TECH TIPS

Subaru Service and Technical Support Line Newsletter

October 2021

Articles Contained in this Issue

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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Thanksgiving: (Closed)
Thursday, November 25, 2021

Day After Thanksgiving: (10:30AM - 3:30PM)
Friday, November 26, 2021

Holiday Break: (Closed)
Friday, December 24, 2021
Saturday, December 25, 2021
Monday, December 27, 2021
Friday, December 31, 2021
Saturday, January 1, 2022

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

01 QMR of the Month

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

John Cote from
Bill Kolb Jr. Subaru in Orangeburg, NY

The QMR of the Month selected from August's submissions detailed the diagnosis and repair of a recurring DTC B281E related to the Reverse Automatic Braking (RAB) system on a 2018MY Impreza. After confirming the RAB warning lamp operation and connecting the SSM, he was unable to communicate with the RAB system and found no other DTCs present. Another Technician had already replaced the RAB control module on a prior visit but unfortunately, the condition returned shortly thereafter. After John confirmed all the related power and ground wiring was in order, he turned his attention to the CAN system. By split-halfing the CAN harness between the EyeSight stereo camera and the RAB module, he was able to duplicate fluctuations in the resistance readings when wiggle-testing the R180 CAN joint connector. John replaced the left (driver) side body harness and after checking his resistances again post-repair, normal values were restored along with communication between the RAB module and EyeSight stereo camera. The DTC cleared normally with no recurrence during his road testing. John's report outlined the diagnostic steps used, his test results and included a video of his DVOM while testing the affected joint connector.

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

$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 August 2021 were:

- **David Derks** from **Groove Subaru** in Englewood, CO
- **Charles Johnston** from **Macon Subaru** in Macon, GA
- **Nick Leuck** from **Bob Rohrman Subaru** in Lafayette, IN
- **Cory Scothon** from **Patriot Subaru of North Attleboro** in North Attleboro, MA

Any Subaru Technician can participate in the QMR of the Month program. See the February 2013 and January 2016 issues of Tech TIPS for full details. You just might see your name and photo in a future issue of Tech TIPS!

01 QMR of the Month Award Presentations

As part of our "enhanced" QMR of the Month recognition program, we will include a photo (whenever available) of the recipient's award presentation in TIPS. The winner selected from QMR of the Month submissions received during August 2021 was John Cote, a Technician from Bill Kolb Jr. Subaru in Orangeburg, NY.

John is shown above (left/center) after being presented with his $500.00 Snap-On Gift Card. Also pictured (left to right) are Subaru Distributors Corp. Field Service Engineer Jim Colamarino, Bill Kolb Jr. Subaru's Service Director Joe Minns and Service Manager, Jessica Rolon. Congratulations and THANK YOU to our August 2021 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 October 2020.

01 CPO Procedure for Turbocharged Subaru Vehicles

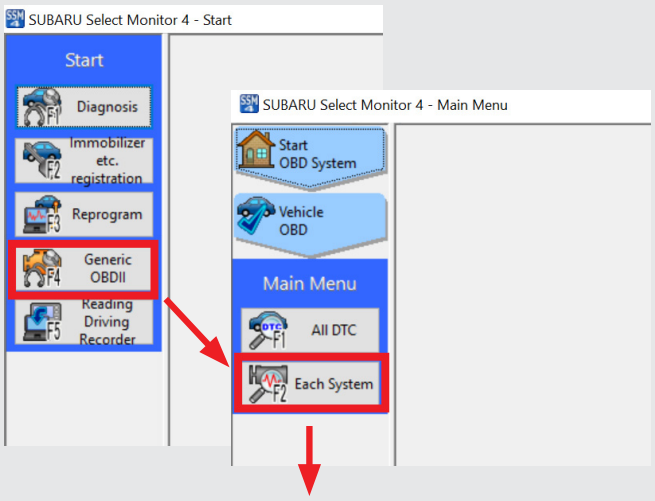
Techline has observed a surge in Certified Pre-Owned (CPO) submissions with the increased number of turbocharged engines across multiple platforms. As part of the CPO program, turbocharged vehicles require the Calibration Identification/ Calibration Verification Numbers (CID/ CVN) to be checked before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

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

#1 Vehicle Information Acquisition Screen

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

SSM4 instruction on obtaining the acquisition screen.



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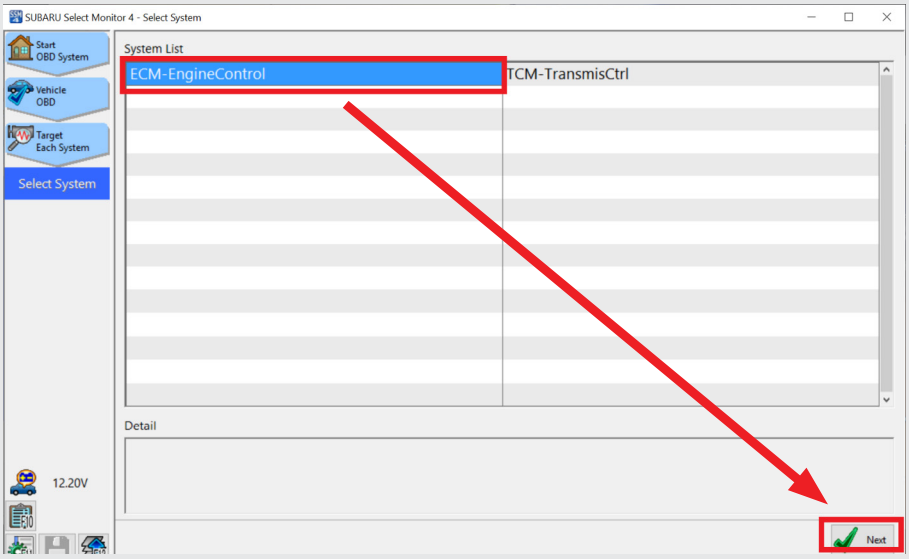

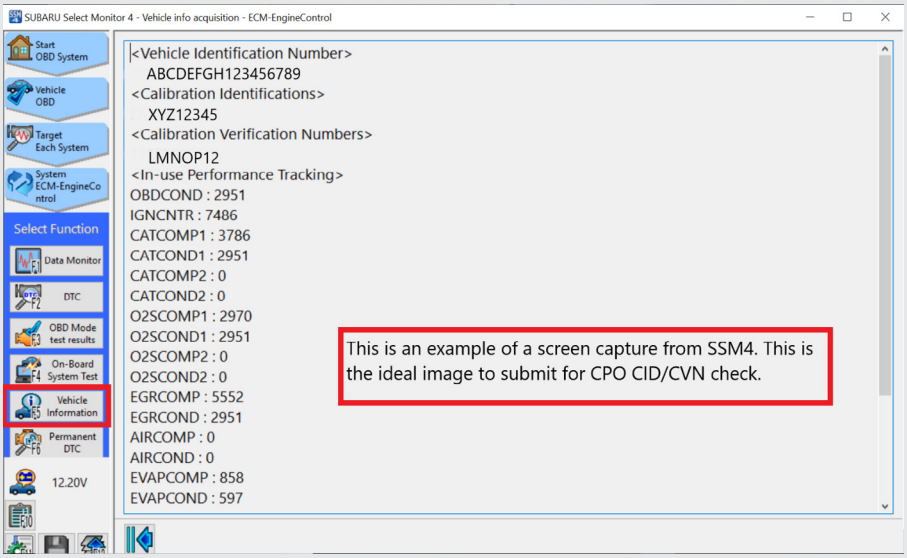

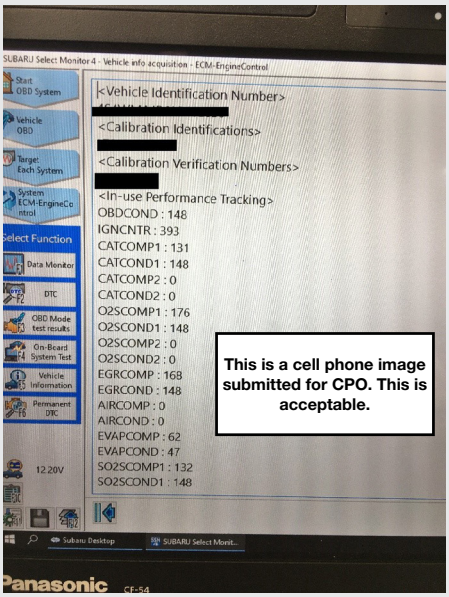

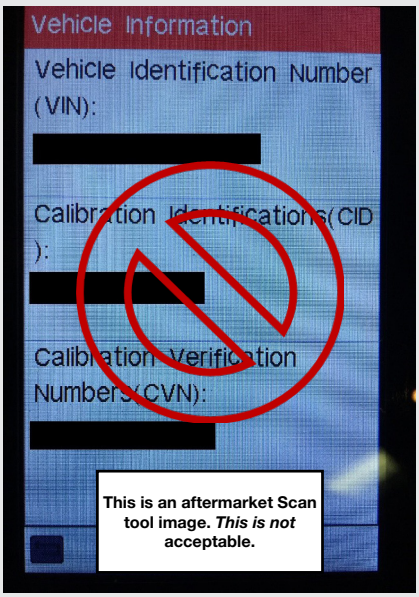

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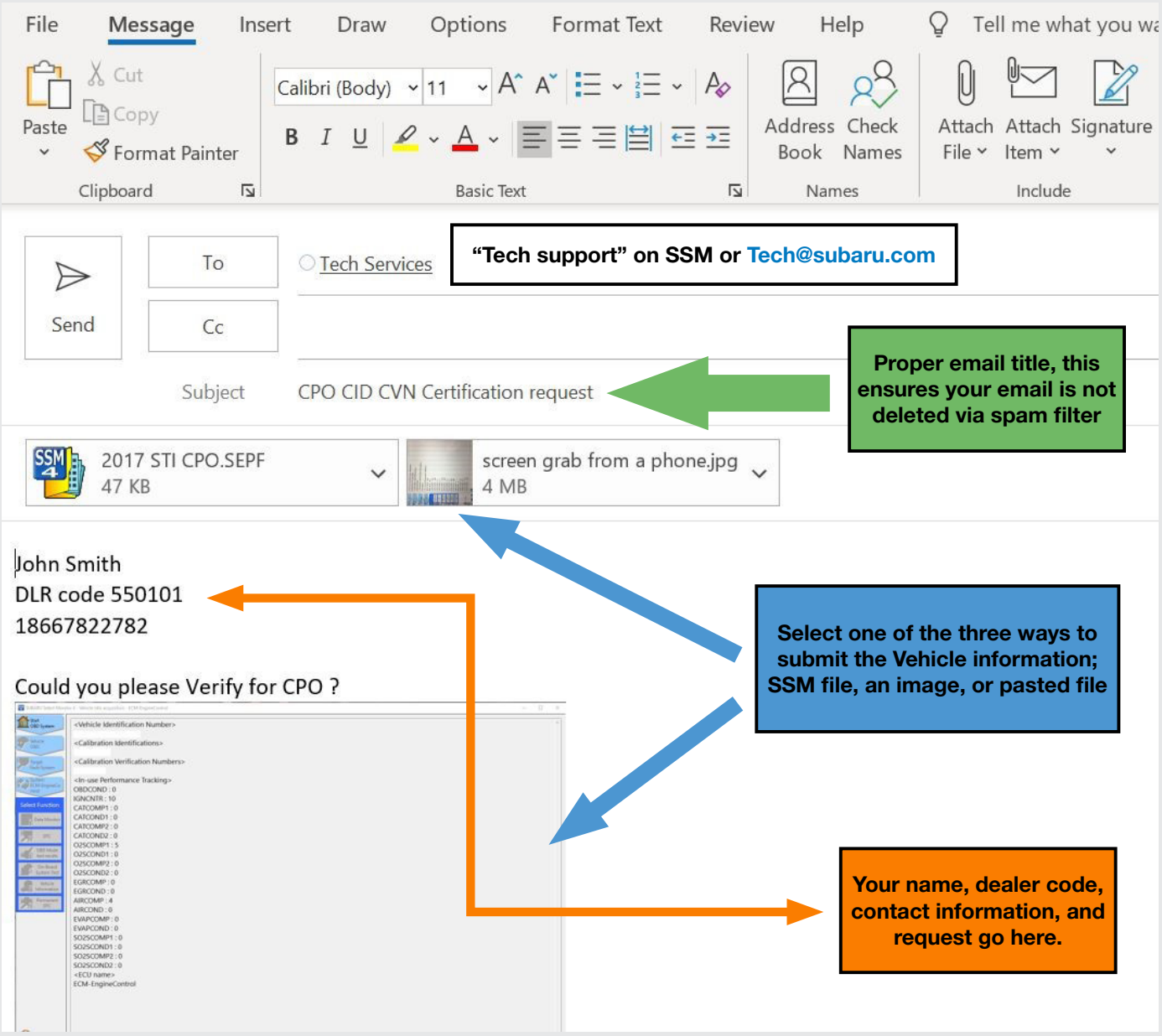
#2 Email submission instructions

Submitting a CPO CID/CVN request is just like calling Techline. A case needs to be opened with credible information. This information includes: your full name, retailer code, and a contact phone number. A confirmation e-mail will always be received by the account the request was submitted from. Always submit a CPO request from an email accessible account which is checked regularly. The email address to submit the CPO request is Tech@subaru.com. When following the Send-SSM4 document instructions on Subarunet, it is displayed as “tech support”. Below is an example of properly submitted email.



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When a vehicle presents U-0XXX diagnostic trouble codes, there are several potential causes for the fault. Such faults have been attributed to soft connections, poor pin fitment, damaged wiring harnesses and failed control modules. These issues may also be caused by outside influence. A visual inspection of the vehicle for aftermarket devices and a customer interview should always be performed prior to diagnosis.

After the vehicle has been inspected for physical damage or aftermarket devices, the Technician should perform a full system DTC scan. When reviewing the scan, look for common trends of modules not reporting, similar DTCs set across multiple systems, as well as faults indicating a possible voltage concern. When a P/C/B code is present related to voltage, it is possible low or no voltage could be the root cause for the lack of communication. Power and ground checks should be performed to the corresponding control modules affected prior to local area network testing. Once power and ground have been confirmed, the Technician should check for correlations between modules, i.e., who is reporting a problem or lack of communication. When a U-code occurs in more than one module, it can provide direction for where the fault may have occurred. Being able to identify this will help aid with diagnosis. Below is an example of a system scan and several U-codes.

System	Status	Code	Description & trouble part	Time stamp			IG c...	FFD
				Trip ...	Time Co...	Gro...		
				00285	475800	Cur...		
Engine	History	U0151	Lost Communication With Restraints Control Module	00212	2600	Com...		
Transmis...	History	P1603	Engine Stall History	00136	5100	Com...		
Brake Co...	No DTC		Note that the green arrow indicates the system that is reporting the fault. Common faults should be used to identify connectors and jucntions that are shared by modules that are reporting a lack of communication.					
Tire Pres...	No DTC							
Body Co...	No DTC		The trip count (red arrow) when a fault has occurred and can help eliminate old or unrelated faults.					
Airbag	History	U0100	Lost Communication With ECM/PCM "A"	00212	2900	Orig...		
Airbag	History	U0101	Lost Communication With TCM	00212	2900	Orig...		
Airbag	History	U0122	Lost Communication With Vehicle Dynamics Control Module	00212	2900	Orig...		
Airbag	History	U0128	Lost Communication With Park Brake Control Module	00212	2900	Orig...		
Airbag	History	U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module	00212	2900	Orig...		
Airbag	History	U0140	Lost Communication With Body Control Module	00212	2900	Orig...		
Power St...	History	U0100	Lost Communication With ECM/PCM "A"	00212	2700	Orig...		
Power St...	History	U0122	Lost Communication With Vehicle Dynamics Control Module					
Power St...	History	U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module					
Steering ...	No communication							

Sometimes it may be difficult to determine if a U-code is the root or the result of a problem. Freeze frame data, trip counts, and time stamps may be used to determine which faults happened first. This can also be useful in ruling out stored faults in the system but have not happened recently.

The Technician should refer to the wiring diagram whenever there is a lack of communication. The electrical path should be established between the module not reporting and each module that is reporting the lack of communication. Common connectors and junctions should be inspected for pin fitment and soft connections. Next, using a DVOM, circuits should be isolated and checked for high resistance, short circuits, and open circuits while performing wiggle testing.

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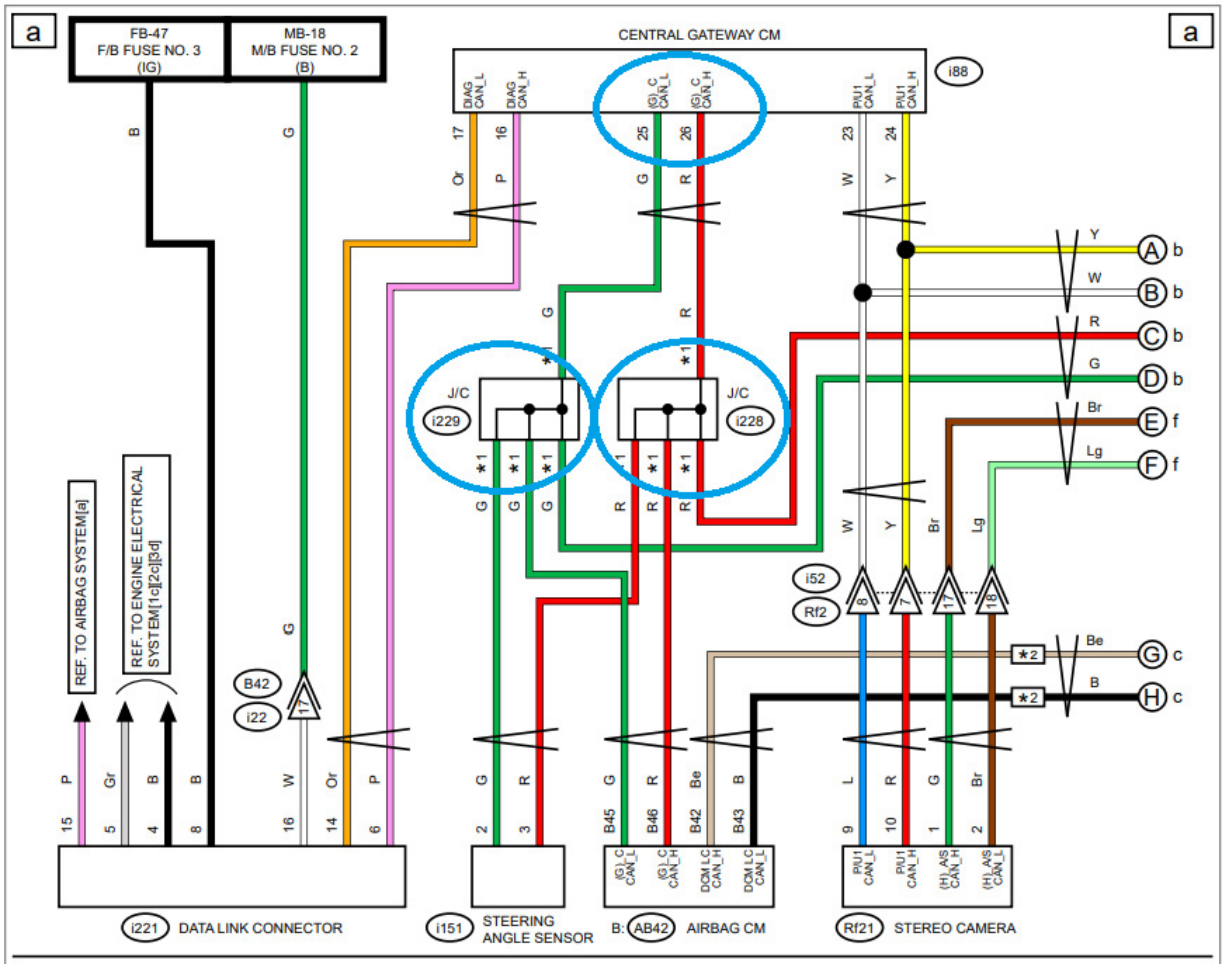
Here is another example:

DTC CODE	ECU DESCRIPTION	CURRENT FLAG
U0127	Meter	Y
U0151	Meter	Y
U0126	EyeSight	Y
U0151	EGI	Y
U0126	CGW	Y
U1128	CGW	Y
U0127	CGW	Y
U0131	CGW	Y
U0151	CGW	Y
P0000	VDC	N
P0000	TCU	N

UO127 is common in the meter, and gateway.
UO151 is common in the meter, EGI, and gateway.
UO126 is common in the eyesight and gateway.
UO131 and UO128 are only found in the gateway.

Referring to the wiring diagram it is determined that the only section of wires that these faults have in common are the connector i88 at the gateway, j/c i228, and i229. These points should be inspected while performing resistanc checks



NOTE: DO NOT CLEAR codes to see what returns. If the problem is intermittent, the codes may not return resulting in diagnosis coming to a halt.

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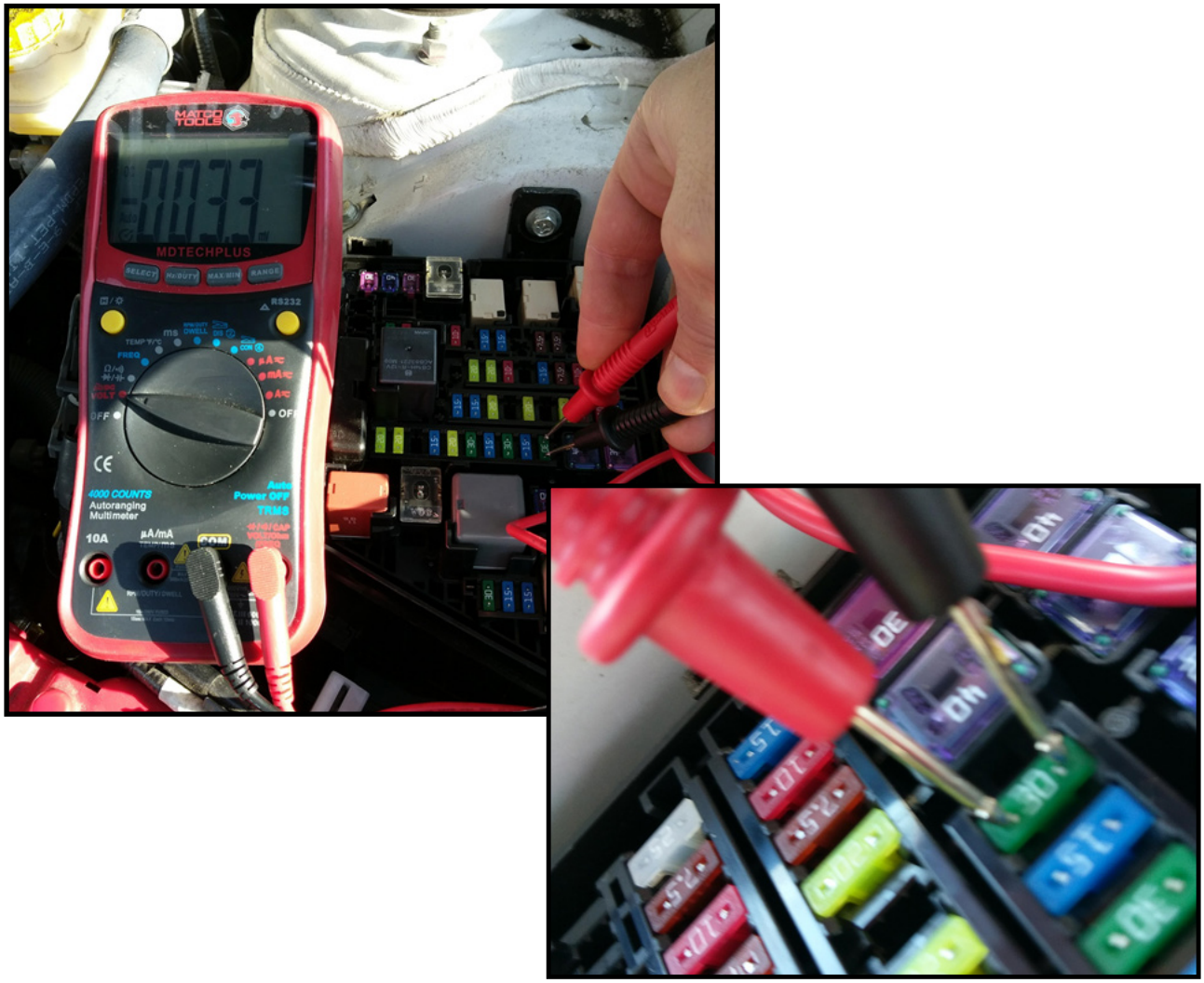
07 Parasitic Draw Testing, A Different Approach

When checking for a parasitic draw, the Technician should be careful and mindful not to wake control modules in the vehicle. This is critical for an accurate diagnosis. Modules may be “awakened” if fuses are pulled and replaced when using an old-style diagnostic method. A more efficient way is to inspect the voltage present across each individual fuse when the parasitic draw is present. The Technician should prepare the vehicle by disabling any door, hood or trunk latch that may need to be opened during the diagnosis. Whenever possible, it is best to have two devices to help diagnose a draw: an amp clamp or a DVOM installed in series with the battery should be used to detect the draw and confirm the draw is present while testing. A second DVOM can be used to test for current flow across the top of a fuse. Place your DVOM into the **mV** setting and check across the top of each fuse individually. Note the measurement and location of the current flow. A millivolt to milliamp conversion chart may be used to get an accurate determination of how much current is passing through a fuse. Refer to the conversion chart for the specific diagnostic tool being used for the most accurate results. If the Technician does not have a conversion chart, the same measurement can be made by setting the meter to **mA**. However, the measurement will not show the actual current draw. The Technician would have to inspect the circuits with the highest **mA** readings. When the source of the draw is found, the Technician should reference the appropriate wiring diagram to individually inspect modules or components without disturbing the integrity of the rest of the circuit.



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15 Auto Start Stop inoperative or Automatically Disabled at Engine On

When faced with a customer concern of the Auto Start Stop system not operating or becoming automatically disabled after engine start, check for an aftermarket equipped Auto Stop Eliminator (ASE).

The following is an inspection procedure to check for for checking the presence of Auto Stop Eliminator using the CP1 CID control.

- Turn off Auto Stop once and turn off the engine.
- Start the engine
- Confirm Auto Stop light is Green (see below) and stays Green. This is normal operation.

If the system is equipped with an Eliminator, the light will be Green for a moment and then turn off.

If an Eliminator is suspected to be installed according to the above procedure, an inspection of the EyeSight Camera harness will be necessary. Check to see if there are any extra/unnecessary harnesses around the eyesight connectors with the eyesight camera cover removed.

17 SRS Air Bag, Rear Seatbelt Chimes

Techline has had an influx of calls pertaining to the rear seat belt chime activation on 2020 model year and newer vehicles. If the occupancy detection system (ODS) detects an object on the rear seat and the rear seat belt is not buckled, there will be an audible chime. There is no way to deactivate the rear seat belt chimes other than to buckle the rear seat belt. At this time, the vehicle software logic will not allow this feature to be disabled. Customers should be advised to keep the seat belt buckled when there are child seats installed and to stow other items in the cargo area.

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00 STIS New Releases

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
H630SXC001	Accessory Installation Guide	PORT INSTALLATION: Ascent Rock...	28-Oct-21
15-251-19R	Technical Service Bulletin	DTC B2A16	28-Oct-21
16-103-16R	Technical Service Bulletin	Transmission Fluid Seepage	27-Oct-21
12-228-21	Technical Service Bulletin	Front Seat(s) / Squeaking Soun...	27-Oct-21
J501SAN230	Accessory Installation Guide	PORT INSTALLATION: 2020-2022MY...	25-Oct-21
C1010CC000	Accessory Installation Guide	PORT INSTALLATION: 2022MY BRZ ...	25-Oct-21
J501SAN222	Accessory Installation Guide	PORT INSTALLATION: 2021-2022MY...	25-Oct-21
12-227-21	Technical Service Bulletin	Wiper Blade Cleaning Procedure	20-Oct-21
16-112-18R	Technical Service Bulletin	Ignition Key Sticking / Design...	19-Oct-21
WRG-21R	Subaru Product/Campaign Bulletin	Fuel Pump Impeller Failure	19-Oct-21
16-102-16R	Technical Service Bulletin	DTC P0841 Diagnostics	15-Oct-21
15-270-20R	Technical Service Bulletin	2020 Outback & Legacy FOTA (Fi...	15-Oct-21
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	15-Oct-21
J201SAN600	Accessory Installation Guide	2020-21MY Legacy/ Outback and ...	15-Oct-21
12-313-21	Technical Service Bulletin	Rear Door Weatherstrip - Desig...	13-Oct-21
WUW-08R	Subaru Product/Campaign Bulletin	PCV Valve- Design Change	13-Oct-21
F551SVC000	Accessory Installation Guide	2022MY WRX Cargo Net	12-Oct-21
15-287-21	Technical Service Bulletin	Accessory Remote Engine Start ...	8-Oct-21
02-188-21	Technical Service Bulletin	Timing Chain / Camshaft Sprock...	7-Oct-21
H001SVC000	Accessory Installation Guide	2022MY WRX Long Range Push Sta...	7-Oct-21
H001SVC100	Accessory Installation Guide	2022MY WRX Long Range Key Star...	7-Oct-21
15-258-19R	Technical Service Bulletin	DTC U0254	1-Oct-21

All revised publications are highlighted in yellow.

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***** 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: _____

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