

# Service Action

## Code: 21F2



**REVISION**

<b>Subject</b>	ECM Software and/or Coolant Line Seals
<b>Release Date</b>	June 07, 2017
<b>Revision Summary</b>	<b>Required tool added and work instructions updated.</b>
<b>Affected Vehicles</b>	<b>U.S.A. &amp; CANADA: Certain 2013-2015 MY Audi vehicles with 4.0L TFSI Engine</b> <ul style="list-style-type: none"><li>• 2013-2015 MY Audi A6/A7, S6/S7</li><li>• 2013-2014 MY Audi A8/S8</li><li>• 2014-2015 MY Audi RS7</li></ul> <p><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></p> <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>	On Audi vehicles with 4.0L TFSI engines manufactured within a specific period, the O-rings in the coolant lines for the turbocharger may be damaged. This can result in leaks between the coolant lines and the turbocharger.
<b>Corrective Action</b>	Update engine control unit software and/or replace the coolant line seals.
<b>Parts Information</b>	Parts were 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@audi.com">upperorderlimits@audi.com</a> to have additional parts released.
<b>Code Visibility</b>	<p>On or about June 01, 2017, affected vehicles were listed on the Inventory Vehicle Open Campaign Action report under My Dealership Reports (found on <a href="http://www.accessaudi.com">www.accessaudi.com</a> &amp; OMD Web). A list was not posted for dealers who did not have any affected vehicles.</p> <p>On or about June 01, 2017, this campaign code showed open on affected vehicles in Elsa.</p> <p>On or about June 01, 2017, affected vehicles were identified with this campaign code in the VIN Lookup tool at <a href="http://www.audiusa.com">www.audiusa.com</a>.</p>
<b>Owner Notification</b>	Owner notification took place in June 2017. Owner letter examples are included in this bulletin for your reference.
<b>Campaign Expiration Date</b>	This campaign expires on <b><u>12/31/2019</u></b> . Repairs must be performed on or before this date to be eligible for payment. Keep this expiration date in mind when scheduling customers for this action. If a customer wishes to have this service performed after the expiration date, your dealerships normal parts and labor cost associated with this repair will apply.
<b>Additional Information</b>	<p><b>Please alert everyone in your dealership about this action, including Sales, Service, Parts and Accounting personnel. Contact Warranty if you have any questions.</b></p> <p>Dealers must ensure that every affected inventory vehicle has this campaign completed <u>before delivery to consumers</u>.</p>



Criteria I.D.	01 and 02													
	Connect Battery Charger													
	Labor operation: 2706 89 50	10 T.U.												
	-AND-													
	Update software.													
	Labor operation: 2470 25 99	Time stated on diagnostic protocol (max 60 TU)												
	-AND-													
	Replace Coolant Line Seals													
	Labor operation: 2135 55 99	145 T.U.												
	<table border="1"> <thead> <tr> <th>Quantity</th> <th>Part Number</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4.00</td> <td>WHT006335A</td> <td>Coolant Pipe O-ring - Blue*</td> </tr> <tr> <td colspan="3" style="text-align: center;">-OR-</td> </tr> <tr> <td>4.00</td> <td>WHT006537</td> <td>Coolant Pipe O-ring - Black*</td> </tr> </tbody> </table>		Quantity	Part Number	Description	4.00	WHT006335A	Coolant Pipe O-ring - Blue*	-OR-			4.00	WHT006537	Coolant Pipe O-ring - Black*
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## Customer Letter Example (USA)

<MONTH YEAR>

<CUSTOMER NAME>

<CUSTOMER ADDRESS>

<CUSTOMER CITY STATE ZIPCODE>

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

**Subject: Service Action 21F2 – Engine Control Module (ECM) Software and/or Coolant Line Seals  
Certain 2013-2015 MY Audi vehicles with 4.0L TFSI Engine**

Dear Audi Owner,

As part of Audi's ongoing commitment to customer satisfaction, we are informing you of our decision to conduct a service action on certain Audi vehicles equipped with a 4.0L TFSI engine. Our records show that you are the owner of a vehicle affected by this action.

**What is the issue?** On Audi vehicles with 4.0L TFSI engines manufactured within a specific period, the O-rings in the coolant lines for the turbocharger may be damaged. This can result in leaks between the coolant lines and the turbocharger.

**What will we do?** Your authorized Audi dealer will update the ECM software and/or replace the coolant line seals in your vehicle. This work will take up to three hours and will be performed for you free of charge.

**What should you do?** In order to limit any possible inconvenience, please contact your authorized Audi dealer as soon as possible to schedule this service. Please keep in mind that your dealer may need additional time for the preparation of the repair, as well as to accommodate their daily workshop schedule. For your convenience, you can also visit [www.audiusa.com](http://www.audiusa.com) and click on the "Find a Dealer" link to locate a dealer near you and schedule this service.

This service action will be available for you **free of charge only until December 31, 2019**. If you wish to have this service performed after that date, your dealer's normal parts and labor cost associated with this repair will apply.

**Lease vehicles and address changes** If you are the lessor and registered owner of the vehicle identified in this action, please 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, the enclosed form explains how to request reimbursement. We would be pleased to review your reimbursement request.

**Can we assist you further?** If your authorized Audi dealer fails or is unable to complete this work free of charge within a reasonable time, please contact Audi Customer Experience at 1-800-253-2834 or via our "Contact Us" page at [www.audiusa.com](http://www.audiusa.com).

**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 visit the **Recall/Service Campaign Lookup** tool at [www.audiusa.com](http://www.audiusa.com) and enter your Vehicle Identification Number (VIN).

We apologize for any inconvenience this matter may cause; however we are taking this action to help ensure your vehicle continues to meet and exceed your expectations.

Sincerely,

Audi Customer Protection

## Customer Letter Example (CANADA)

<MONTH YEAR>

<CUSTOMER NAME>

<CUSTOMER ADDRESS>

<CUSTOMER CITY STATE ZIPCODE>

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

**Subject: Service Action 21F2 – Engine Control Module (ECM) Software and/or Coolant Line Seals  
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**Can we assist you further?** If your authorized Audi dealer fails or is unable to complete this work free of charge within a reasonable time, please contact Audi Customer Relations Monday through Friday from 8AM to 8PM EST at 1-800-822-2834 or via our "Contact Audi Canada" page at [www.audi.ca](http://www.audi.ca).

We apologize for any inconvenience this matter may cause; however we are taking this action to help ensure your vehicle continues to meet and exceed your expectations. Thank you for your continued loyalty!

Sincerely,

Audi 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

<u>Criteria</u>	<u>Quantity</u>	<u>Part Number</u>	<u>Part Description</u>
02	4	WHT006335A	Coolant Pipe O-ring - Blue
	-OR-		
	4	WHT006537	Coolant Pipe O-ring - Black
	-AND-		
	1	079145818	Throttle Valve Seal
	2	079145417B	Air Duct Seal
	0.5L	G 013A8J 1G	G13 Engine Coolant (Concentrate)

## Required Tools



- VAS6150D - Diagnostic Tester (or equivalent)
- VAS5054A - Vehicle Communication Interface (or equivalent)



- GRX3000VAS – Battery Tester/Charger (or equivalent)



- 3371 – Gap Adjustment Gauge

## Repair Instruction

### Section A - Check for Previous Repair

Applicable criteria ID(s)	Campaign/Action Status
01 ← <b>2</b>	Open ← <b>1</b>

**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.

**For Criteria 01 proceed to Section B**

**For Criteria 02 proceed to Section C**

## Section B – Repair Procedure

### NOTE

**Prior to launching the VAS Diagnostic Tester and starting an update, ensure the following conditions are met;**

- ✓ **The ODIS software is completely up to date.**
  - Refer to the “Alerts” section on ServiceNet home page for the current ODIS version.
- ✓ **The battery charger is connected to the vehicle battery and remains connected for the duration of the software update.**
  - Battery voltage must remain above 12.5 volts for the duration of the software update. Failure to do so may cause the update to fail, which could result in damage to the control module. Control modules damaged by insufficient voltage will not be covered.
- ✓ **The screen saver and power saving settings are off.**
  - Failure to do so may result in the tester entering power save mode during the software update, which could result in damage to the control module.
- ✓ **The VAS Diagnostic Tester is plugged in using the supplied power adapters.**
  - Under no circumstances should the tester be used on battery power alone during the software update. Failure to do so may result in the tester powering off during the update, which could result in damage to the control module.
- ✓ **If using a Bluetooth transmitter head, it is connected to the tester with a USB cable.**

### NOTE

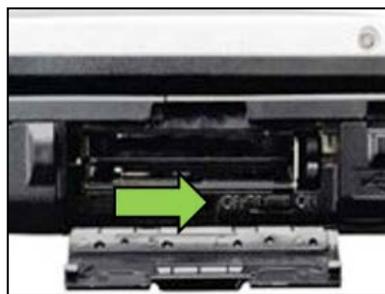
***Using Bluetooth for this action is PROHIBITED!***

Damage caused to electronic components (e.g. ECM, TCM, etc.) during the SVM flash process is not covered.

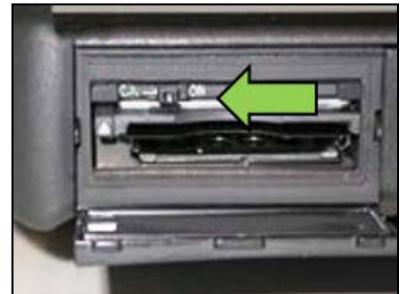
- Performing a software update using a Bluetooth connection increases the risk of losing connection during the update, which could result in damage to the control module. It also greatly increases the time required to perform the update. Requests for additional time or parts will be denied if the GFF log shows the update was performed using Bluetooth.
- ✓ **The Bluetooth function of the scan tool is physically switched off <see pictures below>.**



**VAS 6150 & VAS 6150A**  
(Front panel behind handle)



**VAS 6150B**  
(Right side behind WIRELESS door)



**VAS 6150C/D**  
(Left side behind SC/EX door)

## ⚠ WARNING

Radiator Fan(s) may cycle ON high speed during the Update Process! There is a serious risk that personal injury may result if contact is made with spinning fan blades. Keep hands and all objects away from Radiator Fan(s) during Update Process!

## ℹ TIP

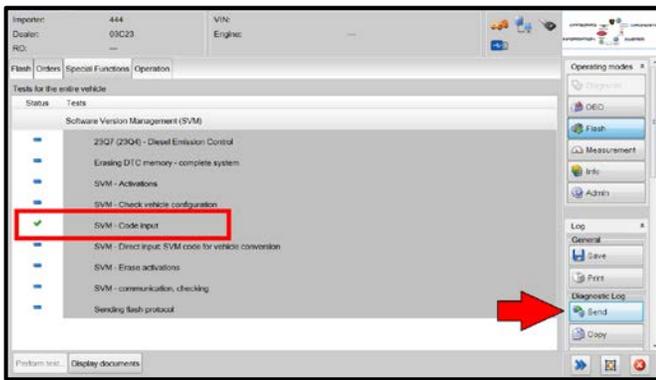
To Update-Programming using SVM, review and follow instructions in Technical Bulletin 2014603: *Software Version Management (SVM) Operating Instructions*.

The SVM Process must be completed in its entirety so the database receives the update confirmation response. A warranty claim may not be reimbursed if there is no confirmation response to support the claim.

- Open the hood.
- Open the battery cover.
- Attach the GRX3000VAS Tester/Charger (or equivalent) to the vehicle battery.
- Connect the VAS6150D Diagnostic Tester (or equivalent) to the vehicle.
- Start the ODIS program.
- Confirm that scan tool is communicating with the diagnostic head by USB <Green Arrow>.
- If the Bluetooth symbol is shown <Red Arrow> then disconnect the diagnostic head from the vehicle and reconnect the USB cable to the diagnostic head and then reattach to the vehicle.



- From the home screen of the scan tool select Flash
- Follow the on-screen prompts.
- Select “SVM code input.”
- Enter SVM code **21F2A024**.
- Follow the on-screen prompts.



- When the flash is completed, the tester will return to this screen.
- Select “Send” <arrow> to send the GFF Diagnostic log to GFF paperless.

**NOTE**

The green check mark indicates the flash was performed successfully.

- Exit the flash program.

**If Criteria 02 is open, Proceed to Section C.**

**If Criteria 02 is not open, Proceed to Section D.**

## Section C – O-ring Replacement Procedure (criteria 02)

### **WARNING**

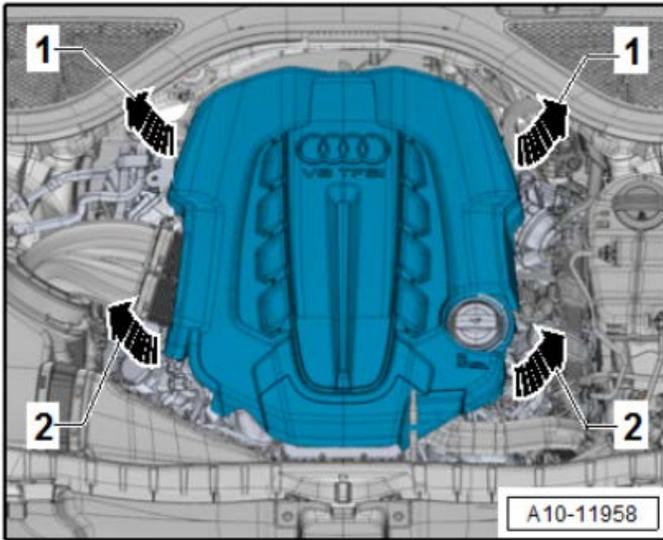
**The cooling system is under pressure when the engine is warm. Risk of scalding due to hot steam and hot coolant.**

Scalding the skin and other parts of the body is possible.

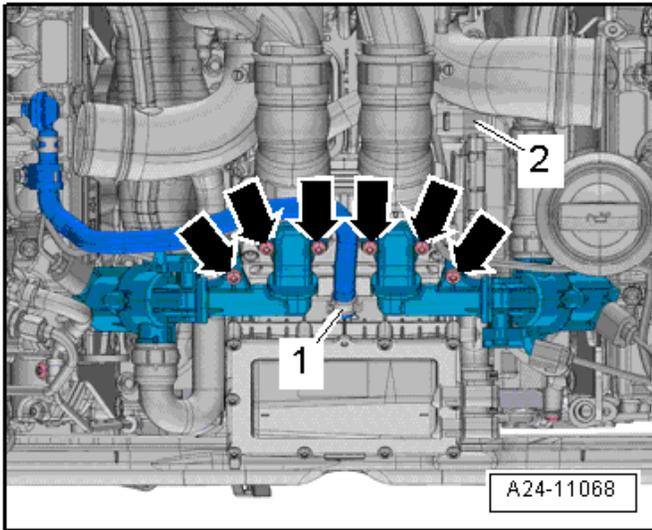
- Wear safety gloves.
- Wear protective eyewear.
- Allow the vehicle to cool down before opening the coolant expansion tank cap.

### **NOTE**

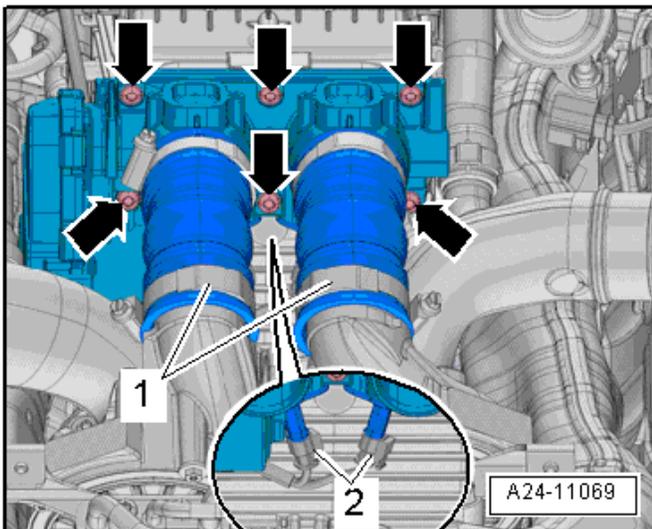
Due to variations in vehicle equipment and options, the steps/illustrations in this work procedure may not identically match all affected vehicles.



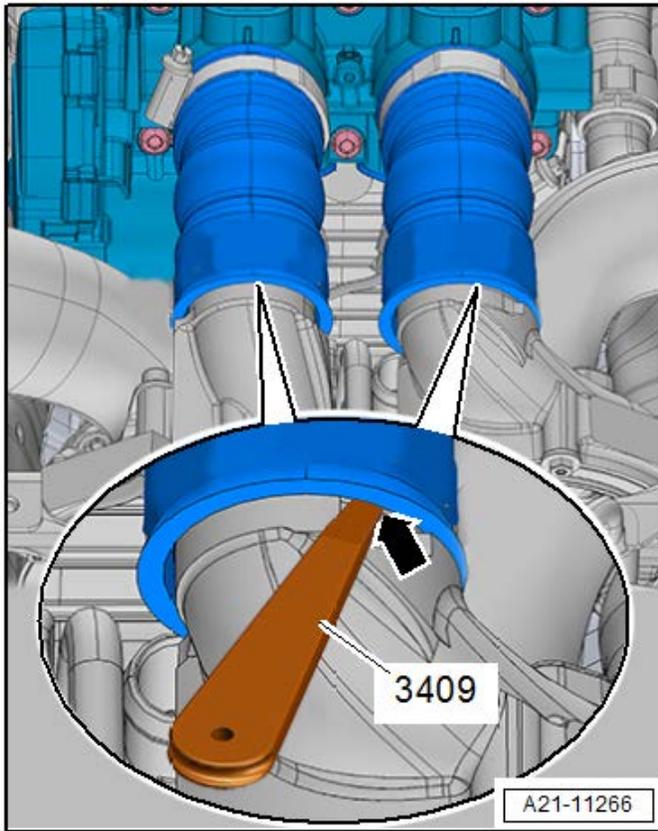
- Open the hood.
- Remove the engine cover according to the following directions:
  - First pull off the engine cover at the rear mounting points in direction of <arrows 1>.
  - Then pull off the engine cover at the front mounting points in direction of <arrows 2>.



- Loosen the clamp <1> and remove the air guide hose.
- Disconnect the connector <2> and free up the wire.
- Remove the bolts <arrows> and push the Turbocharger Recirculation Valve -N249- and Turbocharger Recirculation Valve Bank 2 -N427- to the side.

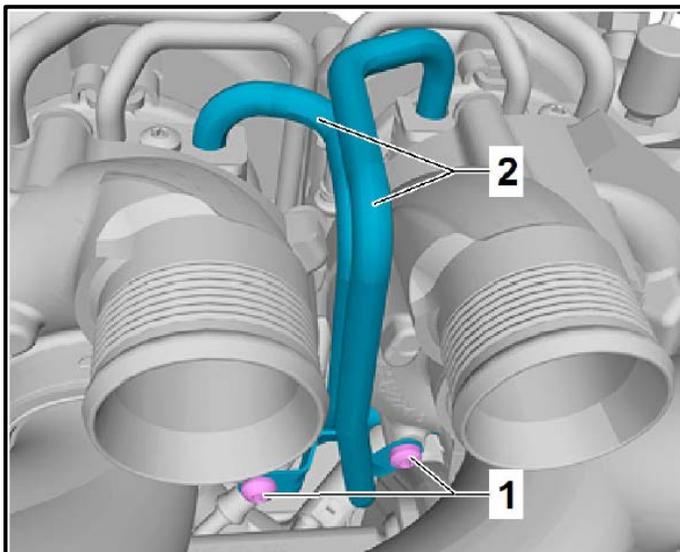


- Remove the bolts <arrows> and loosen the hose clamps <1>.
- Remove the Throttle Valve Control Module -J338- and disconnect the connectors <2>.

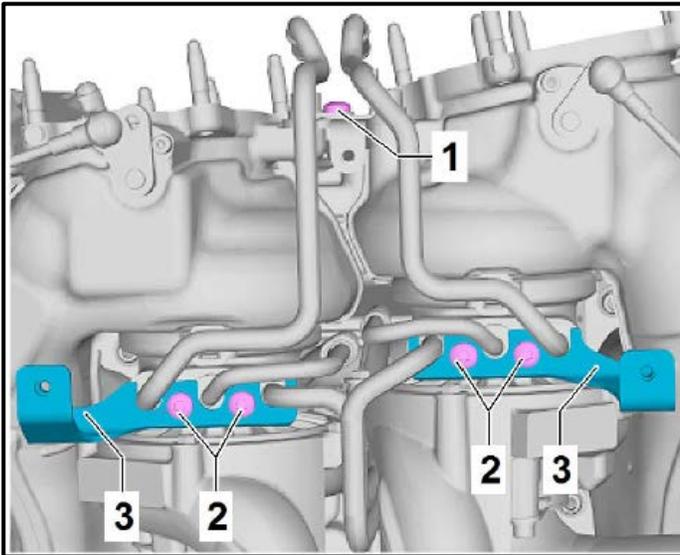


**NOTE**

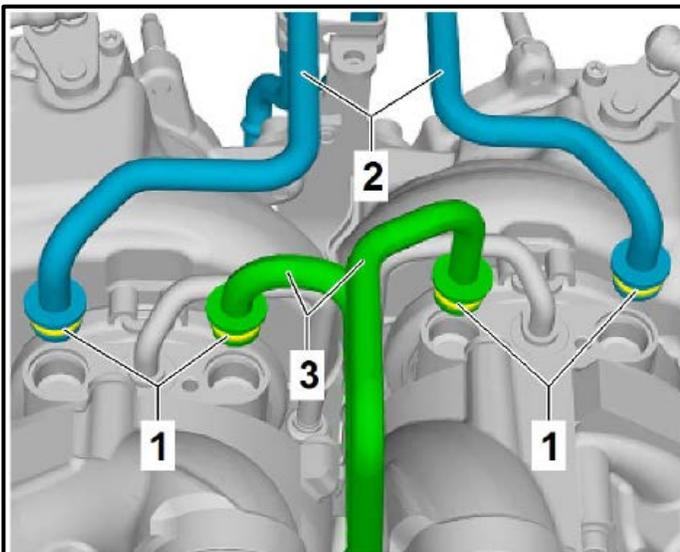
To prevent damage to the air duct hoses, carefully lift the respective air duct hoses using the -3409- and spray some silicone spray between the hose and the hose connections <arrow>.



- Remove bolts <1> from coolant supply lines <2>.



- Remove bolt <1> from coolant return lines.
- Remove bolts <2> and remove retaining plate brackets and retaining plates <3>.



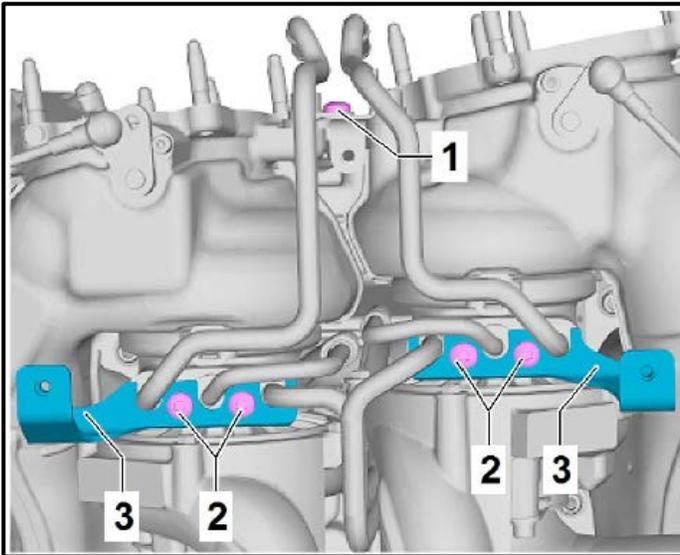
- Disconnect coolant supply lines <3> and coolant return lines <2> from turbocharger.
- Replace O-rings <1>.
- The original coolant pipes had a 2.5 mm O-ring groove which require the 2.0 mm (blue) O-rings. Replacement coolant pipes had a larger 3.5 mm groove which require the 2.8 mm (black) O-rings.
  - Measure the thickness of the O-ring groove using the Gap adjustment gauge -3371- to determine the O-ring groove thickness.
  - If groove measures 2.5 mm, install part # WHT006335A (blue).
  - If groove measures 3.5 mm, install part # WHT006537 (black).

#### **CAUTION**

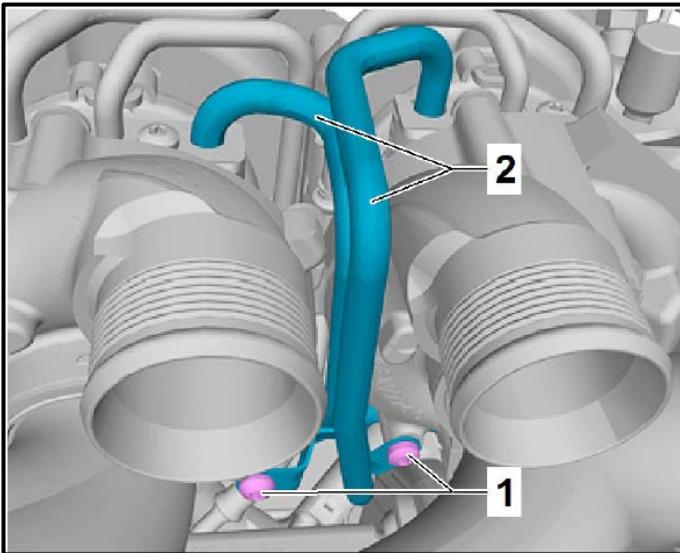
If the coolant lines had been previously replaced, they will require the black 2.8 mm O-ring. The O-rings must be replaced with the same size O-ring. Failure to do so will cause a coolant leak.

#### **NOTE**

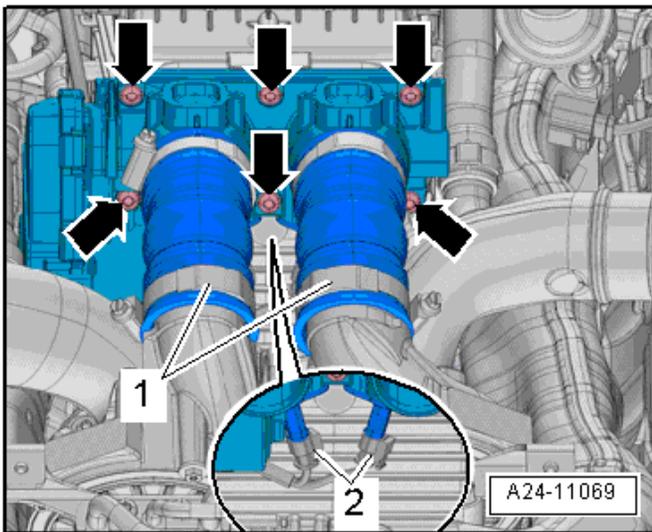
- Lubricate new O-rings with clean coolant before installing.



- Install retaining plates and retaining plate brackets <3>.
- Install bolts <1 and 2> and torque to 9 Nm.



- Install bolts <1> and torque to 9 Nm.



- Connect connectors <2>.
- Install throttle valve hoses onto air ducts and tighten hose clamps <1> to 5.5 Nm.

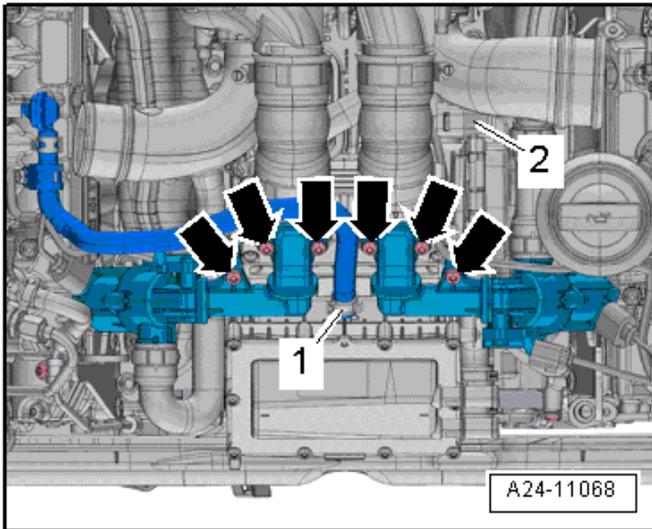
**NOTE**

- The hose connections as well as the air guide pipes and hoses must be free of oil and grease before installing.
- In order to be able to securely mount the air guide hoses on their connectors, spray the screws on the previously used clamps with a rust remover.

- Install new throttle valve seal.

Part Number	Qty.	Description
079145818	1	Throttle Valve Seal

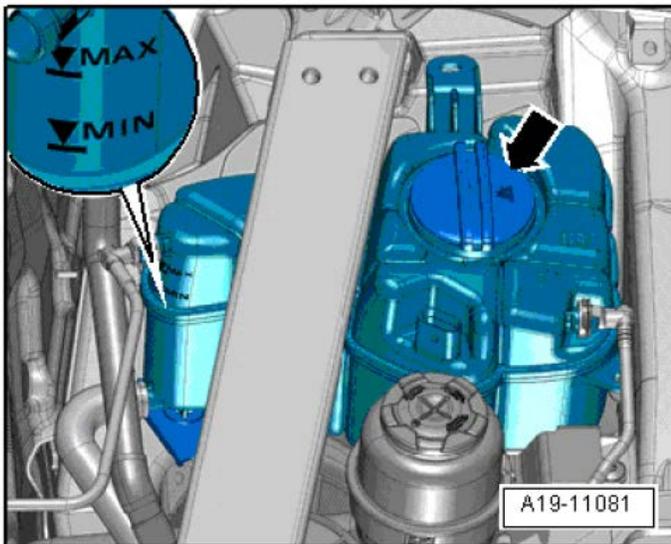
- Install bolts <arrows> and torque to 5 Nm.



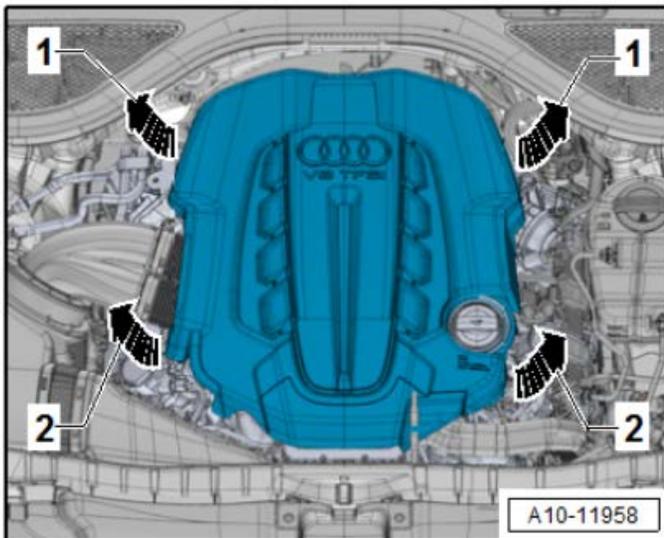
- Install new air guide seals.

Part Number	Qty.	Description
079145417B	2	Air Duct Seal

- Install air guide and torque fasteners <arrows> to 9 Nm.



- Check coolant and top off if necessary.
- Coolant level must be at MAX mark when engine is cold.
- Coolant level can be above MAX mark when engine is warm.



- Install the engine cover according to the following directions:
  - First press on the engine cover using both hands at the rear mounting points <1>.
  - Then press on the engine cover using both hands at the front mounting points <2>.

#### NOTE

- In order to prevent damage, do not hit the engine cover with your fist or tool.
- Be sure not to place the engine cover on the oil filler tube.

**Proceed to Section D.**

## Section D – Campaign Stamp

I certify that this campaign  
has been performed in strict  
accordance with the applicable  
Audi repair procedure.

SAGA Code: \_\_\_\_\_  
Technician: \_\_\_\_\_  
Date: \_\_\_\_\_

Item#: AUD4927ENG

OR

Je certifie que cette  
campagne de rappel a été  
exécutée suivant les strictes  
directives de réparation  
d'Audi

Code de SAGA: \_\_\_\_\_  
Technicien: \_\_\_\_\_  
Date: \_\_\_\_\_

Item # AUD4927FRE

- Once the campaign has been completed, the technician should stamp the repair order.
- Stamps are available for ordering through the Compliance Label Ordering Portal (item# AUD4927ENG or AUD4927FRE).
- **Proceed to Section E.**

## Section E - 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).