



INSTRUCTION BULLETIN

No. 9013160
Machine: M20/T20/M30
Published: 04-2015
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 9013159**

SYNOPSIS:

This kit contains the parts needed to replace the exhaust pipe on M20 / T20 / M30 machines equipped with Mitsubishi engines.

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:

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

1. Disconnect the battery cables from the battery.



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

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

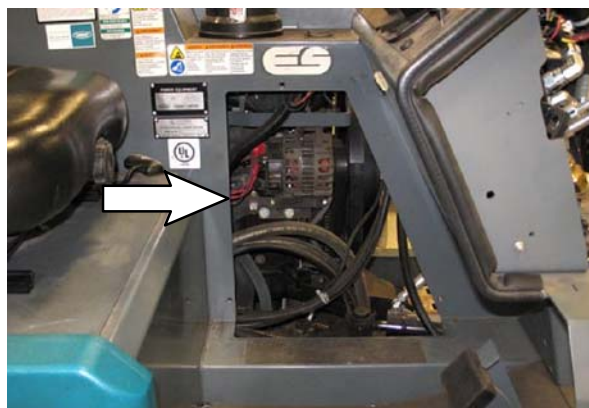


FIG. 1

3. If necessary, jack up the front end of the machine enough to access the exhaust system components.
4. Place a chock behind both rear tires of the machine.
5. Jack up the front end of the machine, place jack stands under the machine, and lower the machine onto the jack stands. Refer to MAINTENANCE section of Operators Manual for instructions how to safely jack up the machine and additional safety information.

FOR SAFETY: When servicing machine, block machine tires before jacking machine up. Use a hoist or jack that will support the weight of the machine. Jack machine up at designated locations only. Support machine with jack stands.

INSTALLATION:

1. Disconnect the exhaust sensor from the main wire harness. (Fig. 5)
2. Disconnect the existing muffler bracket from the machine. Set the M6 hex screw and flat washer aside. Discard the removed muffler bracket. (Fig. 5)
3. Remove the isolator hanger rod / rubber isolator from the machine. Set the rubber isolator and all mounting hardware aside. Leave the isolator hanger rod installed on the exhaust system and in the rubber isolator. (Fig. 5)
4. Remove the exhaust system from under the machine.
5. Remove any remainder of the old exhaust pipe from the engine. Discard the three M8 hex nuts, three flat washers, and gasket. (Fig. 5)
6. Remove the remainder of the exhaust pipe from the muffler. Discard the exhaust pipe, muffler bracket, gasket, and both M10 hex screws and M10 hex nuts. (Fig. 5)
7. Use two M10 hex screws (5) and two M10 hex nuts (7) to install the new exhaust pipe (1), gasket (2), and muffler bracket (8) onto the muffler. Do not completely tighten the M10 hex screws and M10 hex nuts. (Fig. 5)

8. Twist the exhaust pipe (1) counter clockwise as tight as possible on the muffler and completely tighten the lower M10 hex screw (5) and M10 hex nut (7). (Fig. 2 / Fig. 5)

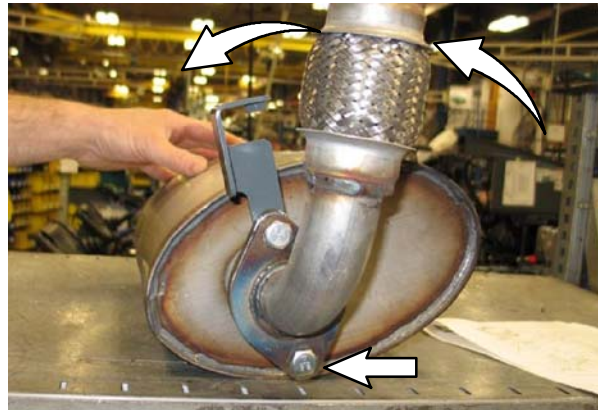


FIG. 2

9. Snugly tighten the upper M10 hex screw (5) and M10 hex nut (7) enough to hold the muffler bracket (8) into place, but not so tight that the muffler bracket cannot be moved for later adjustment. (Fig. 3 / Fig. 5)

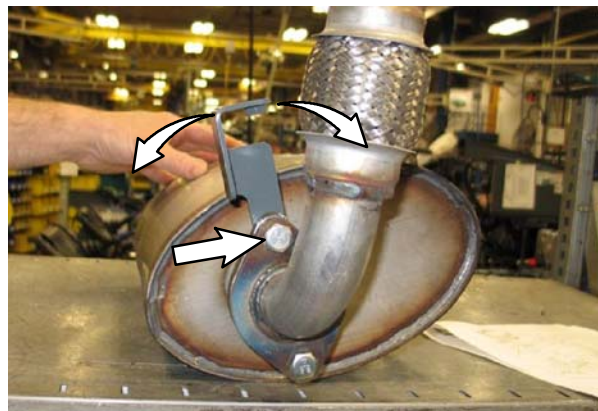


FIG. 3

10. Position the exhaust system under the machine and reinstall the isolator hanger rod / rubber isolator onto the machine. Be sure the isolator hanger rod is installed in the rubber isolator as shown. (Fig. 4 / Fig. 5)

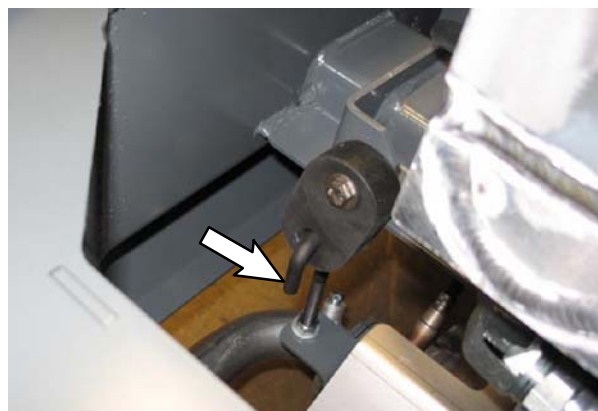


FIG. 4

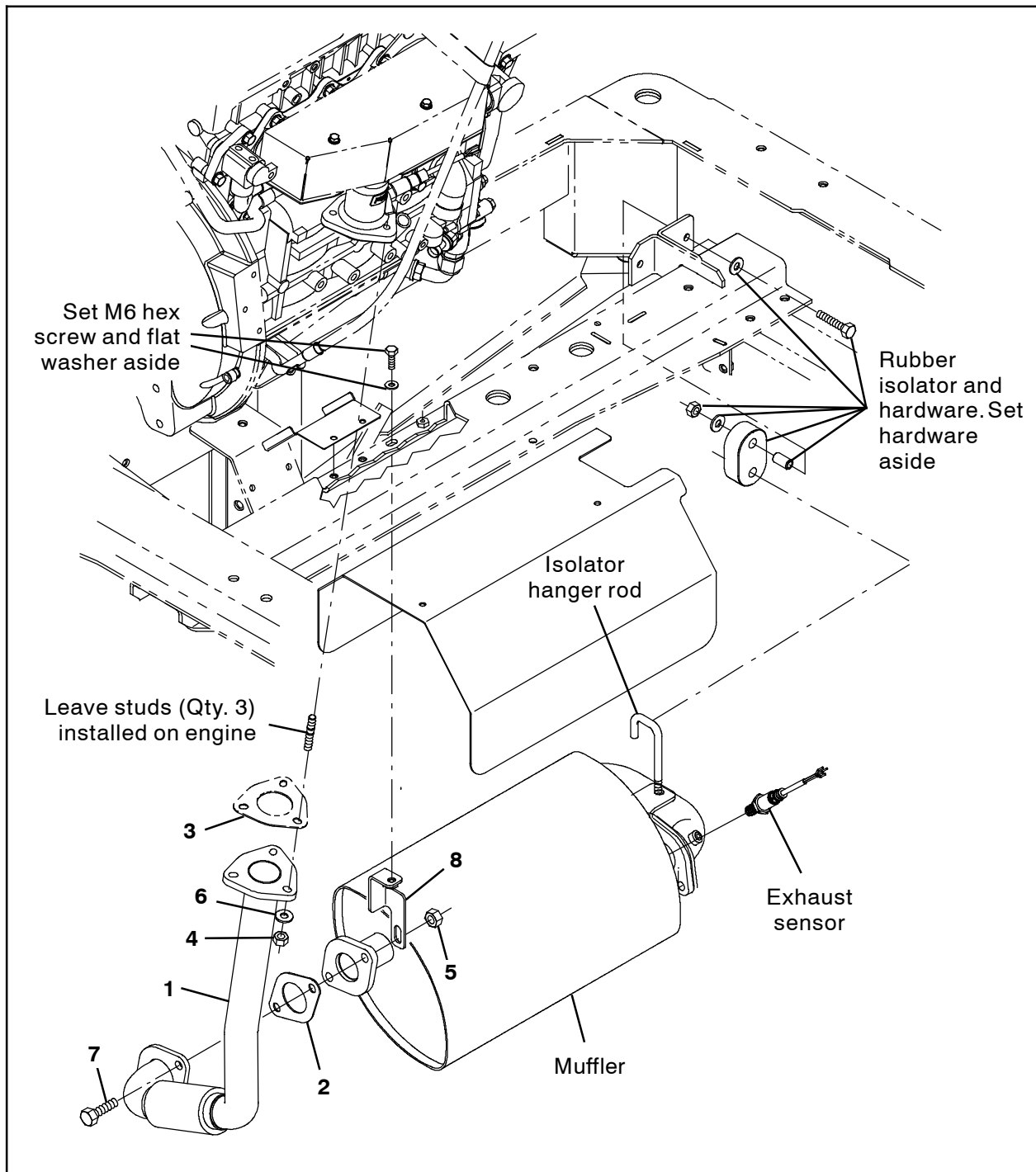


FIG. 5

11. Use three M8 hex nuts (4) and three flat washers (6) to install the manifold gasket (3) and exhaust pipe (1) onto the engine. (Fig. 5)
12. Use the saved M6 hex screw and flat washer to install the muffler bracket (8) onto the frame of the machine. (Fig. 5)
13. Adjust the position of the muffler bracket (8) on the muffler / exhaust pipe (1) so there is no excessive stress on the exhaust pipe / muffler bracket and completely tighten the upper M10 hex screw (5) and M10 hex nut (7). (Fig. 5)
14. Reconnect the exhaust sensor to the main wire harness. (Fig. 5)

15. If the machine was jacked up to install the exhaust pipe kit, raise machine off the jack stands, remove the jack stands from under the machine, and lower the machine to the floor.
16. Reinstall the engine access panel onto the machine.
17. Reconnect the battery cables to the battery.
18. Start and test the machine. Observe the exhaust system for leaks. Make adjustments as necessary.

Bill Of Materials For Pipe Kit, Exhaust, Replmt [Mako Mitsu] - 9013159

Ref.	Tennant Part No.	Description	Qty.
1	1071003	Pipe, Exhaust, Flex [Mit 2013]	1
2	1011216	Gasket, Exhaust, 2hole, 3.4bc	1
3	9019296	VR, Gasket, Manifold, Exh [Mit]	1
4	08165	Nut, Hex, Stover, M8	3
5	08166	Nut, Hex, M10 X 1.50 [Stover]	2
6	39349	Washer, Flat, 0.31, SAE	3
7	39284	Screw, Hex, M10 X 1.5 X 35, 8.8	2
8	1071113	Bracket, Muffler	1

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