

94 LIGHTS, SWITCHES - EXTERIOR

HALOGEN HEADLAMPS - THROUGH 10.04

General information

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the standard or optional headlamp or lighting system. Always read the owners manual and review applicable headlamp system functions.

NOTE: • **Additional information:**

Owners Manual

Self Study Program - Course Number 991103 "2002 Audi A4 Technical Features"

Wiring Diagrams Component Locations

CAUTION: Before beginning repairs on electrical system

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

On Board Diagnostic (OBD), functions

Headlamp system functions are controlled by the Vehicle Electrical System Control Module J519 which has On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot headlamp system malfunctions by performing OBD program using Vehicle Diagnosis, Testing and Information System VAS 5051/5052 in operating mode "Guided Fault Finding".

Halogen headlamps, assembly

NOTE: • **After performing any repairs or service that could affect headlight aim, check/adjust aim.**

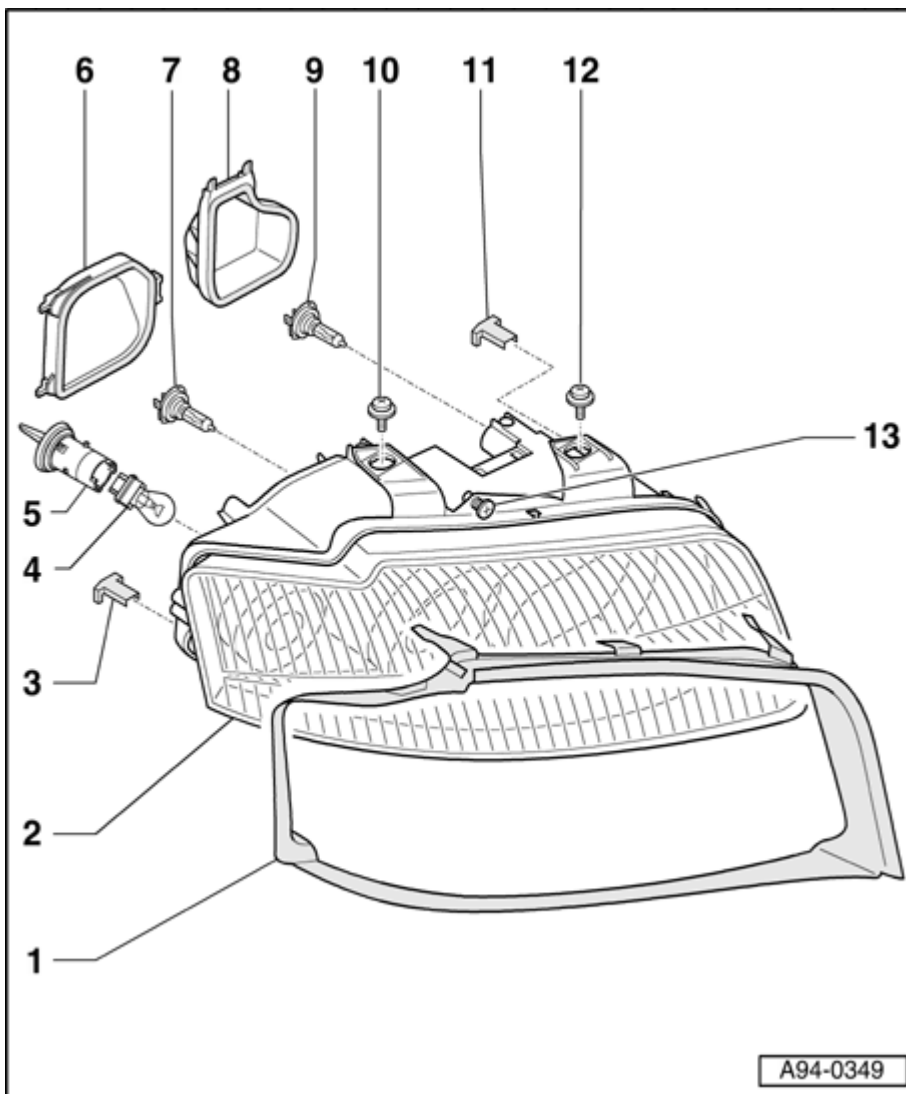


Fig. 274: Halogen Headlamps, Assembly
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Trim cover

2 - Headlamp housing

3 - Vent element

4 - Turn signal/parking lamp bulb

- 12 V, 27/7 W
- Orange
- Replacing --> **Turn signal/parking lamp bulb, replacing**

5 - Bulb holder

- For turn signal/parking lamp bulb

6 - Housing cover

- For low beam headlamps

7 - Left Low Beam Headlamp M29 , Right Low Beam Headlamp M31 - bulb

- H7 - 12 V, 55 W
- Replacing --> Low Beam Headlamp M29 / M31 - bulb, replacing

8 - Housing cover

- For high beam headlamps

9 - Left High Beam Headlamp M30 , Right High Beam Headlamp M32 - bulb

- H7 - 12 V, 55 W
- Replacing --> High Beam Headlamp M30 / M32 - bulb, replacing

10 - Screw - 6 Nm

11 - Vent element

12 - Screw - 6 Nm

13 - Stop bolt

- For aligning headlamp housing with body contour
- Must make contact with lock carrier

Headlamps, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Left headlamp

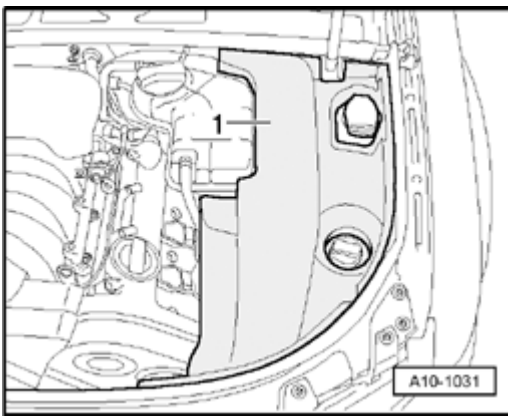


Fig. 275: Removing Cover In Engine Compartment (Left Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove left engine cover - 1 -.

Right headlamp

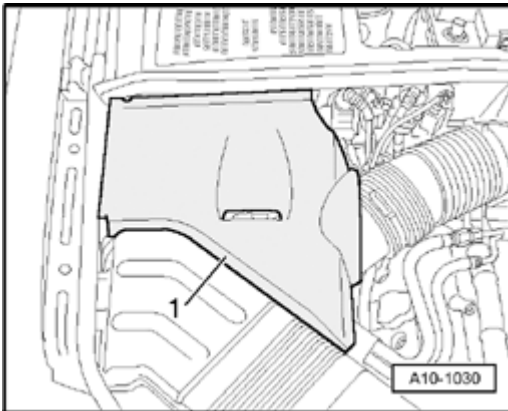


Fig. 276: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove applicable right engine cover - 1 -.

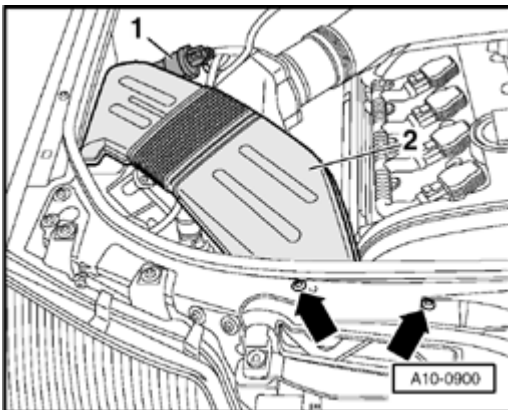


Fig. 277: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

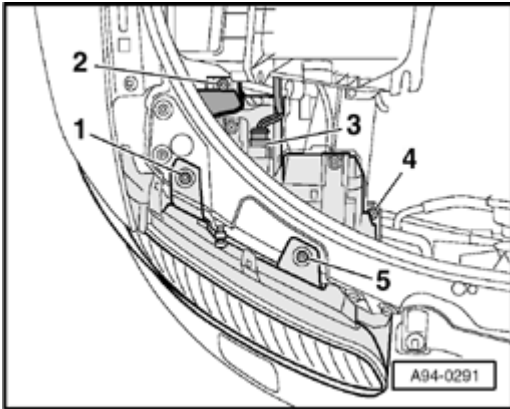


Fig. 278: Locating Screws And Electrical Connection
Courtesy of VOLKSWAGEN UNITED STATES, INC.

Both sides, continued

- Use adhesive tape to mask area beneath headlamp to prevent damage to paintwork.
- Remove screws - **1** - and - **5** -.
- Loosen screws - **2** - and - **4** - (do not remove).
- Where applicable, remove cable tie.
- Disconnect electrical connection - **3** -.
- Remove headlamp from body towards front.

Installing

Install in reverse order of removal, noting the following:

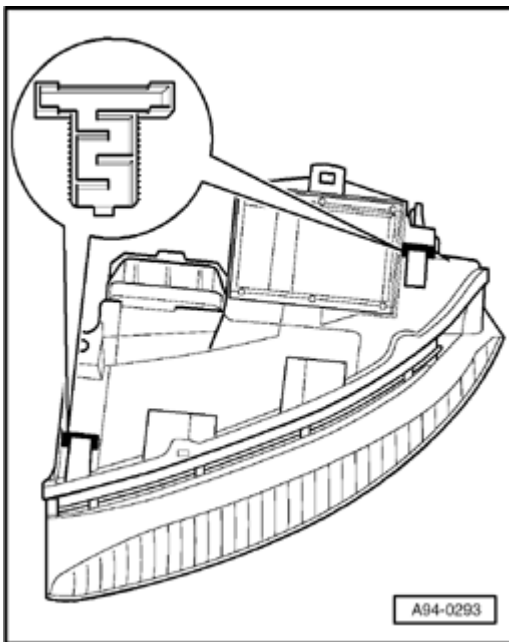


Fig. 279: Locating Vent Elements On Underside Of Headlamp

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Check whether both vent elements have been inserted on underside of headlamp - **detail** -.
- Slide headlamp horizontally onto lower headlamp mounting as far as it will go.

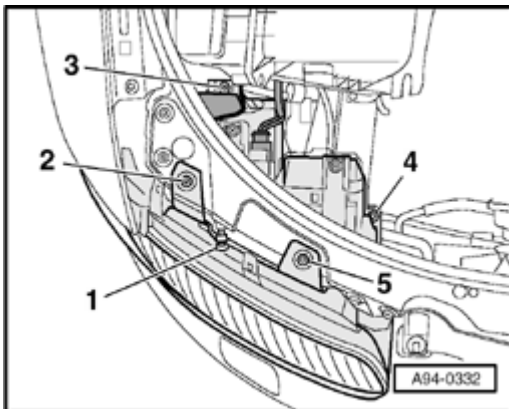


Fig. 280: Locating Screws And Electrical Connection

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Position stop screw - **1** - so it makes contact with lock carrier.
- Use stop screw to align headlamp with body contours (gap widths).

NOTE:

- Pay attention to area around fender opening when aligning headlamp.
- Tighten screws - **2... 5** -.
- Following installation, check and adjust headlamps if necessary --> **00 - TECHNICAL DATA** .

Tightening torque

Component - fastener	Nm
Headlamp to lock carrier - screw	6

Headlamps, adjusting

Headlamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> **00 - TECHNICAL DATA** .

Headlamps, service preparation

The following engine-dependent procedures are required in order to replace certain headlamp bulbs.

Preparation - vehicles with 1.8L 4-cylinder Turbo engine

- CAUTION:
- Switch off all electrical consumers.
 - Switch ignition off and remove ignition key.

Procedure

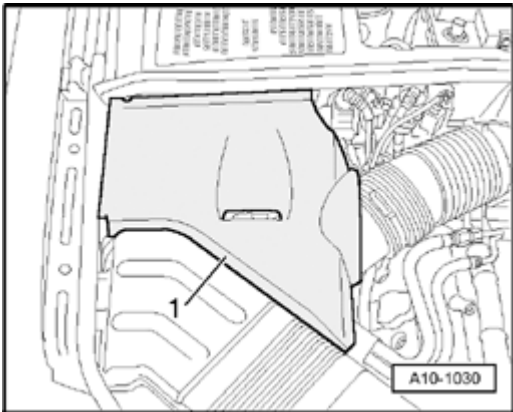


Fig. 281: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove right engine cover - **1** -.

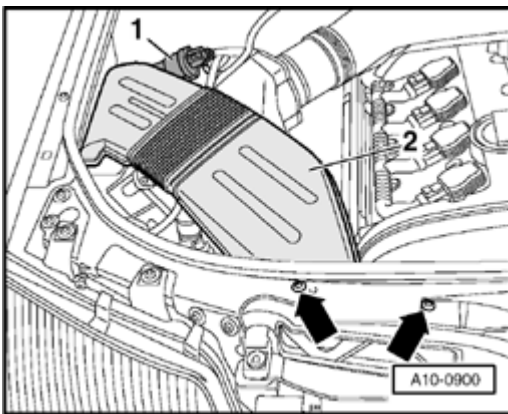


Fig. 282: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

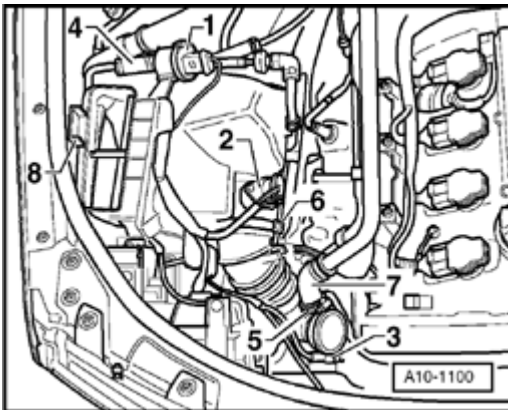


Fig. 283: Disconnect Wires/Unplug Connectors
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections:
 1. at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 2. at Mass Air Flow (MAF) Sensor G70
 3. at Wastegate Bypass Regulator Valve N75
- Disconnect hoses - **4... 7** -.
- Disconnect hose leading to secondary air pump.
- Seat aside wiring.
- Release fasteners at air cleaner housing - **8** -.
- Remove air cleaner housing.

NOTE:

- The vacuum line leading to combination valve for secondary air is clipped onto the underside of the air intake hose.

Install in reverse order of removal.

Preparation - vehicles with 3.0L 6-cylinder engine

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Procedure

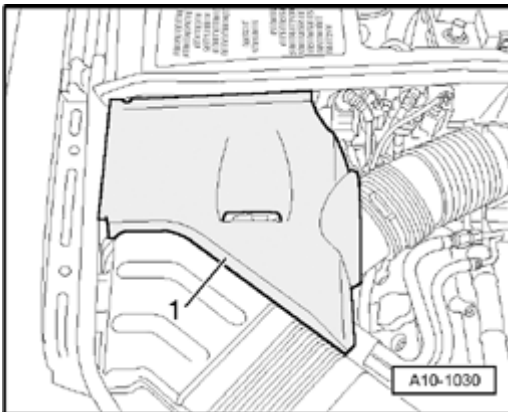


Fig. 284: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove right engine cover - 1 -.

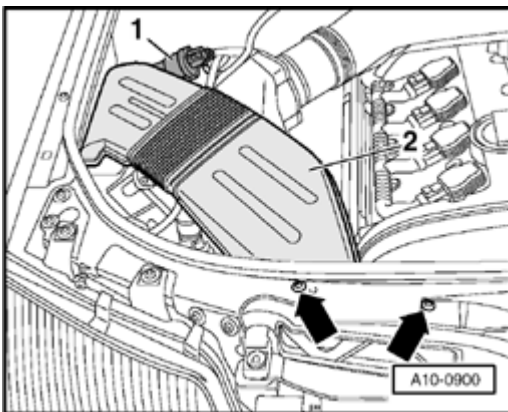


Fig. 285: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - 1 - at air duct.

- Remove air duct - 2 -.

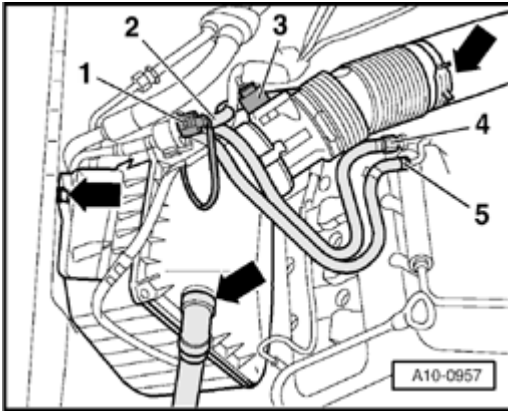


Fig. 286: Identifying Lines And Air Cleaner Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pull off lines and disconnect electrical connections:
 1. at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 2. vacuum hose at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 3. at Mass Air Flow (MAF) Sensor G70
- Pull off hose connections and set aside lines - 4 - and - 5 -.
- Remove air cleaner housing - **arrows** -.

Install in reverse order of removal.

Low Beam Headlamp M29 / M31 - bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Left headlamp:

- Remove headlamp --> **Headlamps, removing and installing.**

Right headlamp - vehicles with 1.8L 4-cylinder Turbo engine:

- Preparation.

Right headlamp - vehicles with 3.0L 6-cylinder engine:

- Preparation.

Both sides, continued

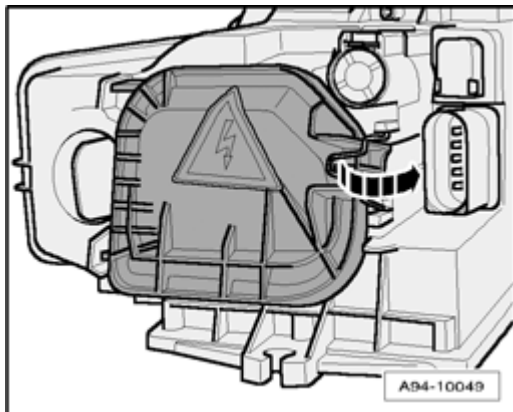


Fig. 287: Releasing Retaining Clip And Detaching Housing Cover For Low Beam From Headlamp Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for low beam from headlamp housing.

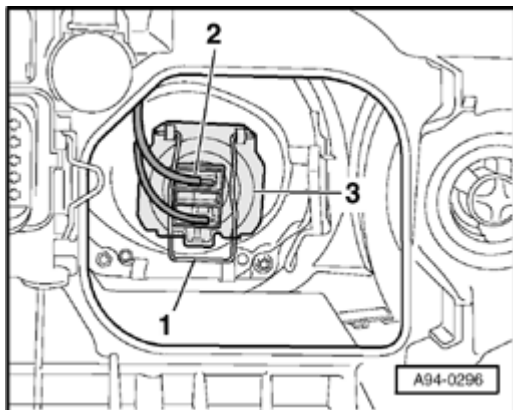


Fig. 288: Identifying Electrical Connection, Retaining Clip, And Bulb

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - 2 - at low beam bulb.
- Disengage retaining clip - 1 - and remove bulb - 3 - from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION: • Do not touch glass portion of bulb with bare hands. Even the

12:18:31 AM	Page 11		

smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.

- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert bulb and secure with retaining clip.
- Secure housing cover with retaining clip.

High Beam Headlamp M30 / M32 - bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Left headlamp

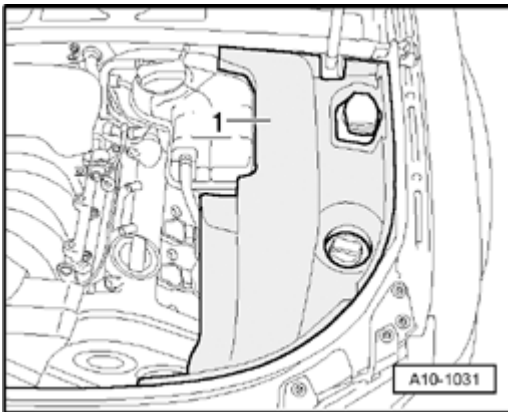


Fig. 289: Removing Cover In Engine Compartment (Left Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove left engine cover - 1 -.

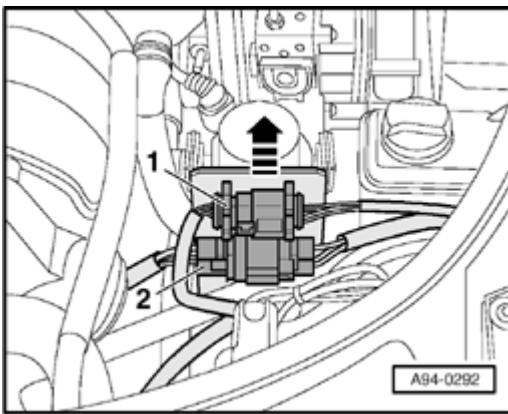


Fig. 290: Disconnecting Electrical Connections From Retainer And Removing Retainer
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections - 1 - and - 2 - from retainer.
- Unclip retainer for connectors and pull off upwards - **arrow** -.

Right headlamp - vehicles with 1.8L 4-cylinder Turbo engine:

- Preparation.

Right headlamp - vehicles with 3.0L 6-cylinder engine:

- Preparation.

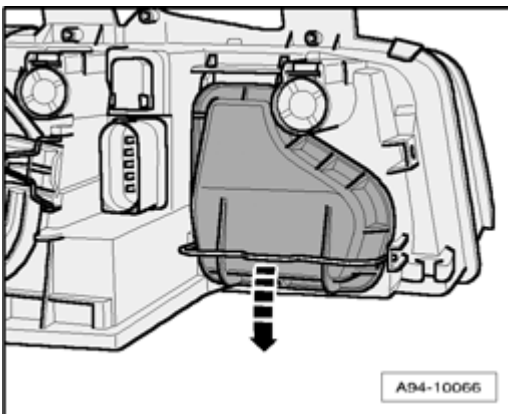


Fig. 291: Releasing Retaining Clip And Detaching Housing Cover
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Both sides, continued:

- Release retaining clip - **arrow** - and detach housing cover for high beam headlamp bulb from headlamp housing.

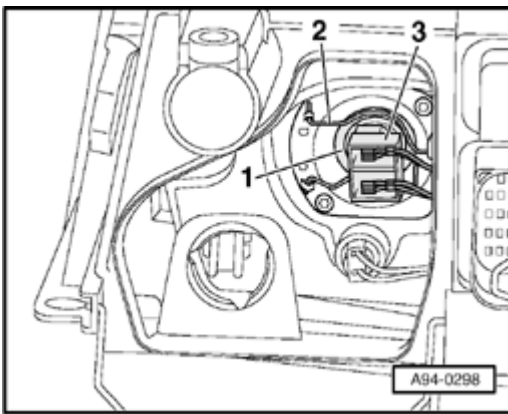


Fig. 292: Disconnecting Electrical Connection, Releasing Retaining Clip, And Removing Bulb
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **3** - at high beam headlamp bulb.
- Release retaining clip - **2** - and remove bulb - **1** - from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- **Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.**
- **When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.**

- Secure bulb with retaining clip.
- Secure housing cover with retaining clip.

Turn signal/parking lamp bulb, replacing

Removing

- Remove headlamp --> **Headlamps, removing and installing.**

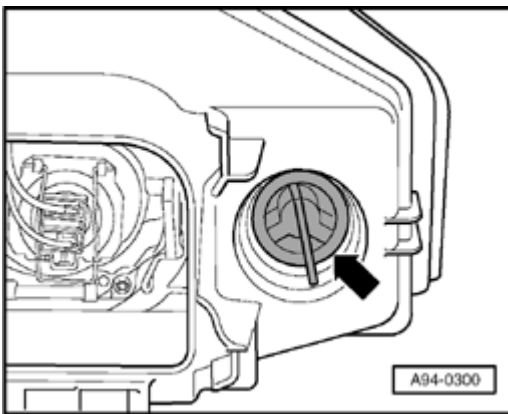


Fig. 293: Identifying Bulb Holder

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn bulb holder - **arrow** - counter-clockwise and remove from housing.
- Pull bulb out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Fit new bulb in housing.
- Install headlamp **Installing**.

Headlamp securing lugs, servicing

NOTE:

- If headlight securing lugs break due to application of excessive force, it may still be possible to service headlight in a cost effective manner (though headlight housing must not be damaged).
- Different repair sets are available for left and right headlight.

Procedure

- Remove headlamp with broken retaining tab --> **Headlamps, removing and installing**.

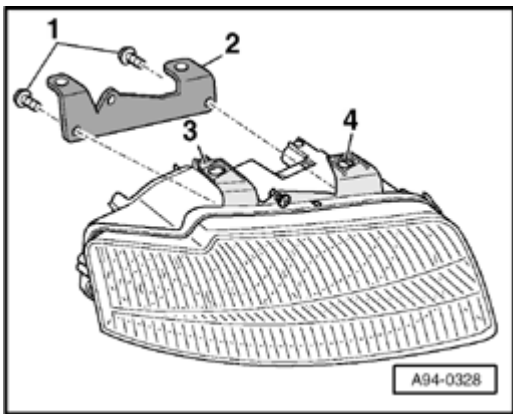


Fig. 294: Exploded View Of Headlamp Components
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove remains of broken lug - 3 - and - 4 - on headlamp housing.
- Attach lug - 2 - from repair kit to edge of headlight housing and secure it with two screws - 1 -.

Tightening torque

Component	Nm
Headlamp to lock carrier	6

HALOGEN HEADLAMPS - FROM 11.04

General information

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the standard or optional headlamp or lighting system. Always read the owners manual and review applicable system functions.

NOTE: • **Additional information:**

Owners Manual

Self Study Program - Course Number 991503 "The 2005 Audi A4"

Wiring Diagrams Component Locations

CAUTION: Before beginning repairs on electrical system

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

On Board Diagnostic (OBD), functions

12:18:31 AM	Page 16	

Headlamp system functions are controlled by the Vehicle Electrical System Control Module J519 which has On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot headlamp system malfunctions by performing OBD program using Vehicle Diagnosis, Testing and Information System VAS 5051/5052 in operating mode "Guided Fault Finding".

Halogen headlamps, assembly

NOTE:

- After performing any repairs or service that could affect headlight aim, check/adjust aim.

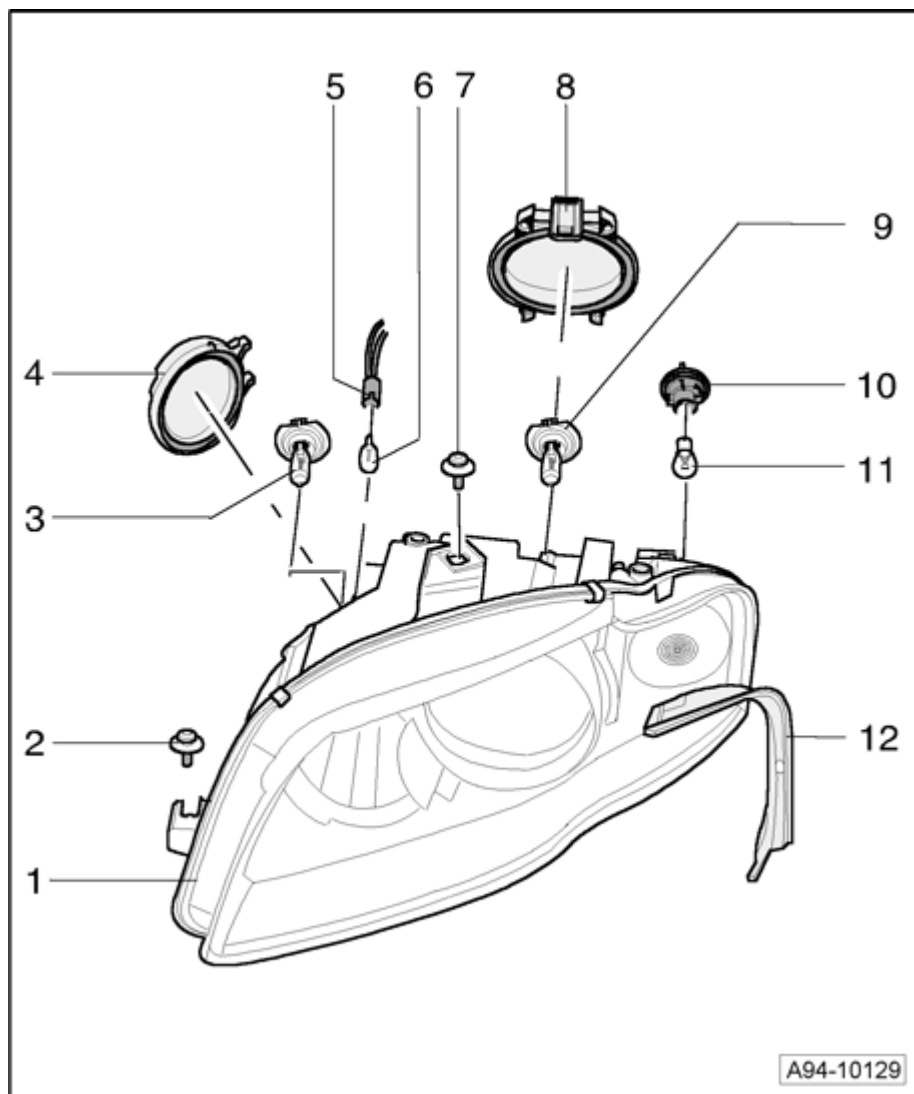


Fig. 295: Halogen Headlamps, Assembly
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Headlamp housing

- Removing and installing --> **Headlamps, removing and installing**

2 - Screw - 4.5 Nm

3 - Left High Beam Headlamp M30 , Right High Beam Headlamp M32 - bulb

- H7 - 12 V, 55 W
- Replacing --> **High Beam Headlamp M30 / M32 - bulb, replacing**

4 - Housing cover

- For high beam/parking lamps

5 - Bulb holder

- For bulb for parking lamps

6 - Left Parking Lamp M1 , Right Parking Lamp M3 - bulb

- 12 V, 5 W
- W5W, Longlife - white
- Replacing --> **Parking Lamp M1 / M3 - bulb, replacing**

7 - Screw - 4.5 Nm

8 - Housing cover

- For low beam headlamps

9 - Left Low Beam Headlamp M29 , Right Low Beam Headlamp M31 - bulb

- H7 - 12 V, 55 W
- Replacing --> **Low Beam Headlamp M29 / M31 - bulb, replacing**

10 - Bulb holder

- For turn signal lamp bulb

11 - Left Front Turn Signal Lamp M5 , Right Front Turn Signal Lamp M7 - bulb

- 12 V, 21 W
- Replacing --> **Front Turn Signal Lamp M5 / M7 - bulb, replacing**

12 - Trim cover

Headlamps, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

- Remove front bumper cover --> **63 BUMPER** .



Fig. 296: Locating Screws

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - 3 -.
- Loosen screws - 1 - and - 2 - (do not remove).
- Remove headlamp from body towards front.
- Disconnect electrical connection.

Installing

Install in reverse order of removal, noting the following:

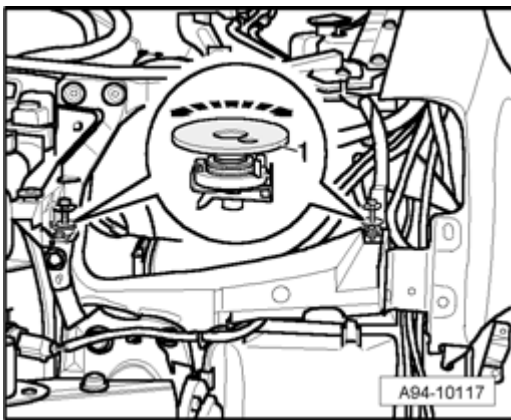


Fig. 297: Checking Adjusting Nut Of Adjuster For Freedom Of Movement
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Check adjusting nut - **1** - of adjuster for freedom of movement - **arrows** -.
- Screw in adjusting nut as far as it will go, but do not tighten.

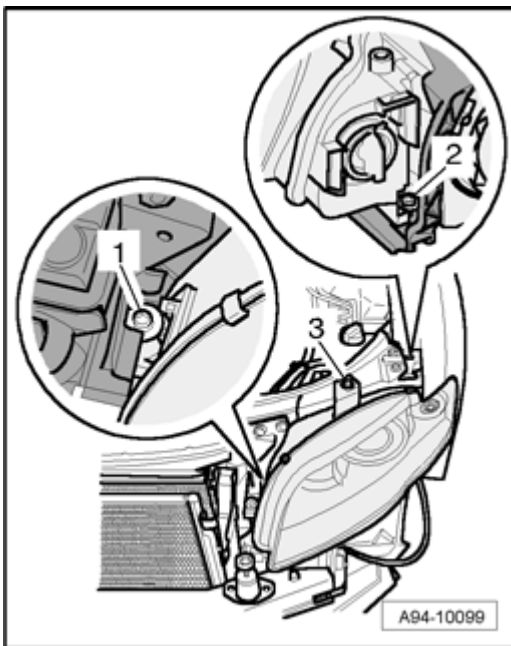


Fig. 298: Locating Screws
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Insert headlamp and tighten screws - **1... 3** - two complete turns.
- Install front bumper cover --> **63 BUMPER** .
- Align headlamp with body contours and front bumper cover (note gap widths).
- Tighten screws in sequence - **2** - , - **1** - and - **3** -.

NOTE: • When screws are tightened the adjusting nut of the adjuster element

automatically rotates against the mounting point of the headlamp housing and fixes it in place.

- Check gaps; if necessary, repeat procedure for installing headlamp.
- Following installation, check and adjust headlamps if necessary --> 00 - TECHNICAL DATA .

Tightening torque

Component - fastener	Nm
Headlamp to lock carrier - screw	4.5

Headlamps, adjusting

Headlamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> 00 - TECHNICAL DATA .

Low Beam Headlamp M29 / M31 - bulb, replacing

Removing

- Turn light switch to position "0".

- CAUTION:**
- Switch off all electrical consumers.
 - Switch ignition off and remove ignition key.

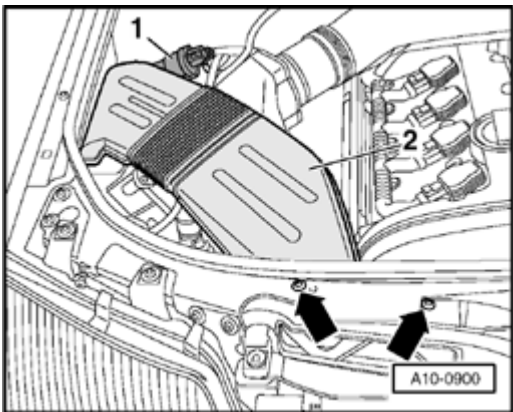


Fig. 299: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

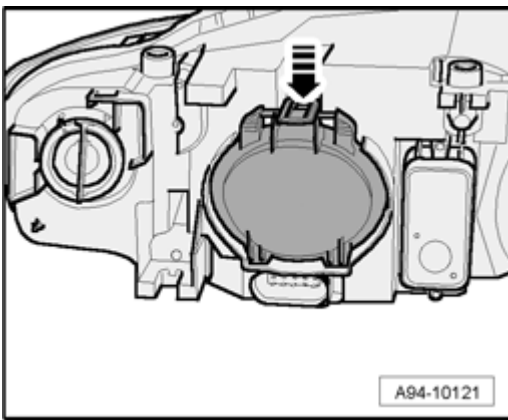


Fig. 300: Locating Retaining Tab

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining tab - **arrow** - and detach housing cover from headlamp housing.

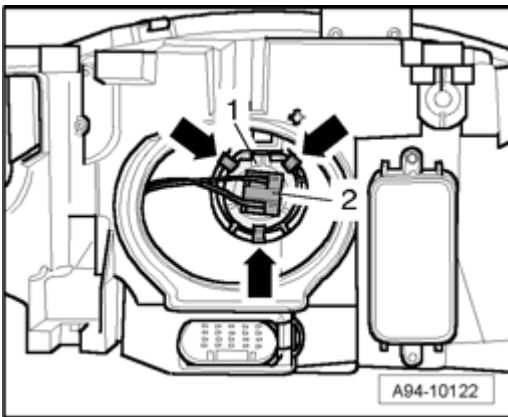


Fig. 301: Identifying Bulb, Spring Clips, And Electrical Connection

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bulb - 2 - from spring clips - **arrows** -.
- Disconnect electrical connection - 1 - at low beam bulb.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert bulb into housing.
- Position bulb at lower spring clip.
- Push bulb beyond resistance of upper spring clips into housing.
- Reconnect electrical connection and close housing cover.

High Beam Headlamp M30 / M32 - bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

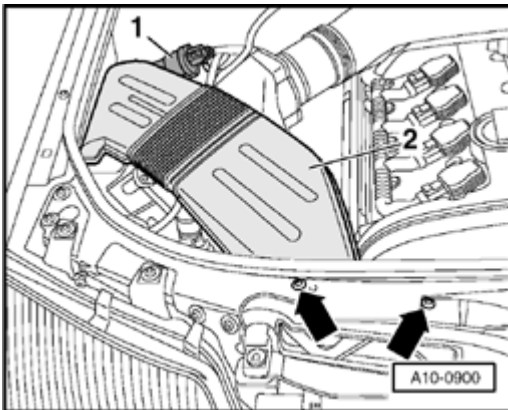


Fig. 302: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

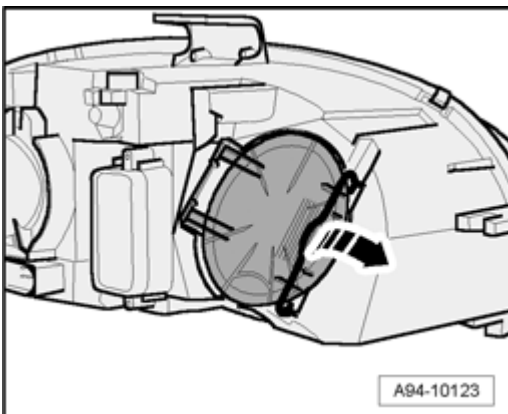


Fig. 303: Releasing Retaining Clip And Detaching Housing Cover

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for high beam/parking lamps from headlamp housing.

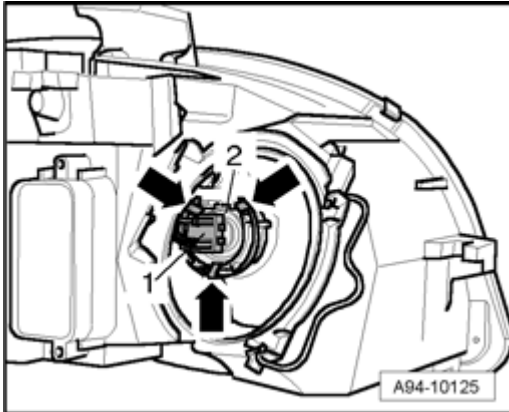


Fig. 304: Identifying Bulb, Spring Clips, And Electrical Connection

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bulb - **1** - from spring clips - **arrows** -.
- Disconnect electrical connection - **2** - at high beam headlamp bulb.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert bulb into housing.
- Position bulb at lower spring clip.
- Push bulb beyond resistance of upper spring clips into housing.
- Plug in connector and close housing cover.
- Secure housing cover with retaining clip.

Parking Lamp M1 / M3 - bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

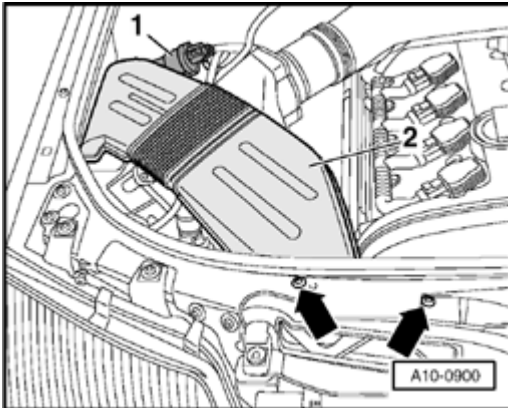


Fig. 305: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

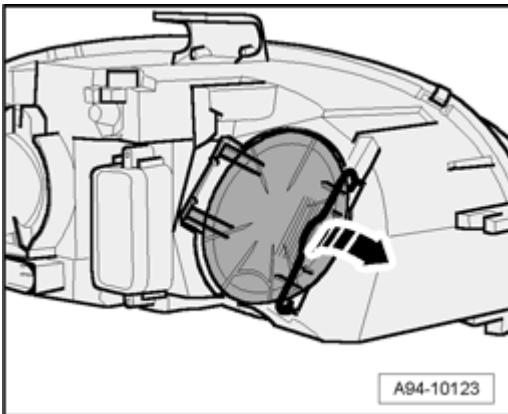


Fig. 306: Releasing Retaining Clip And Detaching Housing Cover
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for high beam/parking lamp from headlamp housing.

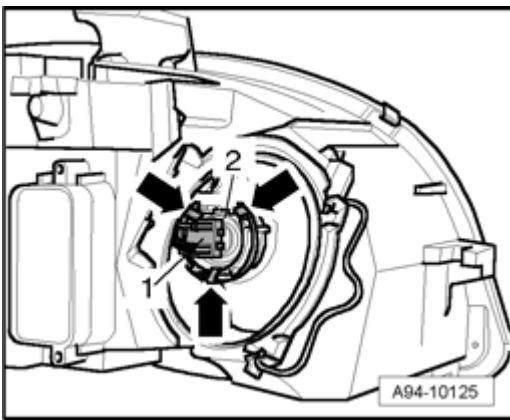


Fig. 307: Identifying Bulb, Spring Clips, And Electrical Connection
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove high beam headlamp bulb - **1** - from spring clips - **arrows** -.

NOTE: • Disregard - **2** -.

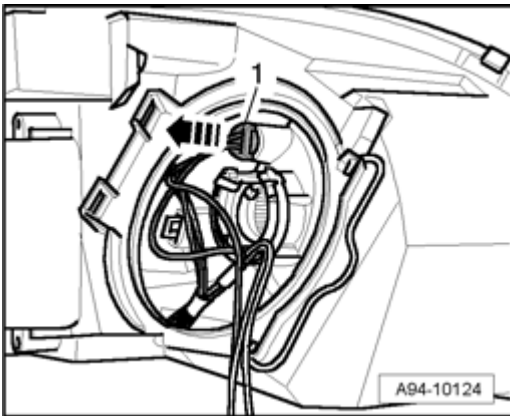


Fig. 308: Pulling Bulb Holder From Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pull bulb holder - **1** - from housing - **arrow** -.
- Pull bulb out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

- CAUTION:**
- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
 - When installing housing cover, ensure proper seating. Water

intrusion will damage headlamp.

- Insert new bulb in bulb holder.
- Press parking lamp bulb holder into reflector until felt to engage.
- Position high beam headlamp bulb at lower spring clip.
- Push high beam headlamp bulb into housing (overcome resistance of upper spring clips).
- Close housing cover.
- Secure housing cover with retaining clip.

Front Turn Signal Lamp M5 / M7 - bulb, replacing

Removing

Left headlamp

- Remove washer fluid reservoir --> **Washer fluid reservoir - Audi A4 S4, removing and installing.**

Right headlamp

- Lift vehicle.
- Remove right front wheel.

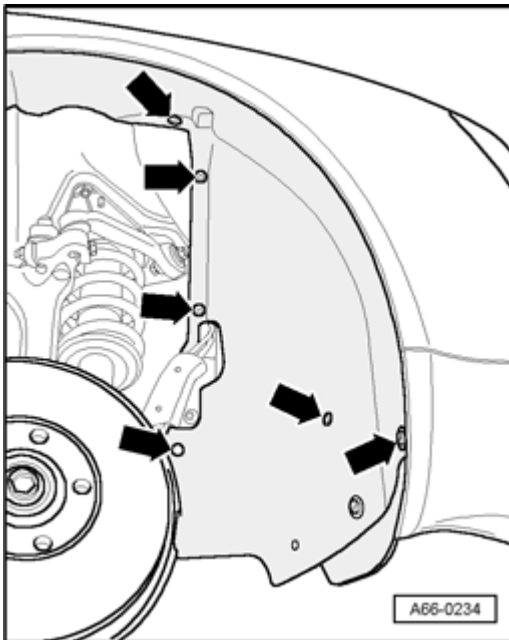


Fig. 309: Loosening Left/Right Wheelhousing Liners In Front Area
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.

- Remove forward portion of wheel housing liner.

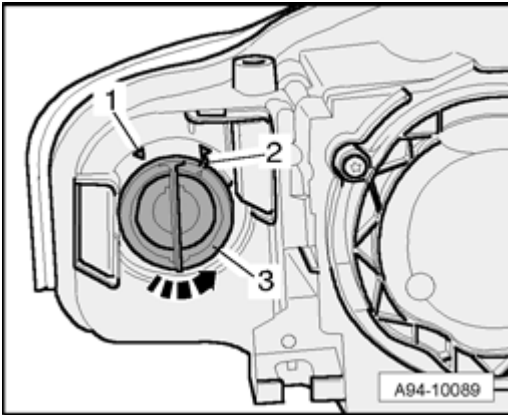


Fig. 310: Turning Bulb Holder Counter-Clockwise And Pulling From Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Continuation for all:

- Turn bulb holder - 3 - counter-clockwise - **arrow** - and pull out from housing.
- Screw bulb out of holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing bulb holder, ensure proper seating. Water intrusion will damage headlamp.

- Fit new bulb in bulb holder.
- Markings - 1 - and - 2 - must be opposite each other when inserting bulb holder into housing.

Left headlamp

- Install washer fluid reservoir --> **Washer fluid reservoir - Audi A4 S4, removing and installing.**

Right headlamp

- Install wheel housing liner --> **66 EXTERIOR EQUIPMENT** .

Headlamp securing lugs, servicing

- NOTE:
- If headlight securing lugs break due to application of excessive force, it may still be possible to service headlight in a cost effective manner (though headlight housing must not be damaged).
 - Different repair sets are available for left and right headlight.

Procedure

- Remove headlamp with broken lug --> **Headlamps, removing and installing.**
- Remove remains of broken lugs from headlamp housing.

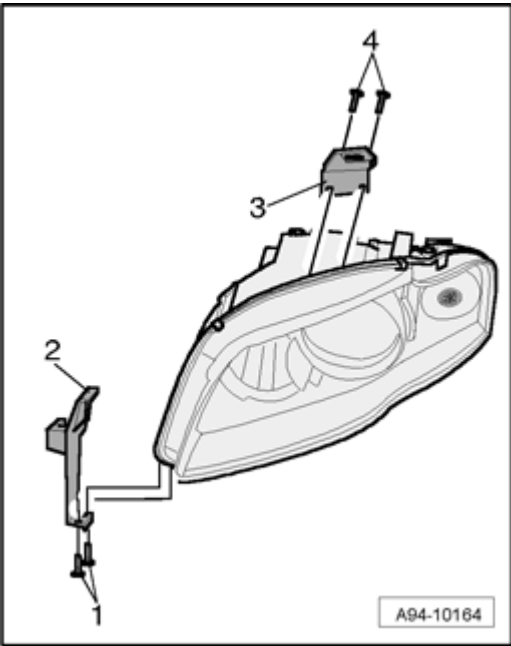


Fig. 311: Locating Lugs, And Screws For Headlamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Fit lugs - 2 - and - 3 - from repair kit on headlamp housing and secure with screws - 1 - and - 4 -.

Tightening torque

Component - fastener	Nm
Headlamp to lock carrier - screw	4.5

HEADLAMPS WITH HIGH INTENSITY GAS DISCHARGE (HID) LAMPS - THROUGH 10.04

General information

- CAUTION:
- HIGH VOLTAGE!
 - Always disconnect negative (-) battery terminal prior to working on

parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

- The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.
- Danger of explosion and burning.
- The control modules for HID lamps must never be operated (headlamps turned on) without an HID lamp.
- HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.
- Always wear safety glasses and gloves when removing and installing HID bulb.
- Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the standard or optional headlamp or lighting system. Always read the owners manual and review applicable system functions.

NOTE: • **Additional information:**

Owners Manual

Self Study Program - Course Number 991103 "2002 Audi A4 Technical Features"

Wiring Diagrams Component Locations

CAUTION: Before beginning repairs on electrical system

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

On Board Diagnostic (OBD), functions

Headlamp system functions are controlled by the Vehicle Electrical System Control Module J519 which has On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot headlamp system malfunctions by performing OBD program using Vehicle Diagnosis, Testing and Information System VAS 5051/5052 in operating mode "Guided Fault Finding".

Headlamps with High Intensity Gas Discharge (HID) Lamps, assembly

NOTE:

- After performing any repairs or service that could affect headlight aim, check/adjust aim.

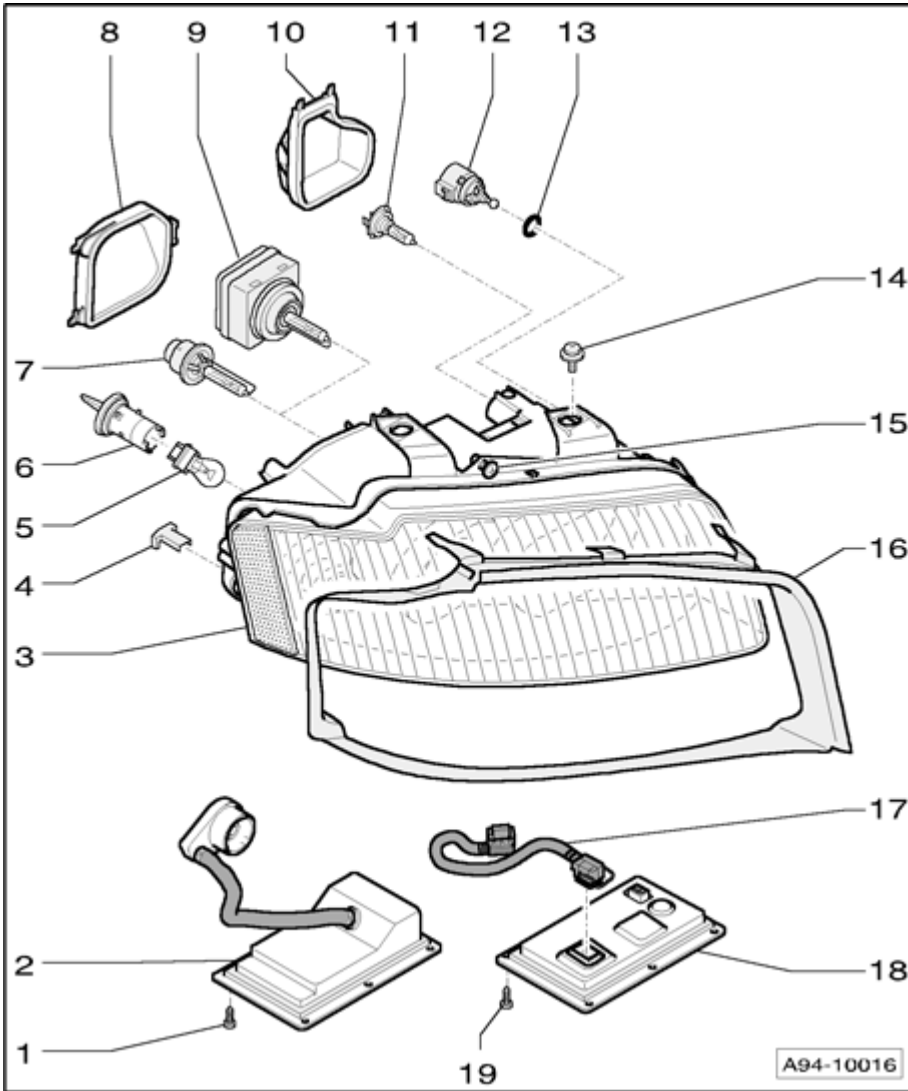


Fig. 312: Headlamps With High Intensity Gas Discharge (Hid) Lamps, Assembly
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Screw - 1.5 Nm

2 - High intensity gas discharge (HID) lamp control module

- For vehicles through approx. 09.01
- Left High Intensity Gas Discharge (HID) Lamp Control Module J343
- Right High Intensity Gas Discharge (HID) Lamp Control Module J344
- Removing and installing --> **High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344 - through approx. 09.01, removing and installing**

3 - Headlamp housing

4 - Vent element

- 2x

5 - Turn signal/parking lamp bulb

- 12 V, 27/7 W
- Orange
- Replacing --> Turn signal/parking lamp bulb, replacing

6 - Bulb holder

- For turn signal

7 - High intensity gas discharge (HID) low beam headlamp bulb

- Where applicable - vehicles through approx. 09.01
- 35 W, D2S
- Replacing --> HID low beam headlamp bulb - through approx. 09.01, replacing

8 - Housing cover

- For low beam headlamps

9 - High intensity gas discharge (HID) low beam headlamp lamp bulb

- Where applicable - vehicles from approx. 09.01
- 35 W, D1S
- Replacing --> HID low beam headlamp bulb - from approx. 09.01, replacing

10 - Housing cover

- For high beam headlamps

11 - Left High Beam Headlamp M30 , Right High Beam Headlamp M32 - bulb

- H7 - 12 V, 55 W
- Replacing --> High Beam Headlamp M30 / M32 - bulb, replacing

12 - Headlamp beam adjustment motor

- Left Headlamp Beam Adjustment Motor V48
- Right Headlamp Beam Adiustment Motor V49

- Removing and installing --> **Headlamp Beam Adjustment Motor V48 / V49, removing and installing**

13 - O-ring

- For headlamp beam adjustment motor

14 - 6 Nm

15 - Stop bolt

- For aligning headlamp housing with body contour
- Must make contact with lock carrier

16 - Trim cover

17 - Adapter lead

- For vehicles from approx. 09.01
- Removing and installing --> **High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344 - from approx. 09.01, removing and installing**

18 - High intensity gas discharge (HID) lamp control module

- For vehicles from approx. 09.01
- Left High Intensity Gas Discharge (HID) Lamp Control Module J343
- Right High Intensity Gas Discharge (HID) Lamp Control Module J344
- Removing and installing --> **High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344 - from approx. 09.01, removing and installing**

19 - Screw - 1.5 Nm

Headlamps, removing and installing

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Disconnect battery --> **Battery in engine compartment, disconnecting and reconnecting.**

Left headlamp

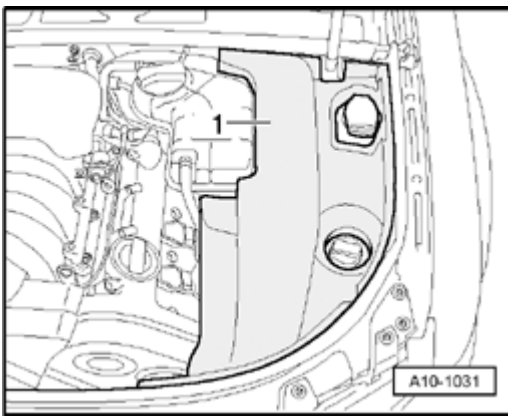


Fig. 313: Removing Cover In Engine Compartment (Left Side)
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove left engine cover - 1 -.

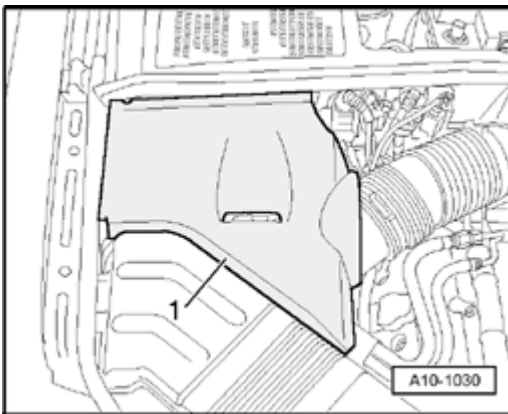


Fig. 314: Removing Cover In Engine Compartment (Right Side)
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Right headlamp

- Remove right engine cover - 1 -.

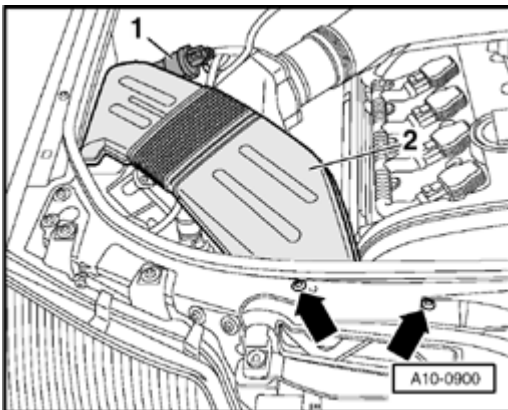


Fig. 315: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

Both sides, continued:

- Use adhesive tape to mask area beneath headlamp to prevent damage to paintwork.

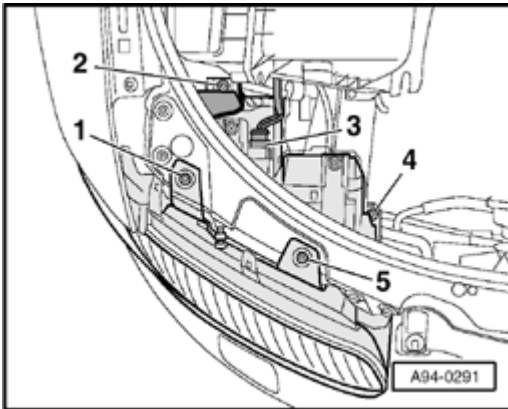


Fig. 316: Locating Screws And Electrical Connection
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **1** - and - **5** -.
- Loosen screws - **2** - and - **4** - a few turns but do NOT remove completely.
- Where applicable, cut through cable tie.
- Disconnect electrical connection - **3** -.
- Remove headlamp from body towards front.

Installing

Install in reverse order of removal, noting the following:

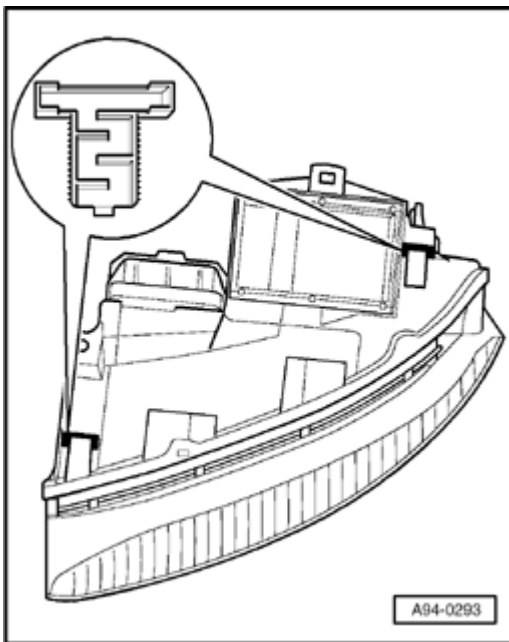


Fig. 317: Locating Vent Elements On Underside Of Headlamp

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Check whether both vent elements have been inserted on underside of headlamp - **detail** -.
- Slide headlamp horizontally onto lower headlamp mounting as far as it will go.

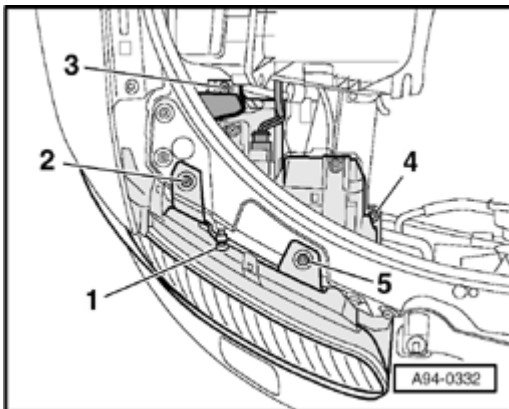


Fig. 318: Locating Screws And Electrical Connection

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Position stop screw - **1** - so that it makes contact with lock carrier.
- Use stop screw to align headlamp with body contours (gap widths).

NOTE:

- Pay attention to area around fender panel opening when aligning headlamp.
- Tighten screws - **2... 5** -.
- Reconnect battery. Required steps **Reconnecting**.

- Following installation, check and adjust headlamps if necessary --> 00 - TECHNICAL DATA .

Tightening torque

Component	Nm
Headlamp to lock carrier	6

Headlamps, adjusting

Headlamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> 00 - TECHNICAL DATA .

Headlamps, service preparation

The following engine-dependent procedures are required in order to replace certain headlamp bulbs.

Preparation - vehicles with 1.8L 4-cylinder Turbo engine

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Procedure

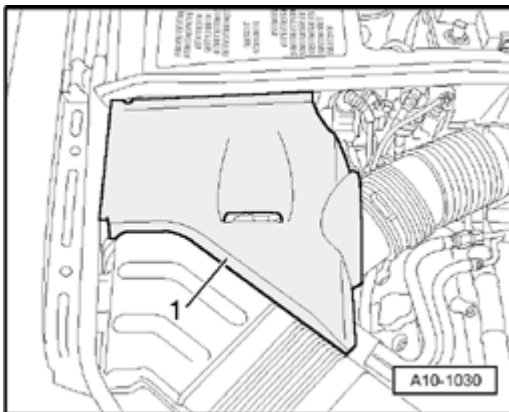


Fig. 319: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove right engine cover - **1** -.

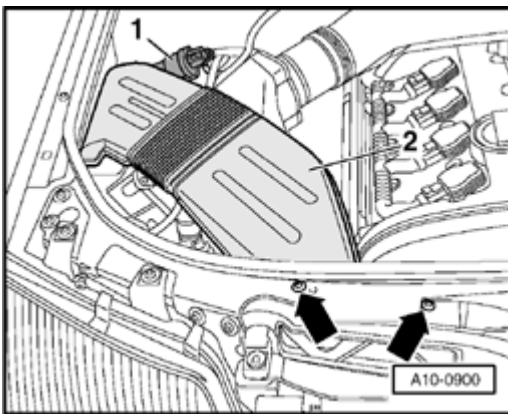


Fig. 320: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

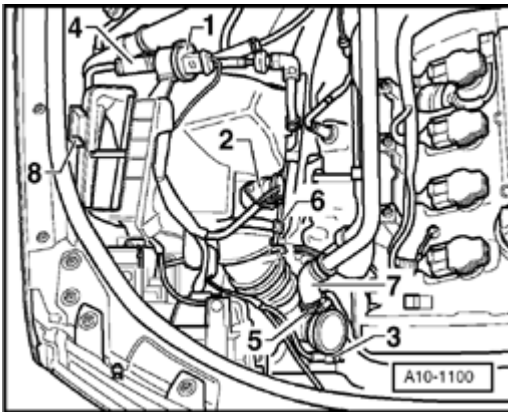


Fig. 321: Disconnect Wires/Unplug Connectors
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections:
 1. at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 2. at Mass Air Flow (MAF) Sensor G70
 3. at Wastegate Bypass Regulator Valve N75
- Disconnect hoses - **4... 7** -.
- Disconnect hose leading to secondary air pump.
- Set aside wiring.
- Release fasteners at air cleaner housing - **8** -.
- Remove air cleaner housing.

NOTE:

- The vacuum line leading to combination valve for secondary air is clipped onto the underside of the air intake hose.

Install in reverse order of removal.

Preparation - vehicles with 3.0L 6-cylinder engine

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Procedure

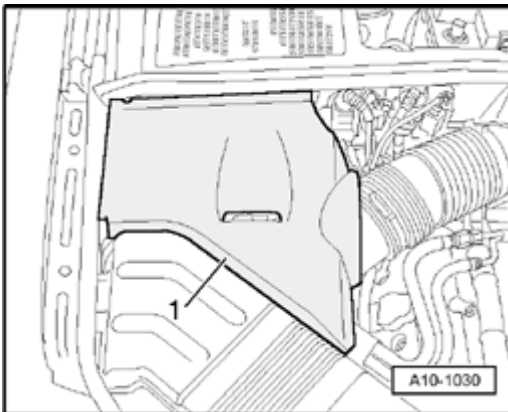


Fig. 322: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove cover (right-side) - **1** - in engine compartment.

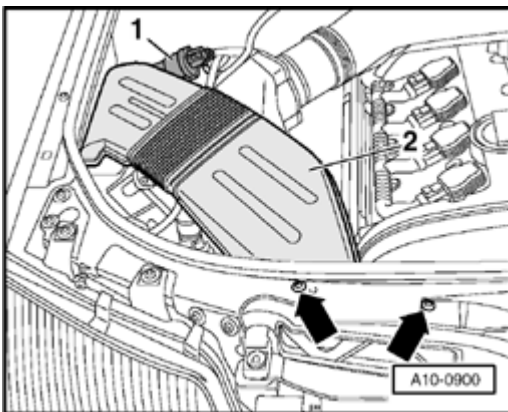


Fig. 323: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.

- Remove air duct - 2 -.

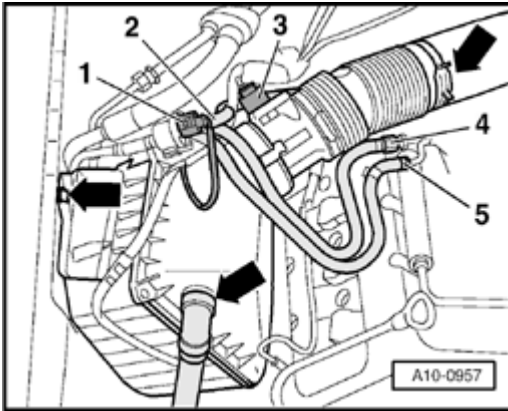


Fig. 324: Identifying Lines And Air Cleaner Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pull off lines / disconnect electrical connections:
 1. at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 2. vacuum hose at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 3. at Mass Air Flow (MAF) Sensor G70
- Pull off hose connections, set aside hoses and remove air cleaner housing - **arrows** -

NOTE: • **Disregard - 4 - and - 5 -.**

Install in reverse order of removal.

Preparation - 4.2L 8-cylinder engine

CAUTION: • **Switch off all electrical consumers.**
 • **Switch ignition off and remove ignition key.**

Procedure

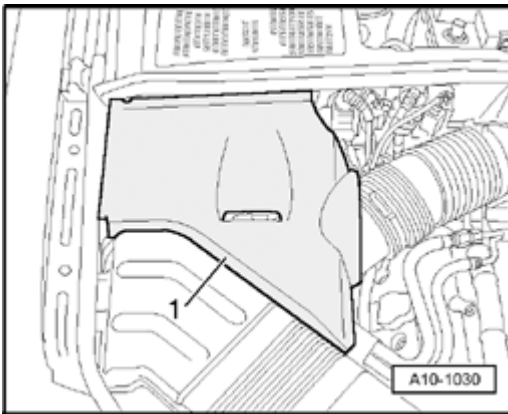


Fig. 325: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove right engine cover - 1 -.

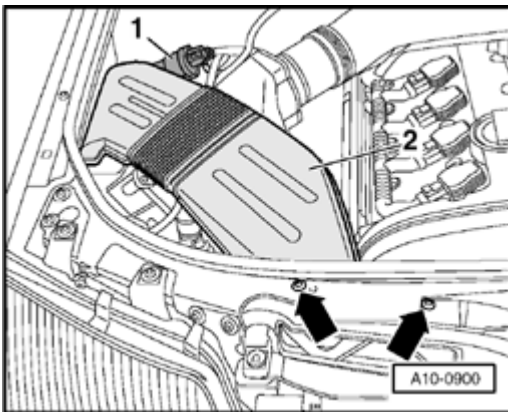


Fig. 326: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

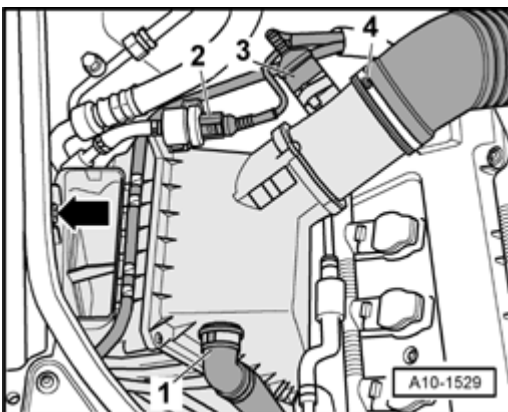


Fig. 327: Identifying Electrical Harness Connectors, Secondary Air Injection (AIR) Pump Hose, Air Guide Hose & Mass Air Flow (MAF) Sensor
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **2** - at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80.
- Disconnect electrical connection - **3** - at Mass Air Flow (MAF) Sensor G70.
- Disconnect hose - **1** - to secondary air pump.
- Remove air intake hose - **4** - at Mass Air Flow (MAF) Sensor G70.
- Set aside wiring harness at air cleaner housing.
- Release fastener - **arrow** - and remove air cleaner housing together with Mass Air Flow (MAF) Sensor G70.

Install in reverse order of removal.

HID low beam headlamp bulb - through approx. 09.01, replacing

- CAUTION:**
- **HIGH VOLTAGE!**
 - **Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.**
 - **The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.**
 - **Danger of explosion and burning.**
 - **The control modules for HID lamps must never be operated (headlamps turned on) without an HID lamp.**
 - **HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.**
 - **Always wear safety glasses and gloves when removing and installing HID bulb.**
 - **Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..**

Removing

- Disconnect battery --> **Battery in engine compartment, disconnecting and reconnecting.**

Left headlamp

- Remove headlamp --> **Headlamps, removing and installing.**

Right headlamp - vehicles with 1.8L 4-cylinder Turbo engine:

- Preparation.

Right headlamp - vehicles with 3.0L 6-cylinder engine:

- Preparation.

Right headlamp - vehicles with 4.2L 8-cylinder engine:

- Preparation.

Both sides, continued:

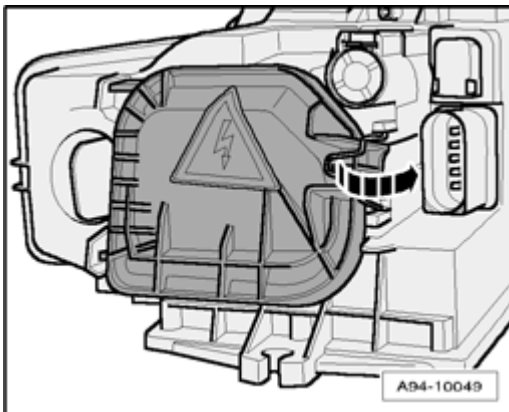


Fig. 328: Releasing Retaining Clip And Detaching Housing Cover For Low Beam From Headlamp Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for low beam from headlamp housing.

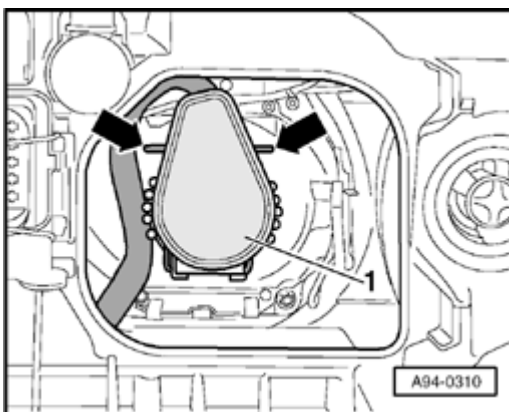


Fig. 329: Locating Connector And Retaining Clip

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove connector - **1** - at HID headlamp bulb by turning counter-clockwise.

- Release retaining clip - **arrows** - and pull HID headlamp bulb from housing.

Faulty HID headlamp bulb disposal --> **HID headlamp bulb, disposal**

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert new HID headlamp bulb in housing.

NOTE:

- Heed installation position: lug at top of bulb holder must engage in recess of HID headlamp bulb.
- Secure HID headlamp bulb with retaining clip.
- Secure housing cover with retaining clip.
- Reconnect battery. Required steps Reconnecting.

HID headlamp bulb, disposal

NOTE:

- HID headlamp bulbs contain mercury.
- Faulty HID headlamp bulbs (not covered by new vehicle warranty) may need to be disposed of as hazardous waste. Always heed state/local regulations concerning disposal of hazardous waste.

HID low beam headlamp bulb - from approx. 09.01, replacing

CAUTION:

- HIGH VOLTAGE!
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.
- The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.
- Danger of explosion and burning.
- The control modules for HID lamps must never be operated

(headlamps turned on) without an HID lamp.

- HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.
- Always wear safety glasses and gloves when removing and installing HID bulb.
- Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..

Removing

- Disconnect battery --> **Battery in engine compartment, disconnecting and reconnecting.**

Left headlamp

- Remove headlamp --> **Headlamps, removing and installing.**

Right headlamp - 1.8L 4-cylinder Turbo engine:

- Preparation.

Right headlamp - 3.0L 6-cylinder engine:

- Preparation.

Right headlamp - 4.2L 8-cylinder engine:

- Preparation.

Both sides, continued:

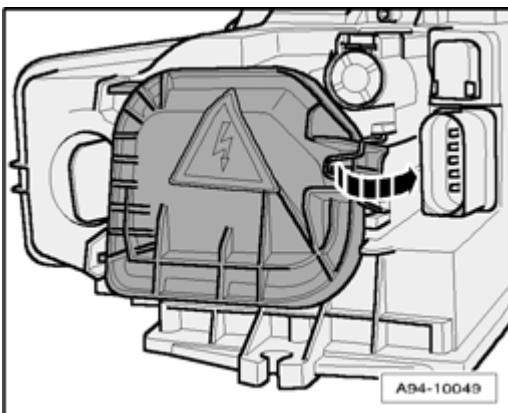


Fig. 330: Releasing Retaining Clip And Detaching Housing Cover For Low Beam From Headlamp Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for low beam from headlamp housing.

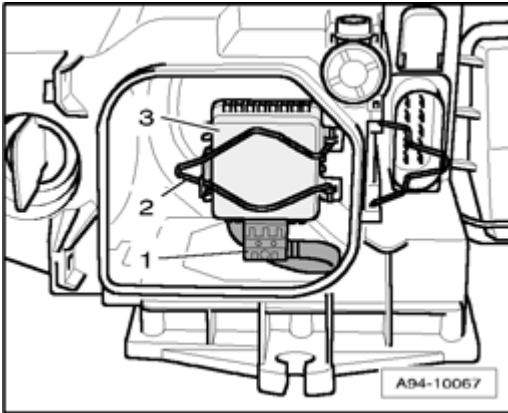


Fig. 331: Identifying Retaining Clip, HID Headlamp Bulb, And Electrical Connection
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **2** - and remove HID headlamp bulb - **3** - from housing.
- Disconnect electrical connection - **1** -.

Faulty HID headlamp bulb disposal --> **HID headlamp bulb, disposal**

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert new HID headlamp bulb in housing.

NOTE:

- Heed installation position: lug at top of bulb holder must engage in recess of HID headlamp bulb.
- Secure HID headlamp bulb with retaining clip.
- Secure housing cover with retaining clip.
- Reconnect battery. Required steps **Reconnecting**.

HID headlamp bulb, disposal

NOTE:

- HID headlamp bulbs contain mercury.

- Faulty HID headlamp bulbs (not covered by new vehicle warranty) may need to be disposed of as hazardous waste. Always heed state/local regulations concerning disposal of hazardous waste.

High Beam Headlamp M30 / M32 - bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Left headlamp

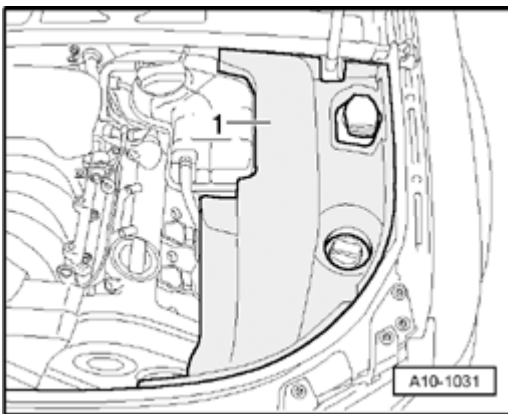


Fig. 332: Removing Cover In Engine Compartment (Left Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove left engine cover - 1 -.

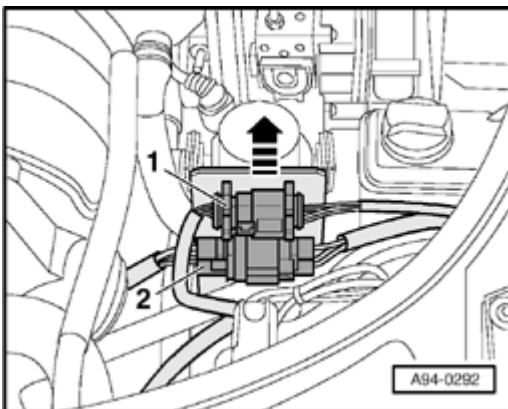


Fig. 333: Disconnecting Electrical Connections From Retainer And Removing Retainer
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connectors - **1** - and - **2** - from retainer.
- Unclip retainer for connectors and pull off upwards - **arrow** -.

Additional preparation:

Right headlamp - vehicles with 1.8L 4-cylinder Turbo engine:

- Remove air cleaner housing.

Right headlamp - vehicles with 3.0L 6-cylinder engine:

- Remove air cleaner housing.

Right headlamp - vehicles with 4.2L 8-cylinder petrol engine:

- Remove air cleaner housing.

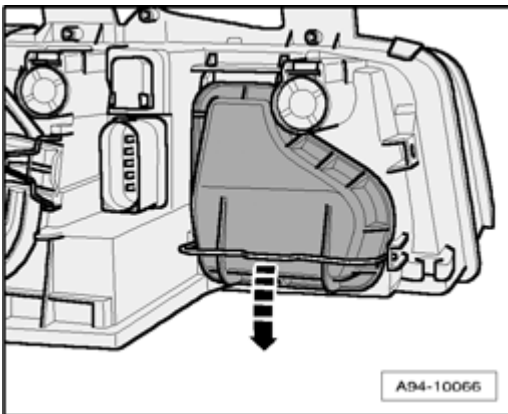


Fig. 334: Releasing Retaining Clip And Detaching Housing Cover
Courtesy of VOLKSWAGEN UNITED STATES, INC.

Both sides, continued:

- Release retaining clip - **arrow** - and detach housing cover for high beam from headlamp housing.

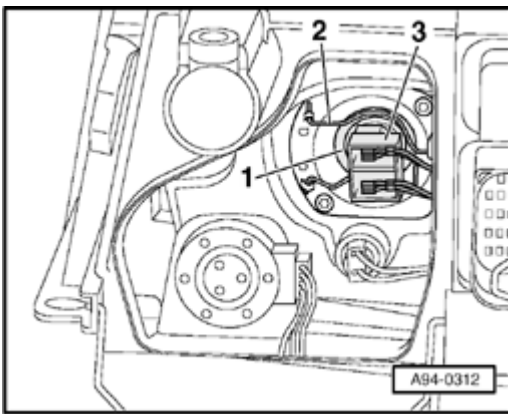


Fig. 335: Identifying Electrical Connection, Retaining Clip, And Bulb
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **3** - at high beam headlamp bulb.
- Release retaining clip - **2** - and remove bulb - **1** - from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- **Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.**
 - **When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.**
- Fit new bulb in housing.
 - Secure bulb with retaining clip.
 - Secure housing cover with retaining clip.

Turn signal/parking lamp bulb, replacing

Removing

- Remove headlamp --> **Headlamps, removing and installing.**

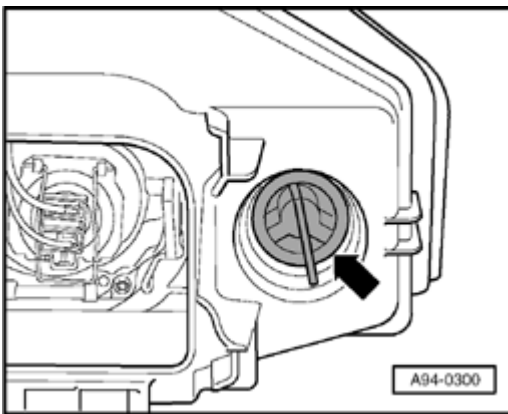


Fig. 336: Identifying Bulb Holder

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn bulb holder - **arrow** - counter-clockwise and pull it from housing.
- Pull bulb out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing bulb holder, ensure proper seating. Water intrusion will damage headlamp.

- Fit new bulb in housing.
- Install headlamp **Installing**.

Headlamp Beam Adjustment Motor V48 / V49, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Left headlamp

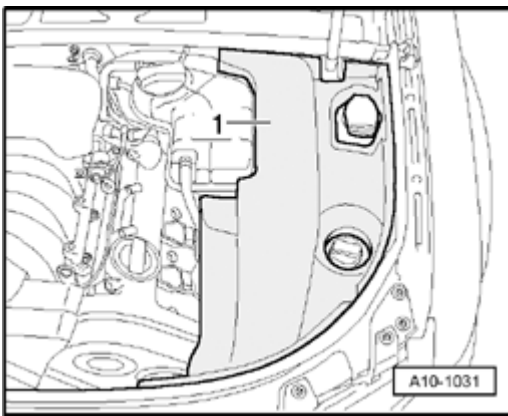


Fig. 337: Removing Cover In Engine Compartment (Left Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove left engine cover - **1** -.

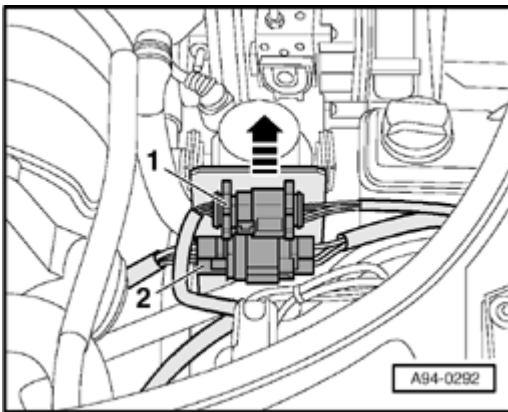


Fig. 338: Disconnecting Electrical Connections From Retainer And Removing Retainer
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections - **1** - and - **2** - from retainer.
- Unclip retainer for connectors and pull off upwards - **arrow** -.

Additional preparation:

Right headlamp - vehicles with 1.8L 4-cylinder Turbo engine:

- Remove air cleaner housing.

Right headlamp - vehicles with 3.0L 6-cylinder engine

- Remove air cleaner housing.

Right headlamp - vehicles with 4.2L 8-cylinder engine

- Remove air cleaner housing.

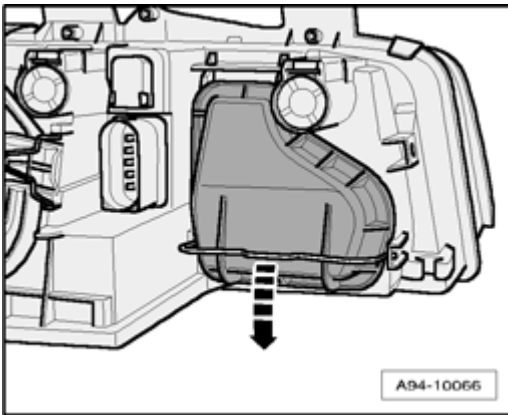


Fig. 339: Releasing Retaining Clip And Detaching Housing Cover
Courtesy of VOLKSWAGEN UNITED STATES, INC.

Both sides, continued:

- Release retaining clip - **arrow** - and detach housing cover for high beam from headlamp housing.

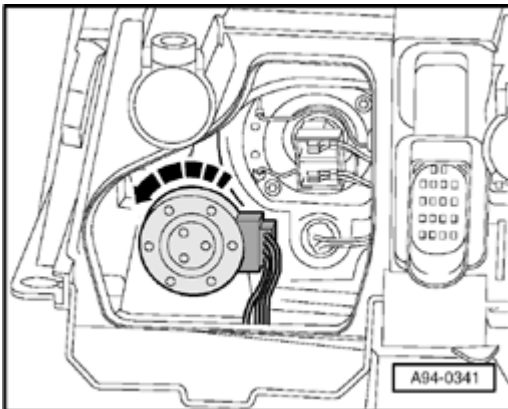


Fig. 340: Releasing Headlamp Range Control Motor
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release headlamp range control motor: at right-side headlamp by turning counter-clockwise - **arrow** - ; at left-side headlamp by turning clockwise.
- Press ball head of actuator shaft downwards out of its mounting by tilting control motor.
- Disconnect electrical connection.

Installing

Install in reverse order of removal, noting the following:

- Start by inserting ball head of actuator shaft in mounting on reflector from below; to do so, pull reflector to rear.

- Secure housing cover with retaining clip.
- Following installation, check and adjust headlamps if necessary --> **00 - TECHNICAL DATA** .

NOTE:

- **Headlamps must always be adjusted if the control motors are removed and installed or replaced.**

High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344 - through approx. 09.01, removing and installing

CAUTION:

- **HIGH VOLTAGE!**
- **Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.**

Removing

- Remove headlamp --> **Headlamps, removing and installing.**

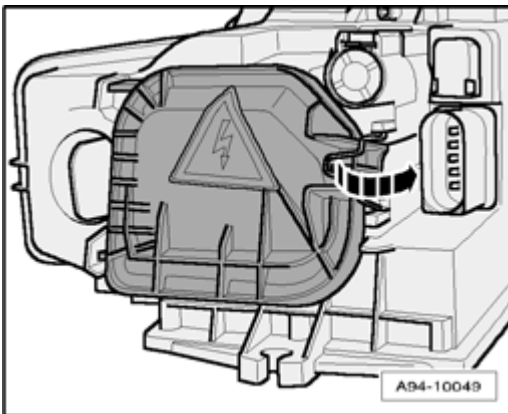


Fig. 341: Releasing Retaining Clip And Detaching Housing Cover For Low Beam From Headlamp Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for low beam from headlamp housing.

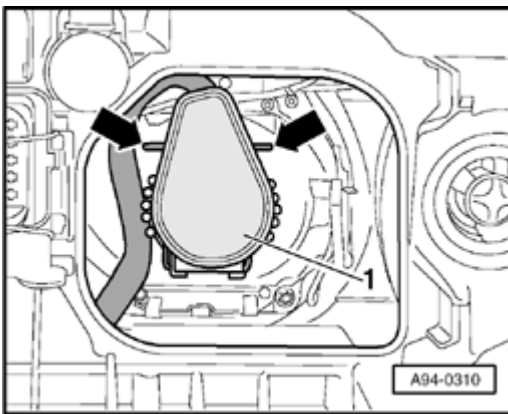


Fig. 342: Locating Connector And Retaining Clip
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove connector - 1 - at HID headlamp bulb by turning counter-clockwise.

NOTE:

- Leave retaining clip - arrows - for HID headlamp bulb in position.

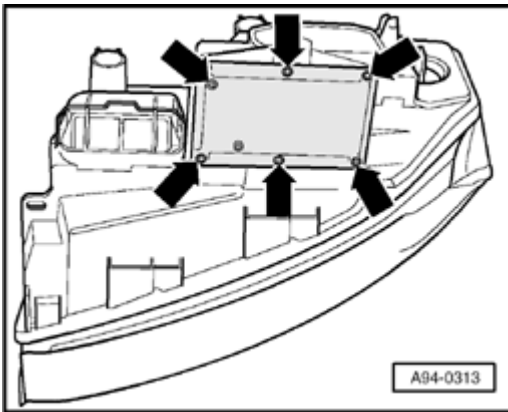


Fig. 343: Identifying Control Module Screws
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove control module from headlamp housing.
- Connector at HID headlamp bulb can then be passed through headlamp housing.

Installing

Install in reverse order of removal, noting the following:

- Secure housing cover with retaining clip.
- Install headlamp **Installing**.

High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344 - from approx. 09.01, removing and installing

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Remove headlamp --> Headlamps, removing and installing.

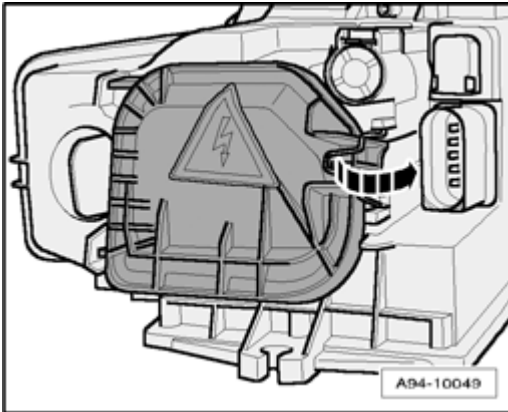


Fig. 344: Releasing Retaining Clip And Detaching Housing Cover For Low Beam From Headlamp Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **arrow** - and detach housing cover for low beam from headlamp housing.

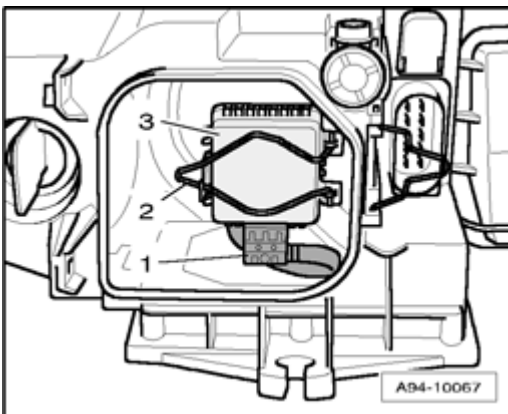


Fig. 345: Identifying Retaining Clip, HID Headlamp Bulb, And Electrical Connection

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining clip - **2** - and remove HID headlamp bulb - **3** - from housing.
- Disconnect electrical connection - **1** -.

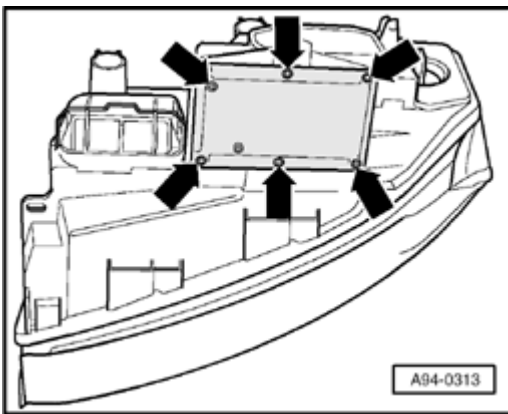


Fig. 346: Identifying Control Module Screws
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove control module from headlamp housing.
- Disconnect electrical connections.
- Remove adapter lead for HID headlamp bulb.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert HID headlamp bulb in housing.

NOTE:

- Heed installation position: lug at top of bulb holder must engage in recess of HID headlamp bulb.
- Secure HID headlamp bulb with retaining clip.
- Secure housing cover with retaining clip.
- Install headlamp Installing.

Headlamp securing lugs, servicing

NOTE:

- If headlight securing lugs break due to application of excessive force, it may still be possible to service headlight in a cost effective manner (though headlight housing must not be damaged).

- Different repair sets are available for left and right headlight.

Procedure

- Remove headlamp with broken lug --> **Headlamps, removing and installing.**

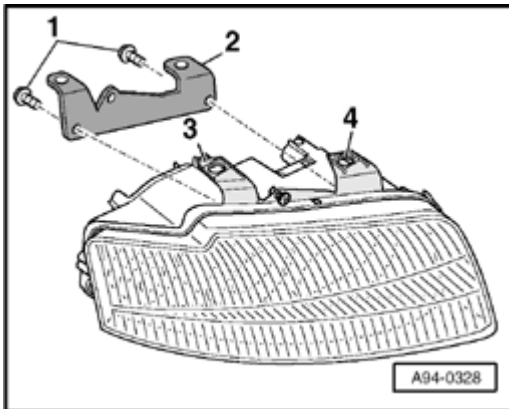


Fig. 347: Exploded View Of Headlamp Components
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove remains of broken lug - 3 - and - 4 - at headlamp housing.
- Position retaining tab - 2 - from repair kit at edge of headlamp housing and secure from rear with the two screws - 1 -.

Tightening torque

Component	Nm
Headlamp to lock carrier	6

HEADLAMPS WITH HIGH INTENSITY GAS DISCHARGE HID LAMPS - THROUGH 10.04

General information

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.
- The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.
- Danger of explosion and burning.
- The control modules for HID lamps must never be operated (headlamps turned on) without an HID lamp.

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- **HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.**
- **Always wear safety glasses and gloves when removing and installing HID bulb.**
- **Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..**

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the standard or optional headlamp or lighting system. Always read the owners manual and review applicable system functions.

NOTE: • **Additional information:**

Owners Manual

Self Study Program - Course Number 991103 "2002 Audi A4 Technical Features"

Wiring Diagrams Component Locations

CAUTION: Before beginning repairs on electrical system

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

On Board Diagnostic (OBD), functions

Headlamp system functions are controlled by the Vehicle Electrical System Control Module J519 which has On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot headlamp system malfunctions by performing OBD program using Vehicle Diagnosis, Testing and Information System VAS 5051/5052 in operating mode "Guided Fault Finding".

Headlamps with High Intensity Gas Discharge (HID) "Bi-Xenon" Lamps, assembly

NOTE: • **After performing any repairs or service that could affect headlight aim, check/adjust aim.**

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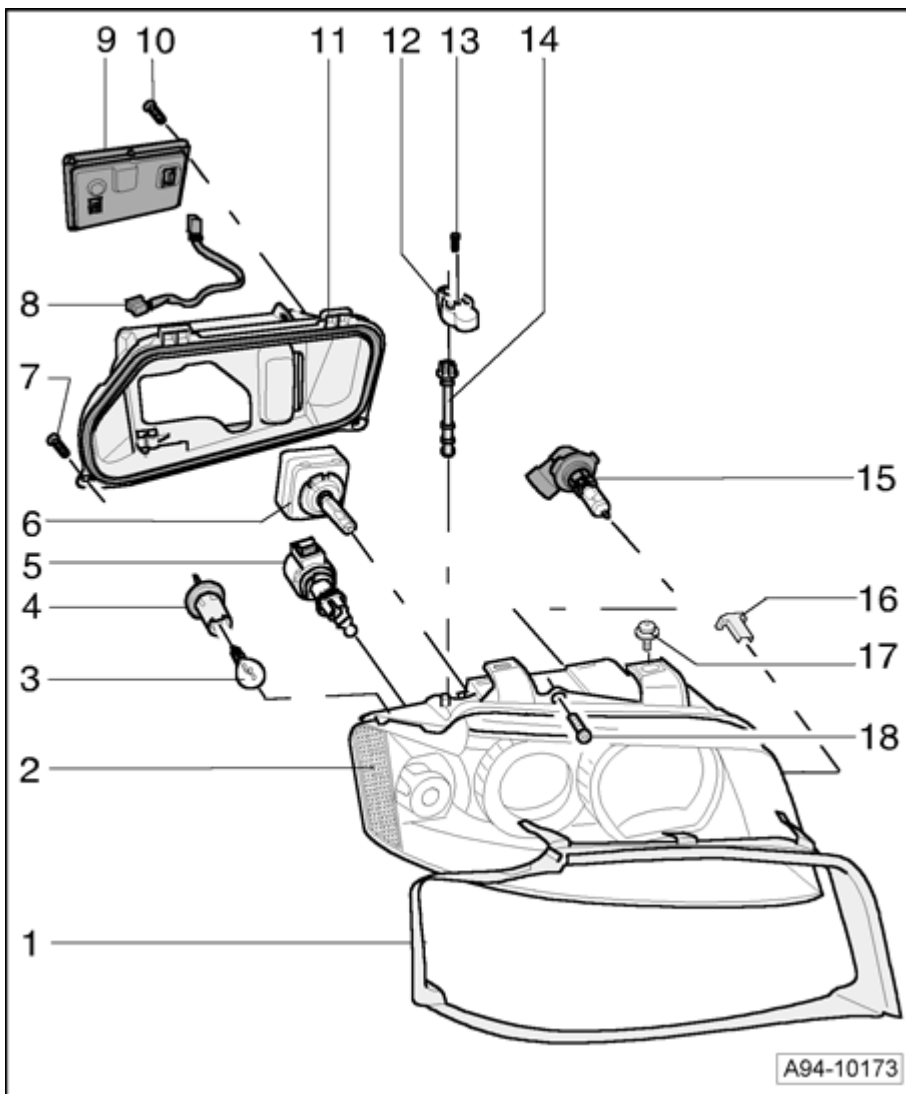


Fig. 348: Headlamps With High Intensity Gas Discharge (HID) "Bi-Xenon" Lamps, Assembly
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Trim cover

2 - Headlamp housing

- Removing and installing --> **Headlamps, removing and installing**

3 - Turn signal/parking lamp bulb

- 12 V, 28/7 W
- Orange
- Replacing --> **Turn signal/parking lamp bulb, replacing**

4 - Bulb holder

- For turn signal

5 - Headlamp beam adjustment motor

- Left Headlamp Beam Adjustment Motor V48
- Right Headlamp Beam Adjustment Motor V49
- Removing and installing --> **Headlamp Beam Adjustment Motor V48 / V49, removing and installing**

6 - High intensity gas discharge (HID) low beam headlamp bulb

- 35 W, D1S
- Replacing --> **HID low beam headlamp bulb, replacing**

7 - Screw - 1.5 Nm

8 - Adapter lead

- Removing and installing --> **Adapter cable for HID headlamp bulb control module, removing and installing**

9 - High intensity gas discharge (HID) lamp control module

- Left High-intensity Gas Discharge (HID) Lamp Control Module J343
- Right High-intensity Gas Discharge (HID) Lamp Control Module J344
- Removing and installing --> **High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344, removing and installing**

10 - Screw - 1.5 Nm

11 - Housing cover

12 - Cover cap with adjuster wheel

13 - Screw - 1.5 Nm

14 - Adjuster rod

15 - Left High Beam Headlamp M30 , Right High Beam Headlamp M32 - bulb

- H10 - 12 V, 42 W
- Replacing --> **High Beam Headlamp bulb M30 / M32, replacing**

16 - Vent element

- 1x

17 - Screw - 6 Nm

18 - Stop bolt

- For aligning headlamp housing with body contour
- Must make contact with lock carrier

Headlamps, removing and installing

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

Left headlamp

- Disconnect battery --> **Battery in engine compartment, disconnecting and reconnecting.**

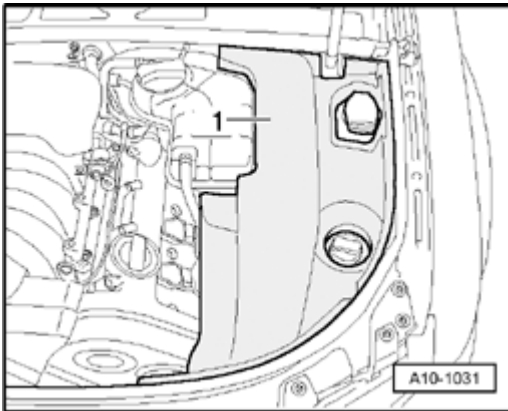


Fig. 349: Removing Cover In Engine Compartment (Left Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove left engine cover - 1 -.

Right headlamp

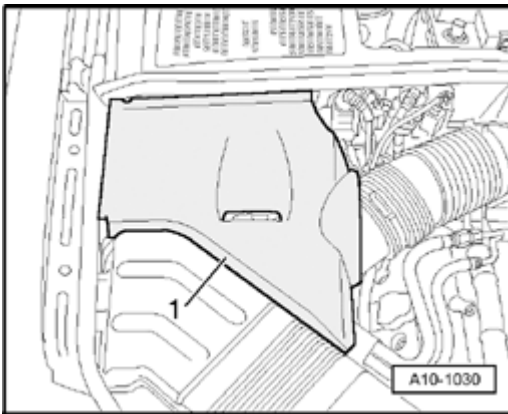


Fig. 350: Removing Cover In Engine Compartment (Right Side)
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove right engine cover - **1** -.

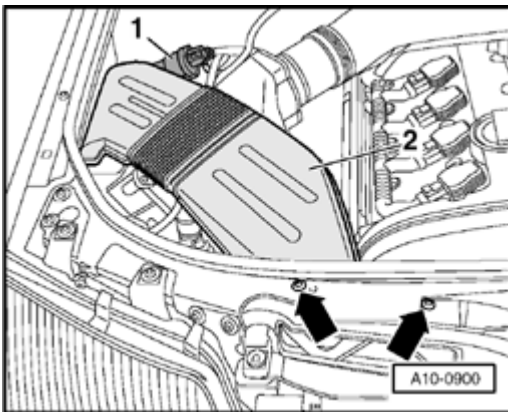


Fig. 351: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

Both sides, continued:

- Use adhesive tape to mask area beneath headlamp to prevent damage to paintwork.

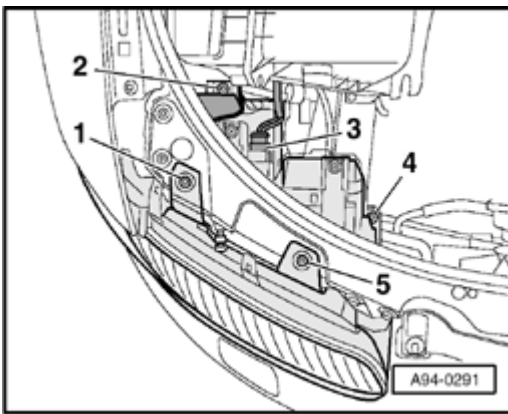


Fig. 352: Locating Screws And Electrical Connection
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - 1 - and - 5 -.
- Loosen screws - 2 - and - 4 - (do not remove).
- Where applicable, remove cable tie.
- Disconnect electrical connection - 3 -.
- Remove headlamp from body towards front.

Installing

Install in reverse order of removal, noting the following:

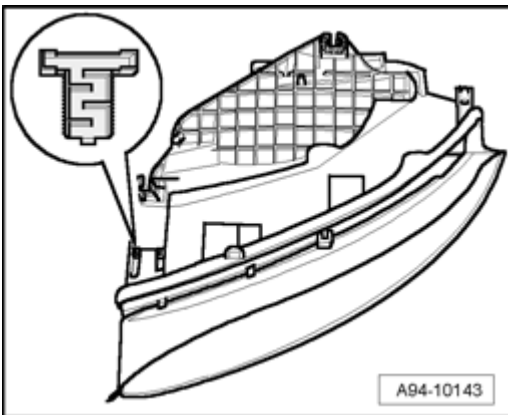


Fig. 353: Checking Whether Vent Element Has Been Inserted On Underside Of Headlamp
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Check whether vent element has been inserted on underside of headlamp - **detail** -.
- Slide headlamp horizontally onto lower headlamp mounting as far as it will go.

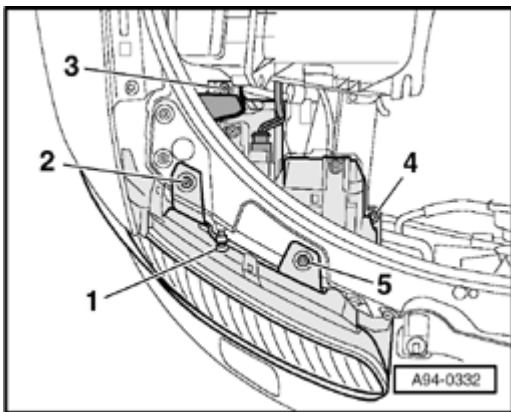


Fig. 354: Locating Screws And Electrical Connection
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Position stop screw - **1** - so that it makes contact with lock carrier.
- Use stop screw to align headlamp with body contours (gap widths).

NOTE:

- Pay attention to area around fender opening when aligning headlamp.
- Tighten screws - **2... 5** -.
- Reconnect battery. Required steps Reconnecting.
- Following installation, check and adjust headlamps if necessary --> **00 - TECHNICAL DATA** .

Tightening torque

Component	Nm
Headlamp to lock carrier	6

Headlamps, adjusting

Headlamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> **00 - TECHNICAL DATA** .

HID low beam headlamp bulb, replacing

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.
- The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.
- Danger of explosion and burning.

- The control modules for HID lamps must never be operated (headlamps turned on) without an HID lamp.
- HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.
- Always wear safety glasses and gloves when removing and installing HID bulb.
- Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..

Removing

- Remove headlamp --> **Headlamps, removing and installing.**

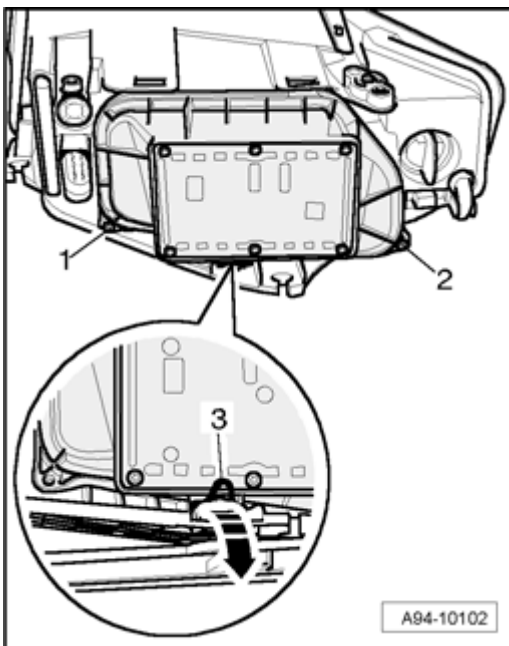


Fig. 355: Removing Screws And Retaining Clip
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **1** - and - **2** -.
- Release retaining clip - **3** - in direction of - **arrow** - and detach housing cover from headlamp housing.

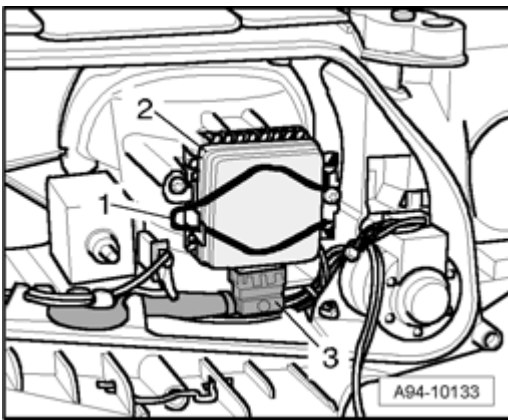


Fig. 356: Identifying Electrical Connection, Retaining Clip, And HID Headlamp Bulb
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - 3 -.
- Release retaining clip - 1 - and remove HID headlamp bulb - 2 - from housing.

Faulty HID headlamp bulb disposal --> **HID headlamp bulb, disposal**

Installing

Install in reverse order of removal, noting the following:

- CAUTION:**
- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
 - When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert new HID headlamp bulb in housing.

- NOTE:**
- Heed installation position: lug at top of bulb holder must engage in recess of HID headlamp bulb.
 - Secure HID headlamp bulb with retaining clip.
 - Secure housing cover with screws and retaining clip.
 - Install headlamp **Installing**.
 - Reconnect battery. Required steps **Reconnecting**.

HID headlamp bulb, disposal

- NOTE:**
- HID headlamp bulbs contain mercury.
 - Faulty HID headlamp bulbs (not covered by new vehicle warranty) may

need to be disposed of as hazardous waste. Always heed state/local regulations concerning disposal of hazardous waste.

High Beam Headlamp bulb M30 / M32, replacing

CAUTION:

- HIGH VOLTAGE!
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Remove headlamp --> Headlamps, removing and installing.

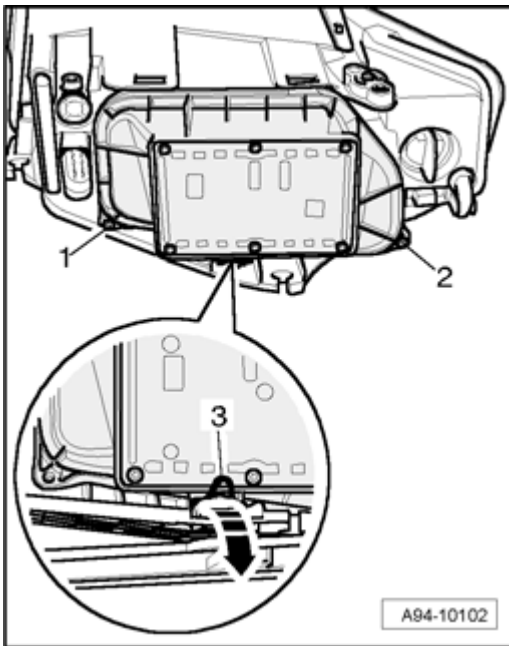


Fig. 357: Removing Screws And Retaining Clip
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - 1 - and - 2 -.
- Release retaining clip - 3 - in direction of - **arrow** - and detach housing cover from headlamp housing.

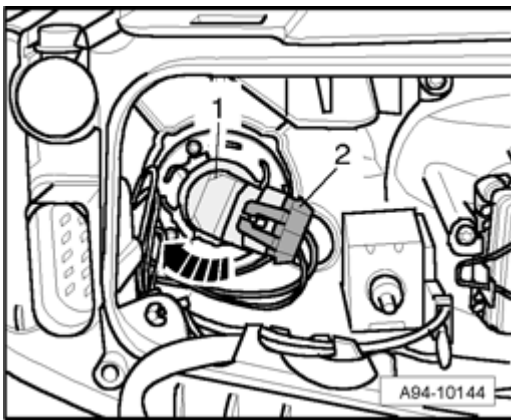


Fig. 358: Turning Bulb Clockwise And Removing From Housing/Disconnecting Electrical Connection
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn bulb - **1** - clockwise - **arrow** - and remove from housing.
- Disconnect electrical connection - **2** -.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- **Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.**
 - **When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.**
- Fit new bulb in housing.
 - Secure bulb by turning in counter-clockwise direction.
 - Secure housing cover with screws and retaining clip.
 - Install headlamp **Installing**.
 - Reconnect battery. Required steps **Reconnecting**.

High/Low Beam Switch-Over Solenoid N347 / N348, removing and installing

Left High/Low Beam Switch-Over Solenoid N347 and Right High/Low Beam Switch-Over Solenoid N348 are integrated with the headlamp housing and cannot be replaced separately in the event of malfunction.

- Replace headlamp --> **Headlamps, removing and installing**.

Turn signal/parking lamp bulb, replacing

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Remove headlamp --> **Headlamps, removing and installing.**

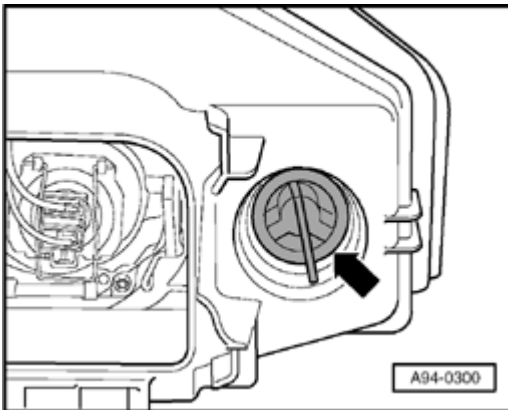


Fig. 359: Identifying Bulb Holder

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn bulb holder - **arrow** - counter-clockwise and pull it from housing.
- Pull bulb out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing bulb holder, ensure proper seating. Water intrusion will damage headlamp.

- Fit new bulb in housing.
- Install headlamp **Installing.**

Headlamp Beam Adjustment Motor V48 / V49, removing and installing

CAUTION:

- **HIGH VOLTAGE!**

- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Remove headlamp --> Headlamps, removing and installing.

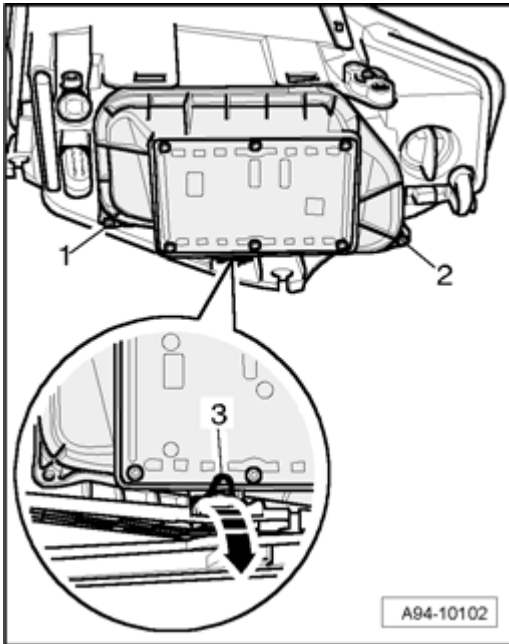


Fig. 360: Removing Screws And Retaining Clip
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - 1 - and - 2 -.
- Release retaining clip - 3 - in direction of - **arrow** - and detach housing cover from headlamp housing.

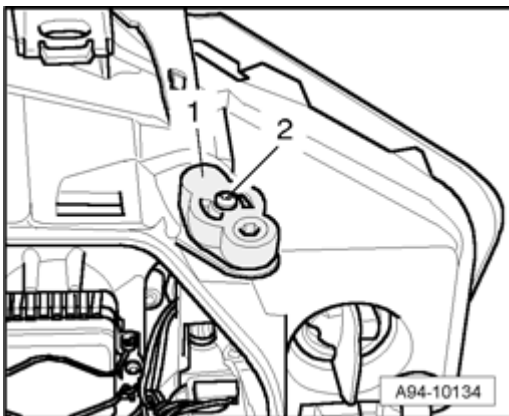


Fig. 361: Locating Screw And Cover Cap
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - 2 -.
- Lift off cover cap - 1 - with adjuster wheel.

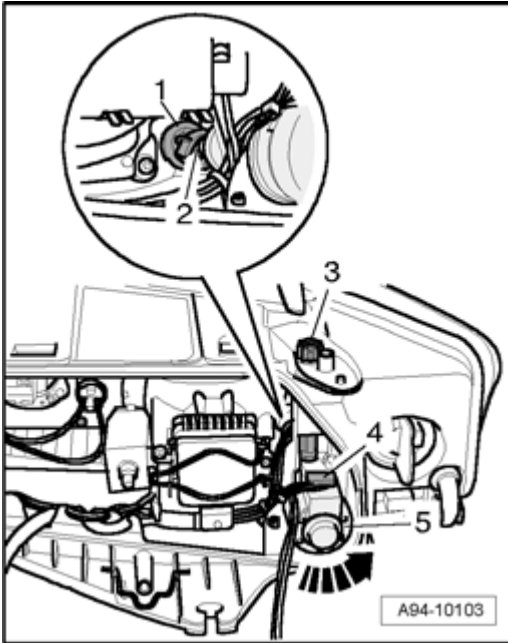


Fig. 362: Identifying Adjuster Rod, Electrical Connection, Control Motor, Swivel Ball Head, And Mounting

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove adjuster rod - 3 - upwards out of headlamp housing.
- Disconnect electrical connection - 4 -.
- Turn control motor - 5 - for left-side headlamp in a clockwise direction, for right-side headlamp in counter-clockwise direction - **arrow** -.
- Swivel ball head - 2 - of actuator shaft downwards out of mounting - 1 - on reflector.
- Remove headlamp range control motor from headlamp housing.

Installing

Install in reverse order of removal, noting the following:

- Push ball head of actuator shaft into mounting on reflector and turn control motor to limit stop in installation position.
- Insert adjuster rod into headlamp housing.
- Secure housing cover with screws and retaining clip.
- Install headlamp **Installing**.
- Reconnect battery. Required steps **Reconnecting**.

- Following installation, check and adjust headlamps if necessary --> **00 - TECHNICAL DATA** .

NOTE:

- **Headlamps must always be adjusted if the control motors are removed and installed or replaced.**

Tightening torque

Component	Nm
Cover cap with adjuster wheel to headlamp housing	1.5

High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344, removing and installing

- CAUTION:**
- **HIGH VOLTAGE!**
 - **Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.**

Removing

- Remove headlamp --> **Headlamps, removing and installing.**

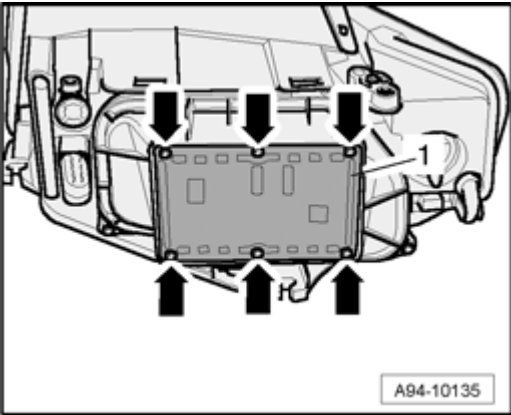


Fig. 363: Identifying Screws And Control Module
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** - .
- Remove control module - **1** - from housing cover for headlamp housing.

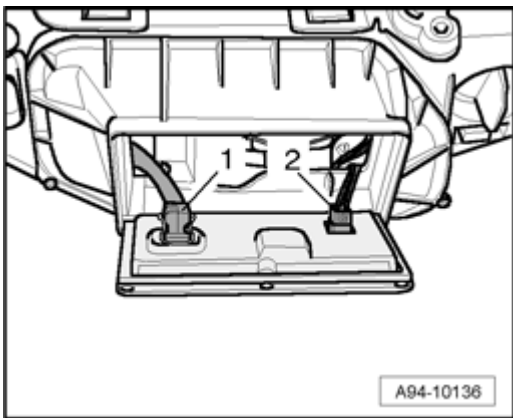


Fig. 364: Identifying Electrical Connections
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections - 1 - and - 2 -.

Installing

Install in reverse order of removal, noting the following:

- Check gasket between control module for HID headlamp bulb and headlamp housing.
- Install headlamp **Installing**.
- Reconnect battery. Required steps **Reconnecting**.

Tightening torque

Component - fastener	Nm
Control module to headlamp - screw	1

Adapter cable for HID headlamp bulb control module, removing and installing

- CAUTION:**
- **HIGH VOLTAGE!**
 - Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Remove headlamp --> **Headlamps, removing and installing**.

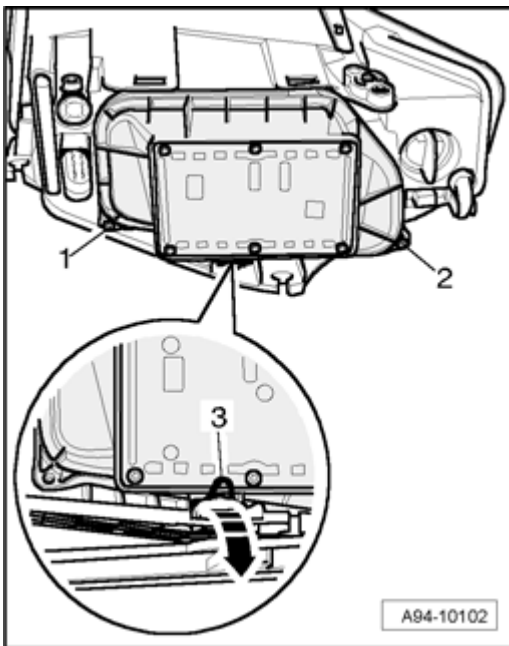


Fig. 365: Removing Screws And Retaining Clip
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - 1 - and - 2 -.
- Release retaining clip - 3 - in direction of - **arrow** - and detach housing cover from headlamp housing.

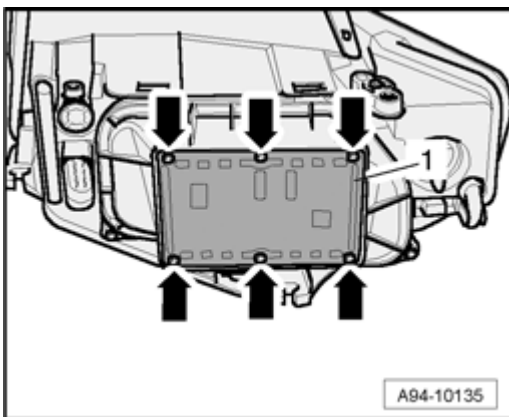


Fig. 366: Identifying Screws And Control Module
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove control module - 1 - from housing cover for headlamp housing.

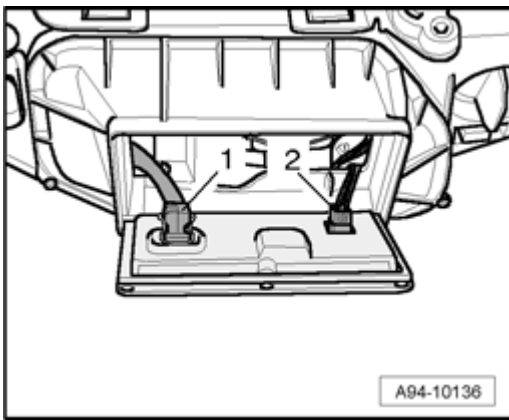


Fig. 367: Identifying Electrical Connections
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - 1 -.

NOTE: • Disregard - 2 -.

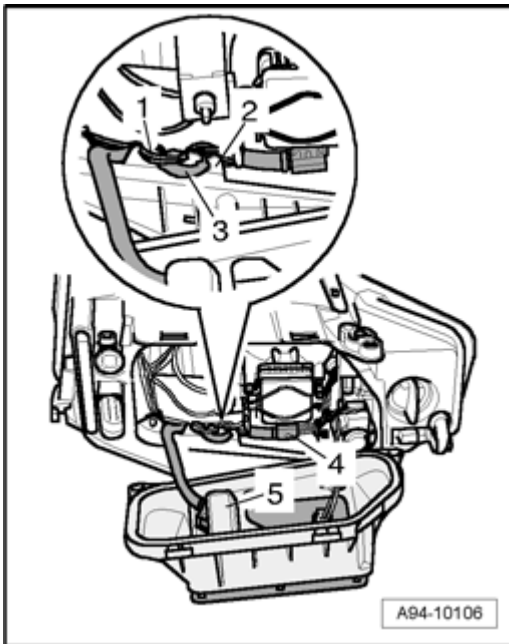


Fig. 368: Identifying Electrical Connection, Wiring, Adapter Cable, Retainer, And Housing Cover
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - 4 - at HID headlamp bulb.
- Remove wiring - 1 - and adapter cable - 3 - from retainer - 2 -.
- Guide adapter cable out of housing cover - 5 -.

Installing

Install in reverse order of removal, noting the following:

- Insert adapter cable and electrical wiring in retainer.
- Check gasket between control module for gas discharge lamp and headlamp housing.
- Install headlamp **Installing**.
- Reconnect battery. Required steps **Reconnecting**.

Tightening torque

Component - fastener	Nm
Control module to headlamp - screw	1

Headlamp securing lugs, servicing

- NOTE:
- If headlight securing lugs break due to application of excessive force, it may still be possible to service headlight in a cost effective manner (though headlight housing must not be damaged).
 - Different repair sets are available for left and right headlight.

Procedure

- Remove headlamp with broken lug --> **Headlamps, removing and installing**.

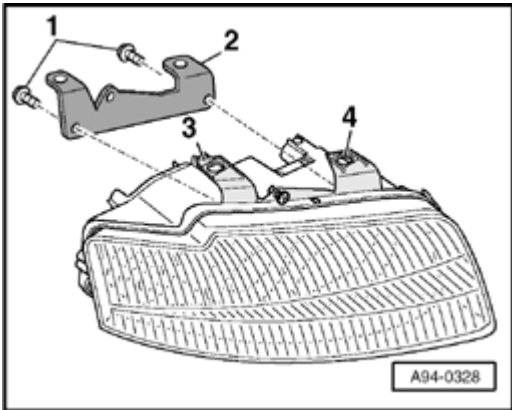


Fig. 369: Exploded View Of Headlamp Components
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove remains of broken-off lug - 3 - and - 4 - at headlamp housing.
- Position retaining tab - 2 - from repair kit at edge of headlamp housing and secure from rear with the two screws - 1 -.

Tightening torque

Component	Nm
12:18:32 AM	Page 76

HEADLAMPS WITH HIGH INTENSITY GAS DISCHARGE HID BI-XENON LAMPS - THROUGH 10.04

General information

CAUTION:

- **HIGH VOLTAGE!**
- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.
- The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.
- Danger of explosion and burning.
- The control modules for HID lamps must never be operated (headlamps turned on) without an HID lamp.
- HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.
- Always wear safety glasses and gloves when removing and installing HID bulb.
- Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the standard or optional headlamp or lighting system. Always read the owners manual and review applicable headlamp system functions.

NOTE:

- **Additional information:**

Owners Manual

Self Study Program - Course Number 991503 "The 2005 Audi A4"

Wiring Diagrams Component Locations

CAUTION: Before beginning repairs on electrical system

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

On Board Diagnostic (OBD), functions

Headlamp system functions are controlled by the Vehicle Electrical System Control Module J519 which has On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot headlamp system malfunctions by performing OBD program using Vehicle Diagnosis, Testing and Information System VAS 5051/5052 in operating mode "Guided Fault Finding".

Headlamps with High Intensity Gas Discharge (HID) "Bi-Xenon" Lamps, assembly

NOTE:

- After performing any repairs or service that could affect headlight aim, check/adjust aim.
- Headlamp without adaptive light function (cornering lights) is illustrated.

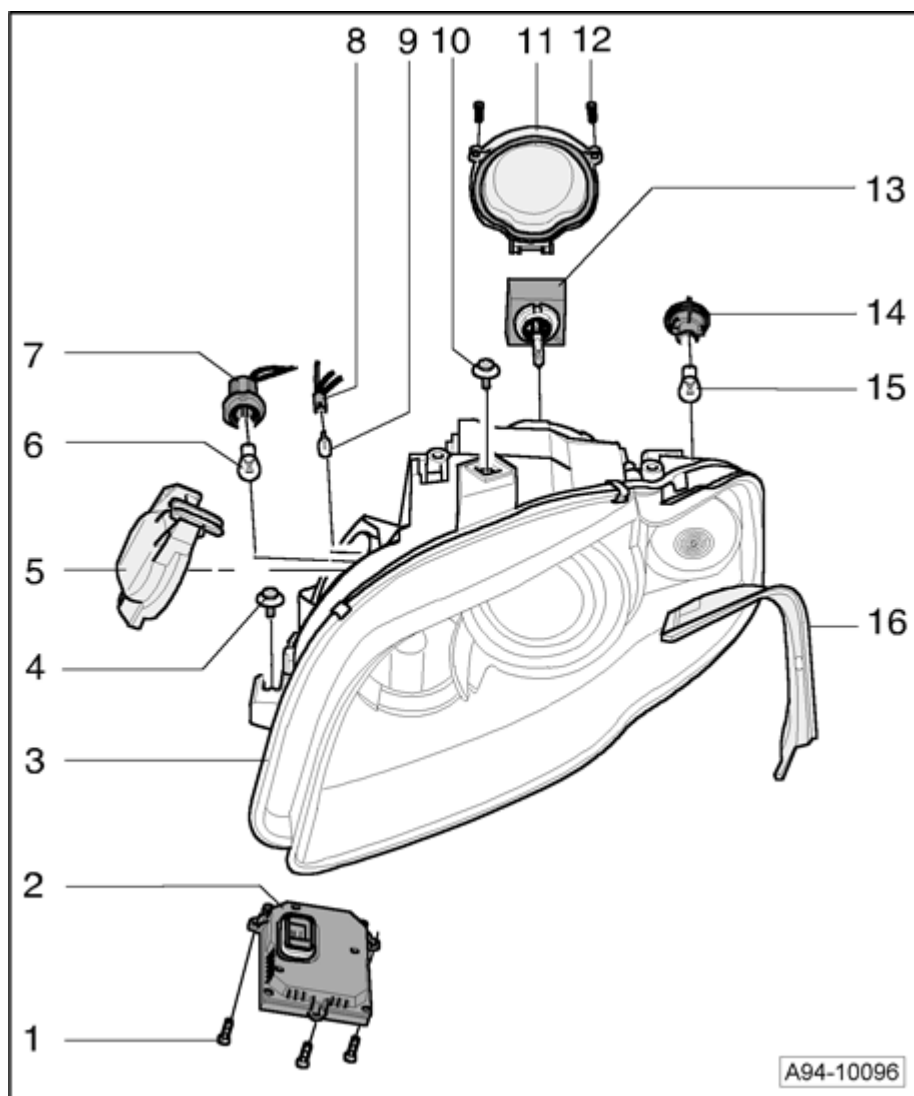


Fig. 370: Headlamps With High Intensity Gas Discharge (HID) "Bi-Xenon" Lamps, Assembly

1 - Screw - 1.5 Nm

2 - High intensity gas discharge (HID) lamp control module

- Left High-intensity Gas Discharge (HID) Lamp Control Module J343
- Right High-intensity Gas Discharge (HID) Lamp Control Module J344
- Removing and installing --> High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344, removing and installing

3 - Headlamp housing

4 - Screw - 4.5 Nm

5 - Housing cover

- For parking/daytime running lamps

6 - Daytime running lamp (DRL) bulb

- 12 V, 21 W
- Replacing --> Daytime Running Lamp (DRL) bulb, replacing

7 - Bulb holder

- For daytime running lamp (DRL) bulb

8 - Bulb holder

- For parking lamps

9 - Left Parking Lamp M1 , Right Parking Lamp M3 - bulb

- 12 V, 5 W
- Replacing --> Parking Lamp M1 / M3 - bulb, replacing

10 - Screw - 4.5 Nm

11 - Housing cover

- For low beam headlamps

12 - Screw - 1.5 Nm

13 - High intensitv gas discharge (HID) lamp

- 35 W, D1S
- Replacing --> **HID headlamp bulb, replacing**

14 - Bulb holder

- For turn signal bulb

15 - Left Front Turn Signal Lamp M5 , Right Front Turn Signal Lamp M7 - bulb

- 12 V, 21 W
- Orange
- Replacing --> **Front Turn Signal Lamp M5 / M7 - bulb, replacing**

16 - Trim cover

Headlamps, removing and installing

CAUTION:

- **HIGH VOLTAGE!**
- **Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.**

Removing

- Remove front bumper cover --> **63 BUMPER** .
- Disconnect battery. Audi A4 S4 --> **Battery in engine compartment, disconnecting and reconnecting.**
Audi RS4 --> **Battery in luggage compartment, disconnecting and connecting.**



Fig. 371: Locating Screws

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - 3 -.
- Loosen screws - 1 - and - 2 - (do not remove).
- Remove headlamp from body towards front.
- Disconnect electrical connection.

Installing

Install in reverse order of removal, noting the following:

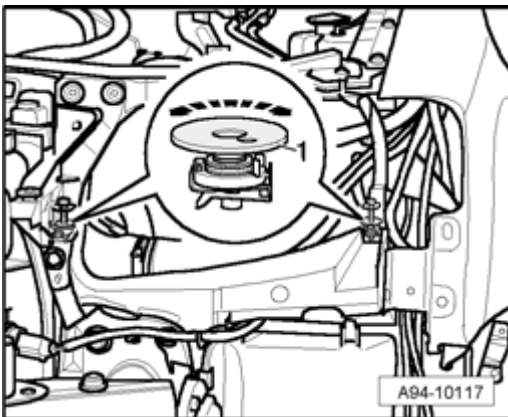


Fig. 372: Checking Adjusting Nut Of Adjuster For Freedom Of Movement

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Check adjusting nut - 1 - of adjuster for freedom of movement - **arrows** -.

- Screw adjusting nut as far as it will go, but do not tighten.



Fig. 373: Locating Screws
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Insert headlamp and screw in screws - **1... 3** - two complete turns.
- Install front bumper cover --> **63 BUMPER** .
- Align headlamp with body contours and front bumper cover (note gap widths).
- Tighten screws in sequence - **2** - , - **1** - and - **3** - .

- NOTE:**
- When the screws are tightened the adjusting nut of the adjuster element automatically rotates against the mounting point of the headlamp housing and fixes it in place.
 - Check gaps; if necessary, repeat procedure for installing headlamp.
 - Reconnect battery. Required steps Audi A4 S4 Reconnecting. Required steps Audi RS4 Connecting
 - Following installation, check and adjust headlamps if necessary --> 00 - TECHNICAL DATA .

Tightening torque

Component - fastener	Nm
Headlamp to lock carrier - screw	4.5

Headlamps, adjusting

	12:18:32 AM	Page 82	

Headlamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> **00 - TECHNICAL DATA** .

Headlamps, service preparation

The following equipment and engine-dependent procedures are required in order to replace certain headlamp bulbs.

Upper washer fluid reservoir and power steering fluid reservoir, removing and installing

Procedure

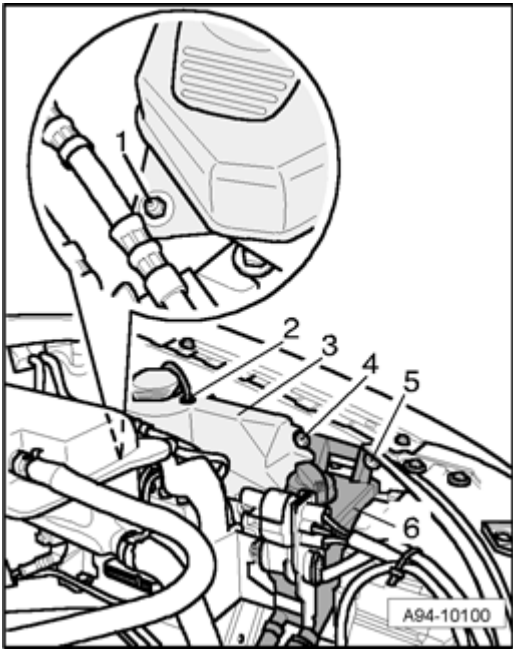


Fig. 374: Identifying Nut, Bolts, Breather Hose, And Washer Fluid Reservoir
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove nut - 1 - and bolts - 4 - and - 5 -.
- Remove breather hose - 2 - from top section of washer fluid reservoir - 3 -.
- Remove top section of washer fluid reservoir and move power steering reservoir - 6 - to side with hydraulic hoses still attached.

Install in reverse order of removal, noting the following:

- NOTE:**
- Clean remnants of locking fluid from bolts using wire brush. Then apply locking fluid and fit bolts. Locking fluid.
 - Clean remnants of locking fluid from inside thread using a thread tap. Otherwise, bolts may break should they need to be removed again later.

Tightening torque

	12:18:32 AM	Page 83	

Component	Nm
Top section of reservoir to body	5.5
Top section of reservoir and power steering reservoir to body	18 ^{1) 2)}
• ¹⁾ Replace bolt. • ²⁾ Insert with locking compound; locking compound.	

Preparation - vehicles with 1.8L 4-cylinder Turbo engine

Procedure

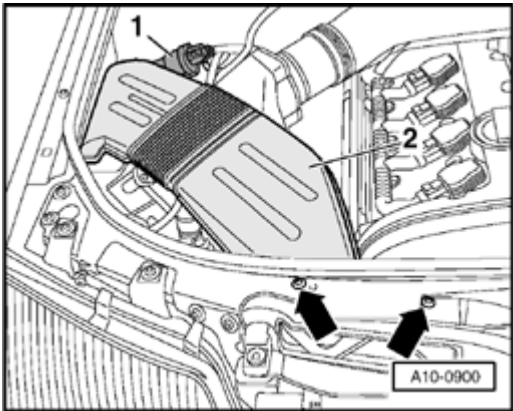


Fig. 375: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

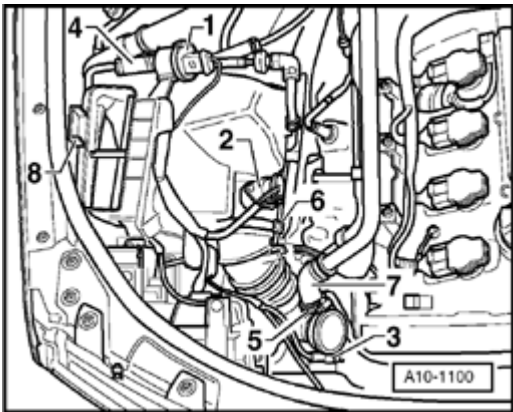


Fig. 376: Disconnect Wires/Unplug Connectors
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections:

1. at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
2. at Mass Air Flow (MAF) Sensor G70
3. at Wastegate Bypass Regulator Valve N75

- Disconnect hoses - **4... 7** -.
- Disconnect hose to secondary air pump.
- Set aside wiring.
- Release fastener - **8** -.
- Remove air cleaner housing.

NOTE:

- **The vacuum line leading to combination valve for secondary air is clipped onto the underside of the air intake hose.**

Install in reverse order of removal.

Preparation - vehicles with 2.0L 4-cylinder Turbo FSI engine

Procedure

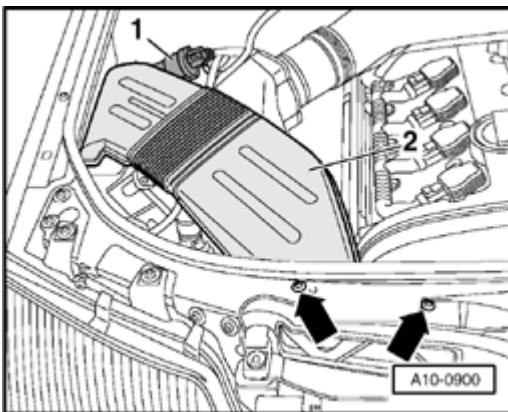


Fig. 377: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

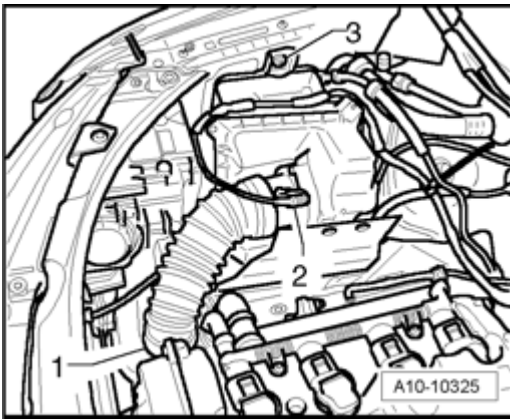


Fig. 378: Identifying Intake, Mass Air Flow (MAF) Sensor G70 Electrical Harness Connector & Air Filter Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove air intake hose - 1 - between turbocharger and air cleaner housing.
- Disconnect electrical connection - 2 - at Mass Air Flow (MAF) Sensor G70.
- Pull off clip - 3 - and remove air cleaner housing together with Mass Air Flow (MAF) Sensor G70.

Install in reverse order of removal.

Preparation - vehicles with 3.0L 6-cylinder engine

Procedure

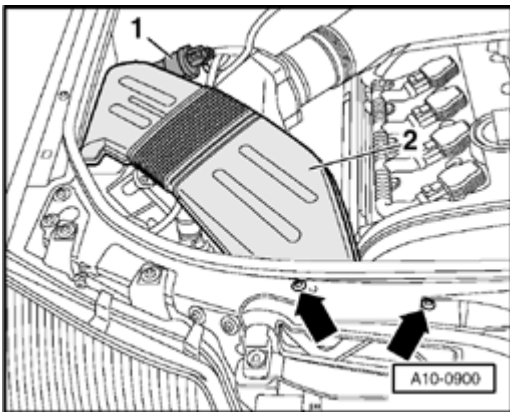


Fig. 379: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - 1 - at air duct.
- Remove air duct - 2 -.

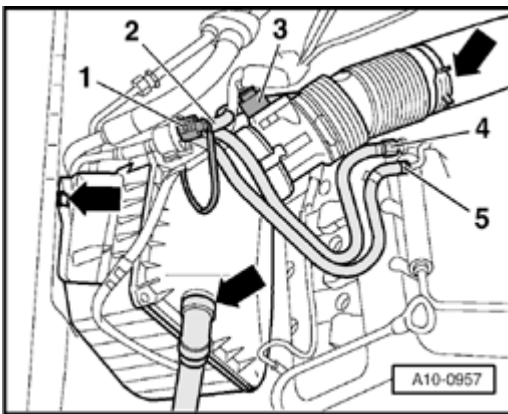


Fig. 380: Identifying Lines And Air Cleaner Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pull off lines and disconnect electrical connections:
 1. at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 2. vacuum hose at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80
 3. at Mass Air Flow (MAF) Sensor G70
- Pull off hose connections, set aside hoses and remove air cleaner housing - **arrows** -

NOTE: • **Disregard - 4 - and - 5 -.**

Install in reverse order of removal.

Preparation - vehicles with 3.2L 6-cylinder FSI engine

Procedure

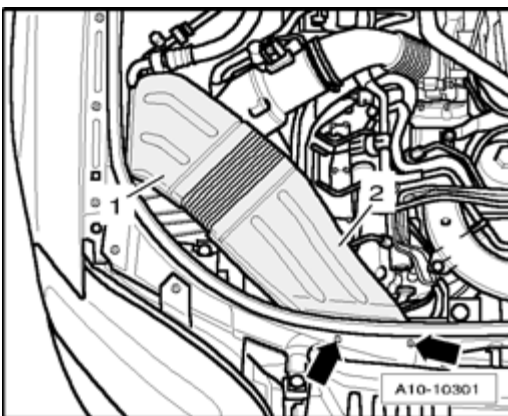


Fig. 381: Identifying Bolts & Air Duct
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.

- Remove air duct - **1** - and - **2** -.

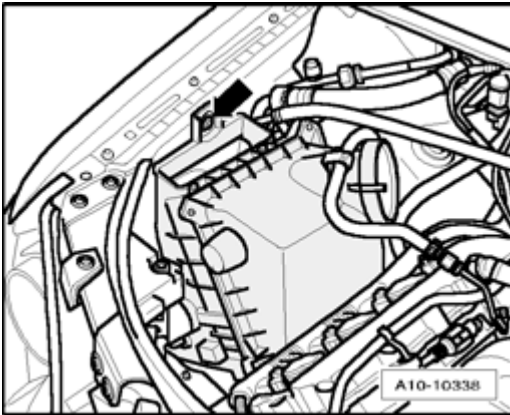


Fig. 382: Locating Fastener

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release fastener - **arrow** -.
- Remove air cleaner housing.

Install in reverse order of removal.

Preparation - vehicles with 4.2L 8-cylinder engine (Audi S4)

Procedure

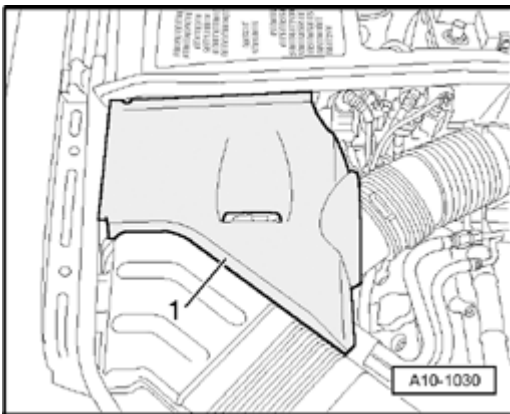


Fig. 383: Removing Cover In Engine Compartment (Right Side)

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove right engine cover - **1** -.

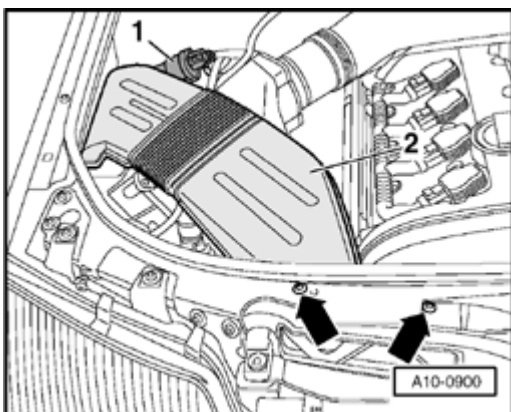


Fig. 384: Evaporative Emission Canister Purge Regulator Valve N80 And Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80 - **1** - at air duct.
- Remove air duct - **2** -.

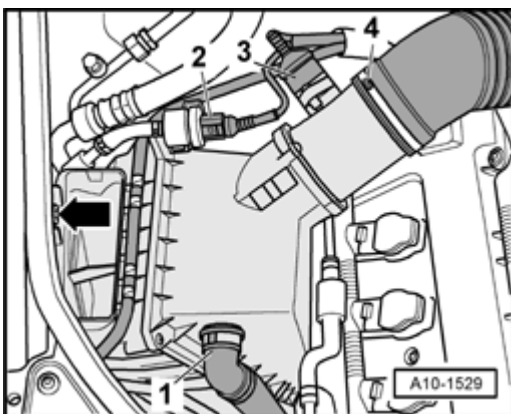


Fig. 385: Identifying Electrical Harness Connectors, Secondary Air Injection (AIR) Pump Hose, Air Guide Hose & Mass Air Flow (MAF) Sensor
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **2** - at Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 N80.
- Disconnect electrical connection - **3** - at Mass Air Low (MAF) Sensor G70.
- Disconnect hose - **1** - to secondary air pump.
- Remove air intake hose - **4** - at Mass Air Low (MAF) Sensor G70.
- Set aside wiring harness at air cleaner housing.
- Remove clip - **arrow** - and remove air cleaner housing together with Mass Air Low (MAF) Sensor G70.

Install in reverse order of removal.

Procedure

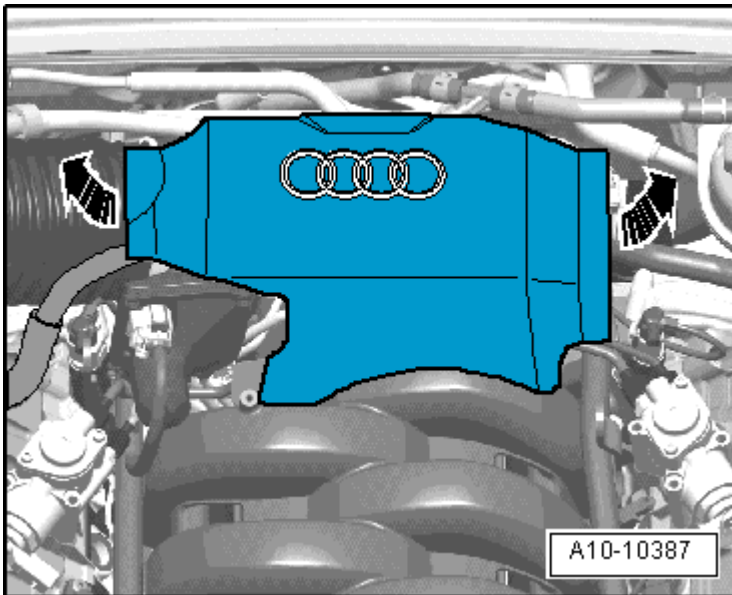


Fig. 386: Pulling Rear Engine Cover Off
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove rear engine cover in direction of - **arrows** -.

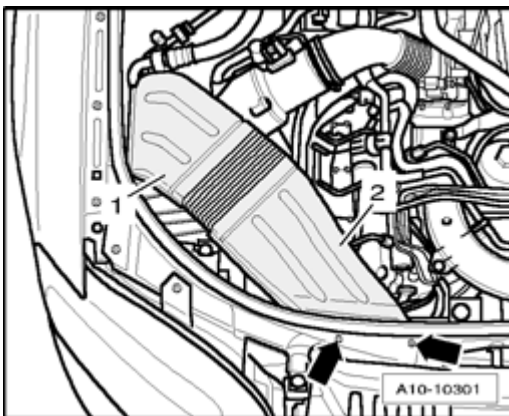


Fig. 387: Identifying Bolts & Air Duct
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove air duct - **1** - and - **2** -.

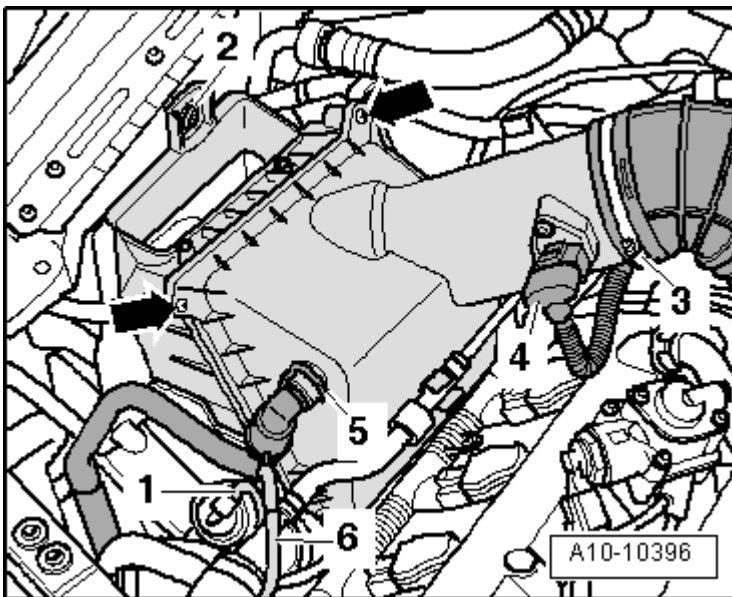


Fig. 388: Identifying Mass Air Flow (MAF) Sensor G70 Electrical Harness Connector, Secondary Air Injection (Air) Pump Hose, Vacuum Lines & Air Guide Hose
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - 4 - for Mass Air Flow (MAF) Sensor G70.
- Remove hose - 5 - to Secondary Air Injection (AIR) pump.
- Remove vacuum hoses - 1 -.
- Remove air guide hose - 3 - at Mass Air Flow (MAF) Sensor.
- Free up wiring harness at air filter housing.
- Remove screws - **arrows** - and remove upper part of air filter housing.
- Disengage electrical wiring harness bracket at body.
- Remove clip - **arrow** - and remove air filter housing with Mass Air Flow (MAF) sensor.

NOTE: • **Disregard - 6 -.**

Install in reverse order of removal.

HID headlamp bulb, replacing

- CAUTION:**
- **HIGH VOLTAGE!**
 - Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.
 - The physical and mechanical properties of HID bulbs are very sensitive. Internal pressure of HID glass bulb may exceed 100 bar (in operation). Bulb temperature may exceed 700 degrees Celsius.

- **Danger of explosion and burning.**
- **The control modules for HID lamps must never be operated (headlamps turned on) without an HID lamp.**
- **HID bulbs must only be operated (headlamps turned on) when installed in the headlamp housing.**
- **Always wear safety glasses and gloves when removing and installing HID bulb.**
- **Never look directly at an operating HID bulb. The UV emissions of an HID bulb are approximately 2.5 times that of a comparable halogen bulb..**

Removing

- Disconnect battery. Audi A4 S4 --> **Battery in engine compartment, disconnecting and reconnecting.**
Audi RS4 --> **Battery in luggage compartment, disconnecting and connecting.**

Left headlamp

- Remove top section of washer fluid reservoir and power steering reservoir.

Right headlamp - vehicles with 1.8L 4-cylinder Turbo engine:

- Preparation.

Right headlamp - vehicles with 2.0L 4-cylinder Turbo FSI engine:

- Preparation.

Right headlamp - vehicles with 3.0L 6-cylinder engine

- Preparation.

Right headlamp - vehicles with 3.2L 6-cylinder FSI engine

- Preparation.

Right headlamp - vehicles with 4.2L 8-cylinder engine (Audi S4)

- Preparation.

Right headlamp - vehicles with 4.2L 8-cylinder FSI engine (Audi RS4)

- Preparation.

Both sides, continued:

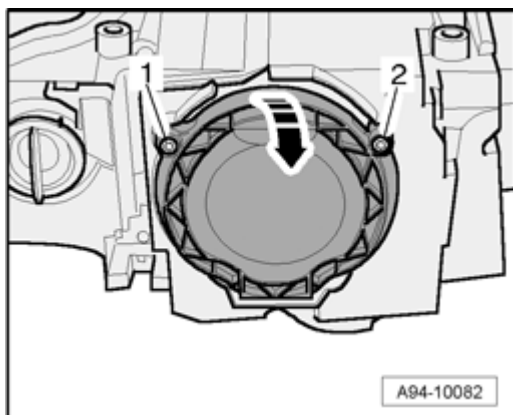


Fig. 389: Removing Screws And Cover For Low Beam From Headlamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - 1 - and - 2 -.
- Remove cover for low beam from headlamp housing - **arrow** -.

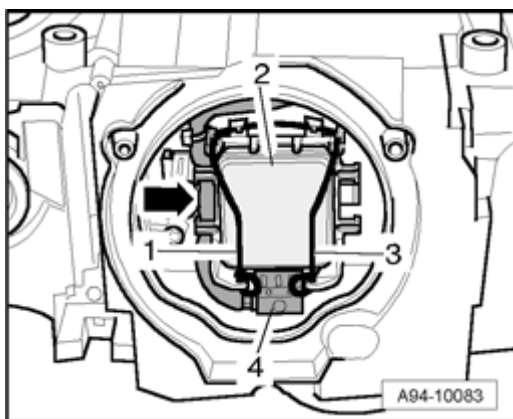


Fig. 390: Identifying Retainers, Electrical Connection, Retaining Clips, And HID Headlamp Bulb
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove electrical wire from retainers - **arrow** -.
- Disconnect electrical connection - 4 -.
- Release retaining clips - 1 - and - 3 - and remove HID headlamp bulb - 2 - from housing.

Faulty HID headlamp bulb disposal --> **HID headlamp bulb, disposal**

Installing

Install in reverse order of removal, noting the following:

CAUTION: • Do not touch glass portion of bulb with bare hands. Even the

smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.

- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert new HID headlamp bulb in housing.

NOTE:

- Note installation position: the electrical connection must always point downwards.
- Secure HID headlamp bulb with retaining clips.
- Reconnect battery. Required steps Audi A4 S4 Reconnecting. Required steps Audi RS4

Tightening torque

Component	Nm
Housing cover for low beam to headlamp housing	1.5

HID headlamp bulb, disposal

NOTE:

- HID headlamp bulbs contain mercury.
- Faulty HID headlamp bulbs (not covered by new vehicle warranty) may need to be disposed of as hazardous waste. Always heed state/local regulations concerning disposal of hazardous waste.

Daytime Running Lamp (DRL) bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Right headlamp

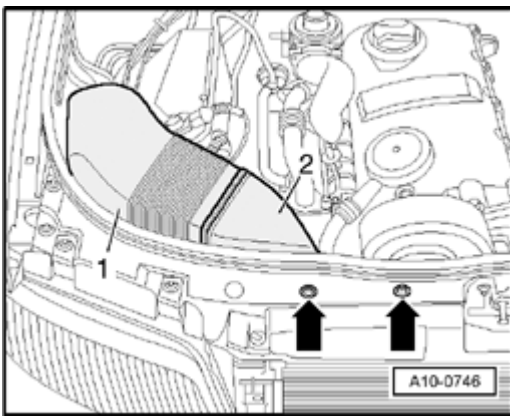


Fig. 391: Removing Bolts & Air Duct
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove air ducts - **1** - and - **2** -.

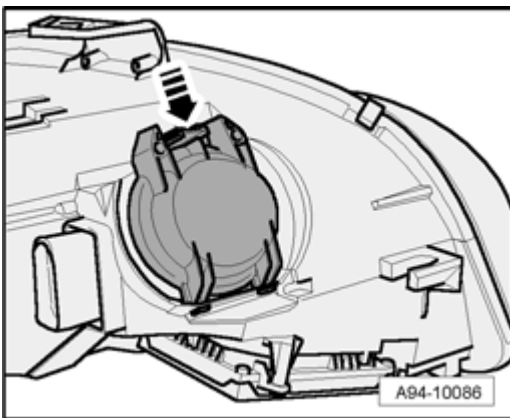


Fig. 392: Releasing Retaining Tab And Detaching Housing Cover For Side Lights From Headlamp Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Both sides, continued:

- Release retaining tab - **arrow** - and detach housing cover for side lights from headlamp housing.

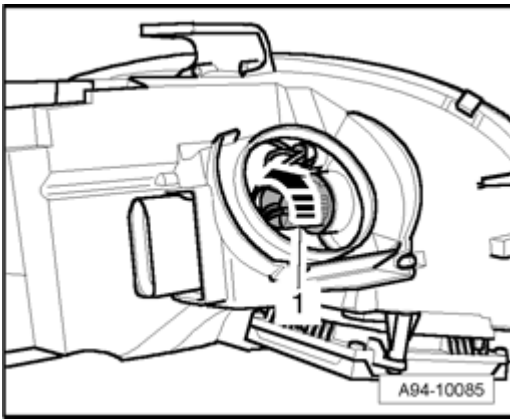


Fig. 393: Turning Bulb Holder Counter-Clockwise And Removing From Headlamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn bulb holder - **1** - counter-clockwise - **arrow** - and remove from headlamp housing.
- Screw bulb out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Fit new bulb in housing.
- Secure bulb holder by turning clockwise.
- Close housing cover.

Parking Lamp M1 / M3 - bulb, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Right headlamp

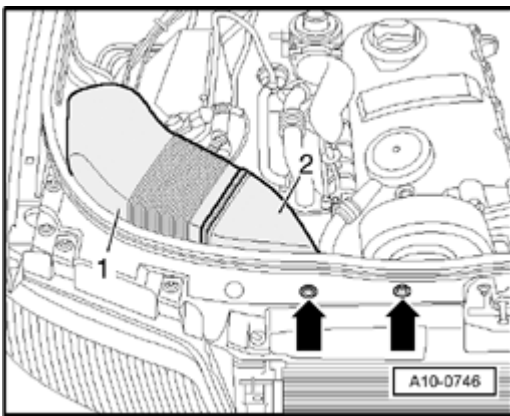


Fig. 394: Removing Bolts & Air Duct
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove air ducts - **1** - and - **2** -.

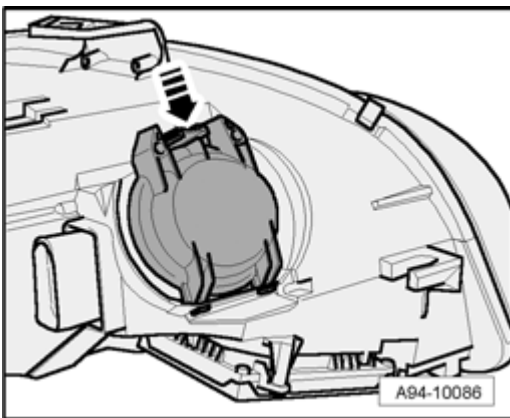


Fig. 395: Releasing Retaining Tab And Detaching Housing Cover For Side Lights From Headlamp Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Both sides, continued:

- Release retaining tab - **arrow** - and detach housing cover for side lights from headlamp housing.

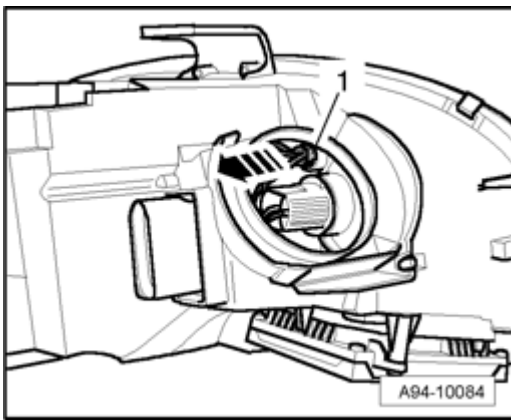


Fig. 396: Releasing Two Retainer Tabs And Pulling Bulb Holder Out Of Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release the two retainer tabs and pull bulb holder - **1** - out of housing - **arrow** -.
- Pull bulb for side lights out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert new bulb in bulb holder.
- Close housing cover.

High/Low Beam Switch-Over Solenoid N347 / N348 and Dynamic Cornering Light Motor V318 / V319, removing and installing

Left High/Low Beam Switch-Over Solenoid N347 , Right High/Low Beam Switch-Over Solenoid N348 , Left Dynamic Cornering Light Motor V318 and Right Dynamic Cornering Light Motor V319 are integrated with the headlamp housing and cannot be replaced separately in the event of a fault.

- Replace headlamp --> **Headlamps, removing and installing.**

Front Turn Signal Lamp M5 / M7 - bulb, replacing

Removing

CAUTION:

	12:18:33 AM	Page 98	

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Left headlamp

- Remove washer fluid reservoir --> Washer fluid reservoir - Audi A4 S4, removing and installing.

Right headlamp

- Lift vehicle.
- Remove right front wheel.

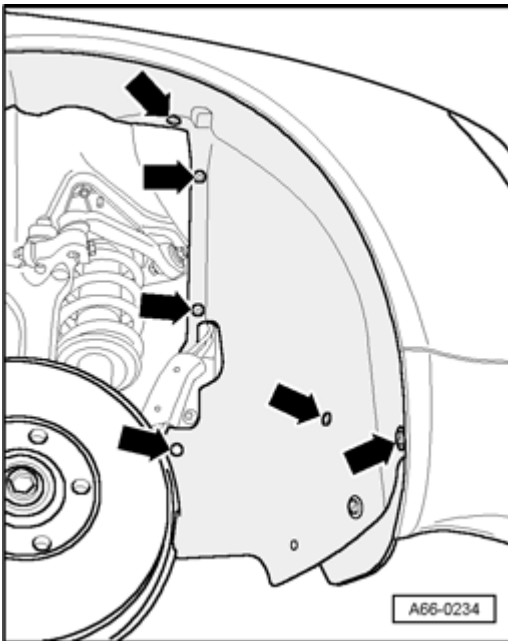


Fig. 397: Loosening Left/Right Wheelhousing Liners In Front Area
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove forward portion of wheel housing liner.

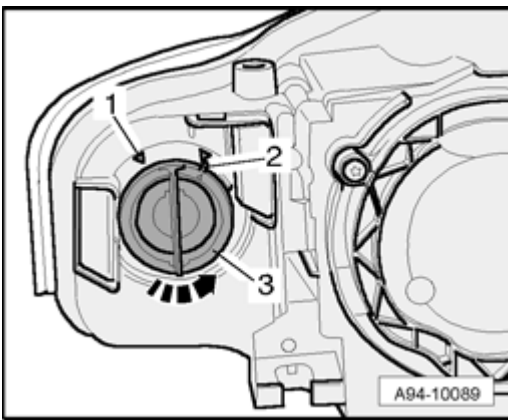


Fig. 398: Turning Bulb Holder Counter-Clockwise And Pulling From Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

All models:

- Turn bulb holder - 3 - counter-clockwise - **arrow** - and pull from housing.
- Screw bulb out of holder.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Fit new bulb in housing.
- Markings - 1 - and - 2 - must be opposite each other when inserting bulb holder into housing.

Left headlamp

- Install washer fluid reservoir --> **Washer fluid reservoir - Audi A4 S4, removing and installing.**

Right headlamp

- Install wheel housing liner --> **66 EXTERIOR EQUIPMENT** .

High Intensity Gas Discharge (HID) Lamp Control Module J343 / J344, removing and installing

CAUTION:

- HIGH VOLTAGE!

- Always disconnect negative (-) battery terminal prior to working on parts of HID headlamp components marked with yellow "HIGH VOLTAGE" warning symbols.

Removing

- Remove headlamp.

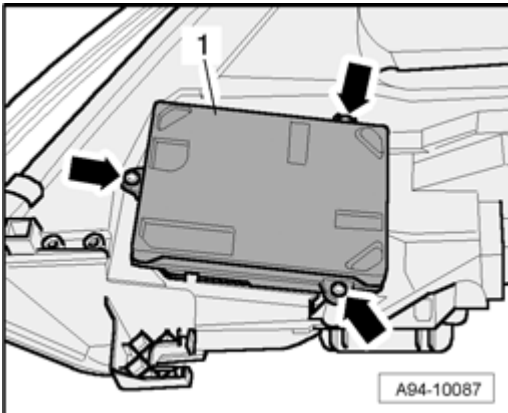


Fig. 399: Identifying Screws, And Control Module
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove control module - **1** - from headlamp housing.

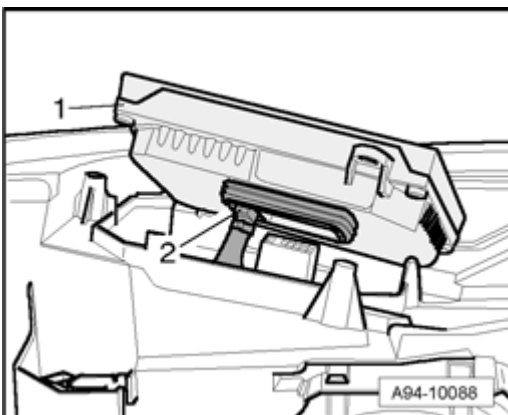


Fig. 400: Disconnecting Adapter Cable For HID Headlamp Bulb At Control Module
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect adapter cable - **2** - for HID headlamp bulb at control module - **1** -.

Installing

Install in reverse order of removal, noting the following:

	12:18:33 AM	Page 101	

- Check gasket between control module for HID headlamp bulb and headlamp housing.
- Install headlamp **Installing**.

Headlamp securing lugs, servicing

- NOTE:**
- If headlight securing lugs break due to application of excessive force, it may still be possible to service headlight in a cost effective manner (though headlight housing must not be damaged).
 - Different repair sets are available for left and right headlight.

Procedure

- Remove headlamp with broken lugs --> **Headlamps, removing and installing**.
- Remove remains of broken lugs from headlamp housing.

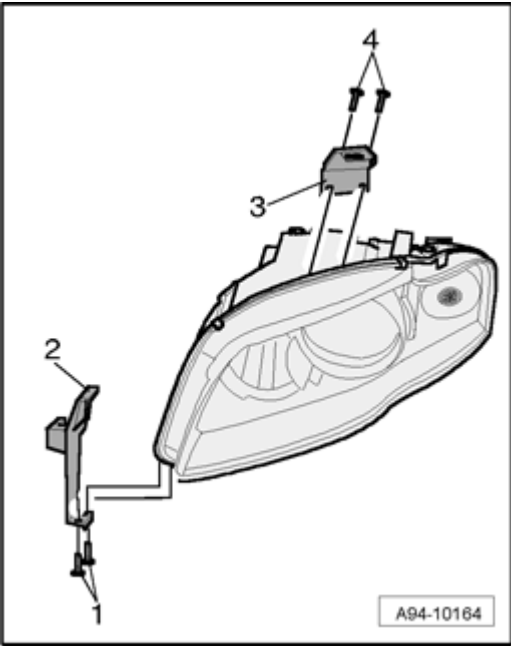


Fig. 401: Locating Lugs, And Screws For Headlamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Fit lugs - 2 - and - 3 - from repair kit on headlamp housing and secure with screws - 1 - and - 4 -.

Tightening torque

Component	Nm
Headlamp to lock carrier	6

FOG LAMPS - THROUGH 10.04

Fog lamp housing, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Audi A4:

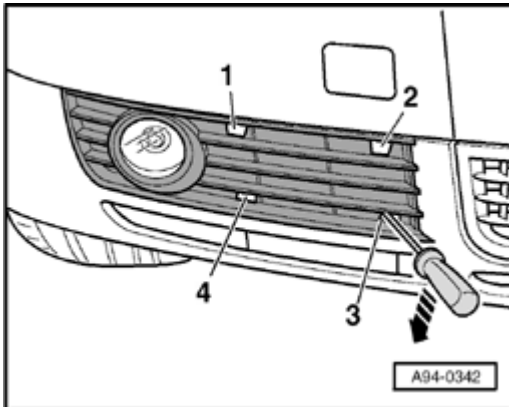


Fig. 402: Releasing Catches Using Screwdriver And Removing Air Intake Grille On Left/Right On Bottom Part Of Bumper

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining hooks - 1... 4 - using a screwdriver - **arrow** - and pull off air intake grille in bottom section of bumper.

Audi S4:

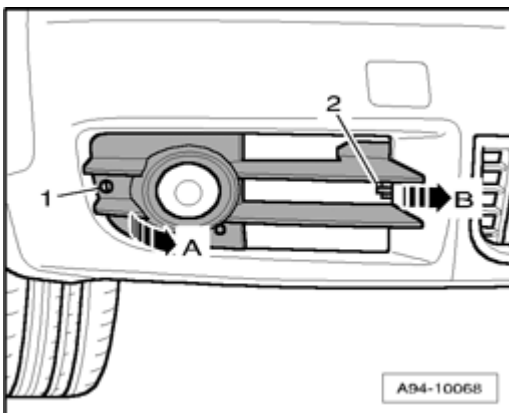


Fig. 403: Identifying Screw, Air Intake Grille, And Retaining Clip

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn screw - **1** - 90 ° (1/4 turn).
- Remove air intake grille from fog lamp housing in direction of - **arrow A** -.
- Then push air intake grille in direction of - **arrow B** - and simultaneously disengage retaining clip - **2** -.
- Remove air intake grille.

All models:

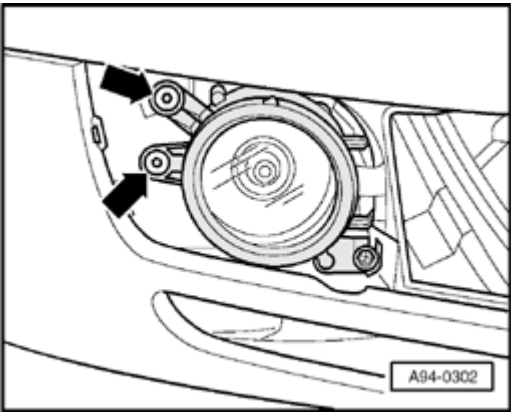


Fig. 404: Identifying Screws For Fog Lamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Disengage fog lamp housing and remove.
- Disconnect electrical connection.

Installing

Install in reverse order of removal, noting the following:

- Engage fog lamp housing.
- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Tightening torque

Component - fastener	Nm
Fog lamp housing to bumper - screw	5

Fog lamp bulb, replacing

Removing

- Remove fog lamp assembly --> **Fog lamp housing, removing and installing.**

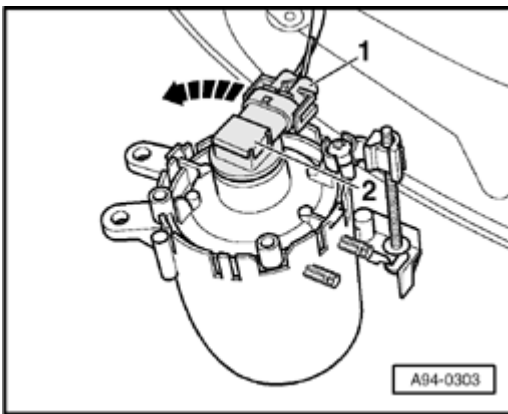


Fig. 405: Disconnecting Electrical Connection At Bulb And Turning Bulb Counter-Clockwise To Remove From Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **1** - at bulb.
- Turn bulb counter-clockwise - **arrow** - and remove from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- **Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.**
- **When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.**

- Insert bulb and secure by turning in clockwise direction.
- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Fog lamps, adjusting

Fog lamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> **00 - TECHNICAL DATA** .

FOG LAMPS - FROM 11.04

Fog lamp housing - Audi A4, removing and installing

Removing

- Turn light switch to position "0".

- CAUTION:**
- Switch off all electrical consumers.
 - Switch ignition off and remove ignition key.

Vehicles without charge air cooler:

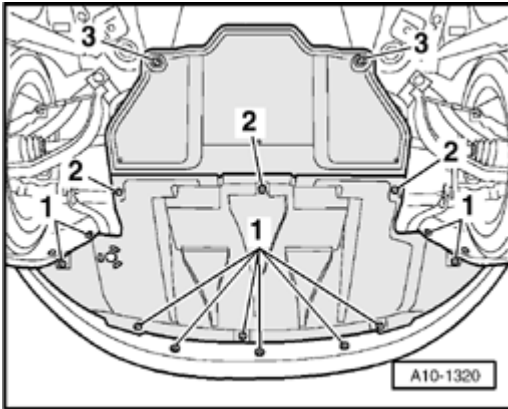


Fig. 406: Identifying Quick-Release Fasteners And Noise Insulation
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release fasteners - 1 - and - 2 - and remove front noise insulation.

Vehicles with charge air cooler:

- Remove front bumper cover --> **63 BUMPER** .

All models:

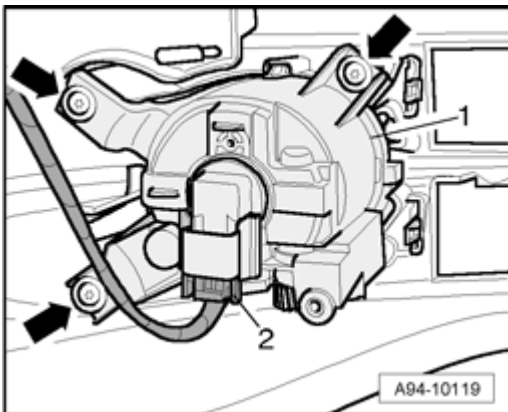


Fig. 407: Identifying Screws, Electrical Connection, And Fog Lamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Disconnect electrical connection - 2 -.
- Remove fog lamp housing - 1 -.

Installing

Install in reverse order of removal, noting the following:

Vehicles with charge air cooler:

- Install front bumper cover --> **63 BUMPER** .

All models:

- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Tightening torque

Component - fastener	Nm
Fog lamp housing to bumper cover - screw	6

Fog lamp housing - Audi A4 with "S-line" equipment Audi S4, removing and installing

Removing

- Turn light switch to position "0".

- CAUTION:
- Switch off all electrical consumers.
 - Switch ignition off and remove ignition key.

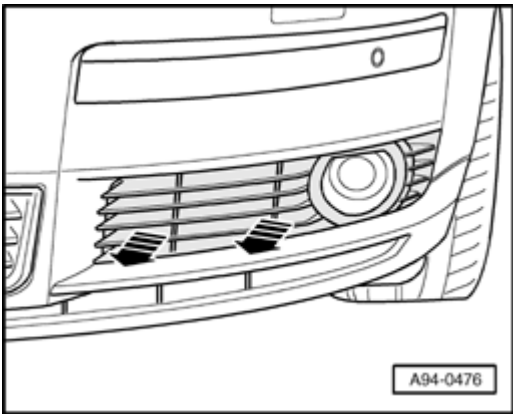


Fig. 408: Removing Air Intake Grille From Fog Lamp Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove air intake grille from fog lamp housing in direction of - **arrows** - .

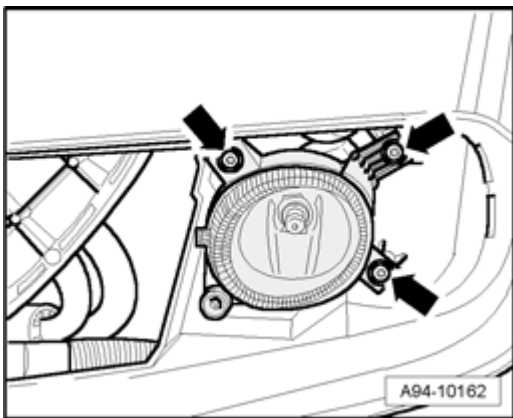


Fig. 409: Locating Screws For Housing
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Disconnect electrical connection.
- Remove housing from opening.

Installing

Install in reverse order of removal, noting the following:

- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Tightening torques

Component - fastener	Nm
Fog lamp housing to bumper cover - screw	6

Fog lamp housing - Audi RS4, removing and installing

Removing

- Turn light switch to position "0".

- CAUTION:**
- **Switch off all electrical consumers.**
 - **Switch ignition off and remove ignition key.**

Removing

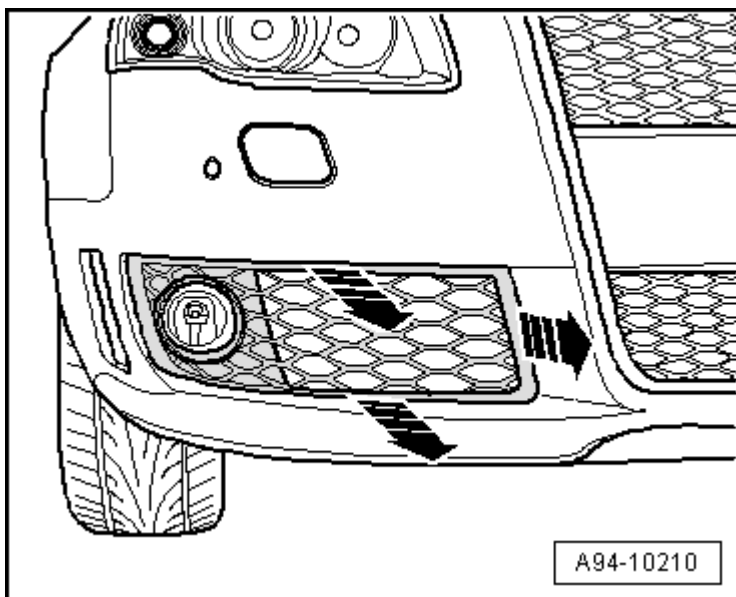


Fig. 410: Pulling Off Air Inlet Grille In Lower Section Of Bumper Cover
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pull off air inlet grille in lower section of bumper cover - **arrows** -.

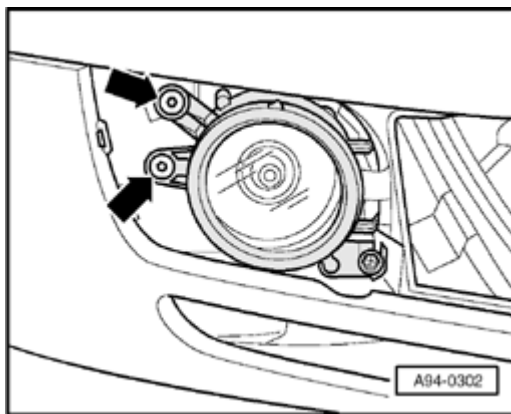


Fig. 411: Identifying Screws For Fog Lamp Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Disengage housing and remove from opening.
- Disconnect electrical connection.

Installing

Install in reverse order of removal, noting the following:

- First engage fog lamp housing on inner side of bumper cover.
- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Tightening torques

Component - fastener	Nm
Fog lamp housing to bumper cover - screw	6

Fog lamp bulb - Audi A4, replacing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

Vehicles with charge air cooler:

- Remove front bumper cover --> **63 BUMPER** .

Vehicles without charge air cooler:

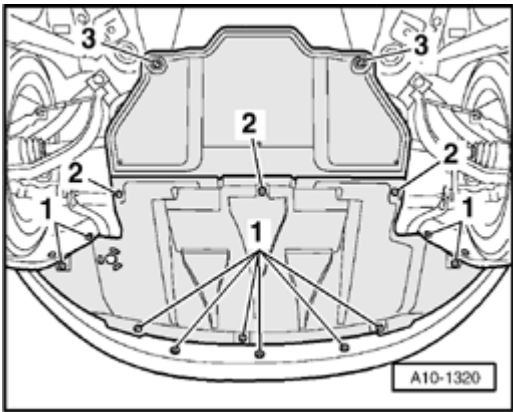


Fig. 412: Identifying Quick-Release Fasteners And Noise Insulation
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release fasteners - 1 - and - 2 - and remove front noise insulation.

All models:

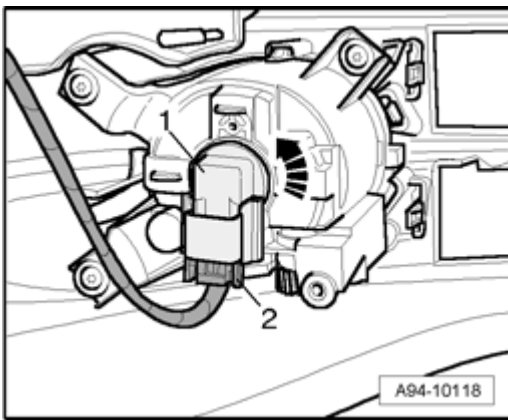


Fig. 413: Disconnecting Electrical Connection And Turning Bulb Counter Clockwise To Remove
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - 2 -.
- Turn bulb - 1 - counter-clockwise - **arrow** - and remove from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert bulb and secure by turning in clockwise direction.

Vehicles with charge air cooler:

- Install front bumper cover --> **63 BUMPER** .

All models:

- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Fog lamp bulb - Audi A4 with "S-line" equipment Audi S4, replacing

Removing

- Remove fog lamp housing --> **Fog lamp housing - Audi A4 with "S-line" equipment Audi S4, removing and installing.**

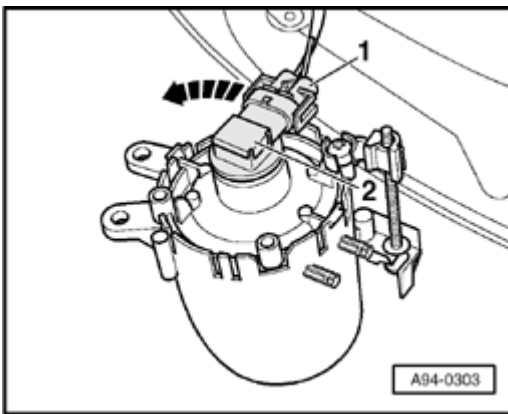


Fig. 414: Disconnecting Electrical Connection At Bulb And Turning Bulb Counter-Clockwise To Remove From Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **1** -.
- Rotate bulb counter-clockwise - **arrow** - and remove from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
 - When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.
- Insert bulb and secure by turning in clockwise direction.
 - Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Fog lamp bulb - Audi RS4, replacing

Removing

- Remove housing --> **Fog lamp housing - Audi RS4, removing and installing**

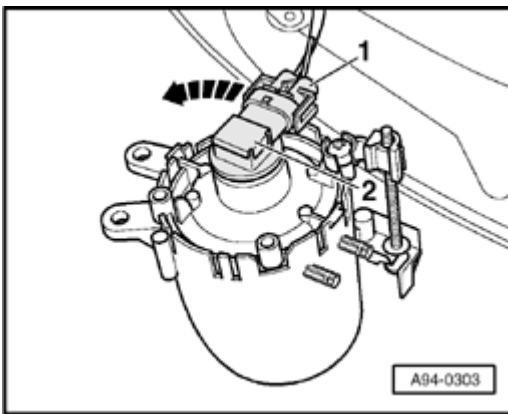


Fig. 415: Disconnecting Electrical Connection At Bulb And Turning Bulb Counter-Clockwise To Remove From Housing

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **1** - at bulb.
- Rotate bulb holder counterclockwise - **arrow** - and remove from housing.

Installing

Install in reverse order of removal, noting the following:

CAUTION:

- Do not touch glass portion of bulb with bare hands. Even the smallest amount of moisture and/or contaminants from fingers that evaporates on the bulb during operation can cause the glass to cloud over.
- When installing housing cover, ensure proper seating. Water intrusion will damage headlamp.

- Insert bulb and secure by turning in clockwise direction.
- Check and adjust fog lamps if necessary --> **00 - TECHNICAL DATA** .

Fog lamps, adjusting

Fog lamps are adjusted using VAS 5107 Optical Headlamp Aimer and detailed aiming procedure and specifications --> **00 - TECHNICAL DATA** .

SIDE MOUNTED TURN SIGNALS

Side mounted turn signals, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

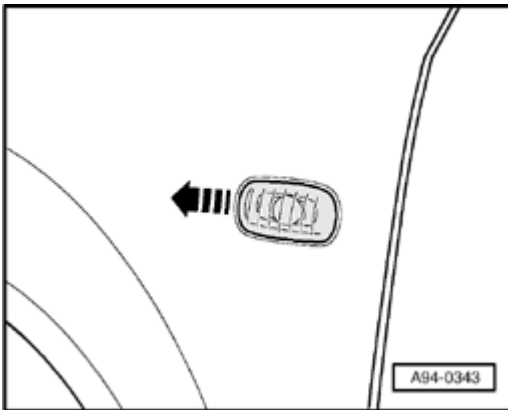


Fig. 416: Pushing Turn Signal Light/Housing Against Retainer
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Press turn signal housing towards front of vehicle against retainer tab - **arrow** - and remove carefully from fender opening.
- Disconnect electrical connection.

Installing

Install in reverse order of removal.

REAR LIGHTS - THROUGH 10.04

Rear lights - Sedan, assembly

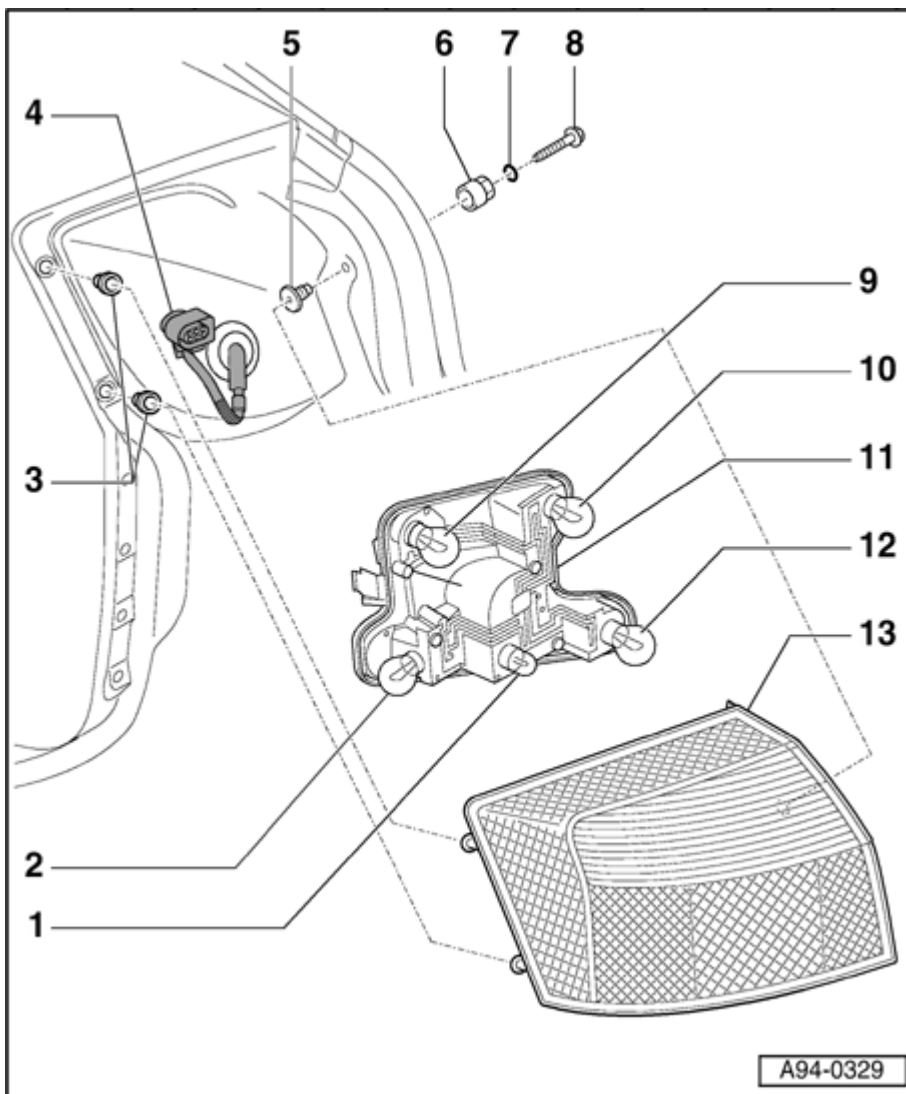


Fig. 417: Rear Lights - Sedan, Assembly
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Taillamp bulb

- 12 V, 5 W

2 - Brake/taillamp bulb

- 12 V, 21/5 W

3 - Clip nut

- 2x

4 - Electrical connector

5 - Retainer

- Replace if seal is damaged

6 - Nut - 12 Nm

7 - O-ring

- Replace if damaged

8 - Bolt - 6 Nm

9 - Turn signal lamp bulb

- 12 V, 21 W
- Orange

10 - Backup lamp bulb

- 12 V, 21 W

11 - Bulb holder

12 - Rear fog lamp bulb (where applicable)

- 12 V, 21 W

13 - Housing

Rear light/bulb carrier - Sedan, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

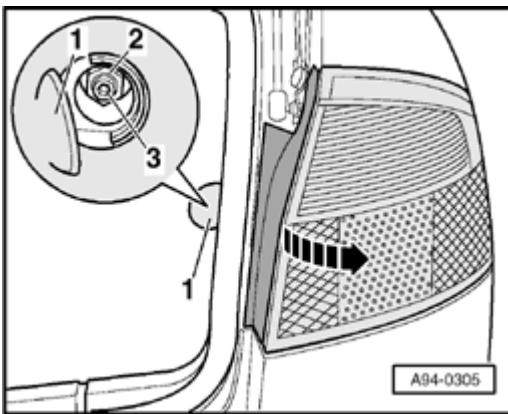


Fig. 418: Folding Pre-Punched Area Of Luggage Compartment And Removing Screw
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Fold pre-punched area - 1 - of luggage compartment lining forwards.
- Remove screw - 3 -.
- Swivel rear light outwards, and at the same time disengage retaining pins from body.
- Disconnect electrical connection at bulb carrier.

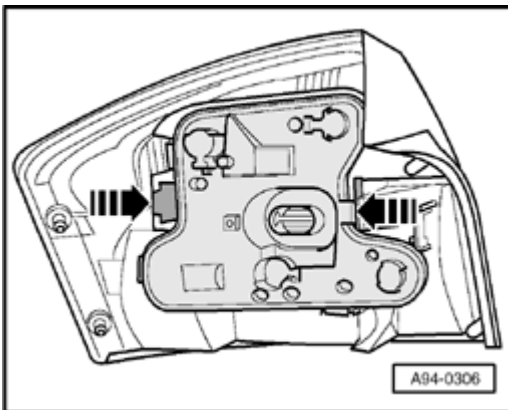


Fig. 419: Pressing Retaining Clips Together To Take Bulb Carrier Out Of Rear Light
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Press retaining clips together - **arrows** - and take bulb carrier out of rear light.
- Turn bulbs to remove them from their holders.

Installing

Install in reverse order of removal, noting the following:

NOTE:

- Ensure seal between body and rear light housing seals completely.
- Fit rear light in position on body and press retaining pins into holes.

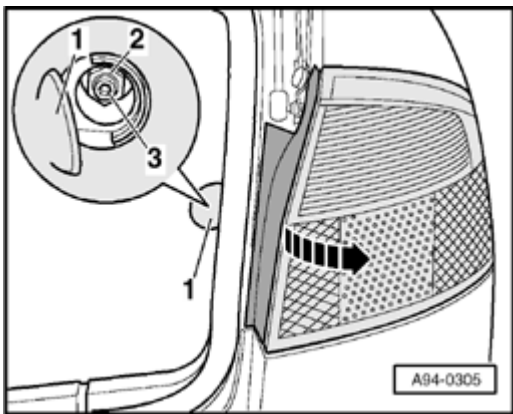


Fig. 420: Folding Pre-Punched Area Of Luggage Compartment And Removing Screw
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Tighten screw - 3 -.
- NOTE:**
- After loosening nut - 2 - , rear light can be aligned with body contours (uniform gap widths).

Tightening torques

Component - fastener	Nm
Rear light to body - nut	12
Rear light to body - screw	6

Rear lights - Avant, assembly

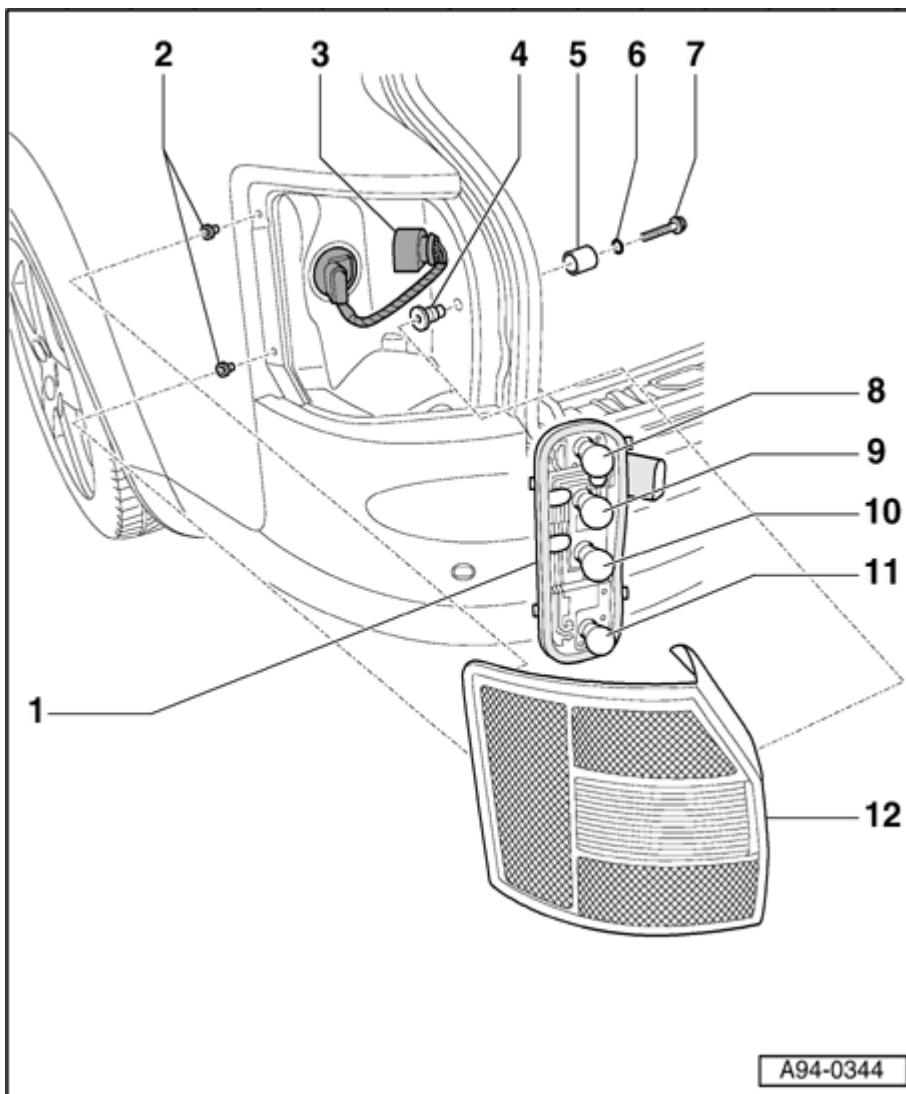


Fig. 421: Rear Lights - Avant, Assembly
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Bulb holder

2 - Clip nut

- 2x

3 - Electrical connector

4 - Retainer

- Replace if seal is damaged

5 - Nut - 12 Nm

6 - O-ring

- Replace if damaged

7 - Bolt - 6 Nm

8 - Rear fog lamp bulb (where applicable)

- 12 V, 21 W

9 - Turn signal lamp bulb

- 12 V, 21 W
- Orange

10 - Backup lamp bulb

- 12 V, 21 W

11 - Brake/taillamp bulb

- 12 V, 21/5 W

12 - Housing

Rear light/bulb carrier - Avant, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

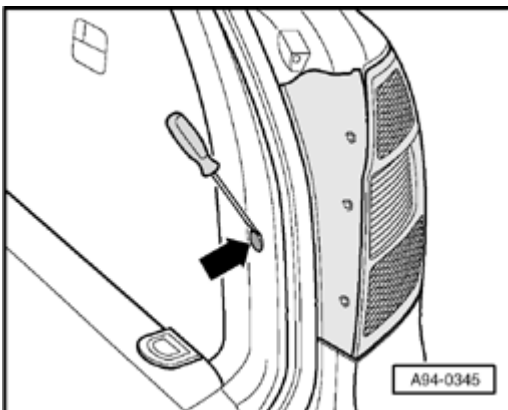


Fig. 422: Removing Plug From Luggage Compartment Lining
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove plug - **arrow** - from luggage compartment lining.

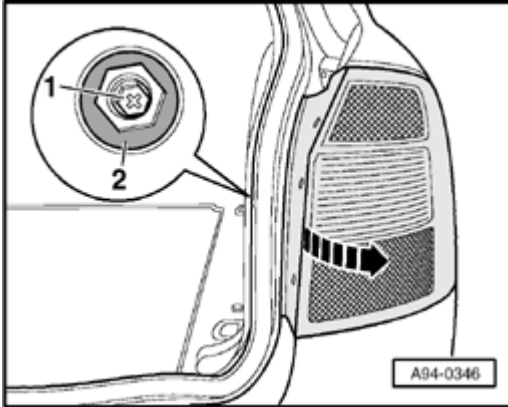


Fig. 423: Locating Screw
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - **1** -.
- Swivel rear light outwards, and at the same time disengage retaining pins from body.
- Disconnect electrical connection at bulb carrier.

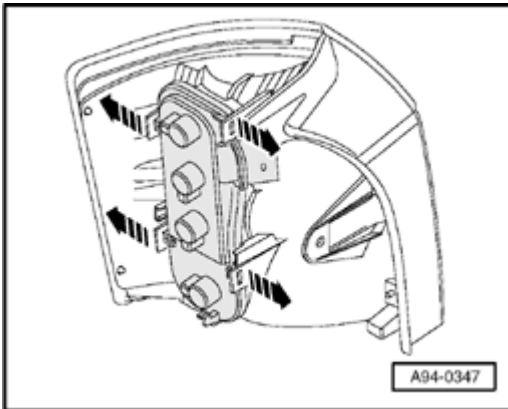


Fig. 424: Pressing Apart Retaining Clips And Taking Bulb Carrier Out Of Rear Light
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Press apart retaining clips - **arrows** - and take bulb carrier out of rear light.
- Turn bulbs to remove them from their holders.

Installing

Install in reverse order of removal, noting the following:

NOTE:

12:18:33 AM	Page 121	

- Ensure seal between body and rear light housing seals completely.
- Fit rear light in position on body and press retaining pins into holes.

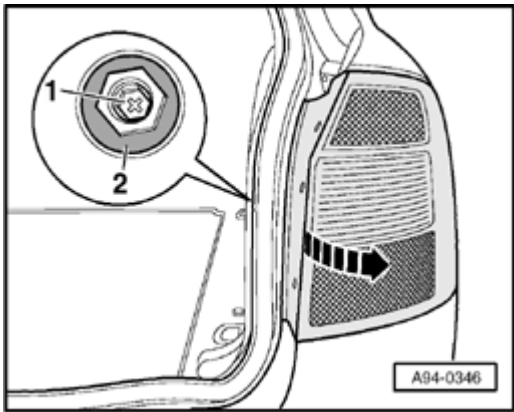


Fig. 425: Locating Screw
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Tighten screw - 1 -.

NOTE:

- After loosening nut - 2 - , rear light can be aligned with body contours (uniform gap widths).

Tightening torques

Component - fastener	Nm
Rear light to body - nut	12
Rear light to body - screw	6

REAR LIGHTS - FROM 11.04

Rear lights in rear fender - Sedan, assembly

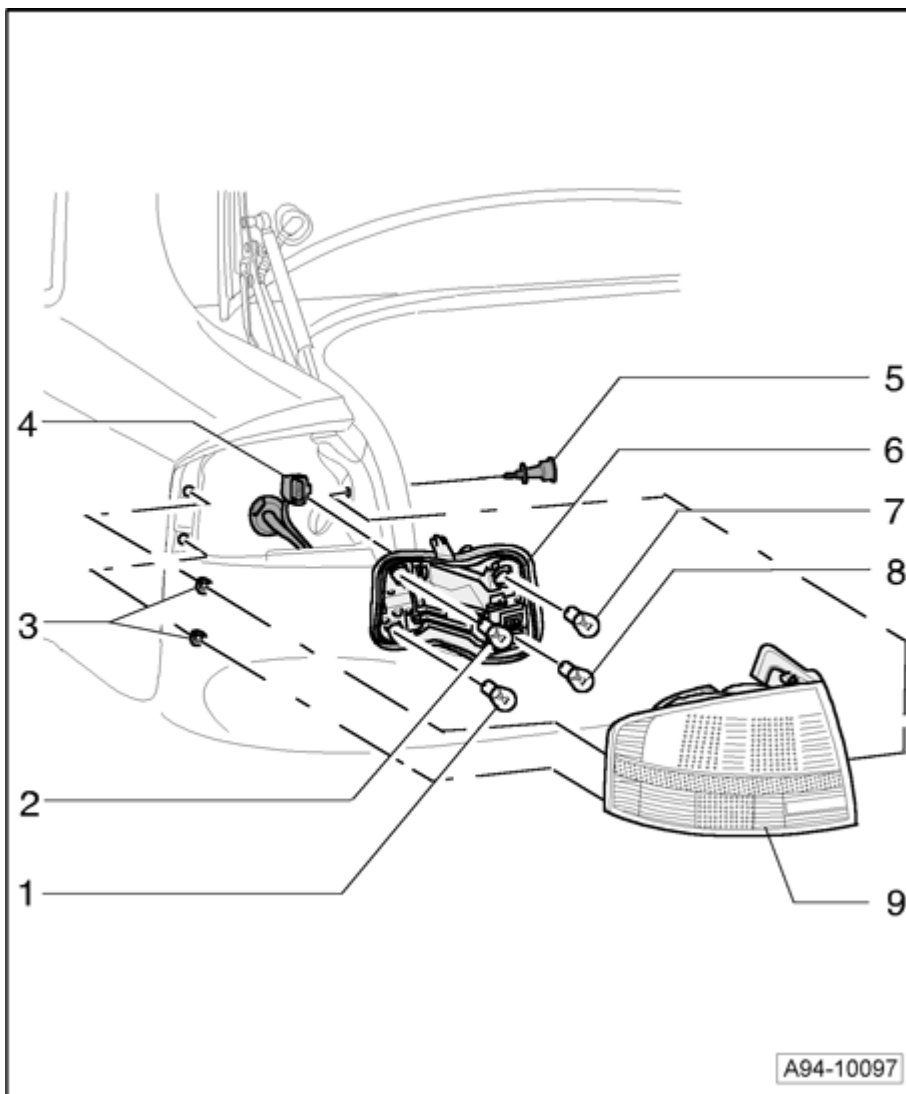


Fig. 426: Rear Lights In Rear Fender - Sedan, Assembly
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Turn signal lamp bulb

- 12 V, 21 W

2 - Brake/taillamp bulb

- 12 V, 21 W

3 - Clip nut

- 2x

4 - Electrical connector

5 - Bolt - 3.5 Nm

- With hex socket (17 mm)

6 - Bulb holder

- Removing and installing --> Rear light/bulb carrier in rear fender - Sedan, removing and installing

7 - Taillamp bulb

- 12 V, 21 W

8 - Backup lamp bulb

- 12 V, 21 W

9 - Housing

- Removing and installing --> Rear light/bulb carrier in rear fender - Sedan, removing and installing

Rear light/bulb carrier in rear fender - Sedan, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

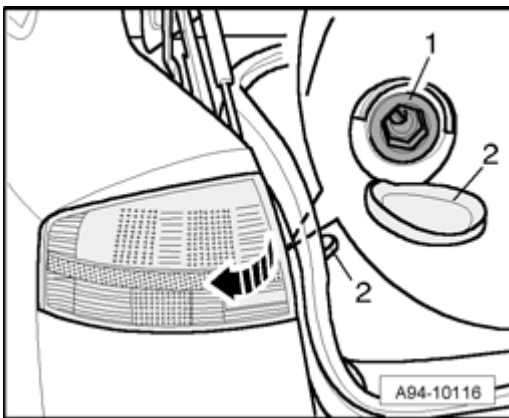


Fig. 427: Identifying Pre-punched Area Of Luggage Compartment Lining, Fastener, And Rear Light
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Fold pre-punched area - 2 - of luggage compartment lining forwards.
- Remove fastener - 1 - (17 mm hex socket).

- Swivel rear light outwards - **arrow** - , and at the same time disengage retaining pins from body.
- Disconnect electrical connection at bulb carrier.

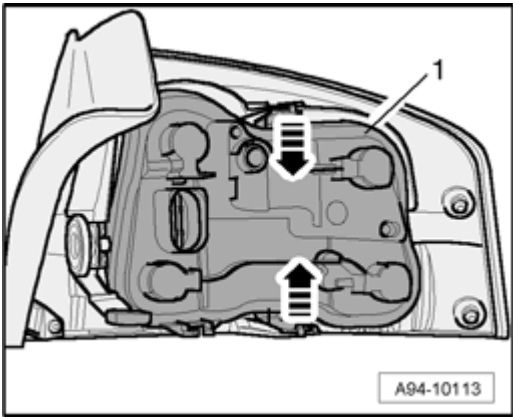


Fig. 428: Pressing Together Retaining Tabs And Removing Bulb Carrier From Rear Light
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Press together retaining tabs - **arrows** - and remove bulb carrier - **1** - from rear light.
- Turn bulbs to remove them from their holders.

Installing

Install in reverse order of removal, noting the following:

- NOTE:**
- Ensure seal between body and rear light housing seals completely.
 - Fit rear light in position on body and press retaining pins into holes.

Tightening torque

Component - fastener	Nm
Rear light to body - screw	3.5

Rear lights in rear lid - Sedan, assembly

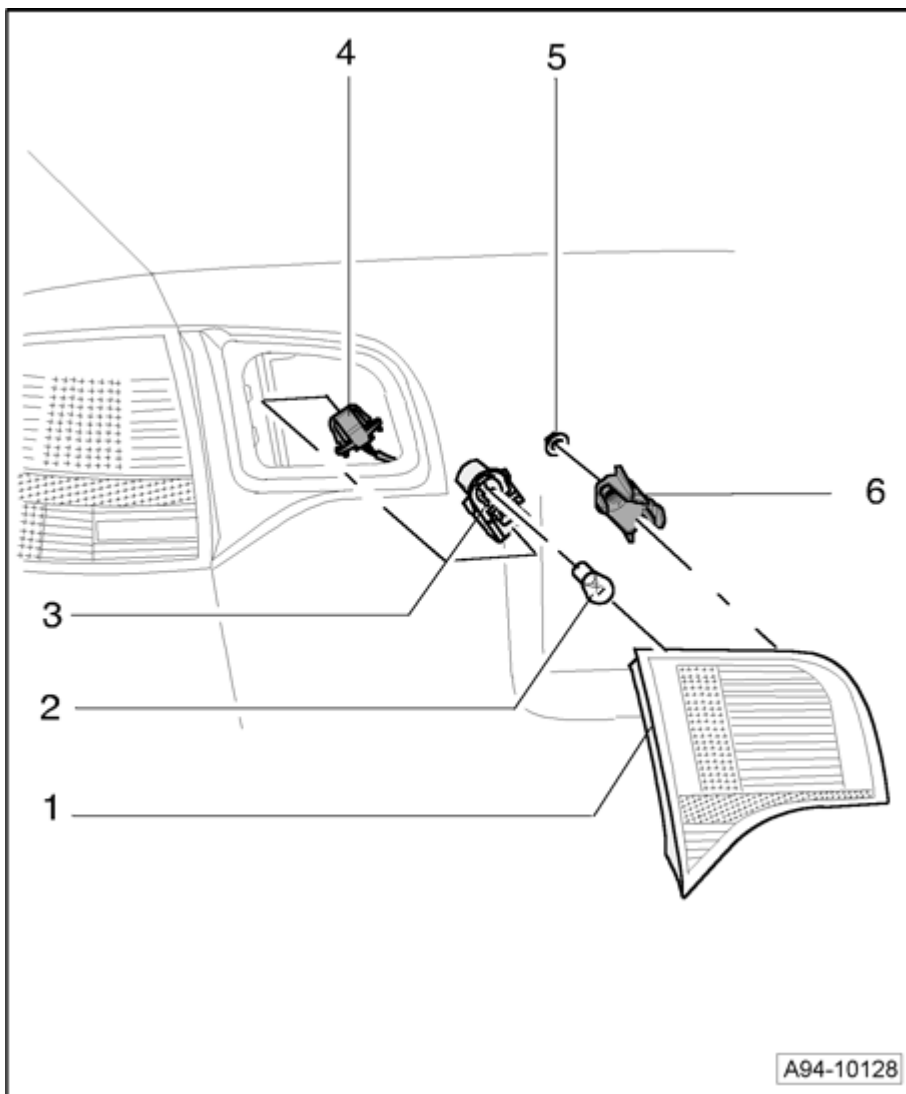


Fig. 429: Rear Lights In Rear Lid - Sedan, Assembly
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Housing

- Removing and installing --> **Rear light/bulb carrier in rear lid - Sedan, removing and installing**

2 - Taillamp/rear fog lamp bulb

- 12 V, 21 W

3 - Bulb holder

- For taillamp/rear fog lamp bulb
- Removing and installing --> **Taillamp/rear fog lamp bulb, replacing**

4 - Electrical connector

5 - Nut - 3.5 Nm

6 - Retainer

- For securing housing to rear lid

Rear light/bulb carrier in rear lid - Sedan, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

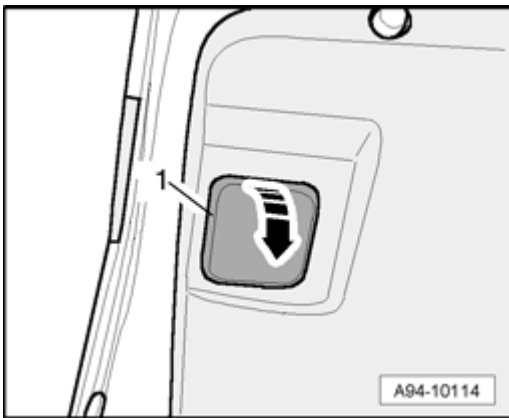


Fig. 430: Unclipping Plug From Luggage Compartment Trim Using A Small Screwdriver
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Unclip plug - 1 - from luggage compartment trim - **arrow** - using a small screwdriver.

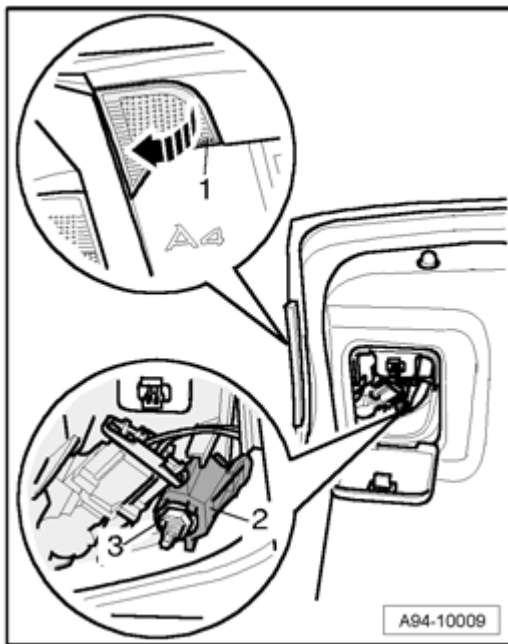


Fig. 431: Identifying Nut, Retainer, And Inner Rear Light
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove nut - 3 - and remove retainer - 2 -.
- Press inner rear light - 1 - towards - **arrow** - (working from inside of rear lid) until light can be removed from the outside.
- Disconnect electrical connection at bulb carrier.

Installing

Install in reverse order of removal, noting the following:

- NOTE:**
- Ensure seal between body and rear light housing seals completely.
 - Position inner rear light at outer edge of rear lid.
 - Push on retainer at stud for inner rear light and tighten nut.
- NOTE:**
- As the nut is tightened the retainer becomes wedged at the inner rear light and the rear lid.
 - Clip plug into luggage compartment lining.

Tightening torque

Component - fastener	Nm
Inner rear light to body - nut	3.5

Taillamp/rear fog lamp bulb replacing

12:18:34 AM	Page 128	

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

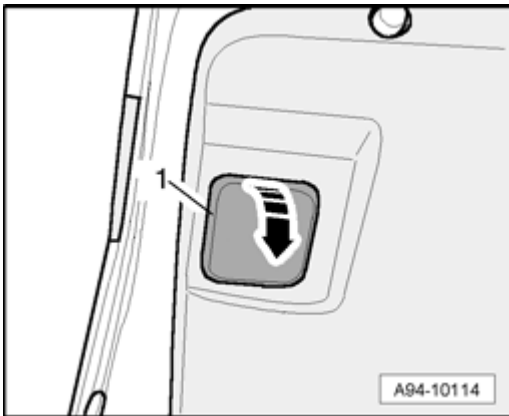


Fig. 432: Unclipping Plug From Luggage Compartment Trim Using A Small Screwdriver
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Unclip plug - **1** - from luggage compartment trim - **arrow** - using a small screwdriver.

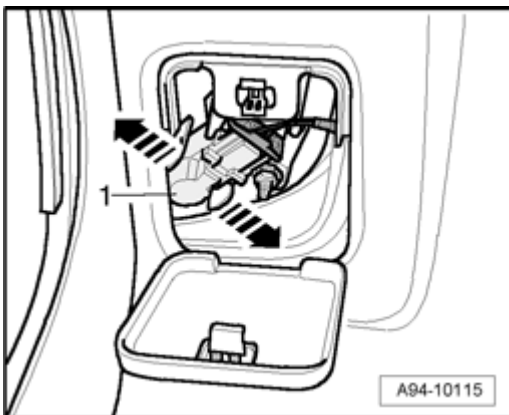


Fig. 433: Releasing Retaining Tab To Remove Bulb Holder
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release retaining tab - **arrow** - and remove bulb holder - **1** -.
- Twist and remove bulb from bulb holder.

Installing

Install in reverse order of removal.

Rear lights in rear fender - Avant, assembly

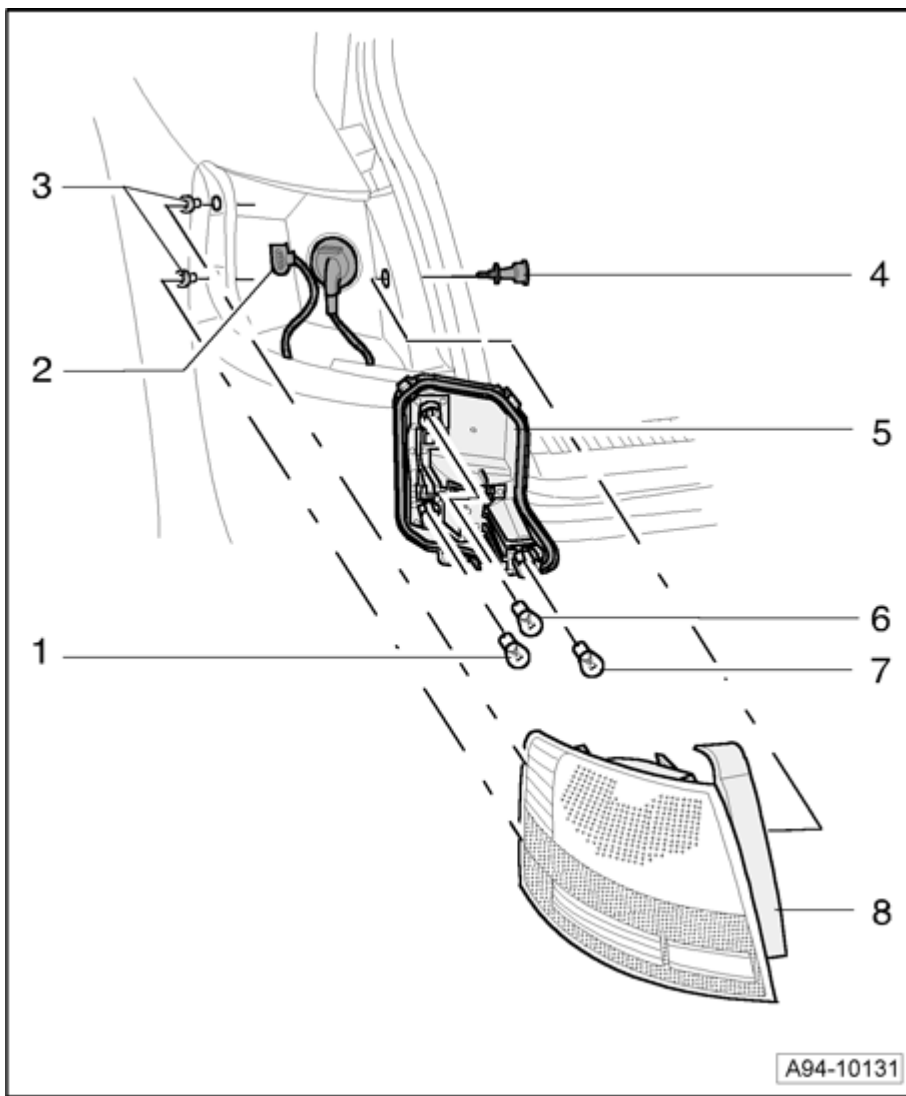


Fig. 434: Rear Lights In Rear Fender - Avant, Assembly
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Turn signal lamp bulb

- 12 V, 21 W

2 - Electrical connector

3 - Clip nut

- 2x

4 - Bolt - 3.5 Nm

- With hex socket (17 mm)

5 - Bulb holder

- Removing and installing --> **Rear light/bulb carrier in rear fender - Avant, removing and installing**

6 - Brake/taillamp bulb

- 12 V, 21 W

7 - Backup lamp bulb

- 12 V, 21 W

8 - Housing

- Removing and installing --> **Rear light/bulb carrier in rear fender - Avant, removing and installing**

Rear light/bulb carrier in rear fender - Avant, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

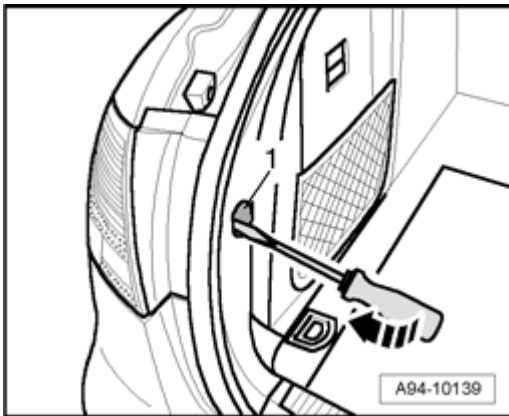


Fig. 435: Unclipping Plug From Luggage Compartment Trim Using A Screwdriver
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Unclip plug - 1 - from luggage compartment trim - **arrow** - using a screwdriver.

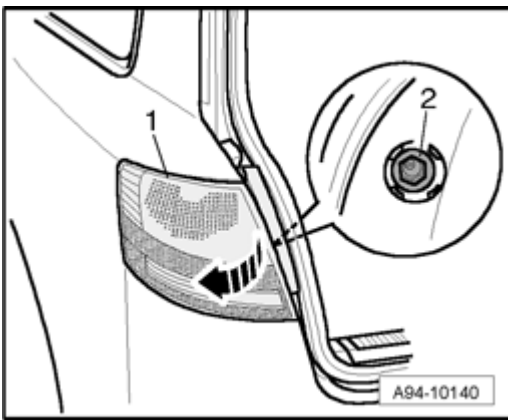


Fig. 436: Identifying Screw And Rear Light
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - 2 -.
- Swivel rear light - 1 - outwards - **arrow** - , and at the same time disengage retaining pins from body.
- Disconnect electrical connection at bulb carrier.

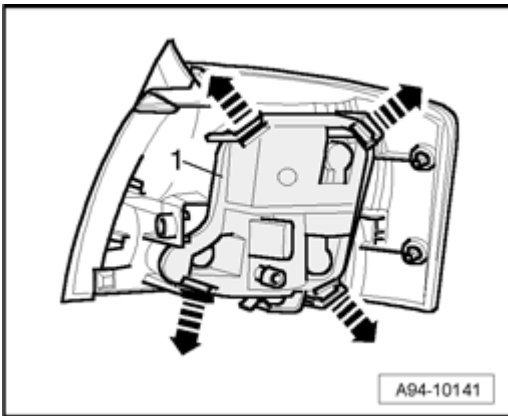


Fig. 437: Pressing Apart Retaining Tabs And Removing Bulb Carrier From Rear Light
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Press apart retaining tabs - **arrows** - and remove bulb carrier - 1 - from rear light.
- Turn bulbs to remove them from their holders.

Installing

Install in reverse order of removal, noting the following:

NOTE:

- Ensure seal between body and rear light housing seals completely.
- Fit rear light in position on body and press retaining pins into holes.
- Tighten screw.

Tightening torque

Component - fastener	Nm
Rear light to body - nut	3.5

Rear lights in rear lid - Avant, assembly

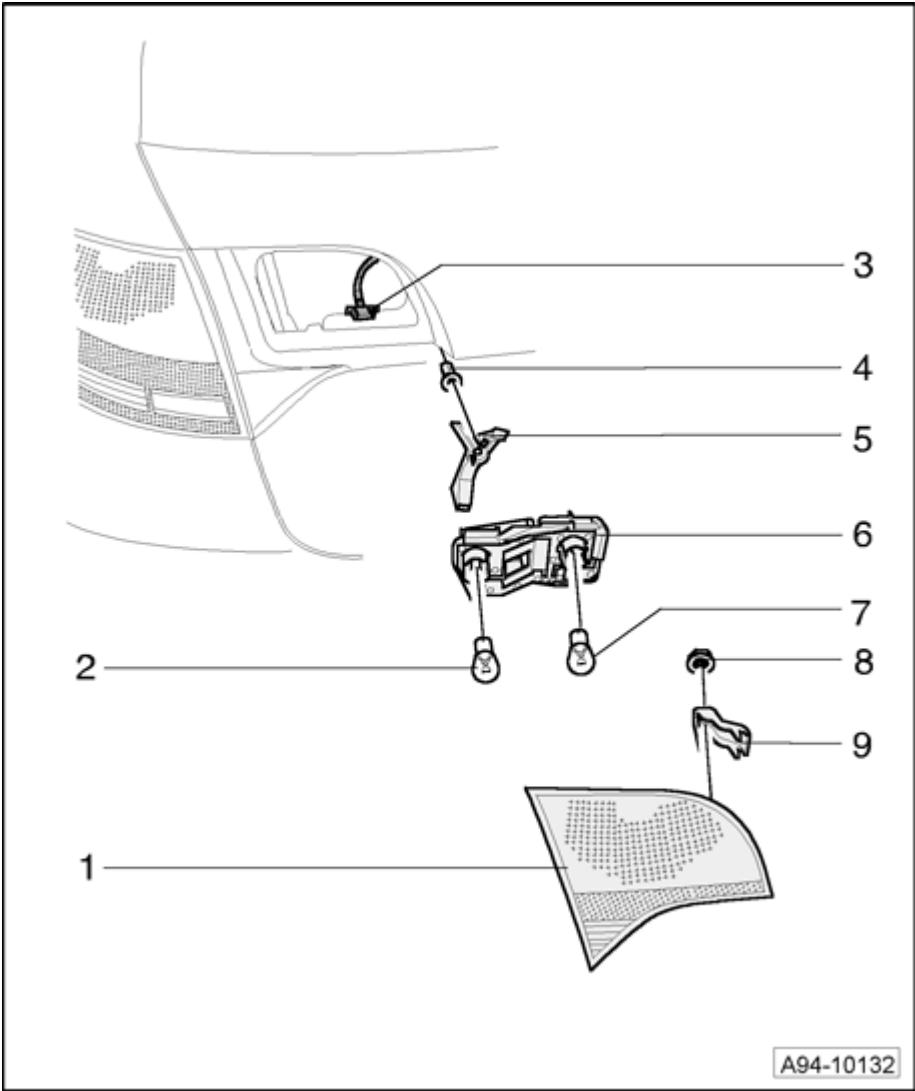


Fig. 438: Rear Lights In Rear Lid - Avant, Assembly
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Housing

- Removing and installing --> **Rear light/bulb carrier in rear lid - Avant, removing and installing**

2 - Taillamp bulb

- 12 V, 21 W

3 - Electrical connector

4 - Nut - 3.5 Nm

5 - Retainer

- For securing housing to rear lid

6 - Bulb holder

- For tail light/rear Fog lamp bulb
- Removing and installing --> **Taillamp/rear fog lamp bulb, removing and installing**

7 - Taillamp/rear fog lamp bulb

- 12 V, 21 W

8 - Nut - 3.5 Nm

9 - Retainer bracket

- For securing bulb holder and housing to rear lid

Rear light/bulb carrier in rear lid - Avant, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

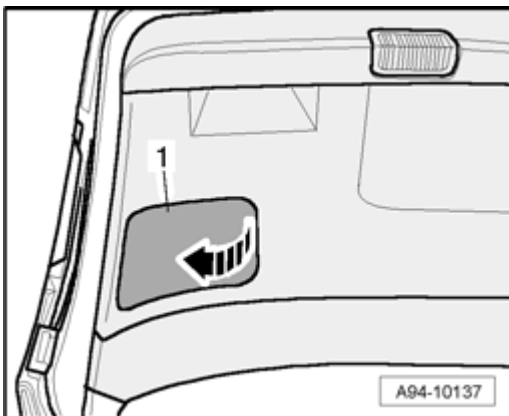


Fig. 439: Unclipping Plug From Luggage Compartment Trim
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Unclip plug - **1** - from luggage compartment trim - **arrow** - using a small screwdriver.

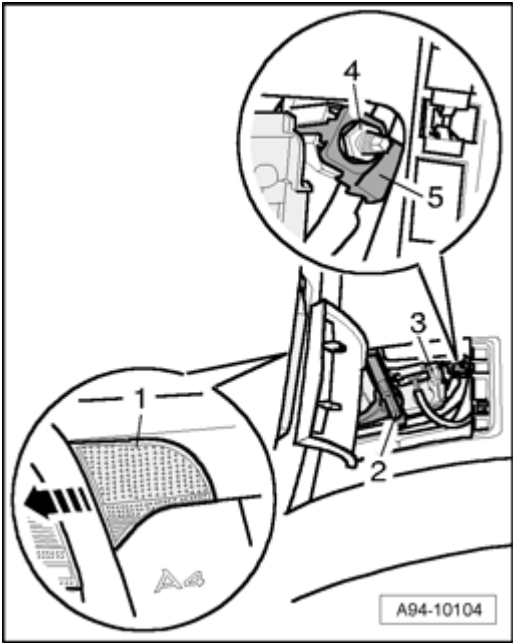


Fig. 440: Identifying Nuts, Bulb Holder, And Rear Light
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove nut - **2** - and remove retainer bracket and bulb holder - **3** -.
- Remove nut - **4** - and remove inner rear light - **1** - from outside in direction of - **arrow** -.
- Pull the retainer - **5** - out of body opening.

Tightening torques

Component - fastener	Nm
Retainer to housing - nut	3.5
Retainer bracket to housing - nut	3.5

Taillamp/rear fog lamp bulb, removing and installing

Removing

- Turn light switch to position "0".

- CAUTION:**
- Switch off all electrical consumers.
 - Switch ignition off and remove ignition key.

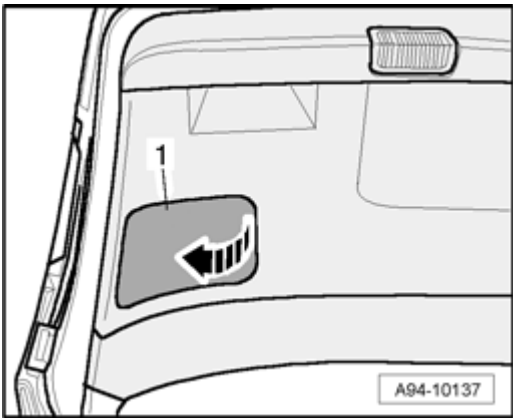


Fig. 441: Unclipping Plug From Luggage Compartment Trim
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Unclip plug - **1** - from luggage compartment trim - **arrow** - using a small screwdriver.

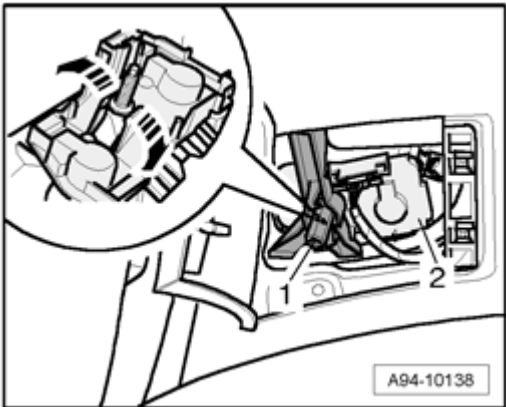


Fig. 442: Identifying Nut, Bulb Holder, And Retaining Tabs
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove nut - **1** - and detach retainer bracket.
- Remove bulb holder - **2** - from housing (press apart retaining tabs - **arrows** -).
- Screw bulb out of bulb holder.

Installing

Install in reverse order of removal, noting the following:

- Insert new bulb in bulb holder.

Tightening torque

Component - fastener	Nm
Retainer bracket to housing - nut	3.5

HIGH-MOUNT BRAKE LAMP - THROUGH 10.04

High-mount brake lamp - Sedan, removing and installing

Removing

NOTE:

- High-mount brake lamp is accessible from luggage compartment via panel opening below rear shelf.
- Complete high-mount brake lamp must be replaced if LEDs are inoperative.
- Do not press brake pedal.

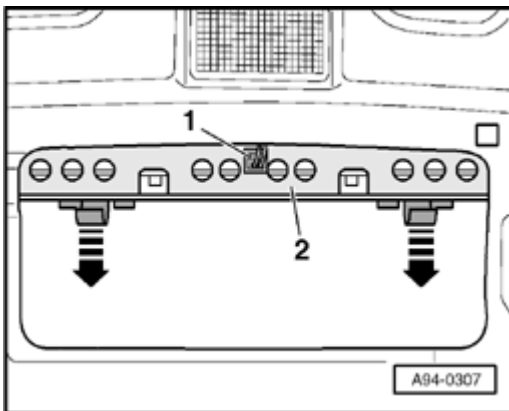


Fig. 443: Identifying Electrical Connection, High-Mount Brake Lamp, And Retaining Clips
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **1** - at high-mount brake lamp - **2** -.
- Pry off retaining clips in direction of - **arrows** -.
- Pull high-mount brake lamp downwards out of opening.

Installing

Install in reverse order of removal.

High-mount brake lamp - Avant, removing and installing

NOTE:

- Complete high-mount brake lamp must be replaced if LEDs are inoperative.

Special tools, testers and auxiliary items required

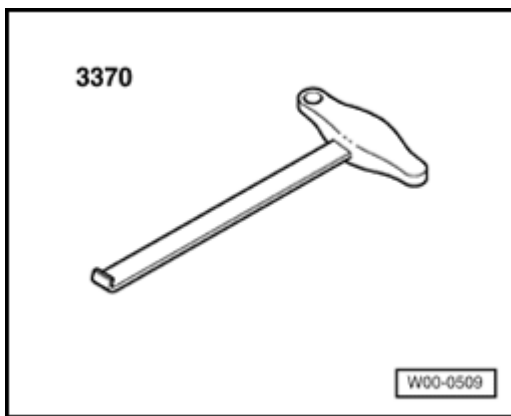


Fig. 444: Identifying Special Hook 3370

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Hook 3370

Removing

- Do not press brake pedal.

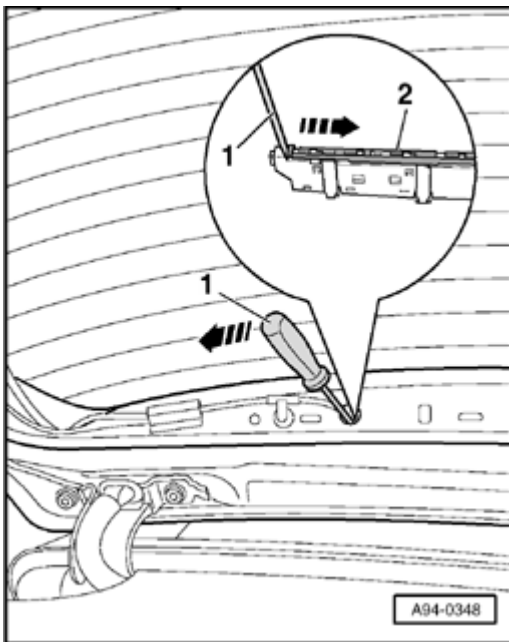


Fig. 445: Releasing Retaining Rail Of Spring Tabs Towards Right By Pressing Screwdriver Handle Left

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove upper rear lid trim --> **70 - INTERIOR TRIM** .
- Insert screwdriver - **1** - into hole in rear lid through which wire is routed to high-mount brake lamp.
- Release retaining rail - **2** - of spring tabs towards right - **arrow in detail view** - by pressing screwdriver handle firmly to left - **arrow** -.

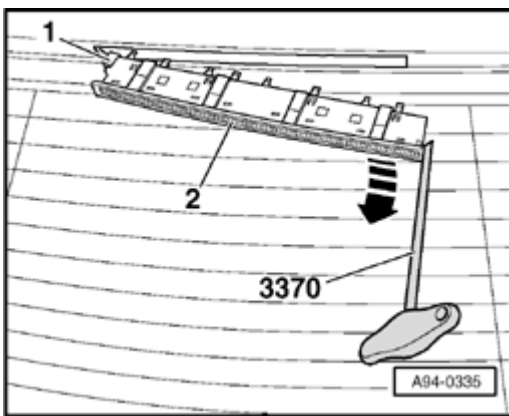


Fig. 446: Identifying High-Mount Brake Lamp And Electrical Connection
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Starting on the right, use hook 3370 to pull high-mount brake lamp - 2 - out of rear lid opening - **arrow** -.
- Disconnect electrical connection - 1 -.
- Remove fastening elements for high-mount brake lamp (5x) out of rear lid.

Installing

Install in reverse order of removal, noting the following:

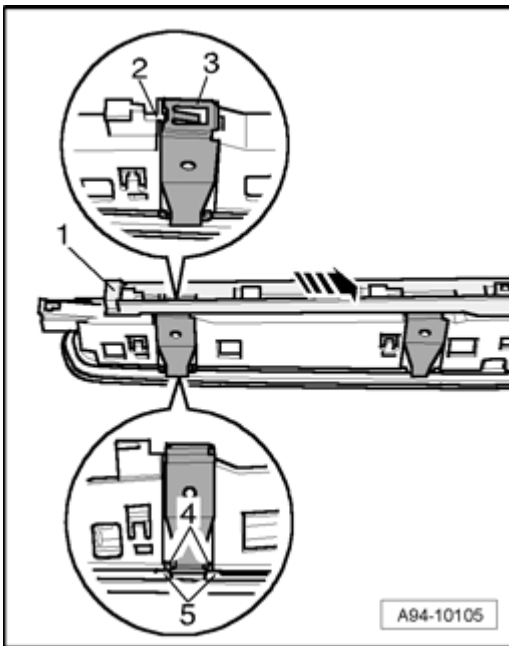


Fig. 447: Identifying Lug, Spring Clip, Catches, Housing Guides, And Retaining Rail
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Position spring clips on high-mount brake lamp housing such that lug - 2 - faces recess on spring clip - 3 -.

- Ensure spring clip catches - **4** - engage in guides - **5** - on housing.
- Position retaining rail - **1** - onto housing and lock in direction of - **arrow** -.
- The spring clips are locked in place by the retaining rail.
- Connect electrical connector and push high-mount brake lamp into rear lid opening until it engages audibly.

HIGH-MOUNT BRAKE LAMP - FROM 11.04

High-mount brake lamp - Sedan, removing and installing

NOTE:

- High-mount brake lamp is accessible from luggage compartment via panel opening below rear shelf.
- Complete high-mount brake lamp must be replaced if LEDs are inoperative.

Removing

- Do not press brake pedal.

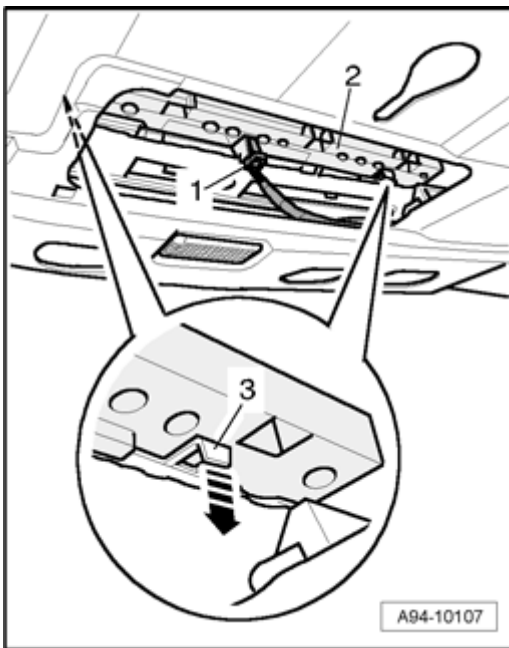


Fig. 448: Identifying Electrical Connection, High-Mount Brake Lamp, And Retaining Clips
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **1** - at high-mount brake lamp - **2** -.
- Release retaining clips - **3** - in direction of - **arrow** -.
- Pull high-mount brake lamp downwards out of opening.

Installing

Install in reverse order of removal.

High-mount brake lamp - Avant, removing and installing

NOTE:

- Complete high-mount brake lamp must be replaced if LEDs are inoperative.

Special tools, testers and auxiliary items required

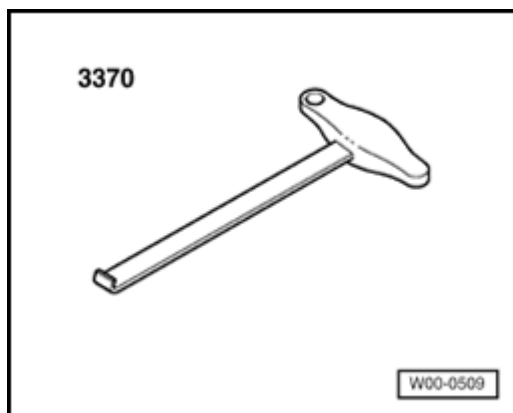


Fig. 449: Identifying Special Hook 3370

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Hook 3370

Removing

- Do not press brake pedal.
- Remove upper rear lid trim --> **70 - INTERIOR TRIM** .

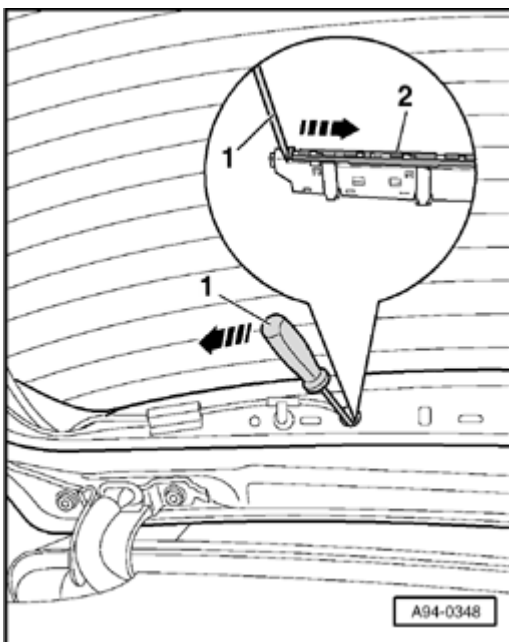


Fig. 450: Releasing Retaining Rail Of Spring Tabs Towards Right By Pressing Screwdriver Handle Left
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Insert screwdriver - 1 - into hole in rear lid through which wire is routed to high-mount brake lamp.
- Release retaining rail - 2 - of spring tabs towards right - **arrow in detail view** - by pressing screwdriver handle firmly to left - **arrow** -.

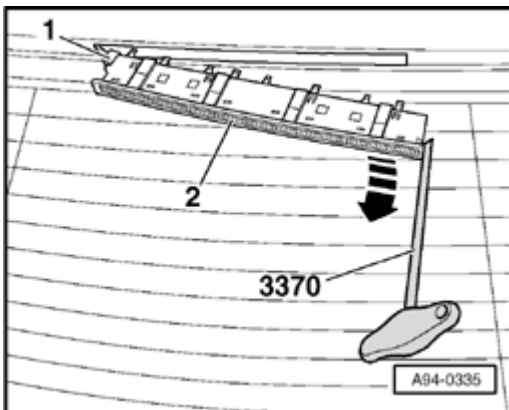


Fig. 451: Identifying High-Mount Brake Lamp And Electrical Connection
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Starting on the right, use hook 3370 to pull high-mount brake lamp - 2 - out of rear lid opening - **arrow** -.
- Disconnect electrical connection - 1 -.
- Remove fastening elements for high-mount brake lamp (4x) out of rear lid.

Installing

Install in reverse order of removal, noting the following:

12:18:34 AM	Page 142	

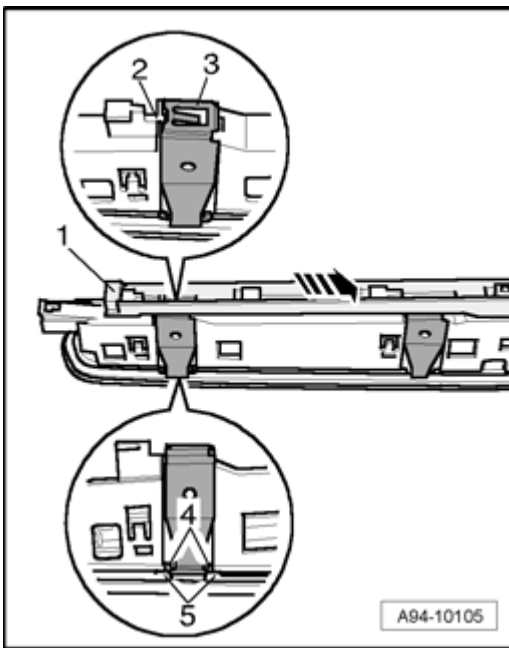


Fig. 452: Identifying Lug, Spring Clip, Catches, Housing Guides, And Retaining Rail
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Position spring clips on high-mount brake lamp housing such that lug - 2 - faces recess on spring clip - 3 - .
- Ensure spring clip catches - 4 - engage in the guides - 5 - on the housing.
- Position retaining rail - 1 - onto housing and lock in direction of - **arrow** - .
- The spring clips are locked in place by the retaining rail.
- Connect electrical connector and push high-mount brake lamp into rear lid opening until it engages audibly.

LICENSE PLATE LAMP

License plate lamp, removing and installing

Removing

- Turn light switch to position "0".

CAUTION:

- Switch off all electrical consumers.
- Switch ignition off and remove ignition key.

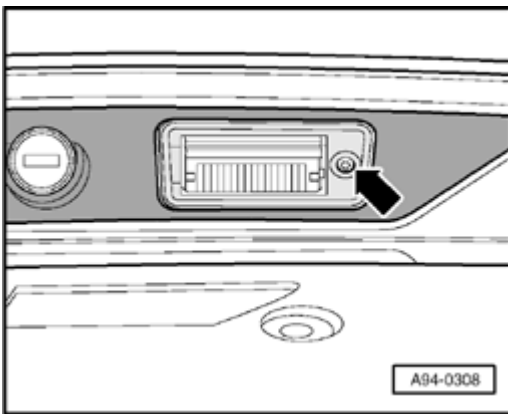


Fig. 453: Identifying Bolt In Handle Recess
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - **arrow** - in handle trim.
- Lever bulb holder out of handle trim.
- Remove bulb (12 V, 5 W) from bulb holder.

Installing

Install in reverse order of removal.

STEERING COLUMN SWITCH MODULE

General information

The steering column switches, spiral spring and Steering Angle Sensor G85 are integrated into a single assembly (module) along with the Steering Column Electronic Systems Control Module J527.

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the steering column electronics. Always read the owners manual and review applicable system functions.

NOTE:

- **Additional information:**

Owners Manual

Self Study Program - Course Number 991103 "2002 Audi A4 Technical Features"

Self Study Program - Course Number 991503 "The 2005 Audi A4"

Wiring Diagrams Component Locations

On Board Diagnostic (OBD), function

The Steering Column Electronic Systems Control Module J527 is controlled by an internal microprocessor with

12:18:34 AM	Page 144	

On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot steering column electronics malfunctions by performing OBD program with VAS 5051 Vehicle Diagnostic Testing and Information system or VAS 5052 Vehicle Testing and Service System.

Steering column switch module, assembly

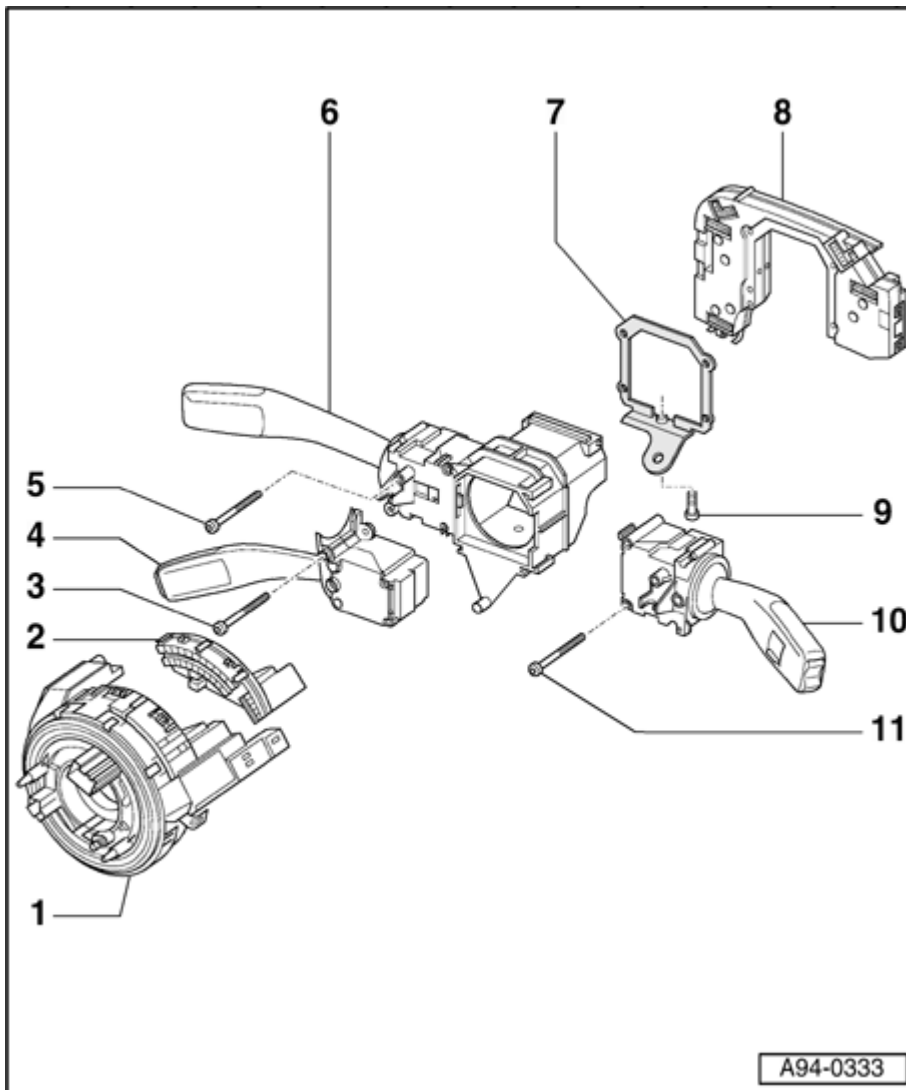


Fig. 454: Steering Column Switch Module (SCSM), Assembly Overview
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Spiral spring

CAUTION: Position of spiral spring must not be changed once removed.

- Removing and installing --> **Spiral spring, removing and installing**

2 - Steering Angle Sensor G85

- Removing and installing --> **Steering Angle Sensor G85 , removing and installing**

3 - Socket head bolt

4 - Cruise Control Switch E45

- Removing and installing --> **Cruise Control Switch E45 , removing and installing**

5 - Socket head bolt

6 - Turn Signal Switch E2

- Removing and installing --> **Turn Signal Switch E2 , removing and installing**

7 - Retaining clip

8 - Steering Column Electronic Systems Control Module J527

- Removing and installing --> **Steering Column Electronics Systems Control Module J527 , removing and installing**
- Multi-pin connector assignments --> **Steering Column Electronics Systems Control Module J527 , front multi-pin connector assignments**

9 - Clamping bolt - 3 Nm

10 - Windshield Wiper/Washer Switch E22

- Removing and installing --> **Windshield Wiper/Washer Switch E22 , removing and installing**

11 - Socket head bolt

Steering column switch module, removing and installing

Special tools, testers and auxiliary items required

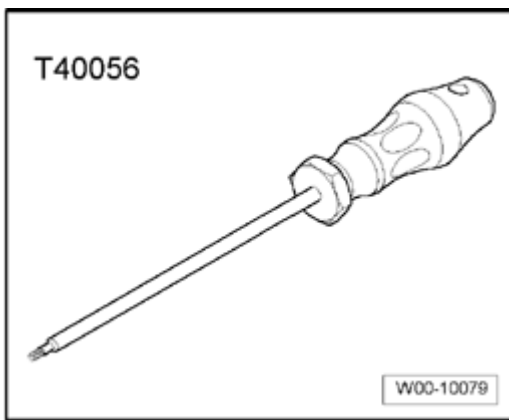


Fig. 455: Torx Screwdriver T8 T 40056

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Special screwdriver T8 T40056 or equivalent "Torx - 8"

Removing

NOTE:

- Should any steering column switches require replacement, follow applicable component "Replacement" procedure using VAS 5051/5051 in operating mode "Guided Fault Finding".
- Move steering wheel down and to rear as far as possible; make use of the full range of the steering column adjuster.

CAUTION: Special safety precautions apply to vehicles equipped with airbags. Heed all **WARNINGS** pertaining to airbag servicing --> **69 - PASSENGER PROTECTION - AIRBAGS, SEAT BELTS**

- Remove airbag and steering wheel --> **69 - PASSENGER PROTECTION - AIRBAGS, SEAT BELTS** .

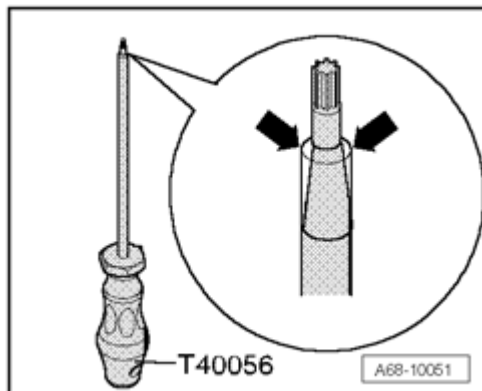


Fig. 456: Identifying Ground Down Torx Screwdriver T8 T40056 Shoulder

Courtesy of VOLKSWAGEN UNITED STATES, INC.

NOTE:

- Due to manufacturing tolerances, it may not be possible to insert Special Screwdriver T8 T40056 all the way into access hole in switch module. In these cases, grind down shoulder of screwdriver in areas indicated - arrows -.

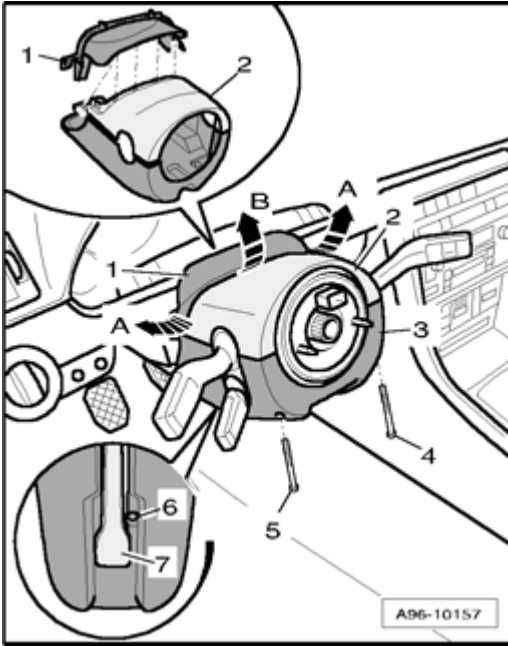


Fig. 457: Identifying Screws, Hex Socket Head Bolt, Trim Cover, And Upper Steering Column Trim
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Use Special Screwdriver T8 T40056 to remove screws - 4 - and - 5 -.
- Remove hex socket head bolt - 6 -.
- Release trim cover - 1 - on upper steering column trim - 2 - using a small screwdriver - arrows A and B - .
-
- Separate upper trim - 2 - from lower trim - 3 - and remove upper trim.
- Remove release lever for steering column adjustment - 7 - and guide out lower trim.

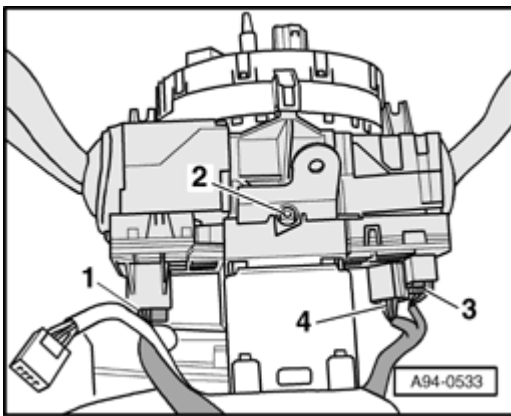


Fig. 458: Identifying Screw And Electrical Connection
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screw - 2 -.

CAUTION: Before disconnecting electrical connections at module, discharge any static electricity by briefly grasping hold of door striker plate or similar, grounded article on vehicle.

- Disconnect electrical connections - 1 - and - 3 -.
- Disconnect electrical connection - 4 -.

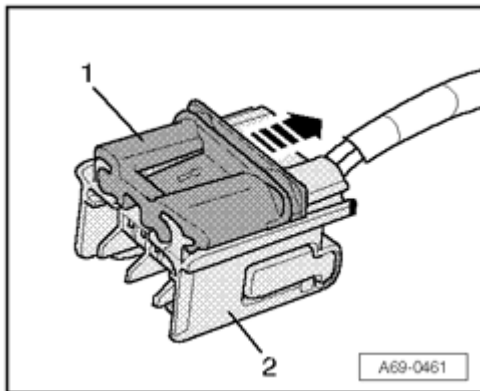


Fig. 459: Disengage Connector Lock To Release Connector
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disengage connector lock - 1 - in direction of - **arrow** - in order to release connector - 2 -.
- Carefully remove steering column switch module.

Installing

Install in reverse order of removal, noting the following:

- Ensure all fasteners and electrical connectors are properly connected and locked into place.

- Insert upper steering column trim in hooks for bottom trim, press both sections together and tighten screws.
- Install steering wheel and drivers airbag --> **69 - PASSENGER PROTECTION - AIRBAGS, SEAT BELTS** .

Tightening torques

Component - fastener	Nm
Steering column switch module - bolt	3
Trim for steering column switch - screw	1

Spiral spring, removing and installing

Special tools, testers and auxiliary items required

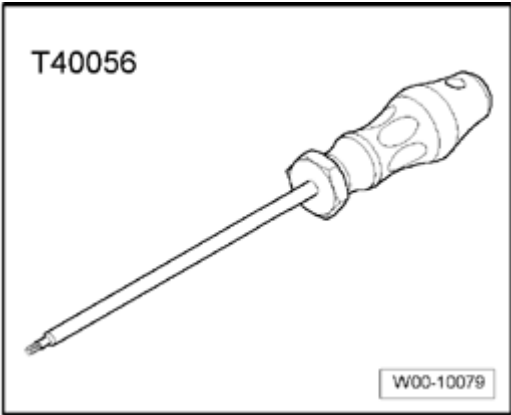


Fig. 460: Torx Screwdriver T8 T 40056
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Special Screwdriver T8 T40056 or equivalent "Torx - 8"

Removing

- CAUTION:**
- Ensure steering is in straight ahead and centered prior to removing spiral spring.
 - Position of spiral spring must not be changed once removed.

- Move steering wheel down and to rear as far as possible; make use of the full range of the steering column adjuster.

CAUTION: Special safety precautions apply to vehicles equipped with airbags. Heed all **WARNINGS** pertaining to airbag servicing --> **69 - PASSENGER PROTECTION - AIRBAGS, SEAT BELTS**

- Remove airbag and steering wheel --> **69 - PASSENGER PROTECTION - AIRBAGS, SEAT BELTS** .

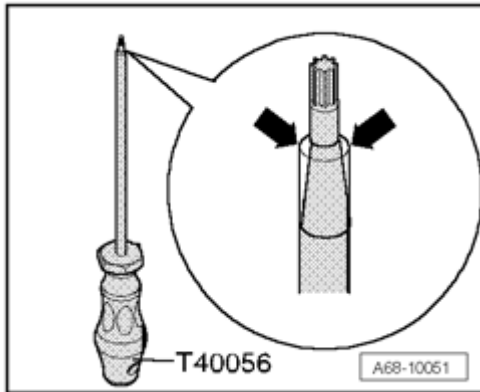


Fig. 461: Identifying Ground Down Torx Screwdriver T8 T40056 Shoulder
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

NOTE:

- Due to manufacturing tolerances, it may not be possible to insert Special Screwdriver T8 T40056 all the way into access hole in switch module. In these cases, grind down shoulder of screwdriver in areas indicated - arrows -.

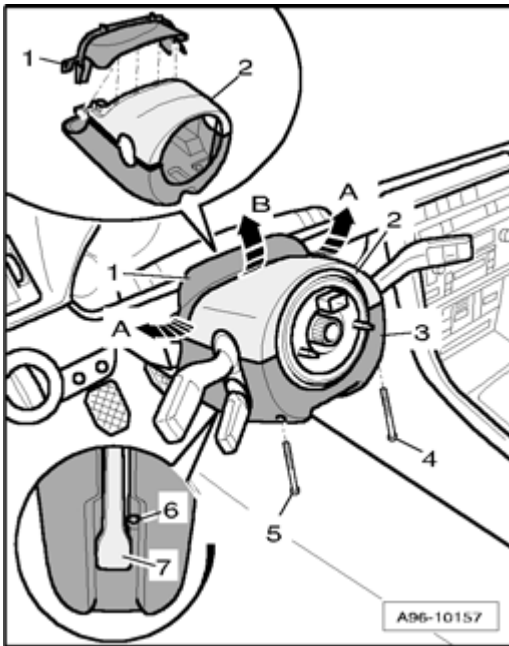


Fig. 462: Identifying Screws, Hex Socket Head Bolt, Trim Cover, And Upper Steering Column Trim
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Use Special Screwdriver T8 T40056 to remove screws - 4 - and - 5 -.
- Remove hex socket head bolt - 6 -.

- Release trim cover - **1** - on upper steering column trim - **2** - using a small screwdriver - **arrows A and B** -
-
- Separate upper trim - **2** - from lower trim - **3** - and remove upper trim.
- Remove release lever for steering column adjustment - **7** - and guide out lower trim.
- Disconnect upper electrical connection at spiral spring.

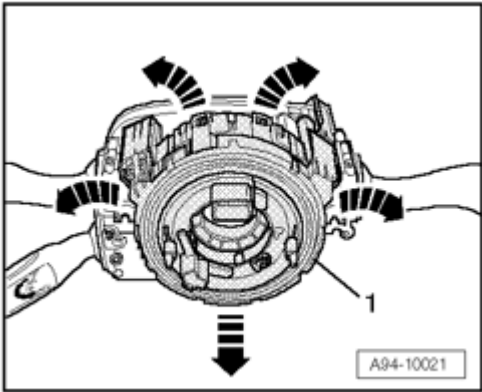


Fig. 463: Releasing Clip Fasteners To Remove Spiral Spring From Steering Column Switch Module
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully release clip fasteners - **arrows** - and remove spiral spring - **1** - from steering column switch module.

NOTE: • **Steering column switch module shown removed for illustration purposes.**

Installing

Install in reverse order of removal, noting the following:

- Ensure all fasteners and electrical connectors are properly connected and locked into place.
- Insert upper steering column trim into bottom trim, press both sections together and tighten screws.
- Install steering wheel and airbag --> **69 - PASSENGER PROTECTION - AIRBAGS, SEAT BELTS** .

Tightening torques

Component - fastener	Nm
Steering column switch module - bolt	3
Trim for steering column switch - screw	1

Steering Angle Sensor G85 , removing and installing

NOTE:

- Should the Steering Angle Sensor G85 require replacement, follow applicable component "Replacement" as well as "zero - calibrate" procedure using VAS 5051/5051 in operating mode "Guided Fault Finding".

Removing

- Remove spiral spring --> Spiral spring, removing and installing.

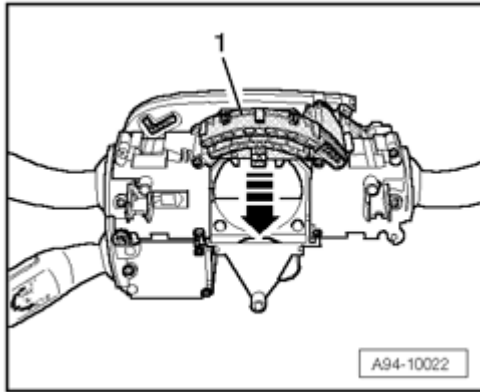


Fig. 464: Removing Steering Angle Sensor G85 From Steering Column Electronic Systems Control Module J527

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove Steering Angle Sensor G85 - **1** - from Steering Column Electronic Systems Control Module J527 in direction of - **arrow** -.

Installing

Install in reverse order of removal, noting the following:

- Perform "zero - calibrate" procedure using VAS 505/5052 in operating mode "Guided Fault Finding".

Steering Column Electronics Systems Control Module J527 , removing and installing

Removing**NOTE:**

- Should the Steering Column Electronic Systems Control Module J527 require replacement, follow applicable component "Replacement" procedure using VAS 5051/5051 in operating mode "Guided Fault Finding".
- Remove steering column switch module --> Steering column switch module, removing and installing.

CAUTION:

- Ensure steering is in straight ahead and centered prior to removing spiral spring.

- Position of spiral spring must not be changed once removed.

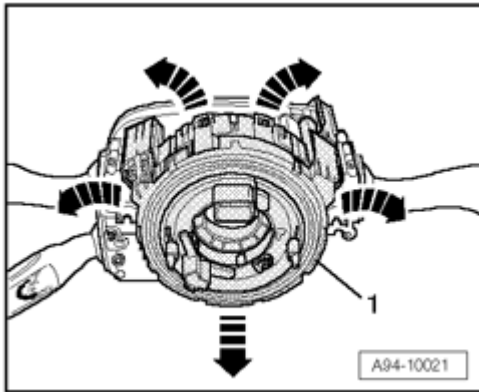


Fig. 465: Releasing Clip Fasteners To Remove Spiral Spring From Steering Column Switch Module
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully release clip fasteners - **arrows** - and remove spiral spring - **1** - from steering column switch module.

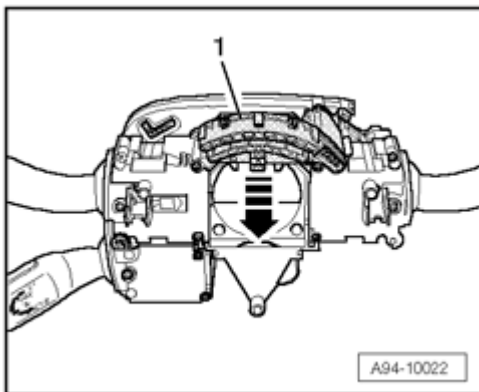


Fig. 466: Removing Steering Angle Sensor G85 From Steering Column Electronic Systems Control Module J527
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove Steering Angle Sensor G85 - **1** - from Steering Column Electronic Systems Control Module J527 in direction of - **arrow** -.

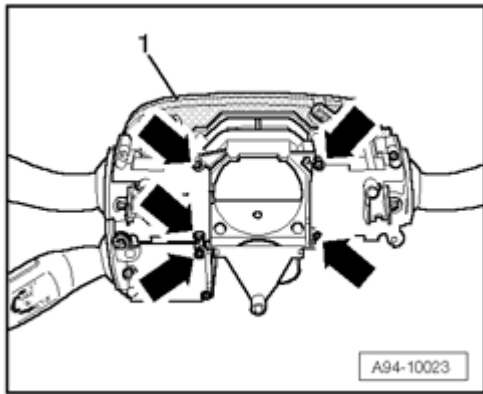


Fig. 467: Removing Screws, And Steering Column Electronics Systems Control Module J527 From Steering Column Switch Module
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Steering Column Electronics Systems Control Module J527 - **1** - from steering column switch module.

Installing

Install in reverse order of removal, noting the following:

- Ensure all fasteners and electrical connectors are properly connected and locked into place.
- Install steering column switch module **Installing**.

Tightening torques

Component	Nm
Steering column switch module to Steering Column Electronics Systems Control Module J527	0.6
Intermittent wiper switch E22 to Steering Column Electronics Systems Control Module J527	0.6
Cruise Control Switch E45 to Steering Column Electronic Systems Control Module J527	0.6

Steering Column Electronics Systems Control Module J527 , front multi-pin connector assignments

The Steering Column Electronics Systems Control Module J527 is part of the steering column switch module. It receives signals e.g. from the steering column switches.

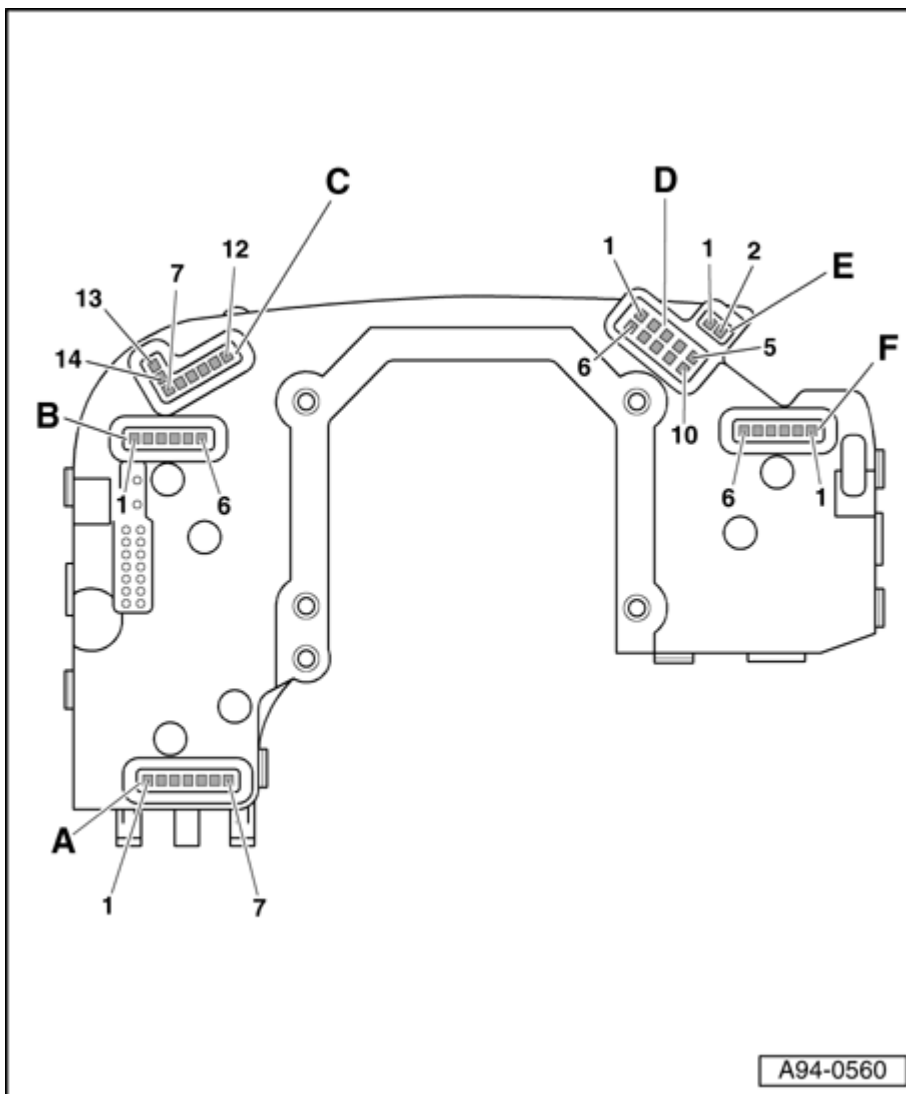


Fig. 468: Steering Column Electronics Systems Control Module J527 , Front Multi-Pin Connector Assignments

Courtesy of VOLKSWAGEN UNITED STATES, INC.

A - Cruise control system multi-pin connector

1 - Ground (GND) (-)

2 - Set

3 - Distance

4 - 12 V voltage supply

5 - Activation/touch function "Off"

- 6 - Acceleration/deceleration
- 7 - Locked "Off"
- B - Turn signal switch multi-pin connector
 - 1 - Ground (GND) (-)
 - 2 - Radio telephone (special-purpose vehicles)
 - 3 - Alarm (special-purpose vehicles)
 - 4 - Vacant
 - 5 - Headlamp flasher/light control
 - 6 - Turn signal indicators
- C - Multi-function steering wheel / Tiptronic / heated steering wheel multi-pin connector
 - 7 Tiptronic ""
 - 8 - Multi-function steering wheel "+" voltage supply
 - 9 - Multi-function steering wheel data
 - 10 - Tiptronic "+"
 - 11 - Multi-function steering wheel dimmer
 - 12 - Tiptronic earth
 - 13 - Heated steering wheel "+"
 - 14 - Heated steering wheel ""
- D - Steering angle sensor multi-pin connector
 - 1 - Light barrier 5
 - 2 - Light barrier 3
 - 3 - Light barrier 1
 - 4 - 12 V voltage supply

5 -5 V voltage supply

6 - Light barrier 6

7 - Light barrier 4

8 - Light barrier 2

9 - Steering angle sensor Ground (GND) (-)

10 - Light barrier 7

E - Horn switch multi-pin connector

1 - Horn Ground (GND) (-)

2 - Horn

F - Wiper switch multi-pin connector

1 - Ground (GND) (-)

2 - Intermittent wipe potentiometer

3 - Multi-function Indicator (On-board computer)

4 - Vacant

5 - Wash

6 - Wipe

Steering Column Electronics Systems Control Module J527 , rear multi-pin connector assignments

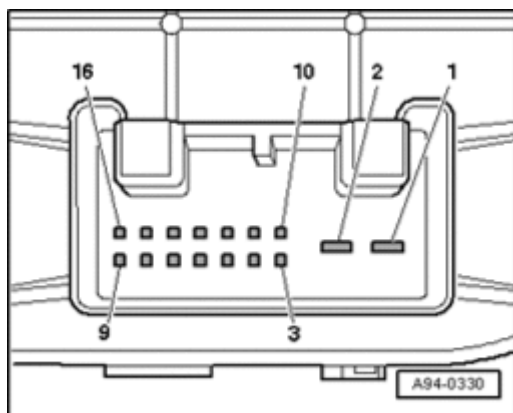


Fig. 469: Steering Column Electronic Systems Control Module (Rear) Assembly Overview

Multi-pin connector, 16-pin

- 1. Ground (GND) (-)
- 2. Terminal 30 (B+)
- 3. CAN-Bus Powertrain (shielding)
- 4. Vacant
- 5. Cruise control locked Off
- 6. Alarm (special-purpose vehicles)
- 7. Radio telephone (special-purpose vehicles)
- 8. CAN-Bus Low (convenience)
- 9. CAN-Bus High (convenience)
- 10. CAN-Bus High - Powertrain (shielding
- 11. CAN- Bus Low - Powertrain (shielding
- 12. Ignition lock terminal 75
- 13. Ignition lock terminal 15
- 14. Ignition lock S contact
- 15. Ignition lock terminal 50
- 16. Ignition lock terminal P

Turn Signal Switch E2 , removing and installing

Removing

- Remove steering column switch module --> Steering column switch module, removing and installing.

- CAUTION:**
- Ensure steering is in straight ahead and centered prior to removing spiral spring.
 - Position of spiral spring must not be changed once removed.

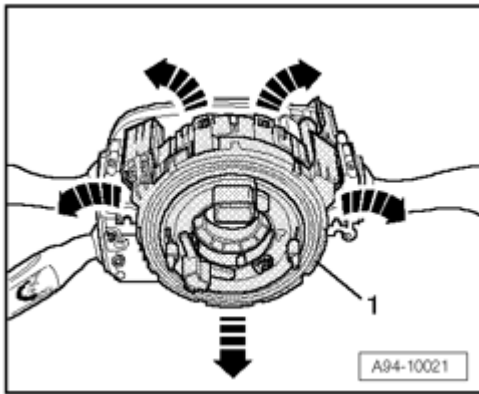


Fig. 470: Releasing Clip Fasteners To Remove Spiral Spring From Steering Column Switch Module
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully release clip fasteners - **arrows** - and remove spiral spring - **1** - from steering column switch module.

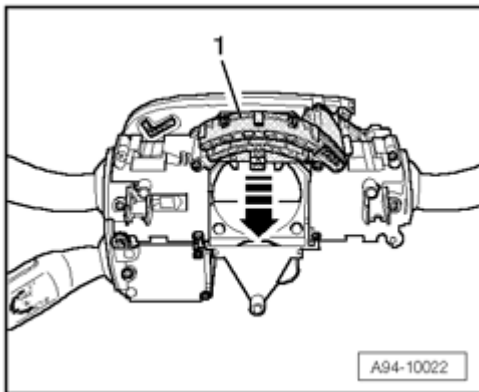


Fig. 471: Removing Steering Angle Sensor G85 From Steering Column Electronic Systems Control Module J527
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove Steering Angle Sensor G85 - **1** - from Steering Column Electronic Systems Control Module J527 in direction of - **arrow** -.

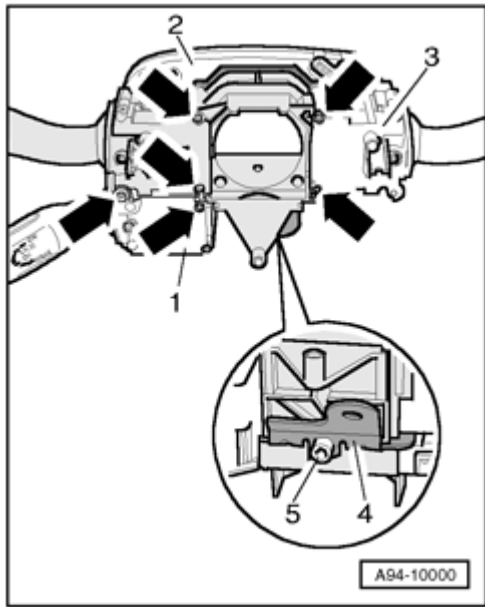


Fig. 472: Identifying Screws, Steering Column Electronics Systems Control Module, Windshield Wiper/Washer Switch, And Retaining Clip
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove the Steering Column Electronics Systems Control Module J527 - **2** - and Windshield Wiper/Washer Switch E22 - **3** - from steering column switch module.
- Remove Cruise Control Switch E45 - **1** - from steering column switch module.
- Remove screw - **5** - and remove retaining clip - **4** -.

Installing

Further Install in reverse order of removal, noting the following:

- Ensure all fasteners and electrical connectors are properly connected and locked into place.
- Install steering column switch module **Installing**.

Tightening torques

Component	Nm
Steering column switch module to Steering Column Electronics Systems Control Module J527	0.6
Intermittent wiper switch E22 to Steering Column Electronics Systems Control Module J527	0.6
Cruise Control Switch E45 to Steering Column Electronic Systems Control Module J527	0.6

Cruise Control Switch E45 , removing and installing

Removing

- Remove steering column switch module --> Steering column switch module, removing and installing.

CAUTION:

- Ensure steering is in straight ahead and centered prior to removing spiral spring.
- Position of spiral spring must not be changed once removed.

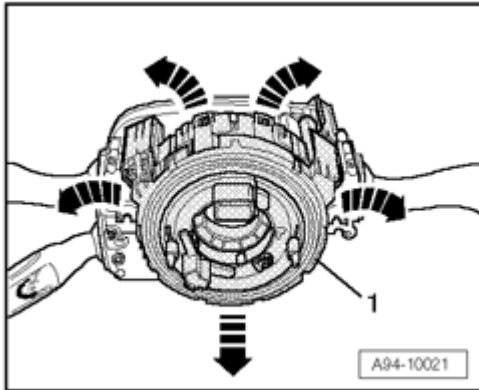


Fig. 473: Releasing Clip Fasteners To Remove Spiral Spring From Steering Column Switch Module
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully release clip fasteners - **arrows** - and remove spiral spring - **1** - from steering column switch module.

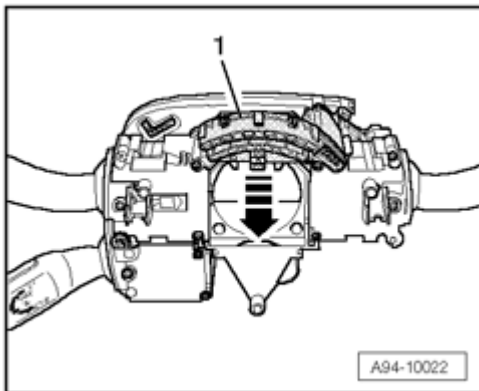


Fig. 474: Removing Steering Angle Sensor G85 From Steering Column Electronic Systems Control Module J527
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove Steering Angle Sensor G85 - **1** - from Steering Column Electronic Systems Control Module J527 in direction of - **arrow** -.

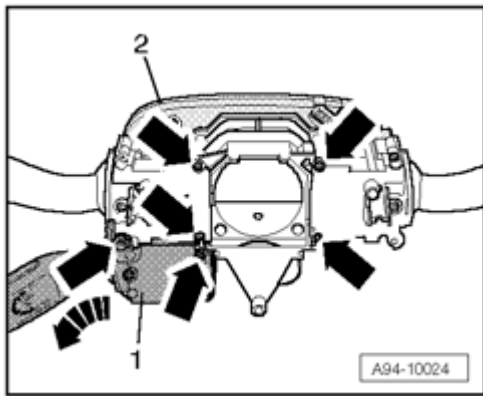


Fig. 475: Identifying Screws, Steering Column Electronics Systems Control Module, And Cruise Control Switch

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** -.
- Remove Steering Column Electronics Systems Control Module J527 - **2** - from steering column switch module.
- Remove Cruise Control Switch E45 - **1** - from steering column switch module.

Installing

Further Install in reverse order of removal, noting the following:

- Ensure all fasteners and electrical connectors are properly connected and locked into place.
- Install steering column switch module **Installing**.

Tightening torques

Component	Nm
Steering column switch module to Steering Column Electronics Systems Control Module J527	0.6
Intermittent wiper switch E22 to Steering Column Electronics Systems Control Module J527	0.6
Cruise Control Switch E45 to Steering Column Electronic Systems Control Module J527	0.6

Windshield Wiper/Washer Switch E22 , removing and installing

Removing

- Remove steering column switch module --> **Steering column switch module, removing and installing.**

CAUTION:

- Ensure steering is in straight ahead and centered prior to removing spiral spring.
- Position of spiral spring must not be changed once removed.

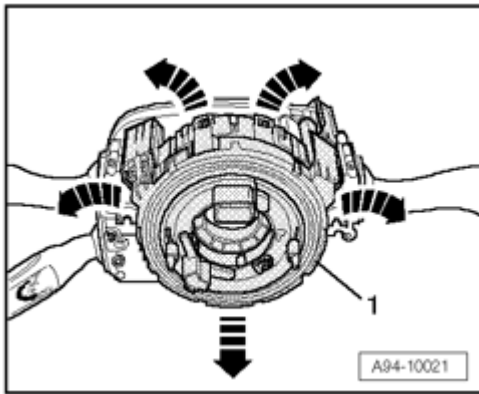


Fig. 476: Releasing Clip Fasteners To Remove Spiral Spring From Steering Column Switch Module
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully release clip fasteners - **arrows** - and remove spiral spring - **1** - from steering column switch module.

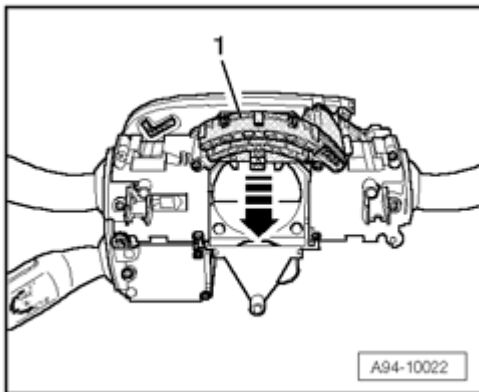


Fig. 477: Removing Steering Angle Sensor G85 From Steering Column Electronic Systems Control Module J527
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove Steering Angle Sensor G85 - **1** - from Steering Column Electronic Systems Control Module J527 in direction of - **arrow** -.

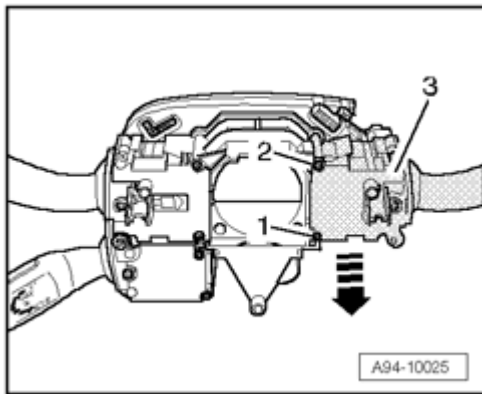


Fig. 478: Identifying Screws And Windshield Wiper/Washer Switch
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - 1 - and - 2 -.
- Remove Windshield Wiper/Washer Switch E22 - 3 - from steering column switch module - **arrow** -.

Installing

Further Install in reverse order of removal, noting the following:

- Ensure all fasteners and electrical connectors are properly connected and locked into place.
- Install steering column switch module **Installing**.

Tightening torque

Component	Nm
Windshield Wiper/Washer Switch E22 to Steering Column Electronics Systems Control Module J527	0.6

IGNITION/STARTER SWITCH AND LOCK CYLINDER

Lock cylinder, removing and installing

- NOTE:
- The immobilizer reading coil is integrated with the lock cylinder and cannot be serviced or replaced individually.
 - Should the reading coil malfunction, replace complete lock cylinder. .
 - Observe reading coil specifications when replacing lock cylinders --> Reader coil, replacing.

Removing

- Remove steering column switch module --> **Steering column switch module, removing and installing**
- Disconnect electrical connection at reader coil.

Vehicles with automatic transmission:

- Move selector lever to "P".

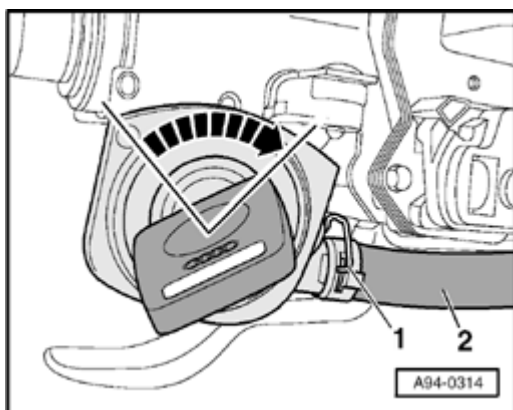


Fig. 479: Turn Ignition Key To "Ignition On" Position
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn ignition key to "Ignition ON" position - **arrow** -.
- Then lift interlock lever - **1** - slightly and pull locking cable - **2** - out of ignition lock housing.

All models:

NOTE:

- The spare key is necessary for removing the lock cylinder, because the following sequence can only be performed using an ignition key with flat key grip, i.e. without illumination and without remote control.

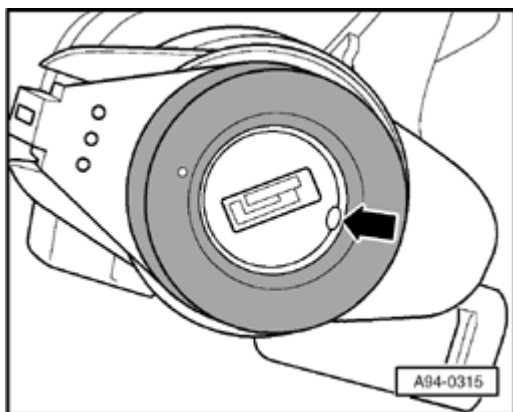


Fig. 480: Aligning Recess In Trim
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Turn spare key to ignition "ON" position, thus aligning recess in trim - **arrow** - with hole in ignition lock.

NOTE:

- The illustration shows the correct lock position without the ignition key.

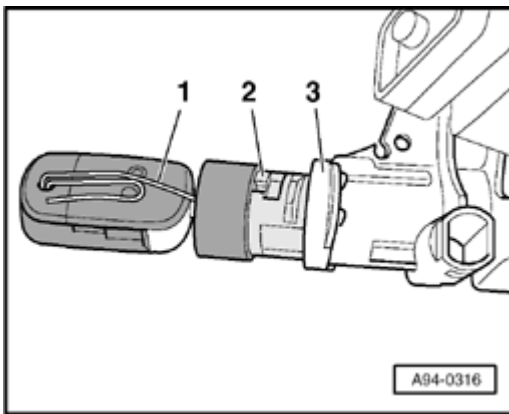


Fig. 481: Identifying Steel Wire In Hole, Lock Cylinder And Reader Coil Out Of Steering Lock Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Insert a steel wire or pin (approx. 1.5 mm) in hole - **1** - as far as it will go, at the same time pulling lock cylinder - **2** - with reader coil out of steering lock housing - **3** -.

CAUTION: Steering lock must not be operated without the lock cylinder, otherwise it will lock completely. The entire steering lock must then be replaced.

NOTE:

- When replacing lock cylinder, note immobilizer reader coil specifications --
 > Reader coil, replacing.

Installing

Install in reverse order of removal, noting the following:

- Insert spare ignition key into lock cylinder and turn to ignition "on" position.

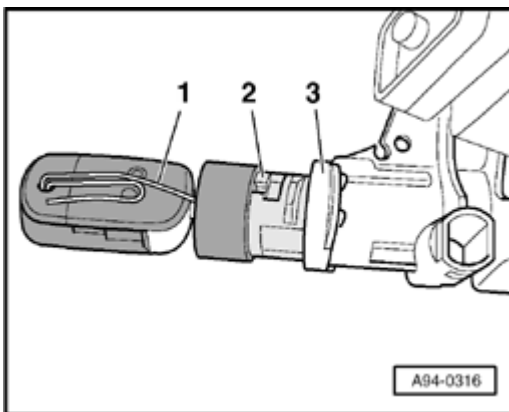


Fig. 482: Identifying Steel Wire In Hole, Lock Cylinder And Reader Coil Out Of Steering Lock Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Re-insert steel wire/pin - **1** - in hole on end face as far as it will go.

- Insert lock cylinder - **2** - with reader coil in steering lock housing - **3** -.
- Then pull out steel wire and press in lock cylinder firmly until catch engages audibly.
- Connect electrical connector on immobilizer reader coil.

Vehicles with automatic transmission:

- Turn ignition key to "Ignition ON" position.
- Slide locking cable - **2** - into ignition lock housing until it engages audibly.

Ignition/starter switch, removing and installing

Removing

- Remove steering column switch module --> **Steering column switch module, removing and installing.**
- Disconnect electrical connection at immobilizer reader coil.

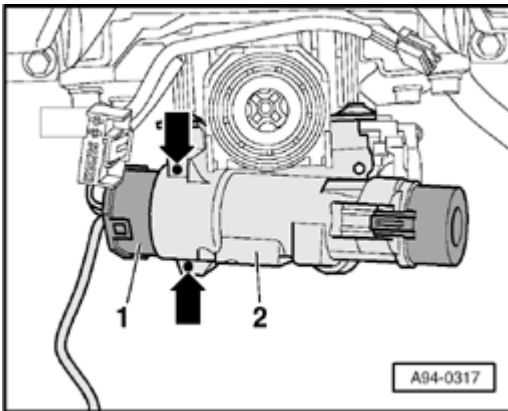


Fig. 483: Locating Screws , Ignition/Starter Switch And Steering Lock Housing
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **1** - at ignition/starter switch.
- Remove sealing paint from both securing screws - **arrows** -.
- Loosen bolts - **arrows** - (do not remove) and pull ignition/starter switch out of steering lock housing - **2** -.

Installing

Install in reverse order of removal, noting the following:

NOTE:

- Ensure that the ignition/starter switch and lock cylinder are in the same position, e.g. "Ignition ON" , when installing.
- Apply sealing paint to bolts - arrows - at steering lock housing - **2** -.
- Install steering column switch module **Installing.**

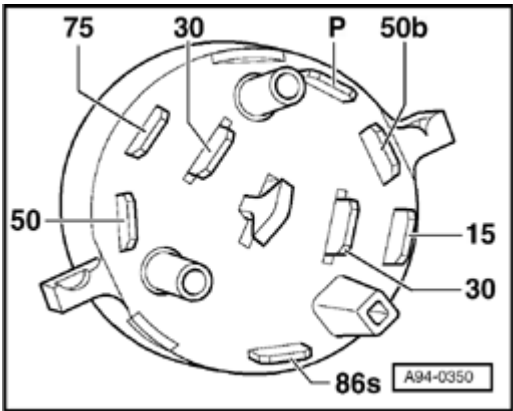


Fig. 484: Connection Assignment At Ignition/Starter Switch
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- 15 - Terminal 15
- 30 - Terminal 30 (B+)
- 50 - Terminal 50
- 50b - Terminal 50b
- 75 - Terminal 75
- 86s - Terminal 86s
- P - Park position

PARKING AID SYSTEM

General information

At time of publication, the optional parking aid system (also know as "Acoustic park assist" or " Parktronic ^(R) ") is only available as a 4-channel system that monitors the area to the rear of the vehicle.

The system is activated automatically whenever the vehicle is shifted into reverse.

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the parking aid system. Always read the owners manual and review applicable system functions and operation limitations.

NOTE: • **Additional information:**

Owners Manual

On Board Diagnostic (OBD), functions

Parking aid system functions are controlled by the Parking Aid Control Module J446 which has On Board Diagnostic (OBD) capability. If malfunctions occur in monitored components, Diagnostic Trouble Codes (DTC) will be stored in memory.

Troubleshoot parking aid system malfunctions by performing OBD program using Vehicle Diagnosis, Testing and Information System VAS 5051/5052 in operating mode "Guided Fault Finding".

Parking aid system, component overview

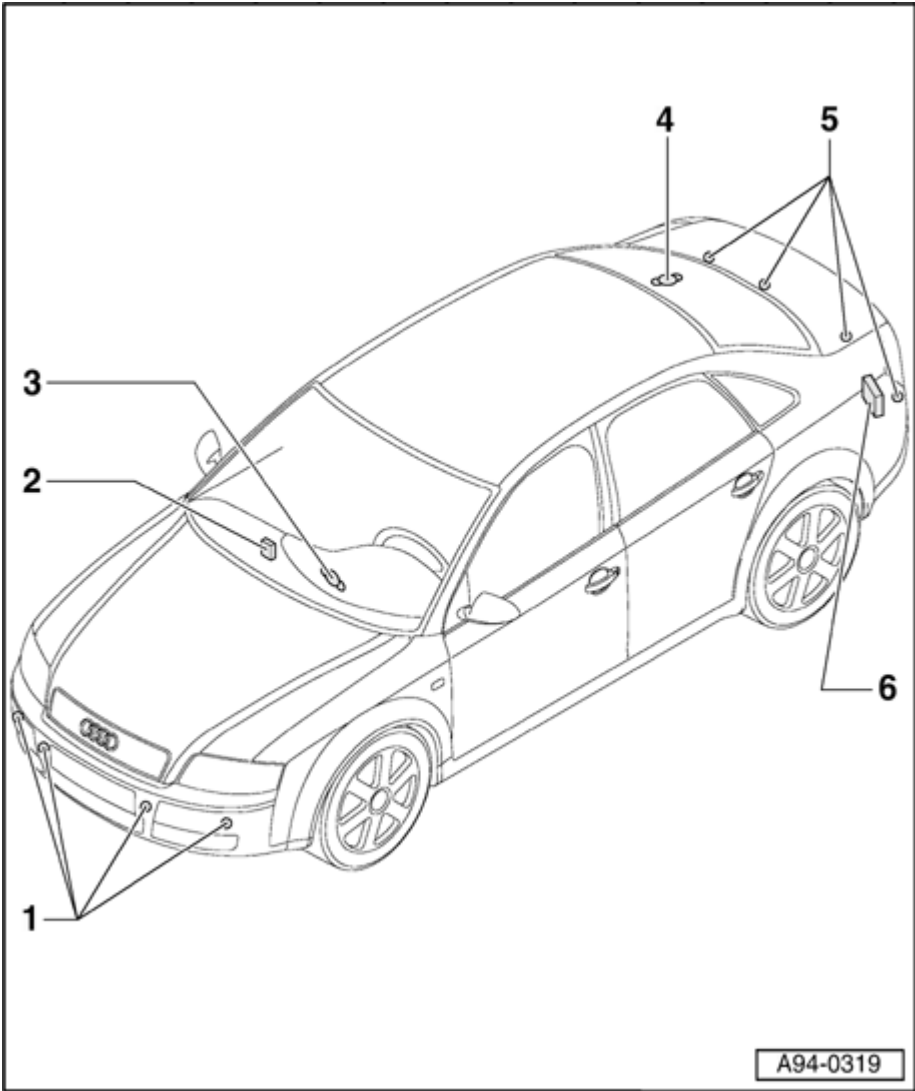


Fig. 485: Parking Aid System, Component Overview
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Front sensors not applicable to USA/Canada

2 - Not applicable to USA/Canada

3 - Not applicable to USA/Canada

4 - Rear Parking Aid Warning Buzzer H15

Sedan:

- Under rear parcel shelf
- Removing and installing --> **Rear Parking Aid Warning Buzzer H15 - Sedan, removing and installing**

Avant:

- In luggage compartment rear left under side trim
- Removing and installing --> **Rear Parking Aid Warning Buzzer H15 - Avant, removing and installing**

5 - Rear Parking Aid Sensors

- In rear bumper
- Removing and installing --> **Rear parking aid sensors, removing and installing**

6 - Parking Aid Control Module J446

- in left rear luggage compartment under side trim
- Removing and installing --> **Parking Aid Control Module J446 , removing and installing**

Parking Aid Control Module J446 , removing and installing

Removing

- Location: At left rear or luggage compartment below side trim/taillamp.
 - Remove left luggage compartment side trim --> **70 - INTERIOR TRIM** .

Sedan:

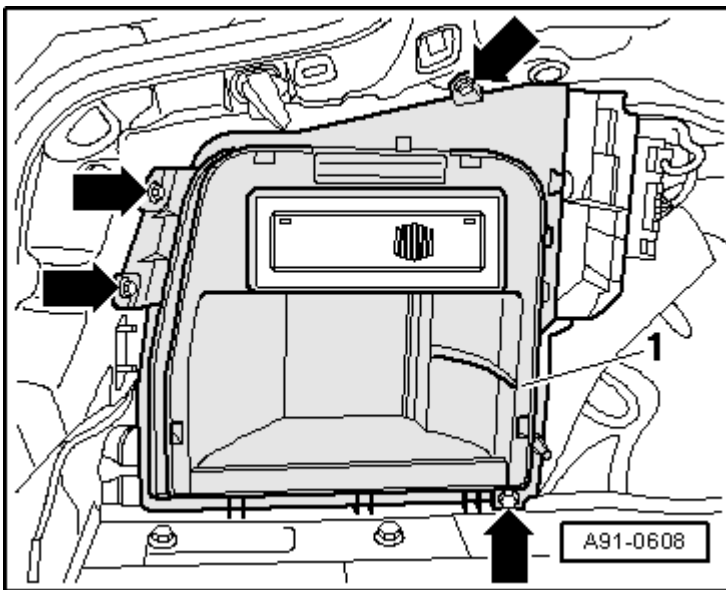


Fig. 486: Removing Screws And Base Mount
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** - and remove base mount - **1** -.

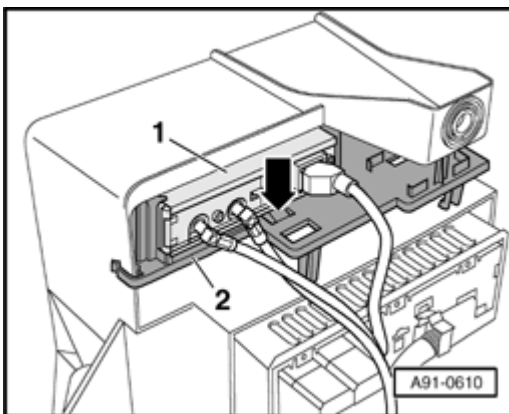


Fig. 487: Disconnecting Electrical Connections And Antenna Wiring At Rear Of Navigation Interface
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Where applicable, disconnect electrical connections and antenna wiring at rear of Navigation Interface R94 - **1** -.

NOTE: • Disregard - **2** -.

Avant:

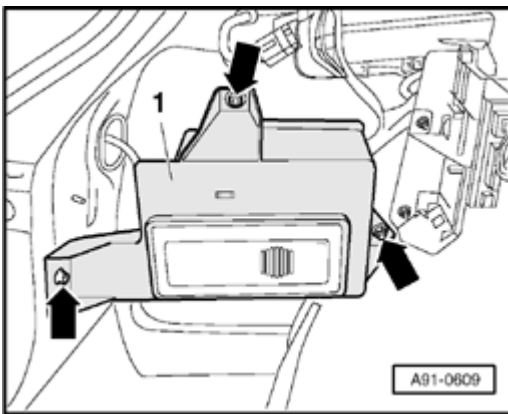


Fig. 488: Removing Screws And Base Mount

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove screws - **arrows** - and remove base mount - **1** -.

All:

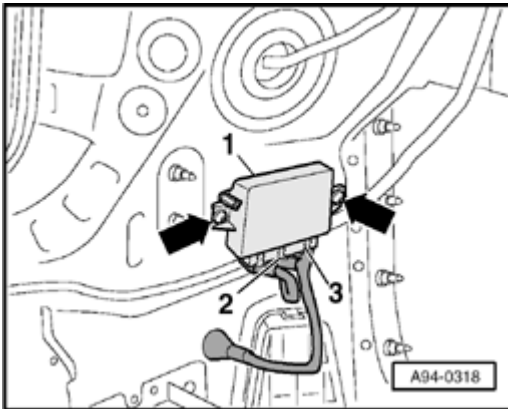


Fig. 489: Identifying Electrical Connections, Screws, And Parking Aid Control Module

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connections - **2** - and - **3** -.
- Remove screws - **arrows** -.
- Remove Parking Aid Control Module J446 - **1** -.

NOTE:

- **Sedan installation is illustrated.**

Installing

Install in reverse order of removal.

Tightening torque

12:18:35 AM	Page 173	

Component - fastener	Nm
Parking Aid Control Module J446 to body - screw	1.8

Rear Parking Aid Warning Buzzer H15 - Sedan, removing and installing

- Location: At right rear under rear parcel shelf

Removing

- Remove rear parcel shelf --> **70 - INTERIOR TRIM** .
- Disconnect electrical connection.
- Remove expander clip threaded pin using a TORX screwdriver.

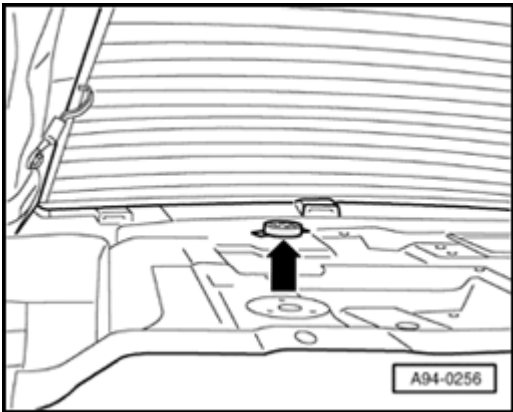


Fig. 490: Removing Warning Buzzer
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove warning buzzer - **arrow** - upward out of lower luggage compartment partition.

Installing

Install in reverse order of removal, noting the following:

- Press threaded pins into expander clips.
- Install rear parcel shelf --> **70 - INTERIOR TRIM** .

Rear Parking Aid Warning Buzzer H15 - Avant, removing and installing

- Location: In left rear luggage compartment under side trim

Removing

- Remove left side trim --> **70 - INTERIOR TRIM** .
- Disconnect electrical connection.
- Remove expander clip threaded pin using a TORX screwdriver.

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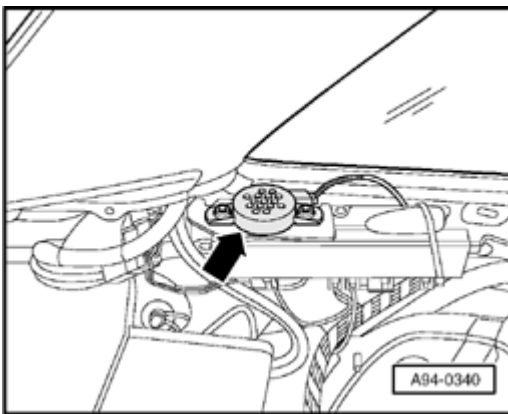


Fig. 491: Removing Warning Buzzer

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove warning buzzer - **arrow** - upward.

Installing

Install in reverse order of removal, noting the following:

- Press threaded pins into expander clips.
- Install left side trim --> **70 - INTERIOR TRIM** .

Rear parking aid sensors, removing and installing

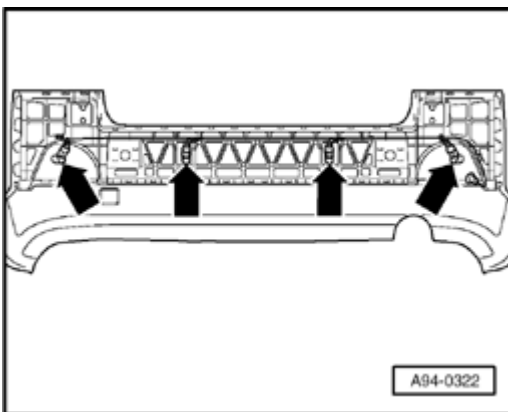


Fig. 492: Locating Parking Aid Sensors In Rear Bumper Cover

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Location: In rear bumper cover - **arrows** -.

Removing

- Remove rear bumper cover --> **63 BUMPER**

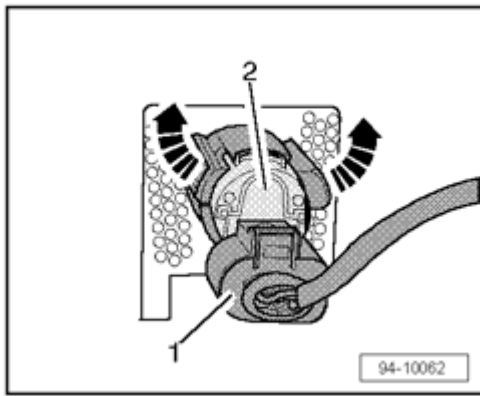


Fig. 493: Identifying Electrical Connection, Catches, And Sensor
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect applicable electrical connection - **1** - from sensor.
- Press both catches - **arrows** - to side and press sensor - **2** - inward from outside.

Installing

Install in reverse order of removal, noting the following:

- Install rear bumper cover --> **63 BUMPER** .

AUTOMATIC HEADLAMP RANGE CONTROL

General information

The automatic headlight aim control system is installed on vehicles with High Intensity Gas Discharge (HID) headlamps.

The system contains the following components:

- Level control system sensors at front and rear axles
- Headlight range control module
- Headlight beam adjusting motors integrated with headlight units

When driving, the system automatically adapts the headlight beam inclination dependent on vehicle suspension movement and load. Headlight glare to oncoming traffic is minimized.

On Board Diagnostic (OBD), function

The headlight range control module is controlled by a microprocessor and has On Board Diagnostic (OBD) capability. If malfunctions occur in any of the system components, corresponding DTCs are stored in the Diagnostic Trouble Code (DTC) memory.

Before performing any troubleshooting or inspection, always begin by checking for DTCs using the On Board Diagnostic (OBD) program. DTCs stored in memory are retrieved/checked with VAS 5051/5052 tester in mode "Guided Fault Finding".

Automatic headlamp range control, component overview

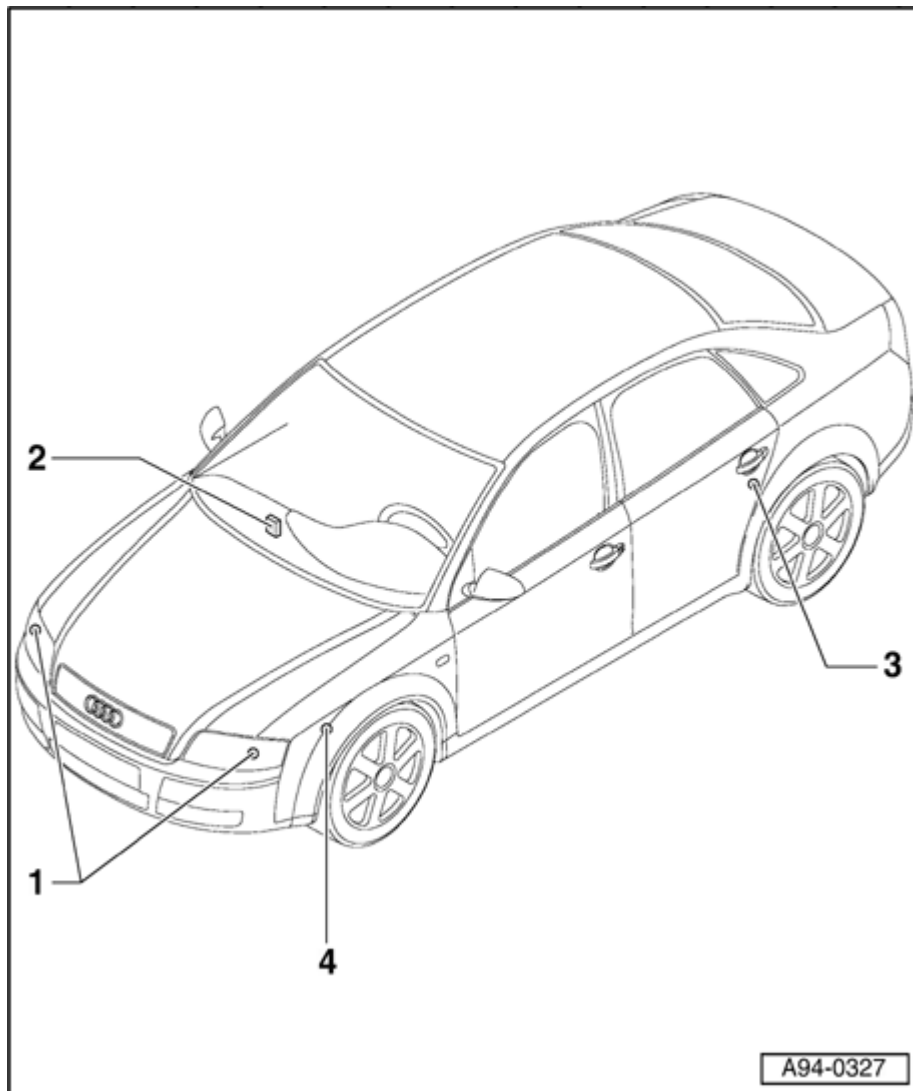


Fig. 494: Automatic Headlamp Range Control, Component Overview
Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Headlamp beam adjustment motors

- Left Headlamp Beam Adjustment Motor V48
- Right Headlamp Beam Adjustment Motor V49

2 - Headlamp Range Control Module J431

- Location: behind glove box at instrument panel support
- Removing and installing --> **Headlamp Range Control Module J431 , removing and installing**

3 - Left Rear Level Control System Sensor G76

- Location: at left rear suspension ink
- Removing and installing --> **42 - REAR SUSPENSION**

4 - Left Front Level Control System Sensor G78

- Location: at left front track control link
- Removing and installing --> **40 - FRONT SUSPENSION**

Headlamp Range Control Module J431 , removing and installing

Removing

- Location: at instrument panel carrier behind glove box
- Remove glove box --> **68 - INTERIOR EQUIPMENT** .

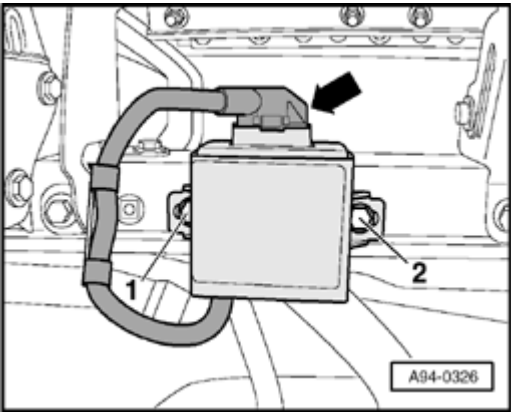


Fig. 495: Identifying Connector, Bolts, And Headlight Range Control Module
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connection - **arrow** -.
- Remove screws - **1** - and - **2** - and remove module.

Installing

Install in reverse order of removal.

Tightening torque

Component - fastener			Nm
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