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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Thanksgiving: (Closed)
Thursday, November 26, 2020

Day After Thanksgiving (10:30AM – 3:30PM)
Friday, November 27, 2020

Holiday Break: (Closed)
Thursday, December 24, 2020
Friday, December 25, 2020
Saturday, December 26, 2020

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 QMR of the Month Winner:

Thomas Slaughter from
Motor Mile Subaru in Christiansburg, VA

August's QMR of the Month winning report outlines the diagnosis and repair of a 2020 Outback with a customer concern of the engine running rough and making an unusual "clanking-type" sound after started cold. Thomas began by verifying the customer concerns as reported and noted both the roughness and clanking sound conditions dissipated after catalyst warm-up was complete. Since there were warning lamps illuminated, he performed a DTC scan which revealed a cylinder #1 misfire and determined the engine sound was a result of combustion occurring inside the exhaust manifold / front pipe assembly. Normal diagnostics were performed to isolate the cause of the P0301 but, nothing solid was identified. Thomas went further with compression and leak-down testing, inspection of VVT data, even valve clearance checks but all his test results were found to be within specification. Because the conditions could only be verified during warm-up after a cold start, Thomas turned his attention to the TGV system and proceeded to remove the intake manifold. The TGV diverter plates found in the cylinder head intake ports for cylinders 2 and 4 were identical but, after removing the diverter plates for cylinders 1 and 3, he found the plate removed from #1 was quite a different shape than the other 3. The odd-shaped TGV diverter plate was contacting the top of the cylinder head port and as a result, significantly restricting airflow during cold engine TGV operation. The restriction was causing #1 cylinder to run lean and the unburned fuel to combust in the exhaust manifold resulting in the clanking sound. After installing a correct TGV diverter plate, normal engine operation was restored. Thomas' QMR included detailed descriptions of all his diagnostic procedures, test results, high-quality photos and an excellent video to document this unusual discovery and repair.

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

\$500.00 Snap-On gift card

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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.



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01 QMR of the Month (CONTINUED)

The other Regional winners selected from QMRs submitted during August 2020 were:

- **John Cote** from **Bill Kolb Jr. Subaru** in Orangeburg, NY
- **David Callender** from **Roy Robinson Subaru** in Tulalip, WA
- **James Wilson** from **Dunning Subaru** in Ann Arbor, MI
- **Darin Richey** from **Colonial Subaru** in Danbury, CT

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 include a photo (whenever available) of the recipient’s award presentation in TIPS. The winner selected from QMR of the Month submissions received during August 2020 was Thomas Slaughter, a Subaru Senior Master Technician from Motor Mile Subaru in Christiansburg, VA.



Thomas is shown above after being presented with his \$500.00 Snap-On Gift Card. Joining him (left to right) are Subaru of America (SOA) Field Service Engineer Daniel Jackson, Motor Mile Subaru’s Fixed Operations Director Rocky Fizzano and Service Manager Michael Sowers along with SOA District Parts and Service Manager Alex Adkins.

Congratulations and THANK YOU to our August 2020 QMR of the Month Award recipient!

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The Subaru Express Service Team has developed a set of low-touch best practices for Express Service Technicians performing work on customer vehicles during this pandemic. These best practices are meant to provide Express Service Technicians and customers a safe, clean experience.

- Technicians should wear gloves and face masks while working on customer vehicles. Gloves should be changed out between each service.
- Three options for checking the Engine/Cabin Air Filters:
 - o Recommend replacement based on mileage intervals and previous maintenance history AND DO NOT remove filters for presentation.
 - o Technicians should remove filters and send pictures of the filter condition to the Express Service Representative (ESR) to show the customer during their Multi-Point Inspection (MPI) presentation.
 - o Follow normal procedure for removing filters for physical Multi-Point Inspection (MPI) presentation, but only the Express Service Representative (ESR) handles the filters.
- Any food/beverages should not be in the Technician service bays.

The Techline and Customer Advocacy Department (CAD) have received calls from customers with concerns about their vehicle being overfilled after an oil change has been performed. **NOTE:** some newer model year vehicles have a lower oil capacity than prior year models. Please refer to the chart below. Technicians should be allowing adequate drain time to allow for more accurate dipstick readings. Always be sure to double check oil levels before releasing the vehicle to the customer. This chart may be found on [Subarunet under Parts/ Service- Prgms/ Accessories \ Oil Programs \ Oil Charts/ Resources tab.](#)

SUBARU		Subaru Engine Oil & Capacity Application Guide																			
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
BRZ																					
Forester																					
Forester XT																					
Impreza																					
Legacy/Outback																					
Legacy (Turbo)																					
Legacy/Outback (6 cyl.)																					
Legacy/Outback XT (Turbo)																					
STI																					
Tribeca																					
WRX																					
Crosstrek																					
Crosstrek Hybrid																					
Ascent																					

* Capacities assume oil and oil filter are being replaced - subtract .2 quarts if oil filter is not being replaced
 * Capacities within brackets are only applicable to vehicles with oil coolers
 FOR REFERENCE ONLY

10/24/2019

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01 CPO PROCEDURE FOR TURBOCHARGED SUBARU VEHICLES

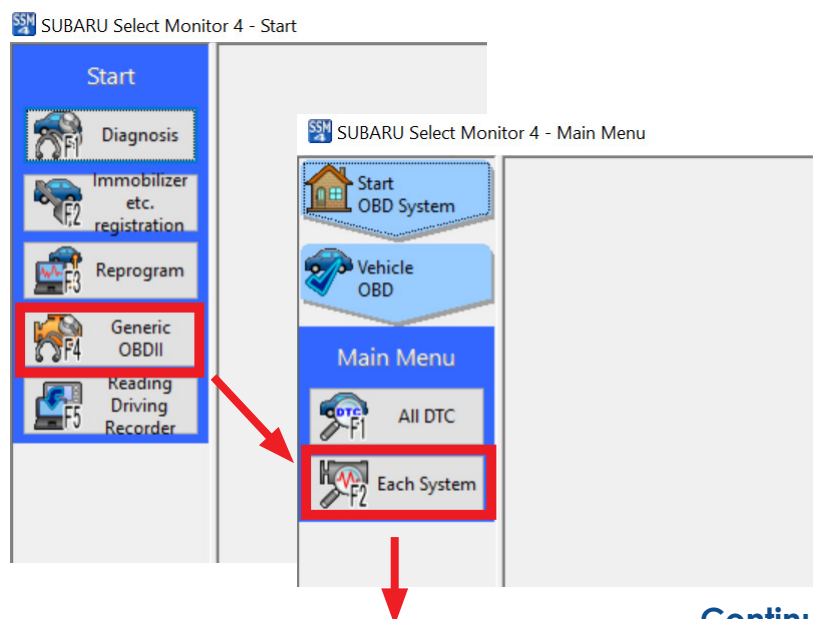
Techline has observed a surge in Certified Pre-Owned (CPO) submissions with the increased number of turbocharged engines across multiple platforms. As part of the CPO program, turbocharged vehicles require the Calibration Identification/ Calibration Verification Numbers (CID/CVN) to be checked before enrollment. Due to the high number of inquiries to Techline, we felt it necessary to remind retailers of the correct CPO procedures. To help serve retailers in a timely manner, please review the CPO process and expectations using the provided instructions below. Incorrect submissions will delay the process for all parties involved. Responses to CPO requests are returned within a 24hr time period. Holidays & weekends may affect return times.

- Vehicles more than five years old **ARE NOT** eligible for CPO.
- Checking the CID/CVN over the phone for CPO purposes is **NOT** the correct procedure.
- Vehicles which are customer pay or used car inspections should not be submitted. Example: A customer wants to buy a 2017 STI privately, from the local used car lot. The customer brings the vehicle to the retailer to make sure it has not been modified. In this situation, the retailer should contact Techline and open a case to verify CID/CVN.
- Vehicles that are at the retailer for warranty work, such as short block failure or check engine light diagnosis, should contact Techline.
- Vehicles confirmed to be modified should be called in to the Techline, a case opened and a Vehicle Modification Report filed.

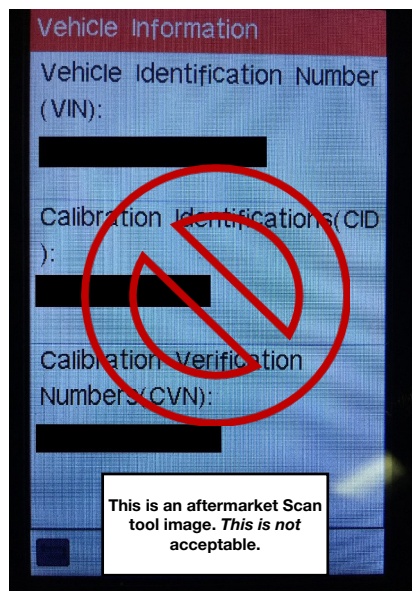
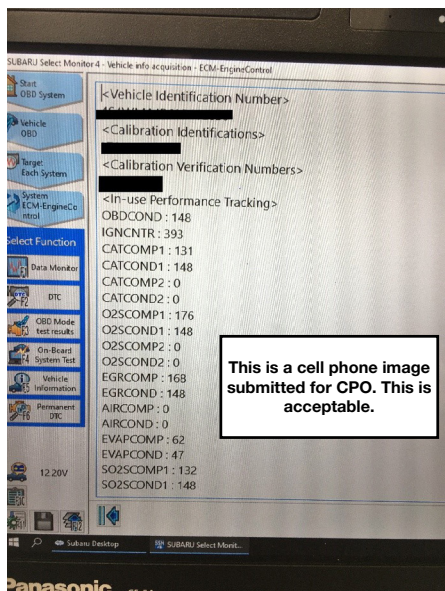
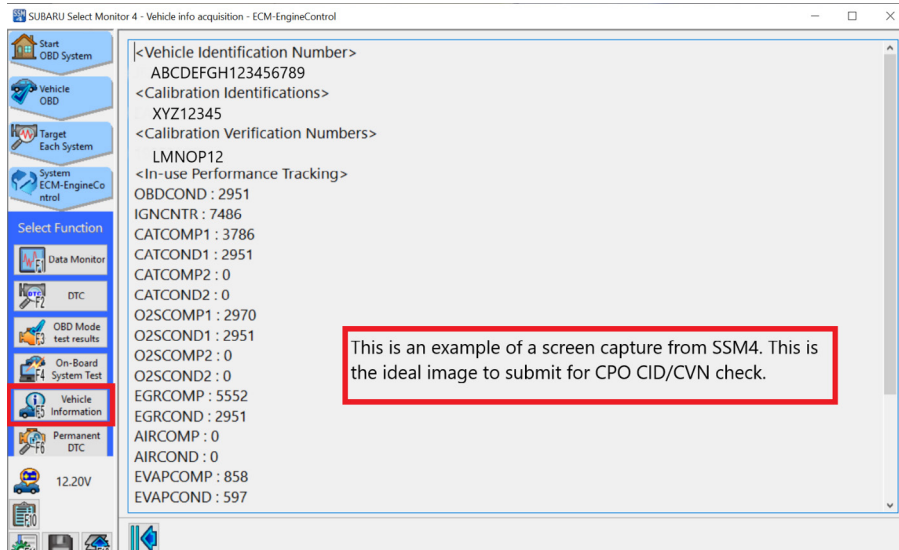
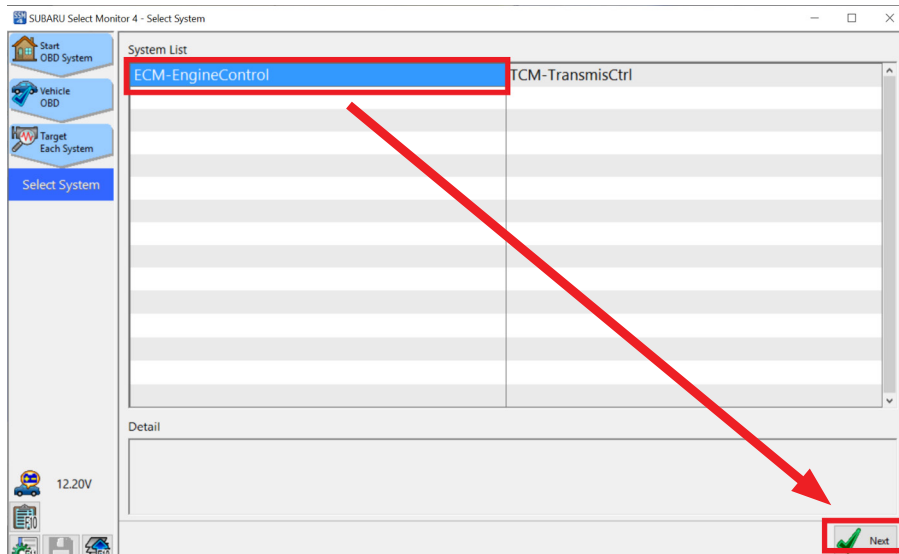
#1 Vehicle Information Acquisition screen

Please be sure to obtain a clear, crisp image of the vehicle information acquisition screen. An example is shown below. Please DO NOT submit any hand written information. Vehicle Information Sheets (VIS) or a copy of the Repair Order (RO) are also unacceptable. This information should ONLY be obtained using the Subaru Select Monitor. Pictures taken with a cell phone are acceptable as long and the information can be clearly read.

SSM4 instruction on obtaining the acquisition screen.



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#2 Email submission instructions

Submitting a CPO CID/CVN request is just like calling Techline. A case needs to be opened with credible information. This information includes: your full name, dealer code, and a contact number. You will always receive the confirmation email from the account you submitted it by. Always submit a CPO request from an email account that you have access to and check regularly. The email address to submit the CPO request is Tech@subaru.com. When following the Send-SSM4 document instructions on Subarunet it is displayed as “tech support”. Here is an example of properly submitted email.

“Tech support” on SSM or Tech@subaru.com

Proper email title, this ensures your email is not deleted via spam filter

Select one of the three ways to submit the Vehicle information; SSM file, an image, or pasted file

Your name, dealer code, contact information, and request go here.

File Message Insert Draw Options Format Text Review Help Tell me what you wa

Paste Cut Copy Format Painter Clipboard

Calibri (Body) 11 A A

B I U

Address Book Check Names Attach File Attach Item Signature

To Tech Services

Cc

Send

Subject CPO CID CVN Certification request

SSM4 2017 STI CPO.SEPF 47 KB

screen grab from a phone.jpg 4 MB

John Smith
DLR code 550101
18667822782

Could you please Verify for CPO ?

<Vehicle Identification Numbers>
<Calibration Identifications>
<Calibration Verification Numbers>
<In-use Performance Tracking>
OBDCOND : 0
IGNCONTR : 10
CATCOMPR1 : 0
CATCOND1 : 0
CATCOMPR2 : 0
CATCOND2 : 0
OZSCOMPR1 : 5
OZSCOND1 : 0
OZSCOMPR2 : 0
OZSCOND2 : 0
EGRCOMP : 0
AIRCOND : 0
AIRCOND : 0
EWAPCOMP : 0
EWAPCOND : 0
SO2SCOMP1 : 0
SO2SCOND1 : 0
SO2SCOMP2 : 0
SO2SCOND2 : 0
<ECU name>
ECM - EngineControl

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07 G and H Type Immobilizer Registration

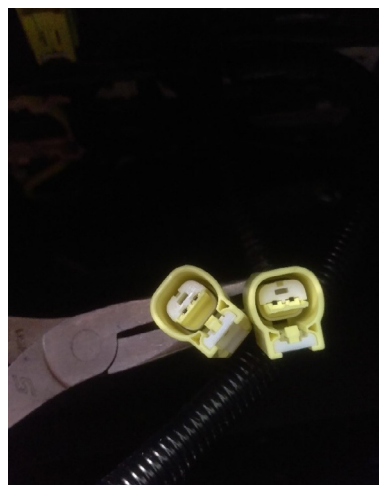
Techline continues to receive calls regarding 20MY Legacy and Outback Immobilizer registration. When adding keys, programming a remote start, or making immobilizer system repairs to a G/H type system an 8-digit “Authentication Key” is required. As a reminder, this new Authentication Key will change approximately every 6 months. For detailed information and latest Authentication Key, refer to TSB [15-246-19R](#). Below is The Application Chart for Immobilizer for reference to the varying types of immobilizers.

Application chart for Immobilizer system

US model	2005MY	2006MY	2007MY	2008MY	2009MY	2010MY	2011MY	2012MY	2013MY	2014MY	2015MY	2016MY	2017MY	2018MY	2019MY	2020MY	2021MY
Legacy OBK	Key Access type	A type								B type				G			
	keyless Access with push-button start system							D type						H			
Tribeca	Key Access type	A type															
IMPREZA	Key Access type	A type				B type											
	keyless Access with push-button start system							D type									
Crosstrek	Key Access type							B type									
	keyless Access with push-button start system							D type									
Crosstrek Hybrid	keyless Access with push-button start system							D type				F type					
WRX/STI	Key Access type	A type						B type									
	keyless Access with push-button start system							D type									
Forester	Key Access type	A type				B type											
	keyless Access with push-button start system							D type									
BRZ	Key Access type							X type									
	keyless Access with push-button start system							Y type									
ASCENT	Key Access type													B type			
	keyless Access with push-button start system													D type			

07 Identical Electrical Connectors

Most electrical connectors in Subaru vehicles have unique designs which allow them to be plugged in to only one component. However, this does not apply to all connectors. Some connectors have the same physical shape and will connect to multiple components. These connectors don't always have the same power, ground, or signal pins. If the component receives the incorrect circuit path, the component could be damaged. This is very common when installing Keyless Access Control Modules. Below are some examples of identical connectors for different components.



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10 2020+ Legacy/Outback Passenger Air Mix and Intake Air Door Actuators

Techline recently received a call regarding a concern of the passenger side HVAC always blowing hot air. The Technician found DTC B1441 “Air Mix door actuator circuit stuck (Passenger)”. After following the DTC trouble tree the Technician found the passenger air mix door actuator required replacement. Following replacement of the actuator the Tech found the condition was still present. Upon further inspection the Tech determined both the air mix door actuator (i190) and the intake door actuator (i188) connectors are the same. After moving the connectors to their correct locations normal HVAC operation was restored.

There are two key differences to note when servicing these connectors.

1. The 5 wires for i190 connector are V, W, Sb, P and Br. The 5 wires for the i188 connector are V, P, Sb, Or and V.
2. The coverings for each harness have some key differences as well, the i190 connector has a soft tubing and the i188 connector has a hard plastic-corrugated tubing.

Bellow is each connector in the correct locations on the left i190 Air mix door actuator, Right i188 intake air door actuator.



16 Automatic Transmission Fluid types

Techline has received some calls with questions regarding automatic transmission fluid types. Fluid types can be found in the appropriate Service Manual under General Description>Recommended Materials. Below is a handy chart to help know what transmission fluid type is required for each vehicle as well.

Continued on the next page

NOTE: All fluid amounts below are capacities from dry and capacities within brackets are applicable for vehicles equipped with oil coolers. This chart may be found on [Subarunet under Parts/ Service-Prgms/ Accessories \ Oil Programs \ Oil Charts/ Resources tab.](#)



Automatic Transmission Fluid Application Guide

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020							
BRZ																						ATF-WS (Fluid color - Red) 7.9 qts.						
Forester																							ATF-HP (Fluid color - Red) 9.8 qts.	CVTF-II (Fluid color - Green) 12.9 qts.	12.6 qts.	12.7 qts.		
Forester XT																							ATF-HP (Fluid color - Red) 9.8 qts.	CVT-HT (Fluid color - Orange) 12.9 qts.	13.1 qts.			
Impreza																							ATF-HP (Fluid color - Red) 9.8 qts.	12.9 qts.	12.6 qts.	11.3 qts.		
Legacy																							ATF-HP (Fluid color - Red) 9.8 qts.	13.1 qts.	11.9 qts.	CVTF-III (Fluid color - Blue/Opaque) 11.9 qts.		
Outback																							ATF-HP (Fluid color - Red) 9.8 qts.	13.1 qts.	12.4 qts.	CVTF-III (Fluid color - Blue/Opaque) 12.4 qts.		
Legacy/Outback (6 cyl.)																							9.8 qts.	10.4 qts.	13.4 qts.			
Legacy/Outback XT (Turbo)																										High Torque CVT-LV (Clear/Amber) 12.3 qts. (Legacy)/12.6 qts. (Outback)		
Tribeca																							ATF-HP (Fluid color - Red) 10.4 qts.					
WRX																							ATF-HP (Fluid color - Red) 9.8 qts.		CVT-HT (Fluid color - Orange) 13.1 qts.			
Crosstrek																									12.9 qts.	CVTF-II (Fluid color - Green) 12.6 qts.	11.3 qts.	CVTF-III (Fluid color - Blue/Opaque) 10.7 qts.
Crosstrek Hybrid																									CVTF-II (Fluid color - Green) 14.5 qts.	14.7 qts.	ATF-WS (Fluid color - Red) 6.8 qts.	
Ascent																										High Torque CVT-LV (Fluid color - Amber/Clear) 12.3 qts. [12.7 qts.]		

*All fluid amounts are from dry
* Capacities within brackets are only applicable to vehicles with oil coolers
FOR REFERENCE ONLY

*Updated 10/24/2019

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
07-181-20	Technical Service Bulletin	DTC B1572- Revised Immobilizer...	16-Oct-20
06-77-20R	Technical Service Bulletin	DTCs C1531 and C1741- VDC Cont...	15-Oct-20
12-303-20	Technical Service Bulletin	Left Rear Seat Belt -Design Ch...	15-Oct-20
14-22-16R	Technical Service Bulletin	Special Service Tool Cross Ref...	15-Oct-20
12-302-20	Technical Service Bulletin	Squeaking Sound from Front Sea...	14-Oct-20
15-205-16R	Technical Service Bulletin	Reprogramming File Availabilit...	13-Oct-20
15-272-20R	Technical Service Bulletin	2021 Audio/Navigation & Power ...	13-Oct-20
05-78-20	Technical Service Bulletin	DTC C2921 ID Registration Erro...	13-Oct-20
16-128-20R	Technical Service Bulletin	DTC P0842 / Transmission Harne...	9-Oct-20
12-289-20	Technical Service Bulletin	Rear Gate Stay Warranty Extens...	9-Oct-20
WTB-63R	Subaru Product/Campaign Bulletin	Service Campaign - Electronic ...	9-Oct-20
06-80-20	Technical Service Bulletin	DTC C0075 Repair Information	8-Oct-20
14-26-20	Technical Service Bulletin	FA / FB Front Timing Chain Cov...	7-Oct-20
WUJ-95R	Subaru Product/Campaign Bulletin	Exhaust Pipe Front (EPF) Bello...	7-Oct-20
12-298-20	Technical Service Bulletin	Rear Outer Seat Belts Not Retr...	7-Oct-20
10-98-20	Technical Service Bulletin	New Air Conditioning (A/C) Com...	7-Oct-20
07-155-19R	Technical Service Bulletin	Power Rear Gate (PRG) Control ...	6-Oct-20
H501SSG203	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	5-Oct-20
07-179-20	Technical Service Bulletin	Power Rear Gate (PRG) Control ...	5-Oct-20
MSA5M2101W	Warranty Booklet	2021 Warranty and Maintenance ...	5-Oct-20
MSA5B2101A	Owner Manual	2021 Getting Started Guide	2-Oct-20
MSA5M2112A	Owner Manual	2021MY Impreza Eyesight Owner'...	2-Oct-20
MSA5M2109A	Owner Manual	2021MY Impreza Subaru STARLINK®...	2-Oct-20
MSA5M2101A	Owner Manual	2021MY Impreza Owner's Manual	2-Oct-20
WRD-20R	Subaru Product/Campaign Bulletin	Fuel Pump Impeller Failure	2-Oct-20
18-201-20	Service Manual Correction	Service Manual Corrections	2-Oct-20
12-300-20	Technical Service Bulletin	Power Rear Gate (PRG) Switch T...	30-Sep-20
05-77-20	Technical Service Bulletin	Front Suspension Alignment Spe...	30-Sep-20
SUTTIPSLOC	Other/Miscellaneous	TechTIPS Article Locator Index...	29-Sep-20
H671SAN200	Accessory Installation Guide	PORT INSTALLATION: 2020MY Outb...	28-Sep-20
15-233-18R	Technical Service Bulletin	Display / Touch Screen "Soft K...	28-Sep-20
15-220-18R	Technical Service Bulletin	Harman Audio / Infotainment: T...	28-Sep-20
15-236-18R	Technical Service Bulletin	Reprogramming File Availabilit...	28-Sep-20
15-235-18R	Technical Service Bulletin	Harman Kardon Gen 3 Audio Ampl...	28-Sep-20
15-231-18R	Technical Service Bulletin	Harman Audio / Infotainment: T...	28-Sep-20

All revised publications are highlighted in yellow.

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ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
15-230-18R	Technical Service Bulletin	Harman Audio / Infotainment: T...	28-Sep-20
15-229-18R	Technical Service Bulletin	Harman Audio / Infotainment: T...	28-Sep-20
15-228-18R	Technical Service Bulletin	Harman Audio / Infotainment: D...	28-Sep-20
15-247-19R	Technical Service Bulletin	Harman Navigation "Route Calcu...	28-Sep-20
15-227-18R	Technical Service Bulletin	Harman Audio / Infotainment: T...	28-Sep-20
15-226-18R	Technical Service Bulletin	Harman Audio / Infotainment: T...	28-Sep-20
15-243-19R	Technical Service Bulletin	Multi-Function Display (MFD) C...	28-Sep-20
15-221-18R	Technical Service Bulletin	Harman Audio / Infotainment: H...	28-Sep-20
TECH_SRVY_20	Other/Miscellaneous	2020 Subaru Technician Survey	28-Sep-20

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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: _____