

ENGINE

3.0 Liter - Turbocharger, Supercharger - Engine Code(s): CCBA (Sedan)

21 TURBOCHARGER, SUPERCHARGER

DESCRIPTION AND OPERATION

CHARGE AIR COOLER OVERVIEW

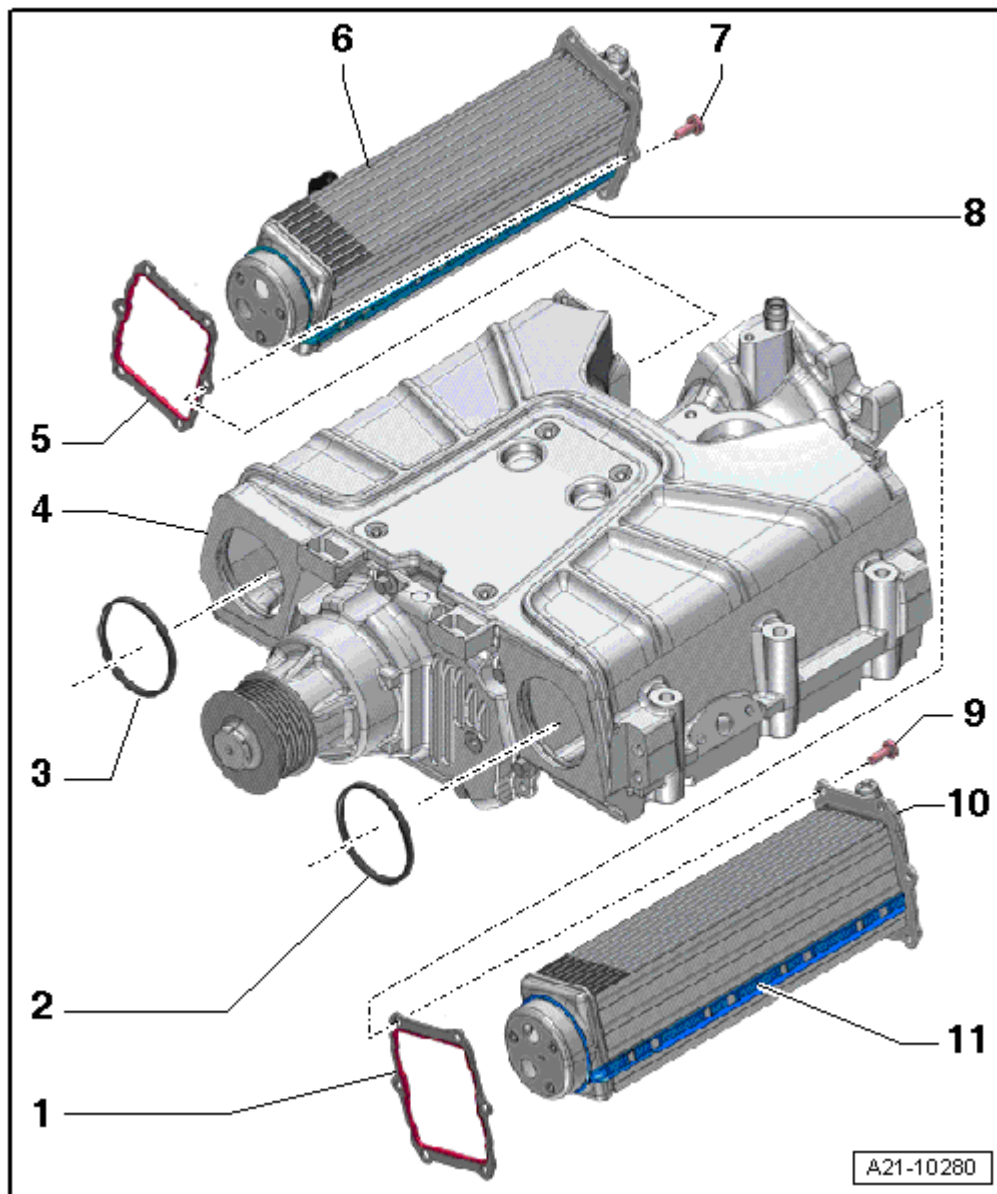


Fig. 1: Identifying Charge Air Cooler Overview
Courtesy of AUDI OF AMERICA, LLC

1. Gasket
 - Replace
2. O-ring
 - Replace
 - Coat with engine oil when installing the charge air cooler
3. O-ring
 - Replace
 - Coat with engine oil when installing the charge air cooler
4. Supercharger Housing
5. Gasket
 - Replace
6. Charge Air Cooler on the Right Side
 - Removing and installing, refer to **CHARGE AIR COOLER**
7. Bolt
 - 10 Nm
 - Replace
 - Self-locking
8. Gasket
 - Not available individually
 - May not be removed from the charge air cooler
 - Coat with engine oil when installing the charge air cooler
9. Bolt
 - 10 Nm
 - Replace
 - Self-locking
10. Left Charge Air Cooler
 - Removing and installing, refer to **CHARGE AIR COOLER**
11. Gasket
 - Not available individually
 - May not be removed from the charge air cooler
 - Coat with engine oil when installing the charge air cooler

DRIVE HEAD OVERVIEW

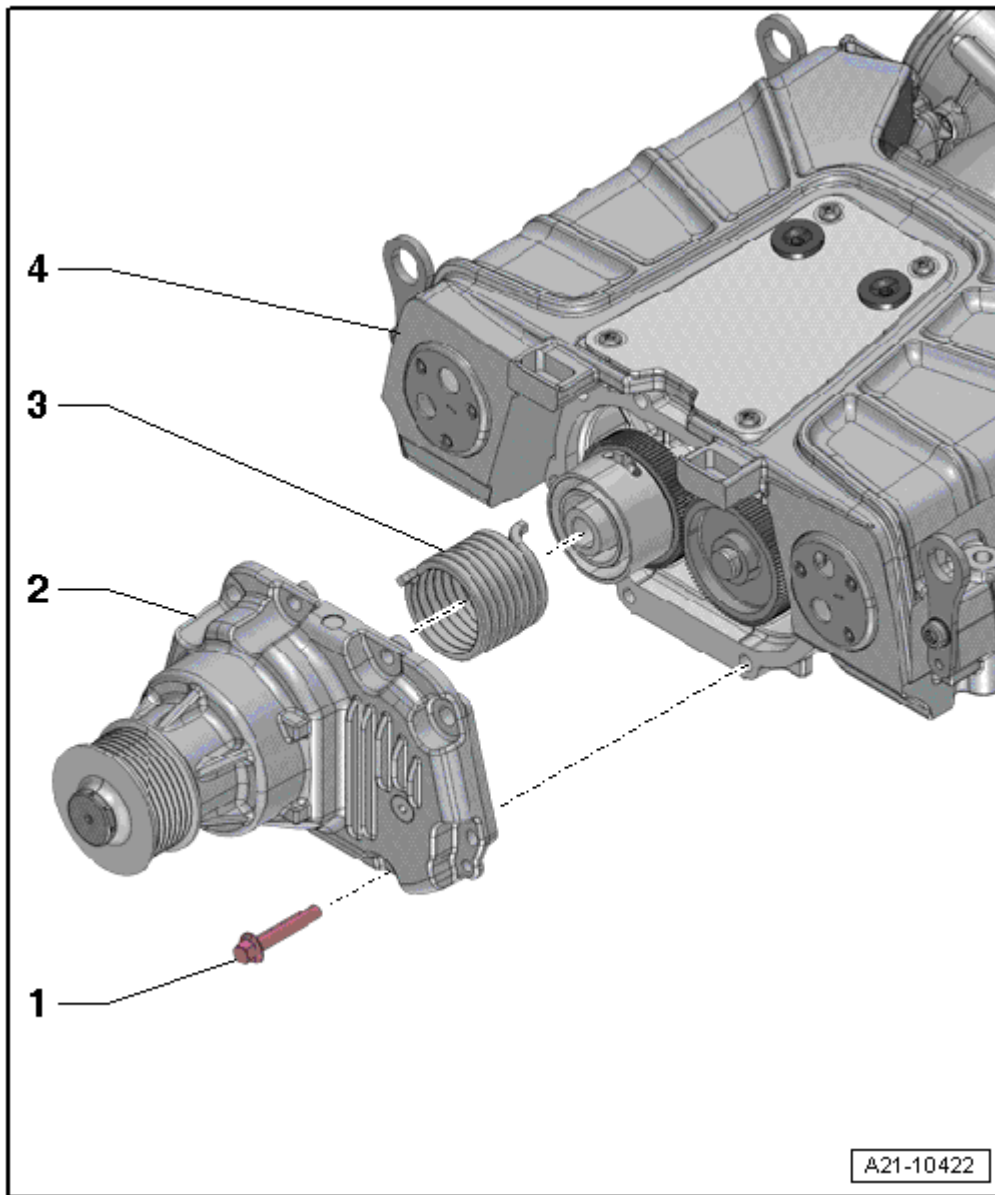


Fig. 2: Identifying Drive Unit And Spring Overview
Courtesy of AUDI OF AMERICA, LLC

1. Bolt
 - 25 Nm
 - Replace
 - Self-locking
 - Always clean the threaded holes with a thread tap before assembling
2. Drive Head
 - Removing and installing, refer to **DRIVE HEAD AND DECOUPLING SPRING**
3. Decoupling Spring
 - Removing and installing, refer to **DRIVE HEAD AND DECOUPLING SPRING**

4. Supercharger Housing

SUPERCHARGER OVERVIEW

NOTE: Follow the guidelines for cleanliness. Refer to CLEAN WORKING CONDITIONS.

Before testing or performing a repair, check all the air guide pipes, hoses and all vacuum lines for leaks and secure seating.

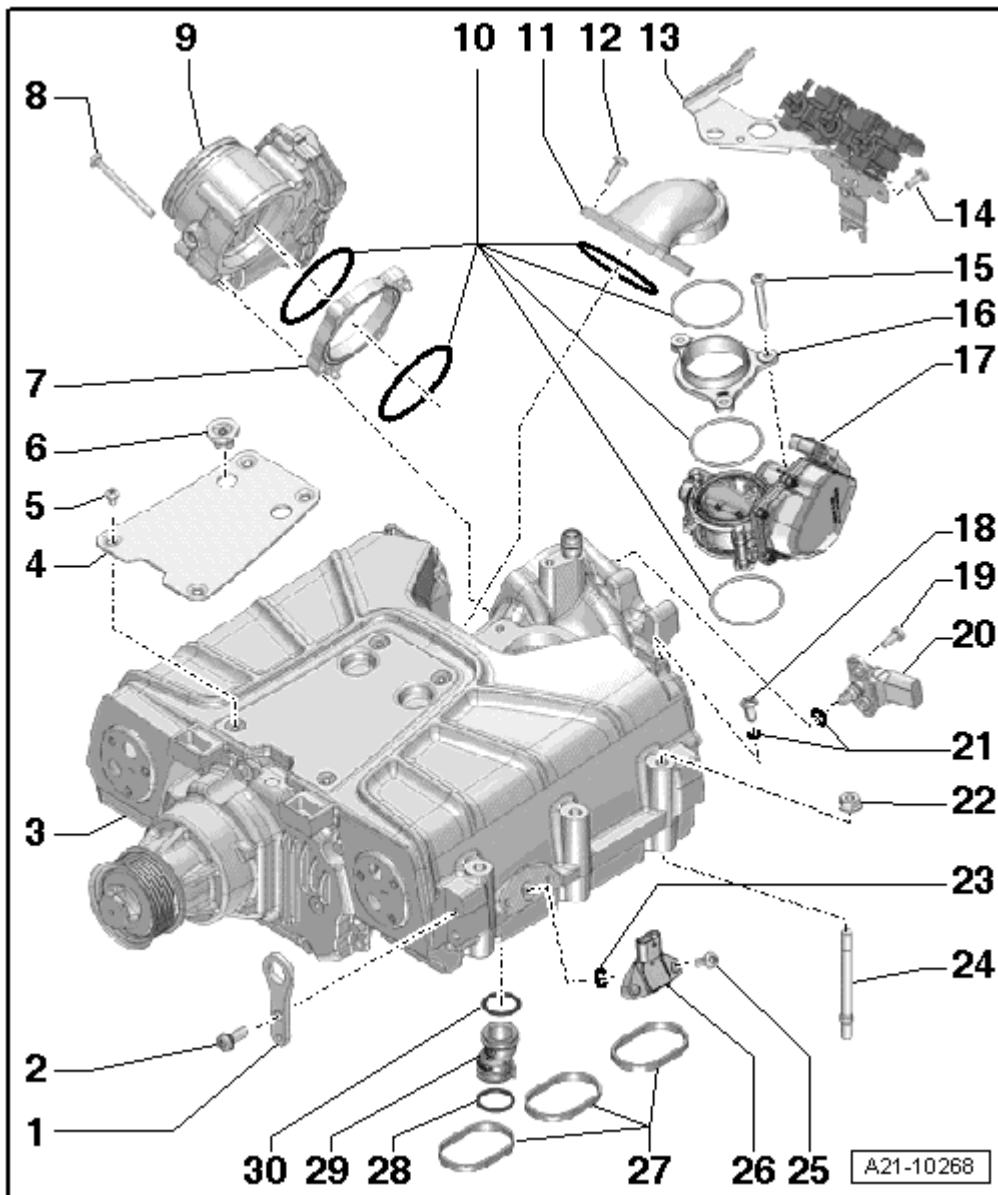


Fig. 3: Identifying Supercharger Overview
Courtesy of AUDI OF AMERICA, LLC

1. Engine Lifting Eye

2. Bolt
 - 27 Nm
3. Supercharger
 - With charge air coolers
 - Supercharger, removing and installing, refer to **SUPERCHARGER**
 - Charge air cooler assembly overview, refer to **CHARGE AIR COOLER OVERVIEW**
 - Fasten to the engine and transmission holder VAS 6095, refer to **SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER**
 - Fasten to the engine and transmission holder VAS 6095 when performing the leakage test, refer to **SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER FOR LEAKAGE TEST**
4. Insulation Plate
5. Bolt
 - 5 Nm
6. Rubber Grommet
 - Quantity: 2
7. Intermediate Flange
8. Bolt
 - Tightening specification, refer to **Description and Operation**
9. Throttle Valve Control Module -J338-
 - Removing and installing, refer to **Removal and Installation**
10. O-ring
 - Replace
11. Connection
12. Bolt
 - Tightening specification and sequence, refer to **Description and Operation**
13. Bracket
 - For change-over valves
14. Bolt
 - 9 Nm
15. Bolt
 - Tightening specification and sequence, refer to **Description and Operation**
16. Intermediate flange
17. Control Valve Control Module -J808-
 - Removing and installing, refer to **Removal and Installation**
18. Bleeder Screw
 - for the left charge air cooler
 - 1.5 to 3.0 Nm

19. Bolt
 - Tightening specification, refer to **Removal and Installation**
20. Intake Air Temperature Sensor -G42-
 - Removing and installing, refer to **Removal and Installation**
21. O-ring
 - Replace
22. Nut
 - 20 Nm
23. O-ring
 - Replace
24. Threaded Pin
 - 17 Nm
25. Bolt
 - 10 Nm
 - Replace
 - Self-locking
 - Always clean the threaded holes with a thread tap before assembling
26. Charge Air Pressure Sensor
 - Cylinder bank 1 (right) charge air pressure sensor -G31-
 - Cylinder bank 2 (left) charge air pressure sensor 2 -G447-
 - Removing and installing, refer to **Charge Air Pressure Sensor -G31- / Charge Air Pressure Sensor 2 -G447-**
27. Seals
 - Replace
28. O-ring
 - Replace
29. Connecting Piece
 - For crankcase ventilation
 - Installed position, refer to **Fig. 6**
30. O-ring
 - Replace

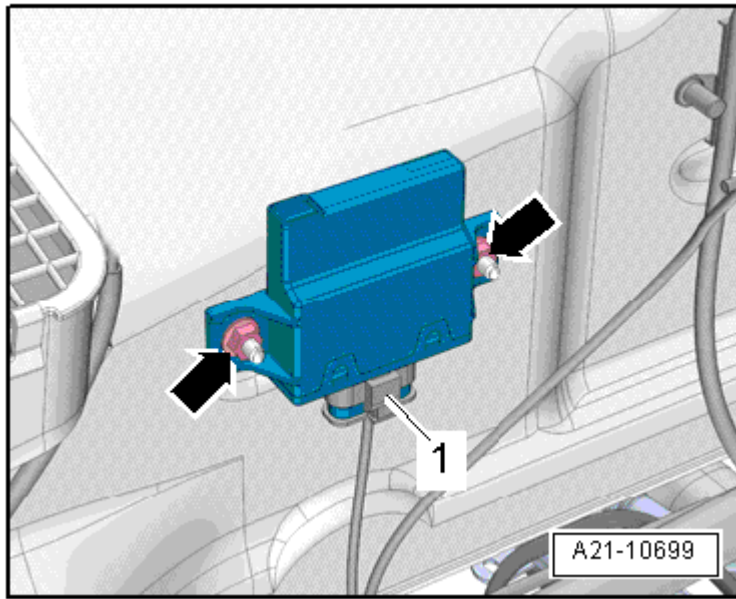


Fig. 4: Structure Borne Sound Control Module -J869- - Tightening Specification
Courtesy of AUDI OF AMERICA, LLC

-- Tighten nuts -arrows- to 5 Nm.

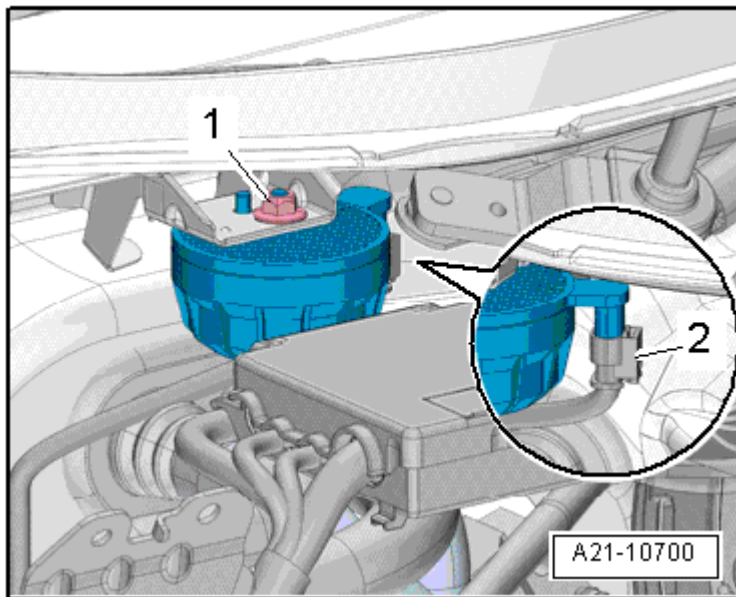


Fig. 5: Structure-Borne Sound Actuator -R214- - Tightening Specification
Courtesy of AUDI OF AMERICA, LLC

-- Tighten the nut -1- to 5 Nm.

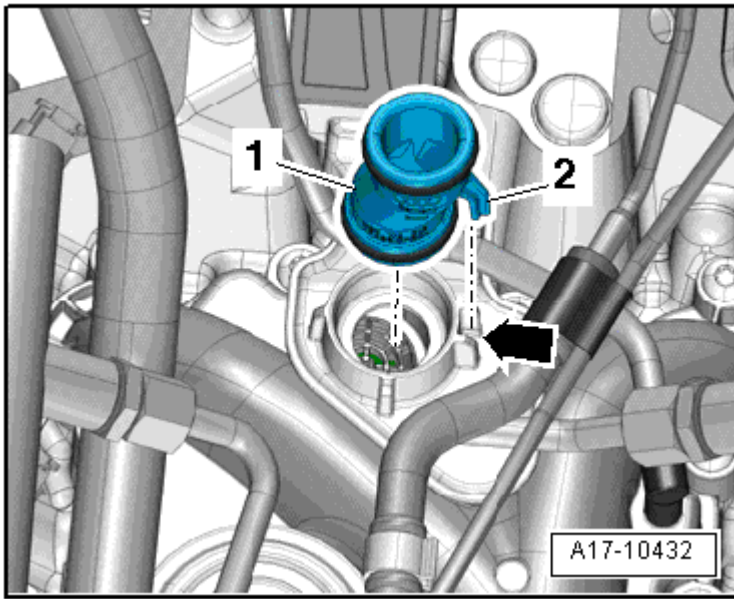


Fig. 6: Identifying Installation Of Crankcase Ventilation Connector
Courtesy of AUDI OF AMERICA, LLC

SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER

NOTE: The openings on the bottom of the supercharger housing should make it possible to see and reach the charge air cooler.

Special tools and workshop equipment required

- Engine and Transmission Holder VAS 6095
- Gearbox Support T40206

Procedure

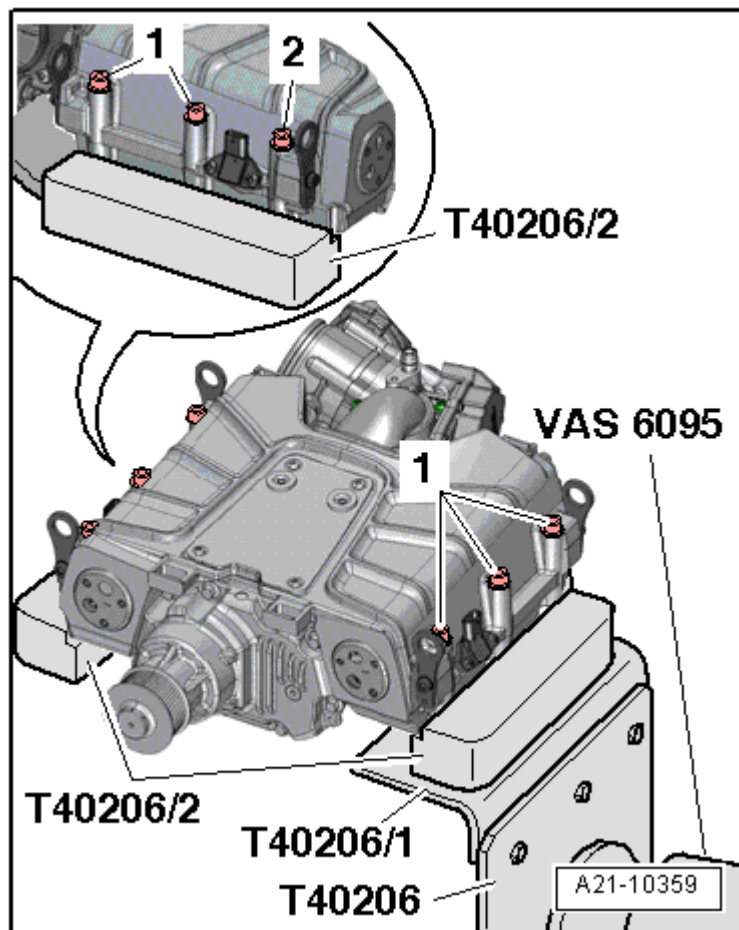


Fig. 7: Identifying Securing Supercharger To VAS 6095
 Courtesy of AUDI OF AMERICA, LLC

- Supercharger removed, refer to **SUPERCHARGER**.

-- Mount the T40206 with T40206/1 in the VAS 6095.

-- Secure the supercharger to the transmission holder as illustrated. Use the holes "1", "4", "9", "11" and "13" for the threaded connectors -1-.

-- Attach the support T40206/2 directly to the supercharger housing at the front and on the right side using the bolt -2-.

Support T40206/2 installed position:

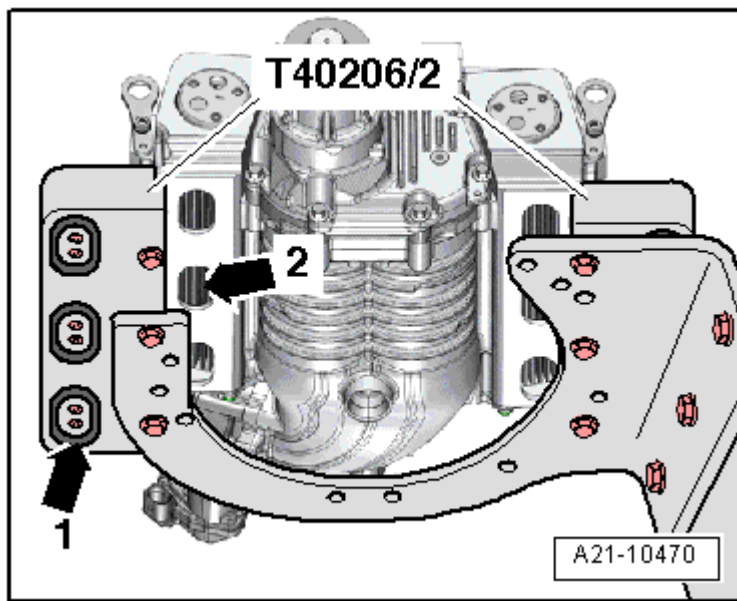


Fig. 8: Identifying Support T40206/2 Installed Position
Courtesy of AUDI OF AMERICA, LLC

- The seals -arrow 1- on the support must face downward.
- It is possible to see and reach the charge air cooler through the openings -arrow 2- inside the compressor housing.

SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER FOR LEAKAGE TEST

NOTE: The seals on the support T40206/2 should seal off the openings inside the compressor housing during the leakage test.

Special tools and workshop equipment required

- Engine and Transmission Holder VAS 6095

Procedure

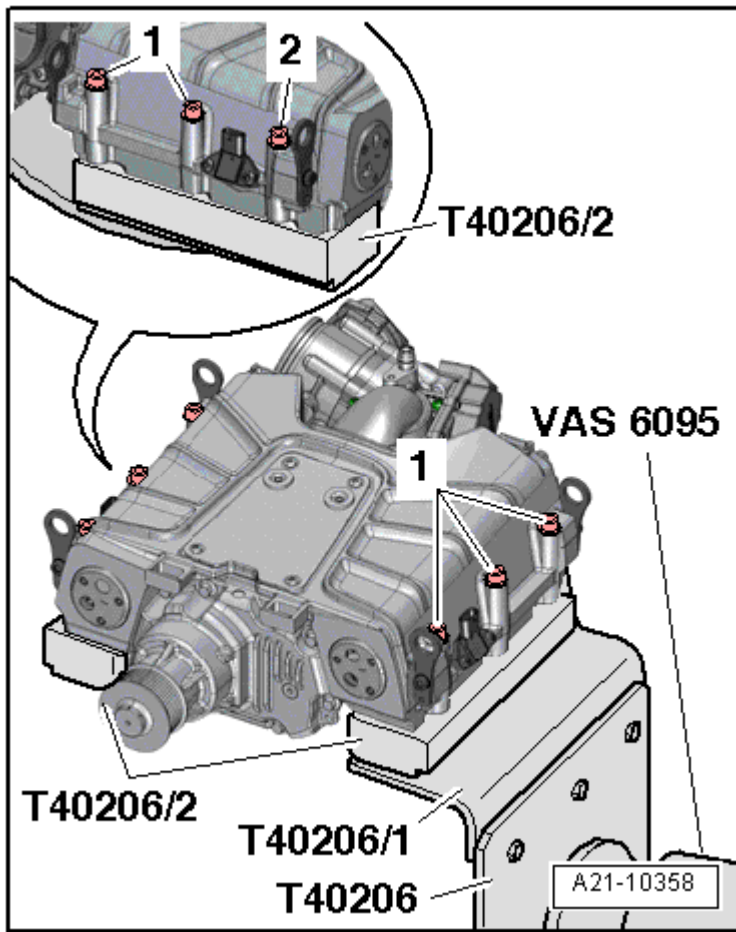


Fig. 9: Securing Supercharger To VAS 6095

Courtesy of AUDI OF AMERICA, LLC

- Supercharger removed, refer to **SUPERCHARGER**.

-- Mount the T40206 with T40206/1 in the VAS 6095.

-- Secure the supercharger to the transmission holder as illustrated. Use the holes "1", "4", "9", "11" and "13" for the threaded connectors -1-.

-- Attach the support T40206/2 directly to the supercharger housing at the front and on the right side using the bolt -2-.

Support T40206/2 installed position:

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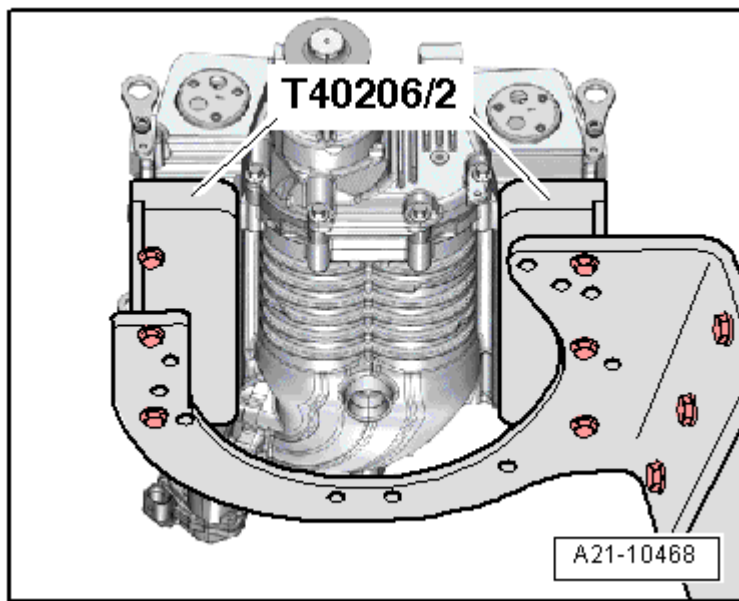


Fig. 10: Identifying Support T40206/2 Installed Position
Courtesy of AUDI OF AMERICA, LLC

- The seals on the support seal off the openings inside the compressor housing.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Component	Fastener Size	Nm
Bleeder Screw	-	1.5 to 3.0
Bracket for Change-Over Valves	-	9
Charge Air Cooler ¹	-	10
Drive Head ¹	-	25
Engine Lifting Eye	-	27
Insulation Plate	-	5
Left Charge Air Cooler ¹	-	10
Right Charge Air Cooler ¹	-	10
Supercharger, Nut	-	20
Threaded Pin for Supercharger	-	17
• ¹ Always replace		

Structure Borne Sound Control Module -J869- - Tightening Specification

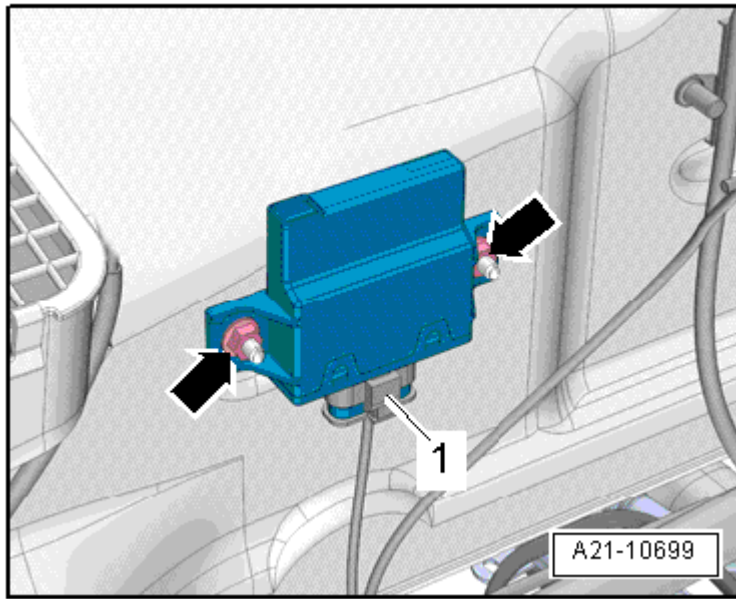


Fig. 11: Structure Borne Sound Control Module -J869-
Courtesy of AUDI OF AMERICA, LLC

-- Tighten nuts -arrows- to 5 Nm.

Structure-Borne Sound Actuator -R214- - Tightening Specification

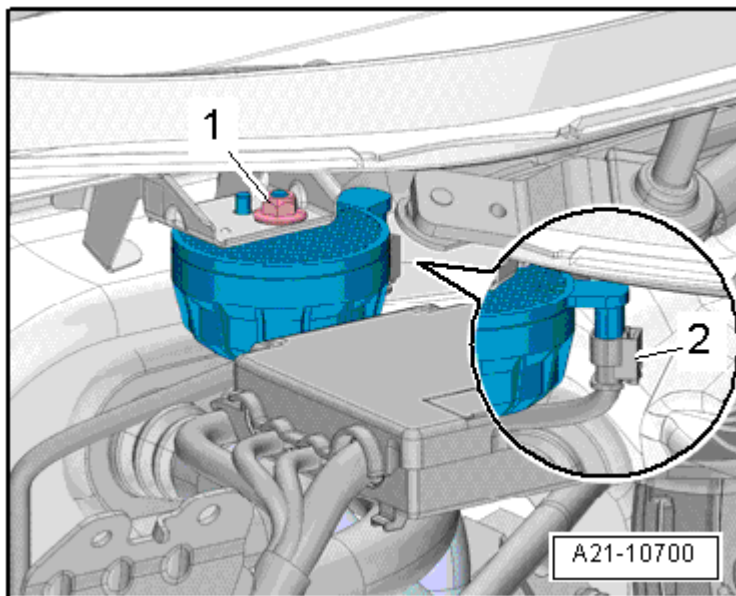


Fig. 12: Structure-Borne Sound Actuator -R214-
Courtesy of AUDI OF AMERICA, LLC

-- Tighten the nut -1- to 5 Nm.

DIAGNOSIS AND TESTING

SUPERCHARGER, CHECKING FOR LEAKS**Special tools and workshop equipment required**

- Testing Unit For Turbocharger V.A.G 1687 with Adapter V.A.G 1687/10 V.A.G 1687/13-1, V.A.G 1687/13-2 and V.A.G 1687/13-3
- Engine and Transmission Holder VAS 6095 Ultrasonic Measuring Device V.A.G 1842

Procedure

- Secure the supercharger to the VAS 6095 when performing the leakage test. Refer to **SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER.**
- Control valve control module -J808- installed, refer to **Removal and Installation** .

-- Attach V.A.G 1687/13-1 to the bottom of the supercharger housing.

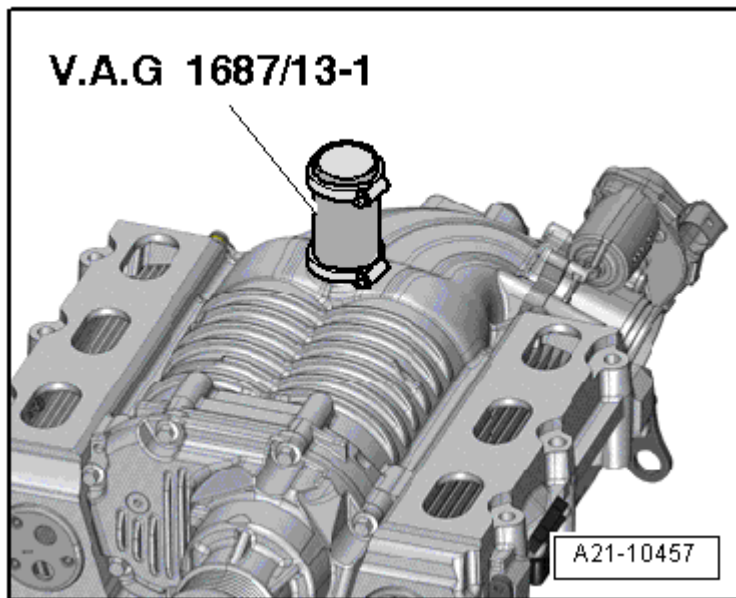


Fig. 13: Attaching V.A.G 1687/13-1 To Bottom Of Supercharger
Courtesy of AUDI OF AMERICA, LLC

-- Secure the hose connections with hose clamps.

NOTE: **The supercharger is illustrated without the transmission holder.**

-- Attach the V.A.G 1687/13-3 to the top of the supercharger housing.

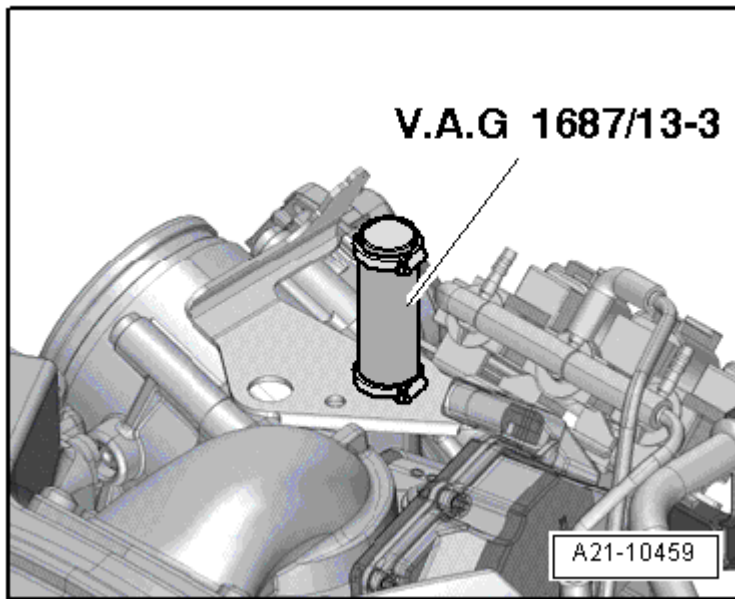


Fig. 14: Attaching V.A.G 1687/13-3 To Top Of Supercharger
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- Secure the hose connections with hose clamps.
- Attach the V.A.G 1687/13-2 and V.A.G 1687/10 to the supercharger housing.

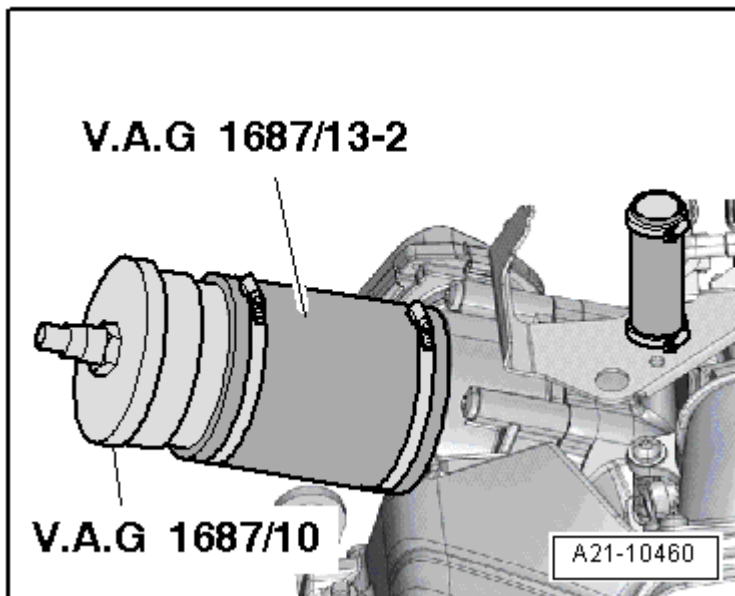


Fig. 15: Attaching V.A.G 1687/13-2 And V.A.G 1687/10 To Supercharger
Courtesy of AUDI OF AMERICA, LLC

- Secure the hose connections with hose clamps.

Prepare the V.A.G 1687 as follows:

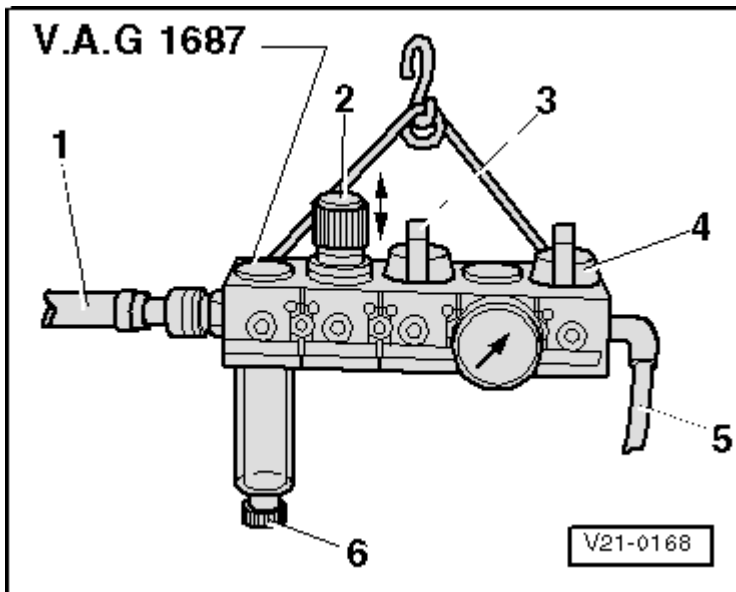


Fig. 16: Connecting Pressurized Air Hose To Testing Unit For Turbo Charger V.A.G 1687
Courtesy of AUDI OF AMERICA, LLC

-- Remove the pressure regulator valve -2- and close valves -3 and 4--.

- Pull the knob in order to rotate the pressure regulating valve.

-- Connect the V.A.G 1687 as illustrated, to the supercharger air using a commercially available intermediate piece -1-.

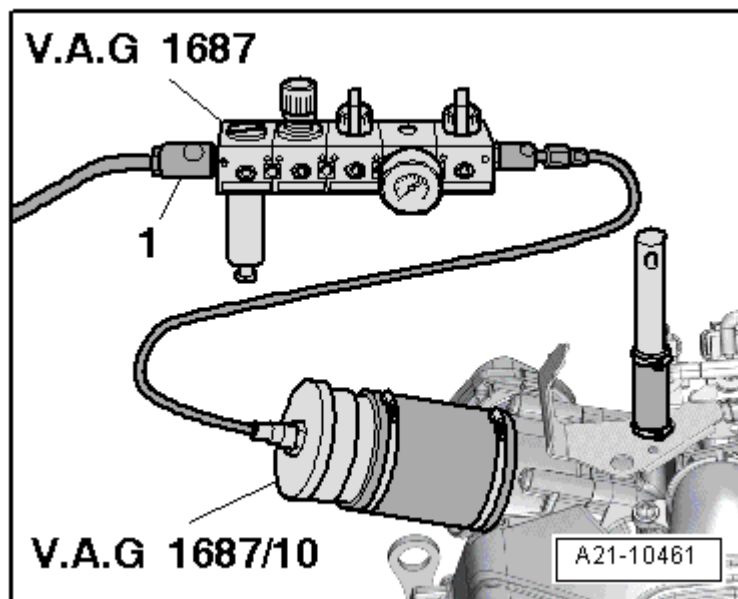


Fig. 17: Connecting V.A.G 1687 To Compressed Air Using Commercially Available Intermediate Piece - 1-
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-- If there is water in the viewing glass, open the water drain plug -6- and drain the water.

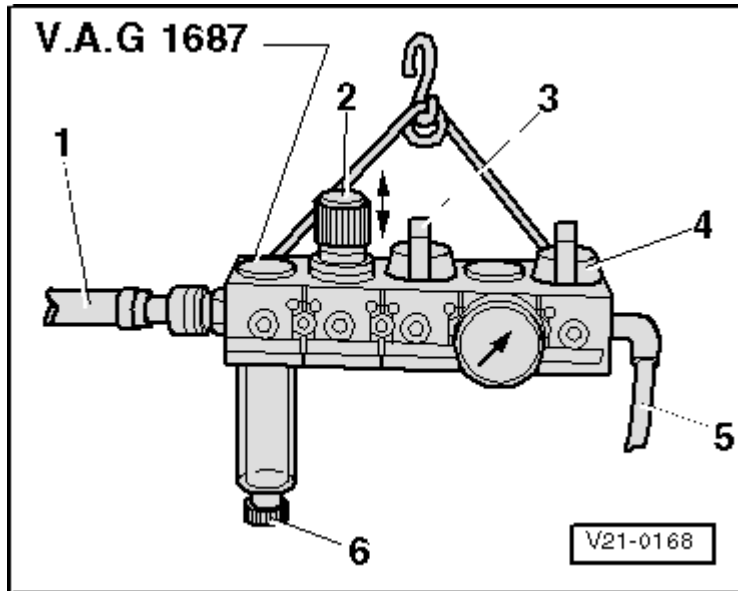


Fig. 18: Connecting Pressurized Air Hose To Testing Unit For Turbo Charger V.A.G 1687
Courtesy of AUDI OF AMERICA, LLC

-- Open the valve -3-.

CAUTION: Damage could result if the pressure is set too high.

- Pressure must not exceed 0.5 bar!

-- Set the pressure to 0.5 bar using the pressure control valve -2-.

-- Open the valve -4- and wait until the test circuit is filled. Regulate the pressure to 0.5 bar again if necessary.

-- Closes the valve -3-.

- The drop in pressure must not exceed 0.1 bar in 30 seconds.

-- Inspect the charge air system for poorly sealed areas by listening, feeling, using commercially available leak detection spray or by using the V.A.G 1842.

NOTE: For information on using the V.A.G 1842, refer to the operating Instructions.

Release the pressure in the test circuit by pulling off the hose coupling before removing the adapter.

REMOVAL AND INSTALLATION

CHARGE AIR COOLER

Special tools and workshop equipment required

- Fitting Sleeve 2033
- Adjustable Rod 2036
- Tire Pry Lever V.A.G 1942
- Engine and Transmission Holder VAS 6095

Removing

- Securing the supercharger to the VAS 6095, refer to **SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER.**

Left Charge Air Cooler

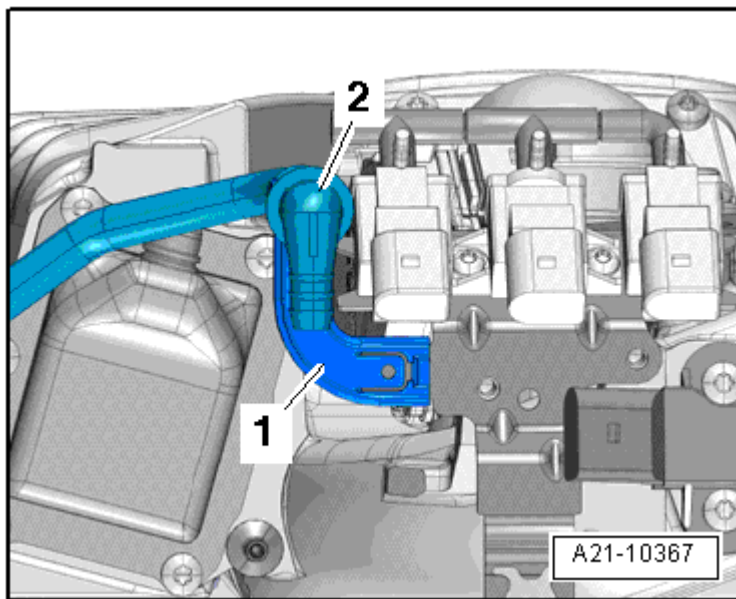


Fig. 19: Identifying Bracket -1- To Vacuum Hose
Courtesy of AUDI OF AMERICA, LLC

-- Unclip the bracket -1- for the vacuum hose.

NOTE: Ignore -2-.

-- Remove charge air pressure sensor 2 -G447-. Refer to **Charge Air Pressure Sensor -G31- / Charge Air Pressure Sensor 2 -G447-**.

Right Charge Air Cooler

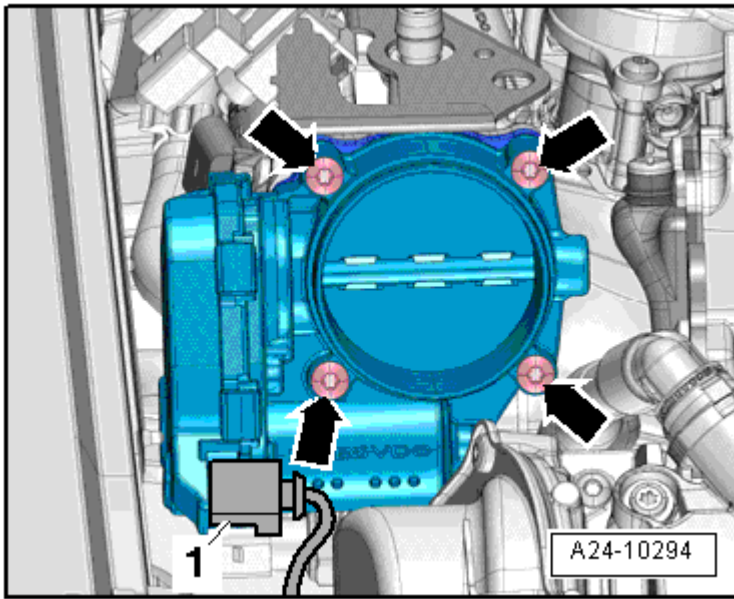


Fig. 20: Locating Throttle Valve Control Module -J338-
Courtesy of AUDI OF AMERICA, LLC

-- Remove the throttle valve control module -J338-. Refer to **Removal and Installation** .

-- Remove the charge air pressure sensor -G31-. Refer to **Charge Air Pressure Sensor -G31- / Charge Air Pressure Sensor 2 -G447-**.

Continued for Both Sides

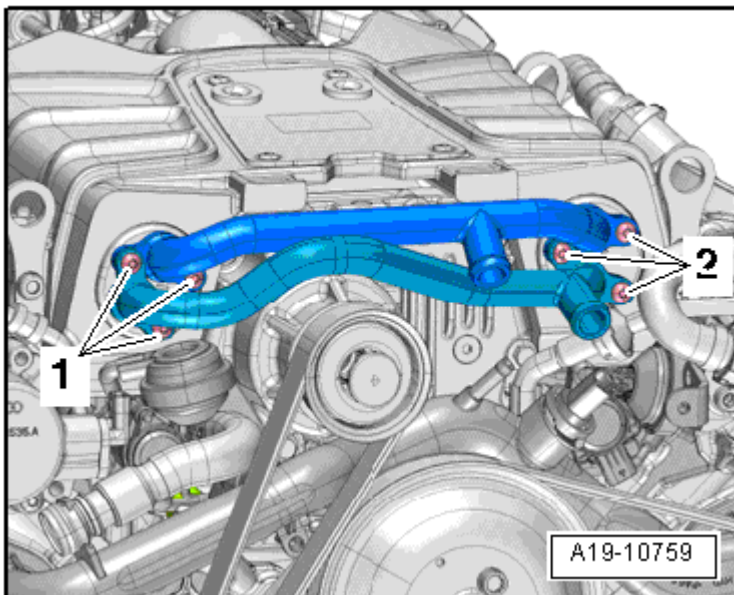


Fig. 21: Identifying Coolant Pipes To Supercharger
Courtesy of AUDI OF AMERICA, LLC

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- Remove the bolts -1 and 2- and the coolant pipes on the supercharger.
- Remove the bolts on the left -1 and 2- and right -3 and 4- charge air coolers.

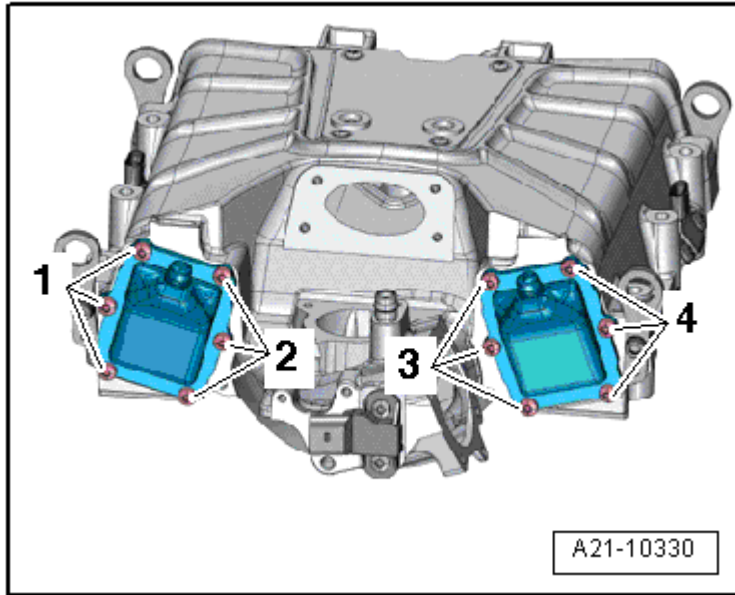


Fig. 22: Identifying Bolts For Left -1 To 2- And Right -3 To 4- Charge Air Coolers
Courtesy of AUDI OF AMERICA, LLC

- Attach the 2036 to the supercharger with 2036/1 as illustrated.

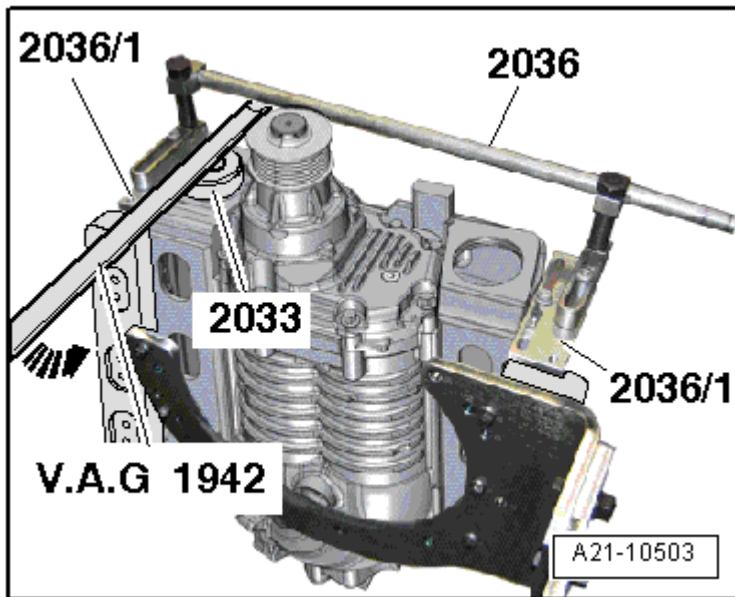


Fig. 23: Identifying Attachment Of Adjustable Rod 2036
Courtesy of AUDI OF AMERICA, LLC

- Mount the 2033 on the front of the charge air cooler.

-- Slowly remove the charge air cooler with even pressure from the supercharger housing using the V.A.G 1942.

Installing

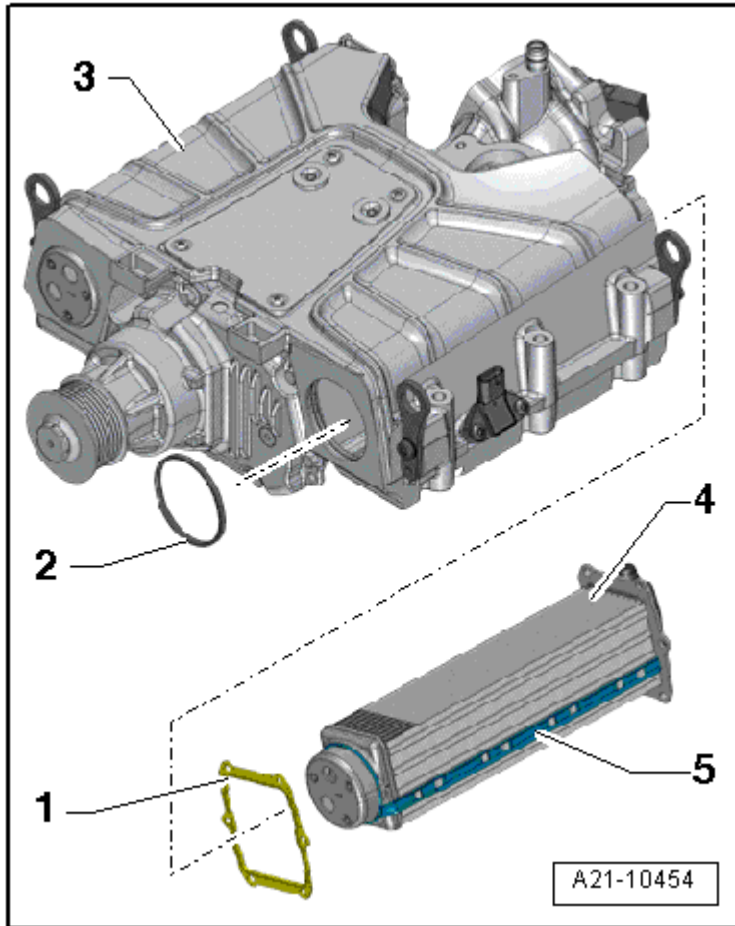


Fig. 24: Identifying Installation Of Charge Air Cooler With Remove/Install Components
 Courtesy of AUDI OF AMERICA, LLC

- Tightening specifications, refer to **CHARGE AIR COOLER OVERVIEW**.

NOTE: Replace the seals, O-rings and the self-locking bolts.

Always clean the threaded holes inside the supercharger housing with a thread tap before assembling

-- Check the seal -5- on the charge air cooler -4-.

- The seal must not be cracked or damaged.

-- Slide the seal -1- onto the charge air cooler.

-- Insert the O-ring -2- into the opening in the supercharger housing -3-.

-- Coat the sealing surface -arrow A- and the charge air cooler seal -arrow B- -1- with engine oil.

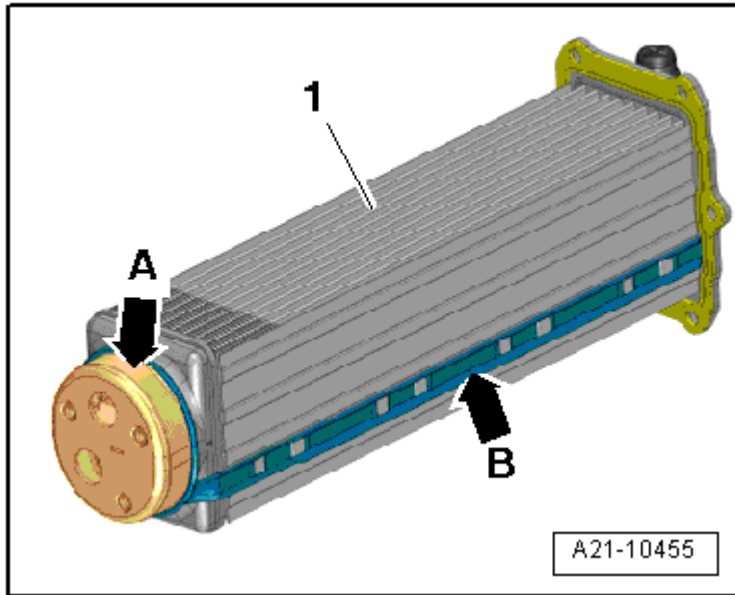


Fig. 25: Identifying Sealing Surface -Arrow A- And Charge Air Cooler Seal -Arrow B-
 Courtesy of AUDI OF AMERICA, LLC

-- Coat the inner sealing surface inside the supercharger housing with engine oil.

-- Make sure the seals are opposite the openings in the supercharger housing when installing the charge air cooler -arrows-.

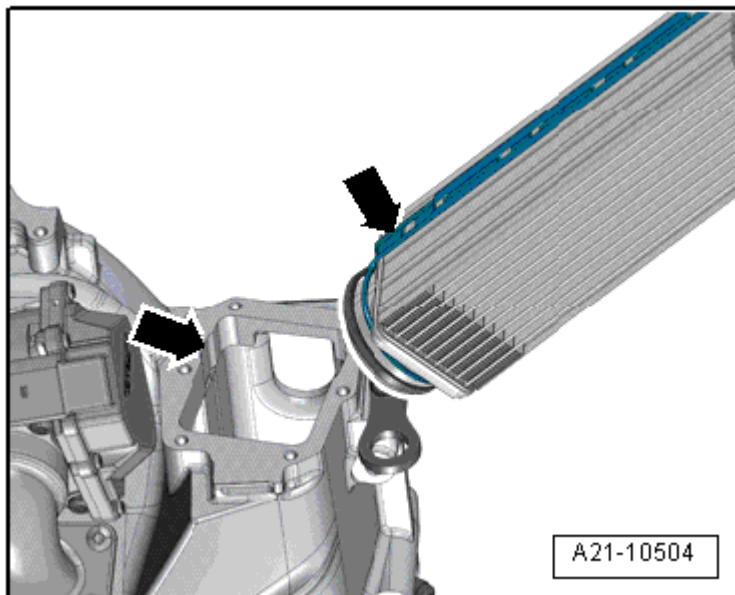


Fig. 26: Ensuring Seals Are Opposite Openings In Supercharger When Installing Charge Air Cooler -
Arrows-
 Courtesy of AUDI OF AMERICA, LLC

NOTE: Holding the supercharger housing perpendicular in the VAS 6095 makes it easier to install and remove the charge air cooler.

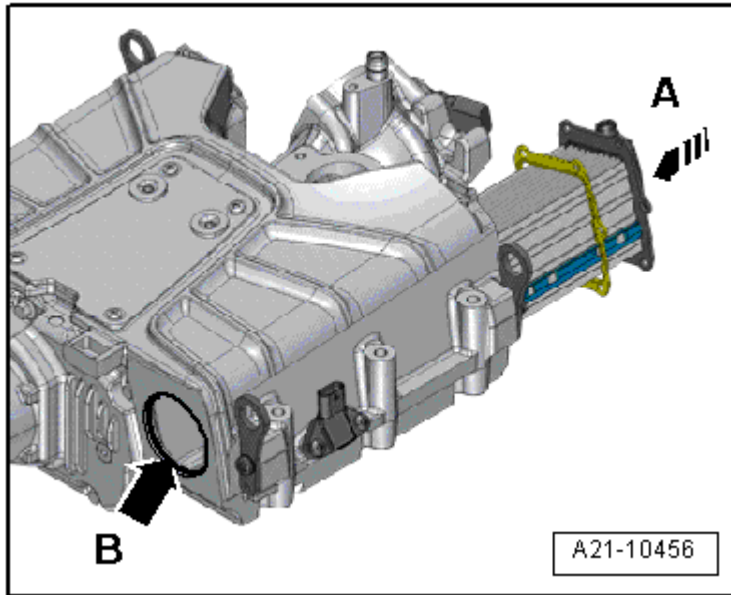


Fig. 27: Identifying Installation Of Charge Air Cooler
Courtesy of AUDI OF AMERICA, LLC

CAUTION: Danger of causing damage to the charge air cooler.

- Install the charge air cooler by hand only.

-- Install the charge air cooler all the way into the supercharger housing by hand -arrow A-. When doing this, let the front of the charge air cooler slide into the hole -arrow B- inside the supercharger housing.

-- Manually guide the charge air cooler by hand through the supercharger housing openings -arrows-, if necessary.

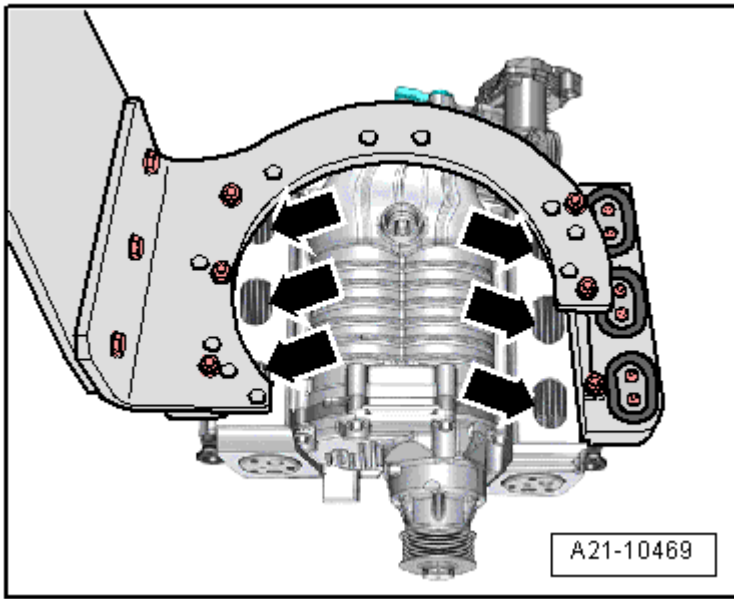


Fig. 28: Identifying Supercharger Openings -Arrows-
Courtesy of AUDI OF AMERICA, LLC

-- As soon as it is possible, install the 2 bolts loosely by hand to help guide the charge air cooler.

CAUTION: Danger of causing damage to the charge air cooler.

- The charge air cooler may not be installed by using the bolts.
- Install the charge air cooler by hand only until there is maximum 1 mm between the sealing flange and the seal and the supercharger housing. Only then should the bolts be tightened as follows:

-- Tighten the bolts for the left -1 and 2- and right -3 and 4- charge air coolers in a diagonal sequence and in small steps.

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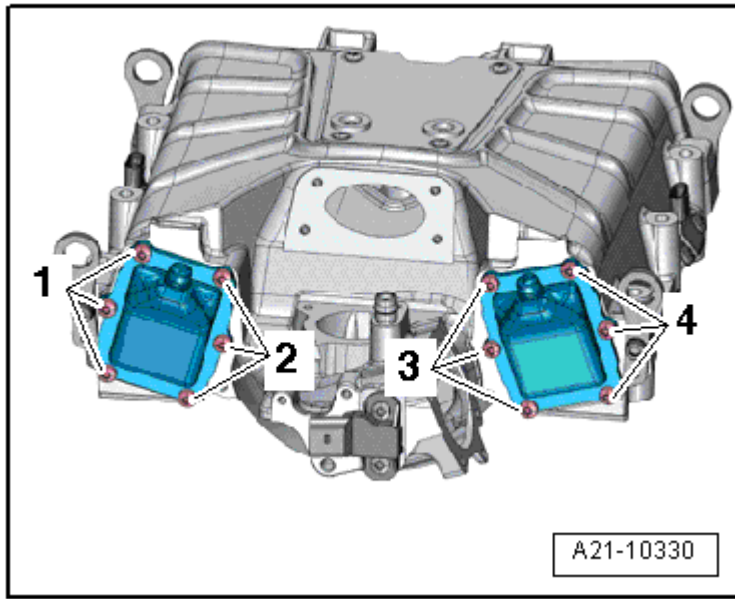


Fig. 29: Identifying Bolts For Left -1 To 2- And Right -3 To 4- Charge Air Coolers
Courtesy of AUDI OF AMERICA, LLC

Install in reverse order of removal paying attention to the following:

- Install the coolant pipes to the supercharger. Refer to **SUPERCHARGER COOLANT PIPES** .
- Install throttle valve control module -J338-. Refer to **Removal and Installation** .
- Check the supercharger for leaks. Refer to **SUPERCHARGER, CHECKING FOR LEAKS**.

CHARGE AIR PRESSURE SENSOR -G31- / CHARGE AIR PRESSURE SENSOR 2 -G447-

Removing

Version 2 Cylinder Bank 1 (right)

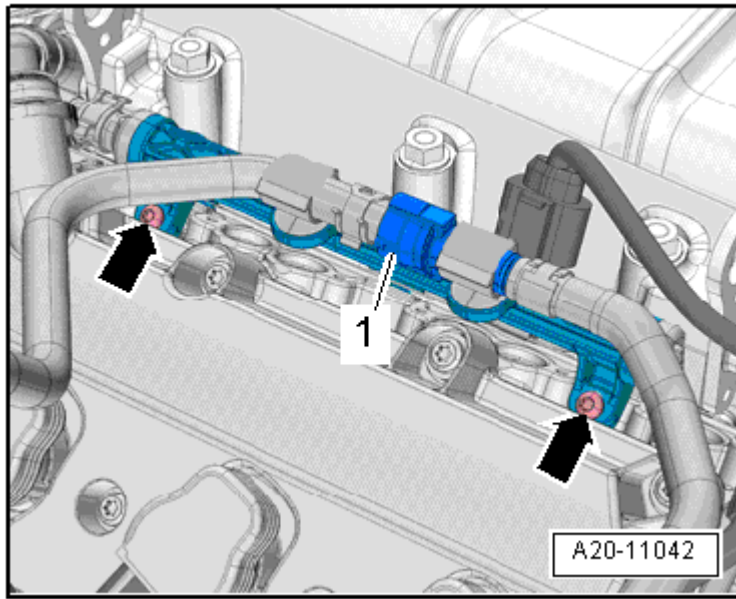


Fig. 30: Version 2 Cylinder Bank 1 (right)
Courtesy of AUDI OF AMERICA, LLC

-- Remove the bolts -arrows- and move the bracket and fuel hose -1- to the side.

Cylinder Bank 2 (left)

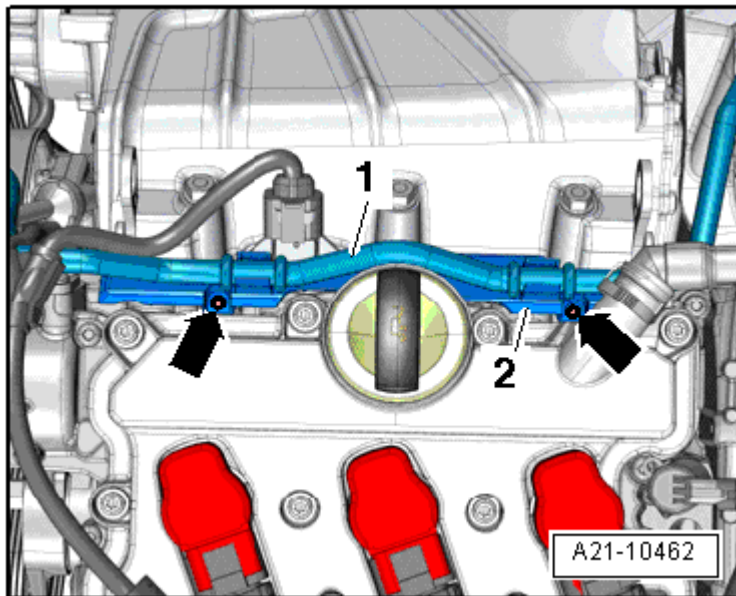


Fig. 31: Identifying Vacuum Hose -1-, Bolts -Arrows- And Cover -2-
Courtesy of AUDI OF AMERICA, LLC

-- Free up the vacuum hose -1-.

-- Remove the bolts -arrows- and remove the cover -2-.

Continued for Both Sides

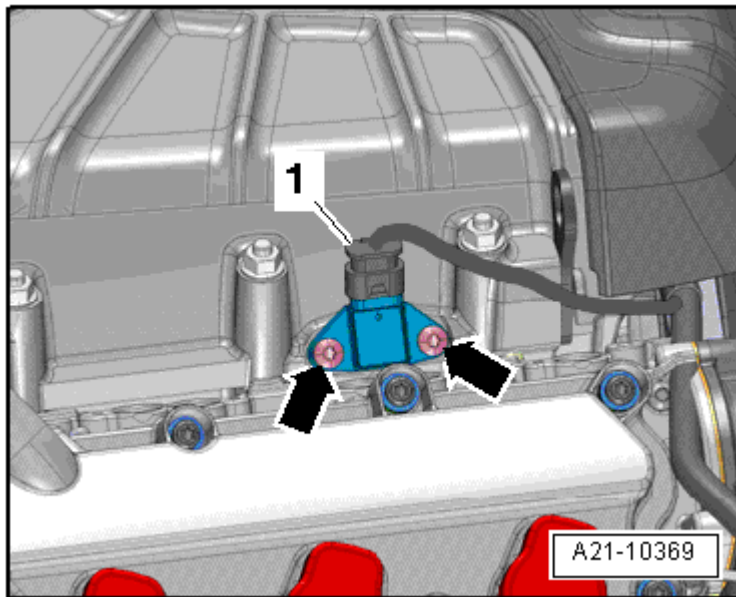


Fig. 32: Installation Location Charge Air Pressure Sensor -G31- /Intake Manifold Temperature Sensor - G72-

Courtesy of AUDI OF AMERICA, LLC

-- Disconnect the connector -1-.

-- Remove the bolts -arrows- and remove the charge air pressure sensor.

Installing

Install in reverse order of removal. Note the following:

- Tightening specifications, refer to **SUPERCHARGER OVERVIEW**.

NOTE: **Replace the self-locking bolts and the O-ring.**

Clean the threaded holes for the charge air pressure sensor inside the supercharger housing with a thread tap before assembling.

DRIVE HEAD AND DECOUPLING SPRING

Special tools and workshop equipment required

- Oil Collecting and Extracting Device V.A.G 1782
- Engine and Transmission Holder VAS 6095
- Sealant
- Oil for the supercharger drive

- Expanding pliers (commercially available)

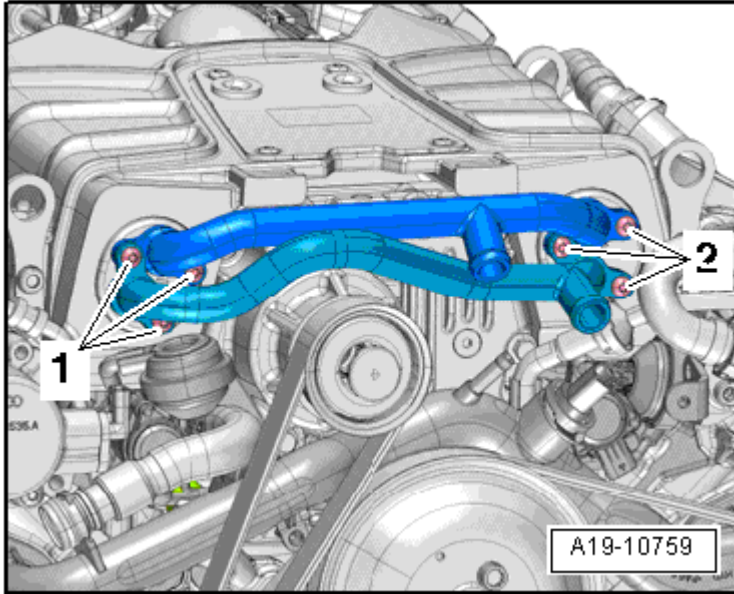
Removing

Fig. 33: Identifying Coolant Pipes To Supercharger
Courtesy of AUDI OF AMERICA, LLC

- The supercharger is secured to the VAS 6095. Refer to **SUPERCHARGER, SECURING TO ENGINE/TRANSMISSION HOLDER**.
- Remove the coolant pipes from the supercharger. Refer to **SUPERCHARGER COOLANT PIPES**.
- Hold the supercharger perpendicular on the engine and transmission holder.
- The drive head faces up.
- Remove the bolts -arrows-.

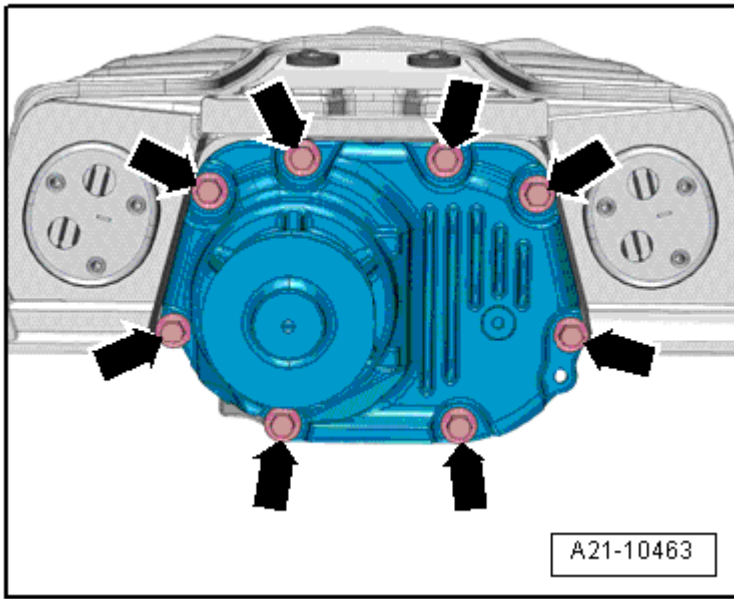


Fig. 34: Identifying Bolts -Arrows-
Courtesy of AUDI OF AMERICA, LLC

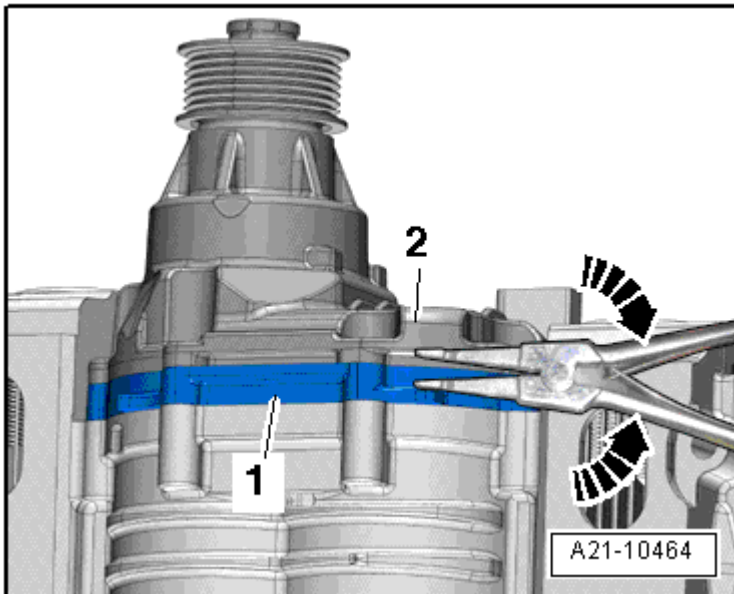


Fig. 35: Identifying Removal Of Drive Unit From Bearing Cap
Courtesy of AUDI OF AMERICA, LLC

CAUTION:

- To prevent the bearing cap -1- from coming loose and having to be sealed again, do not use a hammer to remove the drive head -2- but rather use expanding pliers -arrows-, as illustrated.

-- Carefully remove the drive head from the bearing cap.

-- Remove the decoupling spring.

-- Extract all the oil for the supercharger drive from the bearing cover as well as from the oil pockets -arrows- between the ribs using the V.A.G 1782.

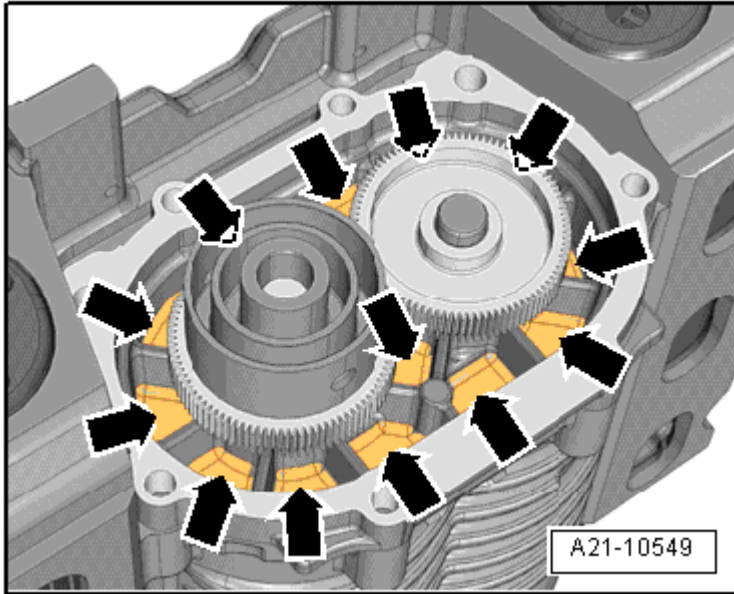


Fig. 36: Identifying Oil Pockets -Arrows-
Courtesy of AUDI OF AMERICA, LLC

Installing

- Tightening specifications, refer to **DRIVE HEAD OVERVIEW**.

NOTE: **Replace the bolts for the drive head.**

Use self-locking bolts or locking compound.

-- Clean the sealing surfaces; they must be free of oil and grease.

-- Clean the threaded holes for the drive head inside the bearing cap with a thread tap before assembling.

-- Fill the oil for the supercharger drive in the bearing cap.

NOTE: **The container holds the exact amount. It is not necessary to check the oil level later.**

-- Install the decoupling spring into the decoupling element.

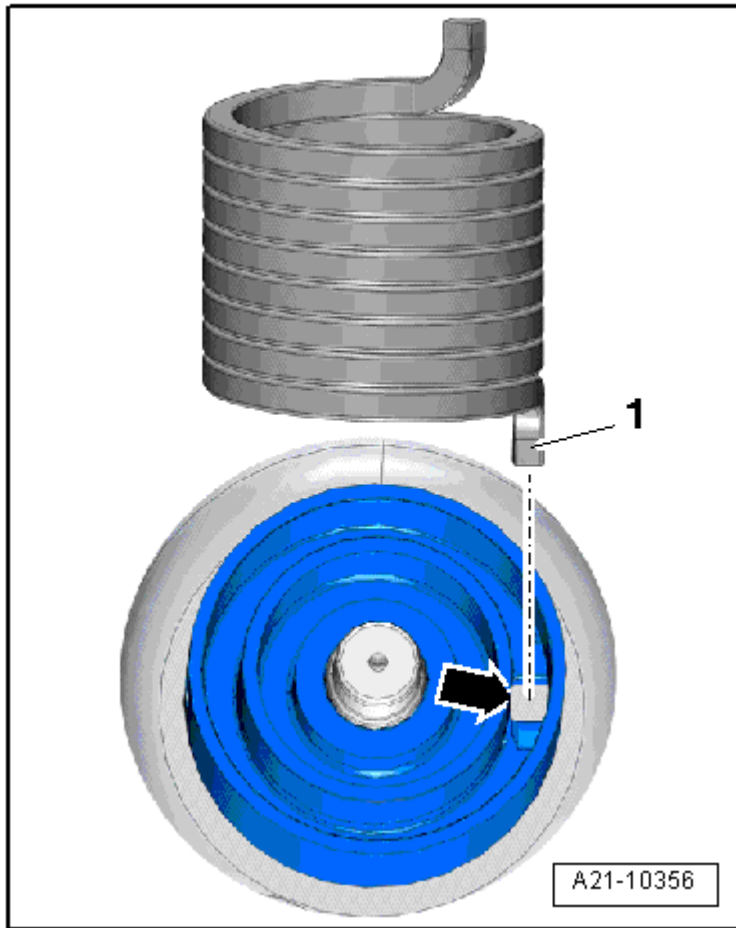


Fig. 37: Identifying Installation Of Spring Into Decoupling Element
Courtesy of AUDI OF AMERICA, LLC

- The end -1- of the spring must fit into the hole -arrow- inside the decoupling element.

-- Lightly apply the sealant to the sealing surface on the drive head.

-- Install the drive head on the supercharger housing. Pay attention to the alignment bushings.

CAUTION: Danger of causing damage to the input shaft.

- The drive head must not be pulled in by the bolts.

-- Turn the ribbed belt pulley at the same time until the end of the decoupling spring engages into the hole in the front of the drive head.

Install in reverse order of removal paying attention to the following:

-- Check the compressor for leaks. Refer to **SUPERCHARGER, CHECKING FOR LEAKS.**

-- Install the coolant pipes to the supercharger. Refer to **SUPERCHARGER COOLANT PIPES** .

STRUCTURE-BORNE SOUND CONTROL MODULE -J869- AND STRUCTURE-BORNE SOUND ACTUATOR - R214-

Removing

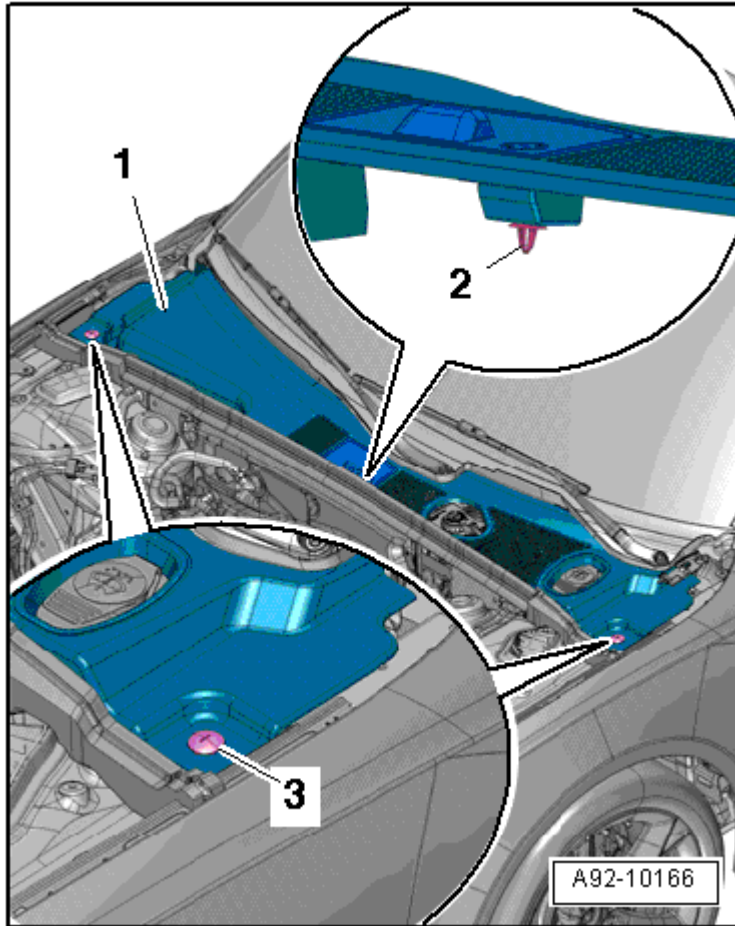


Fig. 38: Removing Plenum Chamber Cover

Courtesy of AUDI OF AMERICA, LLC

- Remove the seal from the plenum chamber bulkhead.
- Remove the plenum chamber cover. Refer to **Removal and Installation** .

Structure-Borne Sound Control Module

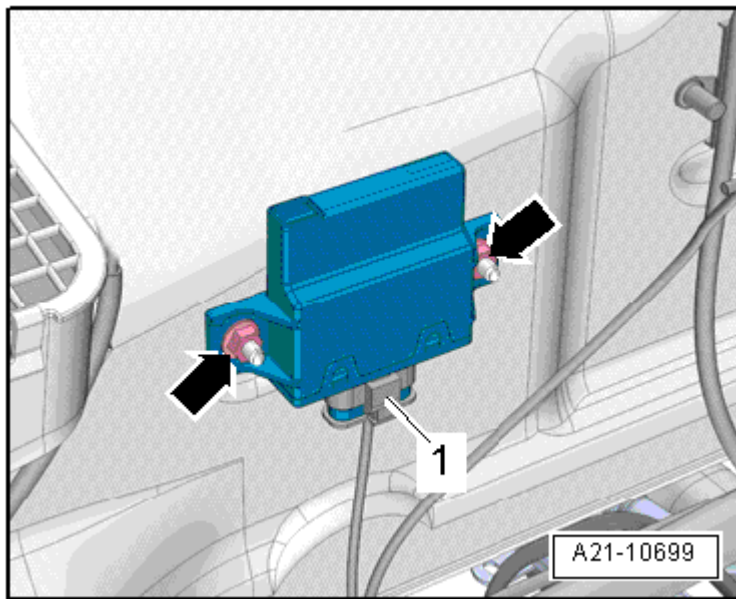


Fig. 39: Structure-Borne Sound Control Module
Courtesy of AUDI OF AMERICA, LLC

-- Disconnect the connector -1-.

-- Remove the nuts -arrows- and structure-borne sound control module.

Structure-Borne Sound Actuator

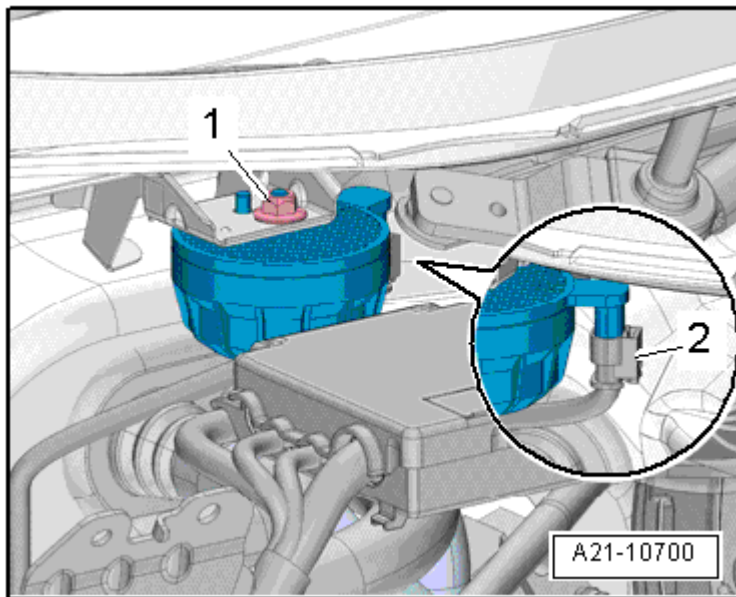


Fig. 40: Structure-Borne Sound Actuator
Courtesy of AUDI OF AMERICA, LLC

-- Remove the nuts -1-.

-- Remove the structure-borne sound actuator and disconnect the connector -2-.

Installing

Install in reverse order of removal. Note the following:

Tightening specifications:

- **Fig. 4**
- **Fig. 5**

-- Install the plenum chamber cover. Refer to **Removal and Installation** .

SUPERCHARGER

Special tools and workshop equipment required

- Hose Clamps Up to 25 mm Dia. 3094
- Engine Bung Set VAS 6122
- Drip Tray for VAS 6100 VAS 6208
- Hose Clip Pliers VAS 6362

Removing

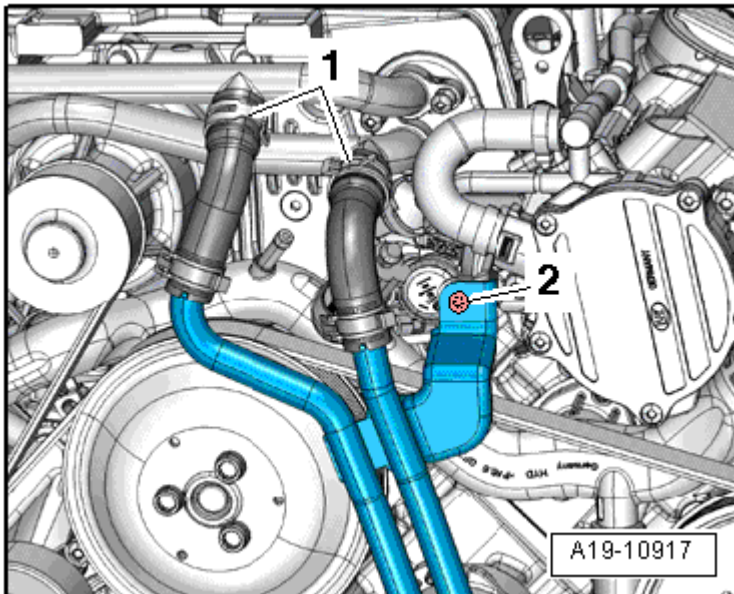


Fig. 41: Identifying Coolant Pipes
Courtesy of AUDI OF AMERICA, LLC

-- Remove the Air Conditioning (A/C) compressor ribbed belt. Refer to **SUPERCHARGER RIBBED BELT** .

2012 Audi S4

ENGINE 3.0 Liter - Turbocharger, Supercharger - Engine Code(s): CCBA (Sedan)

-- Place the VAS 6208 under the engine.

-- Disconnect the coolant hoses with the 3094 and remove them from the left front coolant pipes on the supercharger by loosening the clamps -1-.

NOTE: The installation location is shown with the engine removed.

Ignore -2-.

-- Free up the fuel hose -1- and the EVAP canister hose -2- on the air duct pipe.

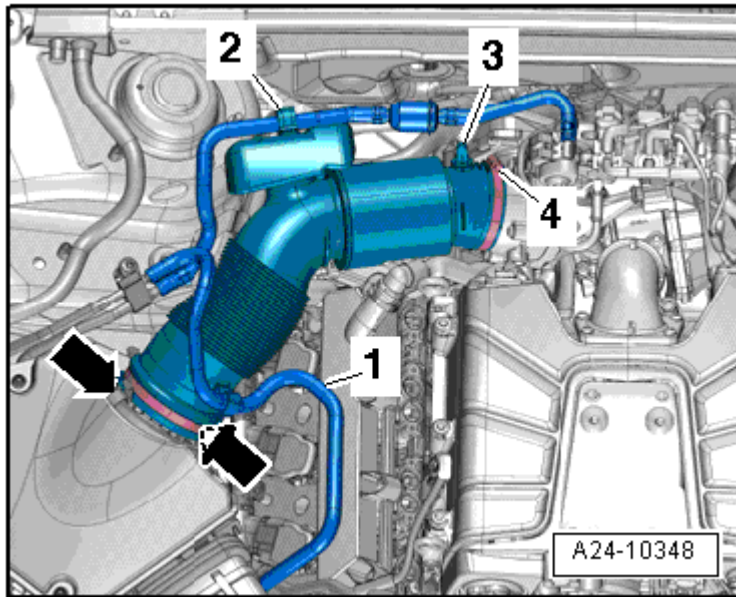


Fig. 42: Identifying Air Duct Pipe

Courtesy of AUDI OF AMERICA, LLC

-- Remove the vacuum hose -3- from the air guide pipe connection.

-- Remove the air guide pipe by loosening the hose clamp -4- and opening the clips -arrows-.

-- Disconnect the electrical connector -3- on Evaporate Emission (EVAP) canister purge regulator valve 1 - N80- and disconnect the vacuum hose -4- by pressing the release buttons.

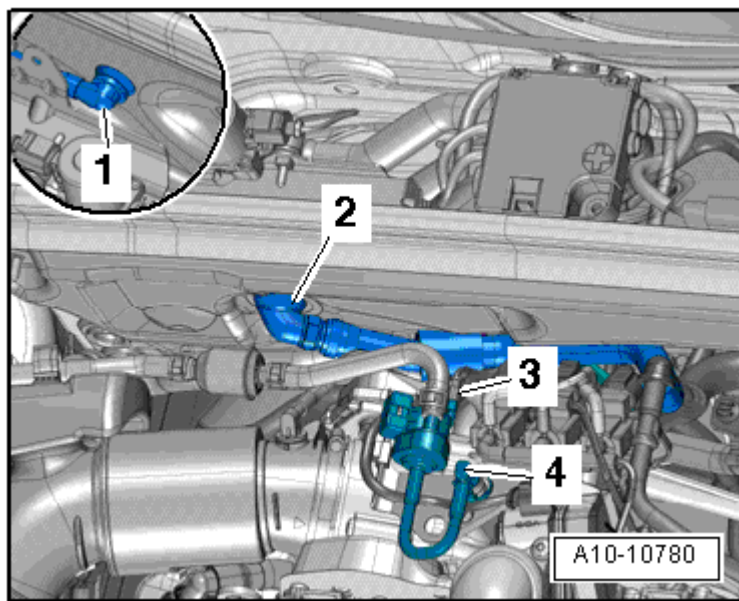


Fig. 43: Removing Evap Canister Purge Regulator Valve
 Courtesy of AUDI OF AMERICA, LLC

-- Remove the EVAP canister purge regulator valve 1 from the bracket and lay it aside with the hose connected.

NOTE: Ignore -1 and 2-.

-- Disconnect the connector -1- on the throttle valve control module -J338-.

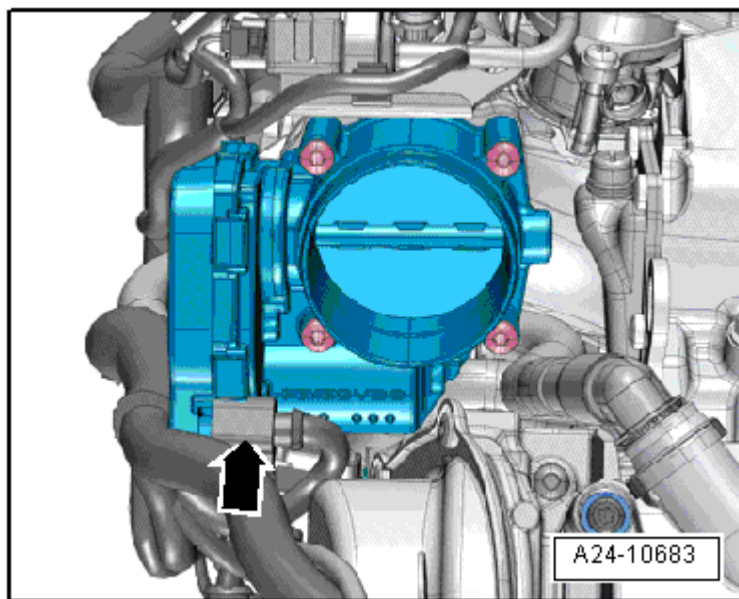


Fig. 44: Identifying Connector -1- To Throttle Valve Control Module -J338-
 Courtesy of AUDI OF AMERICA, LLC

-- Disconnect the connector -arrow- on the control valve control module -J808-.

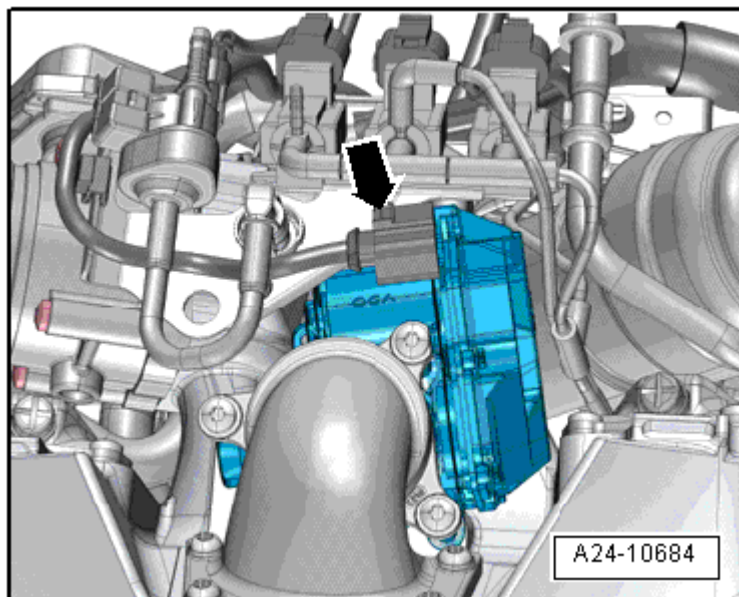


Fig. 45: Identifying Connector -Arrow- To Control Valve Control Unit -J808-
Courtesy of AUDI OF AMERICA, LLC

-- Disconnect the connectors -1, 2 and 3-.

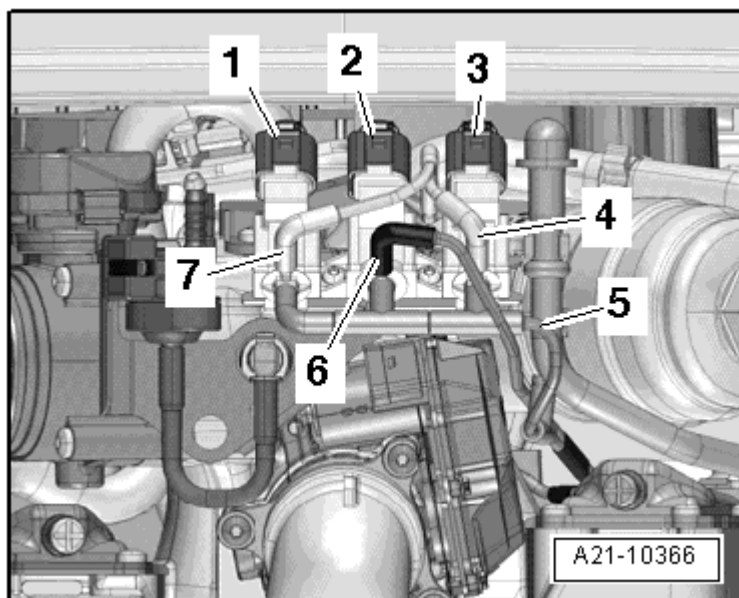


Fig. 46: Installed Location: Secondary Air Injection Solenoid Valve and Intake Manifold Runner Control (IMRC) Valve -N316-
Courtesy of AUDI OF AMERICA, LLC

NOTE: Mark the vacuum hoses for installation later.

2012 Audi S4

ENGINE 3.0 Liter - Turbocharger, Supercharger - Engine Code(s): CCBA (Sedan)

-- Disconnect the vacuum hoses -4 through 7-.

-- Disconnect the connector on the Intake Air Temperature (IAT) sensor -G42- /Manifold Absolute Pressure (MAP) sensor -G71- -1-.

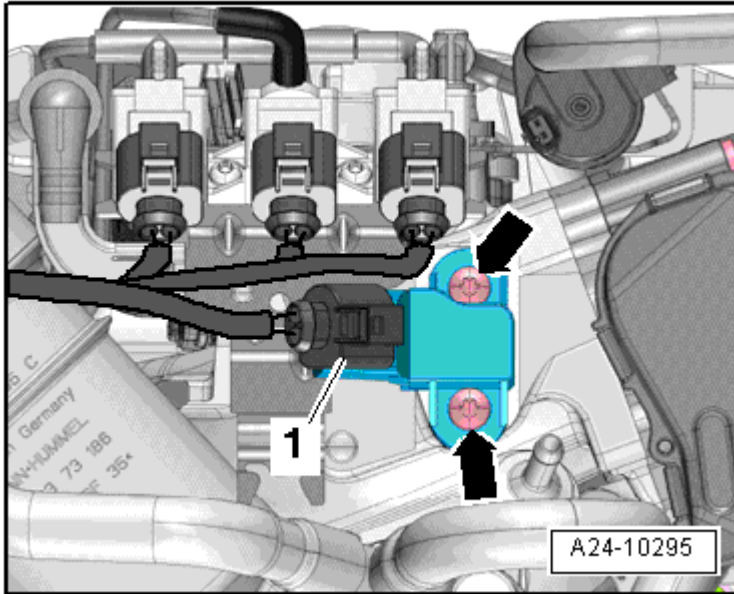


Fig. 47: Intake Air Temperature (IAT) Sensor -G42- /Manifold Absolute Pressure (MAP) Sensor -G71- - Tightening Specification

Courtesy of AUDI OF AMERICA, LLC

NOTE: Ignore -arrows-.

-- Disconnect the connector -3- (if equipped) and remove the vacuum hoses -1 and 2-.

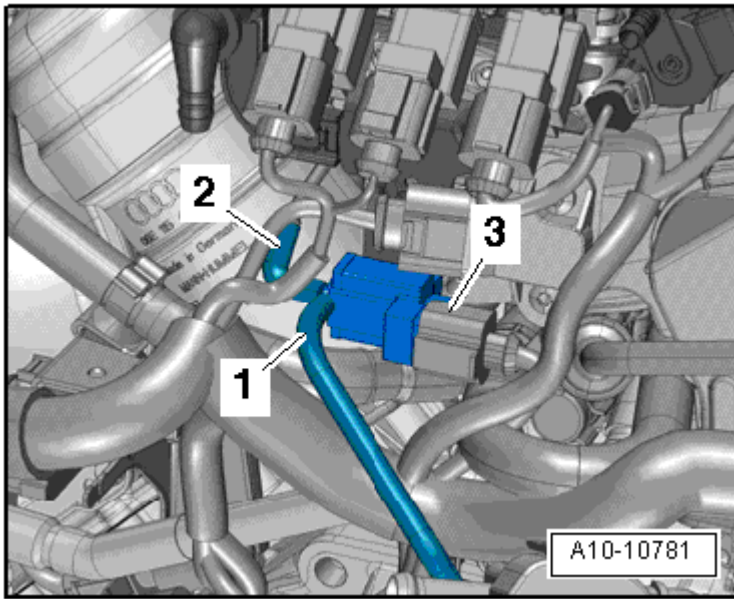


Fig. 48: Disconnecting Connector & Vacuum Hoses
Courtesy of AUDI OF AMERICA, LLC

-- Free up the vacuum hose -1-.

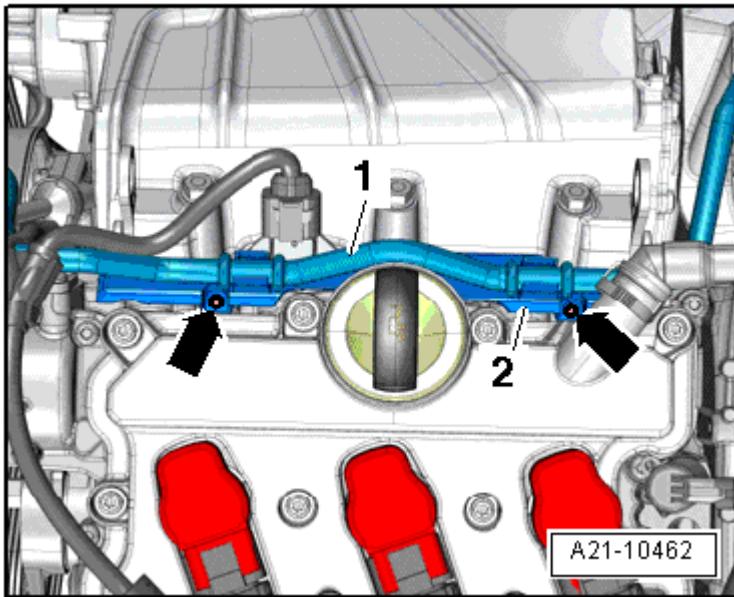


Fig. 49: Identifying Vacuum Hose -1-, Bolts -Arrows- And Cover -2-
Courtesy of AUDI OF AMERICA, LLC

-- Remove the left and right bolts -arrows- and the cover and bracket -2-.

-- Free up the brake booster vacuum hose -2- on the bracket -1-.

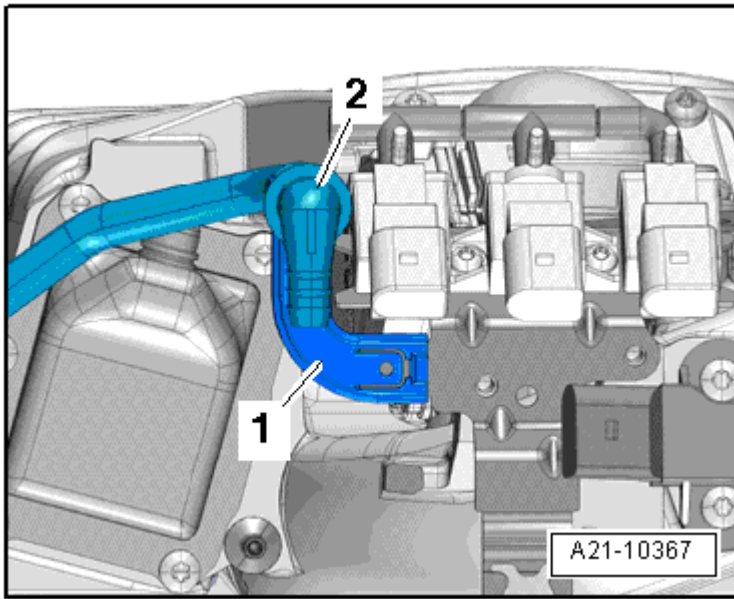


Fig. 50: Identifying Bracket -1- To Vacuum Hose
Courtesy of AUDI OF AMERICA, LLC

-- Disconnect the connectors -1 and 2--.

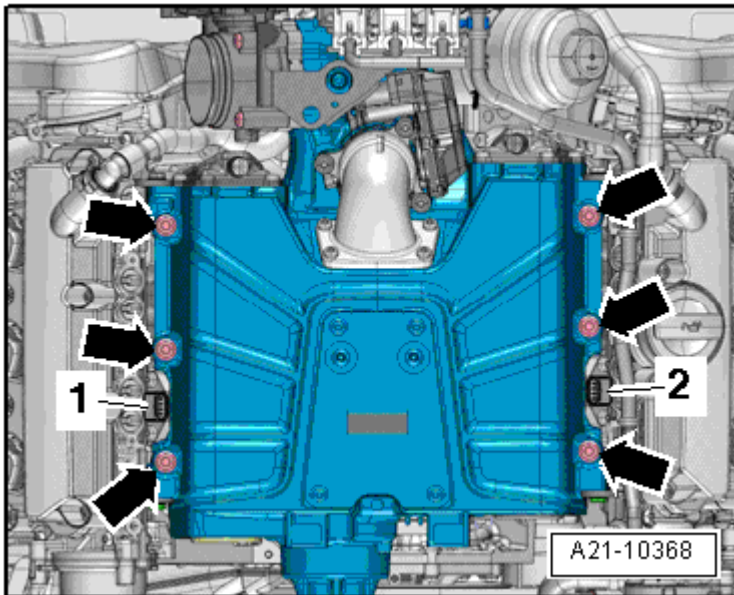


Fig. 51: Identifying Removal Of Nuts -Arrows- And Supercharger
Courtesy of AUDI OF AMERICA, LLC

- Remove the nuts -arrows- and remove the supercharger with the charge air coolers upward.
- Seal off the openings on the supercharger and on the charge air pipe VAS 6122.
- Remove the noise insulation.

Installing

Install in reverse order of removal. Note the following:

- Tightening specifications, refer to **SUPERCHARGER OVERVIEW**.

NOTE: **Replace the seals**

The hose connections as well as the air guide pipes and hoses must be free of oil and grease before installing.

Secure all hose connections with hose clamps of the same type as those equipped by the factory,

To mount the air guide hoses on their connectors securely, spray the bolts on the used clamps with rust remover before installing.

-- Make sure the crankcase ventilation support is installed correctly when mounting the supercharger. Refer to **Fig. 6**.

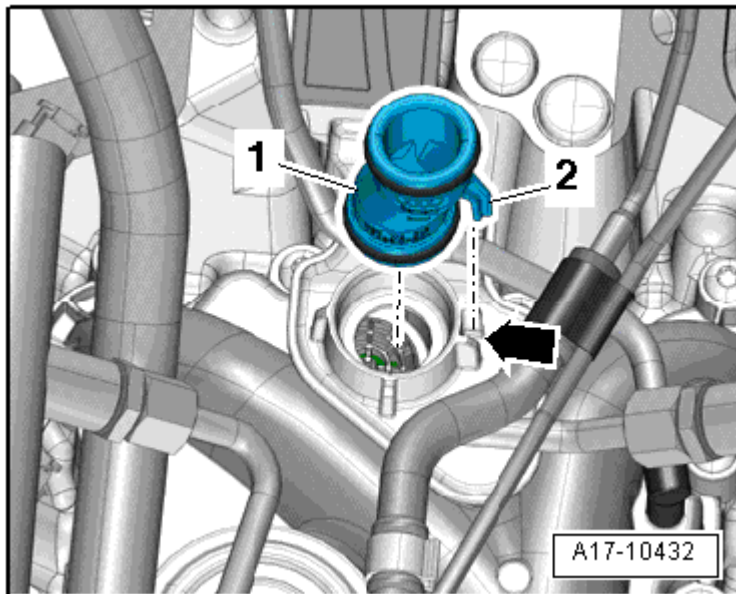


Fig. 52: Identifying Installation Of Crankcase Ventilation Connector
Courtesy of AUDI OF AMERICA, LLC

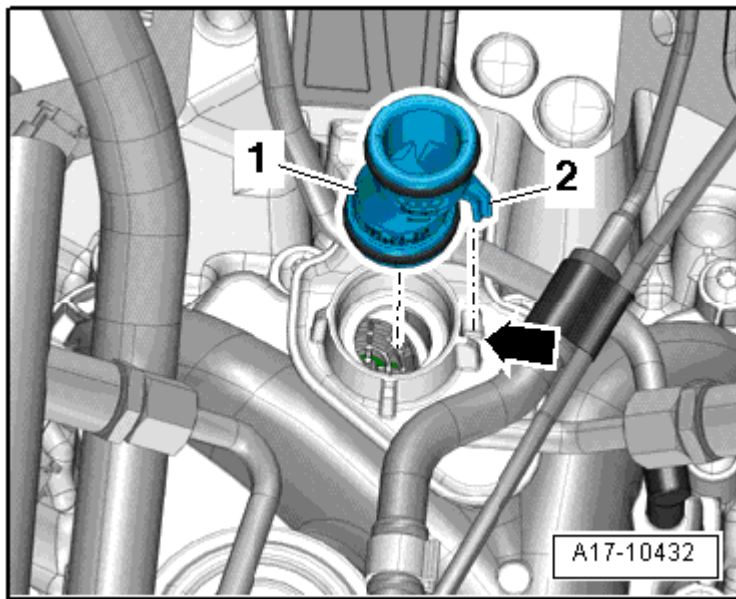


Fig. 53: Identifying Installation Of Crankcase Ventilation Connector
Courtesy of AUDI OF AMERICA, LLC

- Install the supercharger ribbed belt. Refer to **SUPERCHARGER RIBBED BELT** .
- Fill with coolant **COOLANT, DRAINING AND FILLING => Filling** .

SPECIAL TOOLS

Special tools and workshop equipment required

- Fitting Sleeve 2033

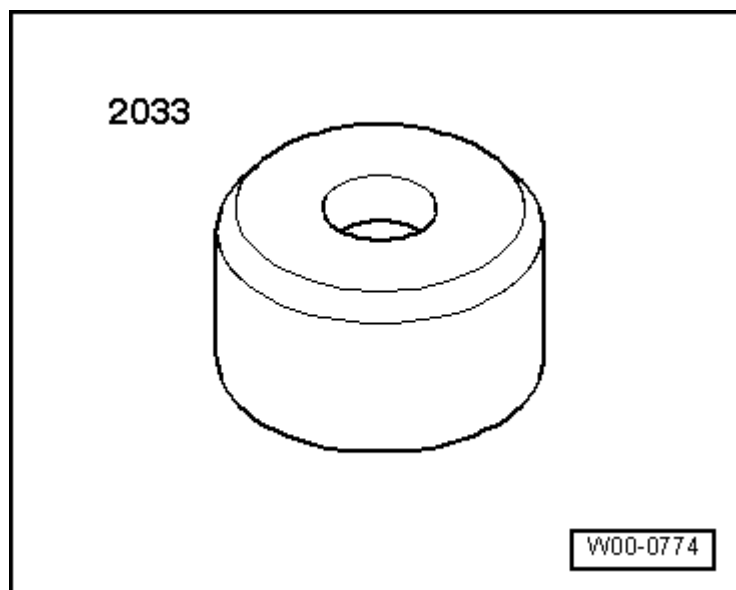


Fig. 54: Identifying Fitting Sleeve 2033
Courtesy of AUDI OF AMERICA, LLC

- Adjustable Rod 2036

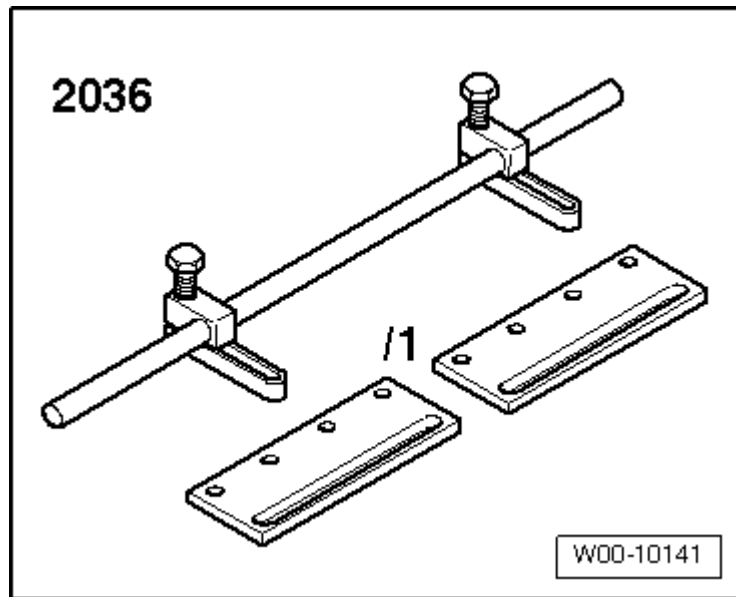


Fig. 55: Identifying Adjustable Rod 2036
Courtesy of AUDI OF AMERICA, LLC

- Gearbox Support T40206

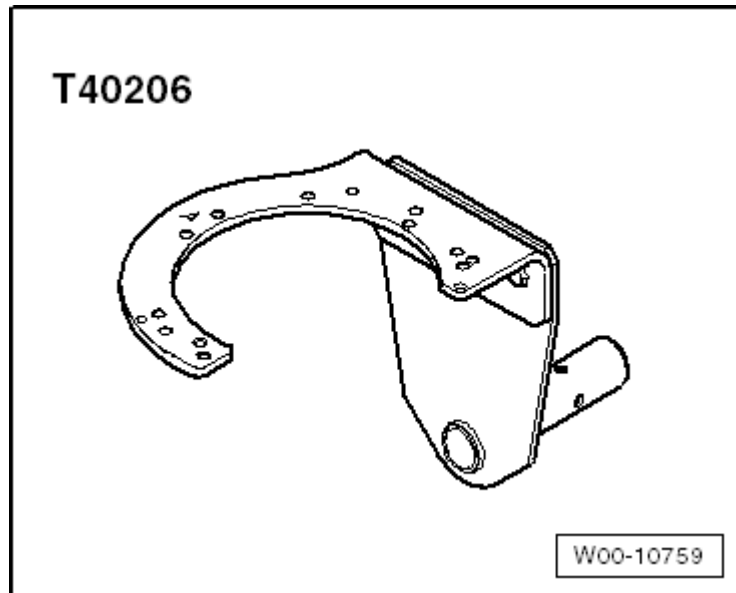


Fig. 56: Identifying Gearbox Support T40206
Courtesy of AUDI OF AMERICA, LLC

- Testing Unit For Turbocharger V.A.G 1687 with Adapter V.A.G 1687/10 V.A.G 1687/13-1, V.A.G

1687/13-2 and V.A.G 1687/13-3

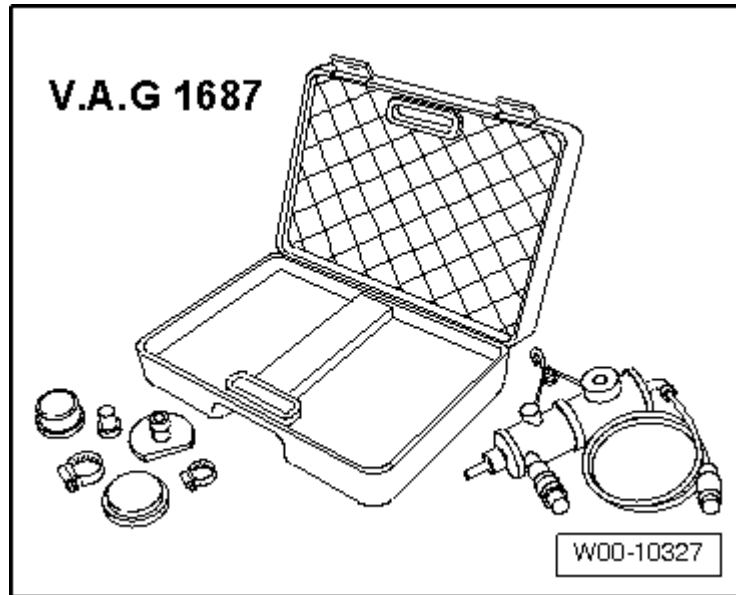


Fig. 57: Identifying Testing Unit For Turbo Charger V.A.G 1687
Courtesy of AUDI OF AMERICA, LLC

- Oil Collecting and Extracting Device V.A.G 1782

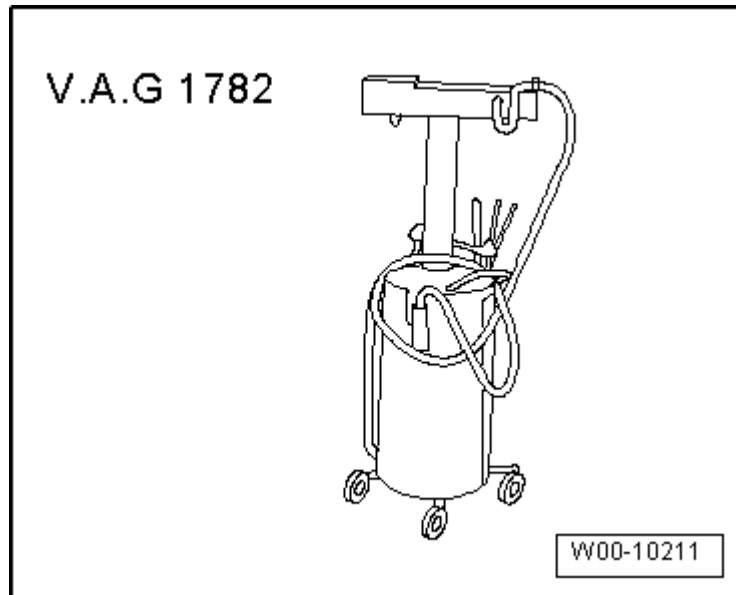


Fig. 58: Identifying Oil Extractor V.A.G 1782
Courtesy of AUDI OF AMERICA, LLC

- Engine and Transmission Holder VAS 6095

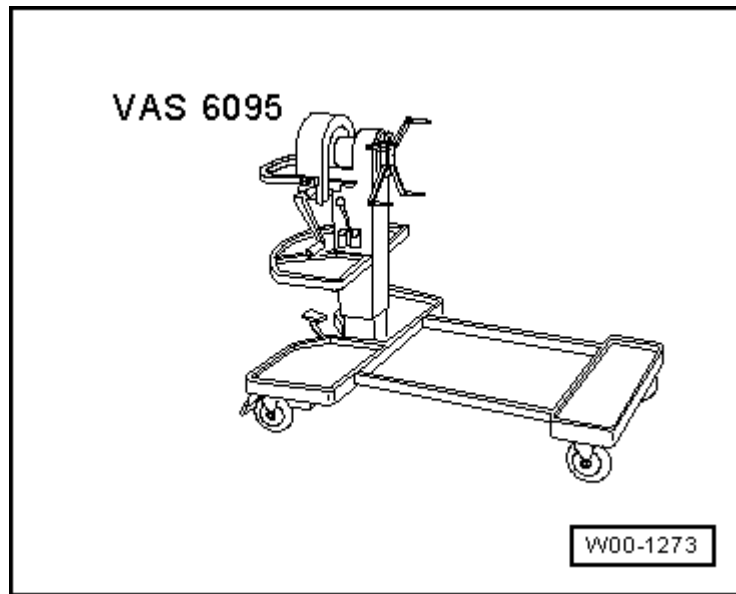


Fig. 59: Engine And Transmission Holder VAS 6095
Courtesy of AUDI OF AMERICA, LLC

- Engine Bung Set VAS 6122

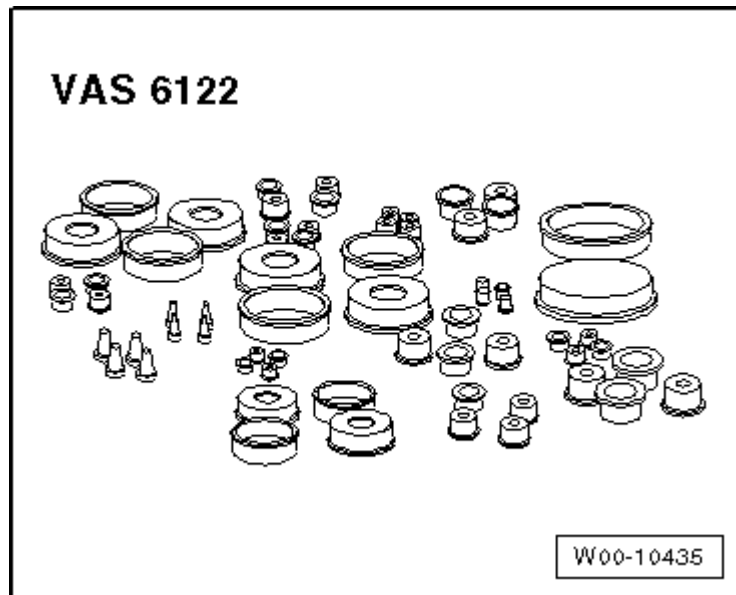


Fig. 60: Engine Bung Set Plugs VAS 6122
Courtesy of AUDI OF AMERICA, LLC

- Drip Tray for VAS 6100 VAS 6208

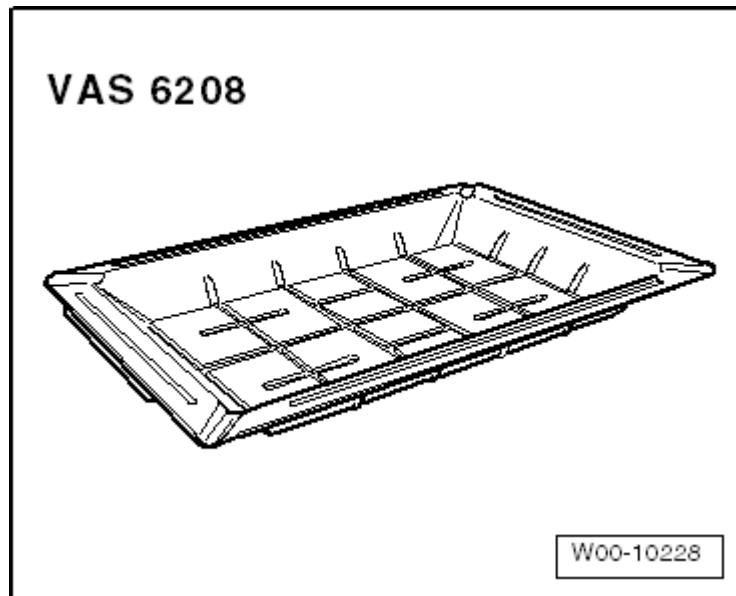


Fig. 61: Drip Tray For Shop Crane VAS 6208
Courtesy of AUDI OF AMERICA, LLC

- Hose Clip Pliers VAS 6362

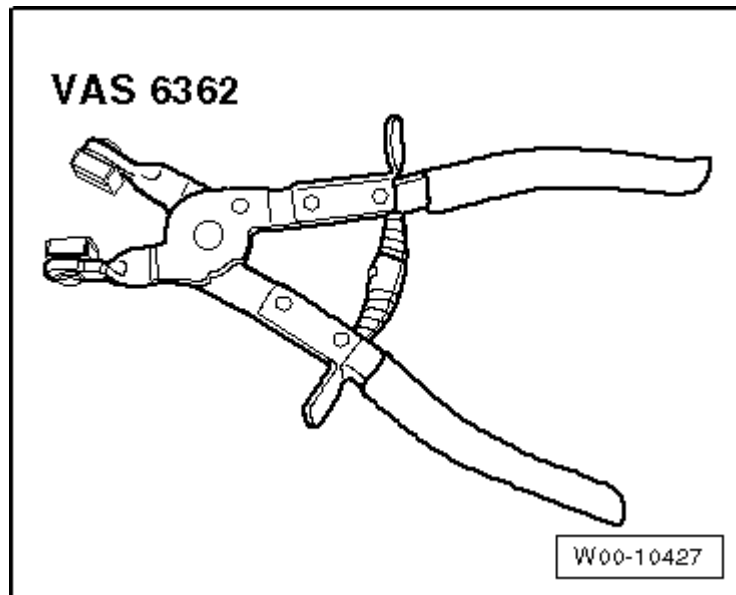


Fig. 62: Clamp Pliers VAS 6362
Courtesy of AUDI OF AMERICA, LLC

- Not illustrated:
- Ultrasonic Measuring Device V.A.G 1842
- Tire Pry Lever V.A.G 1942