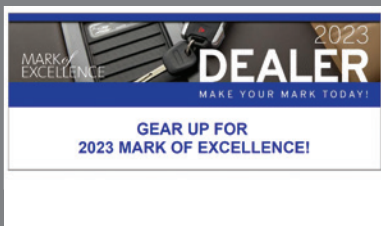


Remote Keyless Entry Transmitter



Warranty Replacement Update



2023 Mark of Excellence Program Enrollment Now Open

see page 4



Using Hoist Lift Pad Adapters for Silverado 1500 and Sierra 1500

see page 6

*Remote Keyless Entry Transmitter
Warranty Replacement Update. 2*

MAF Sensor Calibration Update 5

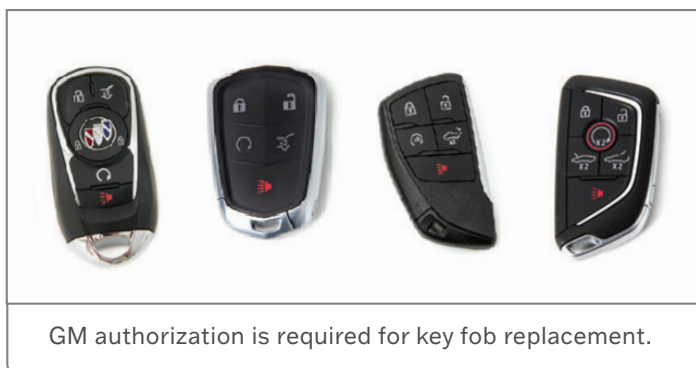
*Charge Air Cooler Outlet Tube
Connection 7*

*Park Brake Will Not Learn
After Rear Brake Service 8*

*Fuel in Vapor Lines After
Refueling 8*

Remote Keyless Entry Transmitter Warranty Replacement Update

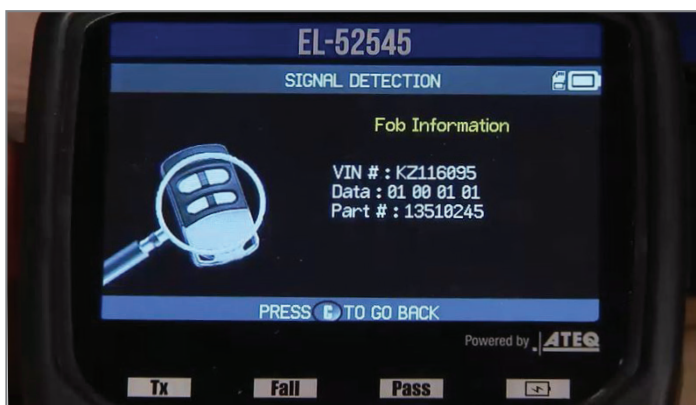
When replacing the Remote Keyless Entry (RKE) transmitter (key fob) under warranty on 2017-2023 GM vehicles equipped with Remote Keyless Entry/Passive Entry (RPO ATH) and Keyless Open/Start (RPO AVJ), the warranty claim must include a photo of the Signal Detection screen from the EL-52545 TPMS and RF Tool.



The Signal Detection screen, which displays the VIN and other information embedded in the key fob, confirms that the VIN of the key fob is the same as the service vehicle listed on the job card (repair order).

REQUIREMENTS FOR WARRANTY CLAIM

GM authorization continues to be required for warranty transactions involving RKE transmitter replacement. The warranty claim must be routed to the Warranty Support Center and must



Signal Detection screen must be included with the warranty claim submission.

include the photo of the Signal Detection screen from the EL-52545 TPMS and RF Tool.

Consult with your warranty administrator on the best way to provide a photo of the screen to include with the warranty claim submission. It is not required to print the photo and attach it to the physical job card and/or store in the dealership's vehicle history folder. The photo only needs to be submitted as an electronic attachment to the warranty transaction. Once part of the submitted transaction in Global Warranty Management (GWM), the jpg photo can be deleted from the dealership's computer or employee's device.

TIP: The warranty claim for key fob replacement may be rejected if a photo of the Signal Detection screen confirming that the VIN of the key fob matches the VIN of the vehicle is not provided or if the VINs do not match.

Refer to Bulletin #21-NA-068 for more details on the warranty requirements for key fob replacement.

KEY FOB INSPECTION WHEN RECEIVING NEW VEHICLES

For new vehicles, keys and key fobs must be inspected as part of the vehicle receiving walk-around process. Key fob emblems also must be inspected to ensure they match the vehicle (e.g., Chevrolet emblem on the key fob for a Chevrolet vehicle). Missing or incorrect parts must be documented on the delivery receipt and handled accordingly.

In addition, the initial Pre-Delivery Inspection process involves checking all functions of both sets of keys/fobs, including lock/unlock and start.

Replacement of missing or incorrect keys/fobs after delivery and/or when the dealership did not follow the proper processes are not warrantable.

USING THE EL-52545 TOOL FOR KEY FOB DIAGNOSIS

A crucial step in the diagnostic procedure for an inoperative key fob is to verify that the VIN learned to the key fob matches the VIN of the vehicle. Use the EL-52545 TPMS and RF Tool to verify

CONTINUED ON PAGE 3

that the VIN matches so that the key fob is not misdiagnosed because it's the wrong key fob for the vehicle. A key fob with a VIN that is different from the service vehicle cannot be relearned to the service vehicle and is not considered a warranty claim.

To use the EL-52545 Tool to read the VIN from the key fob, select Signal Detect from the main menu on the tool and then select Fob/Key I.D.

Next, place the key fob on the small pocket on the back of the tool and press OK.

The Signal Detection screen will display the last eight digits of the VIN along with other key fob data, including the number of key fobs currently learned to the vehicle.



Select Signal Detect from the main menu.



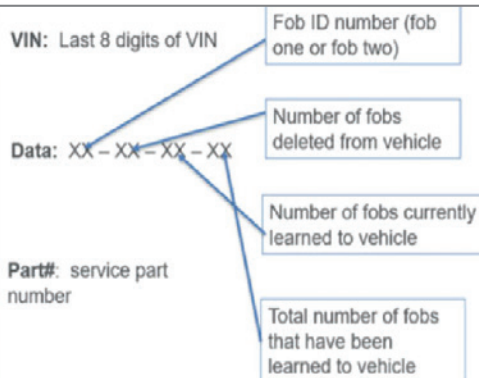
Place the key fob on the small pocket on the back of the tool.



Be sure to have the latest tool software downloaded. EL-52545 tool software updates are available quarterly to ensure the latest information is being used, including new model support. As with other tools, the software updates are available through the gmtoolsandequipment.com website using the link in GlobalConnect.

For additional information, refer to Bulletin #21-NA-061.

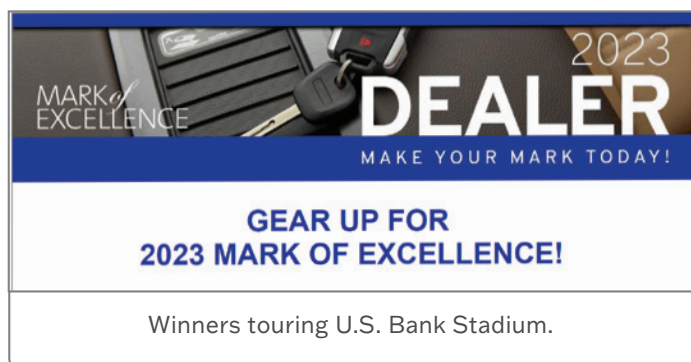
► Thanks to Chafeek Nehme and Mike Waszczenko



The VIN and other key fob data is displayed.

2023 Mark of Excellence Program Enrollment Now Open

The Mark of Excellence program (U.S.) recognizes the achievements, professionalism, and commitment of many GM dealership personnel, including those in the service department. Service technicians enrolled in the 2023 program who meet program qualifiers and other criteria can earn special recognition awards.

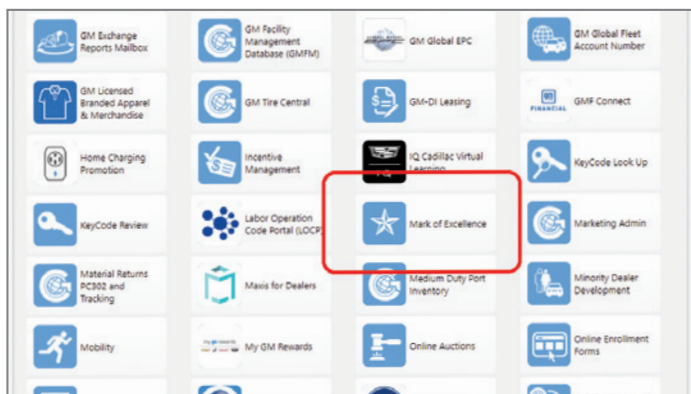


The enrollment period for the 2023 Mark of Excellence program is November 1 – January 31.

The 2023 Mark of Excellence program period is from January 4, 2023 through January 2, 2024.

NEW AWARD STRUCTURE

Enrollment in the 2023 program is done through the Mark of Excellence app in the GM GlobalConnect App Center. There are not any automatic enrollment confirmations for dealership personnel who were previously enrolled in the Mark of Excellence program.



Mark of Excellence app icon

Be sure to review the Program Rules located under the Resources Tab on the Mark of Excellence website to review the significant changes that have been made to the 2023 program.

Once enrollment is completed, all dealership personnel with a valid GlobalConnect email address who are enrolled in the 2023 program will receive an email message notifying them of their program status and other enrollment details. Enrolled individuals can update their email address through their GlobalConnect profile.

Service and Parts – Service Technician

Recognition

- Toolbox medallion
- Top 20 Service Technician Zone Recognition Award
- Top 50 Service Technician National Recognition Award

Service and Parts – Non-Technical

Recognition

- Desktop award or nameplate update
- 500 Mark of Excellence personalized business cards
- Logoed recognition award

Premiere

- Premiere recognition merchandise

Service BDC Manager

- Desktop award or nameplate update
- Mark of Excellence business cards

TOP 50 WINNERS TRIP

Last year's winners of the Top 50 Service Technician National Recognition Awards were recognized for their achievements during a trip with GM Customer Care & Aftersales representatives. The 2021 award winners spent three days in Minneapolis this past summer, where they had the opportunity to shop at the Mall of America, the largest mall in the U.S.; take a cruise on Lake Minnetonka, Minnesota's ninth-largest lake; and enjoy dinner at U.S. Bank Stadium, the home of the Minnesota Vikings, where they met former Viking and Pro Football Hall of Famer John Randle. They were also recognized by John Roth, GM Global Vice President - Customer Care & Aftersales, and shared their concerns

CONTINUED ON PAGE 5

MAF Sensor Calibration Update

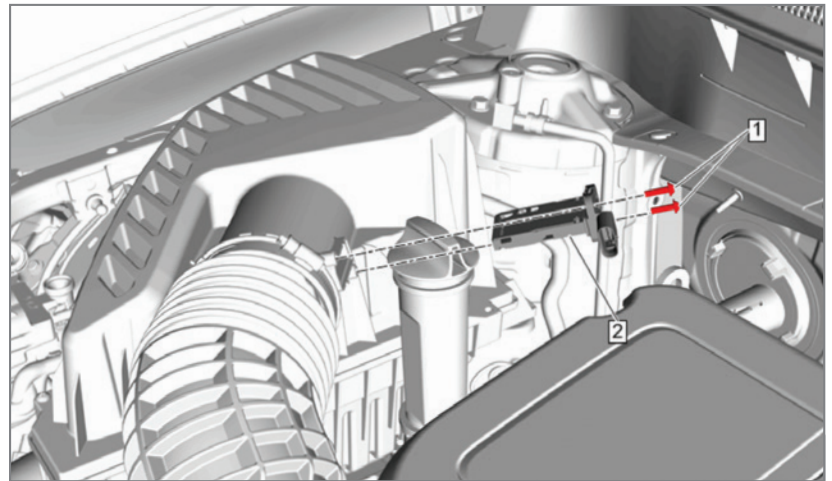
After replacing the Engine Control Module (ECM) on some 2020-2023 Encore GX and Trailblazer models equipped with the 1.3L turbo engine (RPO L3T) and 2022 XT4, XT5, XT6; 2022-2023 Blazer and Acadia models equipped with the 2.0L turbo engine (RPO LSY), DTCs P227C (Barometric Pressure (BARO) Sensor 2 Circuit Low Voltage) and P10BC (Barometric Pressure Sensors 1-2 Not Plausible) may set. A change in the Mass Air Flow (MAF) sensor design may require an ECM calibration update after ECM replacement.

The correct calibration is based on the design of the MAF sensor in the vehicle. There are different calibrations available for vehicles with a dual-sensor MAF and with a single-sensor MAF.

Based on which MAF sensor is installed in the vehicle, reprogram the new ECM with the correct calibration. Follow all programming guidelines as instructed in the appropriate Service Information. In addition, when the ECM is replaced, the Intake System Learned Values Reset must be performed.

Refer to Bulletin #22-NA-188 for more details, including calibration information.

► Thanks to Matt Gager



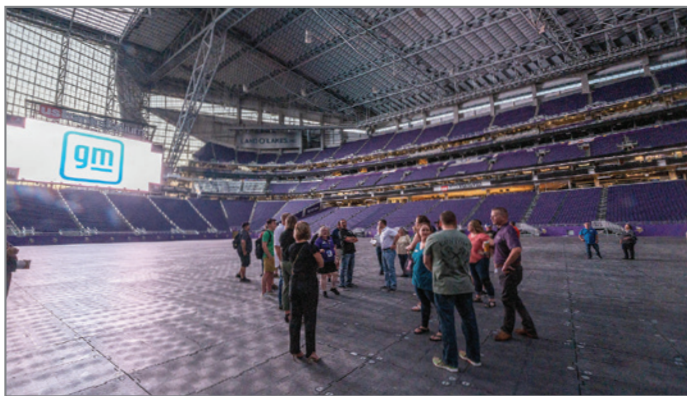
MAF sensor on the 2.0L engine

MARK OF EXCELLENCE PROGRAM, CONT.

during a business session with Eric Kenar, Manager - Technician Environment and Service Technical College.

To cap off the trip, winners competed in the Warehouse Windfall event, racing through a warehouse and grabbing all the merchandise they could in 60 seconds.

Currently, plans are being finalized for the 2022 award winners and will be announced early next year.



Winners touring U.S. Bank Stadium.



David Xenos, Biggs Buick GMC, Camden, NC, and his merchandise haul at the Warehouse Windfall.

For more information about the 2023 Mark of Excellence program, select the Mark of Excellence app on the GM GlobalConnect App Center or contact Program Headquarters at 1-800-368-1638.

► Thanks to Diana Sancya

Using Hoist Lift Pad Adapters

FOR SILVERADO 1500 AND SIERRA 1500

Properly supporting 2019-2023 Silverado 1500 and Sierra 1500 models may require the use of lift pad adapters, depending on the hoist and lifting points used. When the new models of the Silverado 1500 and Sierra 1500 were introduced for the 2019 model year, new frame contact hoist lift pad adapters were released through GM Dealer Equipment. The front lift pad adapters should be used on the front



New front lift pad adapters

arms of the hoist when lifting the vehicle at the front frame rail locations.

The hoist pad must be at least as wide as the frame rail to ensure that the vehicle is lifted properly. Smaller lift pads will not properly support the wide frame in the area where the front hoist arm lift pads need to be positioned.

TIP: During hoisting, use the proper lift points to avoid damaging the steering gear, fuel tanks, DEF tank, lower control arms, springs, shields, the exhaust system, or the underbody.

LIFT PADS FROM GM DEALER EQUIPMENT

For U.S. dealerships that use Challenger or Rotary hoists, lift pad adapters are available from GM Dealer Equipment at www.gmdesolutions.com.

The lift pad adapters are two inches larger than standard lift pads used with the previous generation of full-size trucks. But the larger lift pads do not require switching pads when servicing earlier models. The larger lift pads can be used with current and previous generations of full-size trucks.

CHALLENGER LIFTS

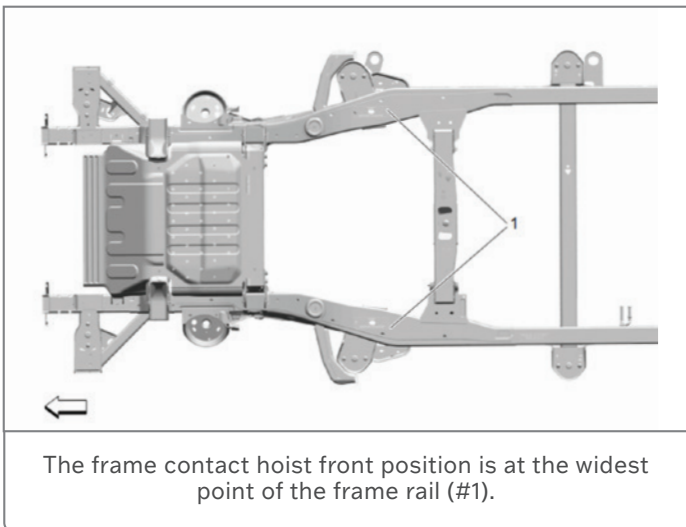
The GM Truck One-Step Footpads, part number B2280PR, are custom drop-in footpads from Challenger. They fit any current Challenger 10,000 lb. or 12,000 lb. lift model.

Contact Challenger at 1-800-648-5438 with the lift model and serial number of your existing lift to ensure the pads will fit.

ROTARY LIFTS

Two lift pad adapter options are available from Rotary:

- Adapters for Trio Arms, part number ROTFJ6257
- Adapters for 3-Stage Arms, part number ROTFJ6258.



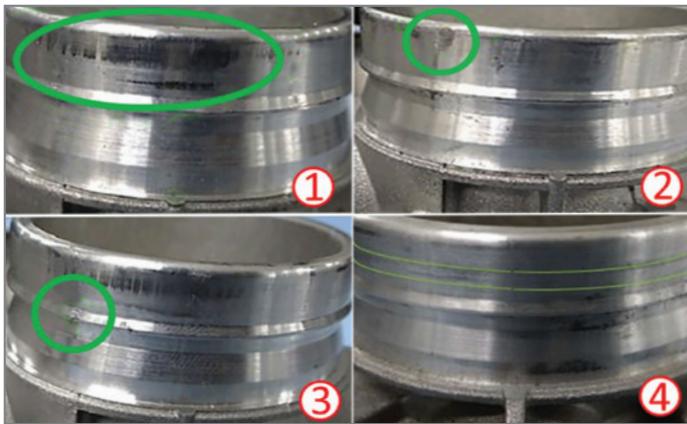
The frame contact hoist front position is at the widest point of the frame rail (#1).

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Charge Air Cooler Outlet Tube Connection

Reduced engine power may occur on some 2018-2022 Malibu, Equinox and Terrain models equipped with the 1.5L engine (RPO LYX) along with one or more of the following DTCs set in the Engine Control Module: P0101 (Mass Air Flow (MAF) Sensor Performance), P0172 (Fuel Trim System Rich), P0299 (Engine Underboost), P0506 (Idle Speed Low) and P1101 (Intake Air Flow System Performance). These conditions may be caused by the Charge Air Cooler (CAC) outlet tube being separated from the throttle body.

If these conditions are found, check the CAC outlet tube connection at the throttle body. If the tube is disconnected, inspect the CAC tube, tube retainer clip and throttle body for any damage. In some cases, there may be damage that requires replacement of the CAC tube or throttle.

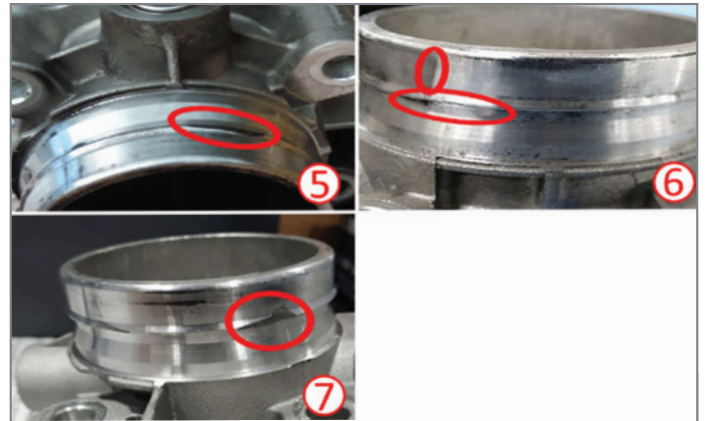


Normal witness marks

TIP: The throttle body and mass airflow sensor associated with the set DTCs should not be replaced unless they are damaged or found to be the cause of the code.

Normal witness marks on the throttle body do not require replacement.

Look for abnormal marks or damage, which indicate the throttle body to be replaced.



Damage to the throttle body

If the CAC outlet tube is disconnected from the throttle body, also check the tube end for contact damage or a missing O-ring seal. Replace the tube assembly if the tube is damaged or the O-ring seal is missing.

Refer to Bulletin #22-NA-224 for more information.

► Thanks to Matt Gager

LIFT PAD ADAPTERS, CONT.

The drop-in Adapters for Trio Arms are for lifts with a hole diameter of 1-1/2 inches. The drop-in Adapters for 3-Stage Arms are for lifts with a hole diameter of 2 inches.

Contact Rotary at 1-800-445-5438 with the lift model and serial number of your existing lift to determine the correct adapter to order.

Dealerships that use a different brand of hoist should contact their hoist supplier to ensure that they have the proper lift pad adapters for the hoists in their service department.

► Thanks to Zach Winters



Previous model lift pad, left, and larger current model lift pad, right (Rotary lift pads shown).

Fuel in Vapor Lines After Refueling

Overfilling the fuel tank during refueling can lead to several engine performance issues and possible damage to the fuel system. If the fuel station fill nozzle automatically shuts off (clicks off), and the customer continues to try to add more fuel beyond three clicks, liquid fuel can enter the vapor lines of the evaporative emissions (evap) system. The fuel may block the recirculation line and cause issues with the fuel tank pressure sensor readings.

On some 2019-2023 XT4 and 2021-2023 Envision models equipped with the 2.0L engine (RPO LSY), the fuel tank overfill may illuminate the Check Engine MIL and set DTC P0451 (Fuel Tank Pressure Sensor Performance). These vehicles have a capless refueling system and do not have a fuel cap.

If these conditions are found, inspect the vent lines at the fuel tank for damage and drain any fuel or remove any contamination from the evap vent lines. There are three vapor lines near the fuel tank.

The vapor lines (shown with green quick connectors) also should be disconnected from the evap canister to clear the lines of any liquid fuel. To access the evap canister, remove the right-hand rear wheel and wheel liner. Lightly blow shop air into each line to clear any fuel.

TIP: Be sure to remind customers about overfilling the fuel tank. The tank should not be topped off after the fuel station fill nozzle handle automatically shuts off when the tank is full. Do not exceed the three-click recommendation when refueling the vehicle to help prevent overfilling issues in the future. Refer to the Owner's Manual for additional information about fueling the vehicle.

For more details, refer to Bulletin #22-NA-203.

► Thanks to Matt Gager



Vapor lines near the fuel tank



Vapor lines (green quick connectors) at the evap canister



Clear the lines of any liquid fuel.

Park Brake Will Not Learn After Rear Brake Service

Some 2018-2023 Equinox and Terrain models may have DTC C0561 43 (System Disabled Information Stored – EEPROM Incorrect Programming) set and the park brake will not learn after rear brake service has been performed. DTC C0561 43 indicates that the park brake actuators position is unknown. A Service Park Brake message also may be displayed on the Driver Information Center.

These conditions may occur if the first steps in the rear brake service instructions are not followed. Refer to the Rear Disc Brake Pads Replacement procedure in the appropriate Service

Information to ensure that all service procedures are being completed properly.

The service procedure instructs to check the fluid level in the brake master cylinder reservoir. The brake fluid level in the master cylinder reservoir must be at 1/2 or lower between the maximum/full point and the minimum level to allow sufficient space for the fluid to return to the reservoir when the rear caliper retract is commanded. If the fluid level is higher than 1/2, brake fluid should be removed before continuing with repairs.

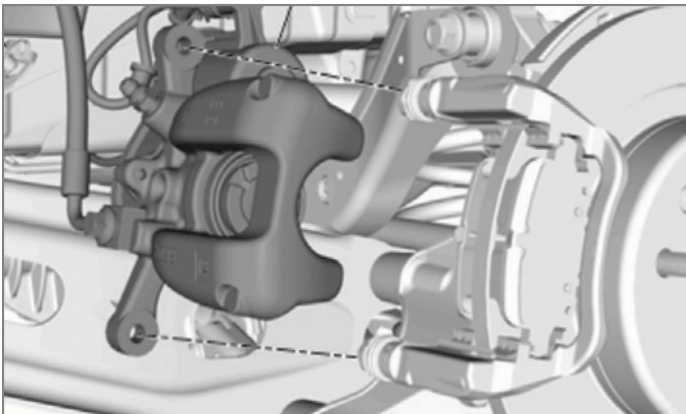
The caliper will retract when commanded but will stop when the reservoir is full. If there is too much fluid in the reservoir, the piston will not be fully retracted into the caliper.

If this occurs and then the piston is manually pressed in the rest of the way so that the caliper can be reinstalled, the excess fluid pressure will damage the pressure sensor(s) in the Electronic Brake Control Module (EBCM).

Typically, the park brake data for one or both of the pressure sensors will show the default value of 14,400 NM. If a pressure sensor(s) is damaged, it will be necessary to replace the EBCM. Due to the nature of this damage, EBCM replacement is not a warrantable repair.

For more information, refer to #PIT5953.

► Thanks to Ken Cole



Do not manually compress the brake caliper piston.

TECH LINK

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