



INSTRUCTION BULLETIN

No. 9021861
Machine: M20/T20
Published: 01-2024
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 9021851**

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

SYNOPSIS:

This kit contains the parts needed to install a spray nozzle kit onto:
M20 sweeper scrubbers (NA serial numbers 014001-) (CE serial numbers UO1500-) /
T20 scrubbers (NA serial numbers 013001-) (CE serial numbers UO1400-).
Please follow step-by-step instructions.

SPECIAL TOOLS/CONSIDERATIONS: NONE

(Estimated time to complete: 3 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:

1. Completely empty the recovery/solution tanks, and empty/clean the hopper (M20). Refer to the Operator Manual for instructions.
2. **M20 Only:** Turn on the machine, raise the hopper to the fully raised position, turn off the machine, remove the key, and set the parking brake.
 **WARNING: Lift arm pinch point. Stay clear of hopper lift arms.**
3. **M20 Only:** Insert the safety pin into the top support hole in the hopper lift arm.
 **WARNING: Raised hopper may fall. Engage hopper support pin.**
4. Remove the brushes from the main scrub head. Set the brushes/brush idler plates aside. Refer to the Operator Manual for instructions.
5. Turn on the machine, completely lower the scrub head, and turn off the machine.

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

6. Open the front shroud.

7. Remove the battery from the machine. Set the battery aside.

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

FOR SAFETY: When servicing machine, avoid contact with battery acid.

8. Remove the engine access panel from the operator compartment. Set the access panel and hardware aside. (Fig. 1)

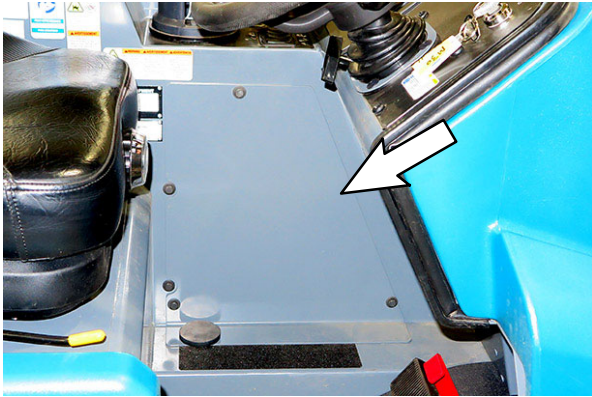


FIG. 1

9. Remove the access panel from the floor of the operator compartment. Set the access panel and hardware aside. (Fig. 2)

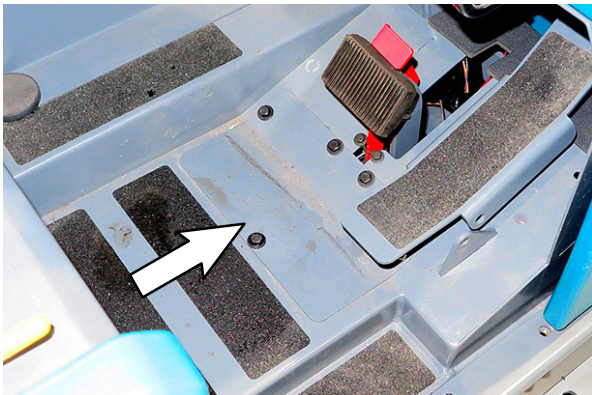


FIG. 2

10. **LPG Machines Only:** Remove the LPG tank for additional access for routing hoses. Refer to Operators Manual for instructions how to remove the LPG tank.
11. Raise and lock the operator seat open.

INSTALLATION:

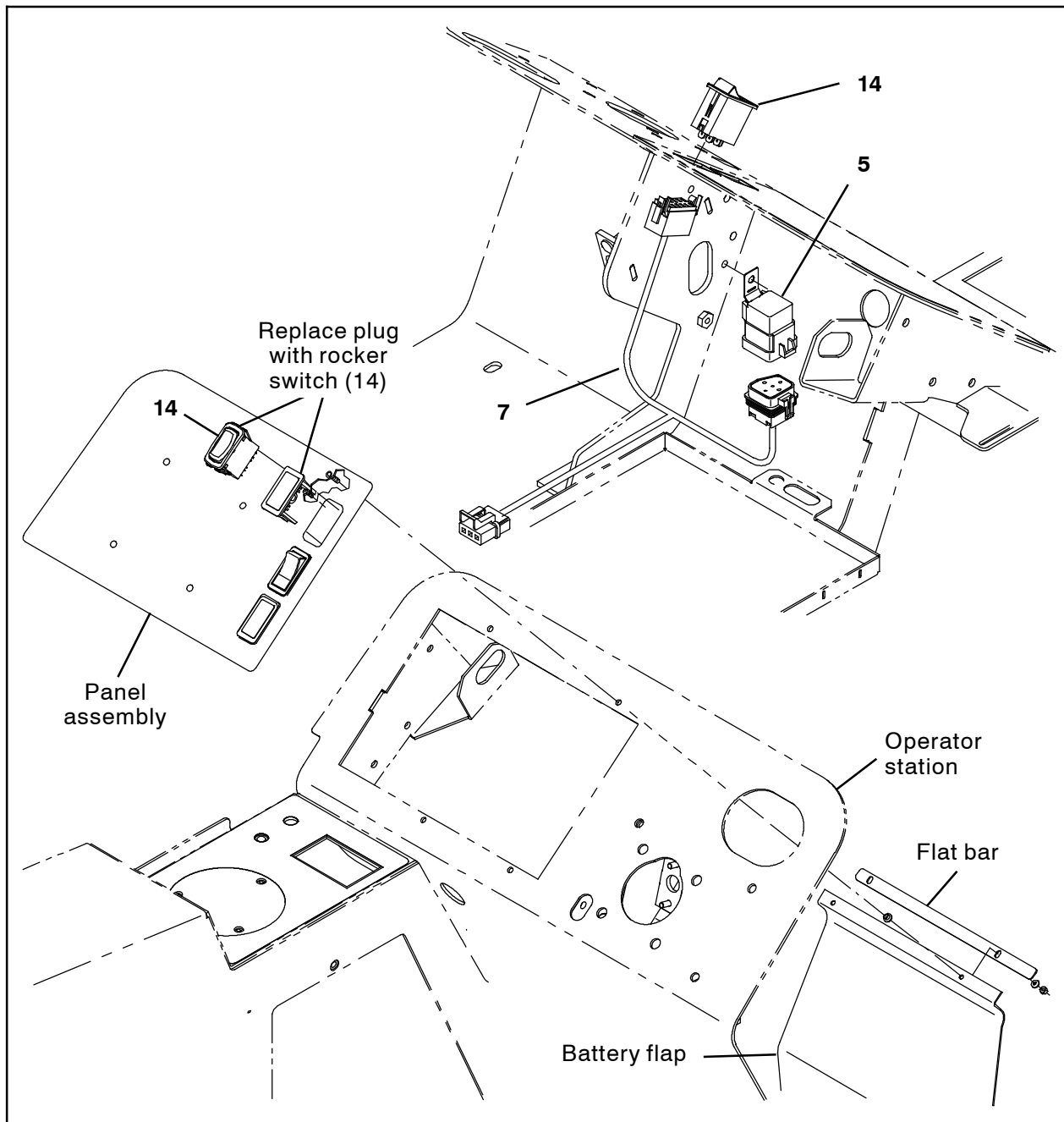


FIG. 3

1. Use a hex screw to install the 12VDC relay (5) onto the machine. (Fig. 3)
2. Connect the spray nozzle harness (7) to the 12VDC relay (5). (Fig. 3/Fig. 4)
3. Remove the plug from the panel assembly. Discard the plug. (Fig. 3)
4. Insert the rocker switch (14) into the panel assembly. (Fig. 3)
5. Connect the spray nozzle harness (7) to the rocker switch (14). (Fig. 3/Fig. 4)

NOTE: If necessary, remove the panel assembly from the operator station to install the rocker switch (14) into the panel assembly.

6. Reinstall the panel assembly, battery flap, and flat bar onto the operator station if these items were removed. (Fig. 3)

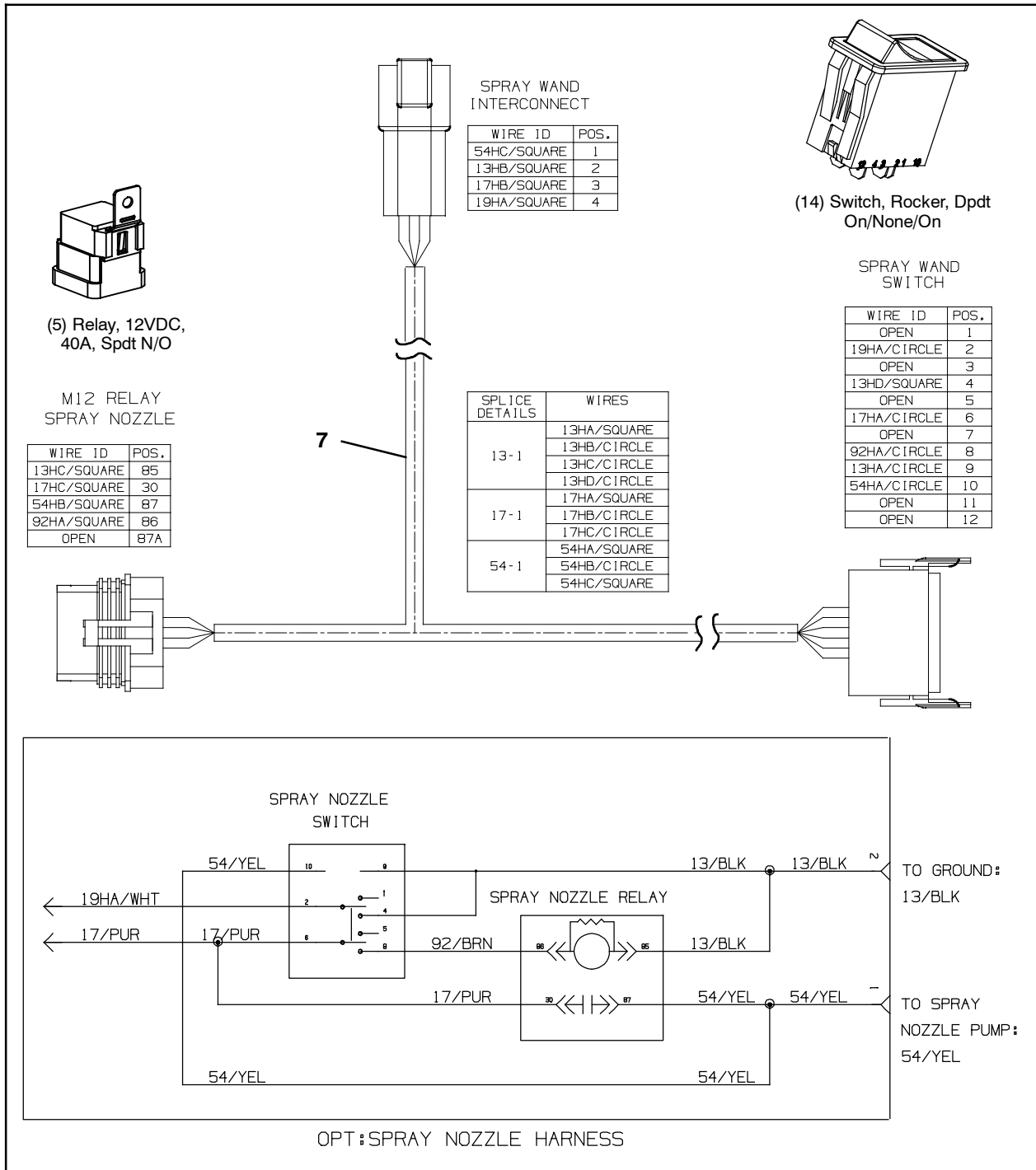


FIG. 4

7. Connect the spray nozzle harness (7) to the main wire harness. (Fig. 4)
8. Reinstall the battery into the battery compartment. **Do Not** reconnect the battery cables to the battery. Battery cables are reconnected after kit installation is complete.

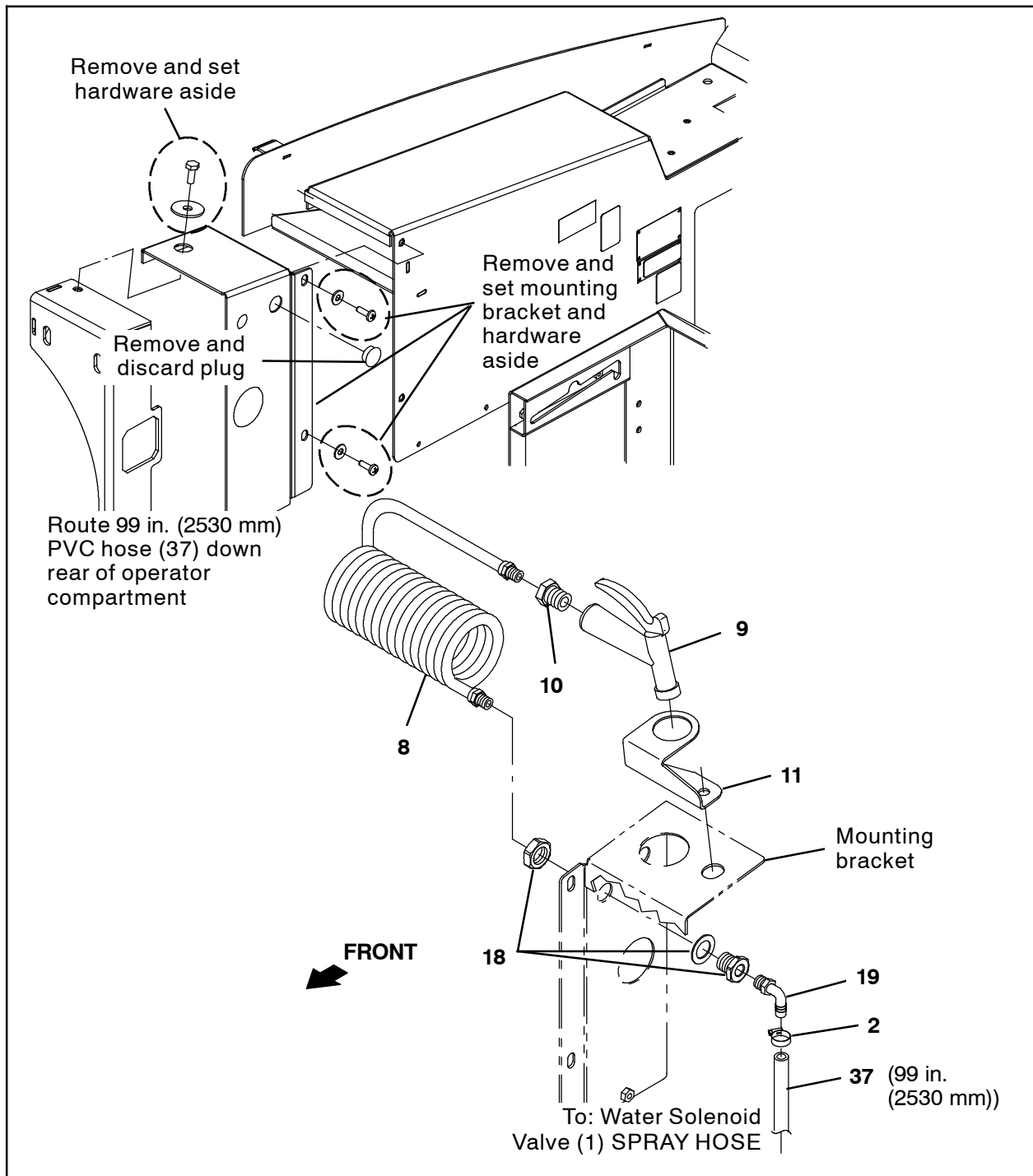


FIG. 5

9. Remove the mounting bracket from the rear corner of the operator compartment. Set the mounting bracket and hardware aside. (Fig. 5)
10. Remove the plug from the mounting bracket removed in the previous step. Discard the plug. (Fig. 5)
11. Remove the lock washer and nut from straight fitting (18) and install the straight fitting into the mounting bracket where the plug was previously located. (Fig. 5)
12. Apply sealant onto the threads of the 90° plastic fitting (19) and thread the 90° plastic fitting into the straight fitting (18) installed into the mounting bracket. (Fig. 5)
13. Use a hose clamp (2) to install the 99 in. (2530 mm) PVC hose (37) onto the 90° plastic fitting (19). (Fig. 5)
14. Route the loose end of the 99 in. (2530 mm) PVC hose (37) down the back of the operator compartment. (Fig. 5)

15. Use the saved hardware to reinstall the mounting bracket onto the rear corner of the operator compartment. (Fig. 5)
16. Apply sealant onto the threads at one end of the coiled water hose (8) and install the hose into the straight fitting (18) installed in the rear of the operator compartment. (Fig. 5)
17. Use the saved hardware to install the spray handle mounting bracket (11) onto the previously reinstalled mounting bracket. (Fig. 5)
18. Thread the straight brass fitting (10) into the spray gun (9). (Fig. 5)
19. Apply sealant onto the threads at the other end of the coiled water hose (8) and thread the spray gun (9), with brass fitting already installed (10), onto the coiled water hose. (Fig. 5)

20. Use two button screws (16) and two flat washers (17) to install the spray wand mounting bracket (15) onto the recovery tank. (Fig. 6)

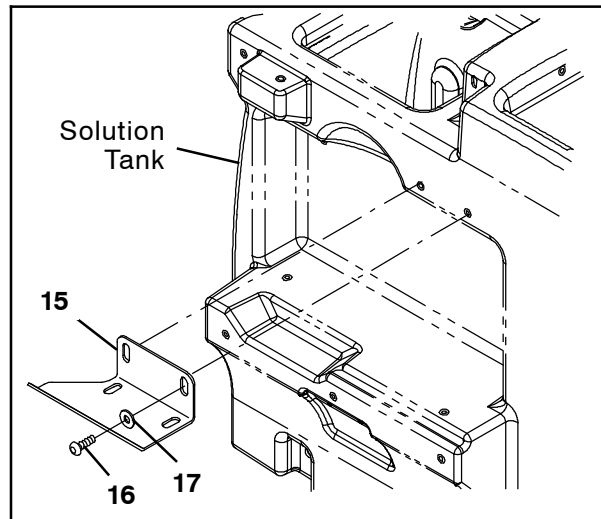


FIG. 6

21. Disconnect the PVC hose from the solution pump OUT port and the scrub head solution control group. Discard the removed PVC hose and hose clamp. (Fig. 7)

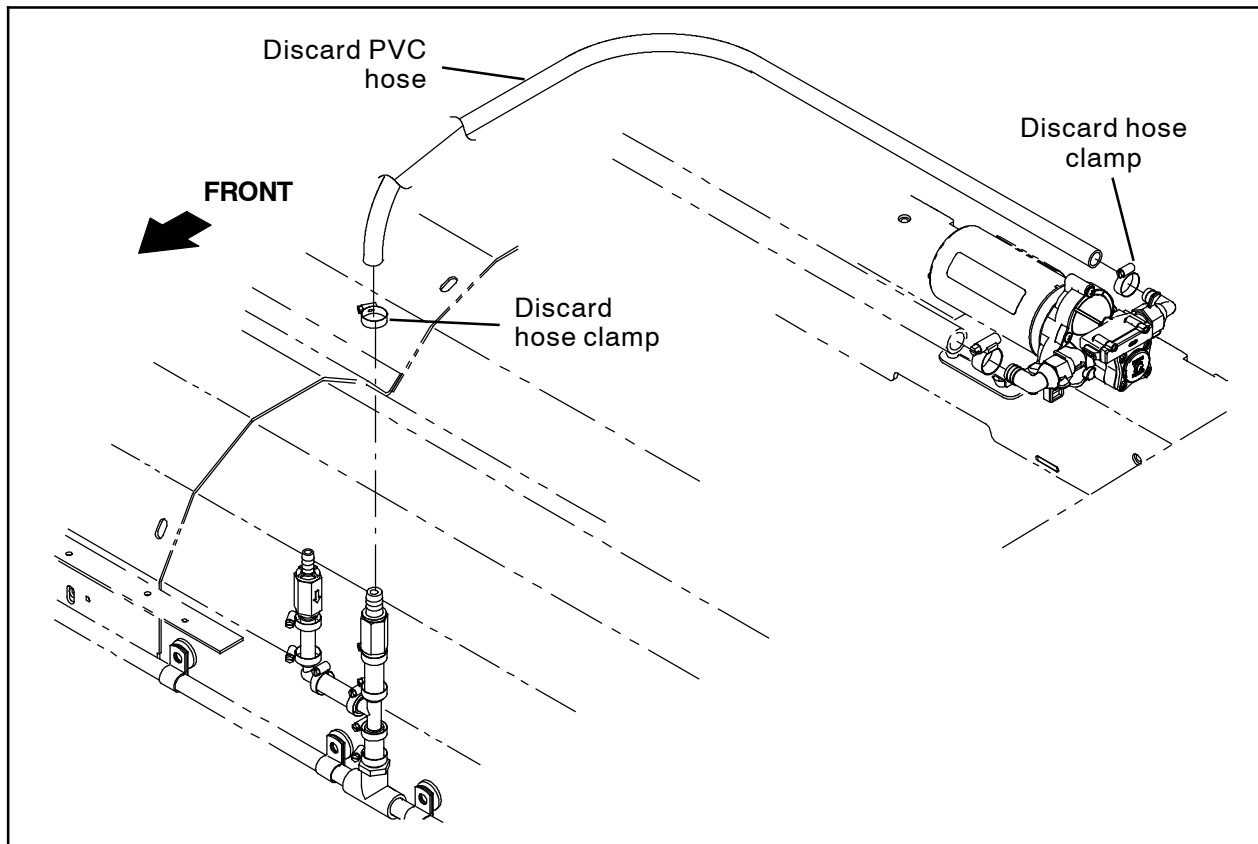


FIG. 7 - All Machines

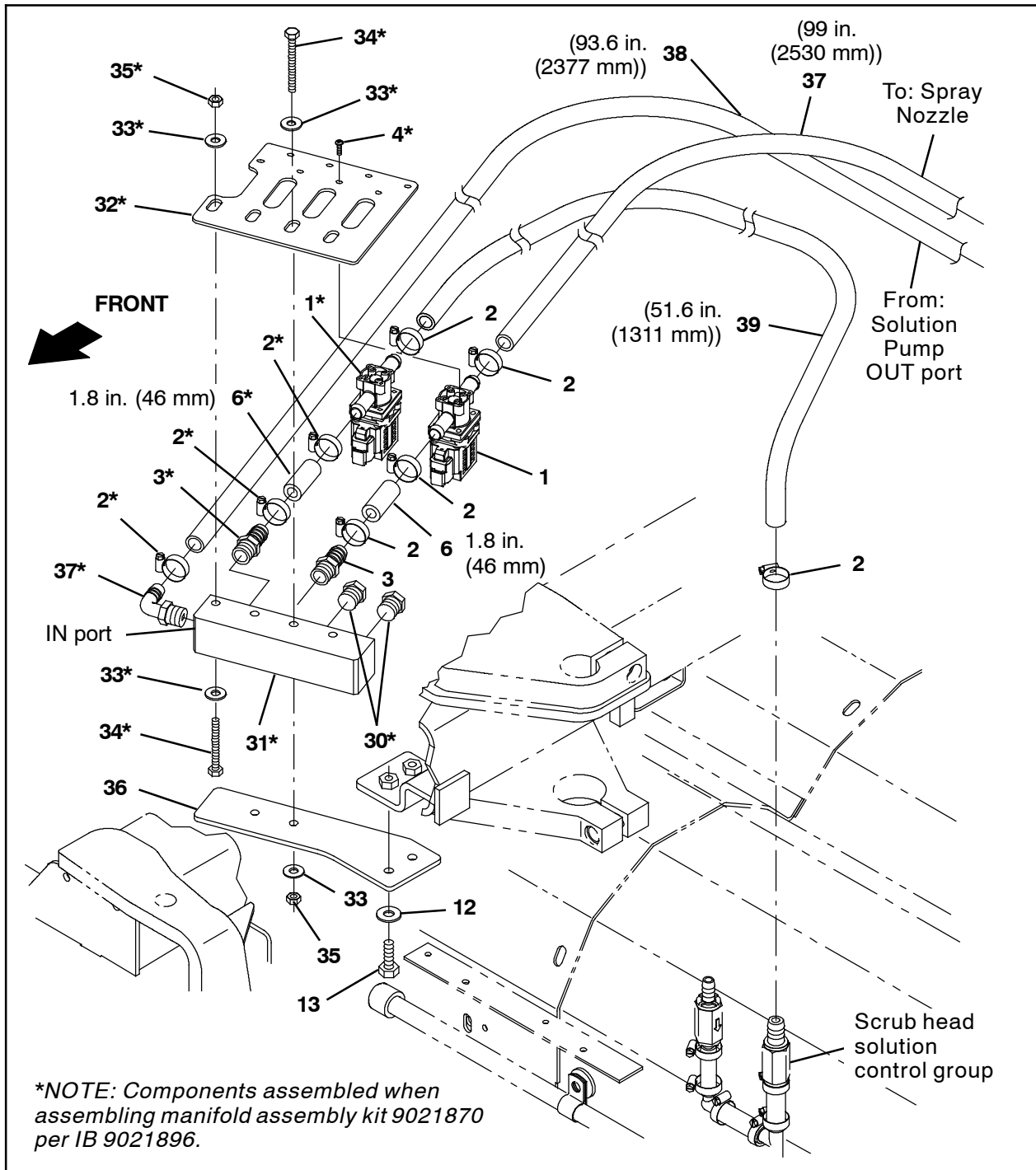


FIG. 8

22. Assemble the manifold assembly (kit number 9021870) and applicable parts (1)/(2)/(3)/(4)/(6)/(33)/(35)/(36) from this kit onto the manifold assembly per IB 9021896. (Fig. 8)

23. Use two M8 hex screws (13) and two flat washers (12) to install the manifold bracket (36)/manifold assembly onto the frame of the machine. (Fig. 8)

24. Use a hose clamp (2) to install the 93.6 in. (2377 mm) PVC hose (38) onto the solution pump OUT port. (Fig. 8)

25. Route the 93.6 in. (2377 mm) PVC hose (38) to the manifold assembly and use a hose clamp (2) to connect the 93.6 in. (2377 mm) PVC hose to the plastic elbow fitting (37) in the manifold assembly IN port. (Fig. 8)

26. Use a hose clamp (2) to connect the 51.6 in. (1311 mm) PVC hose (39) to the scrub head solution control group. (Fig. 8)

27. Route the 51.6 in. (1311 mm) PVC hose (39) to the manifold assembly and use a hose clamp (2) to connect the 51.6 in. (1311 mm) PVC hose to the water solenoid valve (1) in the MAIN port. (Fig. 8)

28. Route the 99 in. (2530 mm) PVC hose (37) to the manifold assembly and use a hose clamp (2) to connect the 51.6 in. (1311 mm) PVC hose to the water solenoid valve (1) in the SPRAY HOSE port. (Fig. 8)

29. Connect the main wire harness to the water solenoid valve (1) in the manifold assembly MAIN port and the water solenoid valve (1) in the manifold assembly SPRAY HOSE port. (Fig. 8/Fig. 9)

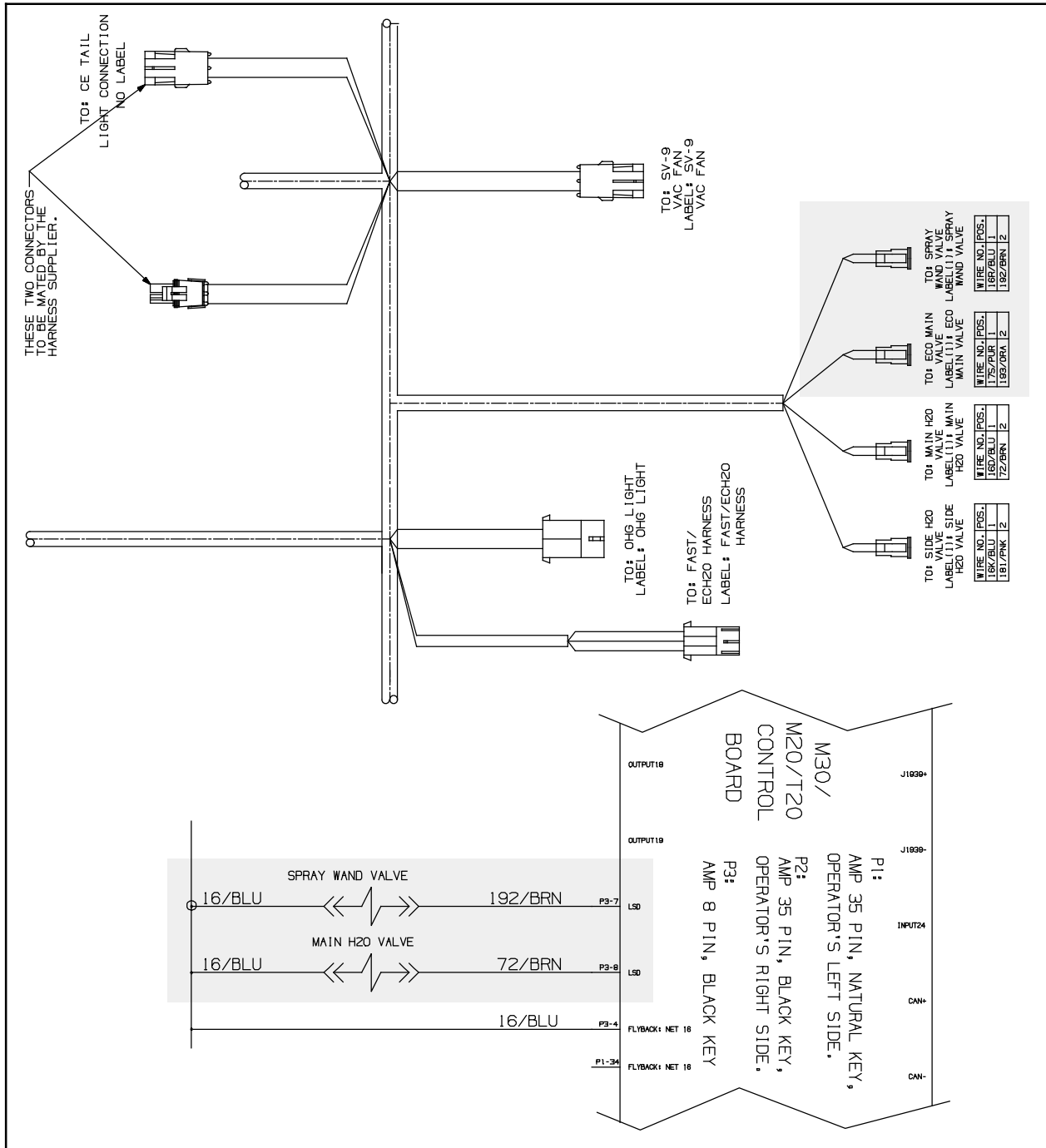


FIG. 9

30. Apply sealant onto the threads of the nozzle (28) and thread the nozzle into the wand (20). (Fig. 10)

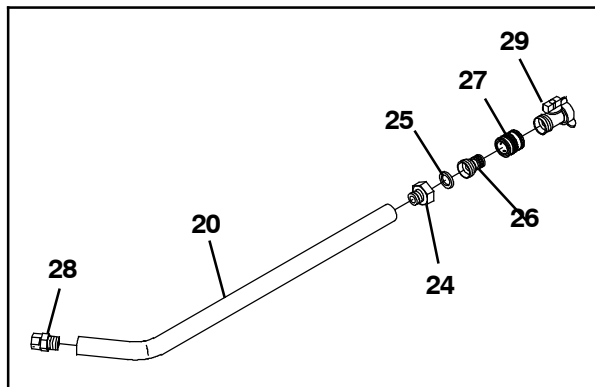


FIG. 10

31. Apply sealant onto the threads of the straight brass fitting (24) and thread the fitting into the other end of the wand (20). (Fig. 10)

32. Insert the rubber flat washer (25) into the straight brass fitting (24) installed in the previous step. (Fig. 10)

33. Thread the hose nipple (26) into the spray nozzle coupling (27). (Fig. 10)

34. Thread the hose nipple (26)/spray nozzle coupling (27) assembled in the previous step into the straight brass fitting (24). (Fig. 10)

35. Thread the shutoff valve (29) into spray nozzle coupling (27). (Fig. 10)

36. Drill two 0.125 in. (3.175 mm) holes into the engine shroud. (Fig. 11)

37. Use a hex screw (22) and three flat washers (23) to install each clip (21) onto the engine shroud. (Fig. 11)

38. Insert the wand (20) into the clips (21). (Fig. 10/Fig. 11)

39. Reconnect the battery cables to the battery.

40. **LPG Machines Only:** Reinstall LPG tank onto the machine.

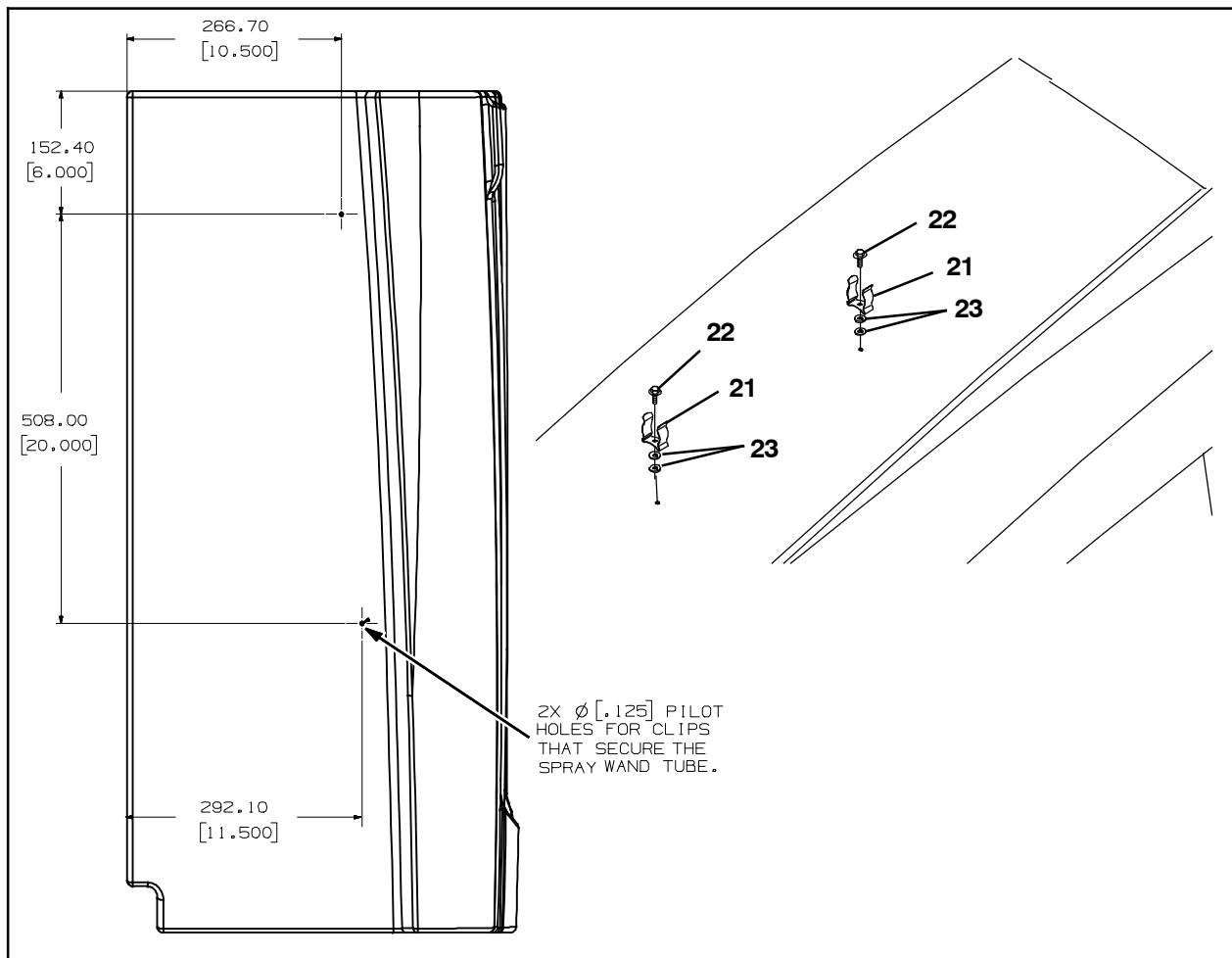


FIG. 11

41. Reinstall both access panels onto the machine.
42. Turn on the machine, raise the scrub head, and turn off the machine.
43. **M20 Only:** Remove the safety pin from the hopper lift arm, turn on the machine, lower the hopper, and turn off the machine.

44. Reinstall the brushes into the main scrub head.
45. Test the machine. Turn on the machine and operate the spray nozzle. Check around hose connections/fittings for leaks.

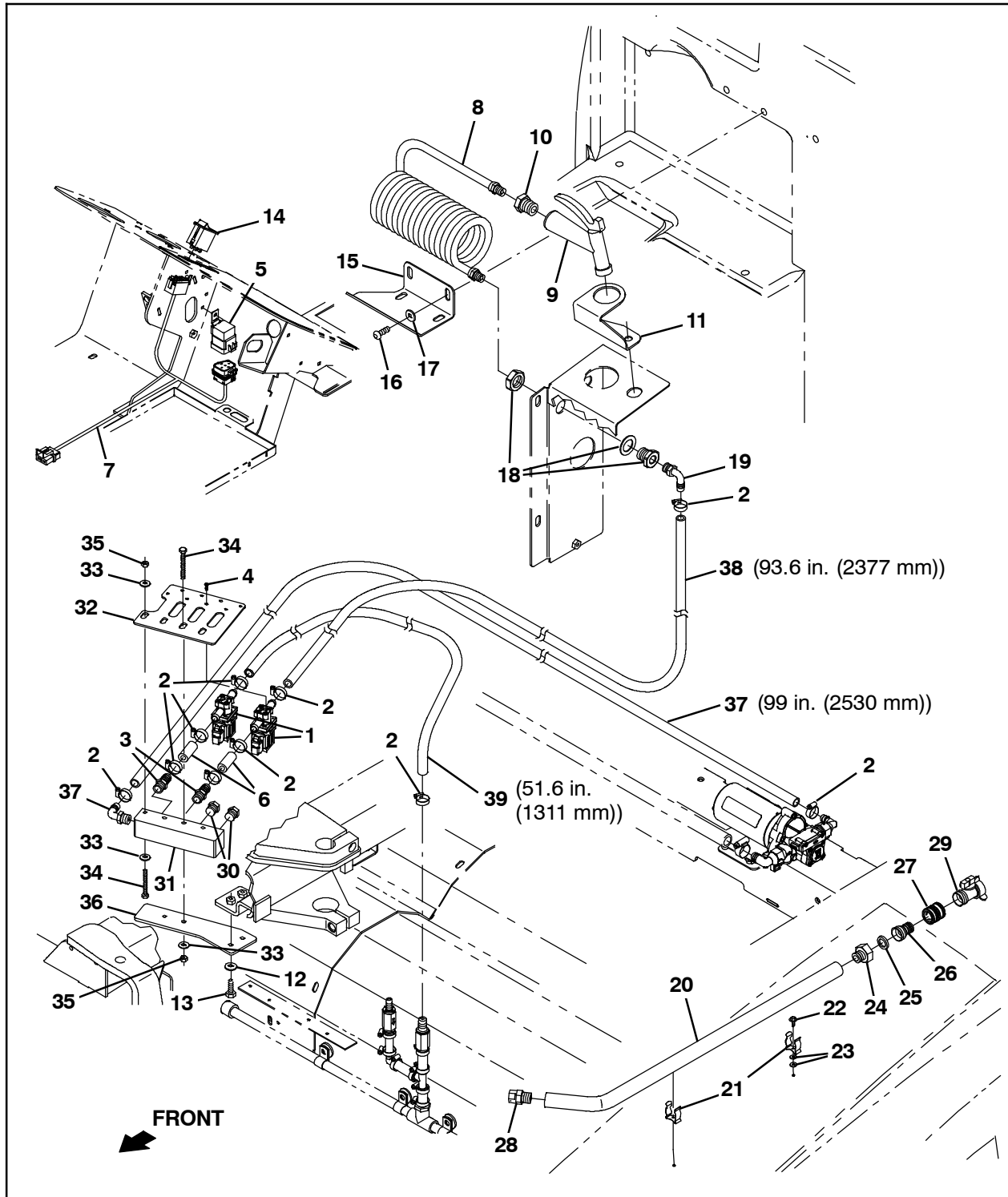


FIG. 12

Bill of Materials for Nozzle Kit, Spray, CI [M20/T20] - 9021851

Ref.	Tennant Part No.	Description	Qty.
1	1076870	Valve, Water, Solenoid [12vdc, Bm08/Bm08]	2
2	54333	Clamp, Hose, Wormdrive, 0.31- 0.88d, .31w	10
3	64743	Fitting, Plstc, Str, Bm08/Pm06	2
4	763149	Screw, Pan, 06- X 0.38, F/ Plstc	4
5	56186	Relay, 12vdc, 40a, Spdt N/O	1
6	376716	Hose, PVC, Brd, 0.50ID 0.73OD, Bulk, Clr (1.8 in. (46 mm))	2
7	1076974	Harness, Spray, Nozzle	1
8	1019250	Hose, Water, Coil	1
9	769785	Nozzle, Spray, Gun	1
10	1027976	Fitting, Brs, Str, Pf06/Pm12	1
11	1027237	Bracket, Mtg, Spray Handle	1
12	01685	Washer, Flat, 0.38b 0.88d .08, SS	2
13	09010	Screw, Hex, M8 X 1.25 X 25, SS	2
14	398500	Switch, Rocker, Dpdt On/None/On	1
15	1029790	Bracket, Mtg, Spray Wand [FaST, Conv]	1
16	09740	Screw, Hex, M8 X 1.25 X 20, SS	2
17	1017218	Washer, Flat, 0.32b 1.00d .12, SS	2
18	1027978	Fitting, Brs, Str, Pf06/Pf06 Bh	1
19	64778	Fitting, Plstc, E90, Bm08/Pm06	2
20	1029055	Wand, Clean- Out	1
21	1029057	Clip, Grip, Finger, .875- 1.25	2
22	20394	Screw, Hex, #10- 16 X 0.62, Fmg [Ab]	2
23	01683	Washer, Flat, #10, SS	4
24	375321	Fitting, Brs, Str, Pm08/Garden Hose	1
25	01316	Washer, Flat, 0.66b 1.00d .12, Rbr	1
26	1029153	Fitting, Brs, Spcl [Garden Hose]	1
27	1029155	Coupling, Nozzle, Spray	1
28	1029156	Nozzle	1
29	1029399	Valve, Shutoff	1
30	630146	Fitting, Plug, Pm06, Hdpe	3
31	1254833	Manifold, Soln	1
32	1254856	Plate, Manifold, Mtg	1
33	32490	Washer, Flat, 0.25, Std	10
34	1257800	Screw, Hex, M6 X 1.00 X 60, SS, FI	6
35	08712	Nut, Hex, Lock, M6 X 1.00, NI, SS	4
36	1077124	Bracket, Manifold, Stratus	1
37	376716	Hose, PVC, Brd, 0.50ID 0.73OD, Bulk, Clr (99.6 in. (2530 mm))	1
38	376716	Hose, PVC, Brd, 0.50ID 0.73OD, Bulk, Clr (93.6 in. (2377 mm))	1
39	376716	Hose, PVC, Brd, 0.50ID 0.73OD, Bulk, Clr (51.6 in. (1311 mm))	1
40	06938	Screw, Pan, Phl, M5 X 0.80 X 40, 4.8	2
41	06549	Nut, Hex, M5 X 0.80 X 16, 8.8	2
42	43844	Clamp, Hose, Worm Drive, 0.25- 0.62D, .31W	1
43	376716	Hose, PVC, Brd, 0.50ID 0.73OD, Bulk, Clr (72 in. (1829 mm))	1

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