



INSTRUCTION BULLETIN

No. 9020979
Machine: T12/T16
Published: 07-2022
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 9020972**

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

SYNOPSIS:

This kit contains the parts needed to install a blue spotlight kit on T12 and T16 scrubbers. Please follow step-by-step instructions.

SPECIAL TOOLS/CONSIDERATIONS: NONE

(Estimated time to complete: 2 hours)



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: T16

NOTE: Proceed to Page 14 to install the blue light kit onto T12 scrubbers.

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

1. Disconnect the battery cable from the batteries.



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

2. Remove the hardware securing the electrical panel to the machine. Set the hardware aside. (Fig. 1)
3. Carefully pull the electrical panel from the front shroud. **Do Not** break any cable/wire connections when removing the panel. (Fig. 1)
4. Remove the hardware securing both the right control panel and left control panel to the front shroud. Set the hardware aside. (Fig. 1)
5. Carefully pull both the right control panel and the left control panel from the front shroud. **Do Not** break any cable/wire connections when removing either control panel. (Fig. 1)

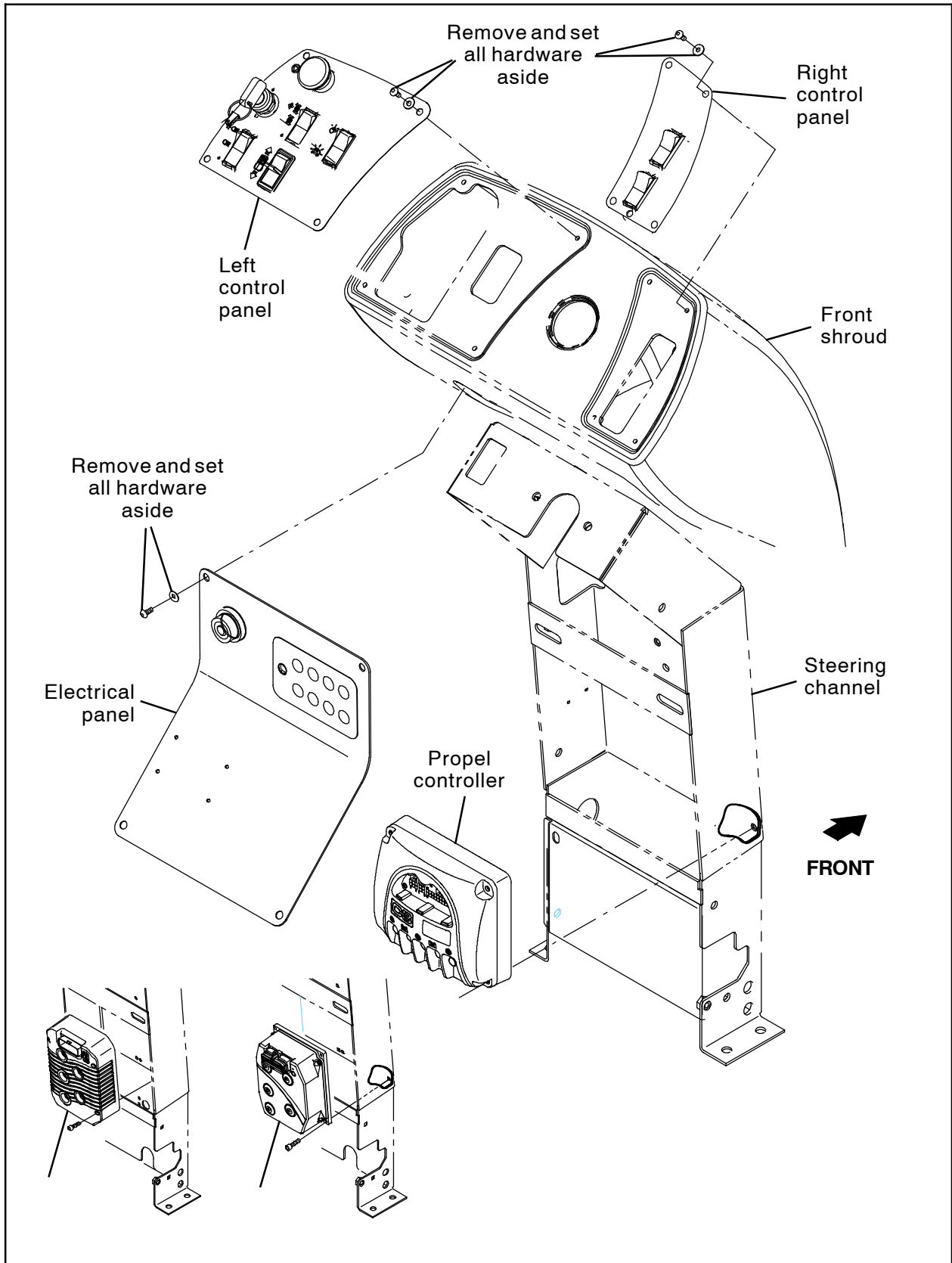


FIG. 1

INSTALLATION: T16

1. Position the front cover spotlight mounting bracket (4) onto the front cover and mark the locations for the three front cover spotlight mounting bracket mounting holes onto the front cover. (Fig. 2)

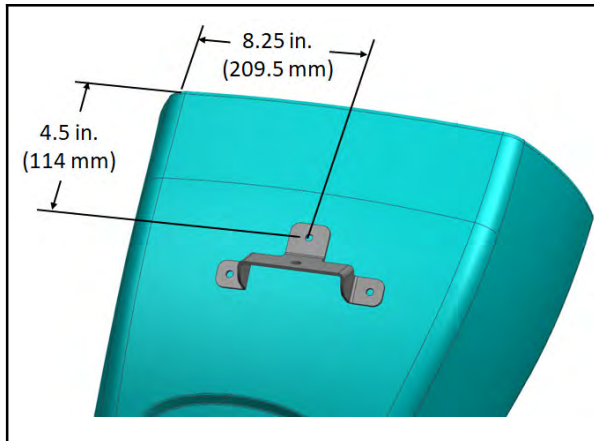


FIG. 2

2. Drill a 0.375 in. (9.5 mm) hole completely through each hole marked on the front shroud in the previous step. Drill completely through both sides of the shroud. **Do Not** drill into any parts/components located behind the front shroud. (Fig. 2)
3. Measure and mark a location for the harness routing hole onto the front shroud. (Fig. 3)

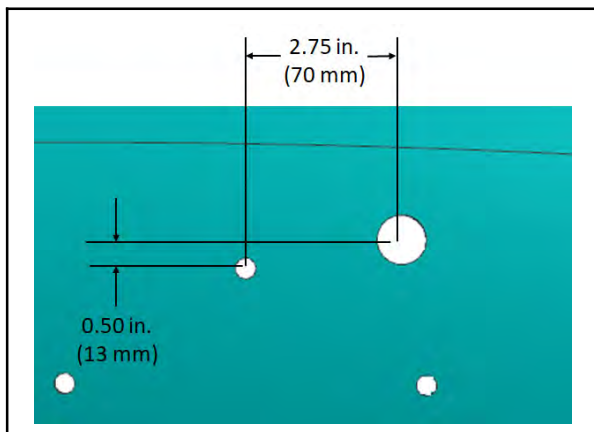


FIG. 3

4. Drill a 0.886 in. (22.5 mm) hole for harness routing completely through the front shroud. **Do Not** drill into any parts/components located behind the front shroud. (Fig. 3)

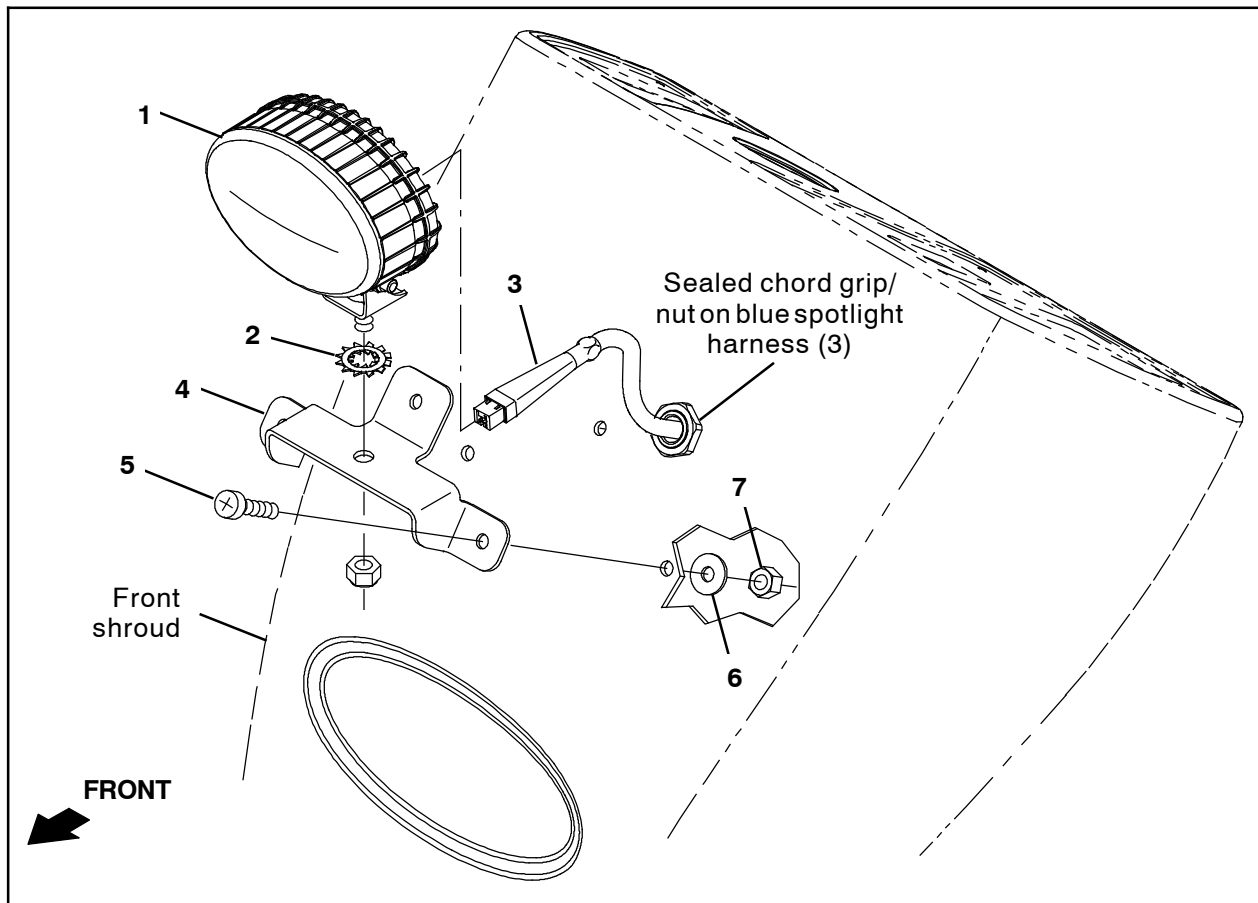


FIG. 4

5. Use three M8 pan screws (5), three M8 fender washers (6), and three M8 hex nuts (7) to install the front cover spotlight mounting bracket (4) onto the front shroud. (Fig. 4)
6. Remove the hex nut included with one blue LED spotlight (1) from the light. (Fig. 4)
7. Use the hex nut removed from the blue LED spotlight (1) in the previous step and a lock washer (2) to install the blue LED spotlight onto the front cover spotlight mounting bracket (4). (Fig. 4)
8. Remove the nut from the sealed chord grip on the blue spotlight harness (3). (Fig. 7)
9. Route blue spotlight harness (3) the connector to be connected to the blue LED spotlight (1) installed on the front shroud through the 0.886 in. (22.5 mm) hole previously drilled into the front shroud. (Fig. 4)

10. Connect the blue spotlight harness (3) to the blue LED spotlight (1) installed on the front shroud. (Fig. 4/Fig. 5)



FIG. 5

11. Use the sealed chord grip/nut on the blue spotlight harness (3) to secure the harness to the front shroud. (Fig. 4)

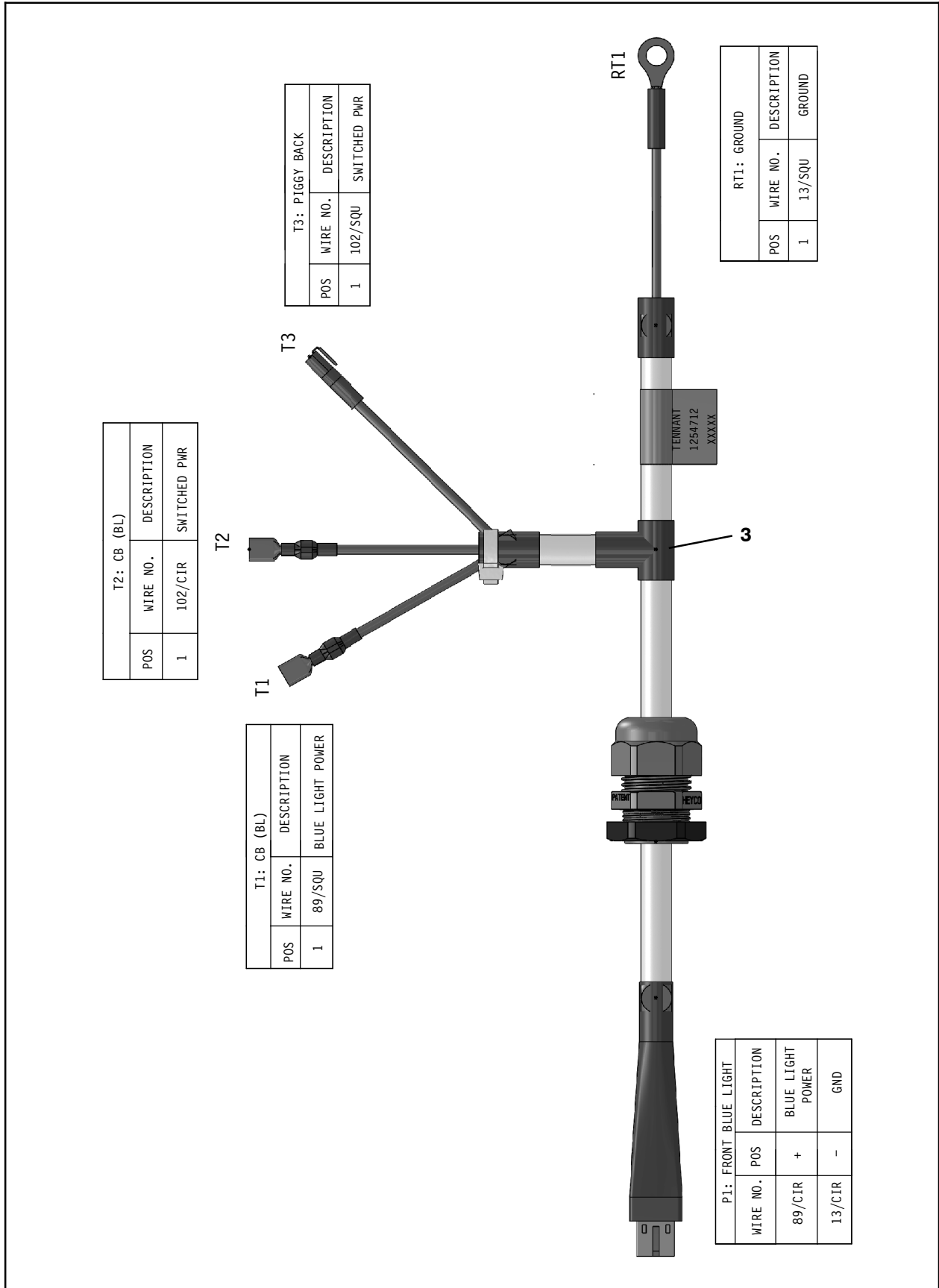


FIG. 6

12. Route the blue spotlight harness (3) between the front shroud and steering channel, around the right side of the steering channel, and to the circuit breakers located on the electrical panel. (Fig. 7)

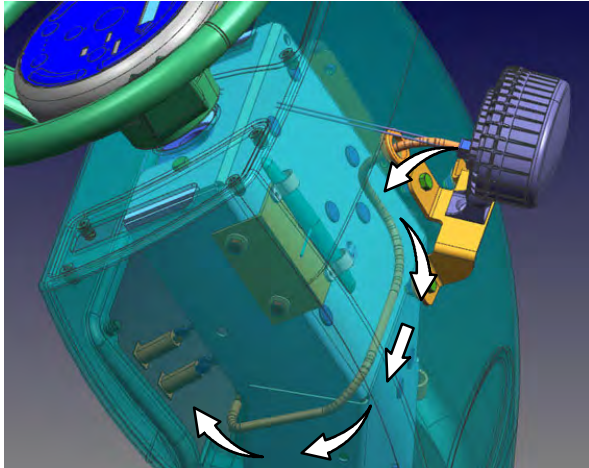


FIG. 7

13. Disconnect the main wire harness 102C lead from circuit breaker 14. (Fig. 8)

14. Connect blue spotlight harness (3) T3 lead to circuit breaker 14 terminal where the main wire harness 102C lead was previously connected. (Fig. 8)

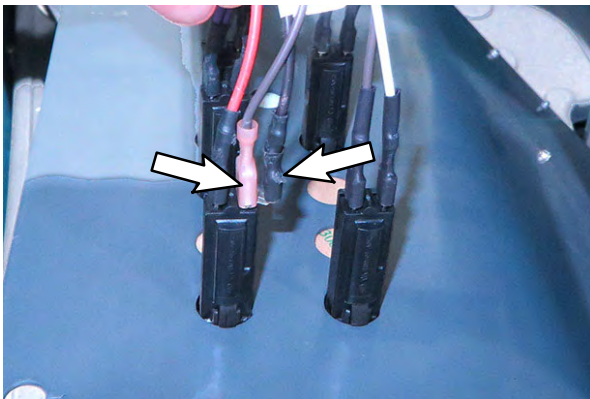


FIG. 8

15. Connect the previously disconnected main wire harness 102C lead to blue spotlight harness (3) T3 lead open terminal. (Fig. 8)

16. Install the circuit breaker boot (15) onto the 2.5- Amp circuit breaker (14).

17. Insert the 2.5- Amp circuit breaker (14) into electrical panel circuit breaker location 18. (Fig. 9)

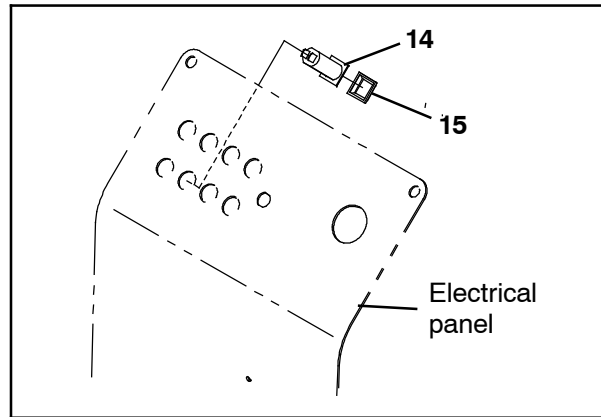


FIG. 9

18. Connect the blue spotlight harness (3) T1/T2 leads to the 2.5- Amp circuit breaker (14) installed in the previous step. (Fig. 10)

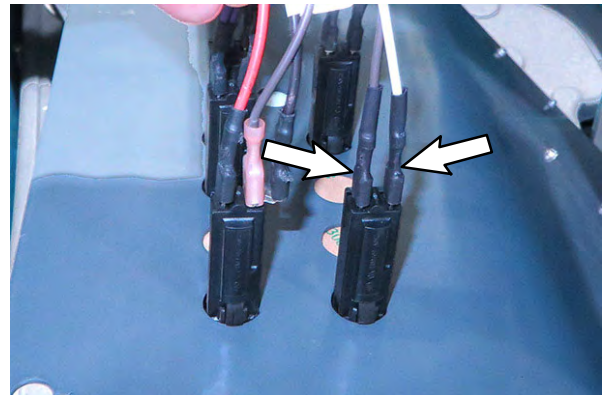


FIG. 10

19. Remove the hex nut from propel controller B- terminal. (Fig. 11)

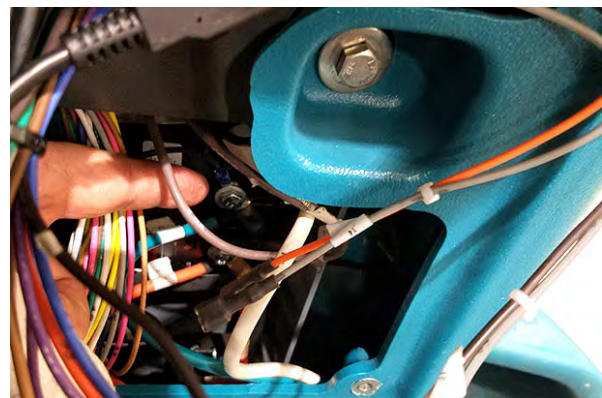


FIG. 11

20. Connect the blue spotlight harness (3) RT1 lead to the propel controller B- terminal and reinstall the previously removed hex nut onto the propel controller B- terminal. (Fig. 11)

**INSTALLATION (T16 machines without alarm/
flashing light on solution tank cover)**

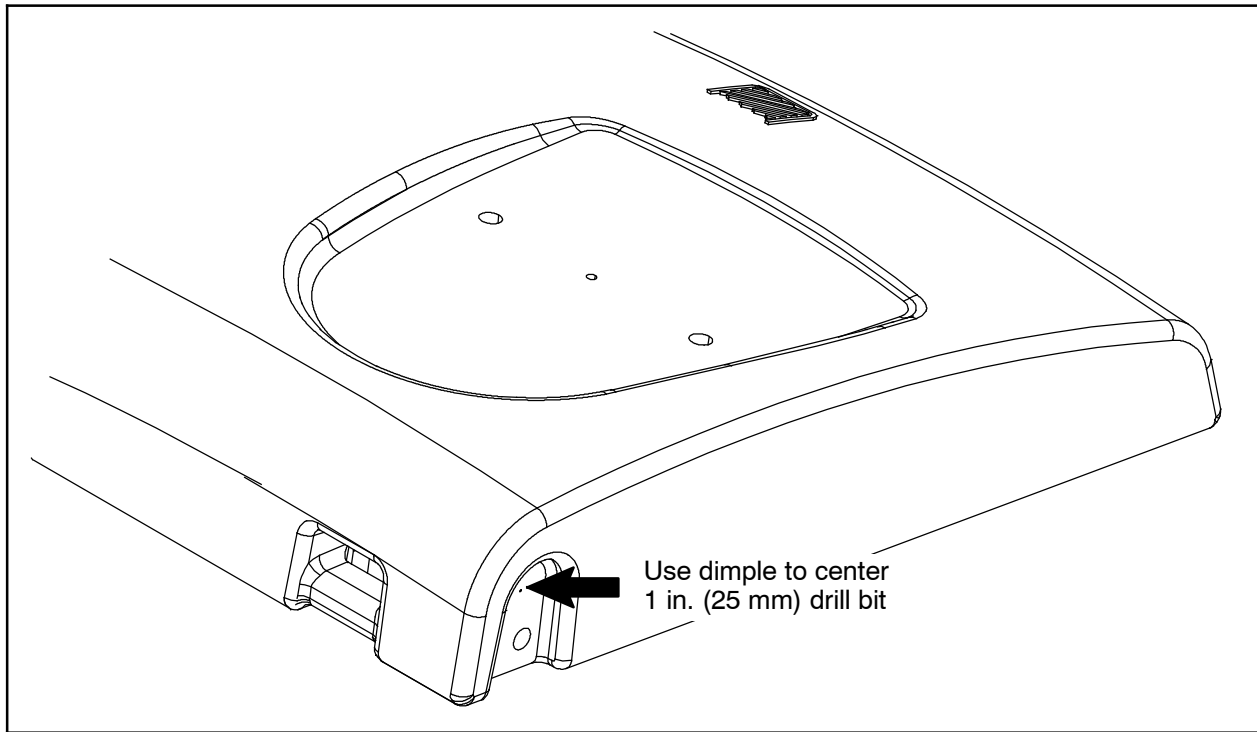


FIG. 12

NOTE: Use the dimple located in the recovery tank cover to center the hole saw on the cover.

21. Remove the recovery tank cover from the recovery tank. Set the mounting hardware aside.
22. Drill a 1 in. (25 mm) hole through the recovery tank cover. (Fig. 12/ Fig. 13)



FIG. 13

23. Remove the plugs from the recovery tank cover and discard both plugs. (Fig. 12)

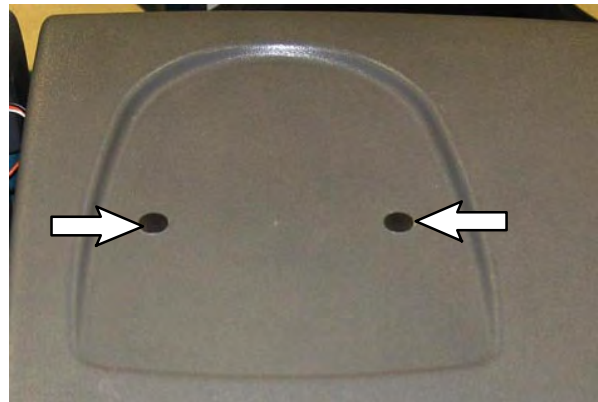


FIG. 14

24. Use two SEMS M8 hex screws (11) to loosely install the blue spotlight rear mounting bracket (9) onto the recovery tank and mark the location for a 2 in. (50 mm) to be drilled into the recovery tank cover. (Fig. 15)

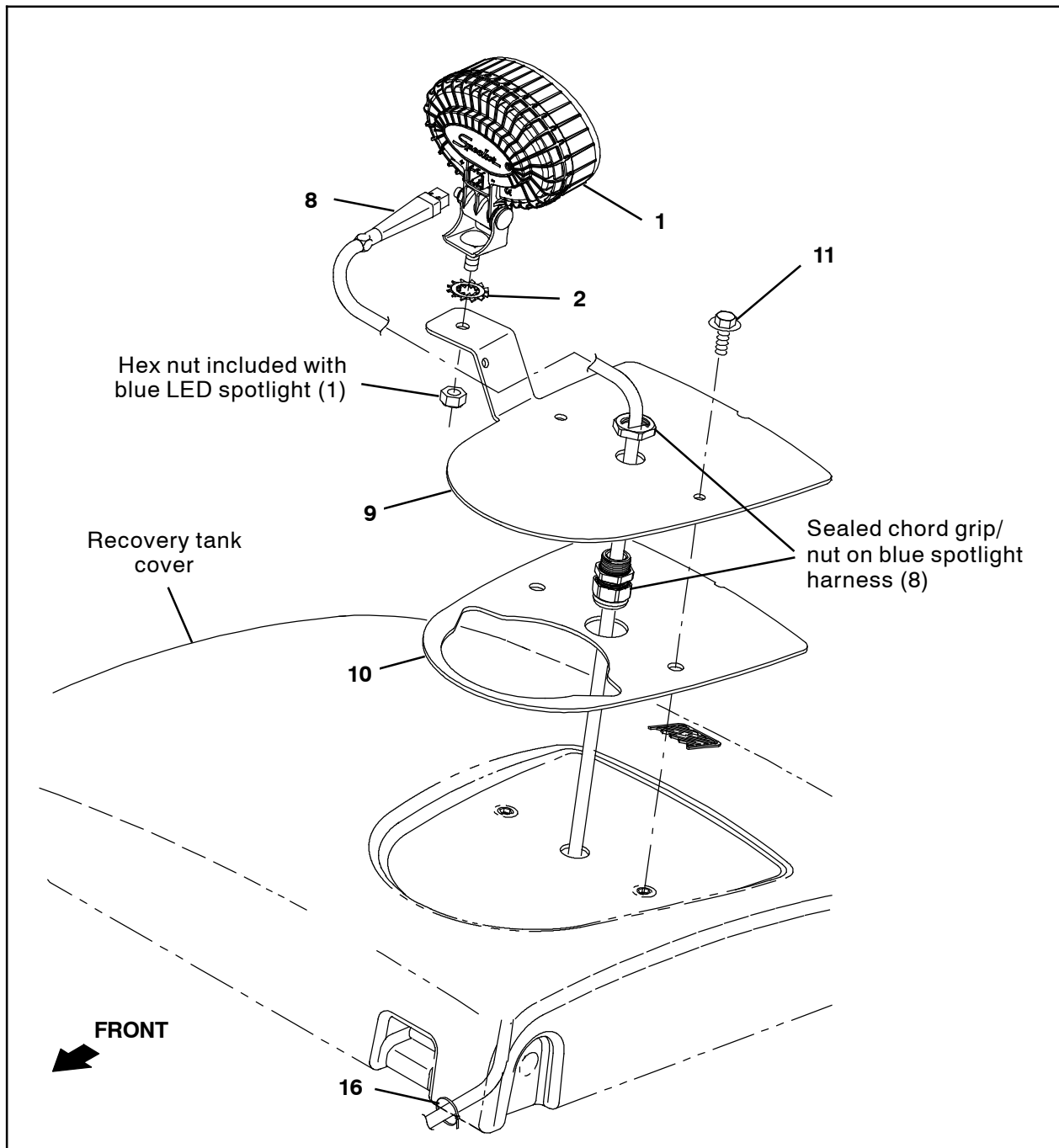


FIG. 15

25. Remove the rear mounting bracket (9) from the recovery tank and set the bracket and SEMS M8 hex screws (11) aside. (Fig. 15)

27. Reinstall the recovery tank cover onto the recovery tank.

26. Use a 2 in. (50 mm) hole saw to cut a hole through the top of the recovery tank cover. **Do Not** cut into/through the bottom of the recovery tank cover. (Fig. 15)

28. Remove the wire cover from the machine. Set the wire cover/prop rod and hardware aside. (Fig. 16)

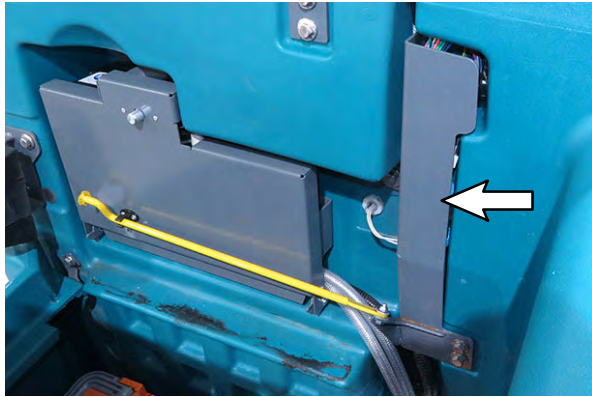


FIG. 16

29. Remove the backing from the module base gasket (10) and install the gasket onto the blue spotlight rear cover mounting bracket (9). (Fig. 15)

30. Use two SEMS M8 hex screws (11) to install the blue spotlight rear cover mounting bracket (9) onto the recovery tank cover. (Fig. 15)

31. Remove the hex nut included with the blue LED spotlight (1) from the light. (Fig. 15)

32. Use the hex nut removed from the blue LED spotlight (1) in the previous step and a lock washer (2) to install the blue LED spotlight onto the rear cover mounting bracket (9). (Fig. 15)

33. Remove the nut from the sealed chord grip on the blue spotlight harness (8). (Fig. 15)

34. Route the blue spotlight rear harness (8) blue LED light lead to be connected to the blue LED spotlight (1) through the 1 in. (25 mm) hole in the recovery tank cover and through the 2 in. (50 mm) in the top of the recovery tank cover/blue spotlight rear cover mounting bracket (9). (Fig. 15)

35. Connect the blue spotlight rear harness (8) to the blue LED spotlight (1). (Fig. 15)

36. Use the sealed chord grip/nut on the blue spotlight harness (8) to secure the harness to the recovery tank cover. (Fig. 15)

37. Connect the other end of the blue spotlight rear harness (8) to the main wire harness ALARM/LIGHT ASSY lead/connector. (Fig. 17)

38. Reinstall the wire cover/prop rod onto the machine. (Fig. 16)

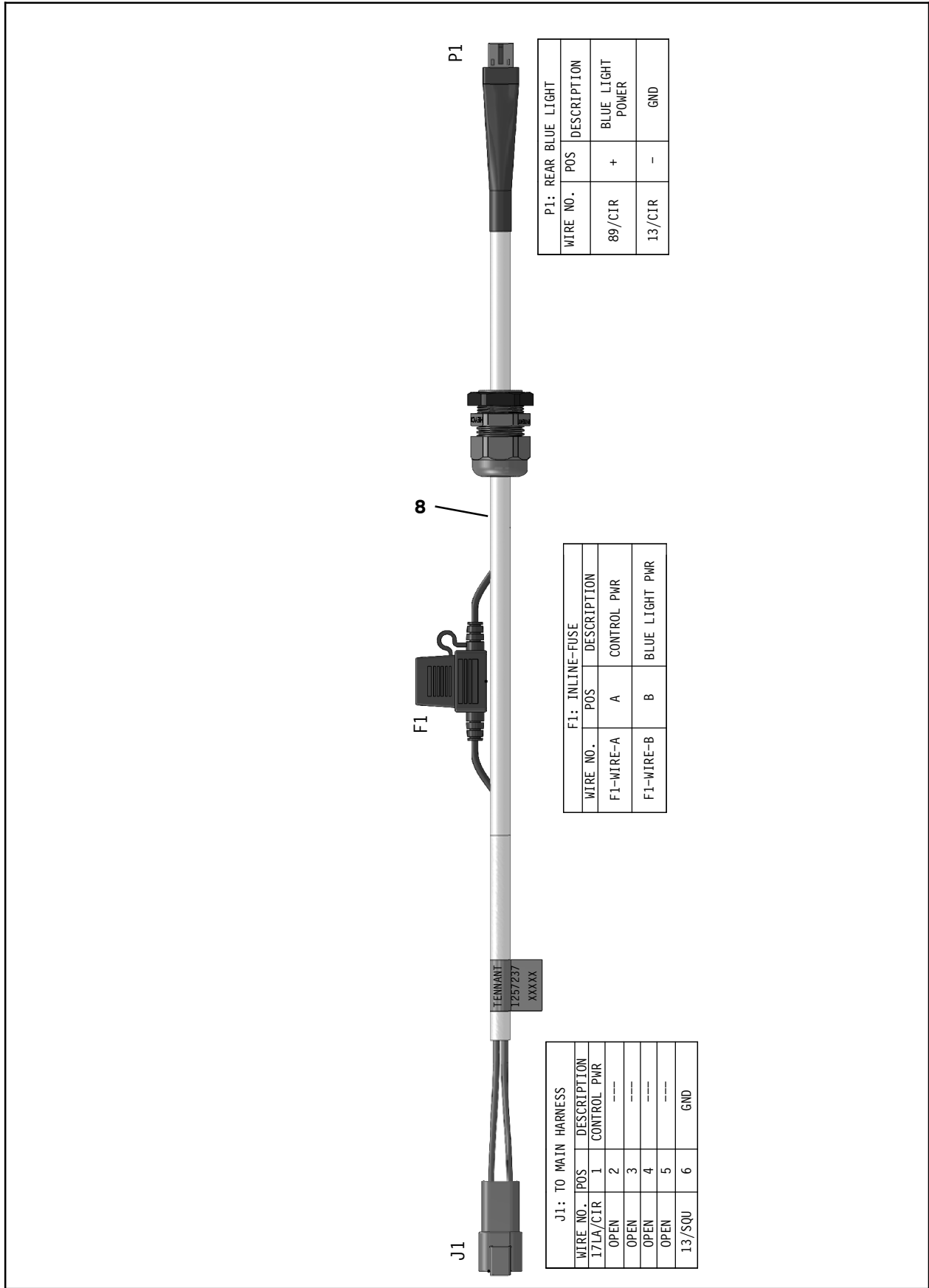


FIG. 17

**INSTALLATION (T16 machines with alarm/
flashing light on solution tank cover)**

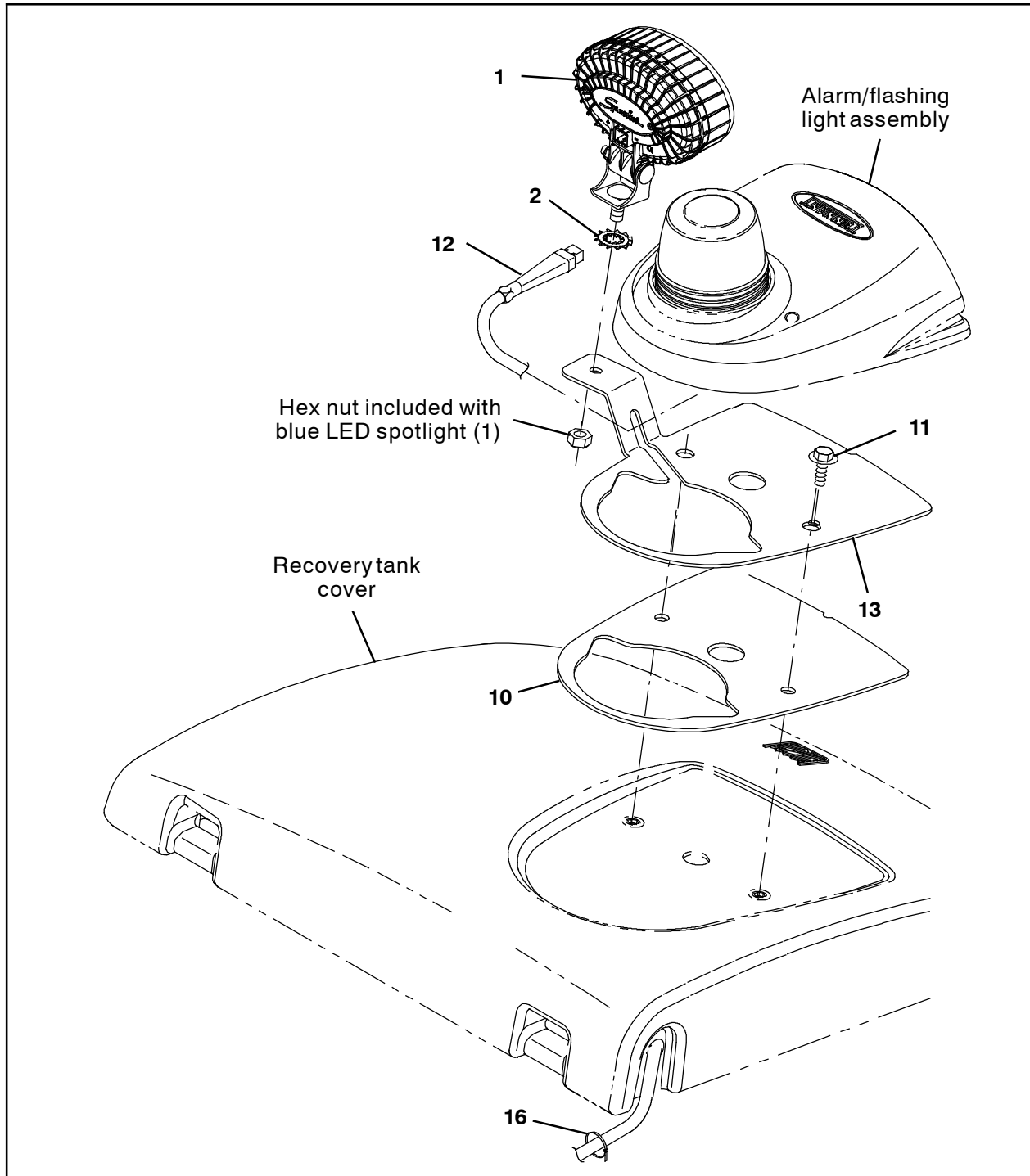


FIG. 18

39. Remove the two pan screws securing the light module cover to the alarm/flashing light assembly. Set the pan screws aside.

40. Carefully lift the light module cover from the alarm/flashing light assembly and leave the cover hanging out of the way from the alarm/flashing light assembly.

41. Remove the two SEMS M8 hex screws securing the alarm/flashing light assembly to the recovery tank cover from the alarm/flashing light assembly. Set the SEMS M8 hex screws aside.

42. Carefully move the alarm/flashing light assembly away from where it was installed on the recovery tank. Do not disconnect all harness connections/completely remove the alarm/flashing light assembly from the recovery tank cover.
43. Remove the backing from the module base gasket (10) and install the gasket onto the blue spotlight rear cover mounting bracket (13). (Fig. 18)
44. Use two SEMS M8 hex screws (11) to install the blue spotlight rear cover mounting bracket (13) onto the recovery tank cover. (Fig. 18)
45. Install the alarm/flashing light assembly onto the rear cover mounting bracket (13).
46. Remove the hex nut included with the blue LED spotlight (1) from the light. (Fig. 18)
47. Use the hex nut removed from the blue LED spotlight (1) in the previous step and a lock washer (2) to install the blue LED spotlight onto the rear cover mounting bracket (13). (Fig. 18)
48. Route the blue spotlight rear harness (12) through the notch in the blue spotlight rear cover mounting bracket (13) and connect the blue spotlight rear harness to the blue LED spotlight (1). (Fig. 18)
49. Disconnect the 17/PUR lead from the circuit breaker located in the alarm/flashing light assembly. (Fig. 19)



FIG. 19

50. Connect the blue spotlight rear harness (12) T2 lead to the location on the circuit breaker where 17/PUR was previously connected. (Fig. 19/Fig. 22)
51. Connect 17/PUR to the blue spotlight rear harness (12) T2 lead. (Fig. 19/Fig. 22)

52. Disconnect the 13/LC lead labeled FLASH/STROBE LT from the flashing light on the alarm/flashing light assembly. (Fig. 20)

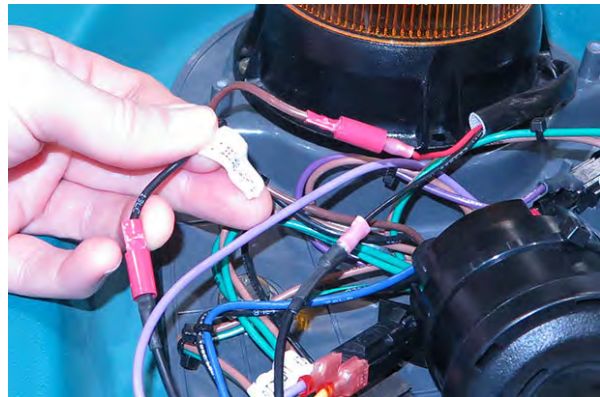


FIG. 20

53. Connect the blue spotlight rear harness (12) T4 lead to the 13/LC lead labeled FLASH/STROBE LT disconnected from the flashing light in the previous step. (Fig. 20/Fig. 22)
54. Connect the flashing light black lead previously disconnected from the 13/LC lead labeled FLASH/STROBE LT to the blue spotlight rear harness (12) T5 lead. (Fig. 21/Fig. 22)

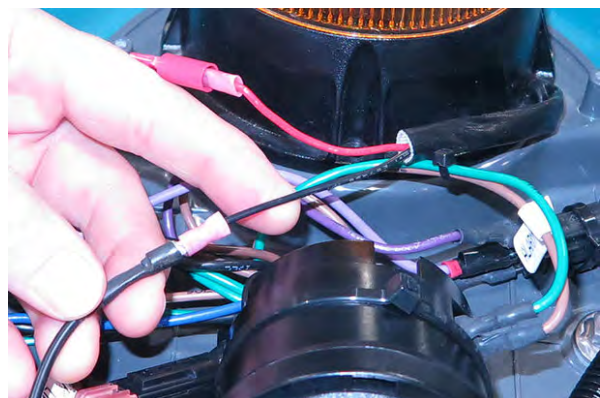


FIG. 21

55. Reinstall the light module cover onto the alarm/flashing light assembly.
56. Reinstall all parts/components previously removed for installing the blue light kit back onto the machine.
57. Reconnect the battery cable to the machine.
58. Turn the key switch ON and test machine. Both blue lights should immediately illuminate when the key switch is turned ON.

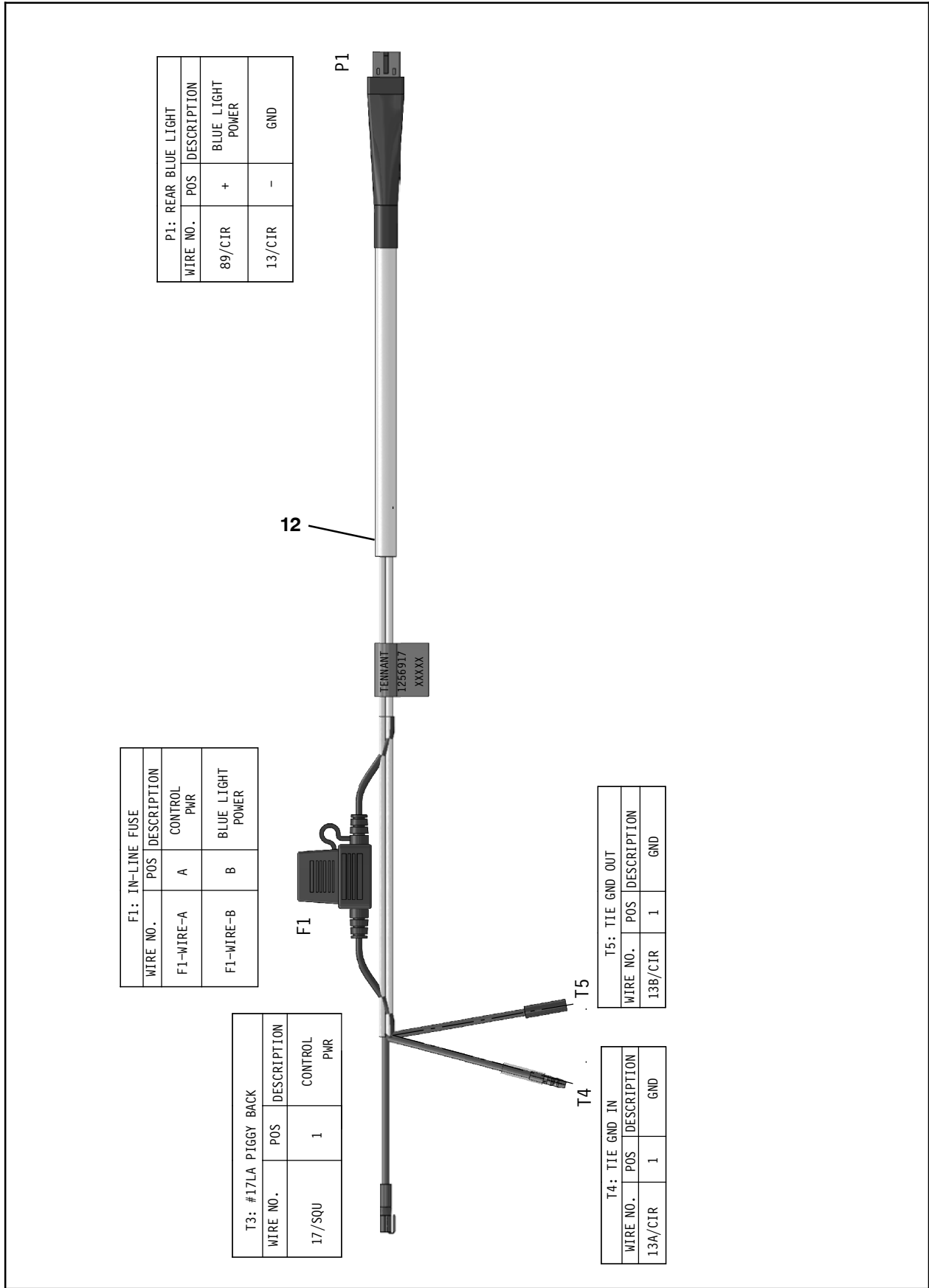


FIG. 22

PREPARATION: T12

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

1. Disconnect the battery cable from the batteries.

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

2. Remove the front access panel and the hardware securing the retaining cable to the machine. Set the front access panel/retaining cable and hardware side. (Fig. 23)
3. Remove the hardware securing both the right control panel and left control panel to the front shroud. Set the hardware aside. (Fig. 23)
4. Carefully pull both the right control panel and the left control panel from the front shroud. **Do Not** break any cable/wire connections when removing either control panel. (Fig. 23)

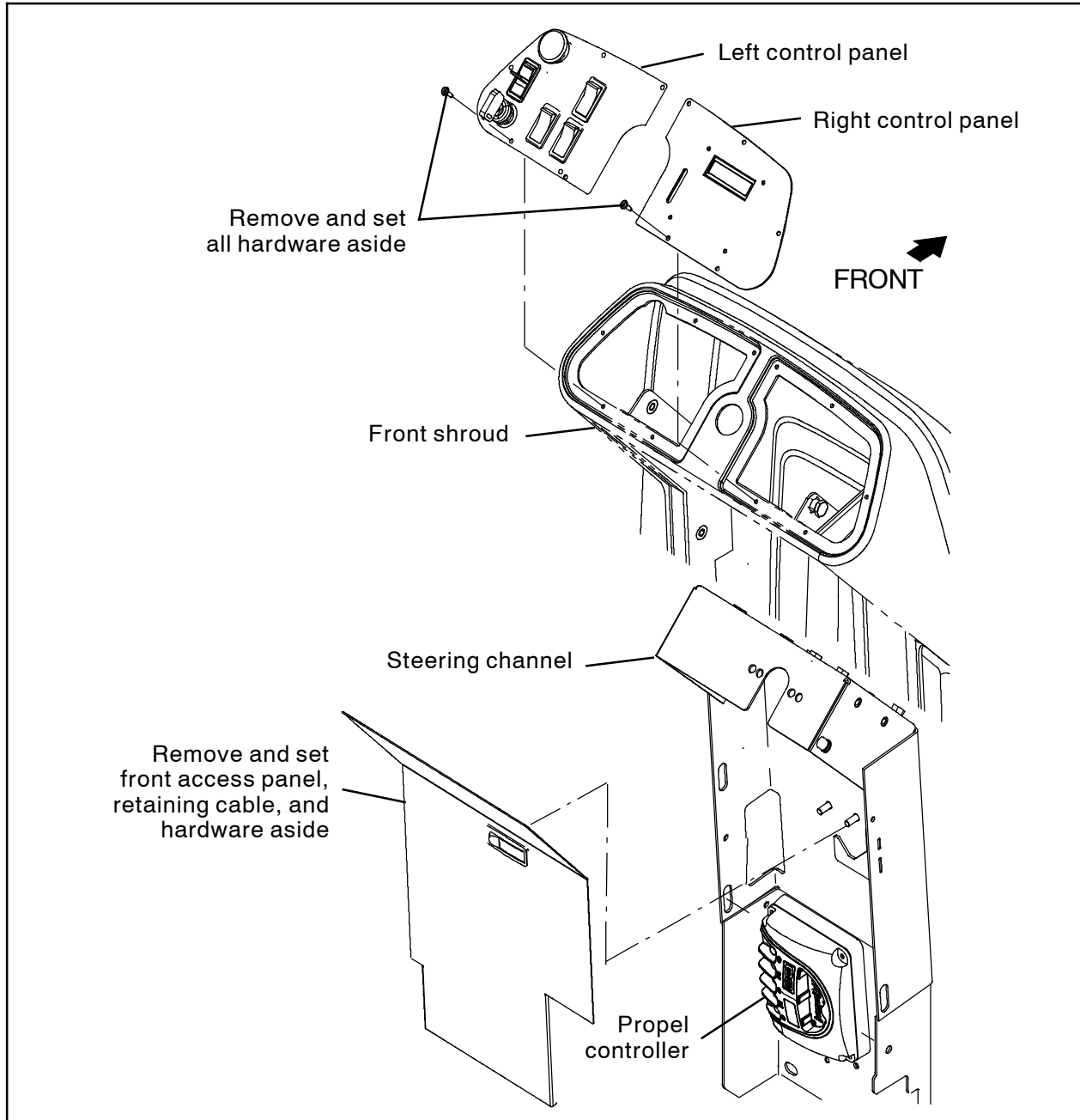


FIG. 23

- Remove the M8 hex screw securing the bottom of the circuit breaker bracket to the machine. (Fig. 24)

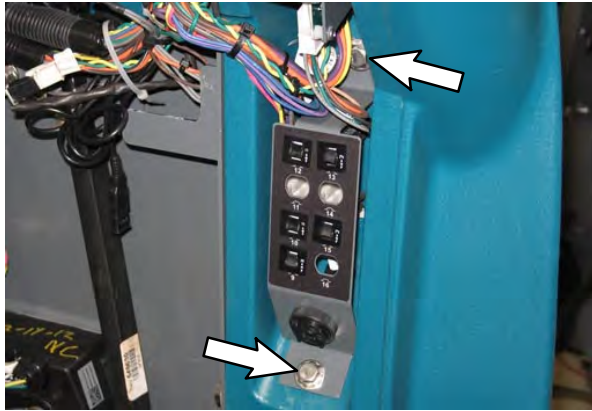


FIG. 24

- Loosen the M8 hex screw securing the top of the circuit breaker bracket to the machine. (Fig. 24)
- Pull circuit breaker bracket out far enough to remove/install circuit breakers and access the main wire harness connectors located behind the bracket. (Fig. 24)

INSTALLATION: T12

- Position the front cover spotlight mounting bracket (4) onto the front cover and mark the locations for the three front cover spotlight mounting bracket mounting holes onto the front cover. (Fig. 25)

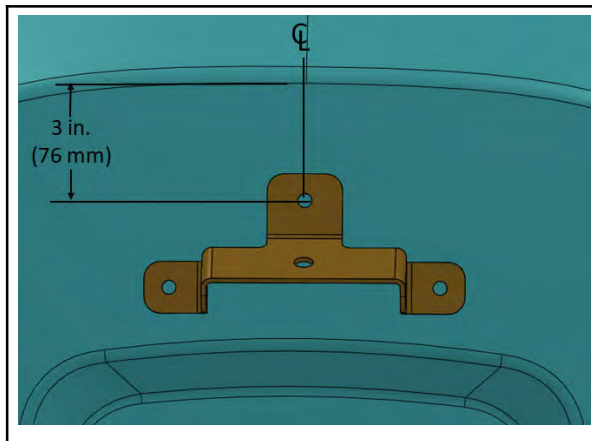


FIG. 25

- Drill a 0.375 in. (9.5 mm) hole completely through each hole marked on the front shroud in the previous step. Drill completely through both sides of the shroud. **Do Not** drill into any parts/components located behind the front shroud. (Fig. 25)
- Measure and mark a location for the harness routing hole onto the front shroud. (Fig. 26)

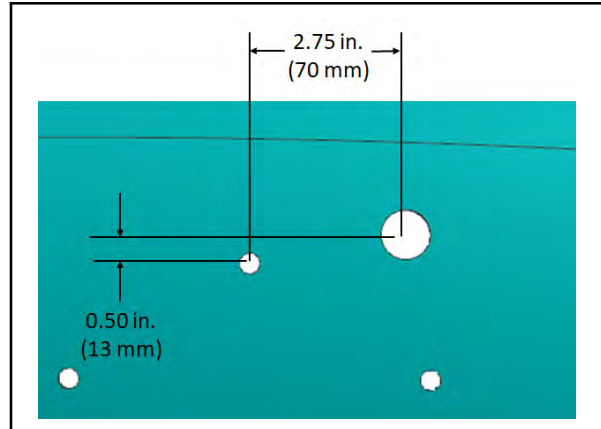


FIG. 26

- Drill a 0.886 in. (22.5 mm) hole for harness routing completely through the front shroud. **Do Not** drill into any parts/components located behind the front shroud. (Fig. 26)

5. Use three M8 pan screws (5), three M8 fender washers (6), and three M8 hex nuts (7) to install the front cover spotlight mounting bracket (4) onto the front shroud. (Fig. 28)
6. Remove the hex nut included with the blue LED spotlight (1) from the light. (Fig. 28)
7. Use the hex nut removed from the blue LED spotlight (1) in the previous step and a lock washer (2) to install the blue LED spotlight onto the front cover spotlight mounting bracket (4). (Fig. 28)
8. Remove the nut from the sealed chord grip on the blue spotlight harness (3). (Fig. 7)
9. Route the end of the blue spotlight harness (3) to be connected to the blue LED spotlight (1) installed on the front shroud through the 0.886 in. (22.5 mm) hole previously drilled into the front shroud. (Fig. 28)

10. Connect the blue spotlight harness (3) to the blue LED spotlight (1) installed on the front shroud. (Fig. 27/Fig. 29)



FIG. 27

11. Use the sealed chord grip/nut on the blue spotlight harness (3) to secure the harness to the front shroud. (Fig. 28)

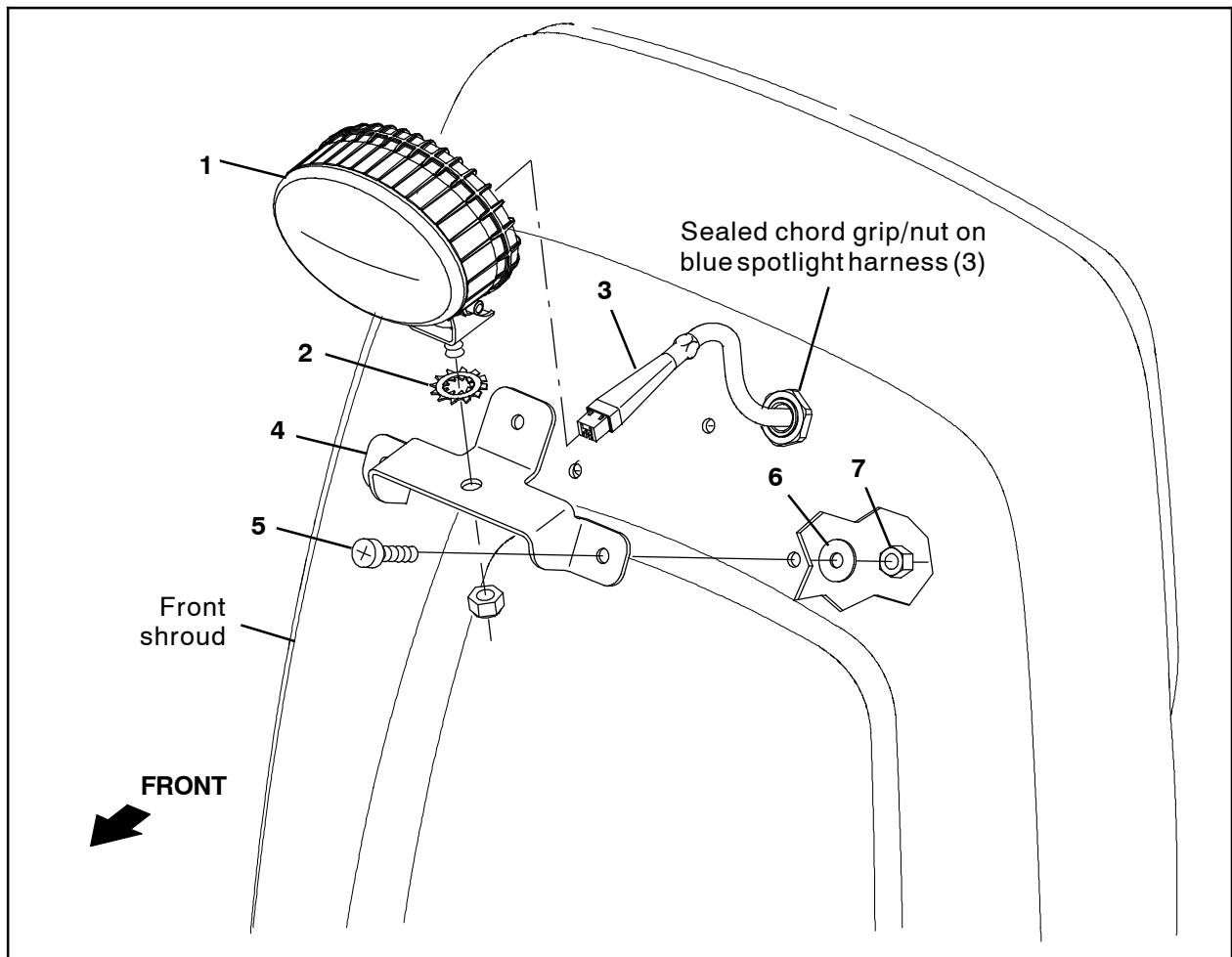


FIG. 28

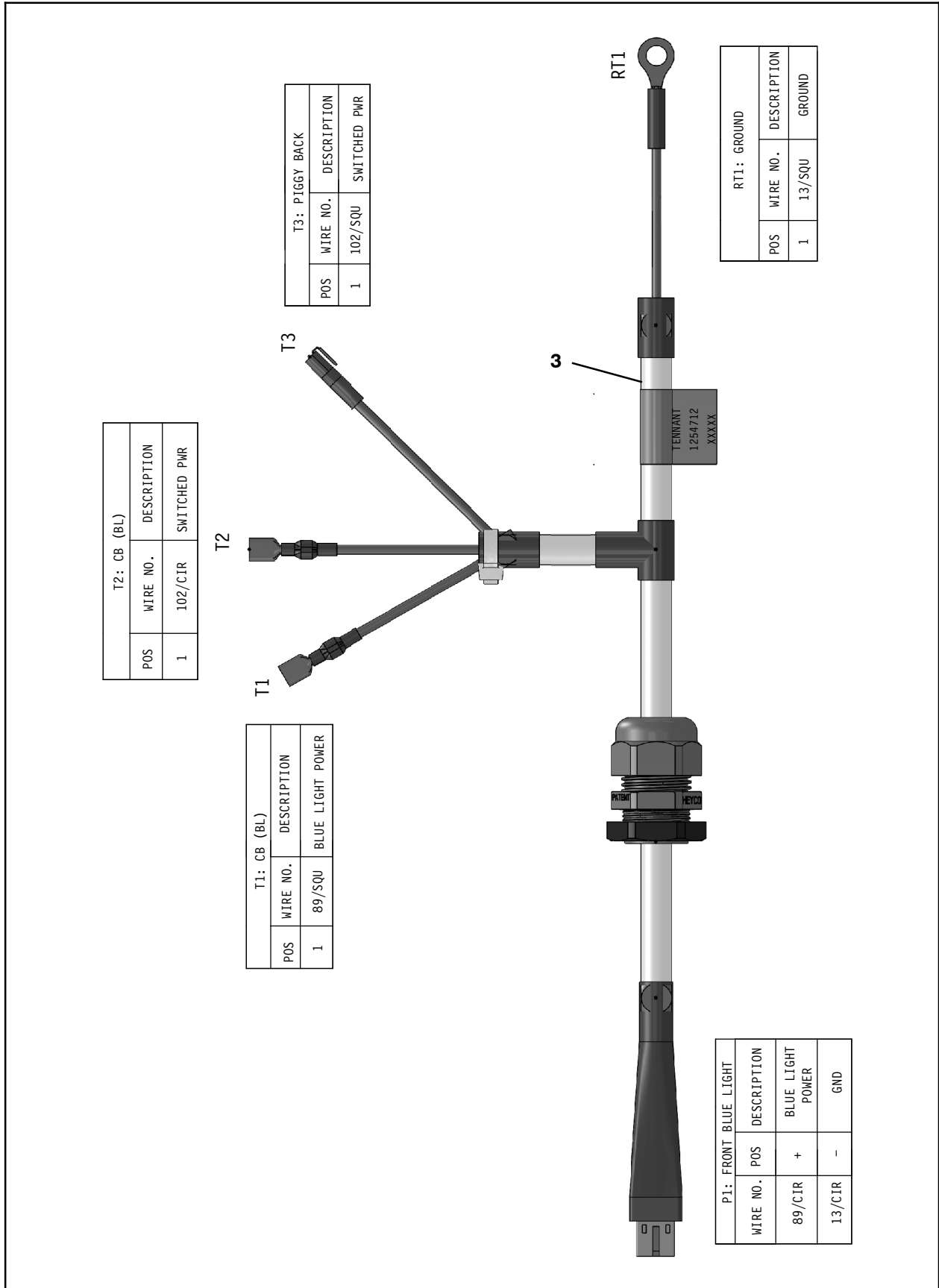


FIG. 29

12. Route the blue spotlight harness (3) between the front shroud and steering channel, around the right side of the steering channel, and to the circuit breaker bracket. (Fig. 30)

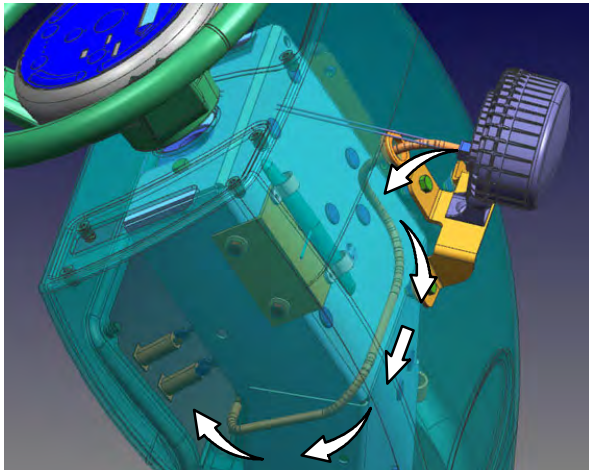


FIG. 30

13. Disconnect 38/GRY from circuit breaker 10. (Fig. 31)

14. Connect blue spotlight harness (3) T3 lead to terminal where 38/GRY was previously connected to circuit breaker 10. (Fig. 31/ Fig. 29)

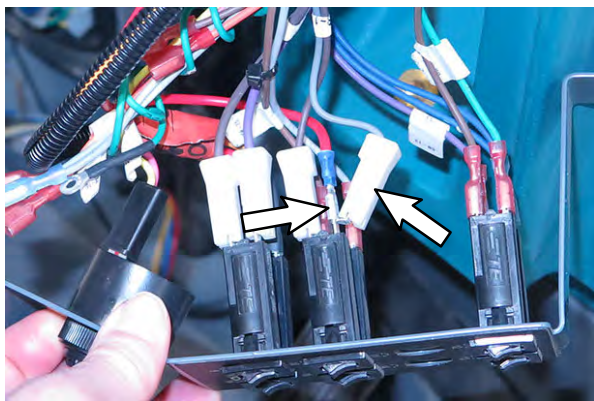


FIG. 31

15. Connect 38/GRY to blue spotlight harness (3) T3 lead terminal. (Fig. 29)

16. Install the circuit breaker boot (15) onto the 2.5- Amp circuit breaker (14).

17. Insert the 2.5- Amp circuit breaker (14) into location 16 on the electrical panel. (Fig. 32)

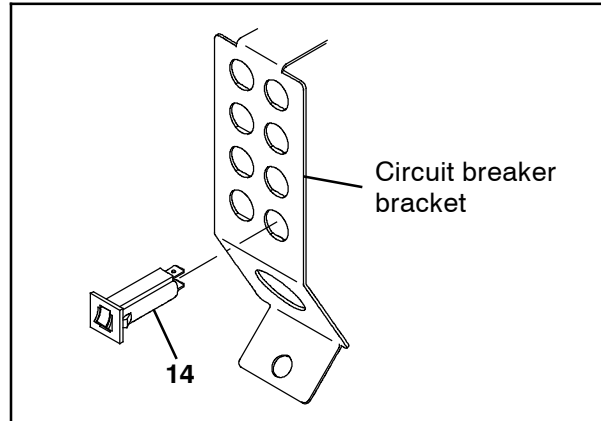


FIG. 32

18. Connect blue spotlight harness (3) T1/T2 leads to the 2.5- Amp circuit breaker (14) installed in the previous step. (Fig. 33)

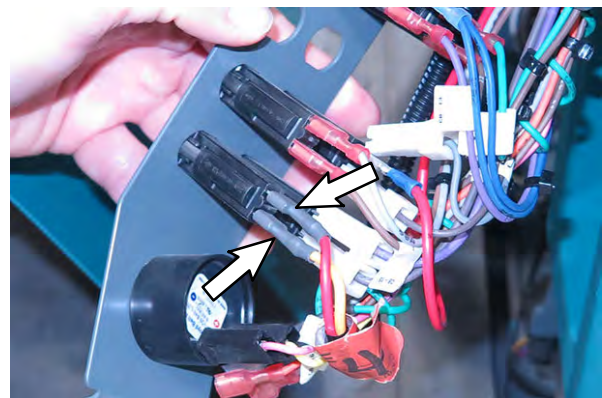


FIG. 33

19. Remove the hex nut from propel controller B-terminal. (Fig. 34)

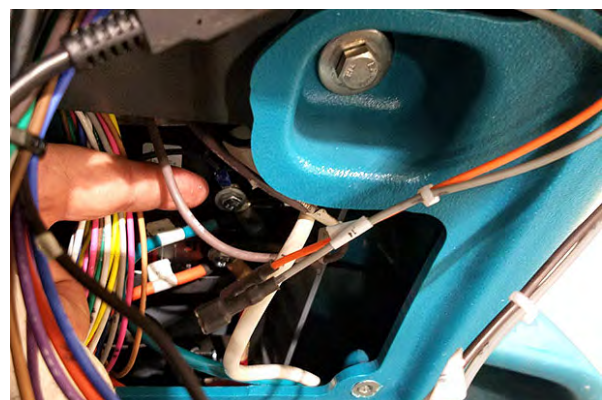


FIG. 34

20. Connect the blue spotlight harness (3) RT1 lead to the propel controller B- terminal and reinstall the previously removed hex nut onto the propel controller B- terminal. (Fig. 34)

**INSTALLATION (T12 machines without alarm/
flashing light on recovery tank cover)**

21. Remove the plugs from the recovery tank cover and discard both plugs. (Fig. 35)
 22. Remove the recovery tank cover from the recovery tank. Set all mounting hardware aside.
 23. Use two SEMS M8 hex screws (11) to loosely install the blue spotlight rear mounting bracket (9) onto the recovery tank. (Fig. 36)
 24. Use the blue spotlight rear mounting bracket (9) to mark location for hole to route the blue spotlight rear harness (8) into the recovery tank. (Fig. 36)
 25. Remove the blue spotlight rear mounting bracket (9) from the recovery tank. Set the blue spotlight rear mounting bracket and SEMS M8 hex screws (11) aside. (Fig. 36)
- NOTE: Use the dimple located in the recovery tank cover to center the hole saw on the cover.*
26. Use a 2 in. (51 mm) hole saw to cut a hole through the top of the recovery tank cover. **Do Not** cut into/through the bottom of the recovery tank cover. (Fig. 35)
 27. Use a 1.5 in. (38 mm) hole saw to cut a hole through the front of the recovery tank cover. (Fig. 35)
 28. Reinstall the recovery tank cover onto the recovery tank.

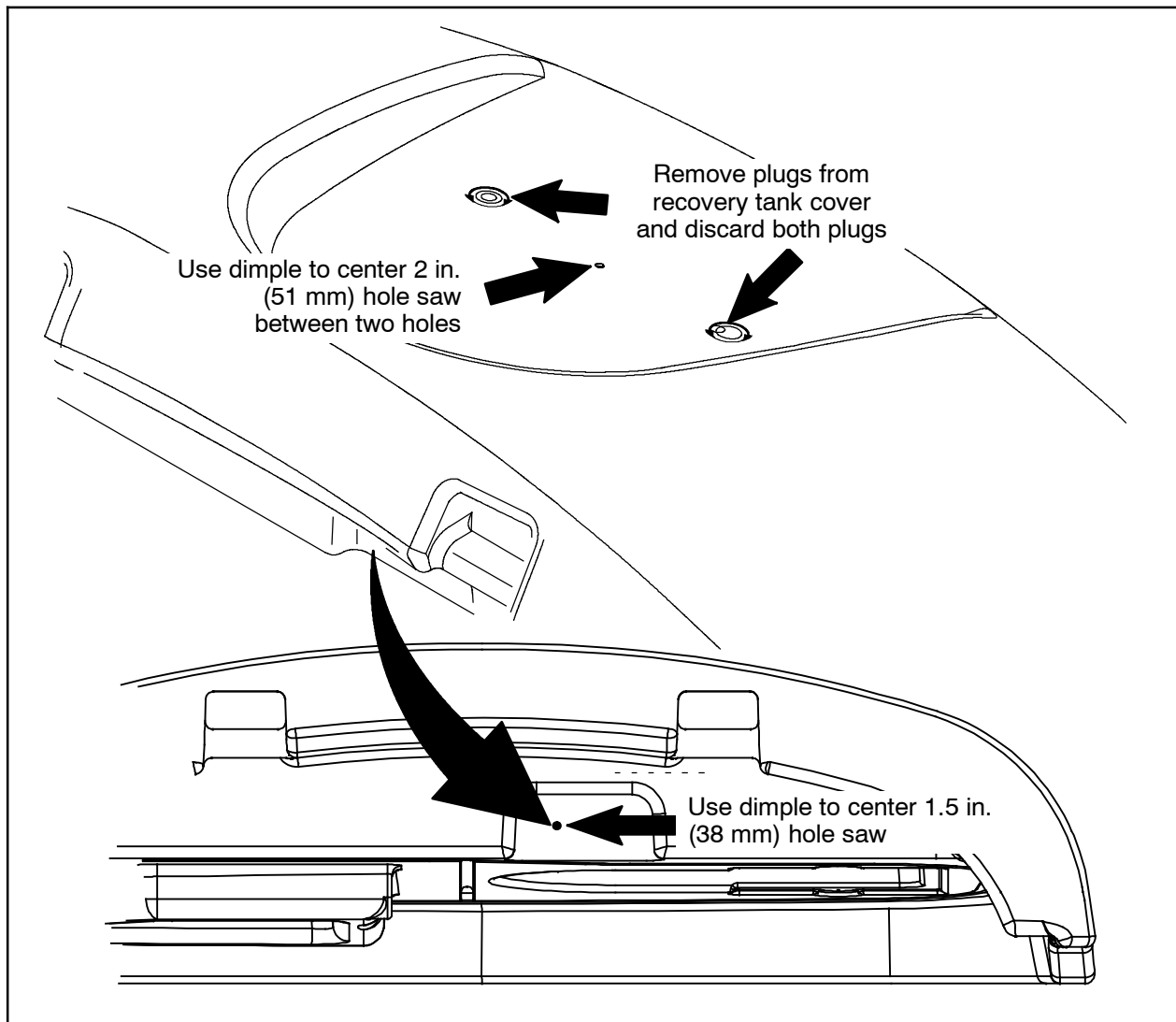


FIG. 35

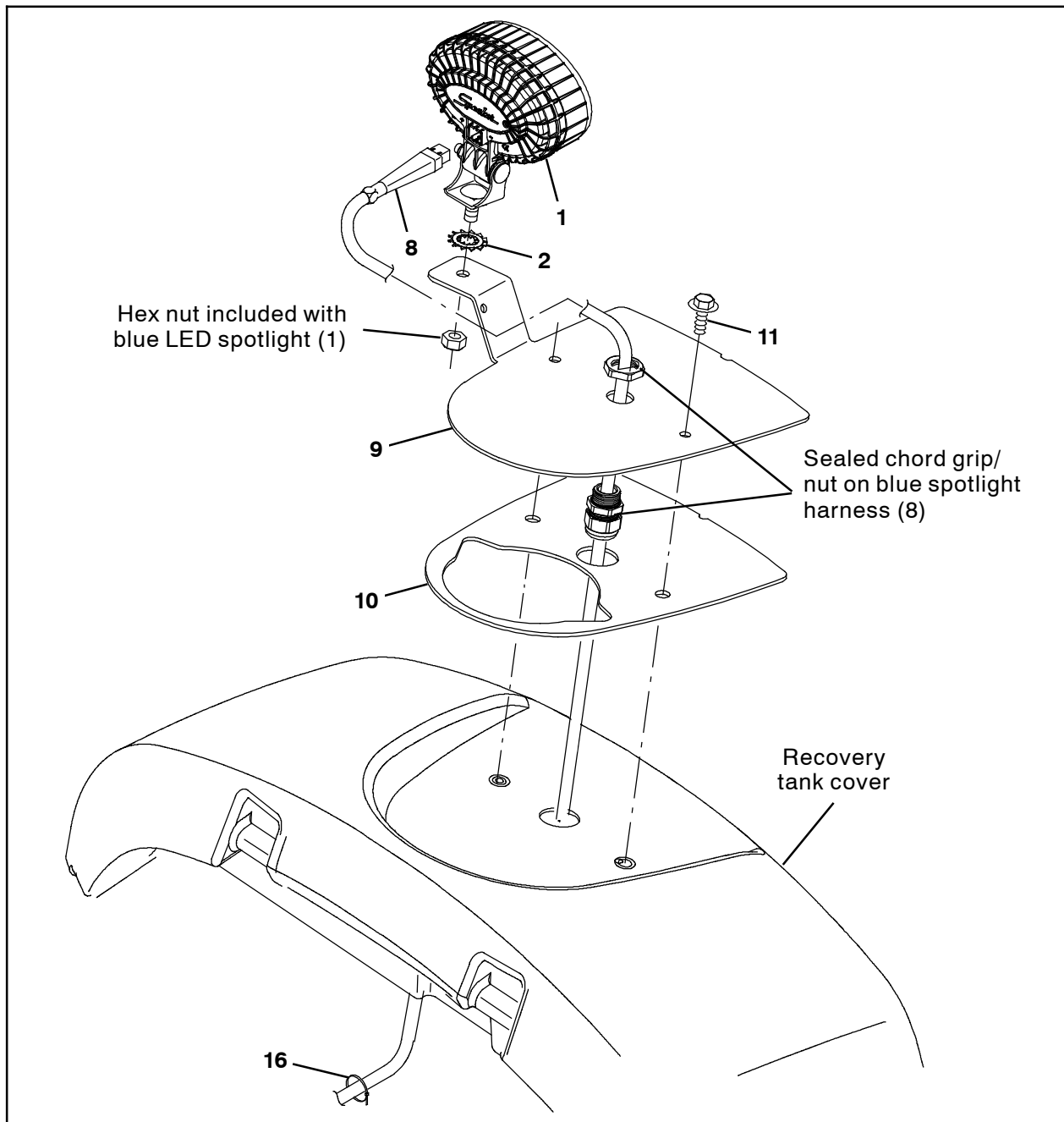


FIG. 36

29. Remove the backing from the module base gasket (10) and install the gasket onto the blue spotlight rear cover mounting bracket (9). (Fig. 36)

30. Use two SEMS M8 hex screws (11) to install the blue spotlight rear cover mounting bracket (9) onto the recovery tank cover. (Fig. 36)

31. Remove the hex nut included with the blue LED spotlight (1) from the light. (Fig. 36)

32. Use the hex nut removed from the blue LED spotlight (1) in the previous step and a lock washer (2) to install the blue LED spotlight onto the rear cover mounting bracket (9). (Fig. 36)

33. Remove the nut from the sealed chord grip on the blue spotlight harness (8). (Fig. 15)

34. Route the blue spotlight rear harness (8) blue LED light lead through the 1 in. (25 mm) hole in the recovery tank cover and through the 2 in. (50 mm) in the top of the recovery tank cover/blue spotlight rear cover mounting bracket (9). (Fig. 36)
35. Connect the blue spotlight rear harness (8) to the blue LED spotlight (1). (Fig. 36)
36. Route the other end of the blue spotlight rear harness (8) through the hole in the top of the recovery tank, through to the front of the recovery, into the operator compartment, and to the main wire harness ALARM/LIGHT ASSY lead/connector. (Fig. 37/Fig. 38)

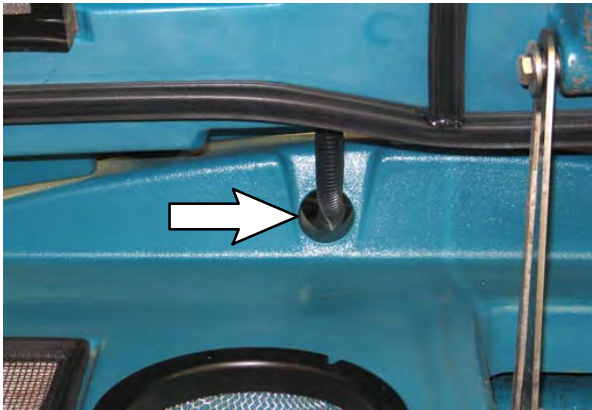


FIG. 37



FIG. 38

37. Connect the blue spotlight rear harness (8) to the main wire harness ALARM/LIGHT ASSY lead/connector. (Fig. 39)

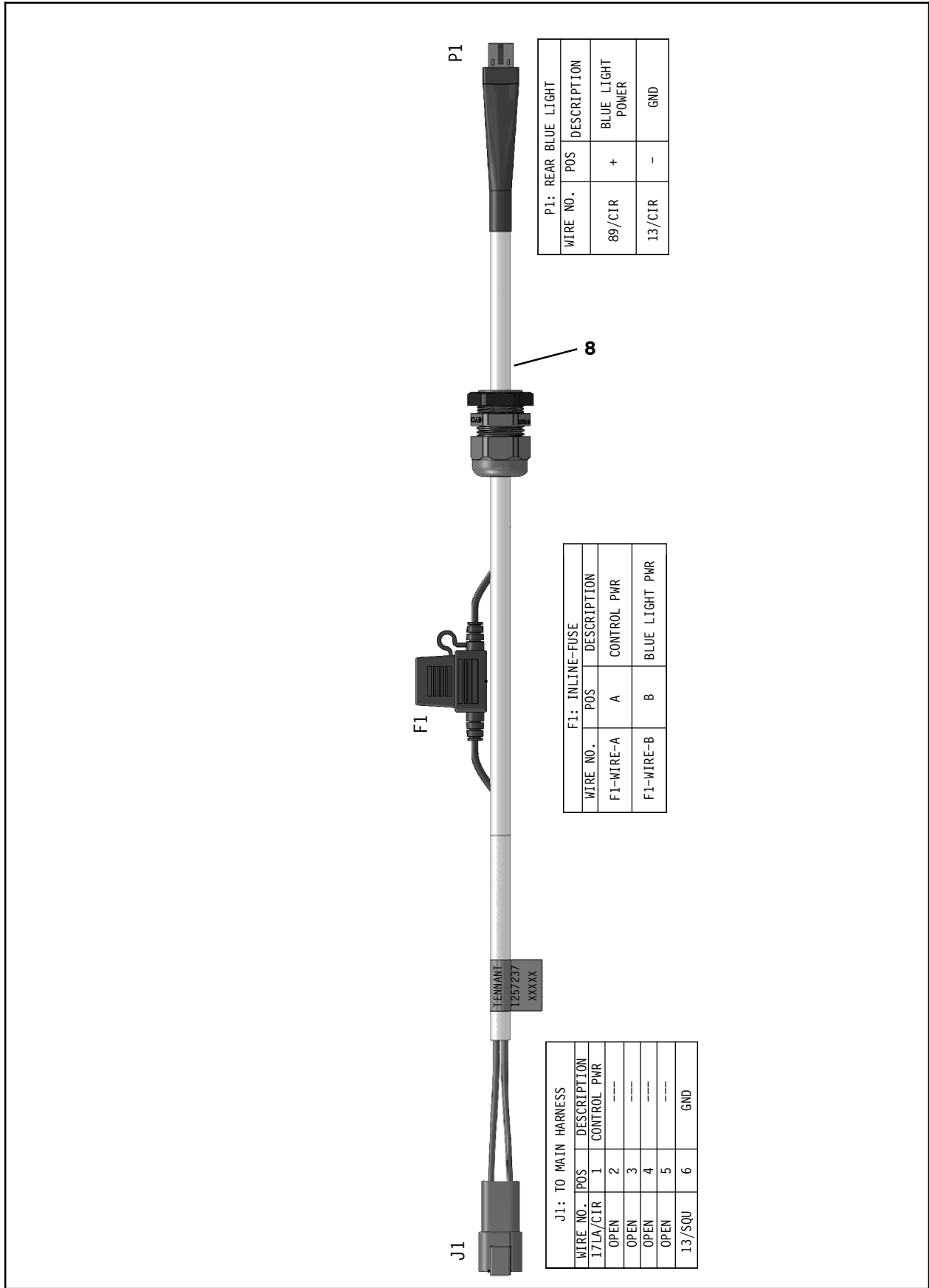


FIG. 39

**INSTALLATION (T12 machines with alarm/
flashing light on recovery tank cover)**

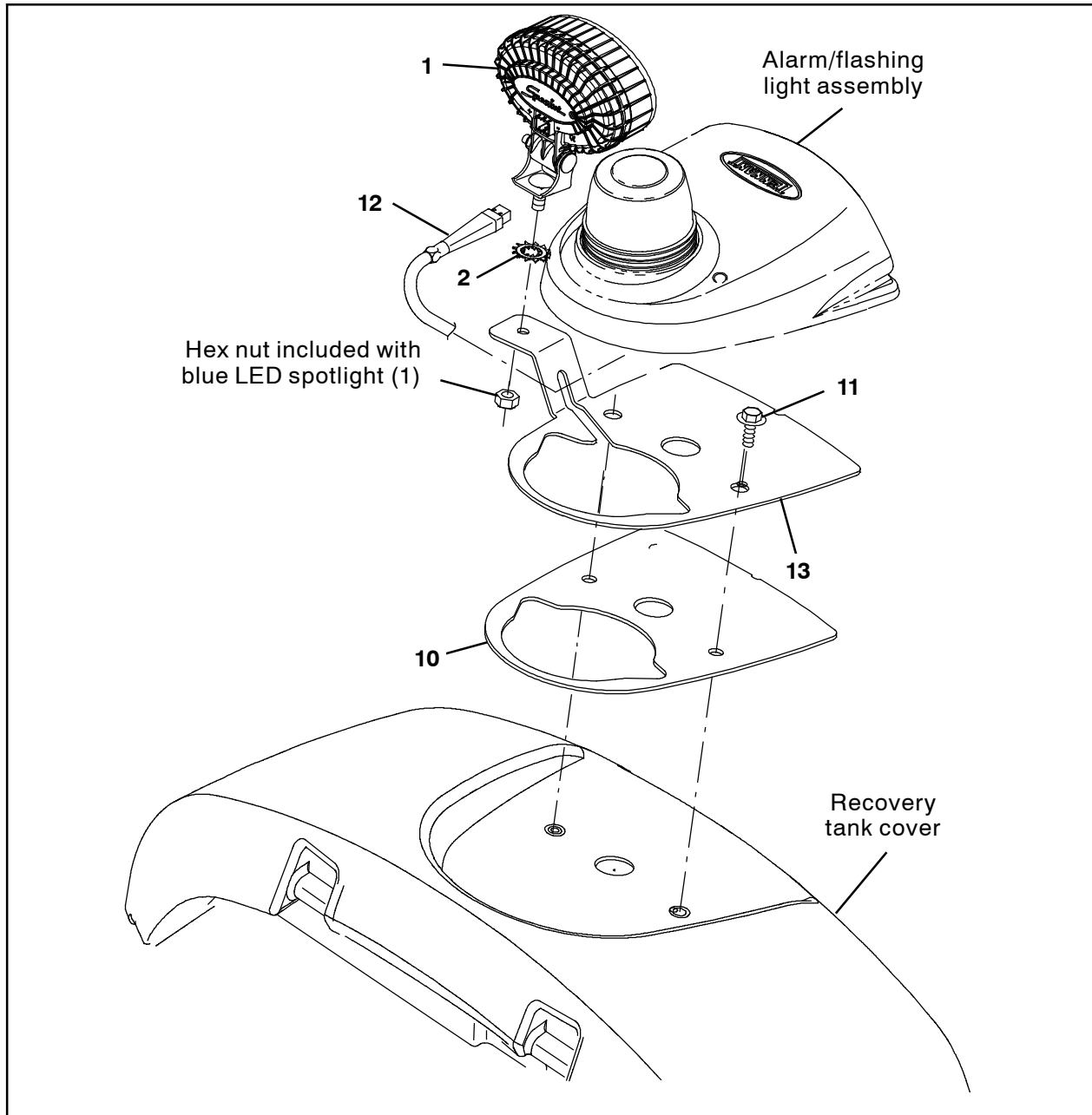


FIG. 40

- 38. Remove the two pan screws securing the light module cover to the alarm/flashing light assembly. Set the pan screws aside.
- 39. Carefully lift the light module cover from the alarm/flashing light assembly and leave the cover hanging out of the way from the alarm/flashing light assembly.

- 40. Remove the two SEMS M8 hex screws securing the alarm/flashing light assembly to the recovery tank cover from the alarm/flashing light assembly. Set the SEMS M8 hex screws aside.
- 41. Carefully move the alarm/flashing light assembly away from where it was installed on the recovery tank. Do not disconnect all harness connections/completely remove the alarm/flashing light assembly from the recovery tank cover.

42. Remove the backing from the module base gasket (10) and install the gasket onto the blue spotlight rear cover mounting bracket (13). (Fig. 40)
43. Use two SEMS M8 hex screws (11) to install the blue spotlight rear cover mounting bracket (13) onto the recovery tank cover. (Fig. 40)
44. Install the alarm/flashing light assembly onto the blue spotlight rear cover mounting bracket (13). Do not install the light module cover onto the alarm/flashing light assembly. Light module cover is later reinstalled after all cable connections are completed. (Fig. 40)
45. Remove the hex nut included with the blue LED spotlight (1) from the light. (Fig. 40)
46. Use the hex nut removed from the blue LED spotlight (1) in the previous step and a lock washer (2) to install the blue LED spotlight onto the rear cover mounting bracket (13). (Fig. 40)
47. Route the blue spotlight rear harness (12) through the notch in the blue spotlight rear cover mounting bracket (13) and connect the blue spotlight rear harness to the blue LED spotlight (1). (Fig. 40)
48. Disconnect the 17/PUR lead from the circuit breaker located in the alarm/flashing light assembly. (Fig. 41)



FIG. 41

49. Connect the blue spotlight rear harness (12) T2 lead to the location on the circuit breaker where 17/PUR was previously connected. (Fig. 41/Fig. 44)
50. Connect 17/PUR to the blue spotlight rear harness (12) T2 lead. (Fig. 41/Fig. 44)

51. Disconnect the 13/LC lead labeled FLASH/STROBE LT from the flashing light on the alarm/flashing light assembly. (Fig. 2)

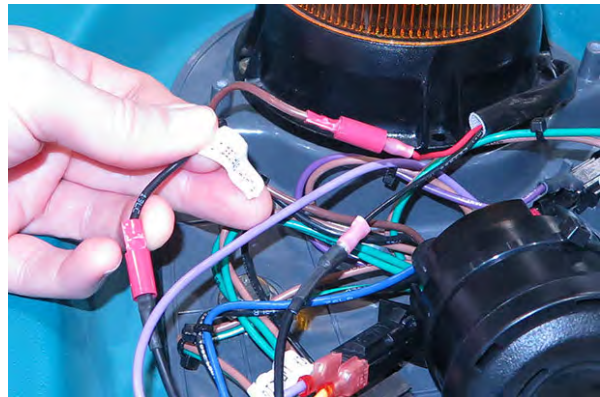


FIG. 42

52. Connect the blue spotlight rear harness (12) T4 lead to the 13/LC lead labeled FLASH/STROBE LT disconnected from the flashing light in the previous step. (Fig. 32/Fig. 44)
53. Connect the flashing light black lead previously disconnected from the 13/LC lead labeled FLASH/STROBE LT to the blue spotlight rear harness (15) T5 lead. (Fig. 43/Fig. 44)

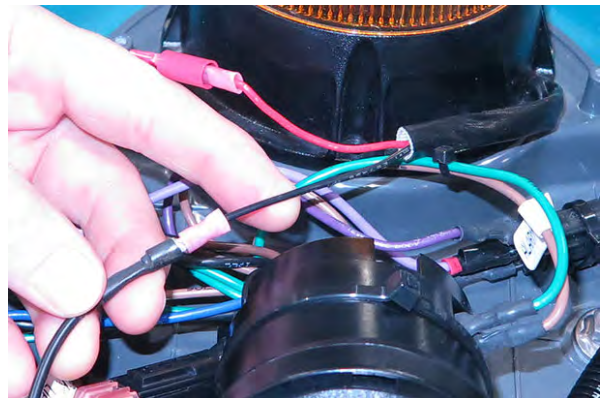


FIG. 43

54. Reinstall the light module cover onto the alarm/flashing light assembly.
55. Reinstall all parts/components previously removed for installing the blue light kit back onto the machine.
56. Reconnect the battery cable to the machine.
57. Turn the key switch ON and test machine. Both blue lights should immediately illuminate when the key switch is turned ON.

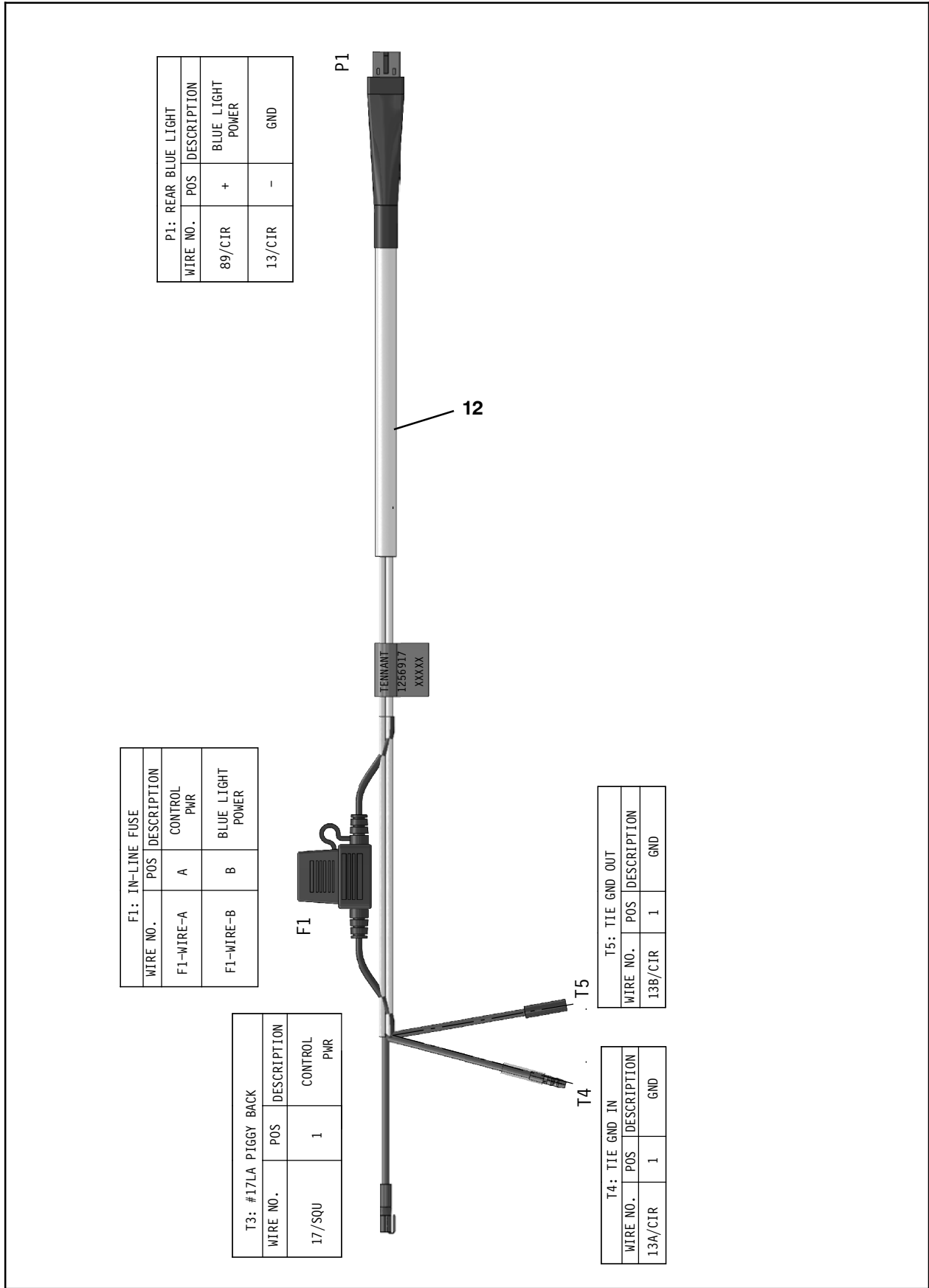


FIG. 44

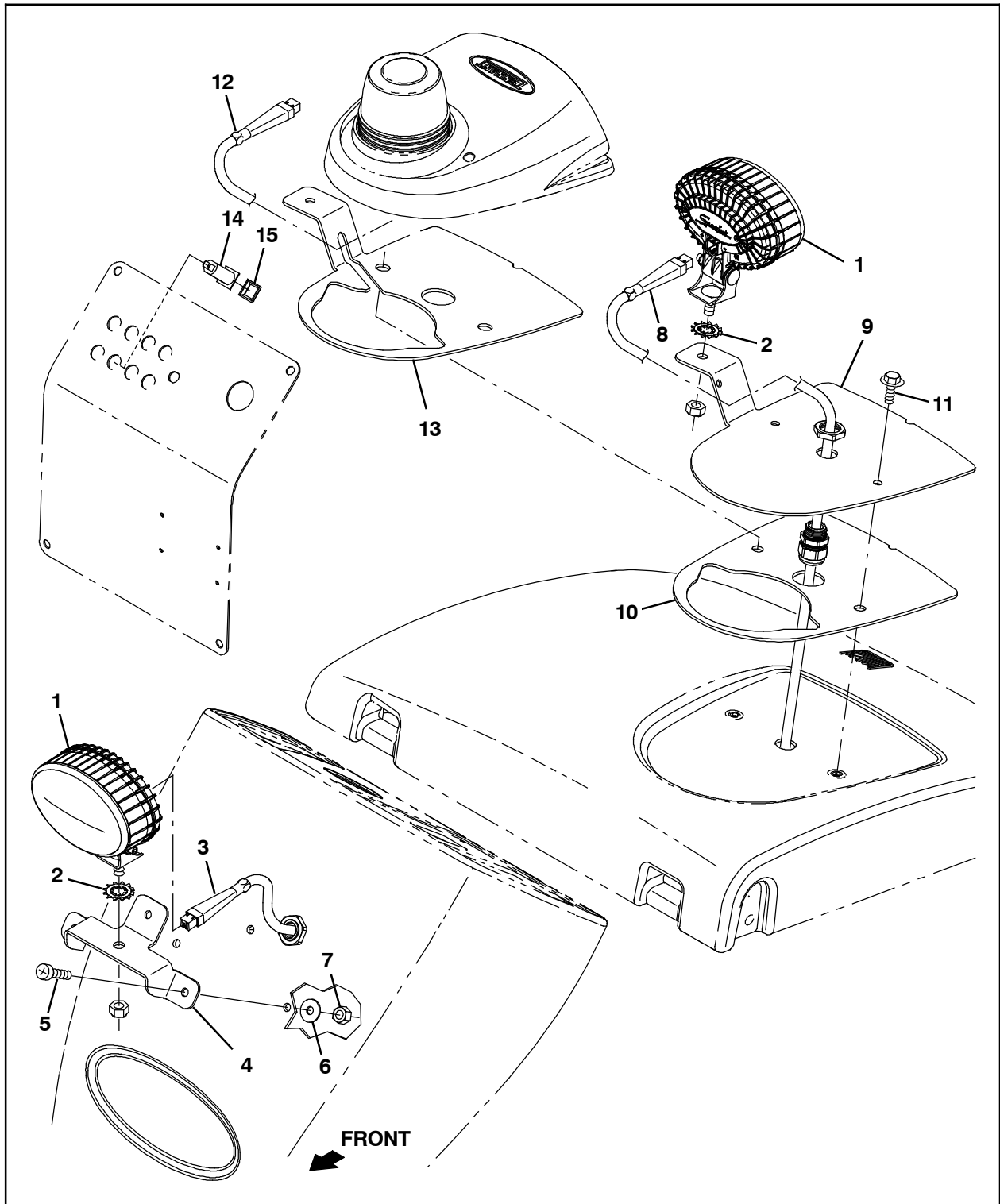


FIG. 45

Bill Of Materials For Spotlight Kit, Blue, CI [T12/T16] - 9020972

Ref.	Tennant Part No.	Description	Qty.
1	1240687	Light, Spot, Blue, LED	2
2	41143	Washer, Lock, Int- Ext, 0.50	2
3	1254712	Harness, Blu Spotlight [T16]	1
4	1076808	Brkt, Blu Spotlight, Fr, Cover Mtg	1
5	1031665	Screw, Pan, M8 X 1.25 X 25, Blk	3
6	39890	Washer, Flat, M8, Fendr	3
7	08713	Nut, Hex, Lock, M8 X 1.25, NI, SS	3
8	1257237	Harness, Blu Spotlight, Rr, CI (Machines w/o strobe light ONLY)	1
9	1077103	Brkt, Blu Spotlight, Rr, Cover Mtg (Machines w/o strobe light ONLY)	1
10	1063263	Gasket, Base, Module	1
11	1020341	Screw, Hex, M8 X 1.25 X 20, SS, SEMS	2
12	1256917	Harness, Blu Spotlight, Rr Fi & CI (Machines with strobe light ONLY)	1
13	1076810	Brkt, Blu Spotlight, Rr, Cover Mtg (Machines with strobe light ONLY)	1
14	1064184	Circuit Breaker, 02.5a, Resettable	1
15	1064191	Boot, Circuit Breaker	1
16	763114	Tie, Cable, 11.3l, 2.75d Max	10

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