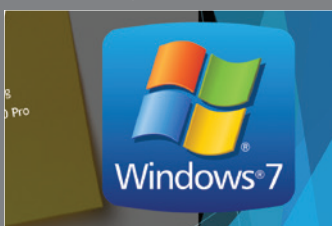


## UPDATED ESSENTIAL TOOL GE-52200-A Powertrain LIFT TABLE NOW SHIPPING



The updated GE-52200-A Powertrain Lift Table allows for easy removal and installation of powertrain and chassis components as well as fuel tanks, suspension components, and EV/PHEV high voltage batteries. The essential tool is currently being shipped to dealerships in support of the new 2020 GMC Acadia and Chevrolet Blazer, equipped with the new cylinder set strategy (CSS) family of engines (RPO: LSY). The tool also supports the earlier 2019 Cadillac XT4 and Chevrolet Bolt EV.



What to Do Next  
Q&A on the End of  
Windows 7

see page 3

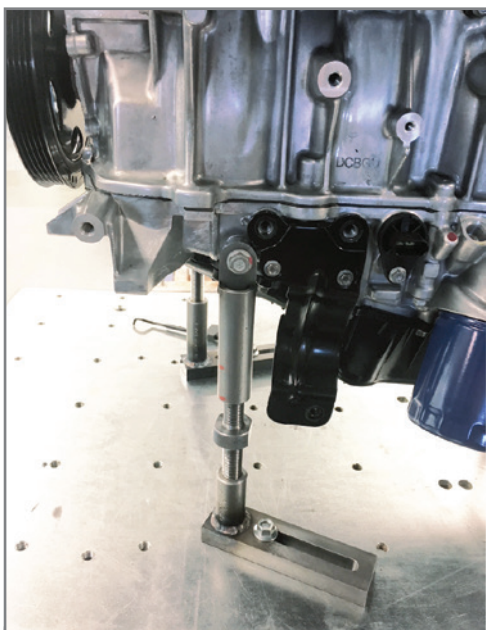
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# Updated Essential Tool GE-52200-A Powertrain Lift Table Now Shipping

The GE-52200-A air/hydraulic lift table is a multi-functional device with a specific hole pattern on the work surface for various essential tool/fixtures that support a variety of components and engines.

The updated table features a ratcheting mechanical safety latch that provides a positive lock so that the table cannot be lowered until the release handle is applied. The release handle is equipped with a magnetic base so that it can be moved to a convenient location on the table during use.

The service top of the table features a 60/40 split work surface that allows powertrains to be separated while mounted to the table. The length of the table is adjusted by releasing the pins



Threaded holes for mounting support fixtures.



60/40 split table top

and sliding the table in or out. It automatically locks into position at several set points.

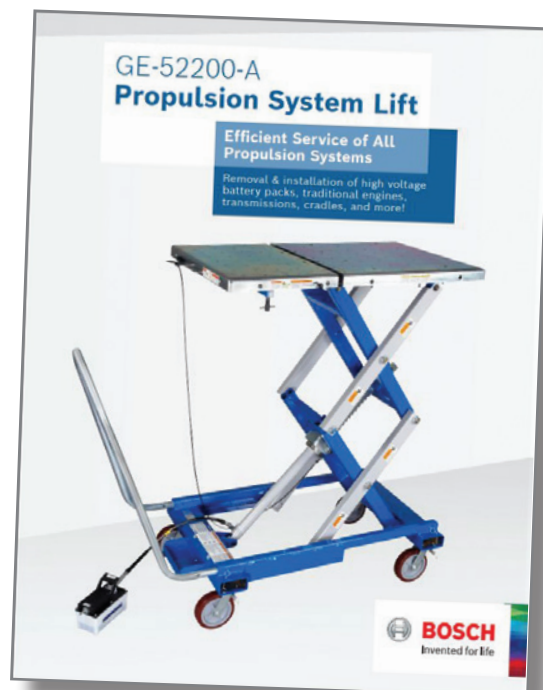
The table has a capacity of 1,760 lbs. (798 kg) and a maximum lift height of 70 inches (178 cm), which can be actuated with a foot control pump. Connecting to shop air requires a quick connect fitting (not included). In addition to supporting vehicle components during service, the table lowers to a convenient height of 21.5 inches (54.6 cm) to provide a work bench surface that allows for better access to components to make repairs.

Two independent T-handle adjustment screws are used for asymmetric tilting of the table surface. Two adjustment screws also secure the top when used as a work bench while a detent pin locks the table top in three open positions.

In addition, the 360-degree swivel casters have integrated foot butterfly locks and detent locks for directional movement control while the quick attachment handle can be connected to either end of the table to make it easy to move the table around the service bay.

For more information and detailed specifications, visit [gmtoolsandequipment.com](http://gmtoolsandequipment.com).

► Thanks to Rick Jackson



# WHAT TO DO NEXT?

## Q&A on the End of Windows 7

The end of Windows 7 is rapidly approaching. Microsoft has announced that it will end support of Windows 7 Professional on January 14, 2020. In addition, the most recent GM Dealer Infrastructure Guidelines (DIG) noted that the Windows 7 Professional Operating System (OS) will no longer be supported by GM starting on January 1, 2020.



So what should you do next if your dealership is running any PCs on Windows 7? Here are a few answers to some commonly asked questions.

### **What does Windows 7 'End-of-Life' mean?**

Every Windows product has a lifecycle that begins when it's released and ends when it's no longer supported. Windows 7 was introduced in 2009, mainstream support ended in 2015, and its extended support will end in early 2020. At that point, Microsoft will no longer provide software updates, including security patches or bug fixes.

### **Why is January 1, 2020 important to GM Dealers?**

After December 31, 2019, Windows 10 Pro, 64-bit will be the only operating system supported by GM. As a result of this change, applications developed for GM will no longer be tested and validated for Windows 7 and the Techline Customer Support Center will no longer be able to support any applications running

on Windows 7. Continuing to use a PC running Windows 7 in 2020 without GM or Microsoft support will place your computer network at greater risk for viruses and malware.

### **How do I prepare for Windows 7 End-of-Life?**

Familiarize yourself with the GM DIG and take inventory of your PC equipment, reviewing hardware specifications and age. Reference the DIG document during an assessment of your existing equipment. It has been organized with guidelines for Good, Better and Best equipment categories. When considering purchasing new equipment, refer to the "Best" column for recommended computer specifications and also be sure to note what is Supported vs. Not Supported in the Hardware section.

### **What are my options?**

For most Windows 7 users, moving to a new device with Windows 10 Pro will be the recommended path forward. As an alternative, compatible Windows 7 PCs can be upgraded by purchasing and installing a full version of the software. However, while it is possible to install Windows 10 on an older device, it is not recommended by GM Techline. A PC's operating system should not be updated from Windows 7 to Windows 10 Pro unless the computer processor is an Intel® 6th generation or better. The upcoming rollout of the Techline Connect application will perform best on Intel® 7th generation or better PCs.

### **Does Microsoft still offer free upgrades to Windows 10?**

According to Microsoft, there was a promotional free upgrade offer available when Windows 10 was first released, but that offer expired July 29, 2016. Although you can still purchase and download Windows 10 on a device today, Microsoft states that if your computer is more than three years old, it might be time to consider upgrading to a new device.

► Thanks to Lisa Scott and Ron Myers

# Coolant Entering Engine Cylinders

Some 2014-2018 Silverado 1500, Sierra 1500; 2015-2019 Escalade, Tahoe, Suburban, Yukon; 2016-2019 CTS-V, Camaro, Corvette; and 2019 Silverado and Sierra models equipped with the 4.3L engine (RPO LV1, LV3), 5.3L engine (RPO L83, L8B, L82, L84) or 6.2L engine (RPO L86, L87, LT1, LT4, LT5) may have white smoke and/or an engine coolant odor from the exhaust at a cold start or may run rough when the engine is warm. DTCs P050D (Cold Start Rough Idle) and P0300 (Engine Misfire Detected) may be set after a cold start.

## FOLLOW DTC DIAGNOSTICS

If these conditions are found, coolant may be entering the engine cylinders. Follow the diagnostics for DTCs P0300 and P050D in the appropriate Service Information. The Technical Assistance Center (TAC) is receiving calls for no trouble found after the engine has been disassembled and without the diagnostics for DTCs P0300 and P050D being completed. The checks covered in the diagnostics must be done prior to disassembling the engine.

The flow chart for P0300 will help validate that there is not an ignition or mechanical concern.

When checking the injector balance rates while following the flow chart for P050D, the engine must be cold. Be sure to include the injector balance rates on the work order. If an injector concern is found, replace only the affected injector.

**TIP:** If the injectors are being replaced on engine RPOs L86, LT1, LT4 or LT5, there are three different flow rate injectors offered. Be sure to install the same flow rate injectors back into the engine by checking the part number on the injector housing. Mixing the flow rates will cause drivability concerns, set DTCs, and require repeat injector replacements.

## DTC P050D

During a cold start, the Engine Control Module (ECM) commands dual-pulse mode during Open Loop operation to improve cold start emissions. In dual-pulse mode, the fuel injectors are energized twice during each injection event. As with misfire diagnosis, the ECM monitors the crankshaft position sensor and the camshaft position sensor in dual-pulse mode to calculate crankshaft rotation speed.

In normal operation, optimum fuel delivery during dual-pulse mode produces a steady crankshaft rotation speed. If the

variations of crankshaft rotation speed exceed a calibrated value, DTC P050D will set.

## COOLANT ENTRY

Misfires on start up only, with high rates always on one cylinder, can be suspect for coolant entry at the liner-to-deck face casting or the casting line in the intake port of the cylinder head.

To inspect for this condition, add coolant dye to the cooling system and warm up the engine to pressurize the cooling system. After warming the engine to operating temperature, let the engine cool overnight and then inspect the suspect cylinder with a borescope for coolant dye evidence. It may be necessary to remove the head for inspection.

If the head casting line is the issue, the intake port will be wet with a coolant and oil mix. This condition may cause the running rough while warm concern with or without DTCs set. The location where the coolant is running down in the port will look washed down. If this condition is found, the cylinder head will need to be replaced.

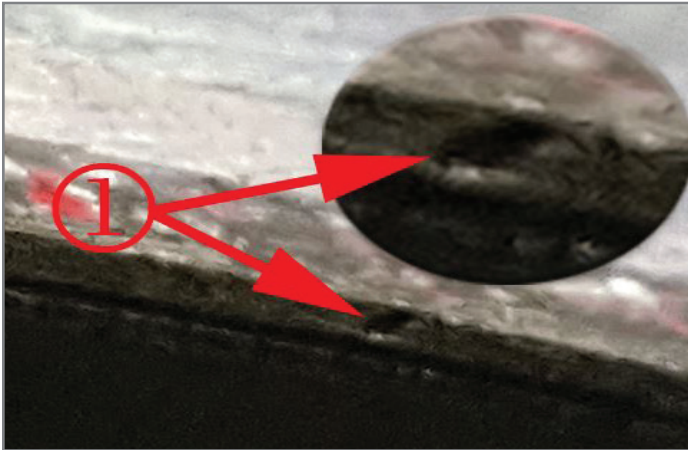


Coolant running down in the port will look washed down.

For coolant entry at the liner-to-deck face casting of the cylinder bore, it is hard to see the actual source (pin hole), but it usually streams down the liner so it may be seen with a borescope. The top of the piston will be steam cleaned.

CONTINUED ON PAGE 5





Pin hole

Do not confuse residual fuel on the piston crown/surface as coolant. Some fuel residue may be present and can be mistaken as coolant, which is the reason for the cooling system dye to be added. Use a black light to confirm the liquid is coolant. If fuel residue is present, do not replace the cylinder head. Refer to the latest version of Bulletin #16-NA-338.

Small surface pock marks or a pitting appearance on the deck surface is normal and engines should not be replaced for this appearance as they do not connect to coolant passages and cause a leak path that generate engine misfires.

► Thanks to Richard Renshaw

# Camshaft Position System Performance DTCs Set in History



The Check Engine MIL may be illuminated on some 2016-2018 ATS, CT6, CTS; 2017-2018 LaCrosse, XT5; and 2018 Enclave, Regal, and Traverse models equipped with the 3.0L V6 engine (RPO LGW) or 3.6L V6 engine (RPO LGX, LFY) along with several possible drivability issues, such as hesitation or loss of power, after an auto stop/start event. In addition, camshaft position system performance DTCs P0011 (Intake Camshaft Position System Performance Bank 1), P0014 (Exhaust Camshaft Position System Performance), P0021 (Intake Camshaft Position System Performance Bank 2) and P0024 (Exhaust Camshaft Position System Performance Bank 2) may be set in history.

The DTCs may all be set at the same time or may be set in pairs of phaser performance DTCs (P0011 and P0021 or P0014 and P0024). In some cases, single and triple phaser performance DTCs may be set (P0011 first and then P0021, P0014 and P0024).

These conditions and DTCs may be caused by a software anomaly that allows the "verify sync" status to not restart and reach full "sync" when the engine restarts during an auto stop/start event. In this case, the Engine Control Module (ECM) will report the

actual cam positions as zero while it continues to command the actuators to move, resulting in engine roughness or drivability concerns along with the possibility of setting multiple cam phaser performance DTCs.

These cam phaser performance and resulting drivability conditions are currently being reviewed by GM engineering. If no other concerns are found, clear the DTCs and return the vehicle to the customer.

GM Engineering is currently evaluating this condition and working on a repair recommendation. For additional information, refer to #PIP5568E.

► Thanks to Bryan Salisbury

# Infotainment Screen Flicker

The infotainment screen may flicker occasionally on some 2019 Volt models. The screen flickering may be due to the component packaging inside the instrument panel, which may not provide adequate clearance between the Wi-Fi antenna and the wiring harness, causing electromagnetic interference with the infotainment screen.

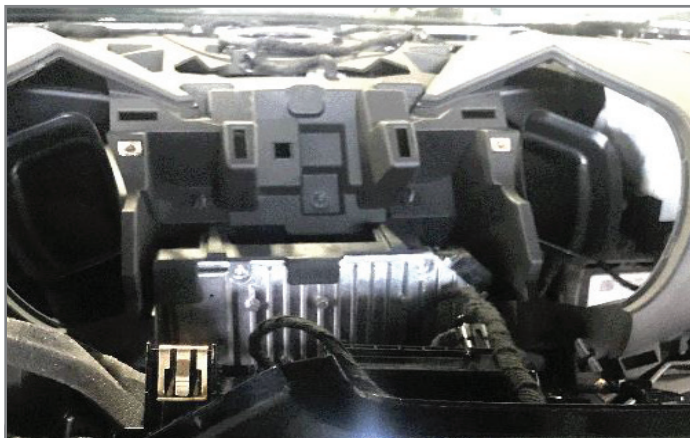
To eliminate the interference, reposition the wiring harness away from the Wi-Fi antenna.



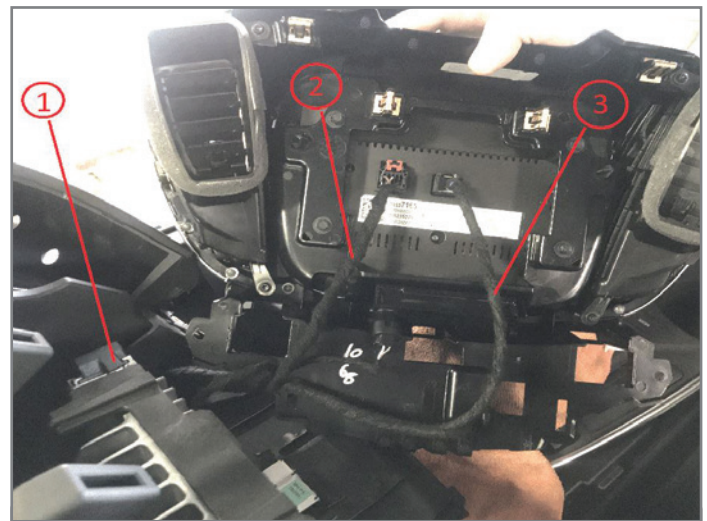
Flickering infotainment screen

Refer to Radio Control Assembly Replacement in the appropriate Service Information to access the back of the infotainment screen.

On the rear of the screen, reroute the wires to prevent covering the Wi-Fi antenna on the instrument panel. The components include the Wi-Fi antenna, Branch Integrated Center Stack (ICS) power cable, and Branch Low Voltage Differential Signaling (LVDS) cable.

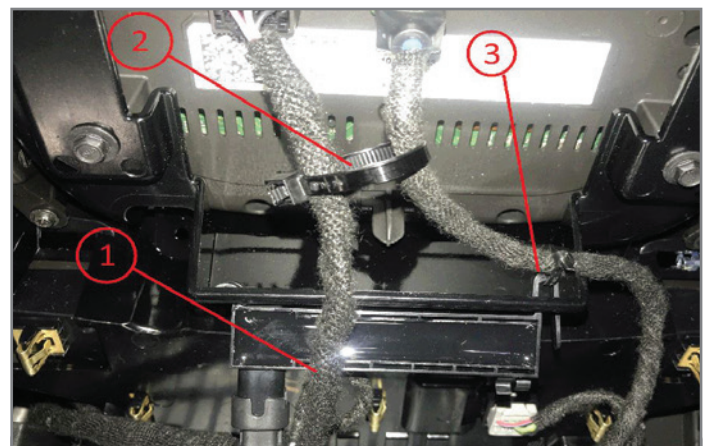


Access the back of the infotainment screen.



1. Wi-Fi antenna 2. ICS power cable 3. LVDS cable

Move the ICS power cable toward the LVDS cable and zip-tie the ICS power cable with the LVDS cable near the connection points. Use a small zip tie to secure the LVDS cable to a clip loop created behind the key fob sensor.



1. ICS power cable  
2. Secured ICS power cable and LVDS cable  
3. Secured LVDS cable

Ensure the new locations of the wires do not cover the Wi-Fi antenna. Cut excess zip tie length and check that any wires are not rubbing, kinked or pulled too tight.

► Thanks to Chuck Wieseckel

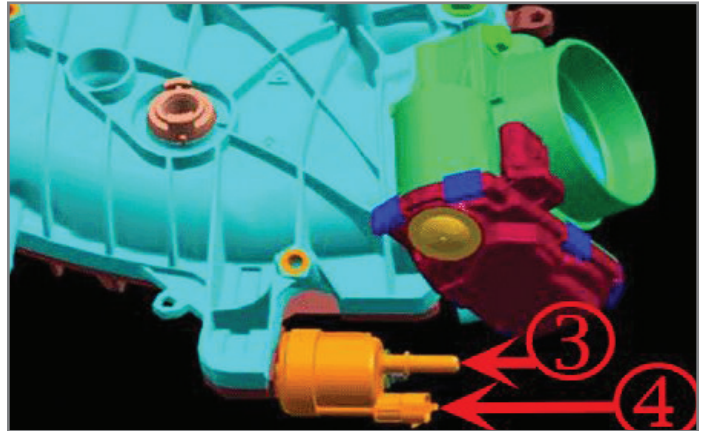


# Intake Manifold Vacuum Leak

The Check Engine MIL may be illuminated along with DTCs P0171 (Fuel Trim System Lean Bank 1) and/or P0174 (Fuel Trim System Lean Bank 2) set in the Engine Control Module (ECM) on some 2012-2019 Enclave, Traverse; 2012-2017 Acadia; 2015-2019 XTS, Impala; 2015-2016 Colorado, Canyon; and 2015-2017 Equinox and Terrain models equipped with the 3.6L V6 engine (RPO LLT, LFY, LFX). There may be a possible vacuum leak condition in the intake manifold.

To determine if there is a vacuum leak, first record the long term and short term fuel trims with the engine at operating temperature. Plug both the manifold hole and the disconnected four air tube hole.

Next, turn off the engine and disconnect the foul air tube from the intake manifold. Plug both sides. Restart the engine and monitor the short and long term fuel trims.

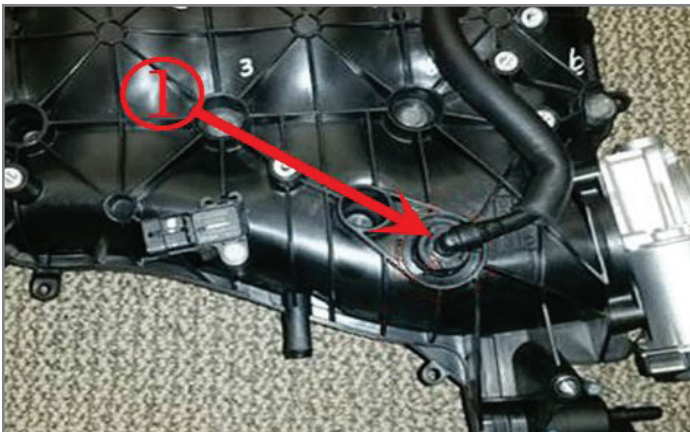


Disconnect the vacuum hose (#3) and power supply (#4) from the purge valve.

manifold plugs have been removed. Reinstall the foul air tube to the manifold.

Locate the purge valve on the intake manifold and disconnect the vacuum hose and power supply from the purge valve.

Restart the engine and place your finger or a vacuum gauge over the open port on the purge valve. If you feel vacuum or read vacuum on the gauge at the port, it will be necessary to replace the purge valve.



Detach the foul air tube (#1).

## FUEL TRIM RESULTS

If both the first recorded long term and short term fuel trims were at a positive value above 5 and then the second recorded short term fuel trim went to a consistent negative value, replace the foul air tube.

If the first recorded short term fuel trim was at a value above positive 5 and the long term fuel trim was -2 to 2, but the second recorded short term fuel trim went to 0 or a negative value, replace the foul air tube.

If the first recorded and second recorded short and long term fuel trims did not change, perform the purge valve test.

## PURGE VALVE TEST

If the fuel trims did not change after the foul air tube was plugged, turn off the engine and make sure the foul air tube and



Test for vacuum on the open port of the purge valve.

If no vacuum was found at the purge valve port, refer to the appropriate Service Information for the applicable DTCs set in the ECM.

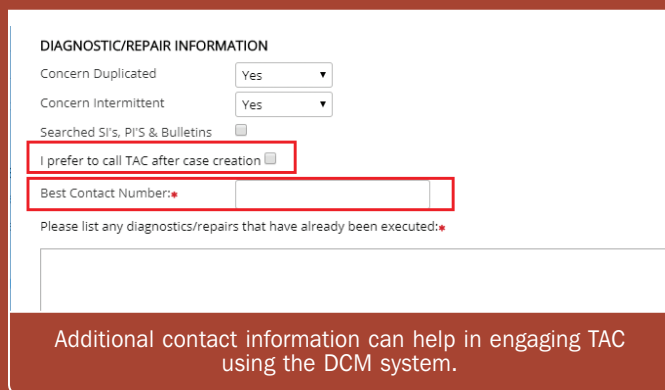
► Thanks to Aron Wilson

# Dealer Case Management Enhancements Increase Communication, Speed Up Response Times

The Dealer Case Management (DCM) system enables dealership technicians to create, view and update GM Technical Assistance Center (TAC) cases in real time, reducing the time spent waiting on a phone call while increasing efficiency and productivity when diagnosing a vehicle condition. DCM users are averaging less than 15 minutes for a response on a case.

Recently, several enhancements were made to the DCM system that are designed to further increase response times and help technicians get the information needed more quickly.

When creating a case, users will notice there are additional requests for information — a contact phone number for direct contact and a checkbox indicating the user prefers to call TAC after creating a case — to help in engaging TAC in the most efficient manner.



Additional contact information can help in engaging TAC using the DCM system.

Once a case is created in the DCM system, technicians can use the case number when calling TAC, manage the case through the DCM system, or both.

When calling TAC, you will be asked to enter the case number. The case number enables the TAC advisor to pull up all of the submitted information in the system instead of asking for the information over the phone, which allows for more time to discuss a potential diagnosis and reduce the overall time on the phone.

## CREATING A TAC CASE

If you haven't yet used the DCM system, there are a few items needed before creating a TAC case. The following is required when starting a TAC case:

- A completed work order, including VIN, and details about the vehicle condition.
- The total amount of days down and times in for the current concern.
- Understand and attempt to duplicate the concern prior to contacting TAC.

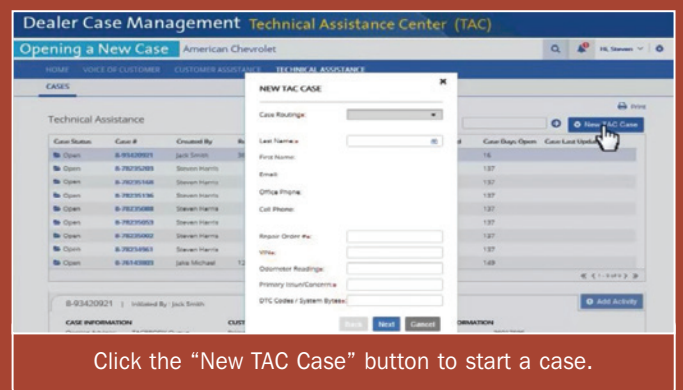
- All details about the vehicle condition and what repairs have been made.
- All DTCs recorded and diagnosed, including all values and measurements, i.e. voltages, resistance, pressures, scan tool values, etc.
- If applicable, include session logs, sound bites and photos to the case.

To access the DCM, go to the App Center on GlobalConnect. Select Service from the Department drop-down menu and then select Dealer Case Management System & Resources from the list of apps. The DCM launch box will appear. Click the Launch button to open the application.

In the application, select the Technical Assistance Center tab and click the "New TAC Case" button at the top of the page.

Fill out the required information on the New TAC Case form and select the appropriate routing category. The case will be routed to the appropriate technical area in TAC.

After completing all information on the form, be sure to click the "Save" button to submit the form. The case will then be created and be ready to be reviewed.



Click the "New TAC Case" button to start a case.

TAC advisors will communicate with the technician through the DCM system about the TAC case. All notes and communications will be documented in the DCM to be reviewed at any time.

For additional information about using the DCM system, there are several training aids available to review. To view, select the App Resources button included in the DCM launch box on GlobalConnect. Next, from the DCM training main page, select the link to TAC to access specific training materials about using the DCM system for TAC cases.

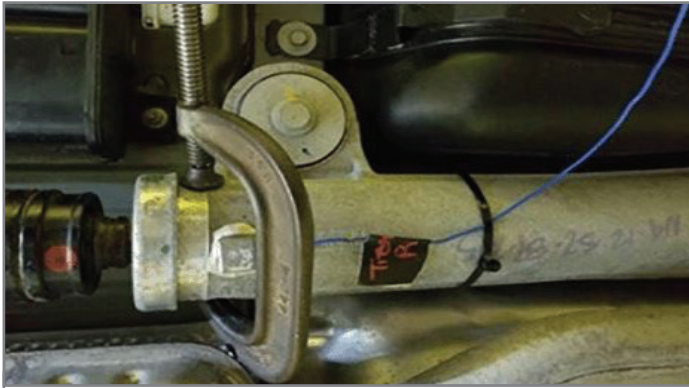
► Thanks to Elizabeth Hathaway.



# Click Sound from the Torque Tube

Some 2018-2019 Equinox and Terrain models equipped with All-Wheel Drive (AWD) or driver-selectable Four-Wheel Drive (4WD) may have a click sound originating from the rear of the vehicle when traveling at slow speeds (approximately less than 25 mph or 40 km/h) while AWD/4WD is engaged.

The click sound may be caused by the connection interface of the propeller shaft bearing in the torque tube to the prop shaft.

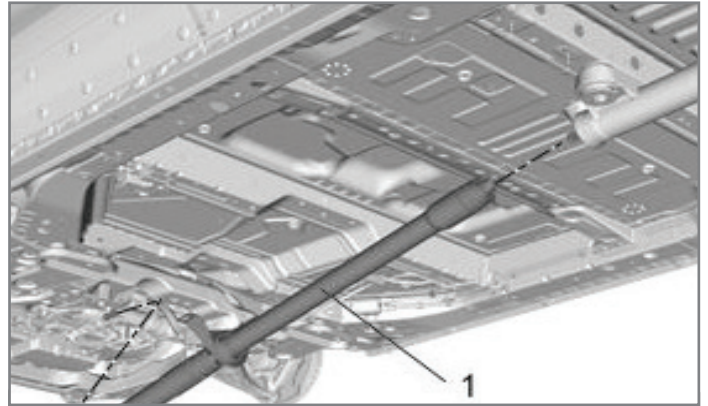


Place a C-clamp at the end of the torque tube.

With the vehicle securely lifted on a hoist, operate the vehicle to activate the AWD/4WD system. Confirm the sound is present by placing a C-clamp over the torque tube at the end of the tube.

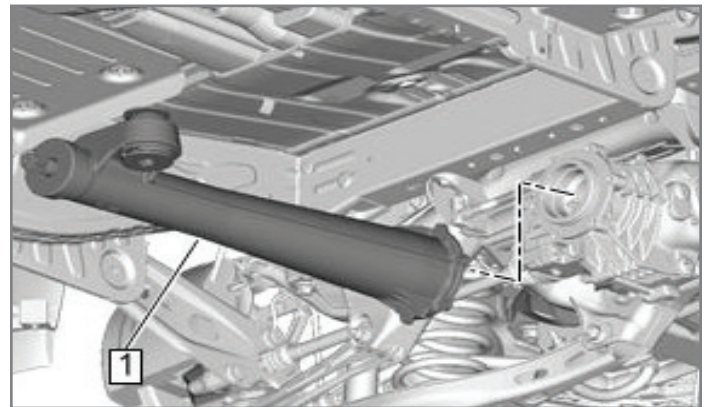
If the sound is verified at the torque tube, remove the two-piece propeller shaft assembly from the vehicle. Be sure to mark the relationship of the propeller shaft-to-spline interface at the rear differential and front power transfer unit.

Reinstall the original propeller shaft assembly. Replace the snap rings and O-rings with new snap rings and O-rings. Walk on the snap ring to avoid distortion. Align the reference marks install the shaft. An audible click will be heard from the snap ring. Conduct a retention check on the propeller shaft front and rear interface.



Propeller shaft assembly

With the prop shaft reinstalled, check if the sound is still audible with the vehicle on the hoist. Also perform a road test to determine if the sound is present.



Torque tube

If the click sound is still present, replace the torque tube.

► Thanks to Rob Smith

## TECH LINK

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**Publisher:**  
John Meade  
GM Customer Care and Aftersales

**Editor:**  
Lisa G. Scott  
GM Customer Care and Aftersales

**Technical Editor:**  
Mark Spencer  
mspencer@gpstrategies.com

**Production Manager:**  
Marie Meredith

**Creative Design:**  
5by5 Design LLC  
dkelly@5by5dzn.com

**Write to:**  
TechLink  
PO Box 500, Troy, MI 48007-0500

**GM TechLink on the Web:**  
GM GlobalConnect

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