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Please visit www.performanceparts.ford.com for the most current instruction and warranty information.

PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION. AT ANY TIME YOU DO NOT UNDERSTAND THE INSTRUCTIONS, PLEASE CALL THE FORD PERFORMANCE TECHLINE AT 1-800-367-3788

Bronco E-Locker Wiring Kit Installation Instruction



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1.0 - Introduction

This kit was developed by Ford Performance Parts to allow off-road enthusiast the opportunity to install fully functioning Electronic Locking (E-Locker) Axles in their 2021+ Bronco which was not originally equipped with E-Lockers from the factory. This kit only supplies the necessary wiring, switch, and circuit protection to work in conjunction with the follow E-Locker axle assemblies offered by Ford Performance Parts (sold separately) listed below.

NOTE: This kit (M14489-BR) supplies wiring for (1) E-Locking Axle Assembly. If installing front & rear E-Lockers, (2) wiring kits (M-14489-BR) will be required.

M-4000-446B:	M220 REAR AXLE ASSEMBLY 4.46 RATIO W/ ELECTRONIC LOCKING DIFFERENTIAL
M-4000-470B:	M220 REAR AXLE ASSEMBLY 4.70 RATIO W/ ELECTRONIC LOCKING DIFFERENTIAL
M-4000-488B:	M220 REAR AXLE ASSEMBLY 4.88 RATIO W/ ELECTRONIC LOCKING DIFFERENTIAL
M-4000-513B:	M220 REAR AXLE ASSEMBLY 5.13 RATIO W/ ELECTRONIC LOCKING DIFFERENTIAL
M-4000-538B:	M220 REAR AXLE ASSEMBLY 5.38 RATIO W/ ELECTRONIC LOCKING DIFFERENTIAL
M-3002-446BF:	M210 FRONT DRIVE UNIT 4.46 RATIO
M-3002-470BF:	M210 FRONT DRIVE UNIT 4.70 RATIO
M-3002-488BF:	M210 FRONT DRIVE UNIT 4.88 RATIO
M-3002-513BF:	M210 FRONT DRIVE UNIT 5.13 RATIO
M-3002-538BF:	M210 FRONT DRIVE UNIT 5.38 RATIO

2.0 - Overview

This booklet provides a step by step guide for the preparation and installation of the Bronco E-Locker Wiring Kit. Please read the instructions thoroughly before starting the installation. If you have any questions, contact Ford Performance Technical Support at (800) 367-3788.

3.0 – Included/Required Components

Below is a Bill of Materials included in this kit

Quantity	Part #	Description
1	CM-14489-BR	Bronco E-Locker Axle Wiring Harness

3.1 Bronco E-Locker Axle Wiring Harness

- The E-Locker wiring harness includes the necessary components to control the front and/or rear electronic locking differential on 2021+ Bronco vehicles.
 - Components of the harness include:
 - Switch
 - Relay
 - Power & Ground Eyelets
 - E-Locker Axle Assembly Connector

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4.0 – Pre-Installation of Harness

4.1 Connector ID

NOTE: The itemized table below will be referenced throughout the installation instructions.

Item	Description	
A	Switch	
B	Relay	
C	Fuse Holder (10 Amp)	
D	Battery (+) Connection Eyelet	
E	Electronic Locking Differential Connector	
F	Ground (-) Connection Eyelet	

Table 1 – Summary of Bronco E-Locker Harness Connections



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5.0 – E-Locker Wiring Harness Installation Instructions

5.1 – Center Console Trim Removal

Removal of the upper center console trim is necessary for mounting of the supplied E-Locker control switch, and ground eyelet connection. The following steps will outline the removal steps.

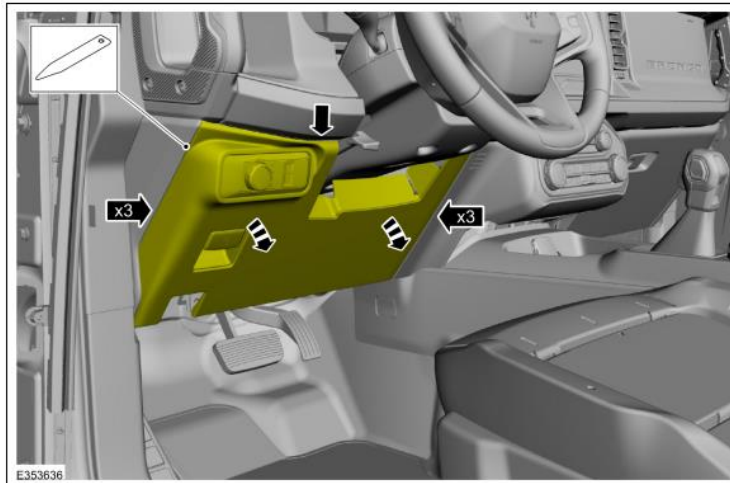
NOTE: The center console trim removal steps covered in this section are for an automatic transmission equipped vehicle. A manual transmission vehicle will be similar.

1. Remove the panel highlighted in **BLUE** below. It is held in place by (2) clips highlighted in **PURPLE** below.

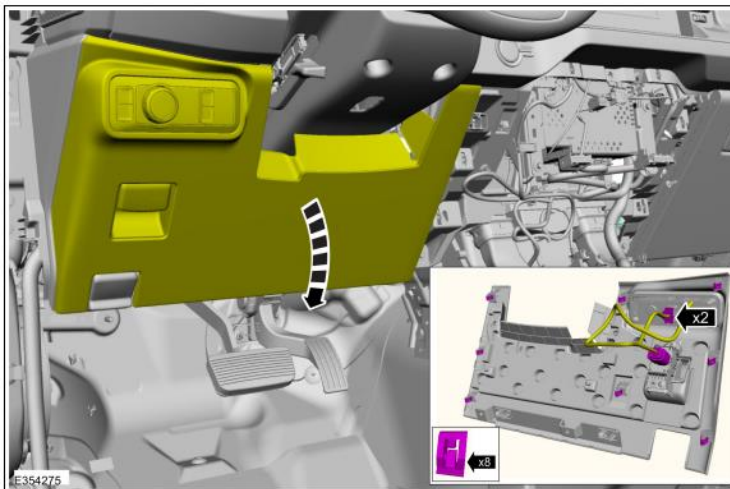


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- Using appropriate plastic trim tool release the (3) clips on each side of the trim below the steering column and swing down, highlighted in **YELLOW** below. The clips will be similar the clips highlighted in **PURPLE** above.



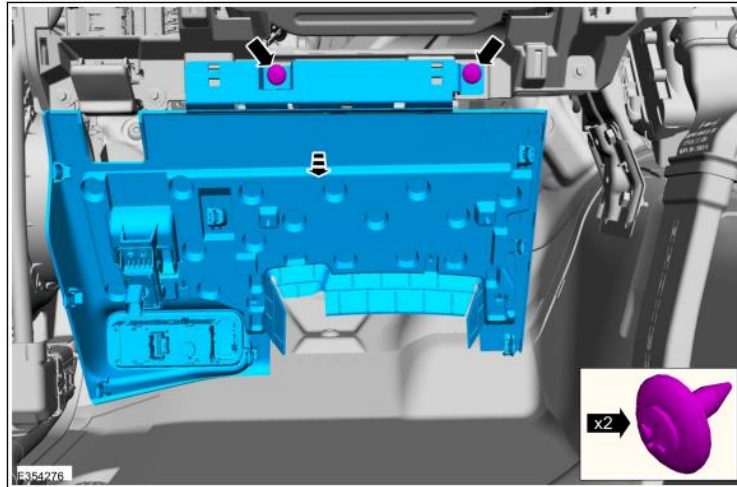
- Swing down the panel highlighted in **YELLOW** and disconnect the headlamp and parking brake electrical connectors.



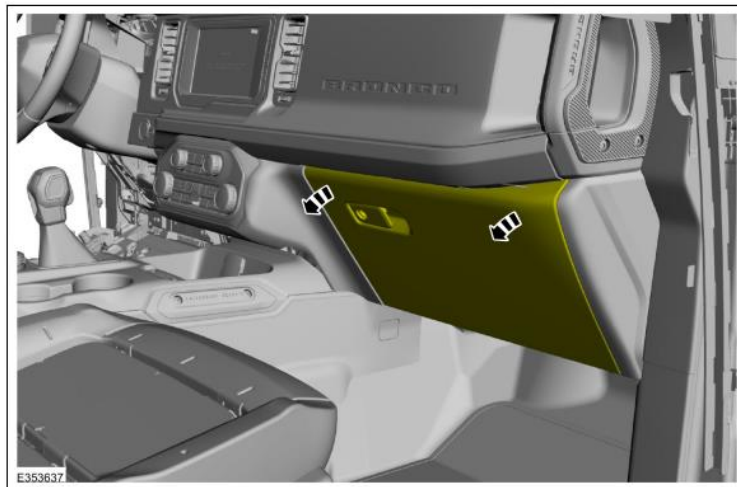
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4. Remove the retainers highlighted in PURPLE below and set the panel aside.

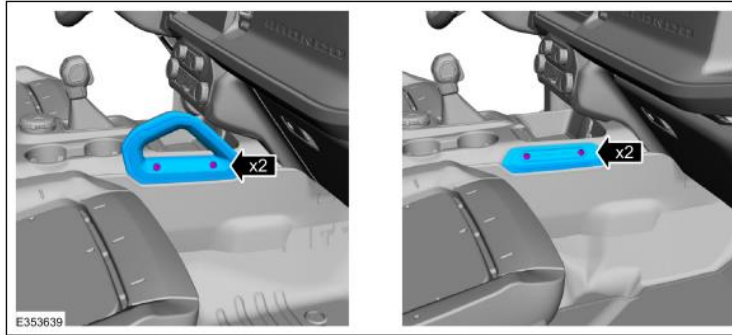


5. Lower the glove compartment and leave in the down position.

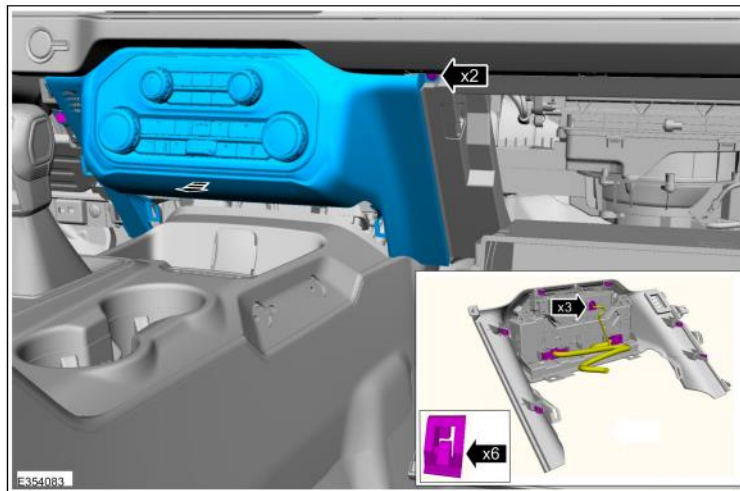


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6. Remove (2) screws highlighted in PURPLE below and the passenger grab handle or trim (depending how your vehicle is equipped) highlighted in BLUE. Set aside.



7. Remove the (2) screws on opposite corners highlighted in PURPLE below of the HVAC/Audio control panel highlighted in BLUE. Using appropriate plastic trim tool, release the (6) trim clips retaining the control panel. Disconnect the (3) electrical connectors. Set the control panel aside.





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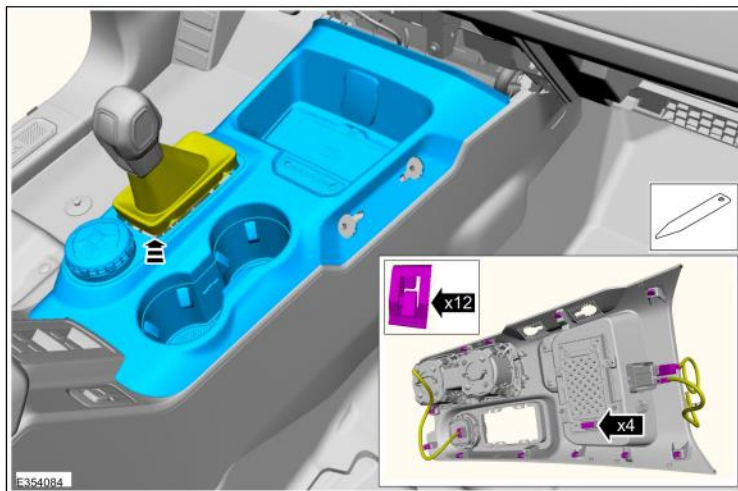
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M-14489-BR Bronco E-Locker Wiring Kit

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- Using appropriate plastic trim tool release the retaining clips on the shifter boot highlighted in **YELLOW** below. Using plastic trim tool again, release the (12) trim clips retaining the upper center console trim. Disconnect electrical connectors (depending how vehicle is equipped you can have connectors for drive mode control switch, USB hub and/or wireless charging pad). Set trim panel highlighted in **BLUE** on suitable work surface to perform the next set of instruction for mounting the E-Locker switch.

NOTE: Removal of the upper trim panel outlined in this step may require the gear selector to be moved into drive or low gear to allow the space to remove the panel. If needed, be sure to set the parking brake and only place the ignition into **Key On Engine Off** while moving the transmission lever. ***Do not have the vehicle running with the transmission in gear while performing this step.***



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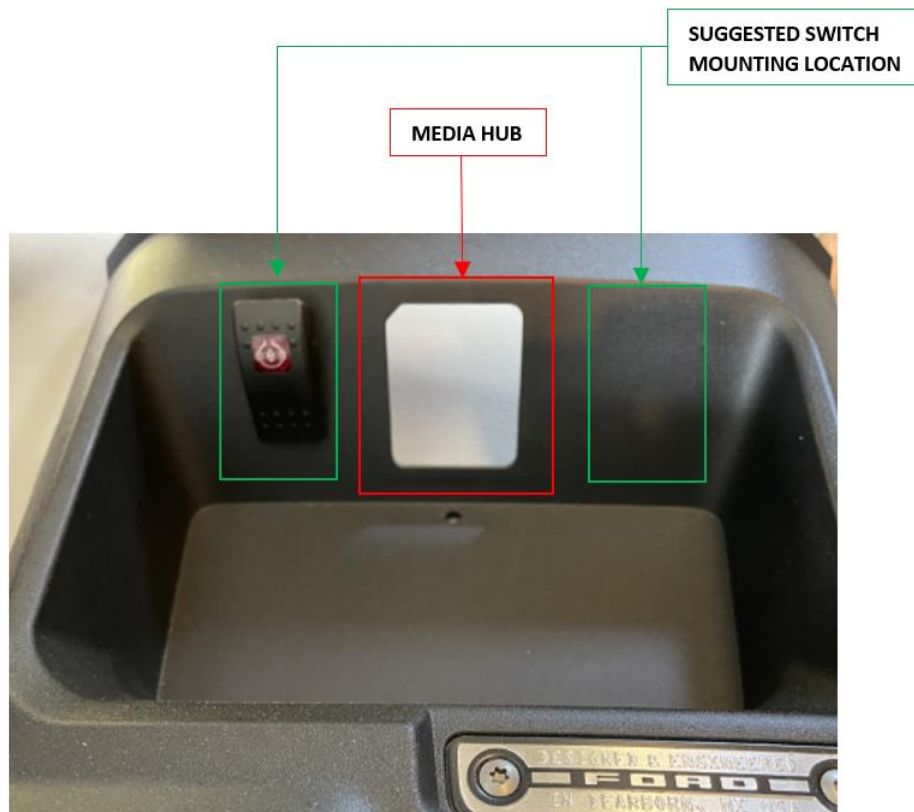
5.2 – E-Locker Control Switch Mounting

The following steps will outline mounting the E-Locker control switch in the center console upper trim panel removed in the steps covered in Section 5.1.

1. Using the supplied cut template on page (11) trace and cut an opening, using a rotary tool or similar, in the front of the center console trim to accept the E-Locker Switch. *Trim only a small amount of material at a time, as taking too much material from the center console trim will cause the switch to not seat properly.*
2. After mounting the E-Locker switch in the center console trim set the trim panel aside and continue to the next section for harness installation.

NOTE: Below are the recommended switch mounting locations. There are differences of the media hub location between automatic and manual transmission vehicles. The area highlighted in green in the images below are for mounting (2) E-Locker Switches (front & rear locking axles). If only mounting (1) E-Locker Switch, select just one of the suggested mounting locations to mount the switch.

Automatic Transmission:



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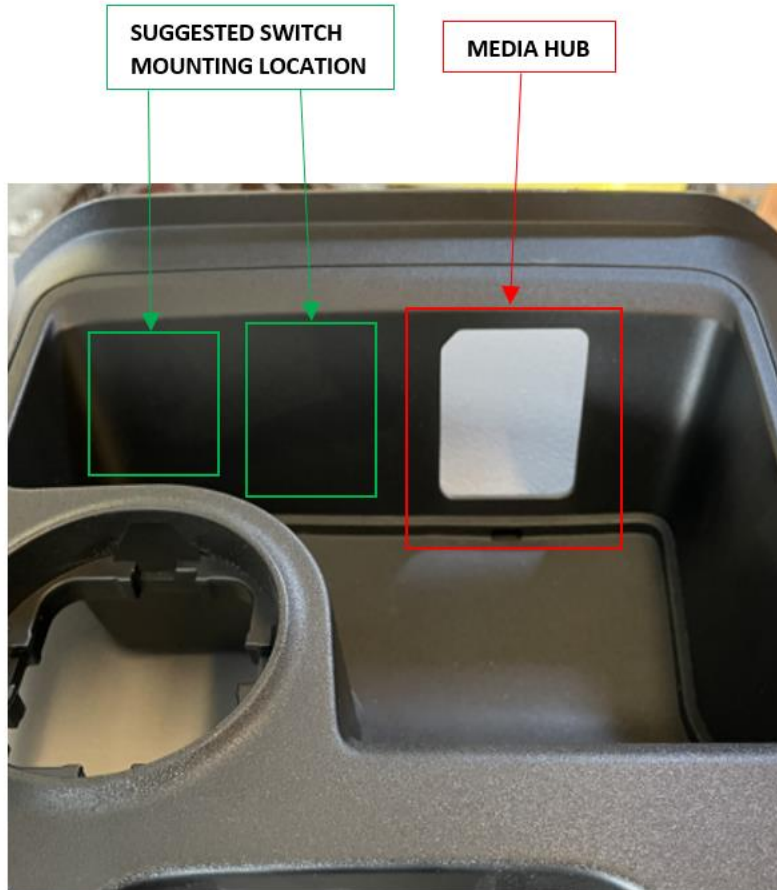
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Manual Transmission:



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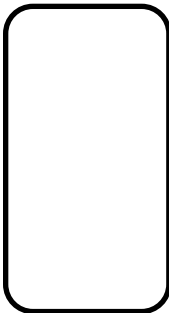


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E-Locker Switch Cut Template:



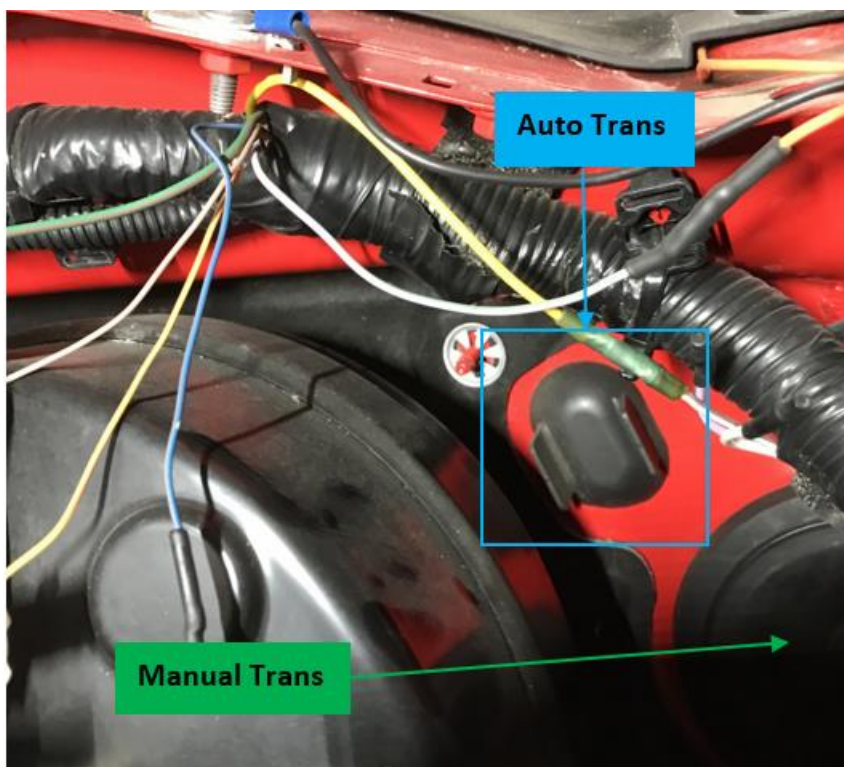
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5.3 – E-Locker Harness Routing – Vehicle Interior

The following steps will cover routing of the E-Locker Harness through the interior of the vehicle, from center console, under instrument panel and through the bulkhead. Routing to the rear & front axles will be covered in the following sections.

NOTE: The image below depicts where the E-Locker harness is routed through the vehicle bulkhead. On automatic transmission vehicles the harness will be routed through the grommet highlighted in blue below. For manual transmission vehicles the E-Locker harness must be routed through the main vehicle harness bulkhead grommet, highlighted in green below. On manual transmission vehicles the opening of the blue highlighted grommet is used for the clutch pedal linkage, so harness routing is not possible through this opening. *The steps in this section will illustrate routing through the blue highlighted opening on automatic transmission vehicles. The steps for routing through the green highlighted opening on a manual transmission vehicle will be similar, but the green highlighted grommet is not removeable from the vehicle.*



1. Remove the grommet highlighted in BLUE in the image above.

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2. Cut a slit in the flat surface of the grommet. See below.



3. Starting with the green connector (Item E from Section 4.1), run the connector body and wiring lead through the grommet. Run the wiring from the concave side of the grommet to the side with ears. See below.



4. After the wiring lead for Item E is through the grommet remove the 10 amp fuse from the fuse holder (Item C) and set aside.



5. Run the wiring lead for Items C & D through the grommet. Afterward reinstall the 10 amp fuse into Item C.

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6. Starting in the driver side footwell area on the interior of the vehicle, run the harness with Items C, D & E through the bulkhead opening where the grommet was removed.



7. Pull the harness through the bulkhead and seat the grommet in the bulkhead opening. Roughly adjust the harness that Item D can reach the vehicle battery positive (+) post and Item E can reach the axle (front and/or rear).



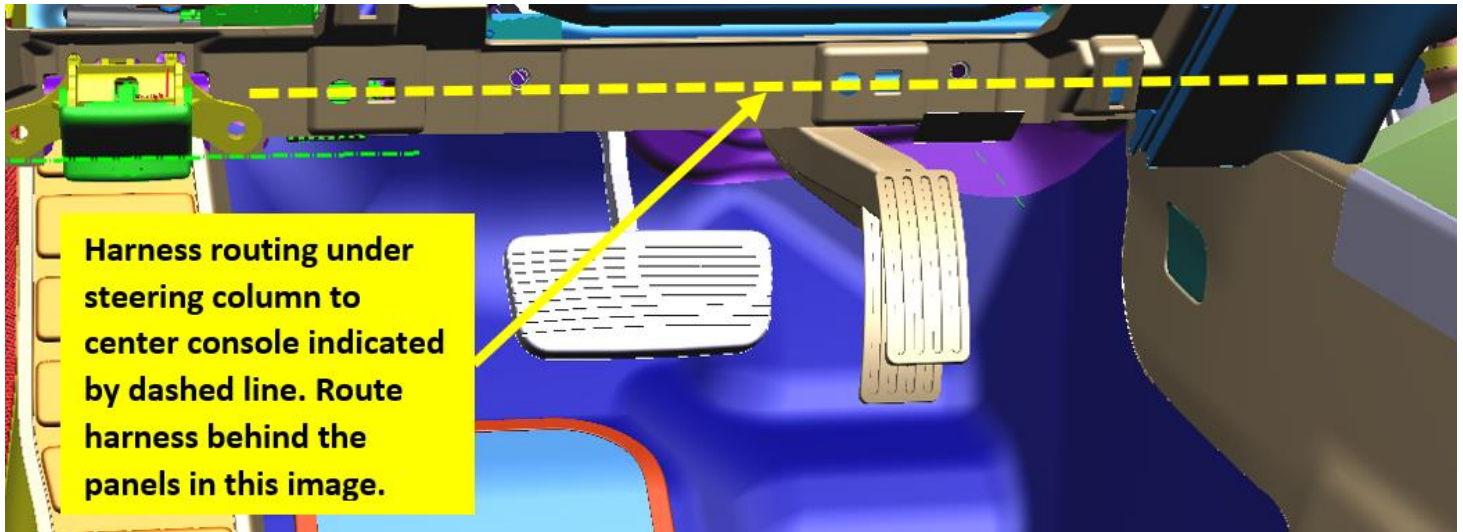


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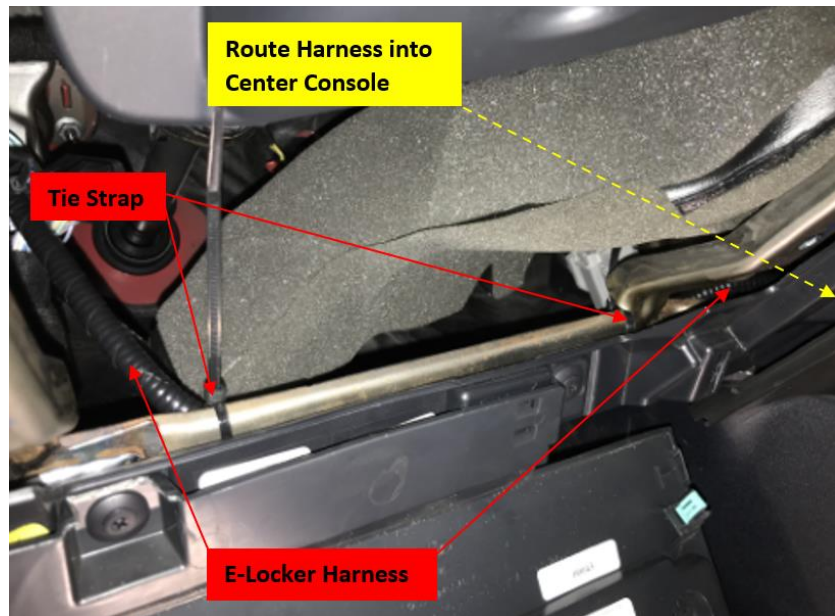
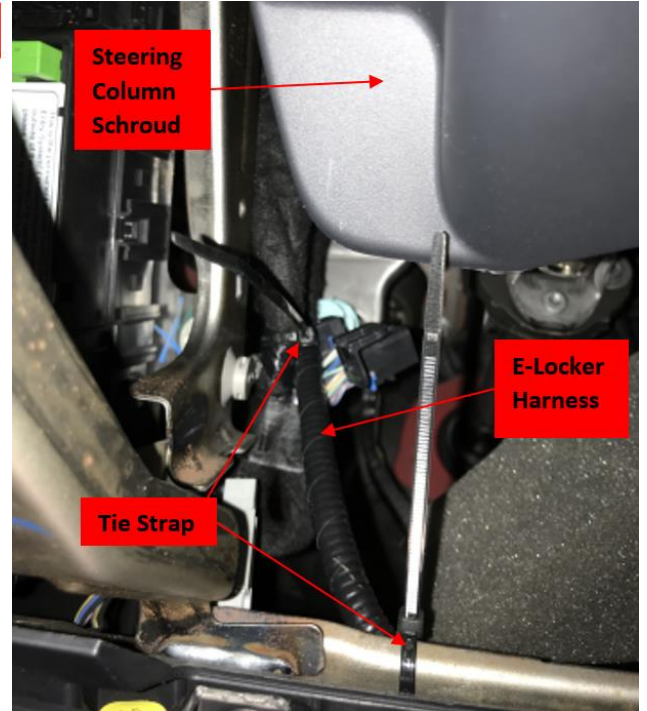
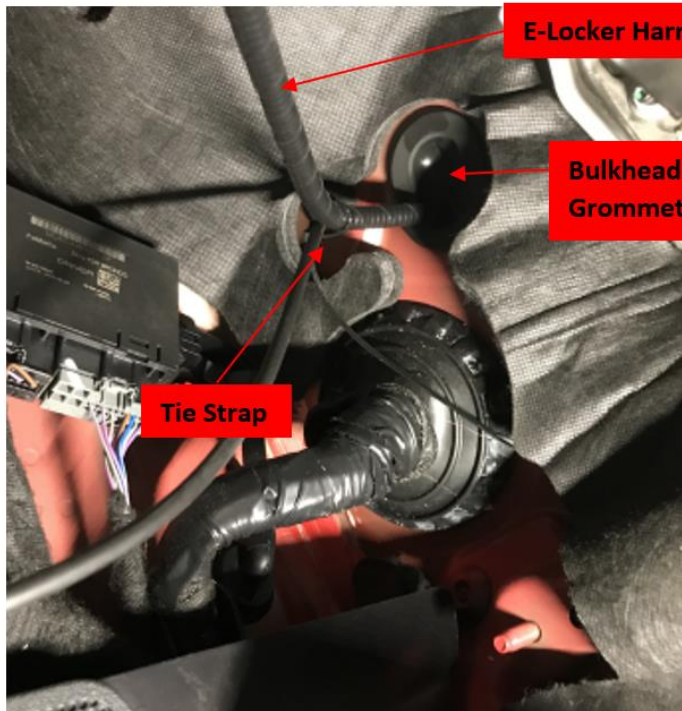
8. Routing the harness from the bulkhead grommet, under the steering column and through the instrument panel to under the center console trim, making sure Item A can reach the mounting location made in the upper center console trim covered in the previous section. See below.



9. Secure harness with tie straps (not supplied) every 300 mm (11.8 in) avoiding any sharp edges or moving parts. ***Pay special attention to avoid the steering column shaft and clearance for the driver foot pedals.*** The following (3) images show harness routing and tie strap locations.

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10. Leave Items A, B & F under the front center console area and continue with exterior harness routing in the next sections.

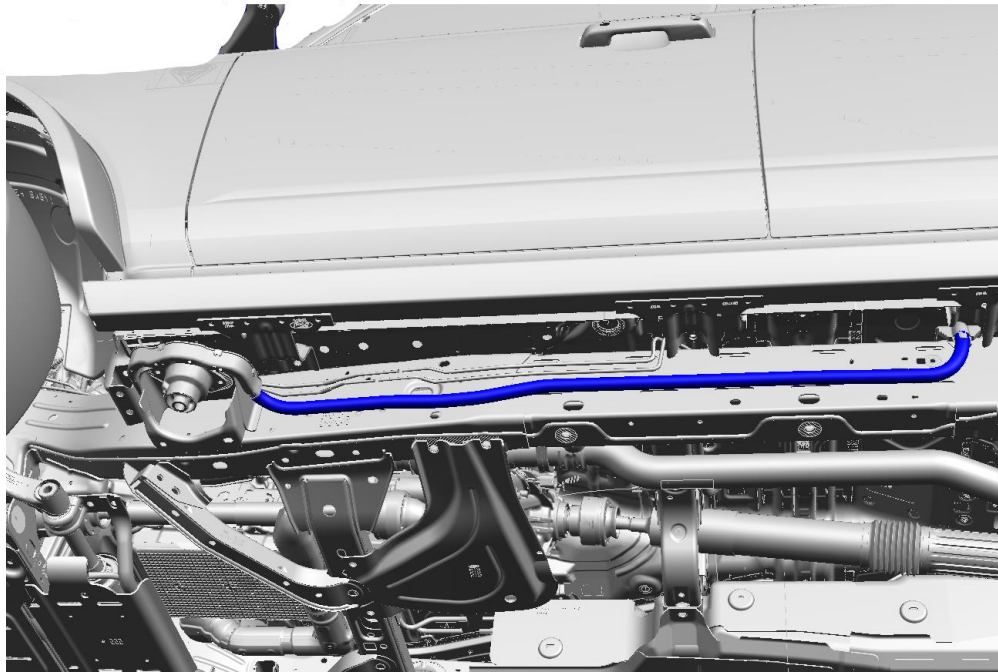
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5.4 – E-Locker Harness Routing - Rear Axle

The following steps will cover routing of the E-Locker Harness from the bulkhead grommet to the rear axle Electronic Locking Differential (ELD) Solenoid.

1. Route the E-Locker harness, Item E, from the bulkhead grommet, along the left front wheel well liner and to the left side frame rail. Using the following images as a guide, route the E-Locker harness lead with Item E to the rear axle.
2. Route the E-Locker harness following the vehicle harness highlighted in **BLUE** in the following images. **Secure harness with tie straps (not supplied) every 300 mm (11.8 in) avoiding any sharp edges or moving parts.**



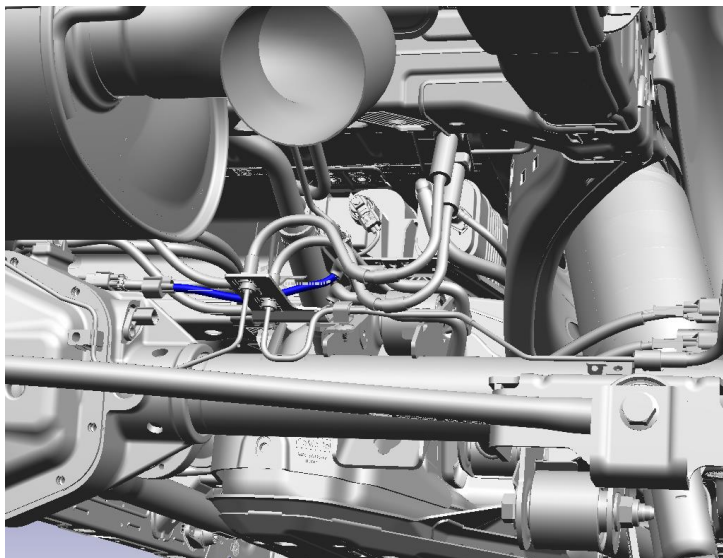
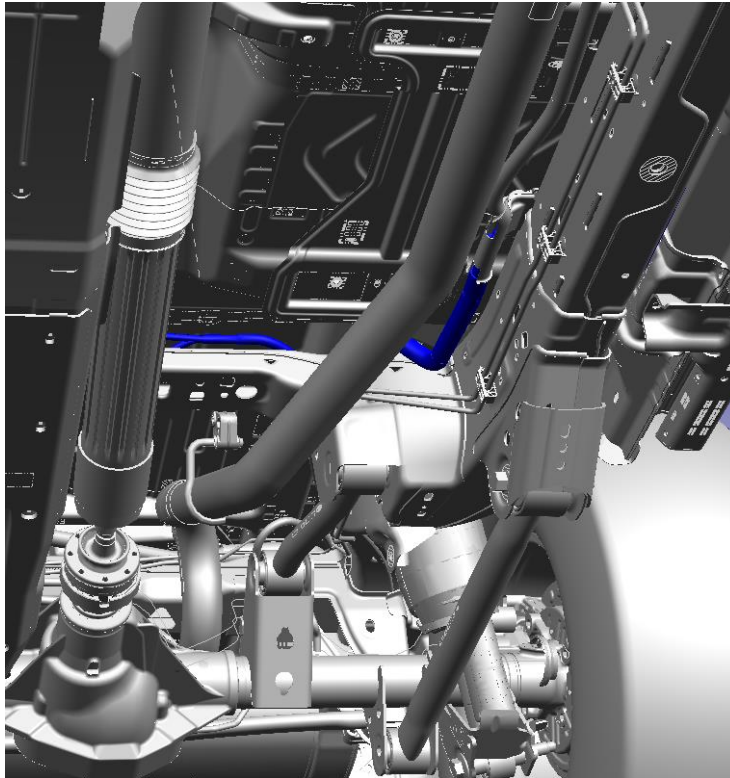


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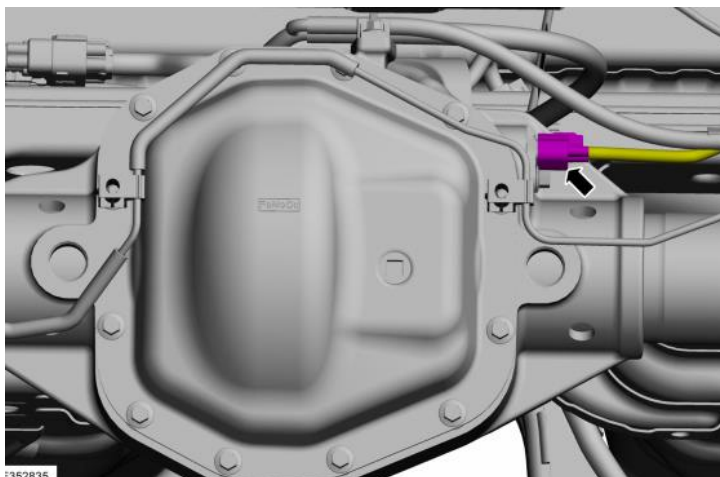
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3. Connect Item E from the E-Locker harness to the rear axle assembly ELD solenoid. Pictured below.

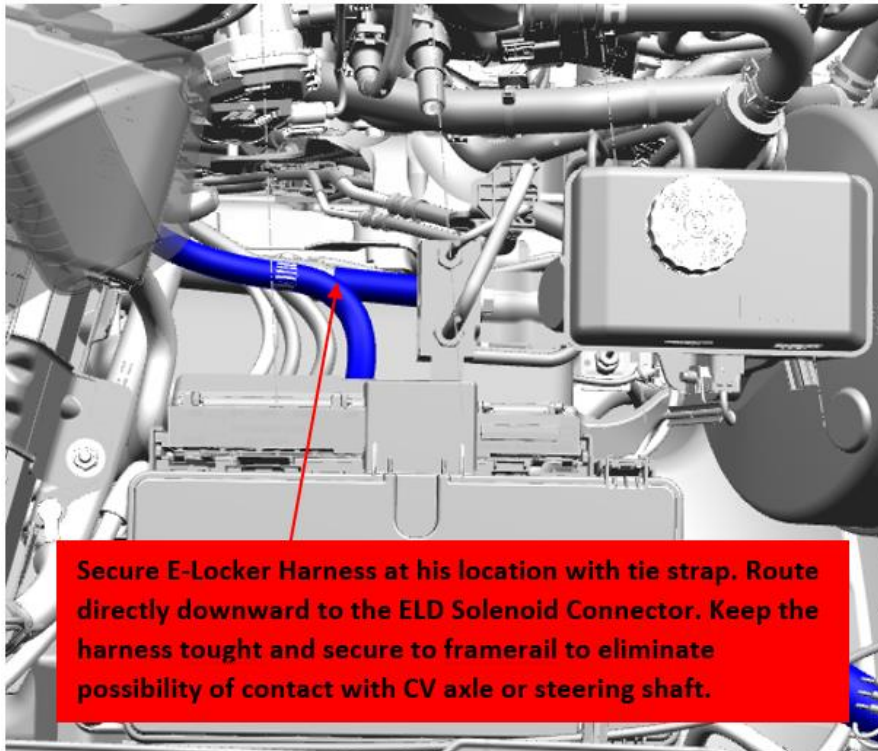


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5.5 – E-Locker Harness Routing - Front Axle

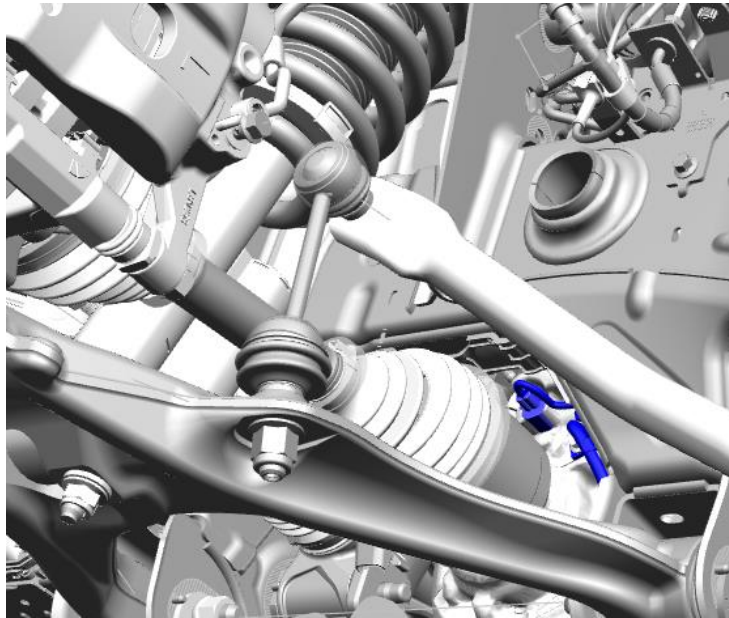
The following steps will cover routing of the E-Locker Harness from the bulkhead grommet to the front axle Electronic Locking Differential (ELD) Solenoid.

1. Route the E-Locker harness, Item E, from the bulkhead grommet, forward toward the front of the vehicle. Using the following images as a guide, route the E-Locker harness lead with Item E to the front axle.
2. Route the E-Locker harness following the vehicle harness highlighted in **BLUE** in the following images. ***Secure harness with tie straps (not supplied) every 300 mm (11.8 in) avoiding any sharp edges or moving parts. Pay special attention to avoid any possible contact with the left front CV axle and steering shaft assemblies.***



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3. Connect Item E from the E-Locker harness to the front axle assembly ELD solenoid. Pictured below.

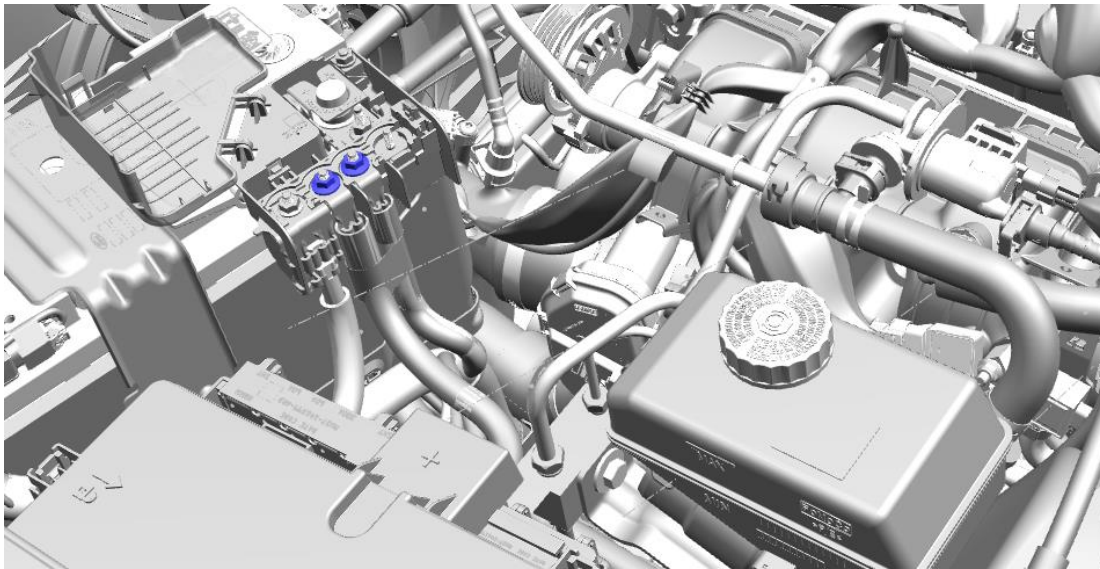


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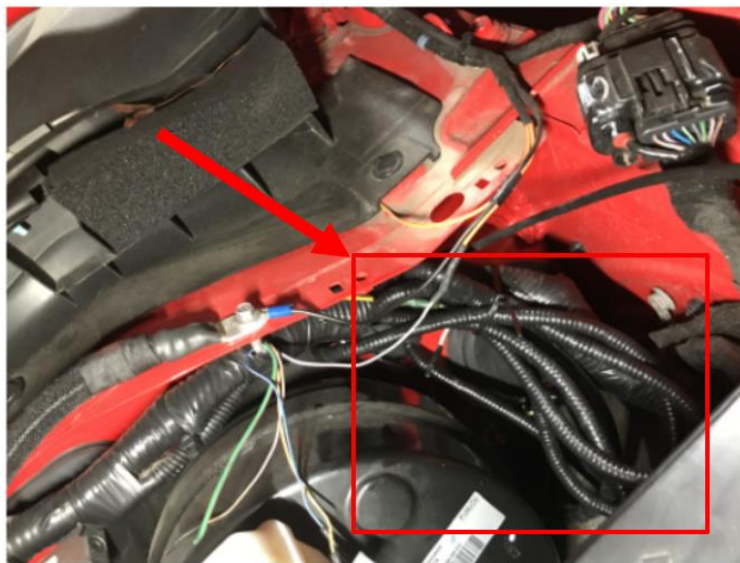
5.6 – E-Locker Harness Power & Ground Connection

The following steps will cover the final connections of the E-Locker Harness to power and ground.

1. Starting in the engine compartment, connect Item D (Battery (+) Eyelet) to the battery positive connection shown below in **BLUE**.



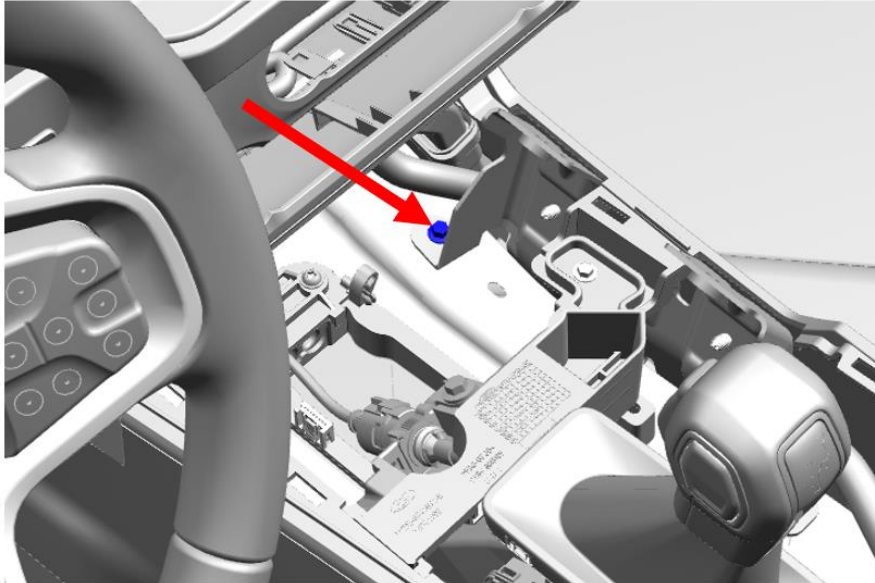
2. The E-Locker harness is universal length to be used for both front/rear axles and short/long wheelbases. Secure and store unused harness length in the area pictured below. All connections and harness routing is now complete in the engine compartment.



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3. Moving back to the passenger compartment, connect Item F (Ground Eyelet) to the location shown in **BLUE** below.



4. Complete the installation of the E-Locker harness with securing Item B (Relay) to the main harness length with a tie strap. Connect Item A (Switch) to its associated connector on the harness. Reassemble the interior trim by following the instructions in Section 5.1 in reverse order.
5. Road test the vehicle and check for proper operation of the E-locking Axle.