installing wiper motor (with A/C system)**Vehicles with air conditioning****Removal**

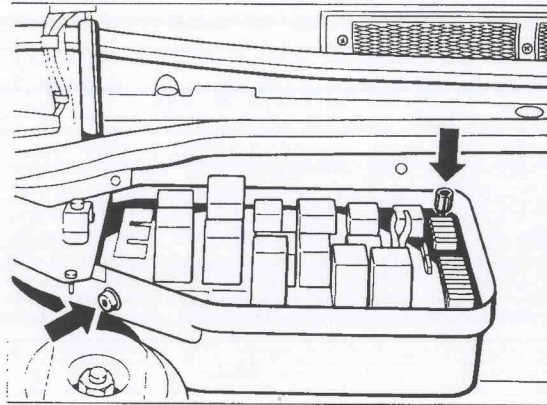
1. Disconnect battery and cover battery or terminals.

Note

Follow safety precautions for work on vehicles with airbags.

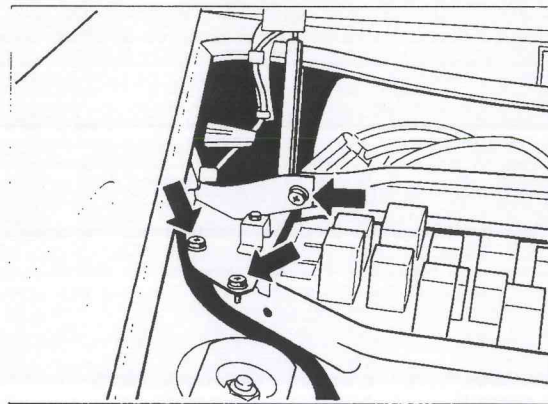
2. Remove steering wheel and steering column panel.
3. Remove tachometer and large and small instrument cluster.
4. Remove air guide. Disconnect six-pin connector from wiper motor.
5. Unhook left pneumatic spring of luggage compartment lid and support luggage compartment lid.
6. Extract refrigerant with service equipment.
7. Remove cover of heater / A/C unit (old type with two screws and washers; new type with clamping spring).

8. Disconnect central electrical system.



240-87

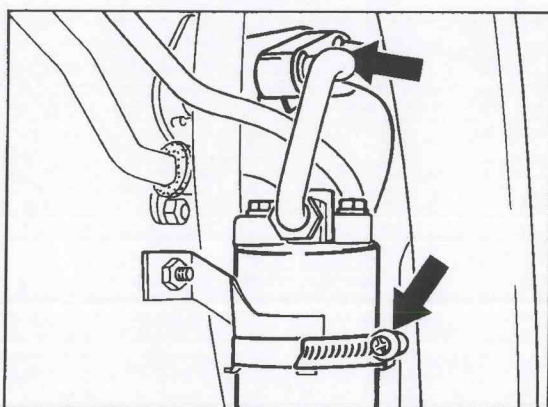
9. Remove wire harness cover.



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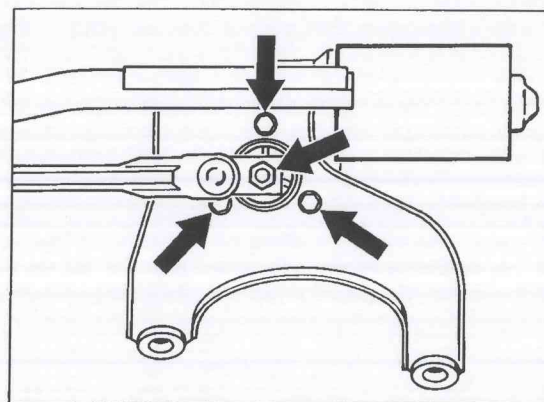
10. Unplug connector from lid of fan housing and lay central electrical system on fender (the fender must be protected by a cover).

11. Unplug cable connector from final stage of fan.
12. Remove firewall.
13. Disconnect A/C lines from expansion valve. Immediately insert air-tight plugs in ends of all lines and connections. Loosen retaining clip.
14. Remove rear wheel housing liner on front left fender.
15. Disconnect hose clip from fluid reservoir. Undo mounting screw between wheel housing A/C lines and luggage compartment A/C lines. Immediately insert air-tight plugs in ends of all lines.



1897-87

16. Move A/C lines to side from wiper mount.
17. Release mounting nut of linkage, holding a 21 mm open-end wrench against linkage.



2072-92

Tightening torque: 22 ± 2 Nm (16 ± 1.5 ftlb.)

18. Release mounting screws. Tightening torque: 11 Nm (8 ftlb.).
19. Remove wiper motor through installation opening of tachometer.

Installation

Note

Installation of the wiper motor is much easier if the motor is fixed in position with a stud bolt (sawn-off screw) and a nut. After fixing the motor, fasten it in place with 2 screws. Then unscrew the nut and stud bolt and insert the third screw.

1. Connect battery and switch wiper motor on and off (park position).
2. Install linkage. Cable and linkage must form a straight line.
3. Switch on wiper motor and check wiper positions.

4. **Disconnect battery again** and install the parts that you have removed. Use new O-rings and wet them with refrigerant oil.
5. Replace the two self-locking screws of the airbag unit in the steering wheel.

Note

To remove the crank mechanism of the wiper, the heater / A/C unit must be removed.