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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Memorial Day: (Closed)
Monday, May 25, 2020

Independence Day: (Closed)
Friday, July 3, 2020

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 Winner of QMR of the Month:

Leo Gilmore from
Ruge's Subaru in Rhinebeck, NY

February's winning QMR described the diagnosis and repair of a 2020 Impreza Sport which displayed a "Keyless Access System Disabled" warning message in the combination meter during a pre-delivery inspection. A Select Monitor check for DTCs revealed a B2282 for Vehicle Speed Signal Correlation. Although the keyless access fob functions (lock/unlock, etc.) operated normally, the live data for vehicle speed always displayed the status as "Stopped" instead of "Driving" regardless of the vehicle speed during his road test. The vehicle's speedometer operated normally and there were no other DTCs stored. Leo then identified and isolated the vehicle speed signal wire from the VDC control module to the Keyless Access control module. He proceeded to check the signal using the SSM's oscilloscope function after confirming his continuity checks were all OK. The wire was relatively easy to access so, he checked the same signal on a known-good vehicle to use for comparison. The problem car displayed a square-wave signal ranging from 0 to approximately .2 volts while the known-good vehicle voltage ranged from 0 to over 12 volts. Leo then proceeded to check the remaining I/O signals at the VDC connector with no other problems or connection issues found. After replacing the VDC control module, he scoped the signal wire again and confirmed the signal pattern and voltage range had returned to normal. The DTC was cleared and normal Keyless Access system operation restored. Leo's report included detailed results of all his testing along with photos of the wiring diagram and oscilloscope screen shots.

In appreciation for going the extra mile and sharing his experience with us, Leo 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.

SUBARU OF AMERICA, INC. IS
ISO 14001 COMPLIANT

ISO 14001 is the international standard for excellence in Environmental Management Systems. Please recycle or dispose of automotive products in a manner that is friendly to our environment and in accordance with all local, state and federal laws and regulations.



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Education Foundation

01 QMR of the Month (continued)

We would also like to further acknowledge Leo for his continued support of the QMR of the Month program. Since 2016, Leo has won QMR of the Month at the Regional level, twice and at the National level, four times! In addition, since 2016, Leo has submitted 120 QMRs and represented Subaru Distributors Corporation Inc. at the 2019 Subaru National Technician Competition. We sincerely appreciate his ongoing commitment to improving product quality for all our customers. His dedication helps ensure all Subaru Technicians and customers benefit from useful service information which leads to faster and more accurate repairs. Leo's actions are truly representative of the Subaru Love Promise.

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

- **David Jodat** from **Subaru City of Milwaukee** in Milwaukee, WI
- **Fernando Maldonado** from **Premier Subaru of Fremont** in Fremont, CA
- **Garrett Fuchs** from **Baierl Subaru** in Pittsburgh, PA
- **Daniel Evans** from **North Reading Subaru** in North Reading, 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 Disinfecting Vehicles

During these challenging times, we know our retailers consider the personal safety of their employees and customers to be of the utmost importance. We understand many retailers have enhanced cleaning procedures at their stores, including procedures for cleaning, sanitizing, and disinfecting vehicle interiors.

DISCLAIMER: Subaru of America has not evaluated any product for its ability to disinfect the novel coronavirus, and we make no representations regarding the effectiveness of any product. For information on products and procedures recommended for this purpose, please refer to information from the United States Centers for Disease Control and Prevention and the United States Environmental Protection Agency, available at www.CDC.gov and www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2.

Service department practices should be enhanced to ensure customer and employee safety. Safety enhancements may include:

- Sanitizing customer areas every hour.
- Waiting area floor markings with 6' lines to promote social distancing.
- Continue to greet the customers in a professional and friendly manner but refrain from any physical contact.
- Inform the customer of any sanitation measures taken before their vehicle is released to them.
- Personal protective equipment (gloves, etc.) should be used by Service Advisors.
- Providing the customer with a new pen for their sole use to prevent cross-contamination.

Subaru vehicles are built using many different materials that require many different types of care. Once a disinfectant has been chosen, do not spray or apply the product directly to any electrical switches or display screen surfaces. Instead, apply the product to a clean soft cloth. Make sure to not apply so much that the product is dripping off the cloth when squeezed. Applying too much cleaner may result in the product penetrating the surface and damaging the vehicle's electrical system components.

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01 Disinfecting Vehicles (continued)

Always try any cleaner / sanitizer on an inconspicuous small area (or better yet a similar scrap part) before using more broadly in a customer vehicle to ensure it will not damage, discolor, or fade the surfaces being cleaned.

Never apply cleaner / sanitizer while in direct sun or when the surface is warm or hot as drying speed will be affected and could result in water marks or similar discoloration.

Avoid use of highly concentrated alcohol solutions on infotainment touch screens and other clear plastics as it may cause hazing or fading to occur.

It is VERY important to remember when cleaning leather or other supple surfaces, a conditioner MUST be applied IMMEDIATELY after wiping away any disinfectant, to restore moisture.

Vehicle sanitation should focus on areas frequently touched:

- Interior and exterior door handles
- Steering wheel
- Arm rests
- Shift lever/paddle shifters
- Turn signal, wiper stalks
- Radio and climate control buttons/knobs
- Window switches
- Center console
- Door locks and switches
- Rearview mirror and side mirror controls
- Sun visors
- Seat(s)
- Key(s)/fob(s)

Below is a link to a very informative video from Hagerty.com on this subject. Subaru of America has not verified—and does not endorse—any claims made in this video with respect to disinfecting the novel coronavirus. However, its recommendations for avoiding damage to vehicle surfaces provide helpful guidance.

https://www.hagerty.com/articles-videos/articles/2020/03/24/how-to-disinfect-car-without-destroying-interior?utm_source=SFMC&utm_medium=email&utm_content=20_March_27_Newsletter_NewDD

01 CPO PROCEDURE FOR TURBOCHARGED SUBARU VEHICLES

Due to the high number of phone calls presented to the Techline, we felt it necessary to remind retailers of the correct CPO procedures for Turbocharged Subaru vehicles. Checking the CID/CVN over the phone for CPO purposes is NOT the correct procedure. The information below was published in the September 2015 TechTIPS Newsletter:

ECM CHECK PROCESS:

It is required that any turbo model being considered for certification have this inspection completed first.

All correspondences should be directed to TECH@Subaru.com. Techline will not process phone requests for CPO.

- In the subject line of the e-mail, please NOTE: "CPO CID/CVN Certification request".
- Attach the screen shot of the vehicle information screen.
- The e-mail should contain the retailer code, retailer name and contact person's name and phone number.
- The Techline representatives will respond back to retailers within 24 hours.



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Please ensure all criteria are met before sending in a CPO CID/CVN Certification request to avoid delays. Once the vehicle has passed this part of the inspection process, you should proceed with the rest of the decision-making process on certifying the vehicle.

As the CPO 152-point inspection form indicates, if a vehicle has ANY performance modifications, it cannot be enrolled as a Subaru Certified Pre-Owned vehicle. If there are any other non-performance related modifications, the vehicle must be returned to stock, with all stock/OEM parts installed before it can be enrolled as Certified. Non-compliance to these requirements may result in chargeback to the retailer for replacements after it is sold as a Subaru CPO unit.

TECH TIPS GREATEST TIPS

This series features TechTIPS articles frequently referred to by Techline. This month's feature is from September 2018.

01 AUTHORIZATION REQUESTS (AR) FOR PAINT AND GLASS OVER \$500.00

On a daily basis, Techline receives Authorization Requests (AR) through Subarunet for paint and glass repairs exceeding \$500.00. These ARs are reviewed to determine if the condition reported will be covered under Warranty. Many of the ARs submitted describe damage caused by outside influence which is not a defect and therefore, not a matter for warranty. Prior to submitting your next AR, please review the Subaru Claims Policy and Procedures Manual (Sections 8.4.25 and 8.4.31) to familiarize yourself with valid repairs criteria related to Paint and Glass.

Common reasons ARs are rejected:

- **Impact causing damage to the windshield or other glass, stone chips, wiper slap (To avoid damage caused by wiper slap, it is recommended the wiper arm(s) be lowered to the glass without letting go until the rubber of the wiper blade touches the glass.)**
- **Paint Chips caused by outside influence**
- **Clear coat lifting/blistering and/or color coat damage caused by outside influence like: fluids, tree sap, bird droppings, solvents or impact.**

To improve the process, a close inspection of the glass crack or paint condition is required to identify any source of outside influence. If you determine a condition is not warrantable, review your findings with the customer at the time of the inspection. Submitting an AR when it is known it will be rejected is counterproductive for everyone involved.

If it is determined an AR is required, provide only quality pictures that clearly show the condition being reported. All retailers are required to have a 5 mega pixel (minimum) camera that provides high quality photos.

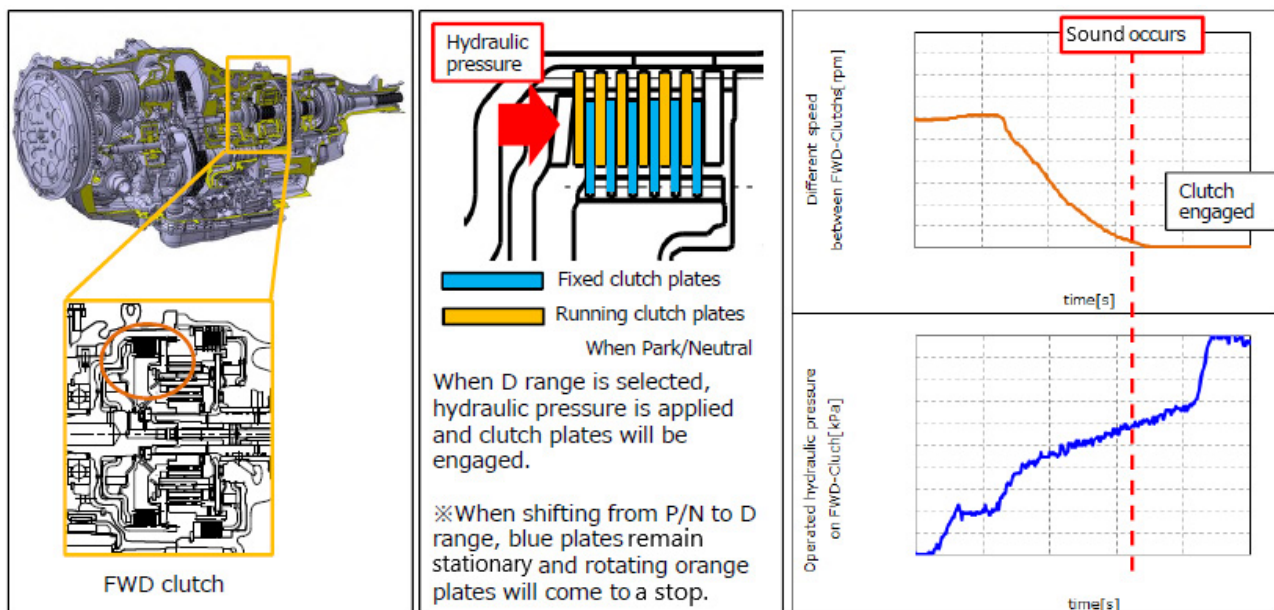
Continued on the next page

- Windshield cracks must have overlapping photos showing the entire length of the crack when applicable
- Vehicle should be clean
- Avoid glare from overhead lighting, bright sunlight and reflections.

It is important to review all of the pictures being submitted and ensure they are quality photos clearly showing the condition being reported. If unable to see the condition on the photo, we will not see it either resulting in requests for additional photos.

Following these recommendations will save time and improve the Authorization Request process for everyone.

The High-Torque CVT equipped in the 2019+MY Ascent, 2015+MY Legacy/Outback 3.6R and XT, 2014-2018MY Forester XT, and 2015MY+ WRX (CVT equipped), may emit a brief squeak or chirp sound when shifting the transmission from park or neutral to drive. This sound is caused by the operation of the forward clutch, just before the clutch fully engages. The sound is caused by the clutch plate friction materials sliding against each other. These plates are designed to accept this type of contact. The sound does not affect the performance or reliability of the transmission and is characteristic of its operation so, no attempt should be made to try to repair it. It is important to ensure there are no DTCs stored as current or in history, there are no drivability concerns present and, the sound only occurs while the vehicle is stopped and under the conditions described above.



Techline has received several calls regarding tire pressure DTCs, intermittent flashing of the TPMS lamp, and/or the center information display (in the combination meter) not displaying tire pressures. Technicians may find DTC C2921 set as history or current in the TPMS control module.

Situation 1: This code is originally set when TPMS ID is not registered correctly.

Situation 2: It is also set when one or more of the sensor status parameters do not change.

This means a communication error between TPMS CM and TPMS sensor(s) has occurred. If the TPMS CM cannot communicate, it assumes there is a sensor registration error. In some cases, the TPMS CM sets DTC C2121-C2124, for each TPMS malfunction, and DTC C2921 is set afterwards. Unfortunately, those DTCs move to “history” on the next key cycle, but C2921 remains as “current.” If the TPMS memory is cleared, only C2921 is left in the TPMS CM. The TPMS CM is constantly trying to communicate with the sensors and needs to see the status change on each sensor within a specified time. Diagnosis should begin with a recorded data monitor file of the TPMS live data while driving at varying speeds and making several turns. When reviewing the data, look for one or more of the tire pressure sensor status parameters performing differently than the others. These parameters use a BIT code to record several conditions in each sensor.

First, let’s break down how to read the BIT data associated with the sensors.

The BIT code is an 8-digit number, read left to right, with corresponding digits 7 to 0. The chart below can be found on STIS, and if here for reference.

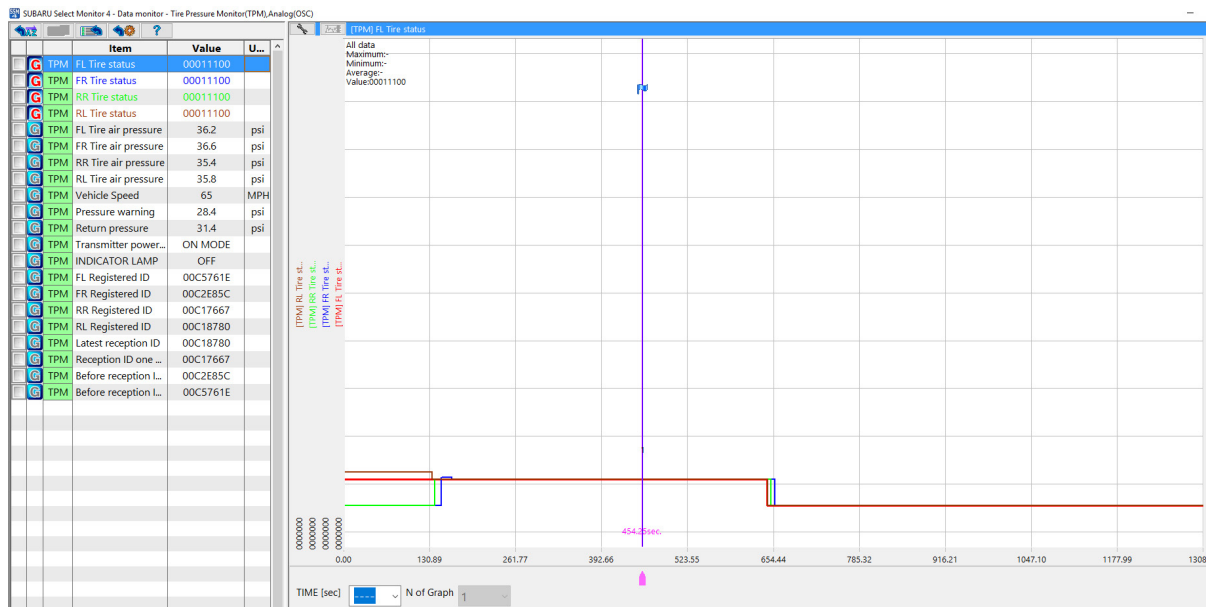
BIT	Data	Condition
7	Low Battery	Shows the remaining battery level. 0: Normal 1: Low level
6	Sensor Fail	Shows the malfunction of TPMS. 0: Normal 1: Malfunctioning
5	LF Response	Shows the responding transmission to the LF signal. 0: Transmission for other than LF response 1: Transmission for LF response
4	PAL Condition	Shows the status of position information. 0: Position detection finished 1: Position detection in progress
3	Rolling Detection	Shows the status of tire rotation detection. 0: Tire stop status detected 1: Tire rotation status detected
2-0	Status code	Shows the status in valve transmission. 0: Responding to the LF signal "Learn LF" 1: Detecting the change in tire pressure 2: — 3: Responding to the LF signal "Entering off LF" 4: Position detection is in progress (transmission timing is synchronized with tire rotation) 5: Position detection is in progress (transmission timing is not synchronized with tire rotation) 6: Normal driving status (position detection mode is ended) 7: Detecting the completion of change in tire pressure

Example : 00001110		
[765432-0]		
BIT	Status	Condition
7	0	Normal
6	0	Normal
5	0	Transmitting
4	0	Position Detected
3	1	Tire Rotation
2--0	110	110 or 6, Normal Driving

The last BIT code sequence (2-0) will need to be read in binary. This will create the number associated with the condition.

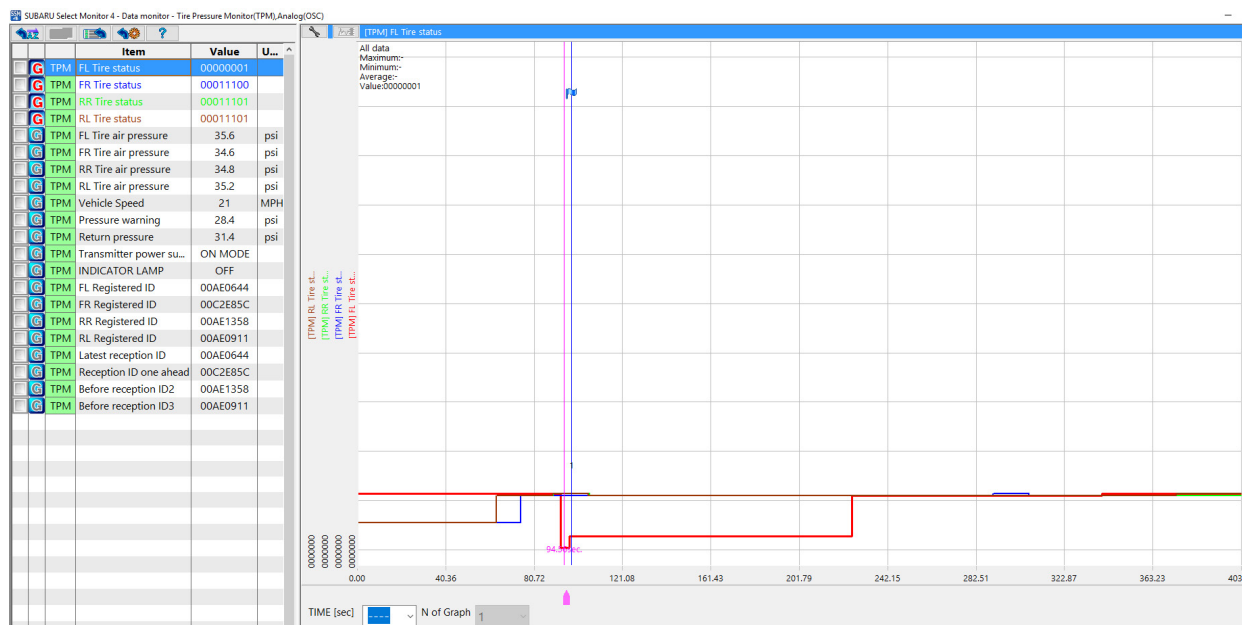
This is as follows: 000 = 0; 001 = 1; 010 = 2; 011 = 3; 100 = 4; 101 = 5; 110 = 6; 111 = 7

Below is a SSM4 graph of normal operating sensors for reference:

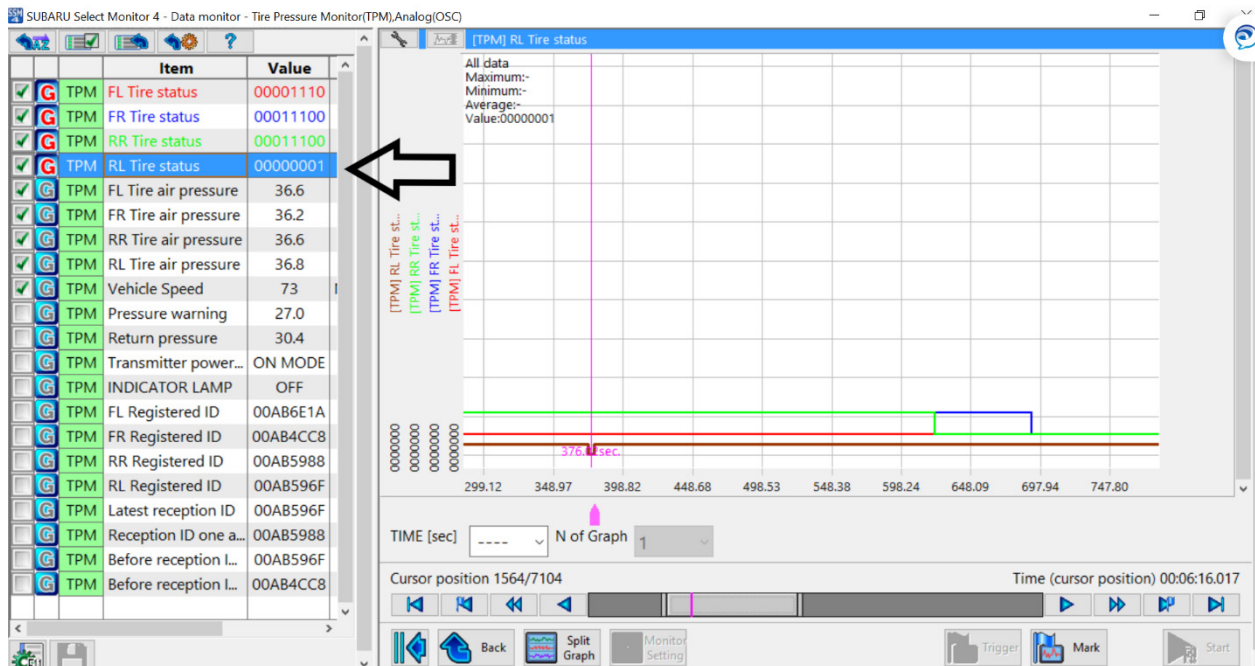


Take note, the sensors are reading the same status and are uniform.

Below is an example of a faulty TPMS sensor:



In the picture above, you can see one of the sensors does not communicate properly and drops status. The other sensors change status as designed and eventually the faulty sensor comes online. This would be a case of intermittent transmission. This will aid in diagnosis to isolate the potential faulty sensor.



Above is another example of a faulty sensor.

A transmitter code may be set if the individual tire pressure sensor malfunctions multiple times in correspondence with TPMS CM logic. This should be considered when determining which of the sensors may be malfunctioning.

Once a sensor is isolated, the wheel and tire should be swapped with a known good assembly for testing. Do not neglect to register the sensors before performing another test drive. The BIT/live data should then be monitored again for any fluctuations.

NOTE: Technician preliminary checks should include inspection of customer accessories that may cause interference with the system and proper diagnosis. These accessories may include but are not limited to: USB converter to 12V power port, USB cables, mylar blankets and metallic sun shades.

NOTE: The first 4 paragraphs (in italics) of this article were previously released in the May 2019 issue of TIPS. The new information begins with the 5th paragraph.

There have been a significant number of inquiries regarding DTC B2A15 and telematics system operation. Customers usually report a concern about the red telematics LED being illuminated, either currently or in the past. In a case where the red LED is presently not displayed, the customer may also have an email stating STARLINK has detected their services may not be operating correctly and recommending they return to the retailer to have the system diagnosed. Once at the retailer, if the LED is green, the system is usually operating within manufacturer specification BUT, there may be a DTC B2A15 in history.

The first step to any B2A15 concern investigation is to ask the customer if they are using or have used any third-party device like an insurance company's driver monitoring or OBD-II port-connected device. There are more and more products hitting the market every day meant to plug into the OBD II connector to monitor and collect data from the vehicle.

If an OBD-II port-connected device is in use, following a detailed customer interview, secure customer permission to remove the device and confirm operation of all subscribed remote telematics services as well as operation of both the "i" and SOS buttons. If all services are currently performing within manufacturers specifications, clear the DTC and inform the customer to consult their STARLINK® service agreement terms and conditions. Below is the section copied from the Agreement applicable to this situation.

"Subaru cannot guarantee the performance of any devices not supplied by Subaru of America, Inc, or its affiliates. Additionally, third-party devices (such as some driver monitoring or third-party OBD-II port devices), may interfere with the proper function of certain vehicle features, including the Subaru STARLINK system. Customers may, at their discretion, use those devices but, if they create interference with the vehicle or the STARLINK® system's operation, the system may not operate properly and, the warranty may not offer relief for the conditions that result from such usage."

NOTE: Anytime there is a current DTC B2A15, the message in the STARLINK notification and/or shown on the head unit (H/U) display may indicate the safety and security services may not be available. This STARLINK notification is a generic message to account for several possible DTC conditions which may impair the function of the vehicle's Telematics system. In the case of B2A15 caused by an OBDII device as described above, safety and security features will continue to function as expected along with STARLINK notification messages for informational purposes. There is language in the STARLINK notification which may appear on the H/U display as well as in STARLINK communications subscribed to by the customer stating safety and security services may not be available. RED LED and STARLINK notifications will occur if there is an OBDII device installed at engine start-up, and B2A15 is set as a current code. This message is generic to account for all possible DTC conditions which may impair the function of the vehicle's Telematics system.

In the case of B2A15 caused by an OBDII device, safety and security features will continue to function as expected. STARLINK notification messages will also continue for informational purposes.

For customers concerned about the frequency of these communications which are being caused exclusively by the their OBDII device, they can modify the frequency STARLINK provides notification by visiting their MySubaru account.

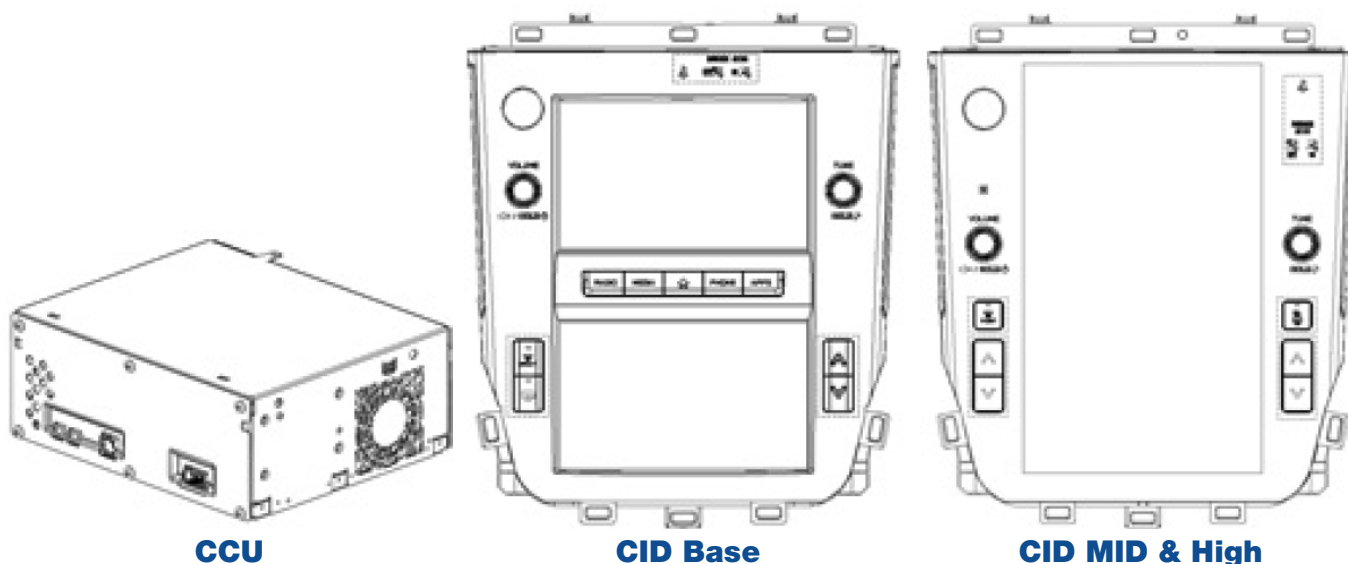
As another option, DTC B2A15 can be avoided in most cases by disconnecting the OBD device following each engine shutdown and reconnected only after the engine has been started and running for at least 5 seconds.

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15 Updated Infotainment “Conditions” Information

Denso Gen 4 CP1 Audio Exchange Unit Process

There is currently a high volume of exchange orders for Denso CP1 CID components.



In order to mitigate the risk of backorder situation, always insure proper diagnosis is completed each and every time prior to proceeding with CID or CCU exchanges. The results of diagnostics performed must be documented on the Repair Order and in the rare case of an actual CID failure, using the supplied questionnaires attached to QMRs.

In the vast majority of cases, even when the operation of the CID touch screen appears impacted (stuck, frozen or not responding), this is actually a result of a CCU software or hardware failure rather than actual CID failure. CCU is either unable to receive the input properly or unable to provide the needed output to display but, the touch screen is still functioning as designed. Moving the affected CID to a correctly operating vehicle is a quick way to confirm the CID is or is not related to the condition.

Keep this information in mind when repairing infotainment related concerns.

00 STIS new releases

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
SOA567H011	Accessory Installation Guide	Thule 2" Hitch Adapter	17-Apr-20
SOA567B060	Accessory Installation Guide	Thule Bike Carrier – Hitch Pla...	17-Apr-20
07-162-19R	Technical Service Bulletin	Automatic Door Lock / Unlock F...	17-Apr-20
12-287-20	Technical Service Bulletin	Manual Rear Gate, Gate Stays- ...	16-Apr-20
WUJ-95R	Subaru Product/Campaign Bulletin	Exhaust Pipe Front (EPF) Bello...	16-Apr-20
WQT-55	Subaru Product/Campaign Bulletin	Occupant Detection System (ODS...	16-Apr-20

All revised publications are highlighted in yellow.

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ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
WRC-20R	Subaru Product/Campaign Bulletin	Rear Seat Belt Webbing Locking	14-Apr-20
15-257-19	Technical Service Bulletin	STARLINK Service Leads, DTC B2...	10-Apr-20
15-219-18R	Technical Service Bulletin	Error Code 202 and / or 204 Ge...	8-Apr-20
12-286-20	Technical Service Bulletin	Front Door Weatherstrip- Desig...	6-Apr-20
07-162-19R	Technical Service Bulletin	Automatic Door Lock / Unlock F...	3-Apr-20
WUM-98R	Subaru Product/Campaign Bulletin	Occupant Detection Wiring Harn...	3-Apr-20
16-128-20	Technical Service Bulletin	DTC P0842 / Transmission Harne...	2-Apr-20
WRA-20R	Subaru Product/Campaign Bulletin	Rear Seat Belt Webbing Locking	1-Apr-20
07-175-20	Technical Service Bulletin	DMS Settings- SSM4 Procedure f...	31-Mar-20
09-71-20	Technical Service Bulletin	Rattle / Buzz -Type Sound from...	31-Mar-20
15-240-19R	Technical Service Bulletin	New Harman Audio Amplifiers	31-Mar-20
15-262-20	Technical Service Bulletin	DTC B224C- Radio Antenna Fault...	26-Mar-20
WUK-96R	Subaru Product/Campaign Bulletin	DIT Exhaust Pipe Front (EPF) N...	26-Mar-20
07-174-20	Technical Service Bulletin	DTC B2350- Rear Cross Traffic ...	26-Mar-20
12-258-20	Technical Service Bulletin	Rattling Sound from Sunroof De...	25-Mar-20
WUJ-95R	Subaru Product/Campaign Bulletin	Exhaust Pipe Front (EPF) Bello...	24-Mar-20
16-127-20	Technical Service Bulletin	AT Select Lever Guide Plate- D...	24-Mar-20
12-284-20	Technical Service Bulletin	Interior Door Handles- Chrome ...	24-Mar-20
12-283-20	Technical Service Bulletin	Hood Stay Support / Prop Rod- ...	24-Mar-20
H451SFL300	Accessory Installation Guide	PORT INSTALLTION: 2020MY Impr...	23-Mar-20
H501SSG203	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	23-Mar-20
12-282-20	Technical Service Bulletin	Instrument Panel and Center Ve...	20-Mar-20
07-173-20	Technical Service Bulletin	Rear Hatch / Trunk Release- Un...	20-Mar-20
07-172-20	Technical Service Bulletin	Headlight Anti-Fog Enhancement...	20-Mar-20
15-249-19R	Technical Service Bulletin	2020 Audio/Navigation & Power ...	19-Mar-20
14-24-20	Technical Service Bulletin	Hub Remover / Special Tool - J...	19-Mar-20
SUTTIPSLOC	Other/Miscellaneous	TechTIPS Article Locator Index...	18-Mar-20
J501SXC150	Accessory Installation Guide	21MY Ascent 2nd Row Rear Seatb...	17-Mar-20
J501SXC130	Accessory Installation Guide	21MY Ascent 2nd Row Rear Seatb...	17-Mar-20
07-155-19R	Technical Service Bulletin	Power Rear Gate (PRG) Control ...	16-Mar-20

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.

Your Name: _____

Signature: _____

Dealer's Name: _____

City: _____

Date: _____

Dealer Code: _____