



INSTRUCTION BULLETIN

No. 9021788
Machine: M20/M30/T20
Published: 01-2022
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 9021787**

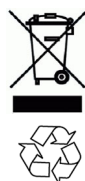
Kit installation must be performed by TennantTrue[®] service or an authorized service provider.

SYNOPSIS:

This kit contains the parts needed to replace the sheave assembly on M20/M30/T20 machines equipped with Mitsubishi 2.0L Gas or LP engines.
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. Park the machine on a clean level surface, turn off the machine, remove the key, and set the parking brake.

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

2. Open and/or remove shrouds/covers necessary to access the engine.

INSTALLATION:

1. Loosen the hardware securing the fan shroud weldment to the machine. Set the removed hardware aside. (Fig. 1)
2. Remove the hardware securing the fan skirt to the fan shroud weldment. Set the hardware aside. (Fig. 1)

3. Drain the antifreeze from the coolant system. Dispose the drained antifreeze.

4. Remove the radiator/radiator mounting bracket from the machine. Set the radiator/radiator mounting bracket and all mounting hardware aside. (Fig. 1)

NOTE: Do Not disassemble the radiator mounting bracket from the radiator.

5. Remove the fan shroud weldment from the machine. Set the fan shroud weldment and all mounting hardware aside. (Fig. 1)
6. Remove the fan upper support bracket from the machine. Set the hardware securing fan upper support bracket to the fan shroud aside. Discard the fan upper support bracket and the hardware that secured the fan upper support bracket to the engine. (Fig. 1)

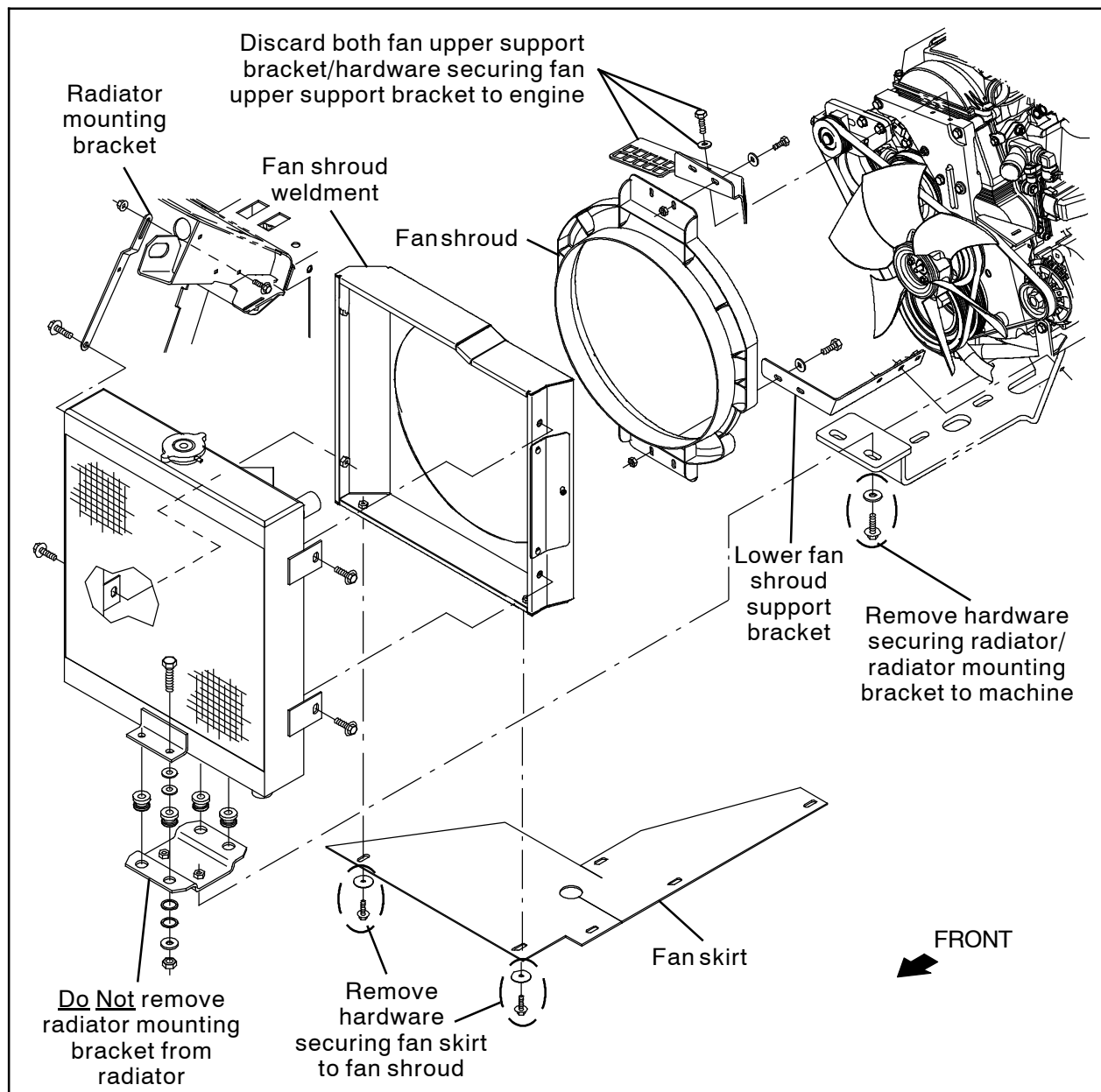


FIG. 1

7. Remove the fan shroud from the machine. Set the fan shroud and mounting hardware aside. (Fig. 1)
8. Remove the cooling fan from the engine. Set cooling fan and all hardware aside. (Fig. 2)
9. Remove the engine belt from the machine. Set the fan belt aside. (Fig. 2)
10. Remove the sheave and fan hub pulley from the machine. Discard the sheave, spacer, key, bearings, and all mounting hardware. (Fig. 2)
11. Remove the hardware securing the alternator arm to the fan shaft plate. Set the hardware aside. (Fig. 2)

12. Remove/move components necessary to access and remove the fan shaft plate from the machine. Set all removed items aside. (Fig. 1/ Fig. 2)

13. Remove the fan shaft plate from the machine. Set all mounting hardware aside. Discard the fan shaft plate. (Fig. 2)

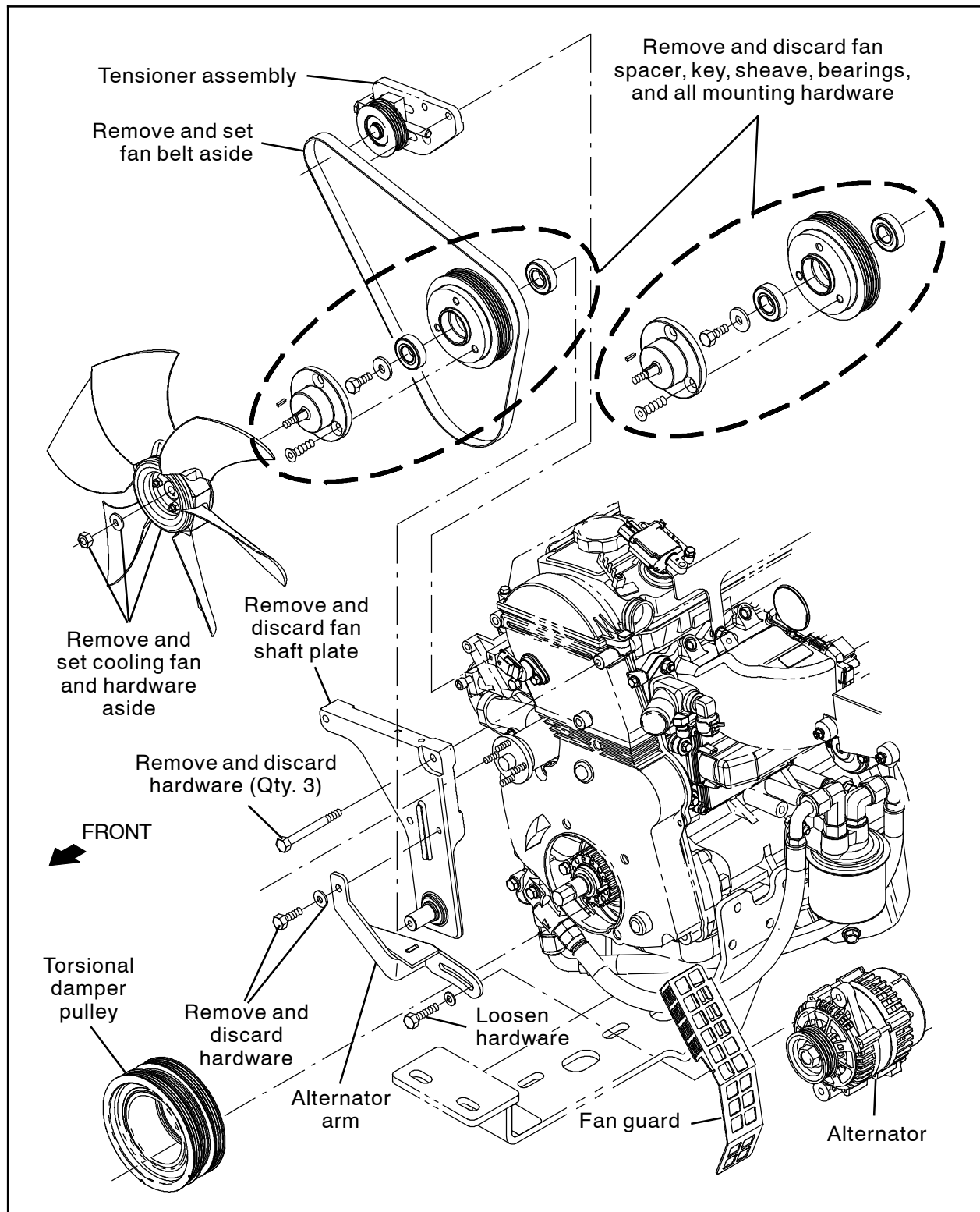


FIG. 2

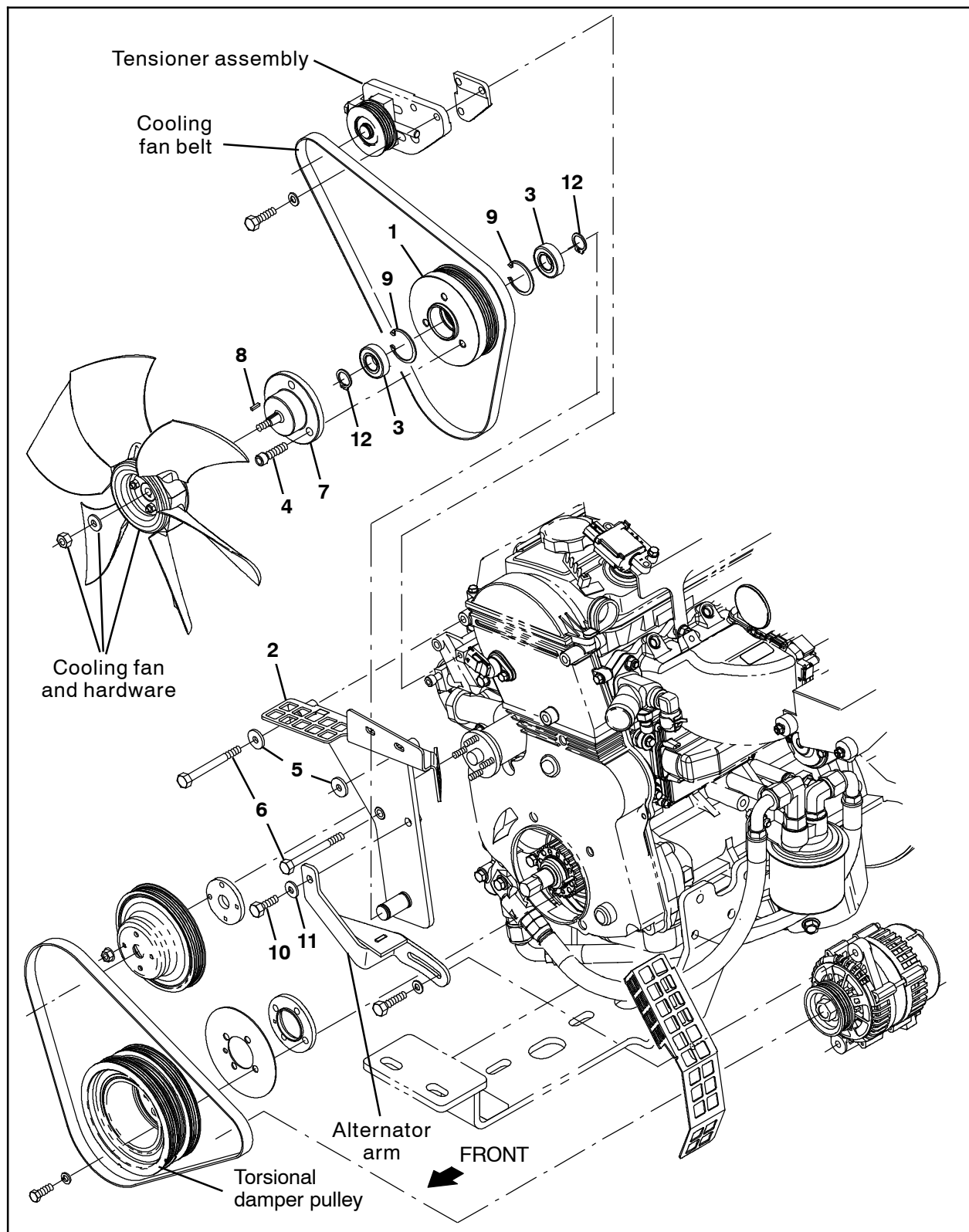


FIG. 3

14. Insert both retaining rings (9) into the new sheave (1). (Fig. 3)
15. Press both ball bearings (3) into the sheave (1) and against the retaining rings (9) installed in the previous step. (Fig. 3)
16. Install one retaining ring (12) into the inner notch in the fan shaft plate (2) shaft. (Fig. 3)

17. Apply a light/even coat of anaerobic adhesive (13) onto the shaft of the fan shaft plate (2) and the inner portion of both ball bearings (3) pressed into the sheave (1) in the previous step. (Fig. 3)
 18. Slide the sheave (1) onto the fan shaft plate (2). (Fig. 3)
 19. Install the remaining retaining ring (12) into the outer notch in the fan shaft plate (2) shaft to completely secure the sheave (1) onto the shaft. (Fig. 3)
 20. Use three M8 hex screws (6) and three flat washers (5) to install the fan shaft plate assembly (2) onto the engine. (Fig. 3)
 21. Use three socket screws (4) to install the fan spacer (7) onto the sheave assembly (1). (Fig. 3)
 22. Use one M8 hex screw (10) and one flat washer (11) to install the alternator arm onto the fan shaft plate (2). (Fig. 3)
 23. Tighten loosened hardware to fully secure the alternator arm to the alternator. (Fig. 3)
 24. Position the engine belt onto the sheave (1), torsional damper pulley, and the tensioner assembly pulley. (Fig. 3)
 25. Insert the key (8) into the notch in the fan spacer (7). (Fig. 3)
 26. Install the cooling fan onto the fan spacer (7). Be sure the key (8) remains in the notch when installing the cooling fan onto the fan spacer. (Fig. 3)
 27. Tighten the engine belt to the appropriate tension. Refer to the Maintenance section of Operators manual for the engine belt tension.
 28. Reinstall the fan shroud onto the machine.
 29. Use saved hardware to install the fan shroud onto the fan shaft plate assembly (2).
 30. Reinstall the fan shroud weldment onto the machine.
 31. Secure the fan skirt to the fan shroud weldment.
 32. Reinstall the radiator onto the machine.
 33. Refill the engine cooling system with the appropriate amount of fresh antifreeze. **Do Not** reuse removed antifreeze. Refer to the Specifications section of the Operators Manual for the required amount.
- NOTE: Be sure all air is purged from the cooling system and the antifreeze is at the correct level in the reservoir before operating the machine.*
34. Start and run machine for several minutes. Observe the coolant system for leaks. Turn off the machine and recheck the antifreeze level. Add antifreeze as necessary.

Bill of Materials for Repair Kit, Sheave - 9021787

Ref.	Tennant Part No.	Description	Qty.
1	1257986	Sheave, Mach	1
2	1257706	Plate Wldt, Shaft, Fan	1
3	1055377	Bearing, Ball, 20mmb 42mmd 12mmw	2
4	41358	Screw, Soc, M10 X 1.50 X 35, 12.9	3
5	1017218	Washer, Flat, 0.32b 1.00d .12, SS	2
6	06959	Screw, Hex, M8 X 1.25 X 100, 8.8	3
7	1070431	Spacer, Fan, Taper [Mit 2013]	1
8	00960	Key, Sq, 0.12 X 0.12, 0.50l	1
9	1074849	Ring, Retaining, Int, 42mm	2
10	39277	Screw, Hex, M8 X 1.25 X 25, 8.8	1
11	32491	Washer, Flat, 0.31, Std	1
12	1025121	Ring, Retaining, Shaft, Ext, 20mmd, HD	2
13	16799	Adhesive, Anaerobic, 0.5ml [609]	1

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