

PARTS BULLETIN

Subject: ELOCKER FRONT AND REAR KIT

Models Affected: ALL MODEL YEAR 1999-2002 H1 VEHICLES

BACKGROUND

A Front and Rear ELocker Kit PN 5745798 for model year 1999 through 2002 is available through the DCS. The kit contains both ELocker axles, a control module, switches, warning/indicator light assembly, a fan shroud dimple, all the necessary wiring, hardware and installation instructions.

INSTALLATION TIME

The recommended installation time for the Front and Rear ELocker Kit is 11.8 hours and is paid by the customer.

WARRANTY

The Front and Rear ELocker Kit is covered under the provisions of the warranty policy. For purposes of ensuring that the subject HUMMER Approved Accessory is covered by the appropriate warranty, use the DCS and the following labor operation code to register the sale of this item. An administrative allowance of 0.1 hour will be paid for registering the sale. Labor operation 041303.

INSTALLATION INSTRUCTIONS FOR E LOCKER KIT PN 5745798 FOR 1999-2002 MODEL YEAR VEHICLES

The following items are contained in kit PN 5745798:

ITEM	DESCRIPTION	PART NUMBER	QTY
1.	Installation Instructions	5745799	1
2.	Axle Assembly	6013891	2
3.	Main Harness	5745800	1
4.	Jumper Harness	6013921	2
5.	Rear Switch	6016512	1
6.	Front Switch	6016511	1
7.	Bezel Outer	5939042	2
8.	Bezel Center	5939043	1
9.	Warning Light Assembly	5745834	1
10.	Control Module	6018650	1
11.	Control Module Bracket	6014497	1
12.	Fan Shroud Dimple	S.I.K.	1
13.	30 Amp Mini Fuse	5939408	1
14.	5 Amp Mini Fuse	5939402	1
15.	Rivet	S.I.K.	6
16.	Illumination Circuit Terminal	S.I.K.	1
17.	Range Switch Input Terminal	S.I.K.	1
18.	Heat Shrink with sealer	S.I.K.	1
19.	Tie wrap, 6 Inch	S.I.K.	20
20.	Inclined Lock Washer	6008029	48
21.	Hook And Loop, 3 inch	S.I.K.	1
22.	ELocker Fluid, 32 oz.	5745569	4

PROCEDURE

Note: Follow all wire routing instructions carefully to ensure that wires do not come in contact with sharp objects, high heat sources or moving components.

1. Disconnect the batteries.
2. Remove the center console.
3. Remove the left side crash pad.
4. Remove the left side lower closeout panel.

5. Remove the wiring harness close-out plate.
6. Remove the tachometer/clock module on 1999 and 2000 model year vehicles or the CTIS module on 2001 and 2002 model year vehicles, to gain access to the right side instrument panel bolt. Remove the bolt.
7. Remove the two bolts securing the instrument panel to the steering column assembly.
8. Remove the two bolts on the left side of the instrument panel.
9. Disconnect the left demister hose and remove the instrument panel.
10. Remove the digital ratio adapter from the engine cover and install the ELocker control module bracket in it's place using the double sided tape on the bracket (See Figure 1).
11. Slide the ELocker control module into the bracket.

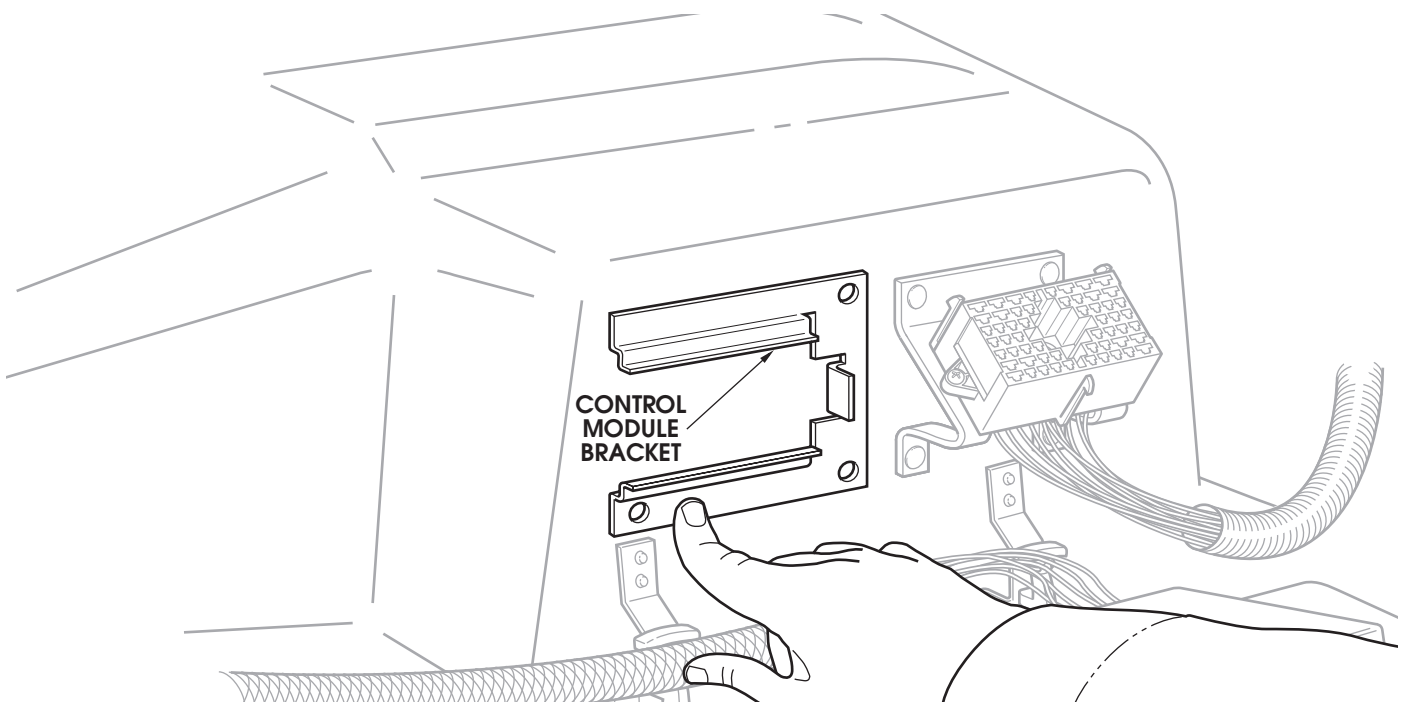


Figure 1: ELocker ELocker control module bracket mounted on the engine cover.

12. Using the supplied hook and loop, mount the digital ratio adapter to the left of the control module on the engine cover (See Figure 2).

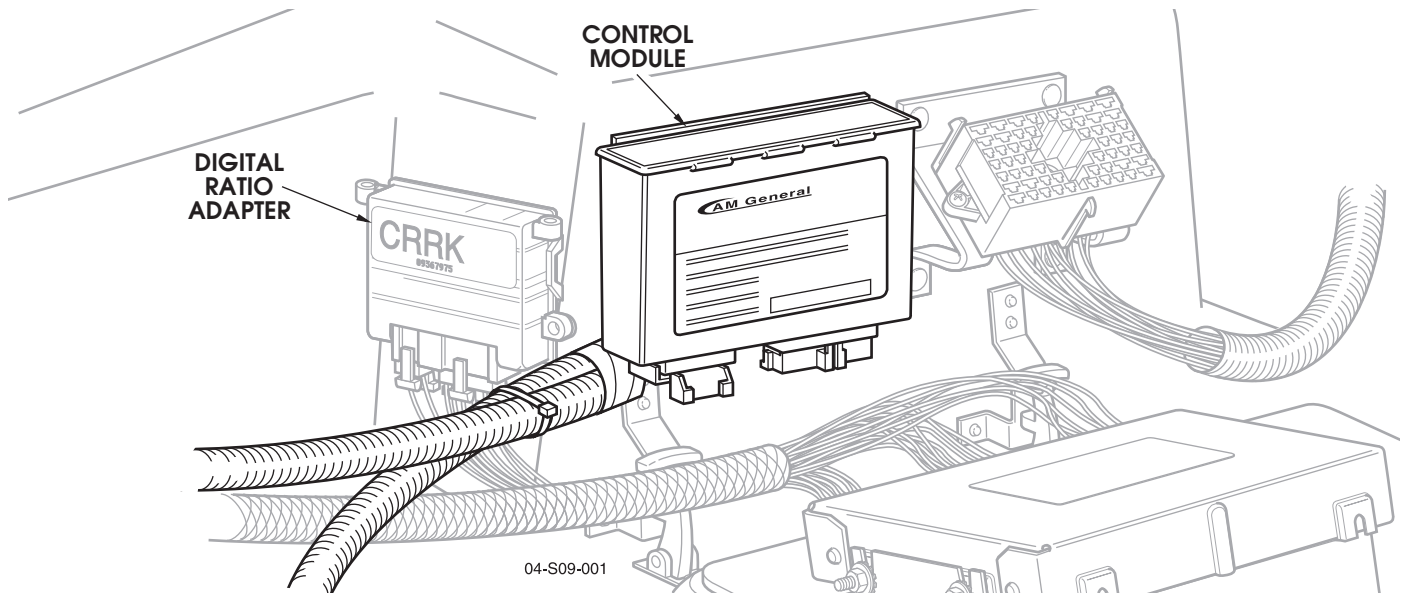


Figure 2: Control module and digital ratio adapter placement.

13. For 1999, 2001 and 2002 model year vehicles, locate the main harness end with the connectors for the control module and the single yellow wire with a bare terminal. Also locate the speedometer reference cavity 10 of the 9 pin connector on the digital ratio adapter and insert the yellow wire (See Figure 3).

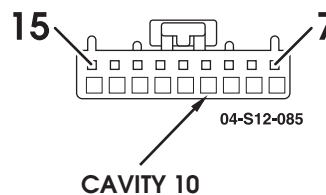


Figure 3: Digital ratio adapter 9 pin connector.

14. For model year 2000 vehicles, locate the main harness end with the connectors for the control module and the single yellow wire with a bare terminal. Also locate the yellow speedometer reference wire at terminal 10 of the 9 pin connector on the digital ratio adapter (See Figure 3). Cut the terminal off the single yellow wire of the main harness and cut the speedometer reference wire about 2 inches from the digital ratio adapter connector. Splice by soldering all three wire ends and seal with the supplied heat shrink tubing.
15. Remove the 56 way console connector from the mount bracket on the engine cover and remove the lock tab. Locate the purple wire in the F3 position which is an illumination circuit wire that must be removed to add the unterminated purple wire from the main harness (See Figure 4). Cut the terminal off the F3 wire and use the supplied terminal to splice the F3 wire and the unterminated wire of the main harness together. Insert the pair in the F3 position, install the lock tab and install the 56 way connector in the bracket.

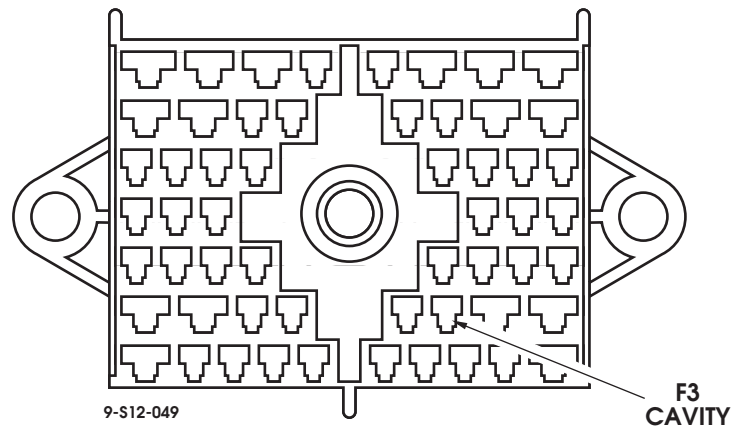


Figure 4: F3 Illumination circuit location in the 56 way connector (looking into the vehicle side).

16. Make the connections at the control module and route the harness toward the instrument panel area along the cross-body harness (See Figure 5).

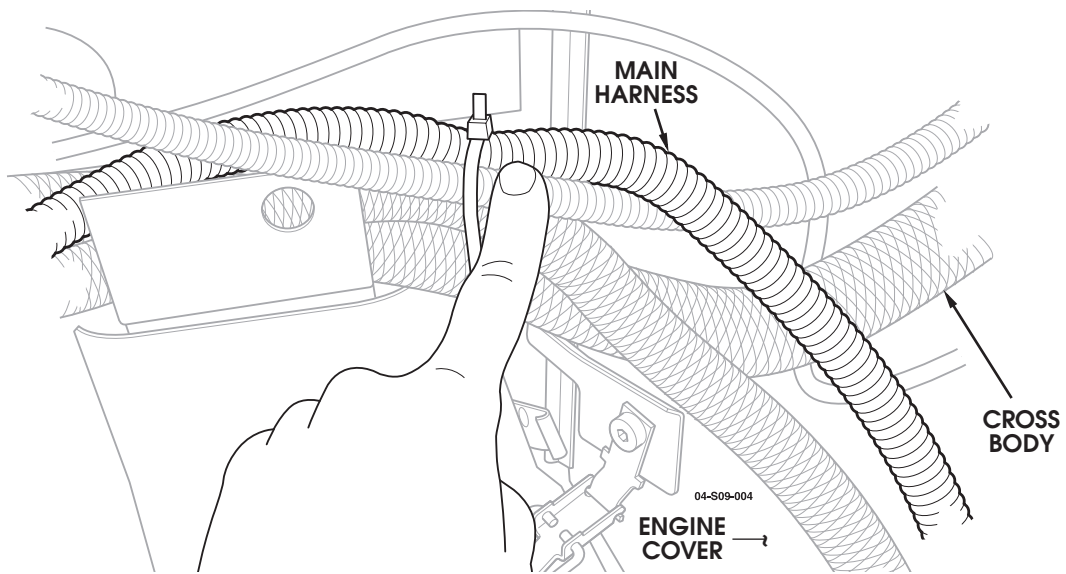


Figure 5: Main harness routing toward instrument panel area.

Caution: The switch/light assembly requires a very close fitting opening in the console for the friction locks to hold the assembly in place. CUT SMALL AND FILE TO FIT.

17. The switch and light assembly will be installed in the left side of the center console (See Figure 6). Remove the drink holder tray and lay a straight edge across the surface forward of the ash trays. On the left side of the console, measure down from the straight edge, close to the forward radius, 1 1/2 inches and make a mark. Move the straight edge rearward approximately 3 inches and do the same. A line between these two points will be the top edge of the hole for the switch/light assembly. Continue measuring and marking to produce a rectangle that is 3.056 inches wide and 1.900 inches tall. That is roughly 3 1/16 inch by 1 7/8 inch. Drill the corners with a 1/16 inch drill and use a utility knife to cut the upholstery out of the area before cutting the substrate.

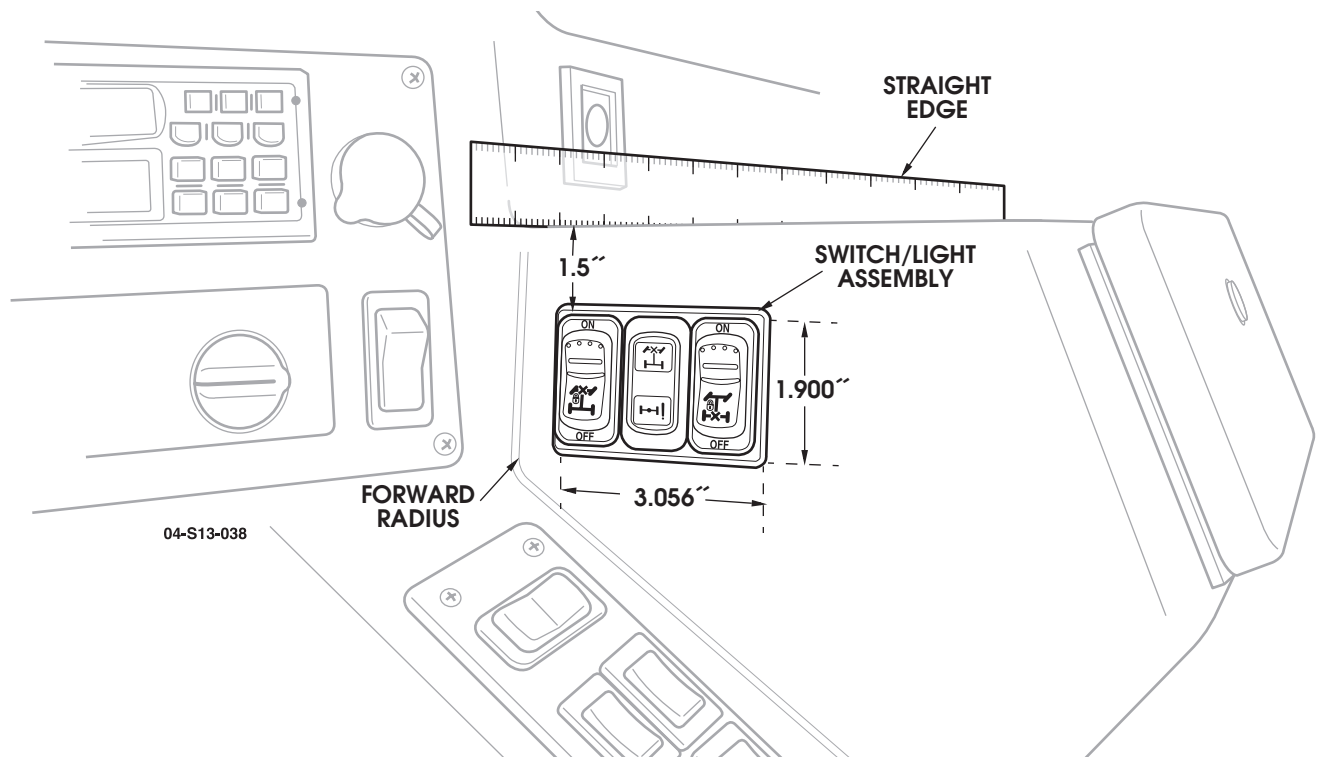


Figure 6: Switch and light assembly mounting.

18. Remove the exterior hood safety lock cable bracket from the a-beam to gain access to the cowl for drilling.
19. Mark and center punch the left side cowl 20 3/4 inches inboard and 2 1/2 inches up from the cowl top for the main harness entry hole (See Figure 7).

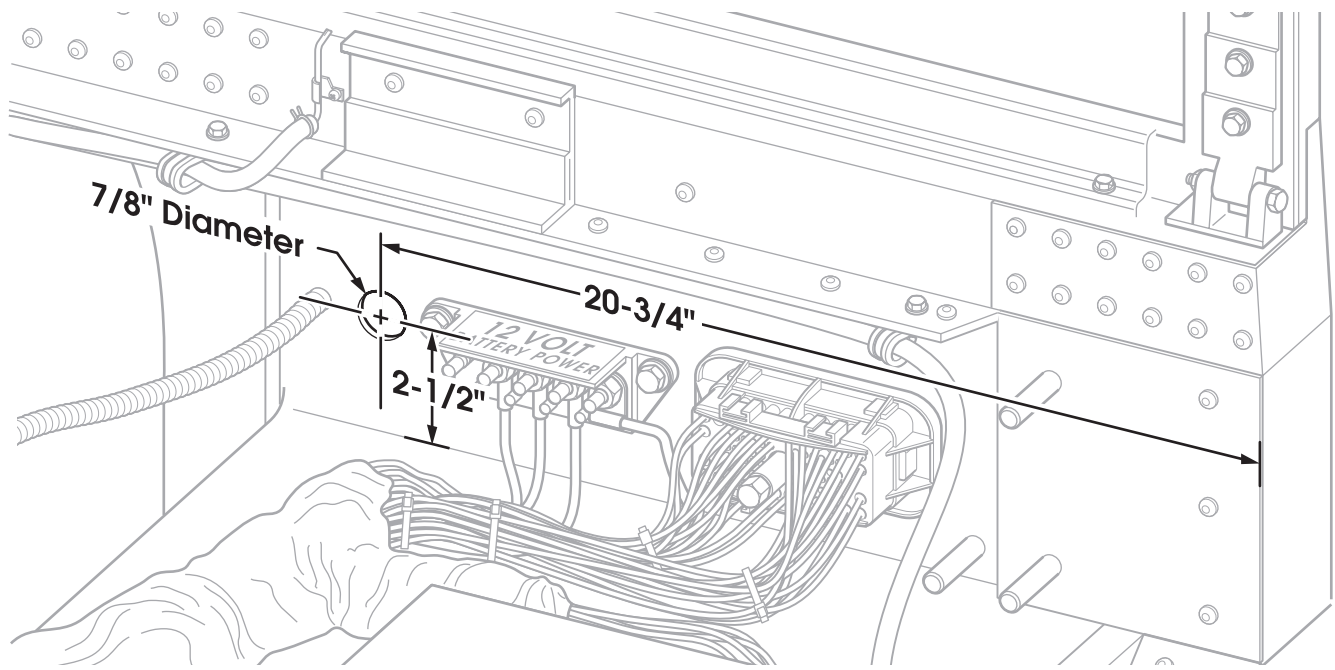


Figure 7: Measuring inboard from the cowl edge.

20. Drill a 7/8 inch hole at the marked location, move the left footwell HVAC duct up and deburr the sharp edges on the inside and outside of the cowl.
21. Work the two axle connectors on the main harness through the hole in the cowl from the inside until the molded grommet is near the hole. Fold the grommet in half and push it through the cowl then install it in the cowl from the engine compartment side (See Figures 8 & 9).

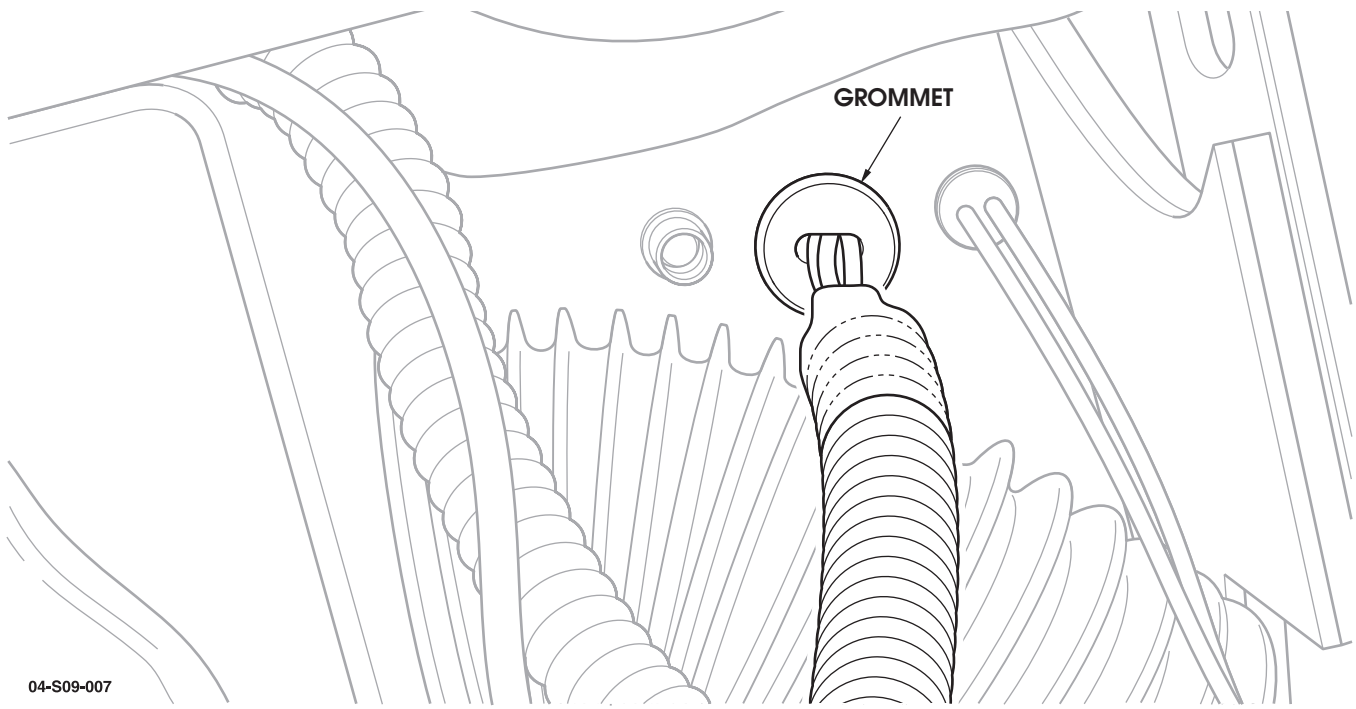


Figure 8: Grommet from the passenger compartment side.

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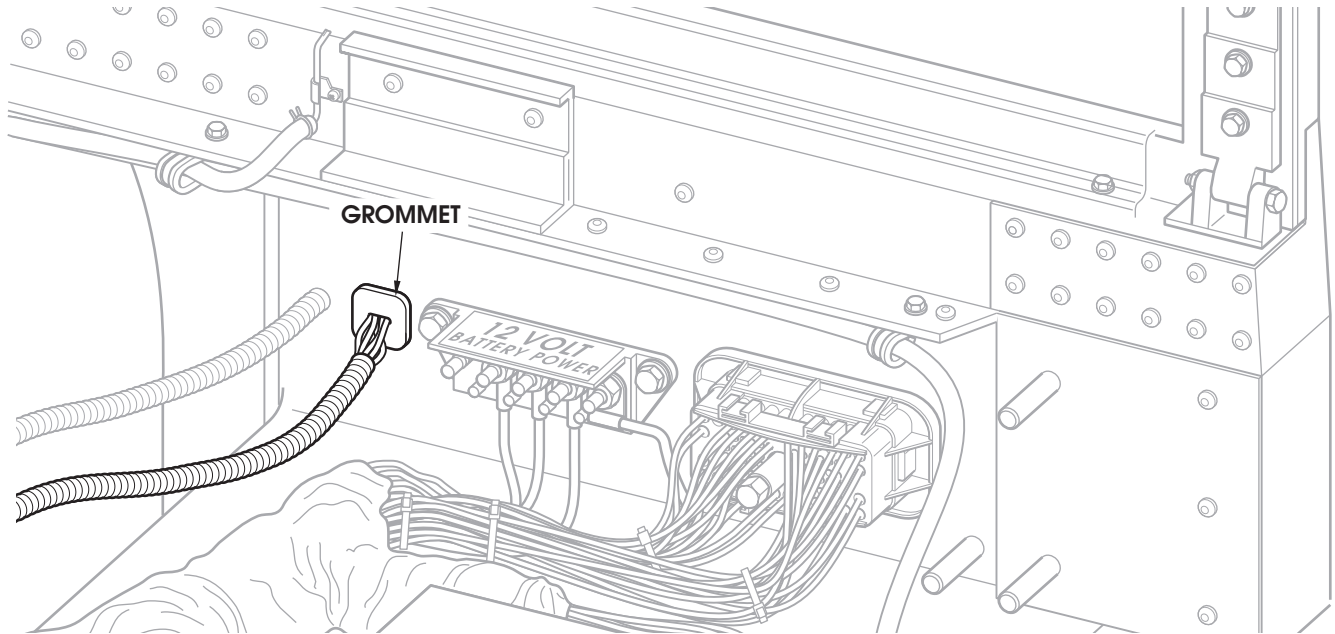


Figure 9: Grommet from the engine side.

22. Route the power and ground leg of the harness under the steering column over to the fuse box and instrument panel ground point area. Secure the harness to the cross-body harness.

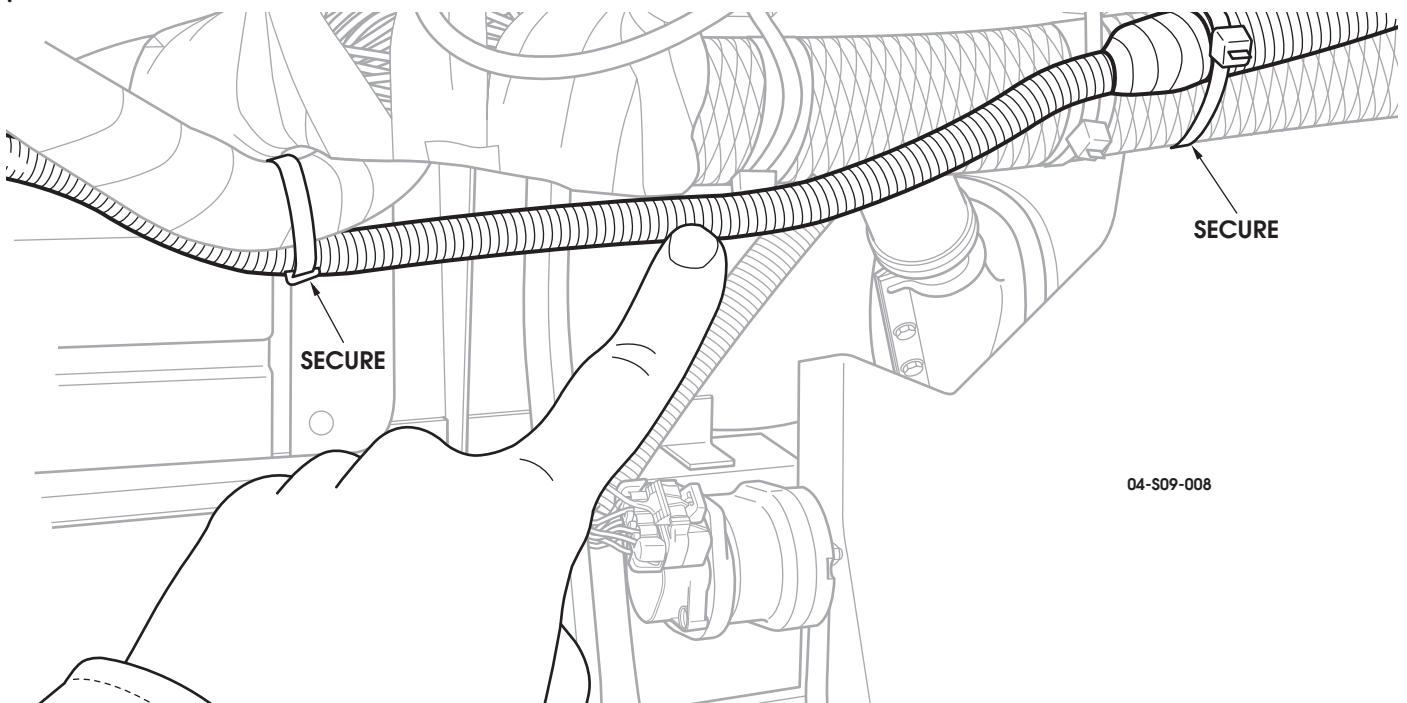


Figure 10: Harness routing under the steering column.

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Note: To release the tabs securing the mini fuse block in the fuse box, insert a small flat blade screwdriver in each of the two recesses at each end of the block and tip the handle toward the block or inboard.

23. Remove the face of the interior fuse box and remove the lower mini fuse block from the box to gain access to the buss on the rear of the block (See Figure 11).
24. Remove the terminal lock tab and insert the red with a yellow tracer wire and terminal in the cavity corresponding with the 6D fuse position (See Figures 12 & 13). Insert the red wire and terminal in the cavity corresponding with the 3B fuse position. Place the supplied 30 amp fuse in the 6D position and the 5 amp fuse in the 3B position. Install the lock tab in the block.
25. Install the mini block, secure the new wires to the existing wires and install the face cover on the fuse box.

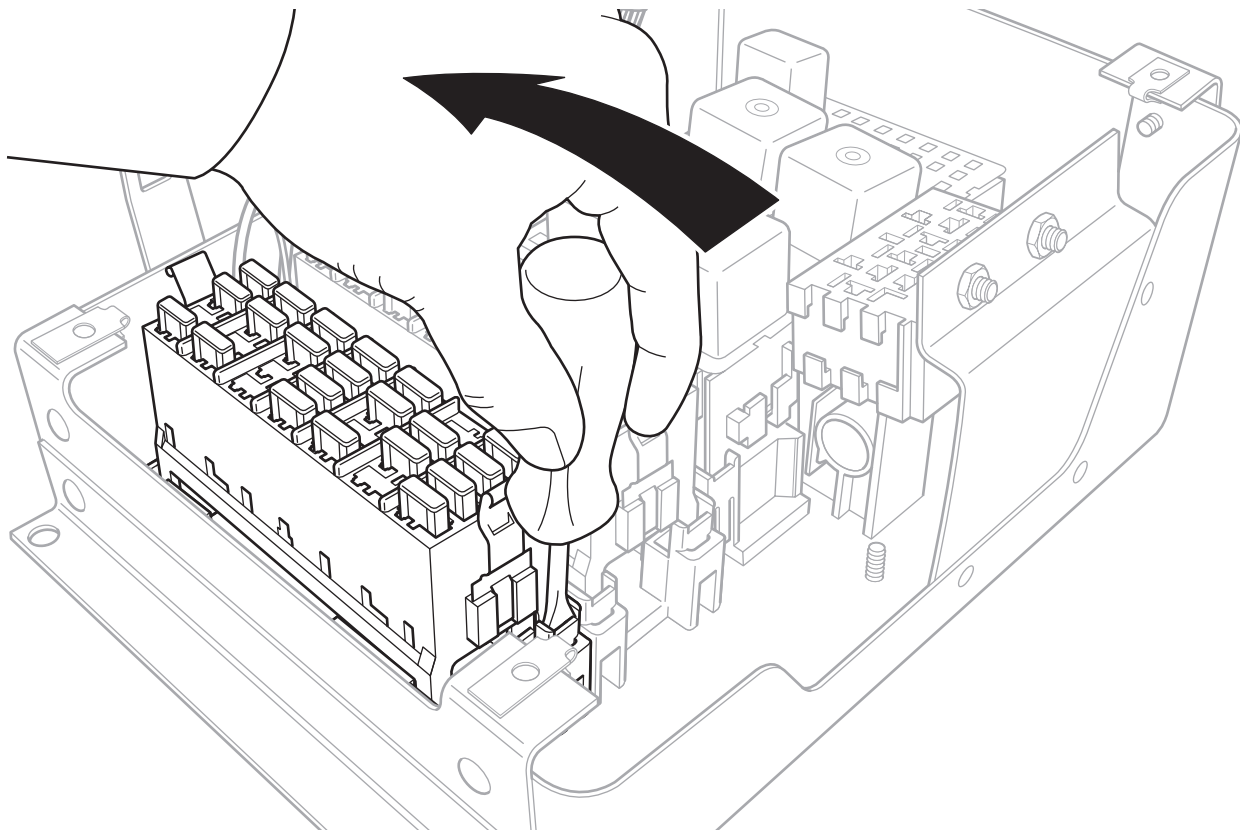


Figure 11: Releasing the lower mini-block tabs.

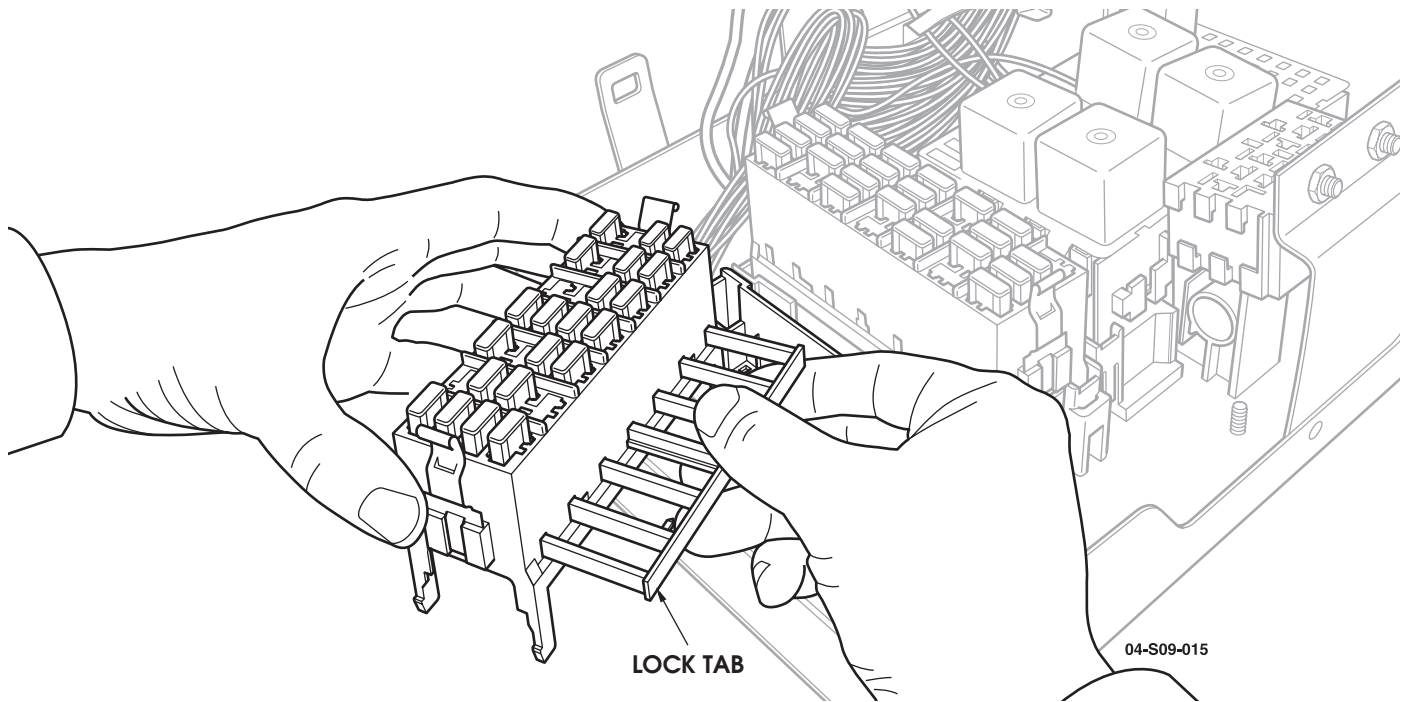


Figure 12: Lock tab removal.

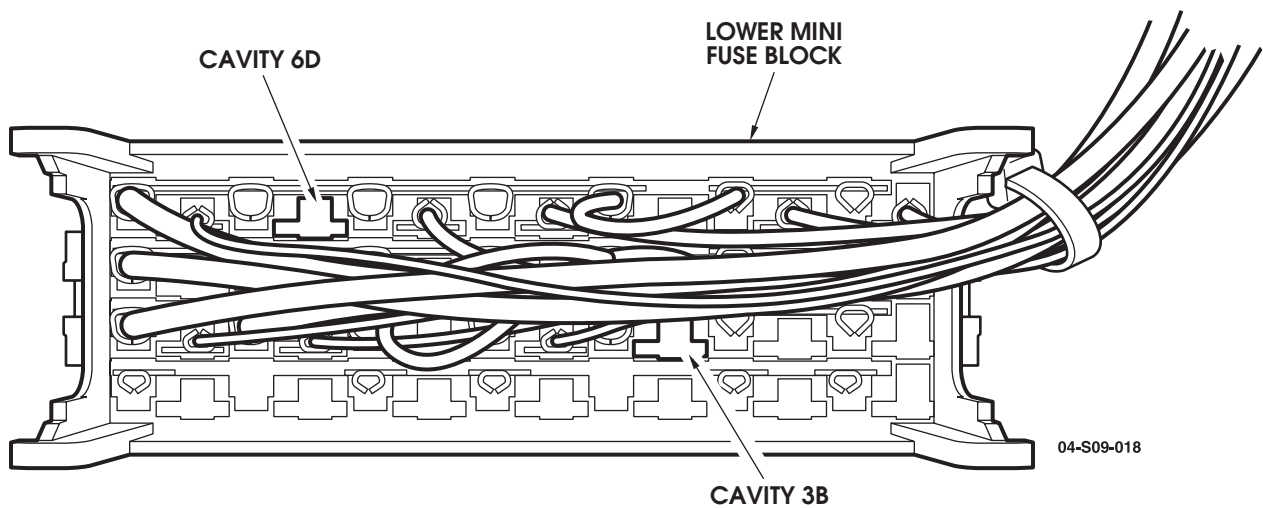


Figure 13: Populating the mini block.

26. Secure the ground eyelets to the instrument panel ground point and secure the wires to the existing ground wires.
27. Route the unterminated dark blue lead from the grommet (engine compartment side) along the cowl top harness to the black 10-way transmission harness connector near the fuel lift pump. Locate the dark

blue wire in the K position of the 10-way connector (See Figure 14). Splice, by soldering the dark blue main harness lead to the K position wire and seal the splice with the supplied heat shrink tubing.

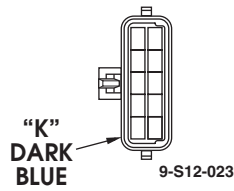


Figure 14: Black 10-way transmission connector (looking into cross-body side).

- 28. Route the long rear axle wire lead from the cowl grommet (engine side) alongside the rear CTIS hose down to the underbody harness behind the left front body mount to the gap between the body and the frame (See Figures 15 & 16).

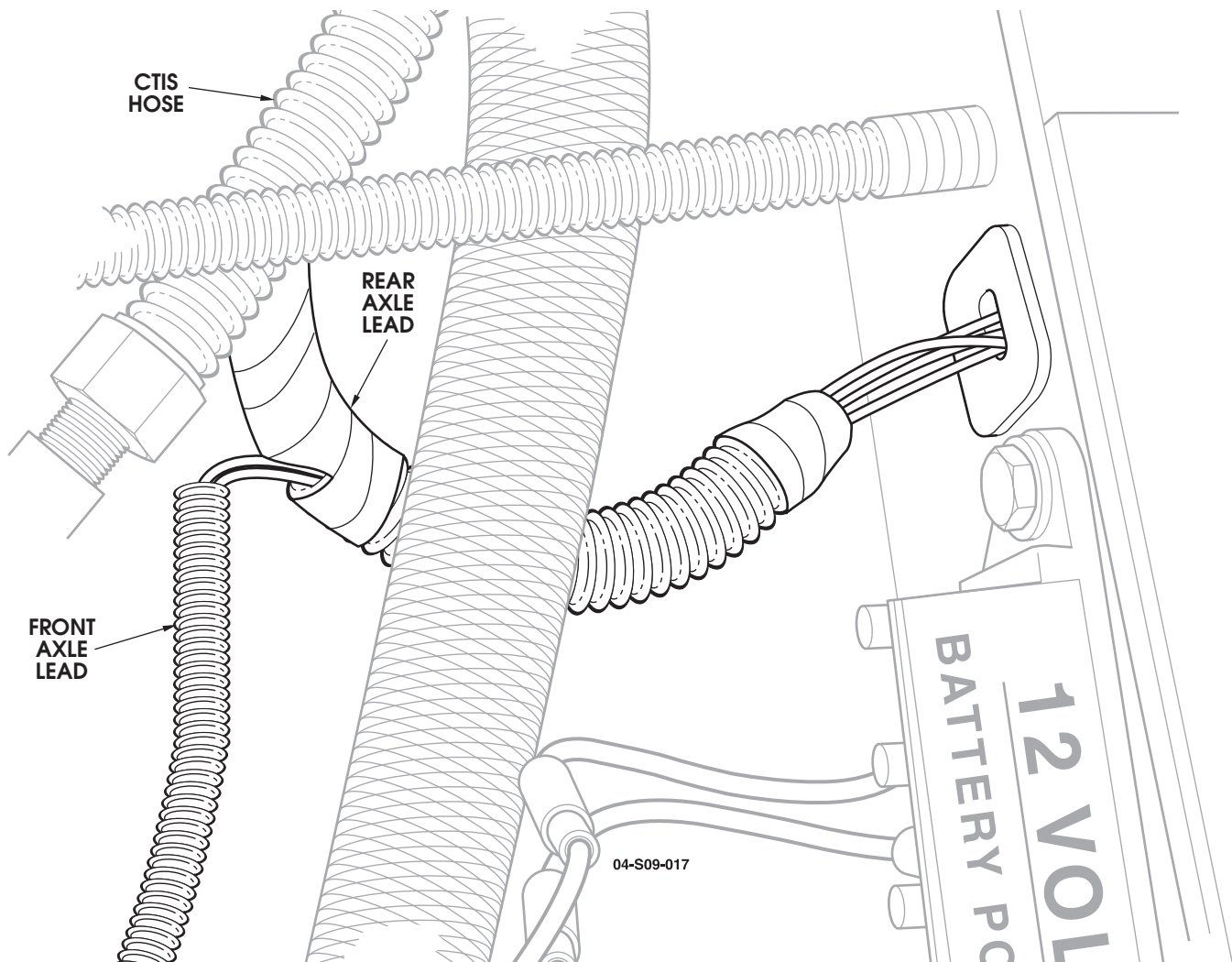


Figure 15: Harness routing from the grommet out.

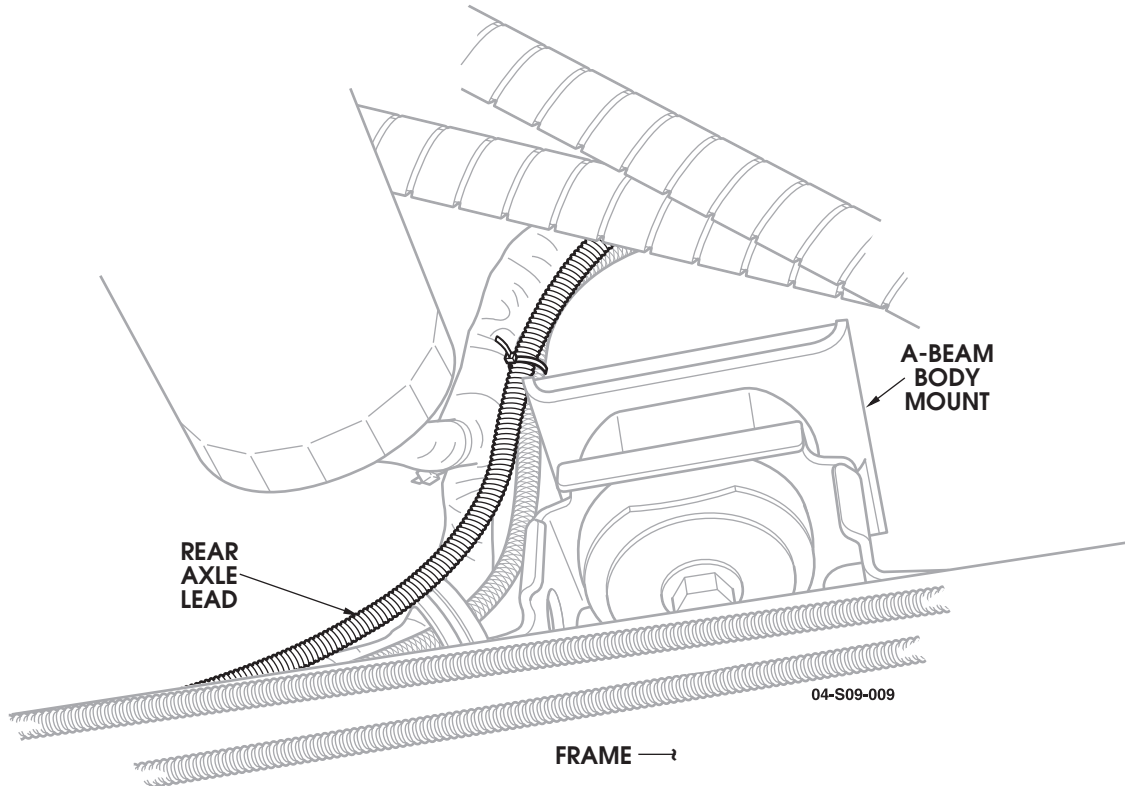


Figure 16: Rear axle lead behind the a-beam body mount.

29. Push the rear lead into the gap between the body and the frame and route to the rear wheel well area.
30. Locate the body flange adjacent to the transmission cross member and drill a 3/16 inch hole in the flange (See Figure 17). Using a tie strap, secure the harness on the upper side of the body flange.
31. Using a tie strap, secure the harness to the body flange in the existing hole at the front of the rear wheel well (See Figure 18).

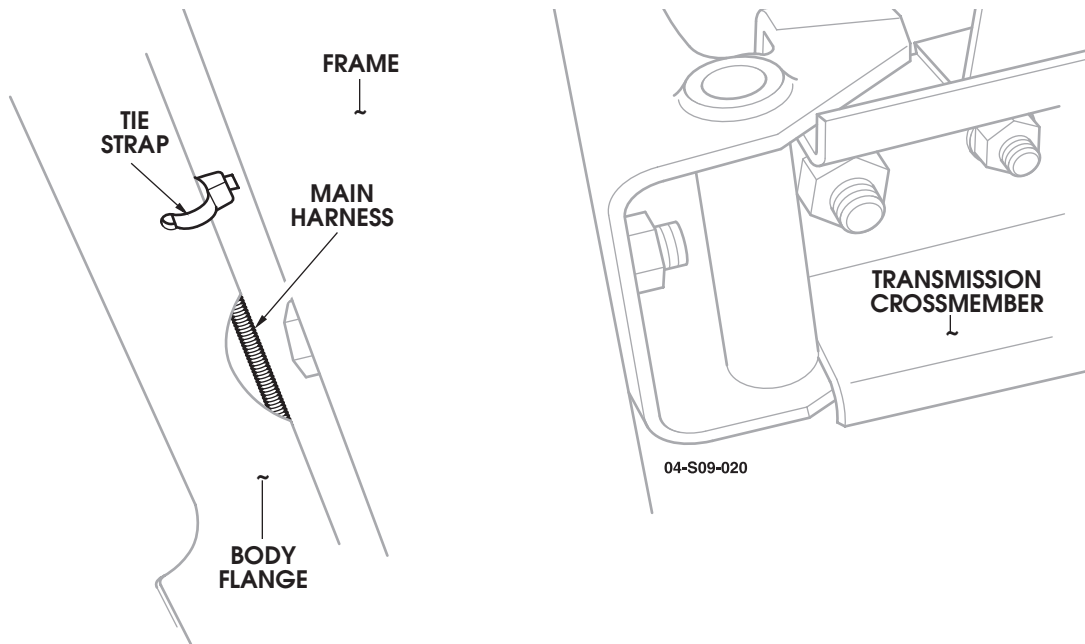


Figure 17: Securing the main harness to the body flange.

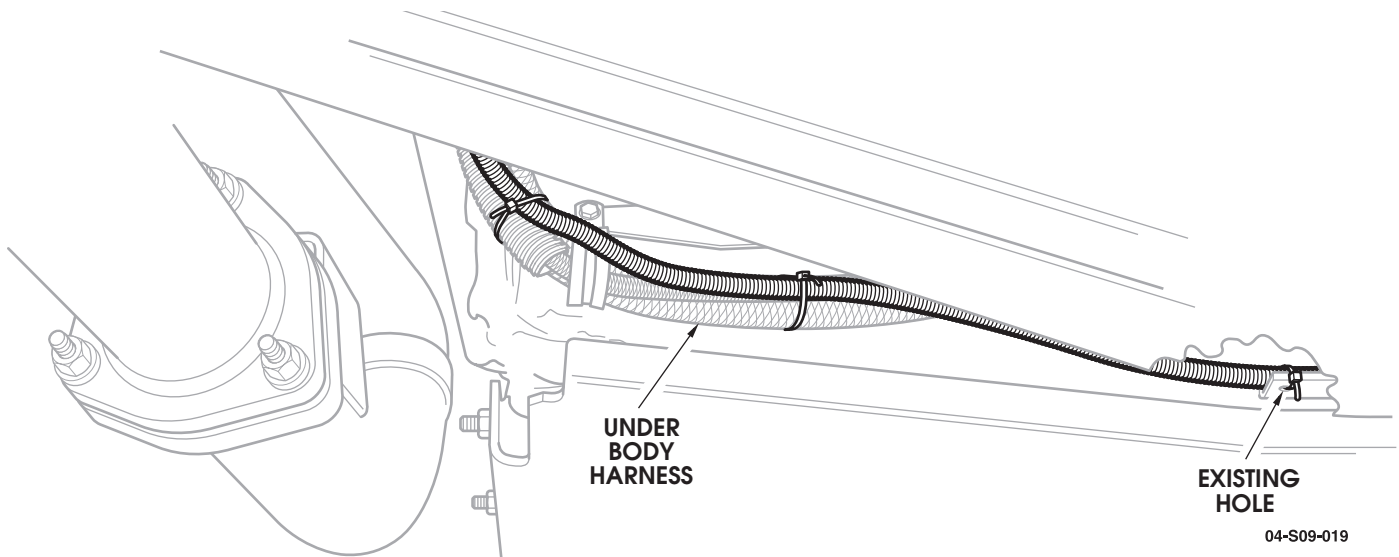


Figure 18: Rear lead secured at the left rear wheel well area.

32. Continue to route the rear lead up the left rear wheel well beside the underbody harness over the c-beam body mount to the upper shock mount area (See Figure 19).

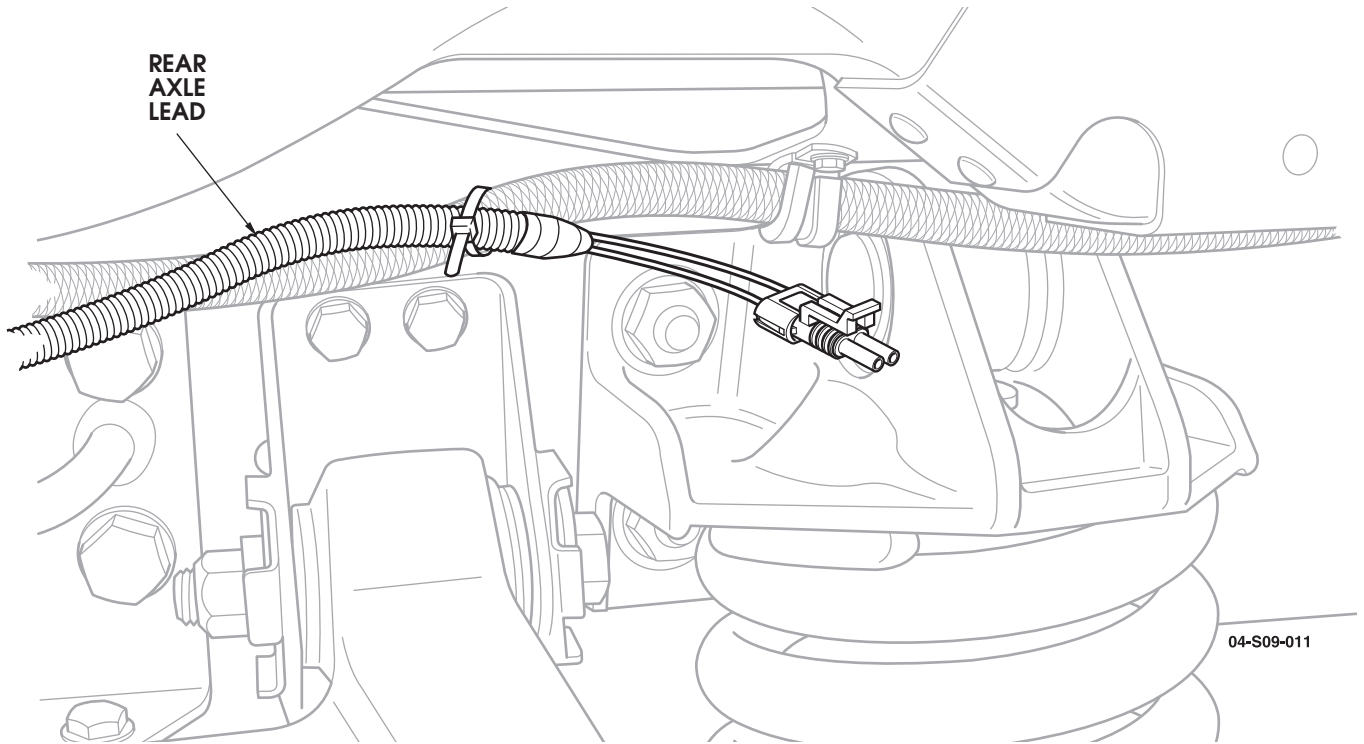


Figure 19: Rear lead ends at the left rear shock mount area.

33. Route the front axle lead next to the cowl top harness under the hydro boost unit and beside the master cylinder to the left splash shield. Continue routing between the splash shield and the airlift bracket to the lower edge of the splash shield near the center of the left A-arm and secure to the CTIS hose at the P clamp (See Figure 20).

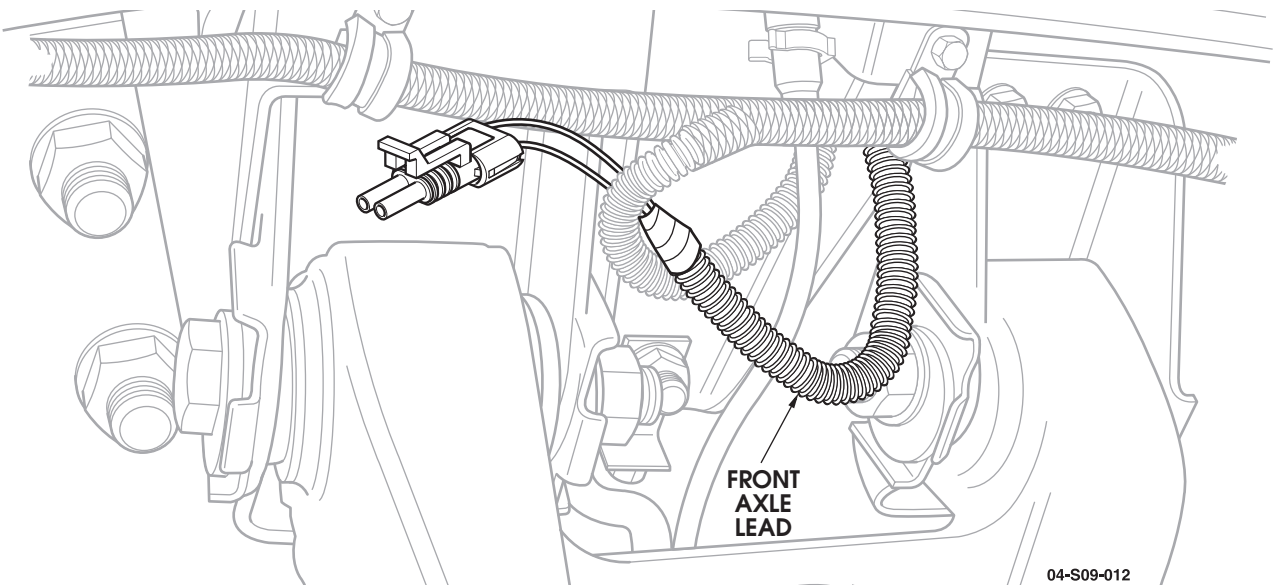


Figure 20: Front axle lead ends at the left front A-arm.

Note: Axle replacement procedure is similar for the front and rear with the exception of the park brake cables on the rear.

34. Disconnect the park brake cables from the rear calipers.
35. Remove the bolts securing the half shafts to the axle output flanges and discard the inclined lock washers.
36. Pull the half shafts down away from the brake rotors.

Note: Care must be taken not to kink or bend the brake lines during the procedure.

37. Disconnect the brake caliper yokes from the adapters and tie the calipers up away from the axle.
38. Remove the brake rotors and the caliper adapters from the axle.
39. Disconnect the propshaft from the pinion yoke.
40. Support the axle and remove the four bolts securing the axle to the side brackets and the two pinion end mount bolts.
41. Lower the axle enough to disconnect the vent line and remove the axle.
42. The engine fan shroud will need a dimple installed to allow clearance for the wire connection on top of the front axle. Measure 9 3/4 inches back from the front, front (# 1) crossmember and 3 5/8 inches over from one of the fore to aft rails that support the side axle mount brackets (See Figure 21). Using the intersection of those two dimensions, mark and cut out a 5 3/4 inch diameter circle from the shroud. Obtain the supplied dimple and drill six evenly spaced 3/16 inch holes around the outer flange. Position the dimple (protrusion up) in the hole in the shroud and use the dimple as a drill fixture to drill the fan shroud. Apply a bead of RTV sealant to the flange and pop rivet the dimple in place with the supplied rivets.

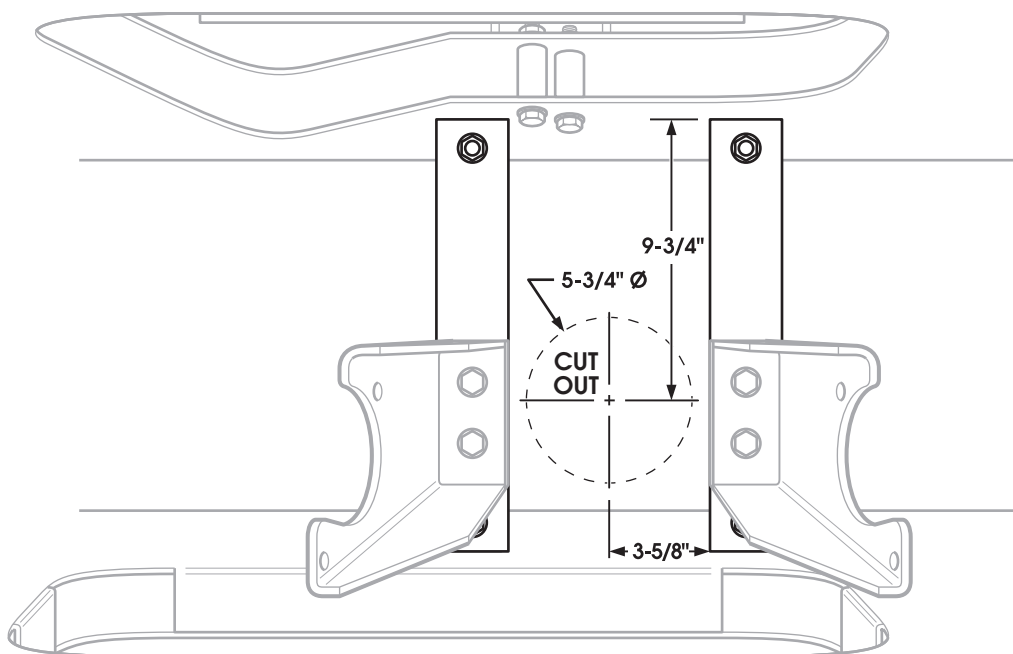


Figure 21: Fan shroud modification.

43. Fill each ELocker axle with 2 quarts of supplied ELocker fluid.
44. Connect a jumper harness and vent line to each ELocker axle and install the axles. Apply high strength thread locker on the mount bracket to housing bolts and torque to 125-150 lb. ft.
45. Install the propshaft on the pinion yoke and torque the 1/4 inch hardware to 13-18 lb. ft or the 5/16 inch hardware to 27 lb. ft.
46. Install the brake rotors and calipers. Apply medium strength thread locker on the caliper yoke bolts and torque to 40 lb. ft.
47. Using the supplied inclined lock washers and high strength thread locker on the original halfshaft bolts, install the halfshafts and torque the bolts to 57 lb. ft.
48. Connect the jumper harnesses to the main harness connection at the left rear upper shock mount and the left front upper A-arm area. Secure the jumper harnesses to the cross members away from the pinion yokes.
49. Reposition the footwell HVAC duct, install the instrument panel and the left closeout panel.
50. Connect the switch and light module connectors and install the center console.
51. Test the operation of the system.
52. The last page of this instruction set is an Owner/Operator guide which must be removed and provided to the owner of the vehicle to keep in the owners manual for reference.

SYSTEM FUNCTIONALITY

- At key up, the warning and front locker indicator lights will illuminate momentarily.
- The transfer case must be in low range for locker activation.
- The rear switch when pressed, will flash the green bar on the switch until the activation criteria are met at which time the bar will illuminate solid.
- The front locker requires rear activation to operate. After the rear is activated, the front switch when pressed, will flash the green bar on the switch until the activation criteria are met at which time the bar will illuminate solid.
- The front locker has a timed activation period of three minutes before automatic deactivation occurs. After two and one half minutes the front indicator light will start flashing to alert of the impending deactivation. If the front switch is not reset during the thirty second flashing period, the front locker will deactivate.
- The front locker will deactivate if the vehicle is driven above fifteen miles per hour.
- The front and rear lockers will deactivate if the transfer case is shifted to high range or the ignition is switched off.

DIAGNOSTICS

For a circuit diagram (See Figure 23).

Fault Codes

Codes are retrieved using flash technology. When activated, the front locker indicator light (See Figure 22) on the coolant/fuel module will flash a series of pulses. These pulses are used to determine which code is present in the ELocker module memory.



Figure 22: Front Locker Indicator Light

Two types of codes can be retrieved from the ELocker module.

Configuration code

Configuration codes are two-digit blink codes that indicate the number of coils and hall effect sensors present in the system and where these devices are located. These codes can be retrieved by pressing the “ON” side of the operator switch, and holding for 10 seconds. Vehicles equipped with a rear ELocker only will have configuration code 3-1, if both front and rear are present the code will be 4-1. The configuration code will be followed by the software version.

Fault Codes

Fault codes are also two-digit blink codes that indicate a problem that the ELocker module has detected. These codes can be retrieved by pressing the “OFF” side of the operator switch, and holding for 10 seconds. Codes are listed below.

Erasing Fault Codes

Erasing fault codes is accomplished by performing the configuration code retrieval procedure.

ELocker™ Fault Codes

Front	Rear	General	Time to Log	Description
1-1	2-1		300 mSec	Coil shorted to ground or short to voltage
1-2	2-2		60 Sec	Coil open or short to ground
1-3	2-3		60 Sec	Operator switch stuck “ON”
1-4	2-4		60 Sec	Operator switch stuck “OFF”
		3-1	60 Sec	Transfer case range switch shorted to ground
		3-2	60 Sec	Battery not connected
		3-3	60 Sec	Low battery voltage
		4-4	60 Sec	No trouble found

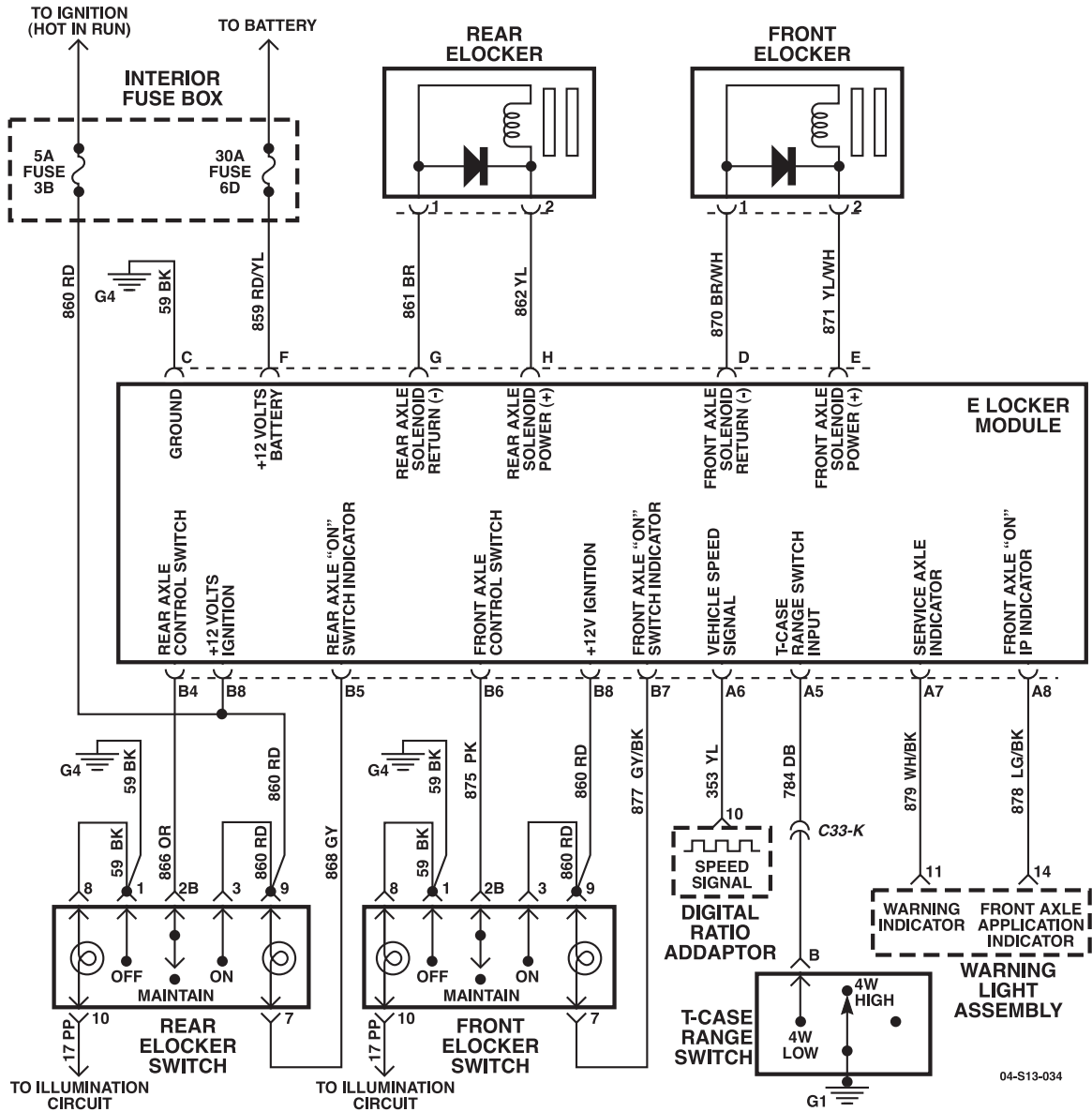


Figure 23: ELocker circuit.

E LOCKER™ OPERATOR GUIDE

Remove this page and insert in the Owners Manual.

Your HUMMER H1 is equipped with an ELocker system to lock the front and rear axles in off-road driving situations such as mud, snow, sand, steep hills and uneven terrain, wherever extra traction is necessary.

Warning: DO NOT engage the ELocker while driving on-road.

Reason: When the front ELocker is engaged, the turning ability of the vehicle is diminished on dry surfaces, which could cause loss of control and/or strain on drivetrain components.

Note: The rear ELocker can be used without the front ELocker. The front ELocker, however, can only be activated after the rear ELocker is already engaged.

To activate the rear ELocker:

1. The ignition switch must be in the "RUN" position, the vehicle speed must be less than 3 mph (4.8 km/h), and the transfer case must be "L" (Low) range. Refer to your Owners Manual for information on how to shift your transfer case into low range.
2. Press the upper portion of the rear ELocker switch. The light in the switch will start to flash for as long as 15 seconds until the conditions in step one are met. The light will stop flashing but remain illuminated when the rear axle locks.

Note: If all of the conditions are not met within the 15 second window, the light in the switch will stop flashing and the upper portion of the ELocker switch will have to be pressed again to reinitiate the request to lock the axle.

To activate the front ELocker:

1. The ignition switch must be in the "RUN" position, the vehicle speed must be less than 3 mph (4.8 km/h), and the transfer case must be "L" (Low) range.
2. With the rear ELocker already engaged, press the upper portion of the front ELocker switch. The light in the switch will start to flash for as long as 15 seconds until the conditions in step one are met. If the conditions are met, the front switch will stop flashing but remain illuminated. Both switches will be continuously illuminated when the axles are locked.

To deactivate the front or rear ELocker:

- press the lower portion of the front or rear ELocker switch, or
- move the transfer case out of "L" (Low) range, or
- turn the ignition switch to the "OFF" position.

Note: The front ELocker will disengage after 3 minutes. At 2 1/2 minutes, the indicator lamp in the switch/light assembly will flash. The front ELocker will disengage if the vehicle speed goes above 15 mph (24.1 km/h).

Note: The warning light is used to indicate a fault in the system that requires attention by an authorized HUMMER dealer.

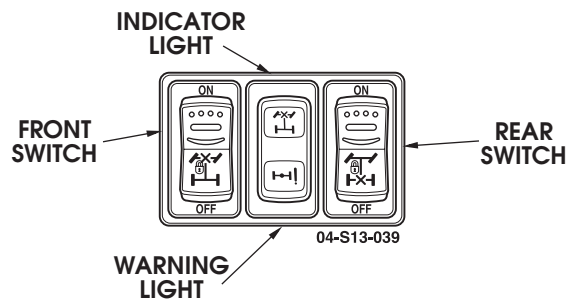


Figure 1: Switch/light assembly.