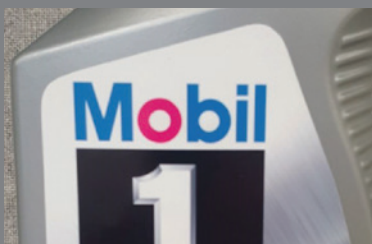


## All-New 2019 Blazer Arrives with **ATTITUDE**



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# All-New 2019 Blazer Arrives with Attitude

An SUV with attitude was the inspiration behind the design of the all-new 2019 Chevrolet Blazer. The midsize Blazer slots between the Equinox and Traverse in the Chevy lineup and has seating for five along with up to 64.2 cubic feet of cargo space.



2019 Blazer RS

Available in four trim levels: entry-level L (Blazer 2.5 in Canada), mid-level Blazer, sport-inspired RS, and top-of-the-line Premier, each model in the lineup features unique grille appearances and a distinctive lighting execution with low-placed HID headlamps.



Low-placed HID headlamps

## POWERTRAIN

The Blazer is available with a 2.5L 4-cylinder engine (RPO LCV) that is paired with the 9T50 9-speed automatic transmission (RPO M3D) or a 3.6L V6 engine (RPO LGX) mated to the 9T65 9-speed automatic transmission (RPO M3V). The advanced twin-clutch all-wheel-drive system is optional.

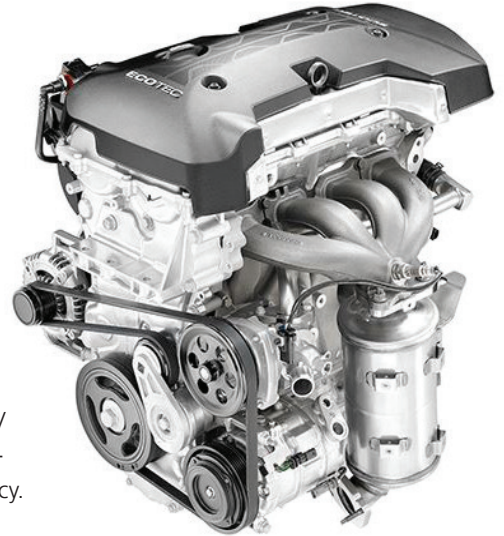
The standard 2.5L 4-cylinder engine is rated at 193 hp and 188 lb-ft of torque. The optional 3.6L V6 generates 305 hp and 269 lb-ft of torque. Both direct-injected engines feature an intelligent stop/start system to improve fuel efficiency.

The 3.6L V6 engine features Active Fuel Management (AFM) to increase fuel efficiency. With the AFM system on, the Oil Control Valve (OCV) directs oil to the dual-feed hydraulic lash adjuster, which unlatches the switching roller finger followers, creating

zero lift and not allowing the valves to open on cylinders two and five. With the AFM system off, the OCV is not active and oil is not directed to the dual-feed hydraulic lash adjuster.

The 2.5L 4-cylinder engine uses dexos1 GEN 2 full synthetic SAE 0W-20 viscosity grade engine oil. The 3.6L V6 engine uses dexos1 GEN 2 full synthetic SAE 5W-30 viscosity grade engine oil.

Both engines have an air filter life system where the Driver Information Center displays an estimate of the engine air filter's remaining useful life and the state of the system.



2.5L 4-cylinder engine (RPO LCV)



3.6L V6 engine (RPO LGX)

CONTINUED ON PAGE 3

The Hydra-matic 9T50 and 9T65 are fully automatic, 9-speed, transverse-mounted, electronic-controlled transmissions. They consist primarily of a 4-element torque converter, a compound planetary gear set, friction and mechanical clutch assemblies, and a hydraulic pressurization and control system. Both transmissions use DEXRON-VI Automatic Transmission Fluid.

## AWD SYSTEMS

Traction Select is standard on all models and allows the driver to make real-time adjustments to the vehicle's driving mode to account for varying road conditions. On AWD models, it also allows the system to be completely disconnected from the rear axle so the vehicle can operate in FWD when AWD capability is not needed.

The more sophisticated twin-clutch AWD system that is available on RS and Premier models helps optimize traction by preemptively and electronically splitting the torque as needed between the rear wheels using twin clutches. With the twin-clutch design, it is capable of transferring up to 100 percent of available torque to the front or rear axles. Also, across the rear axle, the electronically-controlled rear differential can direct up to 100 percent of available torque to either wheel.

## CHASSIS FEATURES

To improve the steering feel of the Blazer and reduce common vibrations from rough roads or the powertrain at idle, a tuned vibration absorber is integrated into the steering wheel.

The Blazer is equipped with a TRW EBC460 brake system. The K17 electronic brake control module (EBCM) and the brake pressure modulator are serviced separately. The system features Dynamic Rear Proportioning, Intelligent Brake Assist, StabiliTrak Electronic Stability Control, Traction Control, and available Trailer Sway Control.



21-inch wheels on the RS model

The Blazer offers a range of wheels, including standard 18-inch wheels, available 20-inch wheels, and 21-inch wheels on the RS and Premier models. On RS and Premier models equipped with

21-inch wheels and tires, the suspension also features an auxiliary spring aid that's internal to each of the springs and a load management striker cap (LMSC) on the rear dampers to help give the vehicle better ride performance. The LMSC absorbs some of the energy when a vehicle is driven on rough roads. The auxiliary spring aid absorbs energy as well and provides another load path to the chassis.

## DRIVER ASSISTANCE SYSTEMS



The Blazer offers a number of driver assistance and safety technologies.

A number of driver assistance and safety technologies are available on the Blazer to help the driver better monitor the vehicle's surroundings and respond in the event of an unexpected circumstance. The systems use a combination of camera, short and long range radars, and ultrasonic sensors. When fully equipped with all of the available safety features, there are a total of three radars, six cameras and eight ultrasonic sensors. Available systems include Adaptive Cruise Control, a digital Rear Vision Camera, Following Distance Indicator, Forward Automatic Braking, Front Pedestrian Braking, Lane Keep Assist with Lane Departure Warning, a Rear Camera Mirror, and a Safety Alert Seat.

The Blazer also has seven airbags and an innovative 360-degree sensor system designed to measure the severity of a crash and adjust airbag inflation accordingly for proper deployment.

## INFOTAINMENT

The Chevrolet Infotainment 3 system (RPO IOR) with an 8-inch diagonal color touchscreen is standard on the Blazer. The Chevrolet Infotainment 3 system with navigation and an 8-inch diagonal color HD touchscreen (RPO IOT, IOU) as well as the uplevel Bose Premium eight speaker system (RPO UQA) are available on several trim models.

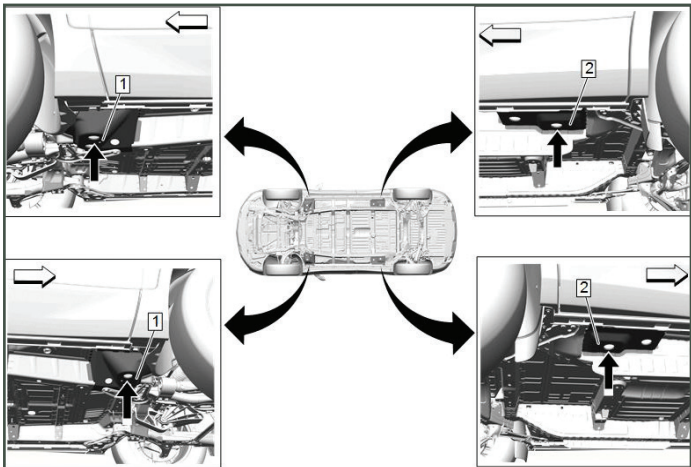
CONTINUED ON PAGE 4

# All-New 2019 Blazer Arrives with Attitude

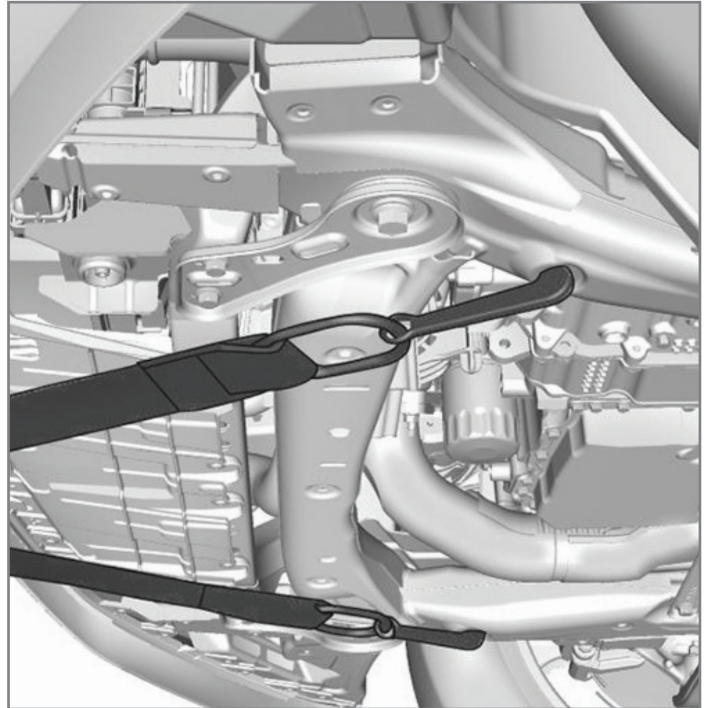


Uplevel infotainment system

Active Noise Cancellation (ANC) technology, which uses four microphones in the cabin to monitor for unwanted low-frequency engine-produced noises and projects indistinguishable sound waves to counteract the unwanted noise, is standard on all models.



Frame-contact lift points



Front attachment points

## VEHICLE LIFTING

When lifting the vehicle with a frame-contact lift, place the front lift pads on the front lower brackets, inboard of the rocker pinch weld flange and outboard of the front frame rail, at the torque box location. Place the rear lift pads on the rear frame rail, at the torque box location.

When transporting a disabled vehicle use the specific front attachment points to pull the vehicle onto the flatbed car carrier.

For more information on the new 2019 Blazer, check out the web-based training course 10319.11W: Chevrolet Blazer New Model Launch and refer to Bulletin #18-NA-373.

► Thanks to Kris Villegas and Sherman Dixon

# TCC Shudder and New Mobil 1 Fluid Exchange

A new transmission fluid exchange procedure and a new formula of Mobil 1 Synthetic LV ATF HP transmission fluid have been released to address torque converter clutch (TCC) shudder conditions on 8L45 and 8L90 8-speed automatic transmissions (RPOs M5N, M5T, M5U, M5X) in some 2015-2017 Escalade, Yukon; 2015-2018 Silverado, Sierra; 2015-2019 Corvette; 2016-2018 CT6; 2016-2019 ATS, CTS, Camaro; and 2017-2019 Colorado and Canyon models.

## SHUDDER TEST

The new service procedure addresses shake and/or shudder conditions during light throttle acceleration between 25 and 80 MPH (40 and 128 KM/H) at a steady speed when the transmission is not shifting gears.

To ensure TCC shudder is diagnosed correctly, drive the vehicle on a smooth road with transmission sump temperature between

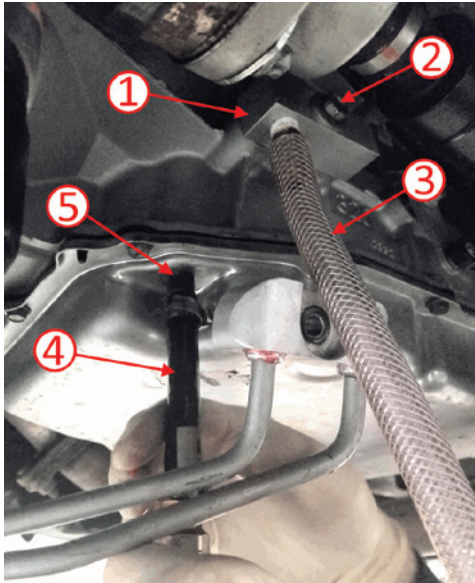
122°F (50°C) – 158°F (70°C). Constant throttle input on a smooth grade is needed.

A shudder condition may also be a chuggle, surge or vibration condition. Use GDS 2 or the CH-51450 PicoScope to confirm that the concern is TCC shudder and not a tire/wheel vibration or a driveline vibration, for example. A screen print from GDS 2 or the PicoScope showing the TCC shudder event must be attached to the Repair Order hard copy.

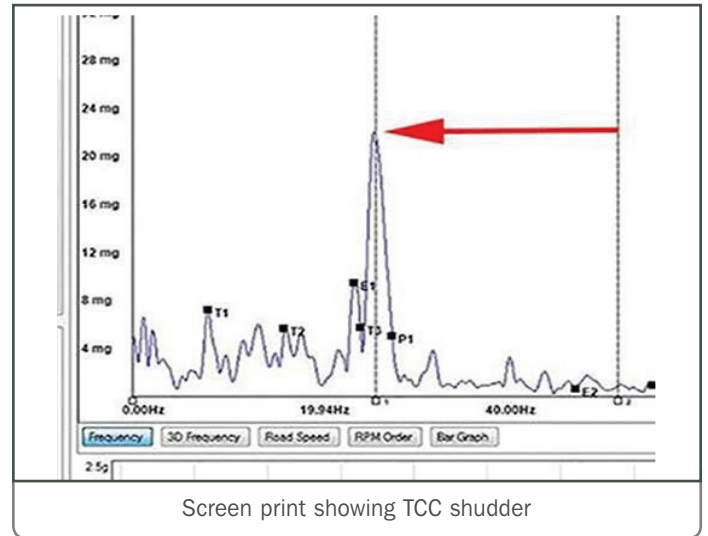
If TCC shudder is present, a vibration peak will appear within +/- 2 Hz of the frequency listed in Bulletin #18-NA-355. Refer to the bulletin for additional information, including required shudder test conditions for each vehicle being diagnosed as well as the fluid exchange procedures.

## FLUID EXCHANGE

The TCC shudder condition is related to moisture content in the transmission fluid. The current fluid tends to be hygroscopic, or absorbs moisture, which increases the chance of TCC shudder. There are three different fluid exchange procedures to follow,



New fluid exchange procedure using a TransFlow adapter (1), transmission fill adapter (2) and new tool kit components.



depending on vehicle application, so that an acceptable concentration of the new HP fluid is achieved in the transmission.

The new fluid exchange procedure requires the use of the DT-45096 TransFlow Cooler Flush Machine and DT-52263 Transmission Fluid Exchange Tool Kit. The tool kit began shipping to dealerships at no charge in late January 2019. All GM dealerships should receive the tool kits by the end of March 2019.

The new Mobil 1 Synthetic LV ATF HP transmission fluid is now available through your local GM Oil Distributor. The new Mobil 1 Synthetic LV ATF HP transmission fluid is available in quart bottles (GM Part Number 19417577) and, for a limited time, in 55-gallon drums (GM Part Number 19417904) in most locations. Drum production ended in January 2019. The GM part numbers are not on the product.

**TIP:** Mobil 1 Synthetic LV ATF HP transmission fluid is required for all 8-speed transmission repairs regardless of the repair being completed.

Quart bottles, which can be identified by a new blue banner across the front of the bottle, will be limited to 20 cases/120 quarts per dealer per week during the initial launch of the new product. The new bottles also feature the HP license number J-62120 on the back label.

For a video demonstration of the new fluid exchange procedure, check out the December 2018 Emerging Issues Broadcast, course number 10218.12V, available through the Center of Learning.

► Thanks to Mark Gordon



New quart bottle

# RKE Transmitter Pocket Locations on the New Silverado and Sierra

*The new 2019 Silverado 1500 and Sierra 1500 offers bench seats (RPOs A52, AE7, AZ3) and bucket seats with a center console (RPO A50). When programming a Remote Keyless Entry (RKE) transmitter, or key fob, on vehicles with keyless access, the transmitter must be placed in the proper learning location. The location is in different places based on the type of seats in the vehicle.*

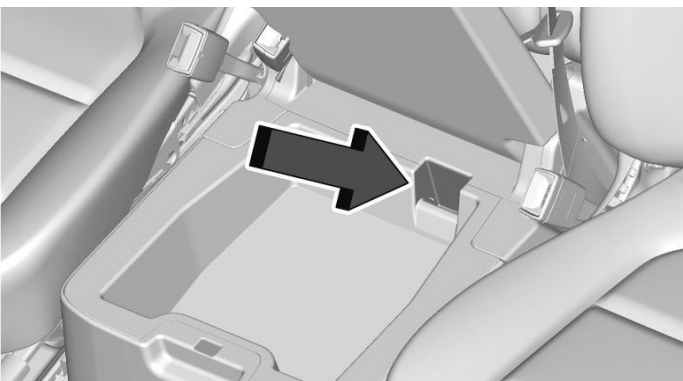
## BENCH SEATS



Bench seats with available armrest storage compartment

The 40/20/40 splint-bench seats may have a covered armrest storage compartment on some models. There is not a console on the floor in front of the seats. When the armrest is lowered, it may appear that the truck is equipped with bucket seats.

The learning location for the RKE transmitter is a pocket located at the back of the storage compartment under the center seat. It is not in the armrest storage compartment.



Place the transmitter in the pocket in the seat storage compartment.

## BUCKET SEATS



Bucket seats with center console

The bucket seats feature a full-floor center console that includes two cupholders.

The learning location for the RKE transmitter is the slot between the two cupholders.



Place the transmitter in the slot between the cupholders.

CONTINUED ON PAGE 7

## PROGRAMMING A TRANSMITTER

RKE transmitters can be programmed to either replace all key fobs or to add a key fob.

Follow the Replacing Keys procedure in the appropriate Service Information any time a transmitter is required to be unlearned or erased from a vehicle. If a new transmitter is being learned to a vehicle to replace a damaged, inoperative, missing, or stolen transmitter, the Replacing Keys procedure must be used to ensure that the old transmitter cannot be used to access or start the vehicle after programming. The Replacing Keys procedure will first erase all the known transmitters from the vehicle.

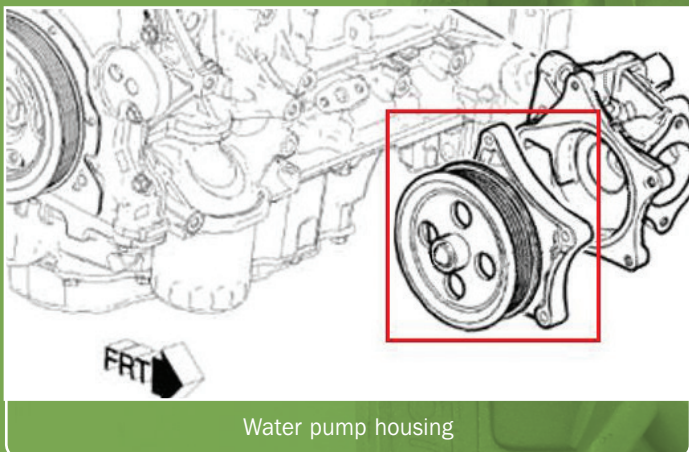
Follow the Adding Keys procedure in the appropriate Service Information only when adding an additional transmitters to the vehicle. The Adding Keys procedure should never be used to program a transmitter to a vehicle that is having a transmitter replaced, regardless of the cause for the replacement. The Adding Keys procedure does not erase any transmitters prior to programming. It will simply program the transmitter into the next available slot. A total of eight transmitters can be learned to a vehicle.

► Thanks to Dennis Richey

## Water Pump and Water Pump Housing Replacements

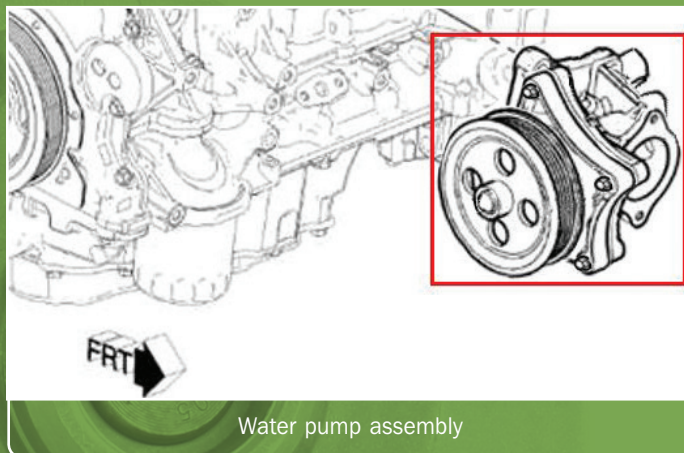
Some water pumps may have been replaced when the actual failure was the water pump housing on some 2016-2019 Encore, Cruze, Malibu, Spark, Volt, and 2018-2019 Equinox and Terrain models equipped with engine RPOs LE2, LFV, LV7, L3A, and LYX. New water pumps are being returned to the Warranty Parts Center with the old water pump housing installed. These conditions may be due to the description of the parts in the Electronic Parts Catalog (EPC).

### WATER PUMP HOUSING



Water pump housing

If the water pump requires replacement for a noise, leak or poor coolant flow, refer to "Housing w/PMP" in the EPC.



Water pump assembly

### WATER PUMP

If the water pump requires replacement for a crack or leak, refer to "Pump, Wat" in the EPC. The water pump housing comes pre-installed on the water pump as an assembly.

In addition, be sure to use the correct labor code when replacing the water pump housing or the water pump. These are different codes and using the incorrect code could result in a debit of the claim.

Refer to Bulletin #18-NA-335 for additional information.

► Thanks to Steve Bruder

# Tips on Photographing Vehicle Conditions

When calling the GM Technical Assistance Center (TAC) for help with diagnosing a vehicle condition or when submitting a Field Product Report, or FPR (U.S.), a photo of the vehicle concern can greatly help in determining a root cause. A properly taken photograph can substantially aid in the description or diagnosis of a concern. However, an unclear or poorly photographed concern may delay assistance from TAC in the diagnosis and repair of a vehicle or not provide necessary information when submitting a FPR.

Photographs also are required to complete Pre-Repair Authorization (PRA) requests (U.S.) using the Certified Service Mobile Toolbox (CSMT) app.

While photographs can be an enormous help in gaining insight to a particular issue on a vehicle, there are a few things to consider when taking photos. Here are some simple tips to follow to make sure the photos you take are as helpful as possible.

## SHOW LOCATION

First, take a picture of the concern from a zoomed-out position to establish an area of reference on the vehicle. Attaching a piece of masking tape or simply pointing to the correct location can help a TAC consultant or GM engineer quickly understand where the area in question is on a vehicle.

## DETAILS, DETAILS

Next, take a second picture from a zoomed-in point of view to clearly show a detailed area of concern. If necessary, point to the concern or otherwise call out any special features to make sure the concern is clearly indicated in the photo.

## MAKE IT CLEAR

With the evolution of modern digital cameras and mobile phones, it is easier than ever to quickly take high quality photographs in most all situations and lighting conditions. If the vehicle condition cannot be easily viewed in a photo, delete it and try again. It's a good idea to show the photo to others in the dealership and ask



Good photos show location and details

if they can identify the area of the vehicle as well as what is being photographed.

Photographs that are shot too close or are too blurry to recognize the subject will not be of any use. In instances where it's difficult to get a clear close-up photo, check to see if the camera and camera phone has a designated "macro mode." A macro mode enables you to take extreme close-up photographs with higher clarity than a regular or standard mode. Check your camera/phone owner's manual for details. Submitting blurry photographs can delay the diagnosis of the condition and the repair of the vehicle as well as cause frustration in the assistance process.

Following are some examples of some good photographs that show location and detail as well as some poor photographs that do not offer much detail.

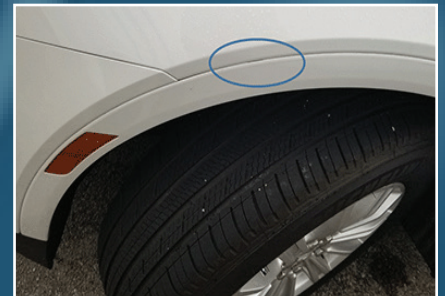
## GOOD PHOTOS

In this first set of photos, shown left, the first one is zoomed-out to establish the location of the condition. The additional picture is zoomed-in closer to show the defect that is being photographed.

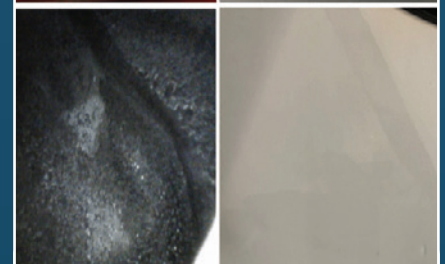
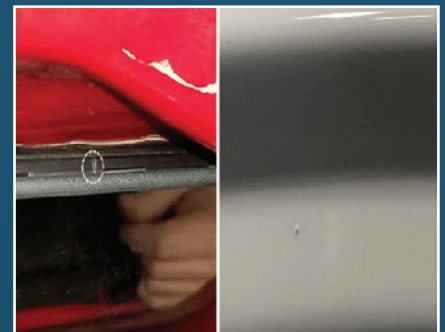
In the next set of photos, shown top right, the general area of concern has first been identified with a blue circle. The second photo is zoomed-in to clearly show the concern in greater detail.

## POOR PHOTOS

The following set of photos, shown lower right, show some unacceptable images that do not clearly show



Good photos show location and details



Poor examples that do not offer additional information.

CONTINUED ON PAGE 9

# Service 4WD Message

A Service 4WD message or Service Engine Soon message may display on the Driver Information Center of some 2019 Silverado 1500 and Sierra 1500 models. The following DTCs may be set:

- P1899 (Axle Torque Secondary Signal Message Counter Incorrect), P189A (Four Wheel Drive Range Secondary Signal Message Counter Incorrect), or P2534 (Ignition On/Start Switch Circuit Low Voltage) may be set in the Engine Control Module (ECM)
- DTC C119B (Front Axle Engagement Feedback Switch Circuit) may be set in the Transfer Case Control Module (TCCM)
- DTC P0700 (Transmission Control Module Requested MIL Illumination) may be set in the Transmission Control Module (TCM)

## DTCS P1899 OR P189A

If DTC P1899 or P189A are set as current DTCs in the ECM, attempt to shift through all the transfer case ranges using the controls on the left side of the instrument panel. If the transfer case will shift through all ranges, clear the DTCs. If the DTCs do not reset, return the vehicle to the customer. The DTCs may be setting falsely and GM Engineering is currently validating a repair procedure.

If the transfer case will not shift through all ranges, clear the DTCs. If the DTCs cannot be cleared or reset immediately, replace the TCCM.



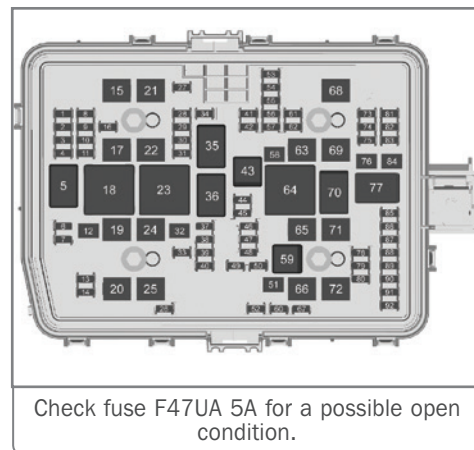
Transfer case controls

## DTCS C119B, P0700 OR P2534

If the only DTC set in the TCCM is DTC C119B, ask the customer about when the condition occurred. It is possible for the DTC to set when a shift out of 4WD is requested and the ignition is turned off prior to the shift being completed. The DTC would be set the next time the ignition is turned on.

Depending on the actual position of the transfer case and the front axle actuator, the DTC may or may not clear when using a scan tool. If the DTC cannot be cleared, shift the transfer case to another position (for example, if in 2HI, shift to 4HI). Try to clear the DTC again.

GM Engineering is currently validating a repair procedure for this condition.



If DTC C119B is set in the TCCM, DTC P0700 is set in the TCM, and DTC P2534 is set in the ECM, check fuse F47UA 5A for a possible open condition. If the fuse is open, refer to the appropriate Service Information and Bulletin #18-NA-301.

► Thanks to Steve Schipansky

## Tips on Photographing Vehicle Conditions

the region of the concern in question. The photos are taken so close to the defect that it is difficult to determine where the location is on the vehicle.

The next set of photos, shown right, show an overall shot of the concern along with a close-up photo, but does not identify where the condition is in the photo.



Poor photo that does not show location.

Submitting photos can greatly increase the amount of information available to GM to help with diagnosis and repairs. The best photos show the location on the vehicle as well as clear details about the condition.

For additional information:

- Refer to #PIC6346 for submitting photos to TAC.
- Refer to Bulletin #18-NA-306 for details on submitting a Pre-Repair Authorization with the CSMT.
- Refer to Bulletin #02-00-89-002R for submitting a Field Product Report.

► Thanks to Matt Bierlein

# Dead Battery after Remote Start

Some 2019 XT4 models may have a dead battery after sitting for several hours after a remote start. A dead battery may result after a remote start operation when one of the following occurs:

- Remote shutdown using the Remote Keyless Entry (RKE) transmitter (key fob)
- The remote start times out
- The Engine Stop/Start button is pressed to enter the Accessory or Run mode and then the button is pressed again to enter the Off mode.

Currently, the vehicle does not properly support KR75 Powertrain Relay functionality for Transmission Surge Accumulator performance, which can lead to a battery drain as the range command is set to undefined. As a result, the ECM gets stuck in a loop waiting for an input signal from the Electronic Transmission Range Select (ETRS). The loop keeps the network awake until there is another start/drive command of the battery discharges.



ETRS shift lever

To avoid discharging the battery and to put the vehicle in the proper state, avoiding the battery drain loop, after remote starting the vehicle press the Park button on the transmission shift lever (ETRS) or press the Engine Start/Stop button to enter Run mode and then select any gear or Park.

By providing an input signal through the ETRS after the remote start command, the battery drain is avoided.



Engine Start/Stop button

Keep in mind that this is a remote start condition only and starting the vehicle manually using the Engine Start/Stop button will not cause the battery drain.

GM Engineering is currently evaluating this condition and working on a repair recommendation. For additional information, refer to #PIC6350.

► Thanks to Chris Hightower

## TECH LINK

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