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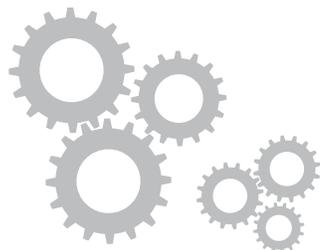
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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Labor Day: (Closed)

Monday, September 7, 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 QMR of the Month Winner:

Craig DeMeo from
Granite Subaru in Hudson, NH

Craig's winning QMR involved the diagnosis and repair of a 2015 Outback 2.5i with a customer concern described as a driveline crabbing, most noticeable on low speed turns. Craig took over the repairs from another Technician after the CVT had been removed. The extension housing/transfer clutch were already apart preventing him from verifying the condition prior to disassembly. After disassembling the transfer clutch assembly, he found some grooving of the inner surfaces of the drum caused by the steel plates of the clutch pack. Craig ordered and built a new transfer clutch assembly, replaced the drum, clutch pack and piston, set clearances then reassembled and reinstalled the CVT. Proper transfer clutch break-in procedures were followed but, after repeated road testing, the binding condition persisted along with a noticeable level of harsh engagement when shifting from Reverse to Drive and when coming to a stop. To isolate the cause for these conditions, tire circumferences were measured and a set of tire/wheel assemblies from a known good vehicle were swapped just to be sure which produced no change. Next, transfer clutch pressures were checked on both vehicles with virtually identical results. Craig then decided to inspect the waveform pattern of the AWD solenoid of the problem vehicle with his Pico scope. He found it to be abnormal when compared to the reference pattern in the Service Manual and the pattern of his known good vehicle but, resistance testing of the solenoid showed normal values. Before jumping to replacing the solenoid which he suspected may be mechanically failed, Craig swapped the TCM from his problem vehicle to his known good vehicle. On the ensuing road test, he confirmed the crabbing condition had transferred. To complete the A-B-A test, Craig swapped the known good TCM to his problem vehicle and confirmed the crabbing and harsh engagement conditions were gone. A final confirmation road test after replacing the TCM and performing the Learning Control procedure completed his successful repair.

Craig's report included his detailed step-by-step diagnostic procedures along with pictures of his waveform test results and a collection of clear and detailed photos to document his findings along the way.

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

\$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 and "Quality Driven" are Registered Trademarks.

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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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01 QMR of the Month (CONTINUED)

The other Regional winners selected from QMRs submitted during June 2020 were:

- **Jeremy Li-Gabriel** from **Wilsonville Subaru** in Wilsonville, OR
- **Thomas Slaughter** from **Motor Mile Subaru** in Christiansburg, VA
- **Robert Franklin** from **Team Gillman Subaru North** in Houston, TX
- **William Krieger** from **Van Bortel Subaru** of Rochester in Rochester, NY

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 include a photo (whenever available) of the recipient’s award presentation in TIPS. The winner selected from QMR of the Month submissions received during May 2020 was Craig DeMeo, a Technician from Granite Subaru in Hudson, New Hampshire.



Craig is shown being presented with his \$500.00 Snap-On Gift Card by Subaru New England (SNE) Field Service Engineer, Al DeRosa. Joining Craig and Al (left to right) are: SNE Regional Parts and Service Manager John Hayes, Granite Subaru’s Dealer Principal, Jim Angotti, Service Director Joseph Briggs and SNE District Parts and Service Manager Dan Enderle. Congratulations and THANK YOU to our May 2020 QMR of the Month Award recipient!

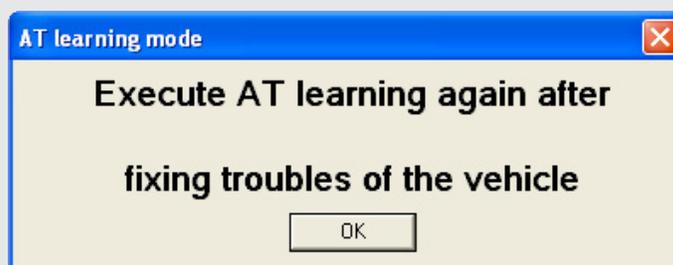
TECH TIPS GREATEST TIPS

This series features TechTIPS articles frequently referred to by Techline. This month's feature is from June 2016.

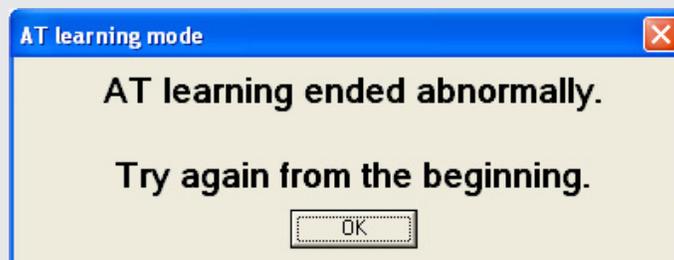
03 At Learning Control Information

There have been a limited number of 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 III. **Figure 1** shows the two different error messages you can receive during the AT Learning Control process. Each has a different diagnostic approach. Incorporated with the error messages are the Main Cause and Remedy tables, which are found in both the applicable Service Manual and under the Help tab of Subaru Select Monitor III.

Figure 1 Error Messages and Explanations



Main causes of the contents shown	Remedy
Detection of DTCs	Correct the DTCs and then perform the AT learning procedure again.



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Main causes of the contents shown	Remedy
Detection of DTCs	Correct the DTCs and then perform the AT learning procedure again.
<ul style="list-style-type: none"> • Un-instructed operations were taken during the AT learning process. • Depressing the brake pedal is not enough • Pulling the parking brake lever is not enough • Abnormal Idle Up 	Execute the [AT learning mode] again from the beginning

When performing the Learning Control procedure, be aware of items such as:

Brake pedal application

- 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.

Throttle input

- No throttle input should be used at any point during the Learning Control procedure.
- Any RPM deviation 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

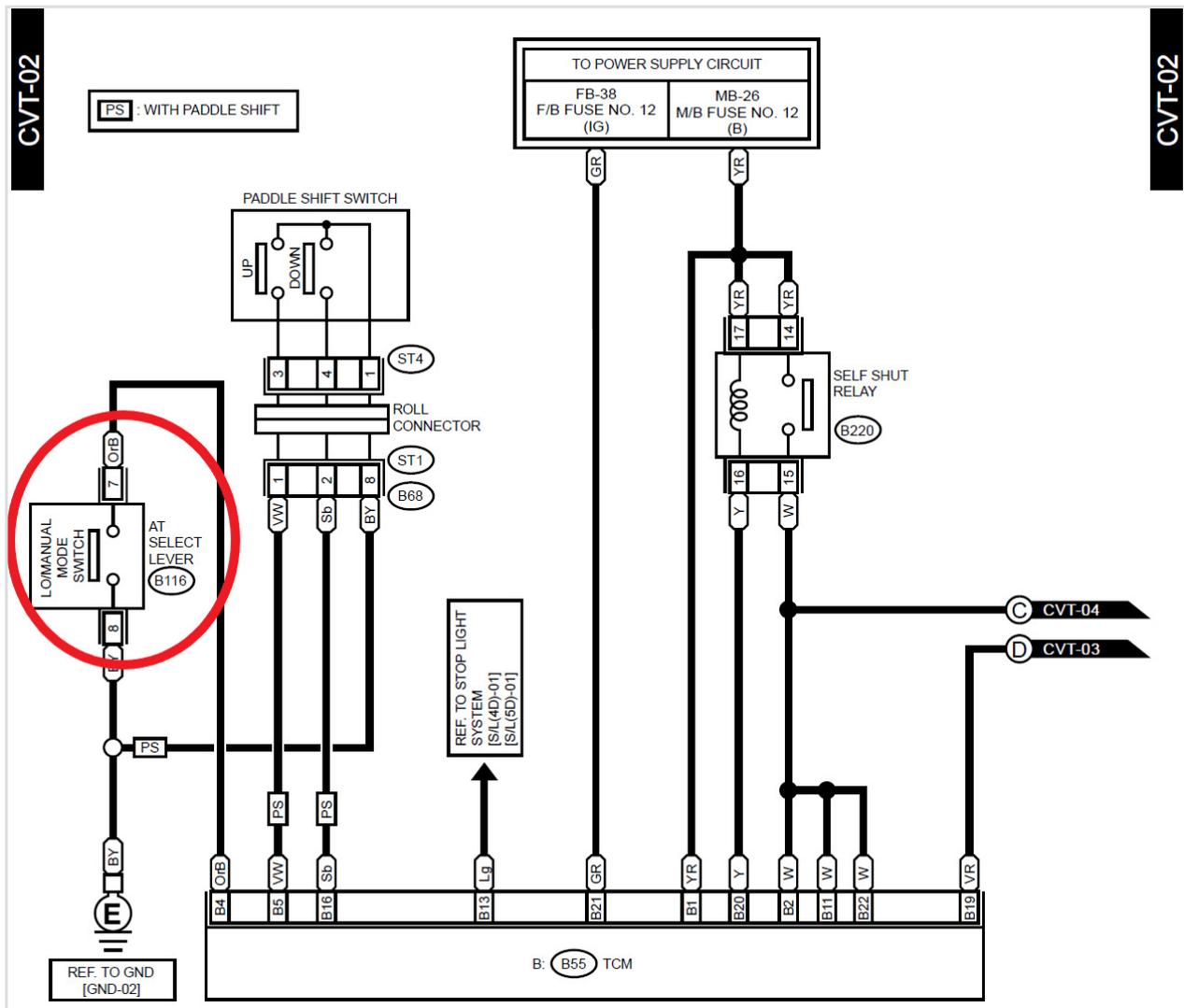
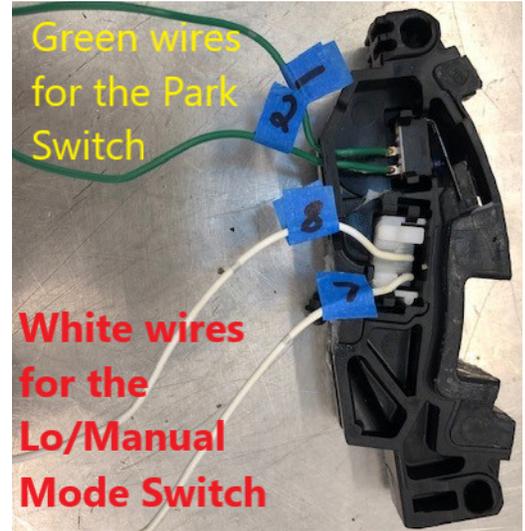
- Please refer to the applicable Service Manual for the appropriate Learning Control procedures, including the required fluid temperature range.
- The process cannot be performed at the incorrect fluid temperature.
- Verify the fluid level is correct, as this will affect fluid temperature in some cases.

In rare cases when the tips provided above do not aid in completion of the Learning Control process, performing a short test drive of 5-7 miles may resolve the issue. In the event a test drive is determined as the next step, keep in mind the fluid temperature may rise beyond the specification required for Learning Control to complete, in which case a cool down period will be necessary.

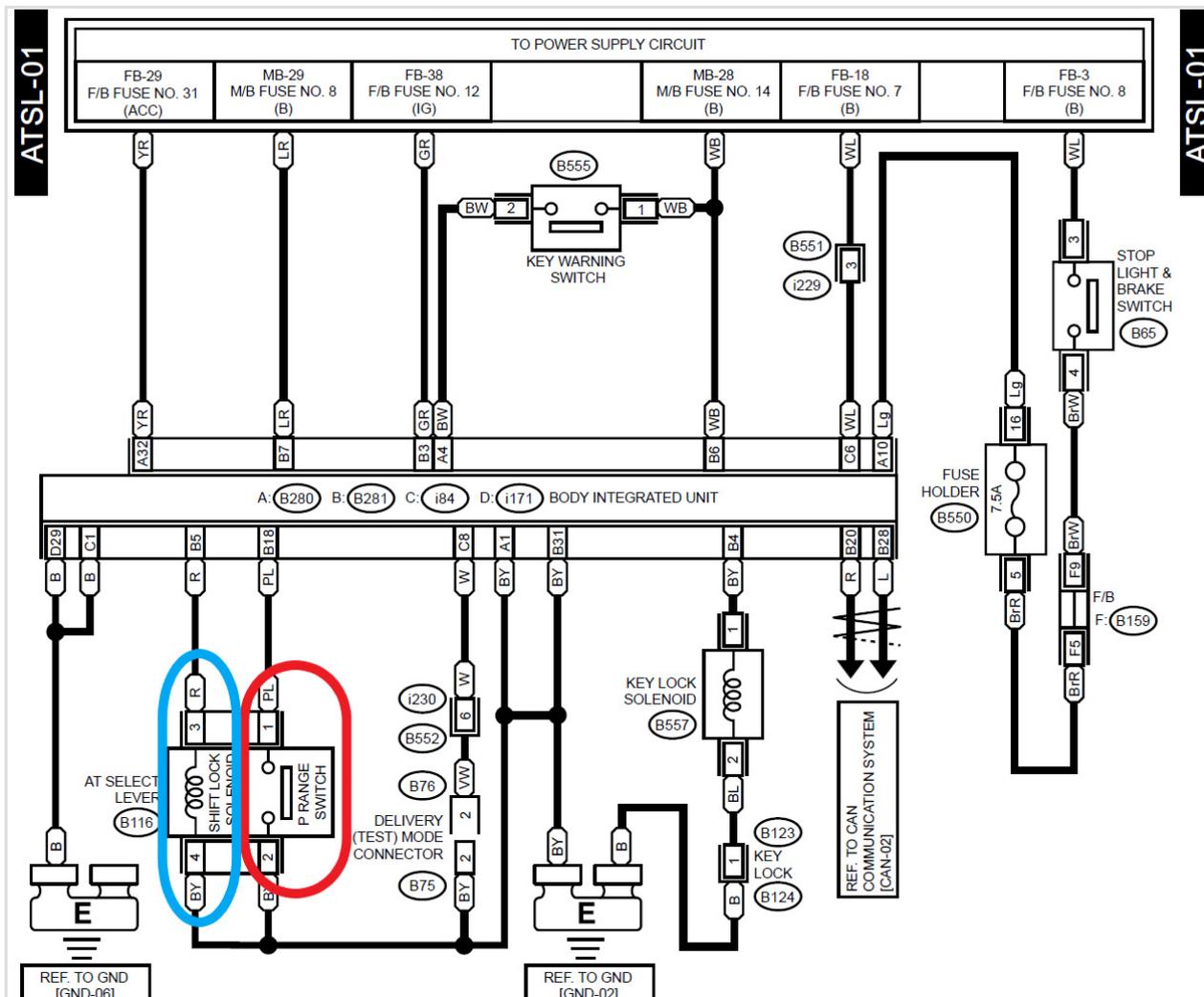
NOTE: This information only applies when the Guide Plate B is being replaced, NOT applicable for the Legacy or Outback models.

There has been some confusion regarding the installation of Guide Plate B on vehicles that are affected by TSB 16-112-18R. Specifically, the wire colors may vary from the original guide plate to the replacement part. Here is a quick guide of how to identify which pins to remove from the connector and where to place the replacement part pins into the connector. For the guide, we are using parts and diagrams from a 2012 Impreza.

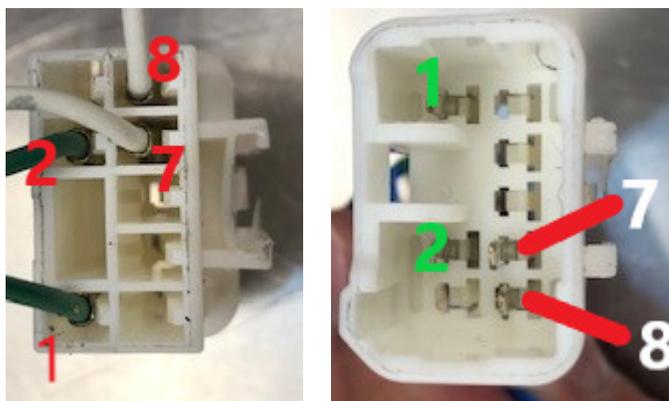
There are two separate switches included within Guide Plate B. The green wires are for the Park Switch, the white wires are for the Lo/Manual Mode switch for this vehicle. The Park Switch uses pin numbers 1 & 2 of connector B116 and the Lo/Manual Mode switch uses pins 7 & 8 (pins 3 & 4 are used for the shift lock solenoid coil and are removed during the shift lever disassembly procedure.)



Continued on the next page



The pin numbers are identified in the CVT control and the shift lock solenoid wiring diagrams for the 2012 Impreza.



Remember, the wire color might vary from what is shown in the photo. Make sure to identify the point where the wires originate and which switch they are for as shown in the first photo.

There has been an increasing number of Technical Support requests regarding new Data Control Modules (DCMs) failing to COMM Check after installation. Taking the time to verify some basic details can ensure a sound repair.

FIRST and foremost: Replacement DCMs do NOT come with a back-up battery (BUB) installed. In all cases of DCM replacement, regardless of whether the vehicle has Gen1 or Gen2 Telematics, the BUB must be transferred from the original DCM into the new replacement DCM. A failure to transfer and properly connect the BUB to the circuit board will not set any DTCs or Telematics LEDs. Without a BUB installed, COMM Check cannot be completed. There is no way other than a visual inspection to confirm the BUB is properly installed and connected. In addition, the BUB has a date code on it. Make sure to take note of the date code before swapping it over to the new replacement DCM. Refer to TSB 15-195-16R, line item #4 for more detailed information about the BUB date code.

SECOND: A new DCM will not complete the COMM Check if there is a current Telematics DTC. For example: a vehicle presents with a customer concern of the Red Telematics LED being on and receiving a STARLINK notification indicating a fault with the Telematics system. Diagnosis reveals a current DTC B2A05. The Technician follows STIS diagnostics which indicate the DCM as the cause of the DTC. The DCM is replaced in hopes all Telematics concerns are related to a single point of failure (in this case, the DCM). Unfortunately, after installing the new replacement DCM, the Technician is unable to complete COMM Check and, DTC B2A05 is still current. This is a prime example of why any Telematics DTCs must ALWAYS be diagnosed FIRST and the root cause corrected BEFORE following any additional Telematics diagnostic procedures. Once the new DCM could not complete COMM Check, that was a VERY STRONG indicator the original DCM was not failed. When a Telematics DTC (Red LED on) is current, the DCM will never complete COMM Check.

THIRD: Just as a cellphone requires signal strength to operate, the DCM does too. Verifying signal strength is present and above 26% should be part of any initial SSM4 Telematics diagnosis. If a newly replaced DCM fails to complete COMM Check and there are no DTCs current, inspect the Signal Strength PID and confirm it is above 26%. A Signal Strength value of 0% is a good indicator the connector for the primary antenna cable may not be installed properly or fully seated. It also could indicate the primary antenna cable may have been damaged during the repair process. There is also a possibility the vehicle came to the repair facility with 0% Signal Strength and the lack of Signal Strength may be the root cause of the customer concern and not the DCM as suspected. In cases like this, reinstalling the original DCM and verifying Signal Strength PID may be required. During this procedure, the antenna cable and connection should be closely inspected. No matter what the cause of no or poor (below 26%) Signal Strength, it must be resolved for COMM Check to complete.

TIP: A good habit to get into is taking a picture of the DCM label on all replacement DCMs prior to installation. Having this label information handy may prevent having to remove the DCM again to retrieve it if additional support from Techline is needed. It also provides a record to facilitate warranty claim information as outlined TSB [15-195-16R](#).

15 Updated Helpful Infotainment Operational Tips

Gen 3 Harman Base Head Unit CarPlay handsfree call audio distorted

If you receive a customer concern for distorted audio sound or static during handsfree call in CarPlay mode, while the image from the Rear View Camera is displayed on the head unit, confirm if the head unit is a Harman Base model. This condition has been determined as characteristic for Base head units due to the prioritization of the rear camera function in the CPU impacting the other requests. When this condition is duplicated the only way to restore operation is to shift into Park and reboot the head unit pressing and holding Power/Volume knob. There is no need to replace the head unit for this condition as no change in function will result.

Weather alert message Gen 3 Harman Head Unit

The head unit is designed to receive severe weather alert information from Sirius XM (SXM) and display a pop up window with the alert message, whenever there is a signal from SXM. So far, we are only aware of HIGH grade units to have this feature available.

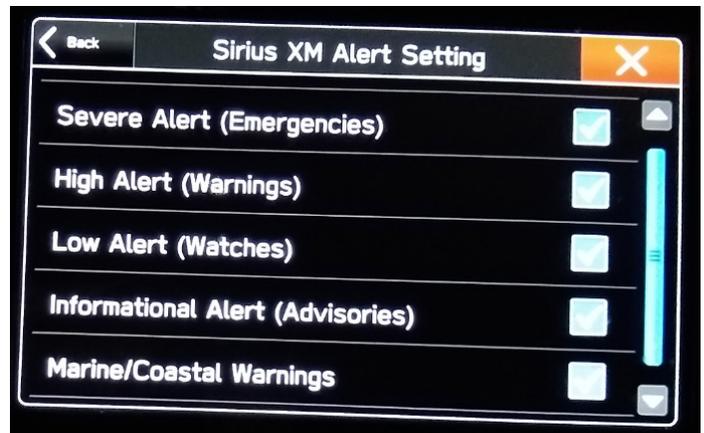
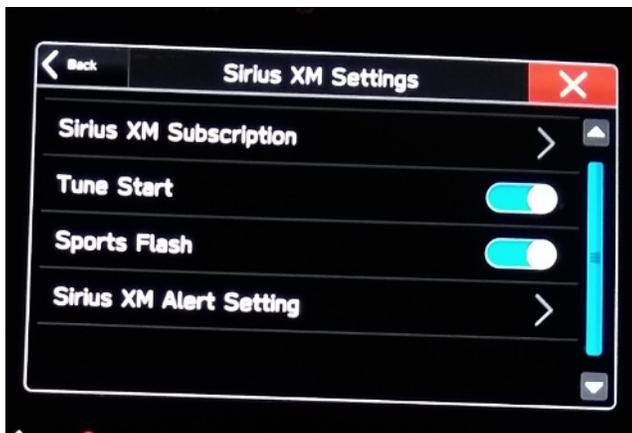


or



Please note when there is no date information supplied by SXM, the details (dates/ times) will be shown as --/--/---- --/-- in the alert notification message. The head unit is operating as designed when this occurs.

Effective with the version 6 software, Harman has implemented an enhancement to allow user control of some weather alerts from Sirius XM service. Settings are found under Settings/General/Sirius XM Settings. See below.



Please note this feature is available only in HIGH grade units.

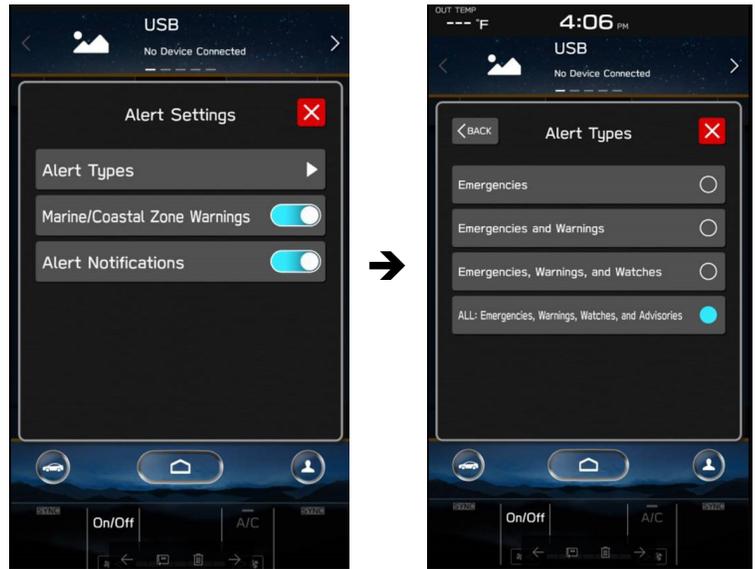
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15 Updated Helpful Infotainment Operational Tips (CONTINUED)

Weather alert message Gen 4 Denso CP1

Please note Denso also implemented an SXM weather alert settings within the Gen 4 CP1 controls. These settings control all alert types as well as the ability to completely turn the alerts off. Unlike Gen 3 Harman, the settings for Weather alert in Gen 4 Denso are under SiriusXM Travel Link menu (Applications).

See Gen 4 screens here.



SiriusXM Travel Link

DISPLAYING WEATHER ALERT

Weather alert can be displayed.

1. Select **Travel Link** (Travel Link) on the Apps screen. (→P.27, 56)
2. → **Weather Alert** (Weather Alert)

3. Check that weather alerts is displayed.
 - ▶ 11.6-inch display system/11.6-inch display with Navi system



- ▶ Dual 7.0-inch display system



Continued on the next page

Gen 4 Denso CP1 Microphone test anomaly

If you perform the diagnostic check for microphone operation using DIAGNOSTICS MODE (Dealership Mode/ Function Check/Microphone), you might notice the level gage reading appears weaker than expected or than you may have seen in prior testing. In some cases, you may notice a time lag, see no bars or just one bar displayed when speaking into the microphone. This behavior is noted for both input levels and does not necessarily indicate a concern with the microphone.



(Lower Screen)



There is a known bug with the RC2003 software update which was released in June 2020. **See Appendix B** in TSB [15-261-20R](#) to confirm, if the software of the unit you are working on is impacted by this bug. This bug affects only the display of the microphone test and in no way impacts actual microphone operation. With this display being impacted, it is recommended to use other diagnostic methods. Alternatively, troubleshoot the microphone operation using the Voice Recognition feature, to confirm the unit receives voice input correctly or making a voice call. If concerns remain, perform continuity and voltage drop testing to confirm if a poor contact or connection may exist. Reference the applicable service manual for the related wiring diagrams for the Cockpit Control Module and microphone wiring diagrams with or without Telematics depending upon the vehicle under review.

00 STIS New Releases

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
14-22-16R	Technical Service Bulletin	Special Service Tool Cross Ref...	23-Jul-20
16-42-90R	Technical Service Bulletin	Transmission Cooler Flushing	21-Jul-20
15-238-19	Technical Service Bulletin	Enhanced CD Incompatibility wi...	21-Jul-20
H501SSG203	Accessory Installation Guide	PORT INSTALLATION: 2019-2021...	21-Jul-20
L101SXC004	Accessory Installation Guide	Ascent Tow Hitch - warning car...	20-Jul-20

All revised publications are highlighted in yellow.

Continued on the next page

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
01-168-09R	Technical Service Bulletin	Replacement Key and Immobilize...	20-Jul-20
	Service Diagnostics	2021MY Impreza / Crosstrek / C...	20-Jul-20
15-219-18R	Technical Service Bulletin	Error Code 202 and / or 204 Ge...	17-Jul-20
15-266-20	Technical Service Bulletin	Telematics Function and Operat...	16-Jul-20
15-267-20	Technical Service Bulletin	Telematics System Automatic Co...	16-Jul-20
WRD-20R	Subaru Product/Campaign Bul	Fuel Pump Impeller Failure	16-Jul-20
15-264-20R	Technical Service Bulletin	WiFi Hotspot: Diagnostic TIPS ...	14-Jul-20
15-242-19	Technical Service Bulletin	Telematics System Diagnostic Q...	14-Jul-20
15-219-18R	Technical Service Bulletin	Error Code 202 and / or 204 Ge...	14-Jul-20
15-195-16R	Technical Service Bulletin	Servicing and Claim Submission...	14-Jul-20
SOA801P030	Accessory Installation Guide	PORT INSTALLATION: 2018-2021...	14-Jul-20
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit...	13-Jul-20
15-249-19R	Technical Service Bulletin	2020 Audio/Navigation & Power ...	13-Jul-20
15-245-19R	Technical Service Bulletin	FOTA (Firmware Over-The-Air) R...	13-Jul-20
12-296-20	Technical Service Bulletin	Rear Frame and Stabilizer Bar ...	10-Jul-20
16-129-20	Technical Service Bulletin	CVT Warranty Extension	10-Jul-20
15-240-19R	Technical Service Bulletin	New Harman Audio Amplifiers	8-Jul-20
15-265-20	Technical Service Bulletin	"Destination to Vehicle" Gen 2...	7-Jul-20
U3220BE	Service Manual	2021MY Ascent New Car Informat...	6-Jul-20
	Service Diagnostics	2021MY Ascent Service Manual V...	6-Jul-20
J1010FL320	Accessory Installation Guide	PORT INSTALLATION: 2021MY...	30-Jun-20
H4510FL100	Accessory Installation Guide	PORT INSTALLATION: 2021MY...	30-Jun-20
J101SFL600	Accessory Installation Guide	PORT INSTALLATION: 2021MY...	30-Jun-20
B321SFL020	Accessory Installation Guide	PORT INSTALLATION: 2021MY...	30-Jun-20
SOA801P031xx	Accessory Installation Guide	2021MY Crosstrek Sport Door Ed...	30-Jun-20
WRD-20R	Subaru Product/Campaign	Fuel Pump Impeller Failure	25-Jun-20
J131SXC100	Accessory Installation Guide	Ascent Cupholder Insert	25-Jun-20
H671SXC200	Accessory Installation Guide	2021MY Ascent Wireless Charger	25-Jun-20
H4510FL100	Accessory Installation Guide	2021MY Crosstrek Fog Light Kit	25-Jun-20
03-85-20	Technical Service Bulletin	Propeller Shaft- High-Pitched ...	24-Jun-20
12-295-20	Technical Service Bulletin	Front Leather Seat Cushion Cov...	24-Jun-20
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	24-Jun-20
15-246-19R	Technical Service Bulletin	New Immobilizer Registration P...	22-Jun-20
12-203-16R	Technical Service Bulletin	Squeaking Sound from Front Sea...	22-Jun-20
MSA5M2004S	Owner Manual	2020MY Legacy/Outback Own...	22-Jun-20
MSA5M2003S	Owner Manual	2020MY Legacy/Outback STARLI...	22-Jun-20
SUTTIPSLOC	Other/Miscellaneous	TechTIPS Article Locator Index...	18-Jun-20
TIPS_SE_AC	TechTIPS NewsLetter	Air Condition Season Special E...	18-Jun-20

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: _____