



Colorado ZR2 Bison Offers Extreme Off-Road Performance

Chevrolet teamed up with premier off-road aftermarket supplier AEV (American Expedition Vehicles) to create the new 2019 Colorado ZR2 Bison (RPO ULV).

The unique Bison model includes a number of heavy-duty performance features engineered to tackle some of the toughest off-road trails:

- 17 x 8-inch AEV-designed aluminum wheels and wheel flares
- 31-inch all-terrain tires
- AEV-designed stamped steel front bumper with winch provisions
- AEV-designed stamped steel rear bumper with integrated recovery points

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Colorado ZR2 Bison Offers Extreme Off-Road Performance



An accessory AEV snorkel that provides air filtration while driving on dusty trails is optional. The snorkel kit is available for all Colorado models.



Snorkel kit

BUILT ON ZR2

Based on the Colorado ZR2, the Bison also features a 3.6L V6 engine or 2.8L Duramax turbo-diesel engine along with standard ZR2 content: Multimatic DSSV (Dynamic Suspensions Spool Valve) shocks with position-sensitive damping, front and rear electronic locking differentials, ZR2 trailering package, and off-road rocker protection that provide outstanding off-road capabilities.

- Five hot-stamped Boron steel skid plates that protect the engine oil pan, fuel tank, transfer case, and front and rear locking differentials
- Fog lamps

Additional Bison-specific content includes a unique black grille with Chevrolet lettering and AEV badging on the floor liners, head restraints, tailgate, and wheel center caps.



AEV Bison logo on the tailgate



Bison builds on the ZR2's off-road prowess.

BISON MODEL SERVICE

The Bison model is serviced the same as other Colorado ZR2s. The Service Information for the 2019 Colorado includes specific procedures for models equipped with Bison components. Be sure to review the correct information for the vehicle being repaired.

All AEV-specific components are warranted by AEV.

► Thanks to Charles Hensley

Do Not Remove or Swap Navigation SD Cards

The Navigation Data SD cards for infotainment systems with embedded navigation (RPOs IOT, IOU) that are available on 2018-2019 Regal, ATS, CTS, XTS, Terrain; and 2019 CT6, XT4, Blazer, Camaro, Colorado, Equinox, Malibu, Silverado 1500, Volt, Canyon and Sierra 1500 models should not be removed from the original vehicle or swapped between vehicles.

Do not remove the Navigation SD card from any new vehicle unless instructed to do so in a service procedure. It should not be removed prior to vehicle delivery. The card should remain in the SD card slot of the vehicle for proper operation of the navigation system.



CARDS CANNOT BE SWAPPED

The Navigation SD cards cannot be swapped from one vehicle to another for any purpose. The cards are equipped with a VIN-binding feature that permanently binds the card to the VIN of the first vehicle it is placed into. Once a card is bound to a vehicle,

navigation system operation is blocked within five ignition cycles and an SD card error message is displayed if the VIN on the card does not match the VIN of the vehicle.



The card should remain in the SD card slot.

The dealership cannot identify the VIN on the Navigation SD card. Any attempt to identify the VIN on the card can corrupt the card data, causing difficult system diagnosis and potential future repairs.

When a Navigation SD card has been separated from its VIN-bound vehicle and the correct vehicle is unknown, the only solution is to replace the card. The new vehicle warranty does not cover Navigation SD cards replaced for an incorrect VIN. If the VIN on the card does not match the warranty claim submission, it can be subject to debit.

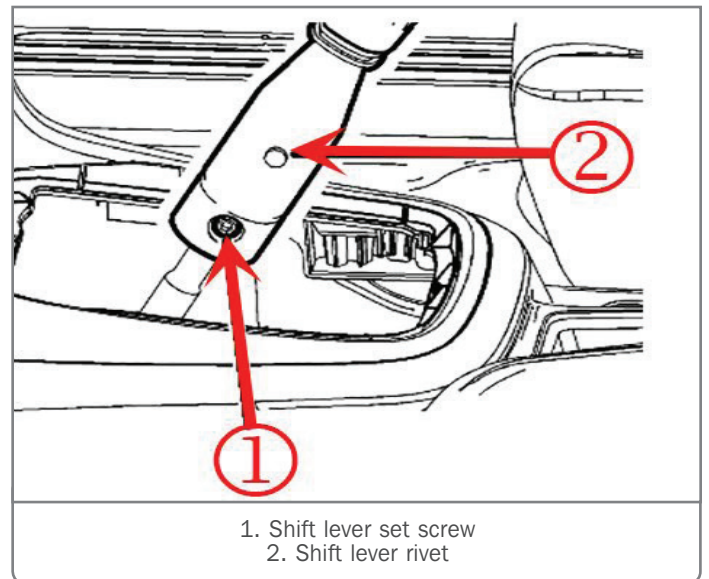
► Thanks to Jeremy Richardson

Shift Lever Rattle Sound

Some 2017-2019 Colorado and Canyon models may have a rattle sound coming from the automatic transmission shift lever. The sound may be due to a loose shift lever set screw or rivet in the shift lever.

Verify that the shift lever set screw is loose or the rivet holding the two-piece shift lever together is loose. If there is a noise from the shift lever, check the torque of the set screw. The torque specification is 80 in.-lbs. If the set screw is loose, remove the screw, clean the threads, and apply blue Loctite. Torque the screw to specification.

If the set screw is at or above the proper torque, tap the end of the rivet and listen for a noise or check for free movement of the rivet. To help isolate the rivet as the source of the rattle sound, wrap tape around the shift lever to cover the rivet. If the wrapped tape eliminates the sound, replace the shift lever.



1. Shift lever set screw
2. Shift lever rivet

► Thanks to Steve Schipansky

GM Diagnostic Tool Packages Bundle New Computers with the MDI 2

GM is currently offering several GM diagnostic tool packages that provide U.S. dealerships an opportunity to upgrade obsolete Windows 7 computers and pick up a new MDI 2 (Multiple Diagnostic Interface) tool.

A modern PC that is compliant with the GM Dealer Infrastructure Guidelines (DIG) is needed in order to properly use all of the features of GM's diagnostic applications. The latest DIG also recommends one MDI 2 for every Techline PC.

The packages are available at GMDEsolutions.com and include a choice of "Better" and "Best" business-grade laptop computers along with the MDI 2 at discounted prices.

STANDARD AND GM-CONFIGURED LAPTOPS

The laptop computers are compliant with the latest DIG and can be ordered with a standard configuration or configured with GM-recommended diagnostic software (TIS2Web, GDS2, MDI, MDI 2, Tech2Win, and Service Information).

GM vehicle diagnostic applications, such as GDS2 and SPS require additional computing power to perform appropriately during vehicle diagnosis and repairs. PCs used by technicians in the service bay should include PC hardware that is considered to be in the "Better" specifications category in the DIG. The DIG provides "Good," "Better," and "Best" specifications for replacing PCs. The "Good" category is the very minimum specification and should not be used when comparing new PCs.

MDI 2 DIAGNOSTIC TOOL

The MDI 2 is the next generation Global Diagnostic Interface tool for both current and future GM vehicles. It's a compact communication module that manages the transfer of data between a vehicle's onboard network and a service technician's PC. The MDI 2 supports diagnostic applications — GDS2, Data Bus Diagnostic



Tool, and Tech2Win — as well as Pass-Thru programming applications — TIS2Web-SPS.

The MDI 2 connects to the vehicle via the J1962 connector using a DLC cable. Connection between the MDI 2 and the PC running the GDS2 software can be accomplished via a standalone connection (USB), the dealership network (CAT5), or through a new Point-to-Point wireless Wi-Fi interface feature (a simple plug & play).

The EL-52100 MDI 2 kit includes:

- MDI 2 Unit
- SAE J1962 DLC Cable
- 10-ft. USB A to USB B Cable
- Ethernet Cable
- D-Link Wireless USB Adapters (Dongles) (Optional; for wireless connection)



For more information about the latest DIG as well as PCs for purchase, go to GMDEsolutions.com and select the Dealer Services tab.

► Thanks to Lisa Scott

Diagnosing Automatic Transmission Conditions using GDS2 Session Logs

If a 2015-2019 GM model is being serviced for an automatic transmission operating condition or a vibration concern that can be duplicated, GDS2 should be used to aid in identifying the potential cause of the condition.

In some cases, it may be necessary to contact the GM Technical Assistance Center (TAC) for additional help with diagnosis. However, there have been many TAC cases where GDS2 was not used properly, adding to the time spent making a correct diagnosis and delaying repairs.

When calling TAC for assistance, a GDS2 session log will be requested for any automatic transmission conditions that can be duplicated. For U.S. dealerships, it's recommended to submit a GDS2 session log to TAC by attaching it to the TAC case using the Dealer Case Management (DCM) system. TAC will review the session log and reply using the DCM. Refer to Bulletin #08-00-89-014 prior to providing the GDS2 session log to TAC.

A GDS2 session log also can be emailed prior to contacting TAC for assistance by sending the session log to tacsnapshot@gm.com (U.S.) or tacsnapshotcanada@gm.com (Canada). Refer to #PIP4902 for more information.

BEFORE CONTACTING TAC

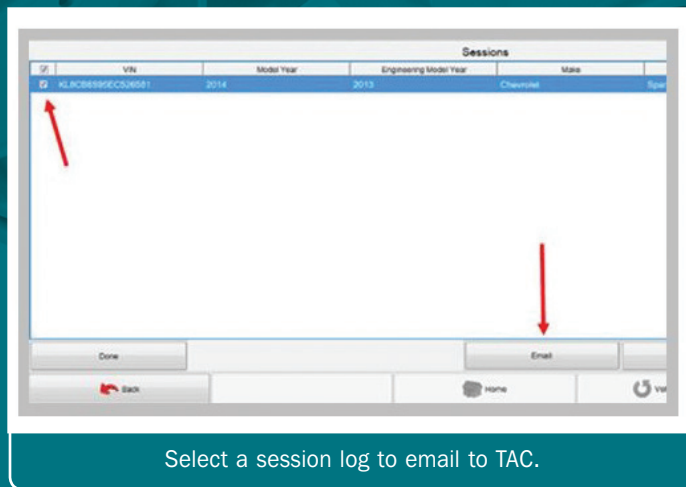
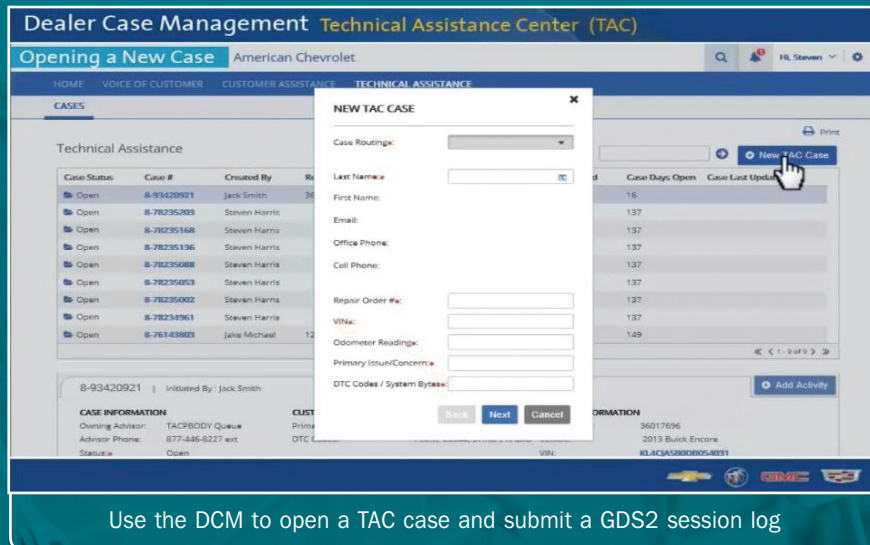
If servicing a vehicle with an automatic transmission condition, perform the following before contacting TAC:

1. Check all modules for any DTCs.
2. Record all DTCs found.
3. Review the freeze frame data for any codes that have set.
4. Clear the DTCs.
5. Select the Transmission Control Module (TCM) under Modules in GDS2, and then select Transmission Data.
6. Drive the vehicle under the conditions described by the customer when the transmission concern occurs or ask the customer to drive the vehicle to help duplicate the condition.

If any DTCs were set, refer to the GDS2 freeze frame data to help determine how the vehicle should be driven in order to duplicate the conditions that may cause the DTCs to set.

7. If the condition can be duplicated, place a bookmark at the location(s) where it is present.
8. Back out of the software to the Home screen and close the application.
9. Review the GDS2 session log to help determine the root cause.

► Thanks to Terry Neuendorf



New Trailering App Trailer Connection and Lighting Diagnosis



The new trailering app (RPO U1D) available on the 2019 Silverado 1500 and Sierra 1500 uses the K68 Trailer Lighting Control Module (TLCM), or Trailer Interface Module, to constantly monitor for trailer connection status, trailer lighting faults, and trailer theft deterrent purposes through the lighting circuits of the trailer.

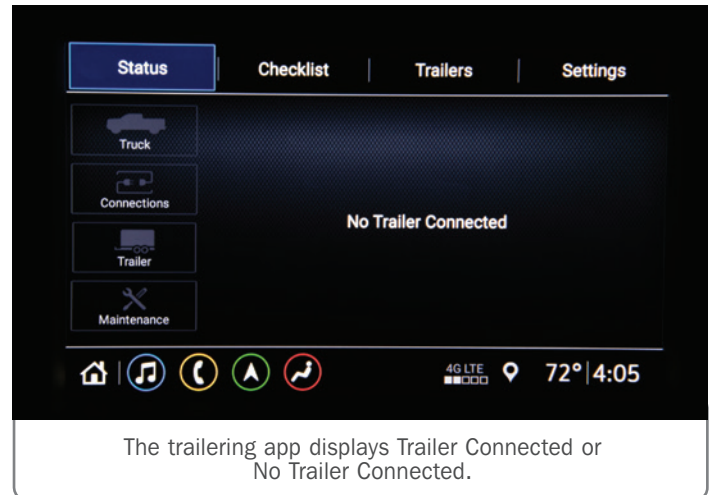
TRAILER CONNECTION STATUS

When a trailer is connected, the Trailer Lighting Control Module senses the trailer connection using the Park and Stop/Turn Signal lighting circuits and alerts the driver by requesting a trailer profile setup through the trailering app on the infotainment screen (P17 Info Display Module). The Trailer Detection Alert setting must be enabled for the alert to display when a trailer is connected.



With a trailer connected and the ignition off, the Trailer Lighting Control Module will periodically pulse the lighting circuits of the trailer to verify it is still connected. Depending on the configuration of the trailer lights, the trailer lights may periodically flash as part of the trailer theft deterrent function. These flashes may be more visible in dark ambient light environments and correspond to when the Trailer Lighting Control Module pulses the lighting circuits to ensure the trailer is still connected. The flashing or flickering lights is a normal condition.

Depending on the settings, a Trailer Connected or No Trailer Connected status may be displayed by the trailering app on the infotainment screen.



TIP: Trailer disconnection detection by the Trailer Lighting Control Module requires that a trailer light circuit must be activated after the trailer is disconnected. If a trailer is disconnected while no trailer lights are active, the trailer will continue to be reported as connected by the trailering app. Always have the vehicle lights on when disconnecting the trailer to ensure the system properly detects the disconnection.

The lighting on some trailers may prevent it from being detected by the Trailer Lighting Control Module. Some LED trailer bulbs or lamps do not draw enough current and may not be detected by the module.

Other causes that may result in a trailer not being detected include poor trailer wiring or a poor connection at the trailer connector. It may be necessary to update the trailer wiring, trailer connector, or trailer lights, or add load resistors to the bulbs or lamps.

TRAILER BRAKE SYSTEM

The available Trailer Brake System with an Integrated Trailer Brake Control and the trailering app both report trailer connection information. However, the Trailer Brake System and related DIC messages are independent from the Trailer Lighting Control Module trailer connection detection system that feeds the trailering app on the infotainment screen.

If the truck is equipped with a Trailer Brake System, a Trailer Brakes Connected message will display on the Driver Information

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Integrated Trailer Brake Control

Center (DIC) when a trailer with electric trailer brakes is connected. In addition, this system will display Check Trailer Wiring on the DIC every time a trailer with electric brakes is disconnected.

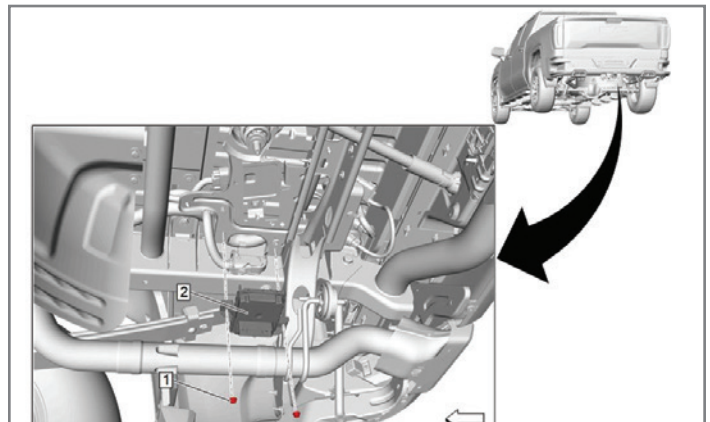
TRAILER DISCONNECTED MESSAGE

On some trucks, a Trailer Disconnected, Check Connection message may display on the DIC without a trailer being connected. If the Trailer Lighting Control Module detects enough of a load on any of the trailer tail lamps or stop/turn signal circuits, it may determine that a trailer has been connected. However, any moisture or corrosion in the trailer receptacle or Trailer Lighting Control Module connector, or anything left plugged into the trailer receptacle, such as trailer adapters with built-in test LEDs, may cause the module to think that a trailer is connected.



Trailer Disconnected, Check Connection message

If this condition is found, remove anything plugged into the trailer receptacle and inspect for any moisture or corrosion in the trailer receptacle at the rear bumper, the chassis harness connector that plugs into the trailer receptacle, and the Trailer Lighting Control Module connector. Clean and repair any connection issues.



K68 Trailer Lighting Control Module

If the condition is not corrected after performing these checks, do not replace the Trailer Lighting Control Module. GM Engineering is currently evaluating this condition and working on a repair recommendation. For additional information, refer to #PIT5648.

TRAILER LIGHTING

For lighting operation, the Trailer Lighting Control Module receives serial data messages from the Body Control Module (BCM) indicating which lamps have been activated on the vehicle. The Trailer Lighting Control Module responds by applying voltage to the appropriate control circuits for the requested lamps to illuminate the lamps on the attached trailer. The Trailer Lighting Control Module constantly monitors the trailer's Reverse, Park, and left and right Stop/Turn Signal lamps.

Vehicles equipped with a Trailer Lighting Control Module cannot drive as much current on each circuit when compared to the non-Trailer Lighting Control Module trailer lighting system. The Trailer Lighting Control Module drives four trailer circuits using four solid state drivers that are fed from one 30A lighting fuse. If the total current on the four circuits overloads the fuse, it will fail. If any single lighting circuit exceeds the driver threshold, it will deactivate the output for the balance of the key cycle and a reactivation of the lamp load is required. Individual DTCs are activated for each circuit and that load is turned off due to high current. If a trailer draws too much current, it may be helpful to change some or all of the trailer lighting to LEDs.

TRAILER LAMP TEST LIGHTS

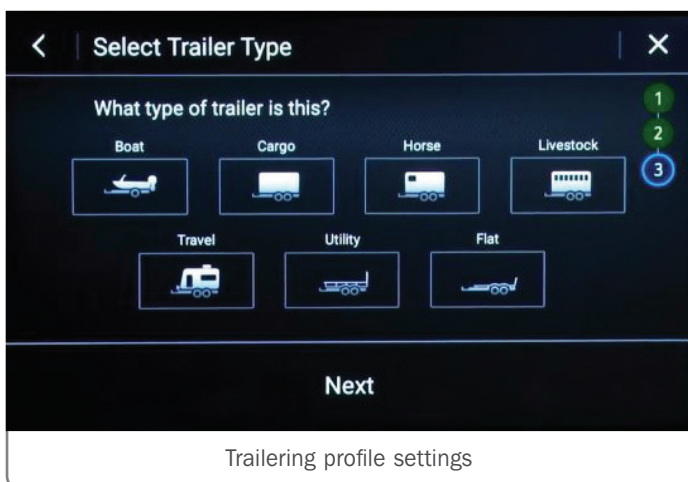
A test light or trailer circuit tester may not create enough load to be seen or sensed by the Trailer Lighting Control Module and the trailer lighting outputs will not be activated. If a tester draws enough load on one or more of the trailer lighting circuits, the Trailer Lighting Control Module will determine that a trailer is connected and enable the trailering light circuits (when activated

New Trailering App Trailer Connection and Lighting Diagnosis



on the vehicle). A single LED may or may not draw enough current to be sensed by the Trailer Lighting Control Module.

The available EL-52641 Trailer Presence Simulator Tester tool provides feedback on the vehicle signals sent to the trailer for the reverse lights, battery power, right turn signal and brake light, left turn signal and brake light, and brake controller output.



TRAILERING APP PROFILES

When a trailer is connected, the driver has the option of selecting a Guest profile or naming the trailer and storing settings for it on the trailering app. The settings can include basic information — profile name, hitch type and trailer type — or more advanced information — Tow/Haul Mode reminder, Trailer Tire Pressure, and maintenance reminders.

If the trailering app is set up incorrectly for the connected trailer, several DTCs or DIC messages may appear. For example, if a trailer does not have any reverse circuit loads, yet a reverse circuit load is expected in the trailering app, the Trailer Lighting Control Module will set DTC B3890 (Trailer Backup Lamps Circuit) and messages may be displayed on the DIC and infotainment screen. If the trailer does not have reverse lamps or any loads on the reverse circuit, change the trailering app profile settings and clear any DTCs. Do not replace the Trailering Lighting Control Module.

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