TECH LINK

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New Essential Tool GE-52200 Propulsion System Lift



GE-52200 Propulsion System Lift

The new GE-52200 Propulsion System Lift table is designed for the removal/installation of electrical vehicle batteries as well as engines, transmission, transaxles, fuel tanks, suspensions, cradles and chassis system components.

Chevrolet Bolt EV dealerships are the first recipients of the GE-52200 lift table. All other U.S./Canadian dealerships will begin receiving the table as an essential tool in late 2017 or early 2018.

The air/hydraulic lift 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).

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Sort It Out — New Service Information Table Sorting Features

The GM Service Information has implemented a number of new features recently designed to make it easier and more efficient to quickly access the information needed in the service bay every day.

Table Sorting

One of these new features is the ability to now sort the tables of the Master Electrical Component List. The list provides the component code, name, option code, location of the component on the vehicle, a link to the locator view, and links to related connector end views.

Users can now sort any column by selecting the directional arrows at the top of each column heading.

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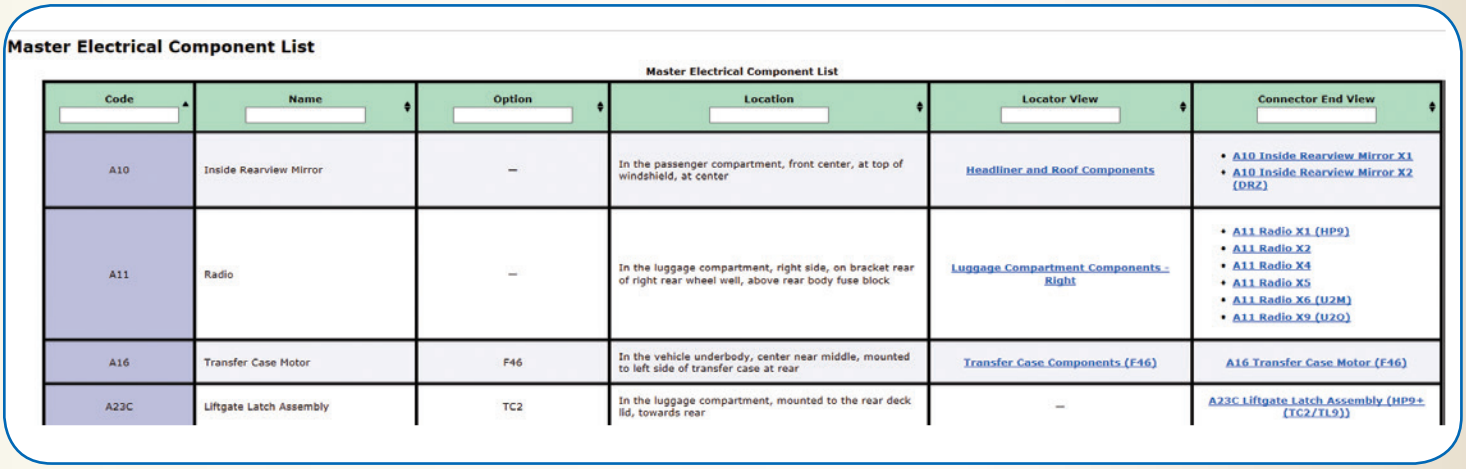
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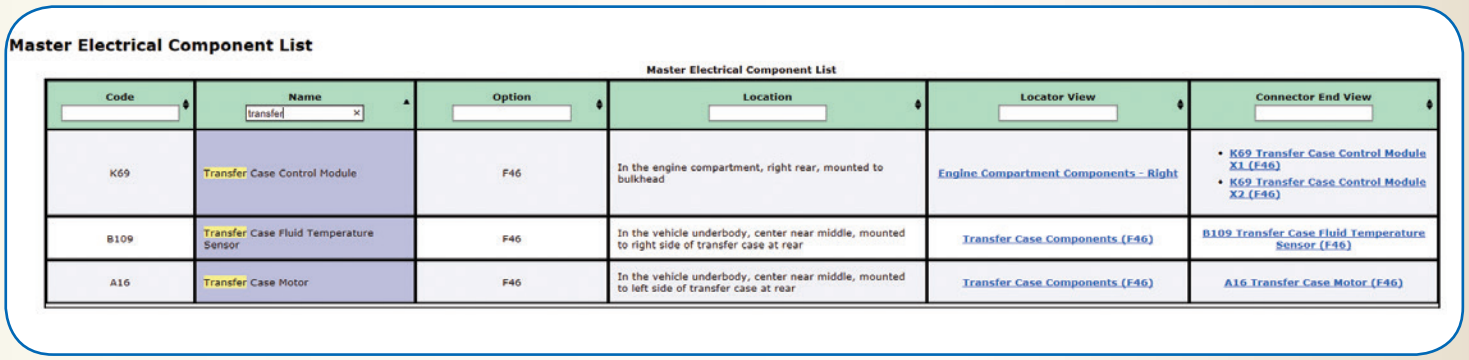
Master Electrical Component List

Master Electrical Component List

Code	Name	Option	Location	Locator View	Connector End View
A10	Inside Rearview Mirror	–	In the passenger compartment, front center, at top of windshield, at center	Headliner and Roof Components	• A10 Inside Rearview Mirror X1 • A10 Inside Rearview Mirror X2 (DRZ)
A11	Radio	–	In the luggage compartment, right side, on bracket rear of right rear wheel well, above rear body fuse block	Luggage Compartment Components - Right	• A11 Radio X1 (HP9) • A11 Radio X2 • A11 Radio X4 • A11 Radio X5 • A11 Radio X6 (U2M) • A11 Radio X9 (U2Q)
A16	Transfer Case Motor	F46	In the vehicle underbody, center near middle, mounted to left side of transfer case at rear	Transfer Case Components (F46)	A16 Transfer Case Motor (F46)
A23C	Liftgate Latch Assembly	TC2	In the luggage compartment, mounted to the rear deck lid, towards rear	–	A23C Liftgate Latch Assembly (HP9+ (TC2/TL9))

Sort a column by clicking the directional arrows.

The table also can be filtered by inputting a search word in the box at the top of the column. For example, under the Name column, enter "transfer" to filter the results with transfer in the name.



Master Electrical Component List

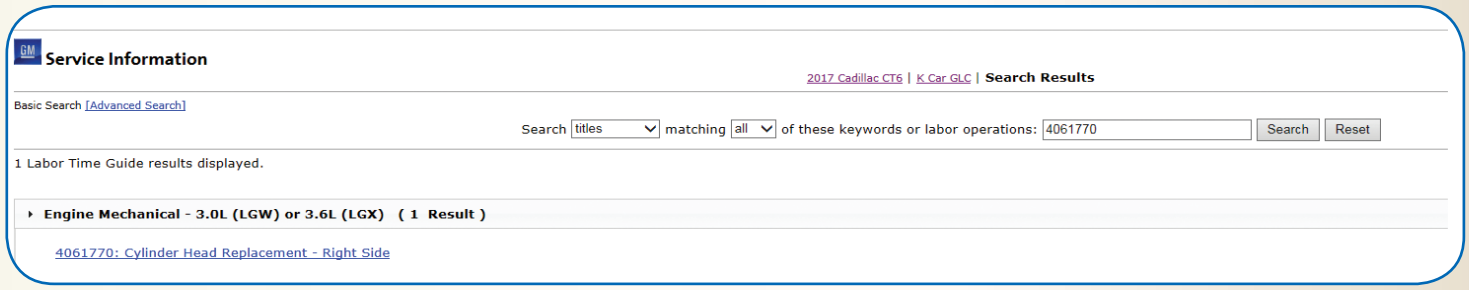
Master Electrical Component List

Code	Name (transfer)	Option	Location	Locator View	Connector End View
K69	Transfer Case Control Module	F46	In the engine compartment, right rear, mounted to bulkhead	Engine Compartment Components - Right	• K69 Transfer Case Control Module X1 (F46) • K69 Transfer Case Control Module X2 (F46)
B109	Transfer Case Fluid Temperature Sensor	F46	In the vehicle underbody, center near middle, mounted to right side of transfer case at rear	Transfer Case Components (F46)	B109 Transfer Case Fluid Temperature Sensor (F46)
A16	Transfer Case Motor	F46	In the vehicle underbody, center near middle, mounted to left side of transfer case at rear	Transfer Case Components (F46)	A16 Transfer Case Motor (F46)

Each column can be filtered by inputting a search word.

Labor Time Guide Search

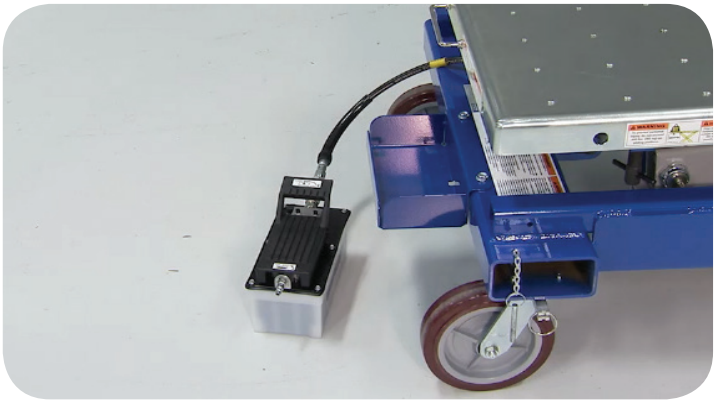
Another new feature of the Service Information is the Labor Time Guide search function. Use the search function to find a labor time by the labor operation number. Select "Titles" in the search box and then enter the labor operation number. The corresponding Labor Time Guide will be displayed



Search the Labor Time Guide by labor operation number.

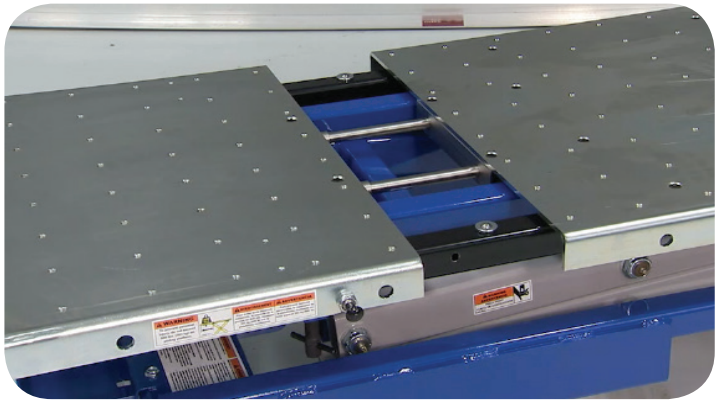
Thanks to Lisa Scott

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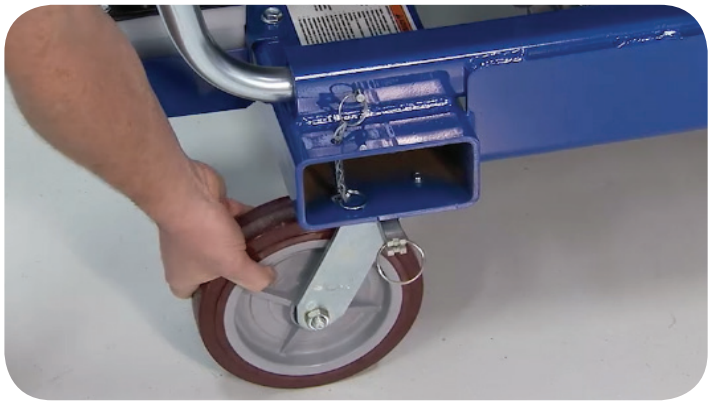
The lift is operated using a foot control pump.

It features a 60/40 split table top that allows powertrains to be separated while mounted to the table. The length of the table is adjusted by releasing the pins and sliding the table in or out. It automatically locks into position at several set points.



60/40 split table top

The lift handle can be quickly attached to either side of the lift using quick-release pins. The lift table also is easy to move around the service bay. The 360-degree swivel casters have integrated foot butterfly locks and detent locks for directional movement control.

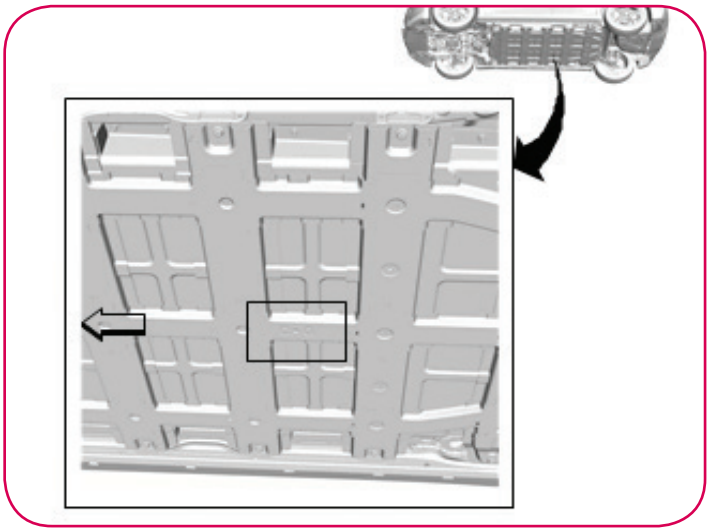


The lift has 360-degree swivel casters that can be locked in place.

Bolt EV High-Voltage Battery Removal

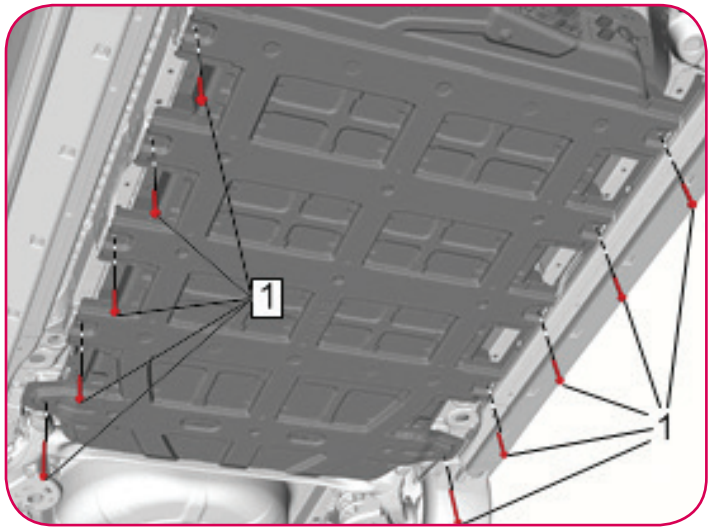
During removal of the high-voltage battery pack (also referred to as the drive motor battery), vehicle weight will be redistributed. Secure the vehicle to the lift/hoist arms with straps so that the vehicle does not become unstable on the hoist. Also support the vehicle with jack stands at the opposite end from which any major components are removed.

There is a Center of Gravity (C.G.) mark on the drive motor battery tray to locate the lift table. The high-voltage battery pack mass is approximately 1,000 lbs. (450 kg).



Center of Gravity (C.G.) mark on the drive motor battery tray

Remove all connectors and mounting fasteners from the drive motor battery before lowering the lift table. Secure the battery to the lift table with straps.



Disconnect all connectors and remove the mounting fasteners.

Thanks to Chuck Berecz

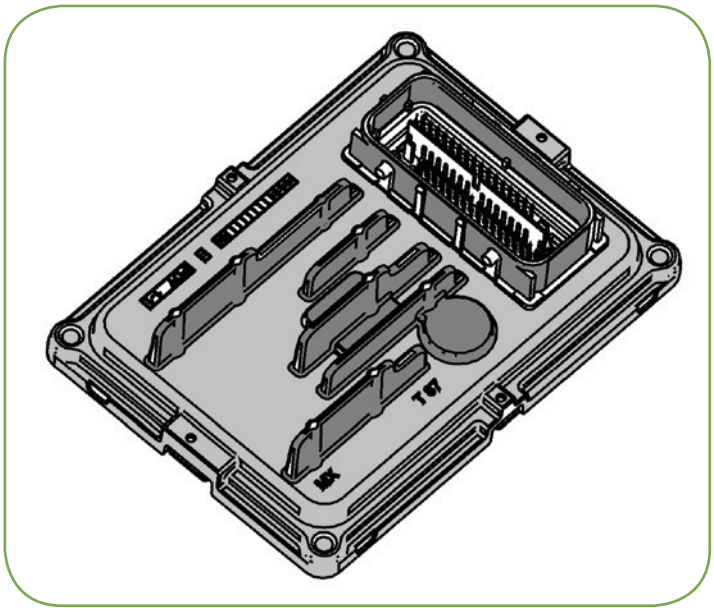
Harsh Shifting on the 8L90 Automatic Transmission

There may be several harsh shifting conditions on some 2015-2016 Silverado, Sierra, Yukon and Escalade models equipped with the 5.3L engine (RPO L83) or 6.2L engine (RPO L86) and the 8L90 automatic transmission (RPOs M5U, M5X). The shift conditions may include:

- Harsh 1-2 upshift (except for the first 1-2 upshift of the day)
- Harsh 3-1 downshift when de-accelerating to a stop
- Harsh downshift under heavy throttle apply
- Active Fuel Management (AFM) V4 to V8 transition harshness (6.2L engine only)
- Coast-down downshifts (6.2L engine only)

There is new Engine Control Module (ECM) and/or Transmission Control Module (TCM) software that is available to improve these conditions. Use the Service Programming System (SPS) and follow the on-screen instructions to complete the programming. If both controller options are listed in SPS, select K20/K71 Transmission Control Module.

Do not install this calibration if the vehicle is not exhibiting these conditions. It is not intended to be installed on these vehicles for any other conditions.



TCM on the 8L90 transmission

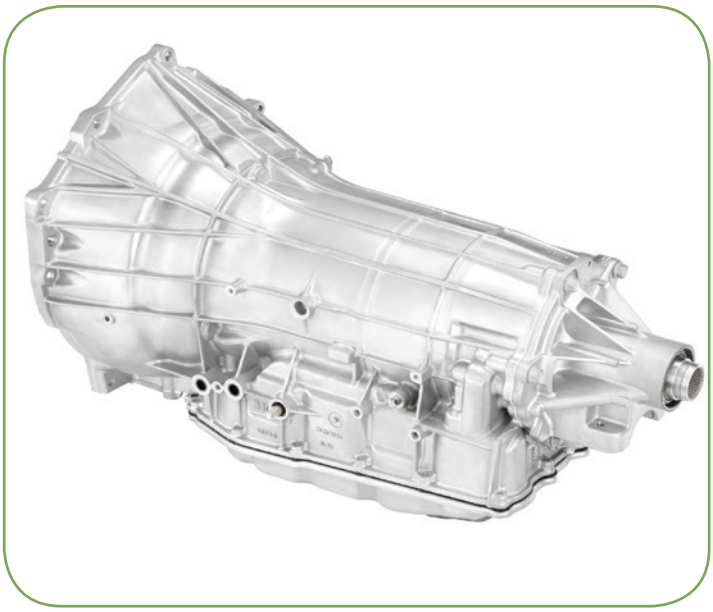
TIP: Installation of the new TCM software will require that the Transmission Service Fast Learn (SFL) procedure be performed using GDS 2 or SPS through the TIS2Web application. The transmission may exhibit poor shift quality until the clutch values are learned. Performing the SFL will reset and relearn all the shift adapts.

After the programming of the TCM is complete, evaluate the shift quality of the transmission. Refer to Bulletin #16-NA-019 for more information about the transmission adaptive functions, how to learn the clutches and improve shift quality.

TIP: Due to the installation of the new TCM software, Bulletin #14-07-30-001 should not be used on 2015 model year vehicles. It will not allow for proper clutch learning.

Transmission Shift Adapts

The 8-Speed automatic transmission uses a line pressure and volume control system during upshifts to compensate for new transmission build variation as well as the normal wear of transmission components. The variation from new and normal wear of the apply components within the transmission over time can cause shift time (the time required to apply a clutch) to be longer or shorter than desired.



8L90 8-speed transmission

In order to compensate for these changes, the TCM adjusts the pressure commands to the various pressure control (PC) solenoids to maintain the originally calibrated shift timing. Referred to as "adaptive learning," this adjusting process ensures a consistent shift feel and increases transmission durability. Transmission adapts can be reset and relearned using the Transmission Service Fast Learn procedure that is completed in the service stall.

When the Service Fast Learn is complete, perform a test drive and note any soft or harsh shifts. Within GDS 2, a Transmission Service Fast Learn Data page is available to aid in performing adaptive learning by showing throttle percentage, engine speed, transmission fluid temperature, and gear command.

For additional information, refer to the recent *TechLink* article on reprogramming the 8L90 transmission.

Thanks to Matt Bunting and Dave Peacy

Unwanted Brake Apply in Reverse without Park Assist Activation

Some 2016-2017 CT6 and 2017 XT5 models may have an unwanted brake apply condition while in Reverse when there is no object behind the vehicle or around the vehicle. This condition may occur most often when the vehicle is cold in the morning (overnight cold soak) or has been sitting outside for several hours in colder temperatures.



The Rear Short Range Radar is located behind the rear fascia (XT5 shown).

The performance of the rear Short Range Radar Sensor may be degraded at cold ambient temperatures below 50°F (10°C), which may result in unintended brake activation while the vehicle is backing up.

The rear Short Range Radar Sensor, located behind the rear fascia, is designed to detect objects up to approximately 98 feet (30 meters). The rear Short Range Radar Sensor communicates with the Active Safety Control Module via serial data on the object detection bus as part of the backing warning system and the rear automatic braking system.



Park Assist on/off button on the CT6

Once the rear Short Range Radar Sensor warms up to temperatures above 50°F (10°C), the condition is not present and may not be duplicated in the dealership.

Do not replace any parts or attempt any repairs for this condition. GM Engineering is determining a root cause. To address this condition at this time, use remote start to start the vehicle before driving, which will allow the rear Short Range Radar Sensor to warm up, or turn off the Park Assist feature when backing up after a cold start.

Thanks to Katul Patel

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Inductive Charging Test Tool Adapter

A new Test Tool Adapter (EL-51755-UPD) has recently been shipped to all GM dealerships for use with the EL-51755 Inductive Charging Test Tool. The charging test tool is used to verify the charging system operation in a GM vehicle. The adapter, approximately the size and shape of a typical mobile phone, makes it easier to place the test tool in the correct location on both charging pockets and charging pads. Proper positioning is critical to ensure the charging coils of the charging surface and the mobile device, or test tool, line up correctly to allow charging.



EL-51755 Inductive Charging Test Tool and EL-51755-UPD Adapter

Adapter Installation

To install the adapter on the test tool, thread the strap on the tool, from the back of the adapter, through the rectangular slot near the top of the adapter. Next, align the tool with the back of the adapter and press it into place. The adapter should remain attached to the tester at all times.



Press the adapter onto the test tool.

Wireless Charging Compatibility

The first step in diagnosing a wireless charging condition is to validate that the customer's device is compatible with the vehicle charging system. The latest version of #PIC6049 lists compatible phone models and if a phone has built-in wireless charging capability or an available wireless charging case. It also provides the maximum dimensions for devices that can be charged. Large devices may not be compatible.

When testing the charging system, or charging a device, be sure to remove all objects from the charging pocket or pad. Coins, keys, cards, or other items trapped between the phone and the charging surface can prevent charging and may become very hot.

Testing using the EL-51755 Test Tool

The EL-51755 Inductive Charging Test Tool should be reasonably centered in the pocket or pad to align with the vehicle sensor. The adapter allows the tool to simply be inserted into the pocket. It will fit snugly and will align properly once fully inserted. On a charging pad, place the tester flush with the rear of the pad.

For both the pad and pocket, ensure that the flat side (non-LED side) of the tool aligns against the flat charging surface. There is no need to remove the rubber sleeve from the pocket or pad for testing.



Proper positioning in a charging pocket.



Proper positioning on a charging pad.

To verify the operation of the charging system, simply place the tool in the pocket or on the pad with the vehicle ignition on. If the tool's wireless charging indicator illuminates after a few seconds, the charging system is operating properly and any charging concern may be caused by an incompatible or defective mobile device. If the charging indicator is off, continue diagnosis using the appropriate Service Information.

To complete the test successfully, the procedure may need to be repeated five times. Between each attempt, remove the tool and wait two seconds

For additional information on the tool, check out the January Emerging Issues Seminar 10217.01V available through the GM Center of Learning at www.centerlearning.com.

Thanks to Chuck Berecz and Bob Wittmann