

## New Jersey Transit: Fuel Economy (RELS) Update



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**Property and Top Bus Number:** New Jersey Transit 31LFW, 305000

**Issue:** A 14 PSI pressure switch has to be added to the front brake airline.

**Reason/ cause:** This is required by Allison for a fuel economy saving option called RELS.

**Solution:** Install pressure switch and harnesses per this work instruction (SOI).

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**Number of affected buses:** All 31' buses

**Estimate repair hours/bus:** 45 minutes

### **Necessary parts:**

Switch, pressure, 14PSI,	P/N: <b>700-2100-014,</b>	1 / bus,
Jumper harness,	P/N: <b>531-1689-434,</b>	1 / bus,
Harness, interface, pressure sw. RELS,	P/N: <b>531-1689-433,</b>	1 / bus,
Wire tie, 15", black,	P/N: <b>500-1686-007,</b>	20 / bus,
Tape, electrical, black, 3/4"	P/N: <b>5001034,</b>	1 / 30 buses

### **Necessary tools:**

Regular hand tools, de-pin tool for TCM and E1 module

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## **SAFETY PRECAUTIONS MUST BE FOLLOWED ACCORDING TO ACCEPTED INDUSTRY STANDARDS AND LOCAL/PROPERTY REQUIREMENTS.**

1. Park the bus and apply the parking brake.
2. Open the light panel and locate E-zone module.



3. Remove E1 203 wire from cavity #8 of the 18-pin plug (forward plug) and tape it.
4. Install 24VIGN wire of jumper harness (P/N 531-1689-434) into the cavity #8 E-zone per the picture below.

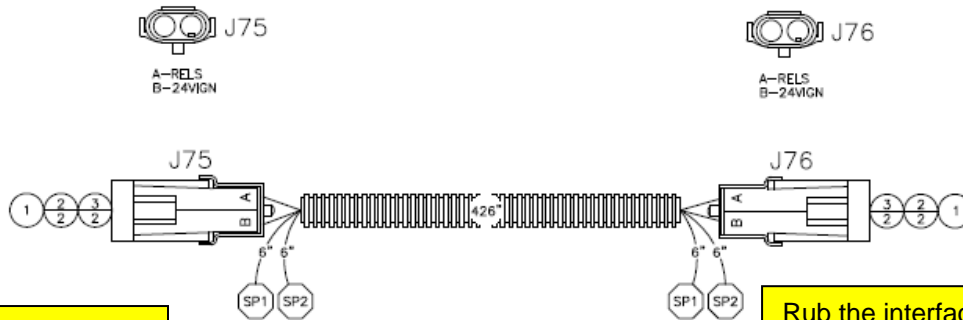


5. Install RELS pin of jumper harness into the cavity #23 of TCM plug.

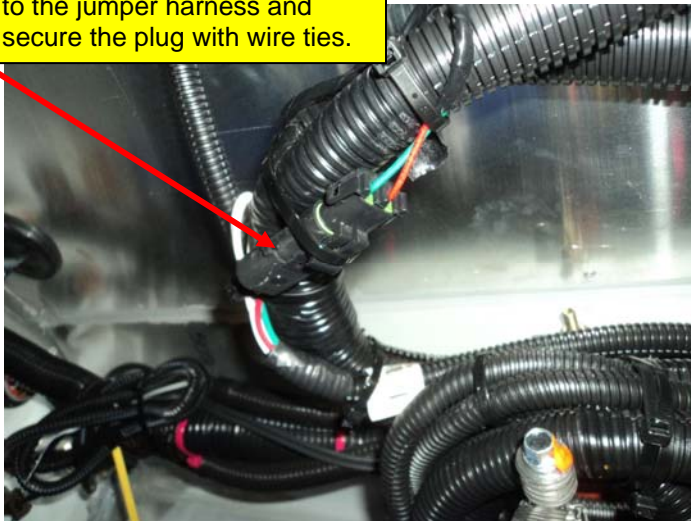
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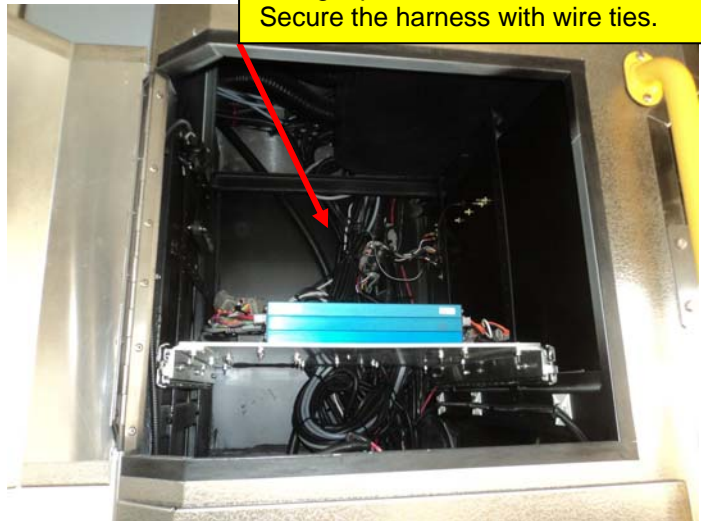
- 6. Connect interface harness (P/N 531-1689-433) to the jumper harness and run it from E-zone through underneath the light panel, up past the driver's barrier, down through to the MEP and dropping out under the bus. See pictures below.



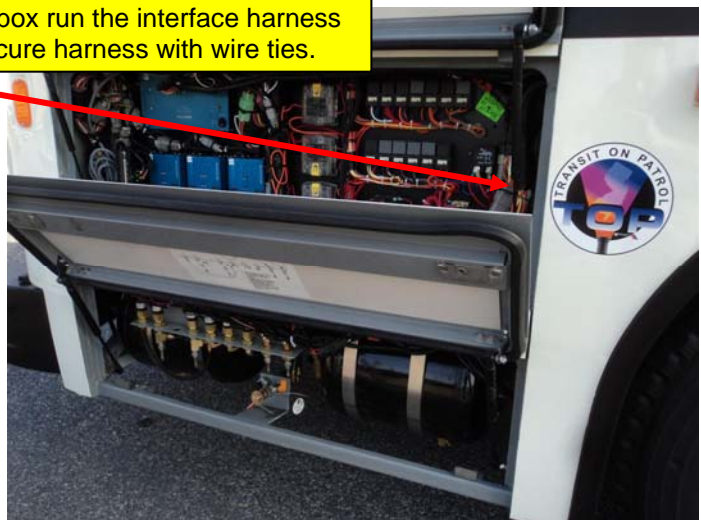
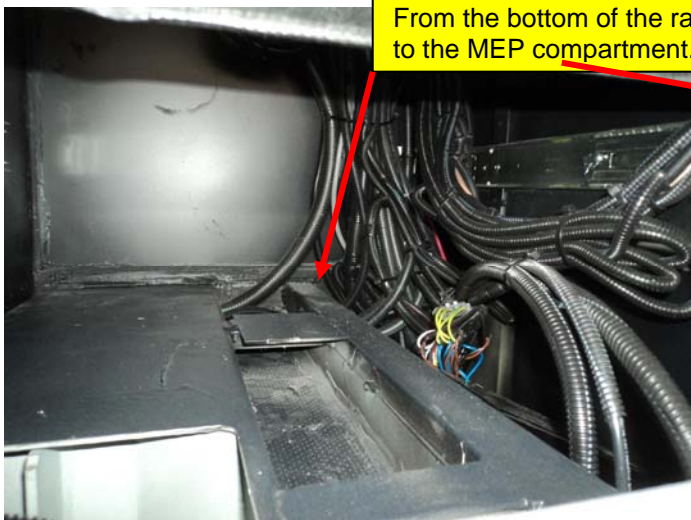
Connect the interface harness to the jumper harness and secure the plug with wire ties.



Rub the interface harness underneath the light panel into the radio box. Secure the harness with wire ties.



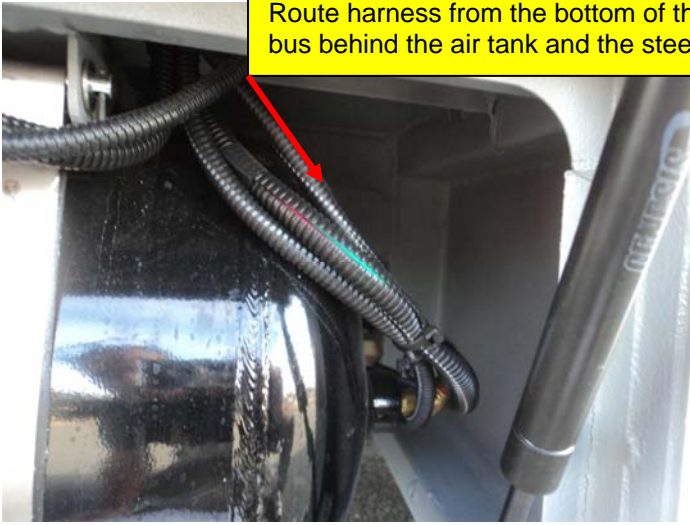
From the bottom of the radio box run the interface harness to the MEP compartment. Secure harness with wire ties.



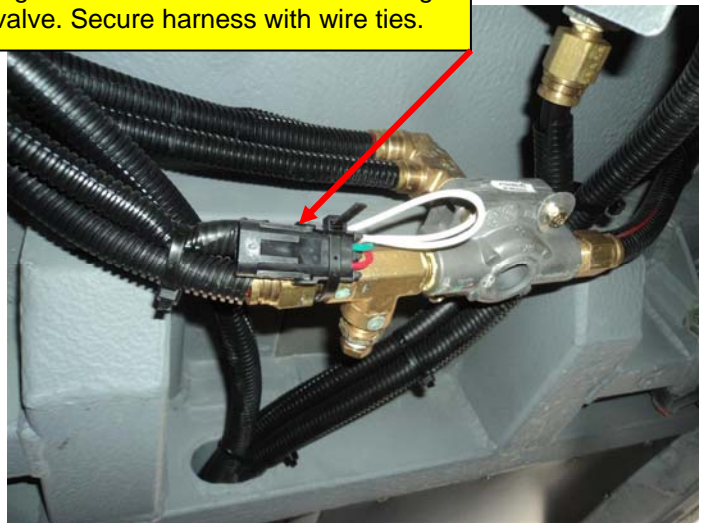
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Route harness from the bottom of the MEP compartment underneath the bus behind the air tank and the steering gear. Secure harness with wire ties.

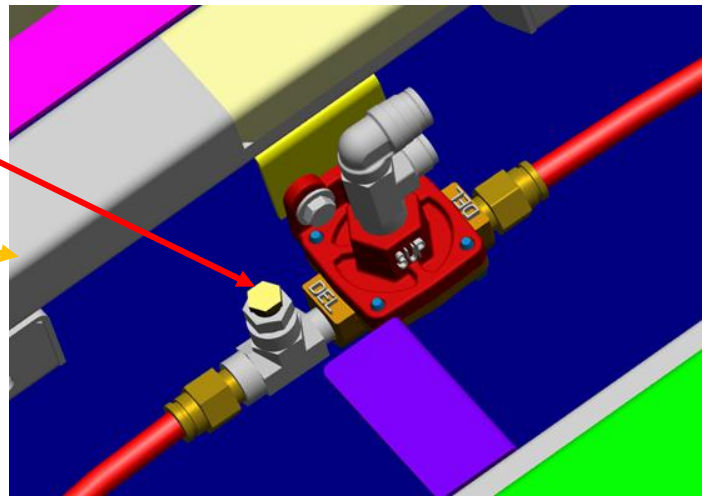
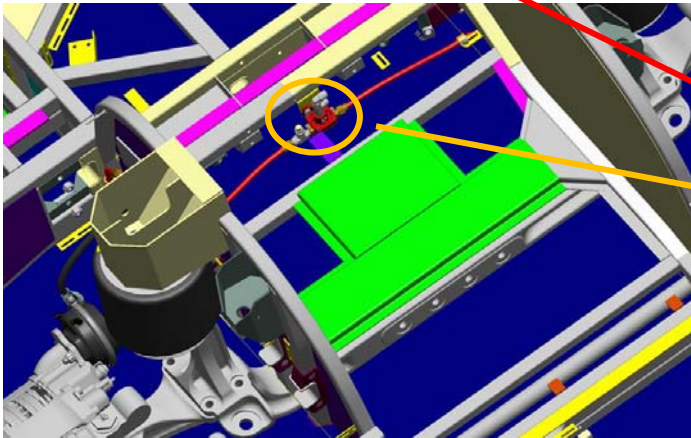


Route harness trough the structure behind the steering gear to the QR-1 valve. Secure harness with wire ties.



### **Switch installation**

7. Lift the bus or park over a service pit. Locate quick release valve at the front axle (see below).
8. Remove plug.



9. Install pressure switch (P/N 700-2100-014).
10. Connect harness to the switch.
11. Remove unused parts and tools from work area.
12. Check for completeness of work.
13. Record bus number, mileage and date of completion.

**After all this work completed, the local Allison service center needs to upload the new program (CALIBRATED ECU ASSY NUMBER: A53013FY).**