



PROTERRA



TECHNICAL SERVICE BULLETIN

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| ISSUE DATE: | 9-30-2019 |
| SERVICE BULLETIN SUBJECT: | Hill Hold Solenoid Retrofit |
| VINs or MODELS AFFECTED: | Service Specified Buses |
| COMPLETE BY: | Next Service Opportunity |
| SERVICE BULLETIN #: | SC-19-124 |

NOTICE! It is expected that this process will require 3 hours per bus Please schedule appropriately to minimize vehicle downtime.

HILL HOLD SOLENOID RETROFIT

This campaign updates the hill hold solenoid and associated components for improved performance.

Tools/Supplies Required

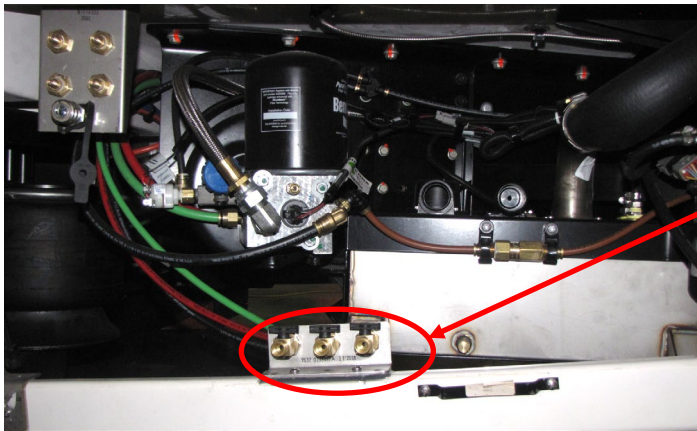
- T-30 Torx Driver
- Ratchet
- 10mm Socket
- Calibrated Torque Wrench
- Orange Torque Stripe Paint
- Tubing Cutter
- Allen Wrenches

Parts Required:

- | | | |
|----------|---|------|
| • 048533 | PLATE, HILL HOLD, FRONT | 1 EA |
| • 048541 | FITTING, PTC, BRASS, 90 DEG, RIGID, 1/4 MPT X 3/8 PTC | 1 EA |
| • 000650 | FITTING, PTC, BRASS 1/4 MPT 3/8" OD TUBE | 2 EA |
| • 001162 | FITTING, PTC, COMPOSITE, 90 DEG, SWIVEL, 3/8 MPT"X 3/8 TUBE | 1 EA |
| • 048555 | SPACER, 0.17" ID (#8 SCREW), 5/16" OD, 1/4" LG, NYLON 6/6 | 3 EA |
| • 000623 | TUBING, AIR, RED, 3/8 OD | 2 FT |

Procedure

1. Perform the Proterra approved Lockout/Tagout procedure to make the bus safe for work.
2. Working inside the Streetside rear compartment, open the three valves shown below to drain the air tanks.



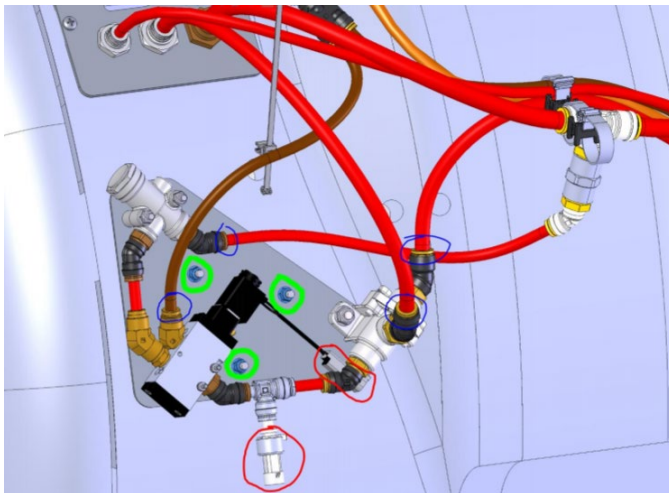
Open Valves

3. Remove any components from the Driver's workplace necessary to access the lower ECAB panel shown in the following photograph.

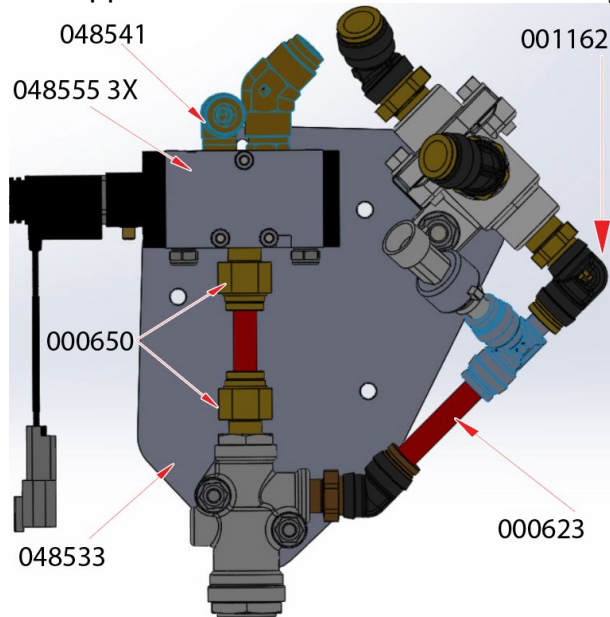


Remove Panel

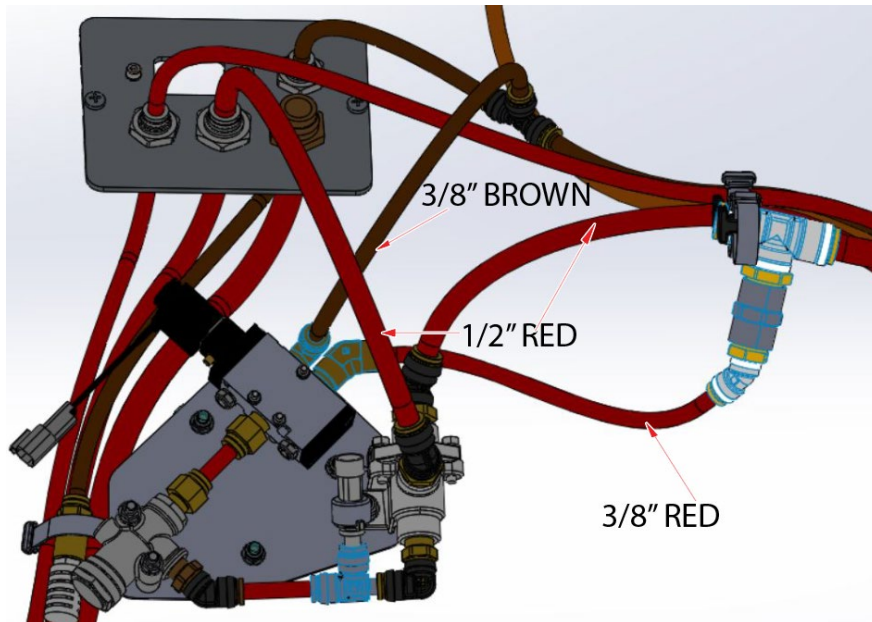
4. Using a T-30 Torx Driver, remove the panel shown in the previous photograph.
5. Working inside the wheel well, disconnect the Air Lines circled in blue in the following illustration. Also disconnect the harness connections for the Solenoid Valve and the Pressure Transducer shown circled in red.



6. Using a 10mm Ratchet/Socket, remove the three locknuts shown circled in green in the previous illustration.
7. Remove the old Hill Hold Plate and the components that are attached to it.
8. Using the parts from the original Hill Hold Plate with the new parts included in the kit, build the new Hill Hold Plate as shown in the illustration below. Three Spacers (048555) are used underneath the Solenoid to space them above the Plate. All NPT fittings should have Loctite 567 applied to the threads before assembly.

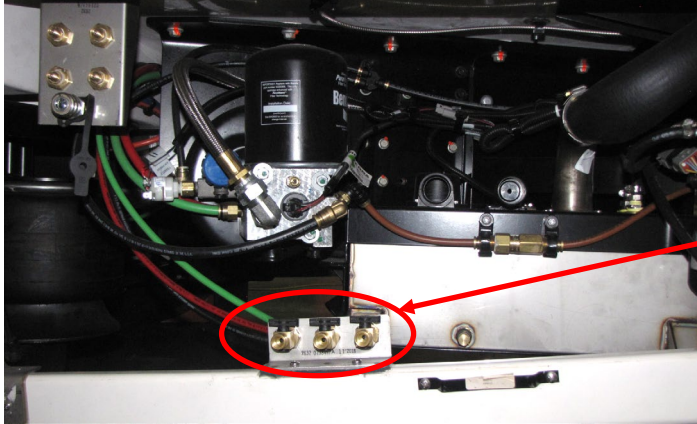


9. Using a 10mm Ratchet/Socket, install the assembled Hill Hold Plate as shown in the illustration below. Use the Locknuts that were remove earlier.



10. Using a Calibrated Torque Wrench with a 10mm Socket, **torque the locknuts to 60 Inch Pounds.**
11. Mark the properly torqued fasteners with Orange Torque stripe Paint.

12. Connect the air lines as shown in the illustration above. The tubing that was disconnected earlier is shown properly connected with size callouts.
13. Connect the wiring harness to the Solenoid Valve and the Pressure Transducer.
14. Using a T-30 Torx Driver, reinstall the lower ECAB Panel.
15. Replace any other components that were removed to access the Hill Hold Plate.
16. Close the valves that were opened to drain the air tanks.



Close Valves

17. Remove the Lockout/Tagout devices and start the bus.
18. Allow the air pressure to build until the compressor stops.
19. Ensure that there are no air leaks before returning the bus to service.