



90 – Instruments

1 Instrument Cluster

- ⇒ [“1.1 Overview - Instrument Cluster”, page 98](#)
- ⇒ [“1.2 Instrument Cluster, Removing and Installing”, page 103](#)
- ⇒ [“1.3 Instrument Cluster Multi-Pin Connector Contact Assignment”, page 104](#)
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1.1 Overview - Instrument Cluster

- ⇒ [“1.1.1 Overview - Instrument Cluster”, page 98](#)
- ⇒ [“1.1.2 Overview - Instrument Cluster”, page 99](#)
- ⇒ [“1.1.3 Instrument Cluster Indicator Lamp Symbols, High Version”, page 99](#)
- ⇒ [“1.1.4 Instrument Cluster Indicator Lamp Symbols, Gasoline Engine, Low Version”, page 101](#)
- ⇒ [“1.1.5 Instrument Cluster Indicator Lamp Symbols, Diesel Engine, Low Version”, page 102](#)

1.1.1 Overview - Instrument Cluster

The following components are integrated in the instrument cluster:

- ◆ Instrument Cluster Control Module - J285-
- ◆ Anti-Theft Immobilizer Control Module - J362-
- ◆ Speedometer - G21-
- ◆ Tachometer - G5-
- ◆ Fuel Gauge - G1-
- ◆ Engine Coolant Temperature Gauge - G3-
- ◆ Multifunction indicator
- ◆ High Version indicator lamps. Refer to
⇒ [“1.1.3 Instrument Cluster Indicator Lamp Symbols, High Version”, page 99](#)
- ◆ Low Version indicator lamps, gasoline engine. Refer to
⇒ [“1.1.4 Instrument Cluster Indicator Lamp Symbols, Gasoline Engine, Low Version”, page 101](#)
- ◆ Low Version indicator lamps, diesel engine. Refer to
⇒ [“1.1.5 Instrument Cluster Indicator Lamp Symbols, Diesel Engine, Low Version”, page 102](#)

To audibly support the visual displays, the instrument panel has an integrated buzzer that is activated by the Instrument Cluster Control Module - J285-

All indicator lamps are equipped with Light-Emitting Diodes (LEDs). Servicing the instrument cluster is not planned. In the event of malfunctions, the entire instrument cluster must be replaced. Refer to
⇒ [“1.2 Instrument Cluster, Removing and Installing”, page 103](#).

The Data Bus On Board Diagnostic Interface - J533- is not a component of the instrument cluster. Refer to



⇒ [“2.3 Data Bus on Board Diagnostic Interface J533 , Removing and Installing”, page 326](#) .

Malfunction Recognition and Malfunction Indicator

The instrument cluster is equipped with OBD.

For troubleshooting. Refer to Vehicle Diagnostic Tester in the “Guided Fault Finding” function.

1.1.2 Overview - Instrument Cluster

1 - Instrument Cluster

- ☐ Screw: 1.5 Nm
- ☐ Removing and installing. Refer to
⇒ [“1.2.2 Instrument Cluster, Removing and Installing”, page 103](#) .
- ☐ Replacing. Refer to
⇒ [“1.2.1 Instrument Cluster, Replacing”, page 103](#) .
- ☐ With Instrument Cluster Control Module - J285-

2 - Brake Fluid Level Warning Switch - F34-

- ☐ Refer to ⇒ Brake System; Rep. Gr. 47 ; Brake Booster/Brake Master Cylinder; Overview - Brake Booster/Brake Master Cylinder .

3 - Oil Level Thermal Sensor - G266-

- ☐ Refer to ⇒ Rep. Gr. 17

4 - Outside Air Temperature Sensor - G17- Connector

5 - Outside Air Temperature Sensor - G17-

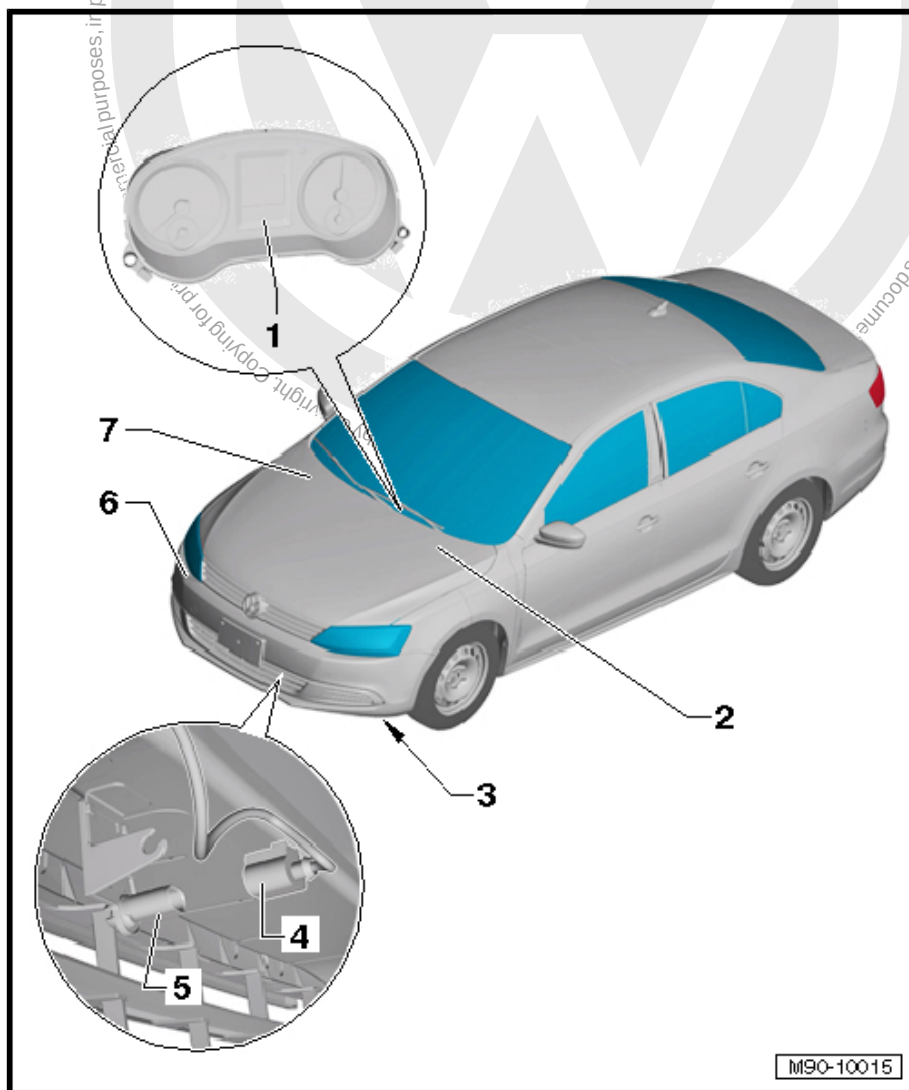
- ☐ Removing and installing. Refer to
⇒ [“1.4 Outside Air Temperature Sensor G17 , Removing and Installing”, page 104](#) .

6 - Windshield Washer Fluid Level Sensor - G33-

- ☐ Removing and installing. Refer to
⇒ [“2.3 Windshield Washer Fluid Level Sensor G33 , Removing and Installing”, page 121](#) .

7 - Engine Coolant Level Sensor - G32-

- ☐ Refer to ⇒ Rep. Gr. 19

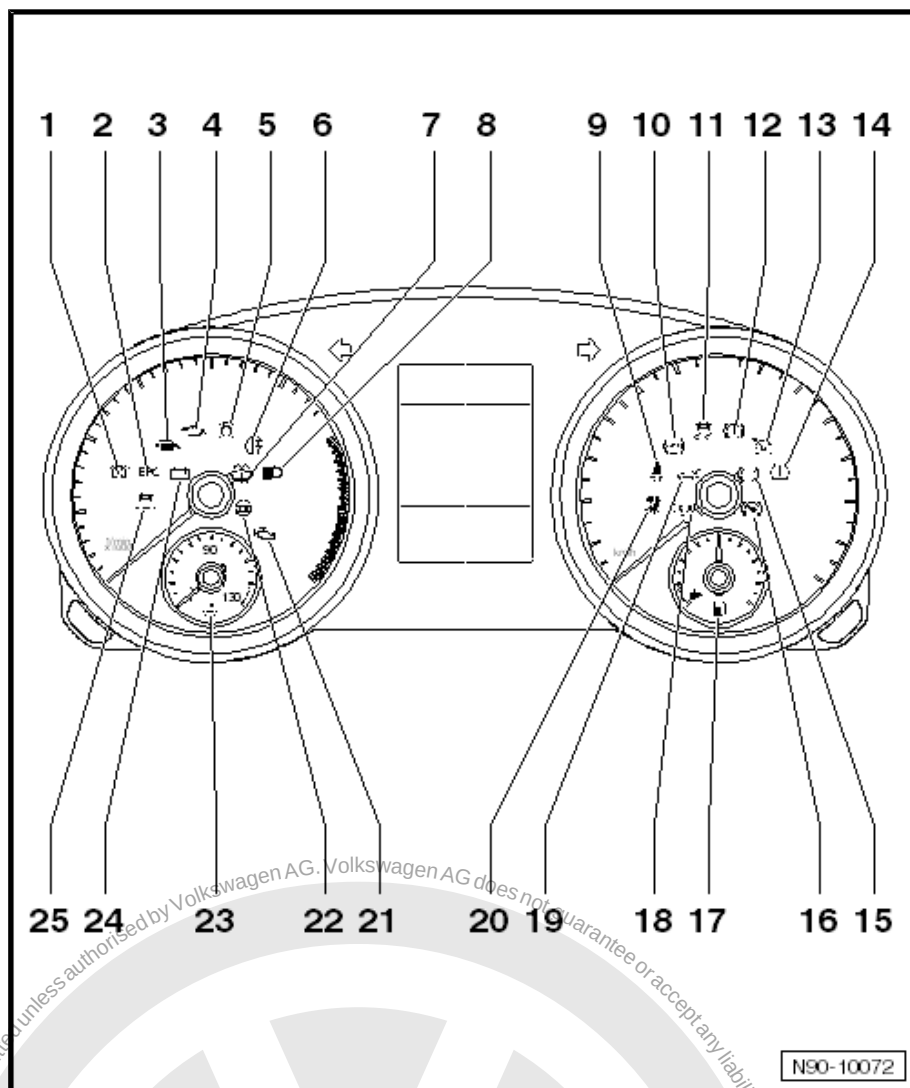


1.1.3 Instrument Cluster Indicator Lamp Symbols, High Version

Different instrument clusters are used, depending on vehicle equipment. Therefore, the arrangement of the indicator lamps may deviate from the illustration.

**1 - Glow Plug Indicator Lamp - K29-**

- ☐ Only on vehicles with a diesel engine

- Engine Electronics Indicator Lamp - K149-**2 - Electronic Power Control Malfunction Indicator Lamp - K132-****3 - Fuel Filler Door Lock Indicator Lamp - K201-****4 - Oil Pressure Indicator Lamp - K3-****5 - Lamp Failure Indicator Lamp - K170-****6 - Rear Fog Lamp Indicator Lamp - K13-****7 - Windshield Washer Fluid Level Indicator Lamp - K37-****8 - High Beam Indicator Lamp - K1-****9 - Seat Belt Indicator Lamp - K19-****10 - ABS Indicator Lamp - K47-****11 - ASR/ESP Indicator Lamp - K155-****12 - Brake System Indicator Lamp - K118-****13 - Cruise Control Indicator Lamp - K31-****14 - Tire Pressure Monitoring Display Indicator Lamp - K220-****15 - Brake Pad Wear Indicator Lamp - K32-****16 - Shift Lock Indicator Lamp - K169-****17 - Low Fuel Level Indicator Lamp - K105-****18 - Door Ajar Indicator Lamp - K166-****19 - Rear Lid -Open- Indicator Lamp - K127-****20 - Airbag Indicator Lamp - K75-****21 - Malfunction Indicator Lamp - K83-****22 - Electromechanical Power Steering Indicator Lamp - K161-****23 - Engine Coolant Level/Temperature Indicator Lamp - K28-****24 - Generator Indicator Lamp - K2-****25 - Not Assigned**



1.1.4 Instrument Cluster Indicator Lamp Symbols, Gasoline Engine, Low Version

Different instrument clusters are used, depending on vehicle equipment. Therefore, the arrangement of the indicator lamps may deviate from the illustration.

1 - Electronic Power Control Malfunction Indicator Lamp - K132-

2 - Generator Indicator Lamp - K2-

3 - Fuel Filler Door Lock Indicator Lamp - K201-

4 - Oil Pressure Indicator Lamp - K3-

5 - Lamp Failure Indicator Lamp - K170-

6 - Rear Fog Lamp Indicator Lamp - K13-

7 - High Beam Indicator Lamp - K1-

8 - Airbag Indicator Lamp - K75-

9 - Seat Belt Indicator Lamp - K19-

10 - ABS Indicator Lamp - K47-

11 - ASR/ESP Indicator Lamp - K155-

12 - Brake System Indicator Lamp - K118-

13 - Cruise Control Indicator Lamp - K31-

14 - Not Assigned

15 - Not Assigned

16 - Low Engine Coolant Level Indicator Lamp - K36-

17 - Not Assigned

18 - Malfunction Indicator Lamp - K83-

19 - Electromechanical Power Steering Indicator Lamp - K161-

20 - Windshield Washer Fluid Level Indicator Lamp - K37-

21 - Rear Lid -Open- Indicator Lamp - K127-

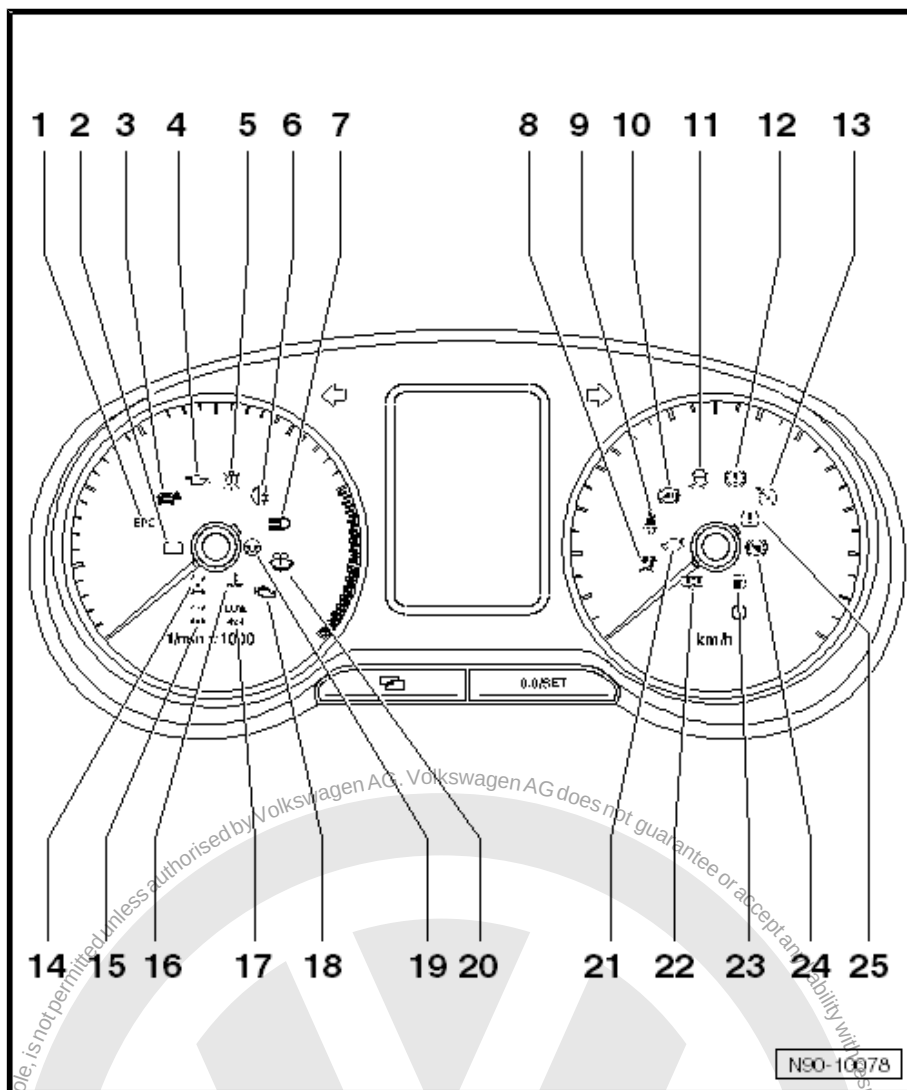
22 - Door Ajar Indicator Lamp - K166-

23 - Low Fuel Level Indicator Lamp - K16-

24 - Shift Lock Indicator Lamp - K169-

□ Only on vehicles with an automatic transmission

25 - Tire Pressure Monitoring Display Indicator Lamp - K220-



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1.1.5 Instrument Cluster Indicator Lamp Symbols, Diesel Engine, Low Version

Different instrument clusters are used, depending on vehicle equipment. Therefore, the arrangement of the indicator lamps may deviate from the illustration.

1 - Glow Plug Indicator Lamp - K29-

2 - Generator Indicator Lamp - K2-

3 - Diesel Particulate Filter Indicator Lamp - K231-

4 - Oil Pressure Indicator Lamp - K3-

5 - Lamp Failure Indicator Lamp - K170-

6 - Rear Fog Lamp Indicator Lamp - K13-

7 - High Beam Indicator Lamp - K1-

8 - Airbag Indicator Lamp - K75-

9 - Seat Belt Indicator Lamp - K19-

10 - ABS Indicator Lamp - K47-

11 - ASR/ESP Indicator Lamp - K155-

12 - Brake System Indicator Lamp - K118-

13 - Cruise Control Indicator Lamp - K31-

14 - Not Assigned

15 - Not Assigned

16 - Low Engine Coolant Level Indicator Lamp - K36-

17 - Not Assigned

18 - Malfunction Indicator Lamp - K83-

19 - Electromechanical Power Steering Indicator Lamp - K161-

20 - Windshield Washer Fluid Level Indicator Lamp - K37-

21 - Rear Lid -Open- Indicator Lamp - K127-

22 - Not Assigned

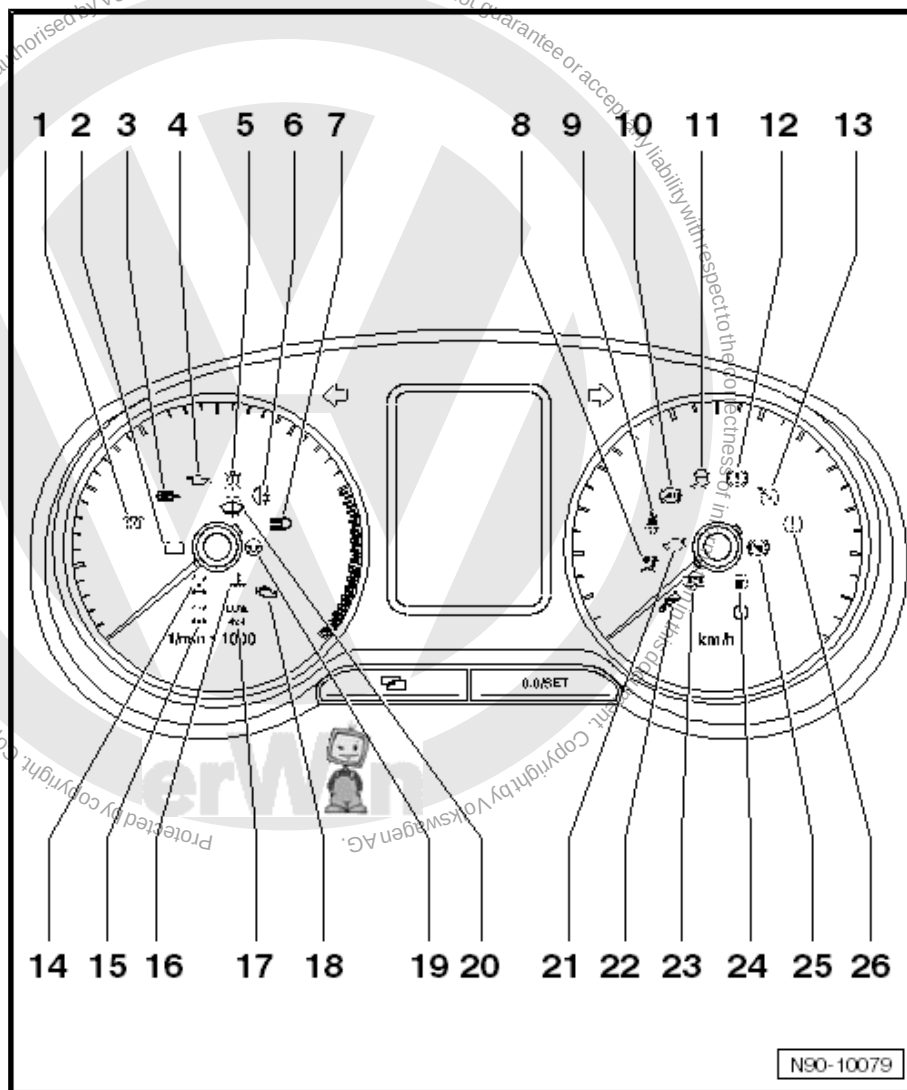
23 - Door Ajar Indicator Lamp - K166-

24 - Low Fuel Level Indicator Lamp - K16-

25 - Shift Lock Indicator Lamp - K169-

☐ Only on vehicles with an automatic transmission

26 - Tire Pressure Monitoring Display Indicator Lamp - K220-





1.2 Instrument Cluster, Removing and Installing

⇒ [“1.2.1 Instrument Cluster, Replacing”, page 103](#)

⇒ [“1.2.2 Instrument Cluster, Removing and Installing”, page 103](#)

1.2.1 Instrument Cluster, Replacing

The “instrument cluster replacement” procedure includes the following work to be completed:

- ◆ If a new Instrument Cluster is installed, the Instrument Cluster Control Module - J285- must be adjusted to the different equipment characteristics, codes and service data.
- ◆ To adapt the integrated Anti-Theft Immobilizer Control Module - J362- to the Engine Control Module - J623- , the data from the Engine Control Module - J623- must be stored in the new instrument cluster.
- ◆ Also, all ignition keys must be adapted after installing a new instrument cluster.

The Procedure to “Replace the Instrument Cluster”. Refer to Vehicle Diagnostic Tester in the “Guided Fault Finding” Function.

Procedure

- Connect the Vehicle Diagnostic Tester .
- Select the **Guided Fault Finding** mode.
- Use the **GO TO** button to select the “function/component selection” and the following menu options one after the other:
 - ◆ Body
 - ◆ Electrical Equipment
 - ◆ 01- OBD-capable systems
 - ◆ 17 -Instrument Cluster
 - ◆ Instrument cluster functions
 - ◆ Instrument Cluster, Replacing

1.2.2 Instrument Cluster, Removing and Installing

Before removing the instrument cluster, perform the “Replace instrument cluster” procedure to read out the data saved in the Instrument Cluster Control Module - J285- . Refer to [⇒ “1.2.1 Instrument Cluster, Replacing”, page 103](#) .

Removing

- Turn off the ignition and all electrical equipment and remove the ignition key.

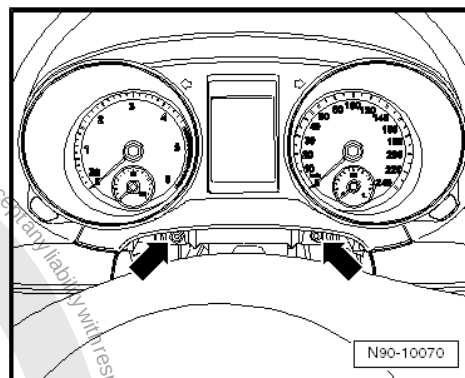
It is not necessary to remove the steering wheel.

- Pull the steering wheel all the way out and then lower as far down as it will go.
- Remove the instrument cluster trim with the left and center instrument panel vents. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Cluster Trim, Left and Center Instrument Panel Vents, Removing and Installing .
- Remove the upper section of the steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments



and Covers; Steering Column Trim Panel, Removing and Installing .

- Remove the bolts -arrows-.
- Pull the instrument cluster straight to the rear out of the instrument panel while paying attention to the connected wires.
- Pivot the locking bracket -1- in the direction of -arrow- and disconnect the connector -2-.



- Remove the instrument cluster from the vehicle.

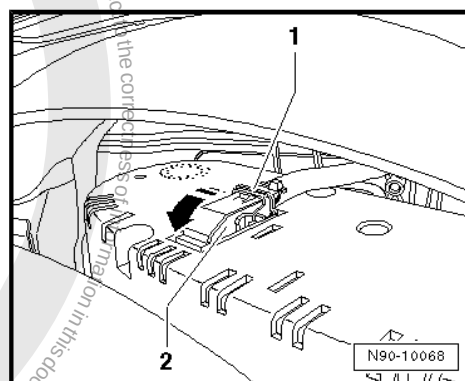
Installing

Install in reverse order of removal. Note the following:

- Tighten the threaded connections to the tightening specifications.

Tightening Specifications

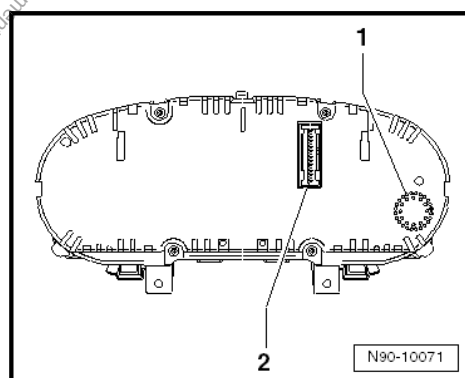
- ◆ Refer to ⇒ [“1.1.2 Overview - Instrument Cluster”, page 99](#)



1.3 Instrument Cluster Multi-Pin Connector Contact Assignment

High Version

- 1 - Buzzer
- 2 - 32-Pin Connector

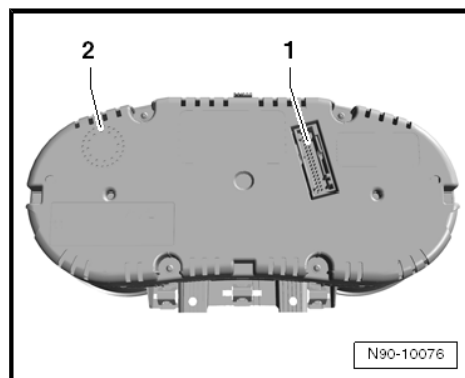


Low Version

- 1 - 32-Pin Connector
- 2 - Buzzer

Do not disassemble instrument cluster. In the event of malfunctions, replace complete instrument cluster.

Connector Assignment, Instrument Cluster. Refer to ⇒ Wiring diagrams, Troubleshooting & Component locations.



1.4 Outside Air Temperature Sensor - G17- , Removing and Installing

The Outside Air Temperature Sensor - G17- is clipped into the front bumper trim panel.

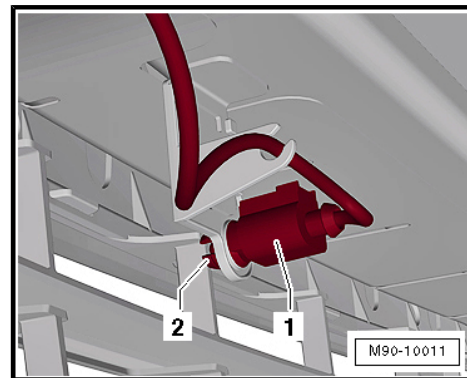


Removing

- Turn off the ignition and all electrical equipment and remove the ignition key.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Release and disconnect the connector -1-.
- Remove the Outside Air Temperature Sensor - G17- -2- from the holder on the bumper trim panel.

Installing

Install in reverse order of removal.





2 Horn

⇒ ["2.1 Overview - Horn", page 106](#)

⇒ ["2.2 Horn, Removing and Installing", page 106](#)

2.1 Overview - Horn

1 - Nut

- ☐ 10 Nm
- ☐ Tightening specification for the bracket bolt to longitudinal member: 20 Nm

2 - Low Tone Horn - H7-

- ☐ Removing and Installing. Refer to ⇒ ["2.2 Horn, Removing and Installing", page 106](#).



Note

In "Guided Fault Finding", the Low Tone Horn - H7- can be found under the name Signal Horn and Dual Tone Horn - H1-.

3 - Nut

- ☐ 10 Nm
- ☐ Tightening specification for the bracket bolt to longitudinal member: 20 Nm

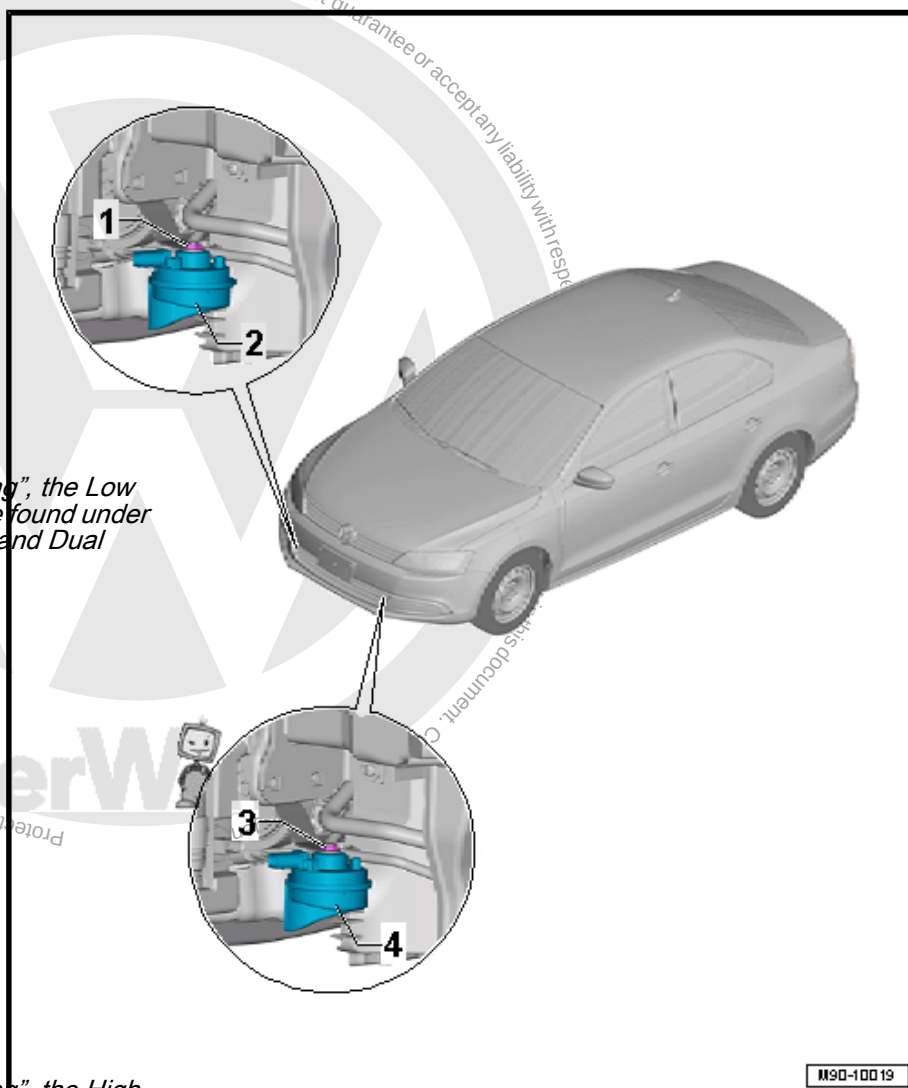
4 - High Tone Horn - H2-

- ☐ Removing and Installing. Refer to ⇒ ["2.2 Horn, Removing and Installing", page 106](#).



Note

In "Guided Fault Finding", the High Tone Horn - H2- can be found under the name Signal Horn and Dual Tone Horn - H1-.



2.2 Horn, Removing and Installing

The High Tone Horn - H2- / Low Tone Horn - H7- are activated by the Vehicle Electrical System Control Module - J519-.

The High Tone Horn - H2- is installed under the longitudinal member on the right and the Low Tone Horn - H7- is installed under the longitudinal member on the left.



Note

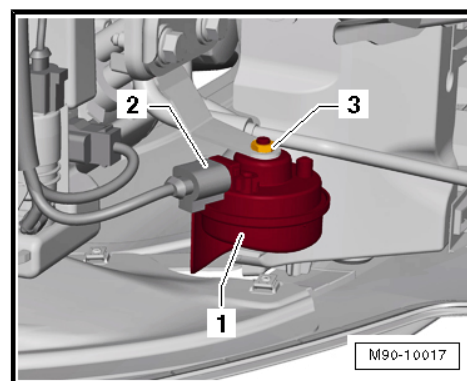
In "Guided Fault Finding", the High Tone Horn - H2- / Low Tone Horn - H7- can be found under the name Signal Horn and Dual Tone Horn - H1-.

Remove the High Tone Horn - H2- .

- Turn off the ignition and all electrical equipment and remove the ignition key.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Release and disconnect the connector -2-.
- Remove the nut -3- and remove the High Tone Horn - H2- -1-.

Low Tone Horn - H7- , Removing

- Turn off the ignition and all electrical equipment and remove the ignition key.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Disconnect the connector -3-.



- Remove the nut -2- and remove the Low Tone Horn - H7- -1-.

Installing

Install in reverse order of removal. Note the following:

When installing, position the horns so that they are not touching any surrounding components.

- Tighten the threaded connections to the tightening specification.

Check the horns. Refer to Vehicle Diagnostic Tester .

Tightening Specifications

- ◆ Refer to ⇒ ["2.1 Overview - Horn", page 106](#)

