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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

01 QMR of the Month

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

Jeremy De Groodt from
Capitol Subaru in San Jose, CA

Jeremy created a high quality QMR using TechShare reporting on customer's concern of driver power seat memory will not save. Jeremy's report included detailed diagnostic steps and high-quality photos/ video.

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

<https://subarutechshare.com/qmrs/TS-216969>

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

\$500.00 Snap-On gift card

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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.



QUALITY DRIVEN® SERVICE



Education Foundation

01 QMR of the Month (CONTINUED)

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

- **Carter Bibb** from **Green Subaru**
- **Christopher Taper** from **Subaru of South Hills**
- **Nathan Pelletier** from **Quirk Works Subaru**
- **Nicholas Limoncelli** from **Empire Subaru of Huntington**

Any Subaru Technician can participate in the TechShare 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 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 October 2022 was 4-Time QMR of the Month Winner Jeremy DeGroodt, a Master Technician at Capitol Subaru in San Jose, CA.



Jeremy is shown above (left center) after being presented with his \$500.00 Snap-On Gift Card. To his right are Subaru of America, Inc. District Parts Service Manager Julia Davis and Subaru of America, Inc. District Service Quality Manager Alan Wolfe. To Jeremy's left is Capitol Subaru's General Manager Jon Godinez, Capitol Subaru's Service Director Miguel Villa, and Capitol Subaru's Service Manager Tony Tran.

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

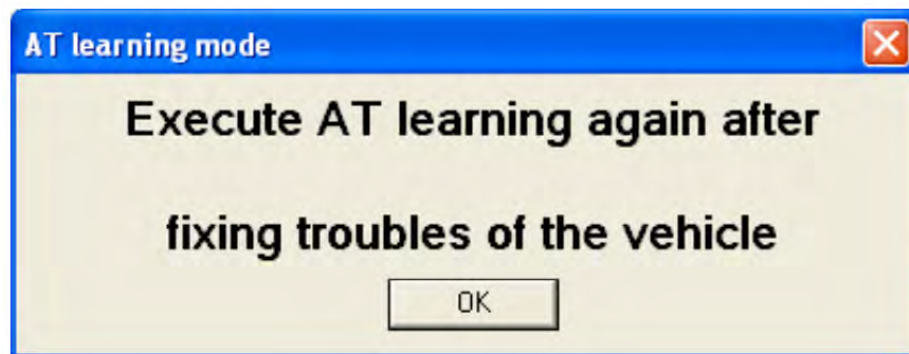
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There have been several reports brought to the attention of Techline involving the Learning Control process aborting and being accompanied by the message “AT learning ended abnormally”. When Technicians encounter this error, referring to the applicable Service Manual to verify the procedure should be the first step to determine the root cause. Another source of information pertaining to this can be found under the Help tab in the Subaru Select Monitor.

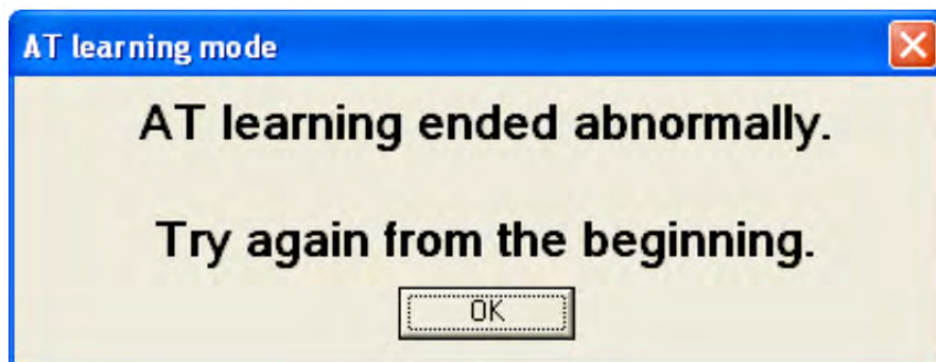
The pictures below show the two different error messages you can receive during the AT Learning Control process. Each has a different diagnostic approach. It is important to note where in the learning procedure, the process ends.

An AT learning for the transmission should be completed when the following work is performed:

- Replacement of TCM
- Replacement or disassembly of transmission assembly
- Replacement of control valve body
- Performing “Clear Memories 2”



The image above can be a result of detection of DTCs. Correct the DTCs and perform the AT learning procedure again. The image below can be a result of a wide variety of different causes. See below for a detailed list of things to check.



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Message	Primary cause of abnormal end
AT learning ended abnormally.	<ul style="list-style-type: none"> • Fault is detected during AT learning. • The accelerator pedal is depressed during AT learning. • Operation which is not directed is performed during AT learning. • ATF temperature becomes out of specification during AT learning. • Battery voltage is low. • Malfunction indicator light illuminates. • Electronic parking brake not applied strongly enough • Brake pedal not stepped on firmly enough. • Abnormal idle speed increase, etc.

If “AT learning ended abnormally” message is received, be aware of items such as:

Brake Switch Input

- Firm pressure applied to the pedal is required. If insufficient pressure is applied to the brake pedal, the process will abort.
- When commanded to release the brake pedal, do so immediately and let the pedal return on its own.
- Faulted brake light circuit, such as open brake light bulbs.
- Aftermarket brake lights, such as LED bulbs
- Open brake light bulbs or LED bulbs can result in erratic brake light switch (BLS) operation or control module interpretation even when the pedal is released. This can cause erratic operation due to incorrect circuit resistance and voltage consumption.

DTCs

- Verify there are no diagnostic trouble codes present in all modules including the OBD section.

Accelerator Input

- No accelerator input should be used at any point during the Learning Control procedure.
- Any RPM deviation or idle increase not created by the Learning Control process will abort the procedure, so verify there are no outside influences that could affect this.

Parking Brake Application

- Application of the parking brake requires enough force to keep both rear wheels stationary. Any movement of the rear wheels will abort the process.
- Verify the parking brake operates appropriately (no adjustments needed, calibration performed, etc.) according to the applicable Service Manual.

Fluid Temperature

- Please refer to the applicable Service Manual for the appropriate Learning Control procedures, including the required fluid temperature range.
- The process cannot be performed at the incorrect fluid temperature.
- Verify the fluid level is correct, as this will affect fluid temperature in some cases.

Battery Voltage

- Perform a battery and system charging test using the Subaru Midtronics tester.
- Verify the battery terminals are not corroded.

TCM Software

- Verify the TCM has the latest software logic installed.

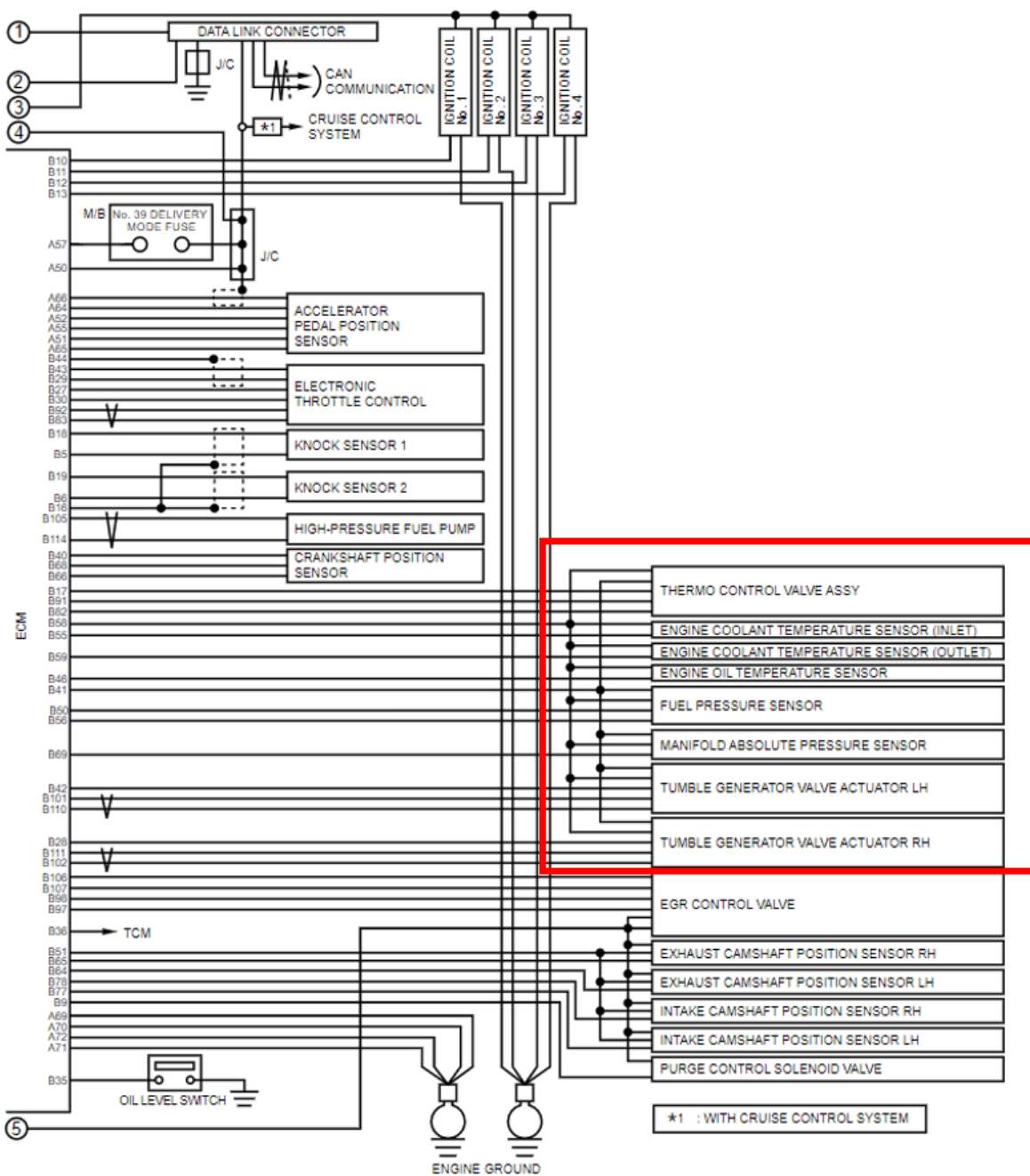
In rare cases when the tips provided above do not aid in completion of the Learning Control process, try performing a few specific tests/checks in no specific order:

- If the required temperature range is between 40 — 65°C (104 — 149°F) attempt with the CVT temperature below 54°C (130°F)
- Clear each module separately, then perform clear memories 1 & 2.
Clear memories in OBD system.
- Perform a short road test of the vehicle between 5-10 miles, driving the vehicle lightly and monitor the VDC data. Verify it displays wheel speed. If the fluid temperature is low enough, do not shut the engine off, pull into shop and attempt the learning procedure.

* The fluid temperature may rise beyond the specification required for Learning Control to complete; in which case a cool down period will be necessary.
- Check the PID in SSM for the Brake Light Switch in BIU, TCM, VDC and ECM. Verify it reads correctly both on and off the brake pedal.
- Verify when in D on the lift, the front wheels spin freely.

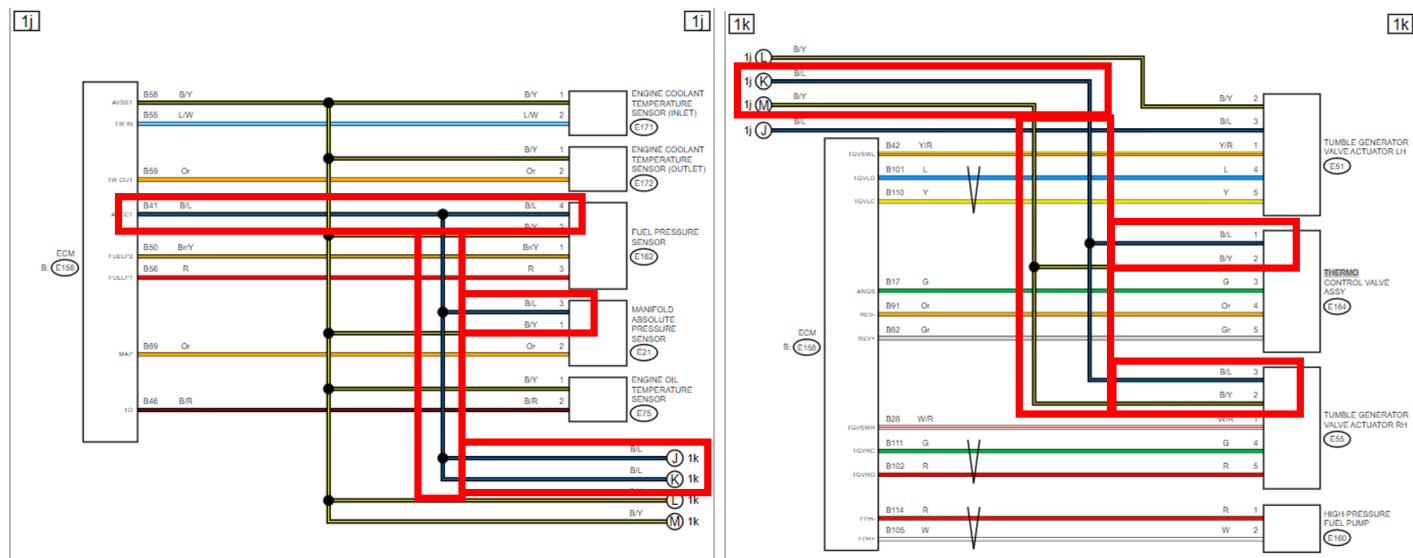
Techline has been receiving calls related to diagnosing and replacing Thermo Control Valve DTC's. There is a TSB related to Thermo valve replacement for some of our model lineup. It can be found here ([TSB 09-80-21](#)).

There are a few different scenarios that have been reported. When scanning for DTC's a Thermo valve code (P26A3-7) will be found as well as numerous other codes. Some of the other codes found could be P2004, P2005, P0087, P0088, P0191 as well as others. Some technicians have reported the vehicle running poorly, no Crank/no Start intermittently along with a long list of DTC's. When presented with this many codes it can be intimidating to know where to start the diagnostics. The basic engine wiring diagram can provide a clue about this circuit.



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Reviewing the ECM wiring diagram can provide further clues about how all those components are connected. The Thermo valve shares a 5V reference with multiple other sensors including the Tumble Generator Valve's, Fuel Pressure Sensor, MAP etc.



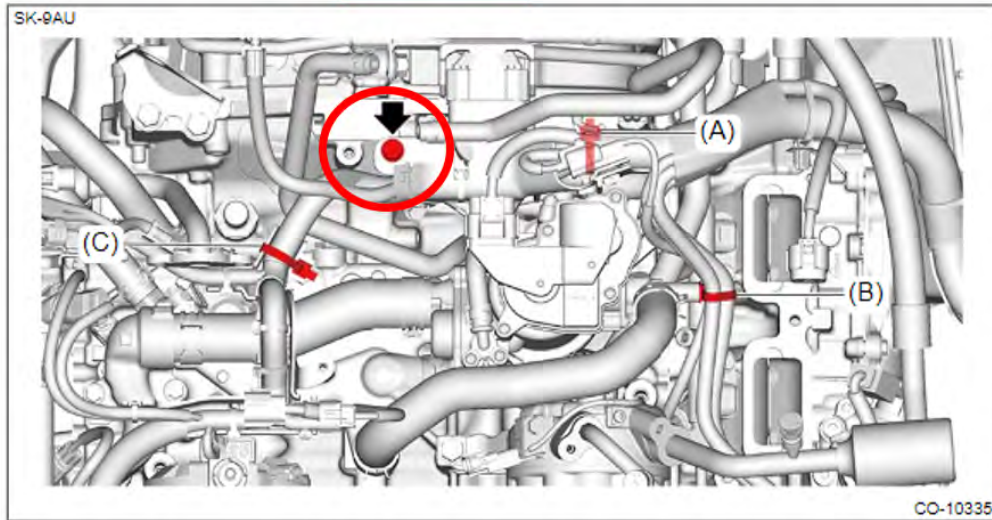
The ECM I/O chart further confirms this information:

Sensor power supply	E158	41	5	5	—
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If the Thermo valve shorts internally, it can bring this shared 5V reference down to 0V, possibly causing codes in all the shared components as well as potential drivability concerns. Following the Trouble Tree for the P26Ax DTC's will not find this short as most of them have the ECM and Thermo valve connectors unplugged for circuit testing. When the testing for the harness is performed the short has been removed by unplugging the Thermo valve. To verify the short, install the breakout harness and test the shared 5V reference circuit, it should be 5V, if you find 0V the Thermo valve may be shorted. Unplug the Thermo valve, does that circuit return to 5V? The "easy" answer for diagnosis is to unplug the Thermo valve and scan for DTC's again, do all the codes go to history except for the Thermo valve codes? If so, it would indicate the Thermo valve may be shorted internally. If multiple DTCs are still present, further diagnostics will need to be performed to determine if there is an issue in a wiring harness or somewhere else.

The other scenario Techline has had reports of are concerns of a No Crank/No Start, Crank/No Start, the coolant temp light blinking blue/red or other odd electrical concerns after installing a new Thermo valve. When following the Thermo valve Removal directions in STIS, pay close attention to Step 5:

5. Remove the bolt securing the **engine ground** and the harness case and remove the clip (A), clip (B) and clip (C).



This bolt does not just hold the wiring loom in place, it is a main ground for the engine wiring harness, **if this bolt is not reinstalled or torqued to specification it will cause multiple electrical concerns.** Below is a photo of the engine ground “hidden” in the plastic of the wiring harness.



A special thank you to the Technicians at Sendell Subaru in Greensburg, PA for sharing photos with Techline to use in this TechTIP.

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11 Mode \$06 and CID/CVN Data Collection

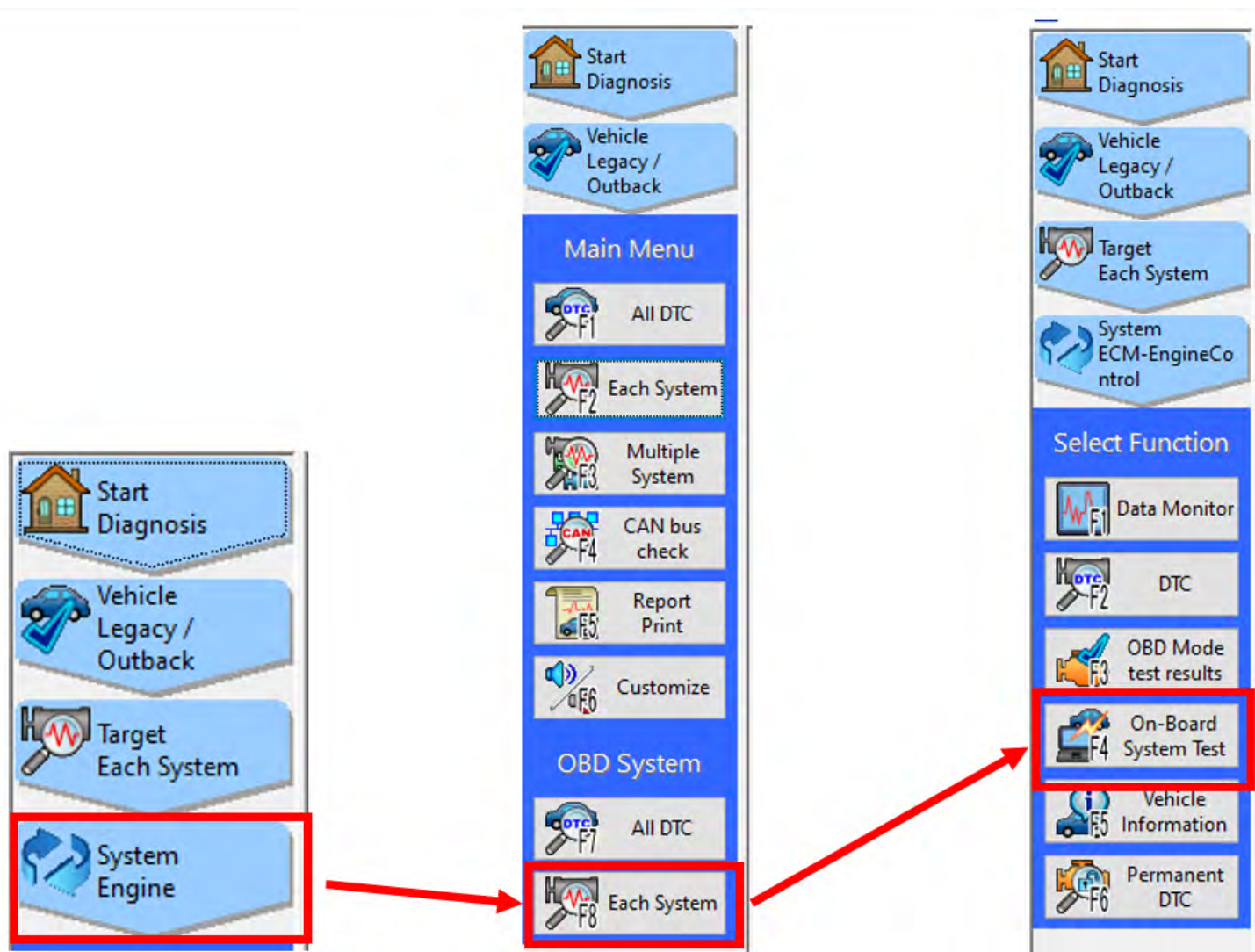
There are times when Techline may request a Technician collect Mode 6 data as well as ECM or TCM data from a vehicle. This may be requested while working on an AVCS, P0420, Evaporative emissions or other concerns. While a photo of the Mode 6 screen could be helpful, what needs to be collected is the actual data from the SSM4. Below are screen shots on how to save that data to a project file. You can refer to TSB 01-175-16 for directions on how to send the data to Techline once it has been collected.

After road testing the vehicle and recording data, but before shutting the vehicle off and disconnecting the SSM4 the current Mode 6 data can be saved to the project file.

After saving the driving data, navigate to “Target Each System”.

Select “Each System” under the OBD System.

Select “On-Board System Test”.



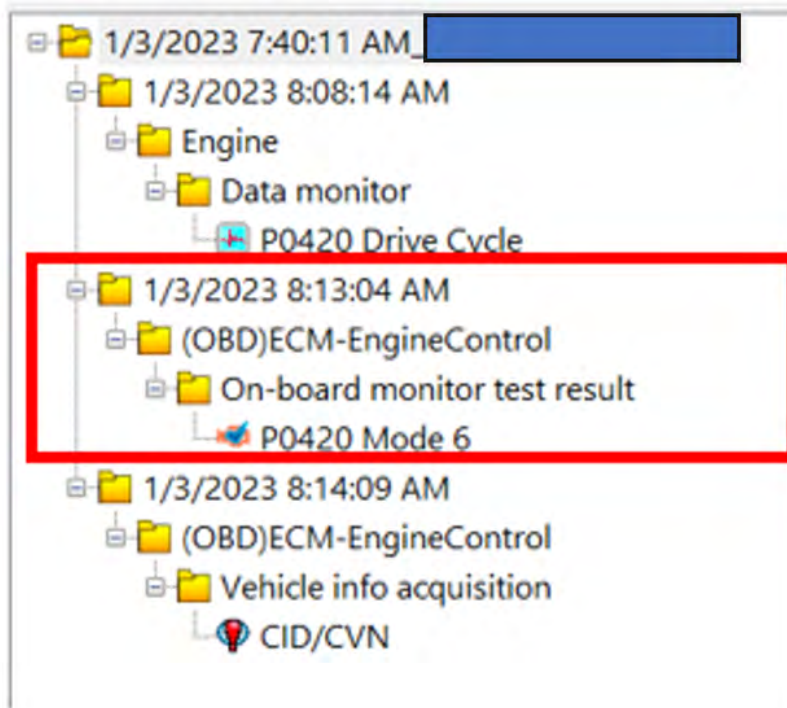
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After selecting “On-Board System Test” the screen should look like this:

After selecting “On-Board System Test” the screen should look like this:

MID	TID	Scaling ID	Value	Unit	Minimum	Maximum	Result
\$01	\$84	\$1E	0.9977770	lambda	0.8500045	1.9988175	OK
\$01	\$85	\$1E	0.9977770	lambda	0.0000000	1.1500025	OK
\$01	\$91	\$20	0.5078125		0.3515625	255.9960938	OK
\$01	\$92	\$10	0.000	s	0.000	0.008	OK
\$01	\$A3	\$20	0.5078125		0.0000000	0.6992188	OK
\$01	\$A4	\$10	0.006	s	0.000	0.030	OK
\$01	\$AC	\$10	0.026	s	0.000	0.140	OK
\$01	\$AD	\$10	0.000	s	0.000	0.110	OK
\$01	\$AE	\$10	0.032	s	0.000	0.550	OK
\$01	\$AF	\$10	0.006	s	0.000	0.520	OK
\$01	\$CD	\$20	7.4960938		1.2304688	255.9960938	OK
\$01	\$CF	\$20	0.0117188		0.0000000	0.0742188	OK
\$01	\$DF	\$10	0.000	s	0.000	0.000	OK
\$02	\$05	\$10	0.032	s	0.000	2.016	OK
\$02	\$06	\$10	0.064	s	0.000	3.008	OK
\$02	\$07	\$0B	0.000	V	0.000	0.150	OK
\$02	\$08	\$0B	0.803	V	0.550	65.535	OK
\$02	\$D1	\$10	0.800	s	0.000	4.512	OK
\$02	\$D2	\$10	1.280	s	0.000	65.535	OK
\$21	\$89	\$3B	0.7831	g	0.2000	6.5535	OK
\$31	\$8E	\$17	0.76	psi	0.00	4.79	OK
\$31	\$8F	\$17	0.00	psi	0.00	2.10	OK
\$35	\$8B	\$9D	279.5	*	0.0	4000.0	OK
\$35	\$8C	\$9D	-304.5	*	-4000.0	0.0	OK
\$35	\$8D	\$9D	464.0	*	0.0	4000.0	OK
\$35	\$8E	\$9D	-451.5	*	-4000.0	0.0	OK
\$35	\$D3	\$9D	0.0	*	-10.0	10.0	OK
\$35	\$D5	\$9D	0.5	*	-10.0	10.0	OK
\$35	\$D6	\$9D	-0.5	*	-10.0	10.0	OK
\$36	\$8B	\$9D	324.0	*	0.0	4000.0	OK
\$36	\$8C	\$9D	-273.0	*	-4000.0	0.0	OK
\$36	\$8D	\$9D	482.0	*	0.0	4000.0	OK
\$36	\$8E	\$9D	-480.0	*	-4000.0	0.0	OK

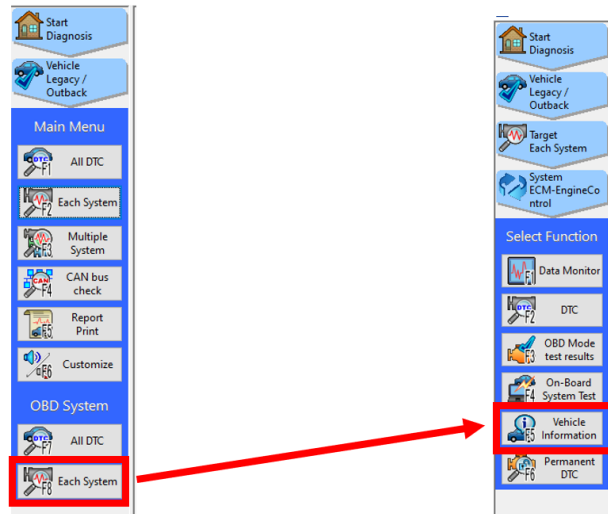
Save the Mode 6 data, once it is saved the project file should look like this:



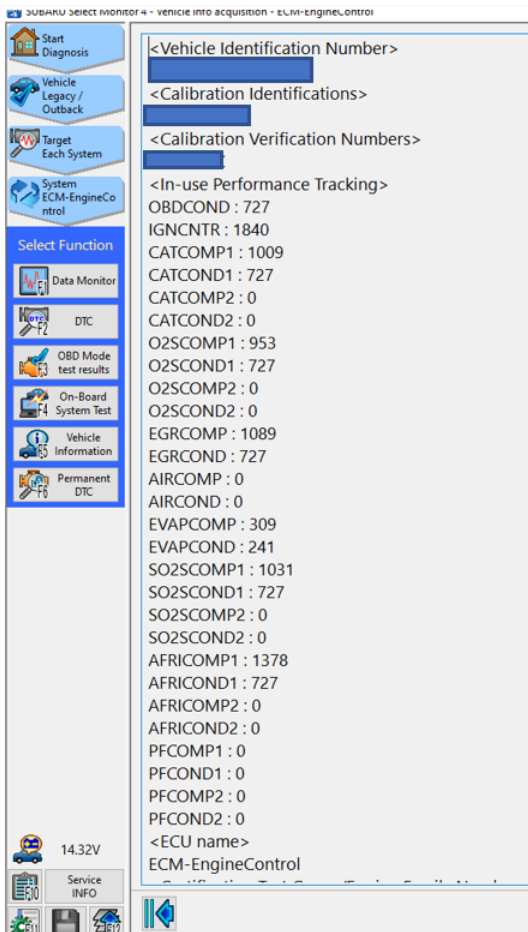
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The ECM or TCM CID/CVN can also be collected and saved to the project file this way. There are times Techline will request the CID/CVN data (not a photo) be included in the project file. This method of collecting the CID/CVN can also be used when submitting a CPO turbo vehicle CID/CVN check.

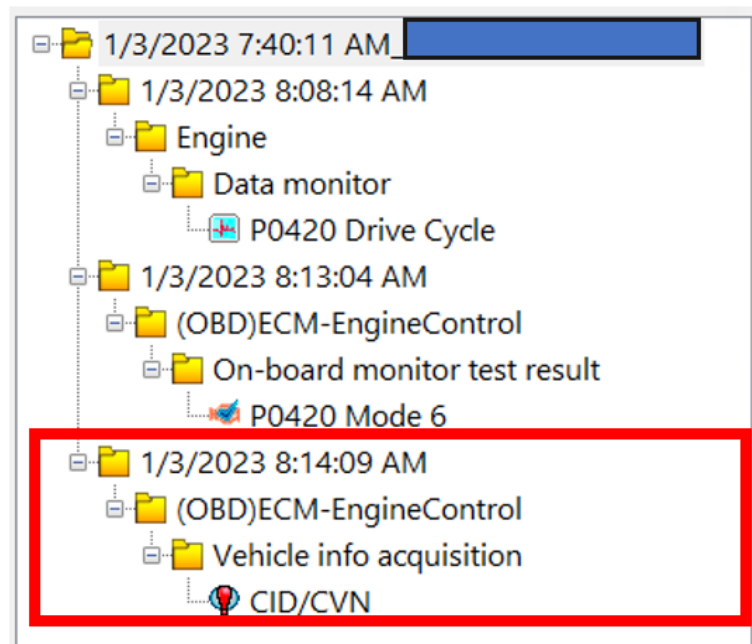
The procedure begins the same, after selecting "Diagnosis" and the vehicle being worked on, under OBD System select "Each System", then ECM (or TCM) . Then Select "Vehicle Information".



The screen should now display the CID/CVN data:



After saving the CID/CVN data, the project file should now have the driving data file, the Mode 6 data and the CID/CVN.



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The purpose of this TechTIP is to share some best practices for Gen 2 and Gen 3 Telematics service procedures. It is also to stress the importance of contacting Techline when encountering uncertainty or difficulty with any generation of Starlink Telematics. As a reminder to Technicians the best way to ensure they get the information needed to diagnose Telematics concerns efficiently is to complete QMRs with a high level of detail to ensure a steady flow of information to the field.

Critical: The SSM4 should only be connected to the vehicle when reviewing data or using Work Support. The SSM4 should not be connected to the vehicle during the Comm Check, Provisioning after a Comm Check, during a VOLTE call and Remote Service testing.

Please perform the procedures below before contacting Techline for one of the concerns listed.

The Comm Check Procedure

Press the “i” button for 2 seconds to perform the Comm Check and then connect the SSM4. Navigate to the Telematics data monitor and confirm the “Subscription Status” PID changes to “Unsubscribed” and the Telematics LEDs are off (if the vehicle does not have a subscription), or changes to “Subscribed” and the GREEN telematics LED is illuminated (if the vehicle has a current subscription).

Note: The SSM4 should not be connected while trying to perform the Comm Check, test calls, or Provisioning. Starlink Telematics is very sensitive to the SSM4 connection. The SSM4 may be probing for data and can cause interference which may cause a race condition and Comm Check failure.

The Test Call Procedure

A Technician can press the “i” button on any Gen 2 or Gen 3 vehicle and connect to the Starlink call center. Once connected to an operator, the Technician can request a remote door unlock or remote engine start (RES) to verify telematics operation further. More information about Remote Service testing can be found in [TSB 15-266-20](#).

Note: Services available for testing can vary and are based on the customer’s subscription plan.

Test Call Procedure after DCM Replacement

After a Technician has replaced the DCM, verifying the operation of the “i” button and Remote Services is necessary. If the procedure below is not followed, “i” button calls may not connect to a Starlink operator.

1. DCM has been replaced, and the Comm Check has been completed.
2. Turn the ignition off and wait ten minutes.
3. Turn the ignition on, press the “i” button to connect to the Starlink call center, and complete Telematics repair verification testing.

CRITICAL: Failure to cycle ignition power and wait ten minutes after DCM replacement could result in “i” button calls failing. This behavior may lead Technicians to determine that the DCM replacement did not repair the customer’s concern or introduce a new concern to the vehicle.

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Note: The SSM4 should not be connected to the vehicle when trying to use the “i” button to connect with a Starlink Operator. Having the SSM4 connected may cause the “i” button call or Remote Service request to fail.

The Comm Check fails

In almost all cases, the Comm Check will complete on the first attempt. The Comm Check may fail in rare circumstances, and the “Subscription Status” PID returns to “Factory” mode.

After a Comm Check failure please check for the following conditions that can prevent the Comm Check from completing.

1. There are current Telematics DTCs.
2. The Telematics antenna may have a fault in the circuit. (When in “Factory mode” the Signal strength PID will always read 0%)
3. All Telematics fuses have been visually and electrically inspected for faults.
4. The SSM4 (or any aftermarket dongle) was plugged into the OBDII connector while the Comm Check was performed.
5. Inspect for any aftermarket devices in the vehicle.

If none of the above conditions are found with the car, please perform the workaround below before contacting Techline for further assistance.

WORKAROUND: The Technician must use the SSM4 to confirm the “Subscription Status” is “Unsubscribed” or “Subscribed” in the Telematics data monitor before releasing the vehicle. The Comm Check has failed if the subscription status is “FACTORY” or “COMM”. If the Comm Check is confirmed to have failed, follow the procedure below.

- Disconnect the SSM4 from the vehicle.
- Turn the ignition off and wait 5 minutes.
- Turn the ignition on and **wait 3 minutes, doing nothing to the car during this time.**
- Press the “i” button for 2 seconds to perform the Comm Check.
- Wait 2 minutes, then connect the SSM4 and verify the “Subscription Status” in live data.
- If the Comm Check has not been completed after performing this procedure **twice**, contact Techline for more assistance.

SOS or “i” button calls fail to connect to an operator.

Continued on the next page

If a customer reports a concern of the “i” button or “SOS” button not connecting to a Starlink Operator or the Technician experiences this condition during testing, perform the workaround below before contacting Techline.

WORKAROUND: If a test call exhibits no connection to an operator or an error message when performing the “SOS” or “i” button push, the technician should first:

- Disconnect the 12V under-hood battery for 15 minutes.
- Ensure the SSM4 is not connected to the car.
- Reconnect the 12V under-hood battery.
- Turn the ignition on and **wait 3 minutes, doing nothing to the vehicle during this time.**
- Perform another test of the “i” button.
- If this procedure fails to rectify the “no VOLTE” call concern, contact Techline for support.

A test call using the SOS/”i” button fails, Remote Service request fails post enrollment or after DCM replacement.

Upon customer enrollment or DCM replacement, if remote service requests fail to complete, perform the workaround below before contacting Techline.

This workaround is a suitable general procedure to clear transient conditions with the DCM or its connection to the network. Technicians may want to incorporate this workaround into their Telematics diagnostic method.

WORKAROUND: If the technician experiences a provisioning failure, they should:

- Disconnect the 12V under-hood battery for 15 minutes.
- Ensure the SSM4 is not connected to the car.
- Reconnect the 12V under-the-hood battery.
- Turn the ignition on and wait 3 minutes, doing nothing to the vehicle.
- Connect the SSM4, using live data to verify the “Subscription Status” now shows “Subscribed” to confirm the provisioning failure is no longer present.
- Verify operation by placing an “i” button call to connect to an operator.
- Ask the operator to send a remote door to unlock the vehicle to verify the operation of the remote services.
- If this procedure fails to rectify the provisioning failure concern, contact Techline for support.

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ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
WRL-22R	Subaru Product/Campaign Bulletin	PTC Heater Ground Bolt	24-Jan-23
12-232-21R	Technical Service Bulletin	Trailer Hitch Fascia Panel Tem...	24-Jan-23
07-213-22R	Technical Service Bulletin	Genuine Battery Replacement	24-Jan-23
F0010VC010	Accessory Installation Guide	2022MY WRX - SIDE WINDOW DEFLE...	24-Jan-23
09-90-22R	Technical Service Bulletin	P0890 TCM Power Relay Sense Ci...	24-Jan-23
09-94-22	Technical Service Bulletin	Engine in Fail-Safe Mode / DTC...	24-Jan-23
09-100-23	Technical Service Bulletin	Engine Surges/Jolts During Acc...	24-Jan-23
09-99-23	Technical Service Bulletin	Engine Surging/Jolting During ...	24-Jan-23
WRA-23	Subaru Product/Campaign Bulletin	2022 MY WRX Corrected Owner's ...	23-Jan-23
09-95-22	Technical Service Bulletin	Extended Engine Cranking Durin...	23-Jan-23
MSA5T2201T	Technician Reference Booklet	2023 Solterra Systems and Feat...	19-Jan-23
MSA5T2202T	Technician Reference Booklet	2023 Solterra High Voltage Sys...	19-Jan-23
D441SVC000	Accessory Installation Guide	2022MY WRX STI PERFORMANCE MUF...	18-Jan-23
SOA801P080xx	Accessory Installation Guide	2022MY WRX/STI Door Edge Guard	18-Jan-23
09-101-23	Technical Service Bulletin	Engine Misfire(s) DTCs P0300-P...	17-Jan-23
16-132-20R	Technical Service Bulletin	Diagnostic Information for All...	12-Jan-23
16-136-22R	Technical Service Bulletin	Vibration & Possible Judder Co...	12-Jan-23
15-301-22R	Technical Service Bulletin	Reprogramming File Availabilit...	12-Jan-23
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	12-Jan-23
WRK-21/22R	Subaru Product/Campaign Bulletin	CVT Chain Guide Breakage	12-Jan-23
07-178-21R	Technical Service Bulletin	Battery Testing and Charging	11-Jan-23
09-93-22	Technical Service Bulletin	Fuel Pipe / Torque Specificati...	10-Jan-23
F411SAN070	Accessory Installation Guide	2020-23MY Legacy Rear SEAT COV...	9-Jan-23
F411SAN130	Accessory Installation Guide	2020-23MY Legacy - FRONT SEAT ...	9-Jan-23
F411SAN120	Accessory Installation Guide	2020-23MY Legacy FRONT SEAT CO...	9-Jan-23
F411SAN060	Accessory Installation Guide	2020-23MY Outback Rear SEAT CO...	9-Jan-23
F411SAN100	Accessory Installation Guide	2020-23MY Outback FRONT SEAT C...	9-Jan-23
F411SAN110	Accessory Installation Guide	2020-23MY Outback FRONT SEAT C...	9-Jan-23
F411SSJ011	Accessory Installation Guide	2019-23MY Forester Rear Seat c...	9-Jan-23
F411SXC110	Accessory Installation Guide	2019-23MY Ascent FRONT SEAT CO...	9-Jan-23
F411SXC100	Accessory Installation Guide	2019-23MY Ascent FRONT SEAT CO...	9-Jan-23
F411SXC021	Accessory Installation Guide	2019-23MY Ascent SEAT COVER - ...	9-Jan-23
F411SXC011	Accessory Installation Guide	2019-23MY Ascent SEAT COVER - ...	9-Jan-23
F411SXC001	Accessory Installation Guide	2019-23MY Ascent SEAT COVER - ...	9-Jan-23
15-306-22R	Technical Service Bulletin	Intermittent Request Failure o...	9-Jan-23

All revised publications are highlighted in yellow.

Continued on the next page

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
16-139-22R	Technical Service Bulletin	CVT Assembly (WRK-21) Warranty...	9-Jan-23
09-96-22	Technical Service Bulletin	Camshaft Position Correlation ...	9-Jan-23
01-184-22R	Technical Service Bulletin	Pre-Delivery Inspection (PDI) ...	9-Jan-23
15-302-22R	Technical Service Bulletin	2023 Audio/Navigation & Power ...	9-Jan-23
10-92-19R	Technical Service Bulletin	A/C System Inoperative	9-Jan-23
SUTTIPSLOC	Other/Miscellaneous	TechTIPS Article Locator Index...	9-Jan-23
15-297-22R	Technical Service Bulletin	Reprogramming File Availabilit...	6-Jan-23
07-207-22R	Technical Service Bulletin	Subaru Battery Drain Product L...	5-Jan-23
02-191-22R	Technical Service Bulletin	Genuine Subaru Alternative Eng...	5-Jan-23
15-305-22R	Technical Service Bulletin	Reprogramming File Availabilit...	30-Dec-22
15-246-19R	Technical Service Bulletin	New Immobilizer Registration P...	30-Dec-22
07-215-22	Technical Service Bulletin	Battery Drain With Mechanical ...	29-Dec-22
07-214-22	Technical Service Bulletin	Battery Drain With Mechanical ...	29-Dec-22

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.: _____

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.

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