TECH TIPS

December 2019

Subaru Service and Technical Support Line Newsletter

ARTICLES CONTAINED IN THIS ISSUE

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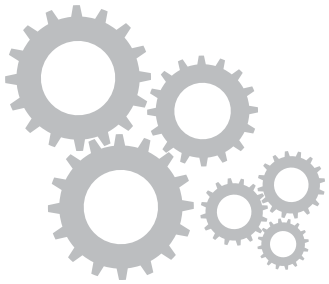
SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Holiday Break: (Closed)
Tuesday, December 24, 2019
Wednesday, December 25, 2019

New Year's Day: (Closed)
Wednesday, January 1, 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 Winner of QMR of the Month:

Perpetuo (Pete) Silan from
Farrish Subaru in Fairfax, VA.

Pete's winning QMR detailed his diagnosis and repair of an erratic multi-function display in the center of the combination meter on a new 2020 Outback Limited. Initially, he was unable to confirm the customer concern of the display blinking off and on but, after letting the car sit outside overnight, the condition was verified the following morning with the key on and engine off. Initial checks involved close inspection of the combination meter harness connections and sliding resistance checks of each related connector's individual pins which all tested fine. Pete then swapped the suspect combination meter into a known good vehicle where it operated normally. This directed him back to continue inspection of the wiring in the problem vehicle. Further testing led him to check the AD16 connector and data wire leading from the combination meter to the Cockpit Control Unit (CCU) located behind the audio unit. Although the connector was locked in place at the combination meter, it turned out to not be fully locked at the CCU. While pressing on the CCU connector, he heard a "click" sound and normal display operation was restored. After reassembly, he confirmed proper combination meter and display operation during a thorough road test. Pete outlined his step-by-step diagnostic procedure and attached quality photos along with 2 videos to document his findings.

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

A **$500.00 Snap-On gift card.**

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01 QMR OF THE MONTH (CONTINUED)

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

- **John Cote** from **Bill Kolb Jr. Subaru** in Orangeburg, NY
- **David Jodat** from **Subaru City of Milwaukee** in Milwaukee, WI
- **Richard Vens** from **AutoNation Subaru Spokane Valley** in Spokane Valley, WA
- **Damian Brzezinsk**i 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 Tech TIPS for full details. You just might see your name and photo in a future issue of Tech TIPS!

01 QMR OF THE MONTH AWARD PRESENTATIONS

As part of our "enhanced" QMR of the Month recognition program, we will be including a photo (whenever available) of the recipient's award presentation in TIPS. The winner selected from QMR of the Month submissions received during October 2019 was Pete Silan, a Technician from Farrish Subaru in Fairfax, VA.

Pete is shown above after being presented with his gift and a $500.00 Snap-On Gift Card by SOA Field Service Engineer, David Kirby. Farrish Subaru's Service Director Mike Graziano is shown to Pete's right. Congratulations and **THANK YOU** to our October 2019 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 Calling The Techline Revisited from October 2016

01 CALLING THE TECHLINE REVISITED

In order for Subaru Techline to best serve our retailers, it is necessary that the Technician meet the following criteria before dialing in for assistance. Following this guideline can help reduce call wait times, decrease comebacks, and increase customer satisfaction.

- The vehicle should be available to the Technician for testing while on the phone with the Techline representative, if appropriate.
- All associated pre-call work sheets should be completed. These are located on Subarunet under Service Operations & Technical.
- If there are DTCs, the Technician should have a documented diagnostic path with exact answers. Stating "good" or "within specification" is not acceptable when a numerical value is requested.
- Always save Freeze Frame Data (FFD) electronically before clearing any DTCs. Printing is not recommended as it can omit important information. SSM4 use is recommended.
- Always try to capture a data stream (SSM4 File) every time you are attempting to duplicate a condition. This is especially important when diagnosing intermittent issues.
- Always search STIS for common or known issues via TechTips, Service Bulletins, and Campaign Bulletins.
- When a case number is given to a Technician, it serves as a means to document vehicle issues and repairs. It does NOT give authorization to replace anything. If your diagnosis leads you to needing to replace a component and your testing results have been reviewed with the Techline Representative, it is still suggested you discuss this with your Service Manager. When in doubt about the need for an authorization, consult the Policy and Procedures manual to be sure you are following recommended procedures.
- Oil consumption issues fall within the guidelines of Technical Service Bulletin 02-157-14R do not need to be called in to the Techline unless you require assistance as stated at the bottom of the Consolidated Oil Consumption Form found on Subarunet.
- The only Authorizations the Techline can provide are for Warrantable Glass and Paint issues. They are to be submitted through the Authorization Request (AR) process also found on Subarunet.
- When you encounter a Customer complaint of a normal condition that you can verify on a comparable model, there is no need to call in for a case number to document this. If you have completed a repair successfully, there is no need to call and get a case number. It is suggested you complete and submit a QMR in these cases.

The Technical Support Line (Techline) is here to provide assistance to our retailers ONLY.

The Techline phone number should never be given to the Customer!! We can assist Authorized Subaru Retailer personnel ONLY. Customers must be directed to Customer Retailer Services (CRS) by contacting them online or by phone at:

http://www.subaru.com/customer-support.html or by calling **1-800-782-2783**.

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06 BRAKE CALIPER ASSEMBLY OIL RESIDUE

There have been reports from some retailers indicating possible brake fluid leaks from the front brake caliper area. After investigation, it was determined there was no brake fluid leaking from the brake caliper and the fluid found was residue from an assembly oil. Should you encounter this condition, clean all affected components with an appropriate parts cleaner and confirm the brake fluid level in the master cylinder reservoir. If the fluid level is full and there are no signs of any contamination or any other concerns, test drive the vehicle making several stops. After the test drive, check the brake calipers again along with the balance of the brake system for any leakage and the brake fluid level for any decrease. If there is no leakage, brake caliper replacement is not necessary.

07 MIDTRONICS DSS-5000 AND DCA-8000 TIPS AND TRICKS

Tool Information

Knowledge base sites –tips and tricks, user manuals:

- DSS-5000: https://subaru.dss5000.com/
- DCA-8000: https://subaru.dca8000.com/

Identifying Batteries

The two battery types that Subaru uses are:

- Standard flooded batteries (Flooded)
- Enhanced Flooded Batteries (EFB)

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Vehicle applications

- EFB –Stop/Start models only:
  - 2020 Legacy and Outback
  - 2019+ Forester
  - 2020 Crosstrek with CVT
  - 2014-2016 Crosstrek Hybrid (Engine Restart Battery only)
- Flooded –All others

There are additional selections of battery types in the tools that Subaru does not use (AGM, AGM Spiral, Gel)

Enhanced Flooded Batteries (EFB)

EFB batteries require different charging and testing logic:

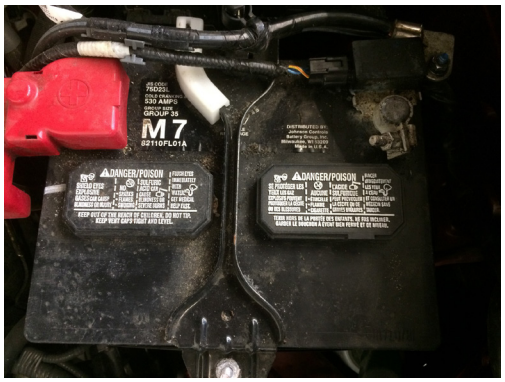
- Charging with incorrect battery type can damage the battery
- Testing with incorrect battery type can produce incorrect results

EFB battery types currently used:

- Q85 –2019+ Forester, 2020 Crosstrek with CVT
- LN2 –2020 Legacy and Outback
- 55N –2014-2016 Crosstrek Hybrid

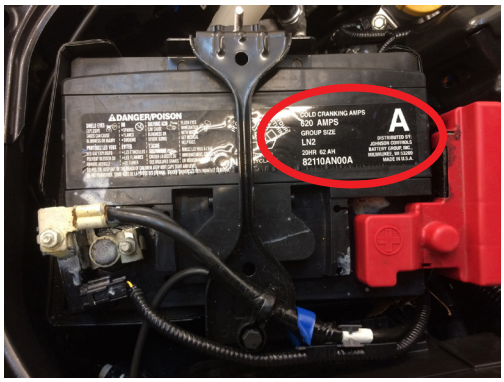
Standard Flooded Type

CCA will vary by application



LN2 type EFB

2020 Legacy and Outback



Q85 Type EFB

2019+ Forester and 2020 Crosstrek with CVT

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Connecting Testers/Chargers to the Battery

- For Best testing accuracy, ensure the vehicle has been off with the doors closed for a minimum of 60 seconds
- If the battery voltage is less than 8 volts it is recommended to use the DCA-8000
- Connect the clamps directly to the battery post/band, avoid connecting to tightening hardware
  - If a BMS (Battery Monitor Sensor) is installed, connect onto or as close to the battery post as possible
- Rock/rotate clamps to ensure a clean connection onto the battery post
- If terminal posts are corroded, the terminals must be removed and cleaned
  - It may be necessary to test the battery with the terminals removed to ensure a good test connection with the clamps

DCA-8000 Main Menu Options

- In-Vehicle Charge and Test
  - Warranty test to use when the battery is in the vehicle or when a system test is needed
- Out of Vehicle Charge
  - Non-warranty test to use when the battery is on the bench (an in-vehicle test can also be used on the bench when the VIN is entered). Will perform charge and test functions
- Manual Charge
  - Use when needing to just charge a battery
- Power Supply mode
  - Use when performing any vehicle reprogramming functions
- Jump Start
  - Use to jump start a dead battery
- After New Battery Install
  - For testing newly installed batteries in a vehicle. Also includes vehicle electronics reset information after battery installation.

DSS-5000 Main Menu Options

- In Vehicle Test: Automates battery testing for quickly testing vehicles using the fewest steps. A VIN is required and a Warranty Code is generated for all Replace Battery decisions.
- Out of Vehicle Test: For testing out-of-vehicle customer batteries for possible return.
- After New Battery Install: For testing newly installed batteries in a vehicle. Also includes vehicle electronics reset information after battery installation.
- Express Test: For quickly testing batteries in vehicles in for servicing. A VIN is optional and a Warranty Code is generated for all Replace Battery decisions (only when the VIN is entered)

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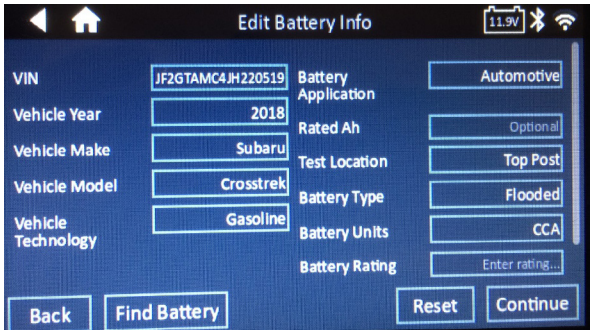
Vehicle Identification

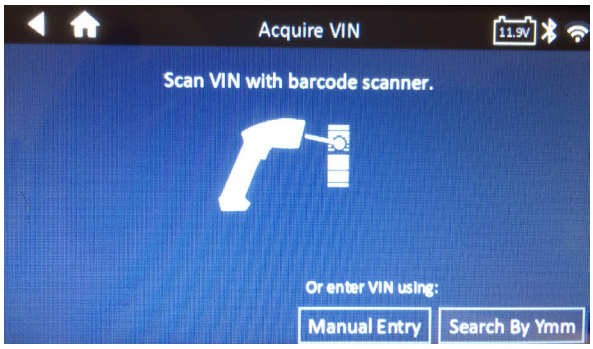
- In most cases the vehicle will be recognized when a VIN scan is performed
  - Prepopulated Fields include: VIN, Year, Make, Model, Technology, Test Location, Battery type

NOTE: the VIN schematic data follows vehicle launch so there is a period of time between start of sales and the related software update release timing so newly launched vehicle might not be recognized.



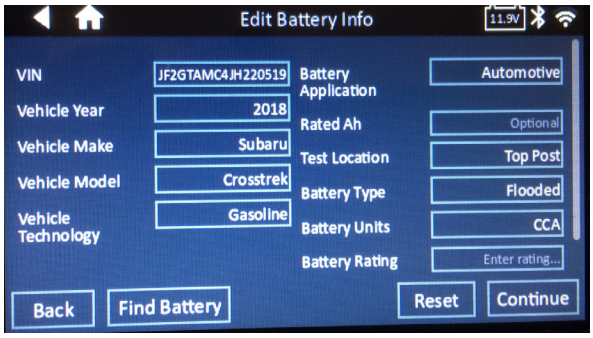
Vehicle Identification: VIN Scan

Scan the VIN –if the VIN bar code is not available use manual entry to type in the VIN.



Vehicle Identification: VIN recognized

Scan the VIN –if the VIN is recognized it will decode the VIN and pre-populate the vehicle information and battery type. The user need only to input the battery rating (Use of CCA for the Battery Units is recommended).



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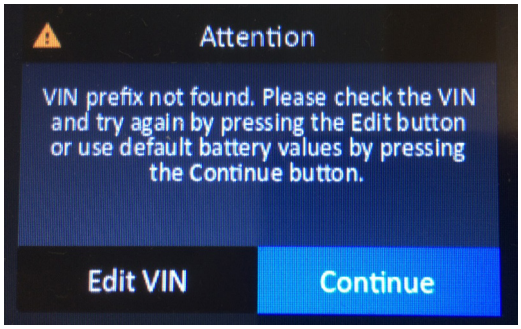
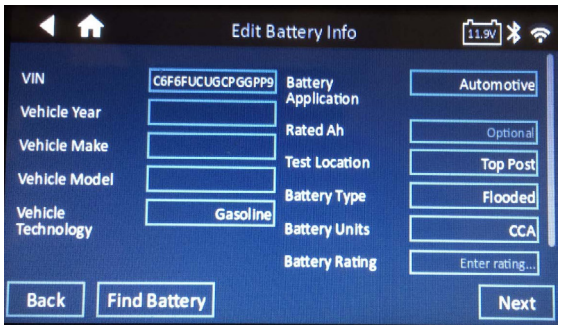
Vehicle Identification: VIN not recognized

Scan the VIN –if the VIN is not recognized it will not decode the VIN and pre-populate the vehicle information and battery type. The user may need to change the battery type (defaults to flooded) and input the battery rating (Use of CCA for the Battery Units is recommended) to complete the test.

NOTE: the VIN will be captured and recorded in BMIS for future reference and traceability.





Discharged Battery Testing in General

Effective testing and diagnosis of a customer complaint of battery discharge/ dead battery starts with a thorough customer interview.

It's critical to understand how and when the condition was first recognized by the customer, events prior to that time, and how the condition was addressed when found.

As examples the following questions may provide needed insights to help avoid subsequent failure or may explain the batteries current condition.

- When was the condition identified? At first start in the morning or after driving?
- How long had the vehicle been parked prior to this time?
- How was the vehicle used just prior to or after being parked?
- When the condition was found, how was it addressed? Was the car jump started? How?
- What are the customers normal driving habits? Is the car driven daily? What sort of distances each trip?

Additionally as part of any diagnosis of a discharged battery if a root cause for the condition is not identified (i.e. map lamp left on or similar), it is critical to ensure no condition exists vehicle side that could result in a future discharged battery.

This includes the completion of a correctly performed parasitic / dark current draw test based on the information supplied by the customer.

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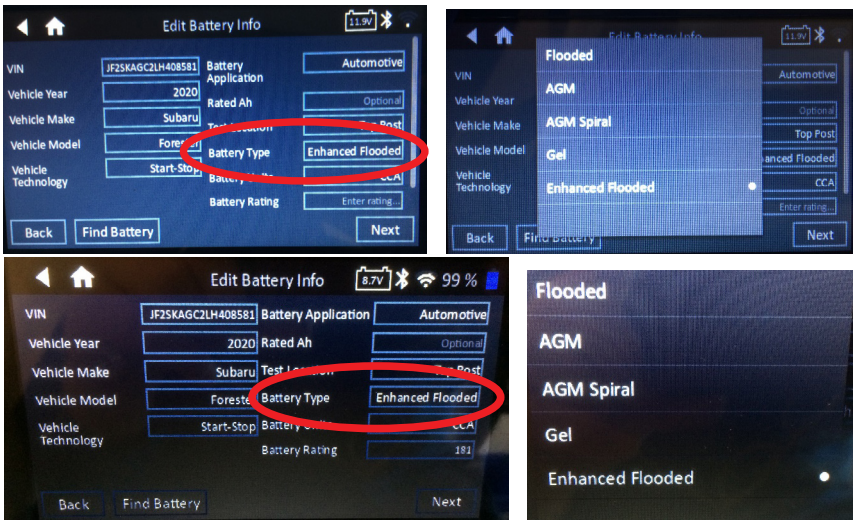
Testing / Charging EFB Batteries

Always check that the battery type is EFB.

- DCA-8000 and DSS-5000 shown.



Recovering EFB batteries

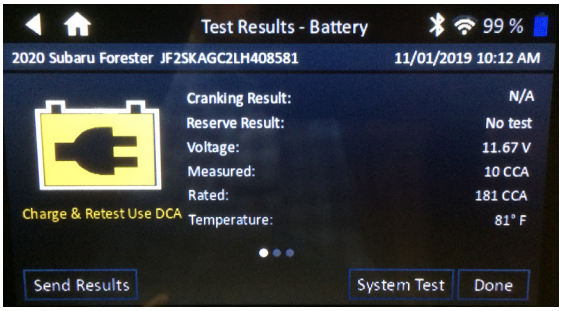
If an EFB battery has an insufficient charge to start the vehicle.

- Before testing, use a Manual Charge to bring some life back into the battery.
  - Be sure to select EFB type battery.
  - A thirty minute charge will generally be sufficient.
  - Make sure to give the battery a rest period between manual charge and testing.
- Once the battery has a sufficient amount of charge, continue with either an In-Vehicle Test and Charge or an Out of Vehicle Charge.
- Note: It can take hours to complete a full charge procedure on a low battery.

Test Result: Charge and Retest Use DCA

If the DSS-5000 returns the result of “Charge and Retest Use DCA”.

- ***DO NOT*** keep repeating the test with the DSS-5000
- Use the DCA-8000



Replacing a battery

- Do not replace an EFB battery with a flooded battery. Use only the battery specified for the vehicle.
- When testing a new replacement battery, use the After New Battery Install function in either the DSS-5000 or the DCA-8000 to perform the test.

Best Practice: VIN tagging the battery

If the battery is removed from the car for testing or replacement, place a bar code sticker of the VIN on the battery if it is available. If the sticker is not available, a piece of masking tape with the last 8 digits of the VIN written on it will suffice.

- This provides traceability for the battery and any tests or charging performed.

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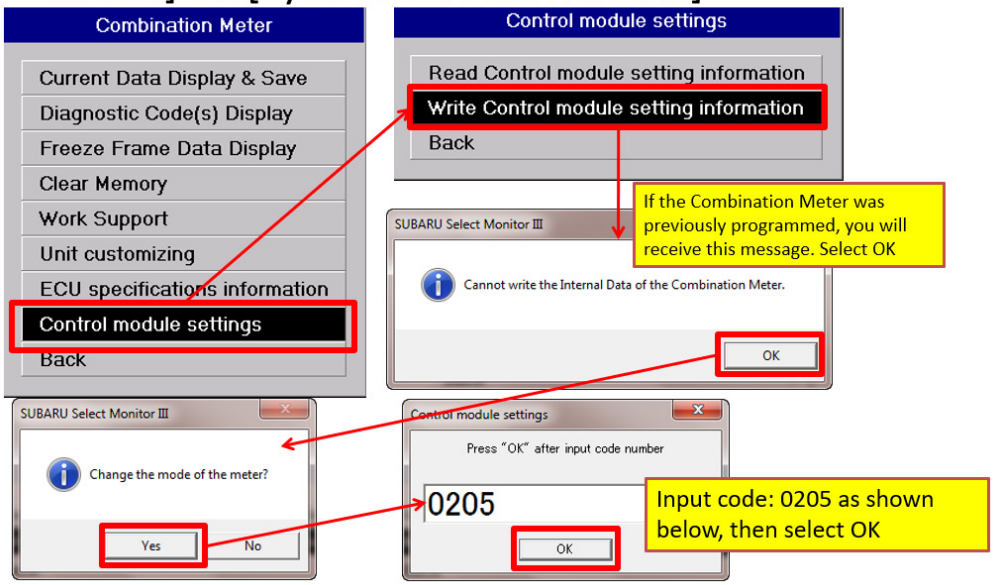
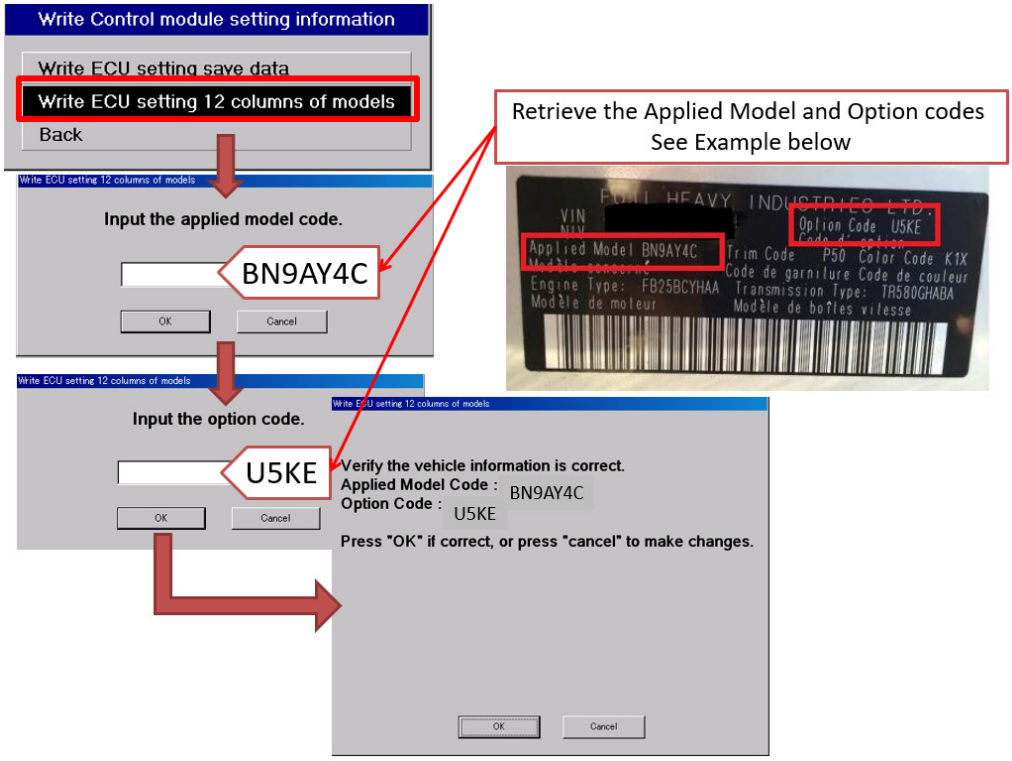
08 INPUT CODE FOR COMBINATION METER MODE CHANGE

The Techline continues to receive calls from Technician's regarding a special "input code" when attempting Variant Work Procedure B on Combination Meters. This concern can occur if the applied model or option code is input incorrectly. Side effects could include malfunction indicator lamps and false DTCs. If you encounter this condition, follow the instructions below to repair the vehicle.

- Connect SSM and then select [Each System Check] on [Main Menu]. Select [Combination meter] on [System Selection Menu]





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15 2020MY LEGACY AND OUTBACK, DTC U0254

It is possible for DTC U0254 to be stored as a history DTC when performing an all systems DTC check on vehicles equipped with the Genuine Subaru accessory Remote Engine Starter (RES) p.n. H001SAN000 or H001SAN100.

The software interface between the Central gateway CM and RES control module is the source of the DTC. Although the DTC appears during a diagnostic check, it has NO effect on the operation of the RES or the vehicle.

If the RES accessory is operating normally, DTC U0254 by itself can be ignored. If the DTC is cleared, it will likely reset under normal operation. An investigation is currently underway to address the cause of this DTC. In the meantime, the accessory can continue to be installed and used normally.

If U0254 is set without any other DTCs present and there is a current concern with the operation of the remote engine starter accessory, refer to the applicable Service Manual for the related diagnosis.

00 STIS NEW RELEASES

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
15-234-18R	Technical Service Bulletin	2019 Audio/Navigation & Power ...	20-Dec-19
15-214-17R	Technical Service Bulletin	2018 Audio/Navigation Exchange...	20-Dec-19
15-190-15R	Technical Service Bulletin	2016 Audio/Navigation Exchange...	20-Dec-19
15-249-19R	Technical Service Bulletin	2020 Audio/Navigation & Power ...	20-Dec-19
15-204-16R	Technical Service Bulletin	2017 Audio/Navigation Exchange...	20-Dec-19
H461SXC101	Accessory Installation Guide	PORT INSTALLATION: 2019-20MY A...	19-Dec-19
H461SXC101	Accessory Installation Guide	PORT INSTALLATION: 2019-20MY F...	19-Dec-19
WUW-08R	Subaru Product/Campaign Bulletin	PCV Valve- Design Change	17-Dec-19
12-277-19	Technical Service Bulletin	A-Pillar Trim Cover- Design Ch...	13-Dec-19
10-96-19	Technical Service Bulletin	HVAC Blower Fan Inoperative	13-Dec-19
WUH-93R	Subaru Product/Campaign Bulletin	Front Duct Panel Spot Weld	13-Dec-19
WUU-06R	Subaru Product/Campaign Bulletin	ECM Reprogramming for DTC C142...	13-Dec-19
WUM-98R	Subaru Product/Campaign Bulletin	Occupant Detection Wiring Harn...	13-Dec-19
12-276-19	Technical Service Bulletin	Fog Light Covers- Design Chang...	12-Dec-19
05-72-19	Technical Service Bulletin	Squeak / Creaking Sound from R...	10-Dec-19
12-275-19	Technical Service Bulletin	Leather Front Seat Cushion Cov...	9-Dec-19
16-126-19	Technical Service Bulletin	Select Lever Grip- Design Chan...	9-Dec-19
15-208-17R	Technical Service Bulletin	Availability of “Gracenote® Me...	9-Dec-19
H630SAN100	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	6-Dec-19
J1210SJ500	Accessory Installation Guide	STI Door Handle Cup Protector	5-Dec-19

All revised publications are highlighted in yellow.

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ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
WUP-01R	Subaru Product/Campaign Bulletin	PCV Valve- Design Change	5-Dec-19
SOA567B011	Accessory Installation Guide	Thule Bike Carrier – Fork Moun...	5-Dec-19
L101SXC003	Accessory Installation Guide	PORT INSTALLATION: 2019-20MY A...	5-Dec-19
07-163-19	Technical Service Bulletin	Airbag Control Module- Replace...	5-Dec-19
WUV-07	Subaru Product/Campaign Bulletin	CVT Chain Slip	5-Dec-19
WUK-96	Subaru Product/Campaign Bulletin	DIT Exhaust Pipe Front (EPF) N...	5-Dec-19
H630SFL002	Accessory Installation Guide	PORT INSTALLATION: 2019-20MY C...	5-Dec-19
SS_OTA_Navi_3.1	Owner Manual	Over the Air Software Updates ...	4-Dec-19
SS_OTA_Mid_3.1	Owner Manual	Over the Air Software Updates	4-Dec-19
SS_OTA_Mid_3.0	Owner Manual	Over the Air Software Updates	4-Dec-19
SS_OTA_Navi_3.0	Owner Manual	Over the Air Software Updates ...	4-Dec-19
15-258-19	Technical Service Bulletin	2020MY Legacy and Outback	3-Dec-19
E771SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	3-Dec-19
02-184-19	Technical Service Bulletin	Intake Duct Bolt Tightening / ...	3-Dec-19
H501SSG203	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	3-Dec-19
	Service Diagnostics	2020 WRX/STI Service Manual (S...	3-Dec-19
G1747BE	Service Manual	2020 WRX/STI Service Manual (S...	3-Dec-19
U1747BE	Service Manual	2020 WRX/STI New Car Informati...	3-Dec-19
WUQ-02R	Subaru Product/Campaign Bulletin	Ignition Coil Short Circuit	2-Dec-19

All revised publications are highlighted in yellow.

*** 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: _____

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