TECH TIPS

February 2020

SUBARU

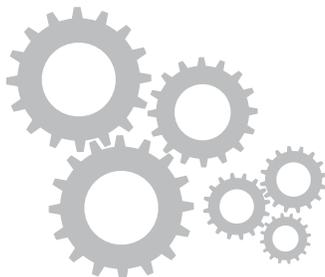### Subaru Service and Technical Support Line Newsletter

SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

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

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

Independence 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:

Brandon Moller from
Bill Kolb Jr. Subaru in Orangeburg, NY

The winning QMR Brandon submitted described a 2018 Impreza with an unusual customer concern of the windshield wipers coming on intermittently without any switch input from the driver. At first, he was unable to confirm the condition but, after repeated attempts and opening / closing the driver's door to add some extra vibration, the wipers came on erratically at 1-3 second intervals and with the switch in the OFF position. After connecting the SSM to confirm proper wiper switch input to the BIU, he verified the ON signal but, it would intermittently switch to OFF for a split second which he documented in his report by supplying a video attachment. Wiring checks between the harness connectors at the switch and the BIU were all normal with no shorts to power, ground or any abnormal resistance found. Brandon suspected the wiper switch as the root cause but *before* replacing it, he performed comparison resistance and continuity checks between a new and the suspect part to successfully confirm his suspicion. Normal wiper operation was restored by replacing the faulty switch. Brandon's report included an additional video of the wipers operating erratically along with detailed results and photos of the testing he performed prior to replacing the switch.

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

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

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

- **Garrett Fuchs** from **Baierl Subaru** in Pittsburgh, PA
- **Zachary Sklarew** from **Michael's Subaru** of Bellevue in Bellevue, WA
- **Dan Sexauer** from **Lou Fusz Subaru - St. Peters** in St. Peters, MO
- **Nathan Williams** from **Atlantic Subaru** in Bourne, 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 Presentation

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 December 2019 was Brandon Moller, a Technician from Bill Kolb Jr. Subaru in Orangeburg, NY.

Brandon is shown above (center) after being presented with his $500.00 Snap-On Gift Card by Subaru Distributors Corporation Field Service Engineer Jim Colamarino to his left. Pictured here (left to right) are: Bill Kolb Jr. Subaru's Fixed Operations Director, Joe Minns, Assistant Fixed Operations Director Jessica Rolon, December's winning Technician Brandon Moller, Jim Colamarino and Shop Foreman, John Cote. Congratulations and THANK YOU to our December 2019 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 November 2018.

05 NEW MODEL ALIGNMENT SPECIFICATIONS

As new models are released, Technicians often find their alignment machines do not have the alignment most up-to-date specifications stored. To ensure a vehicle handles properly and to provide the highest quality repair for our customers, it is imperative to properly adjust alignment angles to specification. Alignment specifications are found in every Service Manual by clicking **Suspension** > **Front Suspension** > **Wheel Alignment** > **Inspection**. Once you have the specifications, you can enter them into your alignment equipment. If you are unsure how to manually enter alignment specifications, please contact your equipment supplier.

REMINDER: Always ensure your alignment software is up to date. Never use incorrect specifications.

07 2019MY and up Forester MFD Displays Incorrect Vehicle Angle

Technicians have been encountering a customer concern of the MFD is always displaying the vehicle pitch and/or yaw at a value other than 0 degrees even when parked on a seemingly level surface. Diagnosis for this concern should start with examining the Auto Headlight Beam Leveler Control Module.

The MFD receives this information from the Auto Headlight Beam Leveler Control Module. The Headlight control module installation is key for proper operation. The module is located above the steering column in the driver's front footwell area. Check the mounting bolt and bracket to ensure both are secure, and the bracket has not been moved, bent or otherwise damaged.

After determining the mount is properly installed, make sure to complete the reinitialization procedure. This can be found in **Body & Electrical/Wiring** > **Lighting System** > **Auto Headlight Beam Leveler System** > **Procedure**.
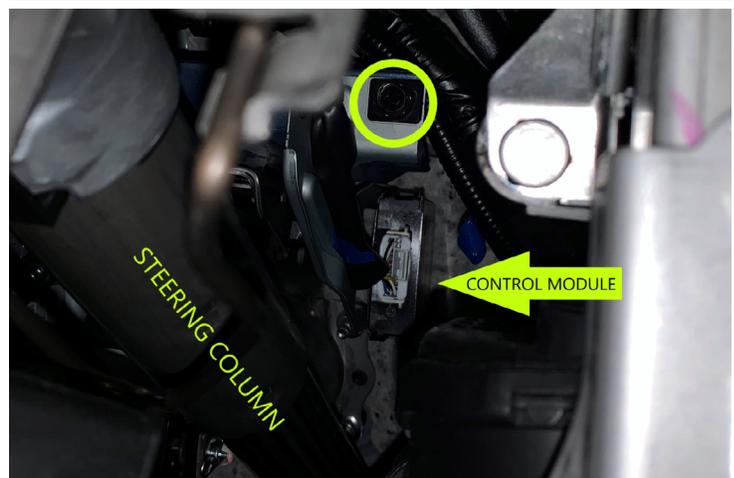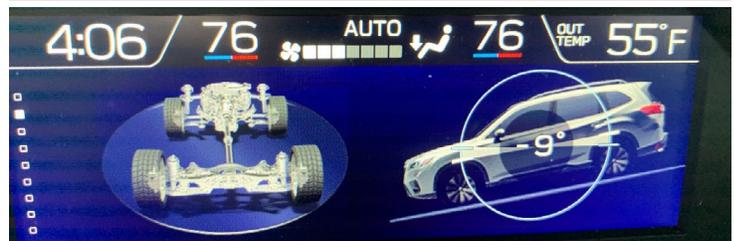
When replacing a sunroof frame, or during any sunroof diagnosis, it is imperative to ensure the sunroof and sunshade motors are installed correctly. The motor for the shade and the glass look interchangeable but, this is not the case as there are distinct internal differences. Also, the connectors for the motors are the same shape which allows them to be easily installed incorrectly. Refer to the Service Manual to ensure the correct motor is installed to each location and the correct connector is plugged in to each motor.

SR-10079
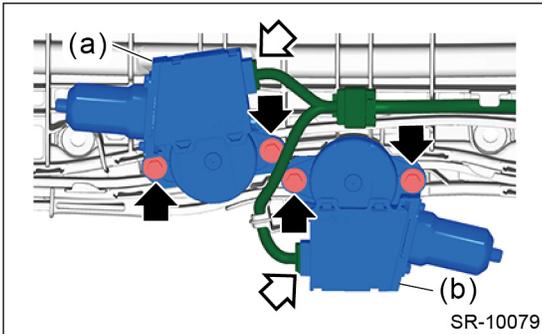
(a) Motor ASSY shade
(b) Motor ASSY lid

Go to Body & Electrical/WIRING SYSTEM > SUNROOF/T-TOP/ CONVERTIBLE TOP (SUNROOF) > Sunroof Motor > REMOVAL for motor identification.

AD41 and AD42 are the connectors for the sunshade and sunroof motors. Notice the wire colors and pin positions are identical, except pin number eight. AD41 pin eight has a green wire whereas AD42 pin eight has a blue wire.
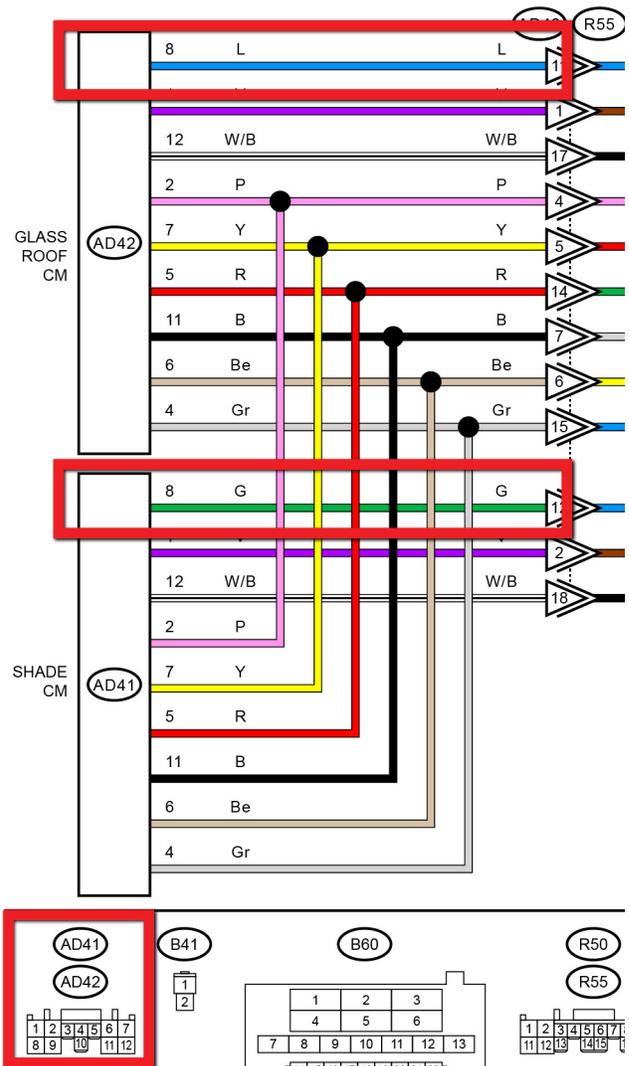
07   Power Rear Gate (PRG) Inoperative with Ignition ON and / or Engine Running

If a vehicle presents with a customer concern of the PRG only working when the ignition is OFF, check the PID for the Park switch. If the PID shows the Park signal is OFF, the PRG will not operate. This keeps the PRG from operating when the vehicle is in motion. The Park signal must be ON for the PRG to operate. The problem was found to be contamination in the Park-Range switch located in the selector lever assembly. See **TSB 16-112-18R** and the June 2017 issue of TIPS for more related information.

12   Rattle Sound from Steering Wheel Area

Late model Subaru vehicles have many different components installed to the steering wheel. Each component has its respective wiring harness. When diagnosing a customer's concern of a rattle noise coming from the steering wheel area it is important to confirm the wiring harnesses are routed correctly. Use this check point guide to confirm all wiring harnesses are routed appropriately.

Check point③
The harness is stuck between steering wheel and satellite switch cover or not.

Check point②
The paddle shift harness is touching steering wheel cover or not.

Check point①
The clips are grabbing satellite switch harness correctly or not.
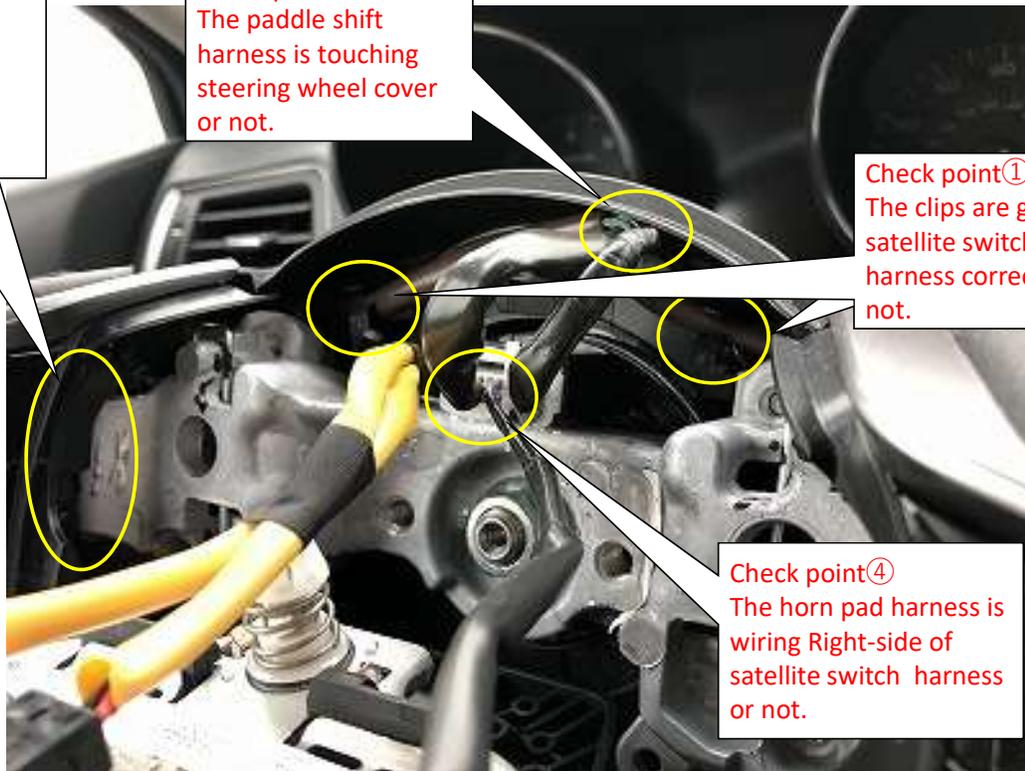
Check point④
The horn pad harness is wiring Right-side of satellite switch harness or not.

CHECK POINT ①

- The satellite switch harness (brown) is secured by two clips. Make sure the harness is fully installed into each clip as shown below.

Satellite switch harness

Clip

Clip
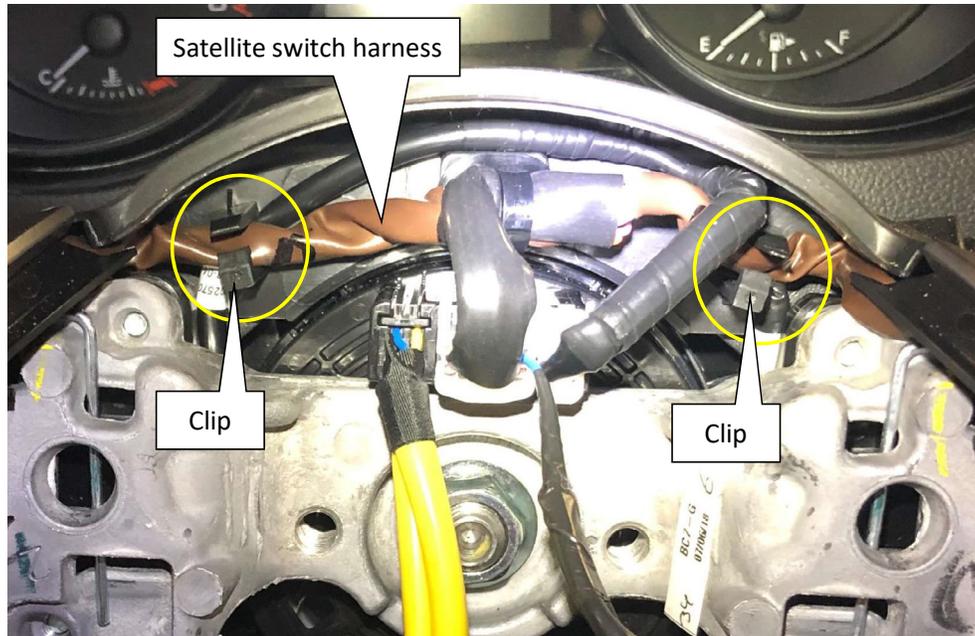
CHECK POINT ②

- Make sure the paddle shift harness is touching with steering cover or not.

- The paddle shift harness should be routed below the satellite switch harness. If the paddle shift harness is touching the steering column cover re-route the paddle shift harness below the satellite switch harness.

- If the paddle shift harness is still touching the steering column cover after correcting the harness routing, please install non-woven tape or EPT foam tape on the paddle shift harness to prevent a possible rattle sound.

Incorrect wiring

Steering cover

Paddle shift harness

Satellite switch harness

Correct wiring

Paddle shift harness

Satellite switch harness

CHECK POINT ③

- Check to see if the satellite switch harness is stuck between the steering wheel and the satellite switch cover.
- If the satellite switch harness is stuck there, push the satellite switch harness back into the satellite switch cover. Always be sure to check BOTH satellite switches.

Left side satellite switch

Incorrect wiring

Satellite switch cover

Steering wheel

Correct wiring

Satellite switch harness
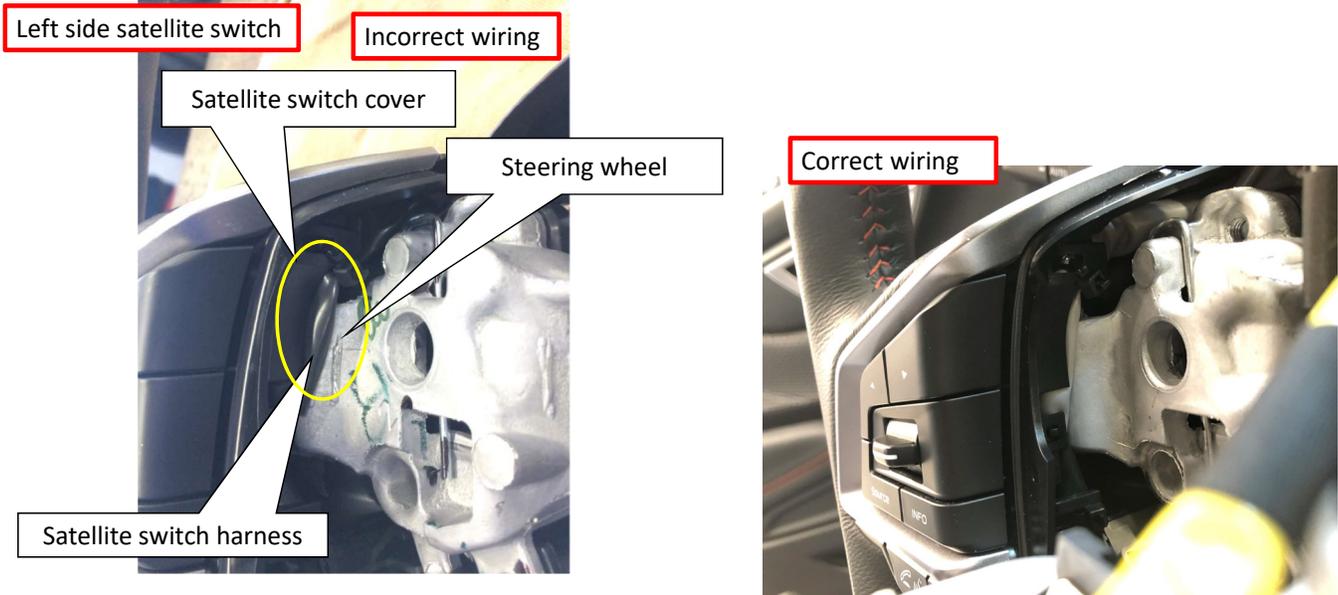
CHECK POINT ④

- Confirm horn pad harness wiring runs to the right side of the satellite switch harness or not.
- If the horn pad harness is wiring is on the LEFT side of the satellite switch harness, move it to the right side of the satellite switch harness.

Incorrect wiring

Satellite switch harness

Correct wiring

Horn pad harness
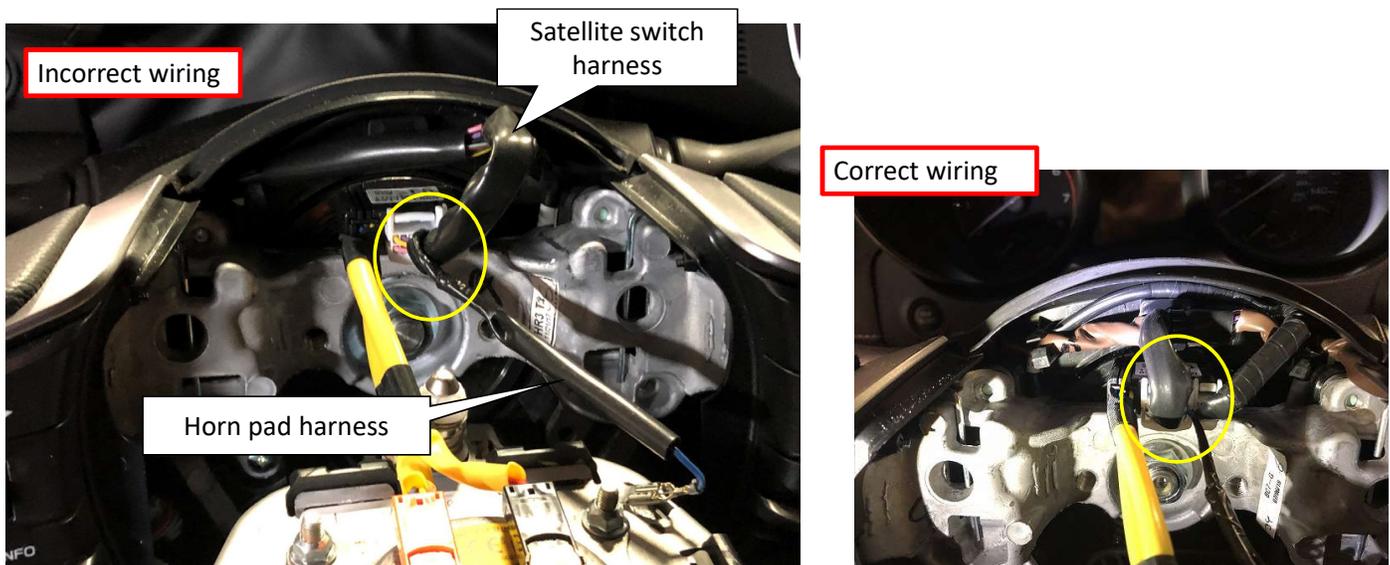
Several retailers have reported issues with FlashWrite®2 while reprogramming vehicles. Please review the following TIPS to prevent and/or correct some of these issues.

VERIFY YOUR SUBARU SELECT MONITOR SOFTWARE VERSION

First, open the Subaru Select Monitor 4 program, select the bottom left gear icon> Help> Version Information.

The SSM4 version number is listed as "Ver.xx.x.x" and is displayed in the red box in the photo below.
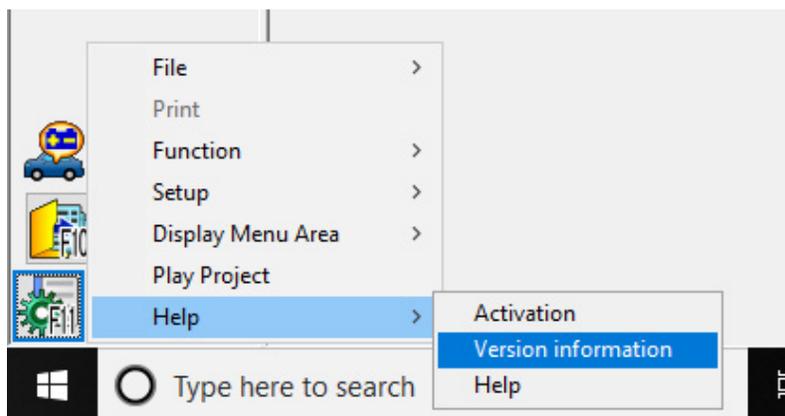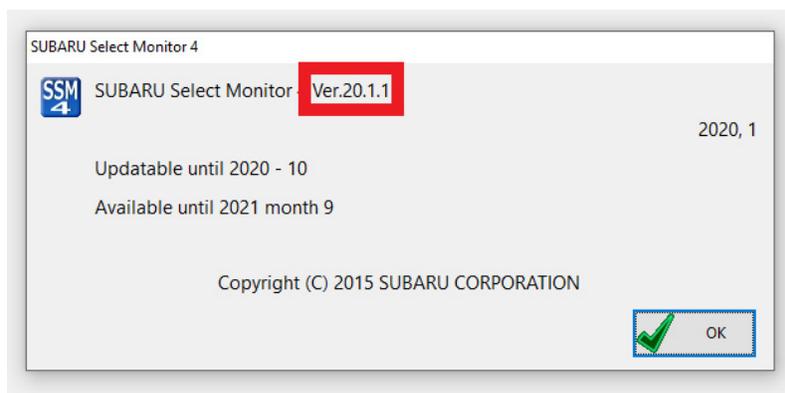

If your version is before 20.1.1 it needs to be updated (as of February 2020.) Please contact Nuspire at: **(844) 782-7404** for update assistance.

"NOT SUITABLE FOR REPROGRAMMING" MESSAGE

If you encounter a 'Not Suitable for Reprogramming' message during a reprogramming session, verify there are no DTCs stored. The Techline has received numerous calls with this concern. After verifying the correct PAK file had been selected and getting the 'Not Suitable' message, a P-code was found stored in ECM memory. After addressing the DTC and clearing the memory, the update completed normally.
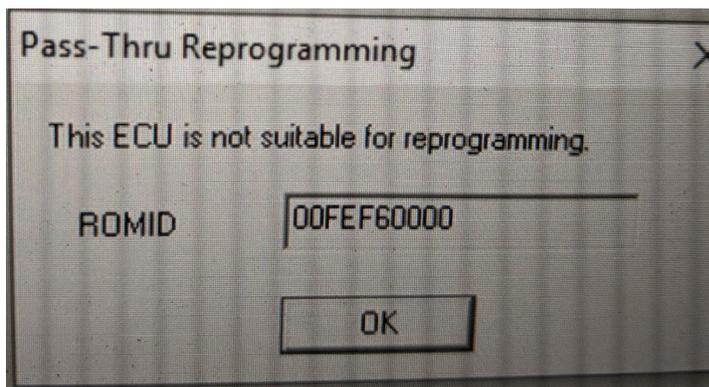
"ERROR OCURRED IN THE DECRYPTION. CHECK THE DECRYPTION KEYWORD" MESSAGE

Error code 108 occurs when the Decryption Keyword is not entered correctly or when the incorrect PAK file is selected. If you get Error 108, first ensure you are entering the decryption keyword as it is written as they are, case sensitive. If you are sure you have entered the correct Decryption Keyword, ensure you are using the correct PAK file. Sometimes, a database error may occur and provide the incorrect PAK file. To make sure this is not the case, try searching by the Vehicle Specification if you initially searched by CID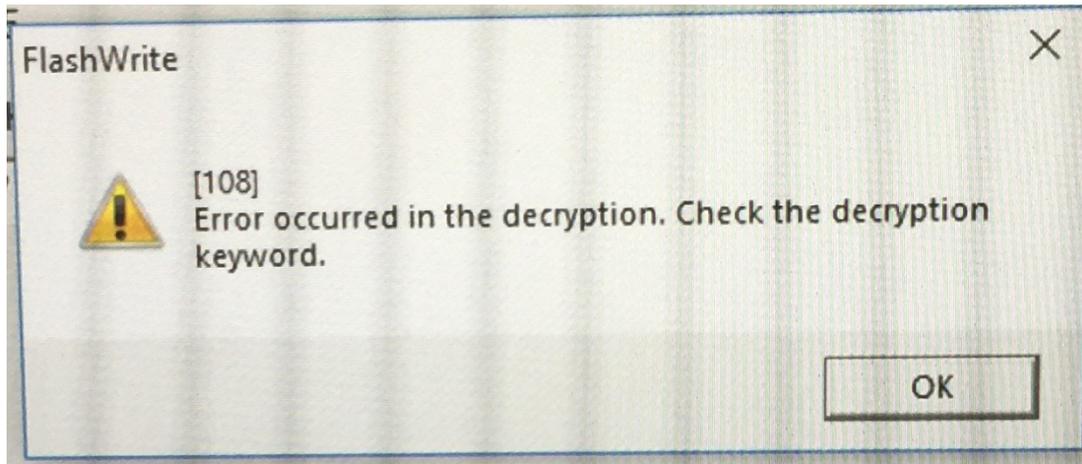, or search by CID if you initially searched by Vehicle Specification. If you find the PAK number differs based on the type of search, submit a QMR with screenshots or photos of the condition.

CONTROL MODULE RECOVERY PROCEDURE

NOTE: The same laptop must be used to recover the control module that was in use when reprogramming had failed.

There are several reasons why reprogramming may fail: low vehicle battery, loss of electrical power to the laptop or vehicle, dislodged OBD2 or USB cables, etc. In most cases it is NOT necessary to replace the Engine Control Module (ECM.) The following procedure should be used to recover an ECM which has failed to program. Prior to performing this procedure, ensure your laptop, DST-I, and all cables are in proper working order. If you have issues with the hardware, contact Nuspire support at **(877) 782-7404** for assistance with any needed repairs.

Recovery procedure

1. Turn the ignition switch to the "OFF" position for at least 15 seconds.

2. Turn the ignition switch back to the "ON" position and restart FlashWrite®2.

3. Proceed with the appropriate file selection for the vehicle specification.

4. Once FlashWrite®2 begins to communicate with the vehicle, the following message will be displayed with the appropriate control module part number displayed:

Click on the part number to highlight it. **THIS IS VERY IMPORTANT.**
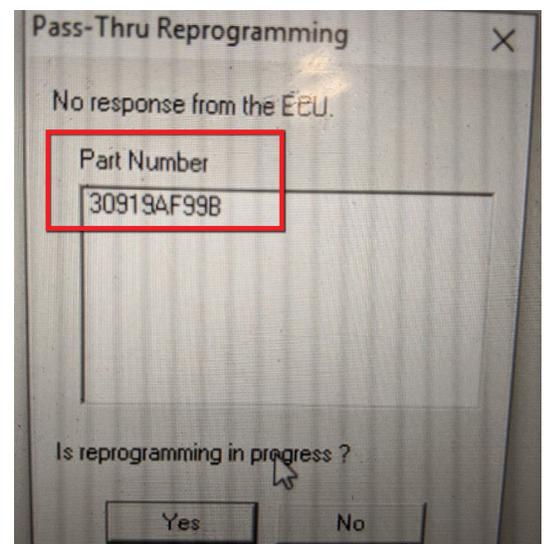
5. Select "Yes" and FlashWrite®2 will show the current and new control module part number screen.
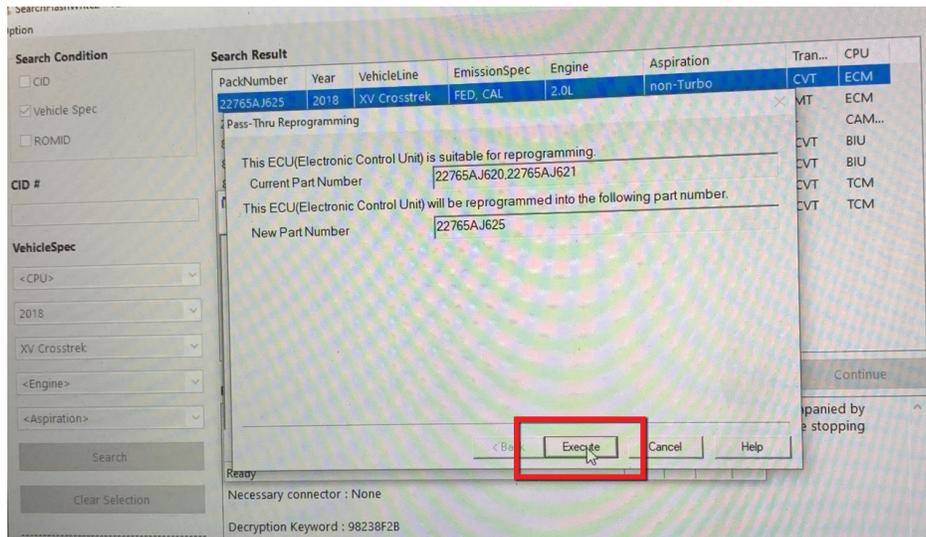
6. Select "Execute" and FlashWrite®2 will begin the reprogramming process.

7. If you incorrectly answer the "Is reprogramming in process?" question "NO", you will receive error code 4007 "No response from the ECU. Check the cause of no response."

8. If this is the case, turn the ignition switch off for at least 15 seconds and begin the recovery process again.

NEXT STEPS

After verifying the previous procedures and confirming they do not correct the reprogramming issues, contact Nuspire support at **(844) 782-7404**. They will verify if your Subaru laptop system is up to date and functioning properly. If not, they will refer you to the Subaru Technical Helpline **(866) SUBARU-2**.

HELP FOR OTHER ERROR CODES

FlashWrite®2 is capable of setting many different error codes. Their definitions and check items are not published to STIS. To find the definitions and check items select the **bottom left gear icon> Help> Help**
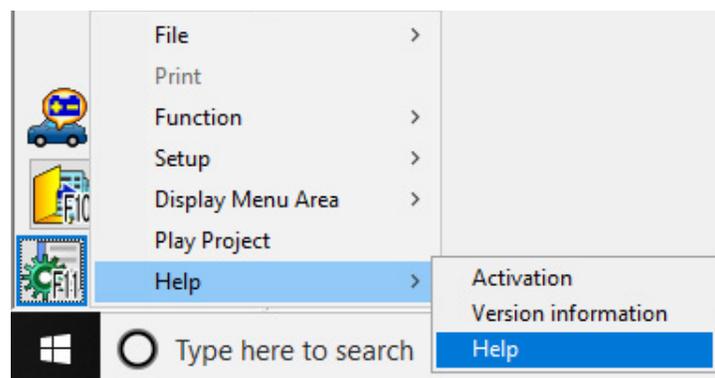
This will open the SSM4 user guide. Error code definitions and check items are listed under "Control Module Reprogramming Error Code List."

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
07-170-20	Technical Service Bulletin	Reprogramming File Availabilit...	21-Feb-20
03-83-20R	Technical Service Bulletin	New Shift Fork and Sleeve Avai...	21-Feb-20
07-169-20	Technical Service Bulletin	Push Button Start Switch- Labe...	21-Feb-20
01-180-20	Technical Service Bulletin	Incorrect Freeze-Frame Data De...	21-Feb-20
07-162-19R	Technical Service Bulletin	Automatic Door Lock / Unlock F...	21-Feb-20
15-130-08R	Technical Service Bulletin	Load Carrying Capacity Reduced...	21-Feb-20
15-260-20	Technical Service Bulletin	Harman Display Audio and Navig...	21-Feb-20
07-158-19R	Technical Service Bulletin	DTC B280B- EyeSight Camera Rep...	21-Feb-20
15-205-16R	Technical Service Bulletin	Reprogramming File Availabilit...	19-Feb-20
15-259-20	Technical Service Bulletin	Denso Gen 4 Cockpit One (CP1) ...	19-Feb-20
15-236-18R	Technical Service Bulletin	Reprogramming File Availabilit...	19-Feb-20
15-186-15R	Technical Service Bulletin	Reprogramming File Availabilit...	19-Feb-20
15-199-16R	Technical Service Bulletin	Reprogramming File Availabili...	19-Feb-20
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit...	19-Feb-20
12-281-20	Technical Service Bulletin	Hood Panel Vibration	19-Feb-20
MSA5M2001W	Warranty Booklet	2020 Warranty and Maintenance ...	
SOA567P011	Accessory Installation Guide	Thule SUP Taxi XT 810001	13-Feb-20
11-200-20	Technical Service Bulletin	Reprogramming File Availabilit...	13-Feb-20
15-234-18R	Technical Service Bulletin	2019 Audio/Navigation & Power ...	12-Feb-20
15-214-17R	Technical Service Bulletin	2018 Audio/Navigation Exchange...	12-Feb-20
WUJ-95R	Subaru Product/Campaign Bulletin	Exhaust Pipe Front (EPF) Bello...	12-Feb-20
15-204-16R	Technical Service Bulletin	2017 Audio/Navigation Exchange...	12-Feb-20
11-199-20	Technical Service Bulletin	Reprogramming File Availabilit...	11-Feb-20
11-198-20	Technical Service Bulletin	DTCs P219C, D, E or F- ECM Rep...	11-Feb-20
11-197-20	Technical Service Bulletin	DTC P0400-Reprogramming File A...	11-Feb-20
07-142-18R	Technical Service Bulletin	Battery Sensor Removal and Ins...	10-Feb-20
J201SFL002	Accessory Installation Guide	PORT INSTALLATION: 2020MY Asce...	10-Feb-20
J201SAN000	Accessory Installation Guide	PORT INSTALLATION: 2020MY Lega...	10-Feb-20
J201SFL000	Accessory Installation Guide	PORT INSTALLATION: 2020 Imprez...	10-Feb-20
H630SFL002	Accessory Installation Guide	PORT INSTALLATION: 2018-2020MY...	10-Feb-20
WUT-05R	Subaru Product/Campaign Bulletin	Forester Rear Coil Springs	7-Feb-20
WUR-03R	Subaru Product/Campaign Bulletin	Brake Hose Swelling Service Pr...	5-Feb-20
L101SSJ000	Accessory Installation Guide	PORT INSTALLATION: 2019-20MY F...	5-Feb-20
TKC-20R	Subaru Product/Campaign Bulletin	Takata Front Passenger Airbag ...	4-Feb-20
TKB-20R	Subaru Product/Campaign Bulletin	Takata Front Passenger Airbag ...	4-Feb-20
TKA-20R	Subaru Product/Campaign Bulletin	Takata Front Passenger Airbag ...	4-Feb-20

All revised publications are highlighted in yellow.

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
WUW-08R	Subaru Product/Campaign Bulletin	PCV Valve- Design Change	4-Feb-20
TIPS_QMR_SE_ Jan20	TechTIPS NewsLetter	2020 January TechTIPS QMR Spec...	3-Feb-20
L101SAN000	Accessory Installation Guide	2020 Outback Trailer Hitch (En...	1-Feb-20
06-74-20	Technical Service Bulletin	Electronic Parking Brake (EPB)...	31-Jan-20
WUX-09R	Subaru Product/Campaign Bulletin	2016-2017 Outback Replacement ...	31-Jan-20
12-280-20	Technical Service Bulletin	A-Pillar Trim- Gap Visible at ...	31-Jan-20
07-152-19R	Technical Service Bulletin	Power Window Switch Changes	31-Jan-20
11-196-20	Technical Service Bulletin	PCV Valve Part Information	31-Jan-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: _____

SUBARU TECHLINE
Hours of Operation

Monday – Thursday 8:30 am to 7:30 pm
Friday 10:30 am to 5 pm and Saturday 9 am to 3 pm