

ARTICLES CONTAINED IN THIS ISSUE

*Click on a title below to jump to the article.
Click the date located in the footer to return to page 1.*

CODE	ARTICLE	PAGE
(00)	STIS New Releases	8-9
(01)	QMR of the Month	1-2
(01)	QMR of the Month Award Presentations	2
(05)	2019 Ascent Noise from Rear Over Rough Roads	3
(06)	Reverse Automatic Braking (RAB)- Important Information	3-4
Tech Tips Greatest Tips		
(11)	Elcm Self Testing For Diagnosis	4-6
(15)	2020 Legacy & Outback RES Fob Programming Procedure	6
(15)	2020 Legacy & Outback Immobilizer Registration Process	
	TSB 15-246-19R	7
(15)	Speed volume control	7

SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Thanksgiving: (Closed)

Thursday, November 28, 2019

Day After Thanksgiving (10:30am-3:30pm)

Friday, November 29, 2019

Holiday Break: (Closed)

Tuesday, December 24, 2019

Wednesday, December 25, 2019

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

01 QMR OF THE MONTH

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

Craig Berndt from
Team Gillman Subaru North in Houston, TX.

Craig submitted his winning QMR detailing his diagnosis and repair on a 2018 Outback 2.5i with a customer concern of an intermittent popping / crackling-type sound coming from the R/F speaker area. During mid-day test drives when the ambient temperatures were close to 100°, he confirmed the right front speaker would occasionally cut out completely and other times, produce the popping / crackling-type sound as described. At first, he disconnected the R/F tweeter, test drove the same route again and was able to confirm the condition again, initially ruling out the tweeter speaker. A review of the wiring diagram showed the R/F door speaker and tweeter are on the same circuit with the tweeter wiring spliced directly into the door speaker wiring harness. Craig then directed his attention to the splice connection. With the car inside their air-conditioned shop, he was unable to duplicate the condition while wiggle-testing the speaker connections and the splice area of the harness. This led Craig to think temperature may be a factor in the root cause of this problem. While using a heat gun set on low and heating up the suspect area of the harness to duplicate the high outside ambient temperatures, he was able to confirm the condition while wiggling the suspected splice area of the harness. To further confirm the faulty splices, Craig determined the circuit would go OL while using his DVOM and checking resistance between pin 12 of i271 and pin 3 of i159. After carefully stripping the heat shrink from around both tweeter wiring splices, he found there were no crimps or solder holding them together. Craig repaired and re-shrink wrapped both splices as needed. After multiple road tests during the heat of the day, he was unable to hear any more abnormal sounds or cutting out of either R/F speaker. Craig's detailed report included his step-by-step diagnosis along with quality photos of the affected wiring with before and after shots attached to document the repair.

In appreciation for going the extra mile and sharing his experience with us, Craig will be receiving the following from his Field Service Engineer.

A \$500.00 Snap-On gift card.

CONTINUED ON THE NEXT PAGE

**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, Baja, Tribeca, BRZ, XV Crosstrek, Ascent, Crosstrek Hybrid and "Quality Driven" are Registered Trademarks.

**SUBARU OF AMERICA, INC. IS
ISO 14001 COMPLIANT**

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

We Support



Education Foundation

01 QMR OF THE MONTH (CONTINUED)

The other Regional winners selected from QMRs submitted during September 2019 were:

- **Thomas Slaughter** from **Motor Mile Subaru** in Christiansburg, VA
- **Scott Clark** from **Carr Subaru** in Beaverton, OR
- **Oscar Perla** from **Mid-Hudson Subaru** in Wappinger's Falls, NY
- **Nick Thomson** from **Clay Subaru** in Norwood, MA.

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

01 QMR OF THE MONTH AWARD PRESENTATIONS

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 August 2019 was Craig Berndt, a Technician from Team Gillman Subaru North in Houston, TX.



Craig is shown above after being presented with his \$500.00 Snap-On Gift Card by SOA Field Service Engineer Pat Hayes. Pictured are (left to right): Gillman Subaru Service Manager Tony Webb, Pat Hayes, SOA, Technician Craig Berndt, Dealer Principal Chris Gillman and his General Manager, Raad Obaidy.

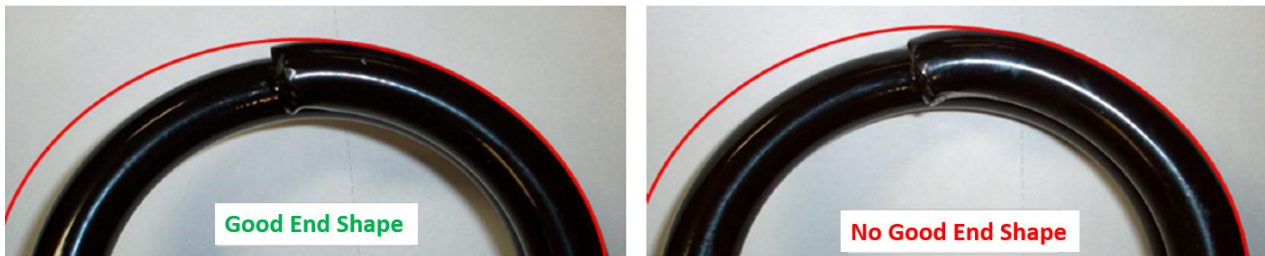
Congratulations and **THANK YOU** to our August 2019 QMR of the Month Award recipient!

CONTINUED ON THE NEXT PAGE

05 2019 ASCENT NOISE FROM REAR OVER ROUGH ROADS

The Techline has received several calls involving customer concerns of sound coming from the rear suspension over bumps. The concern is often described as a creak or squeak and the source can be traced to the rear strut assembly. A close inspection of the coil spring strut contact area should be performed. Coil spring variations may result in the final coil winding having too tight of a diameter. When this occurs, the abnormally formed lip at the end of the spring rubs the strut mount rubber coating causing noise as the suspension operates. Technicians finding this condition should replace the affected spring and strut mount following procedures outlined in the applicable Service Manual. Additionally, a burr on either end of the original or replacement coil spring is normal and **should not** be removed. Strut replacement is not necessary.

NEVER attempt to remove the burr found at the end of the coil by grinding or any other means. It is a normal product of the manufacturing process and on properly formed parts will never make contact with the mount.



06 REVERSE AUTOMATIC BRAKING (RAB)- IMPORTANT INFORMATION

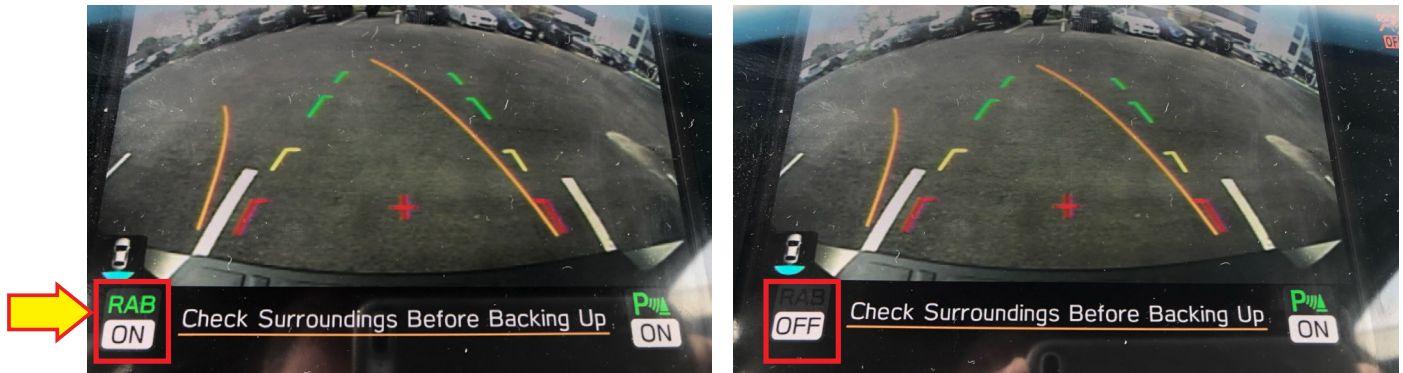
On models prior to the all-new 2020MY Legacy and Outback, the RAB feature defaults to ON after the ignition is switched off. On the new 2020MY Legacy and Outback, there is no default setting. Therefore, RAB will remain either ON or OFF depending on how the Customer sets the status before switching off the ignition. For this reason, there is a possibility a new vehicle could be delivered with the RAB feature switched off. Follow the procedure below to confirm the RAB feature is ON prior to retail delivery as the setting may have been adjusted at some point to OFF. During the Port PDI process, this feature is confirmed as set to ON.

- 1) Start the engine, allow it to idle for 6 seconds or more then shift the CVT into Reverse.
- 2) Confirm if the RAB OFF indicator lamp is illuminated in the combination meter.



NOTE: If the RAB lamp remains illuminated, please check the system as there may be a malfunction.

- 3) Confirm the RAB warning is displayed on the back-up camera display of the navigation system and “RAB” and “PΔ” indicators are illuminated in green. OFF will be highlighted as shown below (right) when RAB has been switched OFF.



- 4) Press and HOLD the RAB touch switch on the back-up camera display screen for **more than 2 seconds** to switch RAB from OFF to ON (the same process can be used to turn the RAB feature OFF should the customer request help with making this change). A short “beep” sound confirms the change has been completed successfully.

IMPORTANT: RAB (and all other driver assist systems) must always be confirmed as set to ON prior to retail delivery so customers may receive the vehicle with these systems in an active state.

TECH TIPS GREATEST TIPS

This series features TechTIPS articles frequently referred to by Techline. This month's feature is for ELCM Self Testing For Diagnosis from March 2017

11 ELCM SELF TESTING FOR DIAGNOSIS

The Techline continues to receive calls for codes related to the Evaporative Emissions system that Technicians are struggling to diagnose. In 2011, Subaru introduced the Evaporative Leak Check Module better known as the ELCM. This was released to give Technicians the ability to run a force test on the evaporative system to confirm if the system is operating normally or not. The system also has an automatic test the vehicle performs on its own. A full description of the system can be found in the 2011 Forester New Technology Training Technician Reference Booklet.

11 ELCM SELF TESTING FOR DIAGNOSIS (CONTINUED)

If you run into an evaporative emissions code, it is recommended to use the force test to diagnose and verify the issue is repaired. In order to run this test, you need to meet the following conditions:

1. Battery Voltage must be greater than 10.9 volts.
2. Coolant Temperature higher than 39.9 degrees F. and lower than 113 degrees F.
3. Intake Air Temperature higher than 39.9 degrees F. and lower than 122 degrees F.
4. Engine must not be operating
5. The inspection mode connectors must NOT be connected.
6. The fuel level in the tank must be lower than 90%.

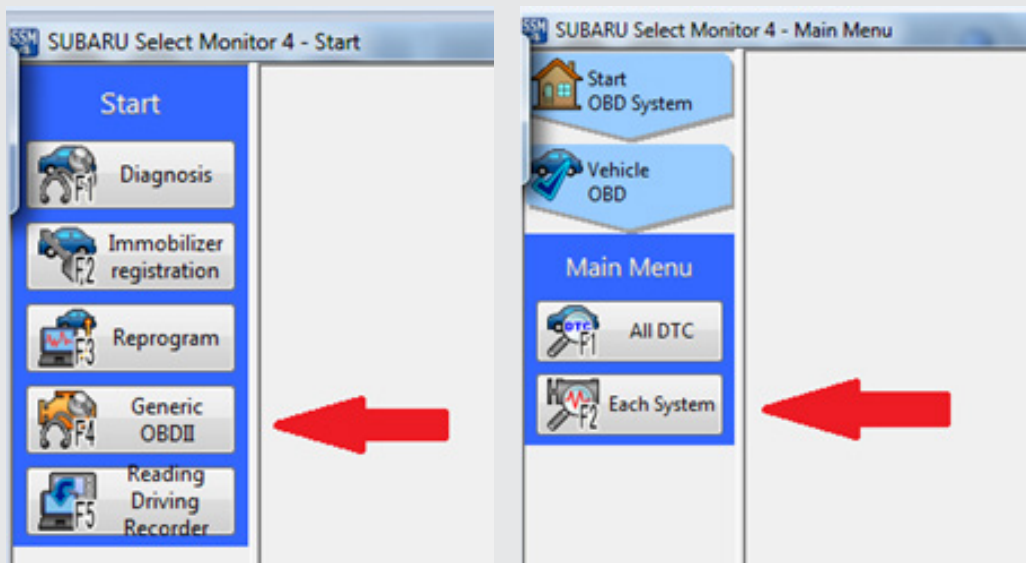
After all conditions are verified met, clear the memory of the ECM. Next turn on the key and navigate to the OBD menu and select Evaporative System Leak Test. Press OK to confirm the test is running. You will get a message indicating the conditions have been met and the test is now running. If you get a conditions not correct message, review and recheck parameters 1-6 above. While the test is running navigate to the ECM menu and select current data. Select the PIDs for the ELCM switching valve and ELCM pump. These PIDs will change when the testing is complete. There is no other indication of the test completing. After the PIDs change, navigate to the OBD menu (do NOT cycle the key) and select Temporary Code Display. If there is a stored code, diagnose the car according to that specific code. If no code is stored, the system has passed and there is no current failure.

Never cycle the key before checking for temporary codes as cycling the key will delete the code.

Never run the ELCM force test more than 5 times.

For models using SSM III, specific screenshots are provided in 2011 Forester TRB

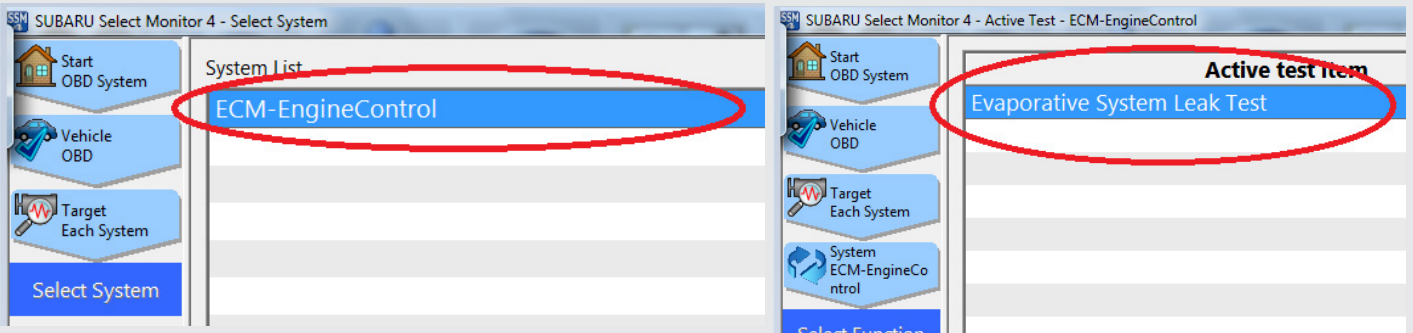
See below for SSM 4 screenshots of how to access the self-test.



CONTINUED ON THE NEXT PAGE

11 ELCM SELF TESTING FOR DIAGNOSIS (CONTINUED)

Below is the result of a failed self-test.



15 2020 LEGACY & OUTBACK RES FOB PROGRAMMING PROCEDURE

The procedure for programming the RES fobs used with the **H001SFL020** Remote Engine Starter accessory installed on (turn) Key Start-equipped vehicles is supplied below. Follow this procedure whenever programming (or re-programming) a fob is needed. This information is also supplied in TSB **15-252-19**.

1. Open the driver's door and enter the vehicle. **IMPORTANT:** The driver's door must remain open throughout this entire programming process. Ensure all the other vehicle doors, trunk, hatch / rear gate are closed.
2. Verify the transmission shifter (selector lever) is in the "park" position.
3. Cycle the ignition switch "ON" then "OFF", "ON" then "OFF", "ON" then "OFF", then back "ON" (3 "cycles) and leave "ON" throughout the entire programming process. **IMPORTANT:** These three ON/OFF ignition key cycles must be completed within five (5) seconds.
4. The RES system will now flash the side marker lights, tail lights, parking lights and honk the horn three (3) times to indicate the system has entered "fob learn" (programming) mode.
5. Press and hold the button on the fob being programmed for three (3) seconds. The side marker lights, tail lights, parking lights will flash and the horn honk one (1) time to indicate the system has learned the fob successfully. Release the button on the fob. In addition, the fob itself may flash / beep one (1) time to indicate successful programming.
6. Repeat Step Five (5.) above for each additional fob. The system is capable of accepting **up to eight (8)** fobs.
7. Turn the ignition "OFF" to exit fob learn mode and complete the procedure.

IMPORTANT NOTE: The system will exit fob learn mode if the ignition is turned OFF, the driver's door is closed or after thirty (30) seconds of inactivity.

CONTINUED ON THE NEXT PAGE

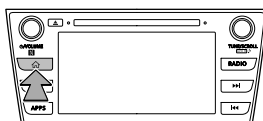
There have been an increased number of calls to Techline from Technicians looking for the Authentication Key when trying to complete the immobilizer registration process. This information can be found in TSB **15-246-19R**. This code will change in the future so, please always refer to Subarunet announcements, STIS, and the 20MY Registration Manual for the latest updates and service information.

15 SPEED VOLUME CONTROL

The Techline has received calls recently involving customer concerns about radio volume suddenly changing with an increase or decrease in vehicle speed. Please keep in mind, some non-Harman sound system models still integrate a speed volume control setting. These units contain an internal amplifier which regulates the volume when active. The sequence for turning this feature on and off can be found in the Subaru Starlink Owner's Manual.

SOUND SETTINGS

1. Select 



2. Select **Settings** (Settings).
3. Select **Sound** (Sound).
4. Select the items to be set.

OTHER SETTINGS

SOUND SETTINGS SCREEN



Settings 3

OTHER SETTINGS

No.	Function
1	Select to set sound settings. (→P.120)
2	Select to set audio volume.
3	Select to set AUX volume gain.
4	Select to adjust the mic sensitivity. This adjusts the speaker's voice during hands-free communication.
5 *1	Select to set the navigation prompt volume.
6	Select to set to adjust the default volume of the other party's voice.
7	Select to adjust the ringtone volume.
8	Select to set the voice recognition prompts volume.
9	Select to turn the alert sound when traffic, weather, or SXM game information is updated on/off.
10	Select to turn the sound beeps on/off.

No.	Function
11 *2	Select to set the speed volume. The system adjusts to the optimum volume and tone quality according to vehicle speed to compensate for increased vehicle noise.

*1: 7-inch with Navi system only

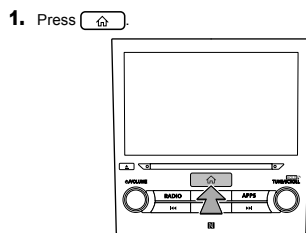
*2: This setting can be made depending on the connected amplifier type.


Purpose of Speed Volume control:

Step1: The speed with which a car is driven influences the background noise level (engine and/or road noise) in the car. As a result, the perceived volume of the infotainment system seems to fluctuate. Speed Volume control counteracts this effect by increasing/decreasing the volume according to the vehicle speed.

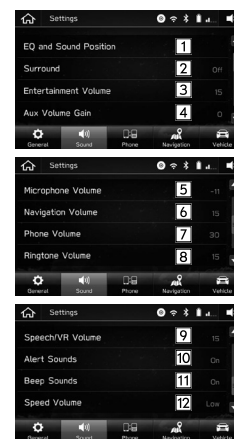
Step 2: The different levels of Speed Volume control set how much the system changes the volume according to speed changes > given a certain speed change, “high” level let the system make a bigger volume change than “low” level.

SOUND SETTINGS



1. Press .
2. Select **Settings** (Settings).
3. Select **Sound** (Sound).
4. Select the items to be set.

SOUND SETTINGS SCREEN

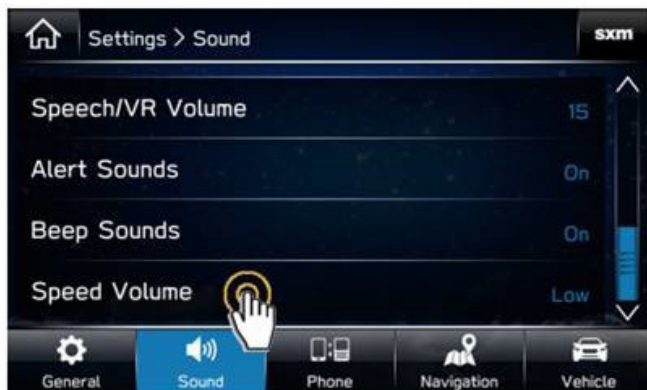


OTHER SETTINGS

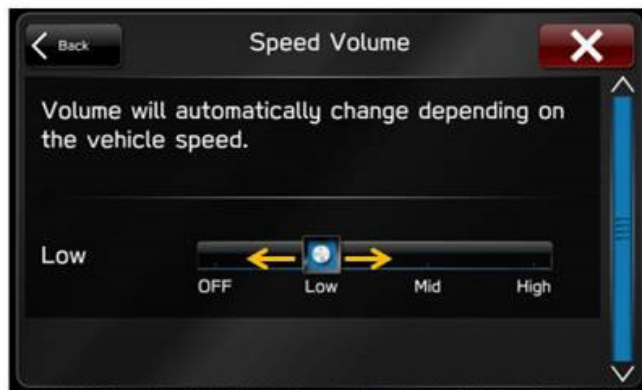
No.	Function
1	Select to set sound settings. (→P.124)
2 ^{*1}	Select to turn the surround on/off.
3	Select to set audio volume.
4	Select to set AUX volume gain.
5	Select to adjust the mic sensitivity. This adjusts the speaker's voice during hands-free communication.
6 ^{*2}	Select to set the navigation prompt volume.
7	Select to set to adjust the default volume of the other party's voice.
8	Select to adjust the ringtone volume.
9	Select to set the voice recognition prompts volume.
10	Select to turn the alert sound when traffic, weather, or SXM game information is updated on/off.
11	Select to turn the sound beeps on/off.

No.	Function
12 ^{*1}	Select to set the speed volume. The system adjusts to the optimum volume and tone quality according to vehicle speed to compensate for increased vehicle noise.

*1: This setting can be made depending on the connected amplifier type.
*2: 8-inch with Navi system only



1. Click *Speed Volume*.



2. Select a speed volume level or turn it off.

Please keep in mind the Speed Volume option is only available for the vehicles not equipped with a HK Amplifier. If the customer installed aftermarket speakers, this feature may not operate correctly. Please reinstall the factory genuine speakers to realize this function operates properly.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
05-71-19R	Technical Service Bulletin	Front Coil Spring Inspection P...	28-Oct-19
WUM-98R	Subaru Product/Campaign Bulletin	Occupant Detection Wiring Harn...	28-Oct-19
11-192-19	Technical Service Bulletin	Extended Cranking and DTC P160...	25-Oct-19
SGV19110-NC	Service Manual	2019 S209 NEW CAR INFORMATION	25-Oct-19
SGV19110	Service Manual	2019 S209 SERVICE MANUAL	25-Oct-19
WUS-04	Subaru Product/Campaign Bulletin	PCV Valve- Design Change	24-Oct-19
WUP-01	Subaru Product/Campaign Bulletin	PCV Valve- Design Change	24-Oct-19
WUQ-02R	Subaru Product/Campaign Bulletin	Ignition Coil Short Circuit	24-Oct-19
H451SAN100	Accessory Installation Guide	PORT INSTALLATION: 2020MY Outb...	21-Oct-19
H451SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	21-Oct-19
J201SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	21-Oct-19
16-125-19	Technical Service Bulletin	CVT Oil Pan- Design Change	21-Oct-19
J1010AN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Outb...	21-Oct-19
L101SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Outb...	21-Oct-19
15-249-19R	Technical Service Bulletin	2020 Audio/Navigation & Power ...	21-Oct-19
86301AN62A	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	18-Oct-19
H461SFL110	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	18-Oct-19
H630SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	18-Oct-19
H001SAN100	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	18-Oct-19
H621SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	18-Oct-19
07-161-19	Technical Service Bulletin	Side Curtain and Knee Airbag M...	18-Oct-19
15-253-19	Technical Service Bulletin	Music Playback Using STARLINK ...	18-Oct-19
MSA5P3901T	Technician Reference Booklet	Vehicle Electrical Systems Upd...	17-Oct-19
	Service Diagnostics	2020MY Impreza / Crosstrek / C...	11-Oct-19
15-252-19R	Technical Service Bulletin	Remote Engine Start (RES) Syst...	11-Oct-19
09-70-19	Technical Service Bulletin	CVT Fluid Cooler Hoses and Cla...	11-Oct-19
SOA3881290	Accessory Installation Guide	Subaru Oil Cap, 5W-30	9-Oct-19
SOA3881280	Accessory Installation Guide	Subaru Oil Cap, 0W-20	9-Oct-19
SOA3881270	Accessory Installation Guide	Subaru Battery Tie Down	9-Oct-19
06-71-19R	Technical Service Bulletin	Electric Parking Brake Assembl...	4-Oct-19
15-225-18R	Technical Service Bulletin	DTC B2242 "UART COMMUNICATION"	2-Oct-19
12-262-19	Technical Service Bulletin	Hood Release Cable -Design Cha...	2-Oct-19
15-247-19	Technical Service Bulletin	Harman Navigation "Route Calcu...	2-Oct-19
07-160-19R	Technical Service Bulletin	Combination Meter Display Info...	2-Oct-19
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit...	1-Oct-19
SUTTIPSLOC	Other/Miscellaneous	TechTIPS Article Locator Index...	1-Oct-19

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
F551SAN400	Accessory Installation Guide	PORT INSTALLATION: 2020MY Outb...	30-Sep-19
U4470BE	Service Manual	2020 BRZ New Car Information	30-Sep-19
G4470BE	Service Manual	2020MY BRZ Service Manual	30-Sep-19
	Service Diagnostics	2020MY BRZ Service Manual V0	30-Sep-19
MSA5B2015A	Owner Manual	2020 BRZ STARLINK QG	30-Sep-19
MSA5B2006A	Owner Manual	2020 BRZ Quick Guide	30-Sep-19
12-273-19	Technical Service Bulletin	Leather Front Seat Covers- Des...	30-Sep-19
05-70-19	Technical Service Bulletin	Rear Wheel Backing Plate- Desi...	30-Sep-19
12-272-19R	Technical Service Bulletin	Glass Run Channels (Front Door...	30-Sep-19
MSA5M2020A	Owner Manual	2020 BRZ Starlink Navigation S...	30-Sep-19
MSA5M2016A	Owner Manual	2020 BRZ Clarion Audio System ...	30-Sep-19
MSA5M2006A	Owner Manual	2020 BRZ Owner's Manual	30-Sep-19
WUL-97R	Subaru Product/Campaign Bulletin	Brake Pedal Bracket Mounting B...	27-Sep-19
16-103-16R	Technical Service Bulletin	Transmission Fluid Seepage	26-Sep-19
H001SFL020	Accessory Installation Guide	RES Fob Transceiver Replacemen...	26-Sep-19
15-251-19	Technical Service Bulletin	DTC B2A16	26-Sep-19
10-95-19	Technical Service Bulletin	Heater Control Assembly- Desig...	26-Sep-19
15-250-19	Technical Service Bulletin	Audio Display Screen Has Visib...	26-Sep-19
02-183-19	Technical Service Bulletin	Turbocharger Stay Bracket Bolt...	26-Sep-19
H001SAN100	Accessory Installation Guide	2020 Legacy / Outback Remote E...	26-Sep-19

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 9103; Camden, NJ 08101-9877.

Your Name: _____

Signature: _____

Dealer's Name: _____

City: _____

Date: _____

Dealer Code: _____