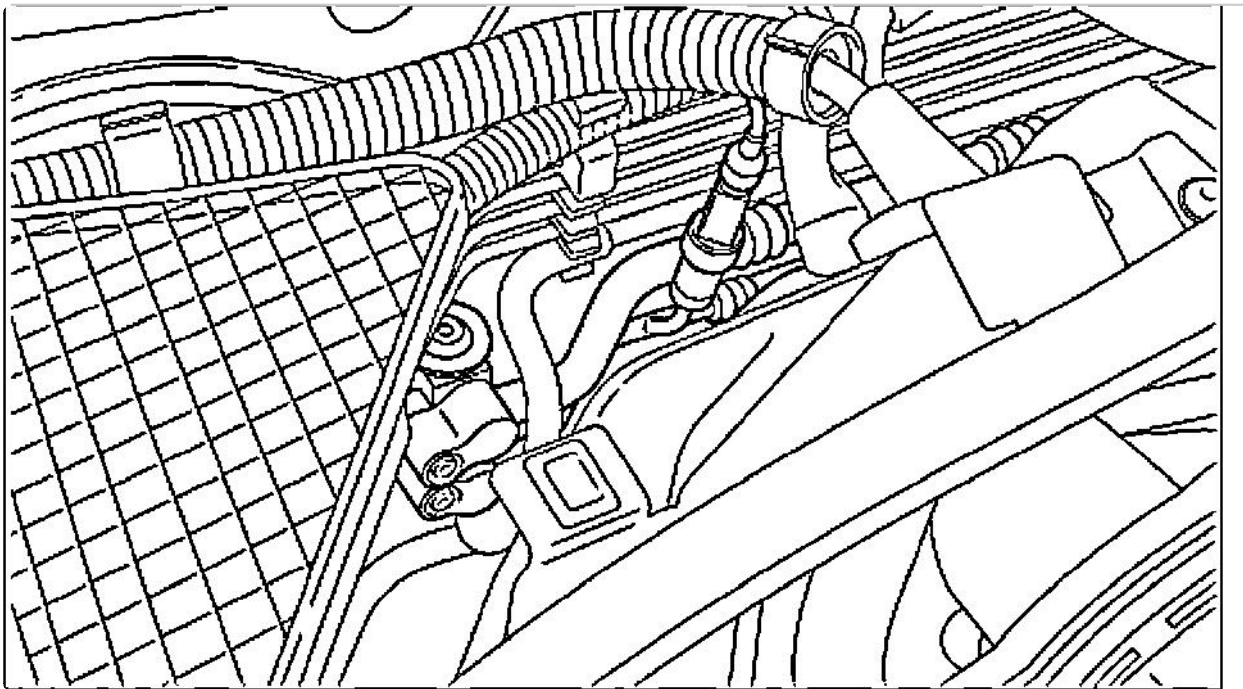


2004 Porsche Cayenne Turbo (9PA) V8-4.5L Turbo

Vehicle > Heating and Air Conditioning > Expansion Valve > Service and Repair > Procedures

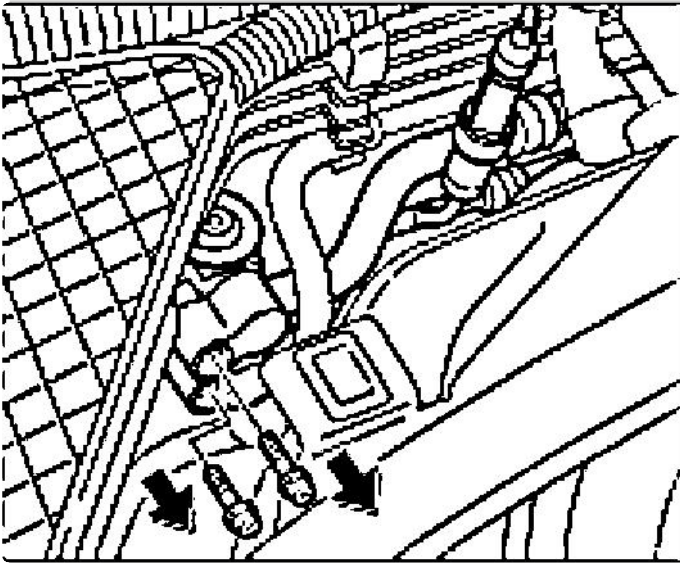
AIR CONDITIONER

Removing and Installing Expansion Valve

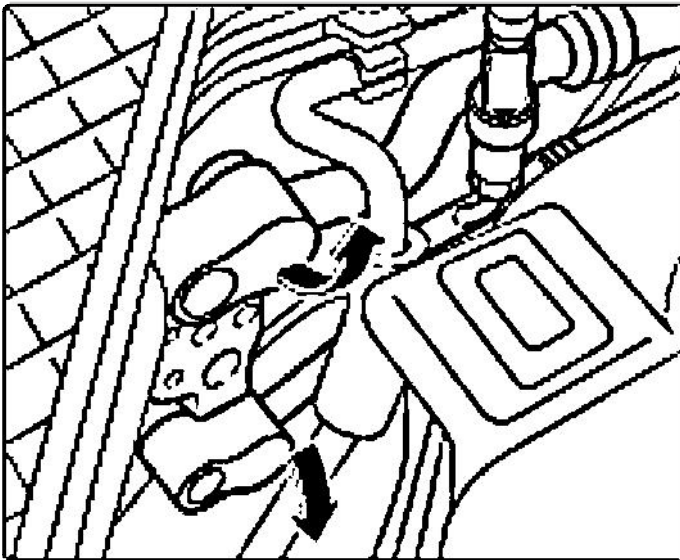


Removing Expansion Valve

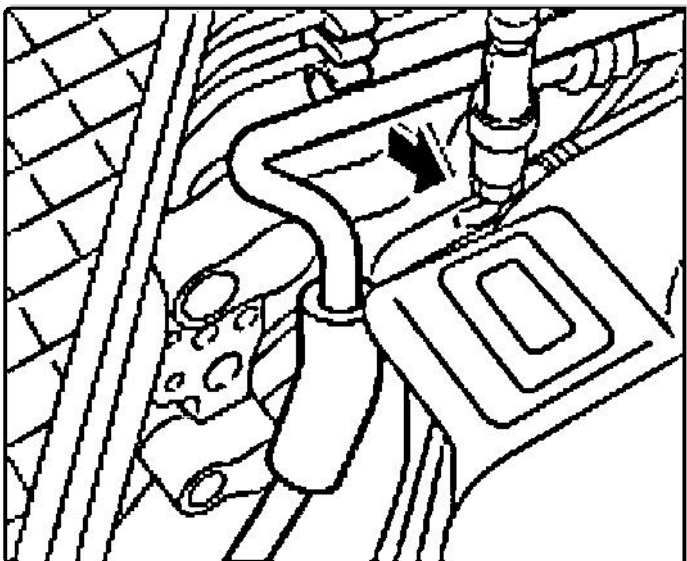
- Remove refrigerant by suction.
- Remove wiper motor.
- Remove cowl panel cover.
- Observe safety regulations when working with refrigerant. Refer to, Safety regulations for working on air-conditioned vehicles and dealing with refrigerant R134a.



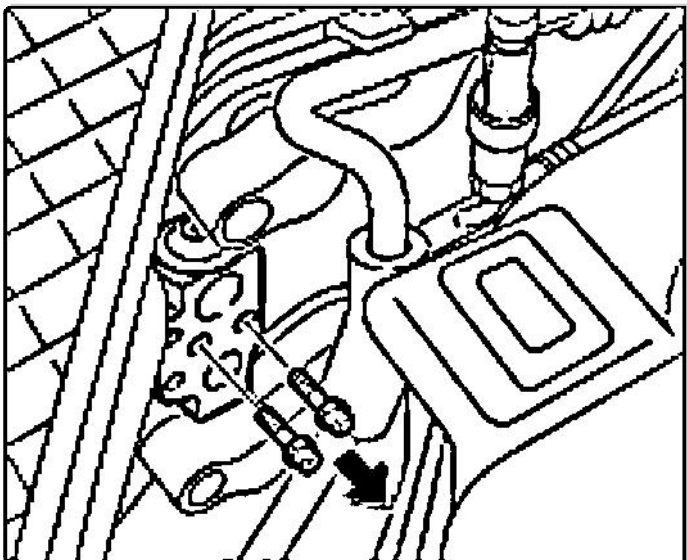
1. Undo two fastening screws for refrigerant lines on expansion valve.



2. Remove refrigerant lines from expansion valve and move them up/down to keep them out of the way.



3. Unclip brake booster line to keep it out of the way.

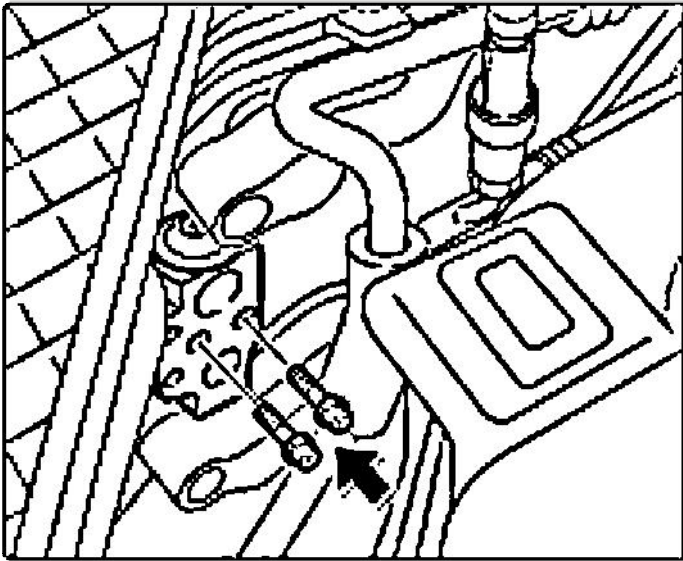


4. Undo the two fastening screws and remove expansion valve.

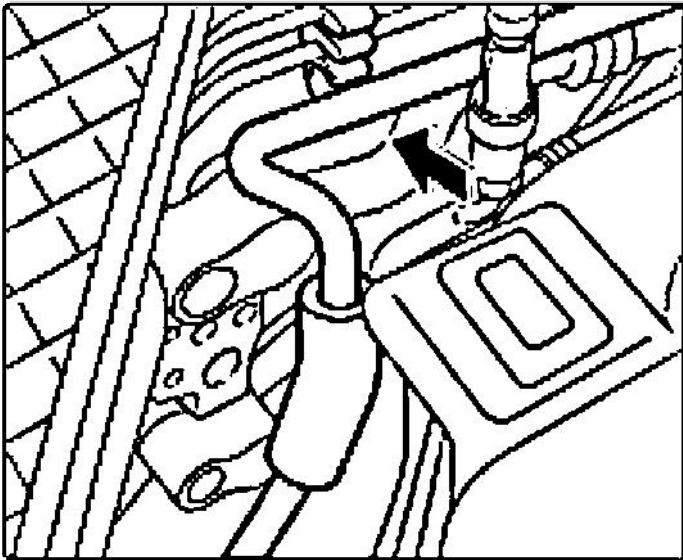
Installing Expansion Valve

NOTE:

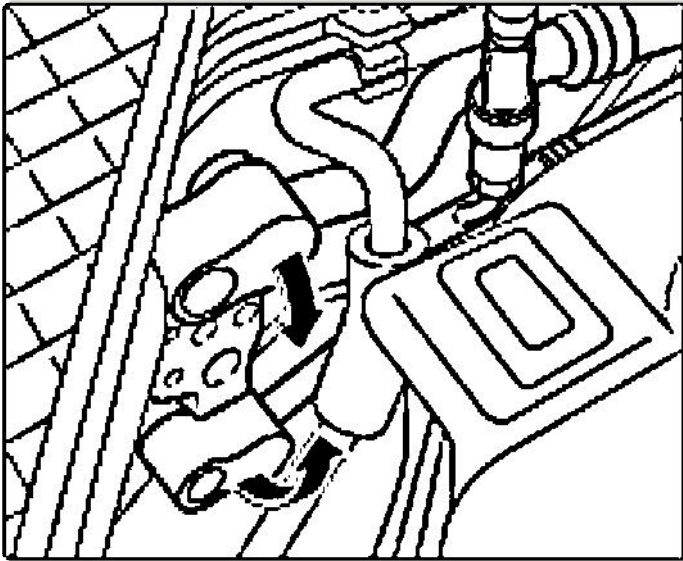
- Before the expansion valve is re-installed, the O-rings of the refrigerant lines must be checked for damage and replaced if necessary.
- Wet the O-rings of the refrigerant lines with refrigerant oil.



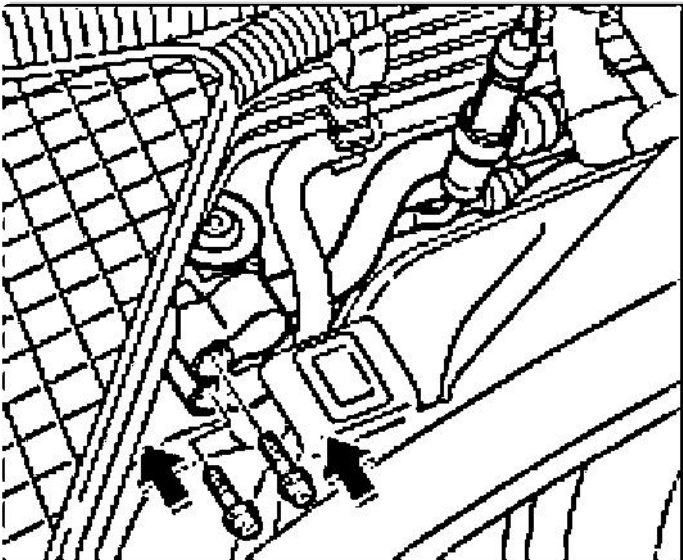
1. Carefully push expansion valve onto refrigerant lines from evaporator - do not tilt.
2. Insert the two fastening screws and tighten. Refer to tightening torques.



3. Clip line from brake booster into the holder.



4. Position refrigerant lines on expansion valve and press into place - do not tilt.



5. Carefully push refrigerant lines onto expansion valve (do not tilt) and tighten with the two fastening screws. Refer to tightening torques.

Tightening Torques

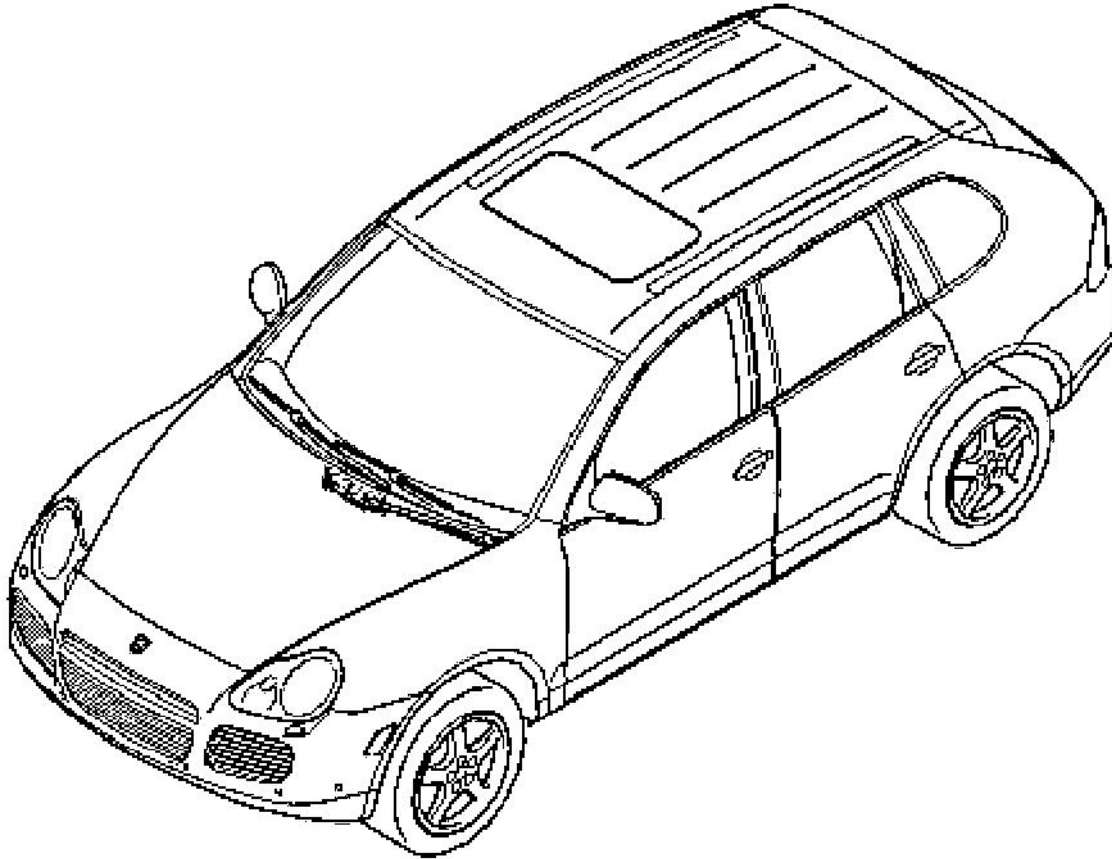
Location	Illustration	Thread	Tightening torque [Nm] (ftlb.)
Fastening screws, expansion valve - on refrigerant lines from evaporator		M6	9 (6.5 ftlb.)
Fastening screws, refrigerant lines on expansion valve		M8	10 (7.5 ftlb.)

2004 Porsche Cayenne Turbo (9PA) V8-4.5L Turbo

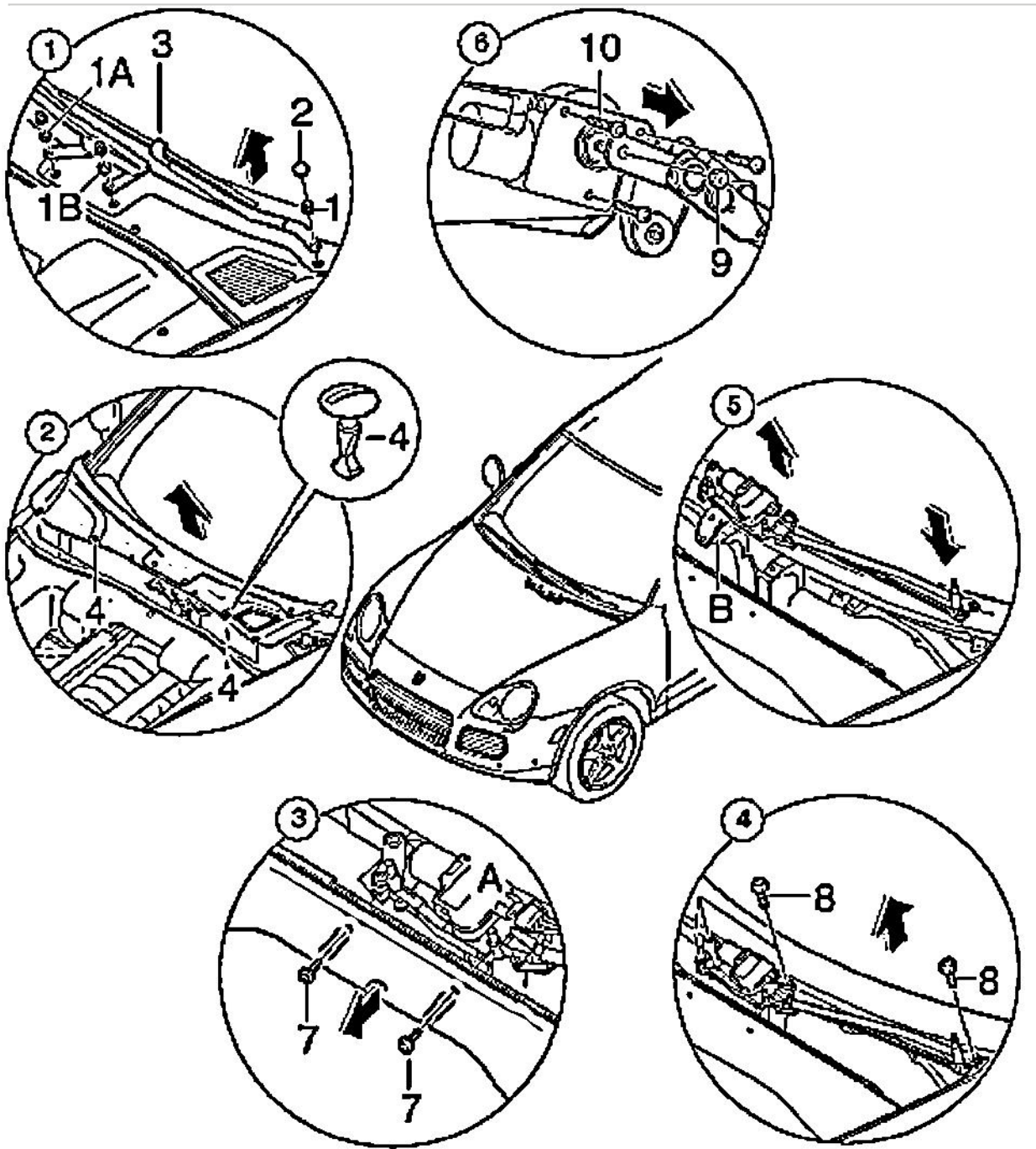
Vehicle > Wiper and Washer Systems > Wiper Motor > Service and Repair > Removal and Replacement > Front

REMOVING AND INSTALLING WIPER MOTOR

Removing And Installing Wiper Motor



Removing Wiper Motor

**WARNING: Danger of injury:**

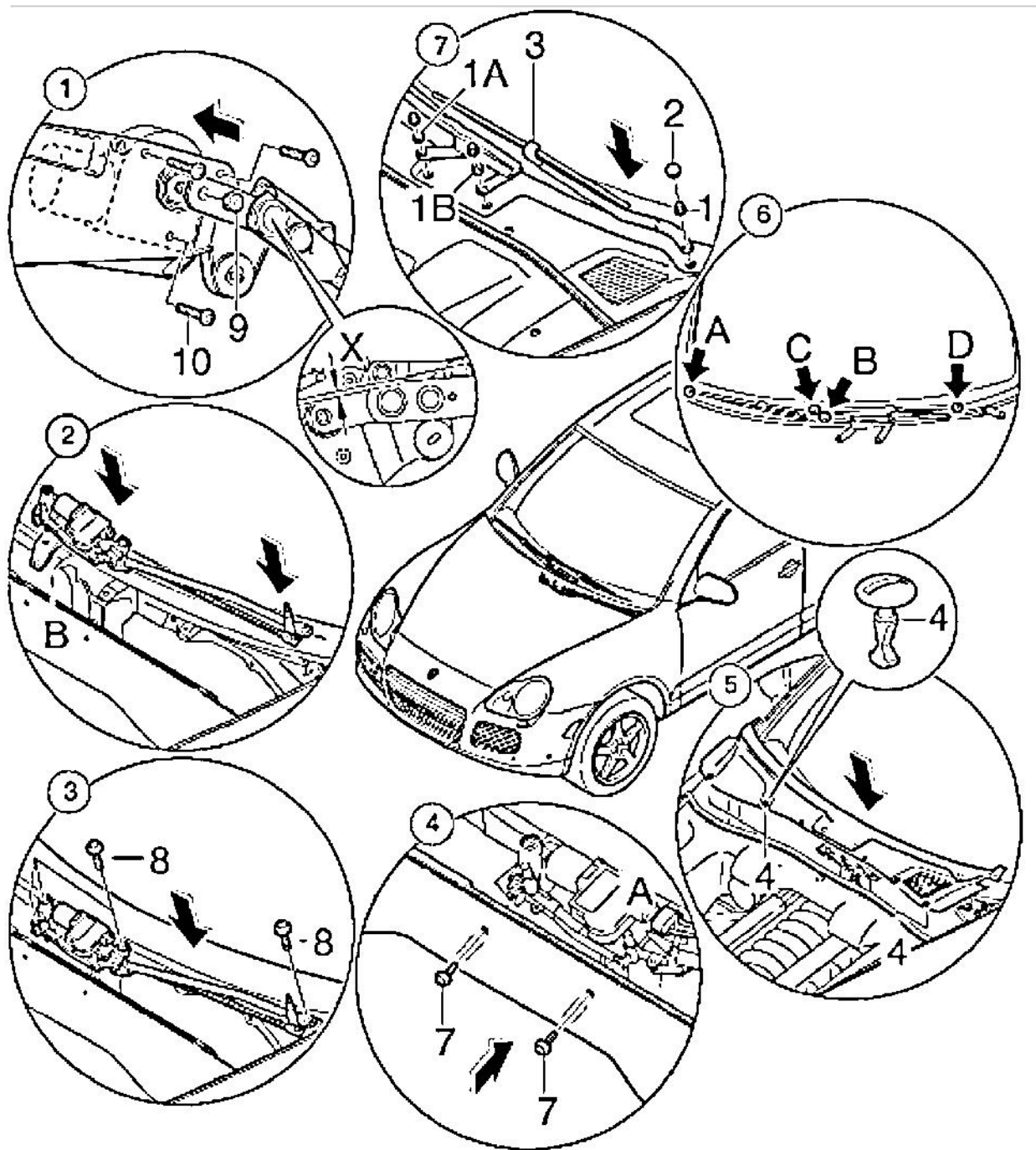
- During work on the wiper, the ignition must be switched off and the ignition key removed.
- Activate wipers once (flick wiping) so that wiper arms are in the normal position.

NOTE:

- The wiper system is deactivated if the bonnet is open. The wipers are only reactivated once the bonnet has been closed and the wiper system has been switched off and on again.
- The wiper control module is located in the wiper motor.
- If a new wiper motor is installed, it must be coded using the Porsche System Tester. Refer to 'Coding the wiper control module'
- Remove front cover (engine compartment cover).

No.	Procedure	Instructions
1	Remove wiper arms	Open the bonnet and remove the cover cap -1--2--3--2a--2b-
2	Remove radiator tank cover	Unclip A-pillar side covers. Unscrew and remove the four fastening screws -4--arrow-
3	Remove front fastening screws from wiper system	Unscrew both fastening screws -7--A- <ul style="list-style-type: none"> The plug is engaged. The catch is located on the bottom of the plug and cannot be seen from above. To undo the catch on the plug, the tab on the plug must be pulled without pulling strongly on the plug. The catch is undone in this way. The plug can be pulled off.
4	Remove fastening screws on the wiper system	Unscrew four fastening screws -8-
5	Remove wiper system	Lift wiper motor with link downwards on the driver's side and upwards on the passenger's side. Twist the entire component and remove it upwards. -B- Ensure that the supports -B-
6	Detach wiper motor from link	Mark drive position of the wiper link. -9--10- Unscrew fastening nut -9--10-

Installing Wiper Motor



- Before the wiper motor is attached to the wiper link, connect the wiper motor to the electrical plug connection, close the bonnet, activate the flick wiping function at least once and let it run to the limit position. Disconnect plug connection again.
- The wiper motor must be operated again at least once with a flick wiping action and allowed to run to the limit position before the wiper arms are attached. Close the bonnet.
- Observe the sequence of fastening screws "8". See procedure no. 3 in the following figure.

No.	Procedure	Instructions
1	Fit wiper motor to wiper link and position it	Screw in fastening screws -10--X--9- <i>9 Nm</i> <i>4 mm</i>
2	Position wiper system	Engage support -B-
3	Install fastening screws for wiper system	Position fastening screws -8- <i>starting from driver's side</i>
4	Install front fastening screws for wiper system	Connect electrical plug connection -A--7-
5	Fit radiator tank cover	Position radiator tank cover. Press the cover into the retaining strip of the windscreen. Position the four fastening screws -4-
6	Position wiper arms	Close bonnet, actuate flick wiping action and let it run to the limit position. -C--D--A--B- The wipers must be positioned at various points on the windscreen. Priority 1 is assigned to the wiper on the driver's side with points -C--D--A--B-
7	Fit wiper arms -3-	Mount washer -2a--2b--2--3--2-

NOTE: If a new wiper motor is installed, ensure that the relevant Porsche original screws are used.

Coding The Wiper Control Module

After the wiper motor with control module is replaced, the coding must be adapted to the vehicle equipment so that the control module knows which sensor it can find on the sensor cable.

The following equipment features can be changed:

- Wiper with rain sensor
- Wiper with rain/light sensor

Vehicle coding table

Setting	Function
Rain sensor	Automatic intermittent wiper operation
Rain/light sensor	Automatic intermittent wiper operation and headlight control

NOTE:

- When the coding is changed in the menu item Modify coding, the ignition must always be switched off afterwards and the key removed.
- After the ignition is switched on again, the new coding of the control module is updated and the stored faults can be erased.

- If it is not possible to communicate with the wiper motor control module, this may be caused by incorrect coding. Remedy: Re-code the control module and restart the connection setup using the Tester. Code control module correctly.
- If the coding does not match the vehicle equipment, faults will be displayed that are not really present.
- The wiper motor control module does not function without a valid coding entry.

Tools

Item	Special tool designation	Remarks
-1-		Workshop Equipment

Torques

Location	Illustration	Tightening torque/Nm (ftlb.)
Fastening nuts for wiper arms	-2-	32 (24)
Fastening nut for wiper arm	-3-	18 (13)
Front fastening screws from wiper link	-7-	9 (6.5)
Fastening screws on wiper link	-8-	10 (7.5)
Fastening nut for wiper link	-9-	18 (13)
Wiper motor fastening screws to the wiper link	-10-	9 (6.5)