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: 2017-22MY Impreza	**NUMBER:** 09-90-22R
2018-22MY Crosstrek	**DATE:** 05/20/22
SUBJECT: P0890 TCM Power Relay Sense Circuit	**REVISED:** 01/24/23
P05A0 Active Grille Air Shutter "A" Stuck on	
Low DTC P015A & P015B / Delayed O2 Sensor Response	

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. This concern may occur under any of the four 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.

PRODUCTION CHANGE INFORMATION:

This new logic was incorporated into vehicle production as per the the table below.

Model	Starting VIN
Impreza (4 Door)	N3607758
Impreza (5 Door)	N1722257
Crosstrek	N9249886

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.

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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.

Scenario C:

P015A (A/F /02 Sensor Delayed Response - Rich to Lean Bank 1 Sensor 1) & P015B (A/F /02 Sensor Delayed Response - Rich to Lean Bank 1 Sensor 1) may set when stabbing acceleration (ON then quickly OFF the accelerator) and similar braking are performed repeatedly such as in stop and go driving while the engine is warming up.

Scenario D:

A hesitation and/or lack or power may be felt while operating the vehicle with an engine speed of 1500-3500rpm.

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.

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.

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- 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 #
2017	Impreza	2.0L NA, 5MT AGS	22765AJ59A	22765AU28A.pak	BD9CAD75	XH3J2G0C
			22765AJ59B			
			22765AJ59C			
			22765AJ59D			
			22765AJ59E			
			22765AJ59F			
			22765AJ59G			
			22765AJ59H			
			22765AJ59J			
			22765AJ59K			
		2.0L NA, CVT AGS	22765AJ60A	22765AU29A.pak	FE01CFEB	XH3J2G0D
			22765AJ60B			
			22765AJ60C			
			22765AJ60D			
			22765AJ60E			
			22765AJ60F			
			22765AJ60G			
			22765AJ60H			
			22765AJ60I			
			22765AJ60J			
			22765AJ60K			
		2.0L NA, 5MT	22765AJ61A	22765AU30A.pak	C3C6AC44	XH3J2G0A
			22765AJ61B			
			22765AJ61C			
			22765AJ61D			
			22765AJ61E			
			22765AJ61F			
			22765AJ61G			
			22765AJ61H			
			22765AJ61J			
			22765AJ61K			
		2.0L NA, CVT	22765AL71A	22765AU31A.pak	182F9B0B	XH3J2G0B
			22765AL71B			
			22765AL71C			
			22765AL71D			
			22765AL71E			
			22765AL71F			
			22765AL71G			
			22765AL71H			
			22765AL71J			
			22765AL71K			

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MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2018	Impreza	2.5L NA, CVT AGS	22765AM28A	22765AM28J.pak	B8D823C7	XH3JD00D
			22765AM28B			
			22765AM28C			
			22765AM28D			
			22765AM28E			
			22765AM28F			
			22765AM28G			
			22765AM28H			
	Crosstrek	2.0L NA, 6MT	22765AJ610	22765AJ618.pak	F9F53E35	XH3J2G0E
			22765AJ611			
			22765AJ612			
			22765AJ613			
			22765AJ614			
			22765AJ615			
			22765AJ616			
			22765AJ617			
		2.0L NA, CVT	22765AJ620	22765AJ628.pak	B9308D26	XH3J2G0F
			22765AJ621			
			22765AJ622			
			22765AJ623			
			22765AJ624			
			22765AJ625			
			22765AJ626			
			22765AJ627			

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MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2019	Impreza	2.0L NA, 5MT AGS	22765AM64A	22765AM64G.pak	6E8A55B5	XH3NA00C
			22765AM64B			
			22765AM64C			
			22765AM64D			
			22765AM64E			
			22765AM64F			
		2.0L NA, 5MT	22765AM65A	22765AM65G.pak	FAA8D023	XH3NA00A
			22765AM65B			
			22765AM65C			
			22765AM65D			
			22765AM65E			
			22765AM65F			
		2.0L NA, CVT AGS	22765AM66A	22765AM66G.pak	FC067661	XH3NA00D
			22765AM66B			
			22765AM66C			
			22765AM66D			
			22765AM66E			
			22765AM66F			
		2.0L NA, CVT	22765AM67A	22765AM67G.pak	5CC20BED	XH3NA00B
			22765AM67B			
			22765AM67C			
			22765AM67D			
			22765AM67E			
			22765AM67F			
	Crosstrek	2.0L NA, 6MT	22765AM810	22765AM816.pak	D2566269	XH3NA00E
			22765AM811			
			22765AM812			
			22765AM813			
			22765AM814			
			22765AM815			
		2.0L NA, CVT	22765AM820	22765AM826.pak	150AAA5D	XH3NA00F
			22765AM821			
			22765AM822			
			22765AM823			
			22765AM824			
			22765AM825			

MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2020	Crosstrek	2.0L NA, 6MT	22765AN930	22765AN933.pak	FDD0BD32	XE1M500E00G
			22765AN931			
			22765AN932			
		2.0L NA, CVT	22765AN950	22765AN952.pak	18F232B0	XE1M500F00G
			22765AN951			
	Impreza	2.0L NA, 5MT AGS	22765AP11A	22765AP11D.pak	7D36F368	XE1M500C00G
			22765AP11B			
			22765AP11C			
		2.0L NA, 5MT	22765AP12A	22765AP12D.pak	D7A1DB9B	XE1M500A00G
			22765AP12B			
			22765AP12C			
		2.0L NA, CVT AGS	22765AP13A	22765AP13D.pak	D2C975EC	XE1M500D00G
			22765AP13B			
			22765AP13C			
		2.0L NA, CVT	22765AP14A	22765AP14D.pak	7B3A4703	XE1M500B00G
			22765AP14B			
			22765AP14C			

MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2021	Impreza	2.0 NA, MT, AGS	XE1P100C00G	22765AP84C.pak	82CE2831	XE1P500C00G
			XE1P10ZC00G			
			XE1P101C00G			
		2.0 NA, MT	XE1P100A00G	22765AP85C.pak	93FBB29A	XE1P500A00G
			XE1P10ZA00G			
			XE1P101A00G			
		2.0 NA, CVT, AGS	XE1P100D00G	22765AP86C.pak	A8F10D31	XE1P500D00G
			XE1P400D00G			
		2.0 NA, CVT	XE1P100B00G	22765AP87C.pak	BE951B1F	XE1P500B00G
			XE1P400B00G			
2021 cont.	Crosstrek	2.0 NA, 6MT	XE1P100E00G	22765AP922.pak	7BE0917B	XE1P500E00G
			XE1P10ZE00G			
			XE1P101E00G			
		2.0 NA, CVT	XE1P100F00G	22765AP932.pak	CF1813CB	XE1P500F00G
			XE1P101F00G			
			XE1P10ZF00G			
		2.5 NA,CVT	XE1P010G00G	22765AP811.pak	F3081B11	XE1P500G00G

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MY	Model	Specification	Old CID #	File Name	Decryption Keyword	New CID #
2022	Impreza	2.0 NA, 5MT, AGS	XE1R010C00G	22765AS27B.pak	A06D93F0	XE1R200C00G
			XE1R011C00G			
		2.0 NA, 5MT	XE1R010A00G	22765AS28B.pak	E7D2B96A	XE1R200A00G
			XE1R011A00G			
		2.0 NA, CVT, AGS	XE1R010D00G	22765AS29B.pak	2E99EA2B	XE1R200D00G
			XE1R100D00G			
		2.0 NA, CVT	XE1R010B00G	22765AS30B.pak	5E252BEA	XE1R200B00G
			XE1R100B00G			
	Crosstrek	2.0 NA, 6MT	XE1R010E00G	22765AS311.pak	2B358510	XE1R200E00G
			XE1R011E00G			
		2.0 NA, CVT	XE1R010F00G	22765AS321.pak	8F4C1AE5	XE1R200F00G
		2.5 NA, CVT	XE1R010G00G	22765AS341.pak	93449D15	XE1R200G00G

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 Flash-Write.

If a newer CID is shown as available in FlashWrite, reprogram using that file.

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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.