

5ET50 Transmission Part Restriction

Secure Components Properly to Prevent Shipping Damage



The 2016-2017 Volt and Malibu Hybrid use the 5ET50 continuously-variable electric transmission (RPO MKE). As part of GM's process to gather important feedback for engineering improvements, the 5ET50 transmission is currently part of the component restriction program.

For more information on the restriction program for these models, refer to the following documents:

- #PIP5321D: Volt 5ET50 Transmission Component Restriction Program
- #PIP5390A: Malibu 5ET50 (MKE) Hybrid Transmission and Component Restriction Program

TIP: When replacing the 5ET50 transmission, freeze frame failure records must be captured along with any Diagnostic Trouble Codes (DTC). Do not clear DTCs.

The 2011-2015 Volt and 2014-2016 ELR use the 4ET50 electronically-controlled, variable-speed transmission (RPO MKA). The 4ET50 transmission also is part of the component restriction program. Refer to #PIP4840Q: (EREV) Volt and ELR 4ET50 Transmission Component Restriction Program for more information.

Returns and Shipping

The component restriction for these transmissions is administered by the GM Technical Assistance Center (TAC). Servicing technicians must provide detailed customer comments, conditions, DTCs, and other useful information. To request restricted components and gather shipping instructions, contact GM TAC.

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Customer Care and Aftersales

Cruze Diesel Sounds after Turning Vehicle Off

Some 2017 Cruze models equipped with the 1.6L turbo diesel engine (RPO LH7) may produce a squeak, chirp or whine sound shortly after the vehicle is turned off. There are several components that may be responsible for these sounds.

Intake Manifold Runner Control Valve Actuator

The intake manifold runner control valve actuator performs an integrity check to confirm that the mechanical link between the actuator and the intake manifold runner is still connected. This check may be heard cycling under the hood after the engine is turned off.

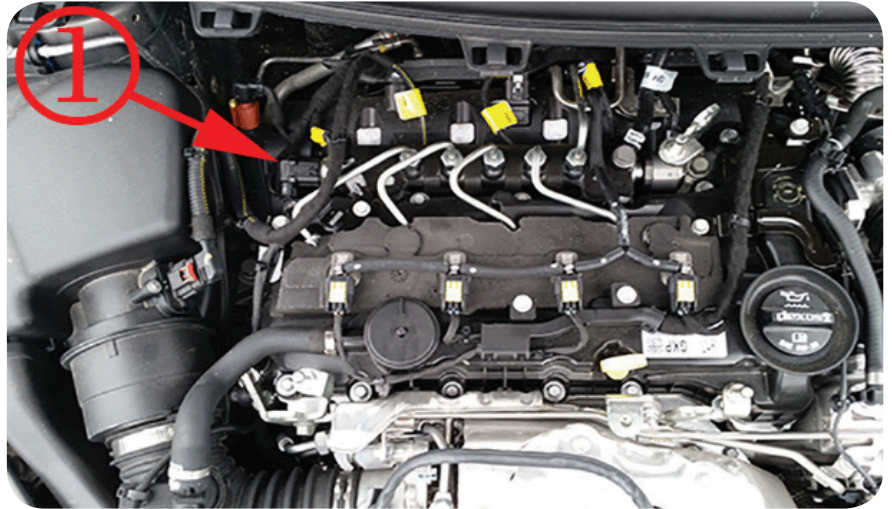
Diesel Exhaust Fluid Pump

The Diesel Exhaust Fluid (DEF) pump and the DEF reverting valve may be heard from the right rear of the vehicle. The DEF pump and reverting valve relieve the DEF system pressure and clear the lines of DEF when the vehicle is turned off. The reverting valve opens to relieve the pressure and sends the fluid back to the DEF tank. It closes once the DEF lines are clear.

These sounds are normal operating characteristics and do not impact the performance of the vehicle.

Examples of these sounds can be heard in the March 2017 Emerging Issues seminar, 10217.03, in the U.S. and the April 2017 TAC Talk seminar in Canada.

🙏 Thanks to Richard Vandesteene



1. Intake manifold runner control valve actuator

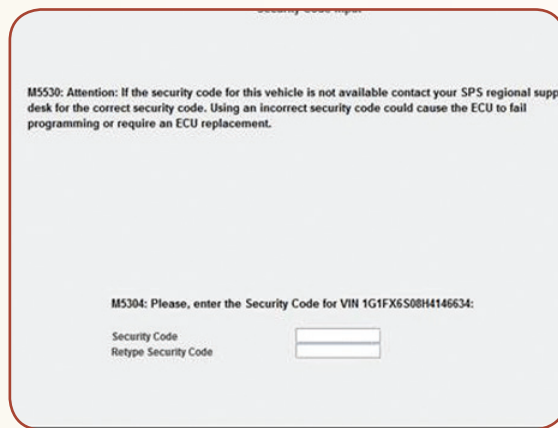
Security Code Input Message during Programming

During Service Programming System (SPS) programming on any 2009-2018 Buick, Cadillac, GMC or Chevrolet model, a security code input message with SPS error code E5659, M5304, and/or M5530 may be displayed in TIS2Web. The error codes may appear when programming any module. A related screen will also ask the user to input a security code.

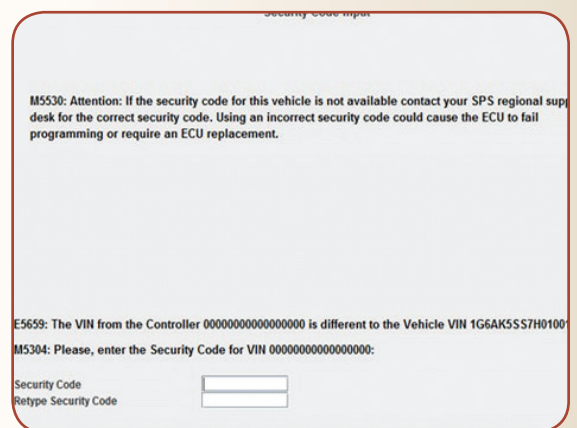
The security code input message and related error codes are flags to identify concerns with released content in the SPS applications. Typically, a security code error message should not appear as the management of security code information is completed prior to release in the SPS application.

Contact the Techline Customer Support Center (TCSC) for additional information about how to complete the necessary programming procedure.

🙏 Thanks to Ryan Taylor



Security code input screen with error M5304.



A screen requesting security code input may appear.

5ET50 Transmission Part Restriction –

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Transmission Cases

When returning the 5ET50 transmission, it should be shipped back in the same shipping container that the new transmission arrived in. The cases are custom-designed for specific components so it's important to use the correct container.

5ET50 transmission (2016-2017 Volt and Malibu Hybrid): Shipping cases have a blue stripe.



5ET50 cases have a blue stripe



4ET50 cases have a white stripe.

4ET50 transmission (2011-2015 Volt and 2014-2016 ELR): Shipping cases have a white stripe.

Protective Covers

Before returning a transmission, ensure that all connectors have protective covers installed to ensure they are protected during shipping.

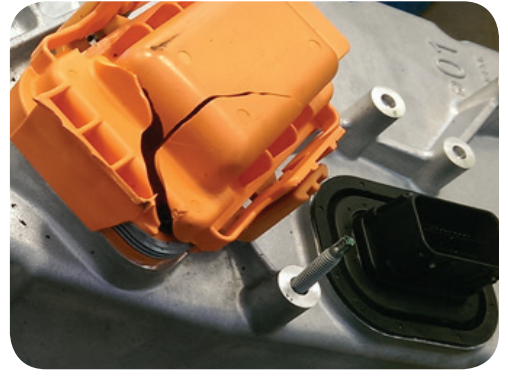
If the transmission is not secured properly in the shipping container, the connectors and other assembly components may be damaged.

Strap Routing

Many returned transmissions have sustained damage during shipping, which hinders the diagnosis that can be performed on the transmission. Damage most often occurs due to the transmission moving in the shipping case.



Install covers to protect connectors.



Install covers to protect connectors.

Use the straps in the shipping container to secure the transmission. The straps should be placed over the top of the transmission, around the side of the bell housing.

Do not place a strap over the front edge of the bell housing. Routing the strap over the sharp bell housing edge may cause it to be cut and break during shipping.



Place the strap around the side of the bell housing, not over the sharp front edge.



Do not route the strap over the bell housing edge.



Routing the strap over the sharp bell housing edge may cause it to be cut and break.

🙏 Thanks to Lane Rezek and Scott Barone

Checking Crankcase Pressures

Some 2016-2017 Encore and Cruze models equipped with the 1.4L engine (RPO LE2) and 2016-2017 Malibu and Volt models equipped with the 1.5L engine (RPO LFV, L3A) may have an engine oil leak at the crankshaft rear oil seal. Positive or negative crankcase pressures outside the normal operating range, due to a restriction in any of the induction system components, may cause the oil seal leak.

When testing for oil leaks, check for excessively positive or negative crankcase pressures using the Evaporative Emissions System Tester (EEST), J-41413. The EEST should be connected at the engine oil dipstick port.

Connect the tester with the engine off, and then start the engine or record the pressure reading. Normal crankcase pressure readings for the 1.4L engine (LE2) and 1.5L engine (LFV, L3A) are between -1 and -5 inches of water in Park at hot idle.

If the crankcase pressure is in the proper range, follow the diagnostics in the appropriate Service Information.

If the crankcase pressure is excessively positive, above 0 inches of water (0 inches of HG/vacuum), record the cylinder leakage readings and check for improper camshaft cover operation.

If the crankcase pressure is excessively negative, below -16 inches of water (-1 inches of HG/vacuum), inspect for any air induction restrictions in the front air intake duct to air cleaner housing or in the air cleaner housing. Look for any nesting materials, water intrusion, a kinked PCV tube or modifications to the air induction system.

Also inspect the air cleaner outlet duct for a blocked PCV fresh air port. A closed port may cause excessive negative crankcase pressure. If the port is blocked, replace the camshaft cover assembly and retest for proper crankcase pressure.

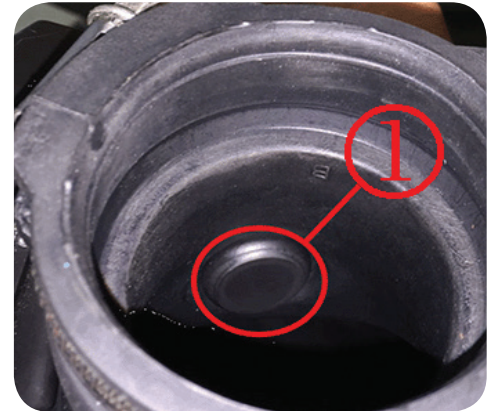
🙏 Thanks to Raymond Haglund



Evaporative Emissions System Tester



Normal crankcase pressure reading



Blocked PCV fresh air port

Camshaft Actuator Solenoid Bolt Installation

There is a new bolt installation procedure for the camshaft actuator solenoid on the 3.0L V6 engine (RPO LGW), 3.6L V6 engine (RPO LGX), and 3.6L V6 engine (RPO LGZ) on the following models: 2016-2018 ATS, CTS, CT6, Camaro; 2017-2018 LaCrosse, XT5, Colorado, Canyon, and Acadia.

If during normal diagnosis for any camshaft oil control actuator solenoid conditions or when replacing the solenoid, it's recommended to remove the black plastic bolt retainer from the solenoid bolt. Push out the black plastic bolt retainer from the top of the solenoid hold down ear and discard it.

Be sure to fully seat the solenoid to the engine before tightening the bolt to the specified torque.

🙏 Thanks to Aron Wilson



Black plastic bolt retainer in the solenoid hold down ear

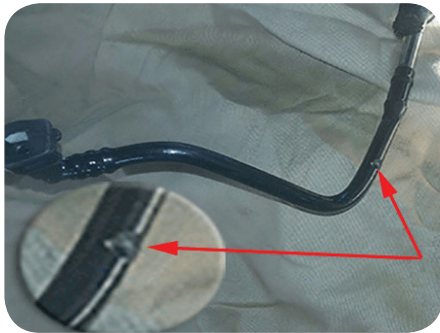
Evaporative Pipe or Hose Damage

Some 2016-2017 Volt models built prior to October 3, 2016 that are equipped with the 1.5L engine (RPO L3A) may have an illuminated Check Engine light and Diagnostic Trouble Code (DTC) P0442 (EVAP System Small Leak Detected) may be set.

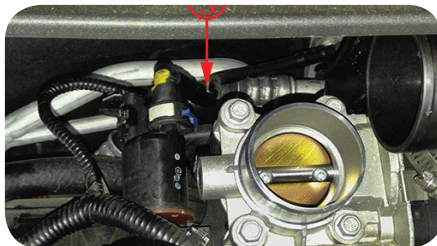
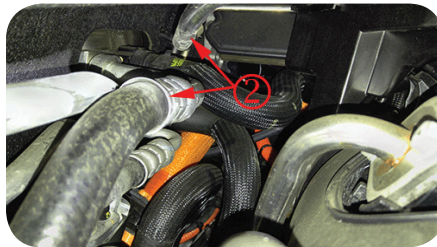
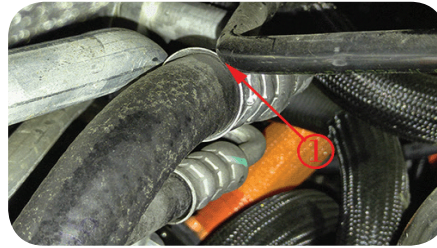
If these conditions are found, inspect the evaporative emissions purge solenoid pipe for damage from contacting the A/C evaporator core hose.

If there is damage to the evaporative emissions purge solenoid pipe, replace the pipe. Position the new pipe to avoid contact with the A/C evaporator core hose.

🙏 Thanks to Raymond Haglund



Damaged evaporative emissions purge solenoid pipe



Check the evaporative emissions purge solenoid pipe for contact with the A/C evaporator core hose.

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Service Know-How

10217.04V Emerging Issues – April 13, 2017

The latest service topics from Brand Quality and Engineering are reviewed, including one pedal driving the 2017 Bolt EV and heated seat repairs on the 2016 Impala.

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