

TSB: 1301
 Revised Date:
 By:
 Note:

Installation Instruction For Up-dating The Routing Of The E-Brake Cables On Diesel Buses



TSB1301: REPAIR INSTRUCTION FOR E-BRAKE CABLE ROUTING ON DIESEL BUSES WITH A 105" E-BRAKE CABLE.

1. Inspect passenger side E-brake cable for signs of damage to the exterior sheathing caused by the failing of the vinyl coated P-clamp used to secure E-brake cable to the air shock casting.
2. Replacement of vinyl coated P-clamp used to secure E-brake cable to the passenger side air shock casting. Replace P-clamp with ARBOC Part# 1305971, Clamp Park Brake Cable Passenger Side Inside, and ARBOC Part# 1305972, Clamp Park Brake Cable Passenger Side outside.
3. Replacement of vinyl coated P-clamp used to secure E-brake cable to the driver side air shock casting. Replace P-clamp with ARBOC Part# 1305921, Bracket Driver Side E-brake Cable Securement Loop.
4. If bus is equipped with a 95" E-brake cable, a replacement 105" cable must be ordered from ARBOC Part And Service at 1-866-953-5555. ARBOC Part# 1405783, Cable Brake 3/8 x 105". Also request TSB 1302 Installation Instructions for replacement of passenger side E-brake cable on diesel buses.



SAFETY

Read repair procedure before beginning. If you do not understand any part of the repair procedure contact: Mel Williams, Director of Parts and Warranty at 1-866-953-5555 or by E-mail @ mwilliams@ARBOCsv.com.

Good mechanics safety practice must be followed in any repair to the brake system.

Safety practices should include but not limited to properly supporting the chassis, axles, blocking tires, and a work area free of clutter.

Repair shops safety rules must be followed and safety equipment used.

O.E.M. Battery and auxiliary battery must be disconnected.

Condition: 1. Inspect passenger side E-brake cable for damage to the exterior sheathing caused by the frailer of the vinyl coated P-clamp used to secure E-brake cable to the air shock casting. 2. Replace the vinyl coated P-clamp with a two (2) part park brake cable clamp designed by ARBOC Specialty Vehicles.

Labor Time Allowance: Replace Park Brake Cable Clamp and sheathing: Labor Code: 019802 Time Allowance: .7 hours.

Replace Park Brake Cable: Labor Code: 015202 Time Allowance: 1 hour.

Disposal of Parts: Discard damaged cable. If Passenger cable is 105" in length and no sign of damage is present, the cable will not require replacement. But updates in securement of passenger E-brake cable must be accommodated.

Tools Required:

1. Hoist system, one able to raise and support bus.
2. Two (2) 7/16" combination wrench.
3. 13mm 3/8" drive socket.
4. Torque wrench set to 140 ft/lb.
5. 1/2" Drive, 22mm Deep Well Socket.
6. 1/2" Drive, 8-12" long extension.
7. Cutters to cut plastic wire ties.

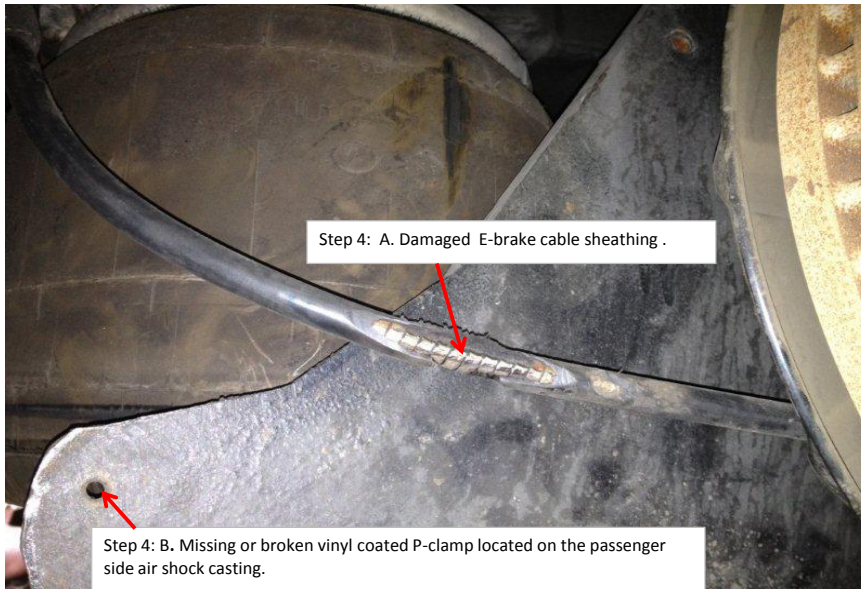
Repair Kit: ARBOC Part# 1406400, Brake Cable Kit. Kit Contains:

2. ARBOC Part# 1305971, Clamp Park Brake Cable Passenger Side Inside. 1pcs.
3. ARBOC Part# 1305972, Clamp Park Brake Cable Passenger Side Outside. 1pcs.
4. ARBOC Part# 1190442, Locknut Nylon Insert 1/4-20. 3pcs.
5. ARBOC Part# 616144, Bolt, Hex Head 1/4-20 x 3/4". 1pcs.
6. ARBOC Part# 721928, Washer Flat 1/4". 2pcs.
7. ARBOC Part# 721811, Bolt, Hex Head 1/4-20 x 1-1/4". 2pcs.
8. ARBOC Part# 1171954, Hose A/C Refrigerant #8 Burgaflex. 72 inches. To cover E-brake cable in axles/differential area.
9. ARBOC Part# 1171954, Hose A/C Refrigerant #8 Burgaflex. 8 inches. To Cover E-brake cable as cable comes across the chassis main rail on the passenger side.
10. ARBOC Part# 1203537, Cable Tie 14" Black. 10pcs.
11. ARBOC Part# 1305921, Bracket Driver Side E-brake Cable Securement Loop. 1pcs

- Step 1: Pull unit onto hoist, raise to a comfortable working height.
- Step 2: Support and raise rear passenger side axle to allow removal of passenger side rear tires.
- Step 3: Deflate the rear air shocks.

REPAIR PROCEDURE: Inspect passenger side E-brake cable for signs of damage to the exterior sheathing caused by the frailer of the vinyl coated P-clamp used to secure E-brake cable to the air shock casting.

Step 4: **A.** Inspect the passenger side E-brake cable for possible damage to the exterior sheathing caused by the E-brake cable coming in contact with the tire. **B.** Inspect for missing or broken vinyl coated P-clamp used to secure E-brake cable located on the air shock casting.



Step 5: **If damage is found on the passenger side E-brake cable, Contact ARBOC Parts @ 1-866-953-5555. Replacement E-brake cable, ARBOC Part# 1405783, Cable Brake 3/8" x 105".**

Method of determine if unit is equipped with a 95" E-brake cable: Look at the rear passenger side air shock casting, if bus is equipped with a J-hook used to support the E-brake the bus has a 105" E-brake cable. Reference provide pictures to help determine if j-hook is present. If J-hook is not present, a replacement cable will need to be installed. Order from ARBOC Parts and Service: ARBOC Part# 1405783, Cable Brake 3/8 x 105". Also request TSB 1302 Installation Instructions for replacement of passenger side E-brake cable on diesel buses.



REPLACEMENT PROCEDURE: Replacement of vinyl coated P-clamp used to secure E-brake cable to the air shock casting. Replace P-clamp with ARBOC Part# 1305971, Clamp Park Brake Cable Passenger Side Inside, and ARBOC Part# 1305972, Clamp Park Brake Cable Passenger Side outside.

Step 6: With two (2) 7/16" wrenches remove the vinyl coated P-clamp from the air shock casting. NOTE: P-clamp may be broken off and the mounting bolt and nut will only be remaining.



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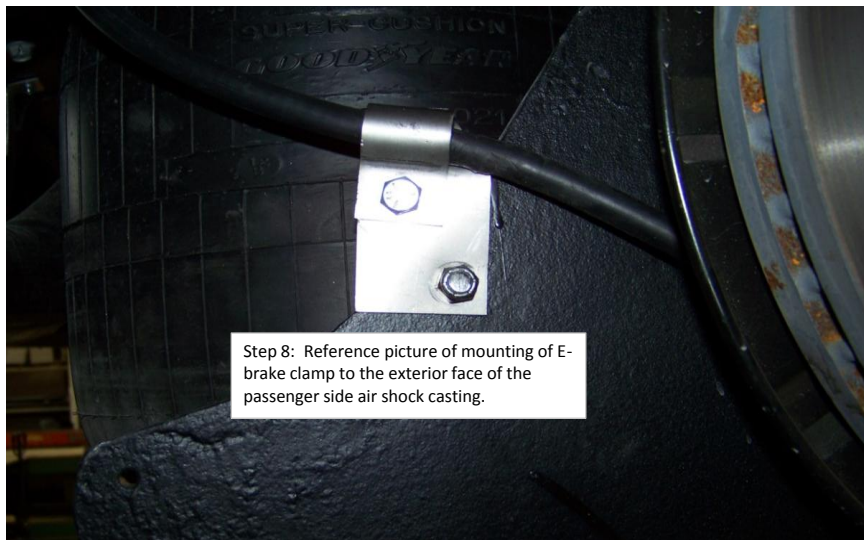
Step 7: Install new E-brake cable clamps to exterior side of air shock tower. Clamp is made up of two parts an interior clamp that bolts to the air shock tower, (ARBOC PART# 1305972) and an exterior clamp (ARBOC Part# 1305972) that bolts to the interior clamp using a 1/4-20 x 3/4" Hex Head Bolt, ARBOC Part# 616144 and a 1/4-20 Nylon Locknut, ARBOC Part# 1190442.



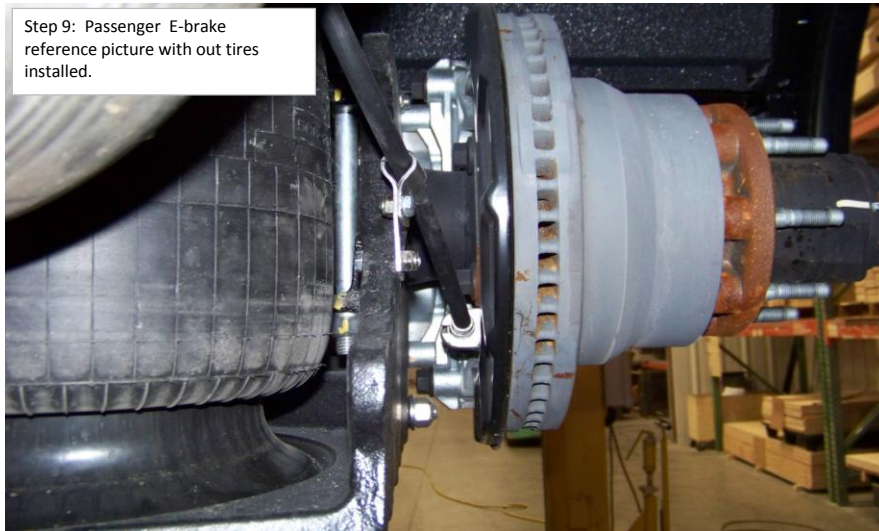
Step 7: Assemble E-brake cable as shown. Reference picture.



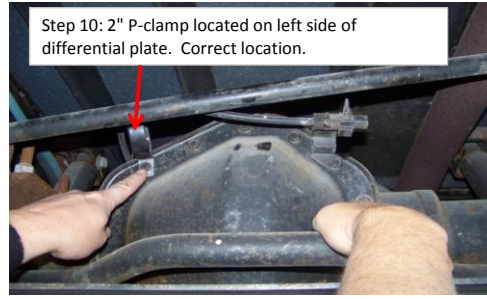
Step 8: Mount clamp assembly to exterior of air shock casting and route cable through clamp as shown. Use bolt and nut that mounted vinyl coated P-clamp. IF hardware is missing use a 1/4-20 x 1-1/4" Hex Head bolt, ARBOC Part# 721811 and 1/4-20, Nylon Locknut, ARBOC Part# 1190442. Cut any extra bolt thread length off flush with edge of nut.



Step 9: Reference pictures of mounting clamp with and without tires installed.



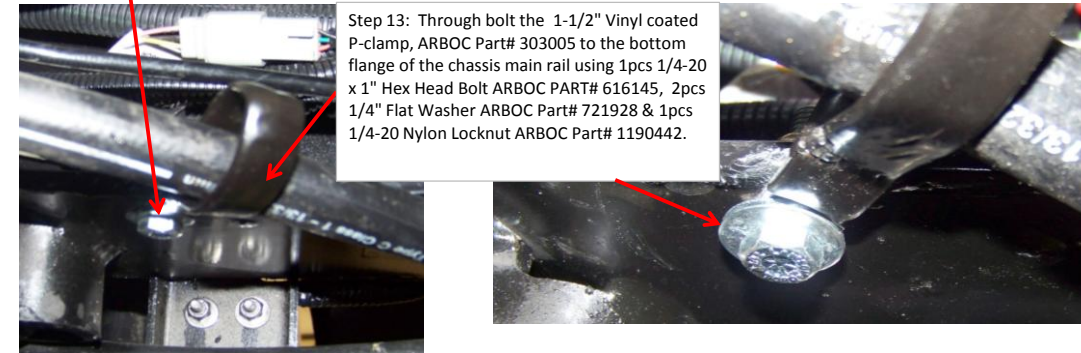
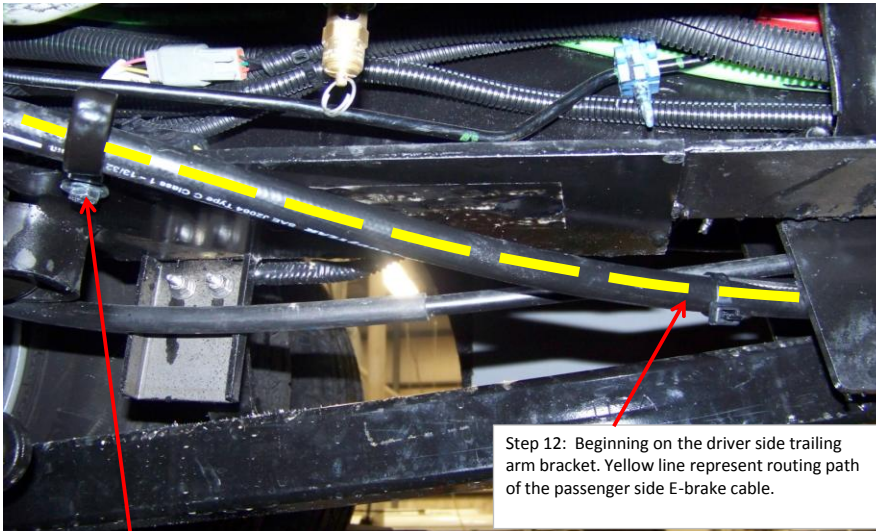
Step 10: Check the location of the 2" P-clamp on the rear differential plate. If the 2" P-clamp is located on the right side of the differential plate it will have to be moved to the left side. Use a 13mm socket to remove and install the differential plate mounting bolts.



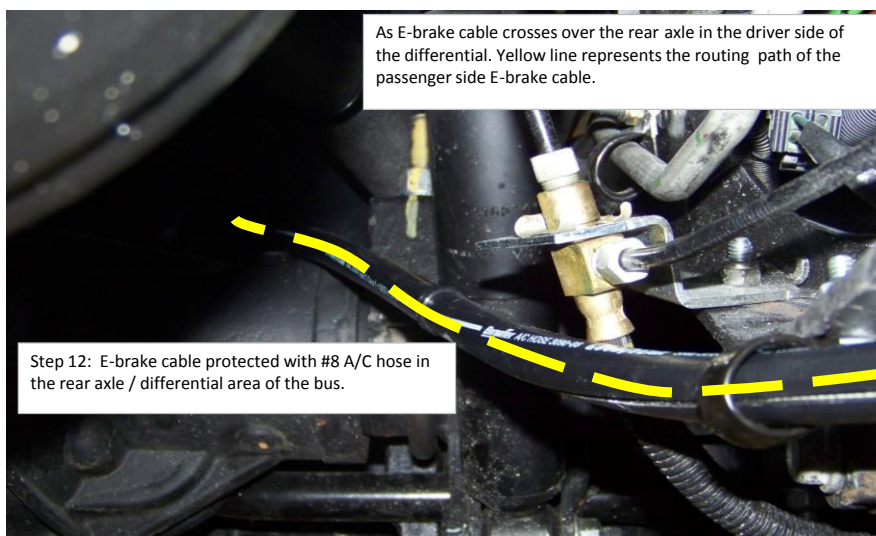
Step 11: Where the E-brake cable crosses over the rear axle / differential bell housing, a 72" long protective hose will be added to protect cable from damage. The protective hose: ARBOC Part# 1171954, Hose A/C Refrigerant #8 Burgaflex 72 inch. You will need to split the length of the hose using a razor knife. Protective hose should be positioned to provide protection from sharp edges. Using black electrical tape, secure one end of the hose to the E-brake cable. Apply four (4) cable ties space along the length of the hose to prevent E-brake cable from working out of protective cover. ARBOC Part# 1203537, Cable Tie 14" Black. 4pcs.

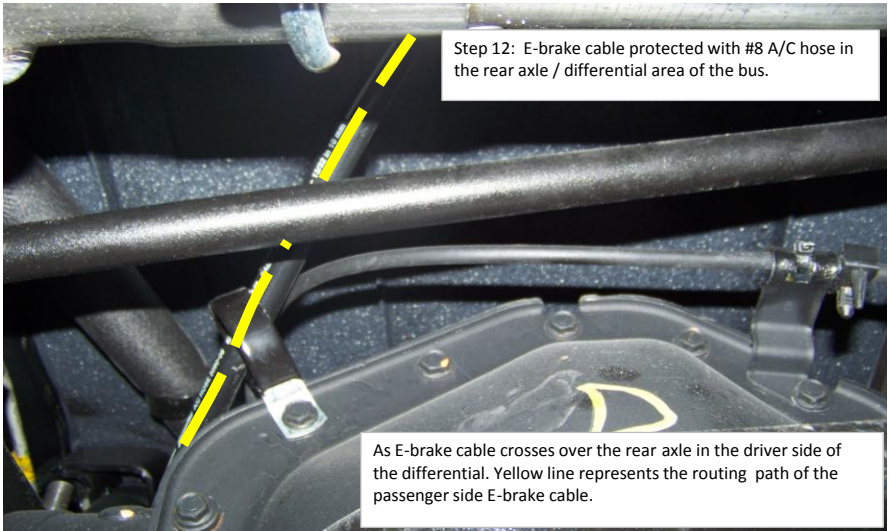
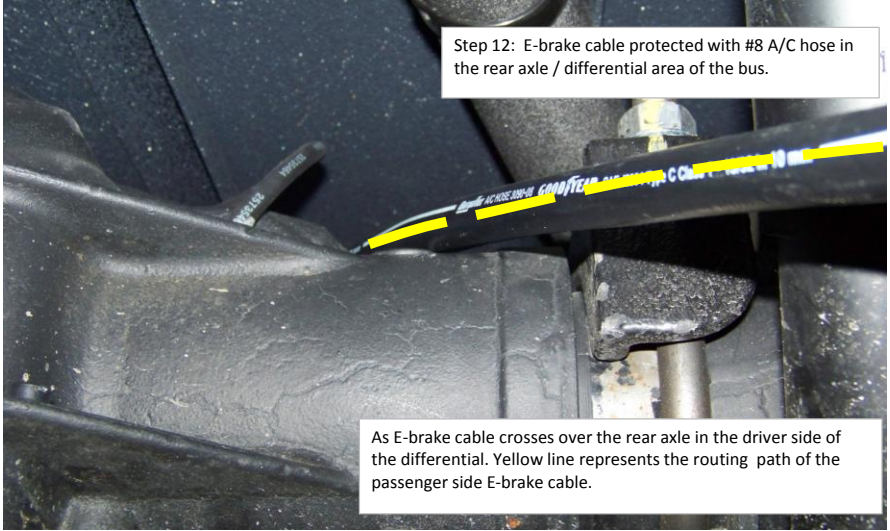
Step 12: Use the following picture to assist in the routing path of the passenger side E-brake cable.

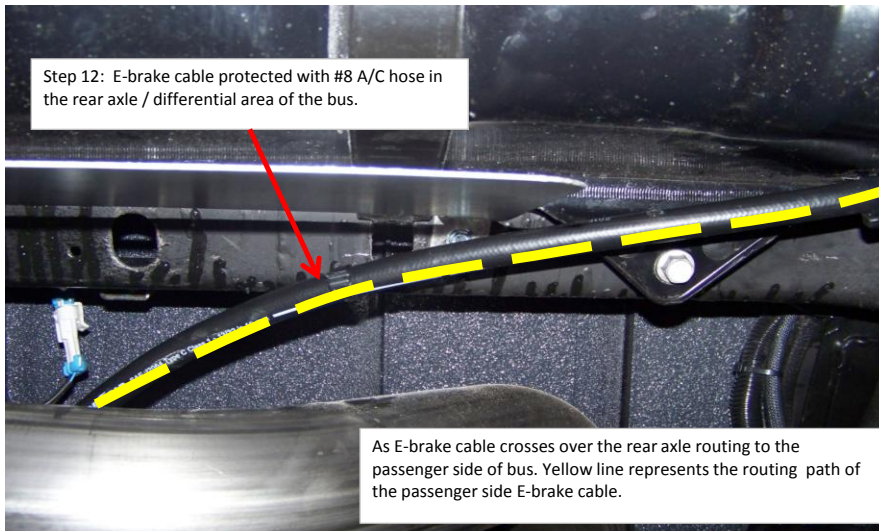
Begin routing of the passenger side E-brake cable at the driver side trailing arm bracket. Yellow line represent the routing path of the passenger side E-brake cable.



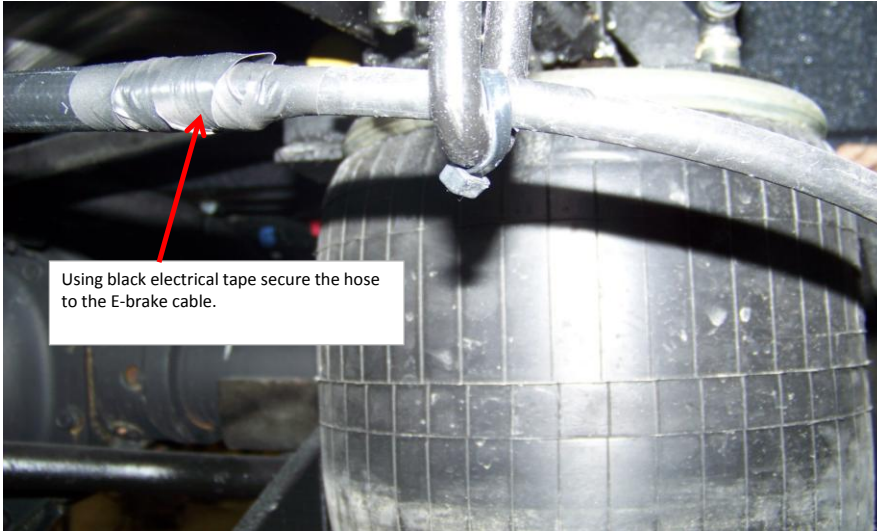
Step 13: Secure the passenger side E-brake cable to the driver side of the chassis main rail bottom flange using a 1-1/2" vinyl coated P-clamp, ARBOC Part# 303005. Drill a 1/4" hole in the bottom flange of the chassis main rail to mount P-clamp. Mounting hardware: 1pcs 1/4-14 x 1" Hex Head bolt ARBOC Part# 721928, 1pcs 1/4" Flat Washer, ARBOC Part# 721928, 1pcs 1/4-20 Nylon Locknuts ARBOC Part# 1190442.



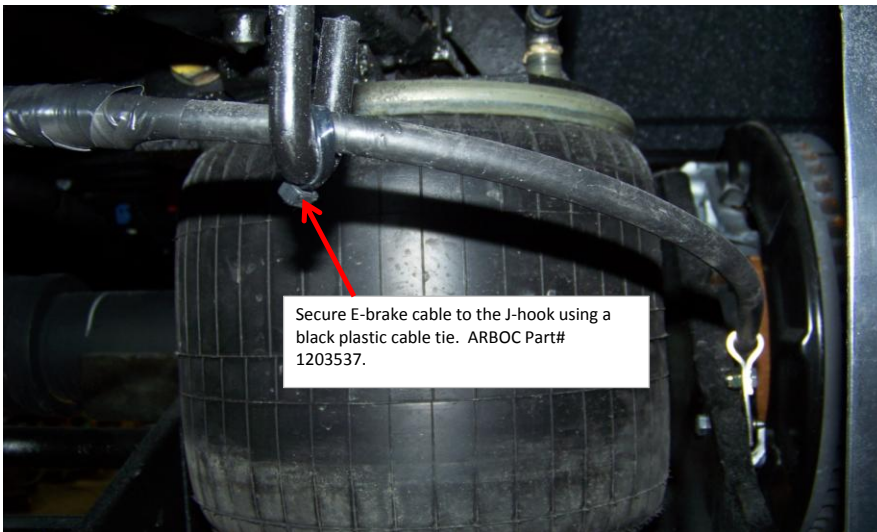




Step 14: Add approximately 72" long protective hose to the passenger side E-brake Cable. The hose should begin at the driver side trailing arm bracket and cover the E-brake cable as it crosses over the rear axle / differential. The protective hose is: ARBOC Part# 1171954, Hose A/C Refrigerant #8 Burgaflex 60 inches. Using a Razor knife, split the length of the hose. Apply Four (4) black plastic cable ties spaced along the length of the hose to prevent the cable from working out of the protective cover. ARBOC Part# 1203537. Using black electrical tape secure the hose to the E-brake cable.



Step 15: Secure E-Brake cable to the J-hook using a Black plastic cable tie. ARBOC Part# 1203537. Trim extra length and securement loop off cable tie.

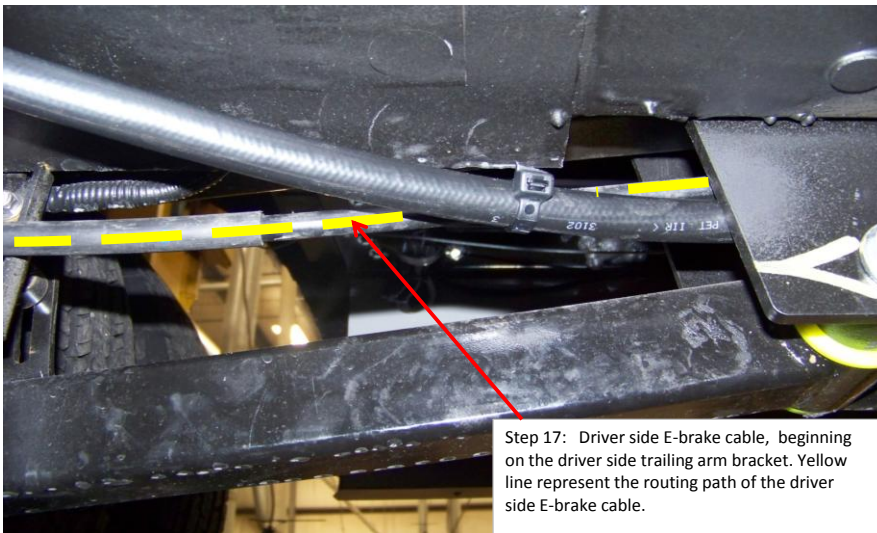


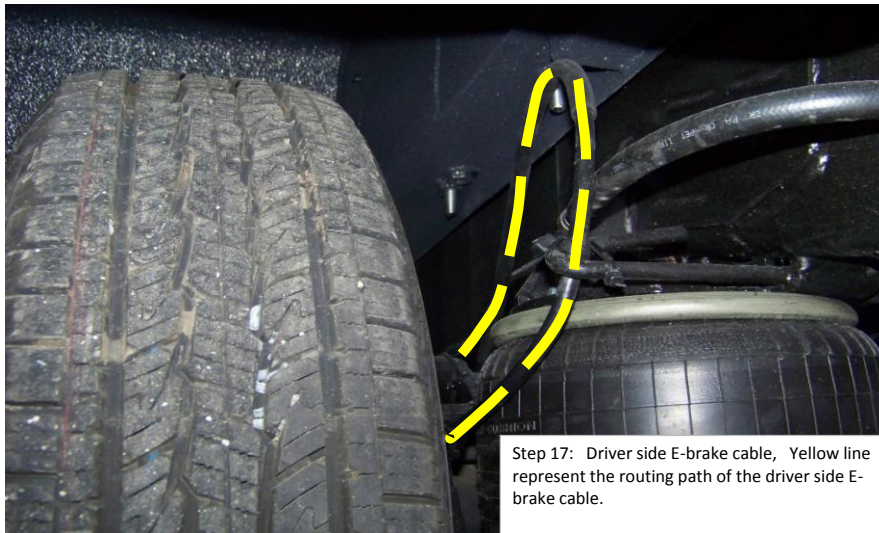
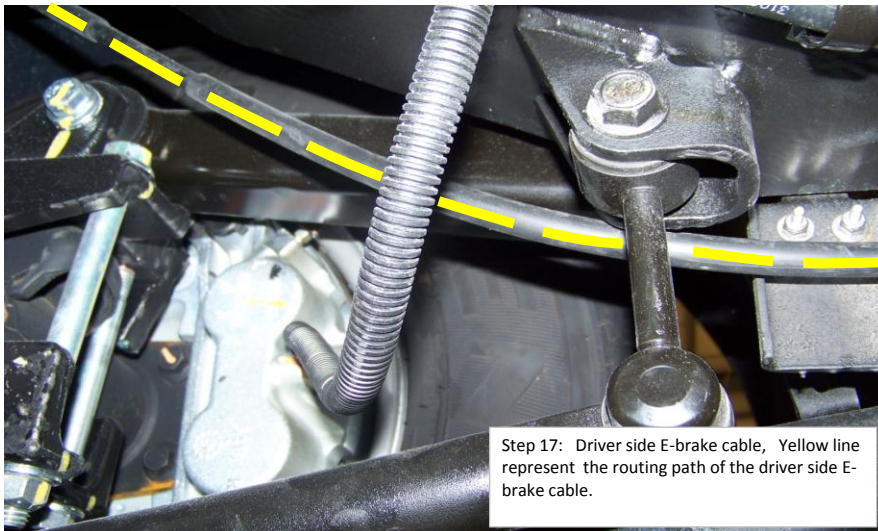
DRIVER SIDE E-BRAKE CABLE ROUTING.

Step 16: Add 1pcs (ARBOC # 1171952) of #8 A/C refrigerant hose approximately 8" long to protect driver side E-brake cables from damage as the cables pass between the rear trailing arm assembly. Slit hose length apply over cable, with a black plastic wire tie (ARBOC 1098777) secure end of hose. Trim extra length and securement loop off cable tie.

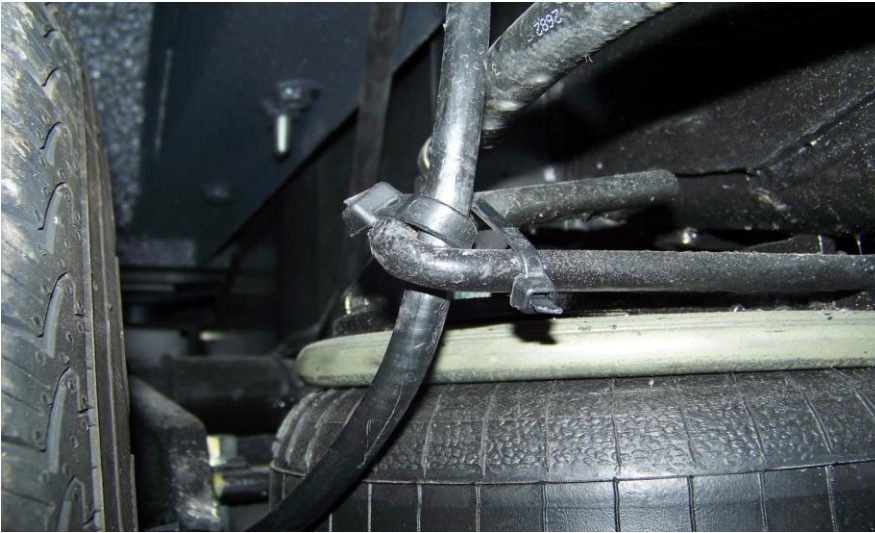


Step 17: Beginning the routing of the driver side E-brake cable at the driver side trailing arm bracket. Yellow line Represent the path of the driver side E-brake cable routing.





Step 18: Secure driver side E-brake cable to J-hook as shown. Use 2pcs of black plastic cable ties. ARBOC Part# 1098777. Trim extra length and securement loop off cable tie.



Installation of ARBOC Part# 1305921, Bracket Driver Side E-brake Cable securement Loop.



Step 19. Using the same mounting hole the vinyl coated P-clamp came from install ARBOC Part# 1305921. The bracket should be mounted to the outside of the shock casting with the loop of the bracket faced to the rear of the bus and facing up. Use retained bolt and nut. Route cable into loop of bracket. Secure E-brake cable to the bracket using a black plastic cable tie (ARBOC Part# 1203537) trim extra cable tie length and mounting loop.

