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01 QMR of the Month

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

Tarick Rehan from
Sheehy Subaru in Springfield, VA

Tarick created a high quality QMR using TechShare reporting on vehicle would not engage is reverse until throttle applied. Tarick's report included detailed diagnostic steps, SSM4 project file, high-quality photos, and videos.

Please refer to the following link to review the TechShare QMR in detail.

<https://subarutechshare.com/qmrs/TS-220494>

In appreciation for going the extra mile and sharing his experience with us, Tarick will be receiving the following from his District Service Quality Manager.

\$500.00 Snap-On gift card

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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

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

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, Solterra 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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Education Foundation

01 QMR of the Month (CONTINUED)

The other Regional winners selected from QMRs submitted during November 2022 were:

- **Andrea Ungaro** from **Grand Subaru**
- **Matthew Brito** from **Patrick Subaru**
- **Matthew Winkelman** from **Lithia Reno Subaru**
- **Robert Black** from **Van Bortel Subaru of Victor**

Any Subaru Technician can participate in the TechShare QMR of the Month program. See the November 2022 issue of TechTIPS for full details. You just might see your name and photo in a future issue of TechTIPS!

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 November 2022 was Senior Master Technician Tarick Rehan from Sheehy Subaru of Springfield, VA.



Pictured left to right is Sheehy Subaru Parts Director Davis Prowett, Sheehy Subaru General Manager Russ Zakeri, Sheehy Subaru’s Service Director Ben Ong, Sheehy Auto Stores Chief Financial Officer Joe Shine, Subaru of America (SOA) District Service Quality Manager Dan Rockholt, Sheehy Subaru Senior Master Technician and QMR of the Month winner Tarick Rehan, SOA District Sales Manager Andrew Raszewski, SOA District Parts/Service Manager Cory Hiken, Sheehy Auto Stores Used Vehicle Director Paul Sheehy, and Sheehy Subaru Service Manager Jonah Kabazzi. Tarick was presented with a \$500.00 Snap-On Gift Card.

Congratulations and THANK YOU to our November 2022 QMR of the Month Award recipient!

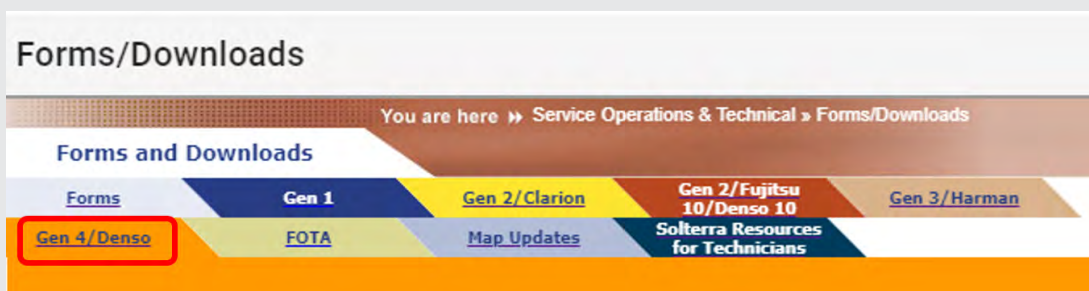
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TECH TIPS GREATEST TIPS

This series features TechTIPS articles frequently referred to by Techline. This month's feature is from February 2021.

15 CP 1.0/1.5 Software Version Verification

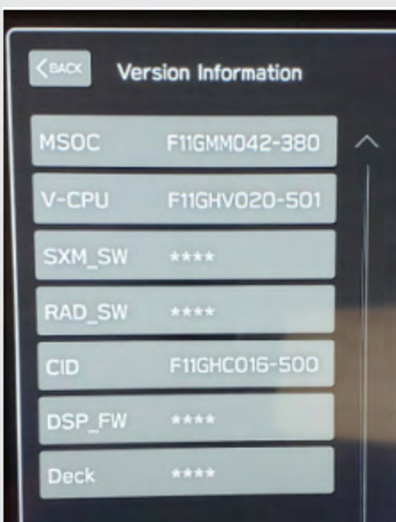
Reminder: For infotainment related concerns please always remember to review the “Forms and Downloads” Gen 4/Denso tab on Subarunet. All TSB's related to each head unit are listed on their respective tabs.



[TSB 15-259-20R](#) “Denso Gen 4 Cockpit One (CP1) Infotainment System Operating TIPS Technical Support Guide.”

[TSB 15-304-22](#) “Procedure for Techline Infotainment Concern Data Collection and Sharing via TechShare”

When confirming CP 1.0/1.5 system software version information, it is critical to allow the unit to finish the boot-up process before accessing the version information screen. Failure to allow the process to complete could result in missing version information or asterisk symbols (****) as shown below. A good practice would be to **wait a minimum of 3 minutes after the boot-up process** begins at key on for this information to load properly.



Continued on the next page

15 CP 1.0/1.5 Software Version Verification (CONTINUED)

However, this should not be confused with no “RAD_SW” version and “DSP_FW” version displayed or showing asterisk symbols (****) AFTER waiting for the system to completely boot-up. That would be a sign of a failed software update. For more details see SubaruNet announcement [“Recall WRH-20 / WRI-20 Denso Gen 4 CP1 software update. Critical points to avoiding unnecessary hardware replacement”](#) posted January 5, 2021. **Note: “Deck” version as asterisk symbols (****) is normal when a CD Player is not installed.**

07 CAN Communication Diagnosis – Where To Start?

When diagnosing a LAN system, it is important to understanding how the system works. LAN system diagnosis can get overwhelming, it is important to start with the basics. Always verify the Select Monitor and interface module/cables are in good working order, and know the type of system you are working on.

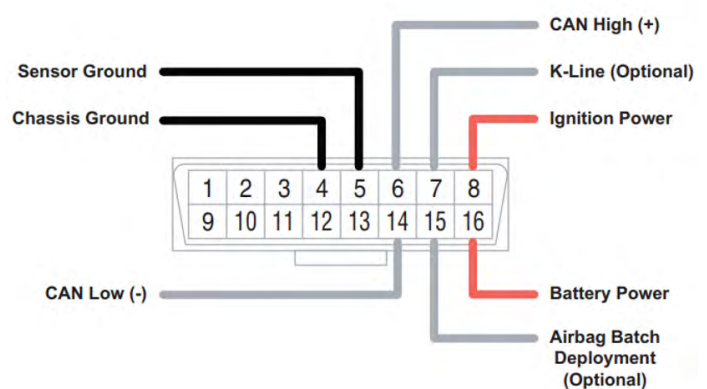
Subaru LAN Application Chart																
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Legacy/Outback														*	*	*
Tribeca																
Impreza													*	*	*	*
Crosstrek														*	*	*
WRX														*	*	*
STI														*	*	*
Forester														*	*	*
HEV Crosstrek														*	*	*
Ascent														*	*	*

	Low Speed CAN B	High Speed CAN C	K-Line	UART	LIN
Generation 1 LAN	X	X	X	X	X
Generation 2 LAN		X	X	X	X
Generation 3 LAN		X		X	X

*	Diagnostic CAN
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Begin the diagnosis with an all-DTC scan, can we communicate? If yes, what modules can we communicate with? What codes do we have and are they current? If we can communicate with all modules and have history U-codes, the issue may be intermittent and not currently present. At this point it is important to analyze what systems are setting codes and what modules they cannot communicate with. If there is an issue with the CAN system, determine which bus the fault is on. Do the codes all indicate one specific module, or multiple modules all from the same bus? If the codes are current and we cannot communicate with those indicated modules, or we cannot communicate at all, it is important to adjust your diagnosis accordingly.

If there is no communication with the vehicle at all, but the vehicle does not seem to indicate any issue (i.e.: rough running, warning lights) there may be an issue with the scan tool connecting or the data link connector circuit. Does the SSM connect with other vehicles? Do we have a good connection at the OBD port? Is the DLC circuit missing anything? Verify power and grounds. If no problems are found, inspect the CAN circuit resistance at the DLC. Do we have the correct resistance reading based on the service manual specification?



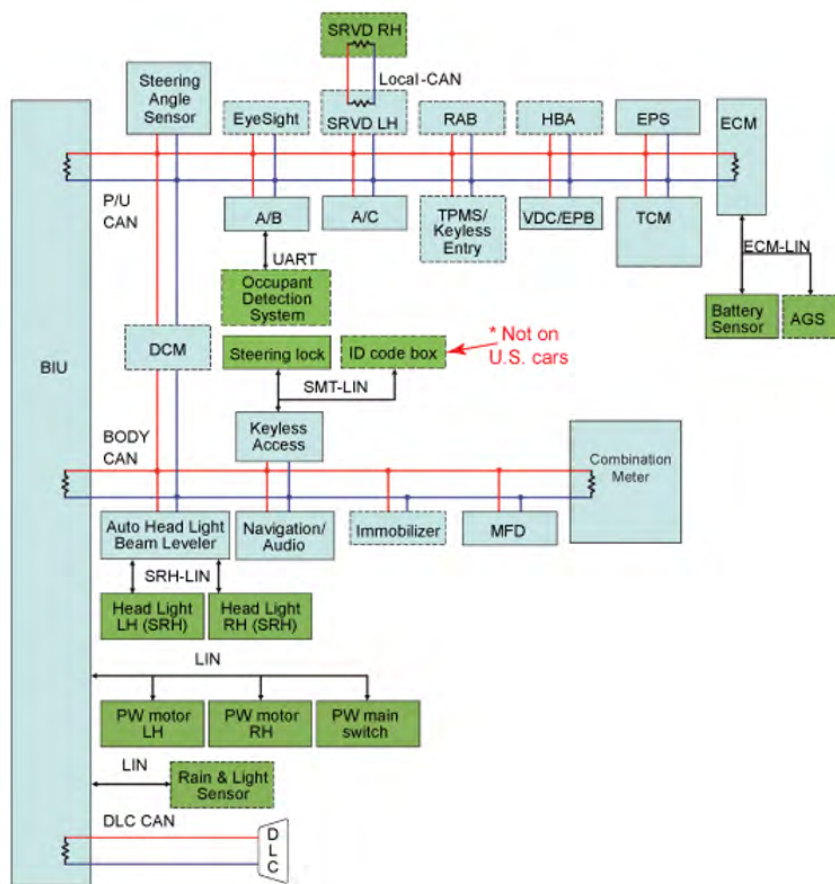
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07 CAN Communication Diagnosis – Where To Start? (CONTINUED)

Older model specifications may be 52-62 Ω (CAN C) while newer models may be 114-126 Ω (Diag CAN). Always verify what type of system you are working on. On models equipped with K-Line, this is a one wire communication, Verify no open to the next closest module, no short to ground/power. Often on a system with a faulty K-Line, aftermarket scan tools will communicate.

If no communication is possible, but there is a clear issue of system failure, inspect each bus individually. On systems with Diagnostic CAN, you will need to access the network at one of the modules on the bus. Verify the module of the connector you are using does not have a terminating resistor as this will affect your results.

Refer to the “CAN communication circuit check” found in the service manual. The all-DTC scan will tell us which modules cannot communicate with each other. Then inspect the circuit between those modules. If every module on a given bus is down, the harness could be shorted to power/ground. If the harness is ok, the issue could be a faulty module pulling the bus down. Disconnecting each module until communication with the other modules is restored is a quick check.



If communication to only one module is down, verify that module has power and ground supply and a good connection to the CAN circuit. If all tests ok, the module itself may need replacement.

Always verify no aftermarket accessories wired to the CAN system, or wiring repairs outside Subaru recommendations.

IMPREZA/CROSSTREK

TOP Index

General Description | Engine | Suspension | SYSTEM **DIAGNOSTICS** | NOTIFICATION

DIAGNOSTICS

REVERSE AUTOMATIC BRAKING (DIAGNOSTICS)

IMMOBILIZER (DIAGNOSTICS)

LAN SYSTEM (DIAGNOSTICS)
(EXCEPT FOR HEV)

Basic Diagnostic Procedure

PROCEDURE

Check List for Interview

General Description

Electrical Component Location

Control Module I/O Signal

Diagnostic Procedure for Subaru Select Monitor Communication

CAN bus check

CAN Communication Circuit Check

PROCEDURE

LIST

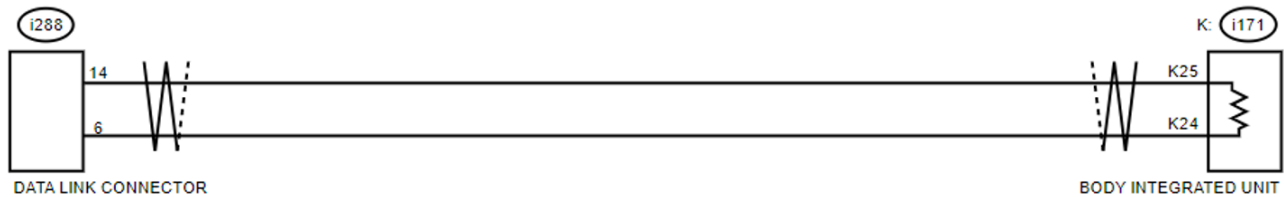
INSPECTION

Diagnostic Trouble Code (DTC)

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

Diagnostics with Phenomenon

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“The Subaru warranty manual dictates that the harnesses must be replaced if any physical damage occurs to CAN B or C wiring (Twisted pair) under warranty. Outside of the warranty period, customer pay repairs to the wiring may be performed. Industry standard repair procedures must be used. Following the procedure listed in STIS. The proper twist must be maintained and the length between CAN high and low must be maintained to ensure message synchronization.”

NOTE: Review the terminators for each CAN circuit. The DLC (Diagnostic) CAN includes one terminating resistor (120 ohms). The DLC is no longer connected in parallel to any CAN circuit. Measuring Powertrain CAN or Body CAN total circuit resistance at the DLC is no longer possible.

For more diagnostic information refer to the [Vehicle Communications Technician Reference Booklet](#) and [October 2021 TechTIP](#). The Vehicle Communications TRB is an excellent resource for understanding and diagnosing communication concerns.

When installing a new Body Integrated Unit (BIU), it is important to verify the correct steps to perform. It is always recommended to follow the Service Manual procedure on how to program and register the BIU. There could be some confusion on models that require a destination code entry. The first letter indicates the country, such as U4 = U.S., and C0 = Canada. In every case, a U.S. vehicle will require a U400 entry. If communication to the original BIU is possible, it is always recommended to use the read/write function with the SSM. **If the incorrect destination code is input, it cannot be changed back.** Please see previous TechTIPS concerning other issues and info when registering a BIU.

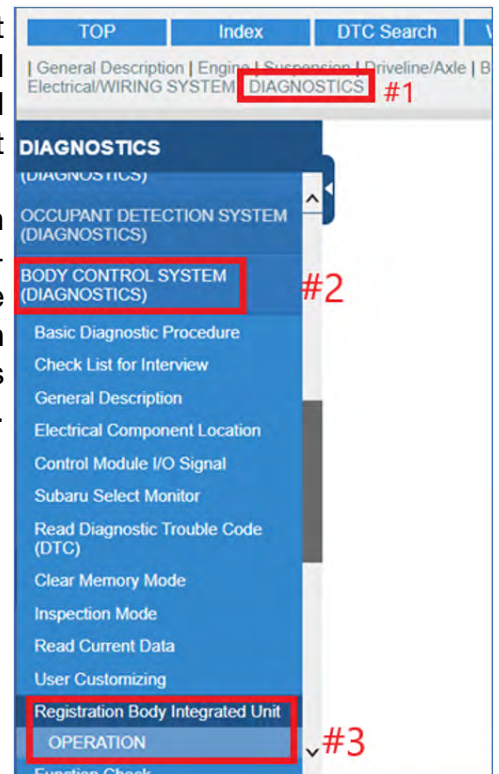
[03/05 – A-Type BIU Replacement](#)

[05/11 - Remote Trunk Release Inop After BIU Replacement](#)

[10/13 - BIU Replacement on Push-button Start Vehicles](#)

[01/15 - \(BIU\) Replacement/ Interior Lights Flashing](#)

[09/20 - Replacing B/G-Type BIU](#)



Continued on the next page

4. ENTER DESTINATION CODE.

Enter the appropriate code in the screen.

U4, U5, U6, C4 and C0, C5 (models with keyless access with push button start system): U400
C0, C5 (models without the keyless access with push button start system): C000

How to confirm when the destination code is not known.

Option code (destination code + OP code)	Application range	Destination code
U4**	Must be set for all vehicles.	U400
U5**		
U6**		
C4**		
C0**	Only models without keyless access with push button start system need settings.	C000
C5**		

It has been found that on MY20+ Legacy/Outback, the bolts to remove the seat can only be accessed with the seat position adjusted to a specific position. In a scenario where the slide motor fails and this position cannot be achieved, there is a manual adjustment that can be made to expose the bolts to remove the seat. Further information can be found by viewing QMR [TS-215498](#).

The rear in-board mounting bolt is now vertical as opposed to previous generations that were installed at an angle. As a result the seat needs to be in a forward position to access.



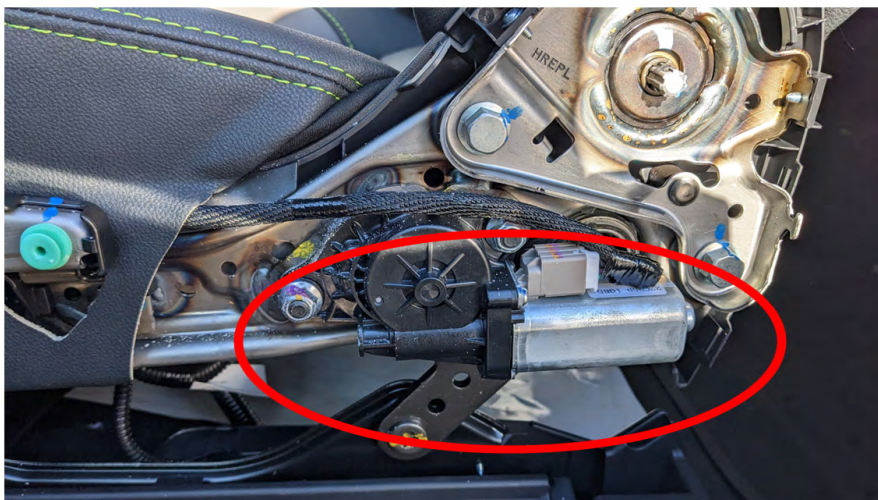
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If the slide motor is not able to be used to move the seat in the forward position, there is a T20 TORX head bolt at the front of the seat rail/frame that can be used to move the seat manually forward and back. The T20 Torx bolt for adjustment is on both the left and right hand seat rails, one bolt will move the seat forward and the opposite bolt will move the seat backward.

NOTE: This function is available on both the passenger and driver side front seats with the power seat option.



If the motor to raise and lower the seat bottom fails, there is no manual 'adjustment screw' available. The technician will need to remove the seat side cover and physically unbolt/remove the motor.



Continued on the next page

12 Accessory Catalog Update

The Accessory Replacement Catalog found on Subarunet will no longer be updated with '23+ model year vehicles.

Accessories

You are here » Parts/Service Programs & Accessories » Accessories

Accessories

Accessory Catalogs Application Charts/Pricing Performance Parts Accessory Closeout Specials Accessory Announcements

Thule Lifestyle Accessories Entertainment Anywhere Accessory Marketing Accessory Displays Accessory Spotlights/Highlights

Replacement Parts Catalog

Ascent	BRZ	Crosstrek	Forester	Impreza	Legacy	Outback	WRX
2019-2022	2022	2018-2022	2019-2022	2017-2022	2020-2022	2020-2022	2022
	2013-2020	2013-2017	2014-2018	2012-2016	2015-2019	2015-2019	2015-2021
			2009-2013	2008-2011	2010-2014	2010-2014	2012-2014
							2008-2011

Technicians often use this to find and verify parts numbers for Accessories. This information can now be found in the Snap-On parts catalog and on Subarunet “Application Charts/Pricing” tab in the location shown below:

You are here » Parts/Service Programs & Accessories » Accessories

Accessories

Accessory Catalog **Application Charts/Pricing** Performance Parts Accessory Closeout Specials Accessory Announcements

Thule Lifestyle Accessories Entertainment Anywhere Accessory Marketing Accessory Displays Accessory Spotlights/Highlights

Accessory Desking Tool - Provides a customer facing platform that displays retailer installed pricing of applicable accessories for each carline. If you have questions about these tools, please contact accessorypricing@subaru.com.

Accessory Desking Tool Links

[Accessory Desking Tool Link](#)

[Accessory Desking and Pricing Tools Announcement and Overview](#)

[User Guide - Accessory Desking Tool](#)

Accessory Pricing Tool Links

[Accessory Pricing Tool Link \(User Access Required\)](#)

[Accessory Desking and Pricing Tools Announcement and Overview](#)

[User Guide - Accessory Pricing Tool \(left menu link available to retailer executive users\)](#)

Accessory Application Charts

Ascent	BRZ	Crosstrek	Forester	Impreza	Legacy	Outback	Solterra	WRX
2023	2023	2023	2023	2023	2023	2023	2023	2023
2022	2022	2022	2022	2022	2022	2022		2022
2021		2021	2021	2021	2021	2021		2021
2020	2020	2020	2020	2020	2020	2020		2020
2019	2019	2019	2019	2019	2019	2019		2019
	2018	2018	2018	2018	2018	2018		2018

Continued on the next page



On all vehicles equipped with a CP 1.5 head unit ('23 Legacy/ Outback/Ascent) the SXM channels presets will not show the specific SXM channel logos when the vehicle is new. **This is a normal condition.**

This condition is due to the head unit not receiving any SXM signal. While the vehicle is in transport to the retailer the back-up fuse is not installed.

The head unit does not turn on or receive power until the back-up fuse is installed during the PDI procedure.

It will take 4-6 hours of the vehicle receiving SXM signal (key on, engine running) for all the SXM channel logos to appear. Do not replace any parts for this concern.

Most vehicles will not have enough run time for the SXM channel logos to appear when the vehicle is delivered to the customer. **This is a normal condition.**

The presets may not appear if the vehicle is only driven short distances or operated in an area with poor SXM signal. The vehicle does not need to be operated for 4-6 hours at one time for this to complete.

The SXM channel logos may start to appear slowly and one at a time. **This is a normal condition.**

If this concern is present **after** 6 hours of the vehicle being operated in a known good SXM signal area, please refer to **TSB 15-304-22**. Collect a data log, all other requested information and submit an Infotainment case using **Techshare**.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
15-305-22R	Technical Service Bulletin	Reprogramming File Availabilit...	24-Feb-23
WRE-23R	Subaru Product/Campaign Bulletin	Solterra Hub Bolt Torque	22-Feb-23
J501SFN230	Accessory Installation Guide	24MY Impreza Rear Seatback Pro...	22-Feb-23
J101SFN000XX	Accessory Installation Guide	2024MY Impreza and Crosstrek B...	21-Feb-23
J101SFN000XX	Accessory Installation Guide	2024MY Impreza and Crosstrek B...	21-Feb-23
J1010FN800	Accessory Installation Guide	2024MY Crosstrek Lower Door Cl...	21-Feb-23
J1010FN800	Accessory Installation Guide	2024MY Crosstrek Lower Door Cl...	21-Feb-23
F6010FN000	Accessory Installation Guide	2024MY Impreza and Crosstrek R...	21-Feb-23
SOA733A001	Accessory Installation Guide	2024MY Impreza and Crosstrek P...	21-Feb-23
J101SFN500	Accessory Installation Guide	2024MY Impreza & RS Mud Flaps	21-Feb-23
F411SFL090	Accessory Installation Guide	2024MY Impreza Rear Seat Cover...	21-Feb-23
F411SFL080	Accessory Installation Guide	2024MY Impreza Rear Seat Cover...	21-Feb-23
F411SFL070	Accessory Installation Guide	2024MY Crosstrek Rear Seat Cov...	21-Feb-23
F411SFL060	Accessory Installation Guide	2024MY Crosstrek Rear Seat Cov...	21-Feb-23
F411SFN010	Accessory Installation Guide	2024MY Impreza Front Seat Cove...	21-Feb-23
F411SFN000	Accessory Installation Guide	2024MY Crosstrek Front Seat Co...	21-Feb-23
F411SFN020	Accessory Installation Guide	2024MY Crosstrek and Impreza P...	21-Feb-23
J501SFN270	Accessory Installation Guide	2024MY Crosstrek Pet-friendly ...	21-Feb-23
E771SFN200	Accessory Installation Guide	2024MY Impreza Rear Bumper App...	21-Feb-23
E7210FN010	Accessory Installation Guide	2024MY Impreza and Crosstrek (...)	21-Feb-23
J501SFN240	Accessory Installation Guide	2024MY Crosstrek REAR SEATBACK...	21-Feb-23
J1010FN500	Accessory Installation Guide	2024MY Crosstrek (all trims ex...	21-Feb-23
SOA801P091xx	Accessory Installation Guide	2024MY Crosstrek Door Edge Gua...	21-Feb-23
F551SFN000	Accessory Installation Guide	2024MY Impreza, Crosstrek, Cro...	21-Feb-23
WRL-22R	Subaru Product/Campaign Bulletin	PTC Heater Ground Bolt	20-Feb-23
WRA-23R	Subaru Product/Campaign Bulletin	2022 MY WRX Corrected Owner's ...	20-Feb-23
09-98-22	Technical Service Bulletin	Camshaft Position Correlation ...	20-Feb-23
E771SFN000	Accessory Installation Guide	2024MY Crosstrek Rear Bumper C...	16-Feb-23
J101SFN100	Accessory Installation Guide	2024MY Crosstrek Splash Guard	16-Feb-23
J101SFN400	Accessory Installation Guide	2024MY Crosstrek (non-Wilderne...	16-Feb-23
WRB-23R	Subaru Product/Campaign Bulletin	Telematics Data Communications...	15-Feb-23
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	13-Feb-23
	Service Diagnostics	2023 WRX Service Manual V2	12-Feb-23
07-219-23	Technical Service Bulletin	Genuine Alternative Battery Re...	10-Feb-23
07-218-23	Technical Service Bulletin	Genuine Alternative Battery Re...	10-Feb-23
15-236-18R	Technical Service Bulletin	Reprogramming File Availabilit...	7-Feb-23
07-207-22R	Technical Service Bulletin	Subaru Battery Drain Product L...	3-Feb-23

All revised publications are highlighted in yellow.

Continued on the next page

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: _____