



Digital Climate Control - Climatronic

General information

Climatronic is a fully automatic climate control system. The temperature of the interior air supply, fresh air blower speeds and passenger compartment air distribution are regulated automatically. The system features fully digital electronic circuitry and On Board Diagnostic (OBD) capability.

In addition to fully automatic function, air distribution settings and fresh air blower speeds can be selected manually to suit individual needs.

The Climatronic control module -J255- is the heart of the system. It receives input information from the A/C control head -E87- and various electronic components (sensors and switches). This information is processed by the control module in accordance with specified values and provides corresponding output signals that control electrical components (actuators).

The system controls interior air temperature and distribution. The system continually samples and compares the selected interior air temperature

with the actual air temperature measured by the system. Blower speeds, air temperature and distribution are then adjusted and regulated accordingly.

The A/C control head -E87- contains all controls and relevant displays needed to operate the Climatronic system. The system's functional status (mode selection, temperature and air distribution) is displayed in a LCD readout ⇒ [Page 87-59](#) .



All automatic or manual function selections are input into the A/C control head via buttons located below the display.

When AUTO mode is selected, fresh air blower speed and air distribution signals are provided by the A/C control head -E87-. The fresh air blower speed is high when there is a large difference between the selected temperature and the actual interior temperature, and low when the difference is small or the same.

The interior temperature setting, operation modes, approximate outside temperature and blower speed are indicated on the A/C control head display at all times. The defrost, vent and footwell air distribution symbols only appear in the display when air distribution is selected manually (AUTO function override). During manual air distribution, the "AUTO" display remains off until such time the "AUTO" button is pressed.

The system can be switched off completely by pressing the front passenger "decrease fan speed" button until "OFF" appears in the display.

Climate control options

- ◆ Automatic temperature and fan speed mode

- ◆ Manual temperature and fan speed mode
- ◆ Manual selection of air recirculation mode
- ◆ Manual selection of air flow to instrument panel vents
- ◆ Manual selection of air flow to footwell vents
- ◆ Manual selection of air flow to windshield defroster



On Board Diagnostic (OBD)

The Climatronic control module -J255- is controlled by an internal microprocessor with On Board Diagnostic (OBD) capability. If malfunctions, short or open circuits occur on monitored components, Diagnostic Trouble Codes (DTC) are stored in memory ⇒ [Page 01-12](#) .

Notes:

- ◆ *Pressing the button "AUTO" overrides any manually input settings.*
- ◆ *In ECON operation, only the compressor is switched off. Heating and A/C operation continues to be controlled electronically.*
- ◆ *Manually selected settings remain stored in memory after switching the ignition off and will be recalled on subsequent re-start. Only the function "Air recirculation" is erased after 20 minutes.*
- ◆ *Climatronic, manual operation ⇒ Owner's Manual.*

◆ A malfunction is present if all display symbols on A/C control head -E87- flash. In this case check the Diagnostic Trouble Code (DTC) memory first ⇒ [Page 01-5](#) .



Components, checking and adjusting with VAS 5051 tester

All OBD functions are also possible using the VAS 5051 tester. Proceed as follows:

- Connect VAS 5051 to vehicle Data Link Connector (DLC) ⇒ [Page 01-2](#) , select mode "Guided Fault Finding"
- Enter appropriate model, equipment and model year information and press ">" to confirm.

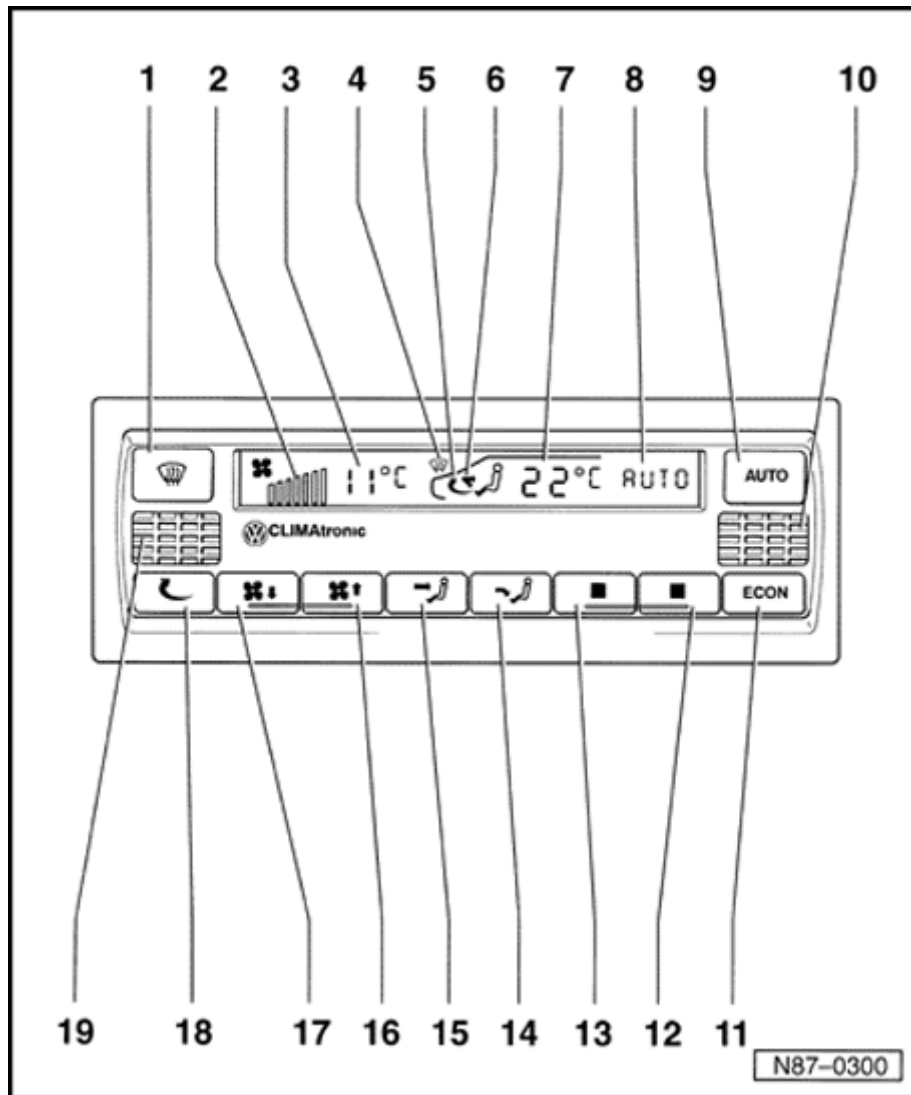
After all control modules have been registered and DTC memories checked,

- Press "Go to"
- Select "Function/Component Selection"
- Select "Body, (Repair Gr. 01, 27, 50 to 87)"
- Select "Heating, ventilation, air conditioning (Repair Gr. 01, 80 to 87)"
- Select "Systems capable of self-diagnosis"

- Select "Climatronic"

Review displayed listing, choose and press ">" to confirm.

- ◆ Selecting "Function" allows access to "Basic settings", " Code control module", "Check cooling performance" etc.
- ◆ Selecting "Electrical Components" provides specific component function tests etc.



A/C control head -E87-, functions

CAUTION!

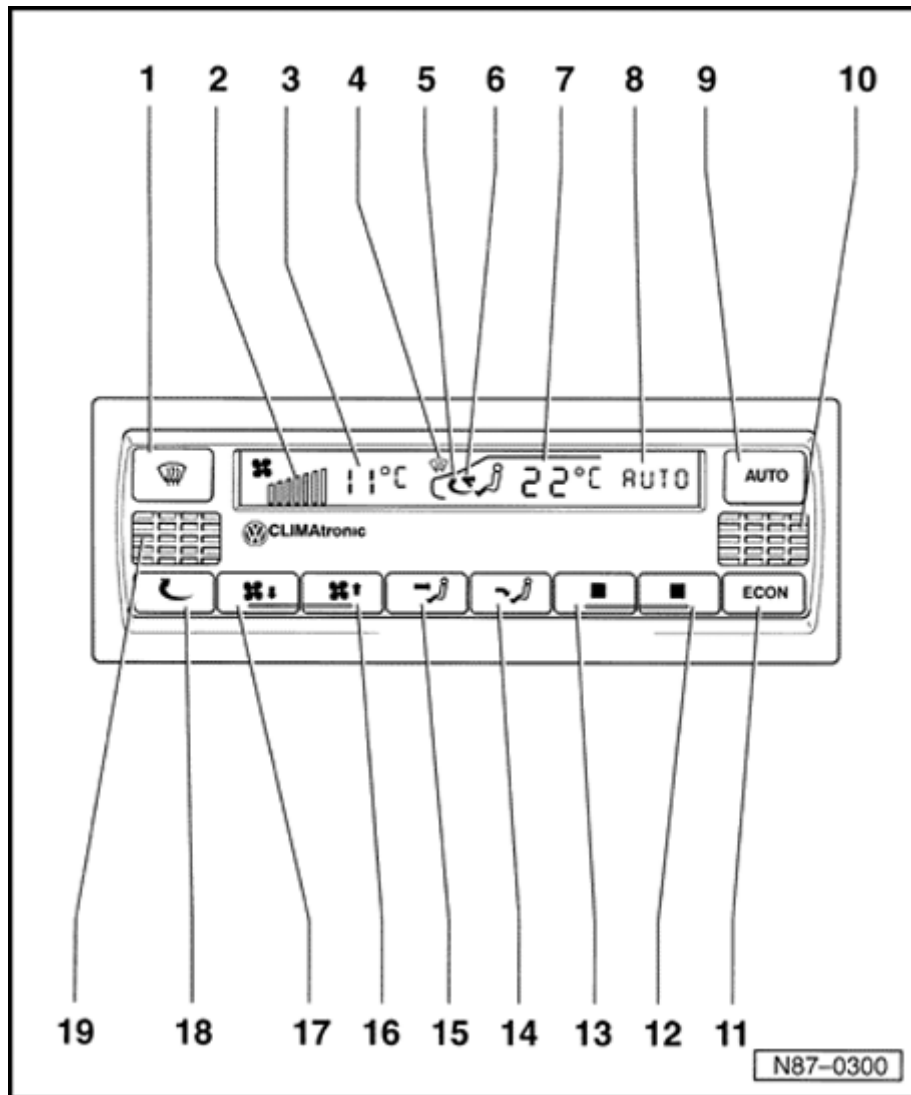
Before beginning repairs on the electrical system:

- ♦ *Obtain the anti-theft radio security code.*
- ♦ *Switch the ignition off.*
- ♦ *Disconnect the battery Ground (GND) strap.*
- ♦ *After reconnecting battery, re-code and check operation of anti-theft radio. Also check operation of clock and power windows according to Repair Manual and/or Owner's Manual.*

1 - Windshield defrost button

2 - Blower speed display

- ♦ In automatic operation - 8 - a mid-range is displayed independent of actual blower speed.



3 - Ambient (outside) temperature display

- ◆ Display will not change when road speed is below 15 km/h (9.5 mph) and coolant temperature is above 70 °C (158 °F). Under these conditions, the actual measured value is not displayed because engine heat will adversely affect reading.

4 - Windshield defrost display

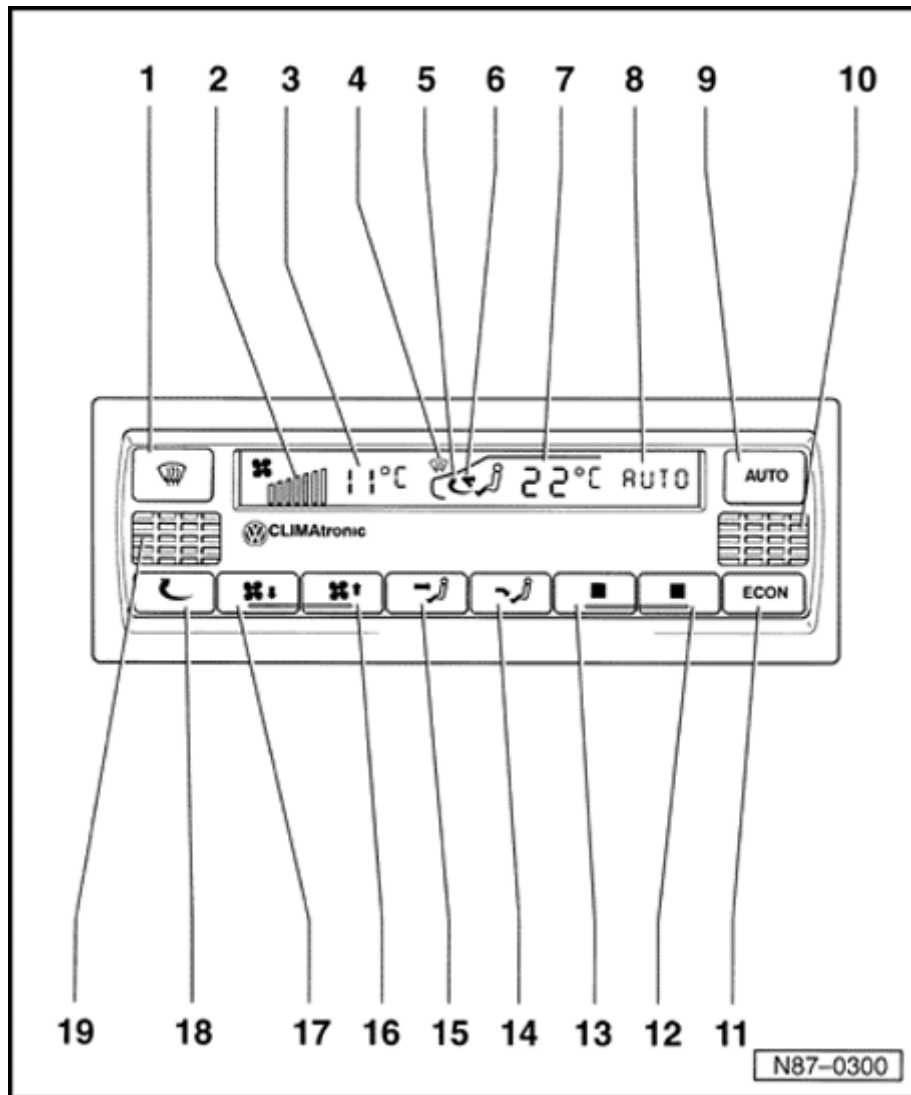
5 - Air recirculation display

6 - Air distribution display

- ◆ Function: "air flow to footwell" is selected and indicated when pressing button - 14 -.
- ◆ Function: "air flow to upper body" is selected and indicated when pressing button - 15 -.

7 - Selected temperature display

- ◆ To change display from Celsius to Fahrenheit and vice versa:
 - Press and hold button - 11 - and press button - 9 -.
- ◆ Selected temperature scale appears in display.



8 - Operating mode display

"AUTO": Automatic mode

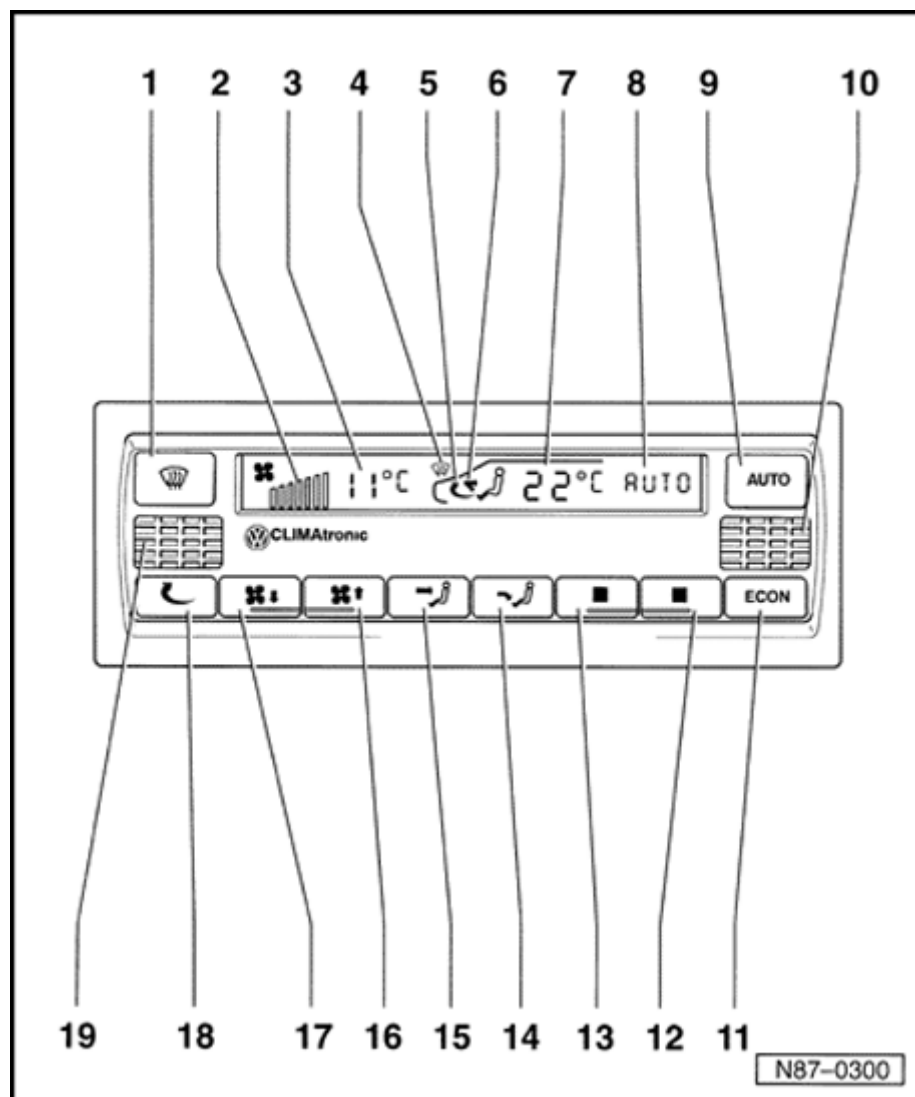
- ◆ In automatic mode, the Climatronic maintains the selected interior temperature automatically. With this setting, the air outlet temperature, blower speed and air distribution are controlled automatically.

"ECON": A/C system off

- ◆ In ECON mode only the compressor is switched off. Heating and A/C operation continues to be controlled automatically.

"OFF": Complete system is switched off

- ◆ Select by pressing and holding "decrease blower speed" button -17- until "OFF" appears in display.
- ◆ In this mode, all air flaps remain in the last set position before switching off. (Setting should only be used in the case of a malfunction).



9 - Automatic operation button

10 - Instrument panel interior temperature sensor -G56- and interior temperature sensor fan -V42-

♦ Installation location on right-hand drive vehicles.

11 - "ECON" button

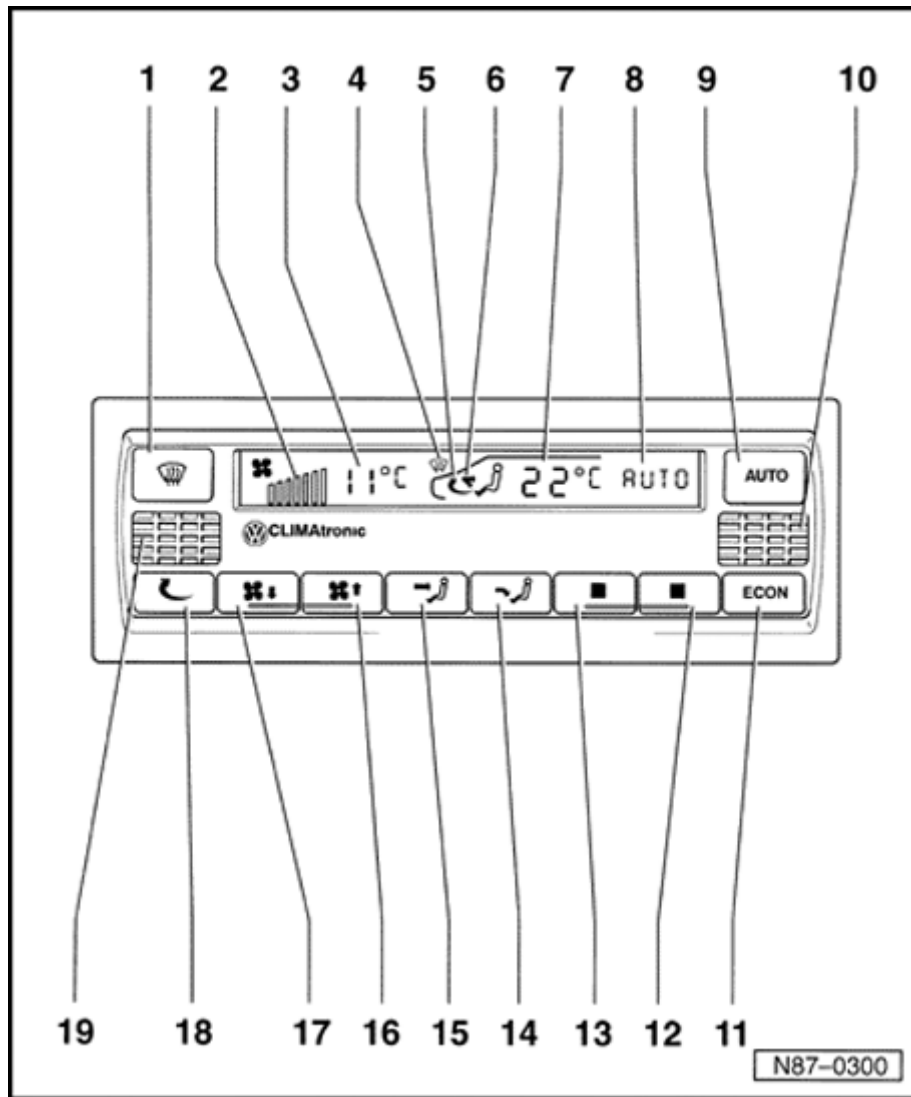
♦ In ECON mode only the compressor is switched off. Heating and A/C operation continues to be controlled automatically.

12 - "Warmer" button

13 - "Cooler" button

14 - "Air flow to footwell" button

15 - "Air flow to upper body" button



16 - "Increase blower speed" button

17 - "Decrease blower speed" button

- ◆ To switch off A/C system, press and hold button until "OFF" appears in display.
- ◆ In this mode, all air flaps remain in the last set position before switching off. (Setting should only be used in the case of a malfunction).

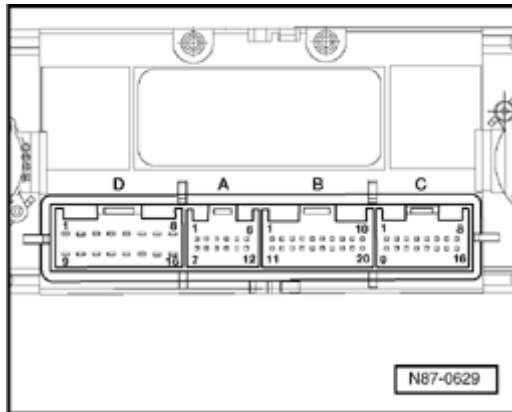
18 - Recirculating air button

19 - Instrument panel interior temperature sensor -G56- and interior temperature sensor fan -V42-

- ◆ Installation location on left-hand drive vehicles.

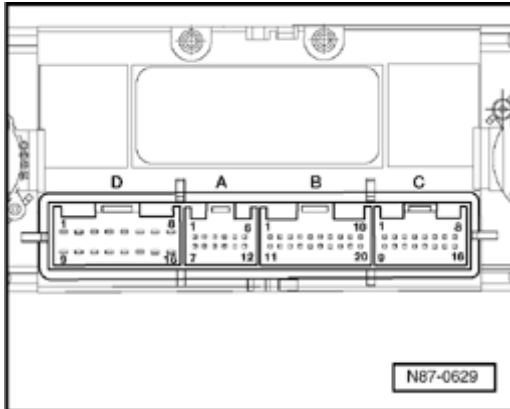


Climatronic Control Module -J255-, multi-pin connector assignments



12-pin multi-connector -A- (black -T12/-)

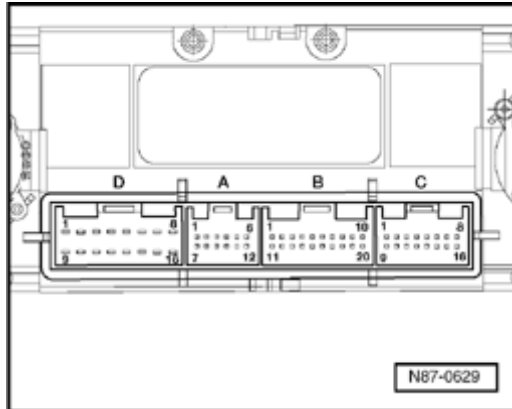
- 1 - Data Link Connector (DLC) K-wire
- 2 - Motronic Engine Control Module -J220- (idle speed control)
- 3 - A/C readiness
- 4 - Open
- 5 - Terminal 58d (instrument illumination - dimmer)
- 7 - Fresh air intake duct temperature sensor -G89-
- 8 - Outside air temperature sensor -G17-
- 9 - Ground signal (sensors - motors)
- 10 - Open
- 11 - Engine Coolant Temperature (ECT) warning lamp (where applicable*)
- 12 - Ground signal (sensors - motors)



A 20-pin multi-connector housing -B- (red -T20/-)

- 1 - Outside temperature signal from instrument cluster (where applicable*)
- 2 - CAN Bus - high (where applicable*)
- 3 - CAN Bus - low (where applicable*)
- 4 - CAN Bus - shielding (where applicable*)
- 5 - Sender for outlet temperature, floor outlet -G192-
- 6 - Sender for outlet temperature, center -G191-
- 7 - Evaporator vent temperature sensor -G263-
- 8 - Temperature regulator flap motor position sensor -G92-
- 9 - Central flap motor position sensor -G112-
- 10 - Footwell/Defrost flap motor position sensor -G114-
- 13- Standing time - instrument cluster (where applicable*)
- 14- Temperature increase off/PTC off (P/N 3B1/2 907 044 F only - where applicable*)
- 15- Engine Coolant Shutoff Two-Way Vacuum Valve Relay -J585- (where applicable*)
- 17- Back pressure flap motor position sensor -G113-
- 18- Sunlight photo sensor -G107-

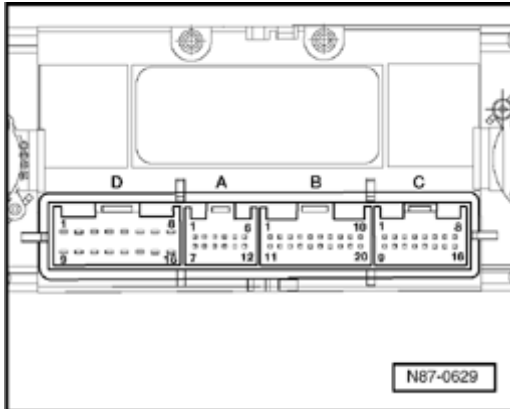
*) Confirm using applicable wiring diagram



A 16-pin multi-connector housing -C- (brown -T16b/-)

- 1 - Kickdown (where applicable*)
- 2 - A/C pressure switch -F129- pin 2 (diagnosis 2/32 bar - high pressure side)
- 3 - Compressor voltage (where applicable*)
- 4 - Speedometer signal (where applicable*)
- 5 - Open
- 6 - Engine Speed (RPM) signal (where applicable*)
- 7 - Terminal 58 (instrument illumination) (where applicable*)
- 8 - Reference voltage 5V (10 mA) for flap motors
- 9 - Fresh air blower control signal (-)
- 10 - 11 Open
- 12 - Motronic Engine Control Module (ECM) (engine electronics - bi-directional)
- 13 - Open
- 14 - Fresh air blower control signal (+)
- 15 - Wiring control (internal)
- 16 - Control module for fresh air blower -J126-

*) Confirm using applicable wiring diagram



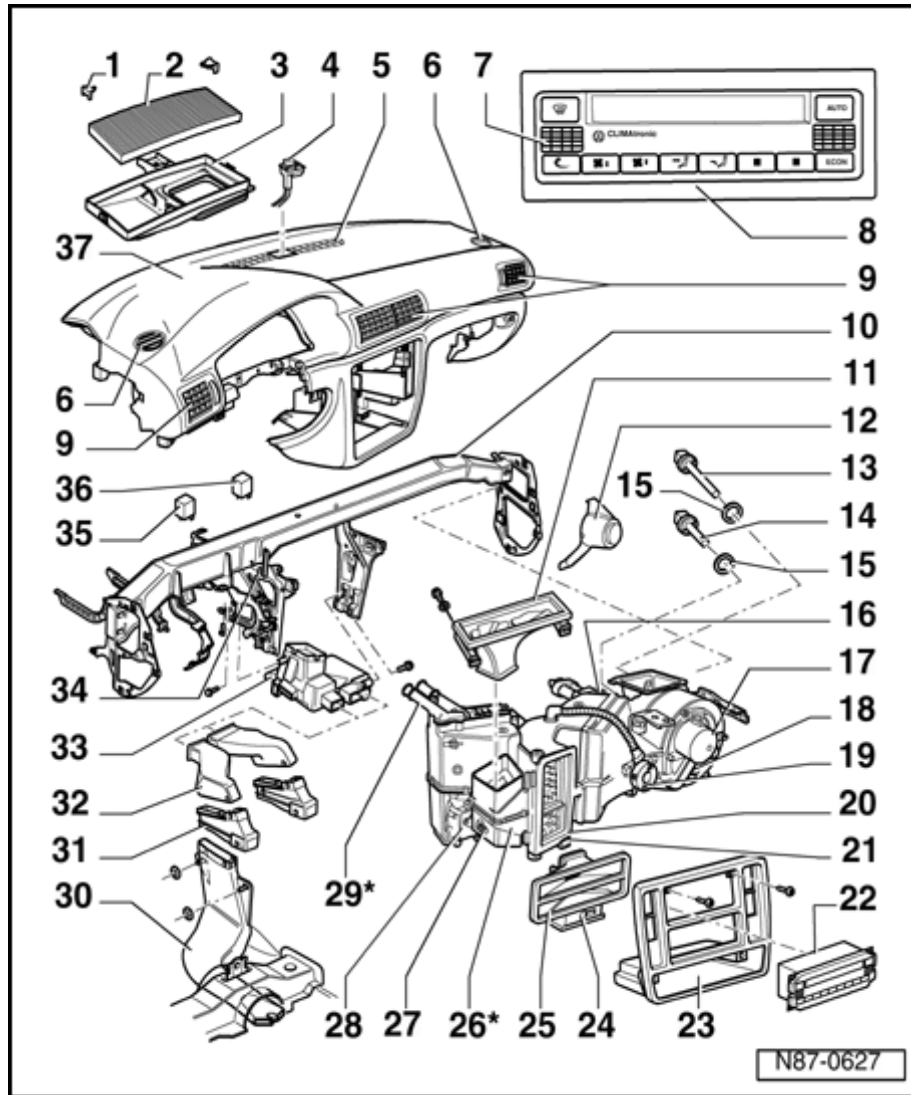
A

16-pin multi- connector -D- (black -T16a/-)

- 1 - Open
- 2 - Temperature regulator flap motor -V68-
- 3 - Footwell/Defroster flap -V85-
- 4 - Central air flap motor -V70-
- 5 - Air flow flap motor -V71-
- 6 - A/C Clutch relay -J44- or A/C Compressor Regulator Valve -N280- (where applicable*)
- 7 - Terminal 30 (where applicable*)
- 8 - A/C Clutch relay -J44- (where applicable*)
- 9 - Terminal 15
- 10 - Temperature regulator flap motor -V68-
- 11 - Footwell/Defroster flap motor -V85-
- 12 - Central air flap motor -V70-
- 13 - Air flow flap motor -V71-
- 14 - Terminal 31 (Ground - where applicable*)
- 15 - Terminal 31 (Ground)
- 16 - Coolant (FC) Fan Control Control Module -J293- or First Speed Engine Coolant Fan Control (FC) relay -J279- (where applicable**)

*) Confirm using applicable wiring diagram

**) Engine dependant - confirm using applicable wiring diagram



Climatronic components in passenger compartment, servicing

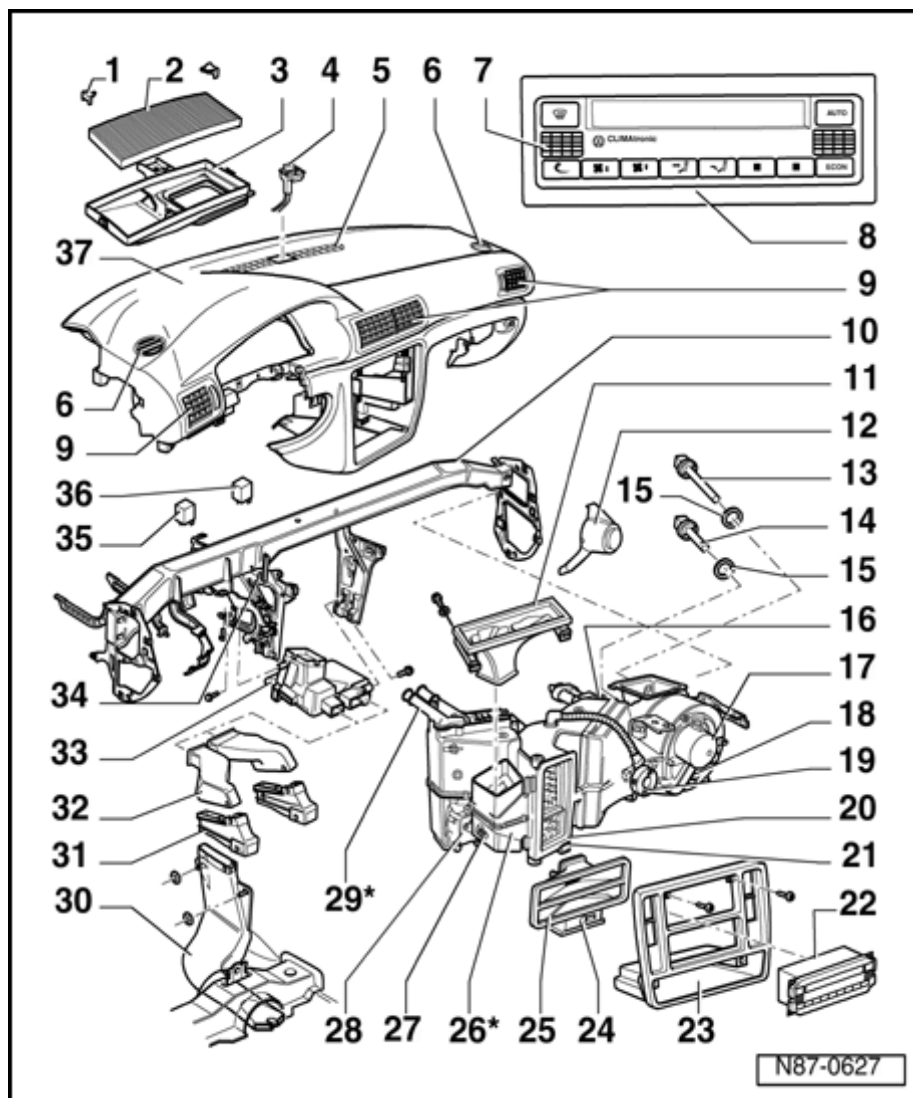
CAUTION!

Before beginning repairs on the electrical system:

- ♦ *Obtain the anti-theft radio security code.*
- ♦ *Switch the ignition off.*
- ♦ *Disconnect the battery Ground (GND) strap.*
- ♦ *After reconnecting battery, re-code and check operation of anti-theft radio. Also check operation of clock and power windows according to Repair Manual and/or Owner's Manual.*

Note:

*System components identified with an * must only be serviced or replaced after discharging refrigerant system. Use Kent Moore ACR4 or equivalent.*



1 - Clip

- ◆ Lift out with screwdriver

2 - Dust and pollen filter

- ◆ Vehicles 10.00 ➤, replacing ⇒ [Page 87-41](#) .

3 - Air intake housing

4 - Sunlight photo sensor -G107-

- ◆ Function: Controls temperature flap and fresh air blower speed depending on light intensity
- ◆ In event of failure: Climatronic control module -J255- assumes fixed value
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing ⇒ [Page 87-86](#)

5 - Defroster air outlet

- ◆ Removing and installing:

⇒ [Repair Manual, Body Interior, Repair Group 70](#).

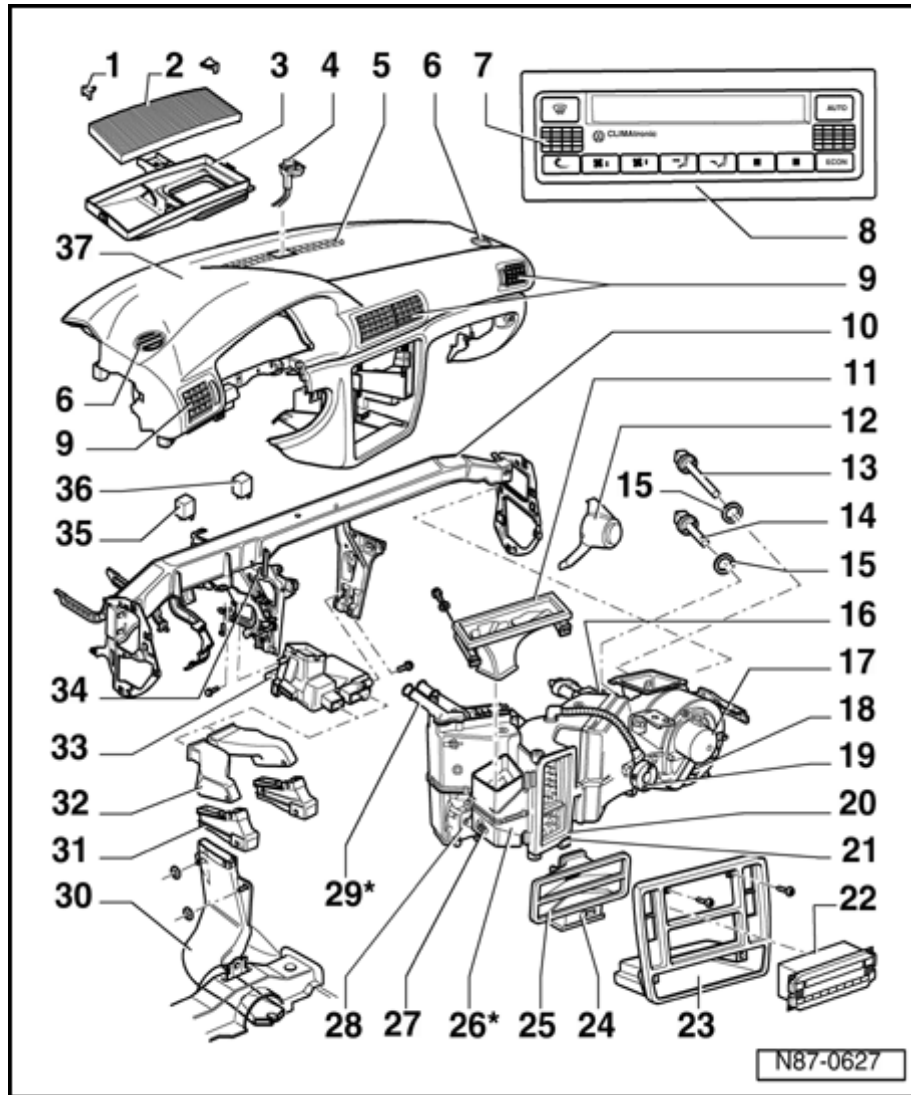
6 - Side window air outlet

- ◆ Removing ⇒ [Page 87-19](#)



- ◆ Climatronic control module -J255-, A/C control head -E87- and instrument panel interior temperature sensor -G56- with interior temperature sensor blower -V42- are integrated into a single unit and cannot be serviced separately.

- ◆ Function: Temperature sensor controls temperature flap and fresh air blower speed dependant on temperature measurement of interior air.
- ◆ In event of -G56- malfunction, operation continues using assumed value of 24 ° C (75 ° F)
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Replacing and adjusting: Code Climatronic control module, function 07 and then set Basic Setting, function 04 using VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) .
- ◆ Optional: Use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .

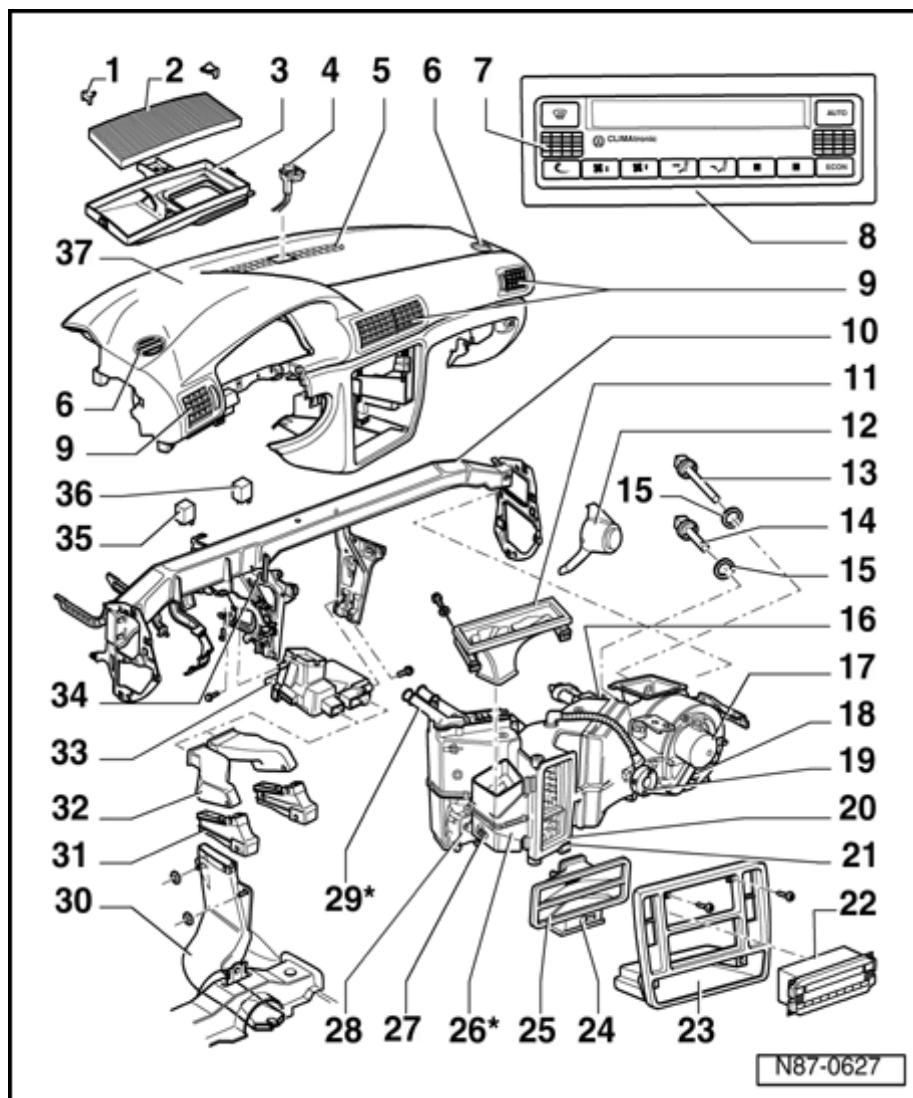


8 - A/C control head -E87-

- ◆ Climatronic control module -J255-, A/C control head -E87- and instrument panel interior temperature sensor -G56- with interior temperature sensor blower -V42- are integrated into a single unit and cannot be serviced separately.
- ◆ Functions ⇒ [Page 87-59](#)
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing and installing ⇒ [Page 87-87](#)

9 - Air outlets

- ◆ Center and side air outlets, removing (early prod.) ⇒ [Page 87-19, Fig. 2](#)
- ◆ Center air outlet, removing (later prod.) removing ⇒ [Page 87-20, Fig. 3](#)
- ◆ Side air outlets, removing (later prod.) ⇒ [Page 87-21, Fig. 4](#)



10 - Instrument panel cross member

- ◆ Always follow installation instructions for bolt ⇒ [Page 87-24, Fig. 7](#)

11 - Defroster duct

- ◆ Replacing:
 - Remove instrument panel

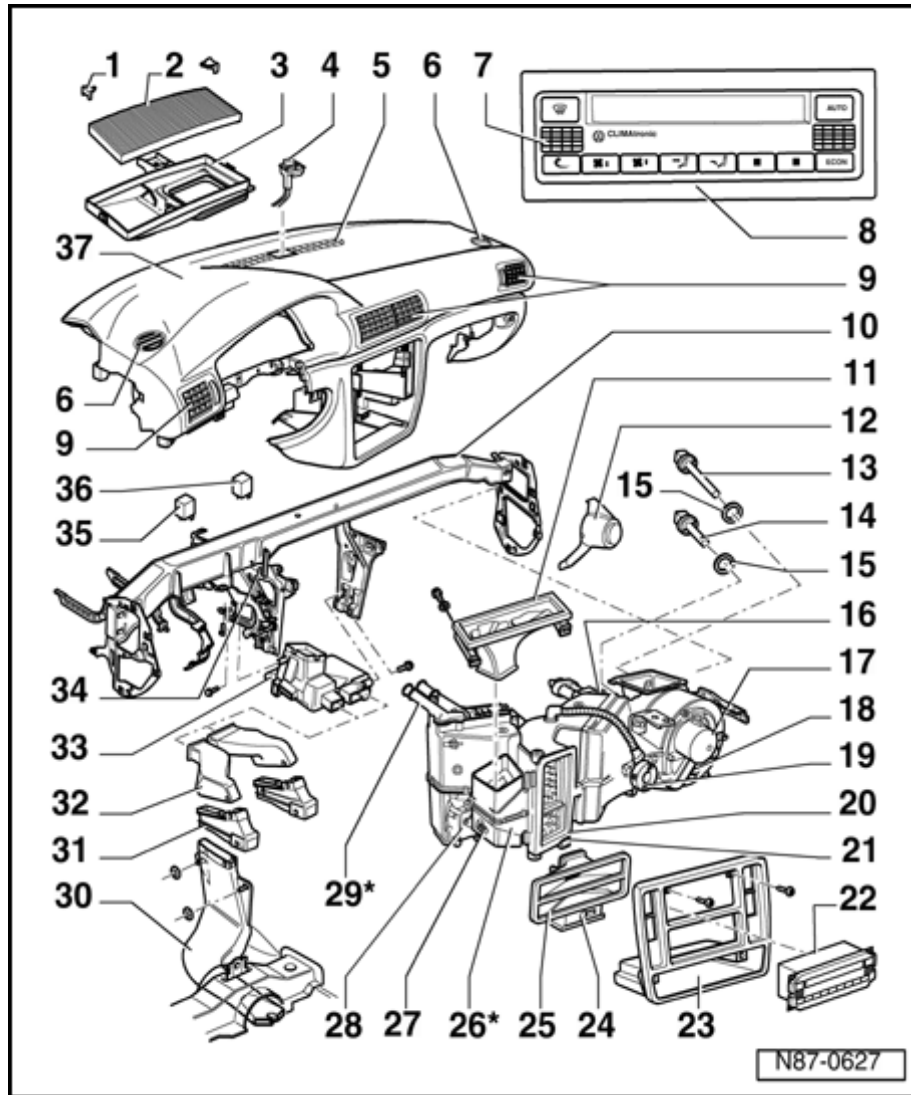
⇒ [Repair Manual, Body Interior, Repair Group 70.](#)

- Loosen cross member - 10 - .

- ◆ Always follow installation instructions for bolt ⇒ [Page 87-24, Fig. 7](#)

12 - Evaporator water drain guide

- ◆ Removing ⇒ [Page 87-25](#) .



13 - Fresh air intake duct temperature sensor -G89-

- ◆ Function: Temperature sensor controls temperature flap and fresh air blower speed dependant on temperature measurement of intake air.
- ◆ Sensor -G17- value is used if -G89- malfunctions.
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Replacing:
 - Remove glove box

⇒ [Repair Manual, Body Interior, Repair Group 68](#)

- Reach behind heat/A/C unit from below.
- Turn sensor 90° and pull out.

- ◆ Lubricate seal - 15 - with oil when installing.

Note:

If unable to access and remove sensor as described above, proceed as follows:

- Remove instrument panel

⇒ [Repair Manual, Body Interior, Repair Group 70](#)

- Loosen cross member - 10 - .

- ◆ Always follow installation instructions for bolt ⇒
[Page 87-24, Fig. 7](#)



- ◆ Vehicles 10.00 ➤ only
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Replacing

⇒ Repair Manual, Body Interior, Repair Group 68

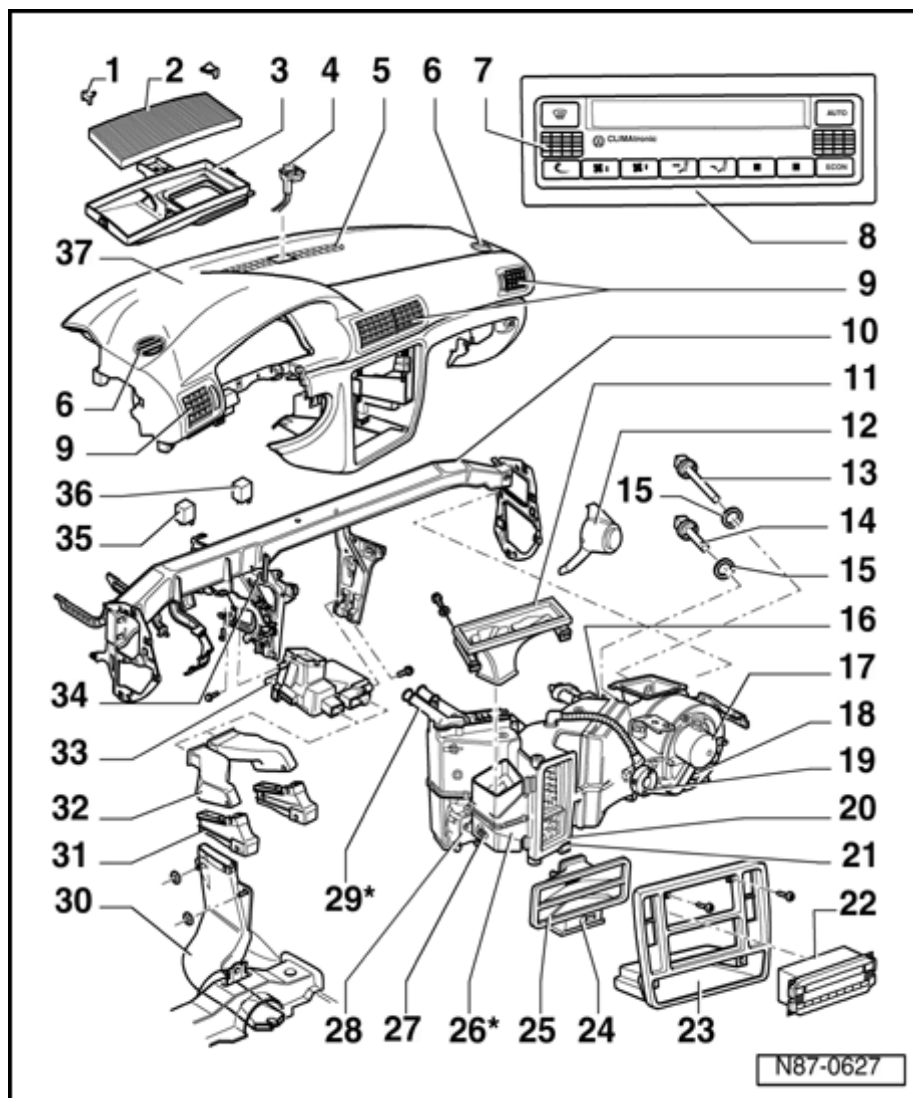
- Reach behind heating and A/C unit from below.
- Turn sensor 90° and pull out.

◆ Lubricate seal - 15 - with oil when installing.

- ◆ Lubricate with oil when installing.

CAUTION!

Area around dust and pollen filter and air intake housing must be free from debris, leaves etc. before reaching into housing. Debris entering heating and A/C unit will block evaporator water drain and cause subsequent (water) damage.

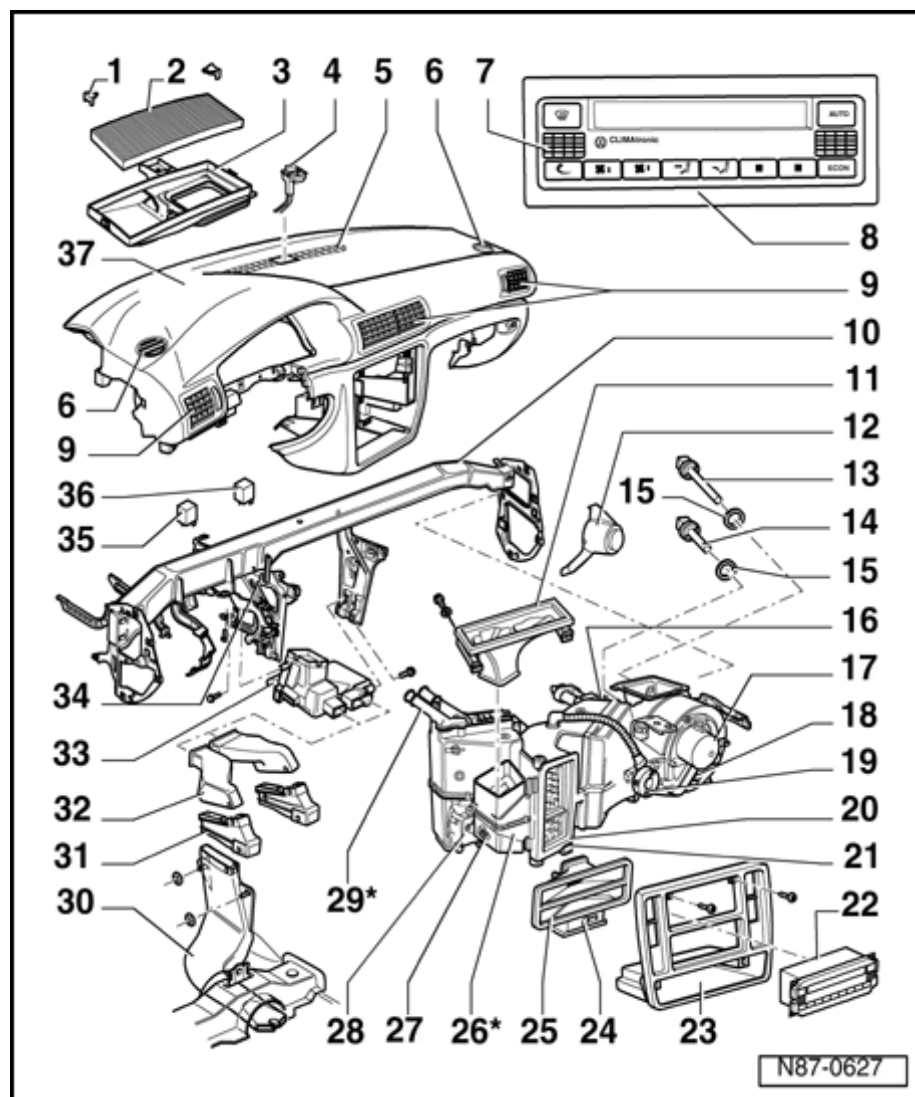


16 - Air flow flap motor -V71-

- ◆ Also operates fresh and recirculating air flap
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing ⇒ [Page 87-91](#)
- ◆ Replacing and adjusting:
 - Initiate Basic Setting, function 04 with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) .
- ◆ Optional: Use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .

17 - Fresh air blower -V2-

- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing and installing ⇒ [Page 87-89](#)



18 - Control module for fresh air blower -J126-

- ◆ Function: Controls fresh air blower speed with variable voltage signal.
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing and installing ⇒ [Page 87-89](#)

19 - Air outlet for glove box

- ◆ Removing and installing ⇒ Fig. ⇒ [2](#)

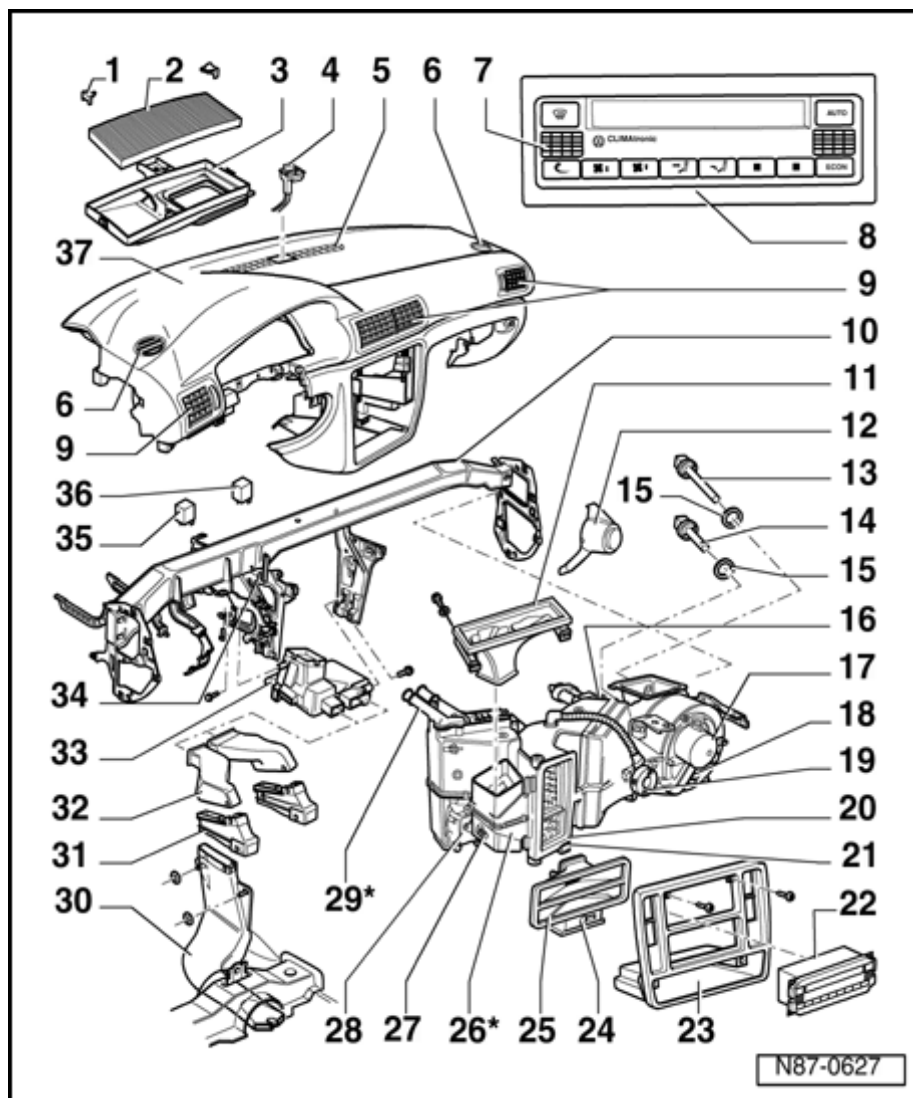
20 - Temperature regulator flap motor -V68-

- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing ⇒ [Page 87-91](#)
- ◆ Replacing and adjusting:
 - Initiate Basic Setting, function 04 with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) .
- ◆ Optional: Use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .



- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing, installing and adjusting ⇒ [Page 87-91](#)
- ◆ Replacing and adjusting:
 - Initiate Basic Setting, function 04 with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) .
- ◆ Optional: Use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .

A modified flap (with cut-out at top) was introduced 11.98. This design allows air flow to footwell to be blocked.



22 - Climatronic control module-J255-

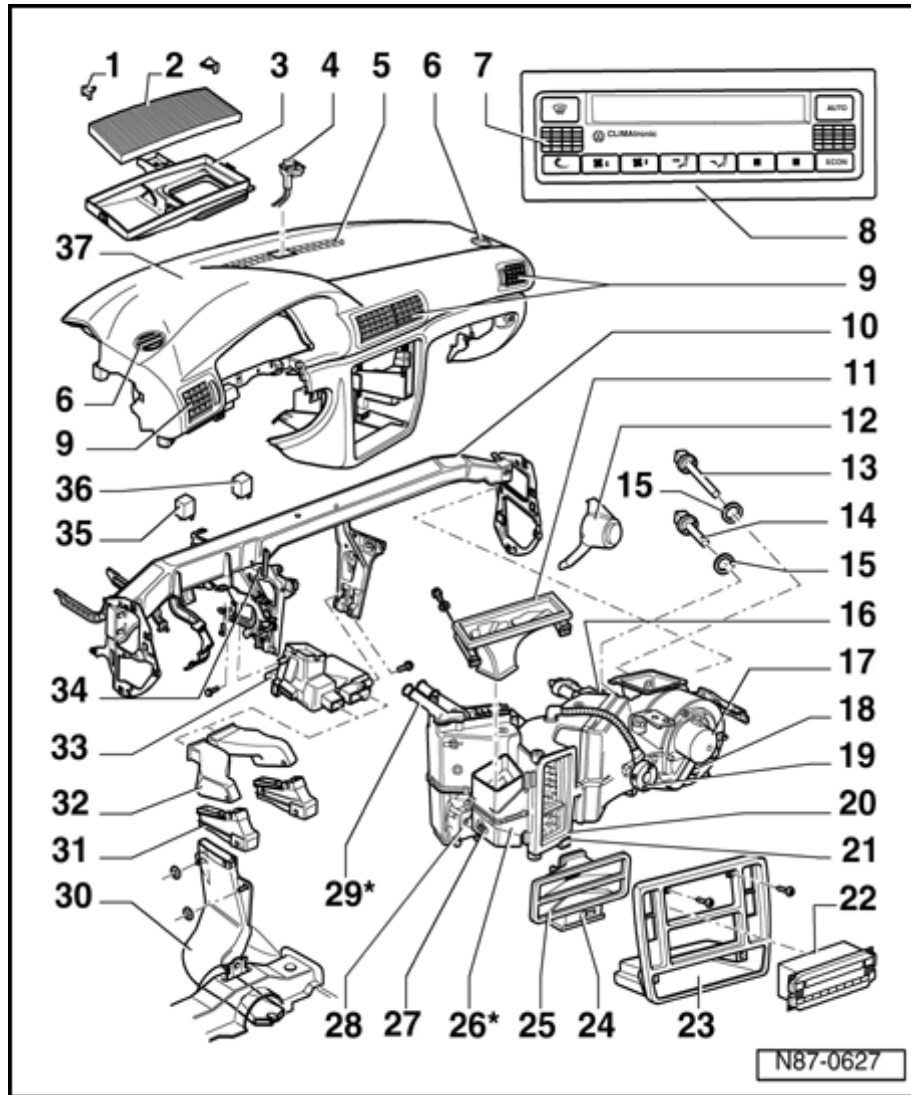
- ◆ Climatronic control module -J255-, A/C control head -E87- and instrument panel interior temperature sensor -G56- with interior temperature sensor blower -V42- are integrated into a single unit and cannot be serviced separately.
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing and installing ⇒ [Page 87-87](#)

23 - Center trim

24 - Sender for outlet temperature, center -G191-

- ◆ Function: Controls center air distribution and fresh air blower speed, dependent on air outlet temperature measurement.
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing and installing ⇒ [Page 87-85](#)

25 - Center air outlet duct



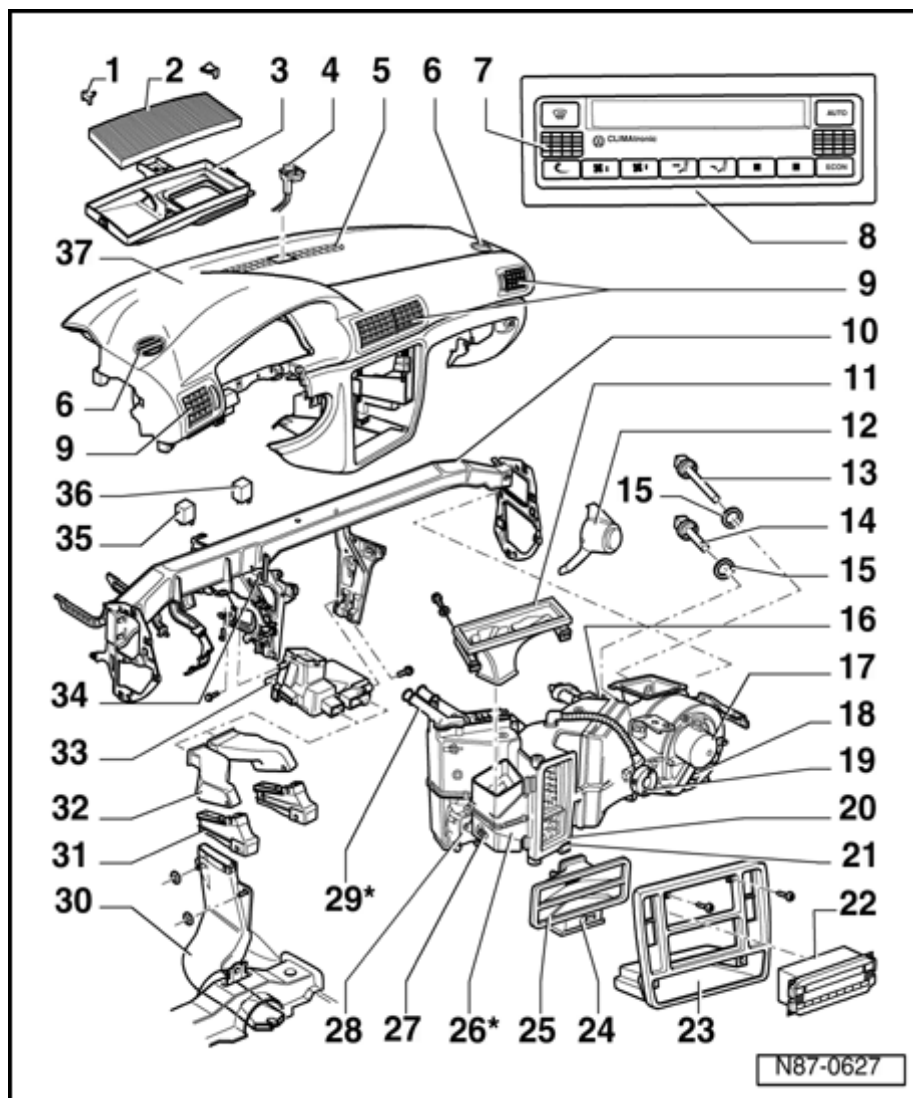
26 - Heating and A/C unit*

Contains:

- ◆ Heater core
- ◆ Evaporator
- ◆ Removing/assembly ⇒ [Page 87-164](#) .

27 - Sender for outlet temperature, floor outlet -G192-

- ◆ Function: Controls air distribution to defrost/footwell and fresh air blower speed dependant on outlet temperature measurement.
- ◆ In event of malfunction, operation continues using assumed value of 80 ° C (176 ° F)
- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing and installing ⇒ Fig. ⇒ [1](#)



28 - Footwell/defroster flap motor -V85-

- ◆ Checking ⇒ Repair Group 01 or use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .
- ◆ Removing ⇒ [Page 87-91](#)
- ◆ Replacing and adjusting:
 - Initiate Basic Setting, function 04 with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) ; Climatronic On Board Diagnostic (OBD)
- ◆ Optional: Use VAS 5051 in mode "Guided Fault Finding" ⇒ [Page 87-58](#) .

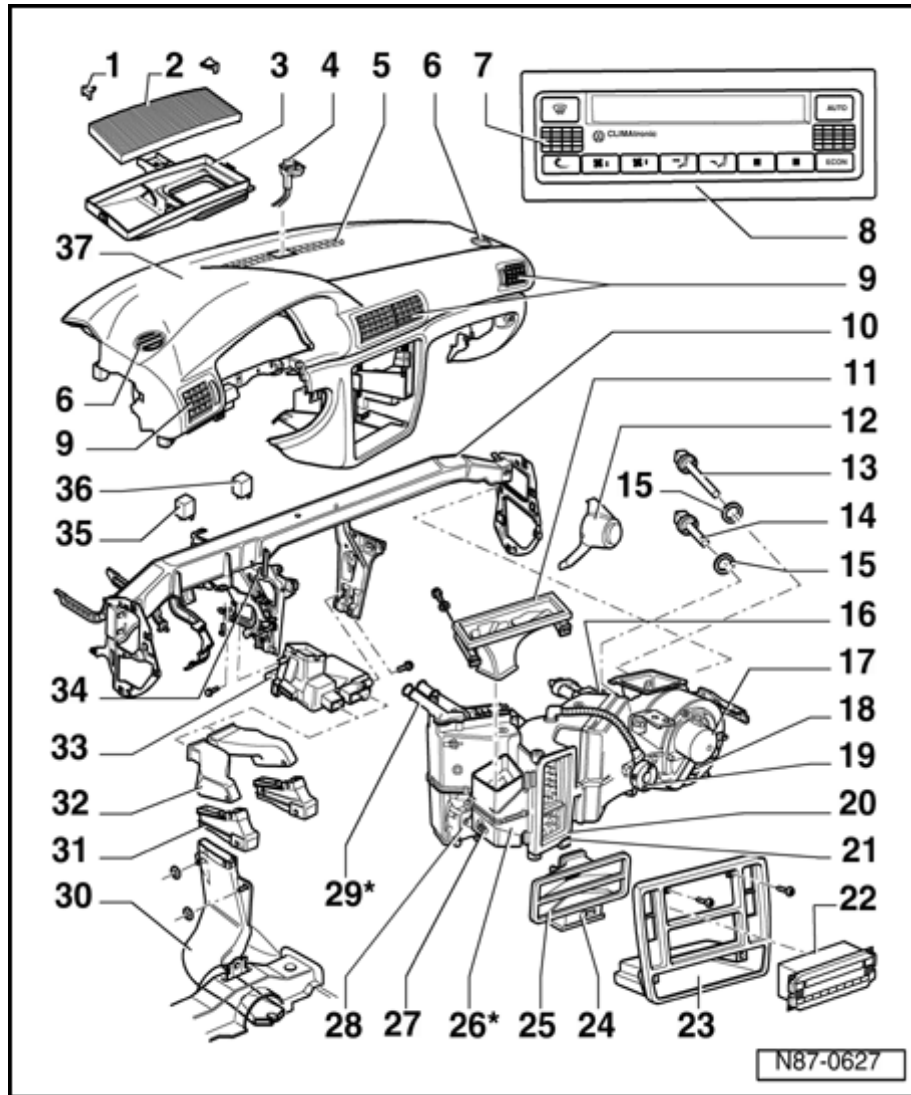
29 - Heater core*

- ◆ Always use new coolant after replacement
- ◆ Removing:
 - Remove heating and A/C unit, removing/assembly ⇒ [Page 87-164](#) .

30 - Left rear duct

31 - Lower duct

32 - Upper duct



33 - Footwell air outlet

◆ Replacing:

- Remove instrument panel

⇒ [Repair Manual, Body Interior, Repair Group 70.](#)

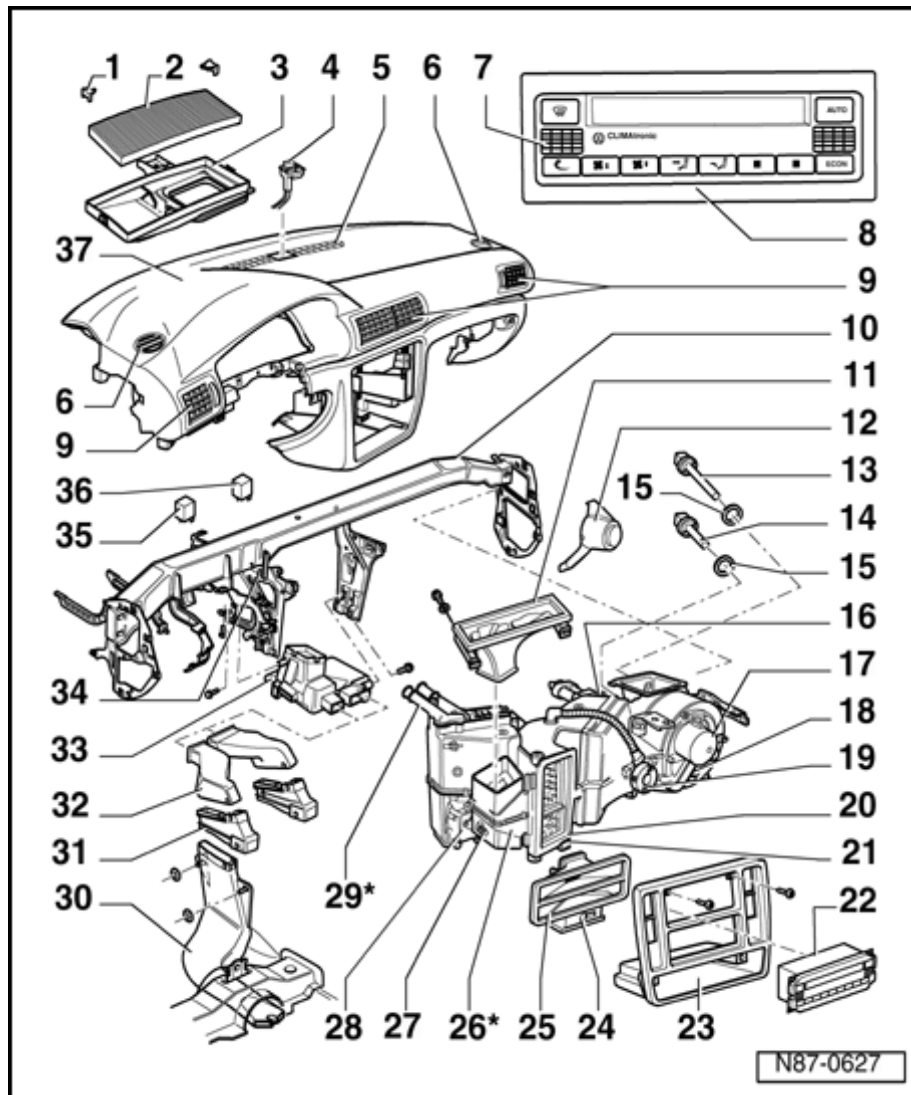
- Remove instrument panel cross member -10-.

◆ Always follow installation instructions for bolt ⇒
[Page 87-24, Fig. 7](#)

- Remove upper duct.
- Carefully lift heating and A/C unit.
- Remove footwell air outlet.

34 - Instrument panel cross member and left side support securing bolt

◆ Always follow installation instructions for bolt ⇒
[Page 87-24, Fig. 7](#)



35 - Relay

First Speed Coolant Fan Control (FC) relay -J279-

◆ Vehicles ➤ 10.00: Control number 214

◆ Vehicles 10.00 ➤: Control number 373

Second Speed Coolant Fan Control (FC) Relay - J280-

◆ Vehicles ➤ 10.00: Control number 213

◆ Vehicles 10.00 ➤: Control number 370

Component locations ⇒ Electrical Wiring Diagrams, Troubleshooting and Component Locations.

36 - A/C clutch relay -J44-

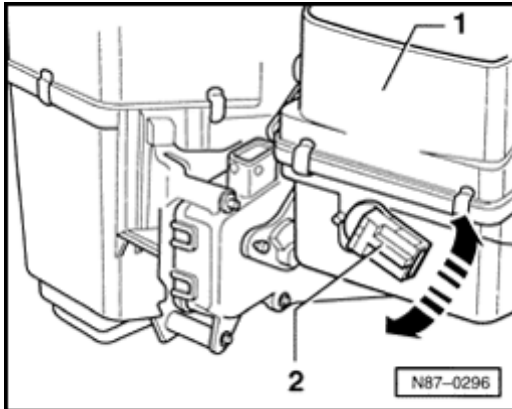
◆ Control number 267

Component locations ⇒ Electrical Wiring Diagrams, Troubleshooting and Component Locations.

37 - Instrument panel

◆ Removing and installing:

⇒ [Repair Manual, Body Interior, Repair Group 70.](#)



A

Fig. 1 Sender for outlet temperature, floor outlet -G192-, removing and installing

Removing

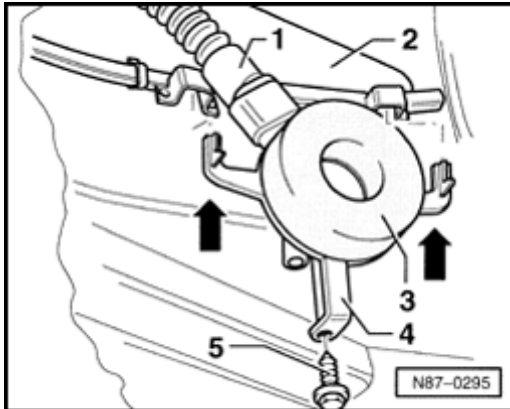
- Remove driver side shelf

⇒ [*Repair Manual, Body Interior, Repair Group 68.*](#)

- Disconnect electrical connector from sender -G192-.
- Rotate sender -2-, 90° -arrow- and remove from housing -1-.

Installing

Lubricate rubber seal on footwell sender -G192- with oil when installing.



A

Fig. 2 Air outlet for glovebox, removing and installing

Removing

- Remove glove box

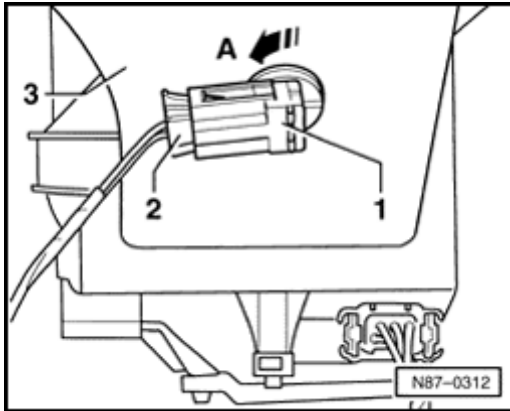
⇒ [*Repair Manual, Body Interior, Repair Group 68*](#)

- Remove securing screw -5-.
- Pull air outlet -4- out from guides on heating and A/C unit -2-.
- Pull off hose -1-.

Installing

- Replace seal -3- if damaged.

When installing, ensure that locking lugs engage in guides on heating and A/C unit -arrows-.



A

Fig. 3 Sender for outlet temperature, center -G191-, removing and installing

CAUTION!

Before beginning repairs on the electrical system:

- ♦ Obtain the anti-theft radio security code.
- ♦ Switch the ignition off.
- ♦ Disconnect the battery Ground (GND) strap.
- ♦ After reconnecting battery, re-code and check operation of anti-theft radio. Also check operation of clock and power windows according to Repair Manual and/or Owner's Manual.

Removing

- Remove radio

⇒ [Repair Manual, Radio, Telephone, Navigation, Repair Group 91.](#)

- Remove Climatronic control module -J255- ⇒ [Page 87-87](#)
- Remove center trim ⇒ [Page 87-78](#)
- Disconnect electrical connector -2- from sender -G191-.
- Rotate sender -1-, 90° -arrow A- and remove from housing -3-.

Installing

- Install in reverse order of removal, being sure to coat seal lightly with oil.

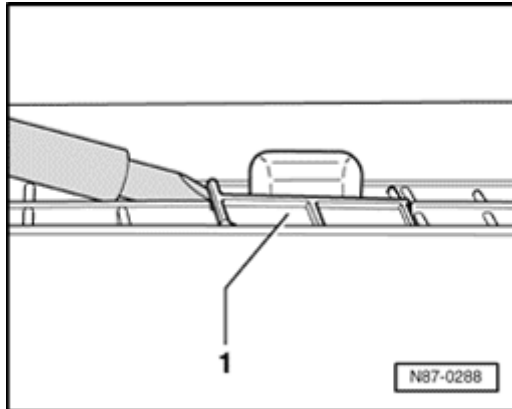
**A**

Fig. 4 Sunlight photo sensor -G107-, removing

- Carefully lift sender -1- at side with small screwdriver.



A/C control head -E87- with Climatronic control module -J255-, removing and installing

CAUTION!

Before beginning repairs on the electrical system:

- ♦ *Obtain the anti-theft radio security code.*
- ♦ *Switch the ignition off.*
- ♦ *Disconnect the battery Ground (GND) strap.*
- ♦ *After reconnecting battery, re-code and check operation of anti-theft radio. Also check operation of clock and power windows according to Repair Manual and/or Owner's Manual.*

Special tools, testers, measuring instruments and auxiliary items required

- ♦ VAG 1551/1552 Scan Tool (ST)

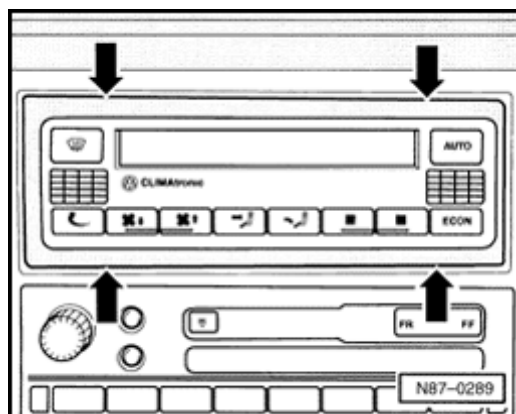
◆ Optional: VAS 5051 tester



Note:

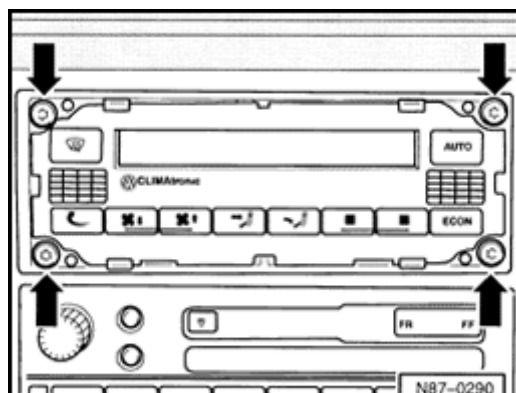
Climatronic control module -J255- and A/C control head -E87- are integrated into a single unit and cannot be serviced separately.

Removing



A

- Using a screwdriver with a protected tip, carefully unclip control head trim at locations indicated by -arrows-.



A

- Remove instrument panel screws -arrows-.
- Pull A/C control head/control unit from instrument panel opening.
- Disconnect electrical connections on rear of unit.
- Remove A/C control head with control unit.

Installing

- Install in reverse order of removal.
- Code Control Module, function 07, then initiate Basic Setting, function 04, with VAG 1551/1552 Scan Tool (ST) ⇒ [Page 01-5](#) , or use VAS 5051 in mode "Guided Fault Finding" ⇒ [page 87-58](#) .

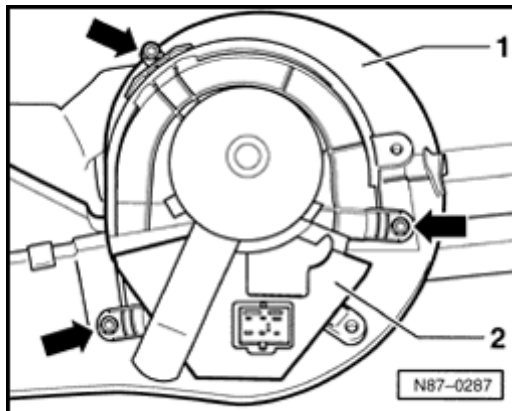


Fresh air blower -V2- with control module for fresh air blower -J126-, removing and installing

Removing

- Remove glove box

⇒ [Repair Manual, Body Interior, Repair Group 68.](#)



A

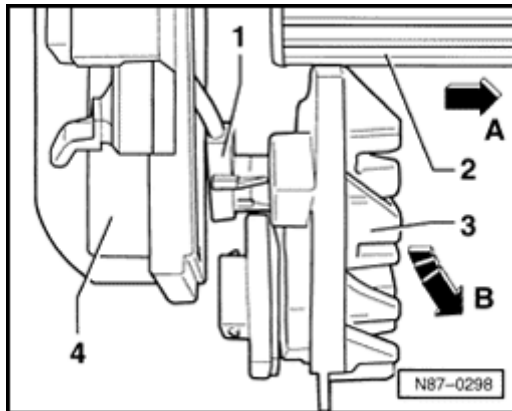
- Remove screws -arrows-.
- Remove blower with blower control unit -2- from housing -1-.

Control module for fresh air blower -J126-, removing (from blower)



A

- Remove screws -arrows-.



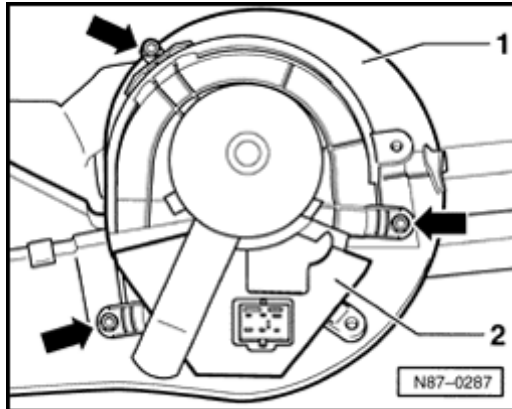
A

- Lift control module -3- and pull out forwards -arrow B-.
- Disconnect electrical connector -1-.

Observe following when inserting module -J126-:

- Pull both components carefully apart in direction of -arrow A- to provide a slight clearance between fresh air blower wheel -2- and housing -4-.
- Insert control module -3- into housing -4- and secure.

Installing



A

- Insert fresh air blower with blower control unit -2- into housing -1- and secure with screws -arrows-.



Air flap motors (for climate control regulation), replacing

CAUTION!

Before beginning repairs on the electrical system:

- ♦ *Obtain the anti-theft radio security code.*
- ♦ *Switch the ignition off.*
- ♦ *Disconnect the battery Ground (GND) strap.*
- ♦ *After reconnecting battery, re-code and check operation of anti-theft radio. Also check operation of clock and power windows according to Repair Manual and/or Owner's Manual.*

Special tools, testers, measuring instruments and auxiliary items required

- ♦ VAG 1551/1552 Scan Tool (ST)

◆ Optional: VAS 5051 tester

Note:

After installing a new air flap motor, always initiate Basic Setting, function 04 with VAG 1551/1552 Scan Tool ⇒ [Page 01-5](#) or use VAS 5051 in mode "Guided Fault Finding" ⇒ [page 87-58](#) .



Air flow flap motor -V71-, removing and installing

Note:

The air flow flap motor also operates the fresh/recirculating air flap.

Removing

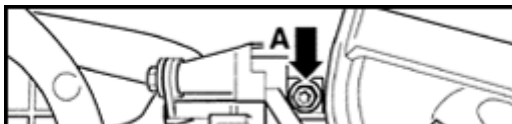
- Remove instrument panel

⇒ [Repair Manual, Body Interior, Repair Group 70.](#)

- Loosen instrument panel cross member ⇒ [Page 87-72](#) .

For the next step, an assistant must lift and hold the heating and A/C unit.

- Look behind heating and A/C unit using a mirror from front passenger's side.



A

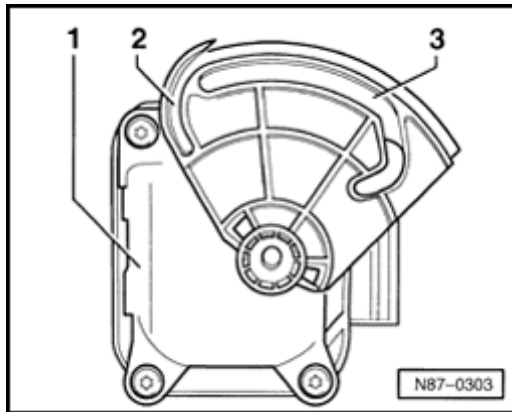
- Remove bolts (TORX T15) -arrows A-.

- Disconnect electrical connector.
- Pull out motor downwards.



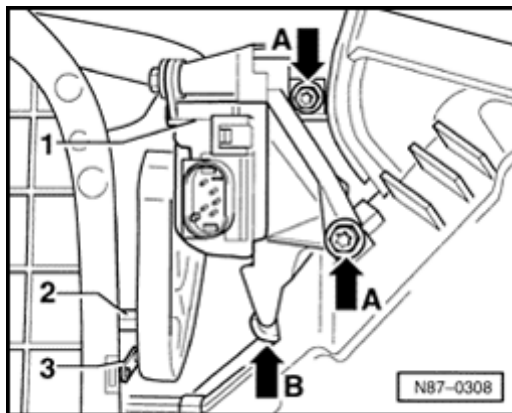
Installing and adjusting

Observe correct orientation of flap levers to drive cam when installing flap motor.



A

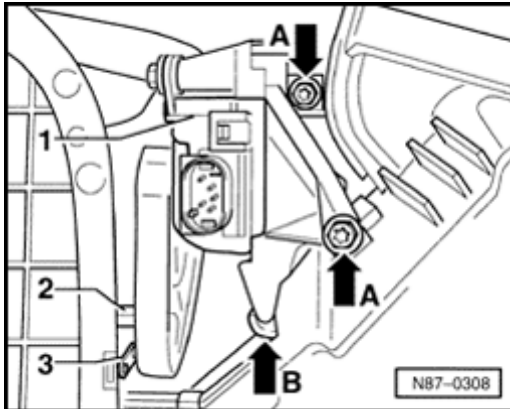
- 1 - Air flow flap motor -V71-
- 2 - Guide for plastic lever
- 3 - Guide for metal lever
- Connect connector.



A

- Insert flap motor -1- into guide -arrow B-.

Position air flow flap and recirculated air flap levers -2 and 3- by hand according to position of flap motor.



A

- Insert flap levers -2- and -3- into drive cam guides.
 - ◆ Plastic lever, position -2-
 - ◆ Metal lever, position -3-
- Initiate Basic Setting, function 04, with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) or use VAS 5051 in mode "Guided Fault Finding" ⇒ [page 87-58](#) .

Temperature regulator flap motor -V68-, removing and installing

The temperature flap lever and operating rod are color coded "Red".

Removing

- Remove instrument panel

⇒ [Repair Manual, Body Interior, Repair Group 70](#)

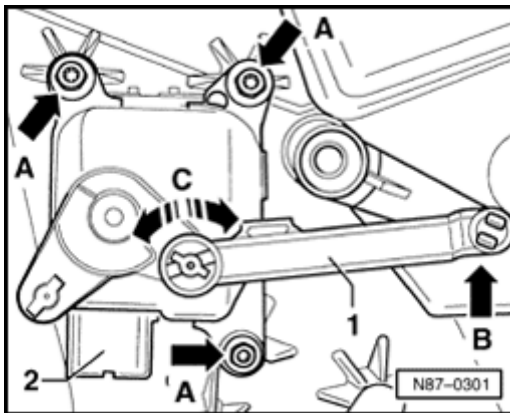
- Remove dust and pollen filter.
- Loosen instrument panel cross member ⇒ [Page 87-72](#) .

For the next steps, an assistant must lift and hold the heating and A/C unit.



- Remove footwell air outlet ⇒ [Page 87-81](#)

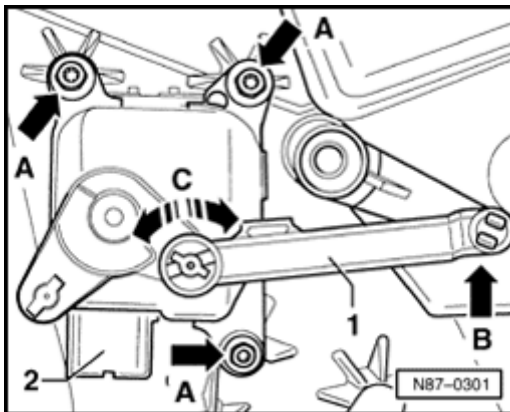
- Remove air flow flap motor ⇒ [Page 87-96](#) .



A

- Remove bolts (TORX T15) -arrows A-.

- Carefully unclip operating rod -1- from lever -arrow B- using a screwdriver.



A

- Turn operating rod -1- -arrow C- and remove motor -2-.

- Disconnect electrical connector.

- Remove flap motor.

Installing and adjusting

- Initiate Basic Setting, function 04, with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#)
or use VAS 5051 in mode "Guided Fault Finding" ⇒ [page 87-58](#) .



Central air flap motor -V70-, removing and installing

The temperature flap lever and operating rod are color coded "Blue".

Removing

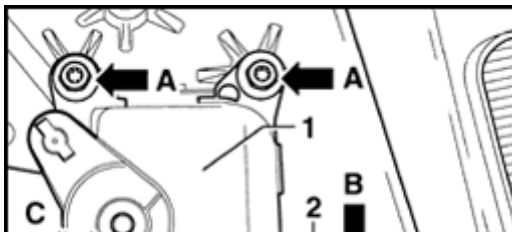
- Remove instrument panel

⇒ [Repair Manual, Body Interior, Repair Group 70](#)

- Loosen instrument panel cross member ⇒ [Page 87-72](#) .

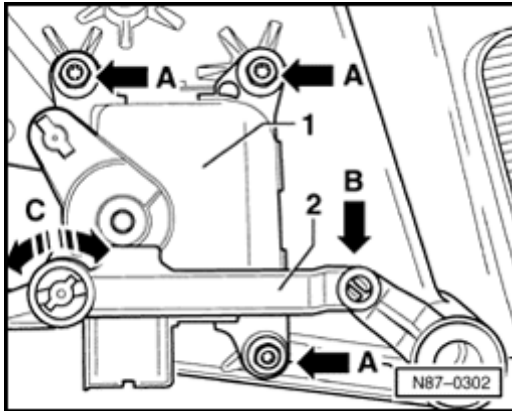
For the next steps, an assistant must lift and hold the heating and A/C unit.

- Remove footwell air outlet ⇒ [Page 87-81](#) .



A

- Remove bolts (TORX T15) -arrow A-.
- Carefully unclip operating rod -2- from lever -arrow B- using a screwdriver.



A

- Turn operating rod -2- -arrow C- and remove motor -1-.
- Disconnect electrical connector.
- Remove motor.

Installing and adjusting

- Initiate Basic Setting, function 04, with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#) or use VAS 5051 in mode "Guided Fault Finding" ⇒ [page 87-58](#) .

Footwell/defroster flap motor -V85-, removing and installing

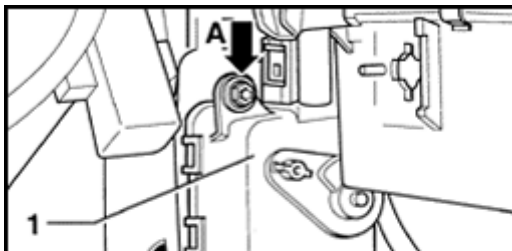
Removing

- Remove Instrument panel

⇒ [Repair Manual, Body Interior, Repair Group 70.](#)

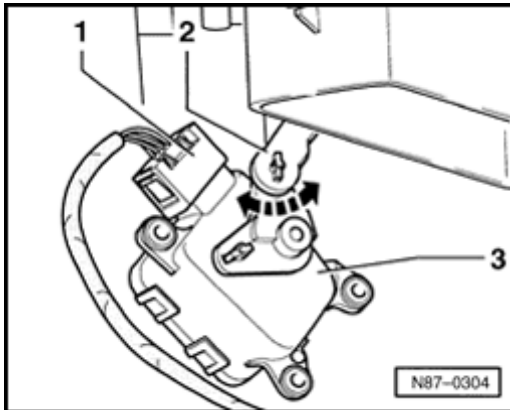
- Loosen Instrument panel cross member ⇒ [Page 87-72](#) .

For the next steps, an assistant must lift and hold the heating and A/C unit.



A

- Remove bolts (TORX T15) -arrows A-.



- Remove motor -3- from housing.

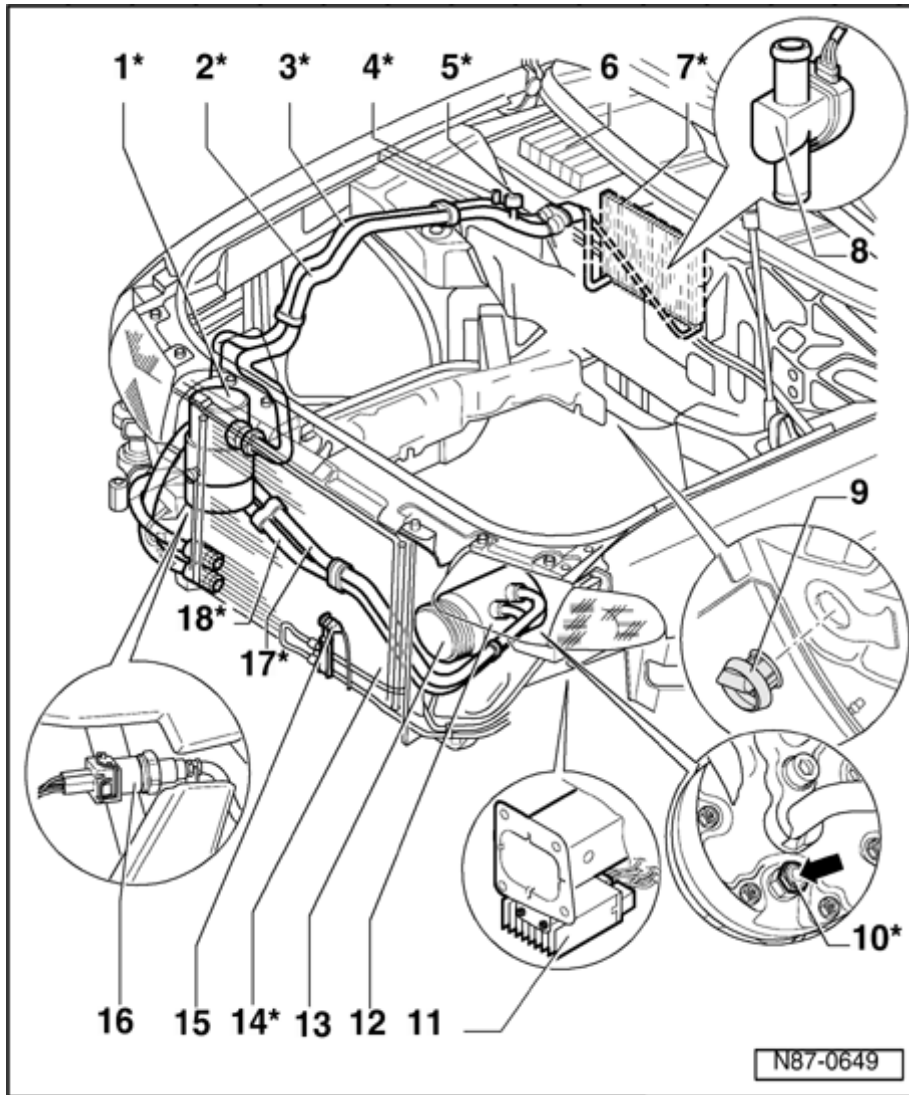
A

- Disconnect electrical connector -1-.

- Turn motor -3- and remove operating rod -2-.

Installing and adjusting

- Initiate Basic Setting, function 04, with VAG 1551 Scan Tool (ST) ⇒ [Page 01-5](#)
or use VAS 5051 in mode "Guided Fault Finding" ⇒ [page 87-58](#) .



Climatronic components in engine compartment, servicing

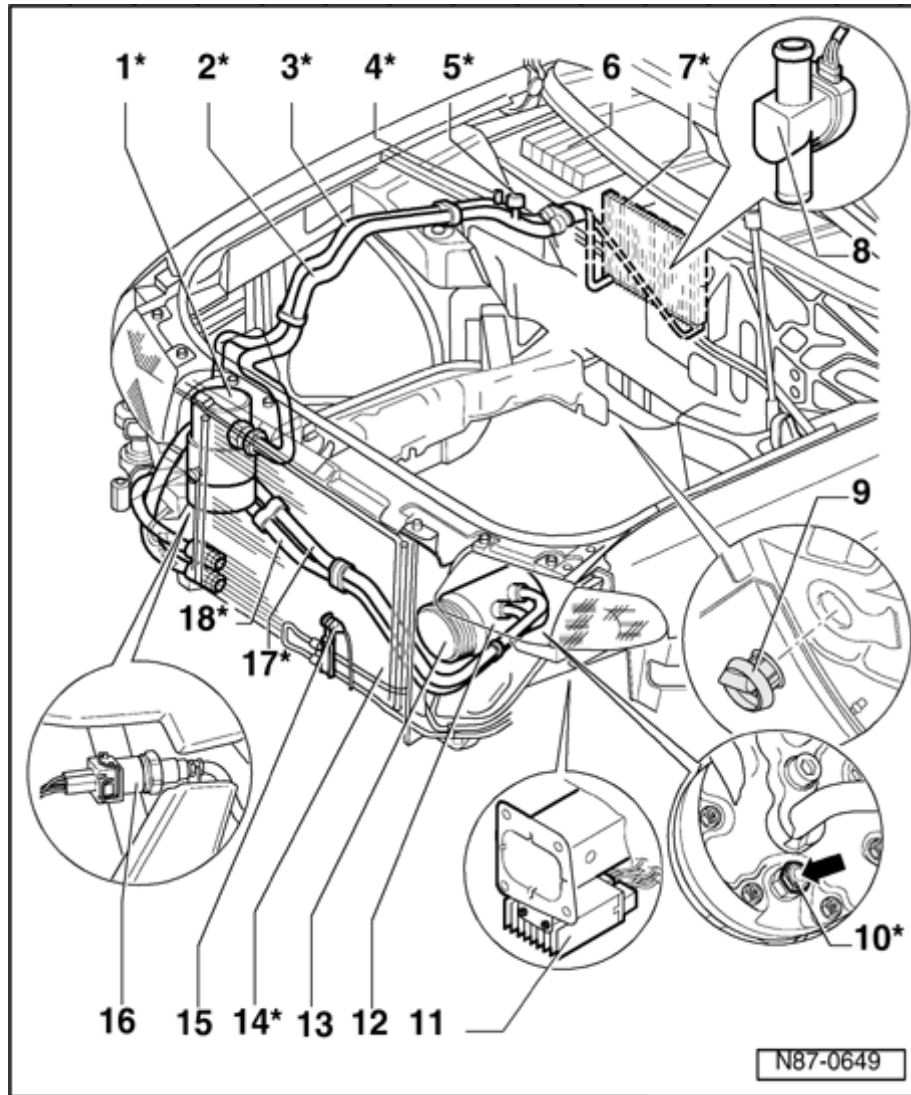
CAUTION!

Before beginning repairs on the electrical system:

- ♦ *Obtain the anti-theft radio security code.*
- ♦ *Switch the ignition off.*
- ♦ *Disconnect the battery Ground (GND) strap.*
- ♦ *After reconnecting battery, re-code and check operation of anti-theft radio. Also check operation of clock and power windows according to Repair Manual and/or Owner's Manual.*

Notes:

- ♦ *System components identified with an * must only be serviced or replaced after discharging refrigerant system. Use Kent Moore ACR4 or equivalent.*
- ♦ *Illustration shows vehicle with engine code AHA.*



1 - Accumulator*

2 - Refrigerant hose*

- ◆ Between evaporator and accumulator

3 - Refrigerant hose*

- ◆ Between evaporator and condenser

4 - Low pressure service valve*

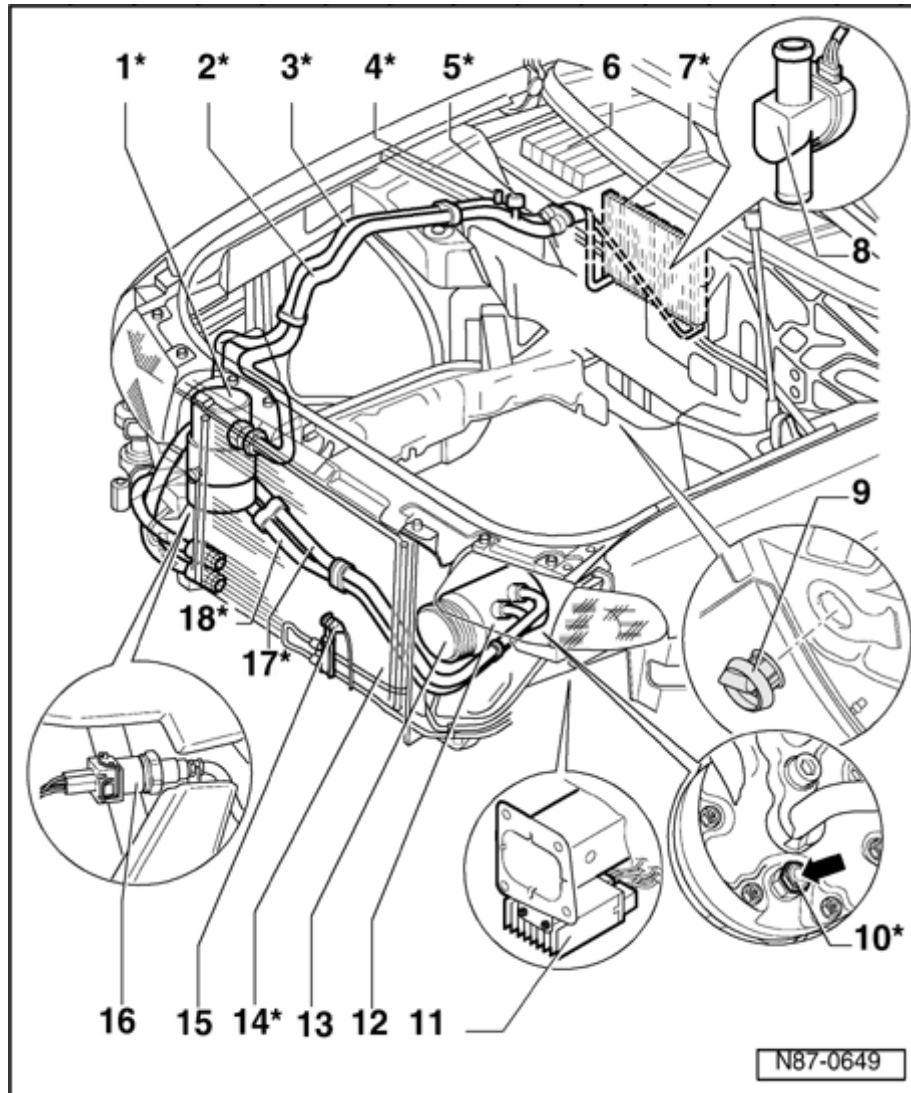
5 - High pressure service valve*

6 - Dust and pollen filter

- ◆ Vehicles 10.00 ➤, replacing ⇒ [Page 87-41](#)

7 - Evaporator*

- ◆ In heating and A/C unit
- ◆ Removing/assembly ⇒ [Page 87-164](#) .



8 - Engine Coolant (EC) Switch-off Valve (heater) - N279

- ◆ 8-cylinder engine only
- ◆ Checking ⇒ VAS 5051 in mode "Guided Fault Finding".

9 - Evaporator water drain valve

- ◆ Checking ⇒ [Page 87-40](#)

10 - Pressure relief valve*

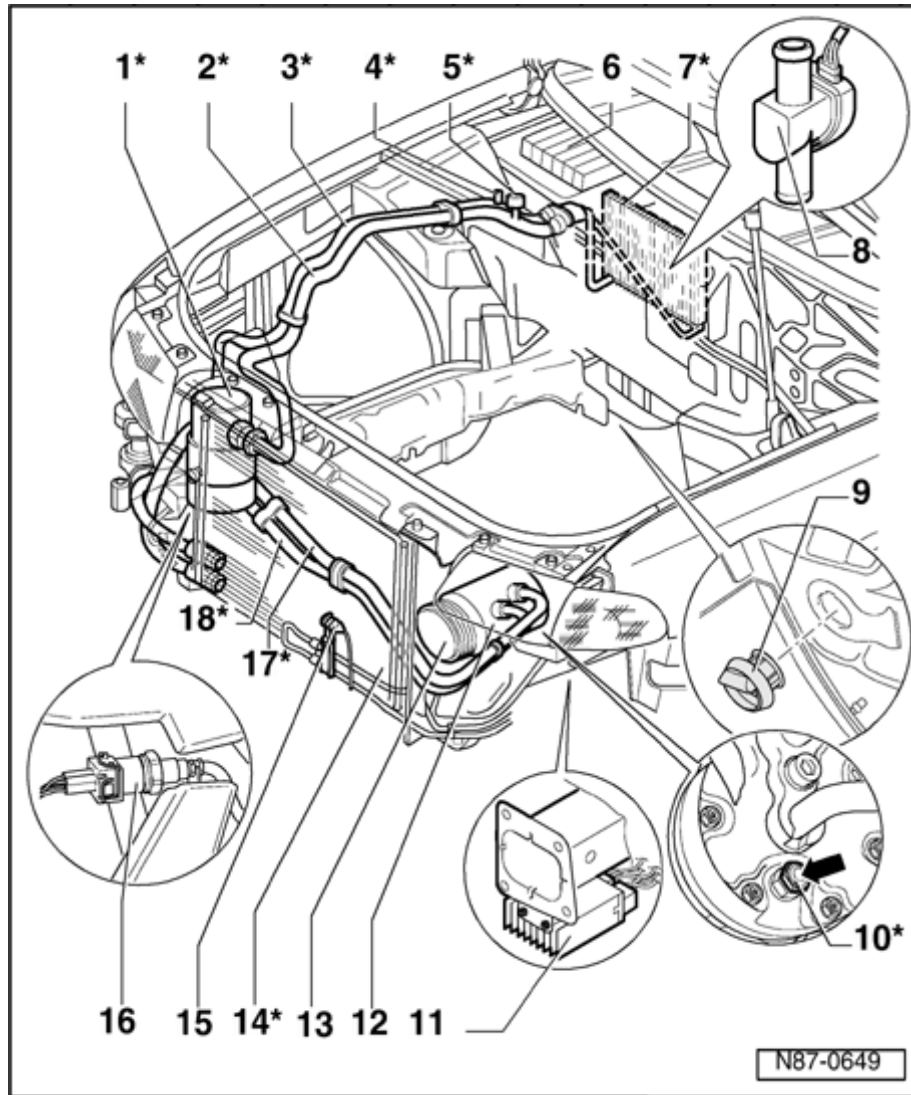
- ◆ Checking, Zexel compressor ⇒ [Page 87-159](#)
- ◆ Checking, Denso compressor ⇒ [Page 87-160](#)

11 - Coolant FC (Fan Control) Control Module -J293-

- ◆ 6-cylinder engine, code ATQ
- ◆ 8-cylinder engine, code BDP

12 - Compressor*

- ◆ Externally regulated compressor without A/C clutch - N25- on 8-cylinder engine



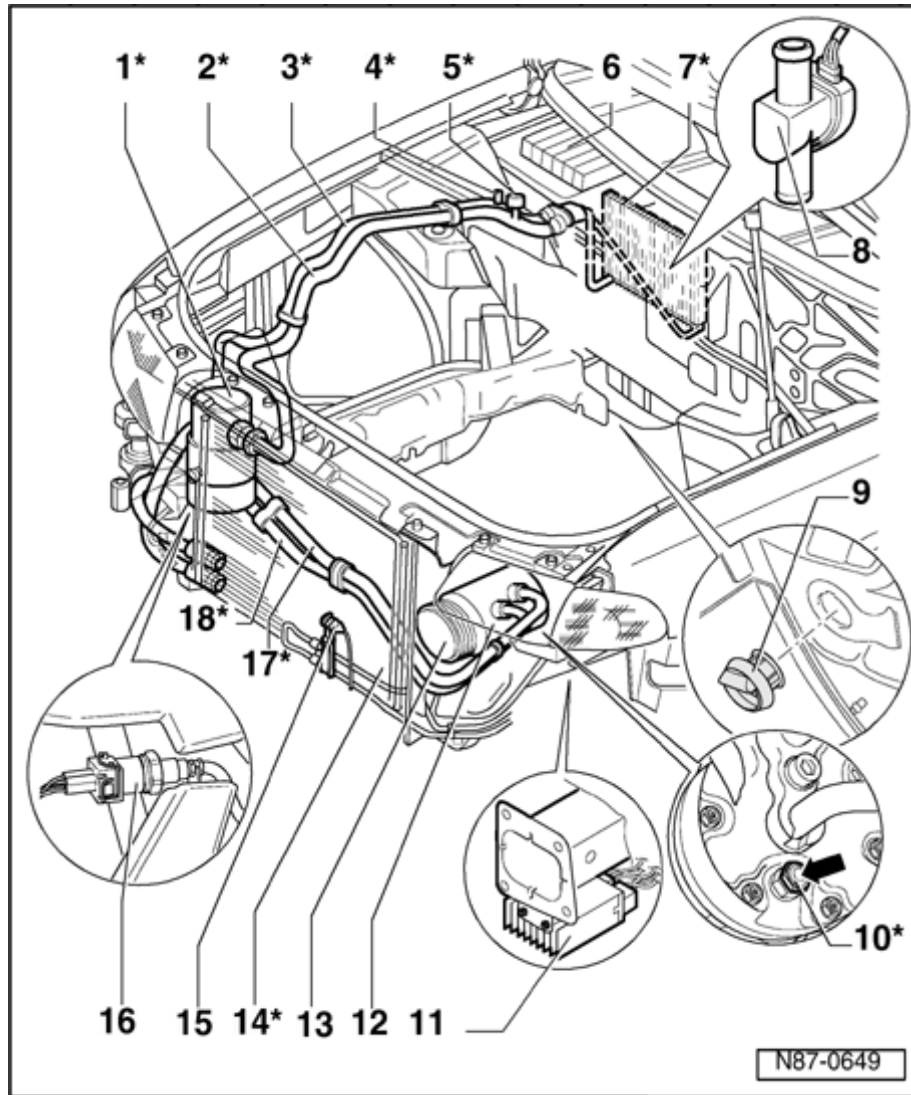
13 - A/C clutch -N25-

- ◆ Servicing: Zexel ⇒ [Page 87-43](#)
- ◆ Servicing: Denso ⇒ [Page 87-49](#)
- ◆ Not for 8-cylinder engine

14 - Condenser*

15 - Outside air temperature sensor -G17-

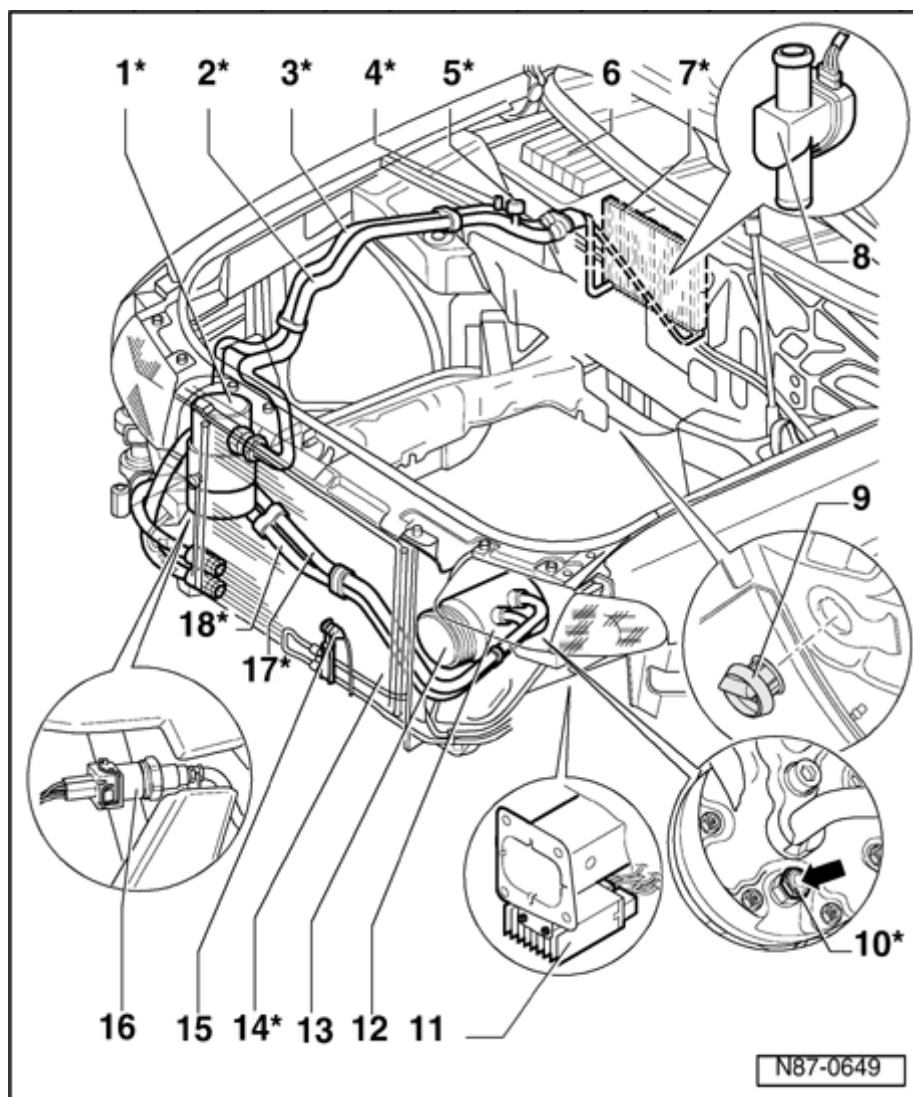
- ◆ Function: Temperature sensor controls temperature flap and fresh air blower speed dependant of temperature measurement.
- ◆ In event of sensor malfunction, fresh air intake duct temperature sensor -G89- measurement value is used instead. If both sensors malfunction, operation continues with default value of 10 ° C (50 ° F). Air recirculation not possible. A/C control head -E87- display indicates: "--"
- ◆ Checking ⇒ Repair Group 01



16 - A/C pressure switch -F129- or high pressure switch -G65-

Notes:

- ◆ *Application is engine dependent.*
- ◆ *Always confirm system use of -F129- or -G65- and applicable wiring circuit using applicable "Engine" and "Climatronic" wiring diagrams.*
- ◆ -F129- function ⇒ [Page 87-138](#)
- ◆ -F129- checking ⇒ [Page 87-154](#)
- ◆ -F129- ➤ 10.00, replacing ⇒ [Page 87-156](#)
- ◆ -F129- 10.00 ➤, replacing ⇒ [Page 87-157](#)
- ◆ -G65- function ⇒ [Page 87-139](#)
- ◆ -G65- checking, use VAS 5051 tester in mode "Guided Fault Finding". ⇒ [Page 87-58](#) .
- ◆ -G65-, replacing ⇒ [Page 87-157](#)
- ◆ Switch or sensor can be removed without discharging refrigerant system.
 - Tightening torque 8 Nm (71 in lb)
 - Always replace O-ring (note Part No.).



17 - Refrigerant hose*

- ◆ Between compressor and evaporator.

18 - Refrigerant hose*

- ◆ Between compressor and accumulator.