



INSTRUCTION BULLETIN

No. 9016245
Machine: M20 / M30 /
T20
Published: 07-2019
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 9016242**

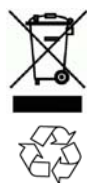
SYNOPSIS:

This kit contains the parts needed to replace scrub vacuum fan motor on M20 (NA serial numbers 006877-) (CE serial numbers 1000-) / T20 (NA serial numbers 005892-) (CE serial numbers 1000-) / M30 (serial numbers 004455-) machines.
Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS:

(Estimated time to complete: 5- 7 hours (5 hours if hydraulic system is vacuumed down, 7 hours if hydraulic fluid is removed))

1. Thoroughly clean outside of hydraulic components **before** disconnecting hydraulic hoses or fittings and flush hoses and fittings with air, solvent, or hydraulic fluid and cap disconnected hoses or open ports to prevent contaminants from entering system.
2. Mark hydraulic hoses with locations of where they are attached. Markings make it easier to reconnect hoses to proper locations.
3. Discard all hydraulic fluid drained from the system. Use only new approved hydraulic fluid to replenish hydraulic reservoir. Hydraulic fluid is potentially dangerous to the environment. Obey all federal, state, and local laws/regulations governing the disposal of environmentally hazardous materials when disposing hydraulic fluid.



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. Park the machine on a clean level surface , turn off the machine, engage the parking brake, and remove the key.

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

2. Disconnect the battery cables from the battery.



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

NOTE: Do not discard removed parts unless instructed to do so. Most parts are reinstalled after the scrub vacuum fan is replaced.

3. Remove the engine cover from the machine. Set the engine cover aside.

4. Remove the coolant reservoir from the bracket and move the reservoir away from the scrub vacuum fan. (Fig. 1)

NOTE: If necessary, unplug spark plug cables before moving the coolant reservoir.



FIG. 1

5. Remove the hardware holding the air cleaner bracket to the machine and move the air cleaner/air cleaner bracket away from the scrub vacuum fan. (Fig. 2)

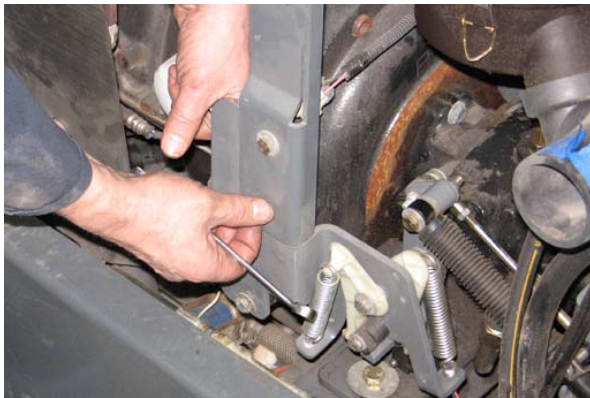


FIG. 2

6. Drain hydraulic fluid from the system.

NOTE: It is not necessary to drain hydraulic fluid if a hydraulic vacuum is used to vacuum down the hydraulic system.

INSTALLATION:

1. Disconnect the hose attached to location P1 on the scrub valve. (Fig. 3)



FIG. 3

2. Disconnect all main wire harness connections from the scrub valve.
3. Remove the support bracket. Set the support bracket and hardware aside. (Fig. 4)

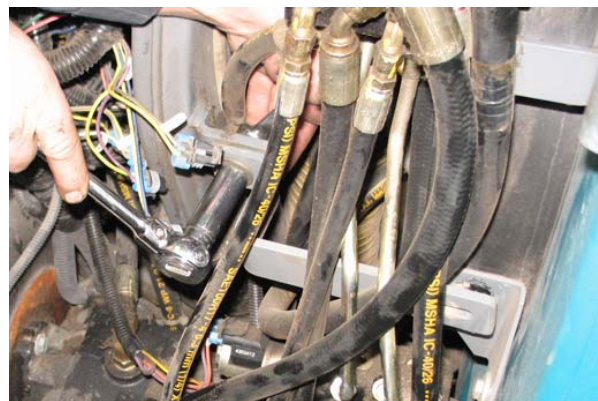


FIG. 4

- Loosen the hardware holding the scrub valve bracket to the solution tank. (Fig. 5)



FIG. 5

- Lift the scrub valve assembly up from the hardware and away from the solution tank. (Fig. 6)

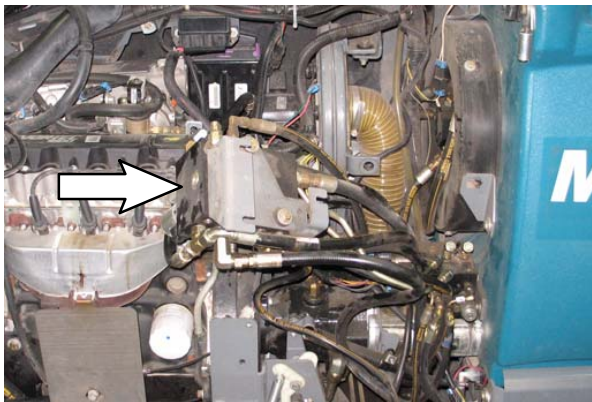


FIG. 6

- Disconnect the four hydraulic hoses from the fittings on the scrub fan motor. Leave fittings installed on the scrub fan motor. (Fig. 7)

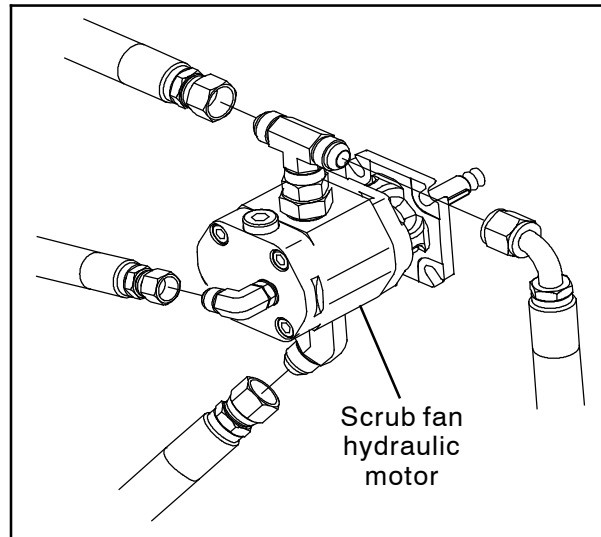


FIG. 7

NOTE: If working on an LP machine, the fuel tank can be removed to make access to scrub vacuum fan easier. Refer to Operators Manual for instructions how to remove LP tank.

NOTE: If working on a diesel or gasoline machine without FaST, ES, or spray hose options, the operator station removable panel can be removed to make access to scrub fan easier. Set the panel and hardware aside. (Fig. 8)

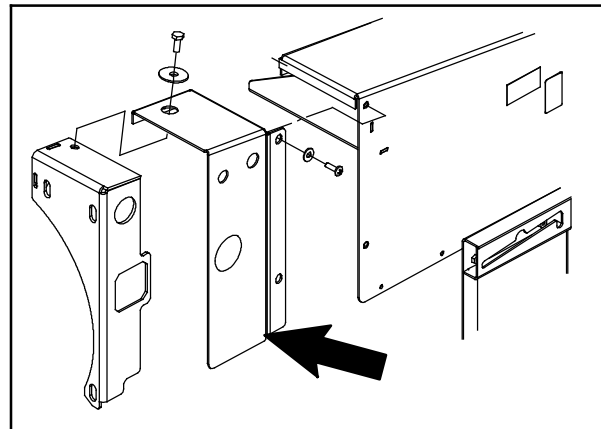


FIG. 8

Note: **Do Not** remove components other than those notes in the instructions from the scrubbing vacuum fan assembly to install kit onto machine. Assembly shown disassembled to show part locations.

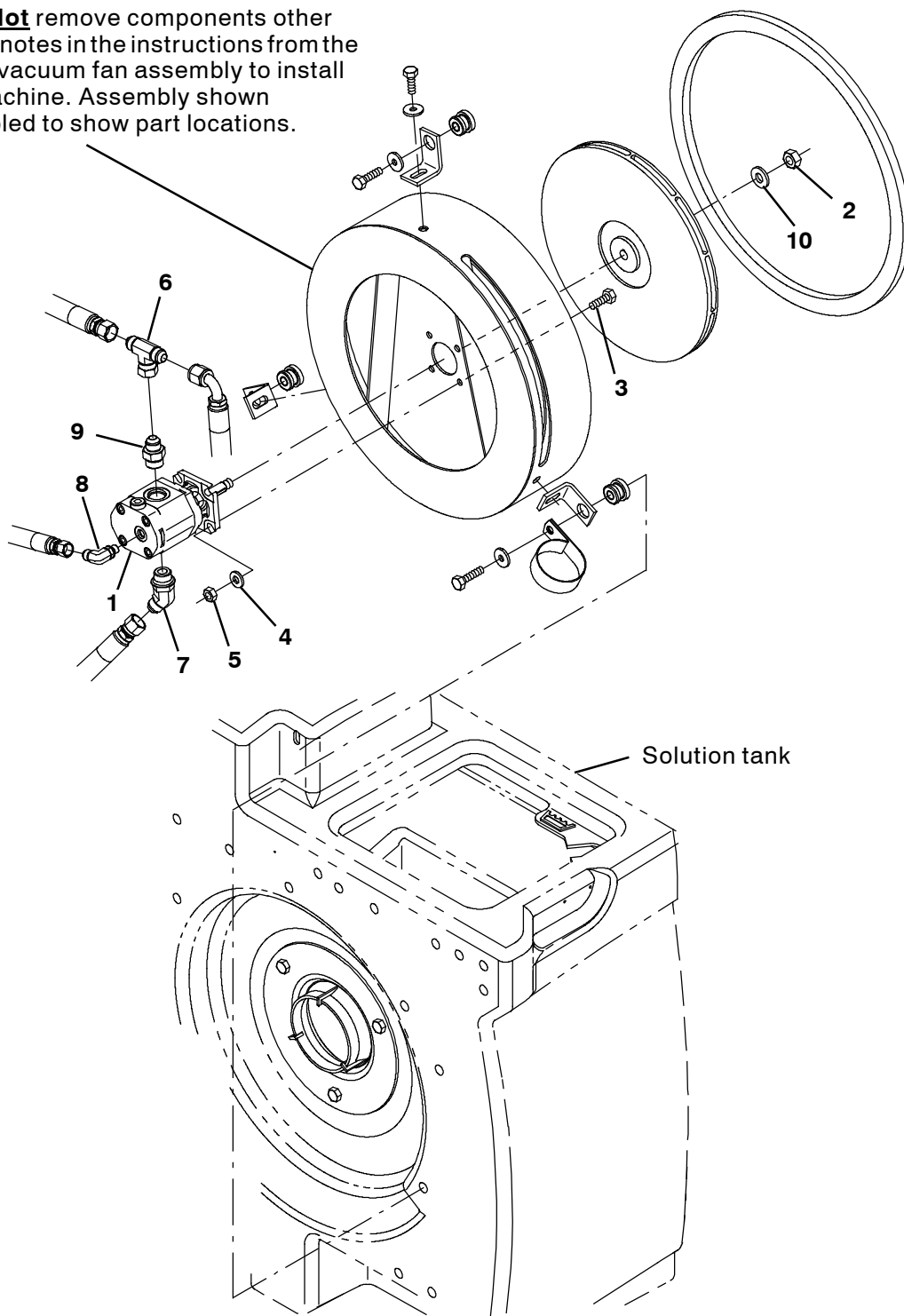


FIG. 9

7. Remove the scrubbing vacuum fan assembly from the solution tank. Set the cable clamp and all hardware aside. (Fig. 9)

8. Remove the scrub fan motor from the scrubbing vacuum fan assembly. Set the vacuum fan assembly and all hardware aside. Discard the scrub fan motor and all fittings installed on the motor. (Fig. 9)

- Remove the crown nut holding the impeller onto the hydraulic motor. Discard the crown nut. (Fig. 10)



FIG. 10

- Pry the impeller from the scrubber vacuum fan. Set the impeller aside. (Fig. 9 / Fig. 11)



FIG. 11

- Remove the plugs from the new hydraulic motor (1).
- Install the straight fitting (9) into the hydraulic motor (1). (Fig. 12)

- Install the t-fitting (6) into the straight fitting (9) installed into hydraulic motor (1) in the previous step. Do not completely tighten t-fitting. The t-fitting is tightened during later adjustment. Note location of Allen screw on the scrubbing fan hydraulic motor. (Fig. 12)

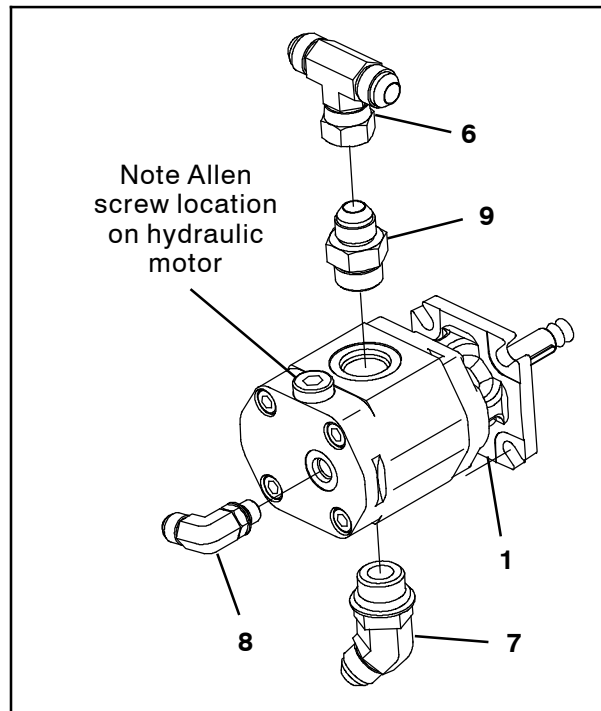


FIG. 12

- Install the 90° fitting (8) onto the scrubbing fan hydraulic motor (1). (Fig. 12)
- Install the 45° fitting (7) onto the scrubbing fan hydraulic motor (1). (Fig. 12)
- Use four M8 hex screws (3), four washers (4), and four M8 hex nuts (5) to install the hydraulic motor (1) onto the scrubber vacuum fan housing. (Fig. 9)
- Apply a light coat of anti-seize lubricant onto the shaft of the hydraulic motor (1).
- Place the impeller onto the hydraulic motor (1) shaft. (Fig. 9)
- Apply a light coat of Loctite® 242™ onto the threads of the M12 hex nut (2).
- Use the M12 hex nut (2) and Belleville washer (10) to secure the impeller onto the hydraulic motor (1). (Fig. 9)

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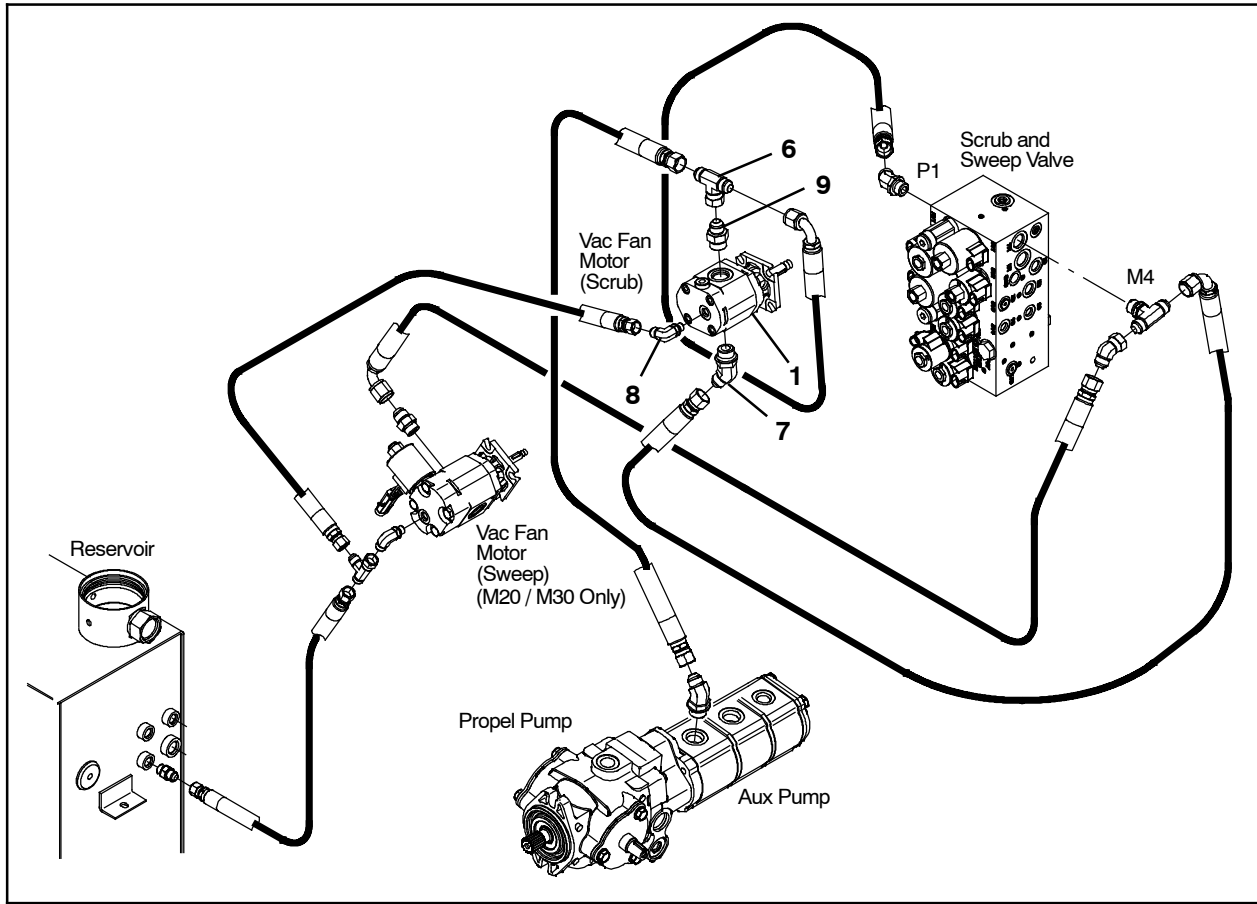


FIG. 13

21. Reinstall the scrub vacuum fan onto the solution tank. (Fig. 9)
22. Connect the hydraulic hoses previously disconnected from the removed scrubbing vacuum fan assembly to the new scrubbing vacuum fan assembly. (Fig. 13)
23. Reinstall the scrub valve assembly onto the solution tank. (Fig. 14)

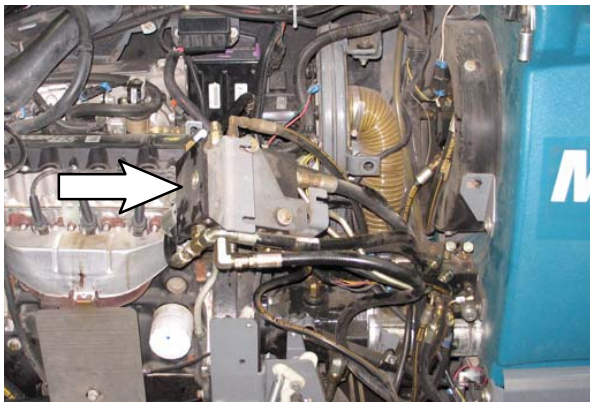


FIG. 14

24. Reconnect the hose removed from location P1 on the scrub valve. (Fig. 15)



FIG. 15

25. Reconnect the main wire harness to the scrub valve.

26. Reinstall the support bracket. (Fig. 16)

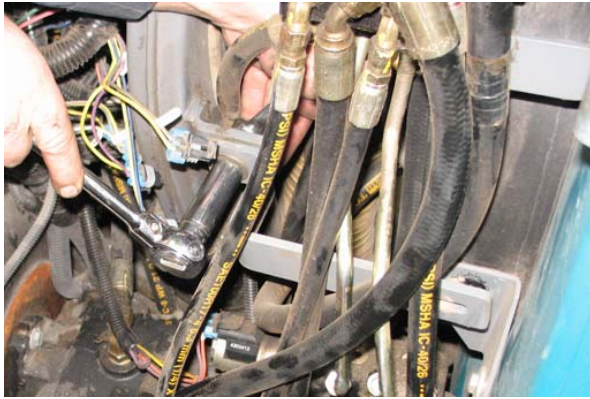


FIG. 16

27. Reinstall the air cleaner assembly/air cleaner assembly bracket onto the machine. (Fig. 17)

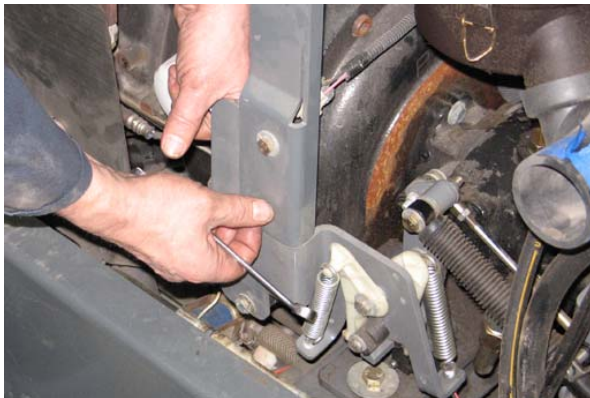


FIG. 17

28. Reinstall the coolant reservoir onto the bracket. (Fig. 18)



FIG. 18

29. If hydraulic fluid was drained to install this kit, replenish the hydraulic system with Tennant approved hydraulic fluid. Refer to the Operators Manual for additional information.

30. Reinstall the LP tank, operator station removable panel, and other parts/components removed to install the new vacuum fan motor kit onto the machine.

31. Reconnect the battery cables to the battery.

32. Start and test the machine. Observe the scrub vacuum fan motor/fittings and other hydraulic components that had been removed for leaks. Operate the scrub vacuum fan to ensure it functions.

Bill of Materials for Motor Kit, Replmt [M20/T20/M30] - 9016242

Ref.	Tennant Part No.	Description	Qty.
1	1071253	Motor, Hyd, Gear, Ext 0.17 LH 3000	1
2	07788	Nut, Hex, Std, M12 x 1.75, SS	1
3	09010	Screw, Hex, M8 X 1.25 X 25, SS	4
4	01685	Washer, Flat, 0.38B 0.88D .08, SS	4
5	08713	Nut, Hex. Lock, M8 X 1.25, NL, SS	4
6	76315	Fitting, Hyd, Tee, JF08/JM08/JM08, Br	1
7	47513	Fitting, Hyd, E45, JM08/OM10	1
8	77098	Fitting, Hyd, E90, JM06/OM04	1
9	56692	Fitting, Hyd, Str, JM08/OM10	1
10	36328	Washer, Flat, Belleville, .50	1

TENNANT COMPANY
P. O. Box 1452
Minneapolis, MN 55440-1452