

A/C Unit Heat Exchanger

A/C Unit Heat Exchanger, Preparing for Removal

Special tools and workshop equipment required

- ◆ Hose Clamps up to 25 mm -3094- or Hose Clamps up to 40 mm -3093-
- ◆ Commercial compressed-air gun with rubber end piece
- ◆ Cooling System Tester -VAG 1274- (and corresponding adapter)

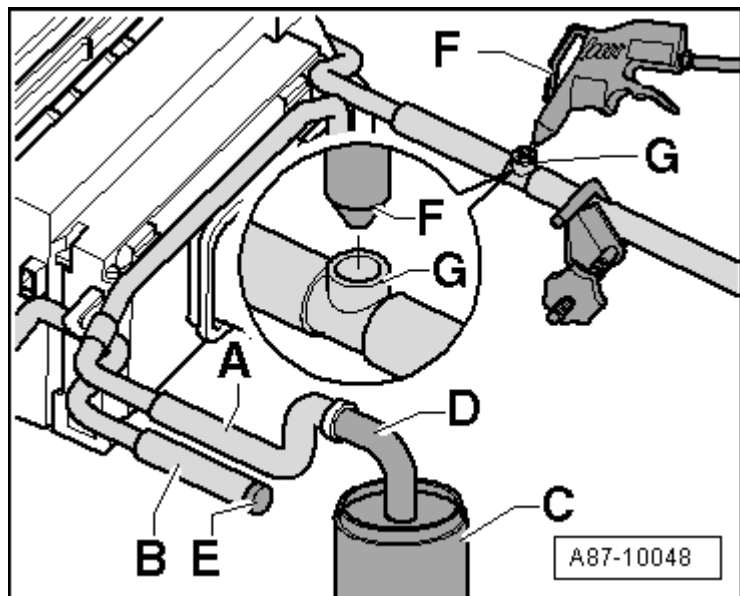


Note

- ◆ When the ignition is on, the valves of the pump/valve unit (left heat regulation valve -N175- and right heat regulation valve -N176-) are continually activated depending on the temperature set at the climatronic control module -J255- A/C control head. For this reason, the valve may be warm or hot even when the engine is cold.

- ◆ The coolant pipe to the hose -A- (supply to the driver side heat exchanger) can only be replaced when the A/C unit is removed (it crosses the A/C unit in the rear passenger area). The coolant pipe to hose -B- (supply to front passenger side heat exchanger) can be replaced once the heat exchanger is removed, with the A/C unit still installed. The coolant pipe to the bleeder fitting -G- (return from the heat exchanger) can be replaced when the gas pedal module is removed after removing the heat exchanger and releasing the holder. The A/C unit can remain installed.

- Switch off ignition.
- Dissipate pressure in coolant circuit by opening cap at coolant expansion tank.
- Remove the plenum chamber cover.

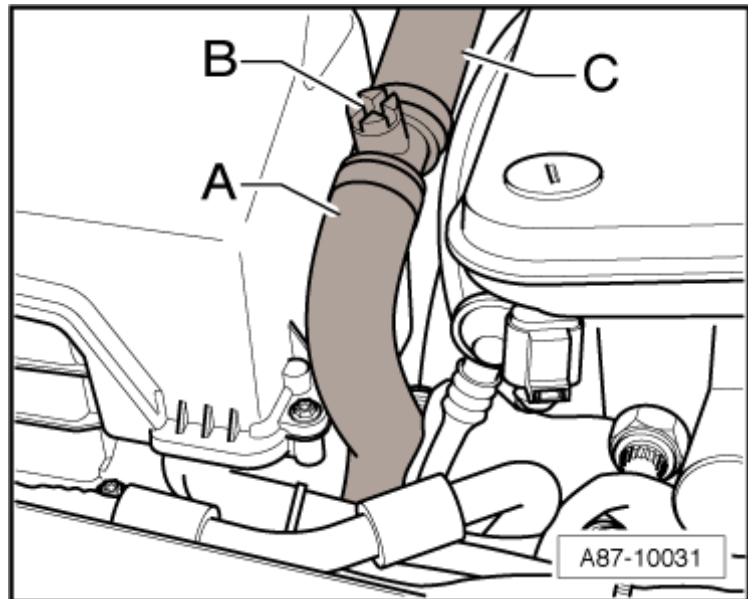


WARNING

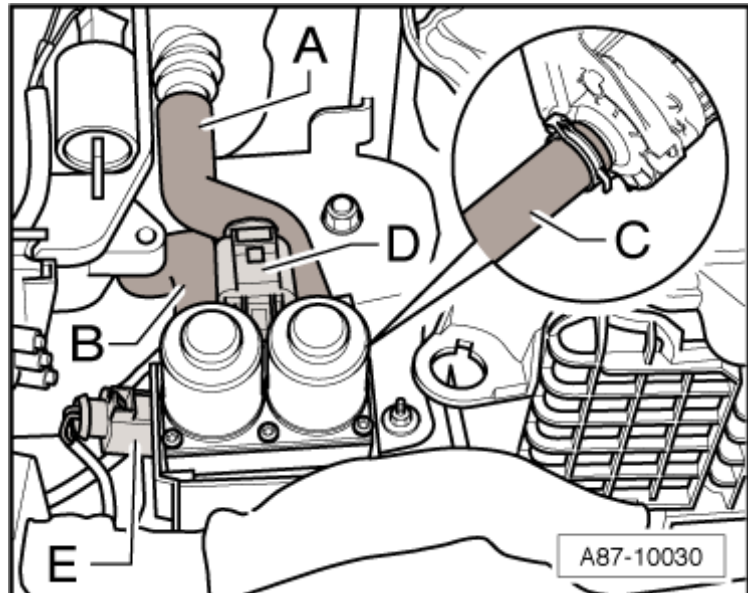
Even when the engine is cold, both pump/valve unit valves can be hot.

- Remove the windshield wiper arm and cowl panel trim. Refer to →[Electrical Equipment; Rep. Gr.92](#).
- If necessary, remove the dome brace (not present in all vehicles). Refer to →[Suspension, Wheels and Steering; Rep. Gr.40](#).
- Clamp off coolant hose -A- (return from the heat exchanger to the engine) for

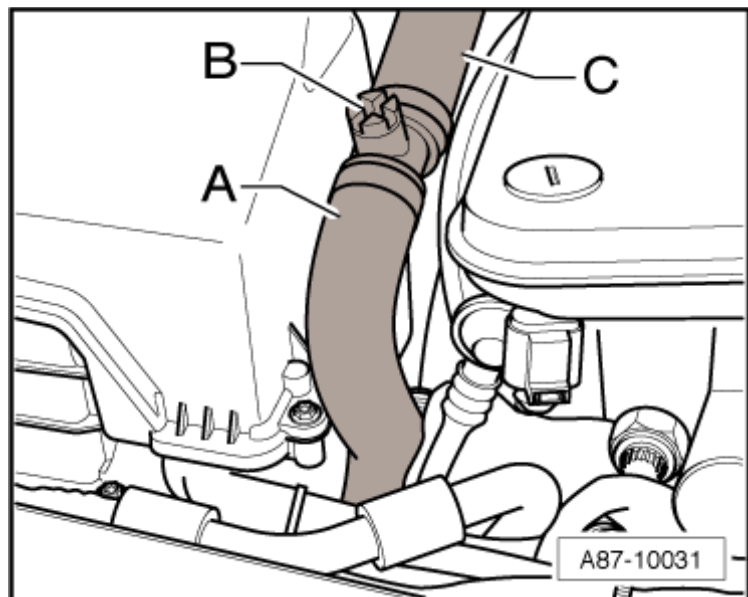
example using Hose Clamps up to 25 mm dia. -3094-.



- Mark the assignment of coolant hoses -A- (supply to left heat exchanger) and -B- (supply to right heat exchanger).
- Disconnect connector -D- (to the left heat regulation valve -N175- and right heat regulation valve -N176-).
- Disconnect connector -E- (to the coolant pump -V50-).
- Clamp off coolant hose -C- (from the engine to the coolant pump -V50-) for example using Hose Clamps up to 25 mm dia. -3094-.
- Remove coolant hoses -A- and -B- from the pump/valve unit connections.

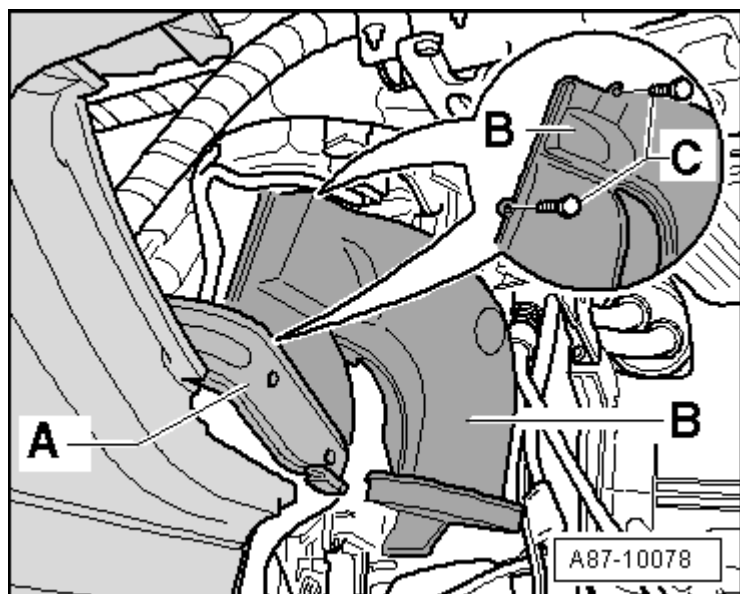
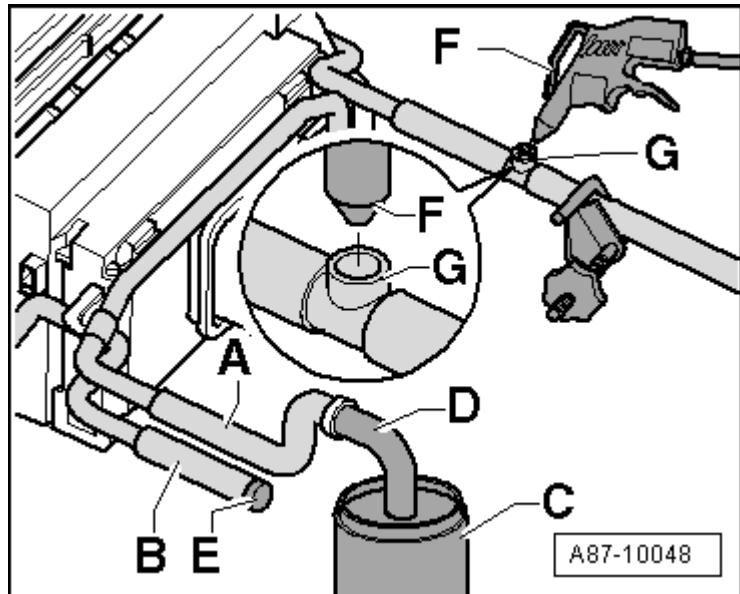


- Remove the sealing bolt from the bleeder valve -B-.



- Connect the section of hose -D- (extension) to the coolant hose -A-.

- Close the coolant hose -B- (for example with a sealing plug -E-).
- Place a container -C- beneath the extension hose -D-.
- Using a compressed air gun (with rubber end piece) -F-, carefully blow coolant out of the driver side heat exchanger (into container -C-) via the open connection for the bleeder valve -G-.
- Remove the sealing plug -E- from the coolant hose -B- and insert in the coolant hose -A-.
- Connect the section of hose -D- (extension) to the coolant hose -B-.
- Using a compressed air gun (with rubber end piece) -F-, carefully blow coolant out of the front passenger side heat exchanger (into container -C-) via the open connection for the bleeder valve -G-.
- Remove the glove compartment and lower instrument panel trim (driver side). Refer to →Body Interior; Rep. Gr.68.
- Depending on the vehicle equipment, remove the electric control modules and corresponding holders preventing the removal of the heat exchanger (for example the front information display control head control module -J523- and corresponding holder). Refer to →Electrical Equipment; Rep. Gr.91.
- Remove the right and left side panels of the center console. Refer to →Body Interior; Rep. Gr.68.
- On the right side remove the holder -A- for the glove compartment. Refer to →Body Interior; Rep. Gr.68.
- Remove bolts -C-.
- Remove the air duct to the front passenger footwell vent -B-.



- On the left side remove the holder -A- for the cover below the instrument panel. Refer to →Body Interior; Rep. Gr.68.
- Remove bolts -C-.
- Remove accelerator pedal module. Refer to →Brake System; Rep. Gr.46.
- Remove the air duct to the driver footwell vent -B-.

**Note**

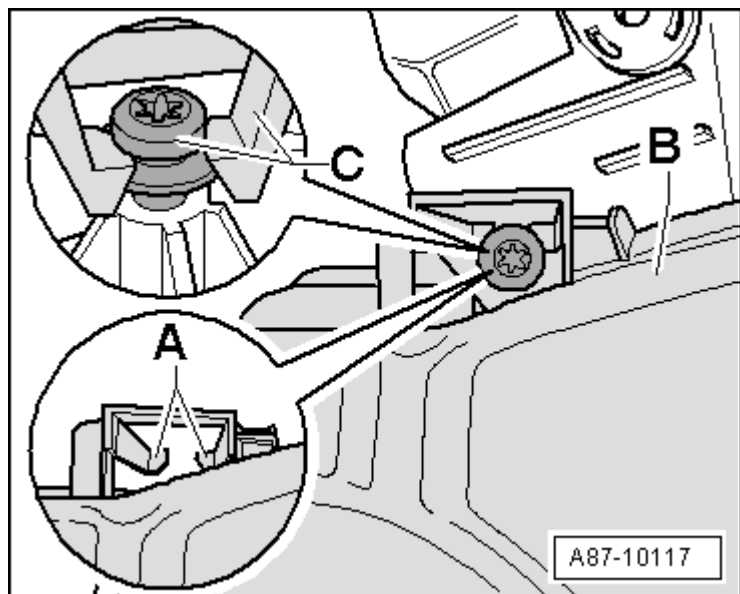
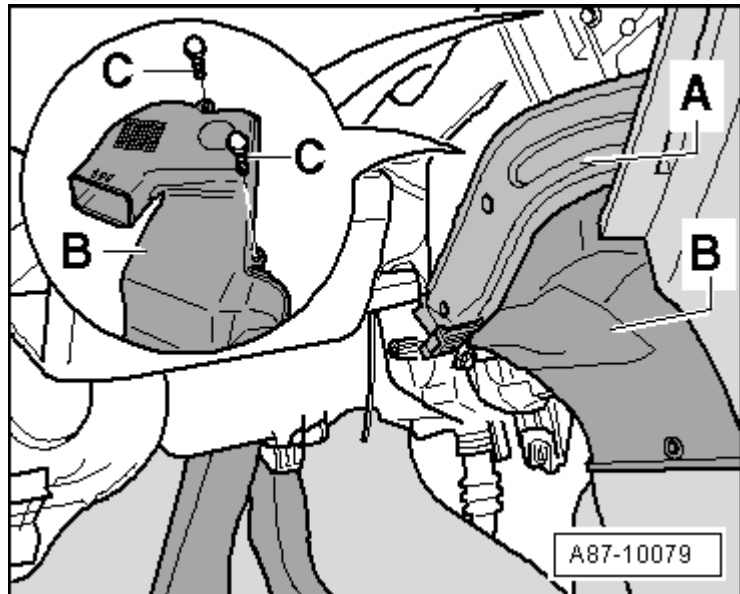
- ♦ Depending on the vehicle equipment and the tolerance between the A/C unit and the holder for the pedal cluster, it may be necessary to loosen the pedal cluster from the vehicle and move it slightly to the left in order to remove the footwell vent -B- on the driver side. Refer to →Brake System; Rep. Gr.46.
- ♦ In model year 2005, the footwell vent -B- air duct mount was changed (gradual introduction). The upper bolt -C- no longer has to be removed, the air duct clips in place via retaining tabs -A-.

Removing**Special tools and workshop equipment required**

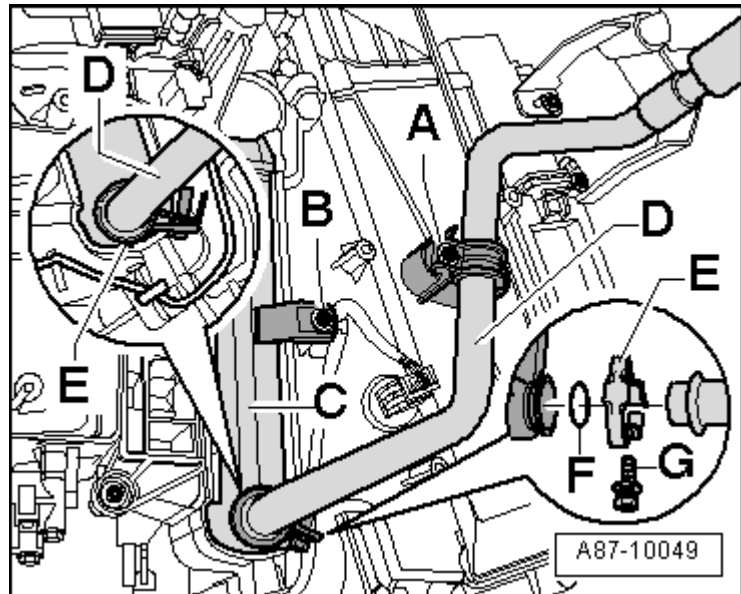
- ♦ Hose Clamps up to 25 mm -3094- or Hose Clamps up to 40 mm -3093-
- ♦ Commercial compressed-air gun with rubber end piece
- ♦ Cooling System Tester -VAG 1274- (and corresponding adapter)

Removing

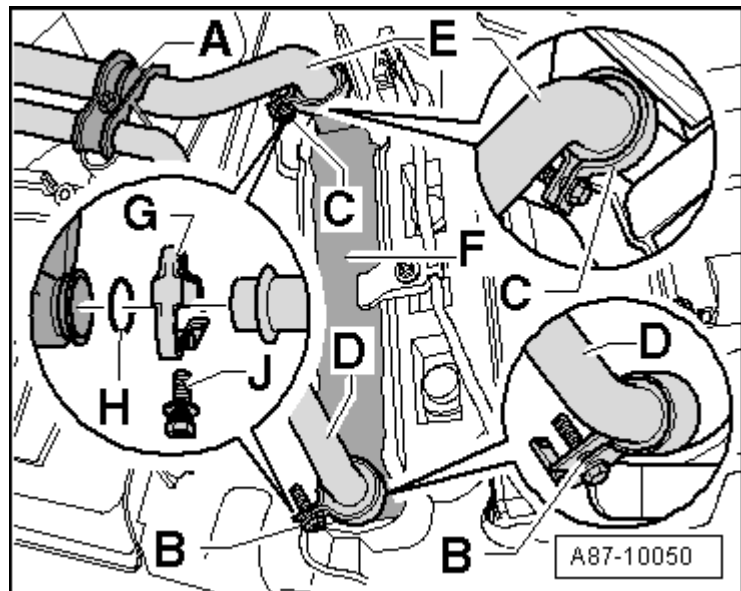
- Perform preparatory work for removing heater core.
- Cover the floor mat in the center tunnel area at the left and right under the heat exchanger with a waterproof cover and absorbent paper.
- Remove the holder -A- for the coolant pipe -D- and the holder -B- for the heat exchanger -C-.
- Loosen the screw -G- at the clamp -E- for the coolant pipe -D-.
- Remove the clamp -E-.
- Place a container under the connector for the coolant pipe -D- at the heat exchanger.
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Remove the coolant pipe -D- out of the heat exchanger.



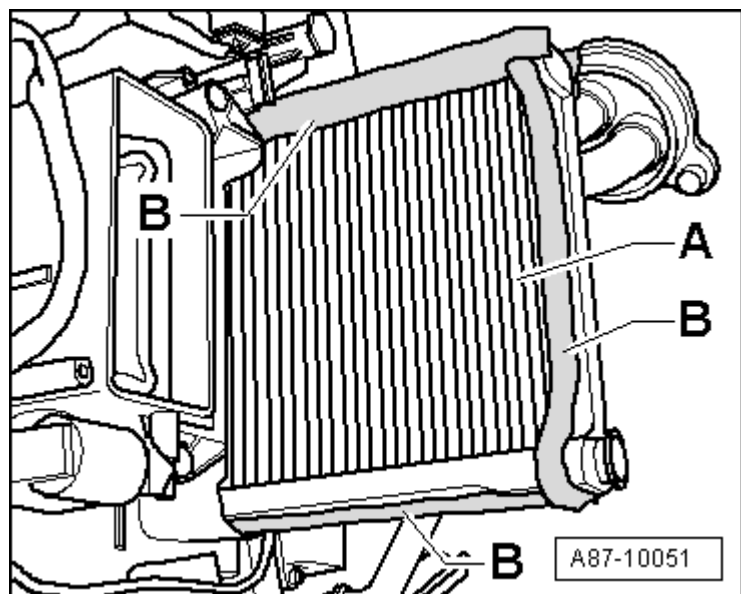
- Remove the holder -A- for coolant pipes -D- and -E-.
- Remove clamps -B- and -C-.
- Place a container under the connector for the coolant pipe -D- at the heat exchanger.
- Remove the coolant pipe -D- out of the heat exchanger.
- Remove the coolant pipe -E- from the heat exchanger.



- Slide the heat exchanger -A- to the right out of the A/C unit.



Note



On vehicles with a radial seal on coolant pipes -B- to heater core, a plastic clamp -A-

may also be installed instead of a screw clip, open it for example using a screw driver -C-.



WARNING

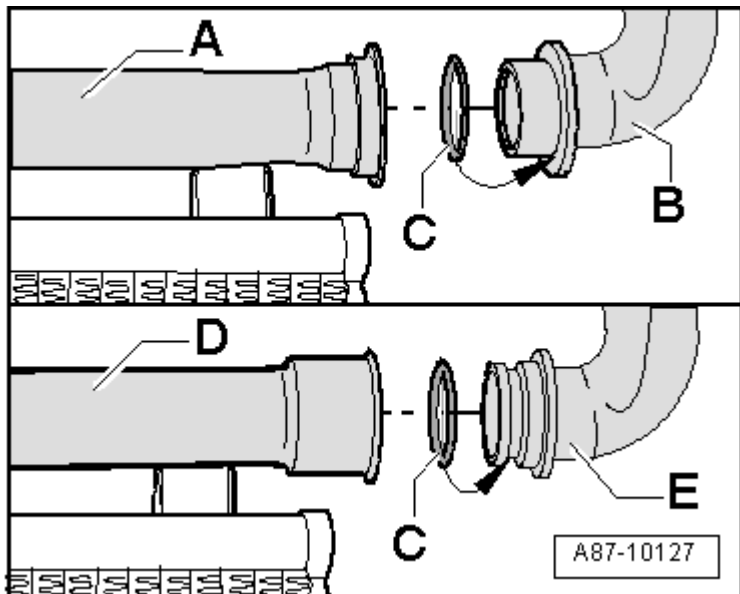
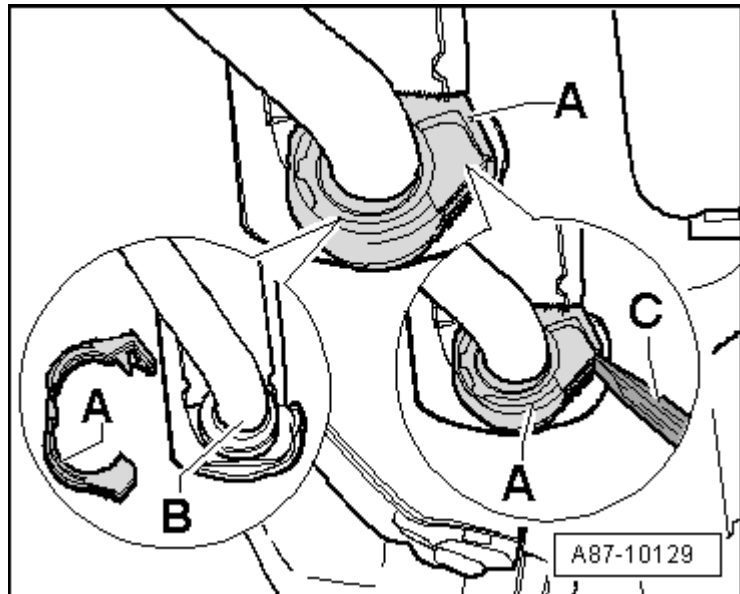
A plastic clamp -A- is or may be installed only on vehicles with a radial seal on coolant pipes -B-.

Installing



Note

- There are different versions of the heater core and the associated coolant pipes. In model year 2006, the seal between connections on the heat exchanger and coolant pipes was converted from an axial/radial seal -A- and -B- to a radial seal -D- and -E- (rolling change), make sure the version is correct when replacing the heat exchanger.



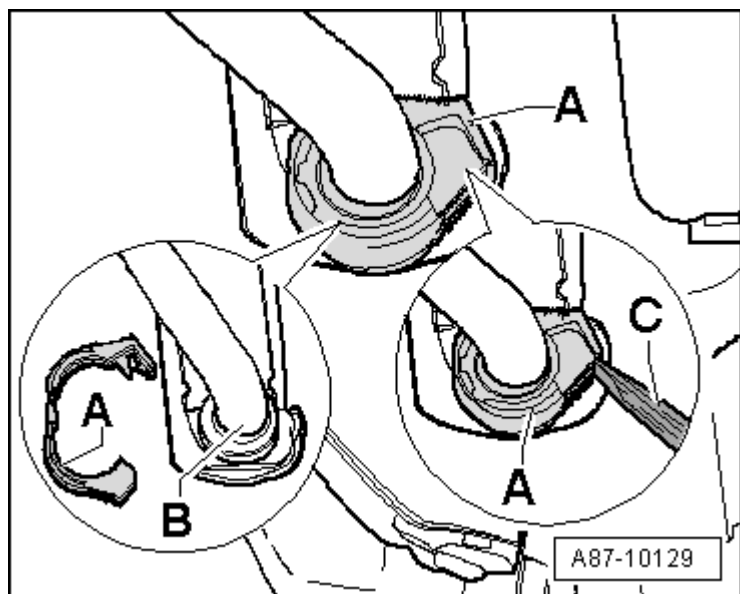
- On vehicles with a radial seal on coolant pipes -B- to the heat exchanger, a plastic clamp -A- may also be installed instead of a screw clip.



WARNING

A plastic clamp -A- is or may be installed only on vehicles with a radial seal on coolant pipes -B-.

- Check the following before installing the heat exchanger:



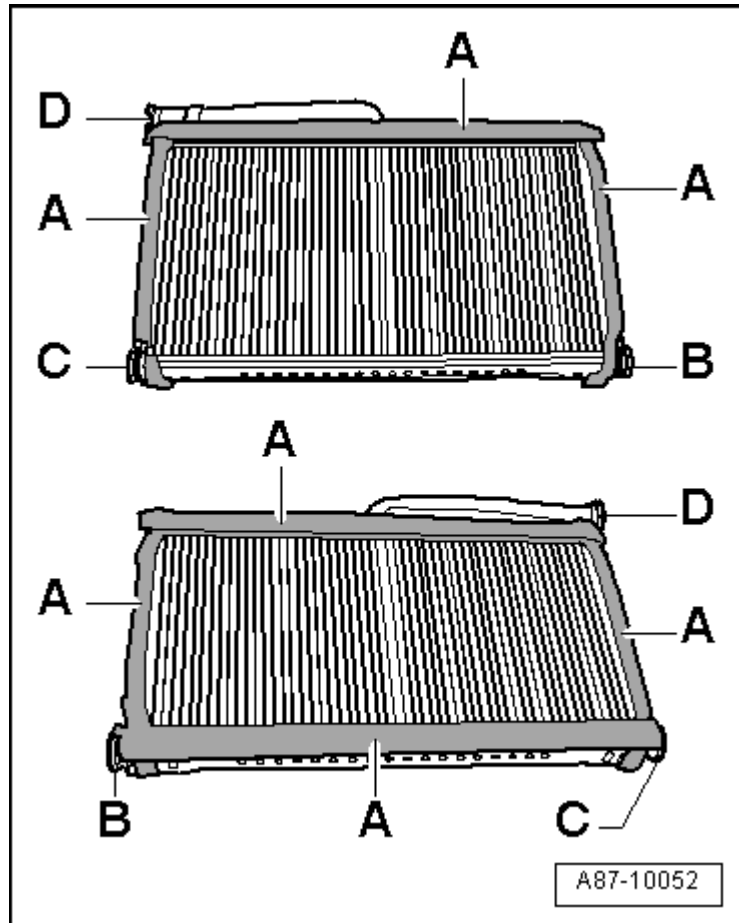
- Check the heat exchanger foam seals - A- for damage and to see if they are

bonded correctly (the foam seals must not come loose when installing the heat exchanger).

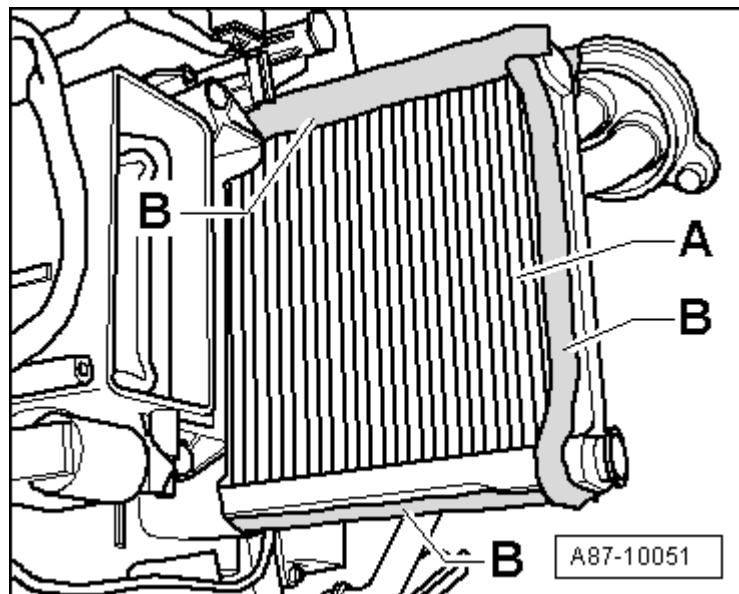


Note

- ♦ Seal may curl up on insertion if not correctly bonded on.
- ♦ Cold air may flow past heat exchanger if seal is damaged or not properly fitted.
- ♦ The seal and clamps all have to be replaced.
- Check the connections on the heat exchanger -B-, -C- and -D- for damage and contamination.
- Check the A/C unit heat through the heat exchanger installation shaft for contamination or coolant residue. Clean if necessary.



- Slide the heat exchanger -A- into the A/C unit from the right so the left and right sit flush with the A/C unit housing. Make sure the seal -B- does not roll up or become damaged.



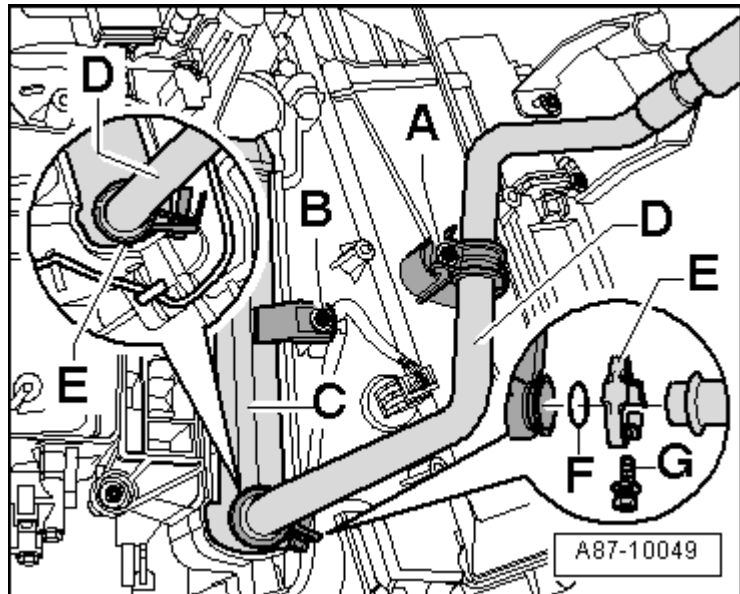
- Install the holder -B- for the heat exchanger -C-.
- Remove the screw -G- from the new clamp -E-.
- Position the new clamp -E- on the coolant pipe so it can be secured as shown in the illustration.
- Lightly coat the seal -F- with coolant and place on coolant pipe -D-.

- Insert the coolant pipe -D- in the heat exchanger.
- Press the coolant pipe -D- into the heat exchanger and position the clamp -E- on the connecting point to the heat exchanger as shown in the illustration.

**Note**

The clamp -E- engages when it is pressed in.

- Insert the screw -G- in the clamp and tighten it to secure the clamp.
- Install the holder -A- for the coolant pipe -D-.

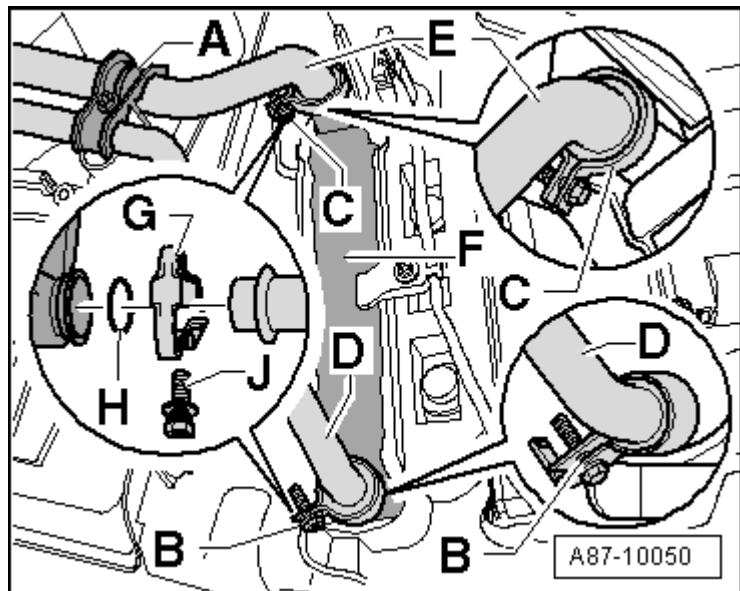


- Install coolant pipe -E- in the heat exchanger as was described for the coolant pipe on the right side.

**Note**

Different diameters for the seal and clamps for coolant pipe -D- and -E-.

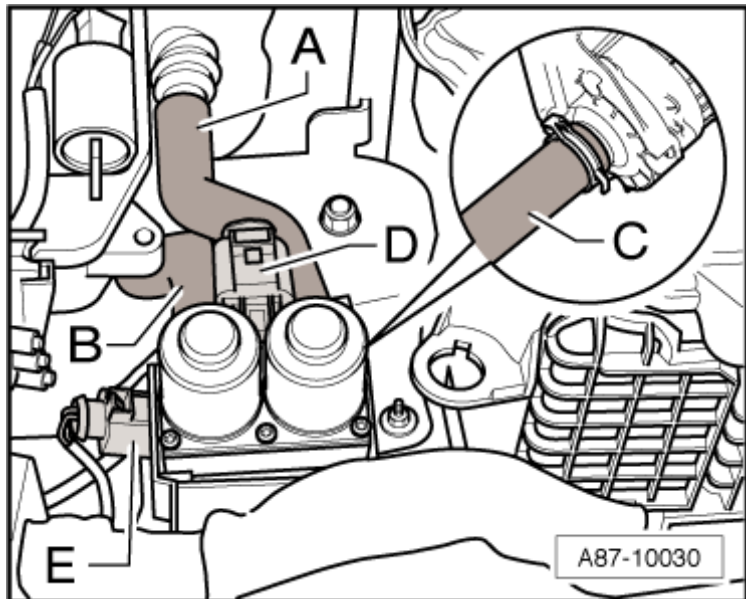
- Install coolant pipe -D- in the heat exchanger as was described for the coolant pipe on the right side.
- Install the coolant pipe holder -A-.
- Check the position of the grommets in the coolant pipe feed through to the plenum chamber.

**Note**

- ♦ Connect the two-pin harness connector to the coolant pump -V50- of the pump/valve unit only after bleeding the coolant circuit.
- ♦ coolant pump -V50- of pump-valve unit must only be operated after coolant circuit has been vented.
- ♦ Dry running of pump in pump valve unit leads to destruction.
- Reinstall all removed components in reverse order of removal except the plenum chamber cover, the glove compartment, and the driver side storage compartment.
- Fill and bleed the cooling circuit. Refer to →Engine Mechanical; Rep. Gr.19.
- After bleeding the cooling system, check it to ensure it is sealed tight. In particular, note the connections

between the coolant pipes and the heat exchanger. Refer to →[Engine Mechanical; Rep. Gr.19](#).

- After installation, check the grommet between engine compartment and plenum chamber at the coolant hose -C- for proper seating.
- Check the pump/valve unit, it may not make contact with other components (noises).
- After bleeding the coolant circuit, connect the connectors -D- to the left heat regulation valve -N175- and right heat regulation valve -N176-, and -E- to the coolant pump -V50-.
- Clean coolant residue from the plenum chamber.
- Install the remaining removed components again in reverse order.
- Check the DTC memory for the Climatronic Control Module -J255- A/C control head and erase any faults displayed if necessary.



Note

When bleeding coolant circuit, take special care to ensure complete bleeding of heat exchangers. If there are still air bubbles in the heat exchanger, it may cause the customer to complain of insufficient heating performance in winter or different air temperature from vents at same setting in regulated mode.