



INSTRUCTION BULLETIN

No. 9013780
Machine: T7 (Europe)
Published: 02-2016
Rev. 05

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 9013914 (Europe)**

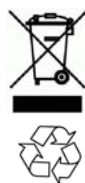
SYNOPSIS:

This kit contains the parts needed to install a telemetry kit onto T7 European scrubbers.
Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 2 hours)

The IRIS (telemetry module) must be activated to complete this installation. The module will not function until it is activated . Call local IRIS expert for assistance activating the module after all telemetry components have been installed. Have machine serial number and IRIS module SIM number (located on back of IRIS control box assembly) ready when calling for activation.



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:

1. **Machines equipped with ec- H2O only:**
Confirm the ec- H2O system is fully functional.
The ec- H2O must be fully functional before the IRIS system can be installed.
2. Park the machine on a clean level surface, turn off the machine, and remove the key.

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

3. Evaluate the condition of batteries, cables, and terminal connections. Batteries / cables / terminal connections must all be in safe working condition.
4. Disconnect the battery cable from the machine.



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

5. Disconnect the main wire harness from the seat and remove the seat assembly from the machine. Set the seat assembly aside. (Fig. 1)

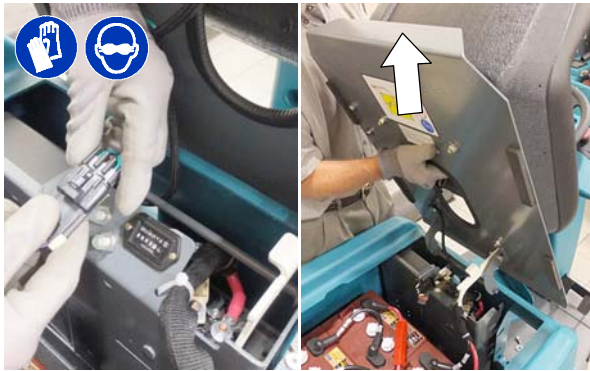


Fig. 1

6. Remove the small box from the battery compartment shroud to access the two mounting screws that secures shroud. Remove screws and lift battery compartment shroud from machine (Figure 2).

NOTE: For ec-H2O NanoClean models, simply lift battery box cover from machine. No screw removal is required.

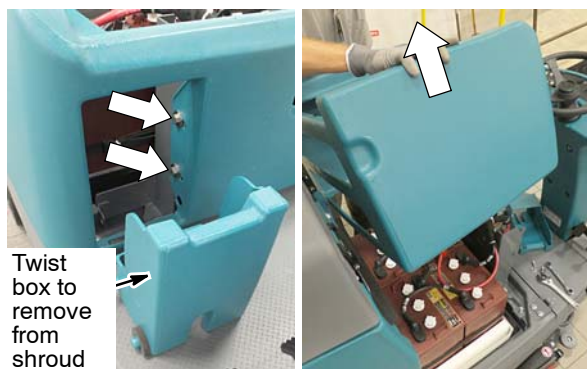


Fig. 2

NOTE: Numbers in parenthesis () are reference numbers for parts listed on page 10.

7. IMPORTANT: To prevent possible damage to telemetry system during install, remove the inline fuse from the telemetry harness (16) (Fig. 3). Do not misplace fuse.

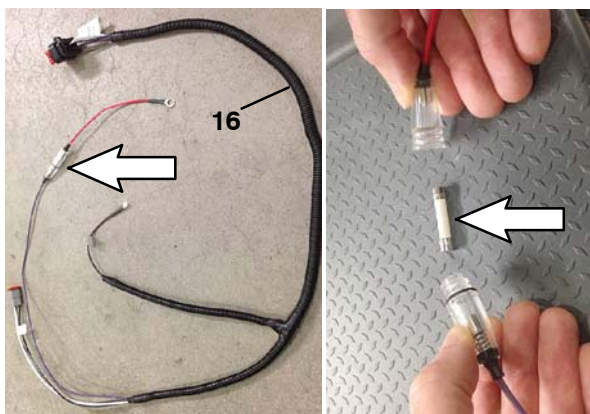


Fig. 3

KIT INSTALLATION:

NOTE: Numbers in parenthesis () are reference numbers for parts listed on page 10.

1. Remove the additional SIM bar code label from the back of the telemetry control box and set aside in a safe place. The number on the SIM label will be needed for activating the IRIS system. (Fig. 4)

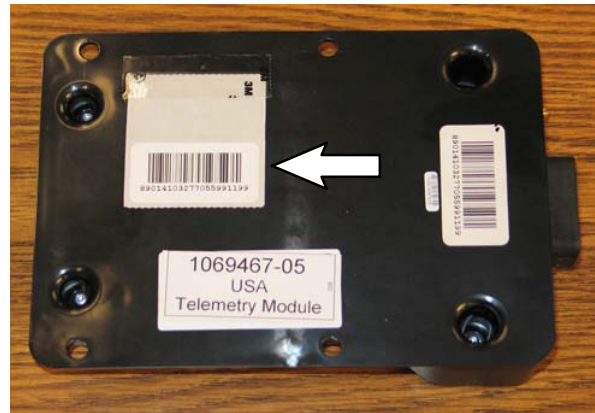


Fig. 4

2. Use the telemetry control box (1) as a template to drill four 8 mm holes into the battery box cover as shown. (Fig. 5)

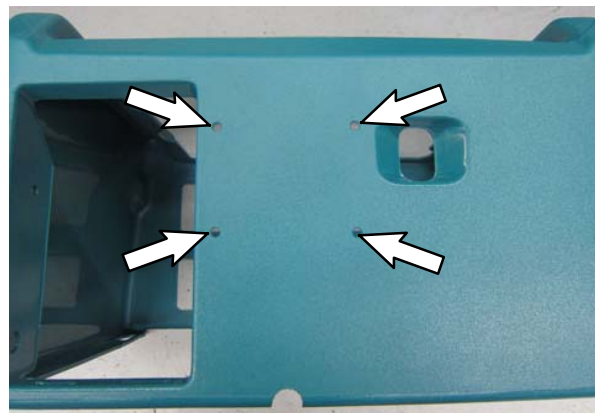


Fig. 5

3. Use four M6 Sems hex screws (4) and the control box guard (2) to install the telemetry control box (1) and guard cover (3) onto the battery box cover. (Fig. 6)
4. Connect the antenna (5) cable to the telemetry control box (1). (Fig. 6)
5. Install the antenna (5) to the inside of the battery box cove as shown (Fig. 6).
6. Use four tie clips (15) and four cable ties to secure the antenna (5) cable to the battery box cover. Neatly bundle any excess antenna cable and use tie clips and cable ties to secure the cable to the battery box cover. (Fig. 6)

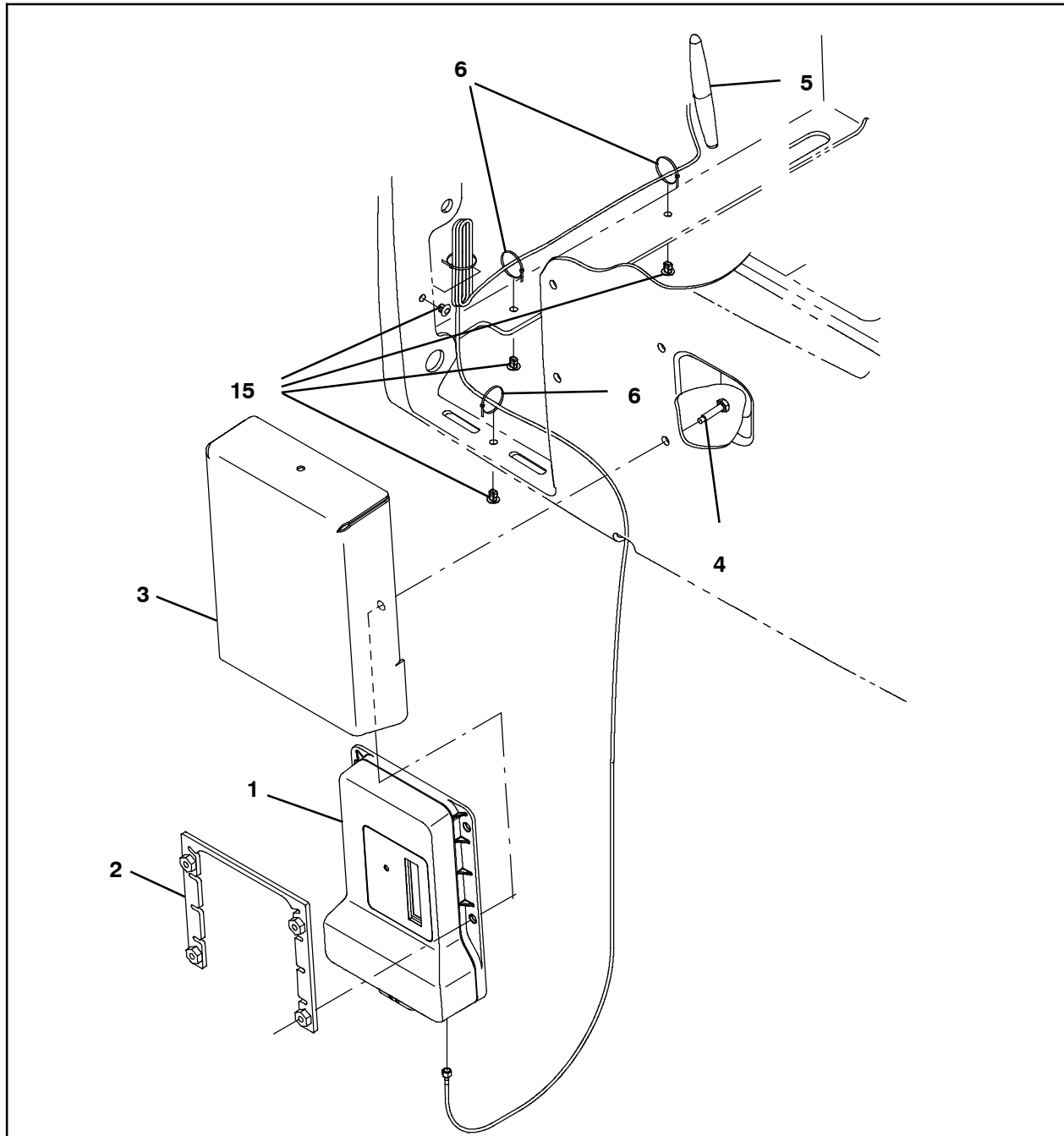


Fig. 6

7. Use one M8 hex screw (12), one flat washer (13), and one lock washer (14) to connect the cable assembly(17) BLACK cable to the shunt (8). (Fig. 7)

8. Use one M8 hex screw (12), one flat washer (13), and one lock washer (14) to connect the black cable (18) to the shunt (8). (Fig. 7)

Models equipped with onboard battery charger: Connect the charger's negative battery cable to shunt (8). (Fig. 7)

9. Use one M4 pan screw (9), one lock washer (10), and one flat washer (11) to connect the telemetry shunt harness (19) 79 / WHT wire to the end of the shunt (8) with cable (18). (Fig. 7)

10. Use one M4 pan screw (9), one lock washer (10), and one flat washer (11) to connect the telemetry shunt harness (19) 13 / BLK 13 / BLK- WHT wires to the end of the shunt (8) with the cable assembly(17) black cable. (Fig. 7)

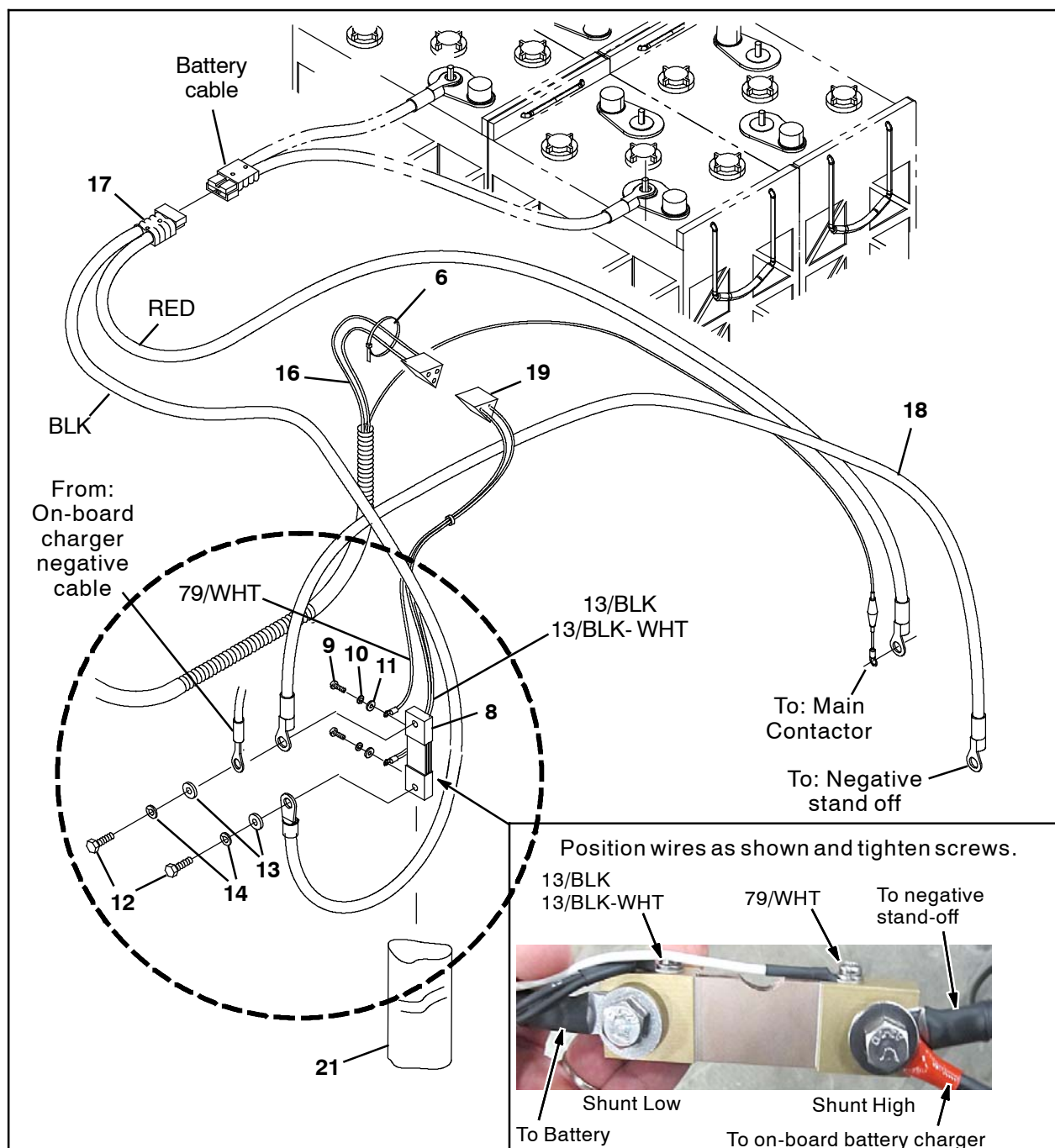


Fig. 7

11. Slide the heat shrink (21) over the shunt (8) wire connections on the shunt and apply heat to heat shrink. (Fig. 8)



Fig. 8

12. Install two wire tie clips (15) and two wire ties (6) onto the shunt bracket (7). (Fig. 9)

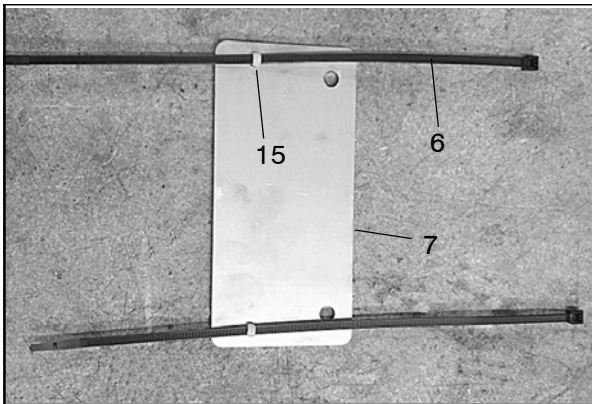


Fig. 9

13. Use the two M5 hex screws / flat washers securing the electrical panel cover to the machine to install the shunt bracket (7) onto the electrical panel cover. (Fig. 10)

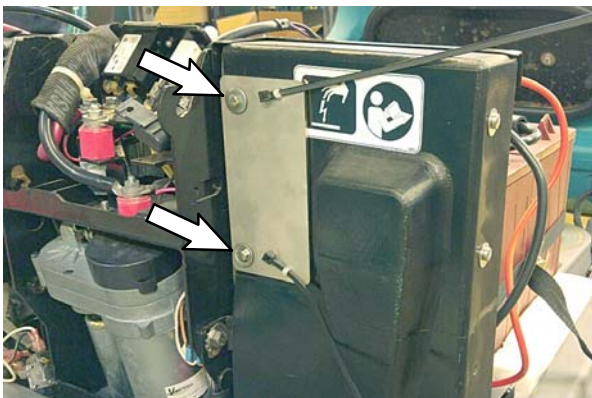


Fig. 10

14. Use the two wire ties (6) on the shunt bracket (7) to secure the shunt (8) and the telemetry harness (16) battery connector to the shunt bracket. (Fig. 11)

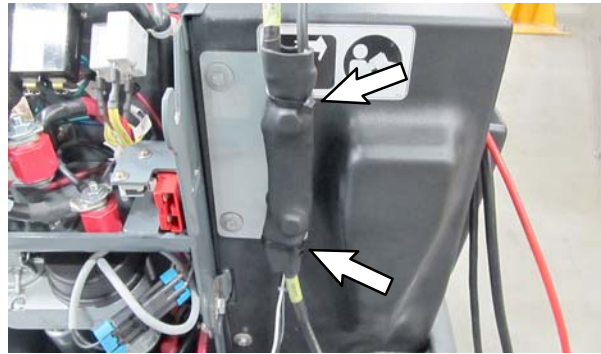


Fig. 11

15. Disconnect the existing red battery cable from the M1 main contactor and the black negative cable from the ground stand off (Fig. 12). Remove and discard battery cable.

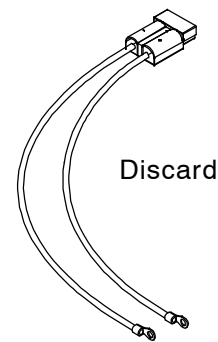
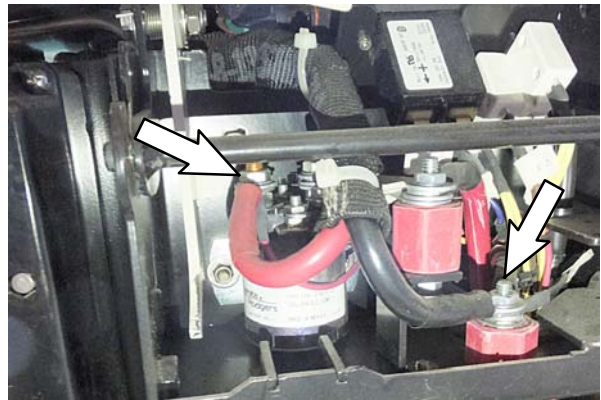


Fig. 12

16. Route and connect the battery cable assembly (17) to the M1 main contactor where the removed red battery cable was previous installed. (Fig. 13)

17. Route and connect the red fuse wire from telemetry harness (16) to the M1 main contactor where the removed red battery cable was previous installed. (Fig. 13)

18. Route and connect the black shunt cable (18) to the negative ground stand-off where the removed battery cable was previous installed. (Fig. 13)

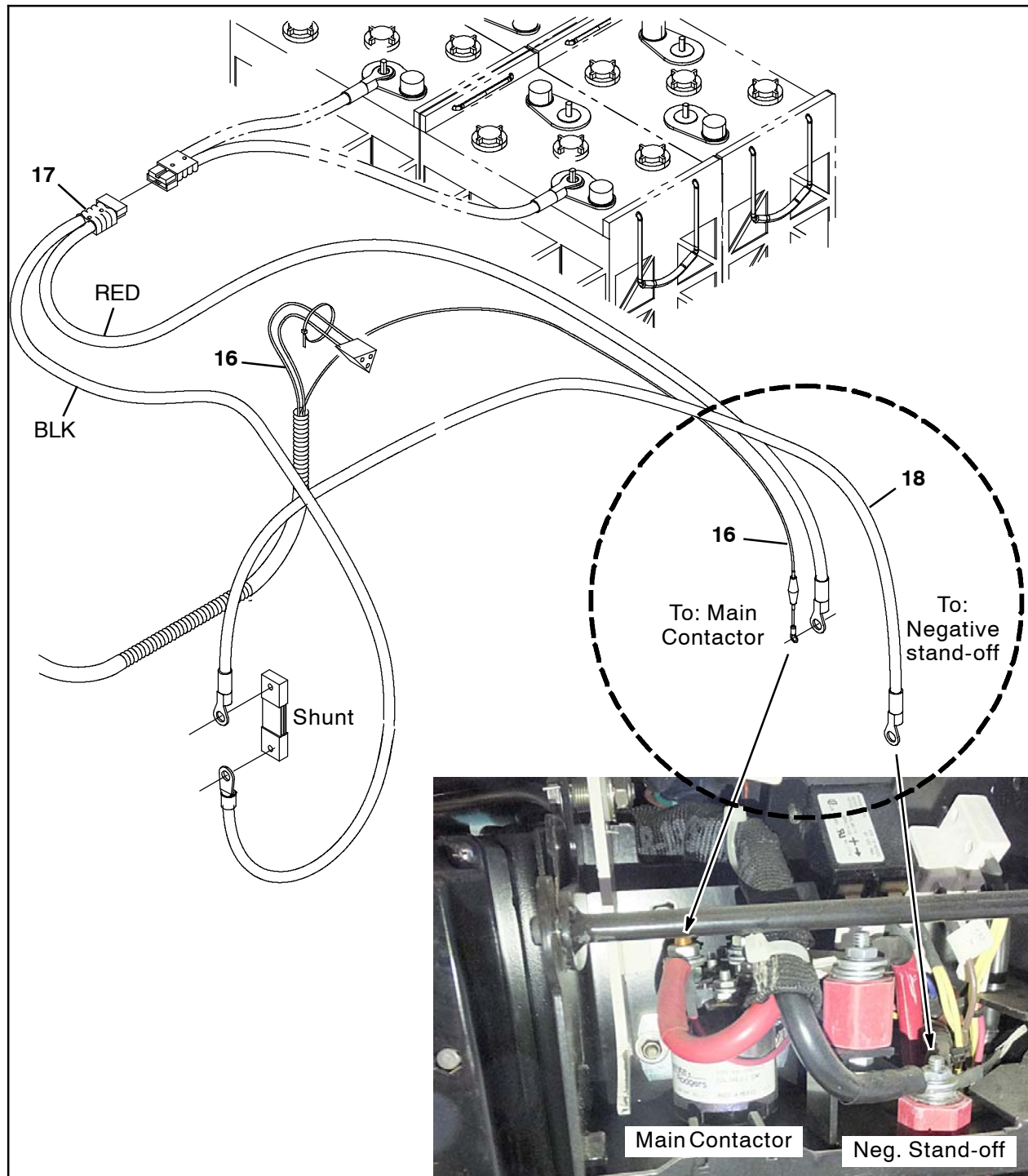


Fig. 13

19. **Machines equipped with ec-H2O NanoClean system:** Locate the factory installed brown wire labeled “Telemetry” coming from the ec-H2O module harness. Connect the telemetry harness (16) wire 22/BRN into the factory installed wire. (Fig. 14)

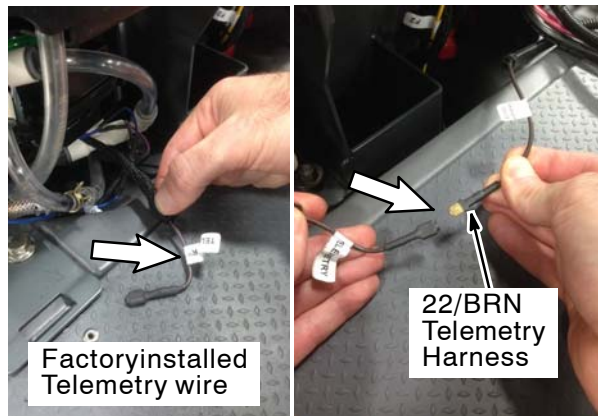


Fig. 14

Machines without ec-H2O system: Insert the wire (22/BRN) connector labeled “ec-H2O Harness”) into the telemetry harness (16) conduit. Use electrical tape to secure the connector inside the conduit. (Fig. 15)

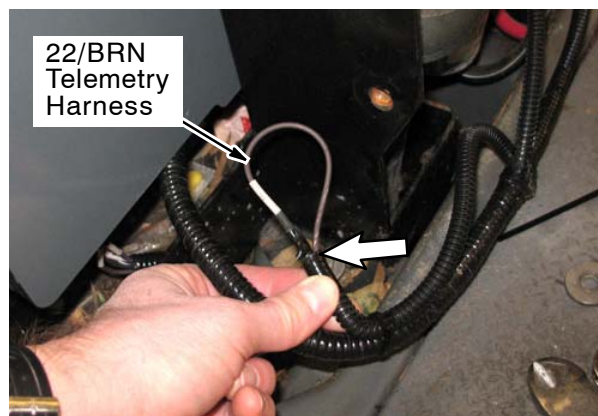


Fig. 15

Machines equipped with older ec-H2O module harness (p/n 1051053):

- A. Remove the ec-H2O module from bracket and disconnect the ec-H2O harness from module. (Fig. 16)



Fig. 16

- B. Remove about 152mm of the braided insulator from the end of the ec-H2O connector harness. Locate wire 22/BRN and add T-tap connector (25) to wire as shown. (Fig. 17)

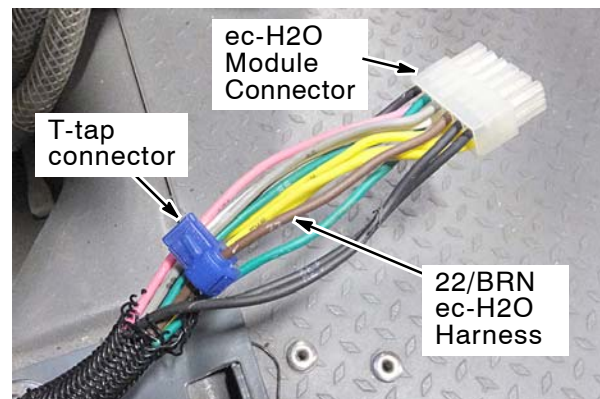


Fig. 17

- C. Connect 22/BRN wire labeled “ec-H2O Harness” from telemetry harness (16) to T-Tap connector (Fig. 18). Wrap harness with electrical tape.

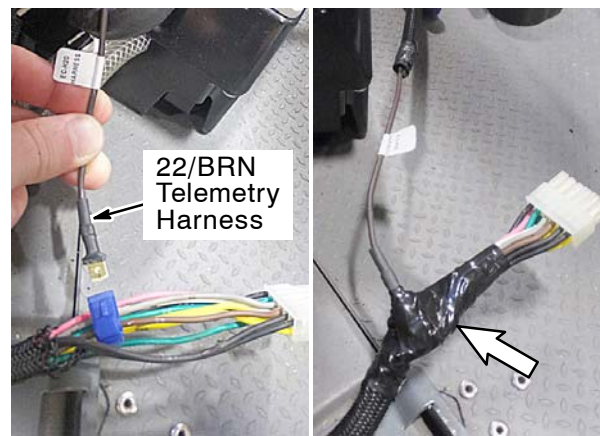


Fig. 18

- D. Plug ec-H2O harness back into module and reconnect module to bracket. (Fig. 19)



Fig. 19

20. Connect the telemetry harness (16) to the telemetry shunt harness (19). (Fig. 20)

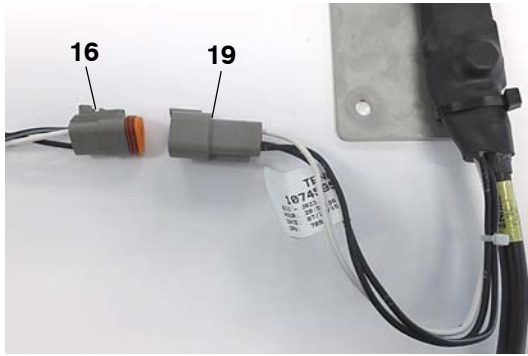


Fig. 20

21. Route and connect the telemetry harness (16) to the telemetry control box (1) (Fig. 21).

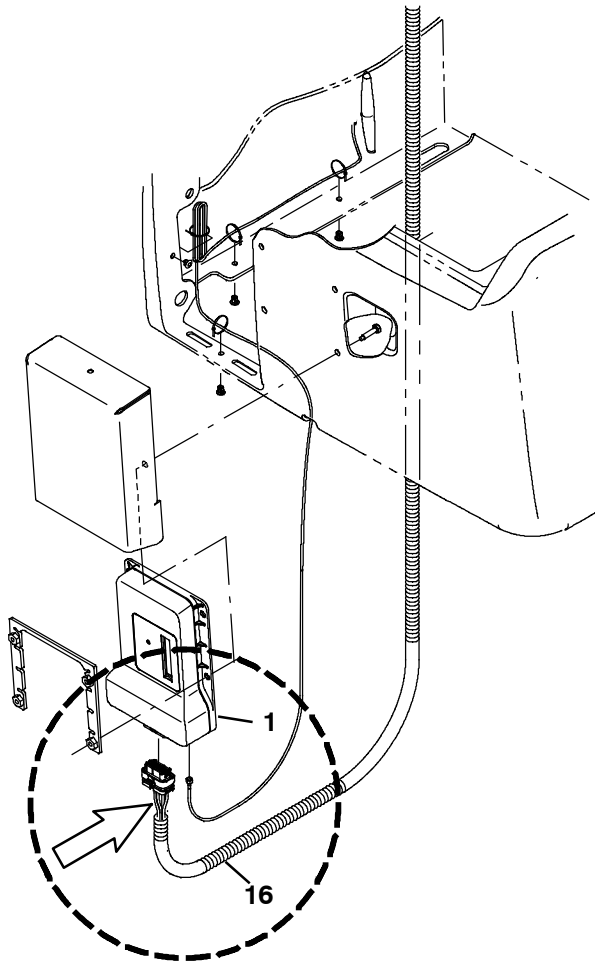


Fig. 21

22. Replace the inline fuse within the telemetry harness. (Fig. 22)

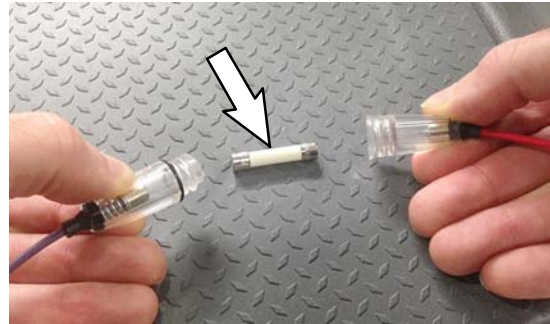


Fig. 22

23. Reinstall the battery box cover onto the machine (Fig. 23).

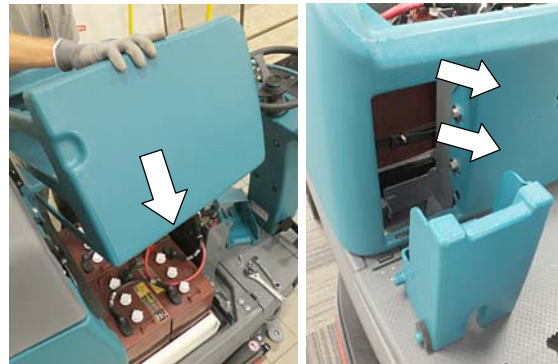


Fig. 23

24. Reinstall the seat assembly onto the machine.
25. Install the the FCC label (20) and the SIM bar code label onto the operator seat assembly as shown. (Fig. 24)



Fig. 24

26. Reconnect the battery cable to the machine.

27. Start and test the machine.

28. Activate the IRIS (telemetry module): Call local IRIS expert for assistance to activate the module. The IRIS telemetry system must be activated to complete this install. Have machine serial number and IRIS module SIM number ready when calling for activation.

NOTE: The IRIS (telemetry module) must be activated to complete this installation. The module will not function until it is activated. Call local IRIS expert for assistance activating the module after all telemetry components have been installed.

Telemetry Electrical Schematic

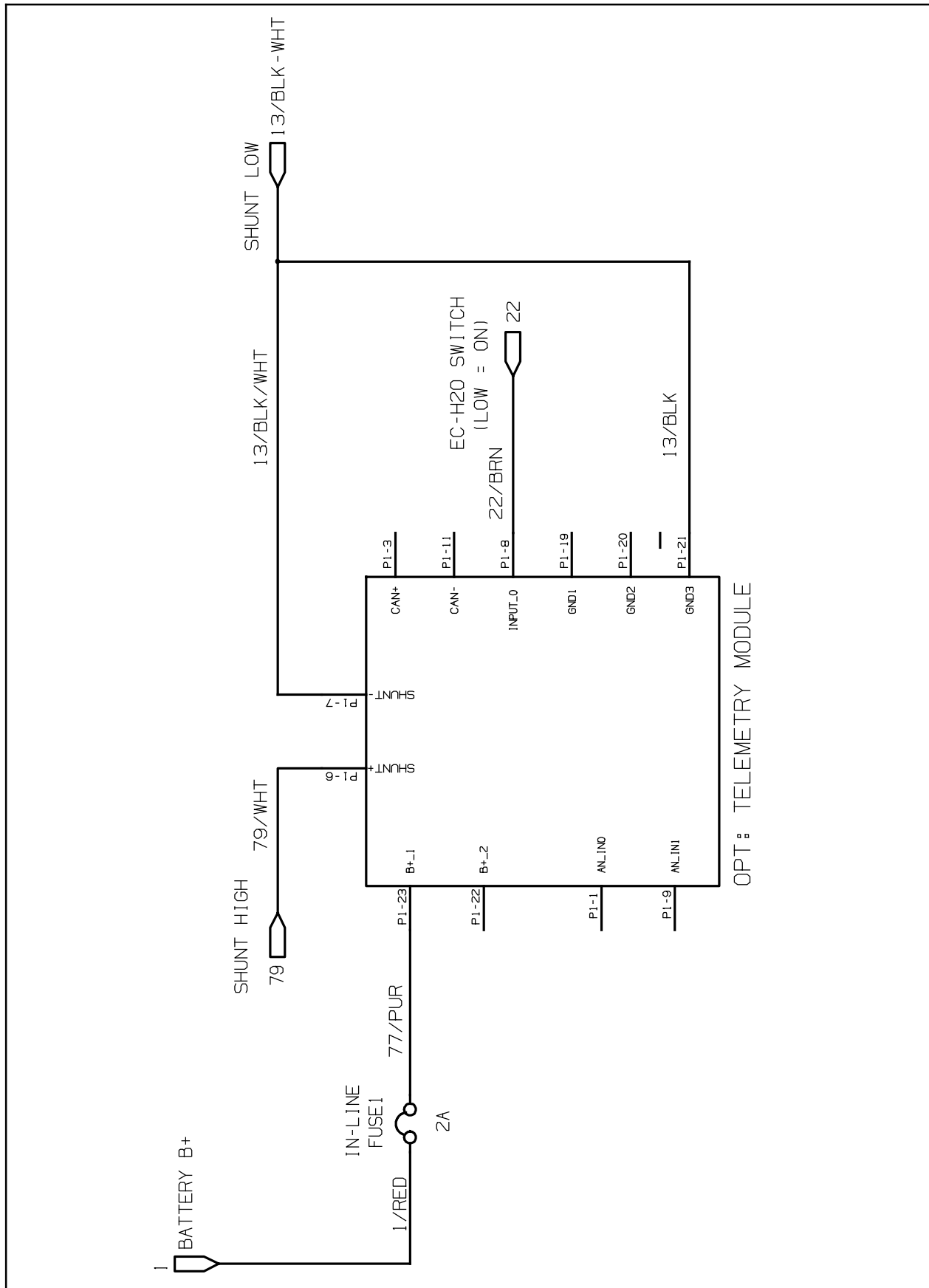


FIG. 1
WIRING DIAGRAM

From: On-board charger negative cable

TO: TELEM HARNESS NO LABEL

WIRE NO.	POS.
79/WHT	1
13/BLK-WHT	2
13/BLK	3

TO: SHUNT

- 79/WHT = HIGH SIDE.
- 13/BLK & 13/BLK-WHT = CLOSEST TO BATTERY NEGATIVE POST. (NO LABEL)

WIRE NO.	POSITION
79/WHT	1
13/BLK-WHT	2
13/BLK	3

SHUNT CONNECTION LABEL: TO SHUNT

TELEMETRY MODULE (23 PIN CONN.)

WIRE NO.	POS.
79/WHT	6
13/BLK-WHT	7
22/BRN	8
13/BLK	21
77/PUR	23

TO: EC-H2O HARNESS LABEL (1): TO: EC-H2O HARNESS

Telemetry Kit, CI [T7, EU] - 9013914

Ref.	Tennant Part No.	Description	Qty.
1	1070541	Control box Assy, Telem [3G, Intl.]	1
2	1218315	Guard Wldt, Control box	1
3	1216835	Cover, Guard	1
4	1036892	Screw, Hex, M6 X 1.00 X 25, 9.8, SEMS	4
5	1070659	Antenna, Telem, 70 In [GPRS]	1
6	130773	Tie, Cable, Nyl, 11.0l, .14w, 3.0 Max. D	13
7	1215943	Bracket, Shunt	1
8	1217304	Shunt [Empro, 250amp/50mv, Metric]	1
9	391403	Screw, Pan, Phl, M4 X 0.70 X 8, SS	2
10	02938	Washer, Lock, Int, 08, SS	2
11	41578	Washer, Flat, 06, SS	2
12	15675	Screw, Hex, M8 X 1.25 X 16, SS	2
13	01685	Washer, Flat, 0.38b 0.88d .08, SS	2
14	43952	Washer, Lock, Int, 0.31, SS	2
15	1202868	Clip, Tie, 0.25D, Plstc	2
▽	16 1074466	Harness, Ele, [Telem, T7]	1
▲	9009990	Fuse, 002a, 250vdc, Cartridge	1
▽	17 1074648	Cable Assy, 04Ga [And./M8, M8, Ring, Sb175]	1
▲	605387	Connector, Anderson, 050A, Red [w/o Con]	1
18	1074649	Cable, 04Ga 13.8l Blk [M8 Ring / M6 Ring]	1
19	1074595	Harness, Ele [Telem, Shunt]	1
20	1217818	Heatshrink [1.5" Dia., 7.0" Sections]	1
21	1069580	Label, Machine, Telem [FCC, USA, 2g/3g]	1
22	130183	Terminal, TT, .25FEM. 18-14GA (not shown)	1

TENNANT N.V.

Industrielaan 6 5405 AB
P.O. Box 6 5400 AA, Uden -The Netherlands
Europe@tenantco.com www.tenantco.com