

ATTENTION:
 GENERAL MANAGER
 PARTS MANAGER
 CLAIMS PERSONNEL
 SERVICE MANAGER

IMPORTANT - All Service Personnel Should Read and Initial in the boxes provided, right.

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QUALITY DRIVEN® SERVICE

SERVICE BULLETIN

APPLICABILITY: 2023MY Ascent
 2024MY Crosstrek
 2023-24MY Legacy/Outback

NUMBER: 15-315-23
DATE: 11/17/23

SUBJECT: Telematics Data Communications Module (DCM) Product Improvement Reprogramming

INTRODUCTION:

This bulletin announces the availability of new reprogramming files for the DCM. These new files include performance and “ease of operation” enhancements. We recommend customers install the update at their earliest convenience to ensure they get the best possible experience from their Telematics system. This software update is not a mandatory campaign or update program. The reprogramming files contain logic to enhance the following:

- Accelerated Telematics performance.
- Updates to address numerous Telematics “glitches”.
- Optimized customer experience.

DESCRIPTION OF THE SERVICE PROCEDURE:

Subaru retailers will reprogram the Telematics DCM at no cost to the customer in the event of an unsuccessful Over-The-Air (OTA) software update attempt.

Please be advised, an OTA update for this repair will be available on Nov 17, 2023, and will be launched in eight weekly phases.

RETAILER RESPONSIBILITY:

This DCM OTA is a “Nice to Have” update. The retailer can only take action to restore operation to DCMs that may have failed during the OTA process or when directed by Techline.

PFC FILE INFORMATION:

Detailed information regarding the SSM5-R reprogramming procedures can be found in **TSB 14-28-21R**.

NOTE: The ROM ID will remain unchanged after this software update.

ROM ID = 3400220680

<p>CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.</p> <p>Subaru Service Bulletins are intended for use by professional technicians ONLY. They 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 this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.</p>	<p style="text-align: center;">Subaru of America, Inc. is ISO 14001 Compliant</p> <p>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.</p>
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Model	MY	DCM Part Number	Target software to be reprogrammed	After FOTA or USB reprogramming	ROM ID
LEGACY/ OUTBACK	23-24	86222AN20A	DCM_40.07.15_20220526	DCM_40.07.35_20230406	34 00 22 06 80
		86229AN20A			
		86222AN21A			
		86229AN21A			
	23	86222AN30A	DCM_40.10.31_20221116	DCM_40.10.43_20230309	
		86229AN30A			
		86222AN31A			
		86229AN31A			
ASCENT	23	86222XC20A	DCM_40.07.15_20220526	DCM_40.07.35_20230406	
		86229XC20A			
		86222XC21A			
		86229XC21A			
	23	86222XC30A	DCM_40.10.31_20221116	DCM_40.10.43_20230309	
		86229XC30A			
		86222XC31A			
		86229XC31A			
CROSSTREK	24	86222FN000	DCM_40.07.15_20220526	DCM_40.07.35_20230406	
		86229FN000			
		86222FN010			
		86229FN010			
		86222FN00A			
		86229FN00A			
		86222FN01A			
		86229FN01A			
	24	86222FN100	DCM_40.10.31_20221116	DCM_40.10.43_20230309	
		86229FN100			
		86222FN110			
		86229FN110			
		86222FN10A			
		86229FN10A			
86222FN11A					
86229FN11A					

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PART REFERENCE INFORMATION:

The parts listed below contain the new reprogramming files.

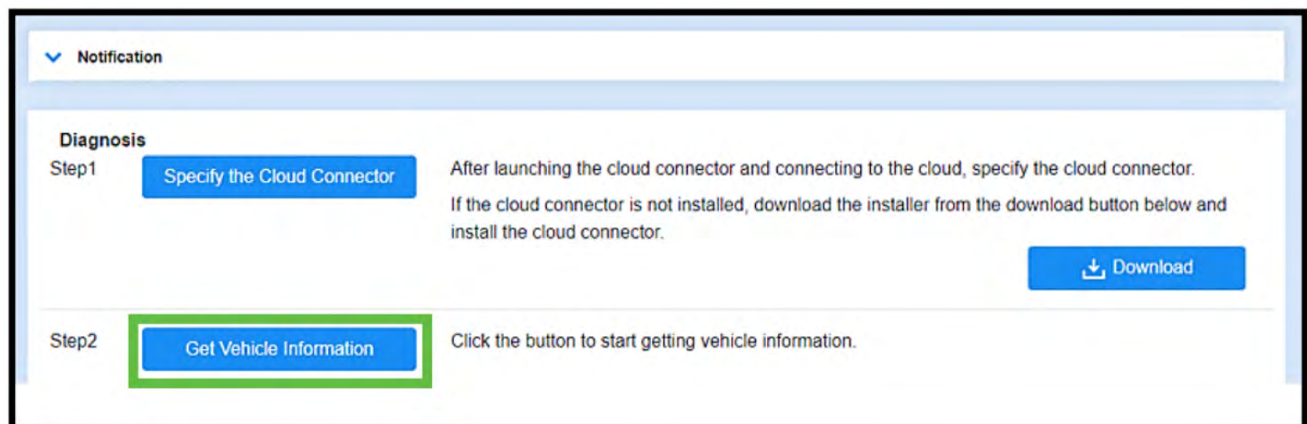
Model	Part Description	Part Number
LEGACY & OUTBACK	TELEMATICS UNIT	86229AN30B 86229AN31B
ASCENT	TELEMATICS UNIT	86229XC30B 86229XC31B
CROSSTREK	TELEMATICS UNIT	86229FN111 86229FN10B 86229FN11B

SERVICE PROCEDURE / INFORMATION FOR SSM5 DCM REPROGRAMMING:

NOTE: THIS PROCEDURE APPLIES TO SUBSCRIBED VEHICLES ONLY. This DCM Over-The-Air (OTA) update will be launched on Nov 17, 2023. After this date, there will be a phased approach to update the DCM with the updated software using the OTA method for subscribed customers.

CRITICAL: Failure to follow these reprogramming instructions and most notably, the ignition cycles and wait times before proceeding to the following steps will result in a catastrophic DCM failure.

STEP 1: Connect the applicable Subaru Select Monitor (SSM5) to the vehicle. Read the Software version information of the DCM. Record this information for confirmation after reprogramming is performed.



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Reserved. Voltage 13.5V Cloud Connector ID

Test Mode VIN: TESTVIN0123456789 MY: - Vehicle: -

Applicable System	CID/ROMID	Reprogramming file availability	Equipped ▲	Communication
Airbag	0093170102	Available	Equipped	Communicating
Combination Meter	0000000011	Available	Equipped	Communicating
Blind Spot Detection/Rear Cross Traffic Alert	LH: 0000CC0000 RH: 0000CC0002	Not Available	Equipped	Communicating
Keyless Access with Push Button Start(Collation)	1234567890	Available	Equipped	Communicating
Keyless Access with Push Button Start(Power Supply)	1234567890	Not Available	Equipped	Communicating
Brake Control	A620221500	Not Available	Equipped	Communicating
Air Conditioner	8100000002	Available	Equipped	Communicating
Body Control	00478BE004	Available	Equipped	Communicating
Telematics	0000160000	Not Available	Equipped	Communicating
Engine	XE1P200000G	Not Available	Equipped	Communicating
EyeSight Security Gateway	9904190100	Not Available	Equipped	Communicating
EyeSight	03576585000000000000	Available	Equipped	Communicating

- A. As shown above, the upper right corner (A) will display the VIN, System Voltage, Model, and Model Year.
- B. The current CID / ROM ID is listed in the second column (B).
- C. All the control modules with software eligible for update will be identified under the “Reprogramming file availability” column (C).
- D. Control modules in the vehicle will be listed in the 4th column. “Equipped” (D) means the control module should be present in the vehicle. “Not Equipped” means the control module is not installed.
- E. Control module communication status is indicated in the 5th column (E).

STEP 2: Is the Target DCM Software Version ID found in the software version table?

YES - The vehicle has the latest software. Continue diagnosis using the applicable Service Manual.

NO - Record and attach the current software status. Proceed to **STEP 3**.

STEP 3: Review the battery charging information provided below and connect the vehicle to a known good power supply.

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BATTERY CHARGING INFORMATION:

Subaru of America, Inc. (SOA) highly recommends utilizing either the Subaru Midtronics DCA8000 Dynamic Diagnostic Charging System or the Subaru Midtronics GR8-1100 Diagnostic Battery Charger to the vehicle in the Power Supply Mode feature anytime a vehicle control module is being reprogrammed. Once the Midtronics charger is connected to the car, if the battery is fully charged, it will take less than three (3) minutes to boot up the charger, select the Power Supply Mode, and have the battery voltage stabilized and ready for reprogramming.

CRITICAL: This reprogramming procedure takes approximately 2 hours. Maintaining the battery during the software reprogramming is mandatory. Ensure the Midtronics GR8 / Midtronics DCA-8000 set to Power Supply Mode is connected to the vehicle, the parking brake is engaged, ignition is in the “ON” position, the engine is OFF, the shift selector is in NEUTRAL and the wheels are blocked. Having the vehicle in Neutral must be done to ensure the power supplied to the DCM is not turned off. If this step is not performed, the CAN will power down the DCM during the reprogramming, and the procedure will fail, resulting in irreparable DCM damage.



IMPORTANT NOTES:

- For instructions on using the Power Supply Mode, reference the applicable User Manual for the Midtronics DCA-8000 Dynamic Diagnostic Charging System and the Midtronics GR8-1100 Diagnostic Battery Charger on STIS.
- Confirm all electrical loads such as lights, audio, HVAC, seat heaters, and rear defroster are all switched OFF before setting up the charger for Power Supply Mode.
- Select the correct battery type (Enhanced Flooded, Flooded, Gel, AGM, or AGM Spiral).
- Input the CCA, which matches the vehicle’s battery.

NOTE: OE and replacement batteries have different CCA ratings. Always confirm the battery’s CCA rating before proceeding.

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- If using a DCA-8000 Dynamic Diagnostic Charging System, set the power supply voltage to 13.5 Volts.
- DO NOT connect the DST-i or DST-010 until the Power Supply mode function has completed its battery test mode and the Charging Voltage has dropped to and shows a steady 13.5 Volts on the display.
- Once the Power Supply Mode reaches a steady 13.5 Volts, connect the DST-i or DST-010 to the OBD connector and proceed with initiating the normal SSM5 reprogramming process.
- Amperage will fluctuate based on the vehicle's demand for power.
- ALWAYS set the power supply voltage to 13.5 Volts when using Power Supply Mode. NEVER turn the ignition switch on when charging at 15 Volts or higher voltages.

REMINDER: If the DCA-8000 or GR8-1100 indicates the vehicle's battery must be charged, charge the battery fully before proceeding to reprogram the car while using the Power Supply Mode.

IMPORTANT:

- The procedure will abort if the voltage rises beyond 14 volts while programming is in process. This over-voltage charging can indicate a need to test or charge the vehicle battery before any further attempt at programming is made.
- The Data Control Module number shown in the "Data Monitor" of SSM may differ from the actual part number (due to SSM specifications).
- Unless SSM5 indicates the module in the vehicle is not applicable for reprogramming or the module is already updated, continue with the reprogramming procedure.
- This information applies to the Subaru Midtronics DCA-8000 Dynamic Diagnostic Charging System and the Subaru Midtronics GR8-1100 Diagnostic Battery Charger **ONLY**. It does not apply to any other brand/type of "generic" battery charger. **ONLY** the DCA-8000 and the GR8-1100 and their Power Supply Mode feature have been tested and approved by SOA.

STEP 4: Switch the ignition switch to the "ON" position and wait for at least five minutes before beginning DCM reprogramming. This step is necessary to ensure that the DCM software has loaded in its entirety before trying to write new software to the DCM.

STEP 5: Reprogram the DCM following standard SSM5-R procedures. Additional information regarding the SSM5-R reprogramming procedures can be found in **TSB 14-28-21**.

IMPORTANT: In the rare event of a reprogramming failure, perform the following:

1. Switch the ignition to OFF and disconnect the battery cable from the negative terminal.
2. Wait at least 5 minutes (to allow the DCM to sleep) then reconnect the negative battery cable.
3. Switch the ignition ON and wait at least 5 minutes (allow DCM to reset).
4. Repeat the reprogramming procedure.

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STEP 6: Once successful reprogramming is complete, perform the following:

- After reprogramming, always put a CVT-equipped vehicle in the “PARK” position and ensure the ignition is turned OFF.
- Switch the ignition to the “OFF” position.
- Disconnect all battery charging equipment.
- Close the hood.
- Close all doors **with the windows down**.

STEP 7: Wait approximately three minutes and confirm the green LED located next to the iButton on the Eyesight Camera cover is NOT illuminated. This step is necessary to ensure the DCM is not in the process of communicating.

STEP 8: Once the LED is confirmed to be OFF, wait an additional five minutes or more. This step is necessary to ensure the new DCM software has been properly written to memory.

STEP 9: Using the applicable SSM4, read the software version information of the DCM.

STEP 10: Referring to the software version table, is the Target DCM Software Version ID found?

YES - Proceed to **STEP 11**.

NO - Proceed to **STEP 5 IN CASE OF REPROGRAMMING FAILURE**.

NOTE: Control module failures resulting from battery discharge during reprogramming are not a matter for Warranty. Should any DTCs reset after completing the reprogramming update, diagnose per the procedure outlined in the applicable Service Manual.

STEP 11: Does the vehicle have an active STARLINK subscription?

	EXAMPLE	Item	Value
<input checked="" type="checkbox"/>		Subscription Status	Subscribed
<input checked="" type="checkbox"/>		Remote Battery Charging Timer Active	TRUE
<input checked="" type="checkbox"/>		Curfew Active	TRUE
<input checked="" type="checkbox"/>		Driving Recorder Active	TRUE

YES - Proceed to **STEP 12**.

NO - The procedure is **COMPLETE**.

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STEP 12: Perform Telematics testing as per **TSB 15-266-20R**, making multiple Telematics service requests such as RES, door locks, etc. All service requests should be completed normally without an error message. If the results are unsuccessful, perform the diagnosis procedures outlined in the applicable Service Manual.

NOTES:

- Push button function testing of the iButton or SOS buttons is not a valid test of this repair. Vehicles should never be released to customers without confirmation of a successful repair. Confirmed remote STARLINK® service operation requests are the **ONLY** confirmation of this repair.
- If Telematics testing fails to produce the expected results, the Technician should refer to the December 2022 Tech TIPS starting on pg. 12. The Technician should review and perform these procedures then perform testing as per **TSB 15-266-20R** again. Repeated failure of Telematics testing will require contacting Techline with the following information:
 - Starting Software Version ID.
 - Final Software Version ID.
 - Confirmation that testing was performed following **TSB 15-266-22**.
 - Assurance the Dec 2022 Tech TIPS procedure was completed.
 - All systems scan results.
 - Capture of Telematics data with all PIDs selected.

OTA UPDATE PROCESS (REFERENCE ONLY)

Customers should perform the software update through the OTA service. However, if a customer comes to the Service Department needing a Telematics repair before the FOTA update completes, it may be possible that FOTA starts after the repair is made. This information is provided in case the Technician runs into such a situation. Technicians should make every effort to ensure vehicles detailed on the applicability table have the most recent software version before releasing the car to the customer after any Telematics repair is performed. If the OTA is unavailable for subscription status or other reasons, perform the update using SSM5-R according to the instructions.

STEP 1: Confirmation of STARLINK subscription (to see if DCM is active or not).

NOTE: This FOTA update is provided if STARLINK is subscribed, and DCM is active. The only time it would ever be necessary to proceed to the SSM5 update procedure in this document is when FOTA failure occurs. This update is a product enhancement and there is no requirement to perform this update on vehicles without a subscription.

STEP 2: Software Download

When new software becomes available to the vehicle, the software is automatically downloaded without any customer input on subscribed vehicles.

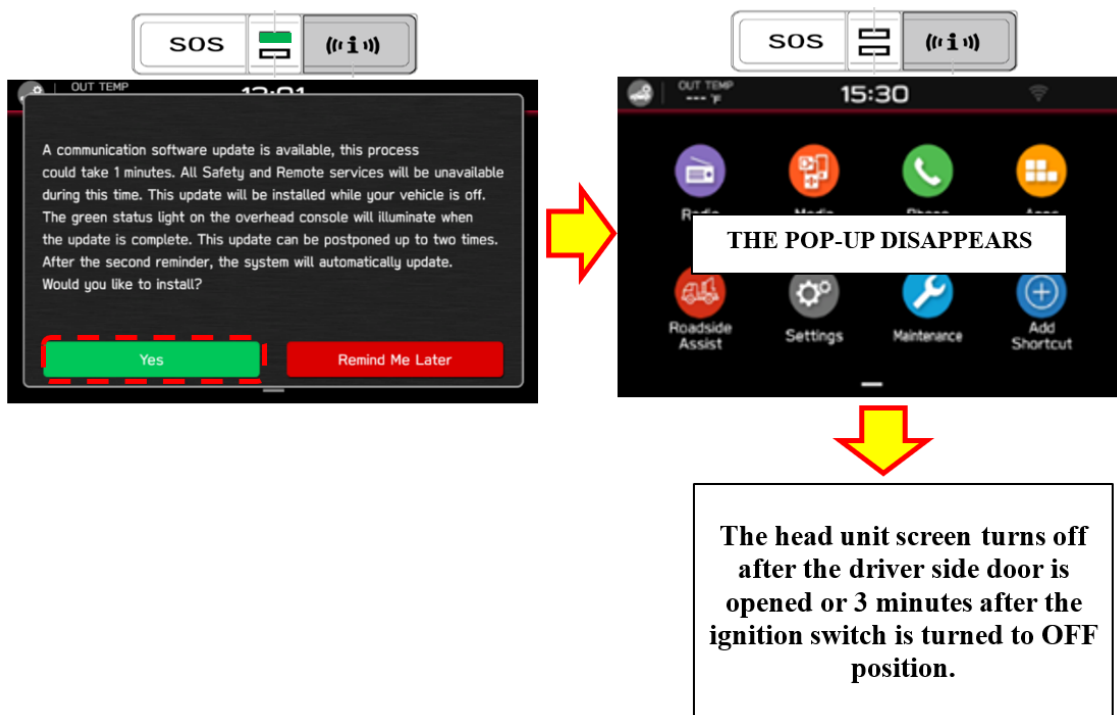
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STEP 3: Software Installation

CAUTIONS:

- If SUBARU STARLINK service is unavailable, the green LED light on the overhead console turns off during installation. Park the vehicle in a safe location, then perform the following procedure. The FOTA software update takes about 10 minutes.
- The layout of the pop-ups and icons shown in the images below may differ depending on the head unit's software version or generation.
- Depending on the vehicle location, and uncovered area outdoors is the preferred parking location for updates.

STEP 3A: An installation notification pop-up will automatically appear when the ignition switch is OFF and after the background downloading is completed. Select “Yes,” and installation will start. The green LED light turns off when installation begins.



NOTE: Customers can skip the installation by selecting “Remind Me Later” or no operation until the installation notification pop-up disappears up to two times. However, after skipping the installation two times, the software installation will start automatically as soon as the ignition switch is turned OFF without any notification. If that is the case, the installation notification will no longer appear.

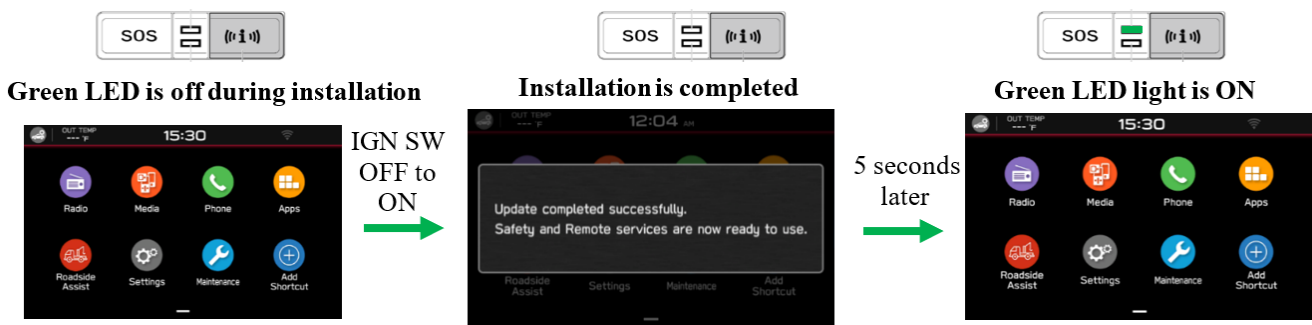


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NOTES: The DCM counts the number of postponed operations. Although the pop-up does not appear or disappear in the following two scenarios, the DCM depends on it as delayed without the customer’s operations.

- If the ignition is turned to the OFF position and the door is immediately opened, the head unit screen turns off immediately along with the disappearance of the pop-up. This ignition off followed by exit is counted as a postponed operation.
- When the vehicle battery voltage is low, and the ignition switch is turned to the OFF position, the head unit screen also turns off immediately and the pop-up may not appear. This behavior is also counted as a postponed operation.

STEP 3B: The installation takes about 10 minutes. Turn the ignition switch to the ON position. After 10 minutes or more, an “Update completed successfully” pop-up appears on the head unit if the installation has been completed. After 5 seconds, the pop-up disappears and the green LED light turns on.



If the installation has not been completed, a pop-up of “A communication software update is in progress.” may appear on the head unit after the ignition switch is turned ON. In that case, wait until the installation is completed and the green LED light turns on.



*** This pop-up may not appear if the DCM is in the process of starting the installation**

NOTE: The FOTA success pop-up may appear continuously with each engine start. In that case, the FOTA will continue to retry until updated successfully.

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WARRANTY / CLAIM INFORMATION:

For vehicles within the Basic New Car Limited Warranty period, this repair may be submitted using the following claim information:

Labor Description	Labor Operation #	Labor Time	Fail Code
DCM INSPECTION & REPROGAMMING IN THE EVENT OF A FAILED OTA	A167-999	0.5	ZQZ-48

IMPORTANT: Always note the **NEW** DCM Software Version for any newly installed programming (confirmed by the control module **AFTER** installation). The **NEW** Software Version **MUST** be pointed out on the repair order as this information is required to enter the Miscellaneous Detail field during claim submission.