

IMPORTANT INFORMATION

Please inform and provide a copy of this document to every person in your dealership with campaign-related responsibilities, including Service, Parts and Accounting personnel. 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. If you have questions regarding this or any other campaign, please contact Warranty



Audi

Customer Satisfaction Campaign

Code: 24U8

Subject: 2011 - 2012 Audi R8/R8 Spyder
Engine Wiring Harness Overlay & ECM Programming

REVISED

October 23, 2012

Revision Summary

- Modified VIN range for Audi R8/Spyder
- Updated SVM table for R8 (V8)

R8 Repair Requirements

To ensure that all Audi R8 services and repairs are performed properly under this action, repair work must be performed at an authorized Audi dealer with the designation Audi R8 Certified Point or Audi R8 Service Point.

Problem Description

Under certain driving conditions the MIL may come on even though the vehicle is operating correctly. If the MIL is on because of this issue, your vehicle may not pass an IM (emissions) inspection.

Corrective Action

As applicable, installation of an engine wiring harness overlay and updated ECM programming.

VIN Ranges & Production Dates**NOTE:**

- ElsaWeb is the only valid campaign inquiry/verification source. Check ElsaWeb on the day the campaign work will be performed to verify vehicle eligibility for the repair in order to receive claim payment consideration. Campaign status must show "open".
- If this repair appears to have already been performed on the vehicle but the code still shows open in ElsaWeb, contact Warranty before proceeding further. Another dealer may have recently performed this repair but not yet entered a claim for it in the system.
- ElsaWeb may also show additional open action(s); if so, inform your customer - this work can be done while the vehicle is in for this campaign.
- Contact Warranty if you have any questions.

U.S.A.**2011 – 2012 Audi R8**

WUA__AFG_BN000132 – WUA__AFG_CN002527

Production dates: 05/07/2010 – 06/05/2012

2011 – 2012 Audi R8 Spyder

WUA__AFG_BN000134 – WUA__AFG_CN002651

Production dates: 07/06/2010 – 05/24/2012

CANADA**2011 – 2012 Audi R8**

WUA__AFG_BN000150 – WUA__AFG_CN002569

Production dates: 05/18/2010 – 06/05/2012

2011 – 2012 Audi R8 Spyder

WUA__AFG_BN000154 – WUA__AFG_CN002468

Production dates: 06/17/2010 – 06/03/2012

NOTE: The VIN range is a general range of vehicles that may be included in the Campaign. Not every vehicle within the VIN range may be included since it may depend on the production date, transmission or engine build date. Always verify ElsaWeb for campaign eligibility on a vehicle.

Allocation Report of Affected Vehicles

New electronic allocation lists will be posted under My Dealership Reports on AccessAudi on or about October 23, 2012. A list will not be posted for dealers who have no affected vehicles.

Parts Information and Allocation

Parts allocation took place prior to customer notification. If you have exhausted your allocated parts but have exceeded your weekly Upper Order Limit, please submit your requests for additional parts via email to upperorderlimits@audi.com. If you have questions regarding parts, please contact the Parts Helpline at 800-767-6552.

Owner Notification Mailing

We initially notified all known owners of affected vehicles by first class mail in July 2012. The additional customers will be notified on or about October 23, 2012. A sample copy of the owner letter is enclosed.

Claim Entry Procedure

Immediately upon completion of the repair work, enter the Applicable Criteria ID and Repair Operation from the following chart. **The Applicable Criteria ID is shown in ElsaWeb.** Claims will only be paid for vehicles that show this campaign open in ElsaWeb on the day of the repair. To help ensure prompt and proper payment, attach the screen print to the repair order

Saga Claim Entry Procedure

Check ElsaWeb to determine whether the campaign is open.

Service No.: 24U8

Damage Code: 0099

Parts Manufacturer

Removed part: Use vendor code 002

Sold vehicle = 7 10

Unsold vehicle = 7 90

Vehicles may have more than one criteria. Complete and claim all applicable criteria on one claim.

Accounting Instructions

Criteria I.D. 01 and 02

Perform Software Update

Repair operation: 2470 25 99 50 T.U.

AND/OR

Criteria I.D. 03

Inspect/Replace Engine Wiring Harness Overlay

Repair operation: 9752 25 99 340 T.U.

<u>Quantity</u>	<u>Part Number</u>	<u>Part Description</u>
1	420 971 493 D	Engine wiring harness overlay
1	000 979 940	Connector
4	N 909 803 04	Bolt
4	N 910 238 02	Bolt
12	N 909 377 02	Tie Wrap (High temperature)
Up to 1	000 979 950	Cloth tape

OR

Continue to next page

Criteria I.D. 04

Inspect/Replace Engine Wiring Harness Overlay

Repair operation: 9752 23 99 440 T.U.

<u>Quantity</u>	<u>Part Number</u>	<u>Part Description</u>
1	420 971 493 E	Engine wiring harness overlay
1	000 979 940	Connector
4	N 909 803 04	Bolt
4	N 910 238 02	Bolt
12	N 909 377 02	Tie Wrap (High temperature)
Up to 1	000 979 950	Cloth tape

AND/OR

Criteria I.D. 05

Remove Version 1 Harness

Repair operation: 9752 24 99 20 T.U.

There is NO reimbursement for Vehicle Wash or Loaner

If customer refused repairs

Fax the Repair Order to the warranty team at (248) 754-6533. Provide the VIN, applicable Service Number, Customer information, Dealer number and date.

Customer Letter Example (United States)

<MONTH YEAR>

<CUSTOMER NAME>

<CUSTOMER ADDRESS>

<CUSTOMER CITY STATE ZIPCODE>

Vehicle Identification Number (VIN): <VIN>

**Subject: Customer Satisfaction Campaign 24U8/K9
Engine Wiring Harness Overlay & ECM Programming
2011-2012 MY Audi R8 and R8 Spyder**

Dear Audi Owner:

In our continuing quest to improve customer satisfaction, we've identified a need to address an issue with the Malfunction Indicator Light (MIL) on certain 2011-2012 Audi R8 and R8 Spyder vehicles. Our records show that you are the owner of one of these vehicles.

What is the problem?

Under certain driving conditions the MIL may come on even though the vehicle is operating correctly. If the MIL is on because of this issue, your vehicle may not pass an IM (emissions) inspection.

What will Audi do?

In order to prevent this problem from occurring, your authorized Audi R8 dealer may need to install an engine wiring harness overlay and/or update the programming in the Engine Control Module (ECM). This work will be performed at no cost to you.

What We Would Like You to Do

Please contact your authorized Audi R8 dealer to schedule a repair appointment at your earliest convenience. This work will take about one full day, and will be performed at no cost to you. 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.

Lease Vehicles

If you are the lessor and registered owner of the vehicle identified in this action, please forward this information immediately via first-class mail to the lessee within ten (10) days of receipt of this notification.

Have You Changed Your Address Or Sold The Vehicle?

If you have, please fill out the enclosed prepaid Owner Reply card and mail it to us so we can update our records.

Service Help from Us

If your authorized Audi dealer fails or is unable to complete this work free of charge within a reasonable time, please call or write to:

*Audi of America, Inc.
Attn: Customer Relations (24U8/K9)
3800 Hamlin Road
Auburn Hills, MI 48326
1-800-253-2834*

We also invite you to visit our website at www.audiusa.com where you can check to see if this or any other action may be open on your vehicle.

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

Sincerely,

Audi Product Quality & Technical Service

The information in this document is intended for use only by skilled technicians who have the proper tools, equipment and training to correctly and safely maintain your vehicle. These procedures are not intended to be attempted by "do-it-yourselfers," and you should not assume this document applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Audi dealer. ©2012 Audi of America LLC and Audi Canada. All Rights Reserved.

Customer Letter Example (Canada)

<MONTH YEAR>

<CUSTOMER NAME>

<CUSTOMER ADDRESS>

<CUSTOMER CITY STATE ZIPCODE>

Vehicle Identification Number (VIN): <VIN>

**Subject: Customer Satisfaction Campaign 24U8/K9
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Have You Changed Your Address Or Sold The Vehicle?

If you have, please fill out the enclosed prepaid Owner Reply card and mail it to us so we can update our records.

Service help from us

If you have any questions regarding this action, please contact Audi Customer CARE by phone or mail at:

*Audi Canada
Attn: Customer Relations (24U8/K9)
P.O. Box 842, Stn. A
Windsor, ON N9A 6P2
1-800-822-2834*

We also invite you to visit our website at www.audi.ca where you can check to see if this or any other action may be open on your vehicle.

We appreciate the opportunity to update your vehicle so that it will continue to meet your high expectations. Thank you for your continued loyalty!

Sincerely,

Audi Technical Service

If there are questions regarding the work procedure:

- U.S. dealers, contact Warranty
- Canadian dealers, open an ATA ticket using concern group “Compliance/Recall Assistance (C)”

Required Parts:

Criteria I.D. 03 (Coupe)

<u>Quantity</u>	<u>Part Number</u>	<u>Part Description</u>
1	420 971 493 D	Engine wiring harness overlay
1	000 979 940	Connector
4	N 909 803 04	Sheer bolt with locking compound
4	N 910 238 02	Sheer bolt without locking compound
12	N 909 377 02	Tie Wrap (High Temperature)
Up to 1	000 979 950	Cloth tape

Shop supply	--	Shrink tubing
Shop supply	N 103 113 04	Yellow tape in VAS 1978 B Tool kit
Shop supply	--	Silicone sealant

Criteria I.D. 04 (Spyder)

<u>Quantity</u>	<u>Part Number</u>	<u>Part Description</u>
1	420 971 493 E	Engine wiring harness overlay
1	000 979 940	Connector
4	N 909 803 04	Sheer bolt with locking compound
4	N 910 238 02	Sheer bolt without locking compound
12	N 909 377 02	Tie Wrap (High Temperature)
Up to 1	000 979 950	Cloth tape

Shop supply	--	Shrink tubing
Shop supply	N 103 113 04	Yellow tape in VAS 1978 B Tool kit
Shop supply	--	Silicone sealant

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Required Tools:



VAS 6411 – Coupe / Spyder Rear End Protector



VAS 6412 – Coupe Side Panel Protector



VAS 6428 – Spyder Side Panel Protector



VAS 1978/1-1 – Exchangeable head, 0.35-.50 mm



VAS 1978/1-2 – Crimping pliers (base tool)



VAS 1978/7A – Terminal removal tool



VAS 1978/3 – Wire stripping tool



UT-100SI – Ultratorch in VAS 1978 B Tool kit
or suitable heat gun

Or equivalent



VAS 1978/14A – Hot air blower

Or equivalent



VAS 1978/15A – Shrink element for hot air blower

Or equivalent




VAS 5903 Battery charger

Or equivalent



Work Procedure:

SECTION A: Identify Criteria and Check for Open Status

 Note: Any Update Programming procedure (flash) may overwrite any “TUNED” ECM or TCM programming. A “TUNED” ECM or TCM is described as any ECM or TCM altered so as to perform outside the normal parameters and specifications approved by Audi. Current Tuned ECM or TCM requirements: If you encounter a vehicle with a “Tuned” ECM or TCM, your dealership must do the following before performing any procedure that updates ECM or TCM programming:


- Notify the owner that their ECM or TCM was found to have been tuned
- Notify the owner that any damage caused by the tuning of the ECM or TCM (including any adverse emissions consequences) will not be covered by any Audi warranty.

Applicable Criteria ID (s)	Campaign/Action Status
03, 05	Open





EXAMPLE

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

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

- ⇐ Ensure that the Status is “Open” <arrow 2>.
- ⇐ Note the Applicable Criteria ID for use in determining the correct work to be done and corresponding parts associated <arrow 1>.

 Tip: Multiple criteria possible.

Check criteria then proceed to:

- Section B for criterion 04,
- Section E for criterion 03, or
- Section H if only criteria 01 or 02.

SECTION B – Spyder Preparation – Criterion 04 Vehicles Only

- Write down all of the customer's radio station presets.
- Disconnect battery.
- Cover and tape the side panels and the convertible soft top panel.



CAUTION:

This ensures paint damage will be avoided while assembling and disassembling the service door.

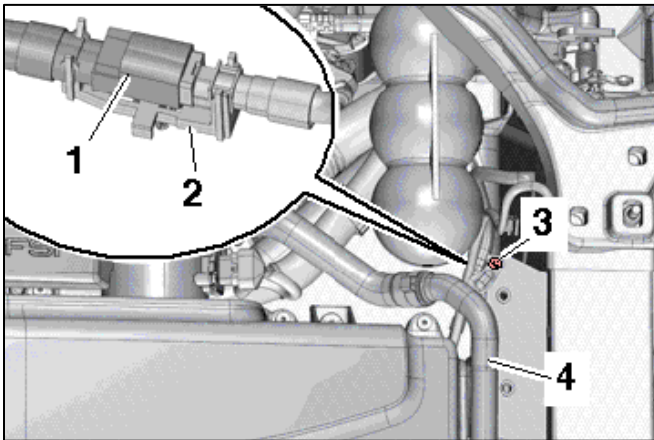
- Assemble the side panel covers (VAS 6428) and rear cover (VAS 6411).
- Remove the oil cap and cover the oil fill opening.



CAUTION:

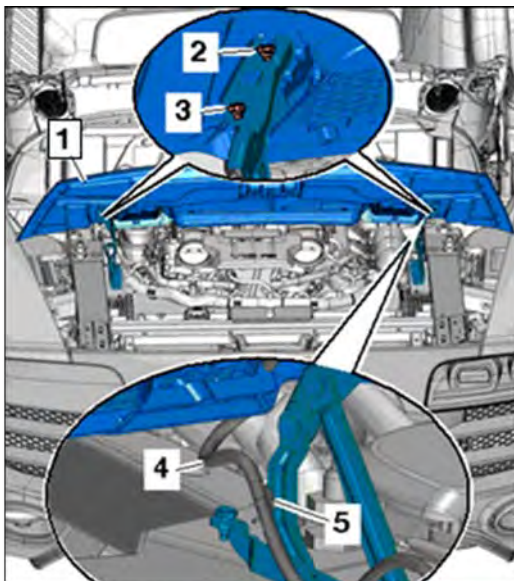
Removing oil cap will help prevent damage while assembling and disassembling the air box.

- ⇐ Remove the bolt <3> from the secondary air injection hose <4>.
- ⇐ Remove the connector <1> from the bracket <2> and disconnect it.



Tip: Note service door position with masking tape and marker.

- ⇐ Free up the wiring harness <4> on the right hinge <5>.
- ⇐ Remove the nut <3>.
- ⇐ Loosen the nut <2> two turns.
- Repeat on other side.

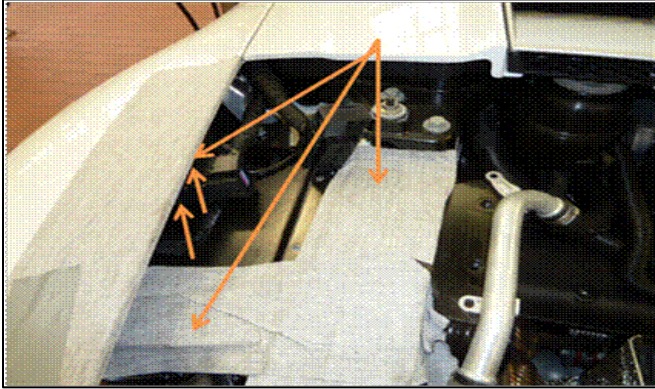


WARNING:

A second technician is needed to support and hold the servicing door.

- Disengage the left and right gas-filled struts for the servicing door.
- ⇐ Remove the servicing door <1> from the hinge with a second technician.

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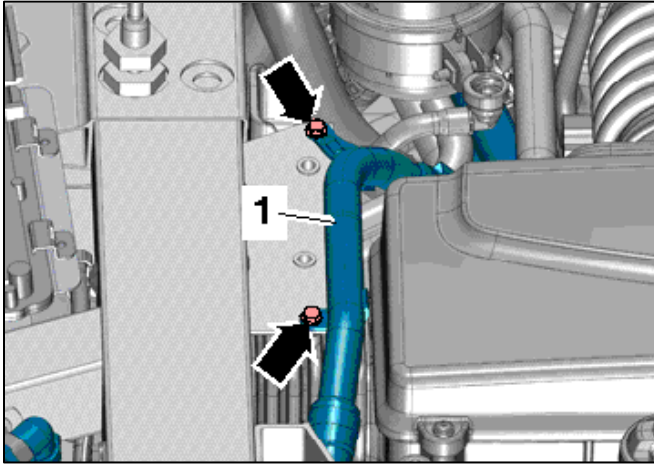
⇐ The space around the ECMs should be additionally protected with suitable tape, especially the edges of the side panels.



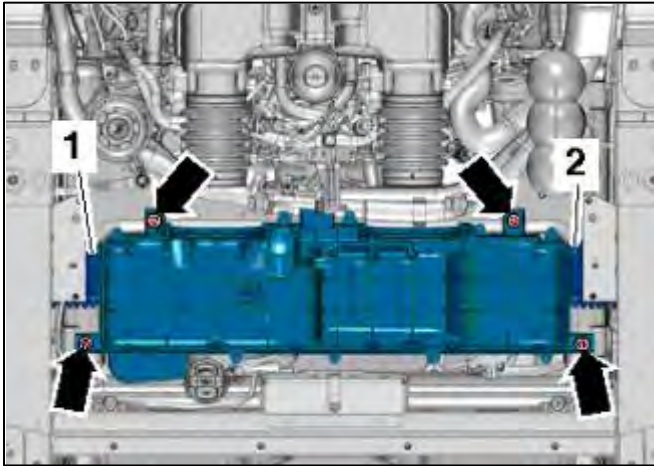
- Remove both rear wheels.
- ⇐ Remove both left and right rear wheel housing liners by removing screws <arrows>.



- Remove right side air intake snorkel.
- ⇐ Remove right fender support bracket <arrow>.



- ⇐ Remove the bolts <arrows> and press the left secondary air injection pipe <1> to the side.
- Repeat on right side of vehicle.



- ⇐ Remove the air filter housing bolts <arrows>.
- ⇐ Remove the boots <1 and 2> from the air filter housing.
- Remove air filter housing with the Mass Airflow (MAF) sensors.

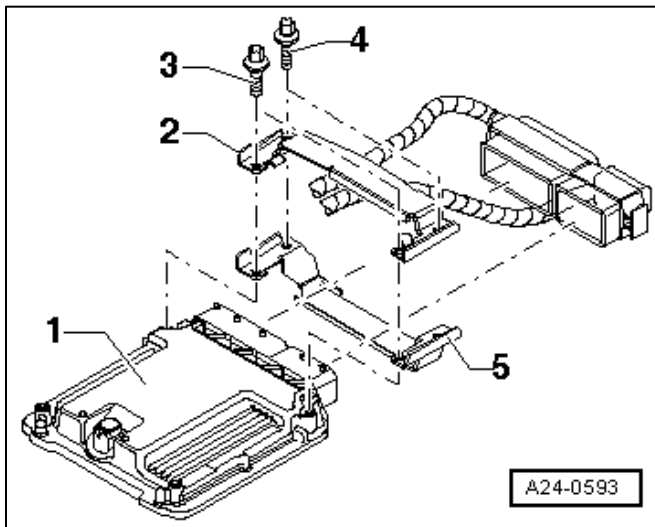


Tip: Block air intake to prevent any debris from entering the engine.



- ⇐ Remove vacuum reservoir <circle> hold-down bolts on right side of engine compartment to gain better access to wiring harness.

- Remove ECM hold-down bolts.

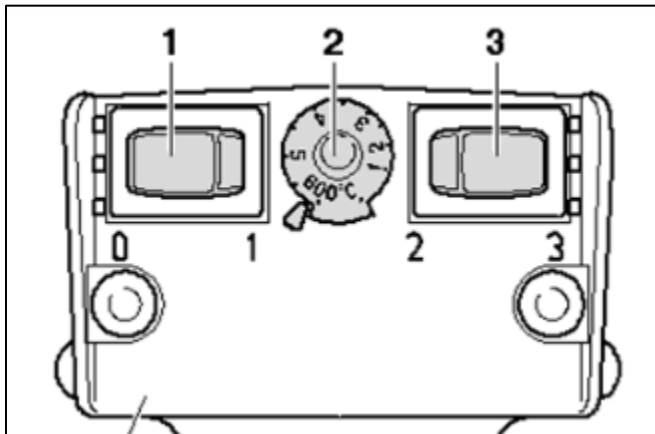


- ⇐ The ECM <1> is secured in a protective housing <5> and shear bolts <3 and 4> to make it more difficult to access.
- ⇐ The threads of the shear bolts <4> (that are not installed in ECM) are coated with locking compound and must be heated to remove.



CAUTION:

The threads of both shear bolts <3> (that are installed in the ECM) are not coated with locking compound. The threads in the ECM housing must *not* be heated (unintentional heating the ECM).

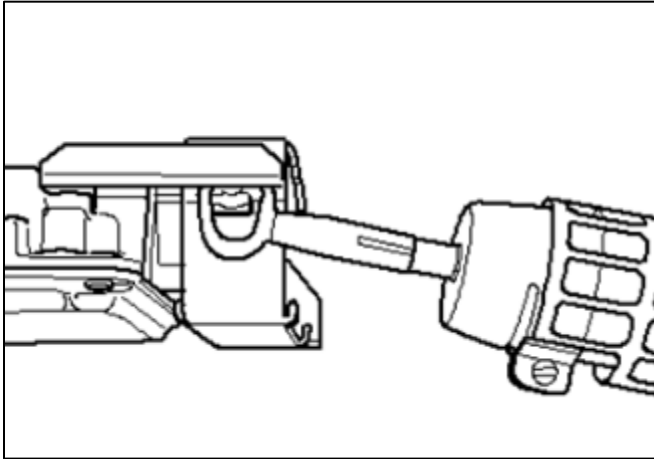


- ⇐ Adjust the settings on the hot air gun (VAS 1978/14A or equivalent) with the temperature control <2> at the maximum setting and the two-stage air flow switch <3> set to level 3.

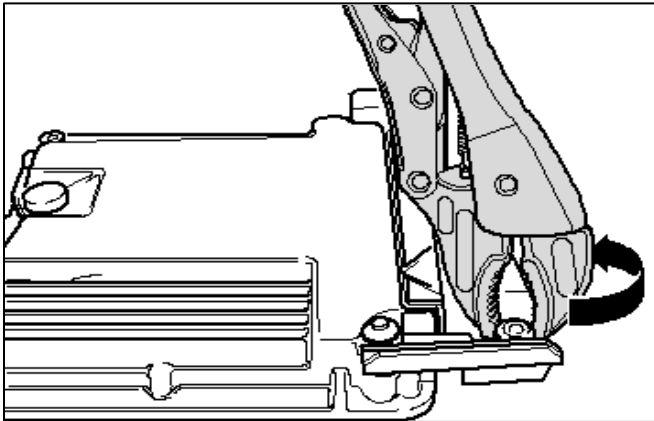


WARNING:

When heating threads of shear bolts, components of protective housing are also heated intensely. Do not burn yourself on this! Make sure that only the threads are heated as much as possible, and not any of the surrounding parts. Grinding and drilling is not permitted.



⇐ Heat threads on connector-side shear bolts for approximately 25 to 30 seconds with VAS 1978/15A or equivalent.



⇐ Remove shear bolts with locking pliers (see direction of <arrow>).

ⓘ Note: The shear bolts installed in the ECM do not need to be heated for removal. They should be removed without heat.

- Repeat for other ECM.

- The harness requires extra slack to remove ECM 2 (J624, driver's side). Unclip harness hold-downs to provide slack.

⚠ **CAUTION:**
Be careful to not damage harness hold-downs while unclipping.

- Mark ECMs so they are not interchanged; disconnect and set aside.

⚠ **WARNING:**
The ECMs are not interchangeable. Reinstalling them in the wrong location will cause damage.



⇐ Remove ground wire <circle> at ECM 1 (J623, passenger's side).



⇐ Release harness holder from frame in right fender well.



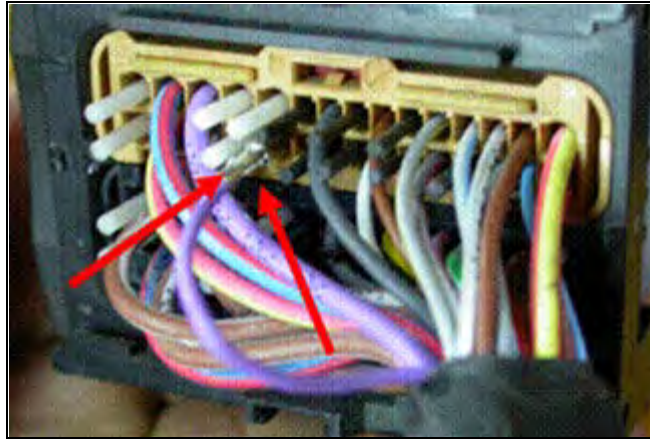
⇐ Pull the harness <arrows> down through the frame opening, into the wheel well, to provide working room for new harness installation.



(Arrow 1) Lug.

(Arrow 2) Terminal lock.

- ⇐ Locate the smaller T60 connector from ECM 2 (J624, driver's side).
- ⇐ Remove the tie wrap and release the cover with a small screwdriver on the smaller T60 (push the lug upwards away from the front of the plug, <arrow 1>).
- ⇐ Pull out the terminal lock insert <arrow 2>.



- ⇐ The terminal of the engine speed signal (purple wire) is in the brown housing element, located in **chamber 36**. Release the terminal using VAS1978/7A from the front side of the connector block, and gently remove wire.
- Repeat on the right side of vehicle: pull the purple wire from **chamber 36** of the T60 connector on ECM 1.

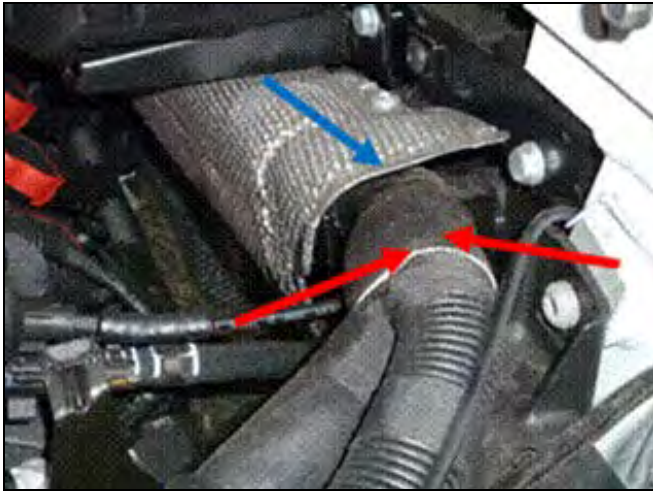
- **Proceed to Section C only if criterion 05 applies. Otherwise, proceed to Section D.**

SECTION C – Remove Spyder Version 1 Harness – Criterion 05 Vehicles Only

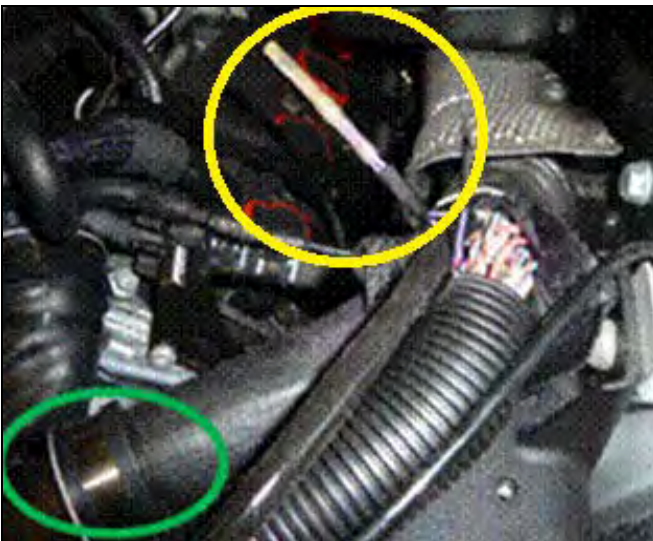
- Follow the version 1 harness back from ECM 2 and remove any tie wraps that were installed securing overlay to main engine harness. Do this all the way to the D90 connection point.



Tip: The D90 connection point of the engine speed signal wire is located on the right side of the engine compartment, just in front of the heat shield.



- ⇐ Mask the edge <blue arrow> of the heat shield with tape (risk of injury). Push back the protective hose <red arrows>.



- ⇐ Remove hold down bolt for the harness holder <green circle>. Make sure that the other wires do *not* get damaged.
- ⇐ Locate purple overlay harness wire and cut it off 5 cm from D90 connection point <yellow circle>. Discard the overlay harness; it will no longer be used.

- Apply shrink tubing to remaining wire from the D90 connection. Shrink tubing with UT-100SI Ultratorch (or equivalent) and pinch the end of the tubing closed. Tape wire back in direction of the harness.
- **Proceed to section D.**

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SECTION D: Installing Version 2 Harness on Spyder – Criterion 04 Vehicles Only



⇐ If the version 1 wiring harness was not installed: cut off wire terminal end and apply shrink tubing <red arrow> to wire from chamber 36 on both ECM1 & 2. Shrink tubing with UT-100SI Ultratorch (or equivalent). Pinch the end of the tubing closed <white arrow> and tape wire back in direction of the harness.

⚠ Note: The version 1 wiring harness is a previous repair that was not done on all vehicles.

- Remove the brown wire for the G28 engine speed signal to the T60 connector on *ECM 1 (J623, passenger's side)* from **chamber 51** using VAS 1978/7A.
- ⇐ Cut off wire terminals and apply shrink tubing <red arrow> on each wire. Then, heat tubing with UT-100SI Ultratorch (or equivalent) and pinch the end of the tubing closed. Tape wires back in direction of the harness.



⇐ Strip the harness at the right side inside the wheel well, where the harness branches, and locate the D141 connection <yellow circle>.

⚠ **CAUTION:**
Do not confuse with any other connection in harness.

- Locate the D141 connection in engine wiring harness near the harness junction where the harness branches to the T60 and T94 ECM connector plugs. The D141 connection has five lilac (purple) and one wire that is black or gray. Do not confuse with any other connection in harness.

ℹ Tip: The D141 connection can be in slightly different locations on each wiring harness. In many cases, you can locate it by squeezing the harness before removing any tape.



- ⇐ Cut off the wire that is black or gray about 5 cm behind the crimp. The new harness will be connected to the remaining section of black wire from the D141 connection. Apply shrink tubing to the harness section of the black wire and heat tubing with UT-100SI Ultratorch (or equivalent). Pinch the end of the tubing closed and tape back in direction of the harness.



- ⇐ Disconnect the connector <arrow> to the G28 engine speed sensor on the left side of the transmission bell housing and cut off the connector end as straight as possible. The original wiring to the sensor is no longer required.

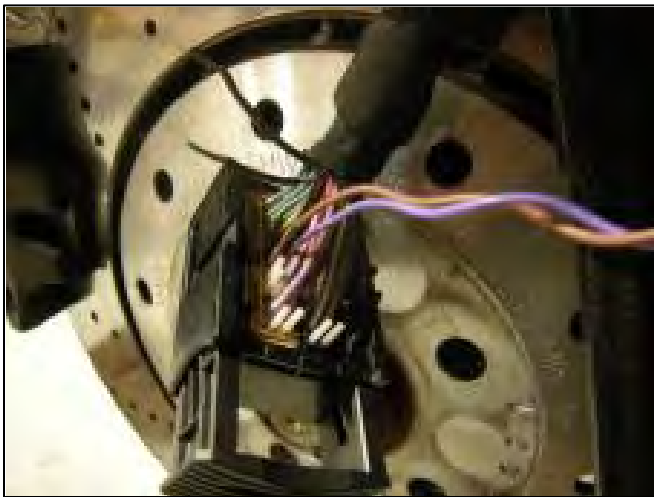


- ⇐ Seal the G28 cable opening with silicone sealant.

- Put the G28 plug of the repair harness on the engine speed sensor and tie wrap (N 909 377 02) following the original G28 harness. Keep harness away from sharp objects and the exhaust.



⇐ The overlay harness should be routed along the main engine harness <arrows>.



⇐ At ECM 1 (J623, passenger's side): plug the purple wire into chamber 36 and the brown wire into chamber 51 of the small plug (T60).

⚠ Note: Keep wires twisted as far as possible and pull on wires to ensure they are locked into connector.

- Reinstall terminal locking tab.
- Tape harness with cloth tape (000 979 950).
- Reinstall connector cover.
- Install tie wrap (N 909 377 02).



⇐ Crimp the black wire <arrow> from the D141 connection to the new wire from the overlay harness. Use crimping pliers VAS 1978/1-2 with exchangeable head VAS 1978/1-1. Use yellow crimping slot 0.35-2.5mm and crimp connector (000 979 940). Heat connector with UT-100SI Ultratorch (or equivalent).

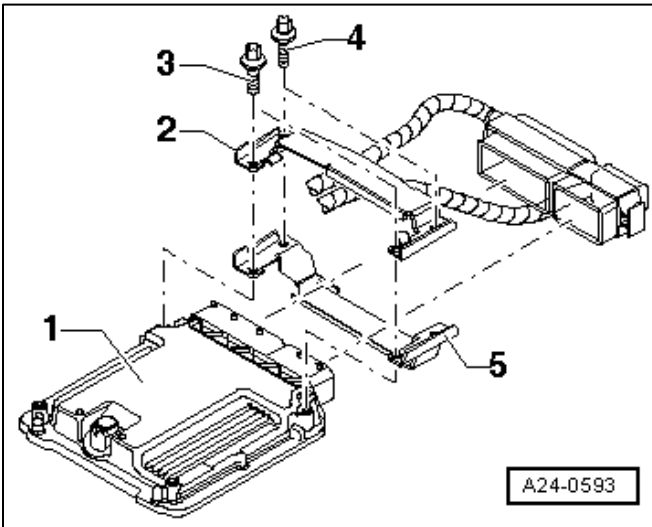
- Install any harness covering that may have been removed and tape over exposed wires.
- ⇐ Mark splice location with a wrap of yellow tape on outside of harness.



⇐ Route the overlay <circle> to ECM 2. Follow the harness through the splash shield into the wheel house.



- For *ECM 2 (J624, driver's side)*, put the purple wire into **chamber 36** of the T60 plug. Pull on the wire to ensure that it is locked into the connector.
- Install terminal locking tab.
- Tape harness with cloth tape (000 979 950).
- Reinstall connector cover.
- Install tie wrap (N 909 377 02).



- Install tie wraps (N 909 377 02) every 8 inches following main engine harness. Do not overtighten.
- ⇐ Connect ECM 1 to both wiring harnesses. Reconnect ECM holders <2> and <5> with new shear bolts <3> (N 910 238 02) and <4> (N 909 803 04 with locking compound), then reinstall.



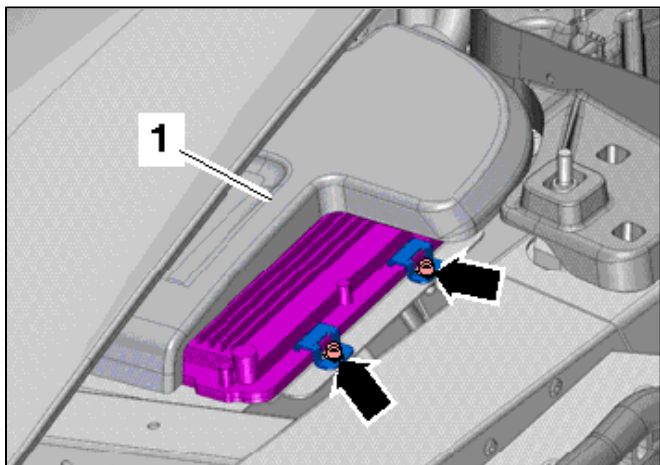
CAUTION:

Be sure to install shear bolts <4> with locking compound into the correct position. Put the shear bolts <3> without locking compound into the ECM.

- Repeat on other side.



⇐ Reconnect ground <circle> from ECM 1.




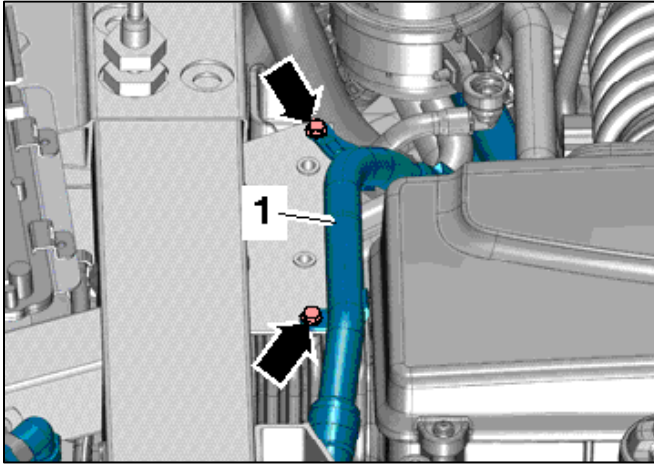
⇐ Secure ECM with locking tabs <arrows> and put cover <1> back in position on both sides of vehicle.



⇐ Carefully reinstall air filter housing with MAF. Secure with bolts <arrows> and torque to 8 Nm.

- Reconnect air snorkel on left.
- Reconnect all hoses with hose clamps.

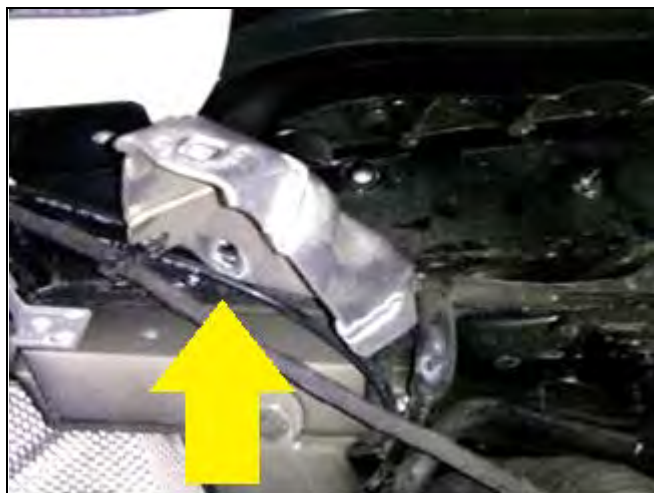
 Tip: Block air intake to prevent any debris from entering the engine.



⇐ Reconnect the left secondary air injection tube <1> with 2 bolts <arrows>.



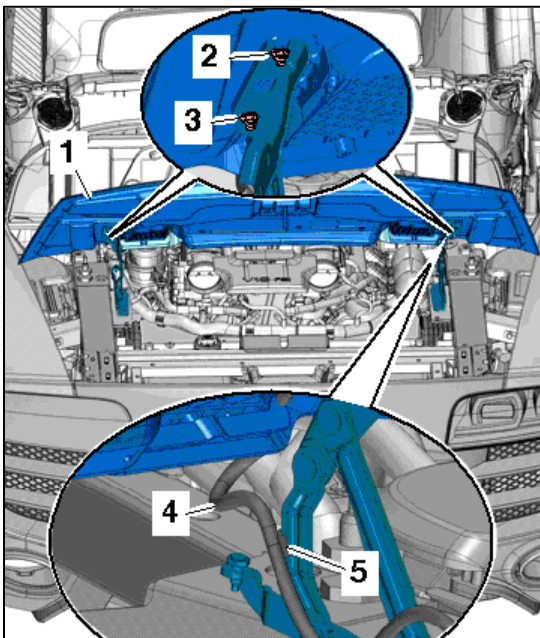
- Uncover the oil fill opening and put the oil cap back into position.
- ⇐ Put harness holder back on frame (picture shows removal).



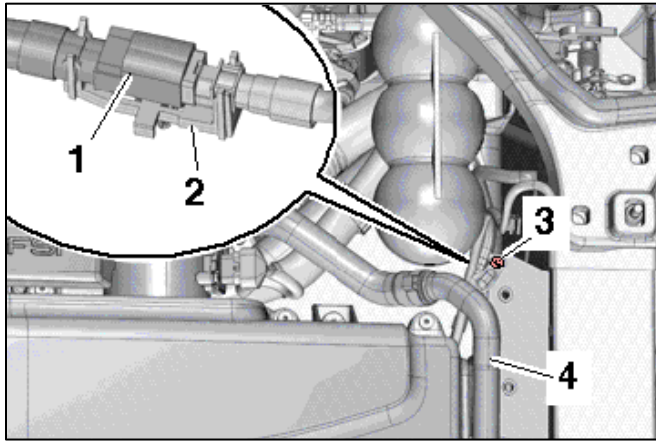
- Reinstall fender support bracket <arrow>
-
- Reinstall the air snorkel on the right side.



⇐ Reinstall fender liners with bolts <arrows> torqued to 4 Nm.



- Reinstall wheels and torque wheel bolts to 120 Nm.
- ⇐ Reinstall servicing door with help from a second technician. Position the door on the hinges using the masking tape markings you made during removal. Torque the nuts <2> and <3> to 23 Nm.
- Reinstall gas filled struts and ensure clip is engaged.
- ⇐ Reattach wiring harness <4> to hinge <5>.
- Remove all protective tape from both sides.

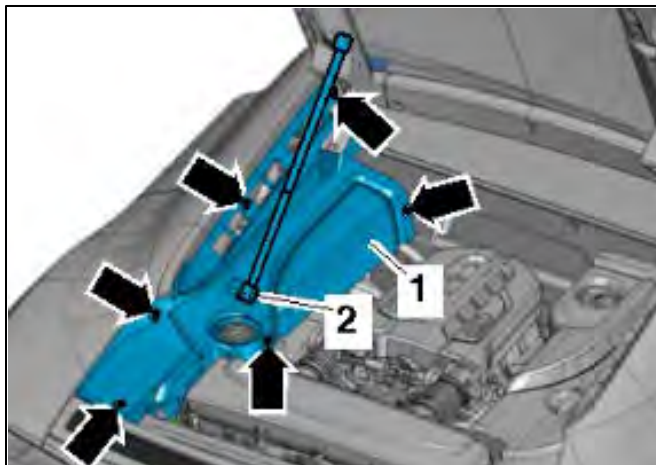


- ⇐ Reconnect connector <1>, then put back into bracket <2> ensuring that it is clipped into place.
- ⇐ Secure secondary air hose <4> with nut <3>.

- Remove protective covers (VAS 6411 and VAS 6428) and any remaining protective tape.
- Reconnect battery.
- Re-set the customer's preset radio stations and window pinch protection.
- Start engine and let idle for one minute to verify vehicle is running correctly.
- **Proceed to Section H if vehicle meets criterion 01. Otherwise, work complete.**

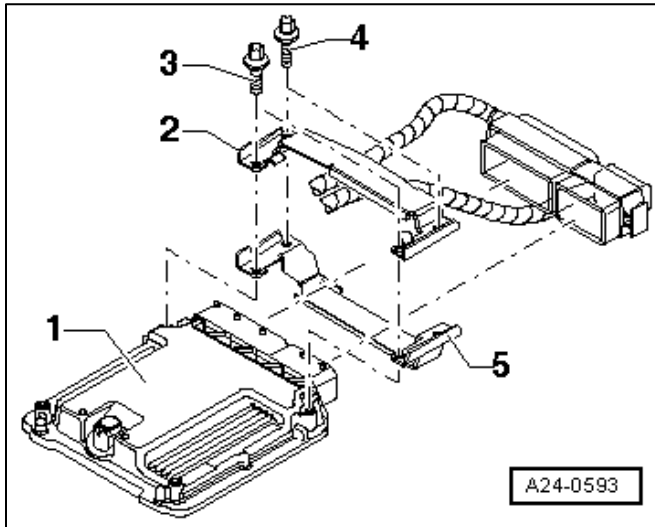
SECTION E – Coupe Preparation – Criterion 03 Vehicles Only

- Write down all of the customer's radio station presets.
- Disconnect battery.
- Assemble the side panel covers (VAS 6412) and rear cover (VAS 6411).



- ⇐ Remove quick release fasteners <arrows> and cap from power steering fluid reservoir.
- ⇐ Release gas-filled strut <2> by pulling clip with small screwdriver while having a second technician support the lid.
- ⇐ Raise the back of the engine compartment trim <1> and guide the front of it out at the lid hinge.
- Press the strut back onto the ball stud.
- Put cap from power steering fluid reservoir back into position.
- Repeat on other side.

- Remove the oil cap and cover the oil fill opening. This will help prevent damage to the oil cap while assembling and disassembling the air box.



CAUTION:

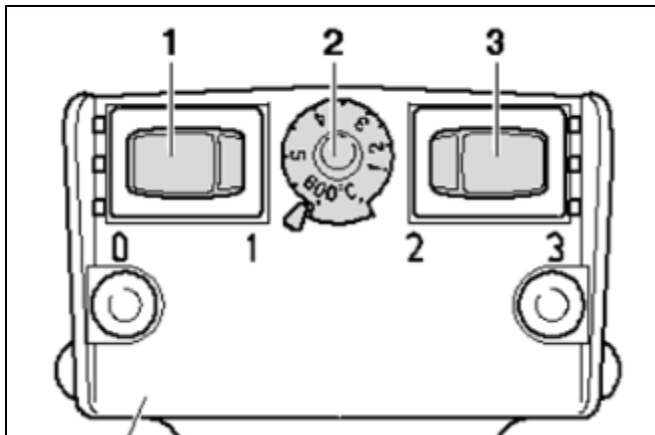
Removing oil cap will help prevent damage while assembling and disassembling the air box.

- ⇐ The ECM <1> is secured in a protective housing <5> and shear bolts <3 and 4> to make it more difficult to access.
- ⇐ The threads of the shear bolts <4> (that are not installed in ECM) are coated with locking compound and must be heated to remove.



CAUTION:

The threads of both shear bolts <3> (that are installed in the ECM) are not coated with locking compound. The threads in the ECM housing must *not* be heated (unintentional heating the ECM).

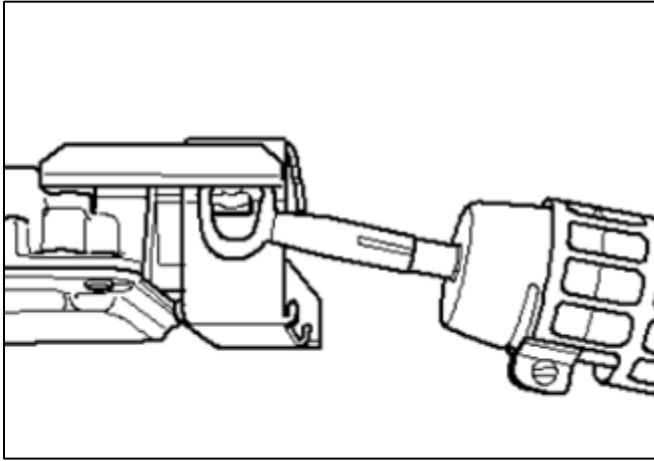


- ⇐ Adjust the settings on the hot air gun (VAS 1978/14A or equivalent) with the temperature control <2> at the maximum setting and the two-stage air flow switch <3> set to level 3.

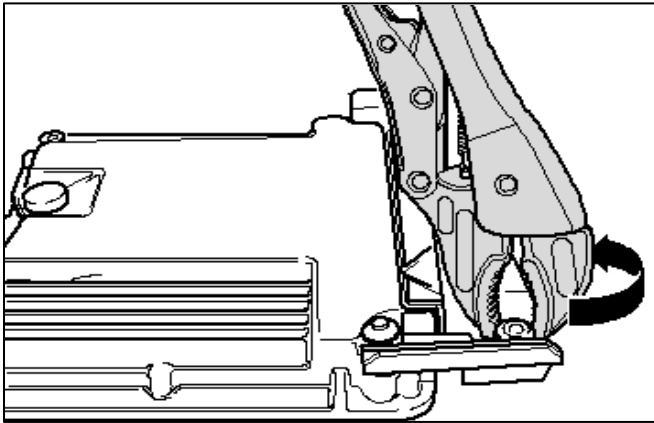


WARNING:

When heating threads of shear bolts, components of protective housing are also heated intensely. Do not burn yourself on this! Make sure that only the threads are heated as much as possible, and not any of the surrounding parts. Grinding and drilling is not permitted.



⇐ Heat threads on connector-side shear bolts for approximately 25 to 30 seconds with VAS 1978/15A.



⇐ Remove shear bolts with locking pliers (see direction of <arrow>).



Note: The shear bolts installed in the ECM do not need to be heated for removal. They should be removed without heat.

- Repeat for other ECM.



CAUTION:

Be careful to not damage harness hold-downs while unclipping.

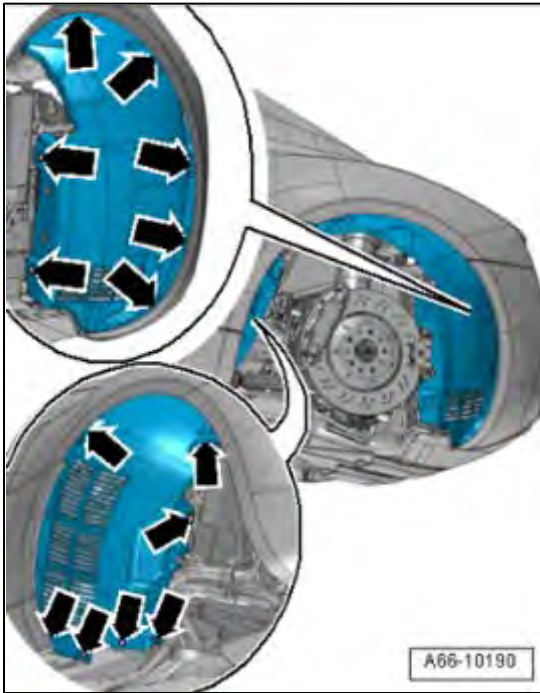
- Mark ECMs so they are not interchanged; disconnect and set aside.



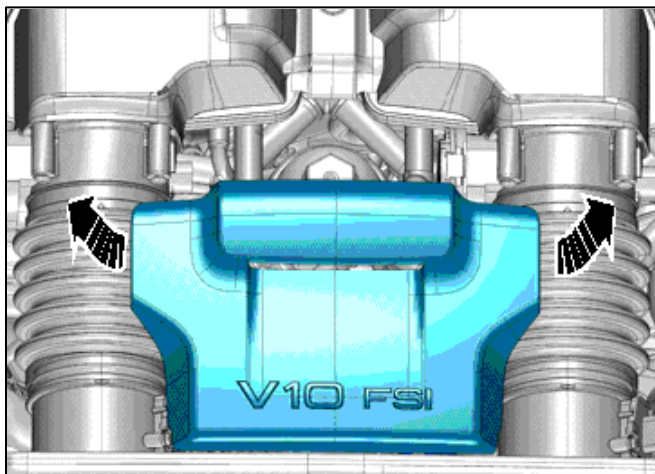
WARNING:

The ECMs are not interchangeable. Reinstalling them in the wrong location will cause damage.

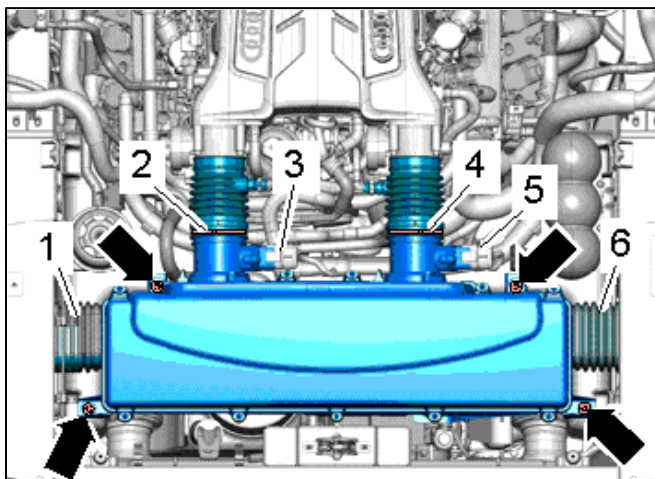
- Remove left rear wheel.



⇐ Remove left rear wheel housing liner by removing the bolts <arrows>.



⇐ Remove the engine cover <arrows>. Do not jerk or pull it to one side.



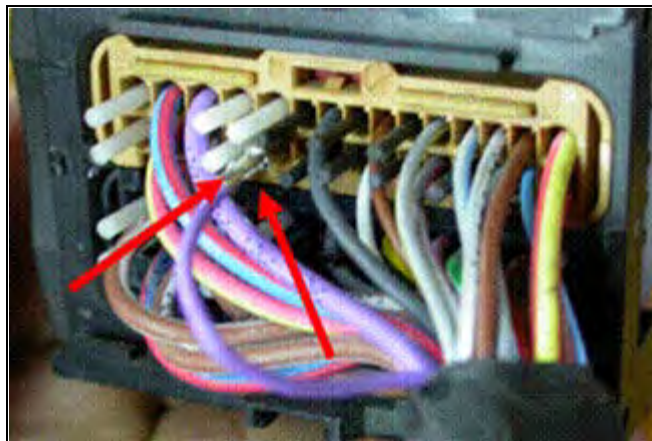
- ⇐ Disconnect electrical connection from Mass Airflow (MAF) sensors <3 and 5>.
- ⇐ Loosen hose clamps <2 and 4>.
- ⇐ Remove bolts <arrows>.
- Remove the air filter housing with MAF sensors.



(Arrow 1) Lug.

(Arrow 2) Terminal lock.

- ⇐ Locate the smaller T60 connector from ECM 2 (J624, driver's side).
- ⇐ Remove the tie wrap and release the cover with a small screwdriver on the smaller T60 (push the lug upwards away from the front of the plug, <arrow 1>).
- ⇐ Pull out the terminal lock insert <arrow 2>.



- ⇐ The terminal of the engine speed signal (purple wire) is in the brown housing element, located in **chamber 36**. Release the terminal using VAS1978/7A from the front side of the connector block, and gently remove wire.
- Repeat on the right side of vehicle: pull the purple wire from **chamber 36** of the T60 connector on ECM 1.

- **Proceed to Section F only if criterion 05 applies. Otherwise, proceed to Section G.**

SECTION F – Remove Coupe Version 1 Harness – Criterion 05 Vehicles Only

- Follow the version 1 harness back from ECM 2 and remove any tie wraps that were installed securing overlay to main engine harness. Do this all the way to the D90 connection point.



Tip: The D90 connection point of the engine speed signal wire is located on the right side of the engine compartment, just in front of the heat shield.



- ⇐ Locate purple overlay harness wire <square> and cut 5 cm from connection point. Discard the overlay harness; it will no longer be used.

The information in this document is intended for use only by skilled technicians who have the proper tools, equipment and training to correctly and safely maintain your vehicle. These procedures are not intended to be attempted by "do-it-yourselfers," and you should not assume this document applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Audi dealer. ©2012 Audi of America LLC and Audi Canada. All Rights Reserved.

- Apply shrink tubing to remaining wire from the D90 connection. Shrink tubing with UT-100SI Ultratorch (or equivalent) and pinch the end of the tubing closed. Tape wire back in direction of the harness.
- **Proceed to section G.**

SECTION G: Installing Version 2 Harness on Coupe



- ⇐ If the version 1 wiring harness was not installed: cut off wire terminal end and apply shrink tubing <red arrow> to wire from chamber 36 on both ECM1 & 2. Shrink tubing with UT-100SI Ultratorch (or equivalent). Pinch the end of the tubing closed <white arrow> and tape wire back in direction of the harness.

! Note: The version 1 wiring harness is a previous repair that was not done on all vehicles.

- Remove the brown wire for the G28 engine speed signal to the T60 connector on *ECM 1 (J623, passenger's side)* from **chamber 51** using VAS 1978/7A.
- ⇐ Cut off wire terminals and apply shrink tubing <red arrow> on each wire. Then, heat tubing with UT-100SI Ultratorch (or equivalent) and pinch the end of the tubing closed. Tape wires back in direction of the harness.
- ⇐ The D141 connection point <square> is on the right side of the compartment.



! **CAUTION:**
Do not confuse with any other connection in harness.

- ⇐ Locate the D141 connection in the engine wiring harness near the harness junction where the harness branches to the T60 and T94 ECM connector plugs. The D141 connection has five lilac (purple) and one wire that is black or gray.

i Tip: The D141 connection can be in slightly different locations on each wiring harness. In many cases, you can locate it by squeezing the harness before removing any tape.



- ⇐ Cut off the wire that is black or gray about 5 cm behind the crimp. The new harness will be connected to the remaining section of black wire from the D141 connection. Apply shrink tubing to the harness section of the black wire and heat tubing with UT-100SI Ultratorch (or equivalent). Pinch the end of the tubing closed and tape back in direction of the harness.



- ⇐ Disconnect the connector <arrow> to the G28 engine speed sensor on the left side of the transmission bell housing and cut off the connector end as straight as possible. The original wiring to the sensor is no longer required.



- ⇐ Seal the G28 cable opening with silicone sealant.

- Put the G28 plug of the repair harness on the engine speed sensor and tie wrap (N 909 377 02) following the original G28 harness. Keep harness away from sharp objects and the exhaust.
- The overlay harness should be routed along the main engine harness.



⇐ At ECM 1 (J623, passenger's side): plug the purple wire into chamber 36 and the brown wire into chamber 51 of the small plug (T60).

ⓘ Note: Keep wires twisted as far as possible and pull on wires to ensure they are locked into connector.

- Reinstall terminal locking tab.
- Tape harness with cloth tape (000 979 950).
- Reinstall connector cover.
- Install tie wrap (N 909 377 02).

ⓘ Tip: Picture shows Spyder, but Coupe wiring harness should look the same.



⇐ Crimp the black wire <arrow> from the D141 connection to the new wire from the overlay harness. Use crimping pliers VAS 1978/1-2 with exchangeable head VAS 1978/1-1. Use yellow crimping slot 0.35-2.5mm and crimp connector (000 979 940). Heat connector with UT-100SI Ultratorch (or equivalent).

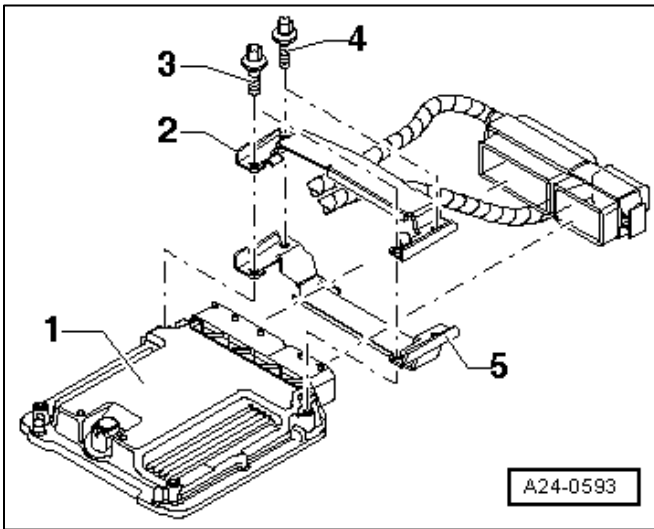
- Install any harness covering that may have been removed and tape over exposed wires.
- Mark splice location with a wrap of yellow tape on outside of harness.



⇐ Route the overlay <circle> to ECM 2. Follow the harness through the splash shield into the wheel house.



- For ECM 2 (J624, driver's side), put the purple wire into **chamber 36** of the T60 plug. Pull on the wire to ensure that it is locked into the connector
- Install terminal locking tab.
- Tape harness with cloth tape (000 979 950).
- Reinstall connector cover.
- Install tie wrap (N 909 377 02).



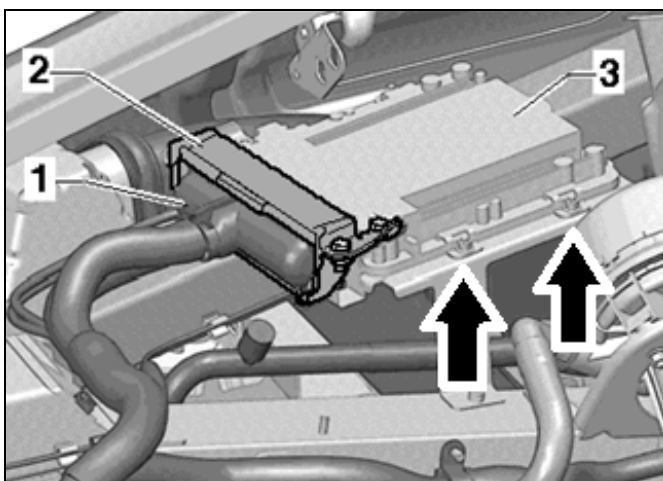
- Install tie wraps (N 909 377 02) every 8 inches following main engine harness. Do not overtighten.
- ⇐ Connect ECM 1 to both wiring harnesses. Reinstall ECM holders <2> and <5> with new shear bolts <3> (N 910 238 02) and <4> (N 909 803 04 with locking compound), then reinstall.



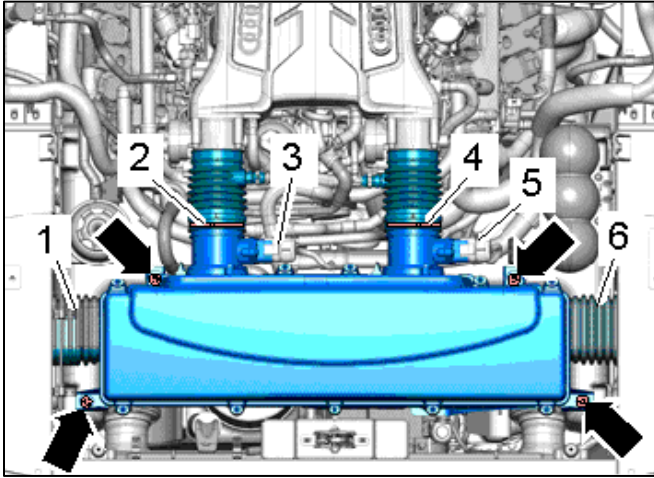
CAUTION:

Be sure to install shear bolts <4> with locking compound into the correct position. Put the shear bolts <3> without locking compound into the ECM.

- Repeat on other side.



- ⇐ Secure ECM with retaining clips <arrows>.

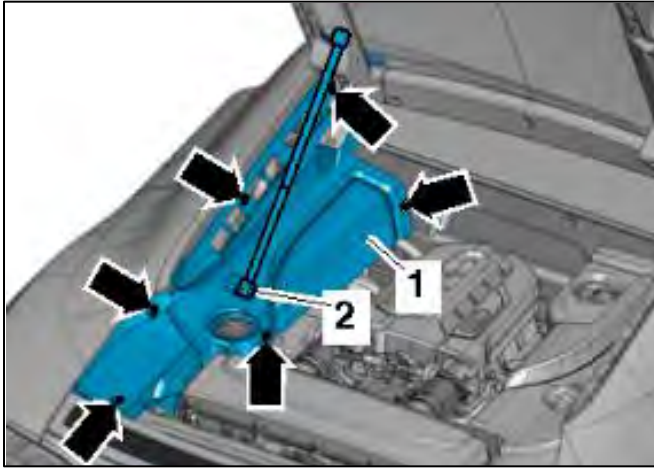


- ⇐ Carefully reinstall air filter housing with MAF. Secure with bolts <arrows> and torque to 8 Nm.
- ⇐ Reconnect air snorkels <1 and 6>.
- ⇐ Reconnect and tighten hose clamps <2 and 4>.
- ⇐ Make electrical connections to MAFs <3 and 5>.

- Uncover the oil fill opening and put the oil cap back into position.
- ⇐ Reinstall fender liner with bolts <arrows> torqued to 4 Nm.



- Reinstall left rear wheel and torque wheel bolts to 120 Nm.



- ⇐ Remove cap from power steering fluid reservoir.
- ⇐ Release gas-filled strut <2> by pulling clip with small screwdriver while having a second technician support the lid.
- ⇐ Reinstall the engine compartment trim <1>.
 - Press the strut back onto the ball stud.
- ⇐ Put quick release fasteners <arrows> back in.
 - Repeat on other side.

- Reinstall engine cover.
- Reconnect battery.
- Re-set the customer's preset radio stations and window pinch protection.
- Start engine and let idle for one minute.
- **Proceed to Section H only if criterion 01 applies. Otherwise, work complete.**

SECTION H – Perform SVM Update – Criterion 01 or Criterion 02 Vehicles Only



WARNING:

During the update, the engine cooling fans may turn on and/or the rear spoiler may raise to the extended position.



CAUTION:

If you have been using covers, ensure they are removed before starting the SVM update. Leaving the cover on could cause damage to the spoiler.



Tip: Battery must have a minimum no-load charge of 12.5V.

- Connect vehicle to battery charger (VAS 5903 or equivalent). Do *not* use a trickle charger or battery maintainer.
- Turn off all electrical consumers.

**CAUTION:**

Keep all doors and trunk closed during SVM update. Remain at the tester during the entire process; no other work is to be performed during update.

- Perform SVM update using SVM Code in table below.

Model	Engine	Old Software Part Number	Old Software Version (or lower)	New Software Part Number	New Software Version	SVM Action Code
R8 V10	BUJ 5.2 FSI	420 910 552 K	0020	424 910 552 G	0010	01A091
	BUJ 5.2 FSI	420 910 552 Q	0010	424 910 552 H	0010	24U8A001
R8 V8	CNDA 4.2 FSI	420 910 560 P	All	420 910 560 T	0010	01A106

- Check and clear DTCs after SVM update.

WORK IS COMPLETE