TECH TIPS

August 2018

SUBARU

Subaru Service and Technical Support Line Newsletter

ARTICLES CONTAINED IN THIS ISSUE

SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Labor Day: (Closed)
Monday, September 3, 2018

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

SUBARU OF AMERICA

50th ANNIVERSARY

Est. 1968

01 QMR OF THE MONTH

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

Leo Gilmore from Ruge's Subaru in Rhinebeck, NY

Leo's QMR involved diagnosis and repair of an inoperative L/Rear window on a 2014MY Forester. After confirming the customer's concern, he started by performing electrical tests at connector D25 for the L/R door window switch. Testing revealed although Pin 6 always had proper voltage, the ground on Pin 7 was lost as soon as the switch was operated to load the circuit. Leo then moved to the driver's door master switch (connector D7) and proceeded with further testing. The L/R window would not operate from the driver's door master switch either. While Leo was setting up to begin performing voltage drop tests on the wiring between the master switch and the L/R door switch, he noticed the illumination in the master switch was flickering. Closer inspection of the master switch connector D7 revealed excessive in and out movement of the wires. Leo determined that despite the wires being held in place by their individual terminal anchors (lock tabs), the connector body itself was allowing all the terminals to back away from their respective pins in the master switch. This was due to a partial dislocation of what appears to be a secondary lock which goes around the perimeter of the harness side of the whole connector. After properly locking this portion of the D7 connector back in place and reassembly, normal operation of the power window system was restored. Leo provided 3 excellent quality videos of the root cause for the concern in his report along with detailed results of his diagnostics every step of the way.

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

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

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.

SUBARU

QUALITY DRIVEN® SERVICE

AES Automotive Youth Educational Systems PROUD PARTNER

01 QMR OF THE MONTH

The other Regional winners selected from QMRs submitted during June 2018 were:

- **Gaspar Aguilar** from **Suburban Subaru** in Troy, MI
- **Scott Clark** from **Carr Subaru** in Beaverton, OR
- **Kominh Thongphok** from **Fitzgerald Subaru** in Gaithersburg, MD
- **Tyler Hubbard** from **Suburban Subaru** in Vernon, CT

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!

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 June 2018, was Leo Gilmore a Technician at Ruge's Subaru in Rhinebeck, NY.

Leo is shown receiving his GoPro Hero 5 while being joined by (l to r): Jim Colamarino, Field Service Engineer and Jason McDade, Director, Field Operations from Subaru Distributors Corporation, Leo Gilmore, Technician, Jack Cleary, Service Manager and Dealer Principal, Lewis Ruge. Congratulations and THANK YOU to June's QMR of the Month Award recipient!

The all-new 2019MY Subaru Ascent Quality Monitoring Team (QMT) is underway and in full force. As a reminder, the Team is interested in everything related to the Ascent. They are looking for specific and detailed information on **EVERY** condition identified. This includes any repairs performed including those cases where a customer comments on a function or condition which is considered to be a normal operational characteristic. The Team is also interested in any opportunities where a feature or function could be improved. We are asking you to be our eyes and ears with this new model.

Recently, there have been many cases where a condition of interest is reported and visuals (picture/video) are requested by the QMT but none are available. Please remember to always take pictures and/or videos to document the original, as found, condition. These are immensely beneficial, especially for items which may be manufacturing or vehicle assembly related. The Team feeds this valuable information directly back to the SIA assembly plant.

A picture can be worth more than a thousand words.

QMRs are the best and preferred reporting method for communicating any new model feedback. For high priority, unusual, or serious concerns, we ask that you call SOA's Techline and open a new case.

We **THANK YOU** all for your great support thus far during this pivotal launch for our Subaru brand.

07 | QUICK REFERENCE IMMOBILIZER TYPE

A type: Key start with security code | **B type**: Key start with no security code
D type: Push start with no security code | **C and E type** are for Canada vehicles

Application chart for Immobilizer system

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

CANADA model		2005MY	2006MY	2007MY	2008MY	2009MY	2010MY	2011MY	2012MY	2013MY	2014MY	2015MY	2016MY	2017MY	2018MY	2019MY
Legacy/OBK	Key Access type	A type	A type	A type	A type	A type	A type	A type	A type	A type	A type	E type	E type	E type	E type	E type
IMPREZA	Key Access type								B type	B type	B type	B type	E type	E type	E type	E type
Crosstrek	Key Access type									B type	B type	B type	B type	E type	E type	E type

The Techline has been receiving calls from Technicians replacing BIUs where the keys cannot be successfully registered. Keep in mind on a B-type system, the BIU and combination meter store key IDs when programmed. These key IDs remain stored and must match when installing a new component to the immobilizer. If the car came with three keys, then the BIU and combination meter will have three key IDs stored. When replacing a BIU, you should collect all the keys from the customer. However, if you did not do that and are looking to program the BIU, you will need to delete the keys from the immobilizer before installing the new BIU. When you program the new BIU you will only need the one key from the ignition which was not deleted, program that key, then when all the original keys are obtained, you can program them. This could also be used if the customer has lost a key and does not want to replace it but wants to repair the car. However, if you run into a scenario where you cannot communicate with the BIU to delete the keys, then you will need to get the original keys that were programmed to the vehicle to successfully finish the programming.

Example 1: A 2015 Legacy comes in and has BIU failure. You cannot communicate with the BIU; the customer has supplied three original keys. Replace the BIU and program the keys.

Example 2: A 2015 Outback comes in and has been diagnosed with a BIU issue. Communication is normal. The customer only has one key for the car all others were lost. Go into immobilizer and delete all keys. This will delete all except the one in the ignition. Next, install the new BIU and program the only one key you have. Extra keys can be added upon the customer's request.

Example 3: A 2015 Forester comes in and has been diagnosed as having a faulty BIU. Communication is normal. The customer has supplied all original keys to the Technician. Replace the BIU and program the keys. When replacing a BIU always follow the applicable Service Manual procedure.

Information below can be found in the Immobilizer Registration Manual. Navigate to STIS- online reference- publication type- other/miscellaneous- search.

| S1001BE | 2005-2015MY Registration Manual For Immobilizer [Description...] | [View PDF] |
| S1046BE | 2017MY Registration Manual For Immobilizer [Description...] | [View PDF] |

2. Parts replacement table

Note:
- When performing each registration, make sure that the ignition switch is ON, and the driver's door is kept open. If ignition switch is OFF or all doors are closed, Body integrated unit will enter sleep mode, therefore each registration can not be performed.
- For vehicle with a remote control engine starter, perform "Registering Remote Control Engine Starter" when the BIU is replaced.

<When only one part is failed or lost>

Destination			Parts failed/lost						Parts required to replace or prepared when items on the left fail						Procedures to perform after parts replacement			
		Key		Body Inte-grated unit	Combi-nation meter	Security CU	ECM		Key	Body Inte-grated unit	Combi-nation meter	Security CU	ECM		(1)	(2)	(3)	(4)
U.K./Canada	Others	Not all	All															
O		X							One registered key						"Immobilizer Key ID deletion" (Deleting lost keys)	"Immobilizer system registration" (Registering keys needed)		
O			X						All registered keys	X					"Immobilizer system registration"			
O					X				One registered key			X			"Meter/SCU registration"			
O							X		One registered key				X		"Engine ECU registration"			
O	O	X							One registered key						"Immobilizer Key ID deletion" (Deleting lost keys)	"Immobilizer system registration" (Registering keys needed)		
	O		X						All registered keys	X					"Immobilizer system registration"			
	O				X				One registered key			X			"Meter/SCU registration"			
	O						X		One registered key				X		"Engine ECU registration"			

B type
REGIST

15 HARMAN VERSION 4 APPLICATION

The Techline continues to receive calls about 2019MY Ascent, Impreza and Crosstrek models equipped with Gen3.1 Harman head units. As a reference, the table below provides the current Harman Head Unit software versions as they relate to Version 4. It should be noted a variation of Version 4 was included in all 2019 models from the start of production. Due to differences in head unit hardware and functionality from Gen 3 to Gen 3.1 including new STARLINK telematics functions, the software is not the same. **Never attempt to install Gen 3 software into a Gen 3.1 head unit.** Always confirm the software version of the head unit being worked on **prior to** attempting any software update and, reference the latest Service Bulletin information before proceeding.

Harman Head Unit: Ver4			
GEN3.0		**GEN3.1**	
Vehicle Model	**Displayed Version**	**Vehicle Model**	**Displayed Version**
17-18MY Impreza / 18MY Crosstrek	Rel_U0.18.22.20	19MY Ascent	Rel4.18.11.50 <BASE+, MID>
		19MY Impreza/Crosstrek	
		19MY WRX/STI	Rel4.18.20.50 <HIGH>
18MY Legacy/Outback		19MY Forester	
		19MY Legacy/Outback	Rel_U1.18.20.60
18MY BRZ		19MY BRZ (only 7.0" Display with NAVI)	
		19MY Crosstrek PHEV	

Remember, whenever reporting a concern with a head unit or a power amplifier, Gen 3 and Gen 3.1 head units are manufactured by **Harman**. Gen 2 and 2.1 head units are manufactured by **Fujitsu10** now known as **Denso10 (D10)** and **Clarion**. Power amplifiers are manufactured by **Harman Kardon**. Accessory amplifiers are **Rockford Fosgate**. Be sure to clearly express in all documents and discussions with Techline which components by part number and name are installed on the vehicle in question. This will help greatly in obtaining the proper assistance and technical support. Not sure what the head unit type is? Refer to the Audio/Navigation Exchange Component Identification and Procedures for the MY vehicle you are working on in the Technical Service Bulletin area of STIS.

15 DCM INFORMATION

All SUBARU STARLINK Safety & Security (Telematics) equipped vehicles contain a Data Communication Module (DCM). A DCM is an embedded mobile device, which allows the vehicle to communicate through a cellular network. The chart below outlines which recent production vehicles are equipped with Generation 1 and Generation 2 Telematics DCMs. There are distinct differences between Gen1 and Gen 2 DCMs.

 As an example: Interactions between the **Gen 2** DCM and the audio / navigation head unit allow new services such as service appointment scheduler to function through the head unit. To accomplish this type of interaction, the **Gen 2** DCM serves as a sort of peripheral to the head unit similar to the rear view camera. It is critical to ensure the DCM is connected to the head unit prior to head unit boot-up to avoid a loss of communication between the two, similar to the rear view camera. Should this occur, services such as WiFi will become unavailable from the head unit menu options requiring an extended battery disconnection to reset the head unit and restore the lost functionality. Always review the applicable Service Manual whenever diagnosing or working in or around the DCM to ensure customer's services are not interrupted.

15 DCM INFORMATION

The Gen 2 DCM also allows for Remote Engine Start (RES) functionality through the MySubaru mobile App. In order to support this feature, the Gen 2 DCM must now be registered with the vehicle's immobilizer system. This is a new requirement for DCM replacements. Please refer to the applicable Service Manual for additional information as well as to the new, "2019 Registration Manual for Immobilizer Other Than BRZ" found on STIS under Other Publications for full details. A failure to register the DCM will prevent the RES from being activated through the customer's MySubaru App and will also introduce a DTC B2A16 in the DCM for a failure of Immobilizer Key Collation.

	Ascent	OBK& Legacy	Forester	Impreza& Crosstrek	PHEV	WRX	BRZ
18MY	n/a	Gen1	Gen1	Gen1	n/a	Gen1	n/a
19MY	Gen2	Gen1	Gen2	Gen2	Gen2	Gen1	n/a

NOTE: STARLINK Safety & Security now offers 3 different plan types: **Safety Plus, Security Plus and Concierge**. All vehicles equipped with Generation 2 STARLINK Safety & Security Telematics are eligible to enroll in these three plan types. AT&T WiFi plans which make the DCM a WiFi hot spot are available separately from these packages.

IMPORTANT CAUTION: DCMs must NEVER be swapped or the customer's services will not function and DCM replacement may be required to restore normal operation.

00 STIS NEW RELEASES

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
J1010SJ100	Accessory Installation Guide	2019 Forester Sport Grille	9-Aug-18
12-248-18	Technical Service Bulletin	Trunk Hinge Flange Bolt Change	9-Aug-18
07-139-18	Technical Service Bulletin	LED Headlamp Deformation -Desi...	9-Aug-18
MSA5P3609T	Technician Reference Booklet	Vehicle Communications	6-Aug-18
WTU-80	Subaru Product/ Campaign Bulletin	STOPSALE/Recall - Possible Mis...	2-Aug-18

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
TECH_SRVY_18	Other/Miscellaneous	2018 Subaru Technician Survey	2-Aug-18
02-177-18	Technical Service Bulletin	Remanufactured FB Engine Short...	1-Aug-18
S1081BE	Service Manual	2019 Registration Manual for I...	1-Aug-18
02-157-14R	Technical Service Bulletin	Engine Oil Consumption	1-Aug-18
15-219-18R	Technical Service Bulletin	Error Code 202 and / or 204 Ge...	31-Jul-18
05-65-18	Technical Service Bulletin	Ball Joint Boots Cracking	31-Jul-18
12-247-18	Technical Service Bulletin	Cargo Cover Installation Remin...	31-Jul-18
15-205-16R	Technical Service Bulletin	Reprogramming File Availabilit...	30-Jul-18
07-138-18	Technical Service Bulletin	IG2 and ACC Relay Change	30-Jul-18
02-175-18	Technical Service Bulletin	PCV Valve- Design and Material...	27-Jul-18
H451SXC000	Accessory Installation Guide	Ascent Fog Light Kit	27-Jul-18
H001SAL003	Accessory Installation Guide	LONG RANGE TURN START REMOTE E...	27-Jul-18
H001SAL102	Accessory Installation Guide	LONG RANGE PUSH START REMOTE E...	27-Jul-18
H001SVA900	Accessory Installation Guide	WRX Smart Engine Start (French...	27-Jul-18
H001SVA900	Accessory Installation Guide	WRX Smart Engine Start	27-Jul-18
H001SFL400	Accessory Installation Guide	LONG RANGE KEY START REMOTE EN...	27-Jul-18
H001SFL300	Accessory Installation Guide	LONG RANGE PUSH START REMOTE E...	27-Jul-18
H001SFL202	Accessory Installation Guide	LONG RANGE PUSH START REMOTE E...	27-Jul-18

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
02-171-18R	Technical Service Bulletin	DTC P0072 / Additional Insulat...	26-Jul-18
07-137-18	Technical Service Bulletin	DTC B2910 and B2911, Revised D...	26-Jul-18
E5610FL020	Accessory Installation Guide	Impreza 5 Door Rear Side Under...	26-Jul-18
57734SJ050	Accessory Installation Guide	Forester Front Bumper Guard	26-Jul-18
	Service Diagnostics	2019MY Legacy/Outback Service ...	26-Jul-18
G2550BE	Service Manual	2019MY Legacy/Outback Service ...	26-Jul-18
MSA5B1904A	Owner Manual	2019MY Outback Quick Guide	26-Jul-18
MSA5B1903A	Owner Manual	2019MY Legacy Quick Guide	26-Jul-18
MSA5M1914A	Owner Manual	2019MY Legacy/Outback EyeSight...	26-Jul-18
MSA5M1911A	Owner Manual	2019 Legacy/Outback SUBARU STA...	26-Jul-18
MSA5M1904A	Owner Manual	2019 Outback Owner's Manual	25-Jul-18
MSA5M1903A	Owner Manual	2019 Legacy Owner's Manual	25-Jul-18
MSA5B1901A	Owner Manual	2019MY Impreza Quick Guide	25-Jul-18
MSA5M1912A	Owner Manual	2019MY Impreza EyeSight Owner'...	25-Jul-18
MSA5M1909A	Owner Manual	2019 Impreza SUBARU STARLINK™ ...	25-Jul-18
U1340BE	Service Manual	2019 Impreza New Car Informati...	25-Jul-18
MSA5M1901A	Owner Manual	2019 Impreza Owner's Manual	25-Jul-18
	Service Diagnostics	2019MY Impreza Crosstrek Servi...	25-Jul-18

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit...	25-Jul-18
MSA5B1907A	Owner Manual	2019MY Crosstrek Quick Guide	25-Jul-18
MSA5M1918A	Owner Manual	2019MY Crosstrek EyeSight Owne...	25-Jul-18
MSA5M1919A	Owner Manual	2019 Crosstrek SUBARU STARLINK...	25-Jul-18
MSA5M1907A	Owner Manual	2019 Crosstrek Owner's Manual	25-Jul-18
01-168-09R	Technical Service Bulletin	Replacement Key and Immobilize...	24-Jul-18
4/21/2018	Technical Service Bulletin	Uneven Steering Effort	24-Jul-18
12-246-18	Technical Service Bulletin	"Popping" or "Snapping" Sound ...	23-Jul-18
TKB-16R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
TKC-16R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
TKA-16R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
E515EFL201	Accessory Installation Guide	DIFFERENTIAL UNDERGUARD	20-Jul-18
H461SXC100	Accessory Installation Guide	ASCENT LED UPGRADE – MAP AND R...	20-Jul-18
H461SXC000	Accessory Installation Guide	ASCENT INTERIOR FOOTWELL ILLUM...	20-Jul-18
L101SXC001	Accessory Installation Guide	Ascent Trailer Hitch (French)	20-Jul-18
TKC-17R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
SNLG_01	Other/Miscellaneous	Engine, Transmission & Turboch...	20-Jul-18
TIPS_QMR_SE	TechTIPS News Letter	QMR OF THE MONTH - TRIP WINNER...	20-Jul-18

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
TKB-17R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
TKA-17R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
TKC-18R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
TKB-18R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
TKA-18R	Subaru Product/ Campaign Bulletin	Takata Front Passenger Airbag ...	20-Jul-18
12-234-18	Technical Service Bulletin	Instrument Panel (IP) Foam Cus...	19-Jul-18
WTS-78R	Subaru Product/ Campaign Bulletin	Subaru STOP SALE/FMVSS Non-Com...	19-Jul-18
07-136-18	Technical Service Bulletin	New Alternator Assembly to Add...	18-Jul-18
06-63-18	Technical Service Bulletin	Design Change- Electronic Park...	18-Jul-18

All revised publications are highlighted in yellow.

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.: _____

_____

_____

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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: P.O. Box 9800, Camden, NJ 08103-9800.

Your Name: _____

Signature: _____

Dealer's Name: _____

City: _____

Date: _____

Dealer Code: _____

SUBARU TECHLINE
Hours of Operation

Monday – Thursday 8:30 am to 7:30 pm
Friday 10:30 am to 5 pm and Saturday 9 am to 3 pm