

ICE

Charging Port Wiring

Retrofit Procedure

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Revision history

Table 1: Revision history

Revision	Description
01	Initial release

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Description

This document describes the charging port wiring retrofit, which is required to upgrade to the Delta-Q 1200 Watt charger. Follow this procedure to retrofit machines that were initially manufactured with 10 AWG wire on the battery charger connector.

Applicability

This retrofit is applicable to ICE machines with serial numbers 576 and below. The specific need for this retrofit is determined by Brain Corporation Tech Services Management on a case-by-case basis.

Symbols and conventions in this document

Pay special attention when this symbol is seen in this document:



DANGER or WARNING: Notification of hazards or unsafe practices that could result in physical or property damage, physical injury, or death.

Required tools

To perform this procedure, the following tools are required:

- 10 mm socket
- Torque wrench
- Phillips screwdriver
- 13 mm socket
- ½ inch socket
- Diagonal cutters
- Pliers
- Torque paint

Required parts

To perform this procedure, a 6 AWG replacement cable (810-00214-01) is required, as shown in Figure 1.



Figure 1: 6 AWG replacement cable

Procedure

1. To power off the scrubber, turn the key counterclockwise.
2. Raise the seat.
3. Disconnect the red battery coupling and the seat sensor connector.

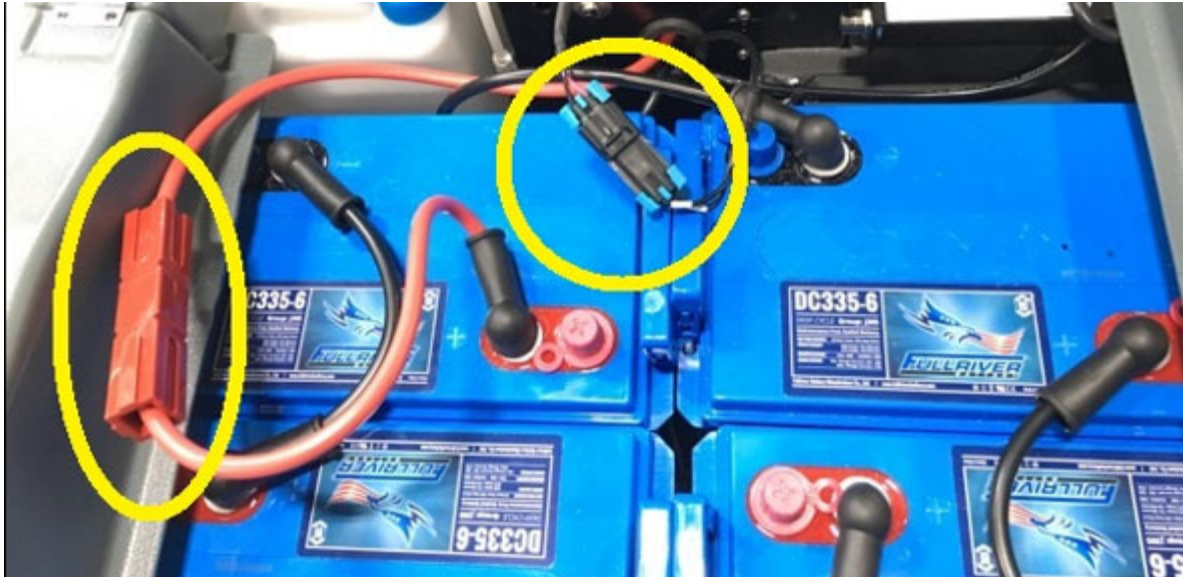


Figure 2: Disconnect the battery coupling and seat sensor



***DANGER:** Do not proceed without first decoupling the battery connection. Working on some components could include the handling of exposed wires that can produce dangerous current levels if the battery is still connected.*

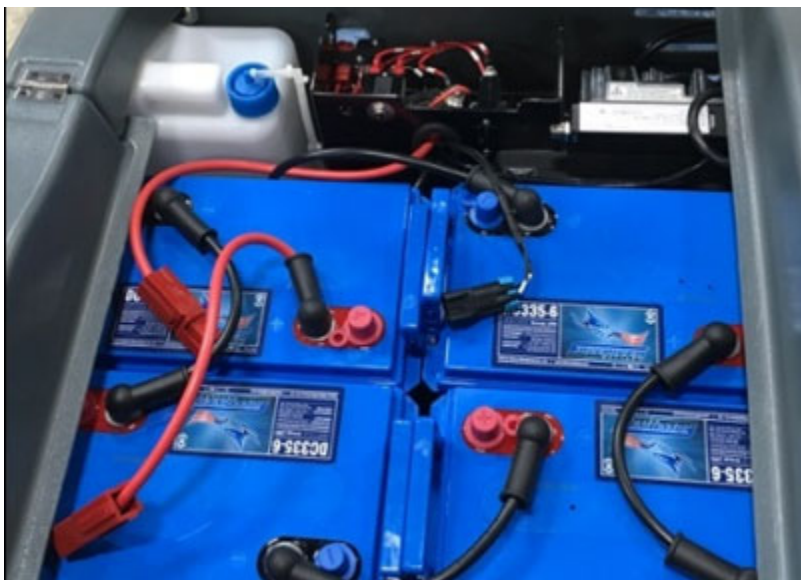


Figure 3: Disconnected battery coupling and seat sensor connector

4. Lift the seat off the machine and set it on the floor.

5. To remove the two bolts securing the housing, use the 13 mm socket.



Figure 4: Remove the housing

6. Lift the housing straight up and off the machine, then set it on the floor.
7. To access the charging connector screws, disconnect and remove the detergent tank.



Figure 5: Disconnect and remove the detergent tank

8. To loosen the locking nut on the 5 A circuit breaker, use the 14 mm socket.

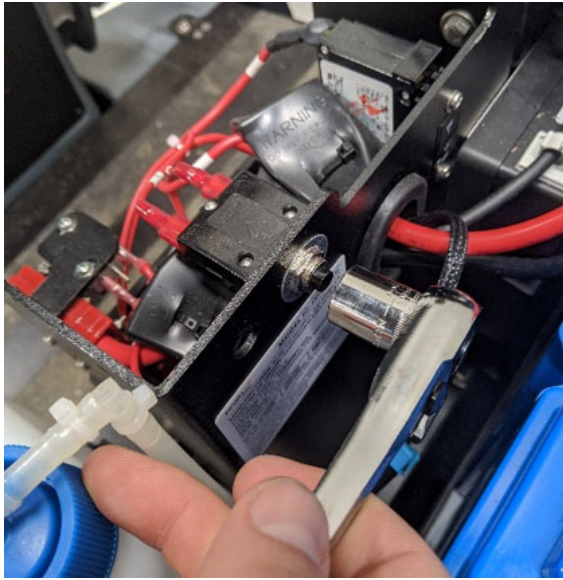


Figure 6: Remove the locking nut and washer

9. Remove the breaker from the assembly but leave the rear couplings connected.

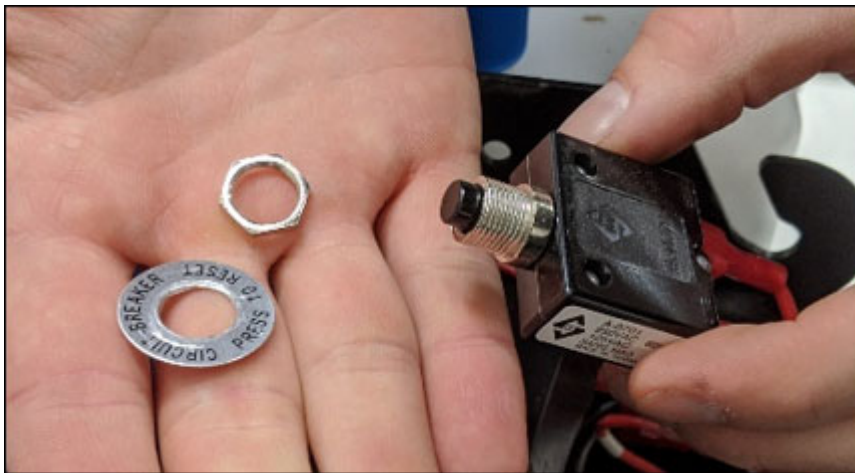


Figure 7: Remove the breaker from the assembly

10. To cut the tie wrap and remove the terminal cover, use the diagonal cutters.

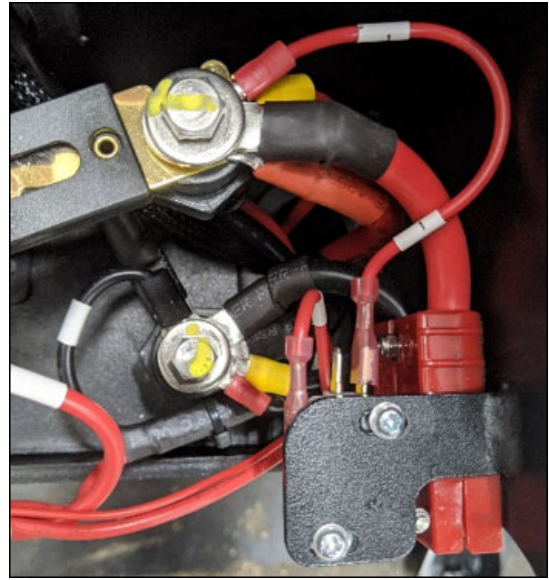


Figure 8: Remove the terminal cover

11. To remove the bolts that secure the red and black charging cables, use the 10 mm socket. Be sure to retain the correct order of components.

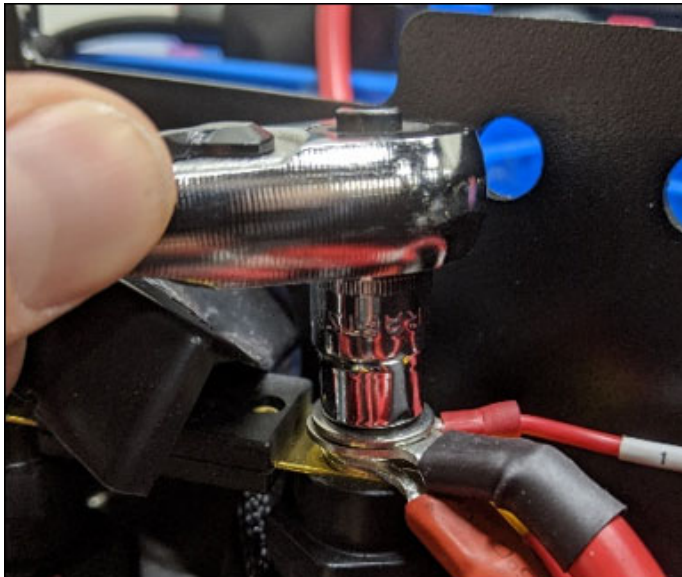


Figure 9: Remove the bolts that secure the red and black cables (red cables shown)

12. To remove the breaker microswitch, use the Phillips screwdriver and pliers. Removing the microswitch exposes the charging connector.

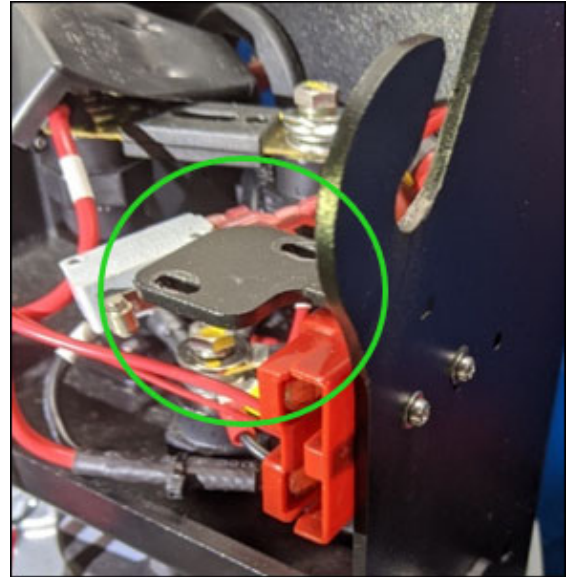
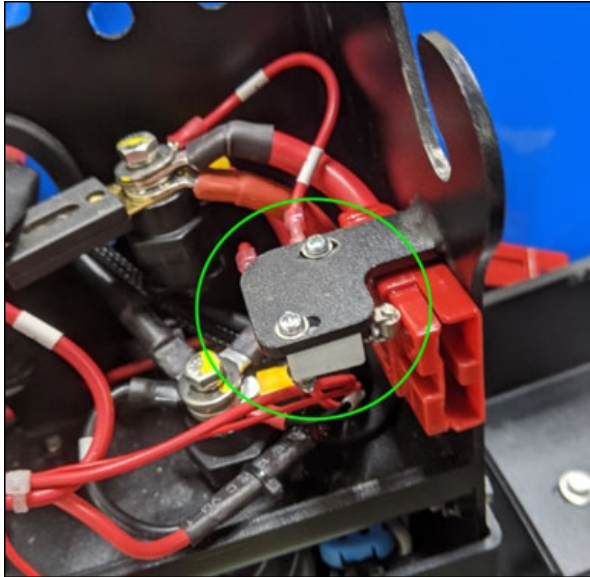


Figure 10: Remove the breaker microswitch

13. To remove the two screws that secure the charging connector to the harness, use the Phillips screwdriver. To hold the locking nuts in place, use the pliers.

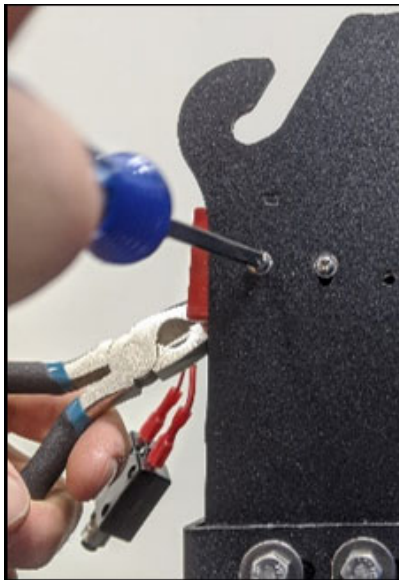


Figure 11: Remove the charging connector screws

14. Verify that the charger connector is loose.

NOTE: The positive (red) cable on the charging port is connected to the higher, elevated terminal next to the fuse.



Figure 12: Removed charging connector

Figure 13 shows the screw assembly.



Figure 13: Screw assembly

15. To remove the old charging connector and replace it with the new 6 AWG connector, use the 10 mm socket wrench.
16. Attach the terminal cables BEFORE securing the red connector side to the base machine housing.
17. Re-thread a hex bolt through the eyelets of the positive (red) cables.

IMPORTANT: Keep the terminal hex bolts loosely tightened until proper connections and placement are confirmed. Then fully tighten while making sure there is no twisting, sheering, or lateral touching of the eyelet connectors.

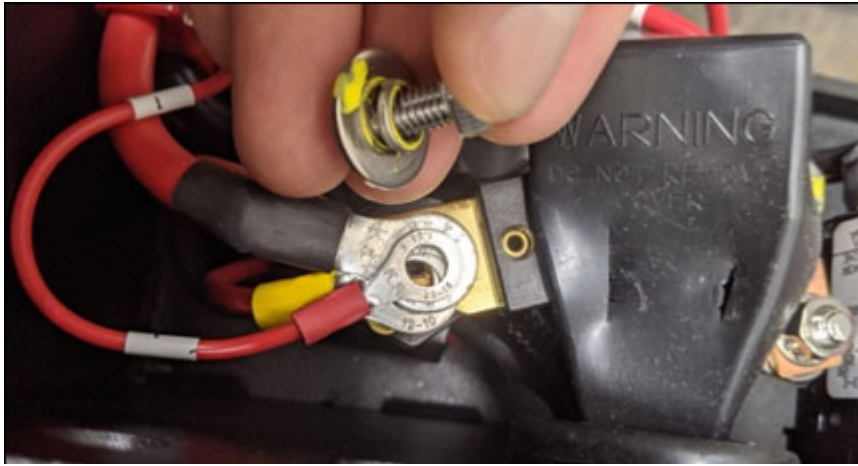


Figure 14: Install the positive (red) terminal connections

18. Repeat this process for the negative (black) terminal connections.
19. After both terminals are reconnected, fully tighten, making sure there is no twisting, sheering, or lateral touching of eyelet connectors.
20. Fully tighten the high voltage joints to 7 Nm (62 in-lb).
21. Apply the torque paint.
22. Secure the red charging connector to the base machine housing.

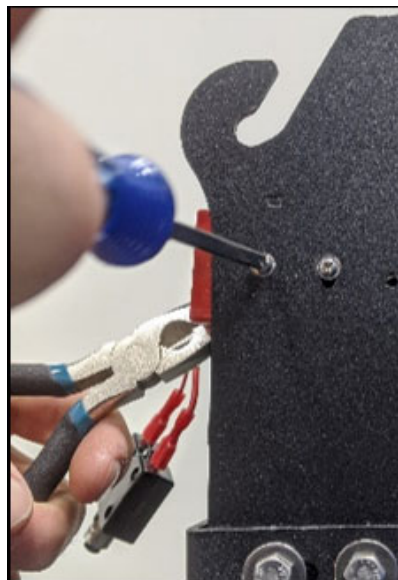


Figure 15: Install the new charging connector

23. Reinstall the breaker microswitch.

IMPORTANT: To Install the microswitch, tighten the screws so that the microswitch body is parallel with the edge of its mounting plate. The screws must be at or near the end of their slots as shown in Figure 16. See Figure 18 and Figure 19 for additional views.

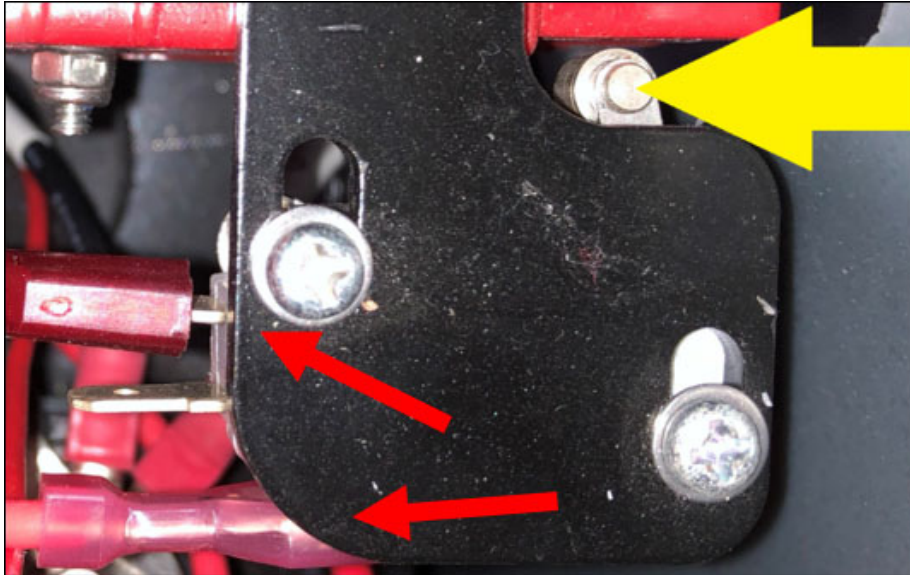


Figure 16: Mount the microswitch and reconnect the wires

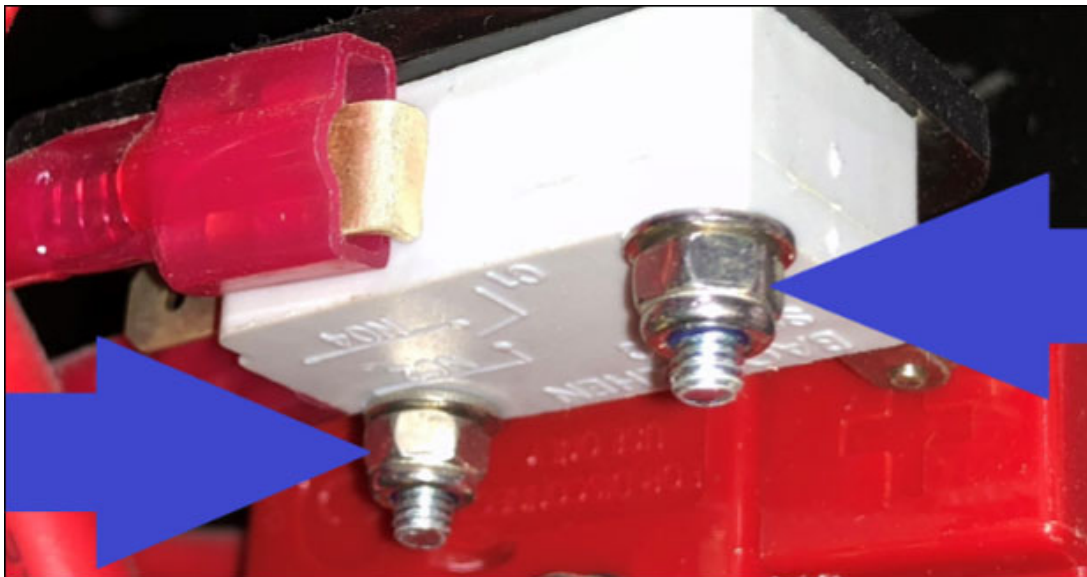


Figure 17: Gently secure the microswitch

24. Reconnect both wires as shown in Figure 16.

25. Test fit the charger power connector to ensure that it seats correctly without over-stressing the replacement microswitch.

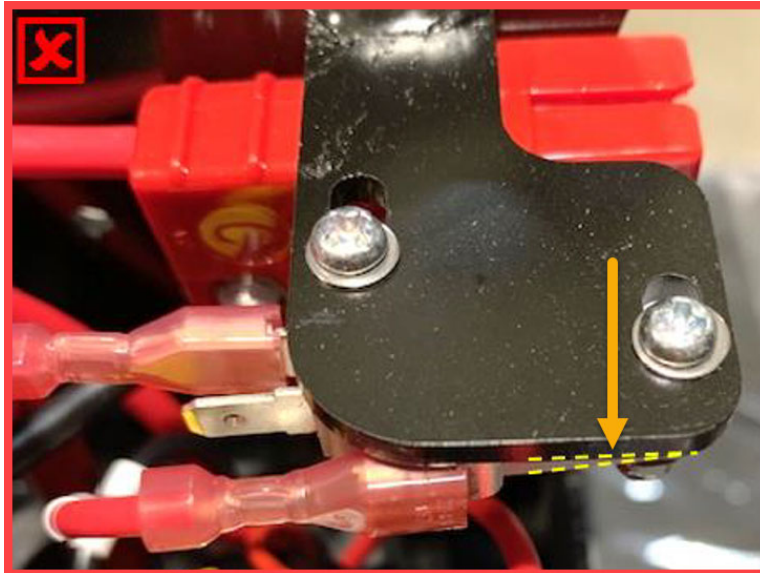


Figure 18: Crooked microswitch mounting increases risk of damaging the contact

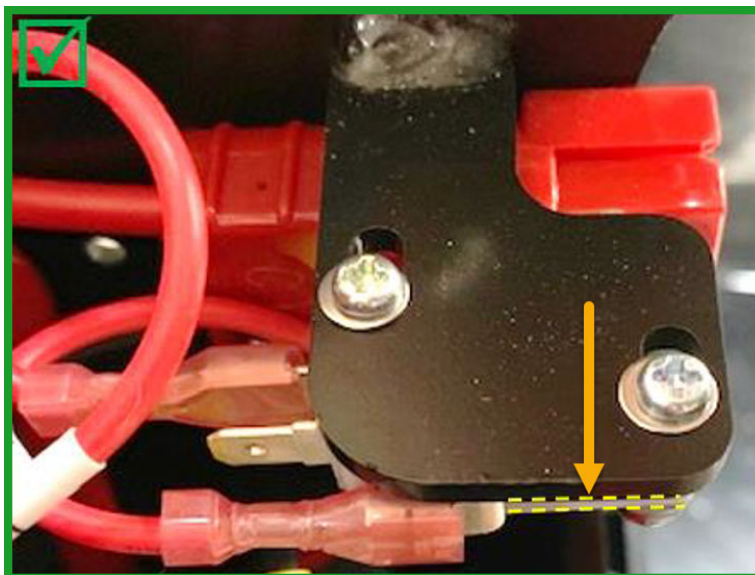


Figure 19: Correctly mounted microswitch with body parallel to the mounting plate edge

26. Using the 14 mm socket, reinstall the 5 A circuit breaker.



WARNING: Be careful to **NOT** over-tighten the breaker. The breakers are very fragile and do not tolerate torque well.

27. Reconnect and reinstall the detergent tank.
28. Reinstall the plastic battery housing and secure it with the two 13 mm front bolts.
29. Secure the battery terminal covers.
30. Replace the seat, being careful not to break the 5A circuit breaker in the process.
31. Reconnect the seat sensor.
32. Reconnect the red battery coupling.
33. Lower the seat.
34. To power on the unit, turn the key clockwise.
35. Verify proper startup and normal system operation.