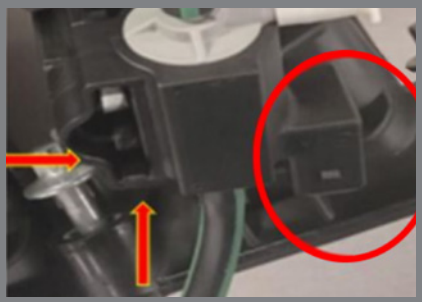
TECH LINK

Mid-February 2023, Volume 25, No. 4

USING THE COAX FAKRA Cable Adapter Kit

The EL-52552 COAX FAKRA Cable Adapter Kit can help in diagnosing a variety of coax cables and covers all known cable configurations.



New Design Intake Manifold Addresses Poor Engine Performance

see page 6

Using the COAX FAKRA Cable Adapter Kit

The EL-52552 COAX FAKRA Cable Adapter Kit can help in diagnosing a variety of coax cables, including Wi-Fi, cameras, headliner cables, A-pillar cables and more. Diagnosing coax cables routed through the headliner, for example, is made easier with the kit.

The COAX FAKRA Cable Adapter Kit covers all known cable configurations equipped with FAKRA (Fachkreis Automobil, a German standard) connectors. The adapters included in the kit are designed with universal FAKRA connectors, Z Code, in order to connect to all color-coded FAKRA connectors on the coax cables in the vehicle.

If the Video Processing Module, radio or camera is not functioning properly, there may be a camera, coaxial cable or connector issue due to vibrations that are higher than the components can withstand. As a result, the coaxial cable connectors may have excessive resistance that interrupts the video signal, resulting in the black or blue screen in the vehicle.

COAX CABLE TESTING

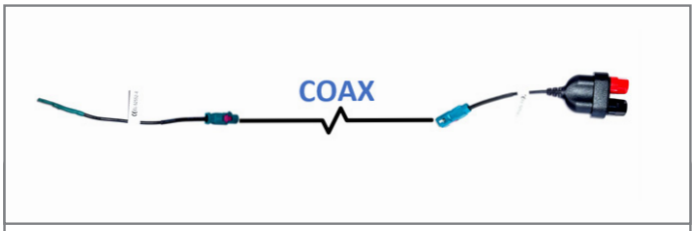
1. The first step is to disconnect the inoperable camera at the module. The K157 Video Processing Module can be found in vehicles equipped with Surround Vision Camera System (RPO UV2, UVS) or Trailer Camera System (RPO UVI). Vehicles with the A11 Radio will be equipped with the Rear Vision Camera System (RPO UVB).

Measure voltage at the module.

2. With the ignition On, measure the voltage at the module.
3. If voltage is not between 7 and 11 V, the module should be replaced.
4. If the voltage is between 7 and 11V, disconnect the camera that is inoperable.
5. Find the appropriate pinout adapter and load test loop adapter from the EL-52552 COAX FAKRA Cable Adaptor Kit.
6. Connect the two adapters together and measure the resistance between the terminals at the pinout adapter. Record the resistance for later use.

Measure resistance between the terminals at the pinout adapter.

7. Disconnect the two adapters and connect each one to the appropriate end of the coax cable.
8. At the pinout adapter test terminals, measure the total resistance of the coax cable loop, including the connected load test adapter. If the resistance is not within 5 Ω of the reading taken in Step 6, replace the coax cable. If the resistance is within 5 Ω of the reading taken in Step 6, replace the camera.
9. Reconnect all connectors and check if any DTCs are set.
10. If a DTC is set, the module may need to be replaced.



Connect each adapter to the appropriate end of the coax cable.

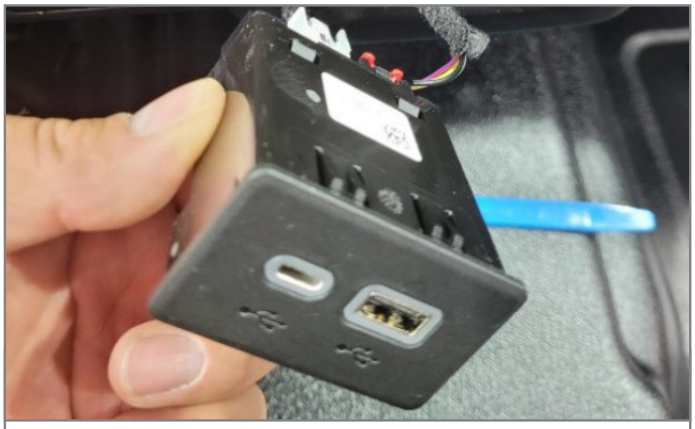
REPLACING COAX CABLES

If it's determined that the coax cable is the issue, the GM cable repair strategy is to replace these cables instead of repairing

CONTINUED ON PAGE 3

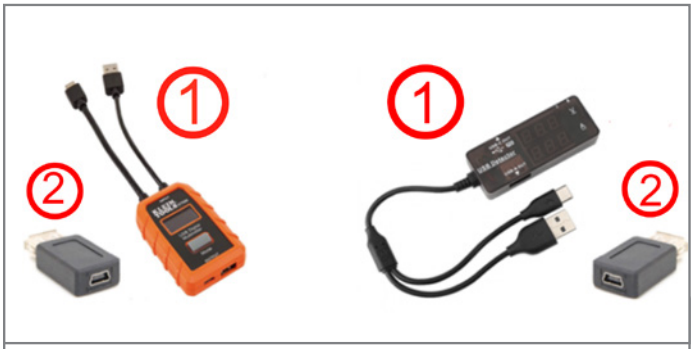
Inoperative USB Port Diagnosis

Many 2020-2023 GM models feature USB ports for mobile device charging and data connection. If a smartphone or other device does not charge or transfer data properly when connected to the USB port in the vehicle, one possible cause may be a faulty USB hub.



USB port

If there are DTCs set along with the USB port condition, refer to the appropriate Service Information for each DTC. If there are not any DTCs set, there are several ways to check the functionality of the USB port.



Examples of USB digital meter (#1) and USB-A female-to-mini-B female adapter (#2)

The USB receptacle interfaces directly with the A11 Radio using a standard USB cable. The USB port allows connectivity to the infotainment system from portable media players or a USB storage device (memory stick/ flash drive). When a device is connected to the USB port, the system detects the device and USB becomes available as an audio source. Not all portable media player devices or file types are compatible. Customers should refer to their Owner's Manual for information on USB devices, control, and operation.

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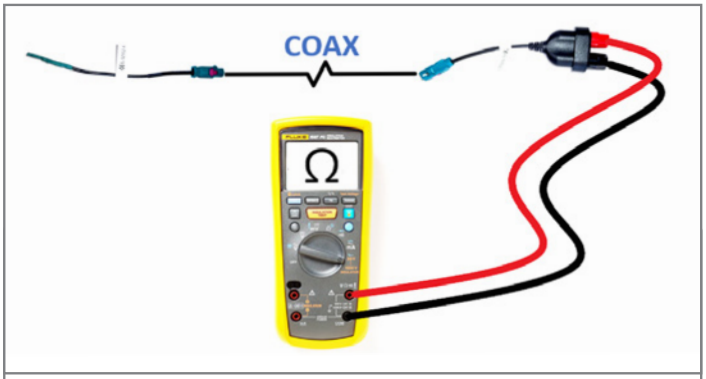
FAKRA COAX CABLE, CONT.



Measure total resistance of the coax cable loop.

them when addressing related vehicle conditions. Never attempt to repair coax cables on a vehicle. The entire cable/harness or component must be replaced.

When replacing a faulty or damaged cable, first disconnect the cable connectors at both ends. Route the new cable along the harness and use tie-straps to attach the cable to the existing harnesses or brackets. Be sure to not pinch the cable or bend it more than a 2-inch (5 cm) radius. Tape or foam can be used to prevent the cables from rattling if needed.

With the new cable installed, reconnect the connectors to the components. Cut the connectors off the older cable as close to the harness breakout as possible without damaging the harness.

For more information about wiring repairs, refer to the appropriate Service Information. Be sure to always review the service procedures before beginning a repair to confirm the correct procedures are being followed.

Thanks to Marco Salcedo

TESTING TOOLS

A USB digital meter or a USB-A female to mini-B female adapter, which can be obtained at various consumer electronic stores, allows for phone in-line testing.

Most USB meter testers have two output ports, but only one port allows data to transfer while charging.

Power Sourcing Equipment (PSE) are charge-only USB ports like laptops, workstations, cars, or even wall sockets. Powered Delivery (PD) are those that may connect to a USB port to charge and/or communicate, which includes smartphones, keyboards, displays and headsets.

For a detailed list of USB port capacity and function, including RPOs, refer to Bulletin #22-NA-238.

DIAGNOSTIC TIPS

Check for proper voltage using a USB meter.

There are several steps to follow to determine if a USB port is faulty and should be replaced.

Inspect the condition of the customer's USB cable. All four wires of the cable should be connected. There should not be any tears or fraying. Also check that the cable will reliably charge or transfer USB data on a different vehicle or computer.

Check for proper voltage using a USB meter connected at each port. A properly functioning USB port will supply approximately 4.40 V – 5.25 V. If voltage is present, use a known good cable with the USB meter and connect a phone to see if the phone will charge and if there is an Amp draw on the meter. With the USB meter disconnected, verify if music can be played from the phone (not Apple CarPlay or Android Auto) and from a USB storage device.

With a USB-A female to mini-B female adapter connected to the mini-B connector, verify if music can be played.

If voltage and current is not present at the USB port, check for an open fuse that provides power to the USB port.

If the fuse is not open, remove the USB port and connect the USB-A female-to-mini-B female adapter to the mini-B connector wire from the radio. Using a known good cable, verify if music can be played from the phone and from a USB storage device.

If the phone cannot be charged or music cannot be played, unplug the mini-B USB or 6-pin power connector from the back of the radio, wait a few seconds, and then reconnect.

Mini-B USB or 6-pin power connector from the back of the radio

Some radios may have a mini USB connector that can be plugged into directly behind the module to verify if the issue is due to the cable or radio.

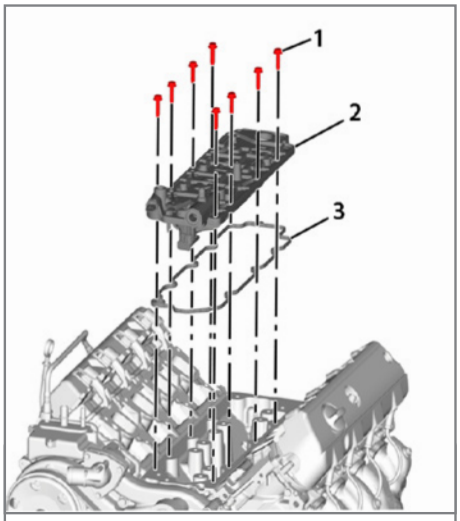
For additional information, refer to Bulletin #22-NA-238.

▶ Thanks to Marco Salcedo

Individual Parts of Valve Lifter Oil Manifold Kit Now Available

When addressing an engine misfire condition on some 2014 Silverado 1500, Sierra 1500; 2014-2019 Corvette; 2015-2018 Silverado, Sierra; 2015-2020 Tahoe, Suburban, Yukon, Escalade; 2016-2019 CTS-V; 2016-2023 Camaro; and 2019 Silverado LD and Sierra Limited models equipped with the 5.3L V8 engine (RPO L83, L8B) or 6.2L V8 engine (RPO L86, LT1, LT4)., the valve lifter oil manifold assembly (LOMA) should be replaced only if the diagnostics in the appropriate Service Information lead to a fault within the manifold assembly.

The part numbers have been updated for the individual components that were previously included in the valve lifter oil manifold (VLOM) kit. With the updated part numbers, select only the parts that coincide with the repair being performed. The VLOM should be replaced only if it tests faulty.



Valve lifter oil manifold (#2)

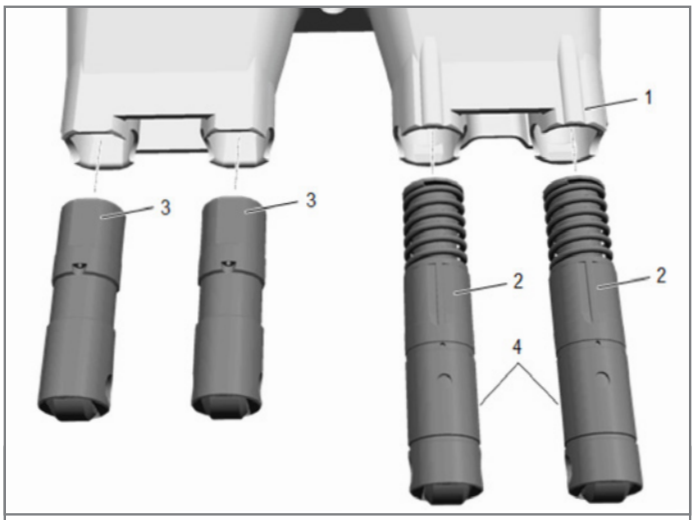
Bulletin #15-06-01-002O includes an updated parts list. Replace the part with the P/N outlined in the Electronic Parts Catalog (EPC) in accordance with the vehicle VIN.

CHECK VALVE LIFTER OPERATION

Possible causes of the misfire condition include an Active Fuel Management (AFM) lifter that is mechanically collapsed and/or stuck all of the time, internal locking pin damage in the lifter due to oil aeration, a collapsed lifter that is stuck in the lifter bore, or a bent pushrod.

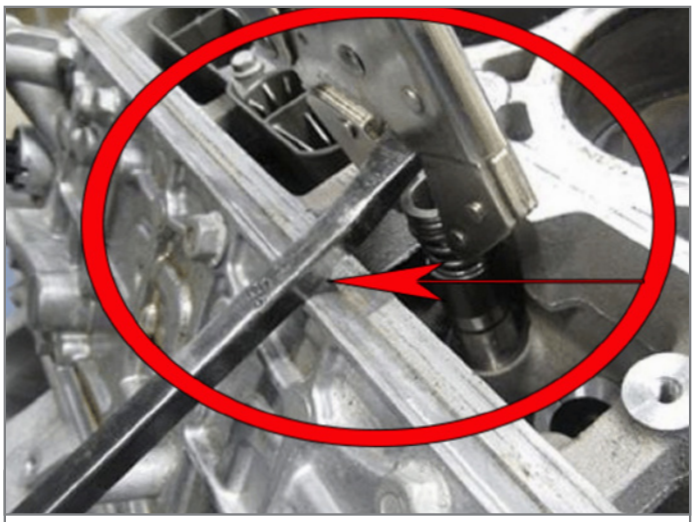
During diagnosis, inspect the valve operation. If the valves are not moving, it may be necessary to replace the valve lifter oil manifold and the affected bank of AFM lifters. If the lifter has spun the bore, the guides also should be replaced.

TIP: Any time a lifter is replaced, the lifter guide also must be replaced.



Lifter and guide

If a lifter is stuck in the bore, use vice grips with a slide hammer or a small pry bar to remove the lifter. Do not pry on the sealing surface of the block when removing a lifter.



Do not pry on the sealing surface of the block when removing a lifter.

For more information and part numbers, refer to Bulletin #15-06-01-002O.

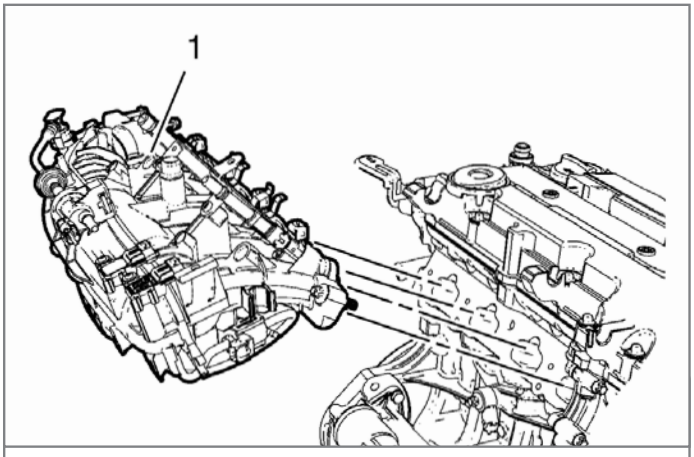
▶ Thanks to Bryan Salisbury

New Design Intake Manifold Addresses Poor Engine Performance

Some 2011-2016 Cruze; 2012-2020 Sonic; and 2013-2020 Encore and Trax models equipped with the 1.4L engine (RPO LUV) may experience a loss of power or several other engine performance conditions along with an illuminated Check Engine MIL. After driving for a period of time, the engine performance issues may seem to diminish.

The engine performance conditions may cause an increase in crankcase pressure, leading to potential oil leaks at seals and gaskets. As a result, the following DTCs may be set: P0299 (Engine Underboost), P0234 (Engine Overboost), P0236 (Turbocharger Boost Sensor Performance), P2227 (Barometric Pressure (BARO) Sensor Performance), P2261 (Turbocharger Bypass Valve Stuck) and P00C7 (Intake Air Pressure Measurement System - Multiple Sensors Not Plausible).

If the performance and drivability issues are present, check for a restricted flow through the bypass solenoid, moisture from the intake vacuum reservoir accumulating and damaging the bypass solenoid, contamination such as ice, water, oil or sludge at the charge air bypass valve, ice accumulation in the intake manifold blocking the PCV passage in the cylinder head, ice accumulation in the charge air cooler restricting air flow to the throttle body and ice plugging the crankcase vent tube during very cold weather conditions.



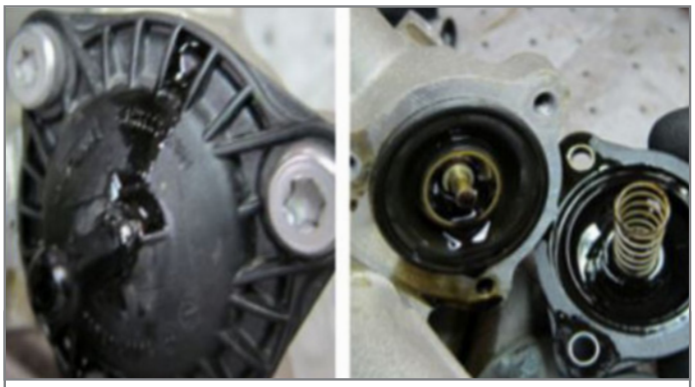
Intake manifold

NEW DESIGN INTAKE MANIFOLD

If contamination is found at the charge air bypass valve, disassemble and clean the charge air bypass valve and replace the intake manifold with the updated design part. Vehicles with the old design intake manifold should have the updated design intake manifold installed. In addition, replace the charge air bypass valve if necessary.

TURBOCHARGER, INTAKE MANIFOLD AND CYLINDER HEAD INSPECTION

Inspect the charge air bypass valve for ice, water, oil or sludge build-up in the vacuum side port. If there is only oil or water build-up in the valve port, disassemble and clean the components. Replace the components only if necessary.



Charge air bypass valve

If the desired boost pressure vs. the actual boost pressure is not within limits, but there is not any trouble found with the turbocharger wastegate actuator or turbocharger, do not replace the turbocharger. Clean the charge air bypass valve in the vacuum side port and replace the intake manifold.

In addition, inspect the PCV intake runner for any sludge/water/ice blocking the cylinder head. Clean the cylinder head, cam cover and PCV pipes. If any contamination is found, replace the intake manifold.

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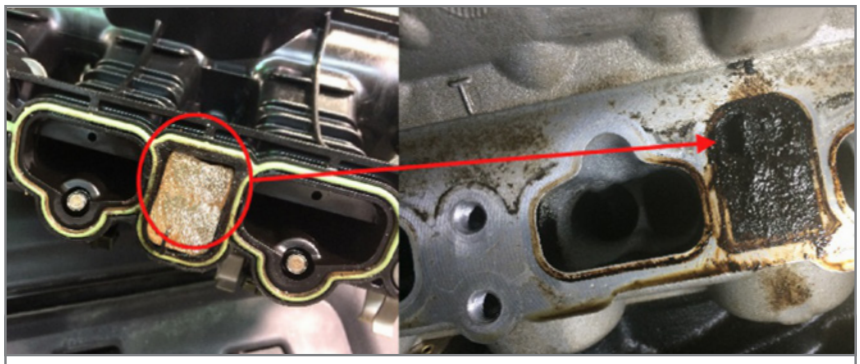


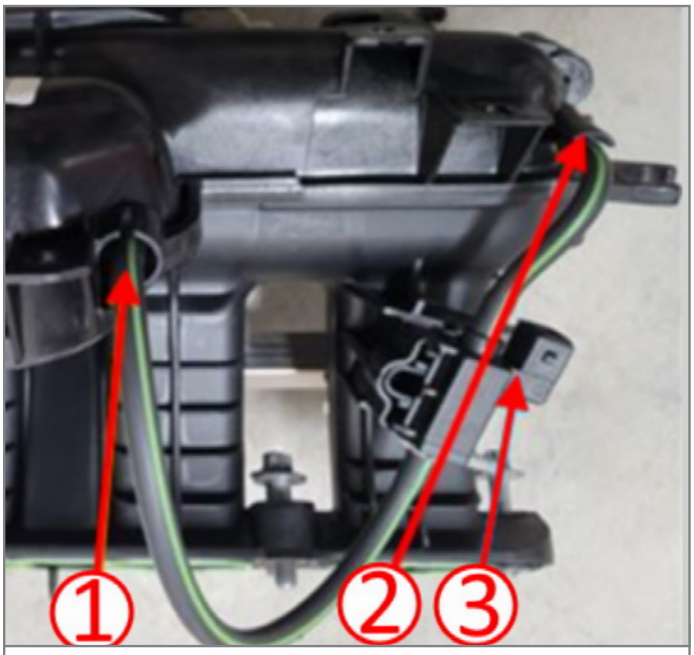
Inspect the PCV intake runner for build-up blocking the cylinder head.

INTAKE MANIFOLD

The new intake manifold has a redesigned intake positive pressure port location. Solenoid location is forward of the electrical connector. The bypass valve vacuum feed is in the same location.

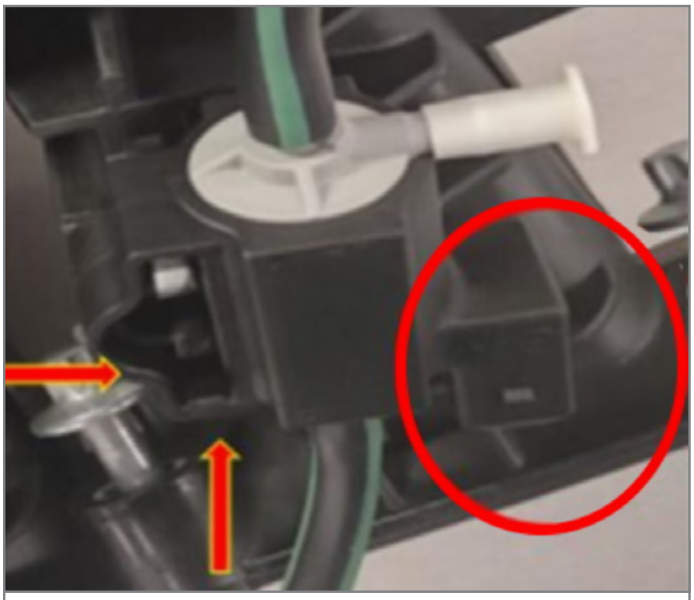
If the solenoid is loose, review the location of the electrical connector. If the connector is facing the cylinder head, it is installed backwards and should be removed and installed correctly. The solenoid is keyed and, if the tabs are reversed, the retainers will not be seated.

For more information and part numbers, refer to Bulletin #22-NA-067.



New design intake manifold:

1. Bypass valve vacuum
2. Intake positive pressure port
3. Solenoid/electrical connector



New design intake shown with incorrect solenoid installation.

▶ Thanks to Scott Willems

High-Pitched Whistling Sound at Idle

A high-pitched whistling or squeal sound may be heard at idle on some 2022-2023 Silverado 2500HD/3500HD and Sierra 2500HD/3500HD models equipped with the 6.6L V8 gasoline engine (RPO L8T). The sound may be most noticeable at the rear main seal of the engine and may continue for several seconds after the engine is turned off.

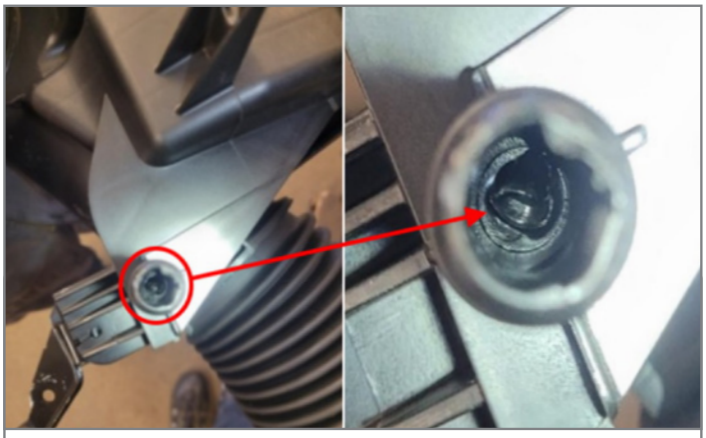
The whistling sound may be caused by excessive crankcase vacuum from a restriction at the Positive Crankcase Ventilation (PCV) tube of the air cleaner outlet duct.

Remove the oil cap or oil level indicator and verify if the sound is eliminated. If the sound is no longer heard, check for a restriction at the PCV tube.

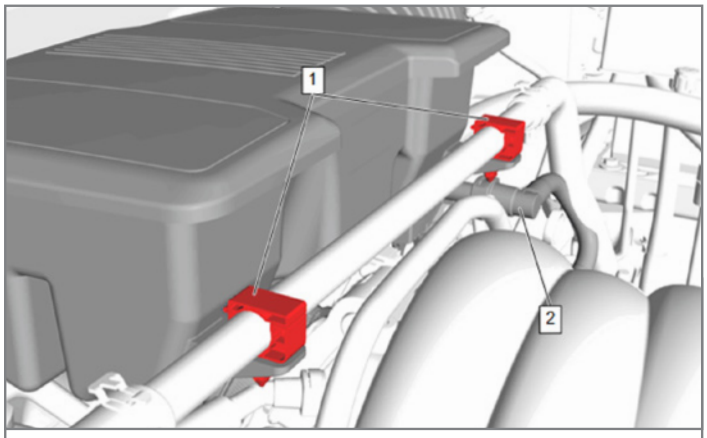
Replace the air cleaner outlet duct if a restriction is found. Refer to Air Cleaner Outlet Duct Replacement in the appropriate Service Information.

Check Bulletin #23-NA-017 for more information, including part numbers.

Thanks to Bryan Salisbury



Restriction on the PCV of the air cleaner outlet duct.



PCV tube (#2) at the air cleaner outlet duct.

TECH LINK

GM TechLink is published for all GM retail technicians and service consultants to provide timely information to help increase knowledge about GM products and improve the performance of the service department.

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