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| **ISSUE DATE:** | 10-6-2021 |
| **SERVICE BULLETIN SUBJECT:** | Ancillary Bay Battery Pack Ground Screw Replacement |
| **VINs or MODELS AFFECTED:** | Service Specified Buses |
| **COMPLETE BY:** | Next Service Opportunity |
| **SERVICE BULLETIN #:** | SC-21-174 |
| **Labor Operation Code:** | HB45Z |

**NOTICE! It is expected that this process will require four (4) hour per battery pack. Please schedule appropriately to minimize vehicle downtime.**

# ANCILLARY BAY GROUND SCREW RETROFIT

## Retrofit Description:

This procedure describes updating the Ancillary Bay Ground Screw to a more conductive version.



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## Tools/Parts Required

Tools and Supplies Required:

- Hioki RM3545 Resistance Meter
- Fluke 1857 FC Insulation Multimeter
- Ratchet
- T-25 Torx Socket
- 8mm Magnetic Insulated Nut Driver
- Calibrated Torque Wrench
- Shop Towels
- Isopropyl Alcohol
- Safety Razor Blade
- High-Voltage Safety Gloves

Parts Required:

| | | |
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| • 022265 | SCR,M5x14,BTN,STL,ZnNi,P-ST3 | 1 EA |
| • 022363 | WARRANTY LABEL | 1 EA |



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## Procedure:

1. If the Battery Pack for the retrofit is installed on a vehicle, refer to the appropriate Maintenance and Repair manual to safely remove the Battery Pack.

2. Initially this procedure will perform an Isolation Check on the battery pack. A video overview of the Isolation Check is available at the link below The Fluke 1587 FC Insulation Meter will be used for this check.
   https://www.youtube.com/watch?v=9KeVQ5k_krU

3. Inspect the Leads of the Hioki RM3545 Resistance Meter and the Fluke 1587 FC Insulation Meter to ensure that they are free of nicks, cuts, or any other damage that might expose the user to an electric shock.



4. Set the Fluke 1587 FC Insulation Meter to measure DC volts. Verify that the Meter is working correctly by testing a known source of DC voltage such as 12-volt DC power on the vehicle or a 9-volt battery.




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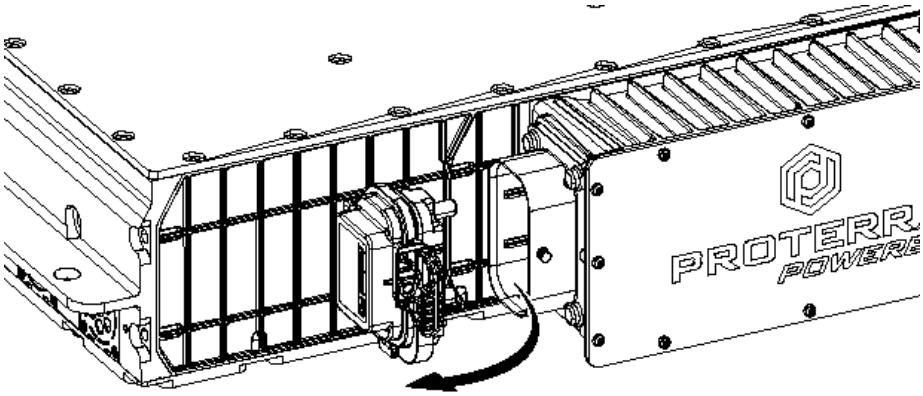
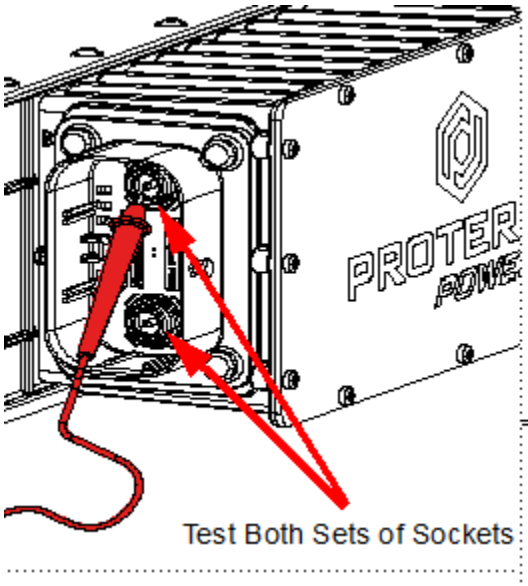
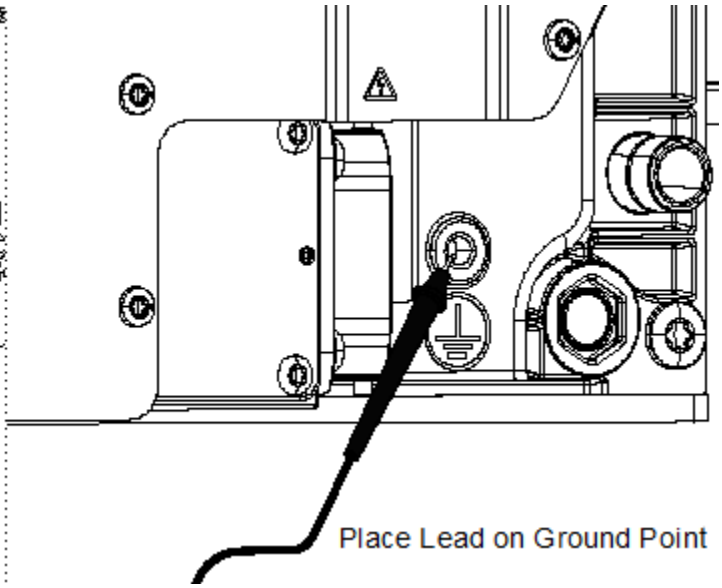
5. Put on the required personal protective equipment. This includes high-voltage safety gloves, electrical hazard safety shoes, and safety glasses.

6. Unlock and remove the MSD if installed.



7. Using the Fluke 1587 FC Insulation Meter, check the MSD connector pins for Isolation Faults. Test the resistance of the pins to the chassis of the Ancillary Bay. The measurement should be between 225 kiloohms and 50 megohms.
   **NOTE:** If any values measure less than 225 kiloohms or greater than 50 megohms, an Isolation Fault is indicated. Please contact Proterra Service for assistance with Isolation Faults.




8. If no Isolation Faults were found, the procedure may be continued. If Isolation Faults were found, please consult Proterra Service to determine if you should continue with this repair or return the pack to Proterra for service.



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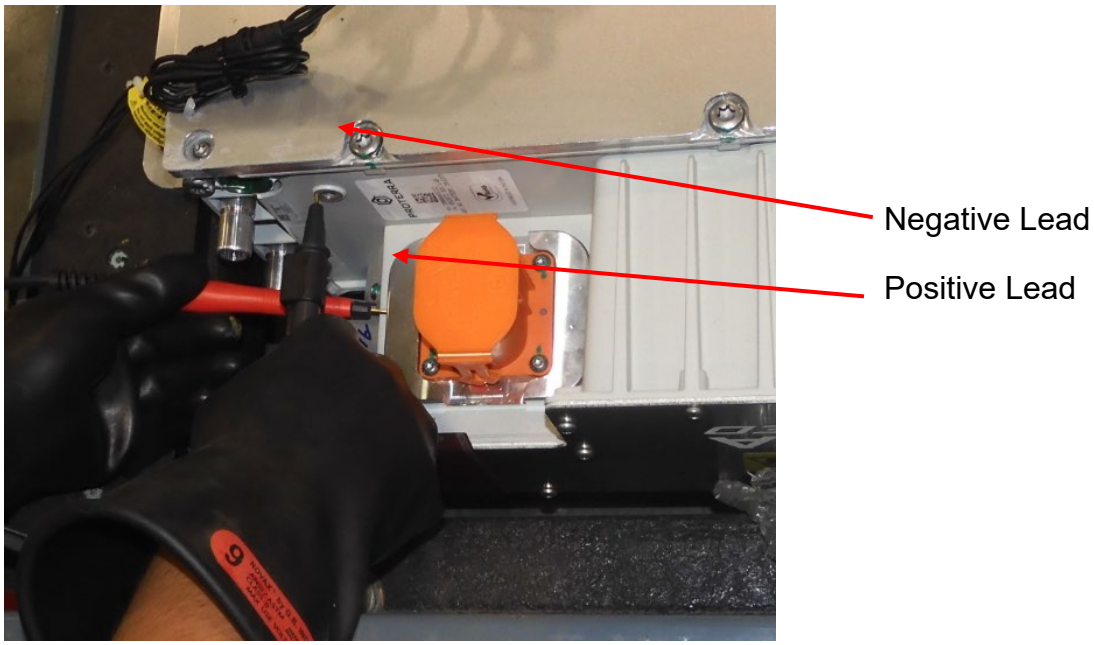
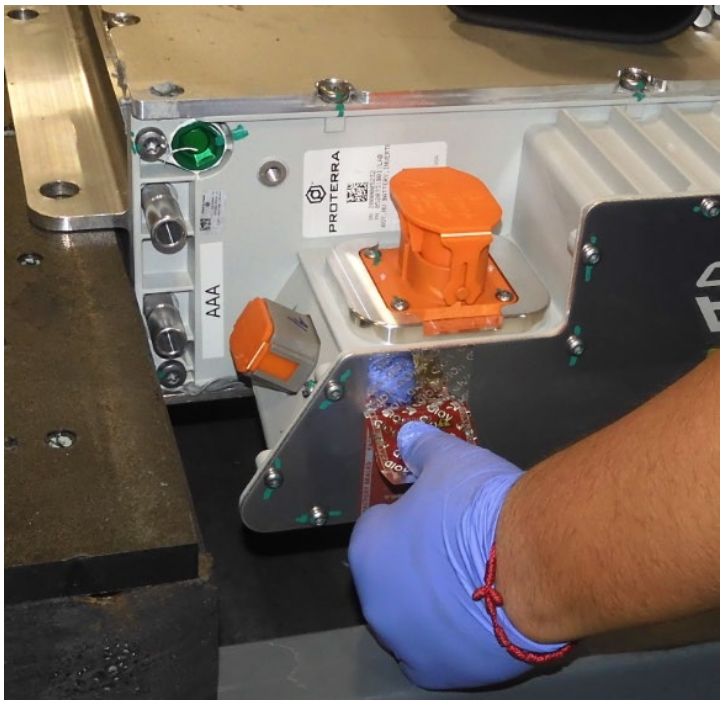
9. Using the calibrated Hioki RM3545 Resistance Meter, measure the resistance between the two points shown in the following photograph. Clean the areas with Shop Towels and Isopropyl Alcohol before beginning the measurement.




10. Make a note of the measured value. The value should decrease when the old Screw is replaced with the new Screw (022265).

11. Remove the Warranty Label (022363) from the Ancillary Bay Cover as shown in the following photograph.



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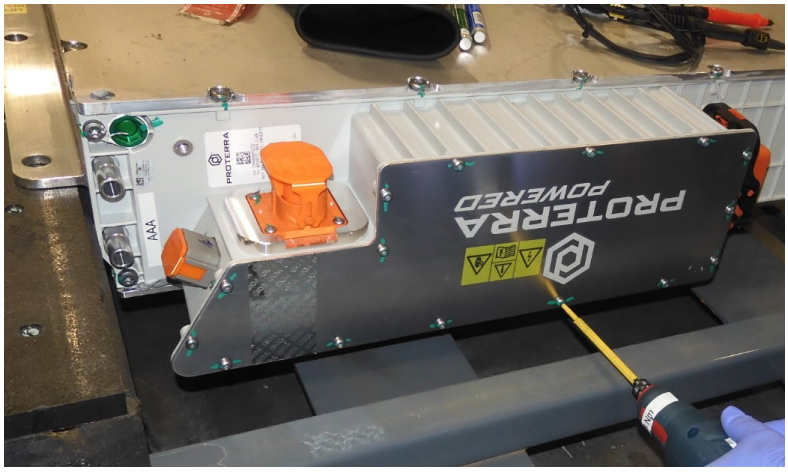
12. Using a T-25 Torx Driver, remove the screws that secure the Ancillary Bay Cover to the Battery Pack.




13. Remove the Ancillary Bay Cover and set it aside.

14. Remove the transparent Safety Cover shown in the following photograph.



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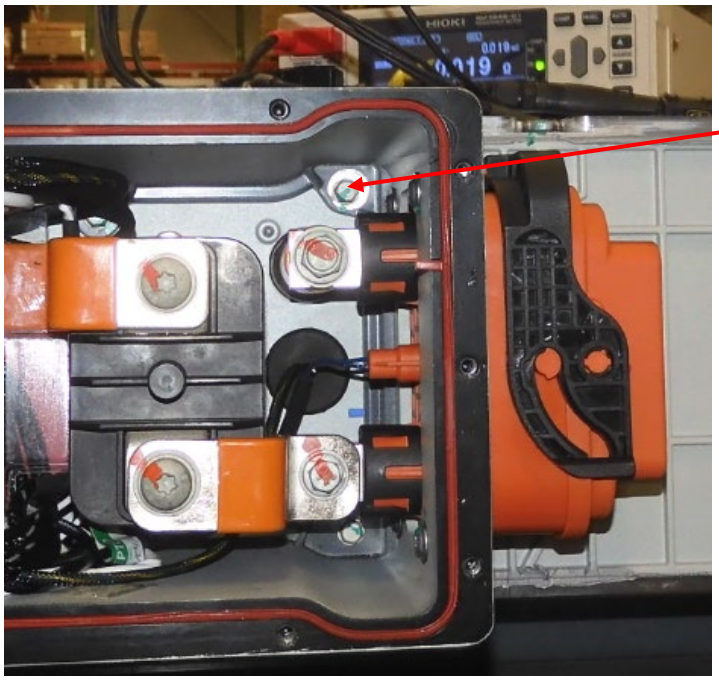
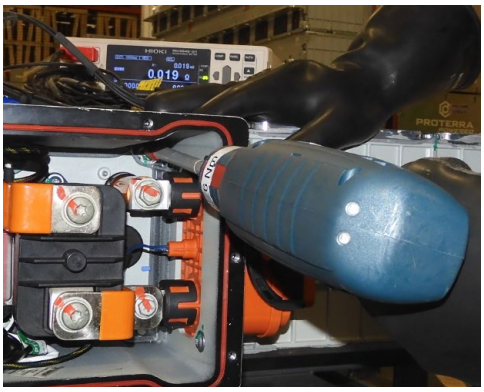
15. Put on the High-Voltage Safety Gloves.

16. Using an 8mm Magnetic Insulated Nut Driver, remove the Screw in the corner of the Ancillary Bay nearest the MSD.



17. Using a T-25 Torx Driver, install the replacement Screw (022265) in place of the original that was removed.

18. Using a Calibrated Torque Wrench with a T-25 Torx Socket, **torque the fastener to 53 inch-pounds.**

19. Using a Blue Torque Stripe Marker, mark the properly torqued fastener.



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20. Replace the Transparent Safety Cover.

21. Using the calibrated Hioki RM3545 Resistance Meter, repeat the Resistance Measurement performed earlier.

22. Record the Resistance Measurement. The value should be 10 milliohms or less.



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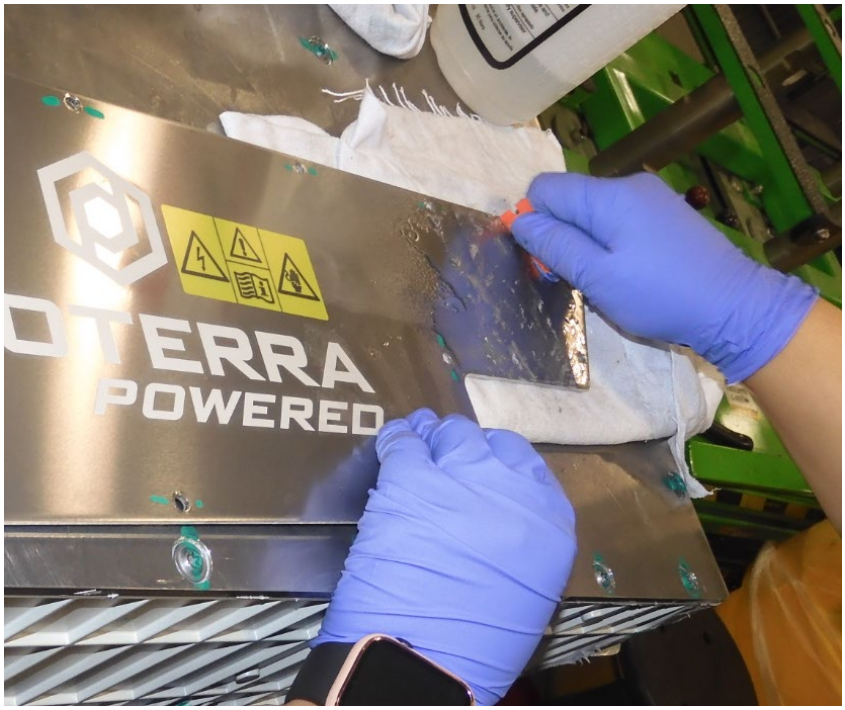
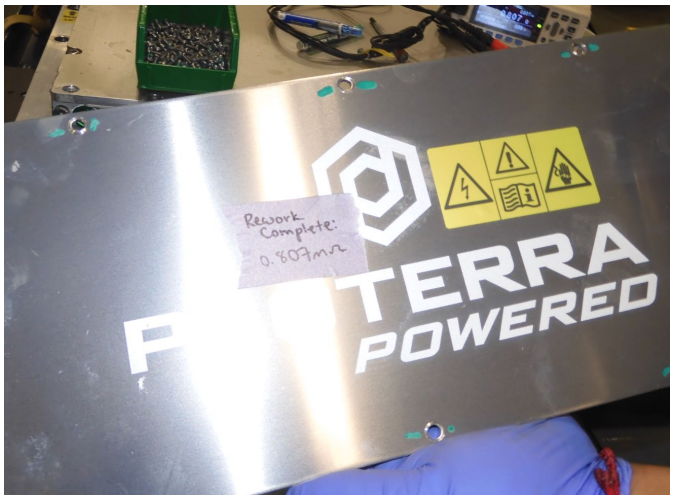
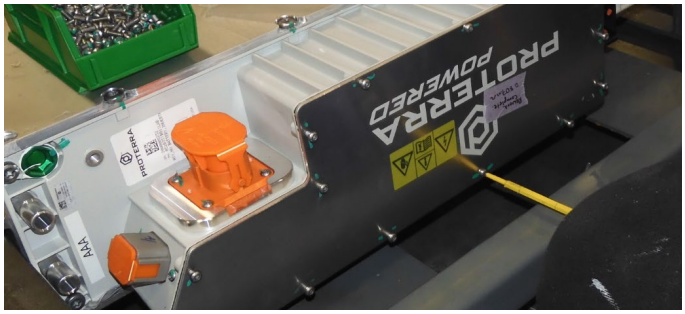
23. Using Isopropyl Alcohol with Shop Towels and a Safety Razor Blade, remove the remainder of the Seal from the Ancillary Bay Cover.




24. Label the Ancillary Bay Cover as shown in the following photograph. The label should state “Rework Complete:” and show the final measured milliohm value.




25. Using a T-25 Torx Driver, replace the Ancillary Bay Cover using the original screws.



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26. Using a Calibrated Torque Wrench with a T-25 Torx Socket, **torque the fasteners to 53 inch-pounds.**

27. Using a Blue Torque Stripe Marker, mark the properly torqued fastener.

28. Replace the Warranty Label (022363) with a new one as shown in the following photograph.


29. Replace the MSD if one was installed.

30. The Ground Screw replacement process is complete.



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