



AI 8716001K003

ASSEMBLY INSTRUCTION

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ATTENTION:

Service Managers / Parts Managers.

TO OBTAIN PARTS:

To obtain the appropriate service kit, log in to the Solutions and Warranty portal at autocar.service-now.com/CSM and select Request Recall / Service Program Parts and submit the request to the warranty team.

Required Parts:

S8716001K003 Service kit

- (1) A8700623-001 Battery box decal
- (1) A8710102-001 Metripack 280 fuse holder bracket
- (1) A8710105-005 Harness
 - (50mm) 22212 Heat shrink
 - (1) 324443 Splice
 - (2) 0460-204-08141 Pin
 - (6) 0460-204-12141 Pin
 - (1) HD30-24BT-BK Boot
- (1) S8710001K001 Hardware kit
 - (4) 978435 Cable tie
 - (2) 980464 Cable tie
 - (1) FE410131AW12 Screw .3125-18X1.000
 - (7) GE410419CS10 Screw .1900-32X0.75
 - (7) GE811619RS01 Washer
 - (1) GZ220006-001 Dual clamp ties
 - (1) GZ220090-001 Cable tie tree mount
 - (1) GZ220097-001 Cable mount



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SAFETY NOTICES:



WARNING

Allow the vehicle's engine and cooling system to cool to ambient temperature before performing the repair procedure. A hot engine or cooling assembly may cause burns or other personal injury.



WARNING

Never rely on the hydraulic pressure to hold the cab in an open position. Always use the safety pin in the cab tilt lock tube to prevent serious personal injury or death.



WARNING

To prevent eye injury, always wear eye protection when performing vehicle maintenance, service or inspection.



WARNING

Before working on a vehicle, set the parking brake, place the transmission in neutral and block the wheels. Failure to do so can result in unexpected vehicle movement and can cause serious personal injury or death.



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Working on CNG/LNG Trucks

SAFETY INSTRUCTIONS

If you store or dispense Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG), or if you work on CNG or LNG trucks, your location must be fully compliant with applicable codes, regulations and standards, including National Fire Protection Associate (NFPA) codes, Society of Automotive Engineers (SAE) standards, American National Standards Institute (ANSI) Natural Gas Vehicle (NGV) standards, the United States Code of Federal Regulations (CFR) and your state and local fire and other applicable codes (including, for example, the California Code of Regulations and the Texas Administrative Code).

Contact your local fire department for guidance and additional compliance information.

Technicians working on Autocar trucks with CNG or LNG engines must be trained in the proper repair of CNG and LNG trucks and engines and the safe storage and dispensing of CNG and LNG.

Working on CNG Fuel Systems



WARNING

CNG fuel systems include a high pressure (3600 psi) system for fuel storage and a low pressure system (125 psi) for consumption by the engine. Understanding the characteristics of CNG and how the fuel system works will prevent injury and damage to persons and property.

Attempting to operate or maintain any CNG fuel system without proper training is dangerous. Complete training and consult instructional bulletins from the CNG system suppliers, such as Agility Fuel Systems' Field Service Bulletin, *Safely Working on CNG Fuel Systems*.

Welding and Hot Work Near CNG and LNG Trucks



WARNING

Welding, grinding, and other "hot work" can be safely performed on or near a CNG or LNG vehicle, but certain precautions must be followed. Understand and perform the necessary precautions provided by the CNG system suppliers, such as Agility Fuel Systems' Field Service Bulletin, *Welding and Hot Work Precautions Near CNG and LNG Vehicles*.



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CNG Cylinders



WARNING

CNG fuel containers must meet Federal Motor Vehicle Safety Standard (FMVSS) 304 (Compressed Natural Gas Fuel Container Integrity) and/or ANSI/CSA NGV2 (Basic Requirements for Compressed Natural Gas Vehicle Fuel Containers). Both standards specify a detailed visual examination every three years.

Truck owners are required to complete all necessary inspections, in accordance with the applicable standards and other resources, such as the Clean Vehicle Education Foundation and NGV America's Compressed Natural Gas (CNG) Container Visual Inspection Advisory.

FMVSS 304 also requires that cylinders not be used after the end of life (EOL) date provided on the tank label. The EOL date is also displayed in the engine compartment and at the fueling connection of each truck. If there are any question as to proper decommissioning of a cylinder, contact the manufacturer, whose name and address is also required to be on the label.

CNG Fuel Container Pressure Relief Devices (PRDs)



WARNING

PRDs must be properly maintained and positioned for safe operation of a CNG fuel system. Missing vent caps can allow moisture into PRDs and vent lines, which can freeze and damage these safety components. Debris which clogs the PRDs and/or vent lines can prevent proper function.

PRDs must be positioned to vent upward, not outward, from a vehicle.

Ensure that every truck owner completes periodic inspections of the PRDs and vent lines and systems, in accordance with guidance provided by the system component suppliers.

Alert First Responders to CNG and LNG



DANGER

In the event of a fire or other emergency, alert first responders to the presence and location of CNG fuel systems, tanks and dispensers. Ensure that emergency personnel are aware of proper precautions, such as those provided in Agility's *First Responder Guide: CNG and LNG Vehicle Fuel Systems*.



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LOCKOUT/TAGOUT PROCEDURES:



CAUTION

Before entering the vehicle or vehicle body, read and follow OSHA regulations concerning entry and working in “CONFINED SPACE” OSHA 1910.146 and “LOCKOUT/TAGOUT” OSHA 1910.147. Follow OSHA regulations while performing any work on the vehicle. The vehicle must be disabled by the following steps before performing any work on the vehicle:

1. Place the transmission in NEUTRAL.
2. Set the parking brake.
3. Shut the engine OFF.
4. Lock cab doors, keep the key in your pocket. Block the wheels before entering the body or performing any work on the vehicle.
5. Turn the battery disconnect switch OFF, if equipped.
6. Completely drain the air from the primary/A system and secondary/B system by opening the drain valves on the air tanks themselves or by using the drain manifold if supplied. When draining the air tanks, do not look into the area where air is draining. Dirt or sludge particles may be expelled in the air stream and can cause eye injury.
7. Place magnetic “DANGER” signs on both cab doors before entering the body or performing any work on the vehicle.
8. Take proper precautions before working under the vehicle. Use ramps approved for the weight of your vehicle, or use floor jacks and stands. Never work under a vehicle supported by jacks alone. Always use jack stands to support the vehicle.

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Harness Instructions

1. Follow all lockout/tagout procedures and verify the battery disconnect switch is in the “OFF” position. If the unit is not equipped with a battery disconnect switch, disconnect the battery cables beginning with the negative cables, followed by the positive cables.
2. Verify that the battery disconnect switch is in the OFF position (see *Figure 1*).

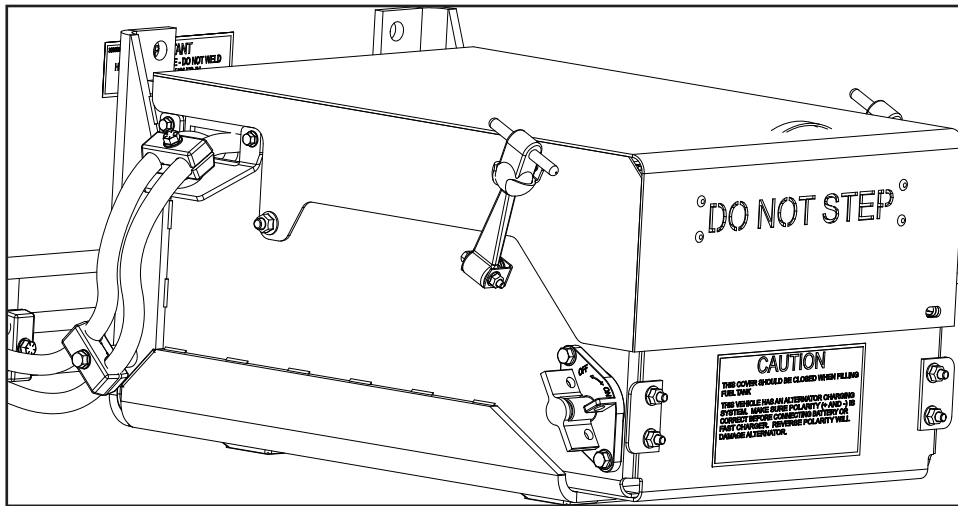


Figure 1

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3. Inside the battery box, disconnect the rear chassis harness from the battery terminals (see Figure 2).

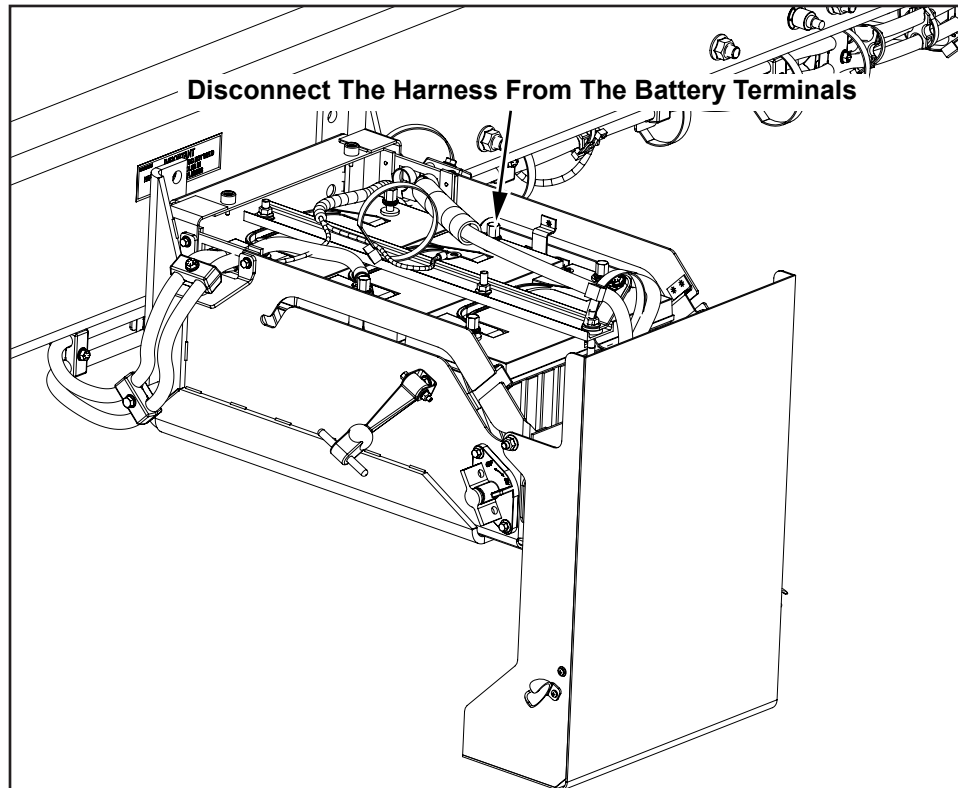


Figure 2

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4. Remove the rear chassis harness from the battery box and continue until the indicated breakout. From the indicated breakout, measure 13.8 inches and cut open the harness that was removed from the battery box in step 4 (see *Figure 3*).

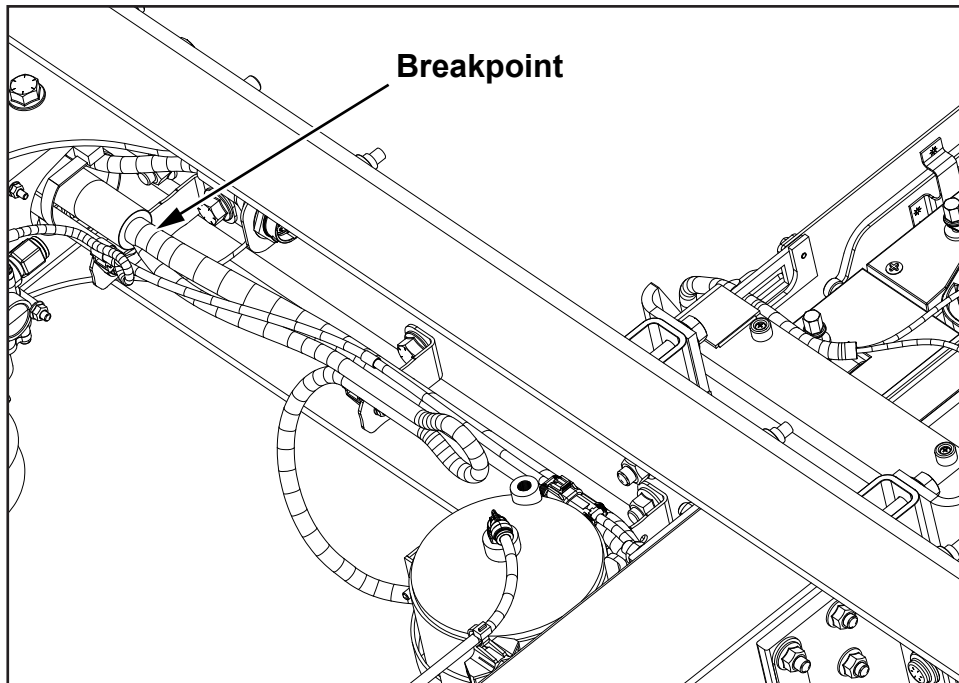


Figure 3

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5. Remove 4in of the harness braiding and the electrical tape to gain access to the individual wires/cables (see *Figure 4*).

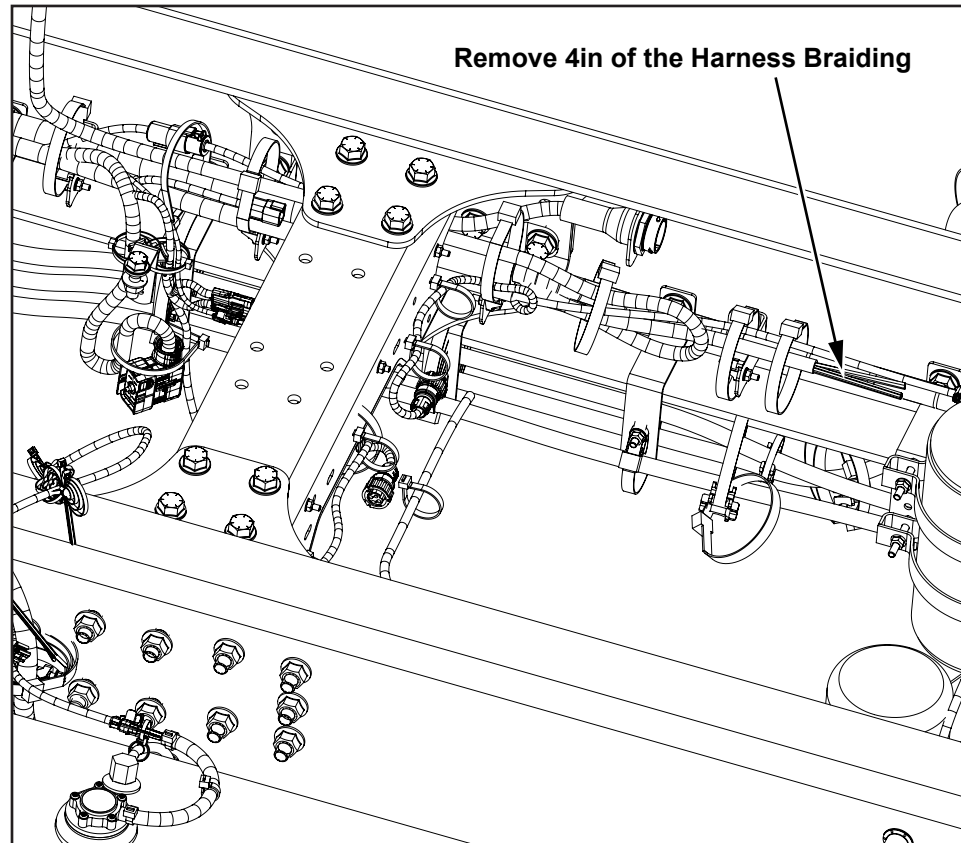


Figure 4



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6. Divide the wires into two groups, group 1 and group 2. Cut the following wires at 10.6in from the breakout.

Group 1

776-A 12GA Red
17-A 8GA Red
892-A 14GA Red
9A-A 14GA Red
820-A 14GA Red
880-A 10GA Red
802-A 14GA Red
0S-A 8GA Black

Group 2

Cut the following wires at 12.4in from the breakout.

0W-E 4GA Black
0X-A 12GA Black
0Y-A 12GA Black
0C-8H 14GA Black (If included in the harness)

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- Slide the HD30-24BT-BK boot provided with the harness over Group 1 (see Figure 5).

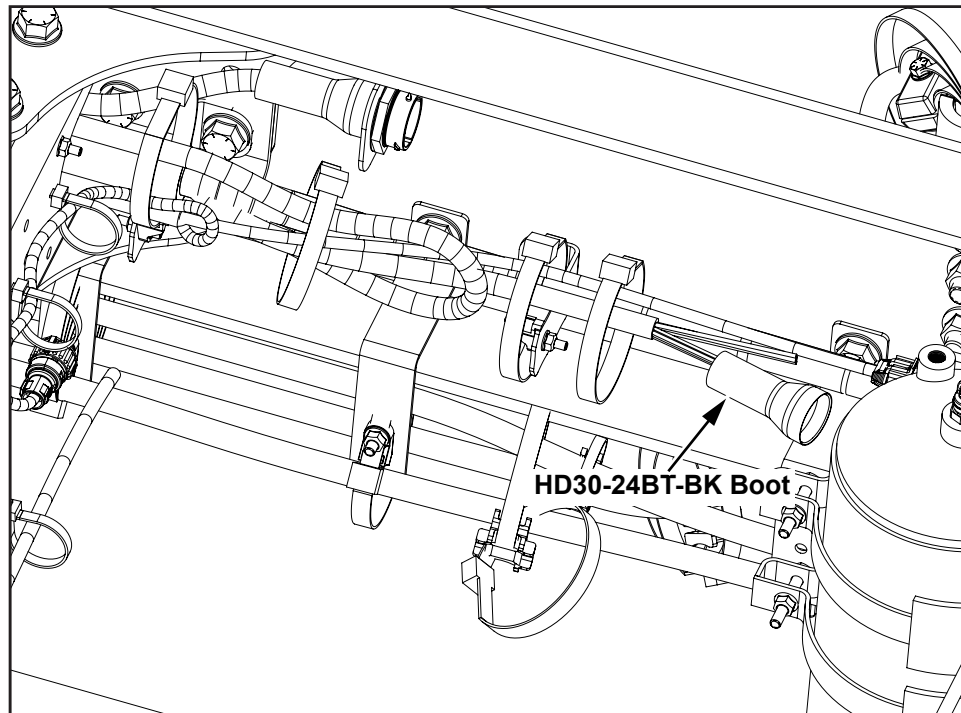


Figure 5



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8. Remove approximately 0.5in length of insulation from the end of each wire end and crimp the following terminals on to the wires.

Group 1

776-A 12GA Red
17-A 8GA Red
892-A 14GA Red
9A-A 14GA Red
820-A 14GA Red
880-A 10GA Red
802-A 14GA Red
0S-A 8GA Black
Use terminal 0460-204-08141 for 8GA
Use terminal 0460-204-12141 for 10GA - 14GA

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9. Install the terminals at the required positions on the HDP24-24-9PN connector provided (see *Figure 6*).

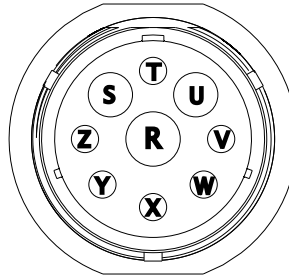


Figure 6, HDP24-24-9PN

Group 1

CAV	WIRE	GA	COL	CAV PLUG
R				114019
S	0S-A	8GA	BK	
T	776-A	12GA	RD/BK	
U	17-A	8GA	RD/BK	
V	820-A	14GA	RD/BK	
W	892-A	14GA	RD/BK	
X	880-A	12GA	RD/BK	
Y	9A-A	14GA	RD/BK	
Z	802-A	14GA	RD/BK	



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11. Remove approximately 0.5in length of insulation for each wire end to crimp into a parallel splice (324443).

Group 2

0W-E 4GA Black
0X-A 12GA Black
0Y-A 12GA Black
0C-8H 14GA Black (If included in the harness)

12. Slide the 22212 heat shrink sleeve over the ST-0W wire provided.
13. Insert all Group 2 wires into one end of parallel splice (324443) and the ST-0W wire connected to the DTHD04-1-4P connector into the other end of the parallel splice and crimp (see Figure 7).

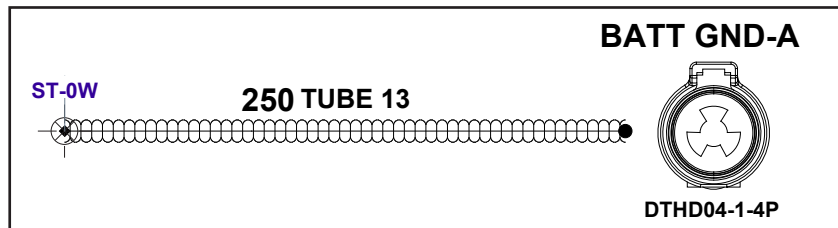


Figure 7

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14. Use the 22212 heat shrink to cover the crimped splice and shrink it until the splice is sealed.
15. Connect the A8710105-005 harness to the DTHD04-1-4P connector and the HDP24-24-9PN connector on the chassis harness (see *Figure 8*).

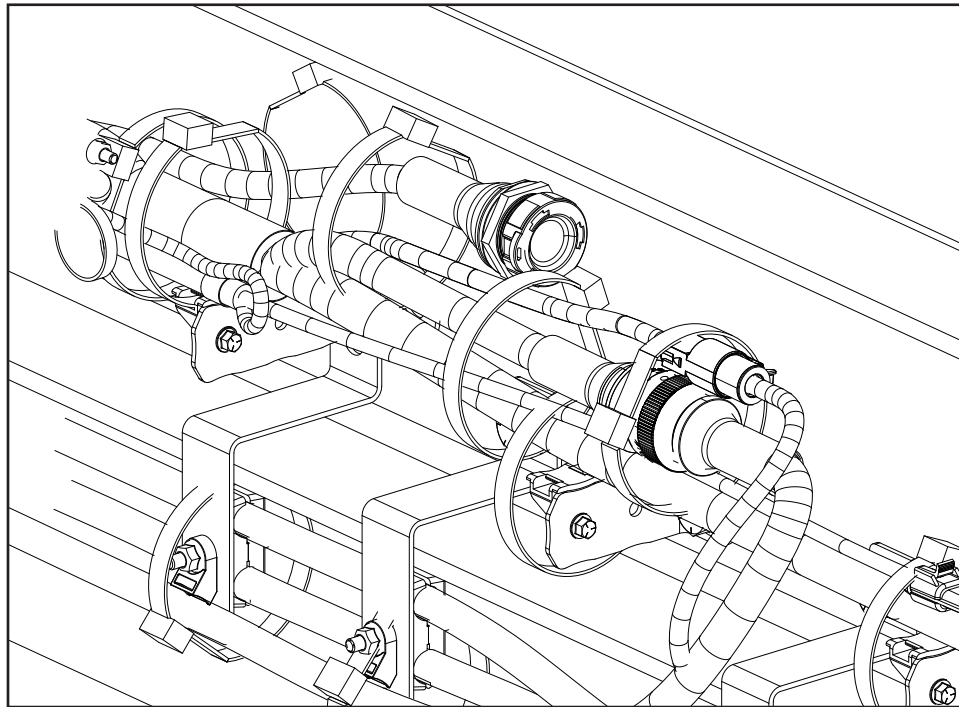


Figure 8

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16. Reinstall the batteries if removed and install the A8710102-001 fuse holder bracket on the battery bracket using the existing fasteners (see Figure 9).

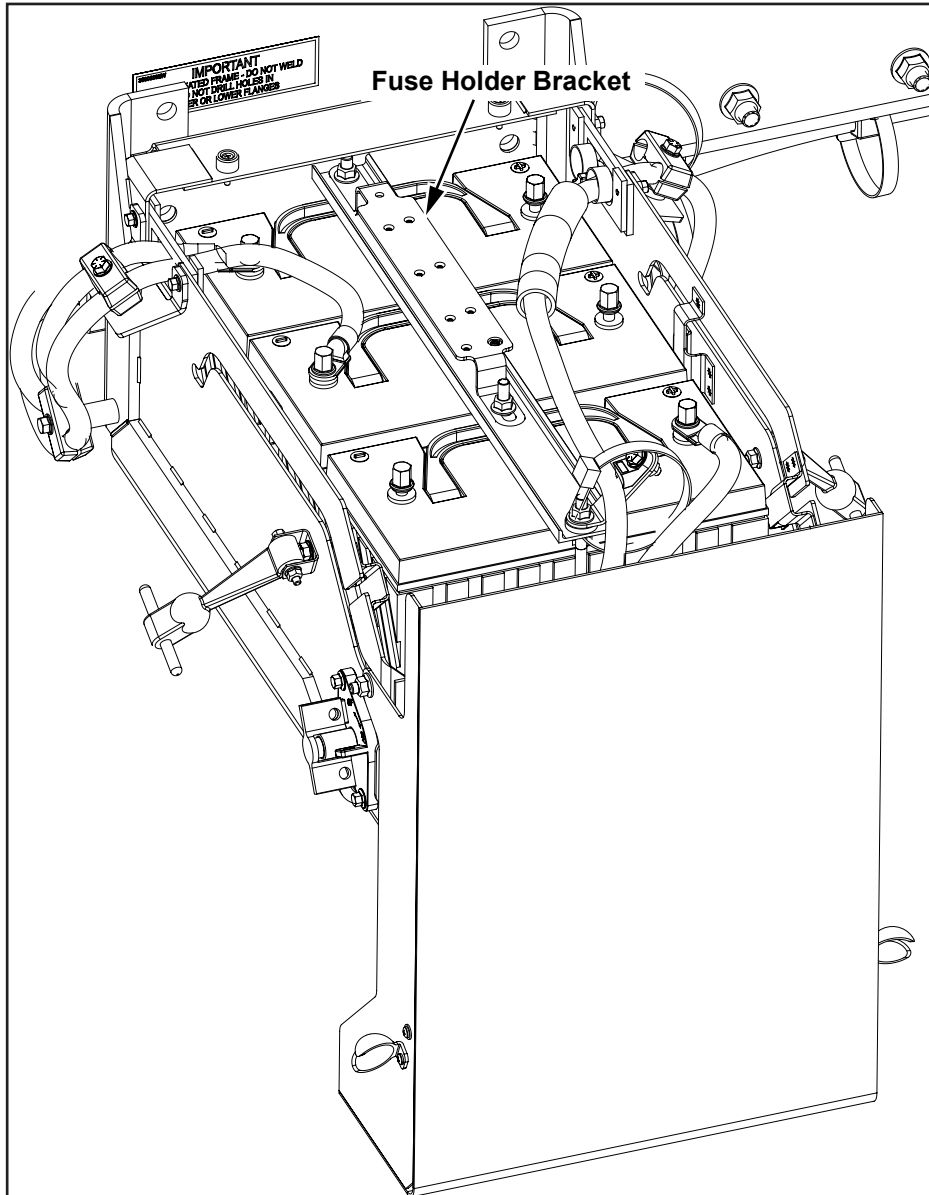


Figure 9, A8710102-001

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17. Install the GZ220097-001 cable mount on the fuse holder bracket using the FE410131AW12 screw and install the GZ220090-001 cable tie tree mount into the fuse holder bracket. Route the A8710105-005 harness into the battery box and install each fuse onto the fuse holder bracket using (7) GE811619RS01 washers and (7) GZ220090-001 bolts. Utilize a 978435 cable tie and the GZ220090-001 to secure the harness (see Figure 10).

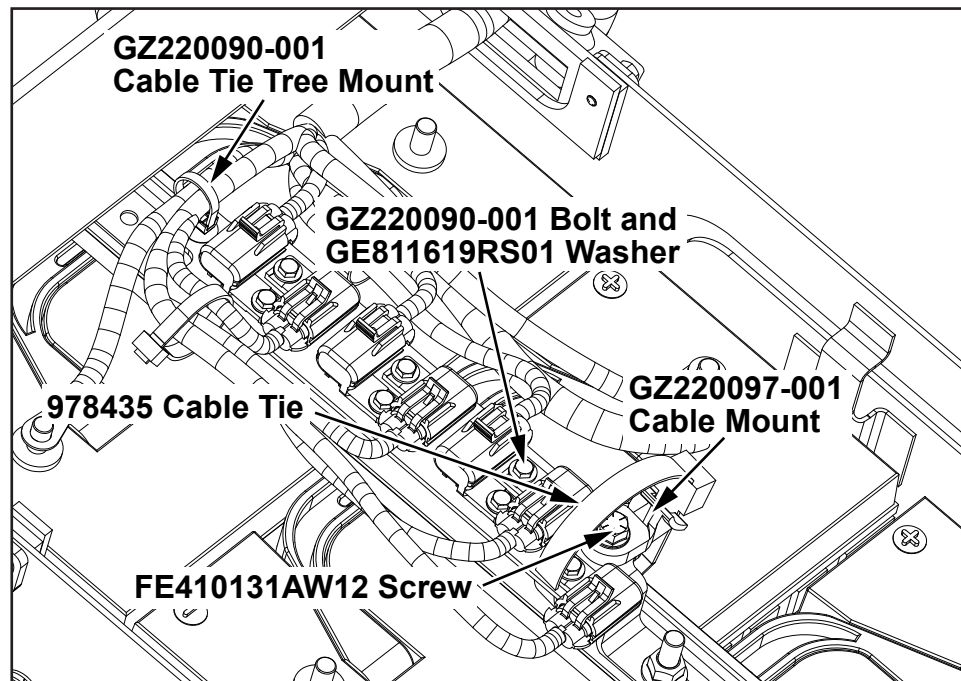


Figure 10

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18. Connect the A8710105-005 harness to the positive and negative terminals of the battery.
19. Route and clip the A8710105-005 harness from the battery box to the chassis harness using the GZ220006-001 dual clamp ties, 980464 cable ties and the 978435 cable ties (see *Figures 11a and 11b*).

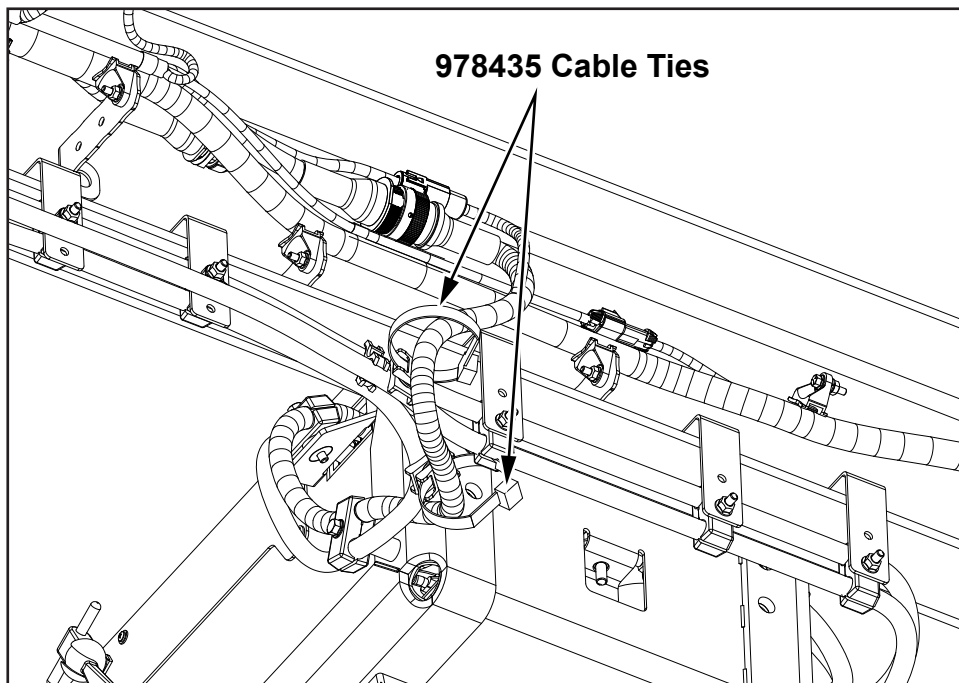


Figure 11a

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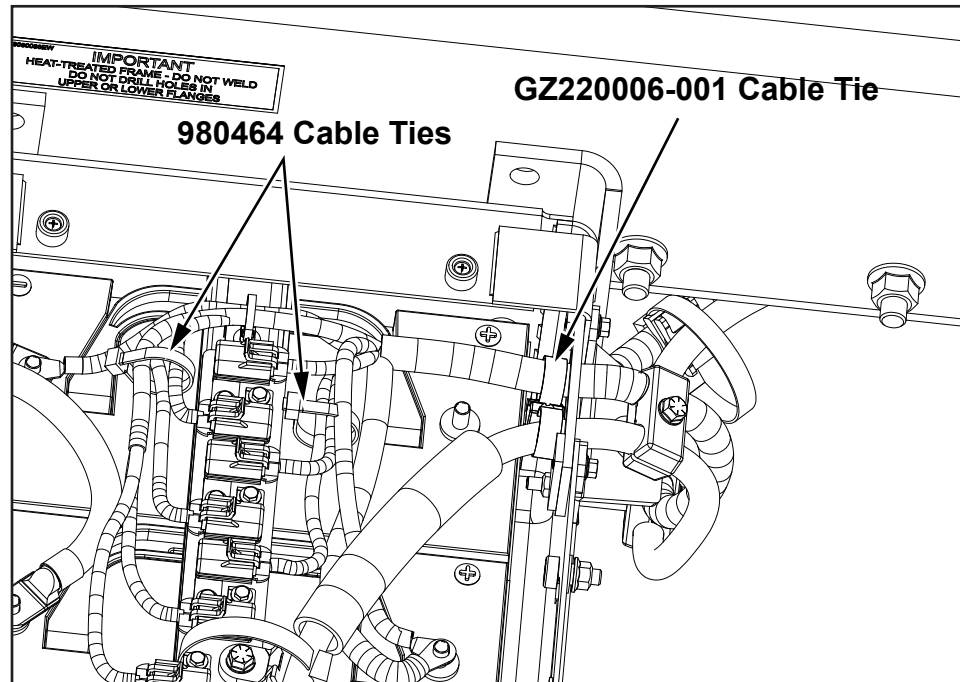


Figure 11b

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20. Inspect the remaining chassis harness to ensure proper routing. Ensure there are no opportunities for shorting along the harness.
21. Enter the cab and locate the fusebox cover. Install the A8700623-001 Decal under the fusebox cover (see *Figure 12*).

A8700607-009 Decal

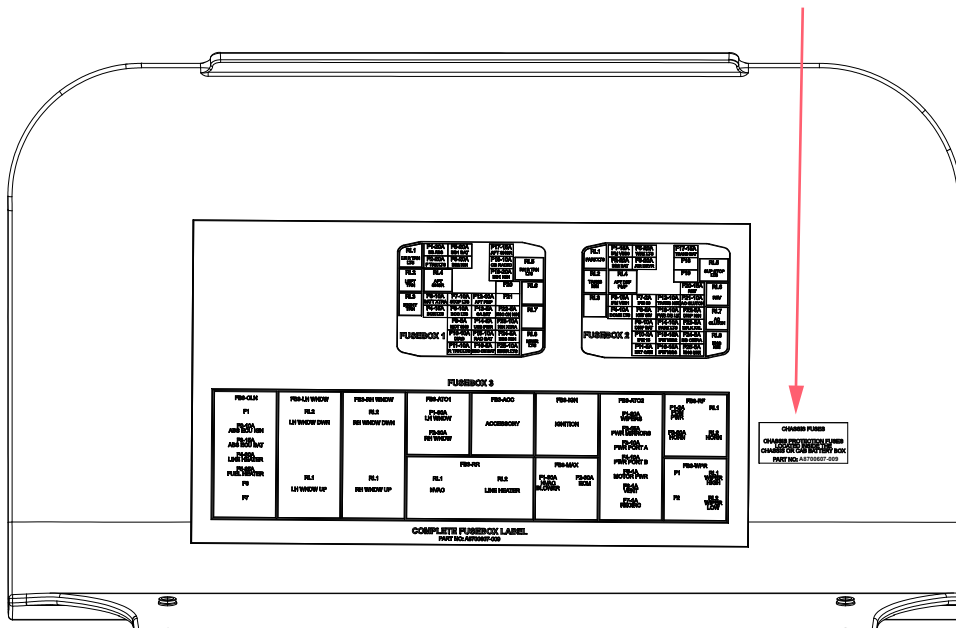


Figure 12

22. Reconnect all battery terminals beginning with the positive connections then the negative connections.
23. Turn the battery disconnect switch to the ON position.
24. Installation is complete.

Note: *If you have questions or concerns regarding this Assembly Instruction Bulletin, please contact Autocar technical support at 888-218-3611.*