

"DOCUMENT UNCONTROLLED IF PRINTED"

DOC #	PROCESS NAME	PAGE	REVISION	STATION	BY	DATE
AR863	ARBOC SPIRIT OF LIBERTY SHIFT INHIBIT ADD FOR SERVICE BRAKE	1 OF 4	-	SER-E	J. SPRY	10/30/2018

Read process before beginning. If you do not understand any part please contact: Jeff Spry, Technical Advisor at 1-866-953-5555 or by E-mail @ jspry@ARBOCSV.com.

Good Mechanics safety practice must be followed on any repairs.

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

Complaint: Customer can shift the transmission into drive or reverse without touching the service brake "brake pedal"

Cause: FCCC Chasis design

Correction: Electrical Modifications and programming changes to provide a Brake Transmission Shift Interlock

Vehicles Affected: 2016, 2017, 2018 Spirit of Liberty (SOL) units

Labor Operation Code: 0119702

Pre-Authorization Required

Labor Time Allowance: 1 hour per unit

Parts Returned: No

Tools Required

Socket set or nut driver set
Wire strippers
Crimpers
I/O Programming bus
Laptop with I/O programming software

Parts Required

Relay
45 foot black loomed wire
I/O Controls programming downloader
Updated configuration file

Installation Procedure:

WARNING: BEFORE STARTING THIS PROCEDURE TURN OFF THE MAIN DISCONNECT SWITCH.

CAUTION: TAKE CARE WHEN REMOVING THE BRICK FUSE BLOCK. POWER WILL STILL BE ACTIVE ON ONE SIDE OF THE MAIN POWER DISCONNECT

Step 1: Locate the Brick Fuse Block in the rear battery box of the bus



Step 2: Remove the two mounting bolts and pull the box out granting access to the wires in the back.

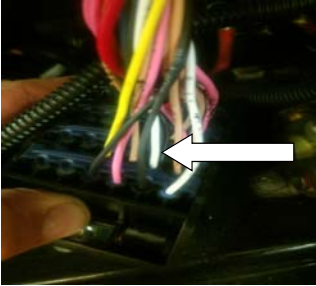
Step 3: Locate the shift inhibit wires. They will be going to a relay so there will be four (4) wires total: two (2) white, one (1) black, one (1) tan. On the newest version this relay will be in the lower right corner looking at it with the cover off



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Step 4: From the back side, find the 20 AWG black "RR Run SW" wire. Pin 47 of the brick



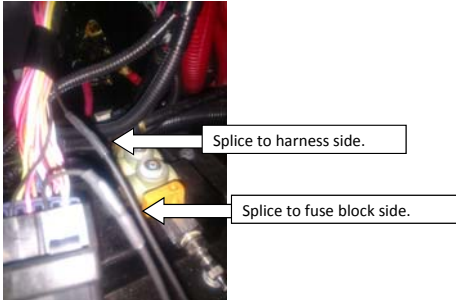
Step 5: Once you have located this wire, follow it up in the harness away from the brick leaving enough room to cut and add two (2) splices.



Step 6: Add the "Front Shift Inhibit" relay to the system provided from ARBOC

Step 7: Take the black wire from pin 30 of the new relay and splice to the harness side of the 20 AWG black wire

Step 8: Take the Black wire pin 87a of the new relay and splice to the fuse block side of the wire we just cut.

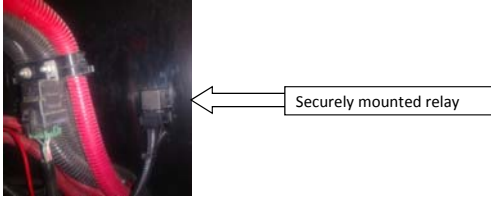


Step 9: Take the inline fuse red circuit and attach to the stud at the top of the Freightliner fuse panel



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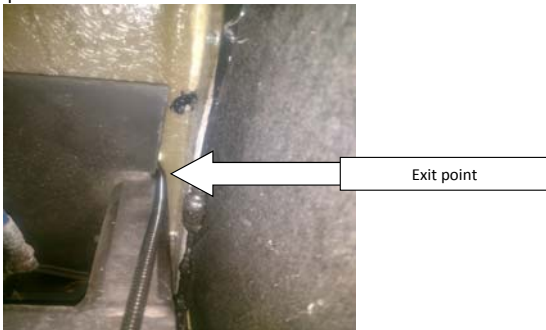
Step 10: Securely mount the relay to the wall of the battery compartment



Step 11: Take the 45 foot black loomed lead and route it down along the chassis to the front of the bus



Step 12: Once the wire is routed to the front of the bus you will need to drill a 1/2 inch hole down through the floor in the electrical box compartment and feed the wire up to plug into the I/O control module. See the picture below for the exit point.



Step 13: The new wire will connect to the brown I/O plug at pin 9. Unplug the connector, remove the orange wedge lock and push the new terminal into pin 9 until you hear it click. Re-insert the orange lock and plug the connector into the I/O module

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Step 14: Once the relay is in place, the I/O program can be updated. The new program is unit specific depending on existing options included in the original build. You will need a laptop, I/O controls programming module, super down loader software installed on laptop, and updated configuration file from ARBOC.