



INSTRUCTION BULLETIN

No. 9021936
Machine: T380AMR/
T7AMR/T16AMR
Published: 09-2022
Rev. 00

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in the machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save the cost of ordering an entire kit.

NOTE: Numbers in parenthesis () are reference numbers for parts listed in Bill of Materials.

Installation instructions for **kit number 9052021**

Kit installation must be performed by TennantTrue[®] service or an authorized service provider.

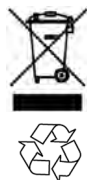
SYNOPSIS:

This kit contains the parts needed to replace lithium battery terminal resistor on T380AMR, T7AMR, and T16AMR scrubbers equipped with lithium batteries.

Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 30-45 minutes)



PROTECT THE ENVIRONMENT

Please dispose of packaging materials, used machine components such as batteries and fluids in an environmentally safe way according to local waste disposal regulations.

Always remember to recycle.

PREPARATION: T380AMR

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine, and remove key.

1. Completely empty the recovery tank.
2. Turn off the lithium battery pack. Press and hold the power button on one of the lithium batteries for 20 seconds to turn the entire battery pack off. (Fig. 1)

Quickly press the power button on each lithium battery and observe the indicator bars near the button. None of the indicator bars should illuminate, indicating the battery is off.

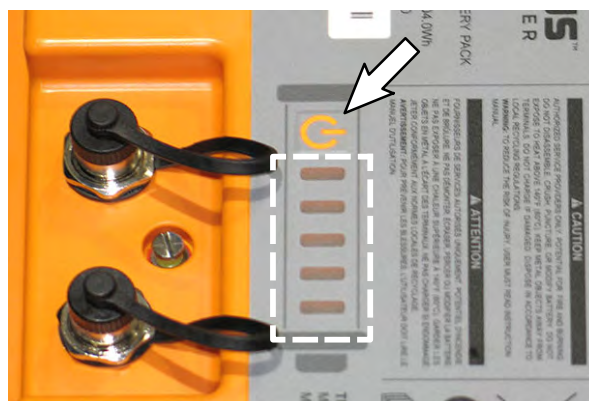


FIG. 1

3. Disconnect the battery cable from the machine.



WARNING: Always disconnect battery cables from machine before working on electrical components.

INSTALLATION: T380AMR

1. Disconnect the resistor plug from the lithium battery communication terminal. Turn resistor plug ring counterclockwise to loosen/disconnect. Discard the removed resistor plug. (Fig. 2/Fig. 3)

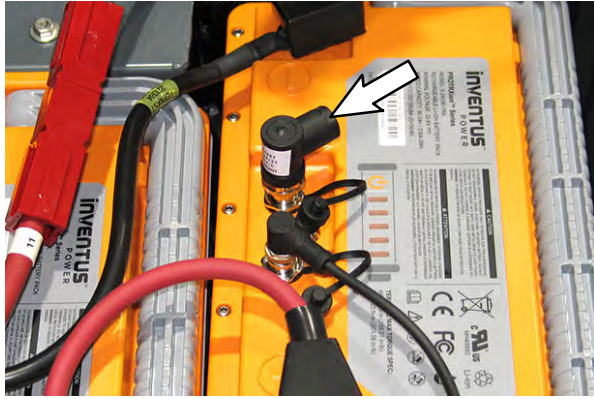


FIG. 2

2. Connect the new resistor plug (1) to the lithium battery communication terminal where the removed resistor plug was previously located. Turn resistor plug ring clockwise to tighten/connect. Torque resistor plug ring to 0.6 Nm (0.44 ft. lbs.). (Fig. 2/Fig. 3)
3. Reconnect the battery cable to the machine.
4. Turn on the batteries. Hold the power button on each lithium battery for 5 seconds to turn on the battery.
5. Quickly press the power button again and observe the indicator lights near the button. The indicator lights should be illuminated.
6. Repeat previous two steps to turn on the remaining battery.
7. Confirm lithium battery system is functioning properly. See CHECK LITHIUM BATTERY STATUS for confirmation procedure.

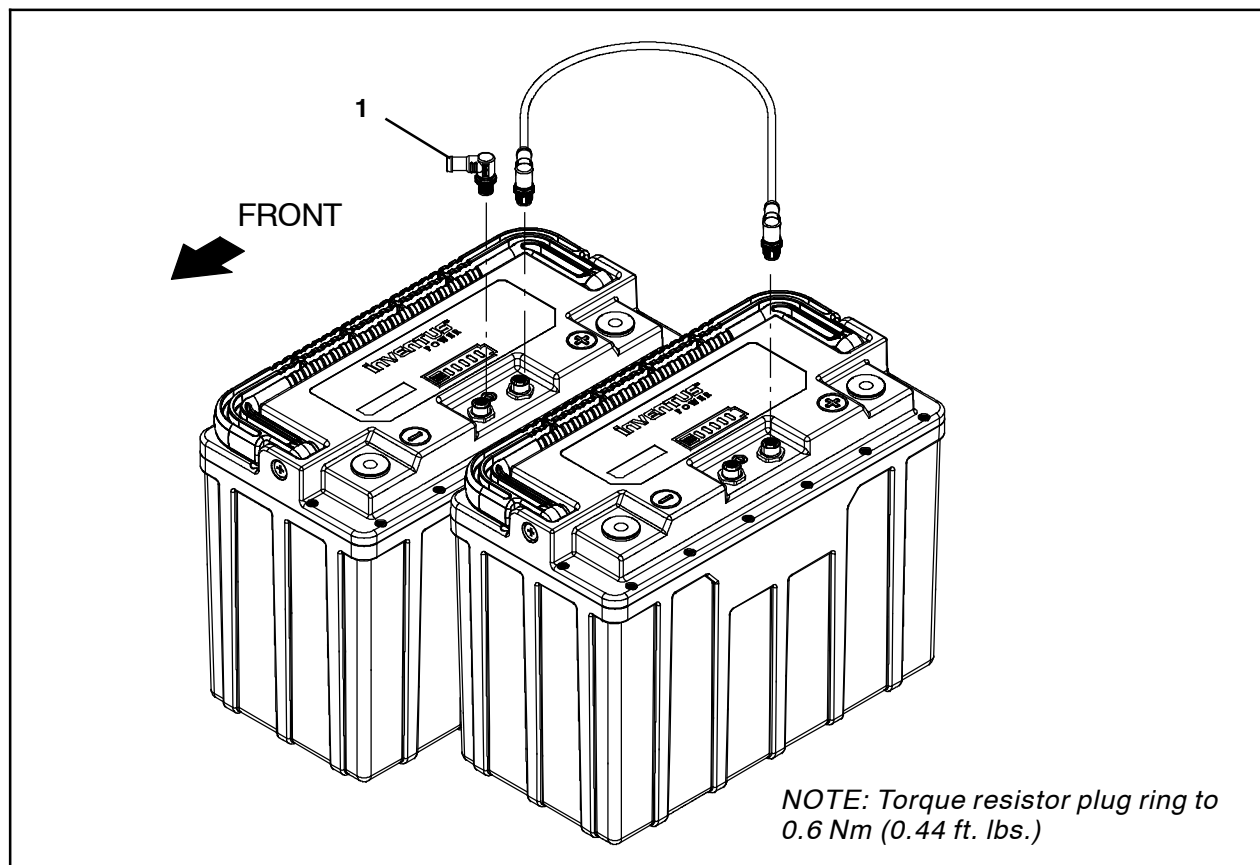


FIG. 3 - T380AMR

PREPARATION: T7AMR

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine, and remove key.

1. Completely empty the recovery tank.
2. Tilt the recovery tank back. Ensure the recovery tank is empty before tilting. (Fig. 4)



FIG. 4

3. Disconnect the main wire harness from the operator seat switch harness. (Fig. 5)



FIG. 5

4. Remove the operator seat/seat plate from the machine. Set seat/seat plate aside. (Fig. 6)



FIG. 6

5. Remove the battery box cover from the machine. Set the battery box cover aside. (Fig. 7)

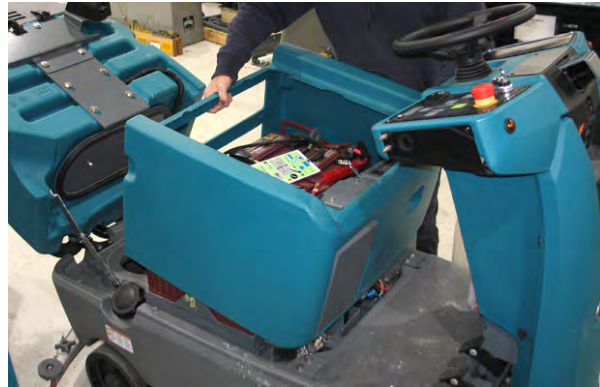


FIG. 7

6. If necessary to allow easier access to the lithium batteries, remove the strap from around the batteries. (Fig. 8)

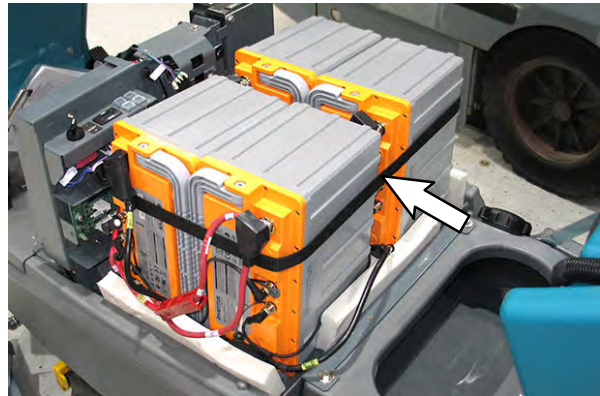


FIG. 8

7. Turn off the lithium battery pack. Press and hold the power button on one of the lithium batteries for 20 seconds to turn the entire battery pack off. (Fig. 9)

Quickly press the power button on each lithium battery and observe the indicator bars near the button. None of the indicator bars should illuminate, indicating the battery is off.

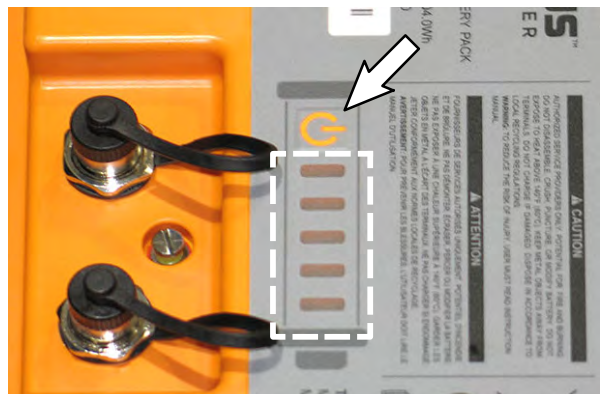


FIG. 9

8. Disconnect the battery cable from the machine.

WARNING: Always disconnect battery cables from machine before working on electrical components.

INSTALLATION: T7AMR

1. Disconnect the resistor plug from the lithium battery communication terminal. Turn ring on resistor plug counterclockwise to loosen/disconnect. Discard the removed resistor plug. (Fig. 10/Fig. 11)



FIG. 10

2. Connect the new resistor plug (1) to the lithium battery communication terminal where the removed resistor plug was previously located. Turn ring on resistor plug clockwise to tighten/connect. Torque resistor plug ring to 0.6 Nm (0.44 ft. lbs.). (Fig. 10/Fig. 11)
3. Reinstall the battery box cover and operator seat/seat plate onto the machine. Reconnect the wire harness to the operator seat harness.
4. Reconnect the battery cable to the machine.
5. Turn on the batteries. Hold the power button on each lithium battery for 5 seconds to turn on the battery.
6. Quickly press the power button again and observe the indicator lights near the button. The indicator lights should be illuminated.
7. Repeat previous two steps to turn on the remaining batteries.
8. Confirm lithium battery system is functioning properly. See CHECK LITHIUM BATTERY STATUS for confirmation procedure.

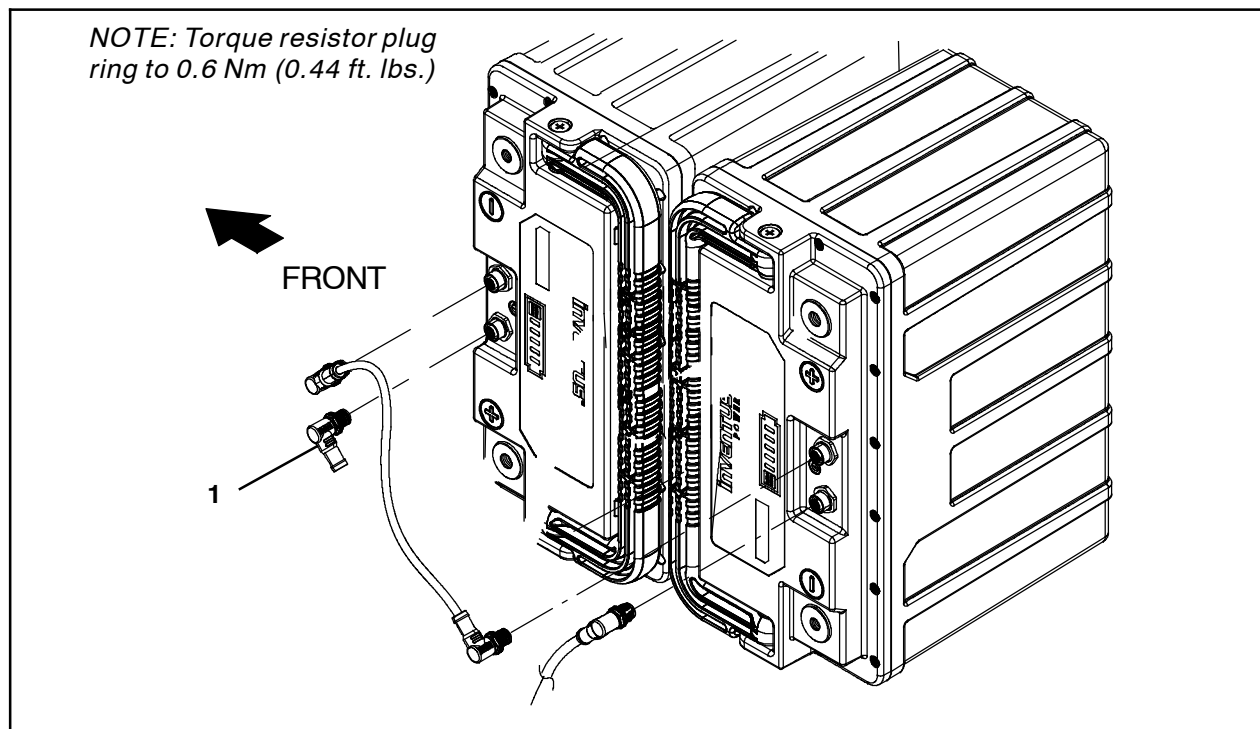


FIG. 11 - T7AMR

PREPARATION: T16AMR

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine, and remove key.

1. Turn off the lithium battery pack. Press and hold the power button on one of the lithium batteries for 20 seconds to turn the entire battery pack off. (Fig. 12)

Quickly press the power button on each lithium battery and observe the indicator bars near the button. None of the indicator bars should illuminate, indicating the battery is off.

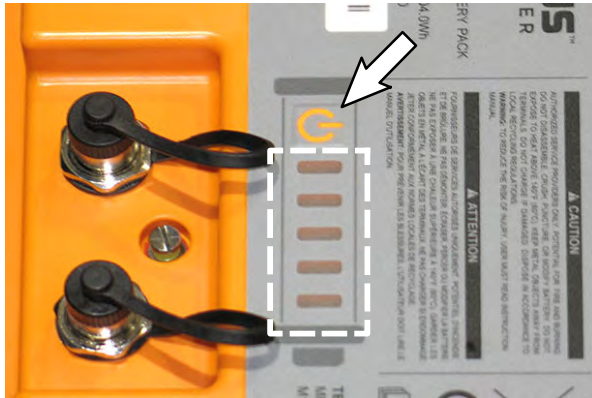


FIG. 12

2. Disconnect the battery cable from the machine.



WARNING: Always disconnect battery cables from machine before working on electrical components.

INSTALLATION: T16AMR

1. Disconnect the resistor plug from the lithium battery communication terminal. Turn resistor plug ring counterclockwise to loosen/disconnect. Discard the removed resistor plug. (Fig. 13/Fig. 14)

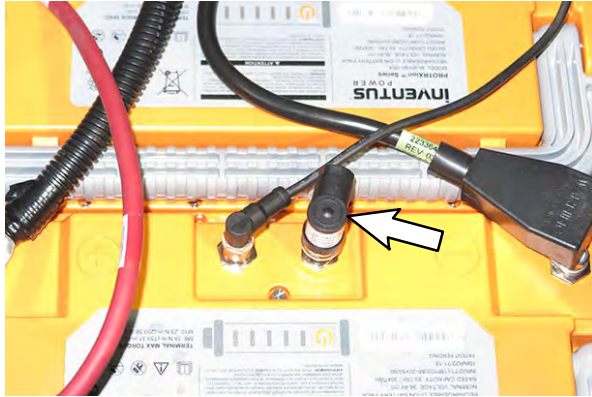


FIG. 13

2. Connect the new resistor plug (1) to the lithium battery communication terminal where the removed resistor plug was previously located. Turn resistor plug ring clockwise to tighten/connect. Torque resistor plug ring to 0.6 Nm (0.44 ft. lbs.). (Fig. 13/Fig. 14)
3. Reconnect the battery cable to the machine.
4. Turn on the batteries. Hold the power button on each lithium battery for 5 seconds to turn on the battery.
5. Quickly press the power button again and observe the indicator lights near the button. The indicator lights should be illuminated.
6. Repeat previous two steps to turn on the remaining batteries.
7. Confirm lithium battery system is functioning properly. See CHECK LITHIUM BATTERY STATUS for confirmation procedure.

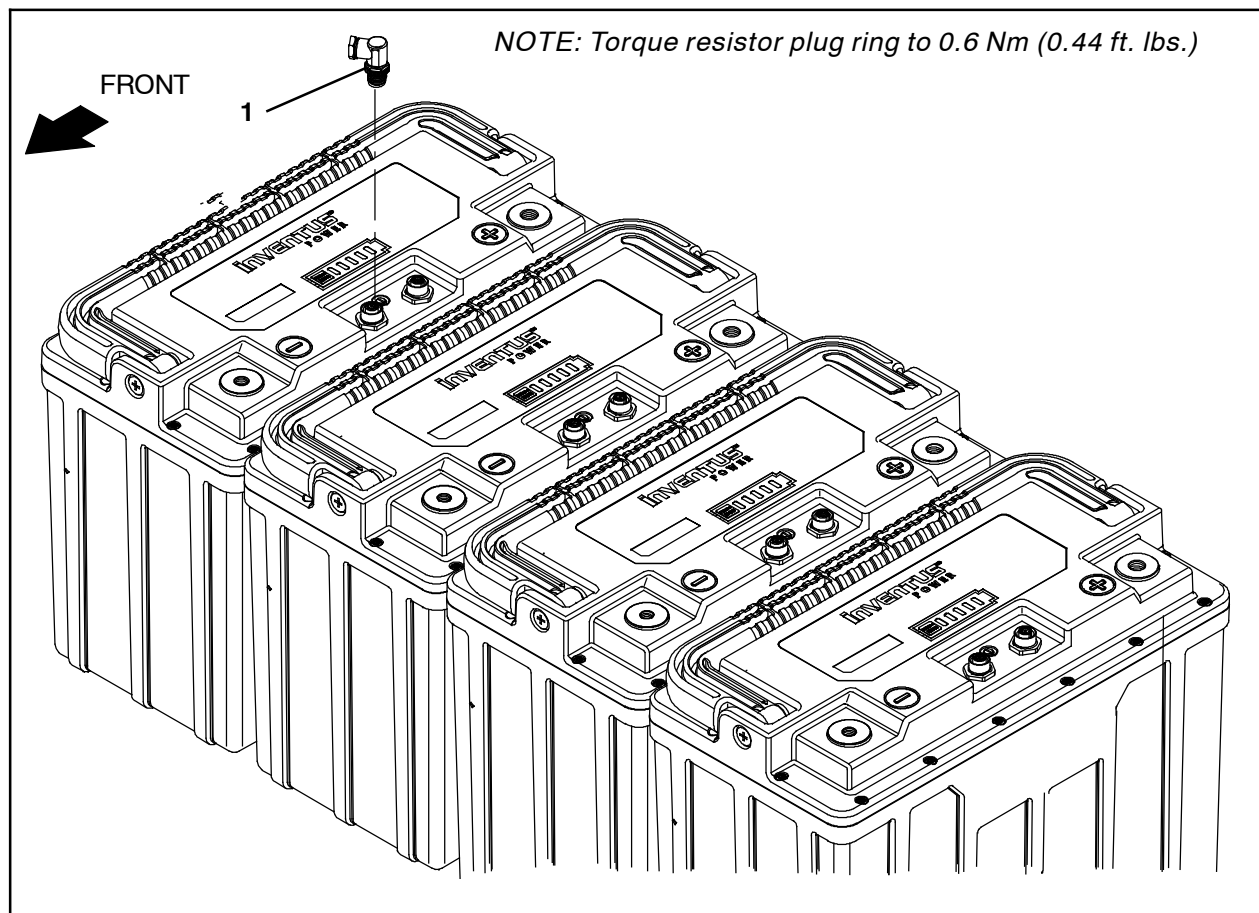


FIG. 14 - T16AMR

CHECK LITHIUM BATTERY STATUS: ALL MACHINES

1. Connect a USB cable to the service device.

ATTENTION: Never allow the metallic tip on the loose end of the service USB cable to touch a lithium battery positive (+) terminal when connecting the USB cable to the service device/ USB cable connected to the lithium battery control board. USB cables, service device, and/or lithium battery control board could be damaged if loose metallic end of the service USB cable touches a lithium battery positive (+) terminal.

2. Connect the other end of the USB cable connected to the service device in the previous step to the USB cable installed on the lithium battery communication board.
3. Turn the key switch ON.
4. Double click the Service Diagnostics desktop shortcut or find the software in All Programs to launch the software.
5. Allow the Service Diagnostics tool to connect to the lithium battery network and the lithium battery service screen to open. (Fig. 15)

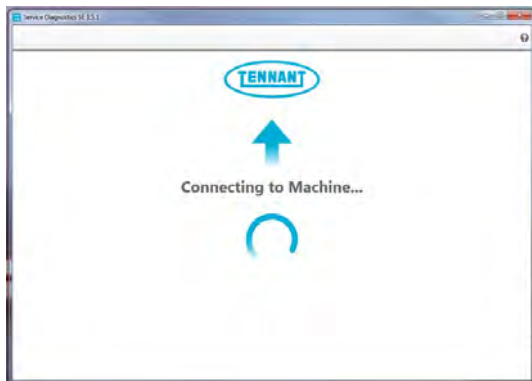


FIG. 15

6. Use the Service Diagnostics tool to access the lithium battery screen. (Fig. 16)

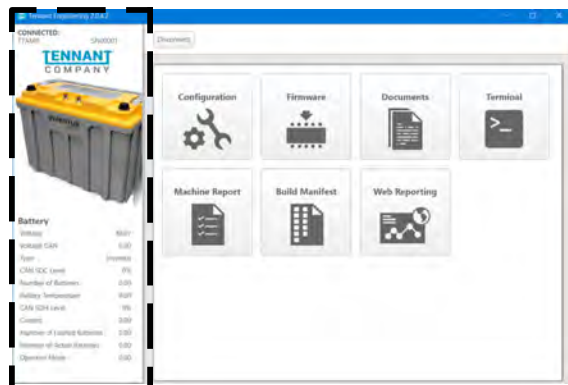


FIG. 16

7. Observe the lithium battery information pane on the left side of the screen. Both the "Number of Batteries" and "Number of Active Batteries" should reflect the number of lithium batteries (either four (4.00) or two (2.00)), and the number of "Number of Faulted Batteries" should be zero (0.00). (Fig. 17)

Battery

Voltage	36.34
Voltage CAN	36.02
Type	Inventus
CAN SOC Level	47%
Number of Batteries	4.00
Battery Temperature	20.00
CAN SOH Level	100%
Current	-2.30
Number of Faulted Batteries	0.00
Number of Active Batteries	4.00
Operator Mode	5.00

FIG. 17

8. Disconnect the USB cable from the service device and the USB harness (18).

NOTE: Ensure communication board USB cable end is again oriented down when finished checking battery status and disconnecting the communication board USB cable from the service device.

9. Turn the key switch OFF.

Bill Of Materials For Resistor, Plug, Replmt - 9052021

Ref.	Tennant Part No.	Description	Qty.
1	1077081	Resistor, Ele, Plug [120, 1/2W, 5%]	1

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