TECH TIPS

Subaru Service and Technical Support Line Newsletter

January 2020

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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Memorial Day: (Closed) Monday, May 25, 2020							
Independence Day: (Closed) Friday, July 3, 2020							
Labor Day: (Closed Monday, September							
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:

Patrick Abramovitch from Subaru of Port Richey in Port Richey, FL

Patrick's winning QMR outlined his successful diagnosis and repair of a 2018 Outback 2.5i Limited which presented with an unusual customer concern of the door locks locking and unlocking on their own while driving. Although unable to confirm the condition as described by the customer, he did verify being able to lock the doors with the door switches but not unlock them. Patrick started his diagnosis by confirming the remote keyless entry feature operated normally, both lock and unlock. Next, he connected the SSM and brought up the BIU PID data. While monitoring the Manual Unlock Switch Input PID, Patrick noticed it was not switching and always showed as ON. His next step was to remove both front door panels and disconnect the lock switches one at a time while monitoring the PID in hopes of seeing it switch from ON to OFF. The PID data remained ON so, he began to inspect the instrument panel harness above the BIU by wiggling it in different areas while continuing to look for the PID to change. Eventually, Patrick was successful and after a thorough inspection, isolated a point where the harness had been contacting the steel frame of the passenger airbag module. He noticed the harness tape was chafed and upon closer inspection, found the insulation of the brown unlock request wire had been punctured, shorting the signal to ground. After repairing the damaged wire and adding some additional protection to the harness, normal door lock system operation was restored. Patrick's QMR contained a thorough description of his diagnostic procedure accompanied by guality photos and multiple videos.

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

A \$500.00 Snap-On gift card.

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

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.



January 2020 TechTIPS

01 QMR OF THE MONTH (CONTINUED)

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

- Anthony Quintana from Ramsey Subaru in Ramsey, NJ
- David Callender from Roy Robinson Subaru in Tulalip, WA
- Matthew Brady from Subaru of Wichita in Wichita, KS
- Raymond Anderson from Premier Subaru Watertown in Watertown, 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!

QMR OF THE MONTH AWARD PRESENTATION

As part of our "enhanced" QMR of the Month recognition program, we include a photo (whenever available) of the recipient's award presentation in TIPS. The winner selected from QMR of the Month submissions received during November 2019 was Patrick Abramovitch, a Technician from Subaru of Port Richey in Port Richey, FL.



Patrick is shown after being presented with his \$500.00 Snap-On Gift Card by SOA Field Service Engineer, Jeff Sharkey. Subaru of Port Richey's Service Manager, Brian Skelton is shown to Patrick's left. Congratulations and THANK YOU to our November 2019 QMR of the Month Award recipient!

01 HINTS FOR SEARCHING SEPARATE PUBLICATIONS WITH ONLINE REFERENCE

Many Technicians call Tech Line because they are having difficulty locating certain publications required for effective diagnosis. Most of these problems occur from Technicians having trouble searching the Online Reference section of STIS. Here are some useful hints to improve the efficacy of the Online Reference search.

Finding the correct Accessory Installation Guide may consume too much time for some as they are only published in the first model year of the body style for the vehicle. Instead of searching every year or trying to remember which model year the vehicle was introduced, the fastest way to find the required installation guide is to check the Accessory Installation Guide box and enter the part number from the accessory package in the keyword search field.

ormation - Online Reference	Se	ervice Diagnostics -			
arch Criteria					
Ivanced Search - Enter at least one search (criteria.				
Publication Type		🖨 VIN or Model Type (E	nter VIN or Model Year/C	arline/Trim):	
Accessory Installation Guide		A			
Dn-Board Diag II Information		Model Year:	Model / Carline:	Trim:	
Control Manual		- Choose Model Year - 🗸	Choose Model Year	Choose Model Year	
Source Manual Correction Standard Spection/Maintenance Advisory Bulletin	ł	Keywords/Tool #			
Subaru Product/Campaign Bulletin		H630SFL001			×
TechTIPS NewsLetter Technical Service Bulletin	~			Search	Clear
		T			
he easiest way to get t	the i	nstallation guide	is to enter		
he part number from t	ho h	ov into the keyw	ord field		

When diagnosing immobilizer system concerns and steps to perform after immobilizer system components are replaced, the Service Manual states to use the Registration Manual for Immobilizer. This manual is available for all models equipped with Immobilizer systems. To access this manual, check the box labeled Other/Miscellaneous then click the search button.

SUBARU Technical Information System		Francais Hom	ne User's Guide
Information - Online Reference	Service Diagnostics +		
Search Criteria			•
Advanced Search - Enter at least one search crite	a.		
Publication Type	SVIN or Model Type (Enter VIN or Model Year/Carline/	Trim):	
Accessory Installation Guide	VIN - Last 8 or Full 17	Lookup VIN	
On-Board Diag II Information Other/Miscellaneous hyper Manual hyper M		Trim: Choose Model Year	
Constant Section Advisory St. Aspection/Maintenance Advisory Bulletin Subactivet/Compare Bulletin	[™] κε <mark>Then click the search button.</mark>		
Tech	<mark>vpe first.</mark>	Search	Clear
Quick Search - Enter a Document Code, Literati I Document Code, Literature #, or Bul	re #, or Bulletin # to search for a specific document. stin #:		
Document Code / Literature # / Bulletin #		Searc	h Clear

NOTE: In this search, the fields for Model Year, Model / Carline and Trim are left blank and there is no Keyword entered. Leaving these fields empty allows the search to return the most possible hits. This can be done with any Publication Type.

Once this search is complete, the displayed results will look like the image below. Under Other/ Miscellaneous, there are several useful documents including the Registration Manuals for Immobilizer, TechTIPS Article Locator index and Instruction Manuals for various pieces of diagnostic equipment.

Information -	Online Reference	Service Diagnostics -				
		č				
lick on (+) sign to e	expand the search criteria sect	on.				
Search Criteria		_				Ð
	Use the Filter	field to narrow your results.				
Search Results		,				
lick a column title to	sort results in table.					
how 10 🗸 entri	ies		Filter:			
Document Code	Publication Typ	e Title		Crea	ted Date	Actions
GLSRY_001	Other/Miscellane	OUS Glossary of Automotive Terms (October 2019)		Mar	29, 2013	±*
SUTTIPSLOC	Other/Miscellane	ous TechTIPS Article Locator Index (Updated December 20	19)	Dec	20, 2019	±*
SNLG_01	Other/Miscellane	ous Engine, Transmission & Turbocharger Serial Number Lo	ocation G	Nov	8, 2019	±*
R_J2534	Other/Miscellane	ous Reprogramming J-2534 Files Chart		Jul 2	5, 2016	±*
S1108BE	Other/Miscellane	ous 2020MY Registration Manual For Immobilizer		Sep	12, 2019	±*
S1205BE	Other/Miscellane	ous 2016MY Registration Manual For Immobilizer		Aug	26, 2015	±*
S1053BE	Other/Miscellane	ous 2017MY Registration Manual For Immobilizer		Jan	10, 2017	±*
	Other/Miscellane	ous DCA-8000 Diagnostic Battery Charger Instruction Manu	al	Mar	26, 2019	±*
DCA-8000		ous DSS-5000 WiFi Troubleshooting Guide		Dec	7, 2017	±*
DCA-8000 DSS-5000-WTG	Other/Miscellane	Bee bee this introduces to this is a set of the				

The results can be narrowed by using the Filter field. Typing "imm" into the filter removes all search hits irrelevant to the immobilizer system.

Information - Onl	ine Reference Sei	vice Diagnostics -		
lick on (+) sign to expand	the search criteria section.			
Search Criteria	Cort through	the search results quickly by using	the Filter field	÷
	son through	the search results quickly by using	the Filter field	•
Search Results				
lick a column title to sort re	sults in table.			
Show 10 🗸 entries		Fil	iter: imm	
Document Code	Publication Type	Title	Created Date	Action
S1108BE	Other/Miscellaneous	2020MY Registration Manual For Immobilizer	Sep 12, 2019	±*
S1205BE	Other/Miscellaneous	2016MY Registration Manual For Immobilizer	Aug 26, 2015	±*
S1053BE	Other/Miscellaneous	2017MY Registration Manual For Immobilizer	Jan 10, 2017	±*
S1086BE	Other/Miscellaneous	2019 Registration Manual for Immobilizer Other Than BRZ	Aug 1, 2018	±*
05LEGACY_NA_IM_EN	Other/Miscellaneous	Immobilizer Operation Manual	Apr 6, 2010	±*
	Other/Miscellaneous	BRZ Registration Manual For Immobilizer	Oct 10, 2012	±*
S0985BE				
S0985BE S1001BE	Other/Miscellaneous	2005-2015MY Registration Manual For Immobilizer	Aug 26, 2015	±*

Owner Manuals for vehicles dating back to 2000MY are available in .pdf format. Service Manuals are also available as .pdf files for many models dating back to 1991MY.

These files may take some time to download but, will open faster if they are saved to the computer. To save the Owner or Service Manual, simply click the save icon 🖺 to store the file locally. When the manual is needed again, it will load much faster if you open the file from the computer rather than downloading from an internet browser.

01 HINTS FOR SEARCHING SEPARATE PUBLICATIONS WITH ONLINE REFERENCE (CONTINUED)

🌏 SUBARU	Technical Information System	m	Francais Home	User's Guide					
Information -	Online Reference	Service Diagnostics -							
Click on (+) sign to expand the search criteria section.									
Search Criteria				•					
			Mechanism and						
Search Results	ation type is lis	ted	Function, and New						
in the searc			Car Info. manuals are						
Document Code	Publication Type	Title	listed as Service	tions					
MSA5TCD00L	Service Manual	2000 Legacy & Outback Service Manual	Manuals under the	*					
MSA5T0002A	Service Manual	2000MY Legacy Mechanism and Function Section	first model year of the	*					
MSA5M0001A	Owner Manual	2000 Legacy and Outback Owners Manual	vehicle only. They are	*					
550_0577AAB	Owner Manual	Homelink Programming and Information Guide	available for many,	*					
Showing 1 to 4 of 4 ent	ries		but not all models.	Next					

The TechTIPS Locator Index is an extremely useful tool. It is updated every three months with the article titles and the month/year in which the article was published. The index is located under the Other/ Miscellaneous Publication Type.

SUBARU Technical Information System		Francais	Home	User's Guide
Information - Online Reference	Service Diagnostics -			
Search Criteria				•
Advanced Search - Enter at least one search cri Publication Type Accessory Installation Guide On-Board Diag II Information Other/Miscellaneous Owner Manual Service Map	Published Year: - Select Year Published - Published Month: - Select Month Published -			
Service to read Correction State The ection/Maintenance Advisory Bullet Suaru Product/Campaign Bulletin TechTIPS NewsLetter Technical Service Bulletin Quick Search - Enter a Document Code, Literature Document Code, Literature #, or B Document Code / Literature # / Bulletin #	may also enter a keyw	best to der Howev ord wi	o use ver, yo th th	ou

Technical Service Bulletins can also be searched with the Model Year/Carline/Trim fields left blank. Simply check the publication type box for Technical Service Bulletins and enter a Keyword.

SUBARU Technical Information System

Francais Home User's Guide

This search was performed with the Technical Service Bulletin Publication Type box checked. The keyword used was "Harman." There are many TSBs regarding Harman audio units. Filtering these TSBs with useful keywords such as "USB" or "CarPlay" will help to find the specific TSB needed.

ow 10 🗸 en	tries		Filter:		
ocument Code	Publication Type	Title		Created Date	Action
5-211-17R	Technical Service Bulletin	Reprogramming File Availability Offering Additional Optimiza		Jan 3, 2020	±*
5-236-18R	Technical Service Bulletin	Reprogramming File Availability for Optimization of Harman		Dec 30, 2019	±*
5-234-18R	Technical Service Bulletin	2019 Audio/Navigation & Power Amplifier Exchange Component I		Dec 20, 2019	±*
5-214-17R	Technical Service Bulletin	2018 Audio/Navigation Exchange Component Identification and		Dec 20, 2019	±*
5-249-19R	Technical Service Bulletin	2020 Audio/Navigation & Power Amplifier Exchange Component I		Dec 20, 2019	±*
5-204-16R	Technical Service Bulletin	2017 Audio/Navigation Exchange Component Identification and		Dec 20, 2019	±*
-168-13R	Technical Service Bulletin	2014 Exchange Component Identification and Procedures		Aug 16, 2017	±*
i-172-14R	Technical Service Bulletin	2015 Exchange Component Identification and Procedures		Aug 23, 2019	±*
5-157-12R	Technical Service Bulletin	2013 Exchange Component Identification and Procedures		Aug 16, 2017	±*
5-190-15R	Technical Service Bulletin	2016 Audio/Navigation Exchange Component Identification and		Dec 20, 2019	±*

Sometimes, there will be no results even if the search fields are left blank and only the Publication Type is selected. This is likely because the user has been logged out of Subarunet for inactivity. Close the STIS tab, return to the Subarunet home page and click the refresh icon on the internet browser. Then, log in and repeat the search.

Important information can be found in several different Publication Types. Using Online Reference to search effectively will help to ensure Technicians have all the information they need to make a quick and efficient repair. The images and examples outlined here only cover some of the Publication Types but may be applied to all.

Other important Publication Types to note, and use:

- Owner Manuals for all models Owner Manuals Keeping copies of the Owner Manual for each vehicle type that is serviced often saved to the hard drive of the computer can clear up many questions regarding user error or system limitations/functions.
- Registration Manuals for Immobilizer Other/Miscellaneous Used to program immobilizer components, reference this guide when replacing DCMs, ECMs, etc. to check for additional required steps following replacement of modules.
- TechTIPS Article Locator Index Other Miscellaneous The best way to search for previous articles.
- Intermediate Fuel Injection Technician Reference Booklet Evaporative Emissions Systems diagnostic information. All TRBs are available via .pdf with color photos.
- Harman Technical Support Guide Troubleshooting Guides Harman 3.0 Audio Unit features, update information, troubleshooting. Also available for Fujitsu / Denso Ten, Kenwood, Panasonic, and Clarion audio units.

 Remote Engine Start Systems Troubleshooting Guide (many years/models available) – Troubleshooting Guide – Used to repair and diagnose RES systems, RES fob programming, runtime selection.

US M	odel	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Legacy /	Key Start						4							В			G
Outback	Push Button										D				Н		
Tribeca	Key Start						Α										
Improzo	Key Start						4						В				
Impreza	Push Button													[)		
Creastrali	Key Start												E	3			
Crosstrek	Push Button													I)		
Crosstrek Hybrid	d Push Button											D				I	F
	Key Start							Α							3		
WRX/Sti	Push Button													1)		
E	Key Start							Α						В			
Forester	Push Button													D			
507	Key Start)	(
BRZ	Push Button												١	ſ			
Assant	Key Start															E	3
Ascent	Push Button															0	b

01 APPLICATION CHART FOR IMMOBILIZER SYSTEM

07 2019-20 FORESTER & 2020 LEGACY/ OUTBACK DRIVER MONITORING SYSTEM (DMS), SEAT MEMORY, AND/OR MIRROR TILT INOPERATIVE

A small number of field reports have been received with a concern involving the DMS system being inoperative. In addition, the seat memory feature and mirror glass tilting was also found to be inoperative. After performing extensive electrical diagnostics, the root cause was traced to a loose harness connector located behind the lower exterior trim cover of the door mirror assembly. This condition has been found in both RH and LH mirror assemblies. After re-seating the connector and making sure it was fully locked in place, all systems returned to normal operation.

The photo sequence below is an example of the loose connector which resulted in a B2632- Mirror D Sensor Circuit Anomalous State in the LH Mirror control unit. This type of condition may create a B2632 (LH) or B2642 (RH) in the related outer mirror control module in either Forester, Legacy or Outback depending on which side mirror has the poor connection. In the case of Forester, you may find DTC U0156 for Lost Communication stored in multiple modules. In Legacy or Outback, a DTC U122E(LH) or U122F(RH) for lost communication with the related driver or passenger mirror module may also be stored.



07 REVISED ASCENT SUNROOF GLASS (LID) AND SUN SHADE INITIALIZATION PROCEDURES

There are 3 Lid and Glass initialization procedures to use depending on the repair performed:

- Lid and Sun Shade Initialization: To be used whenever either the lid or sun shade motor / module is replaced with a NEW part. This procedure restores operation of the "Auto Open / Close" and "Pinch Prevention" features.
- Lid Re-Initialization: To be used whenever the lid is removed for repair or replacement and the lid is not fully opened or closed after reassembly.
- Sun Shade Re-Initialization: To be used whenever sun shade is removed for repair or replacement and the sun shade is not fully opened or closed at reassembly.

Lid and Sun Shade Initialization:

Whenever either the lid or sun shade motor is replaced and before the Auto Open / Close and Pinch Prevention functions of the sunroof system can operate properly, the Lid and Sun Shade initialization procedure must be completed successfully.

- 1. Turn the ignition ON.
- 2. Push and <u>HOLD</u> the sunroof switch to open the open position until the lid is fully opened. The lid and shade will open simultaneously. IMPORTANT: Both the lid and shade will open beyond the fully open position until they reach the mechanical lock position (positive stop) then immediately reverse (move forward) back to the fully open position and stop automatically. NOTE: The travel distance between the fully open and mechanical lock positions is very short, approximately one inch.
- 3. Release the sunroof switch to complete the procedure.

CAUTION: If when performing this procedure, the Lid and shade stop at any point before reaching the fully open position, the motor has already been initialized.

Use the illustration below as reference for Lid and Shade Positions.



07 REVISED ASCENT SUNROOF GLASS (LID) AND SUN SHADE INITIALIZATION PROCEDURES (CONTINUED)

Lid Re-Initialization Procedure:

- 1. Turn the ignition ON.
- 2. Push and release the sunroof switch to the open position repeatedly until the lid is in the fully open position.
- Push and HOLD the sunroof switch to the open position again. After about 10 seconds, the lid will open beyond the fully open position until it reaches the mechanical lock position (positive stop) then immediately reverse (move forward) back to the fully open position and stop automatically.

NOTE: The travel distance between the fully open and mechanical lock positions is very short, approximately one inch.

4. Release the sunroof switch to complete the procedure.

Sun Shade Re-Initialization Procedure:

- 1. Turn the ignition ON.
- 2. Push and release the sun shade switch to the open position repeatedly until it is in the fully open position.
- 3. Push and HOLD the sun shade switch to the open position again. After about 10 seconds, the lid will open beyond the fully open position until it reaches the mechanical lock position (positive stop) then immediately reverse (move forward) back to the fully open position. NOTE: The travel distance between the fully open and mechanical lock positions is very short, approximately one inch.
- 4. Release the sun shade switch to complete the procedure.

IMPORTANT: When these procedures are complete, always confirm proper lid and sunshade operations.

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Some Technicians have noticed while performing ECM reprogramming recently, the length of the CID number is now longer than what it has been in the past. This is <u>not</u> a typo. CID numbers are required by California emission code regulations. The SAE standard allows for the CID number to be up to 16-digits to prevent duplication (which is illegal). Due to the ever-rising number of ECMs applicable to OBD regulation, SBR has decided to increase the CID number from 8-digits to 11 beginning with some new 2020MY vehicles. The phase-in of the new, 11-digit CID numbers will occur over time. Be advised, there will still be some new 8-digit numbers used during this transition period.

Old / New CID examples:

- OLD CID: LT8D601A
- NEW CID: LT8F102C00G

00 STIS NEW RELEASES

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
12-279-20	Technical Service Bulletin	Outer Door Handles- Chrome Fin	17-Jan-20
17-17-13R	Technical Service Bulletin	Event Data Recorder (EDR) Func	17-Jan-20
12-278-20	Technical Service Bulletin	Combination Meter Visor- Light	15-Jan-20
07-151-19R	Technical Service Bulletin	DTC B112C or B112E -Driver Mon	15-Jan-20
TKC-20R	Subaru Product/Campaign Bulletin	Takata Front Passenger Airbag	15-Jan-20
TKB-20R	Subaru Product/Campaign Bulletin	Takata Front Passenger Airbag	15-Jan-20
TKA-20R	Subaru Product/Campaign Bulletin	Takata Front Passenger Airbag	15-Jan-20
11-194-20	Technical Service Bulletin	Intake Manifold- Replacement P	15-Jan-20
S0A367035	Accessory Installation Guide	2020 Legacy Crossbars	14-Jan-20
WUR-03R	Subaru Product/Campaign Bulletin	Brake Hose Swelling Service Pr	10-Jan-20
01-168-09R	Technical Service Bulletin	Replacement Key and Immobilize	10-Jan-20
07-165-20	Technical Service Bulletin	EyeSight / Lane Departure Deac	10-Jan-20
05-71-19R	Technical Service Bulletin	Front Coil Spring Inspection P	8-Jan-20
07-164-20	Technical Service Bulletin	FlashWrite Control Module Repr	7-Jan-20
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit	3-Jan-20
H671SAN200	Accessory Installation Guide	2020MY Legacy/Outback Wireless	2-Jan-20
WUX-09	Subaru Product/Campaign Bulletin	2016-2017 Outback Replacement	2-Jan-20
H461SXC101	Accessory Installation Guide	PORT INSTALLATION: 2019-20MY I	2-Jan-20

*** NOW YOU CAN E-MAIL YOUR TECHTIPS INPUT AND SUGGESTIONS TO: TECH@SUBARU.COM ***

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:



Monday - Thursday 8:30 am to 7:30 pm

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