

**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:** 2020-22MY Legacy & Outback 2.5L NA

**NUMBER:** 09-86-22

**DATE:** 04/22/22

**SUBJECT:** P0890 TCM Power Relay Sense Circuit

**INTRODUCTION:**

This bulletin announces availability of new reprogramming files for the Engine Control Module (ECM). These files have been developed to address concerns of the starter motor not operating. While attempting a restart after a short drive cycle in low ambient temperatures (less than 0 Degrees Celsius / 32 Degrees Fahrenheit), the starter motor may not operate. DTC P0890 (TCM Power Relay Sense Circuit Low) will likely be stored in the ECM under this condition. Condensed moisture in the ignition relay can cause the contact points to freeze under these conditions. The new logic enhances the relay self-shutdown program, eliminating the possibility of frozen relay contacts.

**SERVICE PROCEDURE / INFORMATION:**

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

- Reprogram the ECM following the normal FlashWrite procedure.
- See the information below for PAK file applicability.

Subaru of America, Inc. (SOA) highly recommends connecting either the Subaru Midtronics DCA8000 Dynamic Diagnostic Charging System or the Subaru Midtronics GR8-1100 Diagnostic Battery Charger to the vehicle and utilizing the Power Supply Mode feature anytime a vehicle control module is being reprogrammed. Once the Midtronics charger is connected to the vehicle, if the battery is fully charged, it takes 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.

**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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## 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 (Flooded, EFB, 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.
- 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 SDI 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 Power Supply Mode reaches a steady 13.5 volts, connect the DST-i or SDI to the OBD connector and proceed with initiating the normal FlashWrite reprogramming process.
- Amperage will fluctuate based upon the vehicle's demand for power. NOTE: If the voltage rises beyond 14V while programming is in process, the procedure will abort. This can indicate a need to test or charge the vehicle battery before any further attempt at programming is made.

**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 vehicle while using the Power Supply Mode.

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

## VERY IMPORTANT:

This information is applicable 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 whatsoever. **ONLY** the DCA-8000 and the GR8-1100 and their Power Supply Mode feature have been tested and approved by SOA.

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**PAK FILE APPLICABILITY:**

MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2020	Legacy	2.5 NA, CVT	XE1J030m00G	22765AN20D.pk2	E82093DA	XE1J400m00G
			XE1J03Zm00G			
			XE1J100m00G			
			XE1J300m00G			
			XE1J301m00G			
	Outback	2.5 NA, CVT	XE1J030n00G	22765AP54D.pk2	EC19EDD0	XE1J400n00G
			XE1J100n00G			
			XE1J300n00G			
XE1J301n00G						

MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2021	Legacy	2.5 NA, CVT	XE1P010m00G	22765AR18B.pk2	87F4A7B3	XE1P500m00G
	Outback	2.5 NA, CVT	XE1P010n00G	22765AR19B.pk2	23B1A792	XE1P500n00G

MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2022	Legacy	2.5 NA, CVT	XE1Q000m00G	22765AS22B.pk2	CA8D6EE9	XE1Q200m00G
		2.4 Turbo, CVT	LG7G100G00G	22765AR991.pk2	9E5F5650	LG7G300G00G
	Outback	2.5 NA, CVT	XE1Q000n00G	22765AS23B.pk2	E74F2B87	XE1Q200n00G
		2.4 Turbo, CVT	LG7G100G00G	22765AR991.pk2	9E5F5650	LG7G300G00G
	Outback Wilderness	2.4 Turbo, CVT	LG7G000H00G	22765AR251.pk2	D424CE99	LG7G300H00G
			LG7G100H00G			

**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 #	Fail Code	Labor Time
MFI OBDII ECM Reprogramming	A455-288	UPG-48	0.4

**IMPORTANT:** Always note the original Calibration Identification number (CID) the vehicle came in with on the repair order **before** reprogramming and, make sure to list the **NEW CID** for any newly-installed programming (as confirmed from the actual control module **AFTER** installation). The **NEW CID MUST** also be noted on the repair order as this information is required for entry in the Miscellaneous Detail field during claim submission.

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**NOTE:** The pak file listings provided in this bulletin are the latest available at the time of publishing. Updates are often released thereafter without revision to the original bulletin. For this reason, it is critical to always have the latest version of Select Monitor software installed on your system. You can confirm if a later version is available by entering the CID listed in this bulletin into FlashWrite. If a newer CID is shown as available in FlashWrite, reprogram using that file.

**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.