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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Day Before Thanksgiving: 8:30-5:00
 Wednesday, November 22, 2017

Thanksgiving: (Closed)
 Thursday, November 23, 2017

Black Friday: 10:30-3:30
 Friday, November 24, 2017

Mon. - Thurs.	8:30AM - 7:30PM EST
Friday	10:30AM - 5:00PM EST
Saturday	9:00AM - 3:00PM EST

SUBARU OF AMERICA



CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

The Subaru TechTIPS newsletter is intended for use by professional Technicians ONLY. Articles are written to inform those Technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained Technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that your vehicle has or will have that condition. Impreza, Legacy, Justy, Loyale, Outback, Forester, Subaru SVX, WRX, WRX STI, L.L. Bean, Baja, Tribeca, BRZ, XV Crosstrek and "Quality Driven" are Registered Trademarks.

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ISO 14001 is the international standard for excellence in Environmental Management Systems. Please recycle or dispose of automotive products in a manner that is friendly to our environment and in accordance with all local, state and federal laws and regulations.



QUALITY DRIVEN® SERVICE



01 QMR OF THE MONTH

We are pleased to announce this month's winner of QMR of the Month:

Logan Peterson from
Briggs Subaru of Topeka in Topeka, Kansas

Logan submitted a very well-detailed QMR on the steps he took to diagnose and repair his customer's concern of the right front dash speaker (tweeter) making a cracking and popping sound. The condition on this 2014 Outback was duplicated with the key on, engine off and with the engine running. It could also be duplicated with the head unit switched off or on and at any volume from all sources (FM, AM, SAT, CD, etc.). Logan studied the audio system's wiring diagram and determined the vehicle was equipped with the factory Harmon Kardon premium audio and amplifier unit. Using the wiring diagram, he found the speaker signals are output from the head unit at connectors i26 and i131 to the amplifier at connector R386 then leave the amplifier at connectors R316 and R317 out to the speakers. Logan back probed the right front tweeter on pin 2 of i159 and found a consistent 5.7v. He then back probed pin 1 of i159 and found a varying voltage present. Whenever the speaker would make the loud crack or pop sound, the voltage on pin 1 would change significantly. After determining this varying voltage was what caused the sound to occur, he began checking output voltages at the head unit, input voltages at the amplifier and output voltages from the amplifier to the speakers. Logan isolated the varying voltage on pin 1 of R317 leaving the audio amplifier. After replacing the amplifier unit, the condition was gone and the vehicle repaired.

In appreciation for going the extra mile and sharing his experience with us, Logan will be receiving the following from his Field Service Engineer (FSE):

A GoPro Hero 5 Camera Kit plus credits to be used for additional award items of his choice.

Any Subaru Technician can participate in the QMR of the Month program. See the February, 2013 and January, 2016 issues of TechTIPS for full details. You just might see your name and photo in a future issue of Tech TIPS.

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01 QMR OF THE MONTH AWARD PRESENTATION

As part of our “enhanced” QMR of the Month recognition program, we will be including a photo (whenever available) of the recipient’s award presentation in TIPS. The winner selected from QMR of the Month submissions received during September 2017 was Logan Peterson, a Technician at Briggs Subaru of Topeka in Topeka, Kansas.



Our winner is being joined by (l to r): Dwayne Miller, Dealer Principal, Technician, Logan Peterson, along with Subaru of America Representatives Anthony Bertucci, Field Service Engineer and Scott Minton, District Parts and Service Manager.

Congratulations and **THANK YOU** to September’s QMR of the Month Award recipient!

01 THE KEY TO THE HIGHWAY

Subaru of America (SOA) has made a major investment in personnel to make sure our Customer First ideals are front and center in your minds and to make sure we can assist with technical issues that may arise. Let’s talk about service and our Escalation Process and how it can help you to satisfy Customers.

The key to customer satisfaction is communication. Please make sure you are not speaking when your customer is, and take notes of what their concern(s) are. Repeat those concerns back to the customer to make sure you completely understand and they agree that you understand. A clearly written repair order should allow the Technician to have a very good idea of what area to look at before they see the vehicle.

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SOA provides many resources to our retailer Technicians such as Subaru Technical Information System (STIS), to access Service Manuals, Bulletins, Tech TIPS, etc. These should all be utilized as needed based on the diagnostics needed for the customer's concern.

Let's put some controls in place when a Technician has some difficulty in diagnosis and ask some questions;

1. Have you duplicated the concern?
2. Is the repair order written accurately based on the customer complaint or was it diagnosed in the drive by the Advisor?
3. Do you need more information from the customer to be able to duplicate the condition?
4. Is this a normal condition?
5. Have you compared it to another like vehicle?
6. Has your Technician utilized all their resources?
7. Are there bulletins about this?
8. Is the correct Technician working on this concern?
9. Has the Technician spent more than 1-2 hours trying to diagnose this with all their available resources?
10. Has anyone called Techline with clear information? Techline can only be as good as the information supplied by your Technician.
11. Has your Technician reported back clear and detailed findings they were asked for by the Techline representative?

If Techline feels everyone is stuck, they have the option to escalate the concern to your local Field Service Engineer (FSE). We have a group of FSEs with an amazing number of years of experience in this industry and a vast number of years of Subaru experience also. SOA has added many FSEs to help when called upon but, they all rely on you as retailers and your Service and Parts departments to provide clear information to them in each situation so they may assist and help satisfy customers. The key to the highway is a successful maintenance or repair experience so our customers can be out enjoying their Subaru that they love so much.

01 FOLLOWING THE SERVICE MANUAL FOR REPAIRS

The Techline continues to receive calls from Technicians not following the Service Manual. The purpose of Techline is not to recite the Service Manual. When repairing a vehicle, the Technicians should always consult the Service Manual FIRST. One frequent example occurs when a Technician calls after replacement of a CVT then asks if they should perform the rear differential inspection mode.

Example of 15 Legacy Service Manual for CVT assembly replacement:

59. Install the air intake boot assembly. [Ref. to INTAKE \(INDUCTION\)\(H4DO\)>Air Intake Boot>INSTALLATION.](#)
60. Install the air intake duct. [Ref. to INTAKE \(INDUCTION\)\(H4DO\)>Air Intake Duct>INSTALLATION.](#)
61. Connect the battery ground terminal.
62. Refill differential gear oil to adjust the differential gear oil amount. [Ref. to CONTINUOUSLY VARIABLE TRANSMISSION\(TR580\)>Differential Gear Oil.](#)
63. Refill CVTF to adjust the CVTF amount. [Ref. to CONTINUOUSLY VARIABLE TRANSMISSION\(TR580\)>CVTF.](#)
64. Perform the operation for clearing AT learning value. [Ref. to CONTINUOUSLY VARIABLE TRANSMISSION \(DIAGNOSTICS\)>Clear Memory Mode.](#)
65. Perform the operation of AT learning mode. [Ref. to CONTINUOUSLY VARIABLE TRANSMISSION \(DIAGNOSTICS\)>Learning Control.](#)
66. Execute the rear differential inspection mode. [Ref. to DIFFERENTIALS>Rear Differential Inspection Mode.](#)

Caution:



Always execute the rear differential inspection mode at the replacement of the following.

- Replacement of transmission assembly
- Replacement of front differential hypoid gear set

67. Perform the road test to make sure there is no fault. [Ref. to CONTINUOUSLY VARIABLE TRANSMISSION\(TR580\)>Road Test>INSPECTION.](#)

In another example, we are seeing loose tumble generator valves when collecting intake manifolds on 2017-18 Impreza. The tumble generator valves on these vehicles are not serviceable. They are a part of the intake assembly and should not be removed. This information is in the service manual.

Example below from a 2017 Impreza for replacement of tumble generator valve:

FUEL INJECTION (FUEL SYSTEMS)(H4DO) > Tumble Generator Valve

SPECIFICATION

The tumble generator valve is integrated in the intake manifold assembly.

Refer to "Intake Manifold Assembly" for removal and installation. [Ref. to FUEL INJECTION \(FUEL SYSTEMS\)\(H4DO\)>Intake Manifold Assembly>REMOVAL.](#) [Ref. to FUEL INJECTION \(FUEL SYSTEMS\)\(H4DO\)>Intake Manifold Assembly>INSTALLATION.](#)

01 IMPORTANT REMINDER: WQK-47R EQUIPMENT CLEANING PROCEDURE

There has been a significant increase in the number of orders received for the spray equipment required to perform the WQK-47R Brake Line Corrosion campaign. The following information is being provided as a reminder about how to keep the equipment clean so that the need for replacement parts can be reduced.

The wax material (712AM) used for WQK47 is easier to maintain compared with other common coating materials due to its extended "pot life" of 5-7 days. **However, once this wax solidifies, it is not soluble in solvent. Please clean the spray gun at the end of each day's work following the procedure below.**

Close the discharge knob then clear the residual wax in nozzle with air pressure and wipe the tip clean.

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After operation



Insert nozzle into waste container and close the discharge knob.

CAUTION: Always wear Safety Goggles and Particle Mask whenever discharging air through the sprayer as residual chemicals may remain.

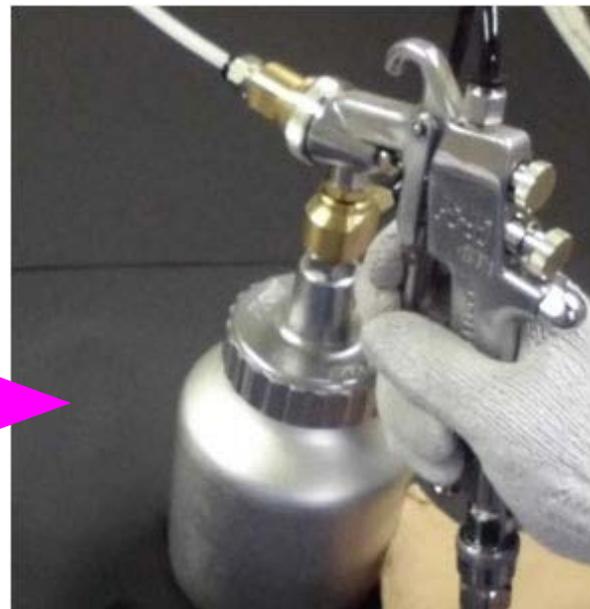
Residual wax visible inside nozzle



Pull the gun trigger half way and hold for about 20 seconds until the tip is clear.



Confirm the nozzle and tip are clear.



Wipe the tip with a clean cloth.



IMPORTANT: The cup does not need to be cleaned if additional vehicles are scheduled within the next few days as the wax has a pot life of 5-7 days **BUT**, the gun and nozzle must be cleaned **DAILY**.

Maintenance / Storage Procedure (for when the next operation is not scheduled within 5-7 days)

In this case, clean the complete spray gun. Clean the nozzle, tip, gun and cup using kerosene.

REMINDER: This wax product does not dissolve in thinner.

Remove the cup from the gun.



Return the remaining wax to the bottle.



Close the cap of the bottle tight.



DISCARD THE WAX IF IT SHOWS ANY SIGNS OF STARTING TO SOLIDIFY.

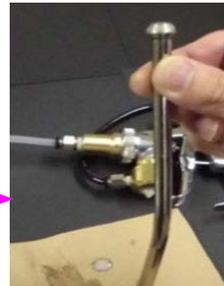
Clean the outside of the pipe.



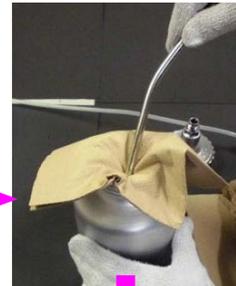
Remove the lid of the cup from the gun.



Remove the remaining wax inside of the pipe.



Clean the inside of the cup.



Clean the mounting portion of the gun and the lid of the cup.



Remove and clean the tip of the gun.



Reassemble the spray gun then connect the compressed air supply.

Pour 8-10 oz. of kerosene in to the cup.



Flush the cup and gun by spraying the kerosene into the waste container.



Confirm the inside of the cup is clean.

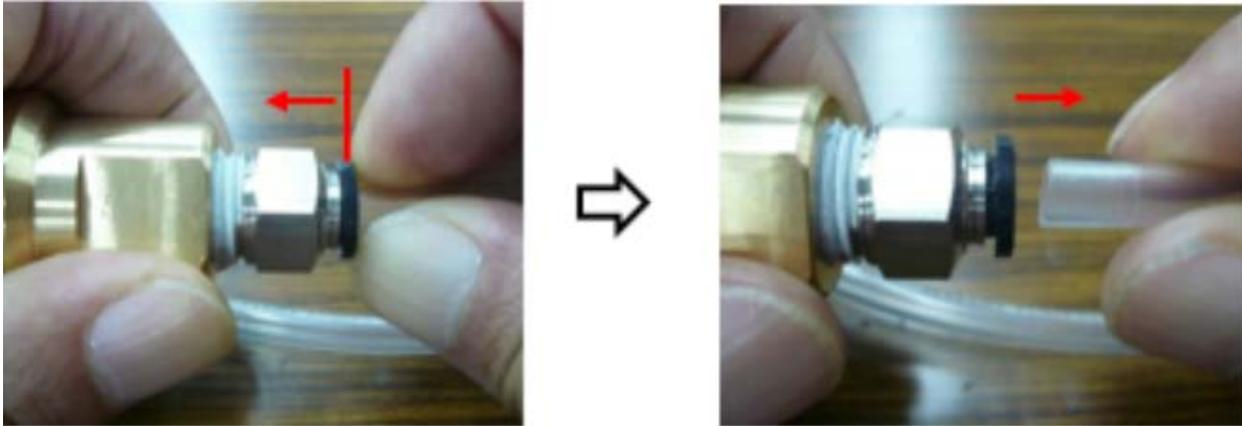


CAUTION: Always wear protective goggles and particle mask whenever air is discharged through the spray gun.

To prevent damage to the gun and also the loss of parts after cleaning, it is recommended to always store the gun in its original box.

IMPORTANT: If after opening the storage container, the wax material has begun to solidify, it **MUST** be discarded. **DO NOT** try to salvage the wax material by adding or mixing with a solvent. If the spray nozzle is not working properly (poor spray pattern), the tip may be partially clogged.

- Remove the tube / nozzle from the gun assembly and clean by applying compressed air.
- Release the plastic tube from the gun by pressing down on the black collar of the connector.
- Pull out the tube while holding the black collar portion down.



- **CAREFULLY** apply compressed (regulated, “shop”) air to the removed tube to clear the restriction from the tip.



- After cleaning, reinstall the tube / nozzle back into the connector.
- Make sure to push the tube all the way into the fitting until it stops then pull on it slightly to make sure it locks in place.

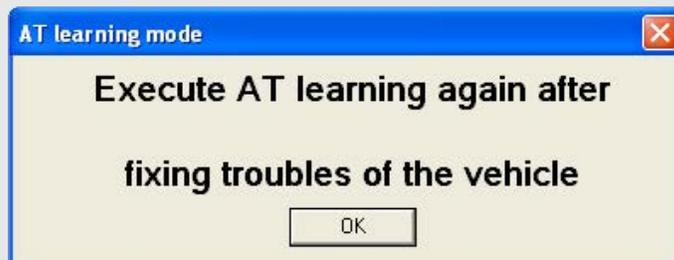
TECH TIPS GREATEST TIPS

For this month's version Tech TIPS Greatest TIPS we have selected AT LEARNING CONTROL TIP. This TIP is from 6/2016 Tech TIPS and Techline still refers to this TIP daily. Remember to follow the procedure outlined in the applicable Service Manual for transmission related repairs.

03 AT LEARNING CONTROL INFORMATION

There have been a limited number of reports brought to the attention of Techline involving the Learning Control process aborting and being accompanied by the message "AT learning ended abnormally". When Technicians encounter this error, referring to the applicable Service Manual to verify the procedure should be the first step to determine the root cause. Another source of information pertaining to this can be found under the Help tab in the Subaru Select Monitor III. **Figure 1** shows the two different error messages you can receive during the AT Learning Control process. Each has a different diagnostic approach. Incorporated with the error messages are the Main Cause and Remedy tables, which are found in both the applicable Service Manual and under the Help tab of Subaru Select Monitor III.

Figure 1 Error Messages and Explanations



Main causes of the contents shown	Remedy
Detection of DTCs	Correct the DTCs and then perform the AT learning procedure again.



Main causes of the contents shown	Remedy
Detection of DTCs	Correct the DTCs and then perform the AT learning procedure again.
<ul style="list-style-type: none"> • Un-instructed operations were taken during the AT learning process. • Depressing the brake pedal is not enough • Pulling the parking brake lever is not enough • Abnormal Idle Up 	Execute the [AT learning mode] again from the beginning

When performing the Learning Control procedure, be aware of items such as:

Brake pedal application

- Firm pressure applied to the pedal is required. If insufficient pressure is applied to the brake pedal, the process will abort.
- When commanded to release the brake pedal, do so immediately and let the pedal return on its own.

Throttle input

- No throttle input should be used at any point during the Learning Control procedure.
- Any RPM deviation not created by the Learning Control process will abort the procedure, so verify there are no outside influences that could affect this.

Parking brake application

- Application of the parking brake requires enough force to keep both rear wheels stationary. Any movement of the rear wheels will abort the process.
- Verify the parking brake operates appropriately (no adjustments needed, calibration performed, etc.) according to the applicable Service Manual.

Fluid Temperature

- Please refer to the applicable Service Manual for the appropriate Learning Control procedures, including the required fluid temperature range.
- The process cannot be performed at the incorrect fluid temperature.
- Verify the fluid level is correct, as this will affect fluid temperature in some cases.

03 AT LEARNING CONTROL INFORMATION

In rare cases when the tips provided above do not aid in completion of the Learning Control process, performing a short test drive of 5-7 miles may resolve the issue. In the event a test drive is determined as the next step, keep in mind the fluid temperature may rise beyond the specification required for Learning Control to complete, in which case a cool down period will be necessary.

06 2017 IMPREZA BRAKE CALIPER ASSEMBLY OIL RESIDUE

There have been reports from some retailers indicating possible brake fluid leaks from the front brake calipers on a some 2017 Imprezas. After investigation, it was determined there was no brake fluid leaking from the brake caliper and the fluid found was residue from an assembly oil. Should you encounter this condition, clean all affected components with an appropriate parts cleaner and confirm the brake fluid level in the master cylinder reservoir. If the fluid level is full and there are no signs of any contamination or any other concerns, test drive the vehicle making several stops. After the test drive, check the brake calipers again along with the balance of the brake system for any leakage and the brake fluid level for any decrease. If there is no leakage, brake caliper replacement is not necessary.



SOA has released a new questionnaire to collect information for concerns related to Harman Kardon Gen 3 Audio and Navigation systems found in 2017-18 Impreza, 2018 Crosstrek and 2018 Legacy and Outback models. It has been posted to SubaruNet / Service Operations & Technical / Forms / Download section for use by retailers. SOA is asking for this new questionnaire to be completed every time a customer presents a concern(s) related to a Harman Kardon Gen 3 audio / navigation head unit. We have grouped the questions by categories to help collect critical information related to each specific concern. The best practice is to answer all the questions related to each concern the customer has brought to your attention with as much detail as possible. This will ensure all the customer's concerns are fully documented and reduce the need for follow up questions.

The questionnaire is required to be supplied to Techline or attached to a QMR with every Harman audio/ navigation concern reported to SOA. This information will be used by SBR and Harman to investigate each reported condition and prioritize development of future firmware updates to improve the performance of these audio / navigation systems.

We recognize most questions are best answered by the customer, so we ask that Service Advisors have some copies of this form available to capture this detailed information during the initial interview with the customer.

It is also very helpful to have a video of the condition available to supplement the details in the questionnaire. Please try to make one if possible and share when requested. However, the video is not a substitute for the questionnaire so, please make sure your answers are detailed enough to be used without seeing the video.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
01-168-09R	Technical Service Bulletin	Replacement Key and Immobilize...	7-Nov-17
WQP-51R	Subaru Product/ Campaign Bulletin	Regional Front Passenger Air B...	7-Nov-17
WQR-53R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Air Bag...	7-Nov-17
TKB-16R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	7-Nov-17
TKC-16R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	7-Nov-17
TKA-16R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	7-Nov-17

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
TKC-17R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	7-Nov-17
TKB-17R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	7-Nov-17
TKA-17R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	7-Nov-17
WQK-47R	Subaru Product/ Campaign Bulletin	Brake Line Corrosion	6-Nov-17
16-108-17R	Technical Service Bulletin	New Service Procedure for Repa...	3-Nov-17
WTR-77	Subaru Product/ Campaign Bulletin	Driver's Floor Mat Retention B...	1-Nov-17
11-174-17R	Technical Service Bulletin	Reprogramming File Availabilit...	31-Oct-17
15-212-17	Technical Service Bulletin	Tonneau Cover Handle- Design C...	30-Oct-17
H461SAL000	Accessory Installation Guide	Interior Footwell Illumination	30-Oct-17
H461SFL001	Accessory Installation Guide	2017 Impreza/2018 Crosstrek Fo...	30-Oct-17
05-37-07R	Technical Service Bulletin	Tire Rotation Pattern	30-Oct-17
H461SFL100	Accessory Installation Guide	Interior Led Light Bulb Kit	25-Oct-17
J1010SG101	Accessory Installation Guide	2014-18MY Forester Sport Grill...	25-Oct-17
J1010SG100	Accessory Installation Guide	2014-17MY Forester Sport Grill...	25-Oct-17
07-123-17	Technical Service Bulletin	DTC B1661 / B1502, Change to W...	24-Oct-17
E5610CA100	Accessory Installation Guide	STI Rear Side Under Spoiler	24-Oct-17
SOA567X050	Accessory Installation Guide	2018 WRX/STI Thule Crossbar	23-Oct-17
F551SSG201	Accessory Installation Guide	2014-18 Forester Compartment S...	20-Oct-17

All revised publications are highlighted in yellow.

CONTINUED ON THE NEXT PAGE

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
F551SAL701	Accessory Installation Guide	2015-18MY Outback Compartment ...	20-Oct-17
WTQ-76	Subaru Product/ Campaign Bulletin	Harman-Kardon Subwoofer Overhe...	17-Oct-17

This is your chance to offer suggestions for use in future issues of TechTIPS! Make sure that if you e-mail us, you place in the **subject line** of your e-mail **“For TechTIPS Newsletter”**. Thank you!

MODEL: _____

YEAR: _____

VIN: _____

Description of situation encountered: _____

Your suggestion for repair procedure, product improvements, etc.: _____

Please attach separate sheets, if necessary. You may also want to include Service Manual diagrams or references, or your own drawings to assist in describing your suggestion. All information submitted becomes the property of Subaru of America, Inc. Permission is granted to Subaru of America, Inc. to print your name and suggestions in TechTIPS and other Subaru of America, Inc. publications. Mail items to: PO Box 6000, Cherry Hill, NJ 08034-6000.

Your Name: _____

Signature: _____

Dealer's Name: _____

City: _____

Date: _____

Dealer Code: _____