

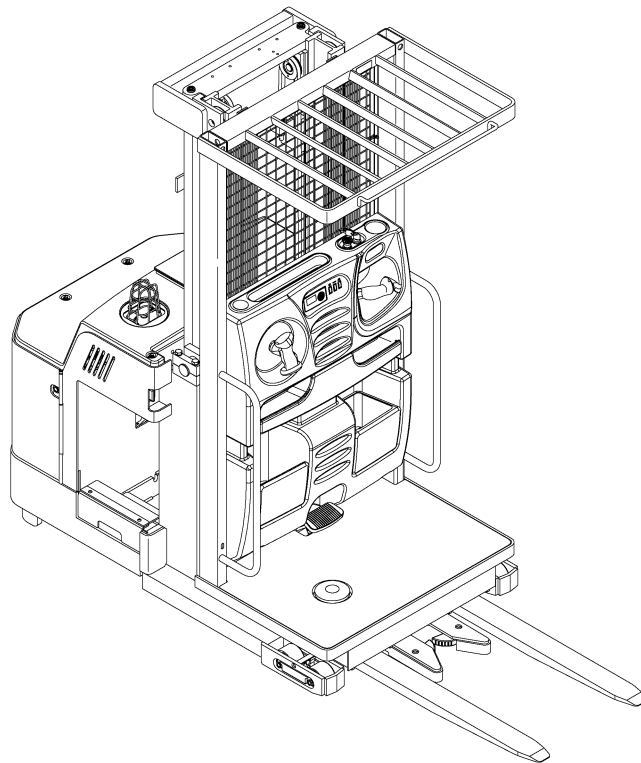
SS030BF (A474), FS030BF (A497), OS030EF (D801), OS030BF (E826) SERVICE MANUAL CONTENTS

| SECTION | PART NUMBER | YRM NUMBER | REV DATE |
|--|----------------|---------------|-------------|
| FRAME..... | 524163979 | 0100 YRM 0760 | 01/12 |
| DC MOTOR MAINTENANCE..... | 524158039 | 0620 YRM 0294 | 03/08 |
| AC MOTOR REPAIR..... | 550032942 | 0620 YRM 1461 | 01/12 |
| A/C MOTOR REPAIR S/N A474N03000L=> S/N A497N030000L=> S/N D801N02161L=> S/N E826N01917L=>..... | 550073166 | 0620 YRM 1621 | 02/14 |
| MASTER DRIVE UNIT..... | 550032941 | 0630 YRM 1460 | 01/12 |
| MASTER DRIVE UNIT S/N D801N03000L=> S/N A474N03000L=> S/N A497N030000L=> S/N E826N03000L=>..... | 550073167 | 0630 YRM 1609 | 06/14 |
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| HYDRAULIC SYSTEM [D801 (OS030EF)]..... | 550032945 | 1900 YRM 1464 | 08/14 |
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| WIRE DRIVER MANUAL..... | 520371765 | 2200 YRM 1229 | 01/12 |
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| WIRE GUIDANCE..... | 550032952 | 2200 YRM 1471 | 05/13 |
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| INDUSTRIAL BATTERY..... | 524158040 | 2240 YRM 0001 | 09/14 |
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FRAME

ORDER SELECTOR

**SS030BF [A474]; FS030BF [A497];
OS030EC [C801]; OS030EF [D801];
OS/SS030BE [D826]; OS030BF [E826]**



SAFETY PRECAUTIONS

MAINTENANCE AND REPAIR

- When lifting parts or assemblies, make sure all slings, chains, or cables are correctly fastened, and that the load being lifted is balanced. Make sure 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 CONNECTOR before doing any maintenance or repair on electric lift trucks. Disconnect the battery ground cable 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 clean and the working area clean and orderly.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use **YALE APPROVED** parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a DO NOT OPERATE tag to the controls of the unit when making repairs, or if the unit needs repairs.
- Be sure to follow the **WARNING** and **CAUTION** notes in the instructions.
- Gasoline, Liquid Petroleum Gas (LPG), Compressed Natural Gas (CNG), and Diesel fuel are flammable. Be sure to follow the necessary safety precautions when handling these fuels and when working on these fuel systems.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

NOTE: The following symbols and words indicate safety information in this manual:



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury and property damage.

On the lift truck, the WARNING symbol and word are on orange background. The CAUTION symbol and word are on yellow background.

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This section is for the following models:

SS030BF [A474];
FS030BF [A497];
OS030EC [C801];
OS030EF [D801];
OS/SS030BE [D826];
OS030BF [E826]

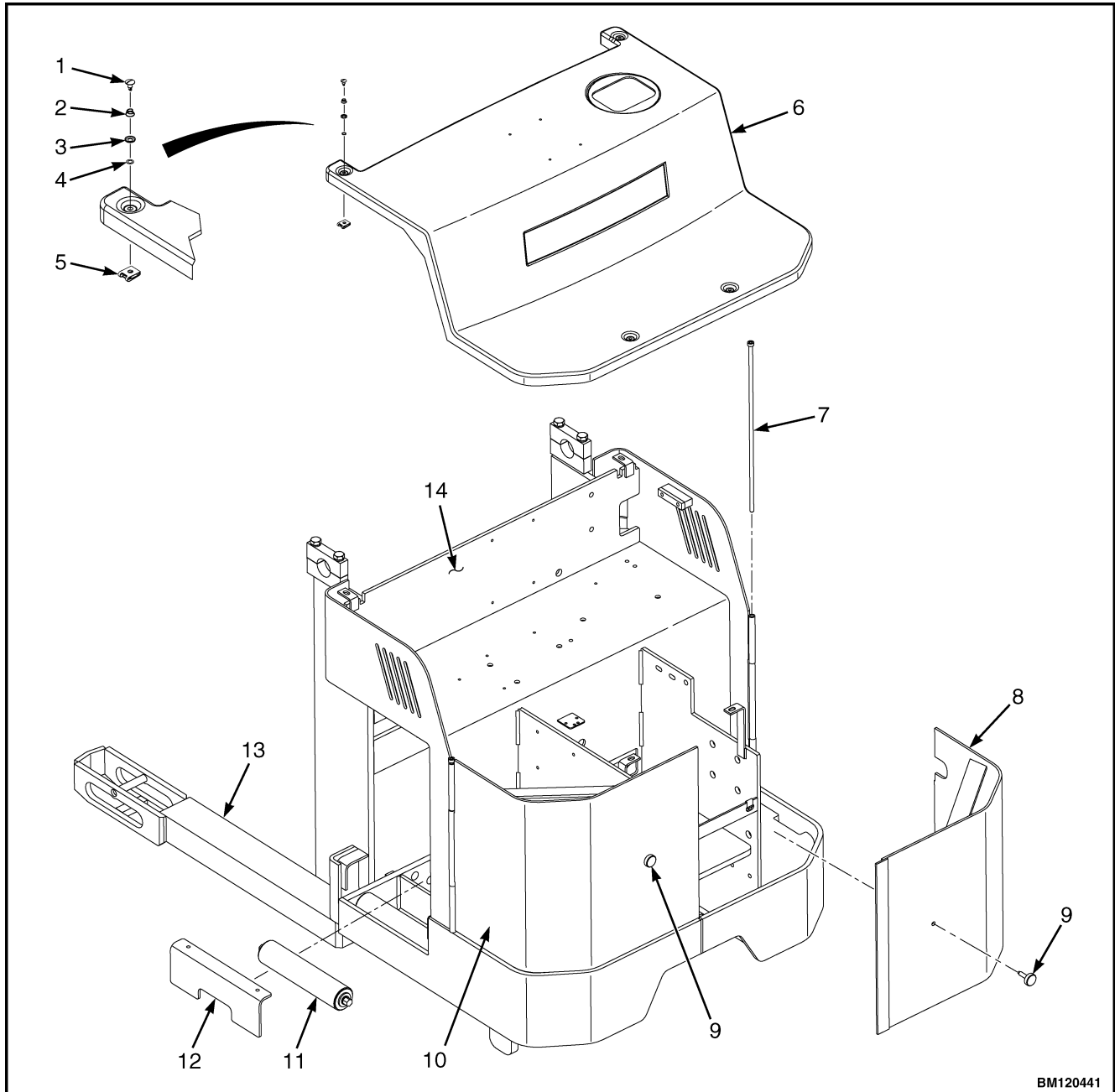
General

This manual has the description for the parts of the frame. Parts include the frame weldment, doors, battery rollers, covers, casters, caster wheels and battery

panels. The outer channel of the upright is part of the lift truck frame. The base arms are part of the weldment for the outer channel of the upright.

Description

The frame has mounts for the upright assembly, steering system, electrical system, hydraulic system, doors, access panels, and covers. See Figure 1.



BM120441

Figure 1. Frame (FS030BF, OS030BE, OS030BF, OS030EC, and OS030EF)

Legend for Figure 1

- | | |
|------------------|--|
| 1. STUD | 9. THUMB SCREW |
| 2. SPRING | 10. LH DOOR |
| 3. CUPPED WASHER | 11. BATTERY ROLLER |
| 4. RETAINER | 12. BATTERY PANEL |
| 5. NUT | 13. BASE ARM WELDMENT (OS030BE, OS030BF, OS030EC, AND OS030EF SHOWN) |
| 6. COVER | 14. FRAME WELDMENT |
| 7. HINGE PIN | |
| 8. RH DOOR | |

Frame Repair

REMOVE AND DISASSEMBLE

WARNING

Forklift truck frames and components may have polyurethane paint. Welding, burning, or other heat sufficient to cause thermal decomposition of the paint may release isocyanates. These chemicals are allergic sensitizers to the skin and respiratory tract; overexposure may occur without odor warning. Should work be performed, utilize good industrial hygiene practices, including removal of all paint (prime and finish coats) to the metal around the area to be welded, local ventilation, and/or supplied-air respiratory protection.

There is very little repair required on the frame. See Figure 1. Most repairs can be done by removing the necessary system parts. Refer to the section for the system that must be removed. To separate the frame weldment from the upright weldment, see the section **Mast, Repair** 4000 YRM 764. To replace the load wheels in the load arms, see the section **Periodic Maintenance** 8000 YRM 924 or **Periodic Maintenance** 8000 YRM 1472.

COVERS, PANELS, AND PLATES

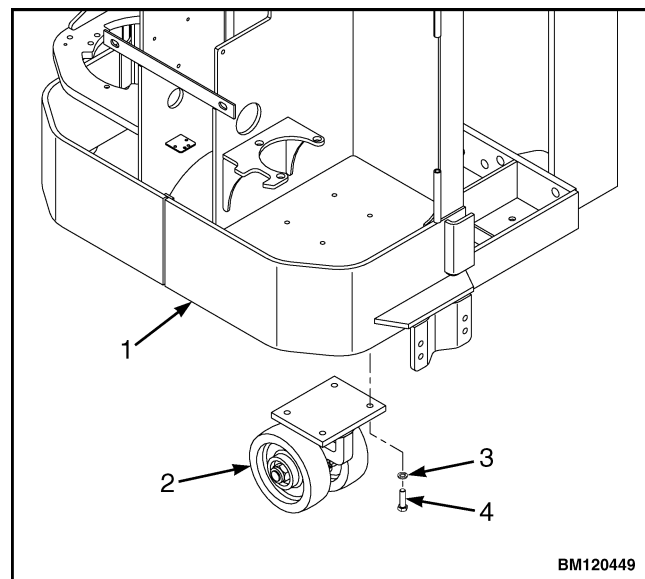
The special plastic covers that protect the parts can be removed by removing the screws that fasten them. See Figure 1. There is one cover over the main frame weldment. Two doors provide access to the electrical and hydraulic compartments. The panels at each end of the battery compartment can be removed by lifting them straight up and out of the slots in the frame.

CASTER AND CASTER WHEELS

Description

The caster is one support for the front of the lift truck and is under the hydraulic compartment. See Figure 2.

The drive wheel of the master drive unit is the other support for this end of the lift truck. The axle of the caster is an articulated axle. The articulated axle permits both wheels of the caster to always have equal weight. This allows for better operation and wear. The caster is fastened to the frame weldment by four capscrews and lockwashers. The complete caster can be replaced as a unit, or the wheels can be replaced. Always replace the wheels as a set for better caster operation and wheel wear. A single new wheel of the set will wear rapidly.



1. FRAME WELDMENT
2. CASTER ASSEMBLY
3. LOCKWASHER
4. CAPSCREW

Figure 2. Caster (SS030BE and SS030BF)

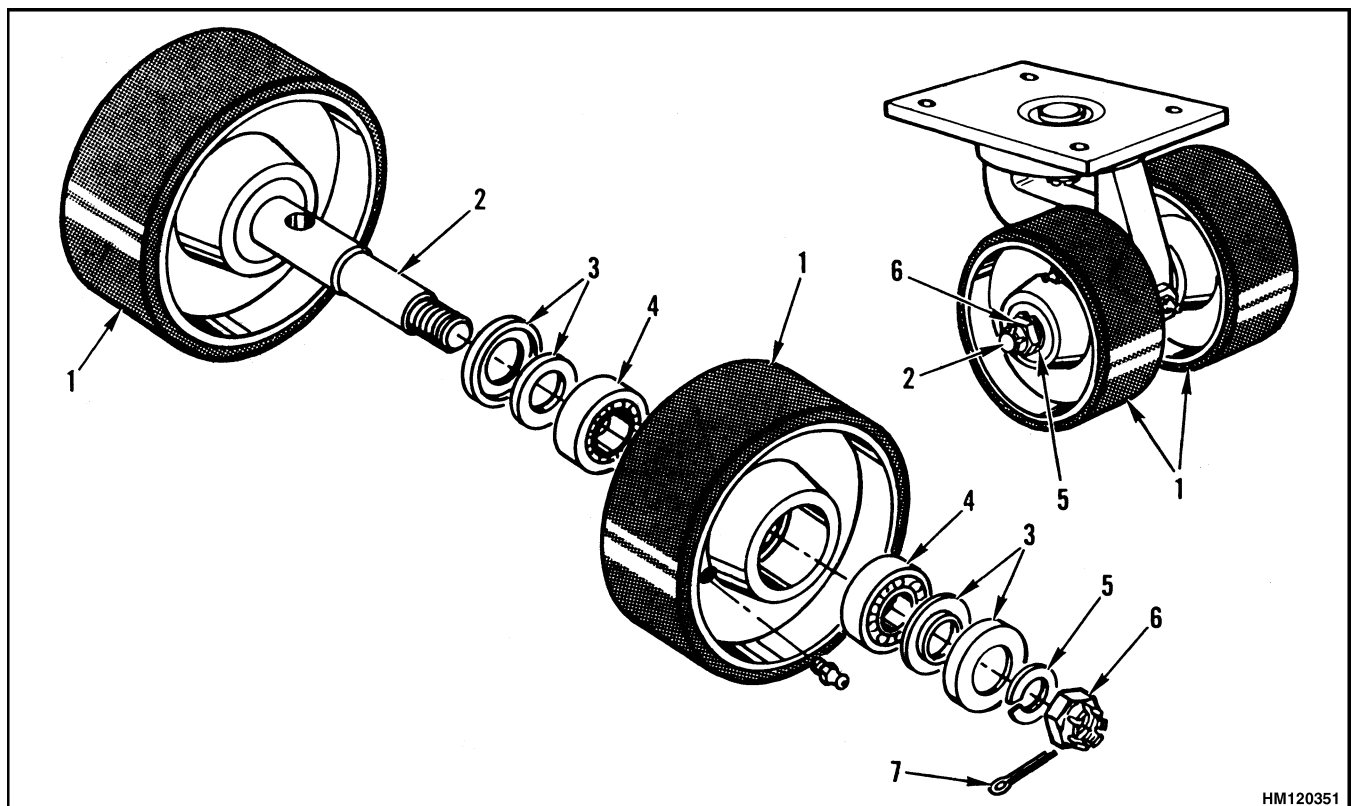
Caster, Replace

1. Put the rear of the lift truck on blocks. See How to Put Lift Truck on Blocks in the section **Periodic Maintenance** 8000 YRM 924 or **Periodic Maintenance** 8000 YRM 1472.
2. Remove the four capscrews and lockwashers that fasten the plate of the caster to the frame weldment. Remove the caster. See Figure 2.
3. Install the replacement caster using the capscrews and lockwashers. Tighten the capscrews to 68 N•m (50 lbf ft).

Caster Wheels, Replace

NOTE: Always replace the wheels as a set. Replacing only one wheel causes more wear on the new wheel. The caster also will not operate correctly, causing more wear or caster damage.

1. Put the rear of the lift truck on blocks. See How to Put Lift Truck on Blocks in the section **Periodic Maintenance** 8000 YRM 924 or **Periodic Maintenance** 8000 YRM 1472.
2. Remove the cotter pin, axle nut, lockwasher, and guard washers at each caster wheel. Remove each caster wheel. See Figure 3.
3. Completely fill new bearings with the grease shown in the **Maintenance Schedule** of the section **Periodic Maintenance** 8000 YRM 924 or **Periodic Maintenance** 8000 YRM 1472. Install the bearings in the replacement wheels.
4. Install the guard washers on both sides of the bearing on each wheel. Install the wheel, lockwasher, and nut. Rotate each wheel as you tighten the nut. Tighten each nut to remove all clearance. There will be a resistance to rotation of the wheel. Install a new cotter pin.



- | | |
|------------------|---------------|
| 1. CASTER WHEEL | 5. LOCKWASHER |
| 2. AXLE | 6. NUT |
| 3. GUARD WASHERS | 7. COTTER PIN |
| 4. BEARING | |

Figure 3. Caster Wheels

Painting Instructions



WARNING

To avoid personal injury, always use solvents and paints in an area with ventilation. Do not use solvents or paints near heat, fire, or electrical equipment that can make sparks. Follow the manufacturer's instructions and cautions.



CAUTION

Do not paint the pads, plastic covers, knobs, cables, decals, information plates, or controls.

1. Remove all dirt, soil, and grease from the surface to be painted. Clean the area to be painted with a solvent for painted surfaces. Do not use solvent on new paint.
2. Use sandpaper to remove the top surface of the paint and rust from the metal. All metal surfaces where the paint is completely removed must be primed. Apply a primer and allow to dry before applying the coat of paint.
3. Protect all surfaces that will not be painted.
4. Paint the surfaces. Use the correct **Yale** paint. Follow the directions on the container. Contact your **Yale** dealer for the correct arrangement of the paint colors.

Label Replacement



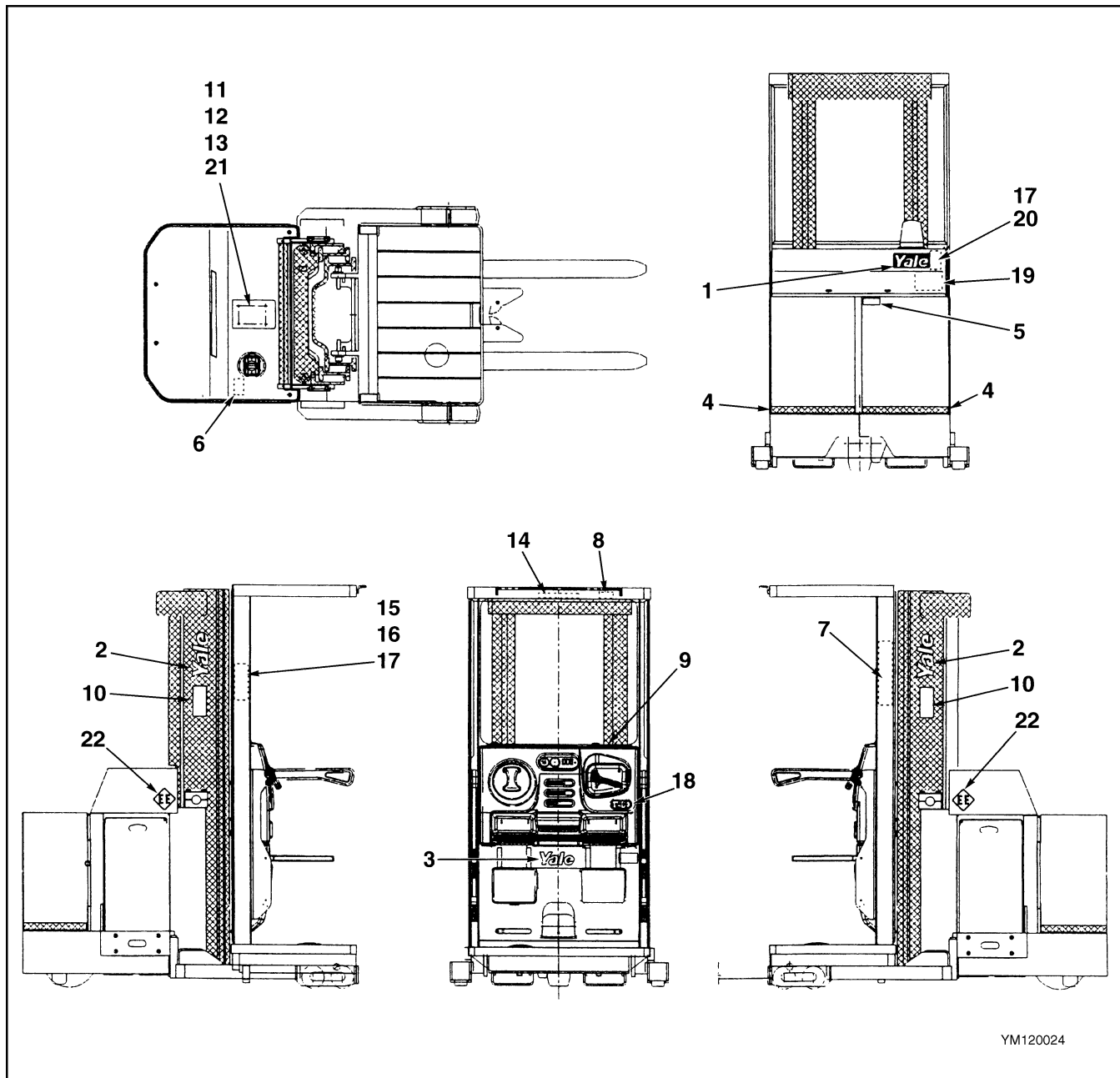
WARNING

To avoid personal injury or property damage, labels that have warnings or instructions that are damaged must be replaced immediately.

If the labels or information plates are missing or have damage, they must be replaced. See Figure 4 or Figure 5 for label and plate locations.

NOTE: The nameplate is installed using rivets. The old rivets must be removed before installing a new nameplate or to change the nameplate information.

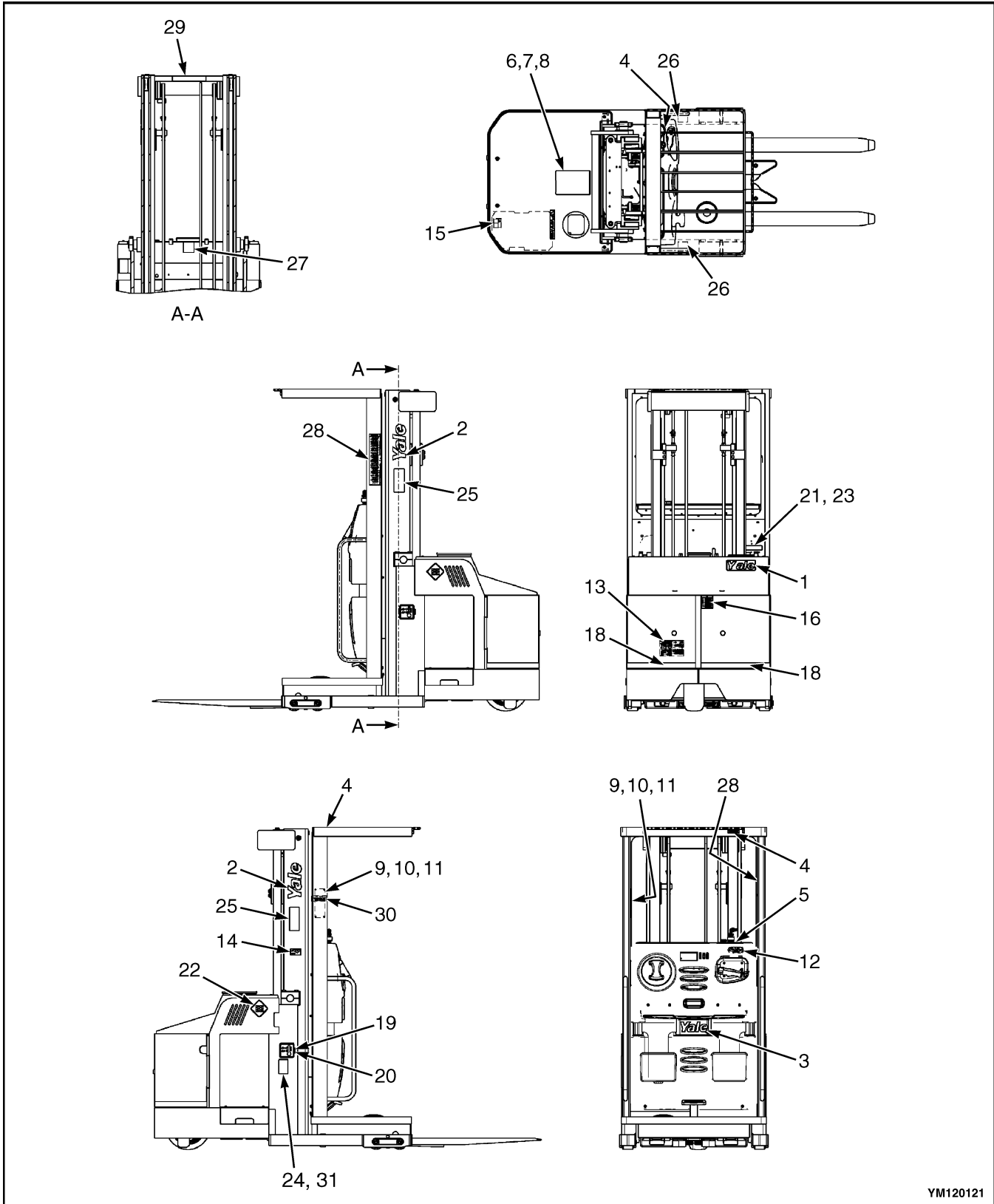
1. Make sure the surface is dry and has no oil or grease. Do not use solvent on new paint. Clean the surface of old paint using a cleaning solvent.
2. Remove the paper from the back of the label. Do not touch the adhesive surface.
3. Carefully hold the label in the correct position above the surface. Install the label in the correct position on the surface. Make sure all air is removed from under the label and the corners and edges are tight.



YM120024

- | | |
|---------------------------------|----------------------------------|
| 1. YALE NAMEPLATE | 12. COVER |
| 2. YALE LABEL | 13. RIVET |
| 3. YALE LABEL | 14. MAST WARNING LABEL |
| 4. ACCENT STRIPE LABEL | 15. CAPACITY NAMEPLATE |
| 5. MANUAL LOWERING LABEL | 16. COVER |
| 6. MANUAL LOWERING LABEL | 17. RIVET |
| 7. OPERATOR WARNING LABEL | 18. MULTIFUNCTION CONTROL LABEL |
| 8. OVERHEAD GUARD WARNING PLATE | 19. PATENTS AND TRADEMARKS LABEL |
| 9. IGNITION SWITCH LABEL | 20. UL PLATE |
| 10. FORK WARNING LABEL | 21. OPERATING MANUAL |
| 11. BASE | 22. EE LABEL |

Figure 4. Decal and Plate Location (OS030EC and OS/SS/FS030BE)



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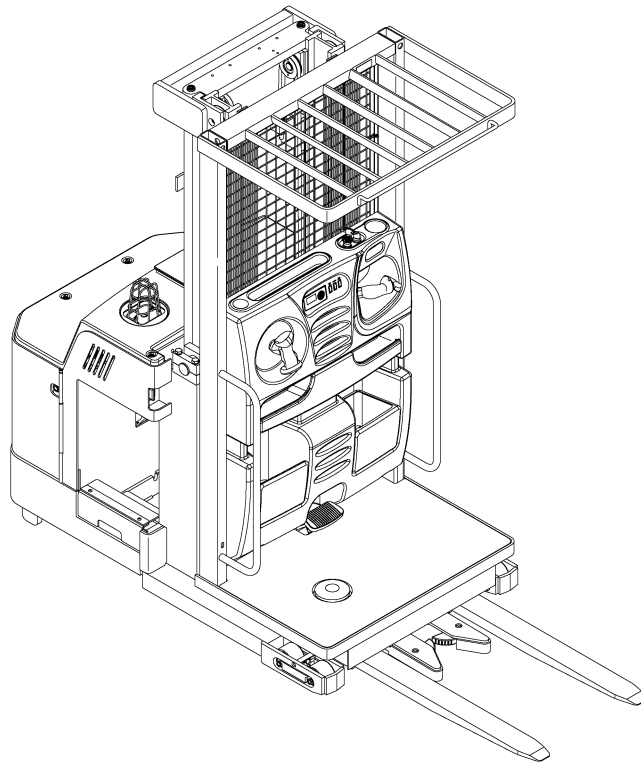
Figure 5. Decal and Plate Location (FS030BF, OS030BF, OS030EF, and SS030BF)

Legend for Figure 5

1. NAMEPLATE
2. YALE DECAL
3. YALE DECAL
4. IMPACT RATING PLATE
5. KEY SWITCH LABEL
6. INFO CASE BASE
7. INFO CASE COVER
8. RIVET
9. CAPACITY NAMEPLATE
10. NAME PLATE COVER
11. RIVET
12. MULTI FUNCTION CONTROL LABEL
13. PATENTS AND TRADEMARKS LABEL
14. GREENVILLE MANUFACTURING LABEL
15. MANUAL LOWERING VALVE LABEL
16. MANUAL LOWERING VALVE LOCATION LABEL
17. INSTRUMENT PANEL LABEL
18. ACCENT STRIPE LABEL
19. COLD STORAGE LABEL
20. SUBZERO LABEL
21. U.L. INSPECTION LABEL
22. EE IDENTIFICATION MARKER
23. BATTERY NOTICE LABEL
24. MAST WARNING LABEL
25. PINCH POINT LABEL
26. MAST WARNING LABEL
27. OPERATOR WARNING LABEL
28. WARNING LABEL
29. NAMEPLATE TAG LABEL
30. MAINTENANCE FREE INSTRUCTIONS LABEL

BRAKE SYSTEM

SS030BF [A474]; FS030BF [A497];
OS030EF [D801]; OS030BF [E826]



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for your reading.**

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