



# Safety Recall

## Code: 47N3

**REVISION**

<b>Subject</b>	<b>Brake Lines</b>
<b>Release Date</b>	March 13, 2017
<b>Revision Summary</b>	<b>Work procedure updated.</b>
<b>Criteria Repair Availability information</b>	<b>Criteria 01: Repair available March 9, 2017</b> <b>Criteria 01 and 02: Repair available March 15, 2017</b>
<b>Affected Vehicles</b>	<b>U.S.A. &amp; CANADA: 2017 MY Volkswagen Passat</b>  <i>Check Campaigns/Actions screen in Elsa on the day of repair to verify that a VIN qualifies for repair under this action. Elsa is the <u>only</u> valid campaign inquiry &amp; verification source.</i> <ul style="list-style-type: none"><li>✓ Campaign status must show "open."</li><li>✓ If Elsa shows other open action(s), inform your customer so that the work can also be completed at the same time the vehicle is in the workshop for this campaign.</li></ul>
<b>Problem Description</b>	Affected vehicles may slowly leak brake fluid. After an extended period of time, the brake fluid low warning light may illuminate. If a customer does not heed the warning, brake power may diminish on the affected brake circuit. Reduced braking power may lead to extended stopping distance and could contribute to a rear end crash.
<b>Corrective Action</b>	Replace brake lines on affected vehicles.
<b>Parts Information</b>	<b>Special Services Parts:</b> 5C1614726A & 5C1614723 Parts will be allocated prior to owner notification. If additional brake lines are needed over your allocated amount, please email <a href="mailto:ywoaspecialservices@vw.com">ywoaspecialservices@vw.com</a> with the VIN to order.  <b>Upper Order Limit Parts:</b> N 91167101, N 91066101, N 91143301, N 91208401, N 0150816, N 10332002, N 90635001 and N 01033513 Parts will be allocated prior to owner notification. If allocated parts have been used and your dealership is at the weekly Upper Order Limit, please submit the backordered sales document number to <a href="mailto:upperorderlimits@vw.com">upperorderlimits@vw.com</a> to have additional parts released.
<b>Code Visibility</b>	On or about March 9, 2017, affected vehicles were listed on the Inventory Vehicle Open Campaign Action report under My Dealership Reports (found on <a href="http://www.vw.com">www.vw.com</a> & OMD Web). A list was not posted for dealers who did not have any affected vehicles.  On or about March 9, 2017, this campaign code showed open on affected vehicles in Elsa.  On or about March 9, 2017, affected vehicles were identified with this campaign code in the VIN Lookup tool at <a href="http://www.vw.com">www.vw.com</a> and on the NHTSA VIN lookup tool at <a href="http://www.safercar.gov">www.safercar.gov</a> .
<b>Owner Notification</b>	Owner notification will take place in March 2017. Owner letter examples are included in this bulletin for your reference.

**Additional Information**

Please alert everyone in your dealership about this action, including Sales, Service, Parts and Accounting personnel. Contact Warranty if you have any questions.

**IMPORTANT REMINDER ON VEHICLES AFFECTED BY SAFETY & COMPLIANCE RECALL**

**New Vehicles in Dealer Inventory:** It is a violation of Federal law for a dealer to deliver a new motor vehicle or any new or used item of motor vehicle equipment (including a tire) covered by this notification under a sale or lease until the defect or noncompliance is remedied. By law, dealers must correct, prior to delivery for sale or lease, any vehicle that fails to comply with an applicable Federal Motor Vehicle Safety Standard or that contains a defect relating to motor vehicle safety.

**Pre-Owned Vehicles in Dealer Inventory:** Dealers should not deliver any pre-owned vehicles in their inventory which are involved in a safety or compliance recall until the defect has been remedied.

Dealers must ensure that every affected inventory vehicle has this campaign completed before delivery to consumers.

Fill out and affix Campaign Completion Label (CAMP 010 000) after work is complete. Labels can be ordered at no cost via the Compliance Label Ordering portal at [www.vwhub.com](http://www.vwhub.com).





## Customer Letter Example (USA)

<MONTH YEAR>

<CUSTOMER NAME>

<CUSTOMER ADDRESS>

<CUSTOMER CITY STATE ZIPCODE>

**This notice applies to your vehicle:** <VIN>

**NHTSA:** 17V075

**Subject: Safety Recall 47N3 – Brake Lines  
2017 Model Year Volkswagen Passat**

Dear Volkswagen Owner,

This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act. Volkswagen has decided that a defect, which relates to motor vehicle safety, exists in certain 2017 model year Volkswagen Passat vehicles. Our records show that you are the owner of a vehicle affected by this action.

**What is the issue?** Affected vehicles may slowly leak brake fluid. After an extended period of time, brake fluid low warning light may illuminate. If the warning light is ignored, brake power may diminish on the affected brake circuit. Reduced braking power may lead to extended stopping distance and could contribute to a rear end crash.

**What will we do?** To correct this defect, your authorized Volkswagen dealer will replace the affected brake lines on your vehicle. This work will take about one day to complete and will be performed for you free of charge.

**What should you do?** Please contact your authorized Volkswagen dealer without delay to schedule this recall repair. For your convenience, you can also visit [www.vw.com](http://www.vw.com) and click on the "Owners" link to locate a dealer near you and schedule this service online.

**Precautions you should take** Affected vehicles can continue to be driven as usual, but if the brake fluid low warning light illuminates, contact your nearest authorized Volkswagen dealer or qualified workshop without delay in order to have your vehicle inspected/repared.

**Lease vehicles and address changes** If you are the lessor and registered owner of the vehicle identified in this action, the law requires you to forward this letter immediately via first-class mail to the lessee within ten (10) days of receipt. If you have changed your address or sold the vehicle, please fill out the enclosed prepaid Owner Reply card and mail it to us so we can update our records.

**Reimbursement of Expenses** If you have previously paid for repairs relating to the condition described in this letter, please refer to the enclosed form that explains how to request reimbursement.

**Can we assist you further?** If your authorized Volkswagen dealer fails or is unable to complete this work free of charge within a reasonable time, or if you should have any questions about this communication, please reach out to us using your preferred method of communication at [www.vw.com/contact](http://www.vw.com/contact) or by calling 1 800-893-5298. Our phone team is available Monday through Friday from 8AM to 10PM EST and Saturday from 9AM to 5PM EST.

**Checking your vehicle for open Recalls and Service Campaigns** To check your vehicle's eligibility for repair under this or any other recall/service campaign, please click on the **Look Up Recalls** link at [www.vw.com](http://www.vw.com) and enter your Vehicle Identification Number (VIN) into the **Recall/Service Campaign Lookup** tool.

If you still cannot obtain satisfaction, you may file a complaint with: The Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; or call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153); or go to <http://www.safercar.gov>.

We apologize for any inconvenience this matter may cause; however we are taking this action to help ensure your safety and continued satisfaction with your vehicle.

Sincerely,

Volkswagen Customer Protection

## Customer Letter Example (CANADA)

<MONTH YEAR>

<CUSTOMER NAME>

<CUSTOMER ADDRESS>

<CUSTOMER CITY STATE ZIPCODE>

**This notice applies to your vehicle:** <VIN>

**Subject: Safety Recall 47N3 – Brake Lines  
2017 Model Year Volkswagen Passat**

Dear Volkswagen Owner,

This notice is sent to you in accordance with the requirements of the Motor Vehicle Safety Act. Volkswagen has decided that a defect, which relates to motor vehicle safety, exists in certain 2017 MY Volkswagen Passat vehicles. Our records show that you are the owner of a vehicle affected by this action.

- What is the issue?** Affected vehicles may slowly leak brake fluid. After an extended period of time, brake fluid low warning light may illuminate. If the warning light is ignored, brake power may diminish on the affected brake circuit. Reduced braking power may lead to extended stopping distance and could contribute to a rear end crash.
- What will we do?** To correct this defect, your authorized Volkswagen dealer will replace the affected brake lines on your vehicle. This work will take about one day to complete and will be performed for you free of charge.
- What should you do?** Please contact your authorized Volkswagen dealer without delay to schedule this recall repair.
- Precautions you should take** Affected vehicles can continue to be driven as usual, but if the brake fluid low warning light illuminates, contact your nearest authorized Volkswagen dealer or qualified workshop without delay in order to have your vehicle inspected/repaired.
- Lease vehicles and address changes** If you are the lessor and registered owner of the vehicle identified in this action, the law requires you to forward this letter immediately via first-class mail to the lessee within ten (10) days of receipt. If you have changed your address or sold the vehicle, please fill out the enclosed prepaid Owner Reply card and mail it to us so we can update our records.
- Reimbursement of Expenses** If you have previously paid for repairs relating to the condition described in this letter, please refer to the enclosed form that explains how to request reimbursement.
- Can we assist you further?** If your authorized Volkswagen dealer fails or is unable to complete this work free of charge within a reasonable time, please contact Customer Relations, Monday through Friday from 8AM to 8PM EST by phone at 1-800-822-8987 or via our "Contact Us" page at [www.vw.ca](http://www.vw.ca).

We apologize for any inconvenience this matter may cause; however we are taking this action to help ensure your safety and continued satisfaction with your vehicle.

Sincerely,

Volkswagen Customer Protection

**NOTE**

Damages resulting from improper repair or failure to follow these work instructions are the dealer's responsibility and are not eligible for reimbursement under this action.

**Required Parts**

<b>Criteria</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Part Description</b>
01	1	5C1 614 723	Left Front Brake Line
	1	5C1 614 726 A	Right Rear Brake Line from Distributor to Connecting Piece (ABS module to mid-pipe)
	1	N 911 671 01	Bolt, Hex Head w/ Shoulder M10x75 (transmission mount)
	1	N 910 661 01	Bolt, Hex Head w/ Shoulder M10x35 (transmission mount)
	2	N 911 433 01	Hexagon Flange Screw M12x95 (subframe)
	4	N 912 084 01	Bolt, hex. Hd. With Shoulder M12x105 (subframe)
	2	N 015 081 6	Shouldered Hex Nut (anti-sway bar link)
	6	N 103 320 02	Shouldered Hex Nut (ball joint)
	2	N 906 350 01	Hex. Nut, Self-Locking (tie rod end)
	1	N 010 335 13	Screw, Hex. Hd. M8x35x22 (steering column)
Up to 2	B 000750M3	Brake Fluid	
<b>Vehicles with <u>both</u> Criteria 01 and 02 open add the following parts:</b>			
02	1	5C1 614 724	Right Front Brake Line
	1	561 611 782 D	Right Rear Brake Line (over rear axle)
	1	561 614 742 E	Brake Line from Connecting Piece to Right Rear (mid-pipe)
	1	N 104 160 03	Bolt, Hex. Hd. M8x25 (fuel tank strap bolt)

**Repair Availability Information. Keep this in mind before performing this repair.**

**Criteria 01: Repair available March 9, 2017**

**Criteria 01 and 02: Repair available March 15, 2017**

## Required Tools

- Brake Charger/Bleeder Unit -VAS 5234-
- Brake Bleeding Tool Set -VAS 6564- (or equivalent)
- Brake Bleeding Tool Set - Insert Tool -VAS 6564/9- (or equivalent)
- Engine and Gearbox Jack -VAS6931-
- Locating Pins (2 pc.) -T10096-
- Subframe Locking Pins (2 pc.) -T10452-
- Digital Torque Wrench -VAG1756A- (or equivalent)
- Engine Bung Set -VAS 6122- (or equivalent)
- Pry Lever -80-200-
- Tensioning Strap -T10038- (or equivalent)
- Engine/Gearbox Jack Adapter - Wheel Hub Support -T10149- (or equivalent)
- Puller, Ball Joint -T10187- (or equivalent)
- Hose clamp pliers -VAS 6340- (or equivalent)
- Oil Drain Pan(s) (or equivalent)
- Protective Eyewear
- Safety Gloves



## Repair Instruction

### Section A - Check for Previous Repair

#### TIP

If Campaign Completion label is present, no further work is required.

Applicable criteria ID(s)	Campaign/Action Status
01 	Open 

**EXAMPLE**

- Enter the VIN in Elsa and proceed to the “Campaign/Action” screen.

#### TIP

On the date of repair, print this screen and keep a copy with the repair order.

- Confirm the Campaign/Action is open <arrow 1>. If the status is closed, no further work is required.
- Note the Applicable Criteria ID <arrow 2> for use in determining the correct work to be done and corresponding parts associated.

**Proceed to Section B**

## Section B – Repair Procedure

### NOTE

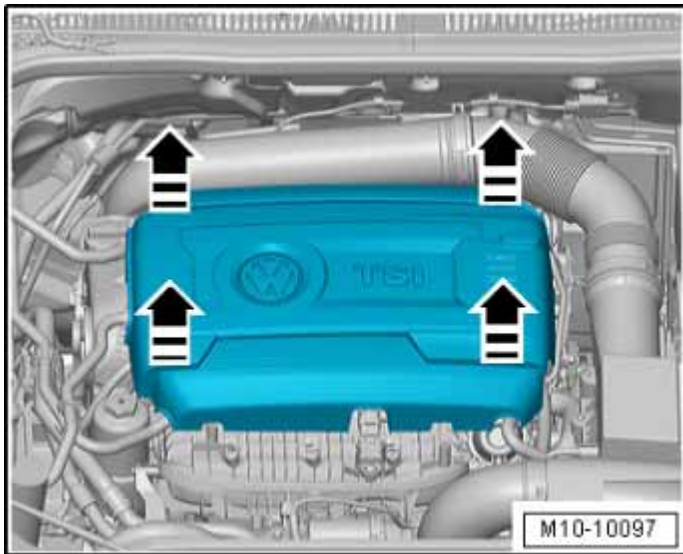
Due to variations in vehicle equipment and options, the steps/illustrations in this work procedure may not identically match all affected vehicles.

Criteria	Line part number	Description
01	5C1614723	ABS to LF caliper
	5C1614726A	ABS to mid-line
02	5C1614724	ABS to RF caliper
	561611782D	Mid-line to RR caliper
	561614742E	RR caliper mid-line

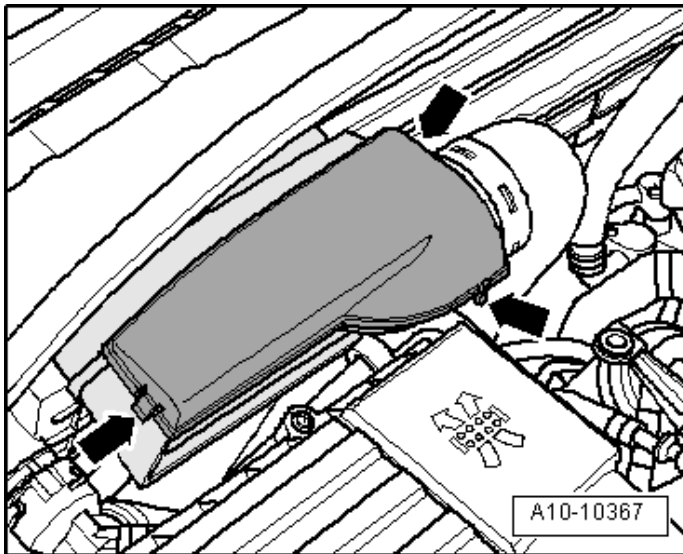
- Vehicles will either have only criteria 01, or have both criteria 01 and 02 open.
- Use the illustration above as a reference to identify which brake line is to be replaced.



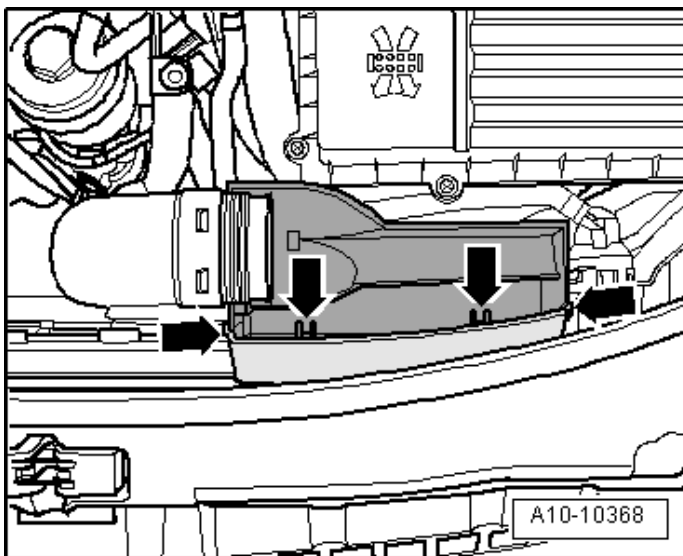
- Turn the steering wheel to the straight-ahead position and remove the ignition key so that the steering wheel lock engages.
- Vehicles with “Keyless Access” keyless locking and starting system:
  - Switch the ignition off and open the driver door so the steering wheel lock locks.



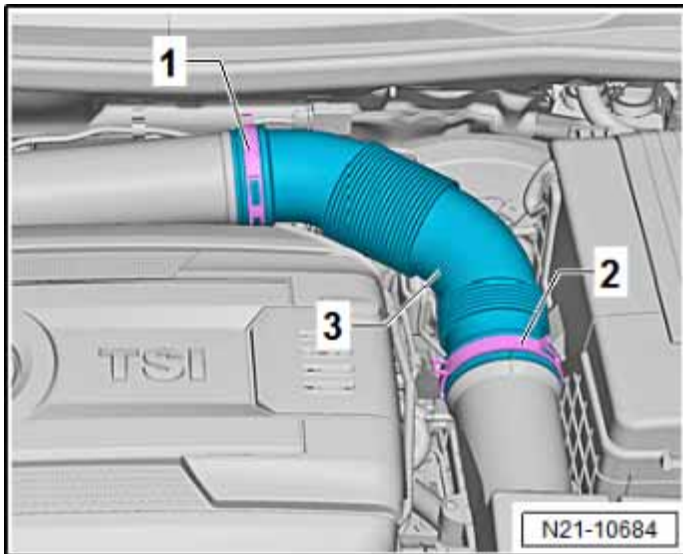
- Carefully pull the engine cover off the retaining pins in direction of <arrows> one after the other. Do not pull sharply on the engine cover or pull it to one side.



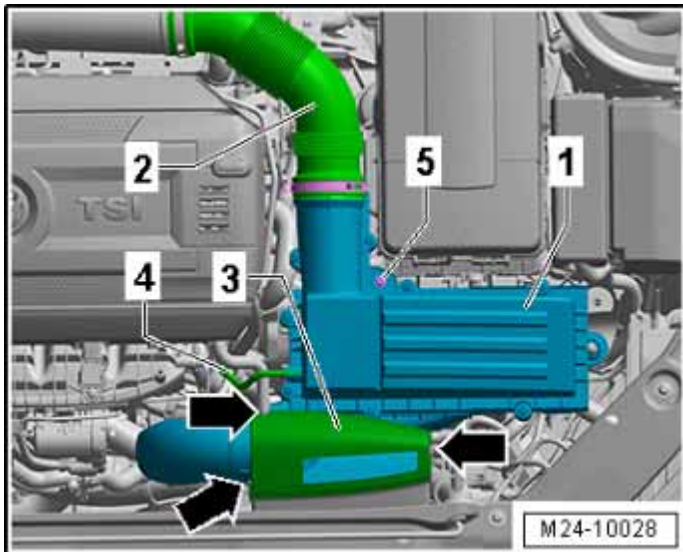
- Disengage the side clips <arrows> and remove the cover for the air duct.



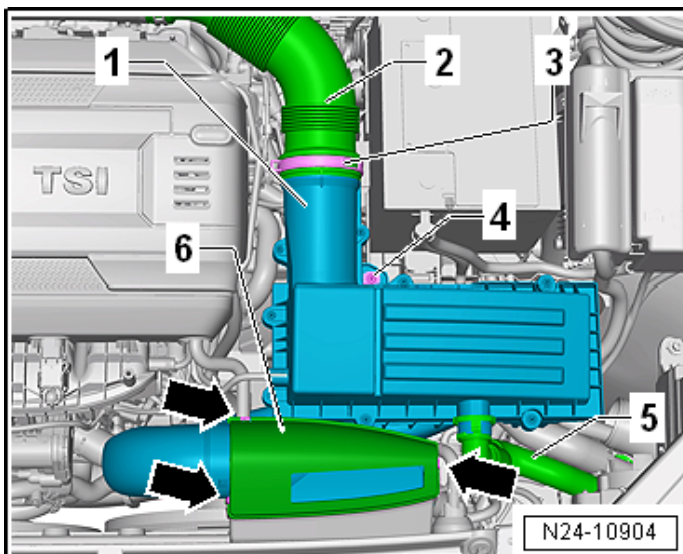
- Disengage the retainers <arrows> to unclip the lower air duct.



- Open the clamp <1> and move onto connecting pipe <2>.



- Remove vacuum line <4> from the air filter housing.
- Loosen the bolt <5> and remove the air filter housing <1> with connecting pipe <2> upward from the attachment grommets.

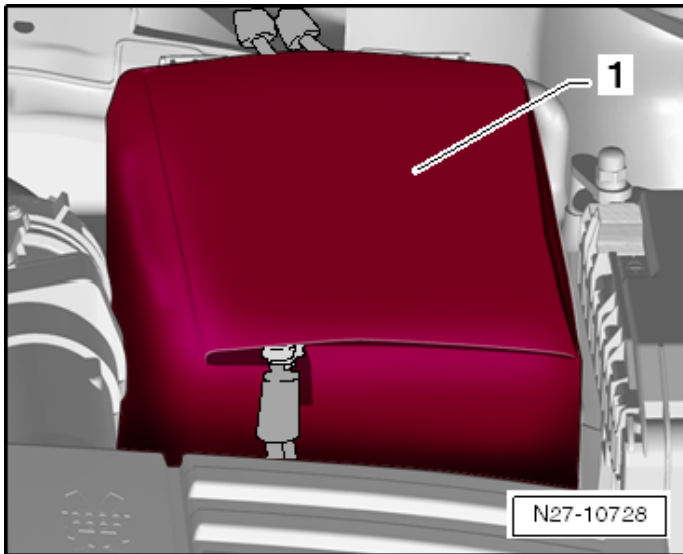


#### Vehicles with Secondary Air System:

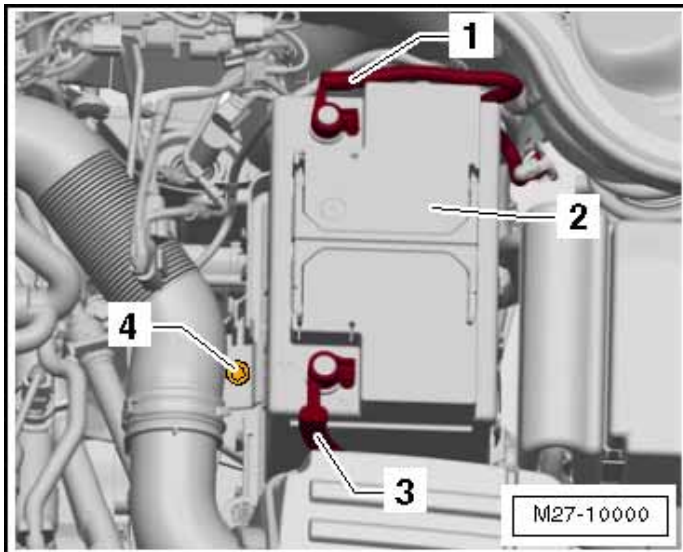
- Remove the secondary air line connection <5> from the air filter housing by squeezing the release connector between the fingers and thumb.

#### Continuation for All Vehicles:

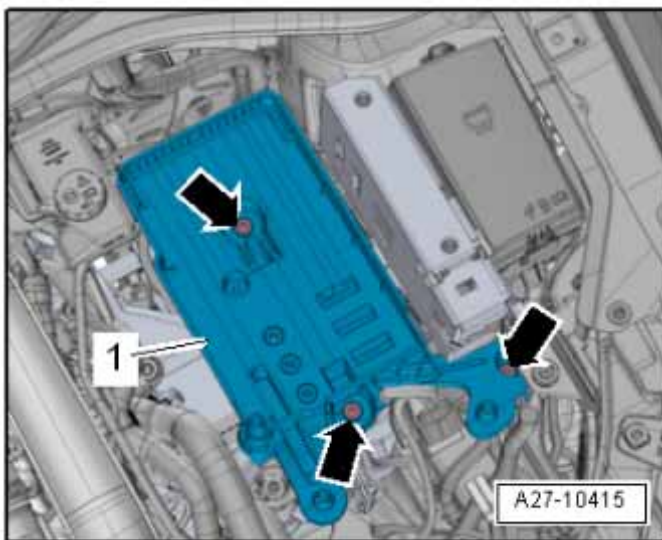
- Remove the air filter housing <1> with connecting pipe <2>.



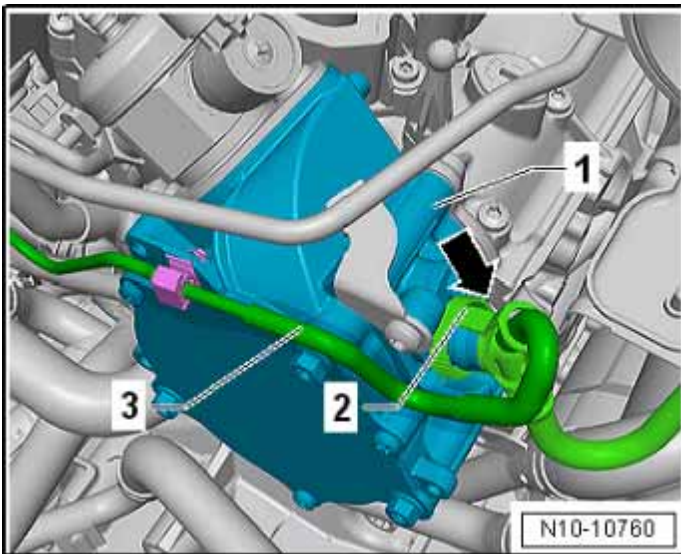
- Open the battery cover <1>.



- Disconnect the battery ground cable terminal clamp <1> from the battery negative terminal.
- Disconnect the battery positive cable terminal clamp <3>.
- Remove the bolt <4> and then remove the clamping plate.
- Remove the battery with battery cover.



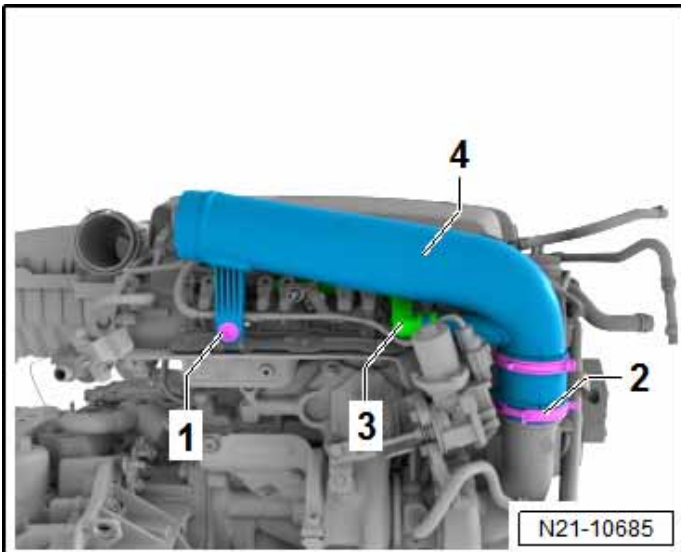
- Remove the bolts <arrows> and remove the battery tray <1> from the vehicle.



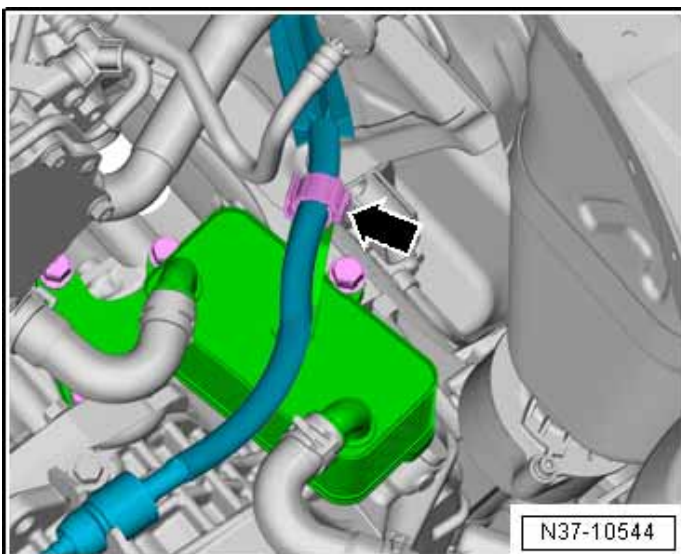
- Remove vacuum hose <3> from vacuum pump <1> by pressing the release buttons on connection <2>.
- Disconnect vacuum hose from the brake booster.

**TIP**

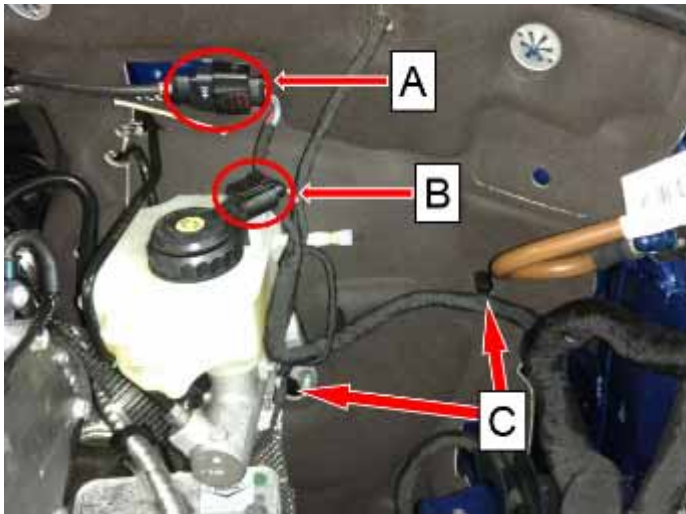
Pumping the brakes prior to removing vacuum hose from the brake booster will release the vacuum from the booster, making removal easier.



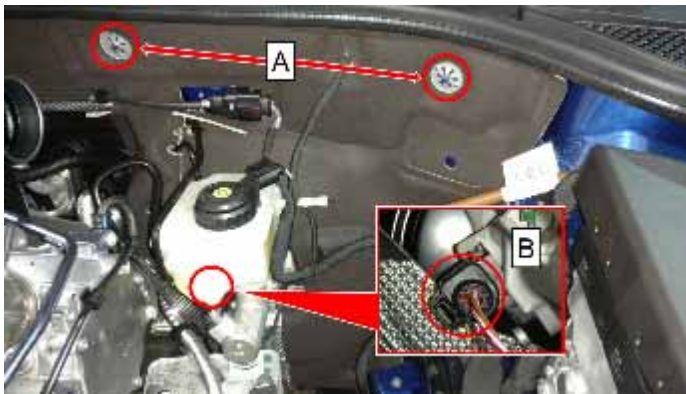
- Remove the air duct pipe bolt <1>.
- Loosen the hose clamp <2> using -VAS 6340- (or equivalent) and remove the air duct pipe from the turbocharger.
- Remove the crankcase ventilation hose <3> from the air duct pipe by pulling on the connector. Considerable effort may be required to remove the connector.
- Seal opening to turbocharger with engine bung kit -VAS 6122- (or equivalent).



- Disconnect the selector lever cable from the bracket <arrow> on the heat exchanger.
- Move the selector lever cable to the left side of the bracket.
- Remove the wire loom clip <arrow> by depressing the securing tabs.



- Disconnect the connectors <A and B>.
- Remove the electrical connector <A> from the firewall by sliding the connector upwards off the securing tab.
- Remove wiring harness retainers <C> using -80-200- (or equivalent).

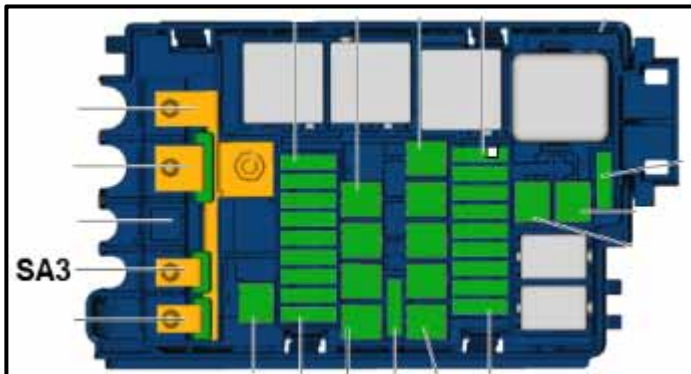


- Remove the two retaining clips <A> from the firewall insulation panel.

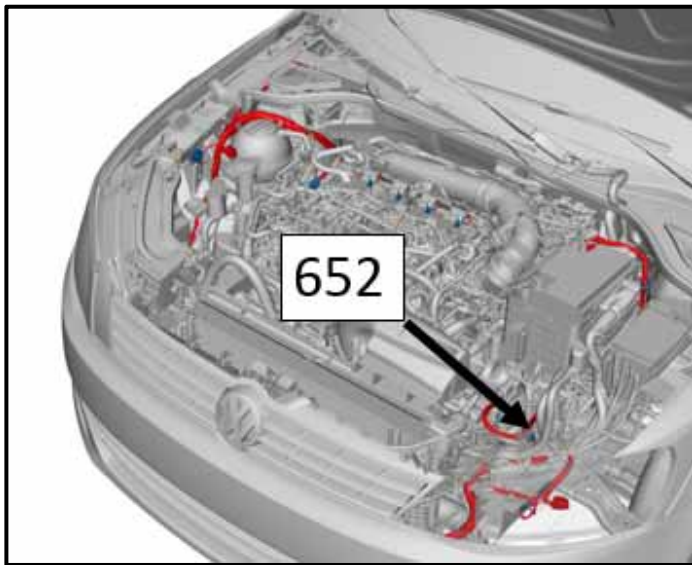
**i TIP**

Clips can be unscrewed and do not have to be pried off.

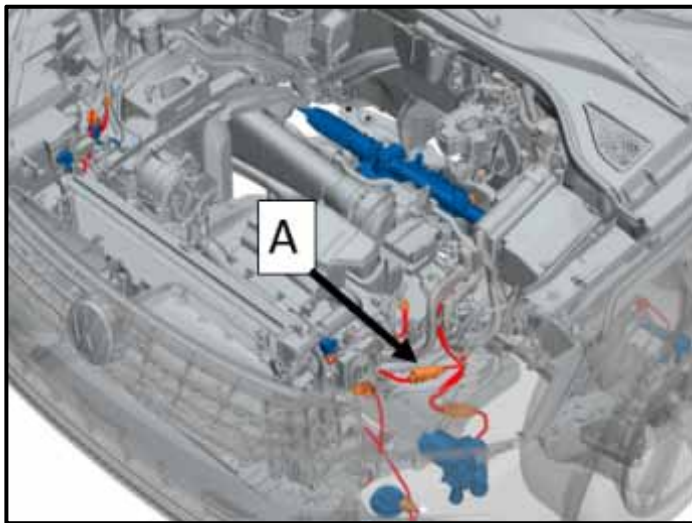
- Disconnect connector <B> located under the brake fluid reservoir.



- Remove connection <SA3> from the underhood fuse panel.



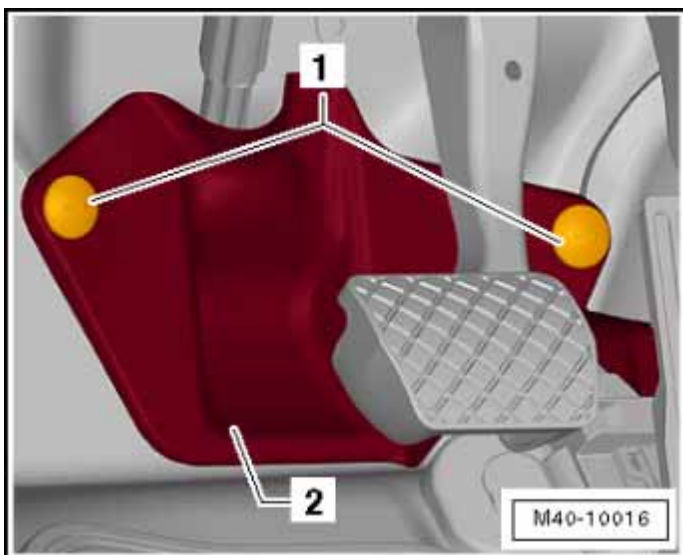
- Disconnect nut from ground location 652 on the left frame rail.



- Disconnect connector <A> and remove from the securing clip.

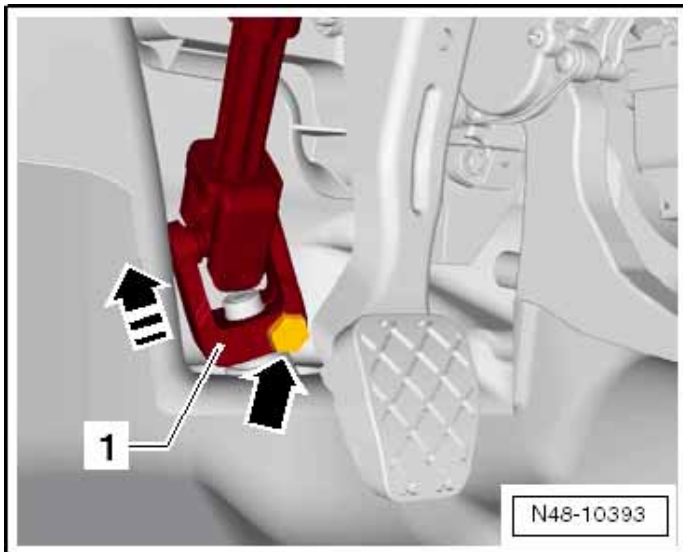
**TIP**

- Connector <A> is part of the Electromechanical steering gear wiring harness and is located on top of the left frame rail.
- For vehicles with secondary air, connector <A> will be partially covered by the secondary air hoses. The hoses do not have to be removed.



- Unclip cover for wiring harness and remove Electromechanical steering gear wiring harness using -80-200- (or equivalent).
- Remove fasteners <1> and remove the footwell trim panel <2>.





- Verify the steering wheel is in the centered and locked position.
- Remove the bolt <arrow> from the universal joint <1>. Then remove the universal joint in direction of <arrow>.

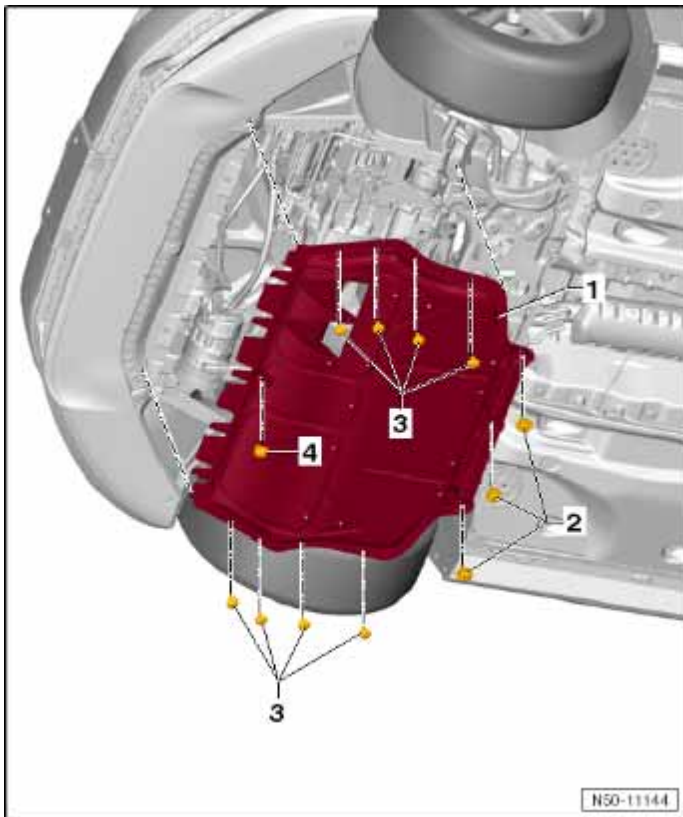
### **CAUTION**

If the universal joint is separated from the electromechanical steering gear, the following work cannot be performed:

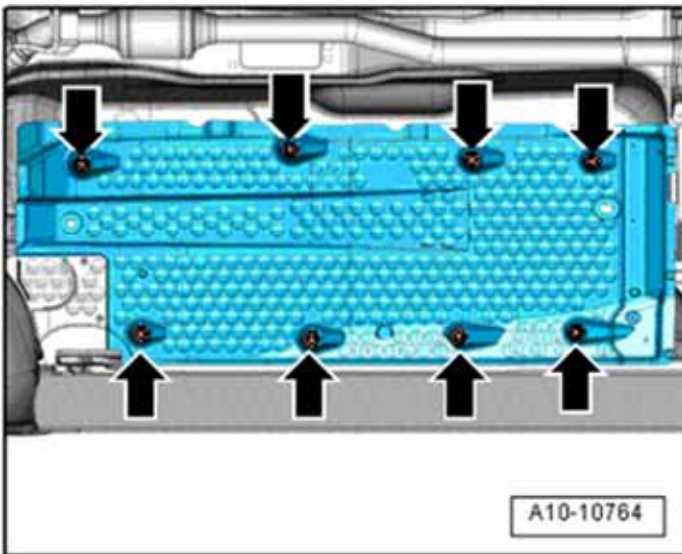
- Ignition switched on.
- Turning the steering gear.
- Turning the steering column.

**These points must be observed, because otherwise it can cause irreparable damage.**

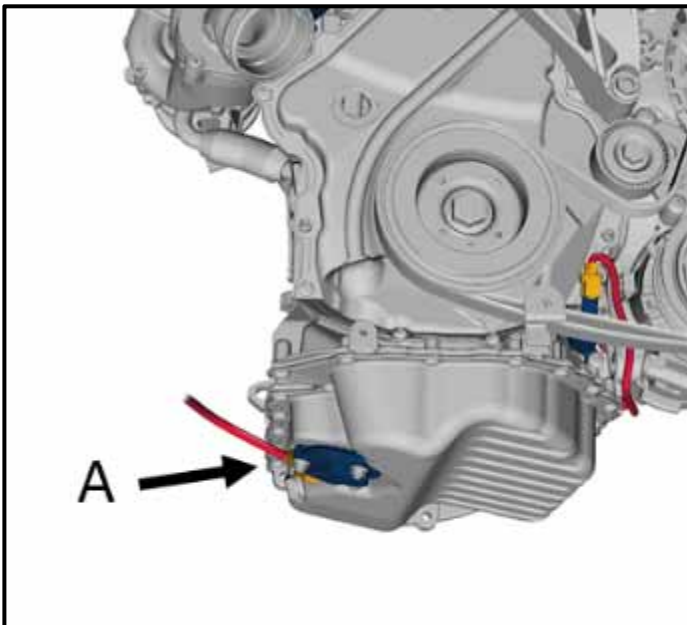
**Only remove the universal joint with the steering wheel in the centered and locked position.**



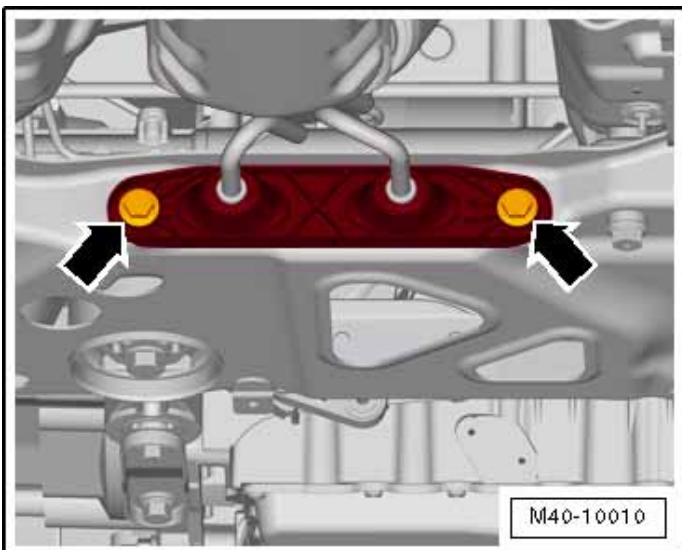
- Raise the vehicle.
- Remove the noise insulation under panel <1> by removing the screws <2> and <3>.
- Remove the noise insulation under panel <1> from the front bumper cover <4> toward the rear.
- Remove all four wheels.



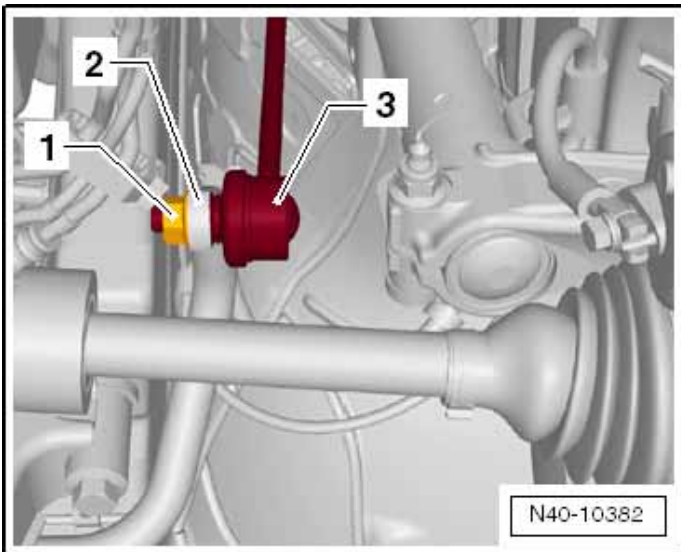
- Remove left side underpanel.



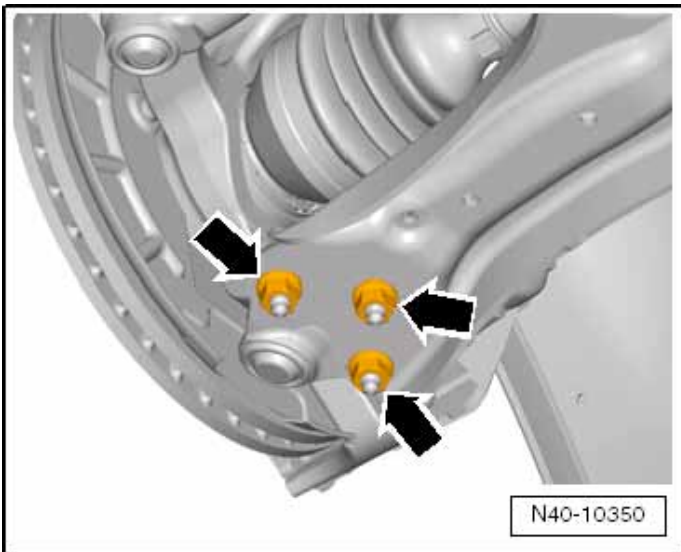
- Remove oil level sensor connector <A>.



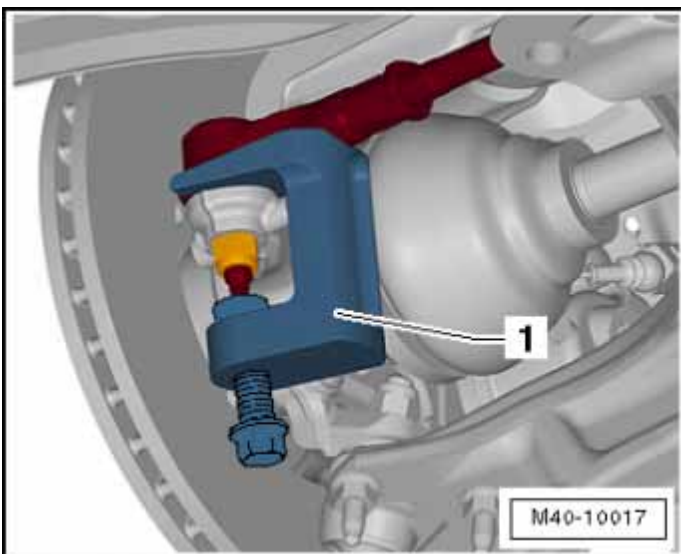
- Remove the exhaust system bracket from the subframe by removing the bolts <arrows>.



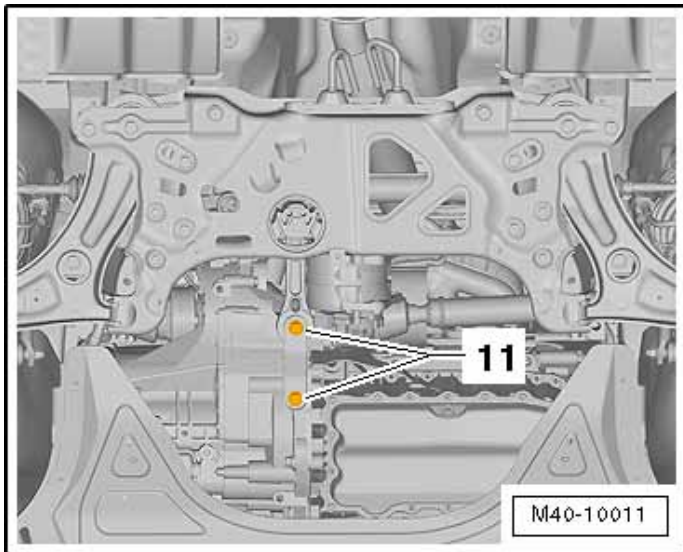
- Remove the nut <1> from the right and left stabilizer bar links <3> and remove the links from the stabilizer bar.



- Remove the nuts <arrows> on left and right side of vehicle.
- Remove the control arm from the ball joint.



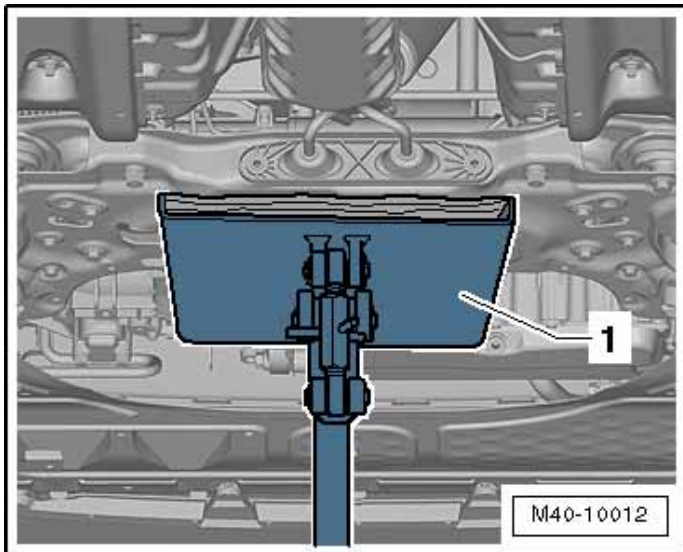
- Remove tie rod end nut.
- Remove the tie rod end from the wheel bearing housing using tool -T10187-.



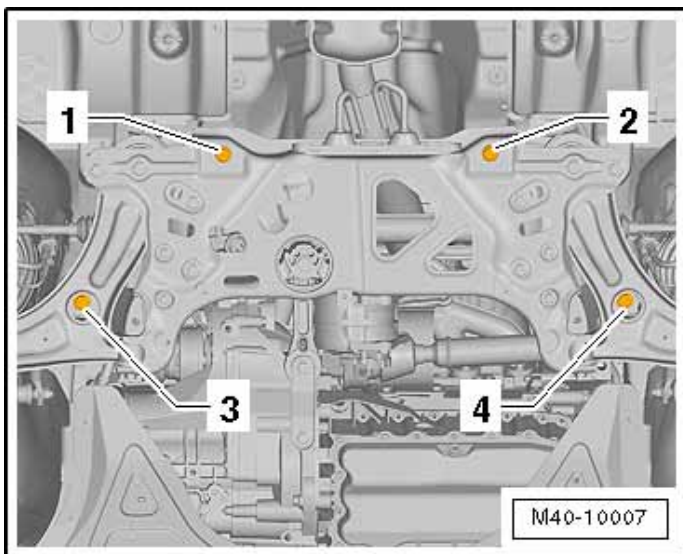
- Remove the bolts <11> to disconnect the pendulum support from the transmission.

**NOTE**

- It is not necessary to remove the pendulum support from the subframe.
- Note the length of the bolts when removing. The bolt toward the rear is the longer of the two bolts.



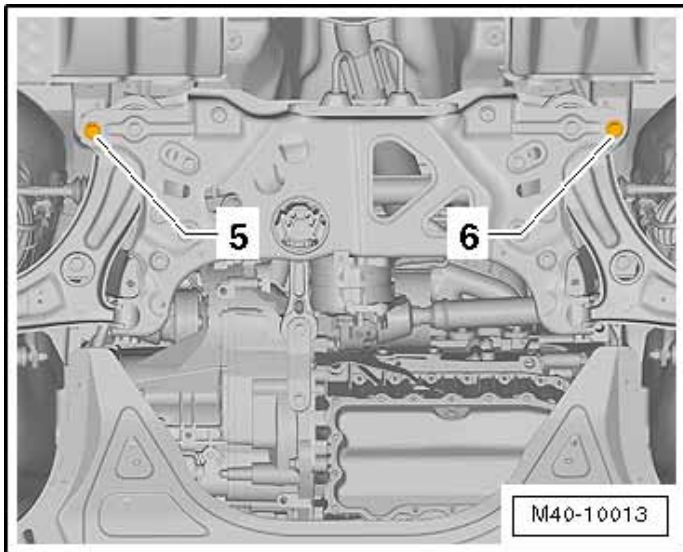
- Place the -VAS6931- Engine and Gearbox Jack <1> under the subframe.



**CAUTION**

- When locating the subframe, the locating pins (-T10452- and -T10096-) must be installed one at a time. Do not remove the next subframe bolt until the locating pin is installed.
- The -T10452- and -T10096- may only be tightened to a maximum of 20 Nm, otherwise the threads of the locating bolts will be damaged.

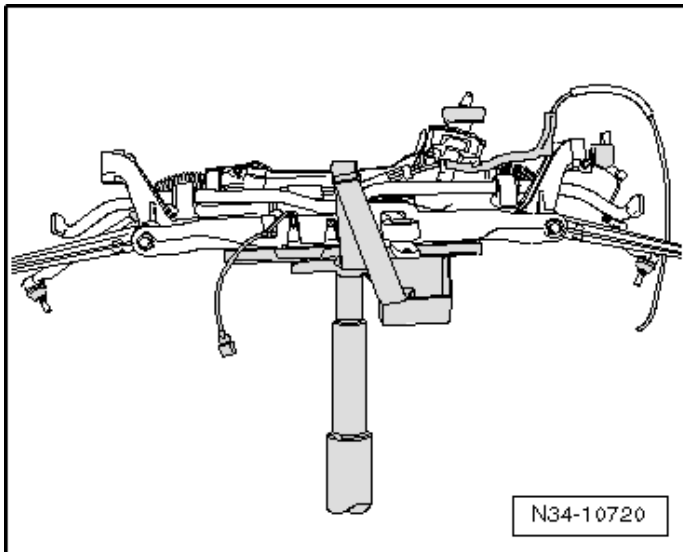
- Remove bolt <3> and install -T10452-.
- Remove bolt <4> and install -T10452-.
- Remove bolt <1> and install -T10096-.
- Remove bolt <2> and install -T10096-.



- Remove the bolts <5> and <6> and slowly lower the subframe using the -VAS6931-.

**CAUTION**

Use caution when lowering the subframe that all electrical connectors, wiring, hoses, etc. are clear from interference.



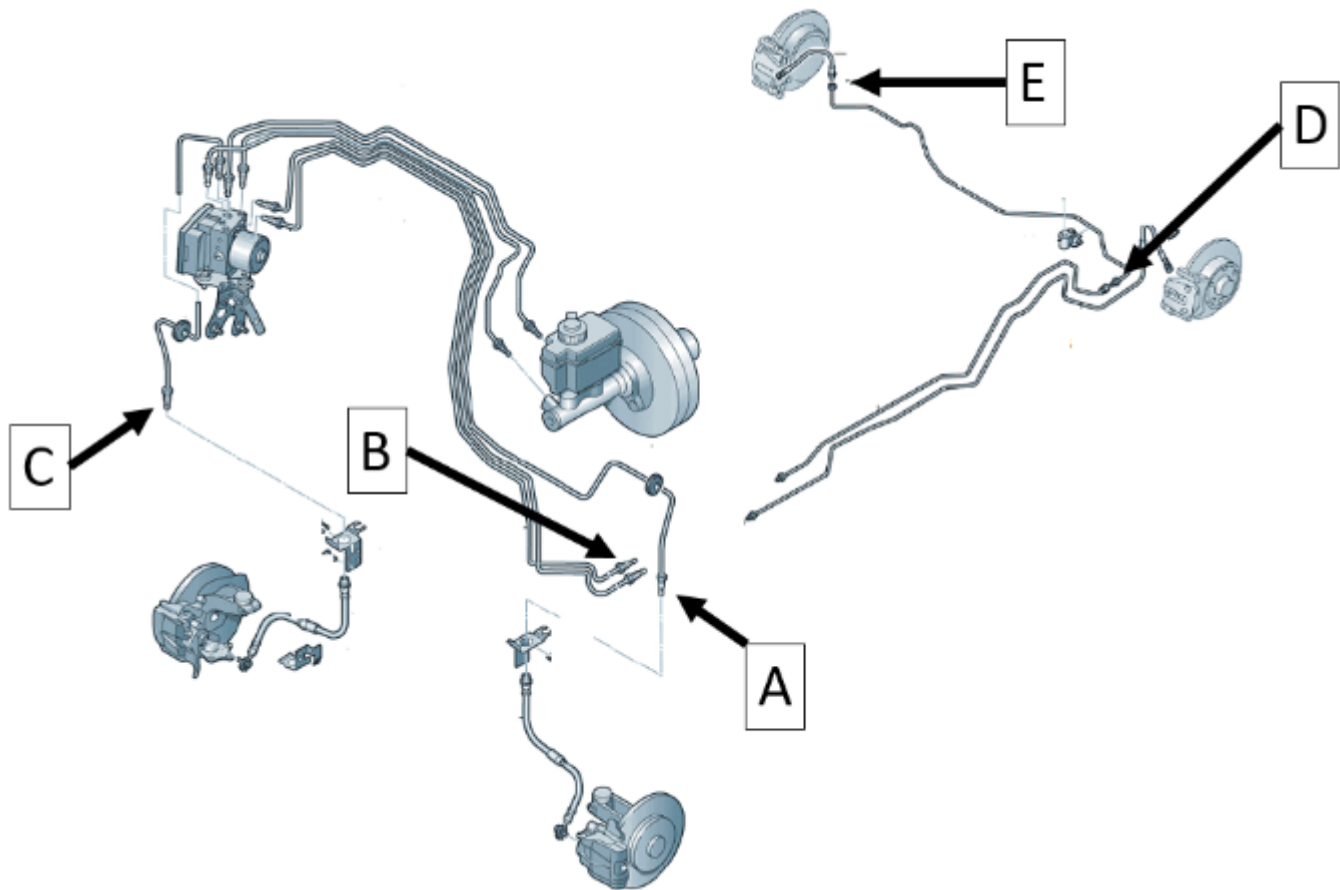
- Secure the subframe to the -VAS6931- with the accompanying strap.



- Remove the retaining clip <A>.

**TIP**

Clip can be unscrewed and does not have to be pried off.



- Place a drain pan or absorbent mats on the floor to capture leaking brake fluid.
- For vehicles with only criteria 01, disconnect brake line connections <A and B> and allow the lines to drain.
- For vehicles with both criteria 01 and 02, disconnect brake line connections <A through E> and allow the lines to drain.

**! NOTE**

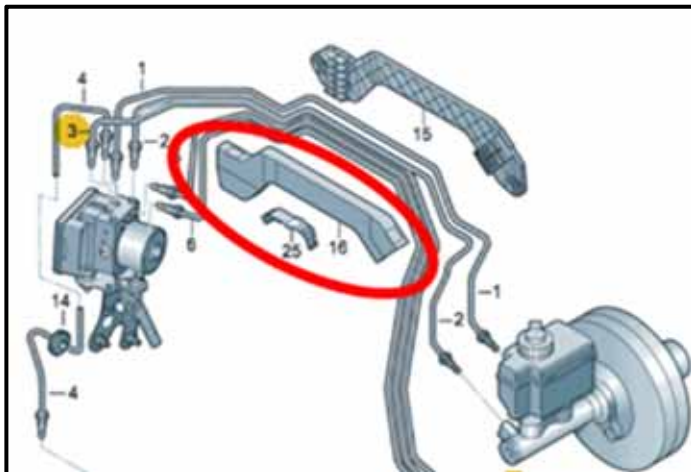
Be certain the correct line has been identified before disconnecting the fitting. The mid-line to RR caliper brake line is the further inboard of the two rear brake lines, and the connection fitting is located further towards the rear of the vehicle. Do not loosen the incorrect line.



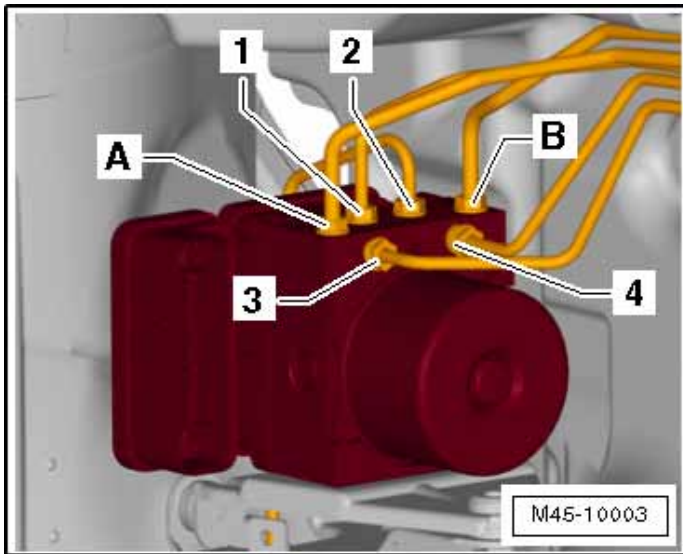
- Secure a low profile drain pan directly underneath the ABS Pump located near the passenger side firewall area.
- Lower the vehicle using caution to not contact the low profile drain pans under each wheel well area and under the ABS pump.



- Pull the padding clear of the brake master cylinder starting at the top, as shown.
- Carefully work the insulation padding out of the vehicle between the master cylinder and the engine/transmission.
- Once the padding is clear of the master cylinder, it can be removed from above or below.



- Remove the brake line cowl cover <16> from the firewall/cowl area.



- Disconnect all of the brake lines <1, 2, 3, 4, A, and B> at the ABS Module.

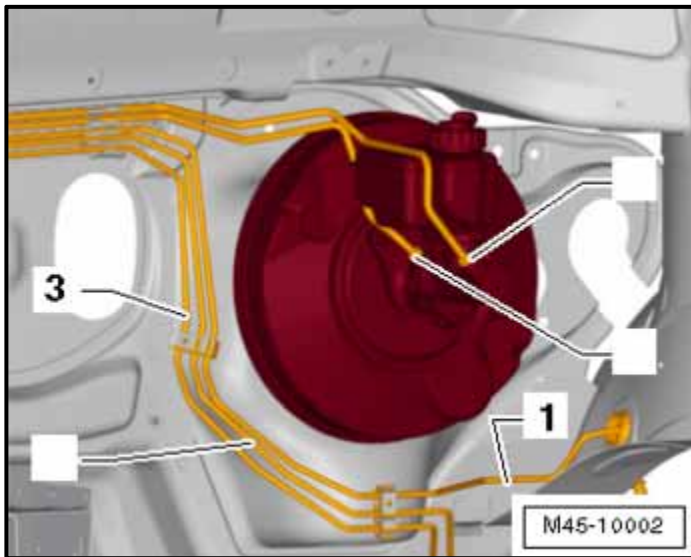
### ⚠ CAUTION

There will be residual fluid in the brake lines, and there will be brake fluid released from the ABS Pump. Take care as to allow as much of the fluid as possible to escape into the drain pans and not come into contact with any painted surfaces on the vehicle. Any fluid that does come in contact with the painted surfaces must be cleaned immediately. Consequential damage due to brake fluid contacting painted surfaces will not be covered under this action.

### ! NOTE

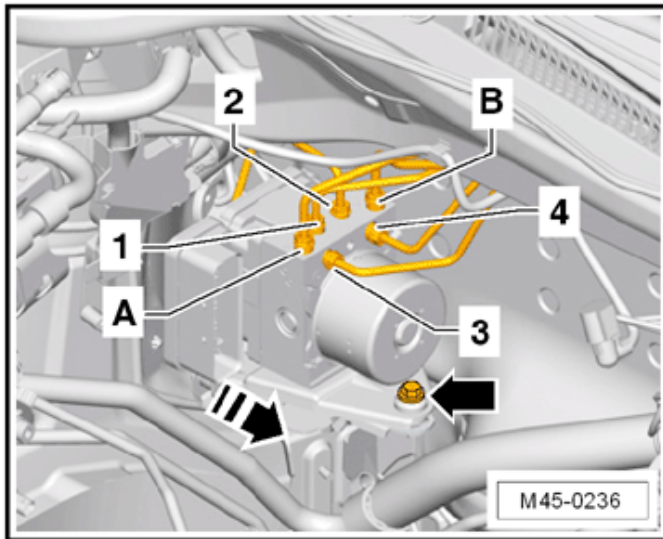
For reference, the brake line positions are as follows:

- 1 – Left front caliper (criteria 01 only)
- 2 – Right front caliper (criteria 01, 02)
- 3 – Right rear caliper (criteria 01, 02)
- 4 – Left rear caliper (not replaced)
- A and B – Master cylinder (not replaced)



- Unclip the brake lines <1> (to the left front caliper) and <3> (to the right rear caliper) from the securing clips around the brake booster and the upper cowl area of the firewall.





- Remove the retaining bolt on the ABS mounting bracket <arrow>.
- Move the ABS Pump toward drivers side of the vehicle in the <direction of the arrow> to allow enough clearance for removal of the brake lines.

<b>i</b> <b>TIP</b>
<ul style="list-style-type: none"> <li>• Brake line &lt;3&gt; will be removed first.</li> <li>• When removing brake line &lt;1&gt;, it will need to pass under brake lines &lt;A and B&gt;.</li> </ul>



- Pivot the brake lines out of the chassis in the direction of the <arrows> starting with the right rear line.
- Begin on the passenger side and swing the lines up and over the air conditioning lines and engine. Use caution as to not kink or bend any of the brake lines.
- Remove the left front brake line by pulling the end of the left front brake line through the grommet in the chassis located in the left front wheel well.

<b>⚠ CAUTION</b>
<p>There will be residual fluid in the brake lines. Take care as to allow the fluid to escape into the drain pans and not come into contact with any painted surfaces on the vehicle. Damage caused by brake fluid contacting painted surfaces is not covered under this action.</p>



- Install the new left front brake line <highlighted> by first setting the caliper side of the line into the far left (driver's side) corner of the firewall as shown, then route the line around the brake booster and into position on the firewall.

**⚠ CAUTION**

When installing the new brake line, do not kink the line.

Part Number	Part Description
5C1 614 723	Left Front Brake Line

- Insert the new left front brake line into the grommet through the chassis and into the flexible hose fitting before securing the line to the securing clips on the firewall.
- Do not tighten the fitting at this time.



- Install the new right rear brake line <highlighted> as shown by inserting the line between the firewall and the transmission, then rotate the line into position around the brake booster and into the firewall securing clips.

**⚠ CAUTION**

When installing the new brake line, do not kink the line.

Part Number	Part Description
5C1 614 726 A	Right Rear Brake Line from Distributor to Connecting Piece (ABS module to mid-pipe)

**FOR VEHICLES THAT HAVE BOTH CRITERIA 01 AND 02 OPEN, INSTALL THE BRAKE LINE TO THE RIGHT FRONT CALIPER AT THIS TIME:**



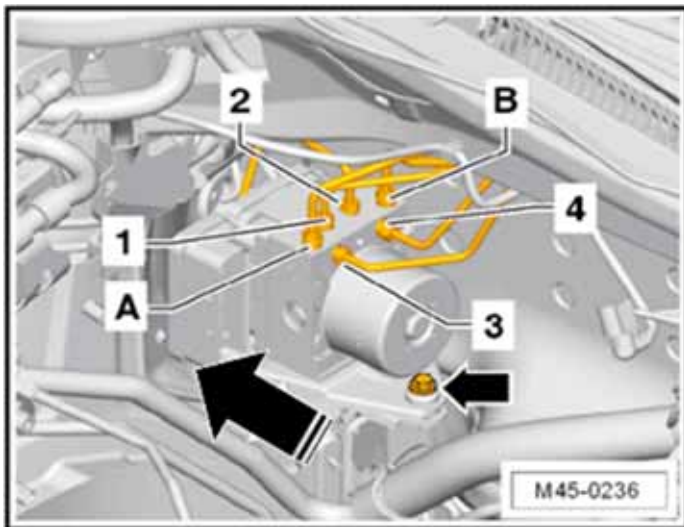
- Install the new right front brake line by first inserting the line through the grommet in the chassis.
- Insert the new right front brake line into the flexible hose fitting <A> but do not tighten the fitting at this time.

**⚠ CAUTION**

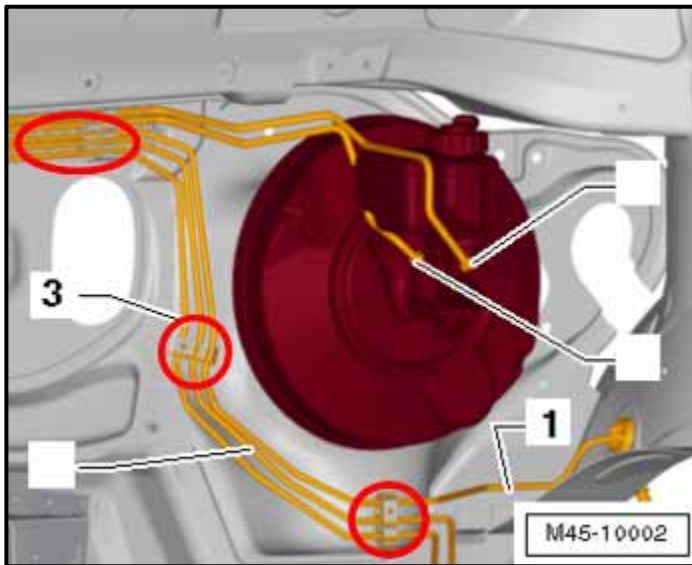
When installing the new brake line, do not kink the line.

Part Number	Part Description
5C1 614 724	Right Front Brake Line

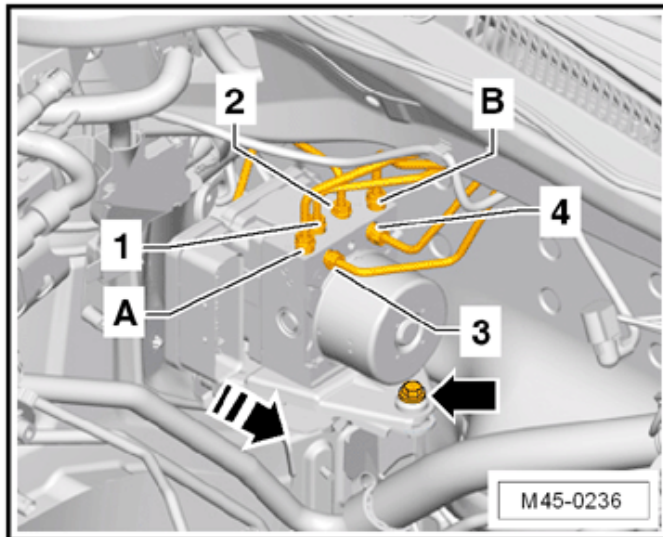
**CONTINUED FOR ALL CRITERIA:**



- Return the ABS Pump to its mounting position on the securing grommets by moving the ABS Pump toward passenger side of the vehicle in the direction of the <arrow> and secure the ABS Pump onto the grommets.
- Reinstall the retaining bolt on the ABS mounting bracket <arrow> and torque the bolt to 8 Nm.



- Secure brake lines into their fittings, as shown.



- Align all brake lines with their appropriate locations in the ABS pump and tighten the fittings a few turns by hand to hold them secure. Do not fully tighten the fittings at this time.

**NOTE**

For reference, the brake line positions are as follows:

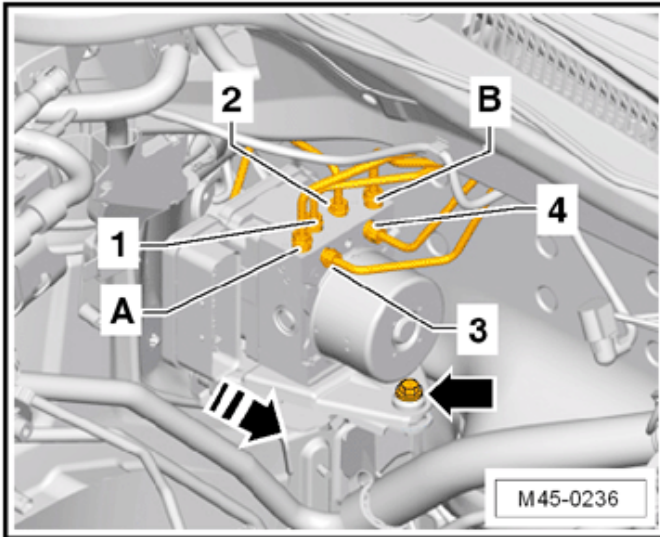
- 1 – Left front caliper (criteria 01 only).
- 2 – Right front caliper (criteria 01, 02).
- 3 – Right rear caliper (criteria 01, 02).
- 4 – Left rear caliper (not replaced).
- A and B – Master cylinder (not replaced).



- Tighten the fitting on the left front brake line <A> by hand, and torque to 12 Nm.
- If right front brake line was replaced under criteria 01, 02, tighten the right front brake line fitting by hand and torque to 12 Nm.

**CAUTION**

Do not exceed the specified torque or damage to the brake line may occur.



- Torque brake lines <1, 2, 3, and 4> to 12 Nm. Torque brake lines <A and B> to 14 Nm.
- Clean off all residual brake fluid.

**⚠ CAUTION**

Do not exceed the specified torque or damage to the brake line may occur.

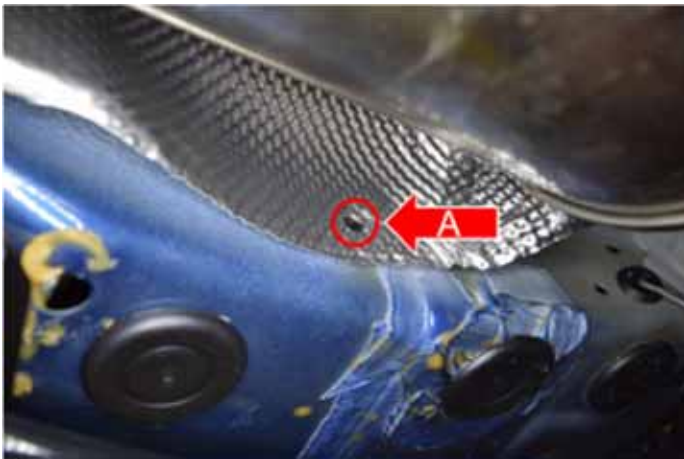
Vehicles with only criteria 01, Continue to Section D.

Vehicles with both criteria 01 and 02, Continue to Section C.

**Section C – Repair Procedure Criteria 01 and 02, Replace Right Rear (mid-pipe and rear axle) Brake Lines.**



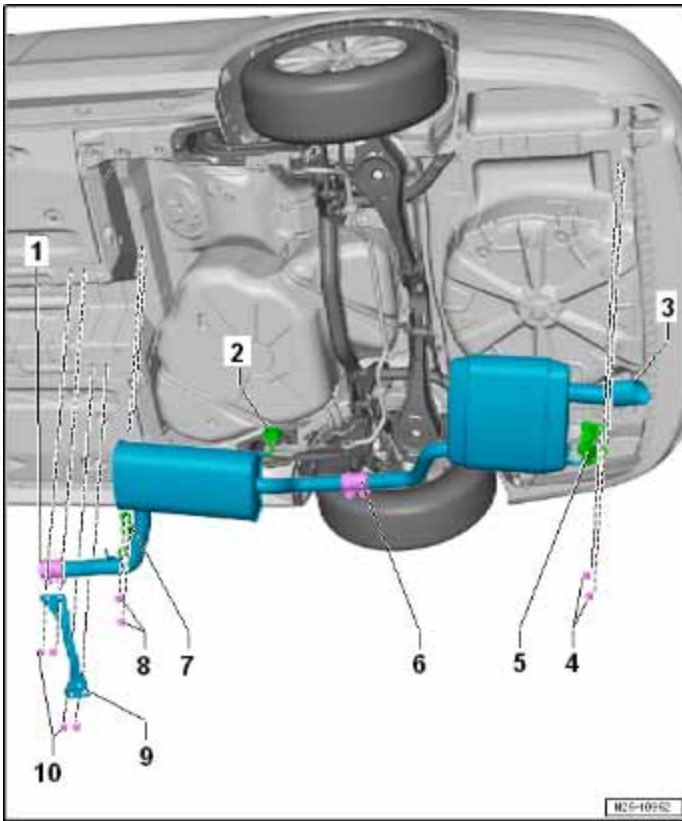
- Raise the vehicle.
- Remove the fuel tank strap bolt <A>.



- Remove screw <A> from the muffler heat shield.



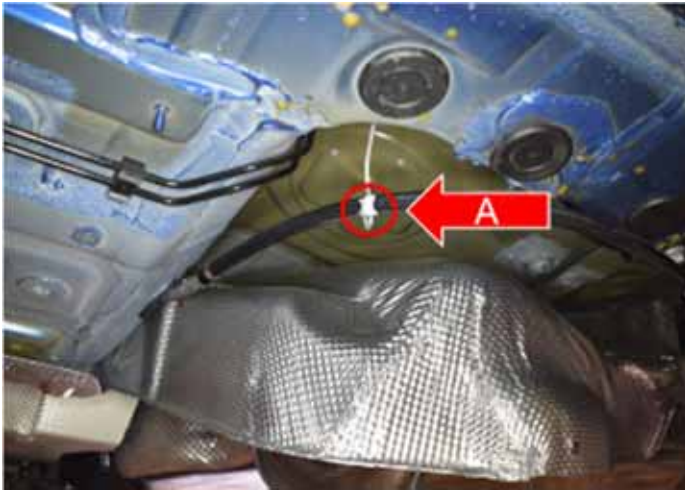
- Remove heat shield fastener <A>.



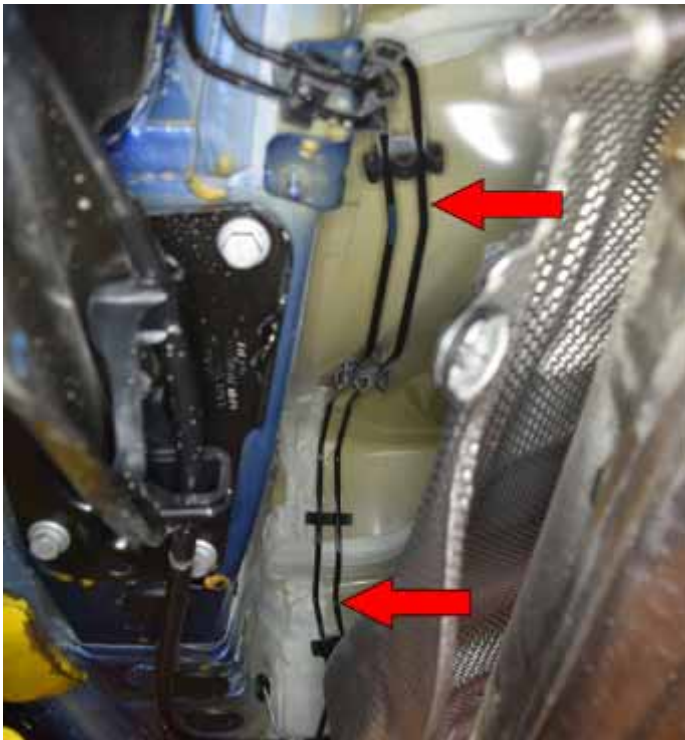
- Remove exhaust hanger bolts <8> and <4>.



- Disconnect the rubber isolator from the muffler <A>.
- Lower the exhaust system onto the rear subframe.
- Tilt heat shield down to gain access to the brake line retaining clips.



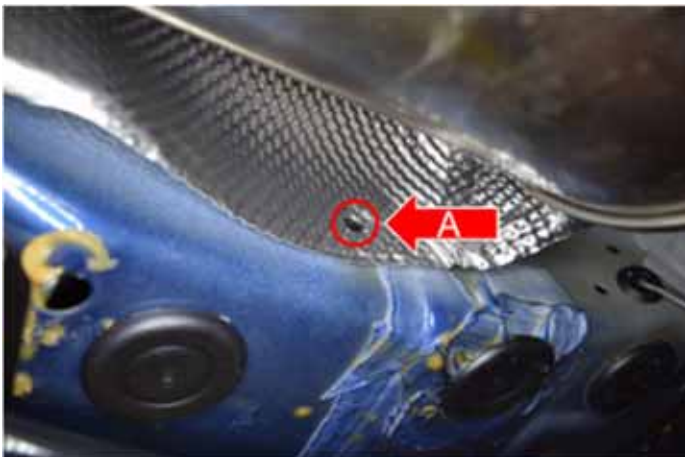
- Disconnect the emergency brake cable wire clip <A>.



- Disconnect the “mid-line” <arrows> from the retaining clips and remove the brake line.
- Install the new brake line into the retaining clips. Do not attach any of the fittings at this time.

**CAUTION**  
When installing the new brake line, do not kink the line.

Part Number	Part Description
561 614 742 B	RR caliper mid-line.



- Reposition heat shield.
- Install heat shield screw <A> and torque to 2.5 Nm.



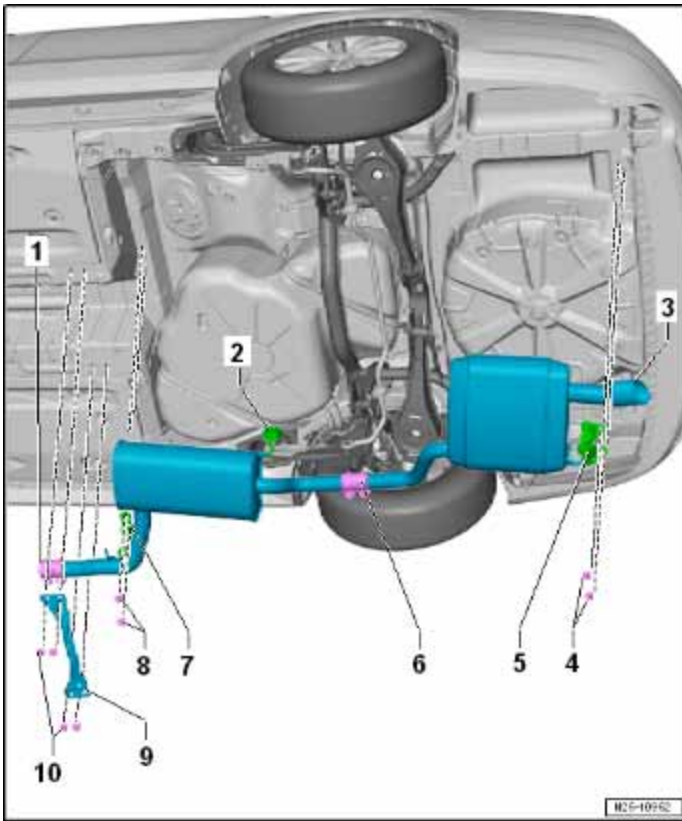


- Install a new fuel tank strap bolt <A> and tighten to 20 Nm + 90° additional turn.

Part Number	Part Description
N 104 160 03	Bolt, Hex. Hd. M8x25 (fuel tank strap bolt)



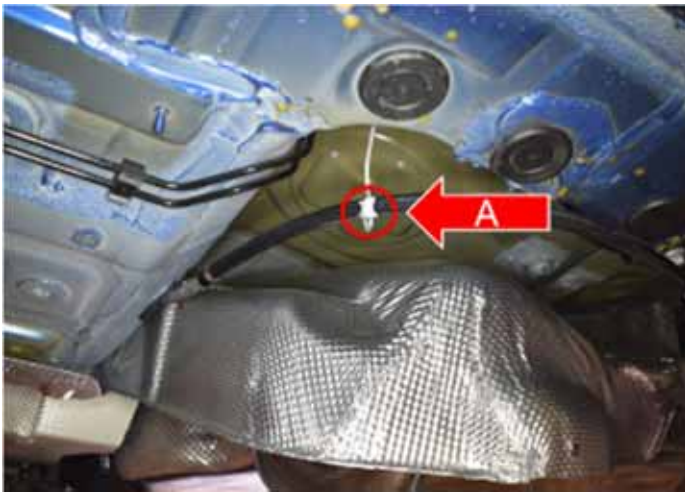
- Reconnect the rubber isolator <A>.



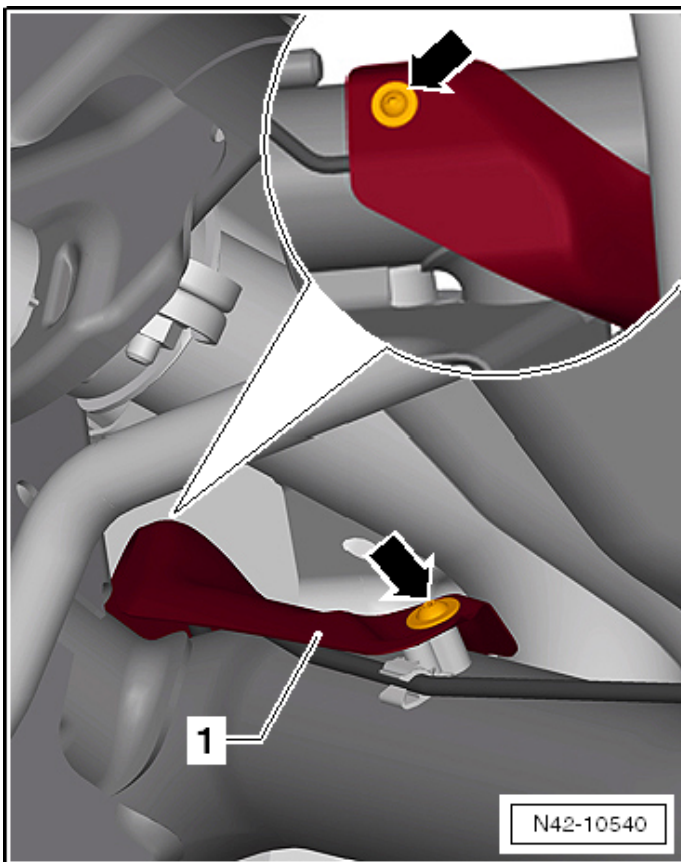
- Install exhaust hanger bolts <8> and <4> and torque to 25 Nm.



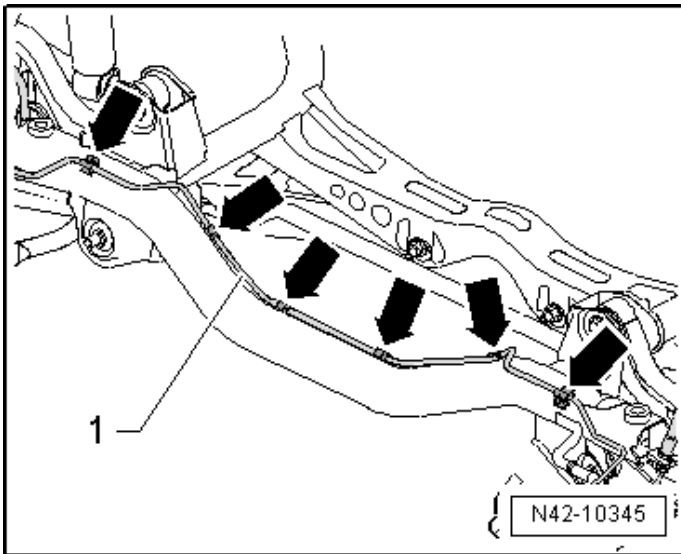
- Install heat shield fastener <A>.



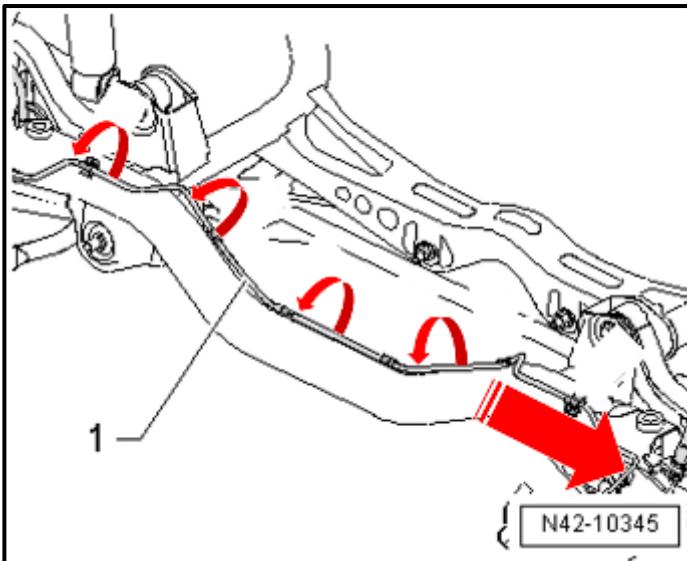
- Secure the emergency brake cable into the metal retaining clip/hook <A>.



- Remove screws <arrows> and remove heat shield <1> from the rear subframe.



- Unclip the right rear over-axle brake line <1> from the securing clips <arrows>.



- In a simultaneous motion rotate the brake line counterclockwise (toward the front of the vehicle) and remove toward the driver's side of the vehicle.
- Install the new brake line in the opposite rotation/direction of travel as removed and secure the line into the clips.

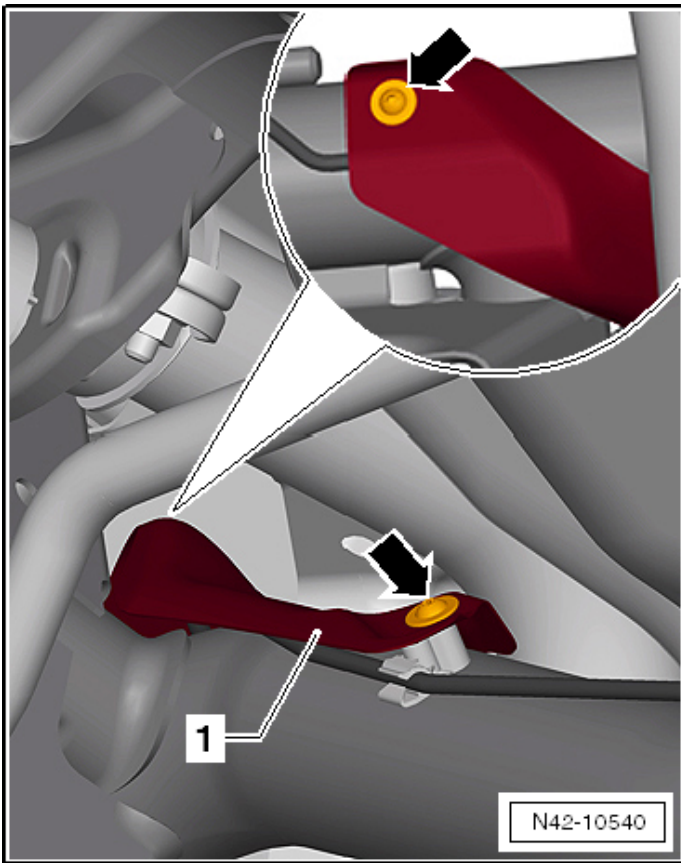
#### **CAUTION**

When installing the new brake line, do not kink the line.

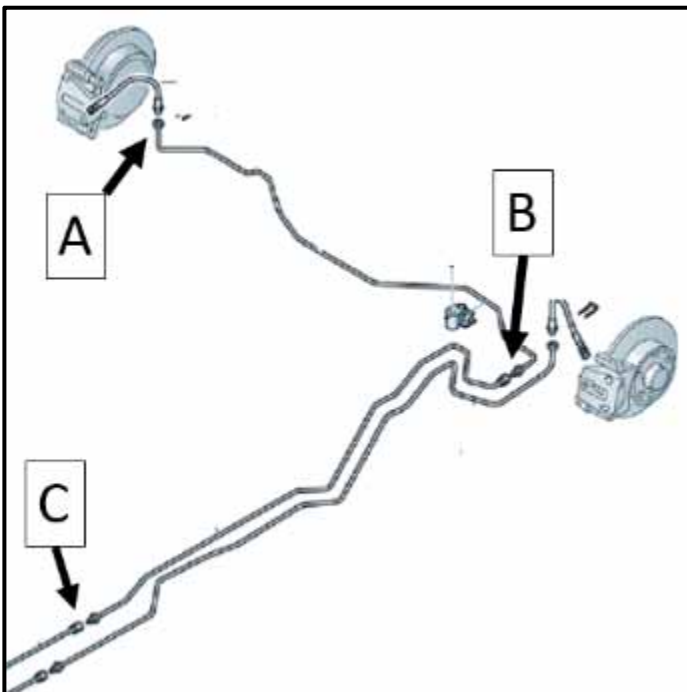
Part Number	Part Description
561 611 782 D	Right Rear Brake Line (over rear axle)

#### **TIP**

It is advisable to practice the removal and installation of the brake line multiple times using the old part to determine the precise routing and rotational degrees required to install the line without bending it. Once the routing and rotation has been understood, install the new line using those practiced motions.



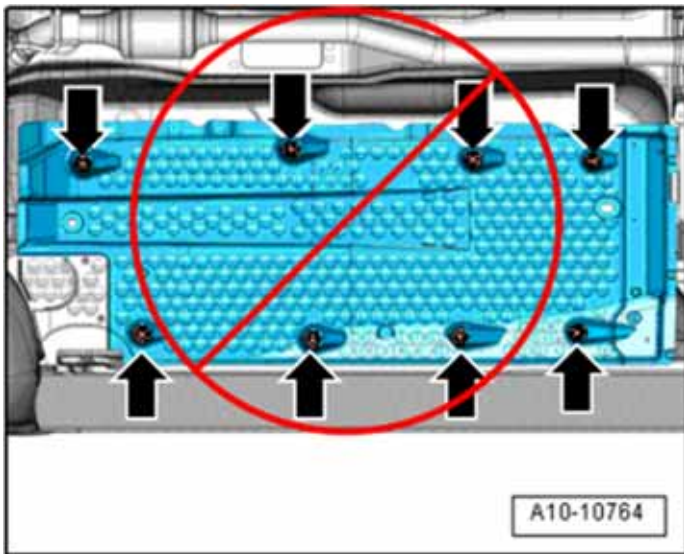
- Install the heat shield <1> and tighten the screws <arrows> to 2.5 Nm.



- Install brake line connections <A, B and C> and torque fittings to 12 Nm.

**⚠ CAUTION**

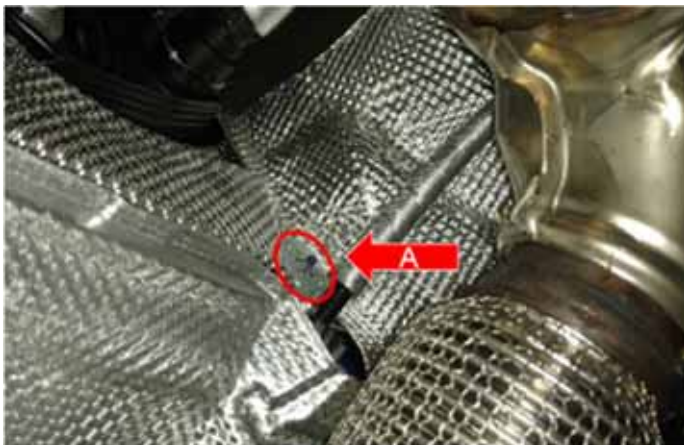
- When torquing connections <B and C>, be sure to counterhold the opposite fitting with a suitable wrench.
- Do not exceed the specified torque or damage to the brake line may occur.



- DO NOT reinstall the under body panels at this time. Leaving the underbody panels off for the time being will allow for easier leak inspection during and after the brake bleeding process.



- Reinstall the brake booster insulation padding by first carefully working the insulation padding between master cylinder and the engine/transmission.
- Once in position, push the insulation padding over the top of the brake master cylinder onto the firewall.



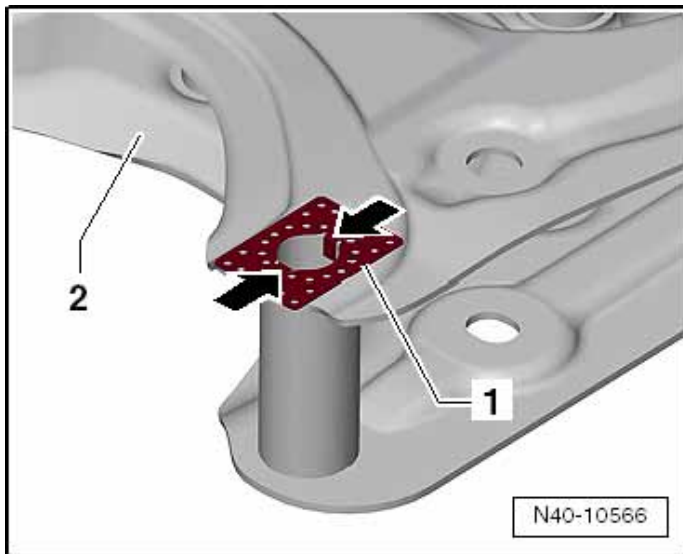
- Reinstall the retaining clip <A> securing the lower section of the brake booster insulation located near the transmission shift cable on the underside of the brake booster.

**i TIP**

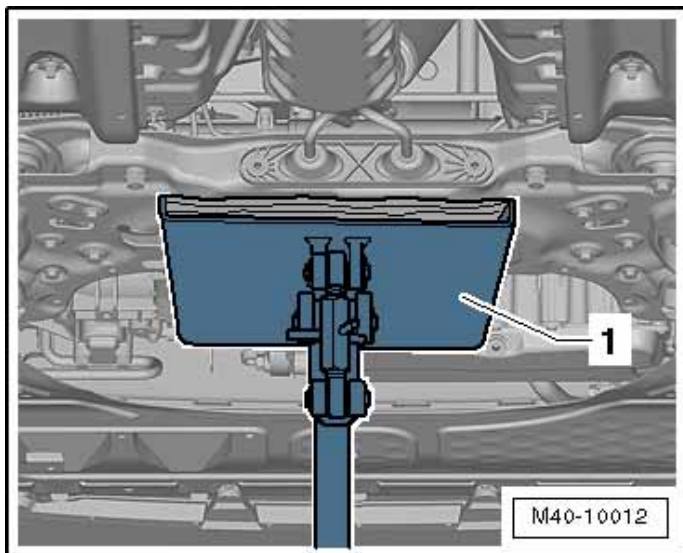
The retaining clip <A> can be accessed from the top side of the vehicle, or the bottom.

**Proceed to Section D**

## Section D – Repair Procedure, Reassembly and Brake Bleeding (all criteria)



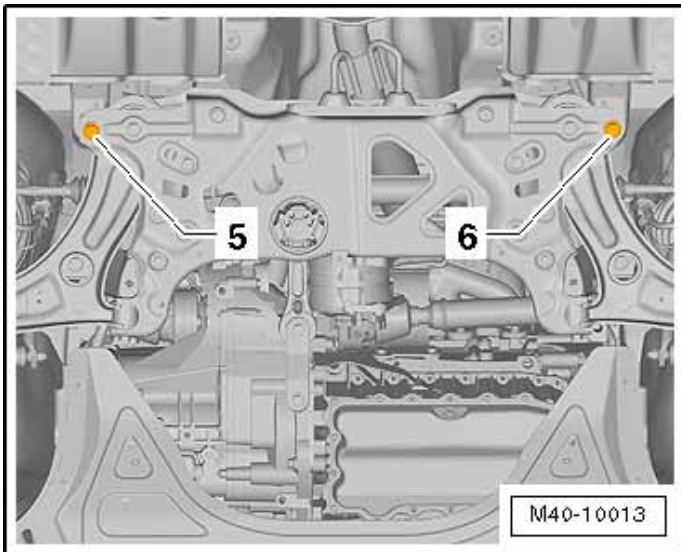
- Always make sure the intermediate plate <1> is installed between the subframe <2> and the body.
- Insert the long side of the intermediate plate <1> so that it is perpendicular to direction of travel. The tabs <arrows> lock into the subframe <2>.



- Raise the -VAS6931- <1> to position the subframe into the installed position leaving enough gap between the body and the subframe to allow for alignment adjustments.
- Route the Electromechanical steering gear wiring harness into the engine compartment.

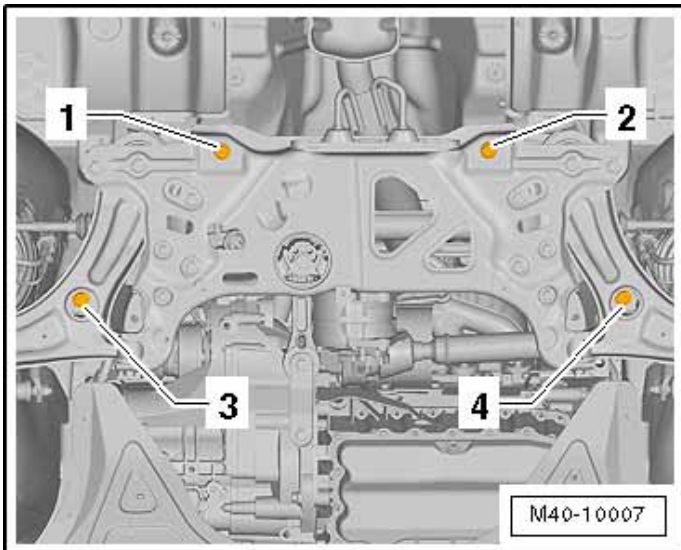
### CAUTION

Use extreme care when raising the subframe to avoid damage to wiring harnesses.



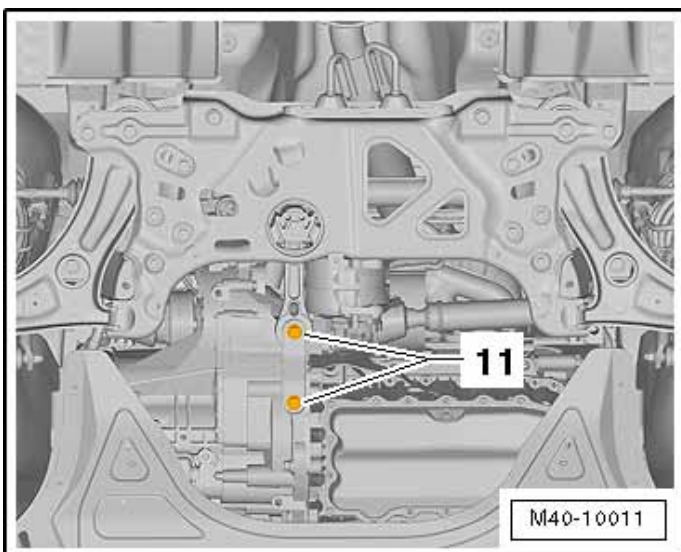
- Gently raise the subframe into position using the -VAS6931- and install new bolts <5 and 6> and tighten by hand.
- Torque the new bolts <5 and 6> to 70 Nm + 180° additional turn.

Part Number	Part Description
N 912 084 01	Bolt, hex. Hd. With Shoulder M12x105 (subframe) (x2)



- Remove the locating pins -T10452- and -T10096- in only one location at a time. Install a new subframe bolt into each location as each of the locating pins are removed.
- Remove the locating pins one at a time and immediately install a new subframe bolt in the following location order <4, 3, 2, and 1>.
- Torque the bolts to 70 Nm + 180° additional turn as each bolt is installed.

Part Number	Part Description
N 912 084 01	Bolt, hex. Hd. With Shoulder M12x105 (subframe x2, installed in positions 1 and 2)
N 911 433 01	Hexagon Flange Screw M12x95 (subframe x2, installed in positions 3 and 4)

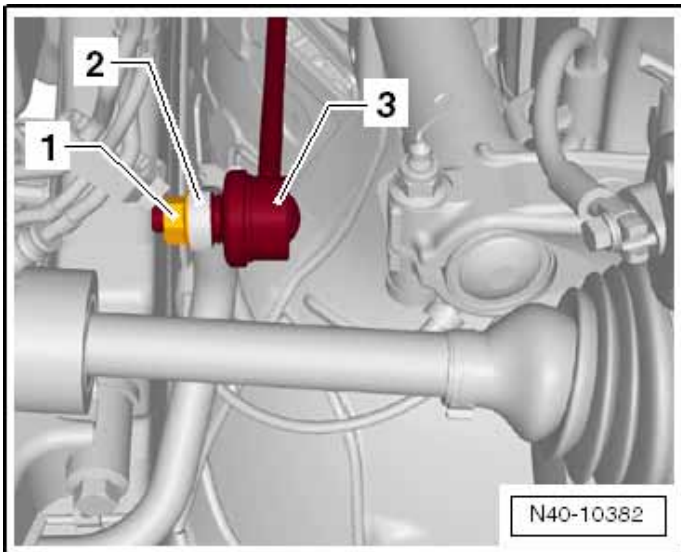


- Install new bolts <11> and then align the pendulum support to the transmission.
- Torque the new bolts to 50 Nm + 90° additional turn.

! NOTE	
The longer of the two bolts goes towards the rear of the transmission.	

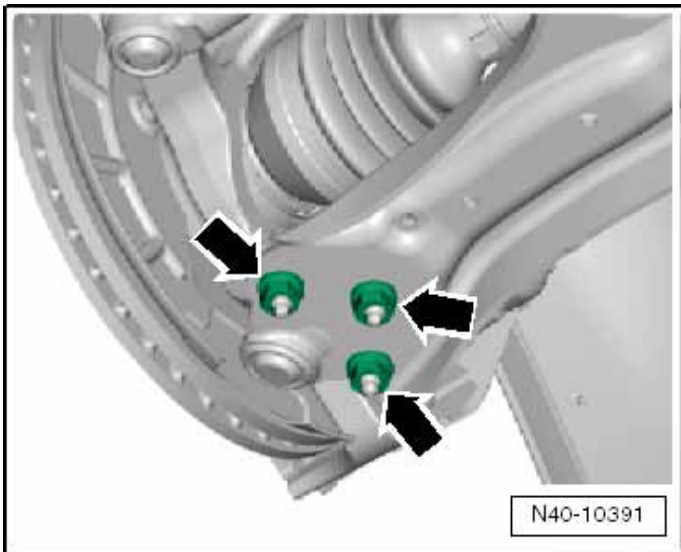
Part Number	Part Description
N 911 671 01	Bolt, Hex Head w/ Shoulder M10x75 (transmission mount)
N 910 661 01	Bolt, Hex Head w/ Shoulder M10x35 (transmission mount)





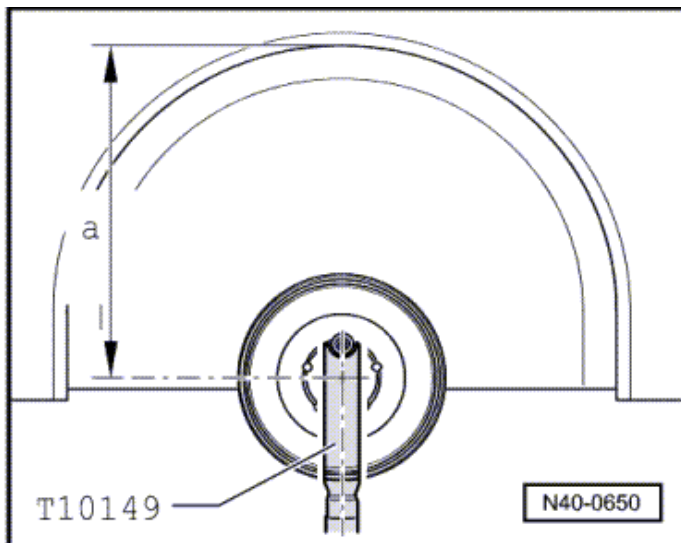
- Reinstall the stabilizer bar links <3> to the stabilizer bar <2> on the left and right sides.
- Install the new nut <1> onto the right and left stabilizer link <3> and torque to 65 Nm.

Part Number	Part Description
N 015 081 6	Shouldered Hex Nut (anti-sway bar link) (x2)

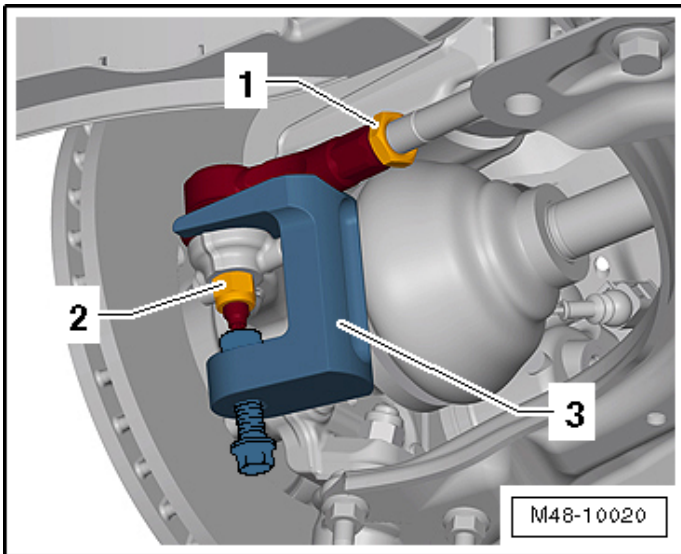


- Reinstall the control arm onto the ball joint.
- Install new nuts <arrows> on left and right side of vehicle and tighten by hand.

Part Number	Part Description
N 103 320 02	Shouldered Hex Nut (ball joint) (x6)

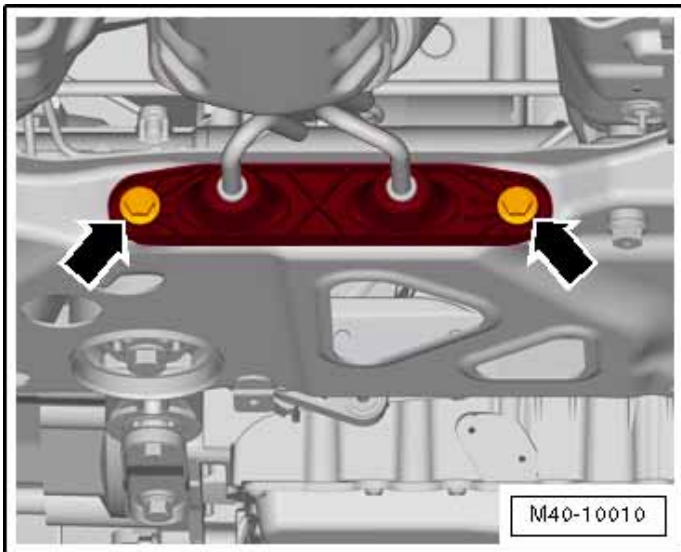


- The vehicle must be strapped to lift arms of hoist using -T10038-.
- Using the -VAS6931- Engine and Gearbox Jack and the -T10149- Engine/Gearbox Jack Adapter - Wheel Hub Support, lift the corresponding hub and suspension assembly to the curb weight position.
- Torque the ball joint to control arm nuts to 100 Nm once curb weight position has been achieved.

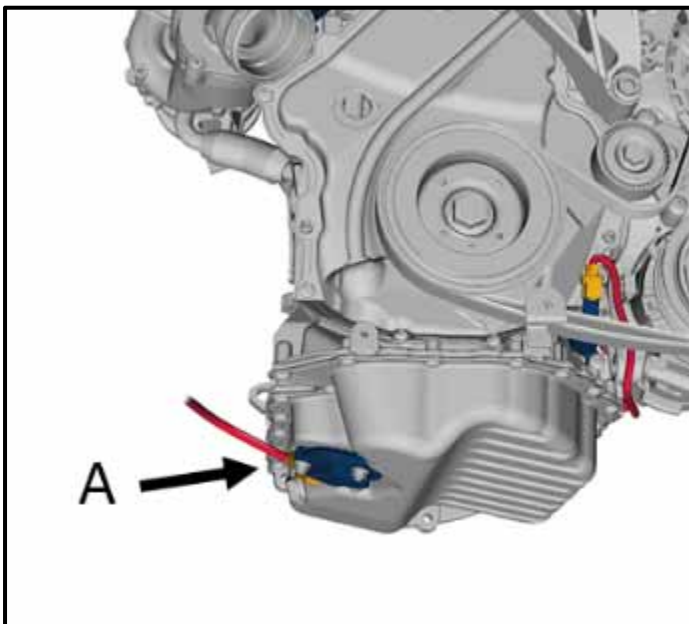


- Reinstall the tie rod end <1>.
- Install a new locking nut <2>, counterhold, if necessary, and torque to 20 Nm + 90° additional turn.

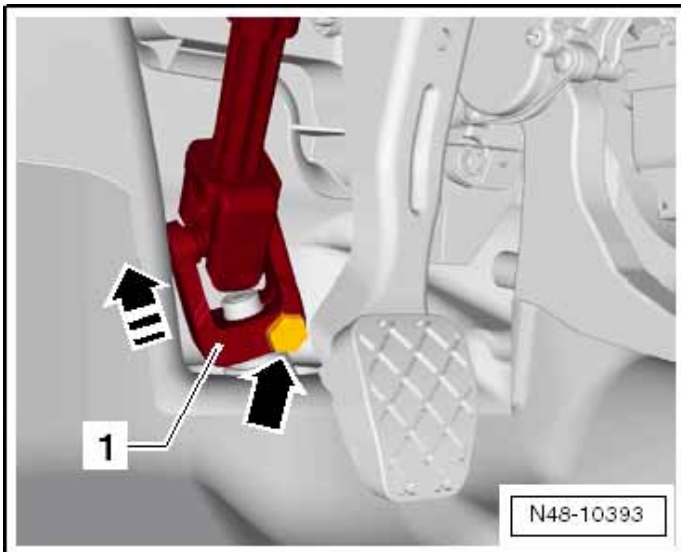
Part Number	Part Description
N 906 350 01	Hex. Nut, Self-Locking (tie rod end)



- Reinstall the exhaust system bracket onto the subframe and torque bolts <arrows> to 23 Nm.



- Reinstall oil level sensor connector <A>.



- Lower the vehicle.
- Install the steering shaft onto the steering rack in the same position it was removed.
- Install a new bolt <arrow> onto the universal joint <1> and tighten to 30 Nm.

Part Number	Part Description
N 010 335 13	Screw, Hex. Hd. M8x35x22 (steering column)

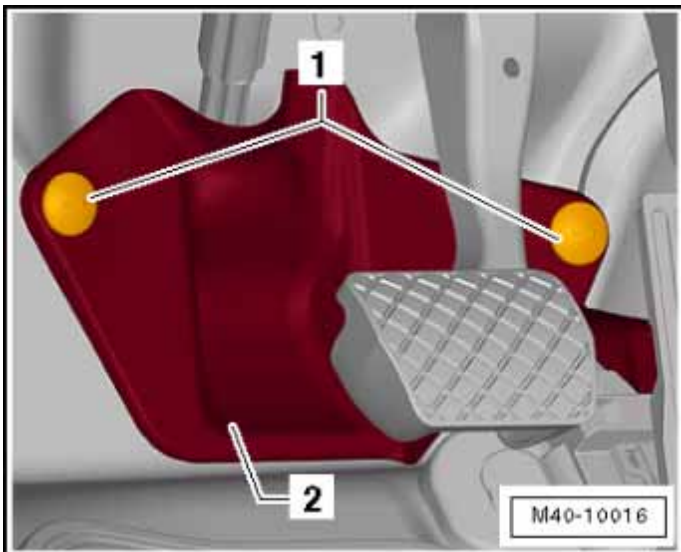
### **⚠ CAUTION**

If the universal joint is separated from the electromechanical steering gear, the following work cannot be performed:

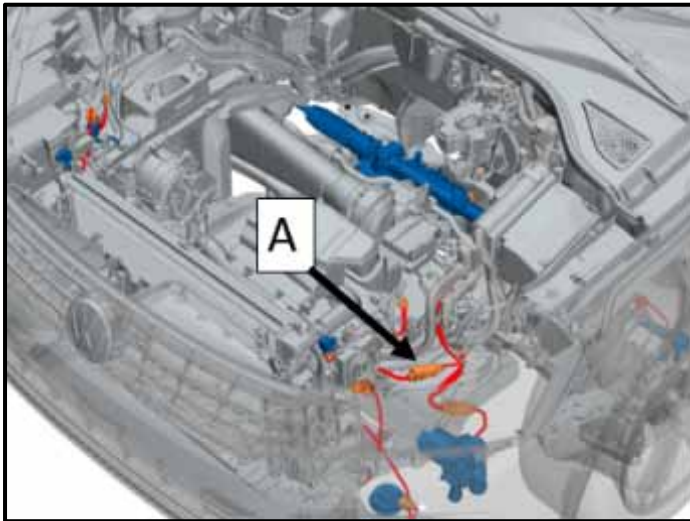
- Ignition switched on.
- Turning the steering gear.
- Turning the steering column.

**These points must be observed, because otherwise it can cause irreparable damage.**

**Only remove the universal joint with the steering wheel in the centered and locked position.**



- Reinstall the footwell trim panel <2> and reinstall fasteners <1>.



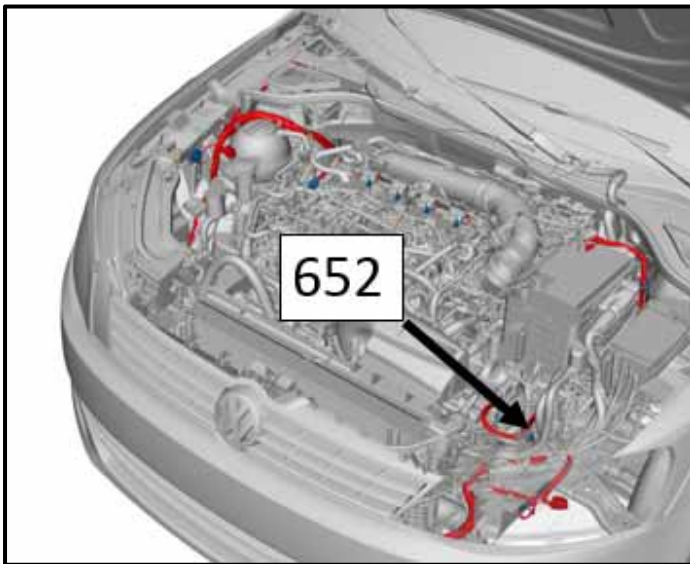
- Reconnect connector <A> and reinstall into the securing clip.

**TIP**

- Connector <A> is part of the Electromechanical steering gear wiring harness and is located on top of the left frame rail.
- For vehicles with secondary air, connector <A> will be partially covered by the secondary air hoses. The hoses do not have to be removed.

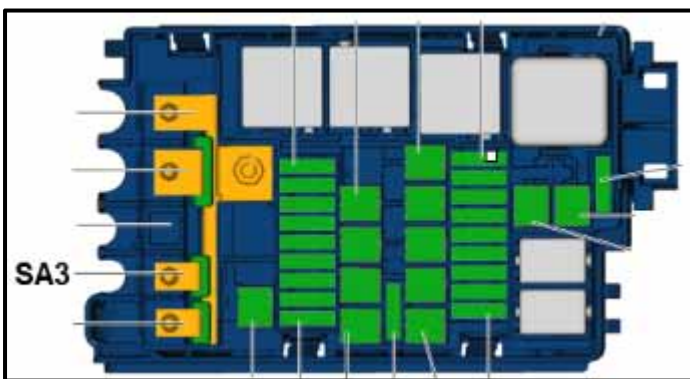
- Secure the Electromechanical steering gear wiring harness into the guide channel and close the channel cover.

- Install nut for ground location 652 on the left frame rail and torque to 20 Nm.



**CAUTION**

Tightening ground connection 652 to the correct torque spec is critical in order to avoid future complications.



- Reinstall connection <SA3> to the underhood fuse panel and torque to 9 Nm.

**CAUTION**

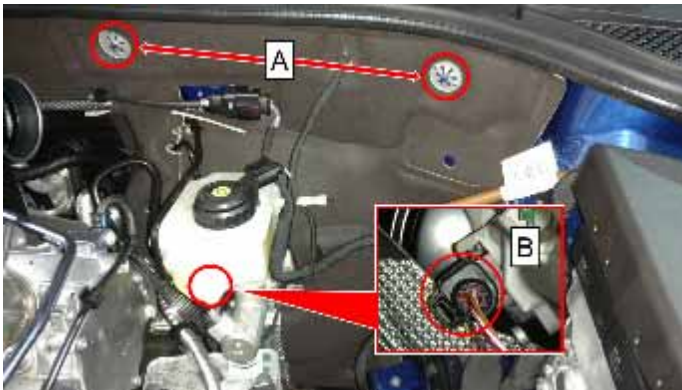
Tightening the SA3 cable to the correct torque spec is critical in order to avoid future complications.



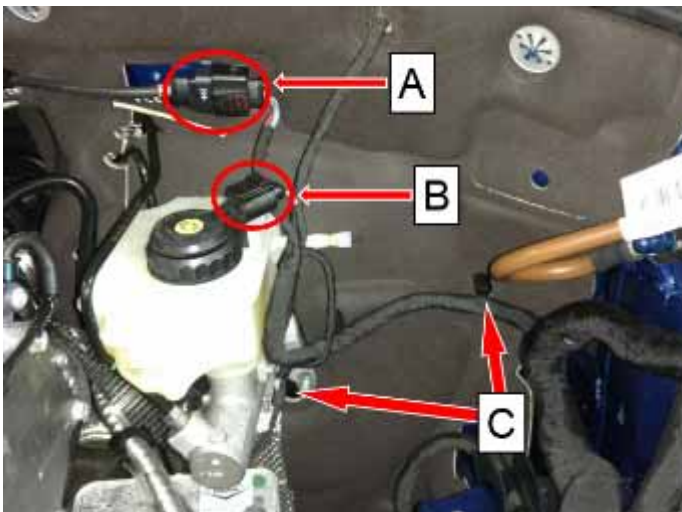
- Unsecure the electrical harness and guide it through the relief cut in the firewall insulation panel to the installed position.

**NOTE**

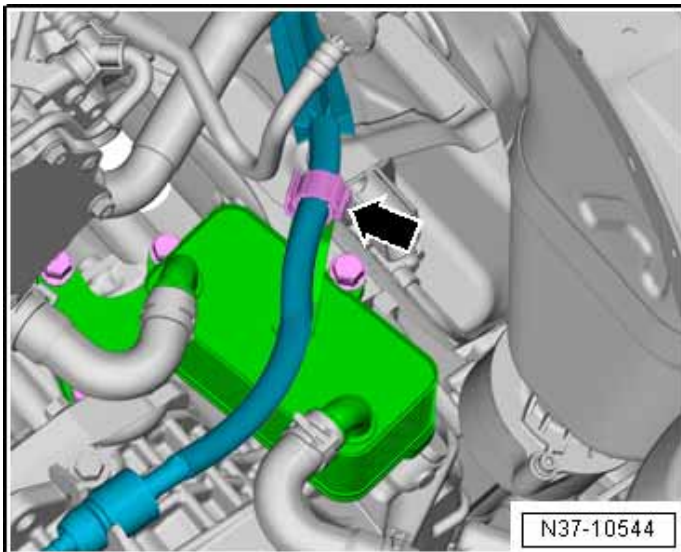
Be sure the wiring harness rubber grommet is secured into position before returning the insulation panel to the installed position.



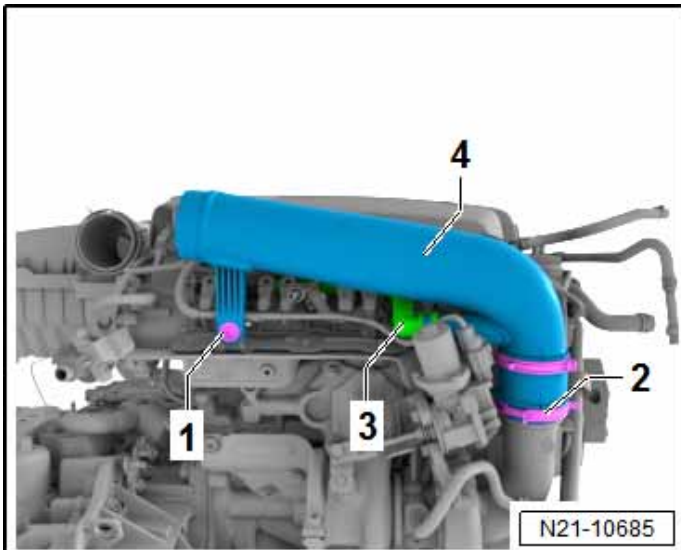
- Reinstall the two retaining clips <A> onto the firewall insulation panel.
- Reconnect connector <B>.



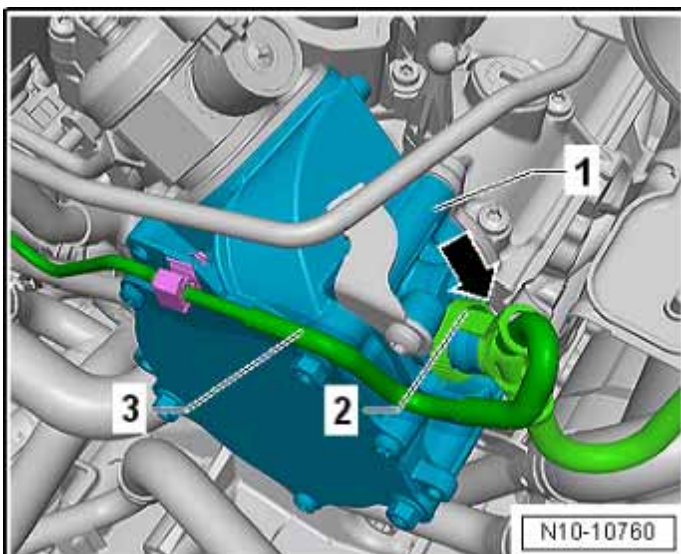
- Reconnect the electrical connectors <A and B> and close the red locking tabs on each connector.
- Reattach electrical connector <A> onto the firewall by sliding the connector downwards onto the securing tab.
- Secure wiring harness clips <C>.



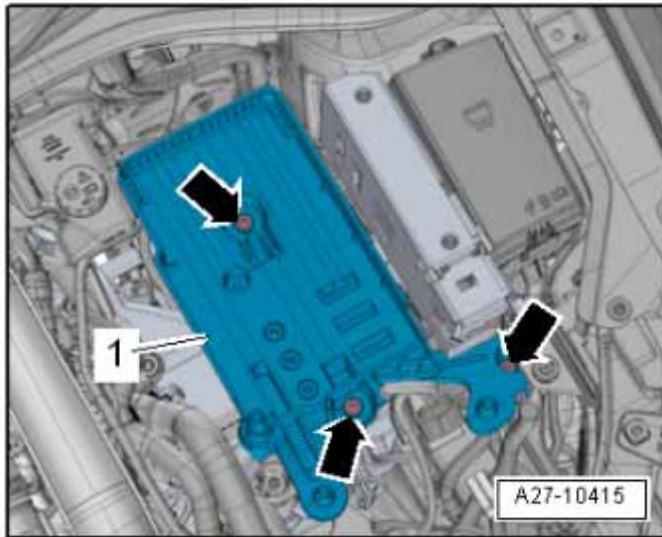
- Reinstall the wire loom clip <arrow> onto the bracket.
- Reconnect the selector lever cable to the loom clip <arrow> on the bracket of the heat exchanger.



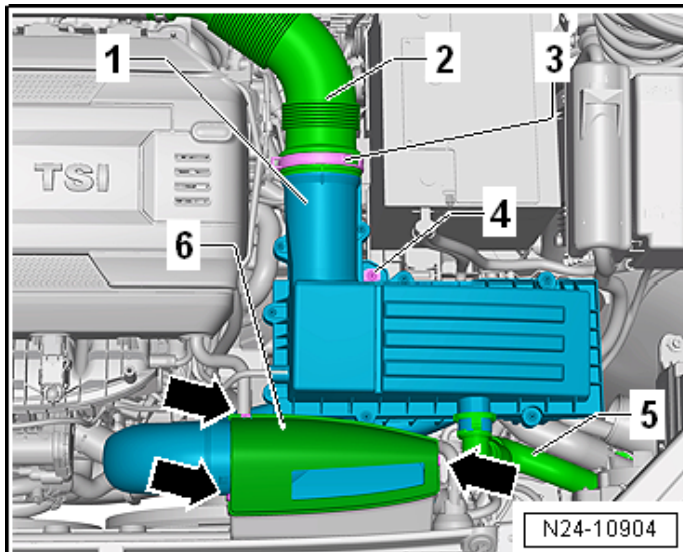
- Remove bung from turbocharger.
- Reconnect the crankcase ventilation tube to the air duct pipe. Considerable effort may be required to reconnect the connector.
- Loosen the hose clamp <2>, reinstall the air duct pipe <4> onto the turbocharger, and secure the clamp <2>.
- Reinstall the air duct pipe bolt <1> and torque to 5 Nm.



- Reinstall the vacuum hose <3> onto the vacuum pump <arrow>.
- Reinstall the vacuum line <3> to the brake booster.



- Reinstall the battery tray <1> and torque bolts <arrows> to 10 Nm.

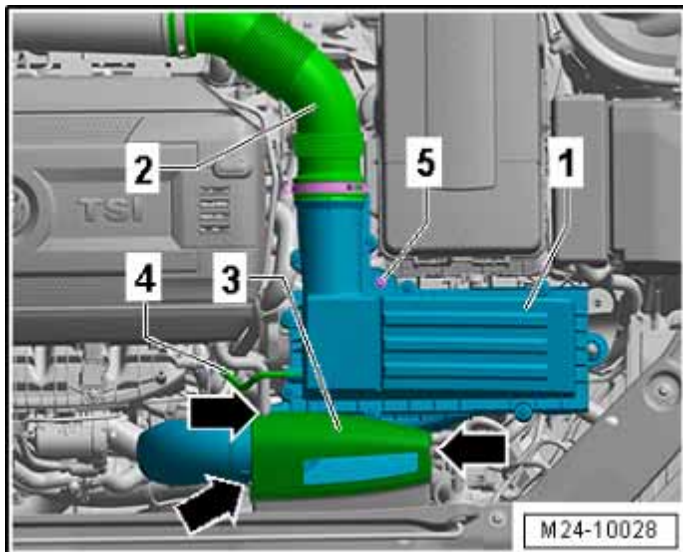


**Vehicles with Secondary Air System:**

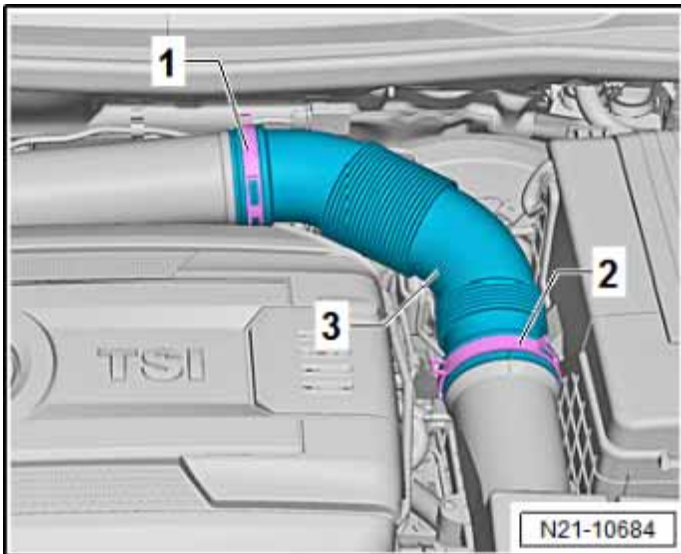
- Reconnect the secondary air line connection <5> onto the air filter housing by pressing the connector onto the air filter housing until it locks into place.

**Continuation for All Vehicles:**

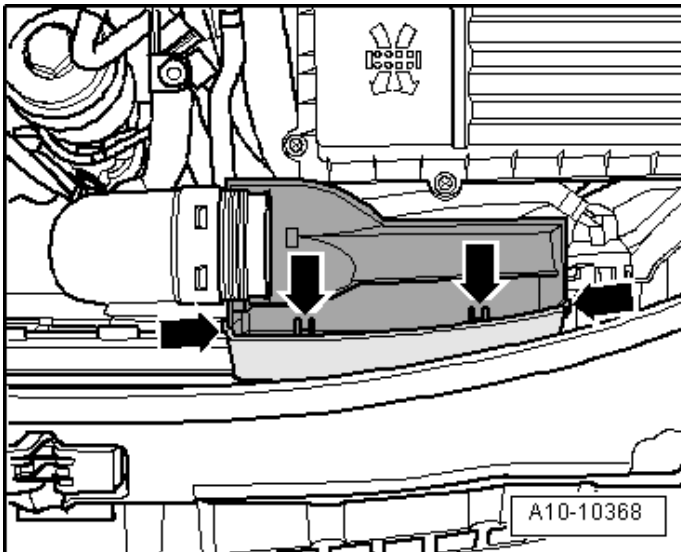
- Reinstall the air filter housing <1> together with the air intake connection.



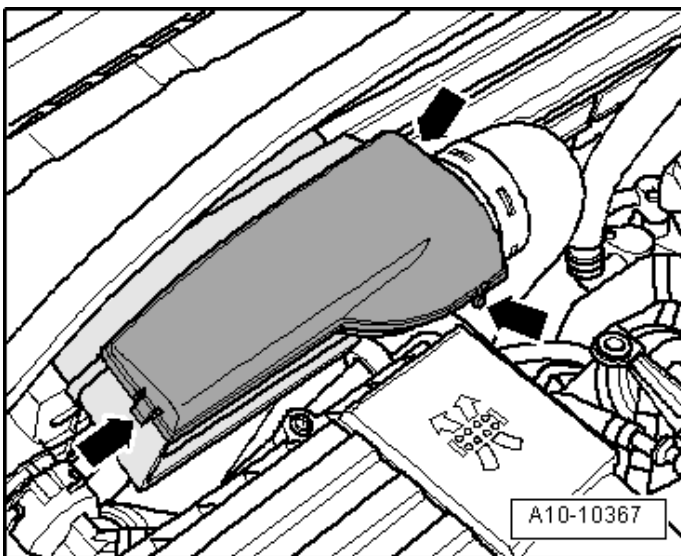
- Reinstall the vacuum line <4> onto the air filter housing.
- Verify the air filter housing is properly seated on the grommets and torque bolt <5> to 8 Nm.



- Reinstall clamp <1>.

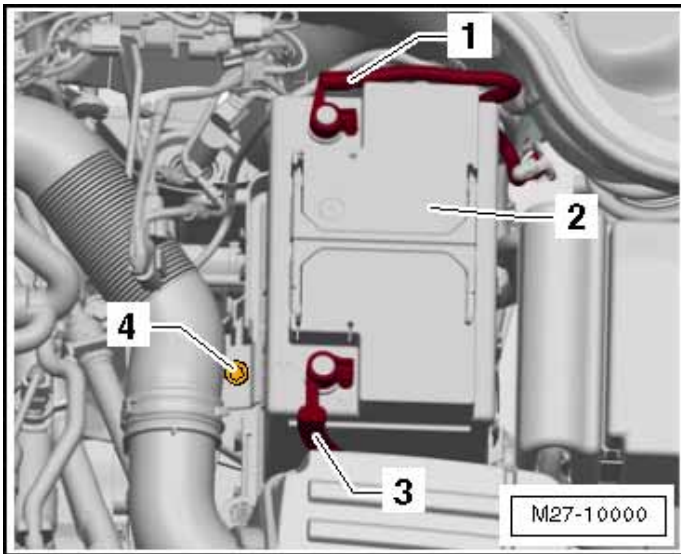


- Reengage air duct at <arrows>.



- Install air duct cover at <arrows>.

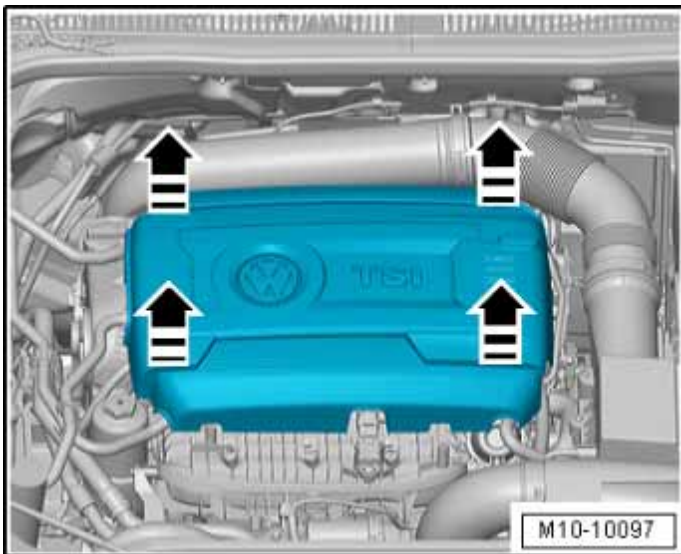




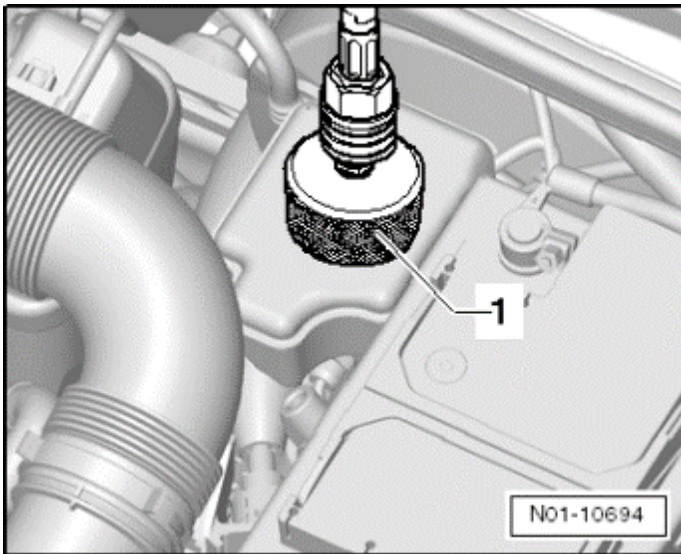
- Reinstall the battery with battery cover.
- Install the bolt <4> through the clamping plate and tighten to 20 Nm.
- Reconnect the battery positive cable terminal clamp <3> and torque the nut to 6 Nm.
- Reconnect the battery ground cable terminal clamp <1> and torque the nut to 6 Nm.



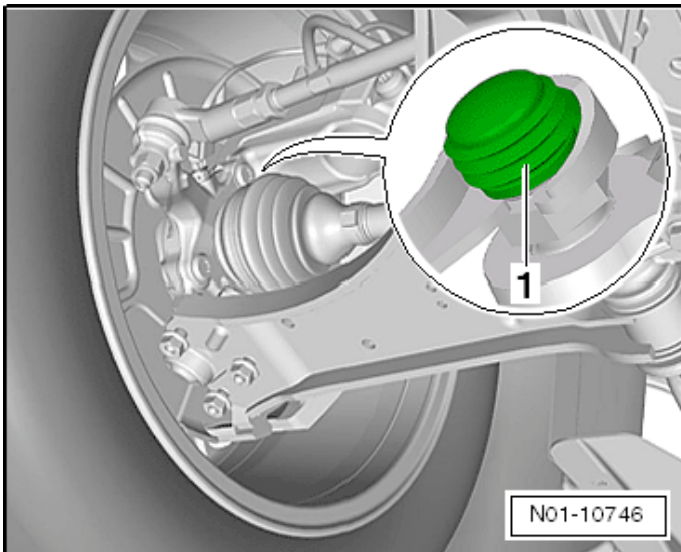
- Secure the battery cover <1> and close the cover.



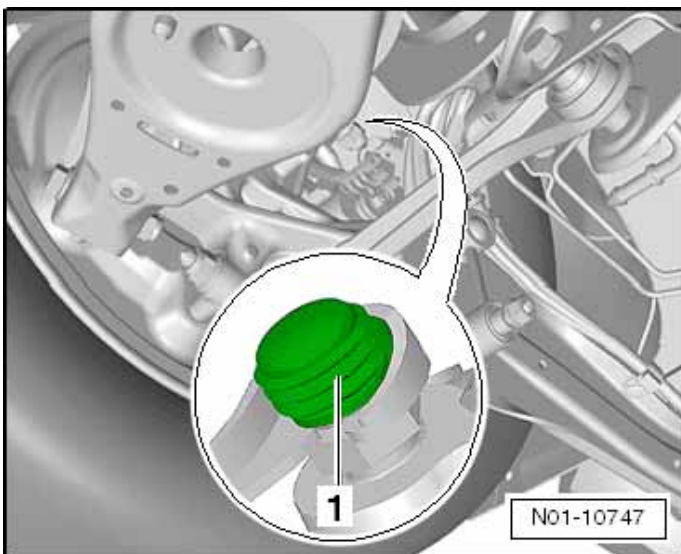
- To prevent damage to the engine cover, do not hit it with a fist or a tool.
- Position the engine cover while paying attention to the oil filler tube and oil dipstick.
- Press the engine cover into the rubber grommets on the left side first, then into the ones on the right side.



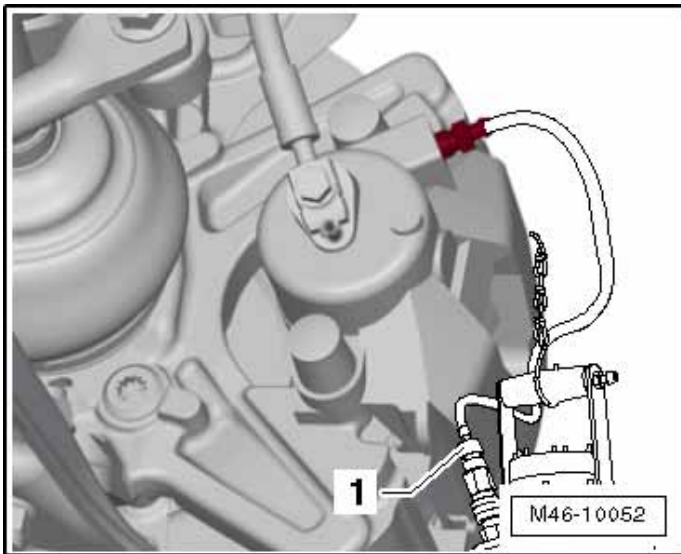
- Fill the brake fluid reservoir up to the max mark.
- Connect the Brake Charger/Bleeder Unit -VAS 5234- with the Brake Charger/Bleeder Unit Adapter -VAS 5234/1A-.
- Attach the adapter <1> to the brake fluid reservoir.
- Set the pressure on the Brake Charger/Bleeder Unit -VAS 5234- to 2 bar.
- Refer to the operating instructions for the Brake Charger/Bleeder Unit -VAS 5234-.



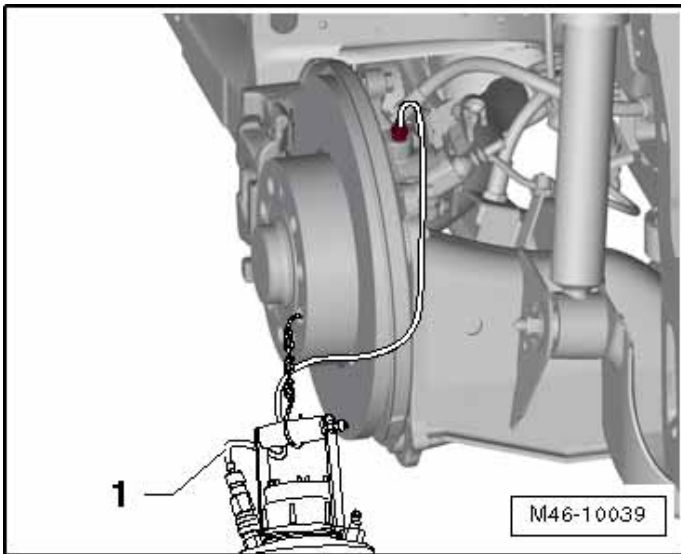
- Remove the left and right front breather valve caps <1>.



- Remove the left and right rear breather valve caps <1>.



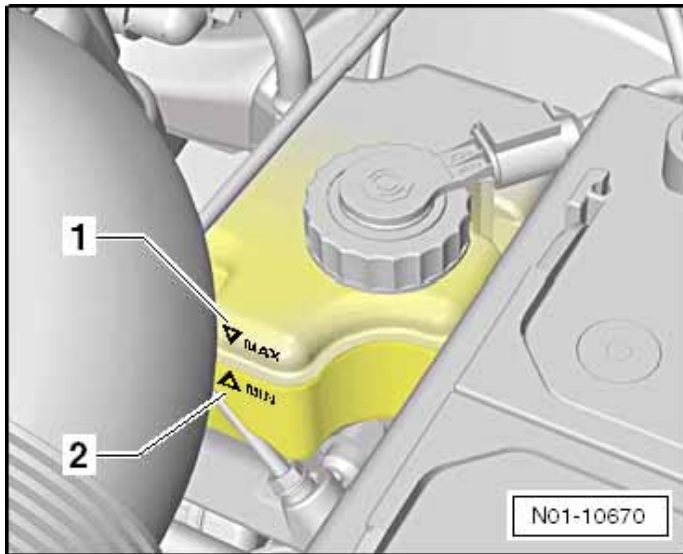
- Use a suitable bleeder hose. It must fit tightly on the breather system so that no air can get into the brake system.



- Loosen the breather valve on each brake caliper in turn in the sequence listed below until the fluid exits the caliper clean and clear.
- When bleeding the brake caliper with bleeder bottle hose attached, leave breather valve open long enough that brake fluid exits without bubbles.
- This bleeding procedure must be performed until no bubbles are present. Repeat the procedure for each caliper location in the following sequence:

Bleeding sequence:

- 1 - Left Front Brake Caliper
- 2 - Right Front Brake Caliper
- 3 - Left Rear Brake Caliper
- 4 - Right Rear Brake Caliper



**NOTE**

To prevent the brake fluid from overflowing from the reservoir, the level must not be over the MAX mark <1>.

**Post Bleeding Procedure:**

**NOTE**

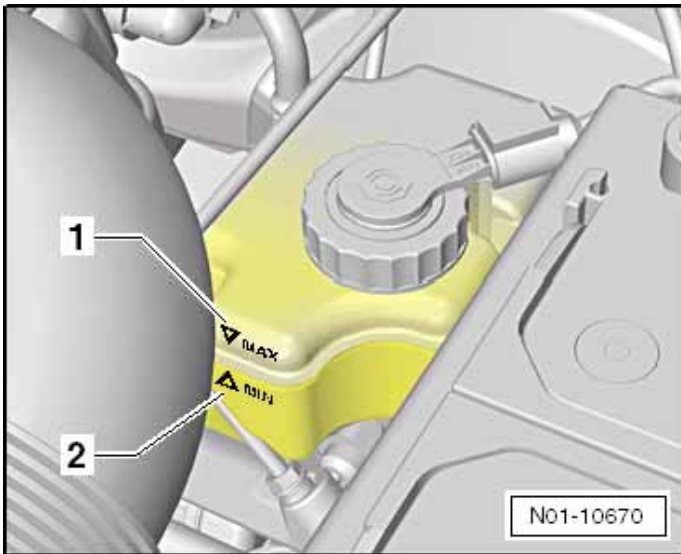
A second technician is required for the post-bleeding procedure.

- Press down on the brake pedal forcefully and hold.
- Open the breather valve at the brake caliper.
- Press the brake pedal down until it stops.
- Close breather valve with the pedal assembly pressed.
- Release the brake pedal slowly.

This bleeding procedure must be performed five times per brake caliper. Repeat the procedure for each caliper location in the following sequence:

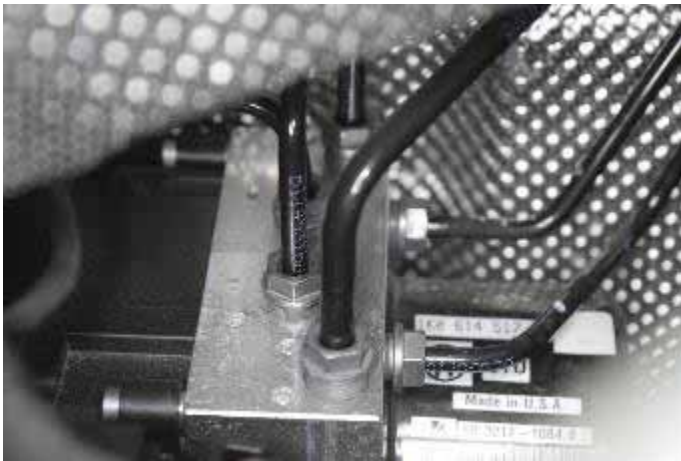
Bleeding sequence:

- 1 - Left Front Brake Caliper
- 2 - Right Front Brake Caliper
- 3 - Left Rear Brake Caliper
- 4 - Right Rear Brake Caliper



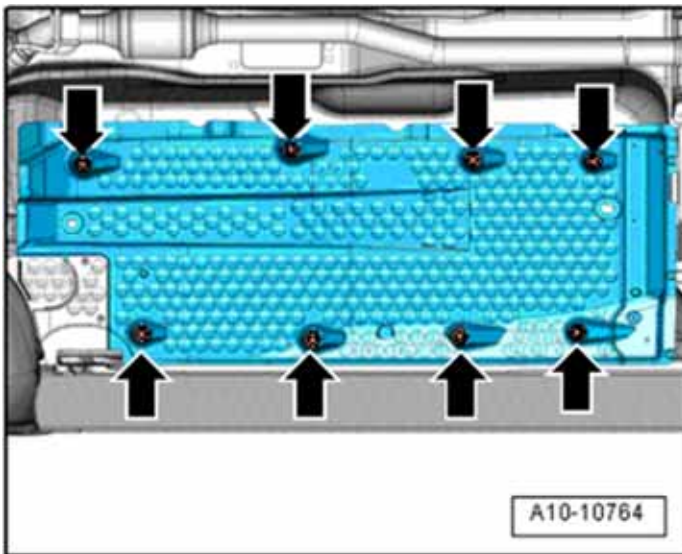
**NOTE**

To prevent the brake fluid from overflowing from the reservoir, the level must not be over the MAX <1>.

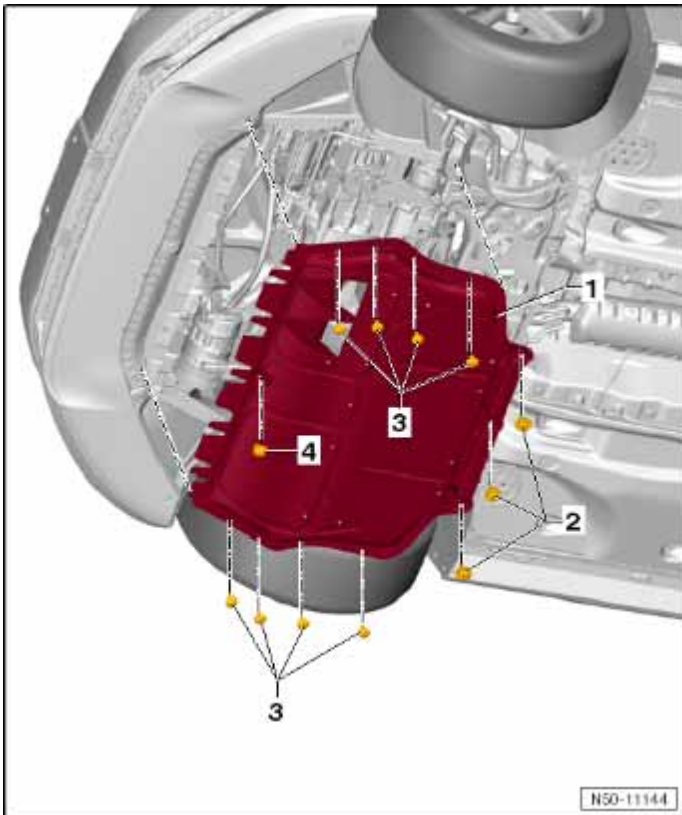


- Inspect all brake fittings at the ABS Pump and check for any leaks.
- Raise the vehicle slightly and inspect all underside brake fittings that were loosened during the procedure for leaks.
- Repair any leaking fittings as necessary.





- If no leaks were found, reinstall the underbody trim panel and tighten the fasteners to 2.1 Nm.



- Reinstall the noise insulation under panel <1> into the front bumper cover <4> toward the front.
- Reinstall the screws <2> and torque to 6 Nm. Reinstall screws <3> and torque to 2 Nm.
- Install all four wheels and torque lug bolts to 140 Nm.

**Proceed to Section E**

## Section E – Campaign Completion Label

### Install Campaign Completion Label

- Fill out and affix Campaign Completion Label, part number CAMP 010 000, next to the vehicle emission control information label.



Ensure Campaign Completion Label does not cover any existing label(s).

**Proceed to Section F**

## **Section F - Parts Return/Disposal**

Properly store (retain), destroy or dispose of removed parts in accordance with all state/province and local requirements, unless otherwise indicated and/or requested through the Warranty Parts Portal (WPP).