1625671

SERVICE MANUAL

H2.50-3.00DX
(A966)

HYSTER

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SAFETY PRECAUTIONS

MAINTENANCE AND REPAIR

● When lifting parts or assemblies, make sure that all slings, chains or cables are correctly fastened and that the load being lifted is balanced. Make sure that the crane, cables and chains have the capacity to support the weight of the load.

● Do not lift heavy parts by hand. Use a lifting mechanism.

● Wear safety glasses.

● **Disconnect the battery ground cable** before doing any maintenance on internal combustion lift trucks.

● Always use correct blocks to prevent the unit from rolling or falling. See "**How To Put The Lift Truck On Blocks" in the OPERATING MANUAL or the PERIODIC MAINTENANCE** section.

● Keep the unit and working area clean and in order.

●Always use **HYSTER APPROVED** parts when making repairs・replacement parts must meet or exceed the specifications of the original equipment manufacturer.

●Make sure that a11 nuts, bolts, snap rings and other fastening devices are removed before using force to remove parts.

●Always fasten **DO NOT OPERATE** sign to the controls of the unit when making repairs or if the unit needs repairs.

●Make sure you follow the **DANGER**, **WARNING** and **CAUTION** notes in the instructions.

●Diesel is flammable fuel. Make sure hat you follow the necessary safety precautions when handling the fuel and when working on fuel systems.

●Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area has ventilation.

H2.50-3.00DX
SERVICE MANUAL CONTENTS

FRAME

CONTENTS

GENERAL

This section has the description of the frame and some connected parts.
See FIGURE 1 and FIGURE 2. Procedures for the removal and nd installation of the counterweight, engine cover, overhead guard and engine are under REPAIRS.
Procedures for the repair of tanks and installation of safety labels are also included.

DESCRIPTION

The frame is one weldment and includes the hydraulic tank and fuel tank.
The muffler is fastened to the frame inside of the counterweight.

An operator module is installed on the frame. The overhead guard, steering controls, instrument panel and the engine cover and sea are installed on the operator module.

The engine cover is connected to the operator module with hinges. A gas spring gives assistance when raising the engine cover. The floor plate can be removed for access to the engine, transmission and other components.

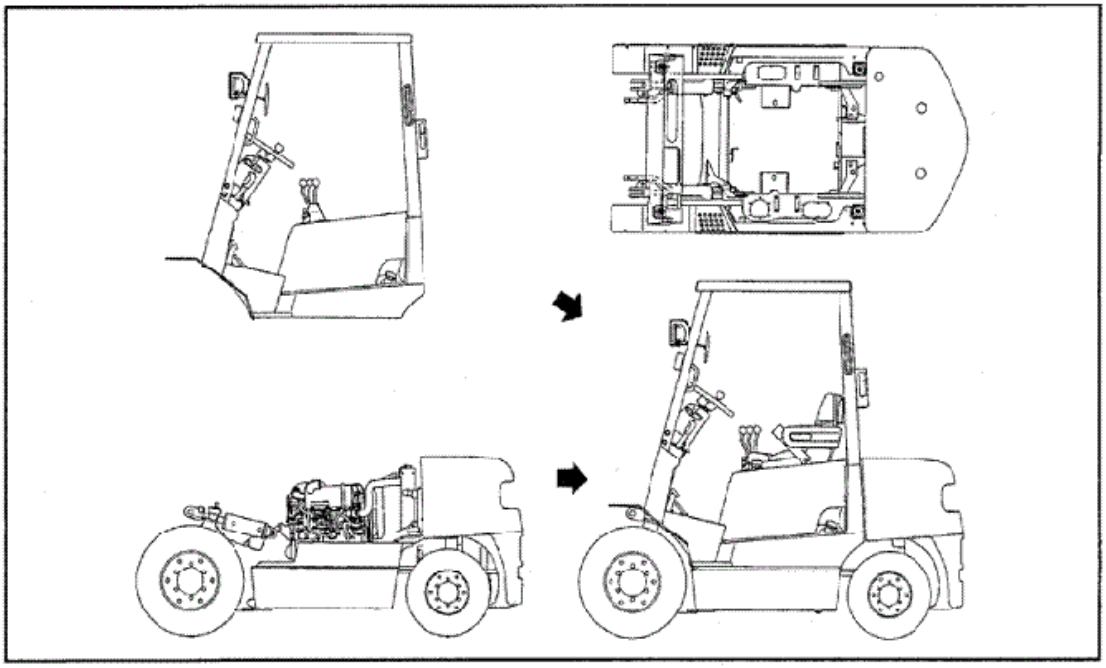


FIGURE 1.

⚠WARNING

The lift truck must be put on blocks for some types of maintenance and repair.
The removal of the following assemblies will cause large changes in the center of gravity: mast, drive axle engine and transmission, and the counterweight. When the lift truck is put on blocks, put additional blocks in the following positions to maintain stability:

a．Before removing the mast and drive axle，put blocks under the counterweight so that the lift truck can not fail backward.

b．Before removing the counterweight，put blocks under the mast assembly so that the lift truck can not fall forward.

The surface must be solid，even，and level when the lift truck is put on blocks. Make sure that any blocks used to support the lift truck are solid，one piece units.
See the OPERATING MANUAL or the PERIODIC MAINTENANCE.

OPERATOR MODULE

Removal

1. Remove the counterweight．

2. Remove the floor mat，the floor plate and cowl cover.

3. Remove the parking brake assembly with bracket which is held to the top of cowl by capscrews.

4．Disconnect the harness connector for the parking brake switch. (Only for the truck equipped the parking lever warning)

5．Disconnect the terminal for the parking brake switch. (Only for the truck equipped the Monotrol pedal)

6．Remove each main, lift, return tilt and steering at the control valve.

7．Remove the column cover，tag and disconnect the steering hose from the steering unit.

Cap all the hydraulic lines and plug the steering unit to prevent dirt from entering the system.

8． Remove the acceleration cable bracket assembly from the cowl.

9. Remove the bracket piping at the brake master cylinder.

10. Remove the inching cable at the pedal bracket.

11. Disconnect the harness connector between the lower frame and cowl.

12. Disconnect the brake pedal.

13. Disconnect the harness for the torque converter temp. sensor.

14. Disconnect the harness connector for torque converter solenoid.

15. Disconnect the harness connector for the service brake switch. (Only for the truck equipped Monotrol pedal)
16. Disconnect the terminal for the neutral switch. (Only for the truck equipped with Monotrol pedal)
17. Disconnect the harness connector for Monotrol xmsn control switch. (Only for the truck equipped with Monotrol pedal)
18. Disconnect the battery cable. Remove the battery mount.

⚠CAUTION

Disconnect the cable at the negative terminal first.

19. Remove the splash guard for fuel filler.
20. Remove the duct hose of air cleaner from over head guard rear pipe.
21. Remove the fuel filter.
22. Disconnect two fuel hoses from the top of the tank.
23. Disconnect the both connectors for the rear combination lamp beside the radiator bracket.
24. Remove the bolts in the position of cab mounting area.
25. Connect a lifting device to the over head guard. Lift the operator module from the lower frame.

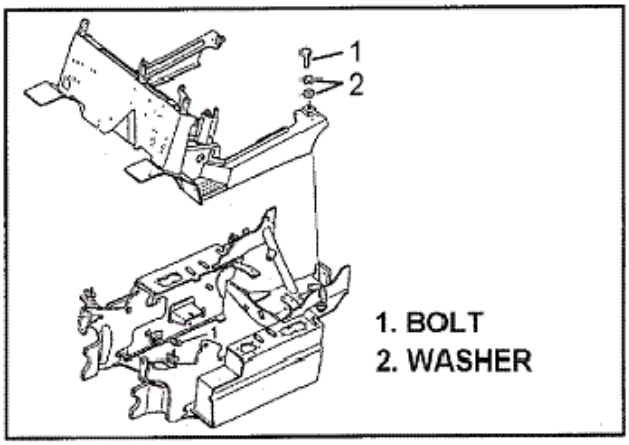


FIGURE 2.

Installation (See FIGURE 2)

Note: If the over head guard was removed from the operator module, tighten the rear leg mount capscrews to 71-86 Nm (730-875 Kgf-cm) torque. Tighten the capscrews that fasten the cowl to the front legs to 71-86 Nm (730-875 Kgf-cm) torque.

1. Connect a lifting device to the over head guard and put it on the cab mounting area.
2. Install the washers and bolts. Tightening torque is 71-86 Nm (730-875 Kgf-cm) .
3. Connect the hoses, harnesses and so on in the reverse order of removal procedure.

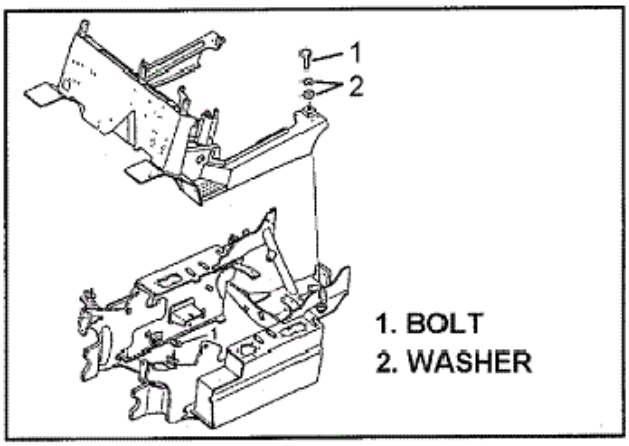


FIGURE 2.

ENGINE COVER

⚠WARNING

The engine cover and hook must be correctly adjusted.

A gas spring is fastened to upper frame to help personnel when opening and closing the engine cover.

Installation and Adjustment Procedure

(FIGURE 3.)

This procedure describes the installation and the adjustment of the engine cover assembly if it was removed from the lift truck during repairs to the engine and transmission.

The parts described in this procedure are shown in FIGURE 3.

1. Install the front cover (19), if it was removed. But do not tighten the four capscrews (20).
2. Install the hinges (2), if they were removed. Do not tighten the capscrews (7).
3. Install the hook (17) and the arm assembly (15) if those were removed.
4. Install the engine cover in position on the front plate. Connect the gas spring (21).

5. Close the engine cover until the rubber cushion(10) are against the upper frame.
Align the engine cover with the front cover to get the consistent gap between the engine cover and the front cover in left and right hand side.
6. Confirm that engine cover (1) does not contact with the splash guard when the engine cover is opened.
7. Adjust quantity of washers (11) to get consistent gap between engine cover (1) and belt line of upper frame.
8. When the engine cover is fully closed, check that the arm assembly fully engages the hook.
9. All adjustment finished, tighten the four cap screws (20) on the front plate weldment.

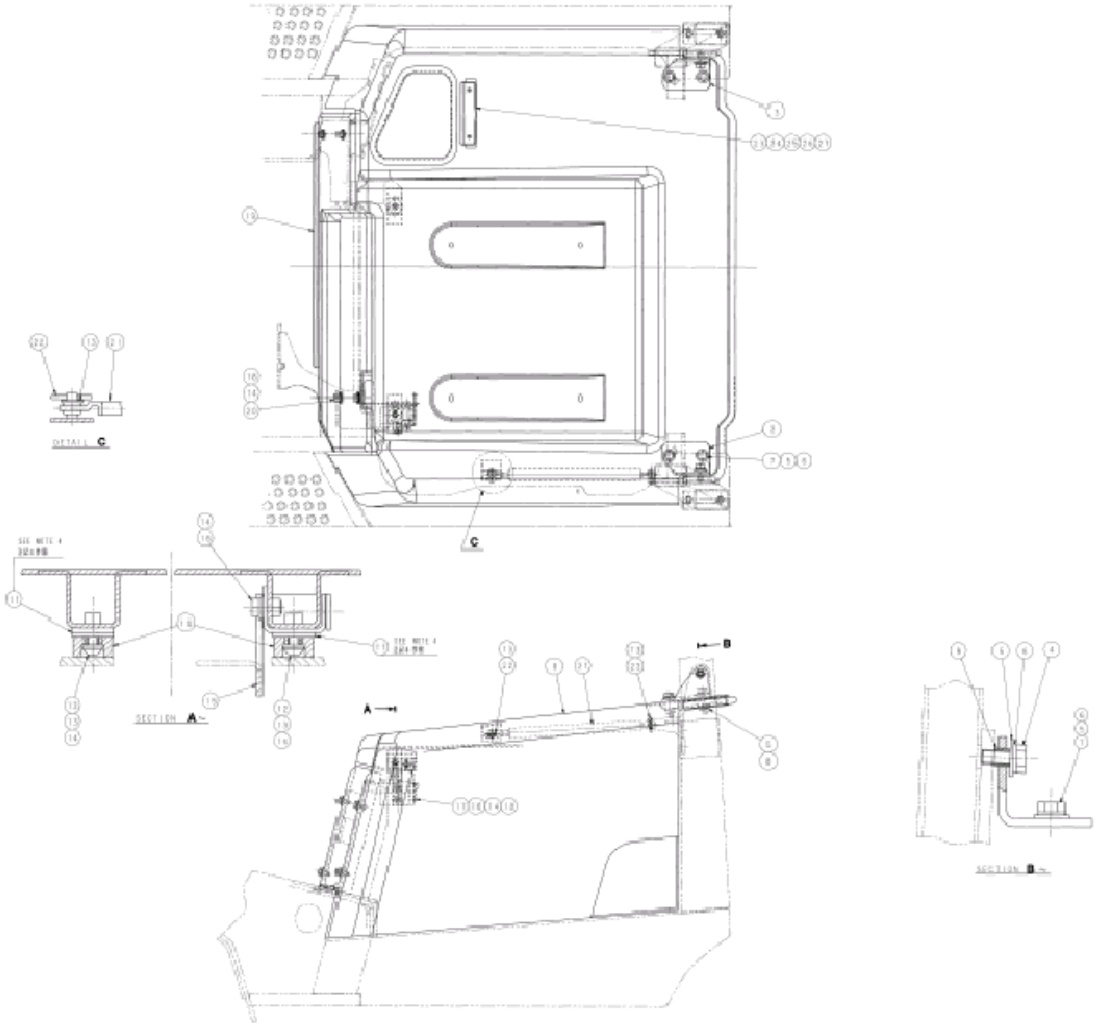


FIGURE 3 ENGINE COVER

1. ENGINE COVER
2. HINGE ENGINE COVER LH
3. HINGE ENGINE COVER RH
4. BOLT
5. SPECIAL WASHER
6. WASHER
7. BOLT
8. NUT
9. PIPE
10. RUBBER CUSHION
11. SPECIAL WASHER
12. CAPSCREW
13. WASHER
14. WASHER
15. ARM ASSEMBLY
16. BOLT
17. HOOK WELDMENT
18. SPECIAL WASHER
19. FRONT COVER
20. BOLT
21. GAS SPRING
22. PIN SNAP
23. MEMO CLIP
24. BOLT
25. WASHER
26. LOCK WASHER
27. NUT

OVERHEAD GUARD

⚠WARNING

Do not operate the lift truck without the overhead guard correctly fastened to the lift truck.
Changes that are made by welding, or by drilling holes that are too big or in the wrong location, can reduce the strength of the overhead guard.
See the introductions for "Changes to the Overhead Guard" in the PERIODIC MAINTENANCE section included with this lift truck.

Removal and Installation

Connect a crane or lifting device to remove or install the overhead guard.
Remove the engine cover. Disconnect the air intake at the overhead guard leg.
Disconnect any wires between the frame and the overhead guard. When the overhead guard is lifted from the frame, make sure any electric wires are moved through the holes in the frame so that they are not damaged.
There are two capscrews at each corner of the overhead guard. Remove and install the capscrews for the overhead guard as follows:

a. Access to the bolts at the front of the overhead guard is side of top of cowl.
b. Access to the bolts at the rear of the overhead guard is under the rear fender.

Tightening torque is 71-86 (730-875 kgf-cm) for each leg mount.

STIFFENER

Stiffener plate is fastened to the front of lower frame by four bolts. It is one of the member of the lower frame strength. Normally there is no chance to remove the stiffener plate, but if the drive axle assembly or the transmission assembly has to be removed, the stiffener plate is also removed.

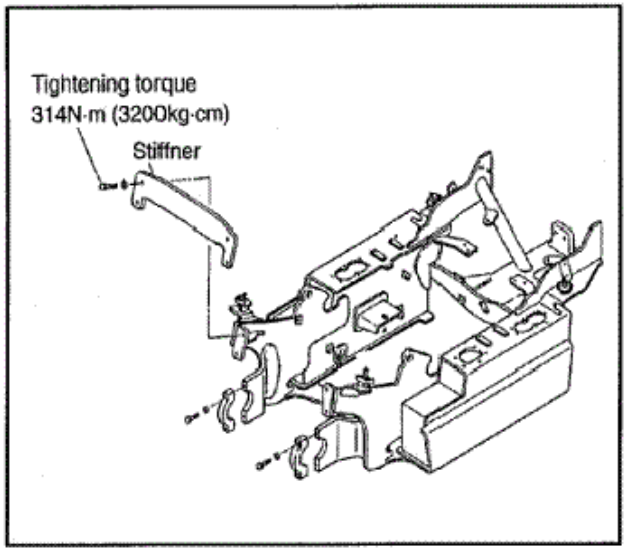
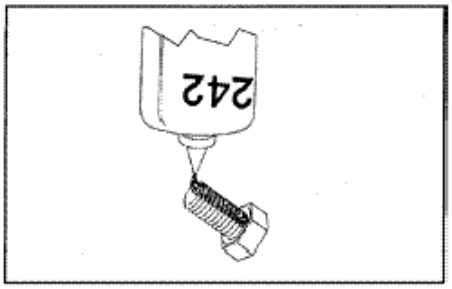


FIGURE 4

⚠CAUTION

1. Clean up the both faces between plate and the lower frame by wire brush.
If there are something between the face or both faces are not even, it cause to loosen bolts.
2. Clean up the internal threaded portion the lower frame by air blowing. (remove the of wreck of LOCTITE.)
3. Clean up the external threaded portion of bolts by air blowing.
If the threaded portion has damaged, replace with new bolts.
4. As illustrated FIGURE 5. apply the "LOCTITE 242" on the threaded portion equally.
5. After the plate is installed, do not apply the lift truck for heavy duty usage soon.
Normally it will take 24 hours to congeal the LOCTITE.



COUNTERWEIGHT

The counterweight is held in position on the frame by two hooks that are part of the frame. Two M24 x 3 bolts hold the counterweight to the lower part of the frame.

⚠WARNING

Do not operate the lift truck if the bolt for the counterweight is not installed.
When the bolt is removed, the counterweight can fall from the lift truck.

Removal (See FIGURE 6)

1. If an vertical exhaust is installed, remove it as shown FIGURE 9.

WARNING

The counterweight is heavy. Make sure that lifting devices have enough capacity to lift the weight.

The approximate weight of the counter weight castings are as following.

NOMINAL (kg)	MAXIMUM (kg)	MINIMUM (kg)
1913	1951	1894

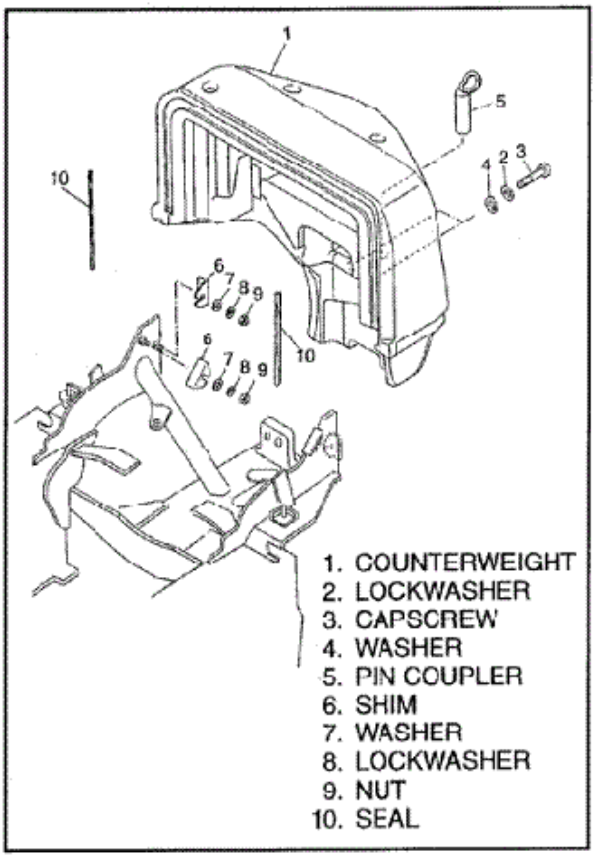


FIGURE 6

2. See FIGURE 6. Rout the wires through the left and right lifting holes on the upper surface of the counterweight. Connect a crane to wires and raise the crane until it holds part of the weight of the counterweight.

Remove the bolt that holds the counterweight to the frame. Use the crane to lift the counterweight from the lift truck.
Hoist the counterweight upward, and move it backward. Put the counterweight on the floor so that it has stability and not fall over.

Installation (See FIGURE 7)

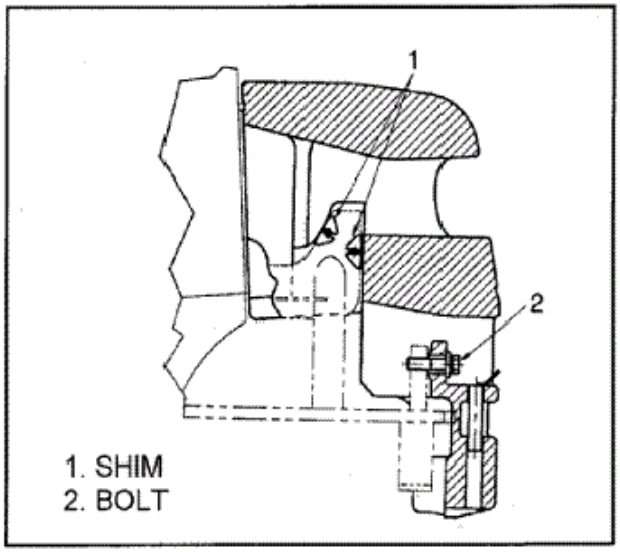
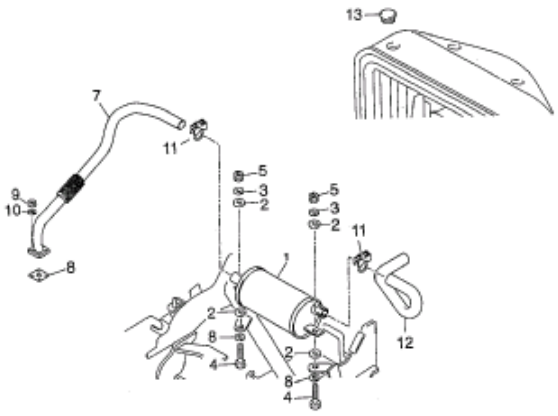


FIGURE 7

1. Install the shims on the mounts. When the counterweight is installed, make sure the hooks on the frame fully engaged the counterweight so that it is aligned with the parts of the frame. Use the shims to obtain a gap of 7.5 to 10.5 mm between the counterweight and the overhead guard leg.
   Tighten the M24 x 3 bolt to 597 – 717 Nm (6090 – 7308 kgf-cm) torque.
2. If the lift truck has an vertical exhaust, install it as shown in FIGURE 9.

EXHAUST SYSTEM

The muffler is installed inside the cavity of the counterweight. A short exhaust pipe sends the exhaust gases out of the lift truck through the grille in the counterweight.
See FIGURE 8 and 9



1. MFFLER ASS'Y
2. CUSHION RUBBER
3. WASHER RUBBER
4. BOLT
5. HARD LOCK NUT
6. WASHER
7. EXHAUST PIPE
8. GASKET
9. NUT
10. WASHER
11. U-CLAMP
12. TAIL PIPE
13. CAP

FIGURE 8

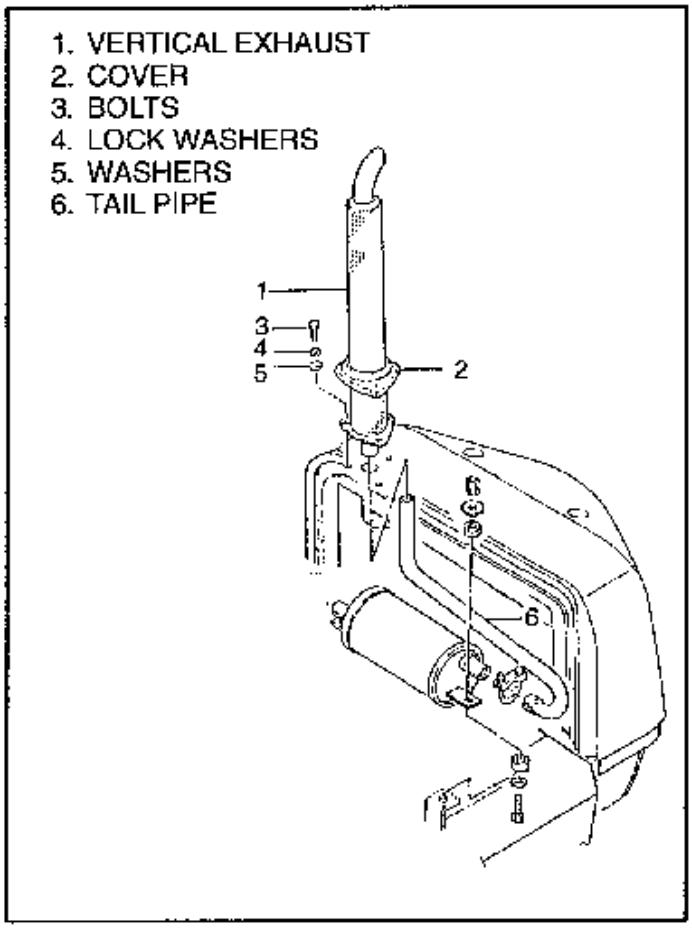


FIGURE 9

Muffler Replacement (See FIGURE 8 and 9)

The counterweight must be removed to install the muffler. When replacing parts of the exhaust system, see FIGURE 8 and 9. When connecting the exhaust pipe to the engine do the following:

a. Install the exhaust gasket and exhaust pipe. Tighten the nuts to 37 – 47 Nm (320 – 470 kgf-cm) .
b. On units with an vertical exhaust, tighten the bolts that hold the vertical exhaust to the counterweight to 41 – 49 Nm (410 – 490 kgf-cm). Install the cover.