Malibu Hybrid No Crank Condition and DTC P0AFA

If the 1.8L engine (RPO LKN) on a 2016-2017 Malibu Hybrid model does not crank after several attempts and DTC P0AFA (Hybrid/EV Battery System Voltage Low Voltage) is set, it may be necessary to replace the high voltage battery pack.

After excessive engine crank attempts where the engine turns over but does not start, the high voltage battery pack will be drained of power, similar to draining a 12V battery in a traditional powertrain.

The high voltage battery pack stores 288V DC in eight lithium-ion battery sections. The high voltage battery pack is charged during normal vehicle driving and is maintained at or near an optimum level of charge.

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The Results are In
Service Information Offers New Search Functions

Enter a few keywords in the Search box of the Service Information, click the Search button, and the results may surprise you. New search functions now offer several ways for you to narrow down a search result, delivering better, more accurate results of what you’re looking for.

TIP: These new features apply to all areas of the Service Information where the Search function is available.

VIN Search

Enter a 17-digit VIN to get search results for a specific vehicle. Up to 10 VINs will now
Malibu Hybrid No Crank Condition and DTC POAFA

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Excessive Engine Starts

Requesting excessive vehicle starts by pressing the Engine Start-Stop button will cause the high voltage battery pack to drain. It’s recommended that drivers do not attempt more than 10 engine starts using the Engine Start-Stop button without driving the vehicle to ensure the battery pack is charged. Too many engine starts may require replacement of the high voltage battery pack.

If the green “Ready” light on the instrument cluster is displayed, the vehicle is ready to drive. Normally, the vehicle should enter the green “Ready” state on the very first start attempt. If it does not, there may be some other issue, such as the fuel system, which prevents the gasoline engine from starting. Avoid unnecessarily draining the high voltage battery pack until the root cause is corrected.

If 10 start events are reached and propulsion is still not available (no green “Ready” light on the instrument cluster), begin diagnosis following the appropriate Service Information and contact TAC for additional diagnostic assistance.

Prolonged Operation in Neutral

Inadvertently leaving the Malibu Hybrid in Neutral for prolonged periods (more than 5 minutes) will cause both the 12V battery and the high voltage battery pack to drain. After 5 minutes, a Driver Information Center (DIC) message will appear requesting the driver to “Shift to Park.” If the message is disregarded, the excessive high voltage battery drain may require the high voltage battery pack to be replaced.

High Voltage Battery Pack Replacement

If the high voltage battery pack is drained, other DTCs may indicate an issue with the engine or transmission. Diagnose those DTCs first and make any necessary repairs. Also check the fuel level and fuel quality.

After repairing the condition causing the engine to not start and produce torque, the high voltage battery pack must be replaced in order to try another crank attempt. DTC POAFA also may be caused by an internal fault in the high voltage battery pack. This condition also requires the high voltage battery pack to be replaced. Follow the instructions in PIC6194 to obtain a replacement battery pack, which is currently on restriction.

TIP: The engine will have a limited number of crank attempts when a new high voltage battery pack is installed. There is currently no method to charge the high voltage battery pack other than running the engine.

(©) Thanks to Lane Rezek and Keith Newbury

3rd Gear Condition on Manual Transmission

Some 2017 Camaro and ATS-V models equipped with a 6-speed transmission (RPO MM6, MG9) and 2017 Corvette models equipped with a 7-speed transmission (RPO MEP, MEK) may hop out of 3rd gear due to a mis-machined gear. These vehicles will have very low mileage or the condition may be noticed during PDI.

To determine if the transmission is operating properly, shift to 1st gear and then 2nd gear as quickly as possible at a low or medium throttle. Next, shift to 3rd gear and release the shift lever, accelerating quickly to a medium or heavy throttle; then decelerate.

If the transmission does not hop out of 3rd gear, shift back to 2nd gear and repeat the shifting and accelerating procedure 10 times. If the transmission does not hop out of 3rd gear, the transmission has the correctly machined gear. If the hop out of 3rd gear is verified, replace the 3rd speed gear, synchronizer and shift collar.

(©) Thanks to Steve Schipansky
be stored to make it easier to recall information for a VIN that was entered previously.

**Basic or Advanced Search**

A Basic or Advanced Search can be performed by selecting Basic Search or Advanced Search in the top left corner of the page. A Basic Search returns all Service Information documents related to the model that include the keywords entered in the Search box. For example, “wheel speed sensor” returns results for “sensor,” “speed” and “wheel.”

An Advanced Search will use the keywords as a phrase and only returns results for that phrase, e.g., “wheel speed sensor.” An Advanced Search for “wheel speed sensor” for a 2016 Buick Cascada narrows the search results from 66 to 25.

**Snippets of Results**

The results from a search include Bulletins, Campaigns and Preliminary Information as well as Service Manual results. Depending on the number of results, they all may not be shown. The first 50 results will appear based on their relevance score. Click Show All Results at the top right of the page to see all results.

A new feature of the search results is a “snippet” that can be shown with each result. The snippet is a small section of the document information, which can be helpful in determining the content and relevancy of the results. To see the snippet, select the search result Service Category, or to see the snippets for all result, click Expand All at the top right of the page.

Also, the Service Information application will maintain the selection to expand or collapse the section individually.

**Added TIS2Web Link**

One additional feature included with the latest Service Information enhancements is a new link for TIS2Web added to the Service information home page and the tool bar. The new link adds a convenient way to quickly connect to TIS2Web.

(*) Thanks to Lisa Scott
Identifying Non-GM Calibrations in Duramax 2.8L Diesel Engines

2016-2017 Colorado and Canyon models and 2017 Express and Savana models are available with the Duramax 2.8L turbocharged diesel engine (RPO LWN). Various performance conditions, such as poor drivability, increased emissions, knocking noises, engine damage and black exhaust smoke, may be caused by an aftermarket power-up kit or other aftermarket hardware.

Any time an internal engine hard part failure is found, it’s recommended to check for the presence of non-GM (aftermarket) calibrations. The use of parts, control module calibrations, software modifications, or other alterations not issued through GM will void the warranty coverage for those components damaged by the installation of the non-GM calibration or alteration.

Create a Report in GDS 2

If a non-GM calibration is found, a GDS 2 screen shot is required by the Calibration Group. To take the appropriate screen shot, navigate to Module Diagnostics > Engine Control Module > Identification Information > Calibration History.

Depending on the computer screen configuration and the Number of Calibration History Events Stored, it may be necessary to take two screen shots in order to retrieve, save and view all of the needed information. The report should include the VIN, Calibration History, Calibration Verification Number History and other associated parameters. The VIN must appear on the same screen as the calibration numbers.

Create a report by selecting the Create Report button. Email the report to the GM Calibration Group. Refer to Bulletin #16-NA-325 for complete information and email instructions.

Thanks to Charles Hensley

Fuel Tank Pop Noise

Some 2010-2017 Equinox and Terrain models may have a popping noise coming from the rear of the vehicle shortly after a cold start or EVAP purge event. The sound may be due to the auxiliary fuel pump changing height — it has a spring-loaded leg — in the left side of the fuel tank.

The popping noise condition can be duplicated by commanding a purge and seal on the EVAP system using GDS2. As the vacuum reaches 3 to 5 inches, the popping noise should be heard.

A revised auxiliary fuel pump has been designed to correct the popping noise. However, the part number has not changed. After ordering the auxiliary fuel pump, verify the letters “PPA” are cast into the top of the fuel pump flange.

TIP: The parts catalog list the auxiliary fuel pump as “fuel pump auxiliary,” which is the correct part for this repair. Replacing the primary fuel pump, listed as “fuel pump” in the parts catalog, will not correct the noise condition.

Thanks to David Rutkowski
GM TAC Process Addresses Vehicle Cybersecurity

If a customer comes into a GM dealership with concerns about a cyberattack or hack on their vehicle, the GM Technical Assistance Center (TAC) has a process in place to help address the customer’s concern and collect information about the concern. Some customers may have been directed to take their vehicle to a dealership by a GM Call Center (OnStar, Customer Experience, etc.) after reporting their concern.

Contact TAC

If a vehicle is presented at your dealership, contact GM TAC for additional information on how to proceed with any vehicle diagnosis.

Dealerships should reassure customers that GM takes cybersecurity very seriously and has devoted substantial resources to address it, and will continue to do so.

Customers also should be advised that GM is not aware of any real-world instances of anyone remotely hacking into a GM vehicle without owner consent. Any examples known to GM were only research demonstrations.

(*) Thanks to Len Tillard

Crossed Fuel Injector Harness


Inspect the fuel injector control circuit wire colors to the engine controls schematics. These connections may be reversed, leading to misfires that may occur only under specific circumstances or RPM ranges, which makes them difficult to diagnose.

If crossed fuel injector connections are found, also inspect the related harnesses and terminals for signs of damage due to the misrouting.

(*) Thanks to Ray Haglund

Service Know-How

10216.11V Emerging Issues – November 10, 2016

The latest service topics from Brand Quality and Engineering are reviewed, including an overview of the new 2017 Camaro ZL1 and 1LE models and repairs for poor mobile telephone microphone performance.

To view Emerging Issues seminars:

- Log in to www.centerlearning.com
  - Select Resources > Video on Demand > GM STC > Search Videos; or
  - Select Catalog to search for the course number, and then select View > Take or Continue Course

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