



INSTRUCTION BULLETIN

No. 9021850
Machine: M20/T20/M30
Published: 04-2023
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 9021849**

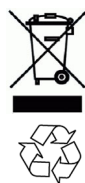
Kit installation must be performed by TennantTrue[®] service or an authorized service provider.

SYNOPSIS:

This kit contains the parts needed to install a detergent metering kit onto:
M20 sweeper scrubbers (NA serial numbers 014001-) (CE serial numbers UO1500-),
M30 sweeper scrubbers (NA/CE serial numbers 010001-), and
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: (M20/M30 ONLY)

1. Completely empty the recovery and solution tanks, and empty/clean the hopper (M20/M30). Refer to the Operator Manual for instructions.
2. **M20/M30 Only:** Turn on the machine and 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/M30 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 scrub brushes from the scrub heads. Set the scrub brushes 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. Disconnect the battery cables from the battery.

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

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

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

INSTALLATION: (ALL MACHINES)

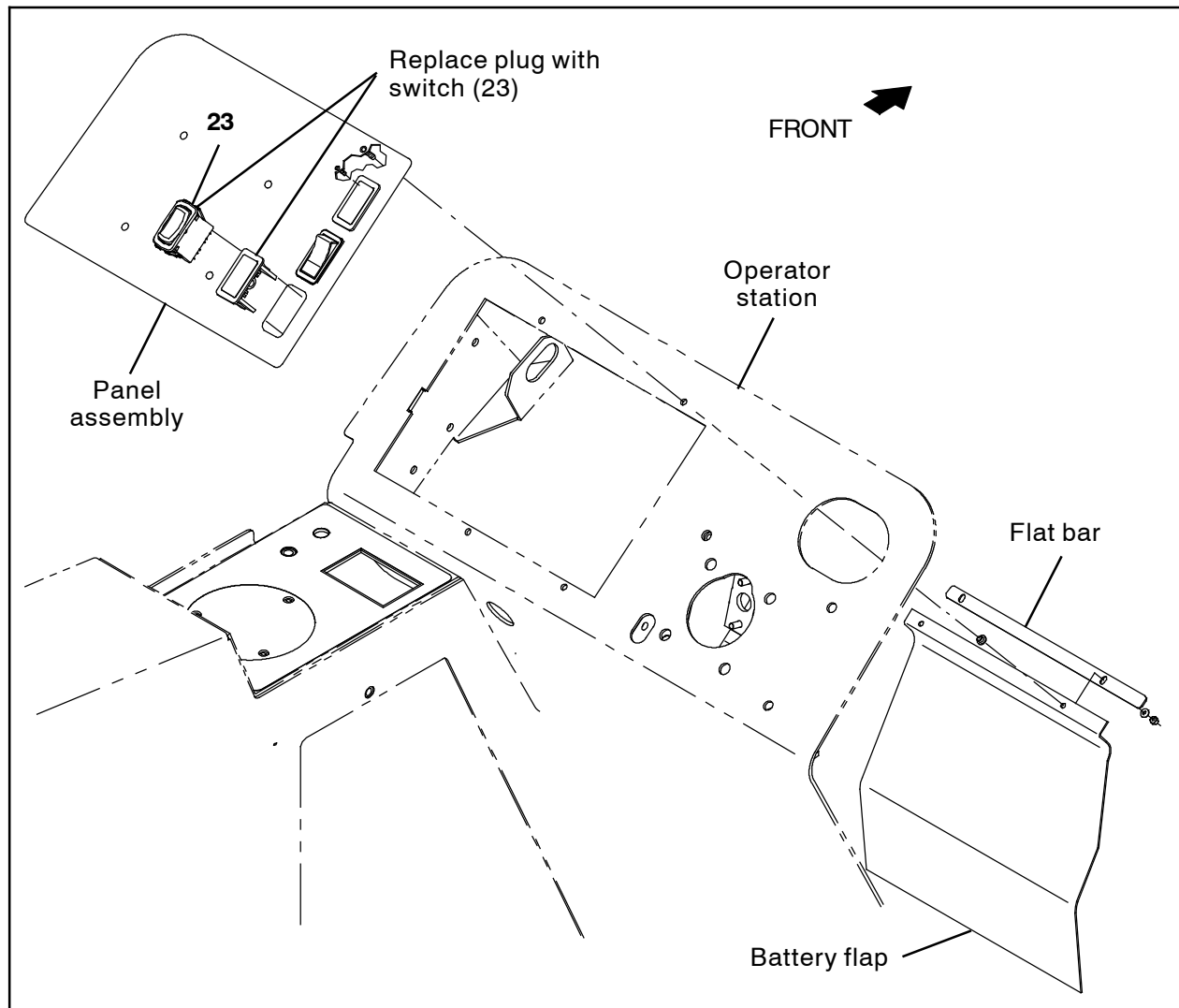


FIG. 1 - All Machines

NOTE: If necessary, remove the panel assembly from the operator station to install the rocker switch (23) into the panel assembly.

1. Remove the plug from the panel assembly. Discard the plug. (Fig. 1)
2. Insert the rocker switch (23) into the panel assembly. (Fig. 1)
3. Connect the main wire harness to the rocker switch (23). (Fig. 1/Fig. 7/Fig. 8)
4. Reinstall the panel assembly, battery flap, and flat bar onto the operator station. (Fig. 1)

5. 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.

INSTALLATION: (M20/T20)

NOTE: If installing kit onto M30 sweeper scrubber, proceed to INSTALLATION: (M30).

1. Cut a 12 in. (305 mm) length from the 0.38 in. dia. PVC hose (5). (Fig. 2)
2. Assemble the 12 in. (305 mm) 0.38 in. dia. PVC hose (5) cut in the previous step and parts/components into the detergent tank (1). (Fig. 2)

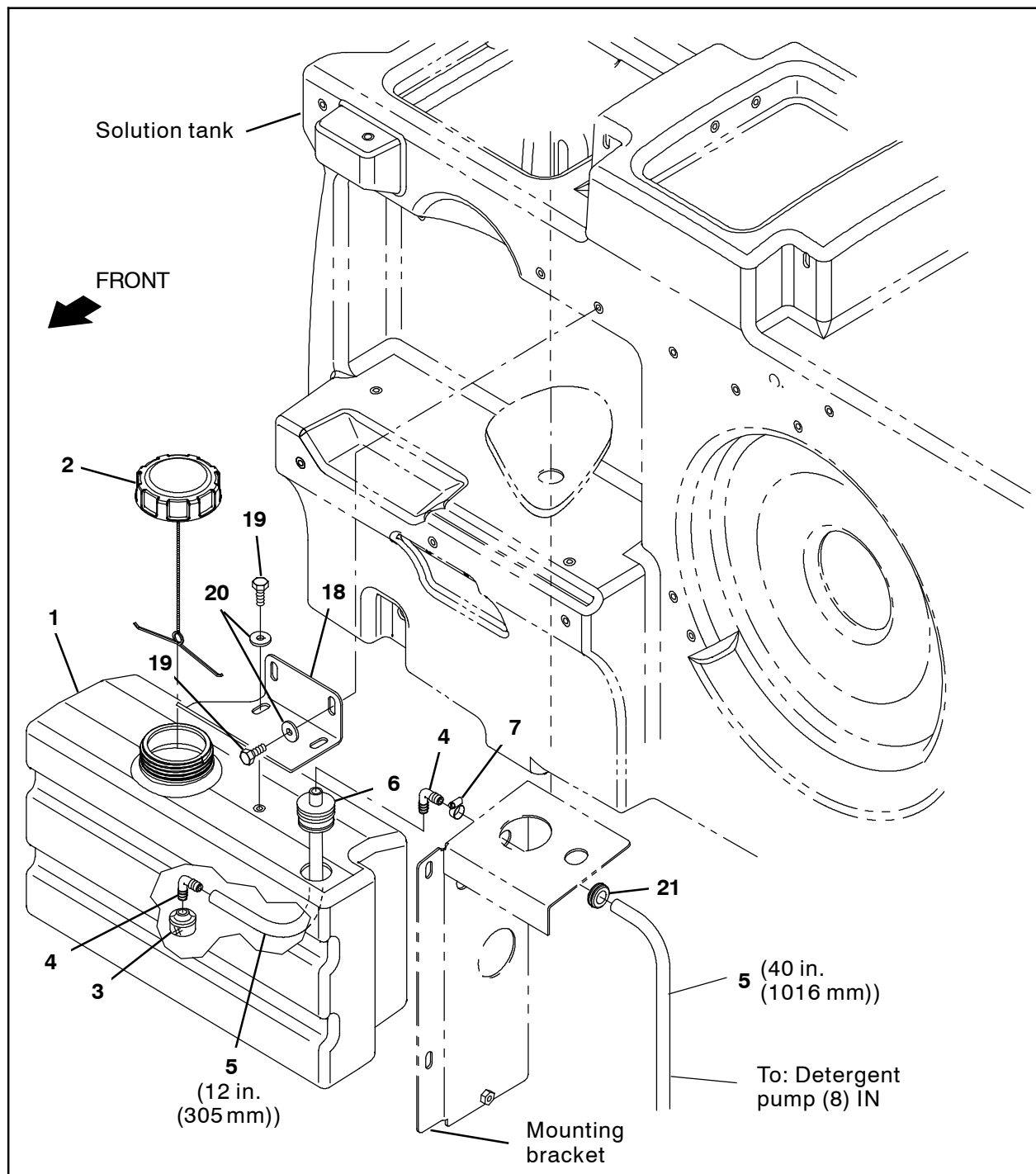


FIG. 2 - M20/T20 ONLY

3. Install the detergent tank (1)/detergent tank bracket (18) onto the solution tank. (Fig. 2)
4. Insert the rubber grommet (21) into the mounting bracket. (Fig. 2)
5. Cut a 40 in. (1016 mm) length from the 0.38 in. dia. PVC hose (5). (Fig. 2)
6. Insert the elbow fitting (4) into the 12 in. (305 mm) 0.38 in. dia. PVC hose (5) and connect the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) to the elbow fitting. (Fig. 2)
7. Route the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) through the rubber grommet (21) in the mounting bracket and down to the scrub head. (Fig. 2)

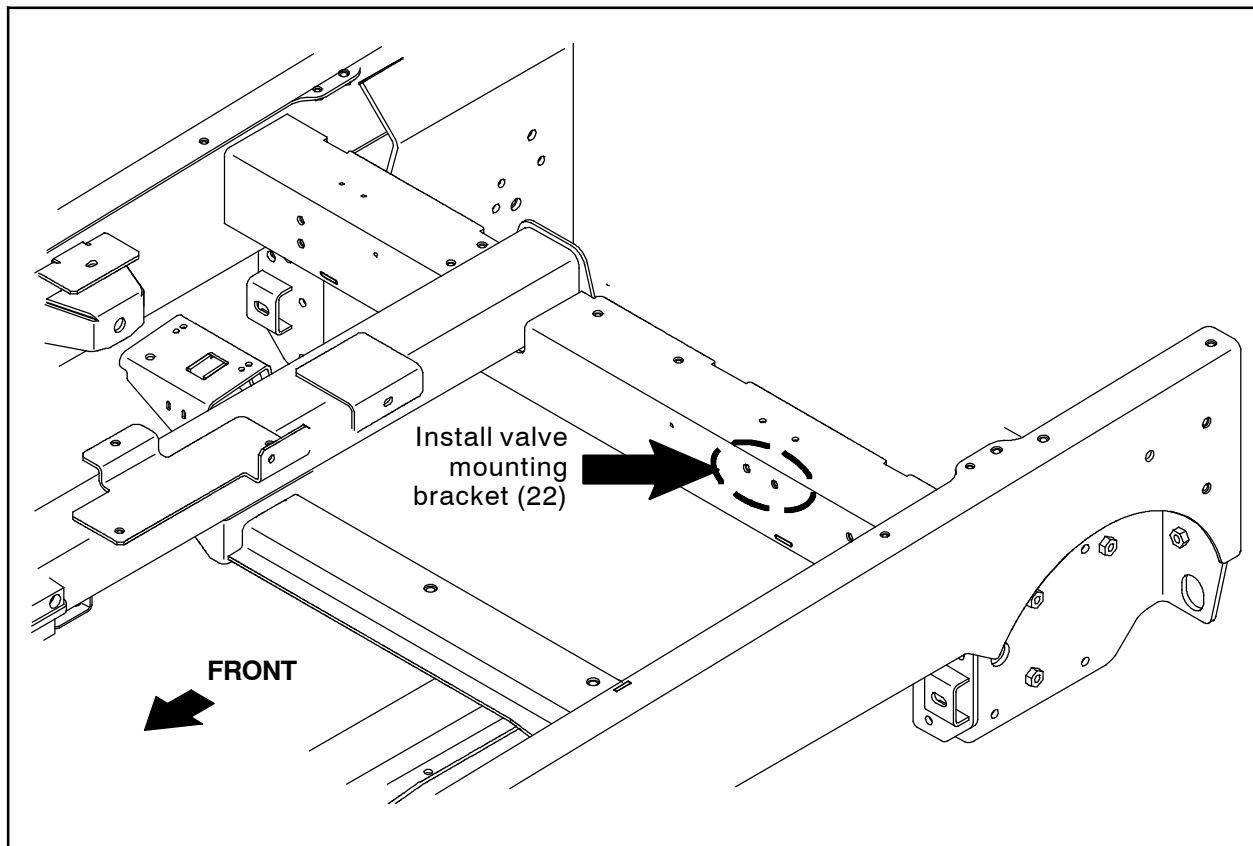


FIG. 3 - M20/T20 ONLY

8. Install the valve mounting bracket (22) onto the frame of the machine. (Fig. 3/Fig. 4)
9. Install the detergent pump (8) onto the valve mounting bracket (22). (Fig. 4)
10. Disconnect the hose from the solution filter located inside the solution tank and remove the plastic elbow connector from the solution filter. (Fig. 4)
11. Install the plastic elbow fitting (17) into the solution filter and then install fittings (14), (13), (16), and (12) onto the elbow fitting. (Fig. 4)
12. Connect the hose from the solution pump IN port to the plastic straight fitting (16) installed in the previous step. (Fig. 4)
13. Route the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) from the detergent tank (1) to the detergent pump (8) and connect the hose to the detergent pump IN port. (Fig. 4)
14. Cut another 40 in. (1016 mm) length from the 0.38 in. dia. PVC hose (5). (Fig. 2)
15. Connect the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) to the elbow fitting (12) connected to the t- fitting (13). (Fig. 4)
16. Route the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) to the detergent pump (8) and connect the hose to the OUT port. (Fig. 4)
17. Use cable ties to secure the newly installed PVC hoses (5) away from moving parts so the hoses cannot be damaged due to rubbing or getting caught in the moving parts.
18. Connect the main wire harness to the detergent pump (8). (Fig. 4/Fig. 7/Fig. 8)
19. Proceed to TEST MACHINE (ALL MACHINES)

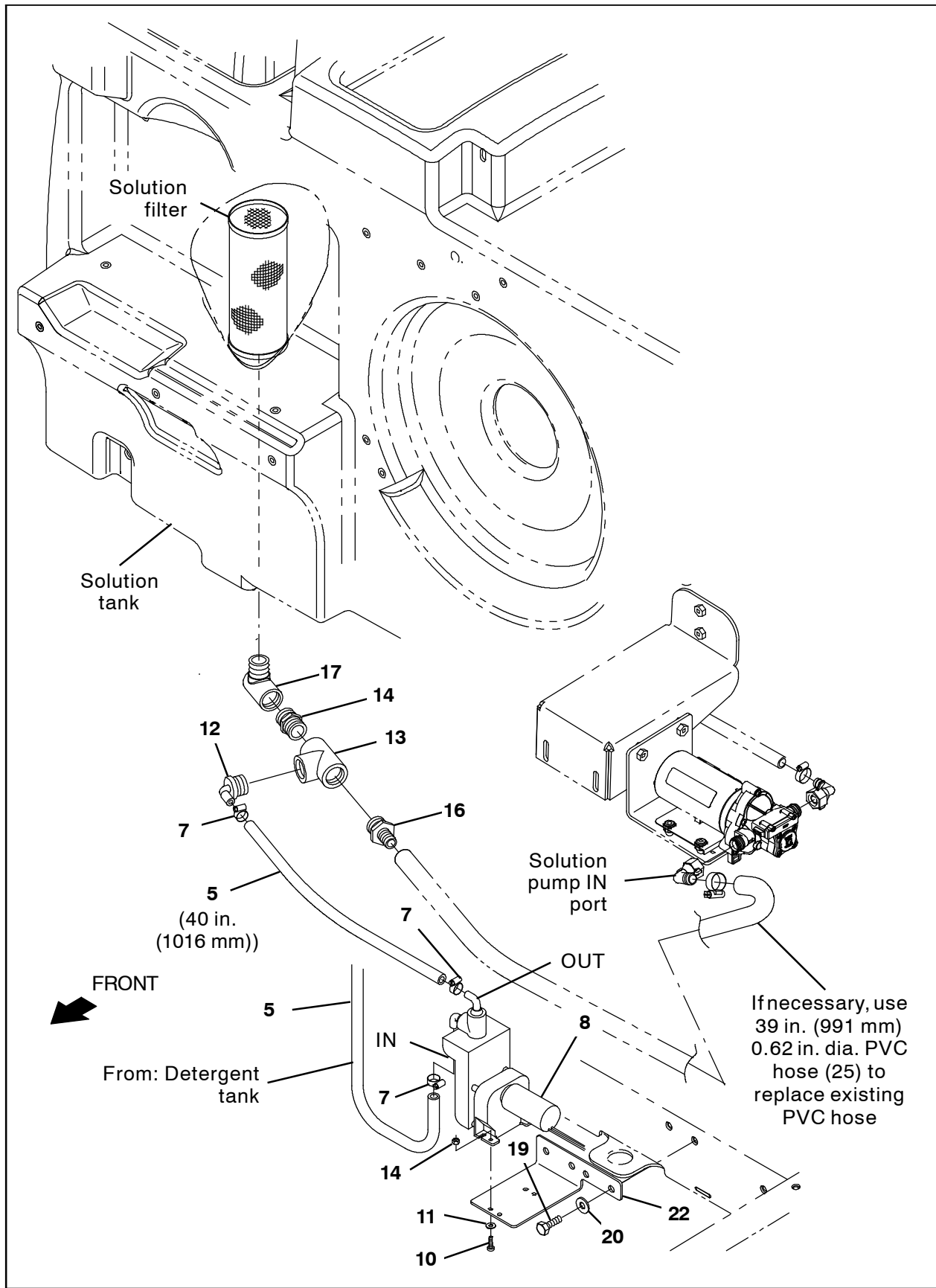


FIG. 4 - M20/T20 ONLY

INSTALLATION: (M30)

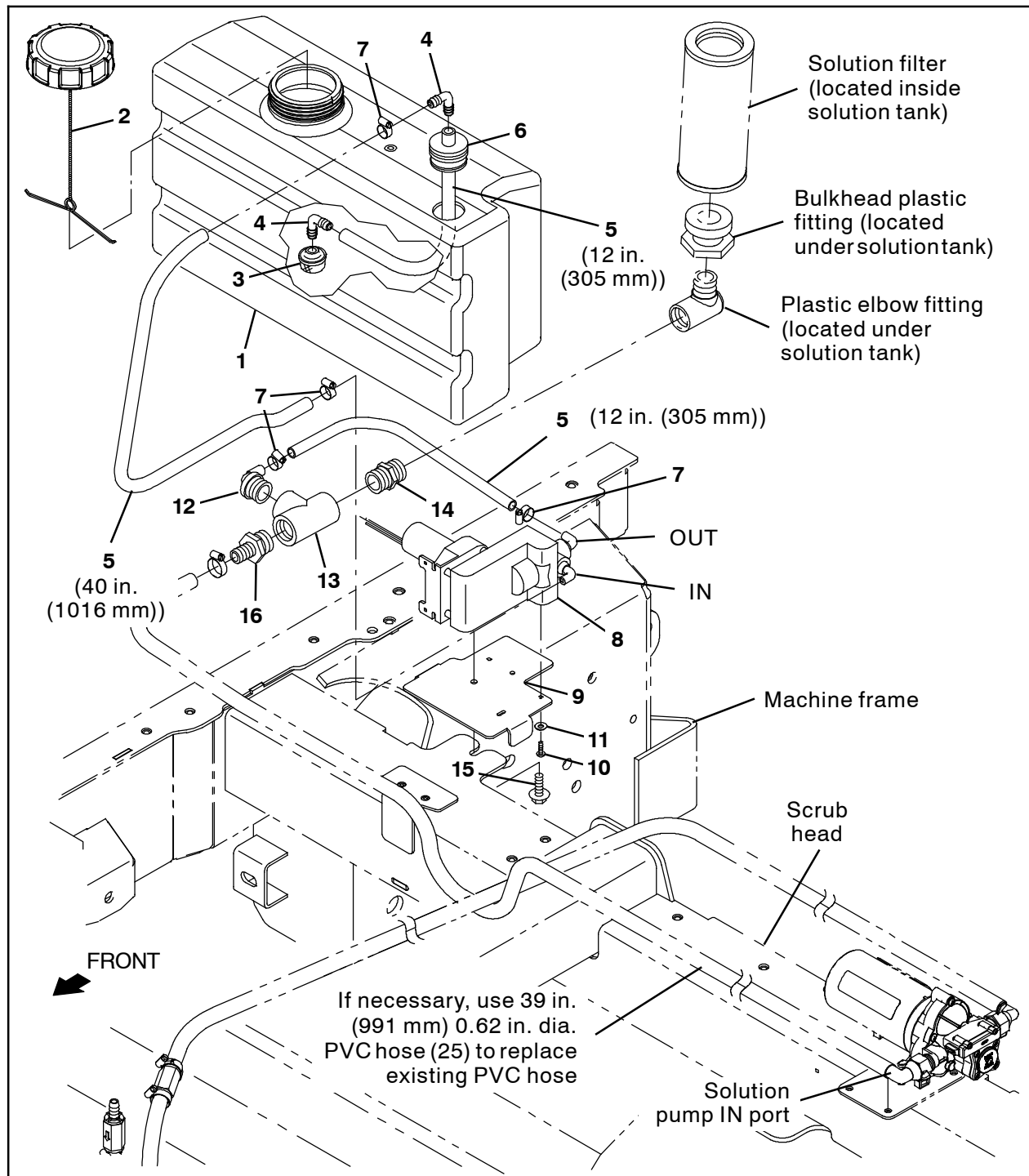


FIG. 5 - M30 ONLY

1. Cut a 12 in. (305 mm) length from the 0.38 in. dia. PVC hose (5). (Fig. 5)
2. Assemble the 12 in. (305 mm) 0.38 in. dia. PVC hose (5) cut in the previous step and parts/components into the detergent tank (1). (Fig. 5)
3. Install the detergent tank (1) onto the solution tank. (Fig. 5)
4. Insert the rubber grommet (21) into the mounting bracket. (Fig. 5)

5. Cut a 40 in. (1016 mm) length from the 0.38 in. dia. PVC hose (5). (Fig. 5)
6. Insert the elbow fitting (4) into the 12 in. (305 mm) 0.38 in. dia. PVC hose (5) and connect the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) to the elbow fitting. (Fig. 5)
7. Route the 40 in. (1016 mm) 0.38 in. dia. PVC hose (5) through the rubber grommet (21) in the mounting bracket and down to the scrub head. (Fig. 5)
8. Install the housing plate (9) onto the frame of the machine. (Fig. 5/Fig. 6)
9. Install the detergent pump (8) onto the housing plate (9). (Fig. 6)
10. Disconnect the hose from the solution filter located inside the solution tank. (Fig. 5)
11. Install the fittings (14), (13), (16), and (12) onto the plastic elbow fitting located under the solution tank. (Fig. 5)
12. Connect the hose from the solution pump IN port to the plastic straight fitting (16) installed in the previous step. (Fig. 5)
13. Cut another 12 in. (356 mm) from the 0.38 in. dia. PVC hose (5).
14. Connect the 12 in. (356 mm) 0.38 in. dia. PVC hose (5) to the elbow fitting (12) connected to the t-fitting (13). (Fig. 6)
15. Route the 12 in. (356 mm) 0.38 in. dia. PVC hose (5) to the detergent pump (8) and connect the hose to the OUT port. (Fig. 6)
16. Use cable ties to secure the newly installed PVC hoses (5) away from moving parts so the hoses cannot be damaged due to rubbing or getting caught in the moving parts.
17. Connect the main wire harness to the detergent pump (8). (Fig. 5/Fig. 7/Fig. 8)
18. Proceed to TEST MACHINE (ALL MACHINES)

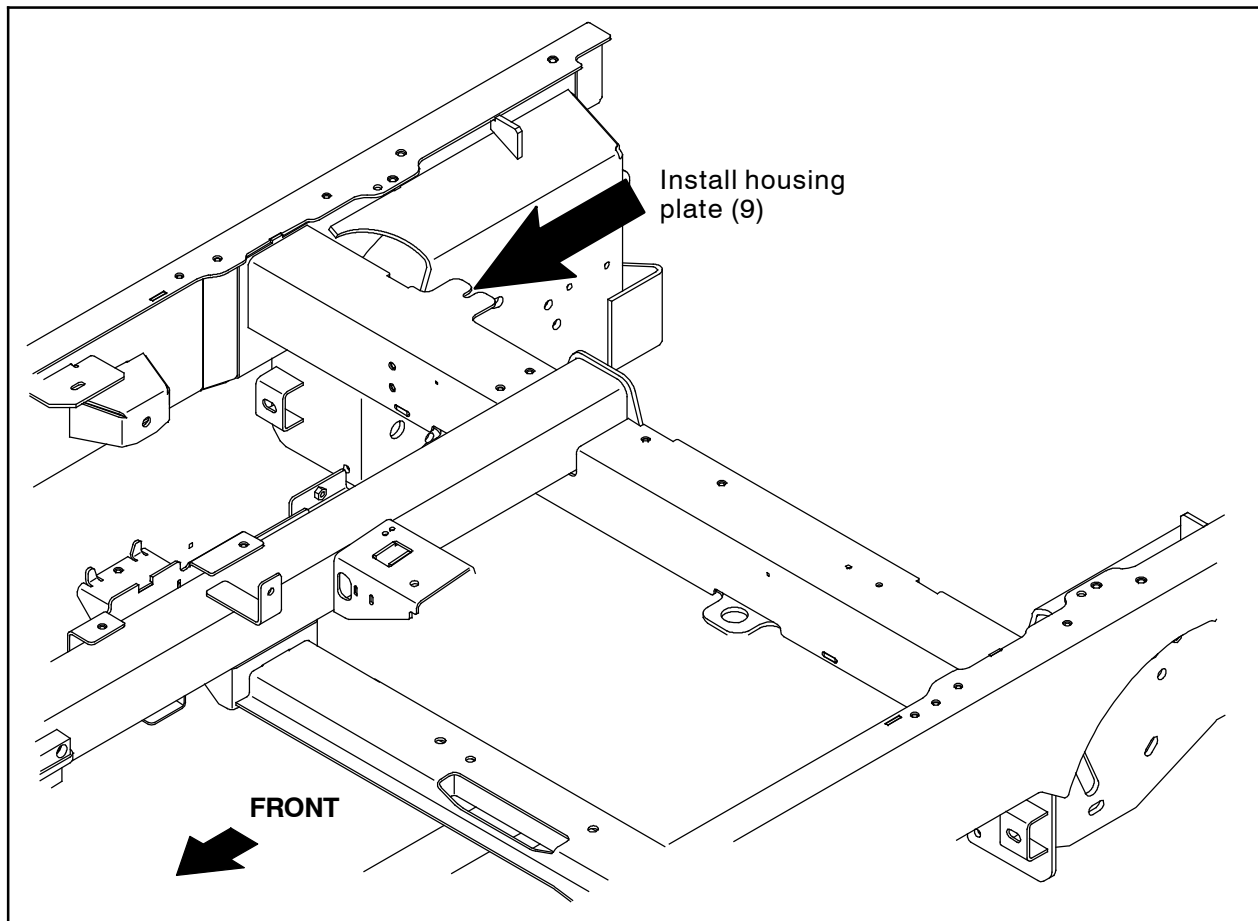


FIG. 6 - M30 ONLY

TEST MACHINE: (ALL MACHINES)

1. Reconnect the battery cables to the battery.
2. **M20/M30 Only:** Turn on the machine, remove the hopper support pin, and lower the hopper. Refer to the Operator Manual for additional instructions and safety information.



WARNING: Lift arm pinch point. Stay clear of hopper lift arms.

3. Raise the scrub head and turn off the machine.
4. Reinstall the brushes into the scrub head. Refer to the Operator Manual for instructions.

5. Fill the solution tank with cool clean water. Refer to the Operator Manual for instructions.
6. Fill the detergent tank (1) with detergent and install the tank cap (2) onto the detergent tank.
7. Start and test the machine. Operate the machine over a short distance and press the detergent metering switch to dispense solution. Observe newly installed parts to ensure there are no leaks around hoses/fittings. Repair leaks. If the detergent metering is not functioning, troubleshoot the detergent metering electrical circuit. Repair electrical issues as necessary.

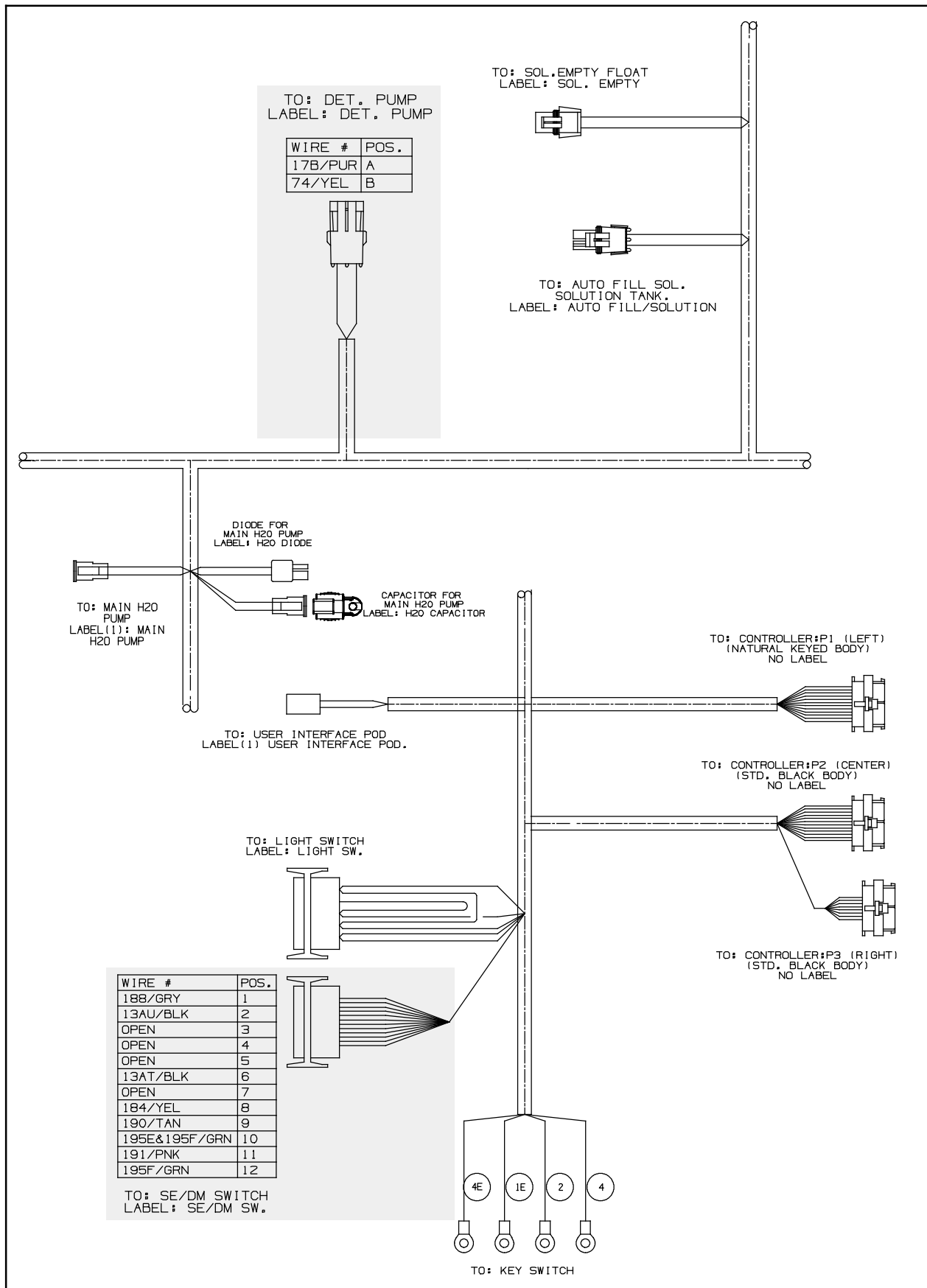


FIG. 7

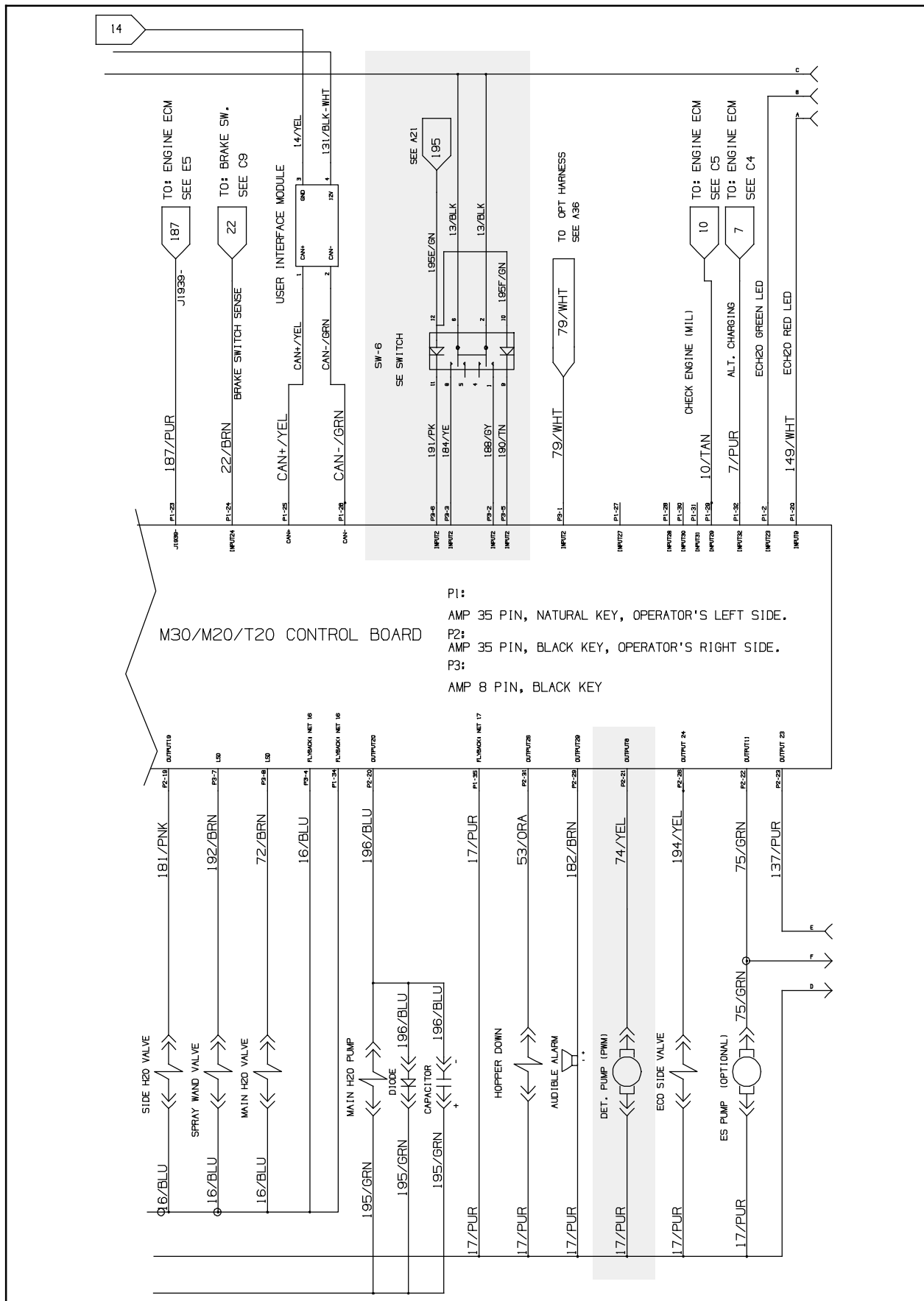


FIG. 8

Bill Of Materials For Metering Kit, Detgt, DI - 9021849

Ref.	Tennant Part No.	Description	Qty.
1	1022229	Tank, Detgt, Trimmed (All)	1
2	1011885	Cap, Tank (All)	1
3	20952	Screen, Pump (All)	1
4	20951	Fitting, Plstc, E90, Bm06/Bm06 (All)	2
5	C080172	Hose, PVC, Clr, 0.38id, 0.56od, Bulk (8.0 ft) (All)	1
6	20944	Grommet, Pye, 0.37id, F/1.5h, .13 Matl (All)	1
7	43844	Clamp, Hose, Wormdrive, 0.25- 0.62d, .31w (All)	4
8	73260	Pump, Detgt, 14vdc, 150ml/Min 20PSI (All)	1
9	1033792	Plate, Hsng [Fast] (M30)	1
10	24265	Screw, Pan, Phl, M4 X 0.70 X 16, SS (All)	2
11	01683	Washer, Flat, 10, SS (All)	3
12	79484	Fitting, Plstc, E90, Bm06/Pm12, Nyl (All)	1
13	42133A	Fitting, Plstc, Tee, Pf12/Pf12/Pf12 (All)	1
14	24544	Fitting, Plstc, Str, Pm12/Pm12 1.60l (All)	1
15	76099	Screw, Hex, M8 X 1.25 X 25, Fmg (All)	1
16	365095	Fitting, Plstc, Str, Bm10/Pm12 (M20/T20)	1
17	69785	Fitting, Plstc, E90, Pf12/Pm12 (M20/T20)	1
18	1025159	Bracket, Mtg, Detgt And Spray Wand (M20/T20)	1
19	09740	Screw, Hex, M8 X 1.25 X 20, SS (M20/T20)	6
20	1017218	Washer, Flat, 0.32b 1.00d .12, SS (M20/T20)	6
21	10632- 2	Grommet, Rbr, 0.62id, F/0.9h, .12 Matl (M20/T20)	1
22	1021325	Bracket, Mtg, Valve (M20/T20)	1
23	1255914	Switch, Rocker [MOM, Off, MOM, Dual LED] (All)	1
24	54333	Clamp, Hose, Worm Drive, 0.31- 0.88d, .31w (All)	2
25	C460117	Hose, PVC, Brd, 0.62id, 0.96od, Bulk (3.3 ft) (All)	1

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