INTRODUCTION

GENERAL

This section has the description of the frame and some connected parts. See FIGURE 1. Procedures for the removal and installation of the counterweight, hood, overhead guard, and engine (including the transmission and radiator) are under REPAIRS. Checks for the operator restraint system and procedures for the repair of tanks and replacement of safety labels are included.

DESCRIPTION

The frame is one weldment and includes the hydraulic tank and the fuel tank for gasoline or diesel fuel.

There is a counterweight for each capacity of lift truck. The counterweights are similar, but are different weights. The muffler is fastened to the frame inside of the counterweight.

An overhead guard is fastened to the cowl at the front of the lift truck and to a frame plate at the rear of the lift truck.

The hood is connected to the frame plate with hinges. A gas controlled spring gives assistance when raising the hood and holds the hood in the open position. The floor plates can be removed for access to the transmission and other components.

REPAIRS

⚠ WARNING

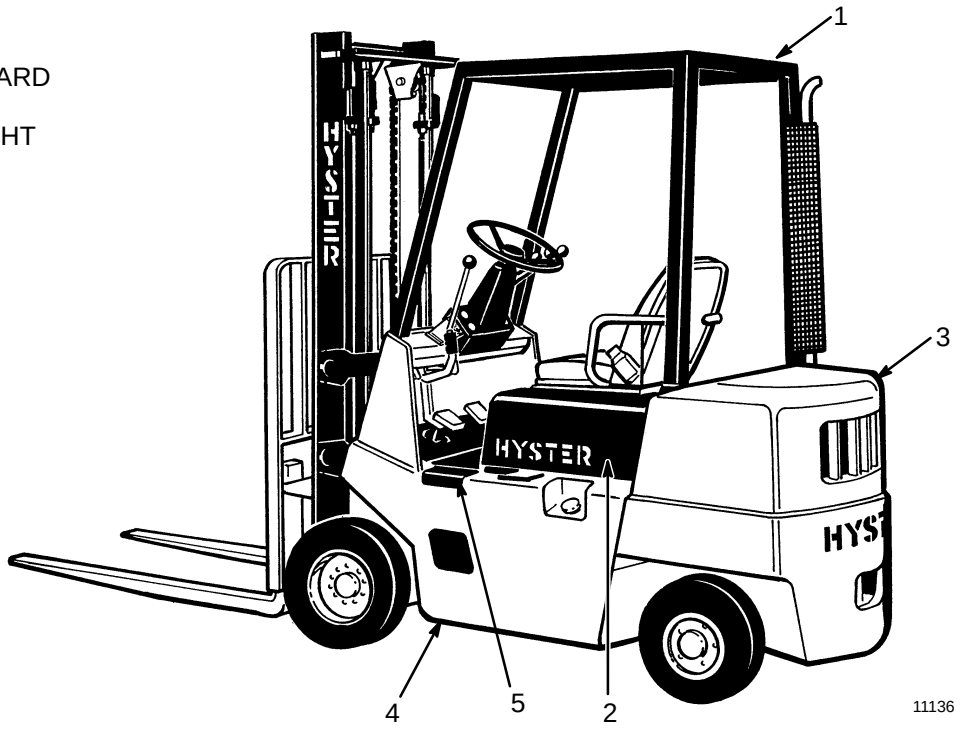
The lift truck must be put on blocks for some types of maintenance and repair. The removal of the following assemblies will cause large changes in the center of gravity: upright, drive axle, engine and transmission, and the counterweight. When the lift truck is put on blocks, put additional blocks in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

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

b. Before removing the counterweight, put blocks under the upright 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.

1. OVERHEAD GUARD
2. HOOD
3. COUNTERWEIGHT
4. FRAME
5. FLOOR PLATE



COUNTERWEIGHT

The counterweight is held in position on the frame by two hooks that are part of the frame. One large capscrew holds the counterweight to the lower part of the frame: (M24 x 3 x 150 on the S50–60XL models and M24 x 3 x 80 on the S40XL model).

⚠ WARNING

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

Removal

1. If the lift truck has an LPG fuel system, remove the LPG tank and bracket so that the counterweight can be removed. Additional information on the LPG fuel system can be found in the following section of the **SERVICE MANUAL**:

THE LPG FUEL SYSTEM, 900 SRM 15.

⚠ WARNING

LPG can cause an explosion. Do not cause sparks or permit flammable material near the LPG system. LPG fuel systems can be disconnected indoors only if the lift truck is at least 8 metres (25 feet) from any open flame, motor vehicles, electrical equipment, or ignition source.

Close the fuel valve on the LPG tank before any part of the engine fuel system is disconnected. Run the engine until the fuel in the system is used and the engine stops.

If the engine will not run, close the fuel valve on the LPG tank. Loosen the fitting on the supply hose from the LPG tank where it enters the filter unit. Permit the pressure in the fuel system to decrease slowly. Fuel leaving the fitting removes heat. Use a cloth to protect your hands from the cold fitting.

2. Use the following procedure to remove the LPG tank**:**

a. Removable LPG tanks can be removed and replaced indoors only if the lift truck is at least 8 metres (25 feet) from any open flame or ignition source.

b. Move the lift truck to the area where tanks are changed.

c. Turn the tank fuel valve clockwise until the valve is completely closed.

d. Run the engine until it stops, then turn the key switch to the **OFF** position.

e. Disconnect the quick disconnect fitting.

f. Release the LPG tank latch and remove the tank from the bracket.

⚠ WARNING

The counterweight castings have the following approximate weights:

S2.00XL (S40XL)	**1070 kg (2360 lb)**
S2.50XL (S50XL)	**1430 kg (3150 lb)**
S3.00XL (S60XL)	**1820 kg (4010 lb)**

3. See FIGURE 2. Install a lifting eye in the lifting hole of the counterweight. Connect a crane to the lifting eye and raise the crane until it holds part of the weight of the counterweight. Remove the capscrew that holds the counterweight to the frame. Use the crane to lift the counterweight from the lift truck.

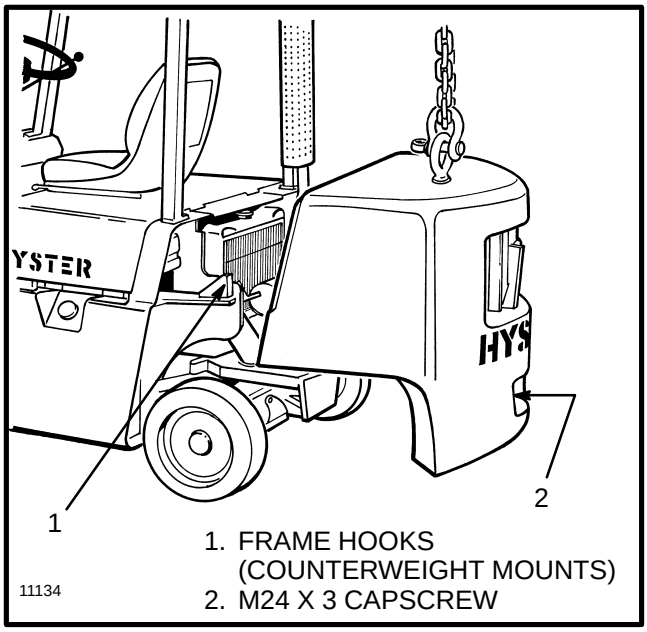


FIGURE 2. REMOVAL OF THE COUNTERWEIGHT

Installation

1. When the counterweight is installed, make sure the hooks on the frame fully engage the counterweight so that it is aligned with the parts of the frame. Tighten the M24 x 3 capscrew to 555 N.m (410 lbf ft).

(More Content includes: Brake system, Capacities, and specifications, Frame, Hydraulic, System, Industrial battery, Main control, Valve, Mast repair, Fasteners, Schematics diagrams, Steering axle, Steering system, Wire harness repair And more)

2. If the lift truck has an LPG fuel system, install the bracket for the LPG tank. Use the following procedure to install the LPG tank:

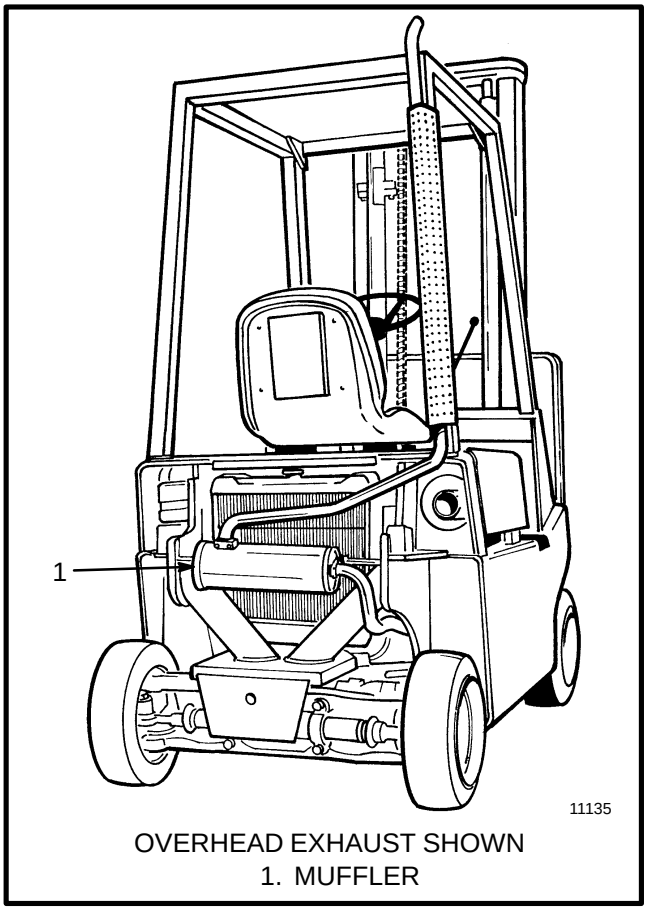
a. Before the LPG tank is installed on the lift truck, make sure the tank has fuel in it. Check the operation of the fuel gauge. Look at the fuel gauge and move the tank. If the gauge needle does not move, a new tank must be installed.

b. Put the tank in the tank bracket. Make sure that the tank is aligned with the alignment pin.

c. Close the latch.

d. Connect the quick disconnect fitting to the fuel valve on the tank. Use your hand to tighten the fitting. Do not open the fuel valve until the quick disconnect fitting is completely tightened. Turn the fuel valve counterclockwise to open the fuel valve.

e. Inspect the fuel system for leaks when the fuel valve is open. Frost on the surface of the tank, valves or fittings or a strong odor indicates leakage.



OVERHEAD EXHAUST SHOWN
1. MUFFLER

FIGURE 3. MUFFLER

MUFFLER (See FIGURE 3.)

The muffler is inside the counterweight and between the counterweight and the radiator. A short exhaust pipe sends the exhaust gases out of the lift truck through the grille in the counterweight.

The lift truck can have an overhead exhaust system. The exhaust pipe is fastened to the right rear leg of the overhead guard.

HOOD (See FIGURE 1.)

Removal

1. Raise the hood. Hold the hood so that it does not fall and disconnect the gas controlled spring at the hood.

2. Remove the capscrews that hold the hood hinges to the frame of the lift truck. Remove the hood.

Installation

1. Install the hood in position on the lift truck. Install the capscrews that hold the hood hinges to the frame. Connect the gas controlled spring to the hood. Adjust the position of the hood with the latch on the front cover. Tighten the capscrews for the hood hinges.

⚠ WARNING

The hood, hood latch and hood striker must be correctly adjusted for the correct operation of the operator restraint system.

2. See FIGURE 5. Use the following procedure to adjust the hood latch:

a. Install the floor plate and tighten the capscrews.

b. Install the latch striker in the highest slot position on the floor plate. Check that the latch striker is in the center of the jaws of the hood latch.

c. Close the hood to the fully closed position. The hood latch has two positions. The hood is fully closed after two clicks of the latch.

d. Loosen the capscrews for the latch striker just enough to let the striker move. Push the hood down until the hood just touches the rubber bumpers on the frame. Make sure the latch striker is still in the center of the hood latch. Tighten the capscrews for the striker.

e. Check the operation of the hood latch. Have an operator sit in the seat. Make sure that the hood is

fully closed (two clicks). Also check that the hood touches the rubber bumpers. If additional adjustment is necessary, repeat Step d.

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 in the wrong location, can reduce the strength of the overhead guard. See the instructions 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. If the lift truck has an overhead exhaust, disconnect and remove the exhaust pipe assembly. Four bolts hold the overhead guard to the frame. The overhead guard is fastened to the cowl and the rear frame plate. Disconnect any electric wires from under the cowl that go through the legs of 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.

RADIATOR AND COOLANT SYSTEM

Removal

1. Drain the coolant from the radiator and the engine.

2. Remove the capscrews that hold the fan shroud to the radiator. Remove the four capscrews that fasten the fan to the hub and remove both the fan and the fan shroud.

3. Disconnect the coolant hoses at the radiator. Disconnect the lines to the oil cooler in the bottom of the radiator. Also disconnect these lines at the transmission housing. Put caps on the open lines and ports. Remove the two capscrews that still hold the radiator. Remove the radiator.

Installation

1. Install the radiator with the two capscrews that do not fasten the fan shroud. Connect the lines for transmission oil to the oil cooler in the radiator. Also connect these lines at the ports in the transmission housing. Connect the lower coolant hose to the radiator.

2. Install the fan and fan shroud in position on the radiator. Install the four capscrews that hold the fan shroud and the radiator to the frame. Install the capscrews that fasten the fan to the hub. Connect the upper coolant hose at the radiator.

OPERATOR RESTRAINT SYSTEM (See FIGURE 4. and FIGURE 5.)

The seat belt, hip restraint brackets, seat and mount, hood, latches and floor plates are all part of the operator restraint system. Each item must be checked to make sure it is fastened correctly, functions correctly and is in good condition.

The end of the seat belt must fasten correctly in the latch. Make sure the seat belt pulls from the retractor assembly and retracts smoothly. The seat belt must be in good condition. A seat belt that is damaged or worn will not give protection when it is needed. If the seat belt can not be pulled from the retractor assembly, remove the screw that keeps the cover on the retractor. Push the bar to release the spool. Straighten the belt so that it will pull and retract smoothly from the retractor assembly. See FIGURE 4.

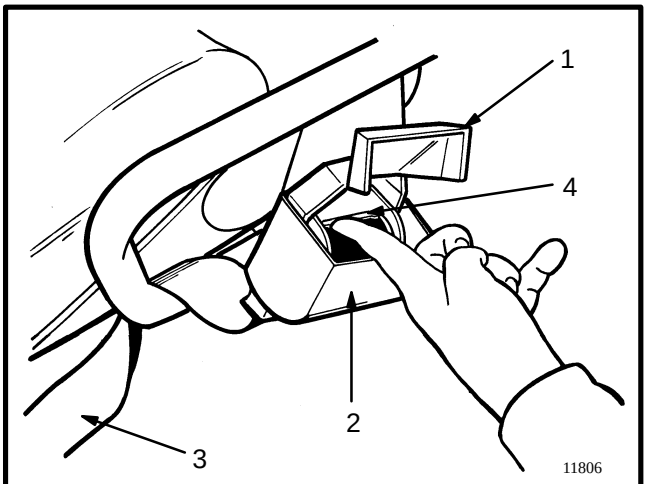


FIGURE 4. RELEASE A JAMMED SEAT BELT

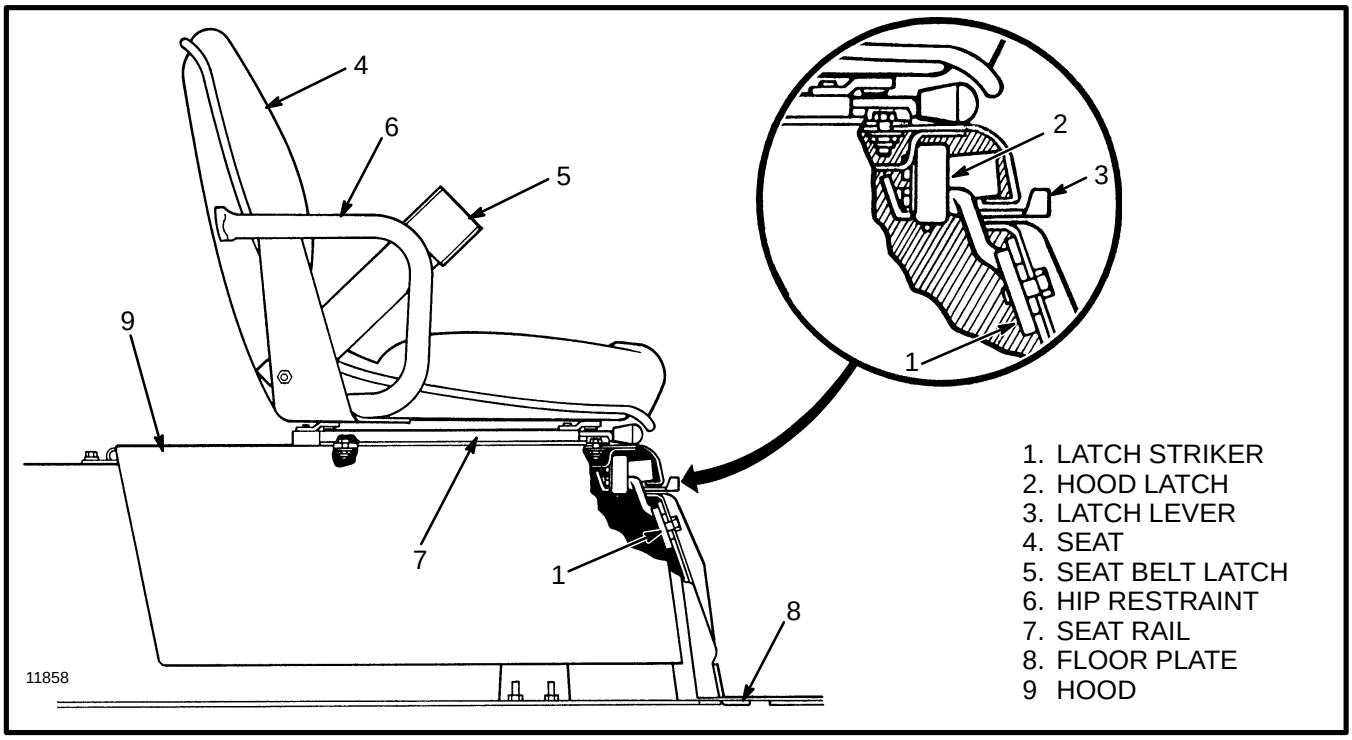


FIGURE 5. CHECK THE HOOD AND SEAT LATCHES

See FIGURE 5. Make sure the seat rails and latch striker are not loose. The seat rails must lock tightly in position, but move freely when unlocked. The seat rails must be correctly fastened to the mount surface. If the mount surface is the hood, the hood must be fastened to the floor plate with the latch. The floor plate must be fastened to the lift truck frame. Try to lift the hood to make sure it is fastened correctly and will not move.

Adjust the hood, hood latch and latch striker when any of the parts of the operator restraint system are installed or replaced. See HOOD for the adjustment procedures.

ENGINE REMOVAL AND INSTALLATION

Removal of the Engine and Transmission

1. Do the following steps as described in the paragraphs at the beginning of this section:

a. Remove the hood and seat.

b. Remove the floor plates and the front panel from the engine compartment.

c. Remove the counterweight. Make sure that you use the correct procedures to disconnect and remove an LPG tank.

d. Remove the overhead guard.

e. Remove the radiator.

⚠ WARNING

Always disconnect the cables at the battery before you make repairs to the engine. Disconnect the cable at the negative terminal first.

2. Disconnect the cables at the battery.

3. Put the lift truck on blocks so that you have access under the lift truck.

4. Disconnect the hydraulic lines.

Lift trucks with serial codes A187:

a. **Mazda and Isuzu engines**. Disconnect the inlet line and the return hose at the main control valve. Disconnect the return hose at the back of the hydraulic filter and remove the hydraulic filter and plate from the frame. Disconnect the steering return line and the line from the steering relief valve at the hydraulic tank. Disconnect the steering supply line at the hydraulic pump and remove the clamp that holds the line. Disconnect the suction line at the hydraulic pump on the Isuzu engine. On the Mazda engine, disconnect the hose at the tube that is fastened to the flywheel housing. Put a plug in the hose. Move the hose out of the support bracket on the flywheel housing.

b. **GM engine**. Disconnect the inlet line and the return hose at the main control valve. Disconnect

the steering return line at the tee fitting near the bottom of the torque converter housing. Disconnect the steering supply line and the suction line at the hydraulic pump. Disconnect the return hose at the back of the hydraulic filter and remove the hydraulic filter and plate from the frame. Disconnect the hose to the breather at the top of the torque converter housing. Disconnect the return hose from the torque converter housing at the fitting on the top of the hydraulic tank.

Lift trucks with serial codes B187 and C187:

a. **Mazda and Isuzu engines**. Disconnect the inlet line and the return hose at the main control valve. Disconnect the return hose at the back of the hydraulic filter and remove the filter from the frame. Disconnect the steering return line at the hydraulic tank. Disconnect the steering supply line at the hydraulic pump and remove the clamp that holds the line. Disconnect the suction line at the hydraulic pump on the Isuzu engine. On the Mazda engine, disconnect the hose at the tube that is fastened to the flywheel housing. Put a plug in the hose. Move the hose out of the support bracket on the flywheel housing. Disconnect the four steering lines at the steering control unit under the cowl. Put plugs in the lines and use tags for identification during assembly. Remove the clamp on the flywheel housing and move the steering and transmission lines to the left side of the frame.

b. **GM engine**. Do the procedures for lift trucks with serial codes A187 with the GM engine. Then disconnect the four steering lines at the steering control unit under the cowl. Use tags for identification during assembly. Remove the clamp on the flywheel housing and move the steering and transmission lines to the left side of the frame.

5. **Lift Trucks with serial codes A187:** Disconnect the linkage at the transmission control valve.

Lift Trucks with serial codes B187 and C187: See FIGURE 6. Use the following procedure to remove the master cylinder assembly:

a. Remove the springs (1).

b. Disconnect the rod (2) at the pin (3) in the inching/brake pedal.

c. Disconnect the link for the inching spool in the transmission control valve (9) at the pin (4).

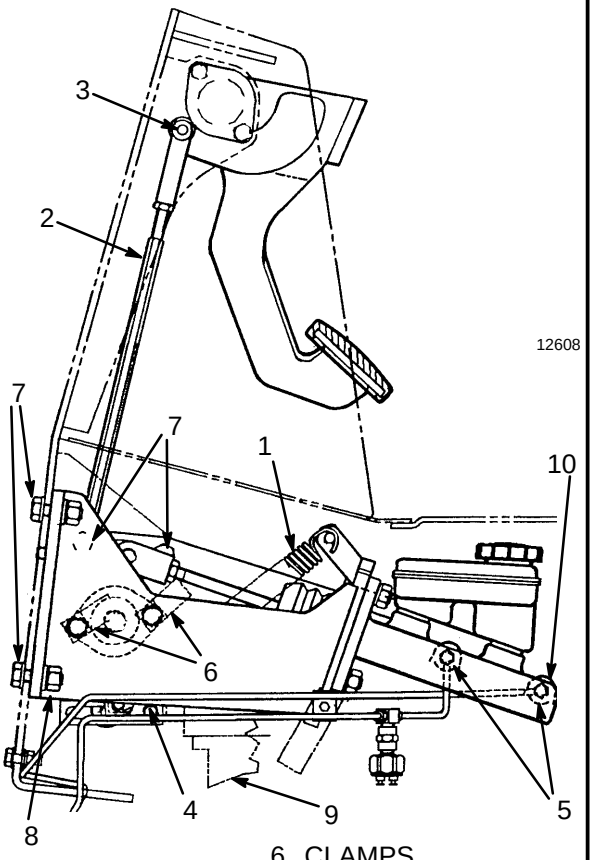
d. Disconnect the brake lines (5) at the master cylinder (10). Put plugs in the open ports and lines.

e. Remove the clamps (6) for the cable and harness from the bracket (8). Remove and then install the capscrew for one clamp before you remove the capscrew for the second clamp.

f. Remove the nuts and capscrews (7) that hold the bracket (8) to the frame. Remove the master cylinder assembly.

g. Move or remove the brake lines as necessary.

LIFT TRUCKS WITH SERIAL CODES B187 AND C187



1. SPRING
2. ROD
3. PIN
4. PIN
5. BRAKE LINES
6. CLAMPS
7. BOLT (4)
8. BRACKET
9. CONTROL VALVE, TRANSMISSION
10. MASTER CYLINDER

FIGURE 6. MASTER CYLINDER ASSEMBLY

6. Disconnect the electrical circuits between the engine and parts on the frame:

a. Disconnect the harness for engine wires at the connectors along the left side of the frame. Re-

move the clamp for the harness (A187) from the frame.

b. Disconnect the wire at the sender for fuel level on the tank (gas and diesel).

c. Disconnect the wire at the horn.

d. Disconnect the ignition wires.

Lift Trucks with serial codes A187: Disconnect the red wire from terminal 2 on the relay near the ignition coil. Also disconnect the green wires and the cable for high voltage at the ignition coil.

NOTE: Connect the green wires at the terminal on the side of the coil during assembly.

Lift Trucks with serial codes B187: Disconnect the three wires and the cable for high voltage at the ignition coil.

e. **Lift Trucks with serial codes A187 and equipped with MONOTROL:** Disconnect the harness for the switch on the parking brake.

f. **Diesel models only.** Disconnect the harness for the engine at the voltage regulator on the frame. Also disconnect the two wires at the bottom of the filter and water separator for fuel.

g. **GS, LPS and DS models only.** Disconnect the cable for the starter (and the battery cable on diesel trucks) at the battery disconnect switch on the frame.

Lift Trucks with serial codes A187: Disconnect the connectors between the battery disconnect switch and the harness for the alternator.

Lift Trucks with serial codes B187: Disconnect the orange and blue wires from the battery disconnect switch.

7. Disconnect the clevis for the throttle cable at the pedal lever. Loosen the jam nut that holds the throttle cable to the frame bracket and slide the throttle cable from the bracket. Also disconnect the cable for the choke or the diesel **STOP** control, as necessary

8. Disconnect the fuel line:

a. Close the shut–off valve at the tank.

b. Disconnect the fuel line at the filter (Mazda engine) or the fuel pump (GM engine) on the gas engine. On the diesel engine, disconnect the fuel lines at the fuel injection pump (B187) or the filter and the injection pump (A187).

NOTE: Do not disconnect a line for LPG fuel unless you have already disconnected the LPG tank to remove the counterweight. See COUNTERWEIGHT, Removal and Installation**.**

Disconnect the line for LPG fuel at the filter unit on the Mazda engine. On the GM engine, disconnect the vacuum, balance and low–pressure fuel lines at the carburetor. Also disconnect the coolant hoses for the vaporizer/regulator at the engine.

c. **Lift Trucks with serial codes B187, C187, and diesel engines:** Remove the fuel filter and bracket from the frame.

9. Disconnect and remove the exhaust pipe.

10. Drain the oil from the differential housing.

11. Put a sling under the transmission. Make sure that you do not damage the sender for transmission temperature. Connect a sling to the lifting eye at the end of the engine with the fan. Connect a lifting device to the slings. Make sure that the lifting device has a capacity of 450 kg (1000 lb).

12. Remove the bolts that hold the axle shafts in the housings. Slide the axle shafts out of the housings so that the shafts are disengaged from the differential.

13. Disconnect the clamp that holds the parking brake cable to the bottom of the housing for the torque converter.

14. Remove the bolts that fasten the transmission to the differential.

⚠ CAUTION

The plunger for the inching spool extends further from the transmission control valve when the linkage is disconnected. See FIGURE 8. The plunger can be easily damaged if it touches the frame during removal or installation of the engine and transmission.

15. Disconnect the engine mounts from the frame. Make sure that all of the lines, hoses, linkage, wires, and cables will not cause interference when the engine and transmission are removed. Carefully remove the engine and transmission from the frame.

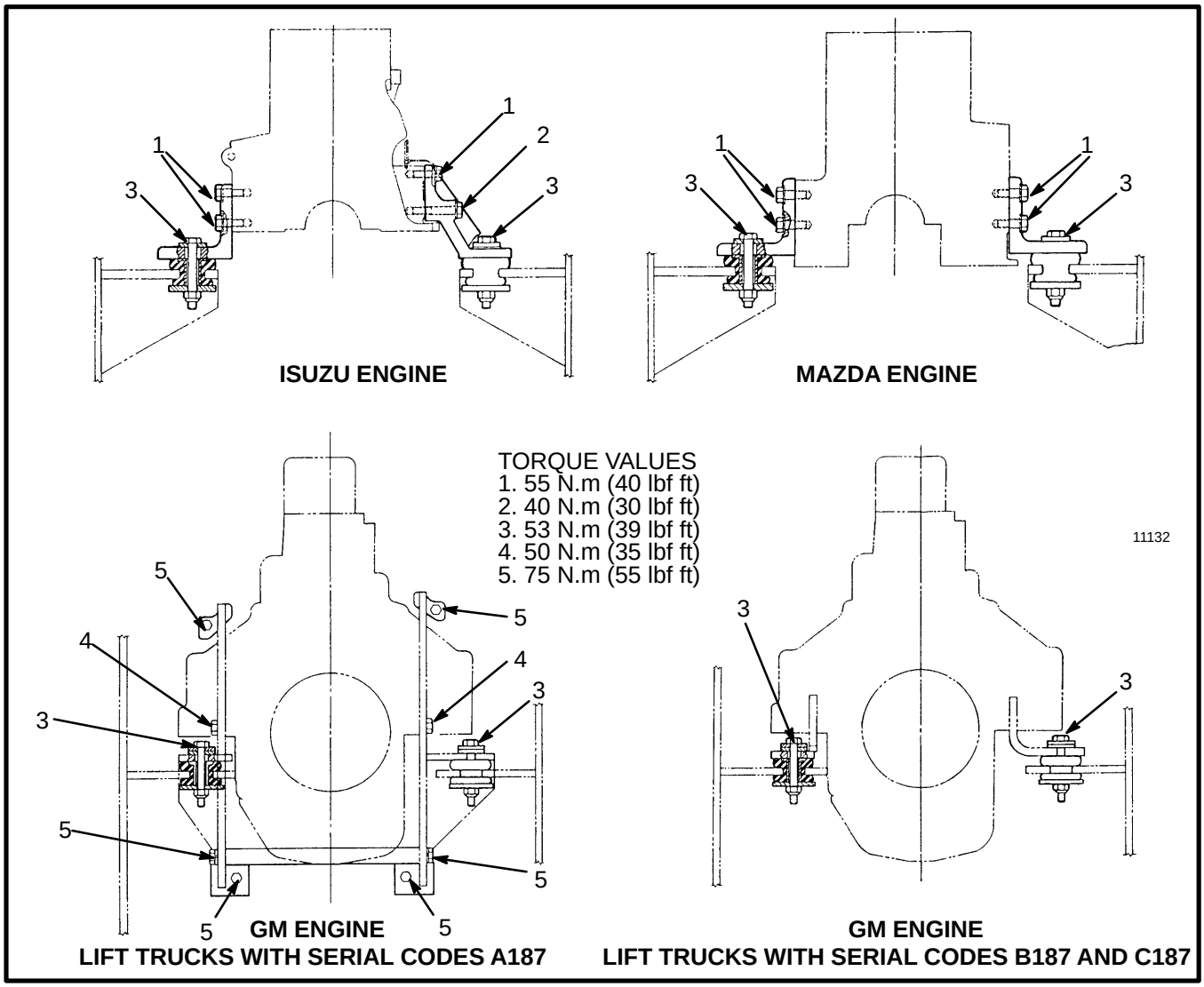


FIGURE 7. ENGINE MOUNTS

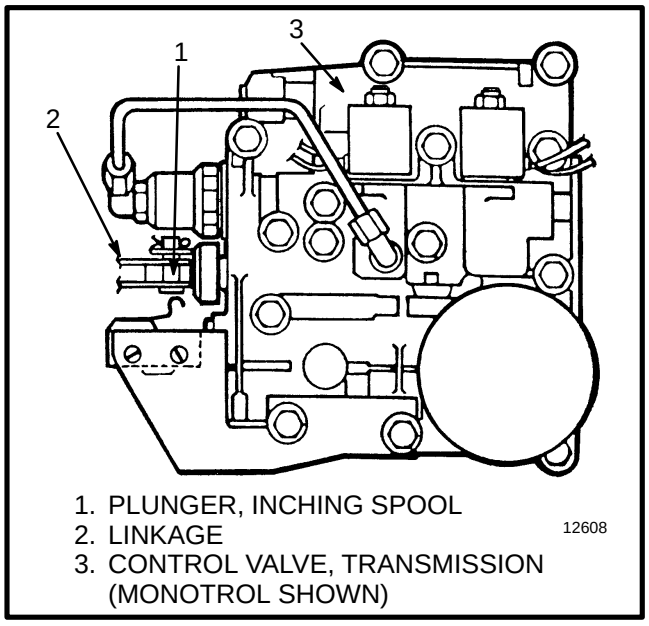


FIGURE 8. INCHING SPOOL

Installation of the Engine and Transmission

NOTE: Make the necessary electrical connections on the engine if the harness for engine wires was removed. The connections can include the ground, senders for coolant temperature and oil pressure, shut–off solenoid for fuel, alternator, distributor, starter, and glow plugs. See the section **DIAGRAMS**, **8000 SRM 261** for the electrical schematic.

1. Put a sling under the transmission. Make sure that you do not damage the sender for transmission temperature. Connect a sling to the lifting eye at the end of the engine with the fan. Connect a lifting device to the slings. Make sure that the lifting device has a capacity of 450 kg (1000 lb).

2. Clean the surfaces and apply liquid sealant to the area where the transmission fastens to the differential housing.

3. Carefully install the engine and transmission into the lift truck. Make sure that the lines, hoses, linkage, wires, and cables are not damaged during the installation. Make sure that you have correct alignment at the differential housing and the mounts for the engine.

4. Install the capscrews that fasten the transmission to the differential housing. Tighten the capscrews to 38 N.m (28 lbf ft).

5. Install the clamp and parking brake cable at the bottom of the housing for the torque converter.

6. Clean the surfaces and apply liquid sealant to the areas where the axle shafts fasten to the hubs. Engage the axle shafts in the differential. Install the capscrews that hold the shafts in the hubs. Tighten the capscrews to 90 N.m (65 lbf ft).

7. Install the bolts, washers and nuts to connect the engine mounts at the frame. See FIGURE 7. Install the clamps and hoses on the bolt for the left–hand engine mount.

8. Install the exhaust pipe.

9. Connect the fuel line to the engine. See Removal of the Engine and Transmission, Step 11, as necessary. If the lift truck has an LPG fuel system, install the LPG tank and bracket after the counterweight is installed.

NOTE: Assemble fittings that have pipe threads with sealant for threads (Hyster Part Number 246108) on LPG fuel systems. Test for leaks with a solution of soap and water when pressure in the system is at least 620 kPa (90 psi).

10. Connect the clevis for the throttle cable at the pedal lever. Slide the throttle cable into the bracket in the frame and tighten the jam nut that holds the throttle cable to the bracket. Also connect the cable for the choke or the diesel STOP control as necessary.

11. Connect the electrical circuits between the engine and parts on the frame. See Removal of the Engine and Transmission, Step 9, as necessary.

12. **Lift Trucks with serial codes A187:** Connect the linkage at the transmission control valve.

Lift Trucks with serial codes B187 and C187: See FIGURE 6. Use the following procedure to install the master cylinder assembly:

a. Put the master cylinder assembly in position on the frame. Install the capscrews (7), washers and nuts that hold the bracket (8).

b. Install the brake lines if the lines were removed. Connect the brake lines (5) at the master cylinder (10). Connect the wires for the switch on the left–hand brake line, as necessary.

c. Connect the link for the inching spool at the pin (4) in the spool. Make sure that the spring washer is installed between the flat washer and the link.

d. Connect the rod (2) at the pin (3) on the inching/brake pedal.

e. Install the springs (1) between the bracket and the linkage for the brakes.

f. Check the adjustment of the inching/brake pedal and remove air from the brake system. See the section **THE BRAKE SYSTEM, 1800 SRM 458**.

13. Connect the lines and hoses for the hydraulic system. See Removal of the Engine and Transmission, Step 7, as necessary.

14. Install the radiator. (See RADIATOR AND COOLANT SYSTEM, Installation.) Remove the lift truck from the blocks.

15. Install the overhead guard. If there are electric wires in the legs of the overhead guard, make sure that the wires are not damaged when the overhead guard is installed.

16. Install the counterweight. See COUNTERWEIGHT, Installation.

17. Install the hood and seat. Fasten the hinges to the frame. Connect the gas controlled spring.

18. Check and adjust linkages and controls as necessary. Install the front panel for the engine compartment and the floor plates.

19. See the section **PERIODIC MAINTENANCE, 8000 SRM 259** for information on the engine coolant, engine oil, hydraulic oil and oil for the differential. Connect the battery cables when the repairs are complete. Connect the cable for the positive terminal first.

FUEL AND HYDRAULIC TANKS

Inspection

Make a visual inspection of all sides of the tank. Inspect the welds for cracks and leakage. Check for wet areas, accumulation of dirt, and loose or missing paint caused by leakage. Areas of the tank that are not easily seen can be checked with an inspection mirror and a light that is approved for locations with flammable vapors.

Repairs, Small Leaks

Use the following procedure to repair small leaks:

a. Use steam to clean the area around the leak. Remove all paint and dirt around the leak.

⚠ WARNING

Do not use tools that can make sparks, heat or static electricity. The vapors in the tank can cause an explosion.

b. Apply Loctite® 290 to the leak. Follow the instructions of the manufacturer.

Repairs, Large Leaks

1. Use one of the procedures described under **Cleaning** to clean and prepare the tank for repairs.

2. Use acceptable welding practices to repair the tank. See the American National Standard *Safety In Welding And Cutting* ANSI Z 49.1 – 1973.

Cleaning

⚠ WARNING

Special procedures must be followed when large leaks or other repairs need welding or cutting. All work must be done by authorized personnel. If the tank is cleaned inside of a building, make sure there is enough ventilation. See the following manuals for additional information:

- **Safe Practices For Welding And Cutting Containers That Have Held Combustibles" by the American Welding Society, A6.0–65.**
- **Safety In Welding And Cutting", American National Standard, ANSI Z 49.1 – 1973.**

When cleaning the tank, do not use solutions that make dangerous gases at normal temperatures or when heated. Wear eye and face protection. Protect the body from burns.

When cleaning with steam, use a hose with a minimum diameter of 19 mm (0.75 inch). Control the pressure of the steam by a valve installed at the nozzle of the hose. If a metal nozzle is used, it must be made of a material that does not make sparks. Make an electrical connection between the nozzle and the tank. Connect a ground wire to the tank to prevent static electricity.

Steam Method Of Cleaning

Use the following procedure to clean the tank with steam:

a. Remove all the parts from the tank. Install the drain plug.

b. Fill the tank 1/4 full with a solution of water and sodium bicarbonate or sodium carbonate. Mix 0.5 kg (1 lb) per 4 litres (1 gal) of water.

c. Mix the solution in the tank using air pressure. Make sure all the surfaces on the inside of the tank are flushed with the solution. Drain the tank.

d. Put steam into the tank until the tank does not have odors and the metal is hot. Steam vapors must come from all the openings.

e. Flush the inside of the tank with boiling water. Make sure all the loose material is removed from the inside of the tank.

f. Make an inspection of the inside of the tank. If it is not clean, repeat steps 4 and 5 and make another inspection. When making inspections, use a light that is approved for locations with flammable vapors.

g. Put plugs in all the openings in the tank. Wait 15 minutes, then remove the inlet and outlet plugs. Test a sample of the vapor with a special indicator for gas vapors. If the amount of flammable vapors is above the lower flammable limit, repeat the cleaning procedures.

Chemical Solution Method of Cleaning

If the tank cannot be cleaned with steam, use the following procedure:

a. Mix a solution of water and trisodium phosphate or a cleaning compound with an alkali base. Follow the instructions given by the manufacturer.

b. Fill the tank with the cleaning solution. Use compressed air to mix the solution in the tank.

c. Drain the tank. Flush the inside of the tank with hot (boiling) water. Make sure all the cleaning compound is removed.

d. Make an inspection of the inside of the tank. If the tank is not clean, repeat steps 1 through 3. Make another inspection of the tank. When making inspections, use a light that is approved for locations with flammable vapors.

e. Check the tank for flammable vapors using special indicator for gas vapors. If the amount of flammable vapors is not below the lower flammable limit, repeat the cleaning procedures.

Other Methods Of Preparation For Repair

If nitrogen gas or carbon dioxide gas is available, prepare the tank for welding using these gases. See the manual *Safe Practices For Welding and Cutting Containers That Have Held Combustibles* by the American Welding Society, A6.0–65. If these gases are not available, another method using water can be used as follows:

a. Fill the tank with water to just below the point where the work will be done. Make sure the space above the level of the water has a vent.

b. Use acceptable welding practices to repair the tank. See the American National Standard "Safety in Welding and Cutting," ANSI Z 49.1 – 1973.

SAFETY LABELS (See FIGURE 9.)

⚠ WARNING

Safety labels are installed on the lift truck to give information about operation and possible hazards. It is important that all safety labels are installed on the lift truck and can be read.

DO NOT add to or modify the lift truck. Any change to the lift truck, the tires or its equipment can change the lifting capacity. The lift truck must be rated as equipped and the nameplate must show the new capacity rating. Contact your dealer for Hyster lift trucks for a replacement nameplate.

If necessary, install new and correct labels as follows:

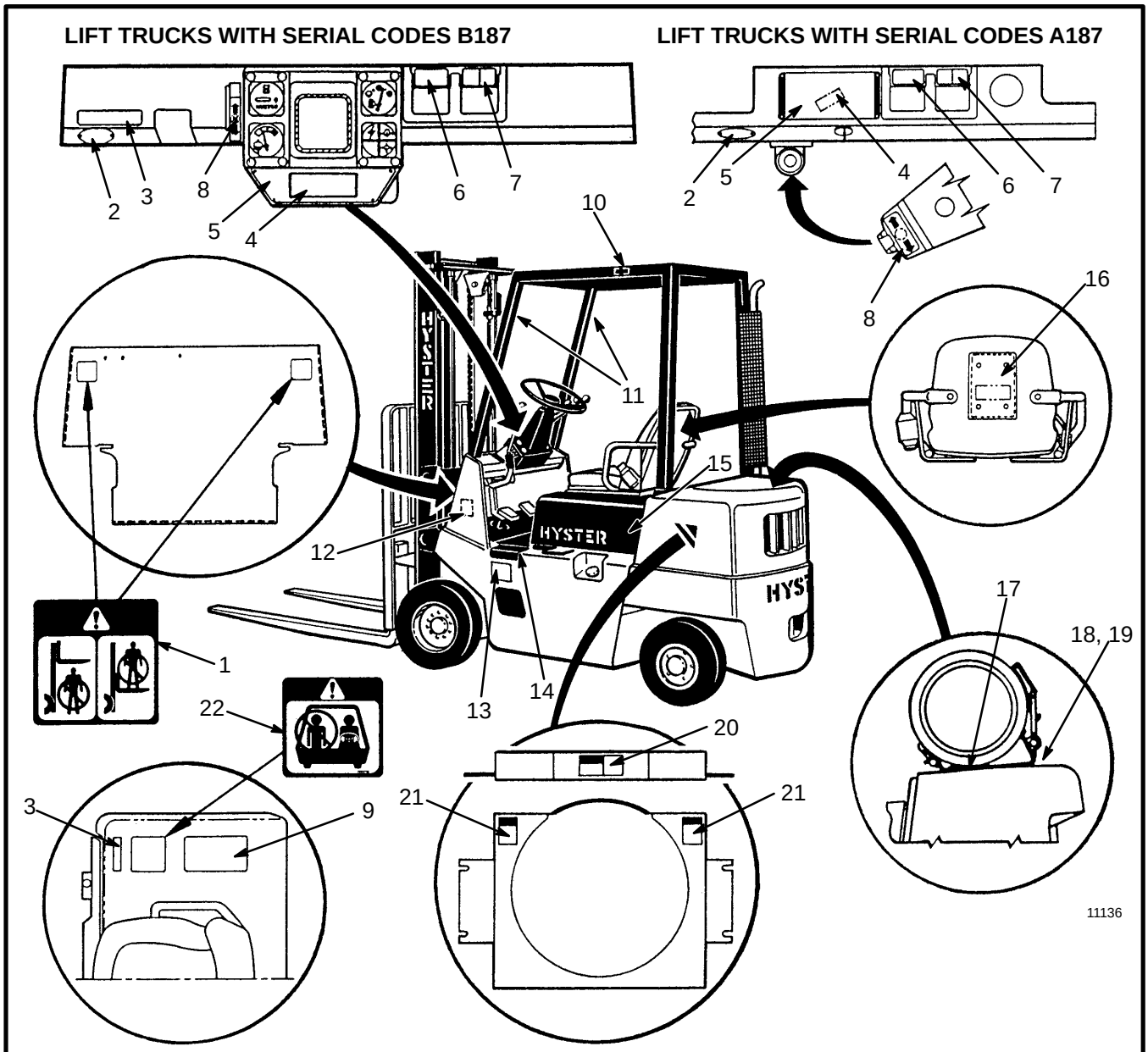
⚠ WARNING

Cleaning solvents can be flammable and toxic, and can cause skin irritation. When using cleaning solvents, always follow the recommendations of the manufacturer.

a. Make sure the surface is dry and has no oil or grease. Do not use solvent on new paint. Clean the surface of old paint with a cleaning solvent.

b. Remove the paper from the back of the label. Do not touch the adhesive surface.

c. Carefully hold the label in the correct position above the surface. The label cannot be moved after it touches the surface. Put the label on the surface. Make sure that all air is removed from under the label and the corners and edges are tight.



1. UPRIGHT SAFETY (2)
2. INSPECTION PLATE, UL
3. PARKING BRAKE WARNING
4. NOTICE TO USER
5. NAMEPLATE
   (INFORMATION MUST BE COMPLETE)
6. LIFT AND TILT CONTROLS
7. AUXILIARY FUNCTIONS
8. FORWARD AND REVERSE
9. WARNING FOR SAFETY
10. IMPACT TEST PLATE, OVERHEAD GUARD
11. OPERATOR RESTRAINT (FOR EQUIPPED UNITS)
    OR TIPOVER WARNING FOR OTHER UNITS
12. PATENT LABEL (INSIDE, LEFT)
13. FIRE SAFETY, UL (2) (U.S. ONLY)
14. TREAD
15. MODEL LABEL (2)
16. CASE, OPERATING MANUAL
17. NAMEPLATE, LPG TANK
    (U.S. AND CANADA)
18. FLAMMABLE, LP GAS
19. LABEL, LPG TANK INDENTIFIER
    (U.S. AND CANADA)
20. INSTALL COVER AND FAN WARNING
21. FAN WARNING
22. “NO RIDERS” LABEL

FIGURE 9. LABEL POSITIONS

NOTES