

No. 226

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Technical Service Bulletin

MODEL(S) AFFECTED: **M20, M30, T20, S30 Mitsubishi 2.0L engines**
(machines built between July 2015 and February 2017)

SUBJECT: Engine does not start - starter cranks for 1 to 2 seconds then stops.

PURPOSE: An issue has been found with certain 4G Engine Control Modules (ECM's) that cause a no start condition in combination with an active DTC 1674 "Hardware ID Failure." ECM's which have software versions 234- 263 can be affected by this issue. This bulletin will outline the procedure that should be followed to resolve the DTC.

NOTES: Certain 4G ECM's (with software version No. 234- 263) may set a DTC1674 "Hardware ID Failure" which could cause a no crank/no start condition. Customers may also experience a DTC 1634 or DTC 686. Software versions 234- 263 were used between July 2015 and February 2017.

Questions, contact Tennant Customer Service Department at (800) 553- 8033 or (763) 513- 2850.
Warranty Information: Standard Terms Apply.

The software version can be identified on the 4G EDIS (as shown below):

The screenshot displays the 4G Controls software interface. At the top, it shows 'Main Connected' status, a MIL indicator, navigation buttons, and a 'REC' button. The 'USB CAN connected at 250 kbps' status is also visible. The main display area is divided into several sections: '4G Control Platform' with a 'Manifold Pressure' gauge, 'Coolant Temp' and 'Intake Air Temp' gauges, and 'Oil Pressure' gauge (highlighted with a red box). The 'System Variables' section lists various engine parameters like Engine Speed, Governor Setpoints, and EGO voltages. At the bottom, a table provides detailed vehicle and engine information, including the 'Software revision' (249), which is circled in red.

Engine manufacture date		1-1-2014	Current cal model	9999999X	Hour meter	201.601 hours
Engine part number			Current cal date	10-4-2015	Cumulative starts	59 starts
Engine serial number			Customer code	PSI		
Vehicle identification number			Software revision	249	6759	1 1197768456
Displacement	2.4 L	Cylinders	4	Reprogramming Security	Disabled	
Spark system type	Coil Per Cylinder			Emissions Calibration Checksum	\$D61EF9BB	
Cylinder number	1 - 3 - 4 - 2 - X - X - X - X - X - X			Total Calibration Checksum	\$4B026C54	

In order to **immediately resolve the no start condition**, perform the following:

- 1) Disconnect battery power by removing the ground cable for approximately 1 minute.
- 2) Reconnect battery terminal.
- 3) Perform an engine start using the normal starting procedure

To permanently prevent this from reoccurring, PSI can update the ECM via an online web meeting if the following criteria are met:

- **A reliable Wi- Fi hotspot connection must be available**
- **A laptop equipped with 4G software must be connected to the unit**
- **Phone service must be available to walk through the procedure with PSI**

To setup a Web Cast Meeting please email service@psiengines.com with your date and time request and PSI will send you a meeting invite with Webcast instructions. If you are on site and did not pre- schedule a web cast meeting, please call 888- 331- 5764 and a PSI technical representative will assist you. PSI technical support is in the office from 7:30am to 5:00pm CST, Monday through Friday.

If the previously mentioned criteria cannot be met, the ECM can be sent to PSI to perform the software update. Contact the PSI Service Department (service@psiengines.com) for a return authorization number for you to send in your ECM.