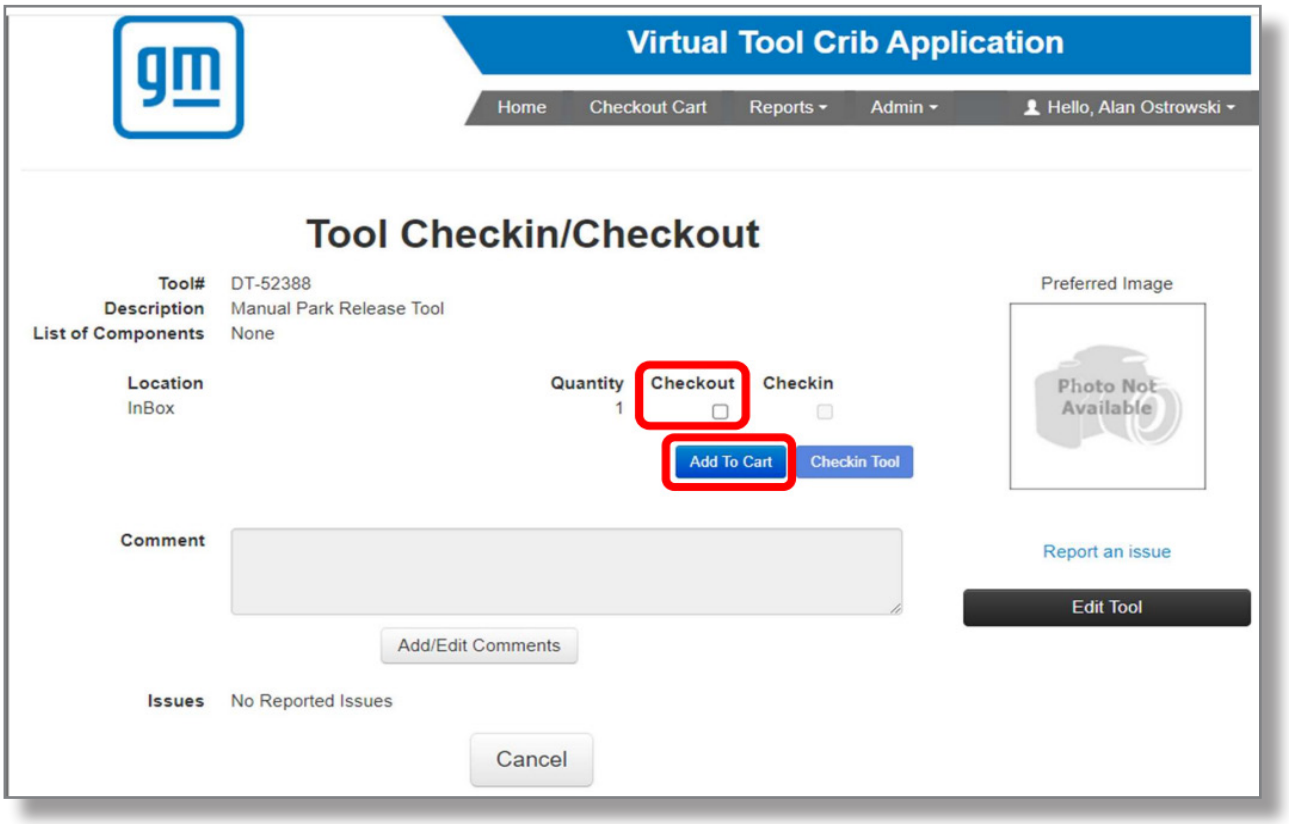
TECH LINK

Mid-May 2024, Volume 26, No. 10

GM Virtual Tool Crib App

TRACKS DEALERSHIPS' SPECIAL TOOLS INVENTORY

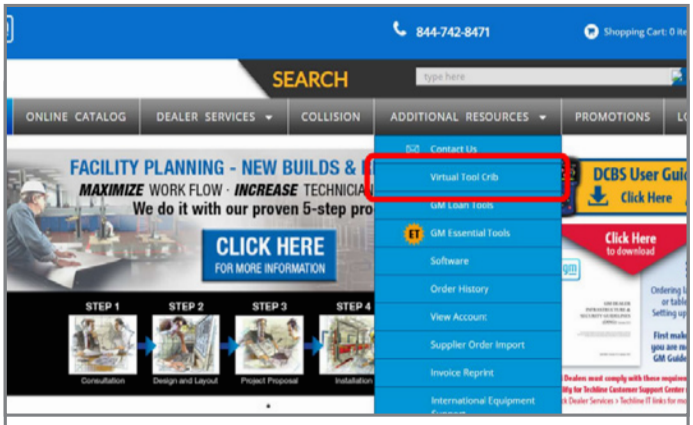


The GM Tools and Equipment program recently introduced their latest tool organization program – the new GM Virtual Tool Crib (VTC).

GM Virtual Tool Crib App

TRACKS DEALERSHIPS' SPECIAL TOOLS INVENTORY

The Virtual Tool Crib application is designed to help dealerships organize and manage the use of Essential Tools and other special tools needed for service repairs. It replaces the previous Bosch-sponsored ToolNet application.



GM Virtual Tool Crib is located on the gmglobaltools.com website under the Additional Resources tab.

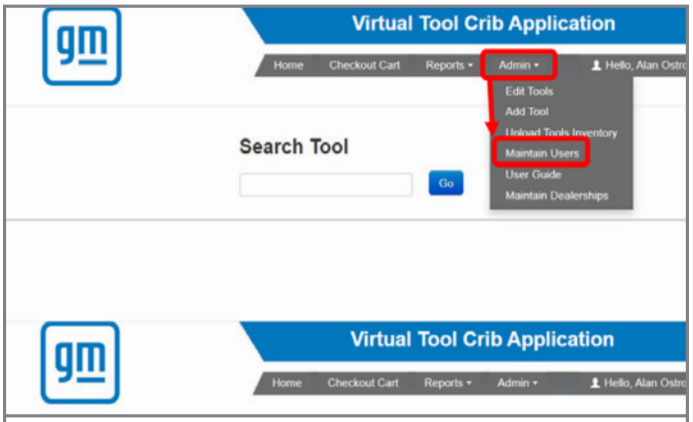
The GM Virtual Tool Crib is located on the gmglobaltools.com website under the Additional Resources tab. It's also accessible via GlobalConnect by selecting the Dealer Equipment Web Portal in the App Center.

Using the Virtual Tool Crib, technicians will be able to view their dealerships full tool inventory, enter where the tool is located at the dealership, review checkout logs to see who has checked out a tool and submit comments about tools that are missing components or need repairs.

The special tool inventory of each participating GM dealership was previously extracted from the Bosch ToolNet application as of April 1, 2024 and has been automatically transferred to the new Virtual Tool Crib application. For dealership tool inventories that have been manually tracked or updated since April 1, the "Download Template" function can be used to bulk update the Virtual Tool Crib with the latest tool inventory and status.

VIRTUAL TOOL CRIB SETUP

To begin using the Virtual Tool Crib, a one-time registration and initial setup process via the gmglobaltools.com website is required. After setup, the web-based tool storage application becomes specific and unique to each dealership. Assigned users



User roles must be assigned to everyone in the dealership.

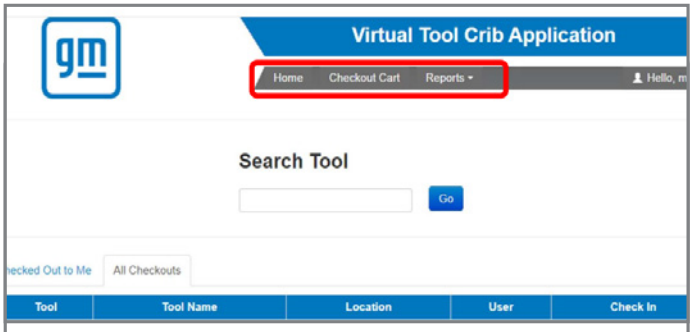
can access its functions from any web-enabled computer in the dealership. A dedicated software program is not required.

User roles must be assigned to everyone in the dealership using the Virtual Tool Crib —either as an Administrator (designated person who assigns roles, manages inventory and monitors comments) or User (technicians who check tools in and out, and comment on condition of tools).

After the dealership registration process is complete, Administrators and Users can access the Virtual Tool Crib via the gmglobaltools.com website. Login to the gmglobaltools.com website is not necessary to access the Virtual Tool Crib.

USING THE VIRTUAL TOOL CRIB

On the Virtual Tool Crib home screen, Home, Checkout Cart and Report drop-down menus are available.



Virtual Tool Crib menus

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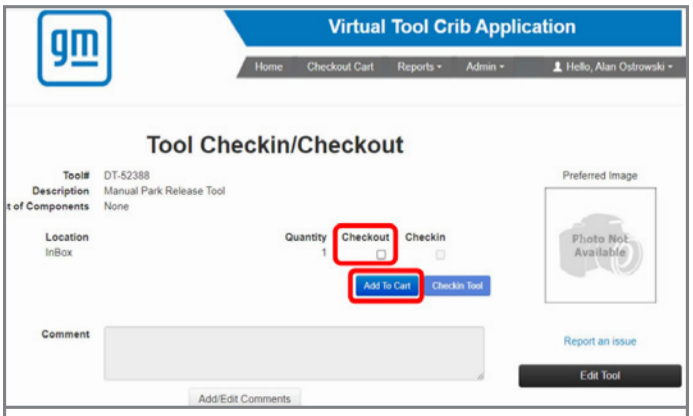
From the Home screen, tool checkouts and check-ins can be made by entering the tool number in the Search box.

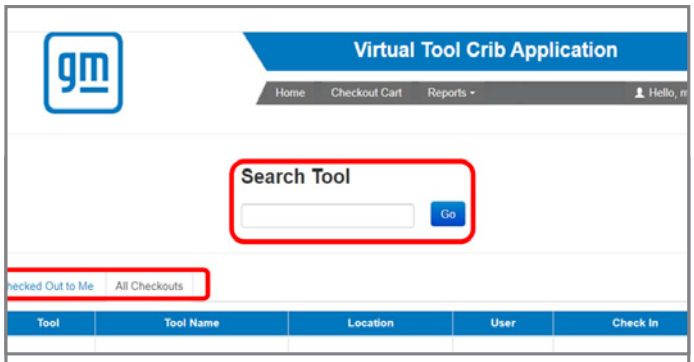


Tool checkout

TIP: The 5 digit "root numbers" for tools have not changed. However, the prefixes of EL-XXXXX, EN-XXXXX, CH-XXXXX, etc. have been replaced with GM-XXXXX in the new tool program. The "root numbers" are searchable, making it easy to find the right tools needed for repairs.

The tool page for the tool will be displayed if it's part of the dealership's inventory. Next, users simply need to select the appropriate box for checking out or checking in the tool.

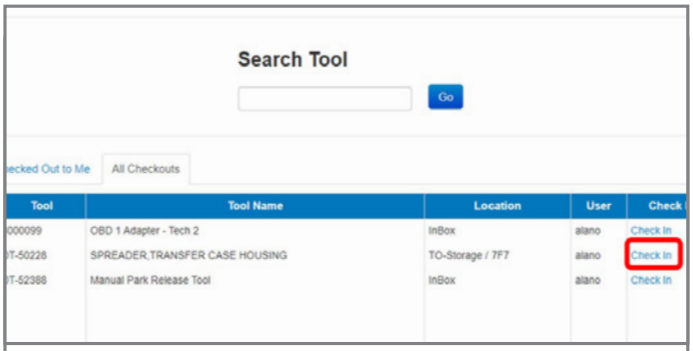
All tools added to the cart will be listed in the Checkout Cart. After clicking "Update," a confirmation screen will appear showing the successful checkout of the tool.



The Checked Out to Me and All Checkouts tabs help track tools.

There are two options for tracking tools that are currently being used in the dealership. Select the Checked Out to Me tab to view all tools you have checked out or select the All Checkouts tab to see all the tools that have been checked out by others in the dealership.

To check in a tool, users can simply open the Checked Out to Me tab to view their tools and select "Check In" next to the tool being returned to inventory.



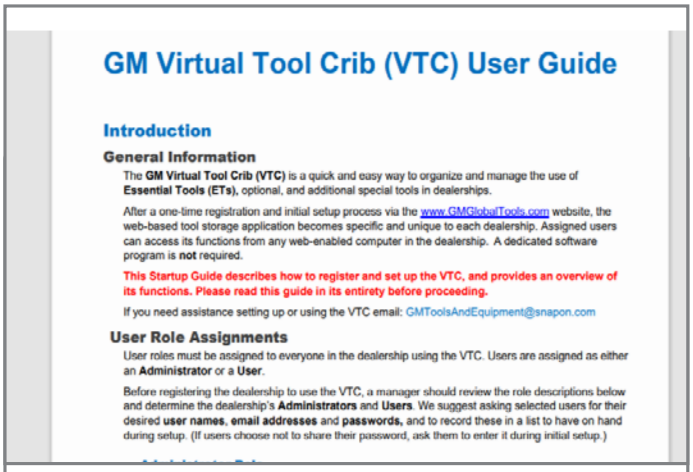
Tool check-in

MONITORING INVENTORY

The Virtual Tool Crib provides a number of reports that can be used to view and monitor the dealership's special tool data. Using the Reports function, a full dealership tool inventory can be viewed along with a tool checkout report showing all currently checked out tools, a checkout history for each tool as well as comment reports on any broken, repaired or missing tools.

Under the Admin menu, the dealership's tool inventory can be uploaded and new tools received by the dealership also can be added.

USER GUIDE


GM Virtual Tool Crib (VTC) User Guide

Introduction

General Information

The **GM Virtual Tool Crib (VTC)** is a quick and easy way to organize and manage the use of **Essential Tools (ETs)**, optional, and additional special tools in dealerships.

After a one-time registration and initial setup process via the www.GMGlobalTools.com website, the web-based tool storage application becomes specific and unique to each dealership. Assigned users can access its functions from any web-enabled computer in the dealership. A dedicated software program is **not** required.

This Startup Guide describes how to register and set up the VTC, and provides an overview of its functions. Please read this guide in its entirety before proceeding.

If you need assistance setting up or using the VTC email: GMToolsAndEquipment@snapon.com

User Role Assignments

User roles must be assigned to everyone in the dealership using the VTC. Users are assigned as either an **Administrator** or a **User**.

Before registering the dealership to use the VTC, a manager should review the role descriptions below and determine the dealership's **Administrators** and **Users**. We suggest asking selected users for their desired **user names, email addresses** and **passwords,** and to record these in a list to have on hand during setup. (If users choose not to share their password, ask them to enter it during initial setup.)

GM Virtual Tool Crib User Guide

For additional information, refer to GM GlobalConnect message GCUS-9-16154. The message includes a GM Virtual Tool Crib User Guide that covers how to use a number of application features.

▶ Thanks to Josh Shuck

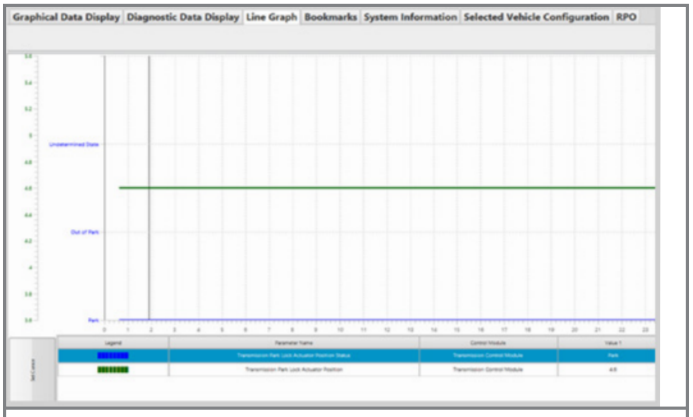
Noise from the Transmission Area

There may be a noise from the bell housing area of the DCT TR9080 transmission (RPO M1L, M1M) on some 2020-2024 Corvettes along with a number of DTCs set in the Transmission Control Module (TCM). The noise may be due to a dislodged snap ring in the direct clutch assembly. As a result, one or more pressure DTCs may set if there is debris caused by the valves sticking in the Main Control Valve (MCV) Body or the direct clutch may contact the fluid tubes, stator shaft or transmission housing.

Dislodged snap ring

TIP: If DTCs P1955 (Transmission Fluid Pressure Relief Valve Performance) and P0867 (Transmission Fluid Pressure Performance) are set, refer to Bulletin #23-NA-139. Do not attempt any repairs.

If the noise from the bell housing area follows engine RPM and can be duplicated without moving the vehicle, verify that the vehicle has the latest TCM calibrations, set up a TAC case and attach the PicoScope sound files (refer to Bulletin #21-NA-049), and verify the park sensor measurement in the GDS transmission data for Park Lock Valve (PLV) drift (refer to Bulletin #23-NA-176).



Verify the park sensor measurement in the GDS transmission data.

In addition, if the MIL is illuminated — along with the noise from the bell housing area following engine RPM and can be duplicated without moving the vehicle — verify that the vehicle has the latest TCM calibrations as well as perform the transmission service diagnostic test.

REPAIR OPTIONS

Based on TAC analysis of the PicoScope data and the PLV drift confirmation, there are three repair options.

- If there is direct clutch snap ring failure without any DTCs set as current, replace the direct clutch and stator. In addition, remove the transmission pan to clean any debris from the magnets and replace the sump and canister filter elements.
- If there is direct clutch gear noise, replace the direct clutch, stator and pump gear. Also remove the transmission pan to clean debris from the magnets and replace the sump and canister filter elements.
- If there is direct clutch snap ring failure with an illuminated MIL and pressure DTCs set, replace the direct clutch and stator. Also remove the transmission pan to clean debris from the magnets, replace the sump and canister filter elements, and replace the Main Control Valve (MCV).

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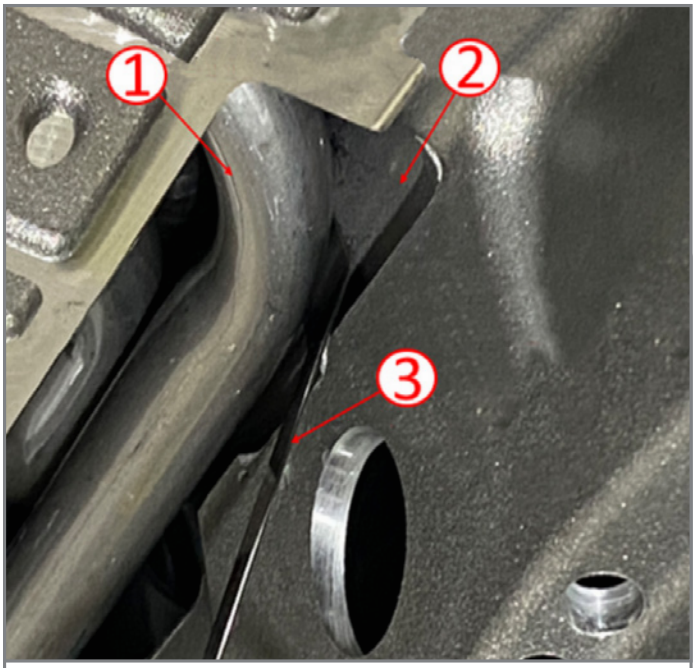
SNAP RING DIAGNOSIS

Inspect the direct clutch for failure by removing the MCV and check the clearance between the direct clutch and fluid tube using a feeler gauge. If the clearance is 0 mm with obvious contact, follow the repairs for Direct Clutch Replacement in the appropriate Service Information. If the clearance is 0.5 mm, follow the repairs for direct clutch pump gear noise.

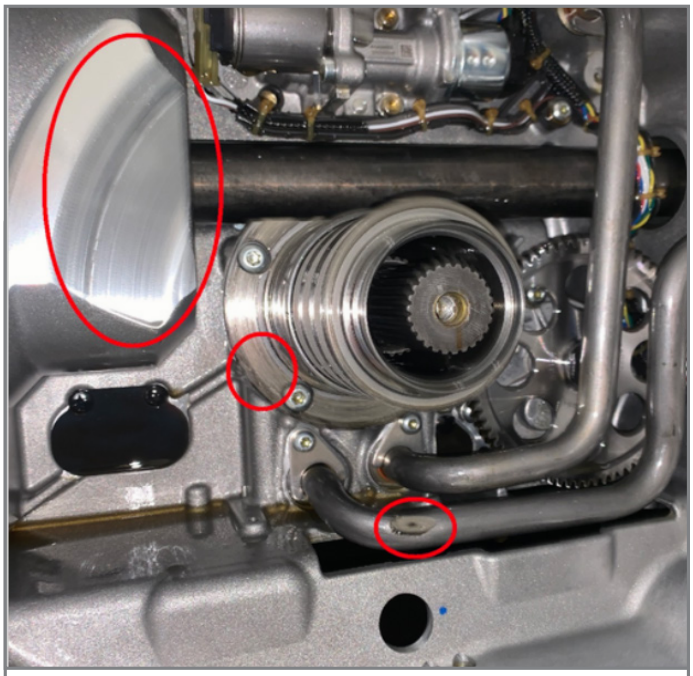
While inspecting the pump gear for damage, if the direct clutch can be removed easily but there is contact with the pipe and stator, replace parts as needed. Light damage to the housing caused by direct clutch contact will not require replacement.

For more information, including part numbers, refer to Bulletin #23-NA-197.

Verify all parts are for the specific transmission being repaired by verifying transmission identification.



Check the clearance between the fluid tube (#1) and direct clutch (#2) using a feeler gauge (#3).

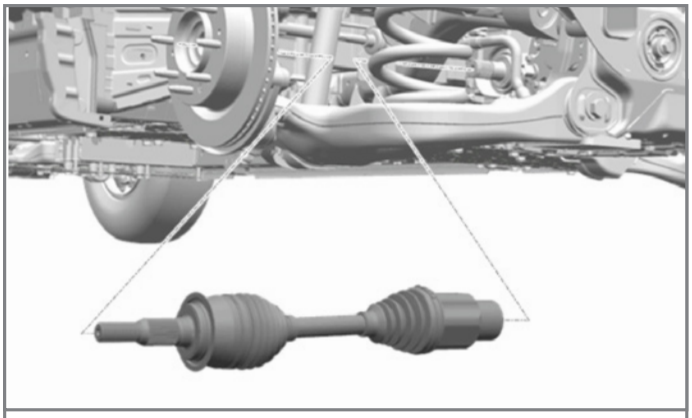


Possible areas of concern on the stator housing caused by direct clutch contact.

▶ Thanks to Marty Leach

Wheel Drive Shaft Retention Snap Ring Design Change

There has been a design change to the wheel drive shaft retention snap ring on 2024-2025 Silverado EV, Sierra EV, HUMMER EV Pickup, HUMMER EV SUV; and 2025 BrightDrop 600. The new snap ring design, which achieves greater retention force between the wheel drive shaft and the drive unit output stub shaft, is not interchangeable with the previous design.

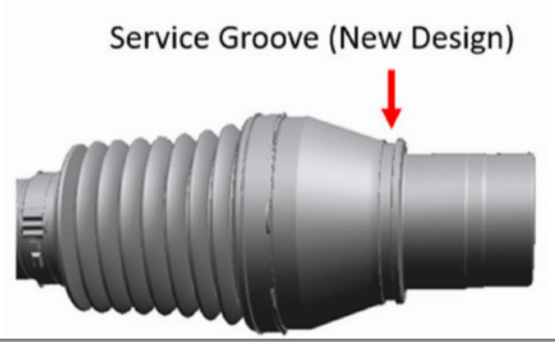


Wheel drive shaft

The round ring, 1st design, and 3-point ring, 2nd design, should not be mixed between wheel drive shafts or drive units.

On vehicles equipped with the ball-spline wheel drive shaft, the presence of a service groove (as shown) on the inboard housing means the drive unit is equipped with the 2nd-design 3-Point snap ring.

A. Round ring (1st design)
B. 3-point ring (2nd design)



Service groove (new design)

Vehicles with a conventional CV joint style half shaft could also utilize the 2nd-design 3-point snap ring. These shafts do not require a service groove or any special tools for removal or installation. When removing the snap ring, inspect the shape of the ring to determine if it's a 1st-design round ring or a 2nd-design 3-point ring.

With the wheel drive shaft removed, the round-style snap ring will fit loosely in the drive unit shaft groove. The 3-point style snap ring will fit very tightly in the drive unit shaft groove.

If the wheel drive shaft is removed or replaced during service, be sure to determine which snap ring is present. The round (silver) snap ring is considered the 1st design and the oval (black) 3-point snap ring is considered the 2nd design. With the snap ring removed, lay the snap ring on a flat surface to help identify the shape of the ring. Refer to the Electronic Parts Catalog for Design 1 and Design 2 designations.

TIP: The snap ring must always be replaced when removing or replacing the wheel drive shaft.

Refer to Bulletin #24-NA-133 more information.

Thanks to Dave Rainey, Chris Semanisin, Mark Shearer and Kayla Battaglia

Correct Tire Size Affects Driver Assistance Systems

The Adaptive Cruise Control or regular Cruise Control as well as the Lane Keep Assist system may turn on/off while driving or may be inoperative on some 2019-2023 Encore GX and Trailblazer models.

The Lane Keep Assist or vehicle detection symbols may constantly turn on and off while driving, or a Lane Keep Assist Unavailable message may display on the instrument cluster when turning on the system. No DTCs will be set in any control modules. The Engine Control Module data for Cruise Control inhibit history may show "Distant Sensing Cruise Control Communication Malfunction."

Check the size of each tire and verify it is correct for the vehicle application.

If these conditions are found, verify that there are not any obvious signs of any wheel speed concerns, erroneous ABS activations or DTCs. Any of these issues should be addressed.

In addition, check the size of each tire and verify it is correct for the vehicle application. All tire sizes should the same and correct for the vehicle application based on the tire placard location inside the driver's door pillar. If GDS 2 is used to monitor wheel speeds, it may be noticed that one wheel speed is 2-3 mph consistently faster than the other wheels, indicating that the tire may be an incorrect size.

Refer to #PIT6196 for additional information.

Thanks to Jeff Knight

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