ATTENTION:
GENERAL MANAGER ❑
PARTS MANAGER ❑
CLAIMS PERSONNEL ❑
SERVICE MANAGER ❑

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

SUBARU

QUALITY DRIVEN® SERVICE

SERVICE BULLETIN

APPLICABILITY: 2015-19MY Legacy & Outback

NUMBER: 09-87-22

DATE: 04/26/22

SUBJECT: P0890 TCM Power Relay Sense Circuit
P05A0 Active Grille Air Shutter "A" Stuck on Low

INTRODUCTION:

This bulletin announces availability of new reprograming files for the Engine Control Module (ECM). These files have been developed to address concerns of the starter motor not operating and/or illumination of the engine warning lamp. These concerns may occur under any of the two driving scenarios outlined below. It is **IMPORTANT** to fully review the details below to accurately confirm the concern and perform the reprogramming procedure when necessary.

DESCRIPTIONS OF CONCERN:

Scenario A:

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.

Scenario B:

DTC P05A0 (Active Grille Air Shutter "A" Stuck On) may be stored in the ECM when the vehicle is driven in low ambient temperatures (less than 0 Degrees Celsius / 32 Degrees Fahrenheit) and/or harsh weather including snow and freezing rain. This is caused by an inaccurate freezing estimation of the Active Grille Shutter (AGS) by the ECM. The new logic optimizes the freezing estimation program within the ECM.

NOTE: Reprogram the ECM ONLY after confirming any of the scenarios as described above are present.

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.

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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.

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 #
2015	Legacy & Outback	2.5L NA, CVT	EB4F300B	22765AF35J.pak	545BE3B9	EB4GH00B
			EB4G100B			
			EB4G300B			
			EB4G400B			
			EB4G401B			
			EB4G600B			
			EB4GA00B			
			EB4GA01B			
			EB4GA02B			
			EB4GA03B			
			EB4GE00B			
			EB4F300C	22765AF36J.pak	EBD0C9F8	EB4GH00C
			EB4G100C			
			EB4G300C			
			EB4G400C			
			EB4G401C			
			EB4G600C			
			EB4GA00C			
			EB4GA01C			
			EB4GA02C			
			EB4GA03C			
			EB4GE00C			
			EB4G700C	22765AK16G.pak	81549BFC	EB4GH00c
			EB4GA00C			
			EB4GA01c			
			EB4GA02c			
			EB4GA03c			
			EB4GE00c			
		3.6L NA, CVT	DB4F300D	22765AF45G.pak	7A3AB447	DB4GH00D
			DB4F301D			
			DB4G300D			
			DB4G301D			
			DB4G3Z1D			
			DB4GA00D			
			DB4GA01D			
			DB4GE00D			
			DB4GG00D			

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MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2016	Legacy & Outback	2.5L NA, CVT	EB4I200C	22765AJ14F.pak	4BB01297	EB4I350C
			EB4I310C			
			EB4I311C			
			EB4I312C			
			EB4I313C			
			EB4I31ZC			
			EB4I330C			
			EB4I200B	22765AJ15F.pak	607512EB	EB4I350B
			EB4I310B			
			EB4I311B			
			EB4I312B			
			EB4I313B			
			EB4I31ZB			
			EB4I330B			
		3.6L NA, CVT	DB4I100D	22765AJ17E.pak	254F5AC8	DB4I350D
			DB4I310D			
			DB4I311D			
			DB4I330D			
			DB4I340D			

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MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2017	Legacy & Outback	2.5L NA, CVT	EB4I500C	22765AK48G.pak	57166248	EB4I550C
			EB4I50ZC			
			EB4I50YC			
			EB4I501C			
			EB4I502C			
			EB4I503C			
			EB4I504C			
			EB4I50XC			
			EB4I530C			
			EB4I500B	22765AK50G.pak	819BE7E1	EB4I550B
			EB4I501B			
			EB4I50ZB			
			EB4I502B			
			EB4I503B			
			EB4I504B			
			EB4I505B			
			EB4I50YB			
			EB4I530B			
		3.6L NA, CVT	DB4I500D	22765AK31F.pak	6D87DE45	DB4I550D
			DB4I50ZD			
			DB4I501D			
			DB4I502D			
			DB4I530D			
			DB4I540D			

MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2018	Legacy & Outback	2.5L NA, CVT	EB4P000C	22765AK85D.pak	ED0B7C17	EB4T700C
			EB4P001C			
			EB4S100C			
			EB4S101C			
			EB4S10ZC			
			EB4T400C			
		3.6L NA, CVT	DB4P000D	22765AK89D.pak	A26C95FA	DB4T700D
			DB4P001D			
			DB4T400D			
			DB4T600D			

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MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2019	Legacy & Outback	2.5L NA, CVT	EB4V000C	22765AN06C.pak	03B99837	EB4V900C
			EB4V00ZC			
			EB4V600C			
		3.6L NA, CVT	DB4V000D	22765AN11D.pak	03BC002D	DB4V900D
			DB4V600D			
			DB4V800D			

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.

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.