

38 GEARS, CONTROL

OIL PAN, ATF STRAINER AND MECHATRONICS UNIT, REMOVING AND INSTALLING

Oil pan, ATF strainer and mechatronics unit, removing and installing

CAUTION: Do not run engine or tow vehicle with oil pan removed or when there is no ATF in the transmission.

NOTE:

- General repair instructions --> General repair instructions.
- Read the rules when working on the automatic transmission --> Read the rules.
- Always replace mechatronics unit if contaminated or faulty.
- Lightly lubricate O-rings and seals with ATF. Other types of lubricant will cause the transmission hydraulics to malfunction.

Oil pan, removing and installing

Special tools, testers and auxiliary items required

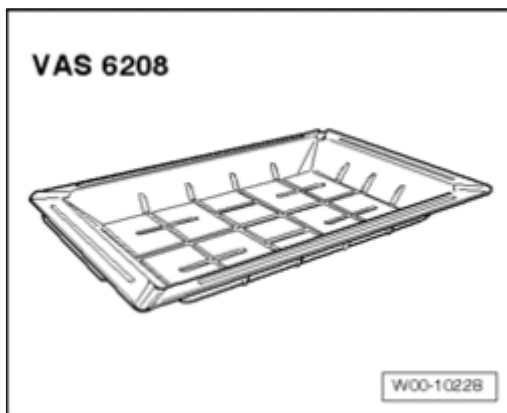


Fig. 167: Drip Tray For VAS 6100, VAS 6208
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Drip tray for workshop hoist VAS 6208
- Safety goggles

Removing

NOTE:

- General repair instructions --> General repair instructions.
- Read the rules when working on the automatic transmission --> Read the rules.

- Activate jacking mode --> **43 - SELF LEVELING SUSPENSION** .

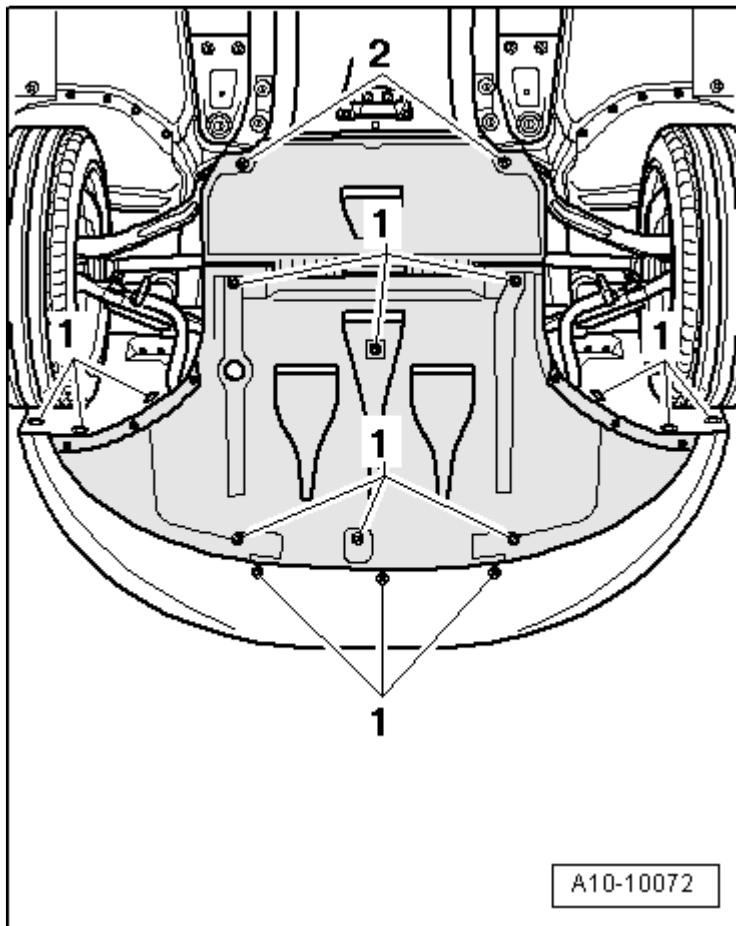


Fig. 168: Identifying Quick-Release Fasteners & Noise Insulation
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Release quick-release fasteners - 1 - and - 2 - and detach noise insulation panels.

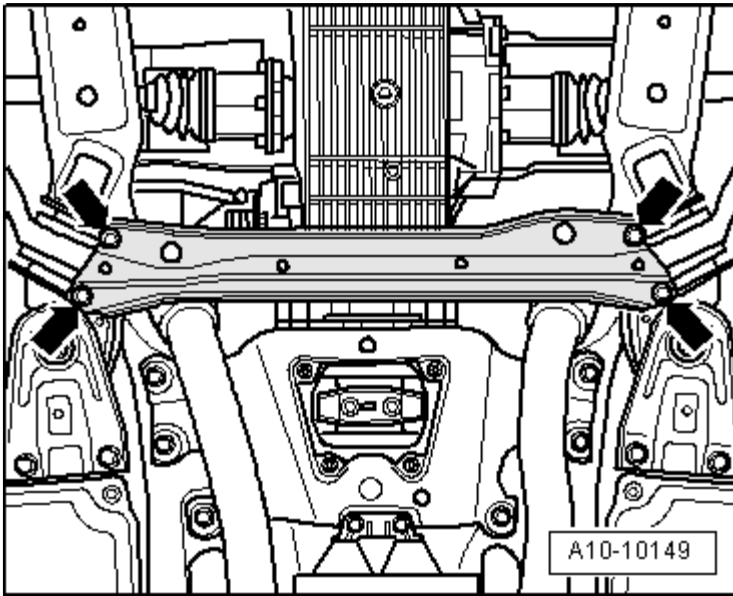


Fig. 169: Removing Subframe Transverse Beam
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove front cross piece beneath transmission oil pan - **arrows** -.

NOTE: ● - **Item 1 - can be disregarded.**

- Place drip tray for workshop hoist VAS 6208 under the transmission.

CAUTION: Wear safety goggles.

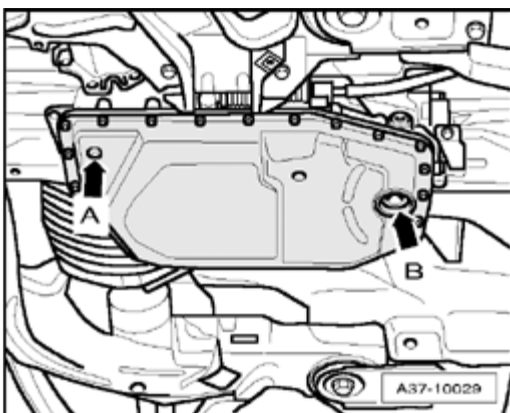


Fig. 170: Identifying ATF Inspection Plug
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove ATF drain plug - **arrow A** -.
- Drain ATF.

NOTE:

- **Observe relevant disposal regulations.**
- **The engine must not be started and vehicle must not be towed without ATF in transmission.**

- Loosen the 24 bolts on oil pan in diagonal sequence and remove oil pan.

Installing

Installation is carried out in reverse sequence. Note the following:

NOTE:

- **Replace seals and gaskets.**
- **The drain plug with seal must be replaced.**

- Clean all 6 magnets in oil pan recesses. Ensure that magnets make full contact with oil pan.
- Clean sealing surface thoroughly, the previous gasket must be removed completely.
- Tighten oil pan bolts in several stages and in diagonal sequence.
- Install cross member --> **40 - FRONT SUSPENSION** .
- Fill up with ATF --> **Draining ATF or filling up after performing repairs.**
- Deactivate jacking mode --> **43 - SELF LEVELING SUSPENSION** .

Tightening torques

Component	Nm
Drain plug to oil pan	12 * See note
Oil pan to transmission housing	12 * See note

*Replace bolt.

*Tighten diagonally in stages.

ATF strainer, removing and installing**Removing****NOTE:**

- **General repair instructions --> General repair instructions.**
- **Read the rules when working on the automatic transmission --> Read the rules.**

- Activate jacking mode --> **43 - SELF LEVELING SUSPENSION** .
- Remove oil pan --> **Oil pan, removing and installing.**

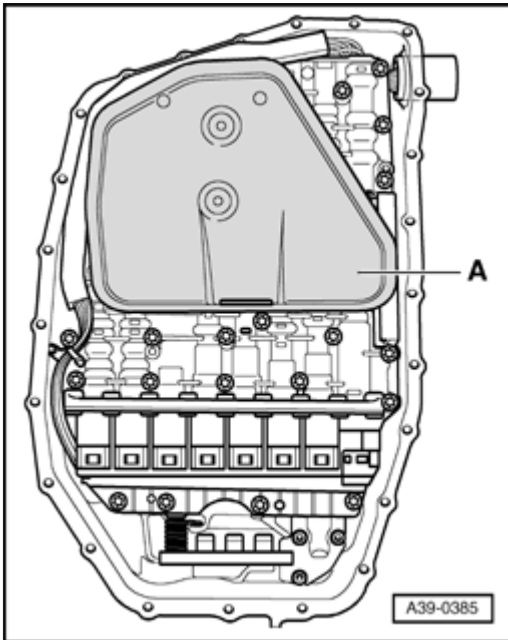


Fig. 171: Identifying Intake Line Of ATF Strainer
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully remove ATF strainer - A - from transmission.

Installing

Installation is carried out in reverse sequence. Note the following:

- NOTE:**
- Replace the ATF strainer if it has been damaged.

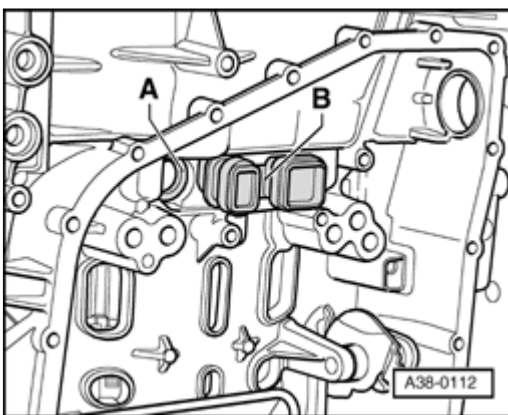


Fig. 172: Removing/Installing Oil Seal For ATF Strainer From Transmission
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Note the following when replacing ATF strainer:

- If installed, carefully remove oil seal for ATF strainer - A - from transmission using a screwdriver or

similar.

NOTE:

- Take care not to damage sealing surface.
- For illustration purposes the oil seal is shown with mechatronics unit removed.
- The new ATF strainer is supplied with oil seal installed.

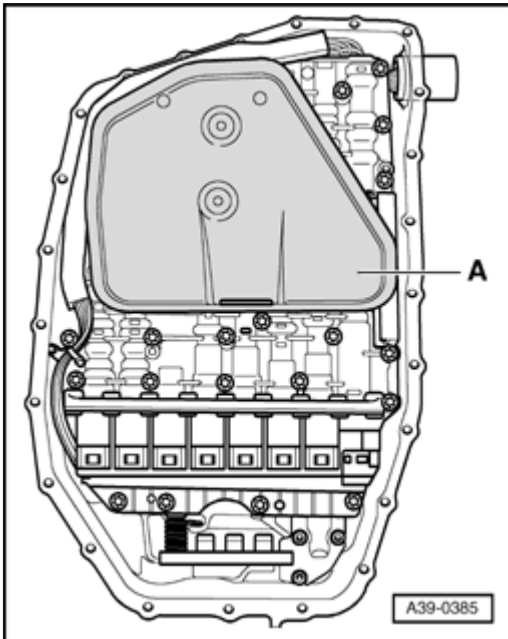


Fig. 173: Identifying Intake Line Of ATF Strainer
Courtesy of VOLKSWAGEN UNITED STATES, INC.

Continue for new and old ATF strainer:

- Press intake line of ATF strainer - A - carefully onto stop into mounting hole in transmission.

NOTE:

- A new ATF strainer is pressed into transmission with oil seal installed.

- Install oil pan --> Oil pan, removing and installing.
- Fill up with ATF --> Draining ATF or filling up after performing repairs.
- Deactivate jacking mode --> 43 - SELF LEVELING SUSPENSION .

Mechatronics unit , removing and installing

NOTE:

- Always replace mechatronics unit if it is contaminated or faulty.
- General repair instructions --> General repair instructions.
- Read the rules when working on the automatic transmission --> Read the rules.

Removing

- Activate jacking mode --> **43 - SELF LEVELING SUSPENSION** .

CAUTION: Follow steps required when disconnecting battery --> 27 - STARTER, GENERATOR, CRUISE CONTROL .

- Switch off ignition.

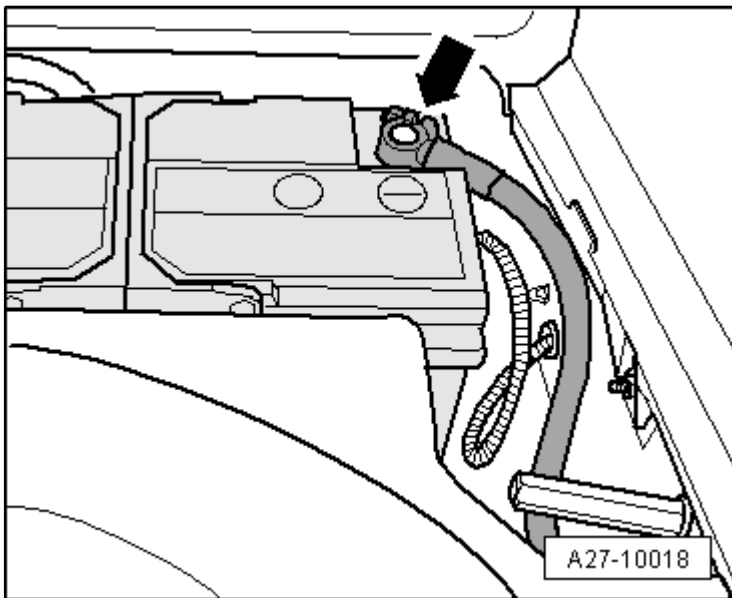


Fig. 174: Disconnecting Ground (GND) Strap At Battery Ground (GND) Terminal
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove luggage compartment floor covering.
- Disconnect Ground (GND) wire - **arrow** - at battery.
- Remove oil pan --> **Oil pan, removing and installing**.
- Remove ATF strainer --> **ATF strainer, removing and installing**.

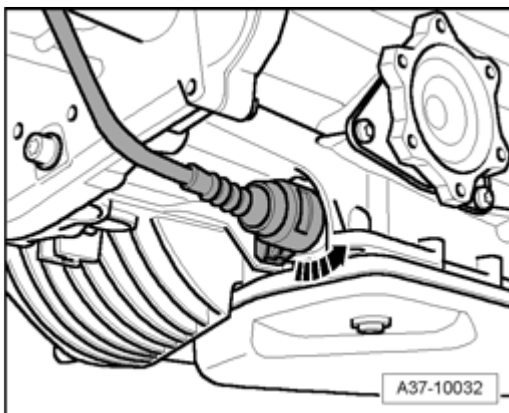


Fig. 175: Disconnecting Transmission Control Module (TCM) J217 Electrical Harness Connector
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Disconnect electrical connector at transmission by turning fastener cap counter-clockwise - **arrow** -.
- Touch vehicle ground with your hand (without gloves) to discharge any static electricity.

CAUTION:

- Before touching or removing the mechatronics unit, always discharge any static electricity by touching vehicle ground or other grounded object with your hand.
- Never touch contacts in 16-pin connector with your hands, as static discharge would damage the control module and mechatronics unit.

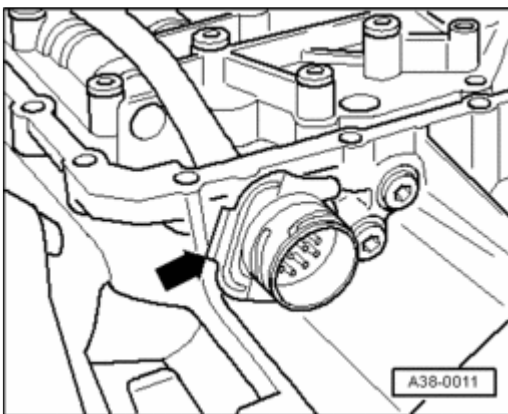


Fig. 176: Location Of Wiring Harness/Harness Connector Securing Circlip
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Unfasten retaining clip - **arrow** - for wiring harness connector on outside of transmission housing.

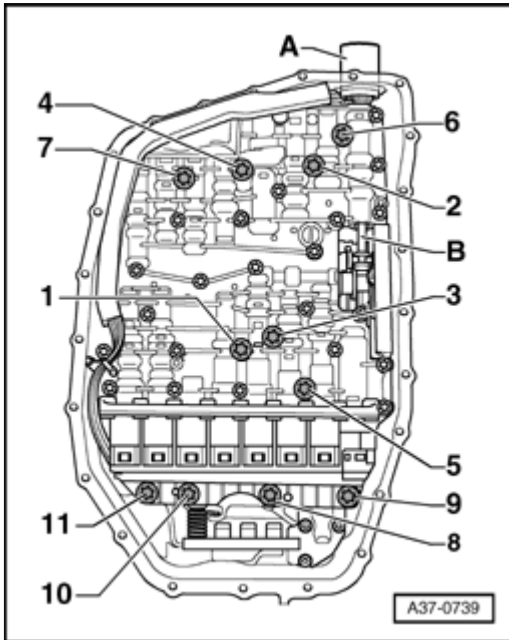


Fig. 177: Removing/Installing Securing Bolts For Mechatronics Unit In Sequence
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove securing bolts for mechatronics unit in sequence - 11... 1 -.

NOTE:

- Only loosen securing bolts marked - 1... 11 -.
- If other bolts are loosened, this may affect the operation of the mechatronics unit or the mechatronics unit could come apart.

- Remove mechatronics unit together with wiring harness from transmission, at the same time guide out connector for wiring harness.

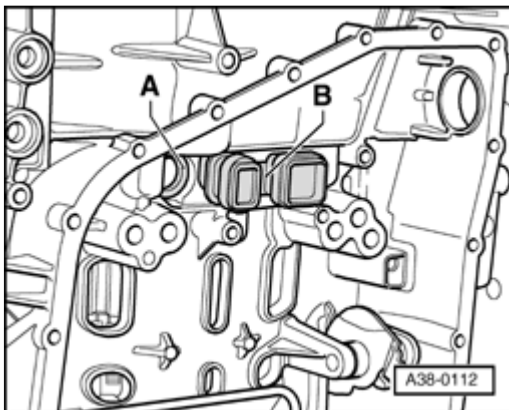


Fig. 178: Removing/Installing Oil Seal For ATF Strainer From Transmission
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

Installing

- Make sure that seal - **B** - is properly inserted and secured.
- Replace O-rings on connector for wiring harness and lightly lubricate with ATF.

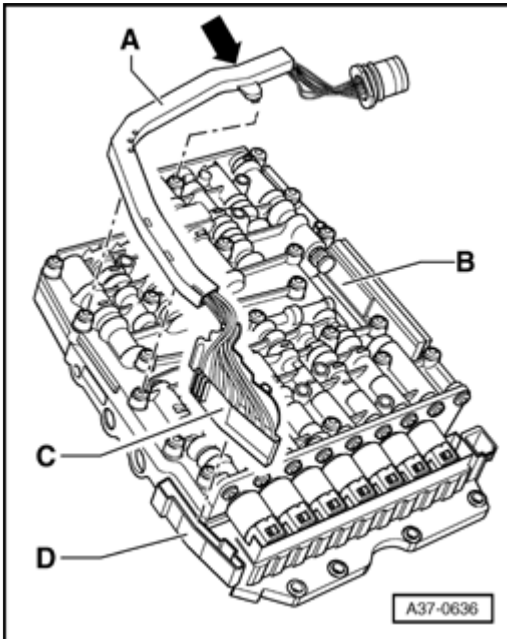


Fig. 179: Locating Wiring Harness With Connector Is Attached To The Mechatronics Unit
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Clip wiring harness - **A** - onto mechatronics unit - **B** - by first attaching tab - **arrow** - on reverse side of wiring harness to mechatronics unit.

NOTE:

- If the tab on the reverse side of the wiring harness breaks off, the wiring harness must be replaced --> Wiring harness in transmission, removing and installing.

- Install wiring harness connector in transmission housing.
- Installation position: flat part of rear shoulder faces downward, the lugs at shoulder are horizontal

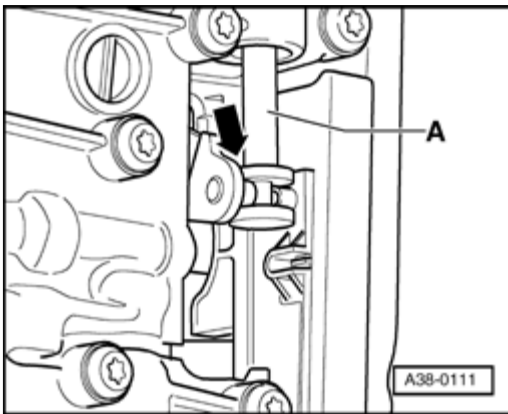


Fig. 180: Inserting Transmission Selector Lever Stud Into Groove On Selector Slide
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- While installing mechatronics unit without force, insert transmission selector lever pin - **arrow** - into groove on selector slide - **A** - (move selector slide backward and forward if necessary).

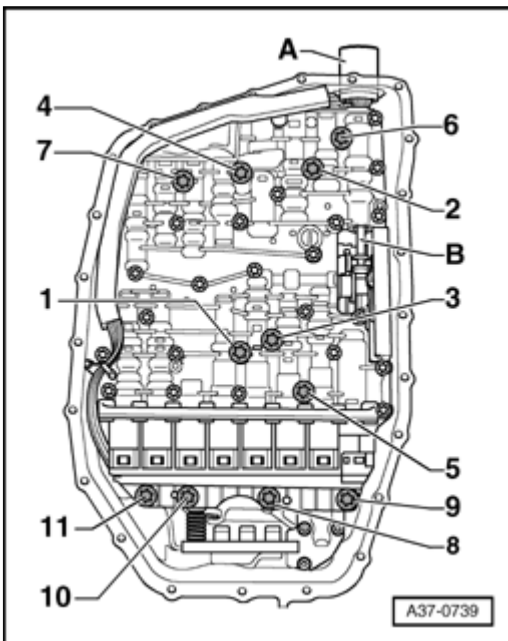


Fig. 181: Removing/Installing Securing Bolts For Mechatronics Unit In Sequence
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Tighten securing bolts - **1** - and - **2** - for mechatronics unit to 2 Nm.
- Then tighten securing bolts in specified order - **111** - to 8 Nm.

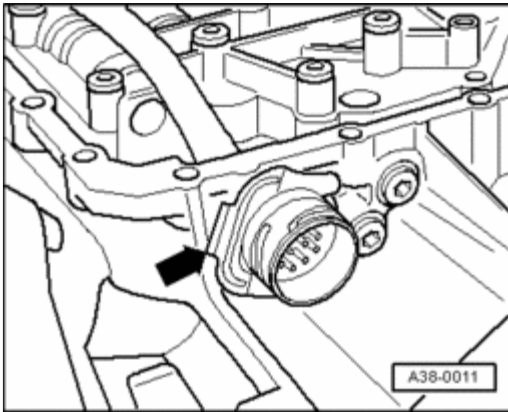


Fig. 182: Location Of Wiring Harness/Harness Connector Securing Circlip
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Push retainer clip - **arrow** - onto wiring harness connector.
- Install ATF strainer --> **ATF strainer, removing and installing**.
- Install oil pan --> **Oil pan, removing and installing**.
- Connect battery --> **27 - STARTER, GENERATOR, CRUISE CONTROL** .
- Fill up with ATF --> **Draining ATF or filling up after performing repairs**.
- Deactivate jacking mode --> **43 - SELF LEVELING SUSPENSION** .

Wiring harness in transmission, removing and installing

Removing

- Activate jacking mode --> **43 - SELF LEVELING SUSPENSION** .
- Remove mechatronics unit --> **Mechatronics unit , removing and installing**
- Touch vehicle ground by hand (without gloves) to discharge any static electricity.

CAUTION:

- **Before touching or removing the mechatronics unit, always discharge any static electricity by touching vehicle ground or other grounded object with your hand.**
- **Never touch contacts in 16-pin connector with your hands, as static discharge would damage the control module and mechatronics unit.**

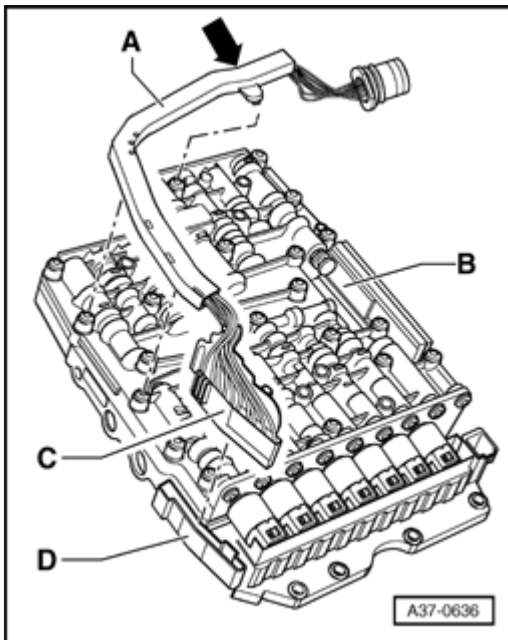


Fig. 183: Locating Wiring Harness With Connector Is Attached To The Mechatronics Unit
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Carefully disconnect wiring harness - **A** - from mechatronics unit - **B** -. Make sure to detach tab - **arrow** - on reverse side of wiring harness from mechatronics unit.

NOTE:

- If the tab - **arrow** - on the reverse side of the wiring harness breaks off, the wiring harness must be replaced --> Wiring harness in transmission, removing and installing.

- Carefully disconnect connector - **C** - from socket - **D** - of mechatronics unit.

Installing

Installation is carried out in reverse sequence. Note the following:

- Carefully connect connector - **C** - to socket - **D** - on mechatronics unit.
- Clip wiring harness - **A** - onto mechatronics unit - **B** - by first attaching tab - **arrow** - on reverse side of wiring harness to mechatronics unit.
- Install mechatronics unit --> Mechatronics unit , removing and installing.
- Fill up with ATF --> Draining ATF or filling up after performing repairs.
- Deactivate jacking mode --> 43 - SELF LEVELING SUSPENSION .