

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: 2023-25MY Outback & Legacy
 2023-25MY Ascent
 2024MY Crosstrek/Impreza
 2025MY Forester

NUMBER: 15-311-23R

DATE: 06/23/23

REVISED: 11/07/24

SUBJECT: FOTA (Firmware Over-The-Air) Reprogramming for DENSO Gen 4.5 Audio Navigation Infotainment Systems via DCM

INTRODUCTION:

This bulletin provides instruction for use of a new reprogramming procedure to optimize the Denso Gen 4.5 Audio and Navigation system utilized in the models listed above. Firmware-over-the-air (FOTA) is a process where remote devices can receive updates to their operating firmware. This process has become second nature with smartphones, tablets and many other connected devices. FOTA for automotive infotainment systems was designed with an emphasis on customer convenience. FOTA updates provide regular enhancements along with software patches as needed to enhance the customer experience. The convenience factor comes not only with the supply of regular updates and the enhancements they provide, but through customer control of when these updates are downloaded and installed. The only requirement is a valid subscription to SUBARU STARLINK Safety Plus, since the download of the software is performed via DCM. FOTA operation is conducted in two steps: download (from the server to the vehicle via DCM) and installation (internal to CP1.5 system in the vehicle). This bulletin will focus on FOTA for Denso Gen 4.5 audio systems (MID) and audio-navigation systems (HIGH) which utilize the 11.6-inch touch-screen display. Models with 7-inch dual screen display (Base) are not FOTA update capable.

This bulletin outlines the procedure for performing FOTA updates successfully. These procedures involve:

- Assisting customers with FOTA -related concerns if they have been unsuccessful in performing the FOTA by themselves. (Possible vehicle or system concern.) *
- Performing the FOTA update for customers who are not comfortable or need assistance with performing it themselves but have requested the Retailer to install it*
- Updating the firmware using a USB flash drive by following the steps outlined in TSB 15-305-22R “Reprogramming File Availability for Optimization of Gen 4.5 Denso CP1.5 Infotainment Systems” when FOTA cannot be performed due to the setup or eligibility constraints*.

CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

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.

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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* **NOTE:** If a customer is simply requesting help with how to perform FOTA, provide a copy of the appropriate customer instructions for FOTA available on Subarunet: Service Operations & Technical > Forms/Downloads page.

See **Appendix A** later in this bulletin for more information.

It is **VERY IMPORTANT** to read and understand this information completely **before** proceeding.

NOTES:

- **REMINDER:** FOTA is available for MID and HIGH (Navi) systems with 11.6-inch display only.
- The currently available FOTA firmware version is not the same version available to Retailers for USB updating use. However, a system updated using FOTA can be further updated by using the USB update procedure if additional updates are needed. For additional details clarifying the scope of FOTA updates, review the applicable Owner's Manual Supplement's additional information for the Center Information Display. The information is downloadable from: <https://www.subaru.com/owners/index.html>. See **Appendix C** below for more information.
- FOTA updates are for the system firmware **ONLY**. Map updates are a separate function which the customer may update on their own by using either USB download or Map Over the Air Update (MOTA). Go to: subaru-maps.com for more information.

Reference photos of each system faceplate are supplied below:



SERVICE PROCEDURE / INFORMATION:

REMINDER: Customer satisfaction and retention starts with performing quality repairs.

The FOTA update process involves a remote downloading and installation of the update firmware; therefore, time duration depends on signal strength and transfer rate performance. During installation, the infotainment system's functionality will be restricted.

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SET-UP INSTRUCTIONS AND CAUTIONS:

- Move the vehicle to an outside location where the engine can be safely started and kept idling during the update process.
- Never idle the vehicle in a closed space such as a garage, even if the garage door is kept open.
- Once the vehicle is in a safe location, be sure the vehicle is in Park (CVT) or Neutral (MT) and the parking brake is fully engaged.
- Open one or more windows to ensure fresh air is available.
- **Stay with the vehicle** until the update is completed.
- We suggest adjusting the climate controls to your desired settings in case they become unavailable during the update process.
- Unplug any devices, chargers, cables or other USB drives from the vehicle's USB and power ports.

VERY IMPORTANT: Before proceeding with the updating procedure, the currently installed version ID **MUST** be confirmed (Firmware Version Check) by following the steps below:

- 1) After starting the engine and system boot-up completes, from the HOME screen, touch the Settings button.



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2) Press the **General** button. Use the down arrow to scroll to **System Information** then press to display the System Information / Version information.



The examples below identify the head unit model and the last 6 digits (9xxx-xxx) signify the software version number. Examples:

- F71WHMxxx-xxx or F61WHMxxx-xxx (**High** model software)
- F71WMMxxx-xxx or F61WMMxxx-xxx (**Mid** model software)

MY	Carline	Trim/Grade	Installed Software Versions	Available Software Version
23-25MY	Outback/Legacy	MID	033-270 043-270	073-270
			033-570 043-570	073-570
			033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
		HIGH	033-270 043-270	073-270
			033-570 043-570	073-570
			033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA

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MY	Carline	Trim/Grade	Installed Software Versions	Available Software Version
23-25MY	Ascent	MID	033-570 043-570	073-570
			033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
		HIGH	033-570	073-570
			033-681	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
24MY	Impreza/Crosstrek	MID	033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
		HIGH	033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
24MY	WRX	MID	033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
		HIGH	033-681 043-670	073-670
			043-781	073-770
			053-880	073-870
			073-980	not eligible for FOTA
25MY	Forester	MID	053-880	073-870
			073-980	not eligible for FOTA
		HIGH	053-880	073-870
			073-980	not eligible for FOTA

If the software version number matches “Installed Software Versions” review the information outlined below. If the software version is “**Available Software Version**” as the unit already has the latest software version installed. Proceed to the WARRANTY / CLAIM INFORMATION section of the TSB and process a claim for Version Check Only.

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FOTA REPROGRAMMING OVERVIEW:

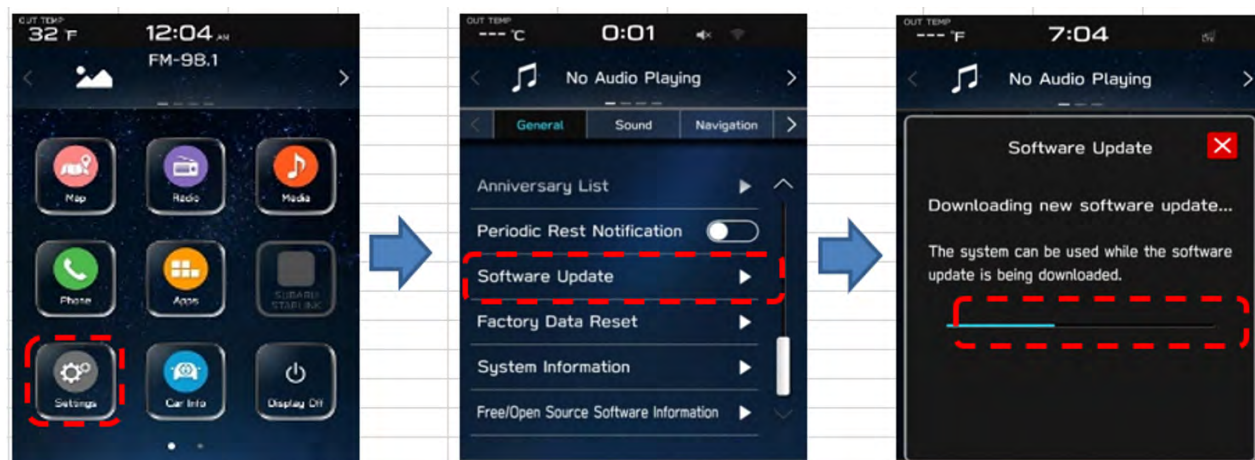
- **SUBSCRIPTION STATUS** - Confirm SUBARU STARLINK Safety Plus subscription


NOTE: FOTA update is possible only with valid SUBARU STARLINK Safety Plus subscription and active DCM. If the status of subscription is unclear, contact STARLINK Customer Care at (855) 753-2495 and find details of STARLINK agreement.

- **SOFTWARE DOWNLOAD** - When software update becomes available, the software is automatically downloaded following IGN-ON operation without customer's operation.

CAUTION: The process could be obstructed due to incorrect clock setting or poor DCM reception. If the clock has wrong time, see Appendix B for how to set the correct time on the clock. If the DCM has lost reception, move the vehicle to a better (4G phone signal) reception area.


Downloading automatically starts and finishes. While the DCM is downloading the new software, all functions of Cockpit Control Unit remain available. The status of the downloading process can be checked using *Settings/General/Software update feature* as shown below.



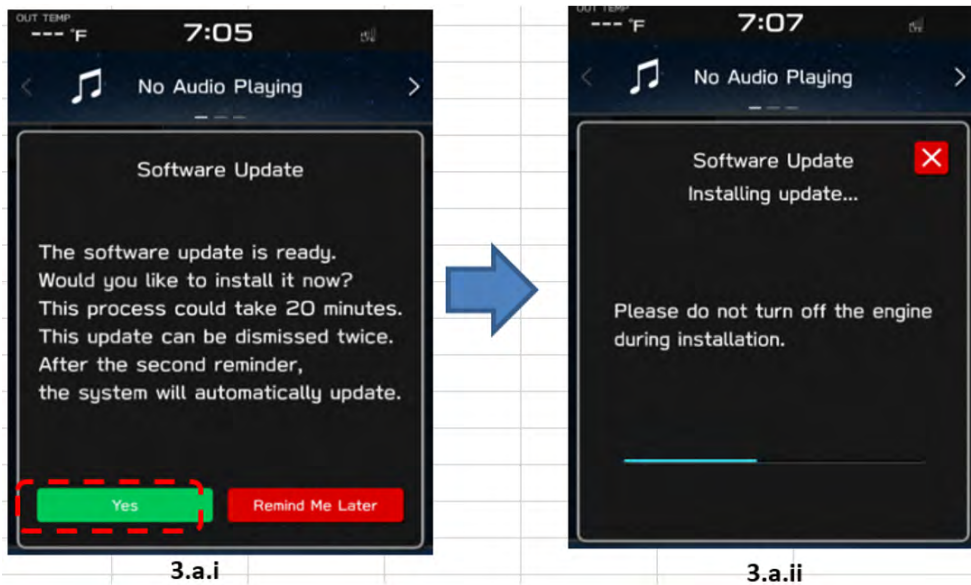
Normally downloading takes 10-20 minutes depending on reception condition. Even if  is pressed in the 3rd screen to return, downloading process continues.

In case of intermittent loss of reception by DCM (vehicle moving out of signal range), or Ignition Switch being turned OFF, downloading is paused but the operation resumes as soon as the reception is re-established or system is turned back on.

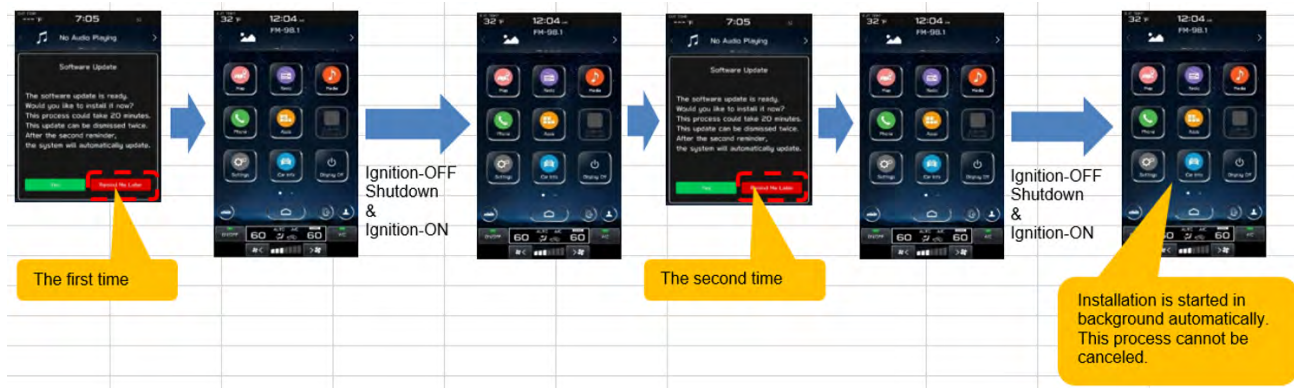
- **INSTALLATION** - The installation consists of two stages: installation and activation.

Notification screen is automatically displayed, after the background downloading has been successfully completed. This screen is displayed only while the vehicle is not in motion. Select “Yes” => Start installation. Once “Yes” is pressed, installation continues even if the  button is pressed.

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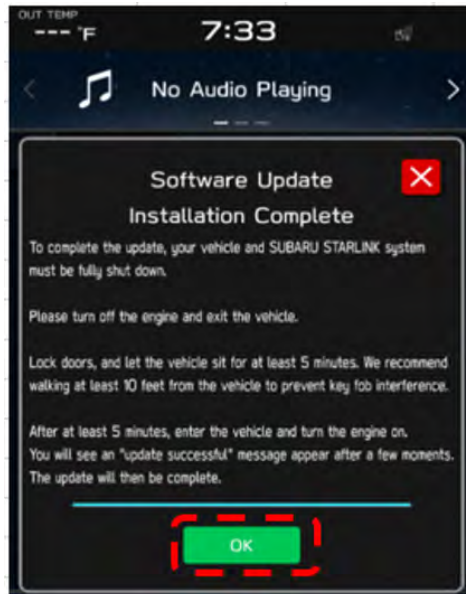
Customers can skip installation by selecting <Remind Me Later> up to two times. However, after skipping two times the installation starts automatically as soon as the Ignition Switch is turned ON without any notification. In that case the installation notification (3.a.i) is not displayed anymore. See below for more information.



NOTES:

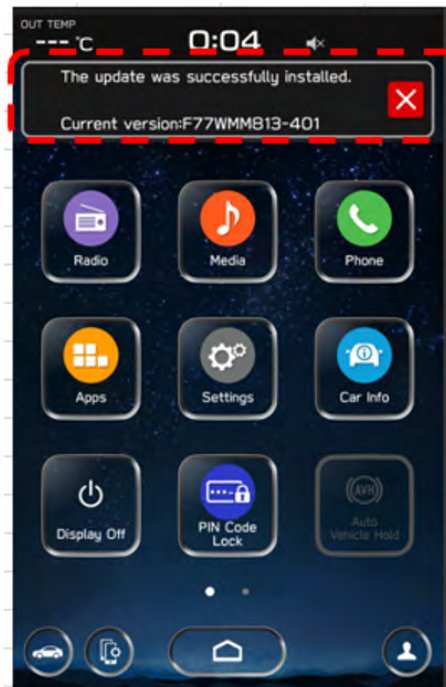
- If ignition Switch is turned OFF while 3.a.i screen is being displayed, the installation process is terminated. In that case the screen 3.a.ii pops up automatically the next time the Ignition Switch is turned on.
- If ignition Switch is turned OFF during 3.a.ii screen is being displayed, the installation process is terminated. In that case installation process automatically resumes without showing 3.a.ii next time the Ignition Switch is turned on.
- Activation: Wait until the installation is completed (Time required for installation: 15 minutes or less). After the first installation process is coming to an end and the pop-up screen shown below comes up, then press “OK.”

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Switch the vehicle OFF, exit the vehicle, lock all doors including the rear gate (if equipped) and **move the key fob away from the vehicle at least 10 feet (3m) to enable affected systems to go to sleep. WAIT AT LEAST 5 MINUTES** prior to switching the vehicle ON to assure proper software activation.

Pop-up screen shows up soon after the system completes to boot up. It confirms the software has been installed.



NOTE: See **Appendix D** for troubleshooting tips if any errors are encountered.

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WARRANTY / CLAIM INFORMATION:

For vehicles within the Basic New Car Limited Warranty period or covered by an active Subaru Added Security Gold plan, this repair may be submitted using the following claim information:

Labor Description	Labor Operation #	Labor Time	Fail Code
DENSO CP1 CHECK ONLY	A031-178	0.2	ZTZ -48

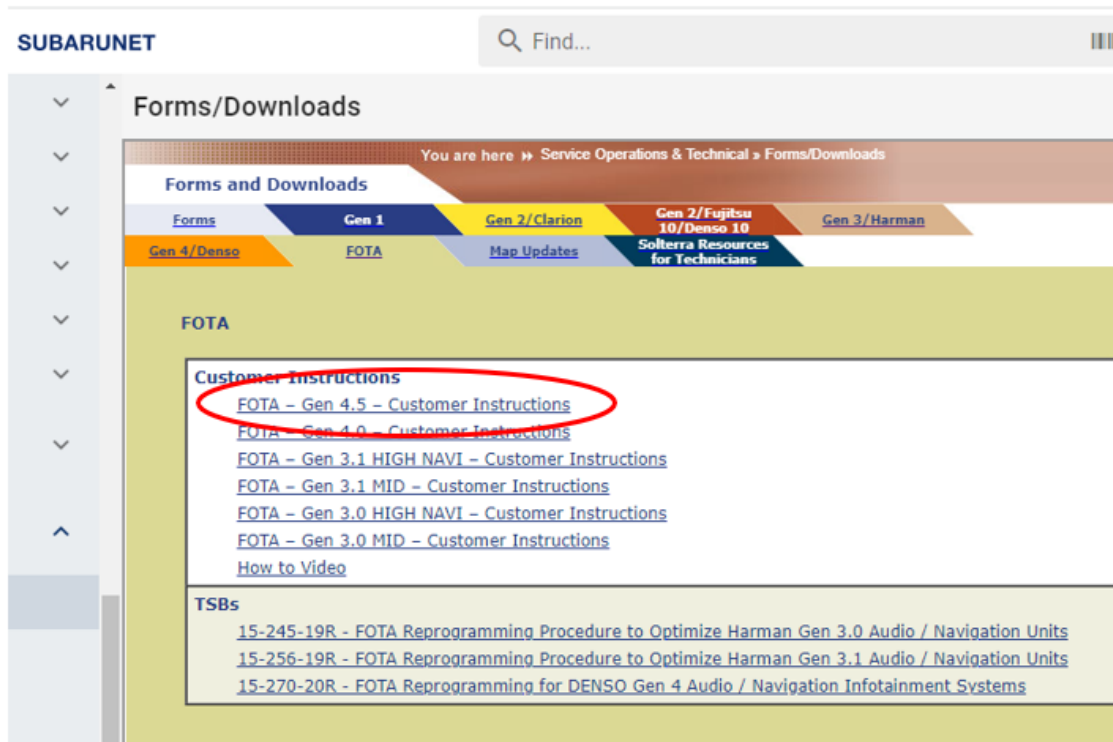
IMPORTANT REMINDERS:

- SOA strongly discourages the printing and/or local storage of service information as previously released information and electronic publications may be updated at any time.
- Always check for any open recalls or campaigns anytime a vehicle is in for servicing.
- Always refer to STIS for the latest service information before performing any repairs.

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Appendix A

Links to Customer self-install instructions for FOTA Customer Instructions will be added to the Subarunet Service Operations & Technical > Forms/Downloads page when they become available. Once the links are available and to enhance customer satisfaction, consider providing customers with a copy of the appropriate instructions for their specific system along with access to the retailer's secure customer Wi-Fi network. Doing so will enable customers to try performing the FOTA update on their own while at the retailer.



REMINDER: Retailers performing these updates are to follow the Service Procedures outlined in this bulletin ONLY. Always follow the applicable service procedures as outlined in this and other Service Bulletins. The additional steps and requirements supplied in Service Bulletins support a Subaru Technician's proper diagnosis and repair of any customer concern.

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Appendix B

How to set the correct time on the clock

Software Update availability notification only works, if the clock has been set accurately. Check if the time shown on the status bar is correct or not.



If the time is not correct, set the clock using procedure below.

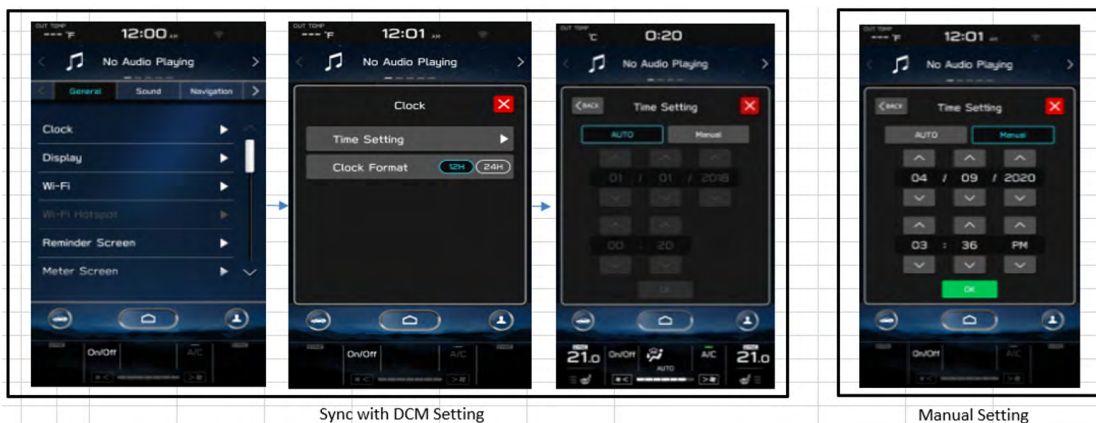
<Models with navigation system>

- Confirm GPS signal is received. Vehicle position on the map should match its location. If necessary, drive the vehicle to assure good reception.
- Check if Clock set to “Auto”: Setting→”Clock”→”Time Setting”.
- Once the Navi receives the GPS signal the clock is adjusted automatically.
- If the GPS signal is not available, set the clock to “Manual Setting”.



<Models without navigation system>

- Select “Setting”→”Clock”→”Time Setting” and check if the setting is “AUTO”. In case the clock is not adjusted correctly, set the clock in “Manual” setting.



For more details, refer to the Owner`s Manual.

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Appendix C


The currently available FOTA software version is not the same version available to Retailers for USB updating use. However, the system which has been updated via the FOTA can be further updated using USB update. Updating the firmware using a USB flash drive by following the steps outlined in TSB 15-305-22R “Reprogramming File Availability for Optimization of Gen 4.5 Denso CP1.5 Infotainment Systems”.

See TSB 15-305-22 Appendix 9 for the list of improvements for the applicable software version update.

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Appendix D

TROUBLESHOOTING:

No.	Applicability	Case Scenario (Trouble)	Causes	Check Points
2-1	Step 2 (Downloading)	"In order to use the software update feature, a SUBARU STARLINK subscription is needed. Please visit MySubaru online for more information." is shown.	SUBARU STARLINK subscription is not confirmed	Please verify SUBARU STARLINK subscription status
2-2		"The software download failed." popup is shown while downloading.	An exception error due to hardware malfunction	Downloading will resume automatically 24hours later. If same error message again, please perform diagnostic of CCU or update CCU software via USB.
3-1	Step 3 (Installation)	"The software installation failed. An error occurred during installation. Please contact your retailer." popup is shown while installing.	An exception error due to hardware malfunction	Installation will resume automatically 24hours later. If same error message again, please perform diagnostic of CCU or update CCU software via USB.
3-2		"The software installation failed. An error occurred during installation. Please contact your retailer." popup is shown while installing.	An exception error due to hardware malfunction	Installation will resume automatically 24hours later. If same error message again, please perform diagnostic of CCU or update CCU software via USB.
3-3		Selected <Remind Me Later>, but next time IG ON 3.a.i screen is not displayed. 	DCM has lost connection to SUBARU server. After downloading was completed, DCM needs to connect with SUBARU server, before installing	Assure DCM has strong reception and reliable connection with the server, then turn ignition OFF and ON to repeat the test.