

SERVICE REPAIR

MANUAL

Hyster A499 (C60XT2 C80XT2) Forklift

HYSTER

FRAME

**W/B40CL (C135), W/B40-60XL (D135),
W40XT (A218), W45XT (B215),
W60-80XT (E135), B/C60-80XT (B199)
C60-80XT2 (A499), CA60-80XT (A498),
T5XT (E142), W20-40XTA (A453),
W20-40XTC (A454), W20-30XTR (A455)
B60Z (A230), W60Z, (A231)**

HYSTER

SAFETY PRECAUTIONS

MAINTENANCE AND REPAIR

- When lifting parts or assemblies, make sure that all slings, chains, and 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 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 and working area clean and in order.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use **HYSTER APPROVED** parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure that all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a **DO NOT OPERATE** sign to the controls of the unit when making repairs or if the unit needs repairs.
- Make sure you follow the **WARNING** and **CAUTION** notes in the instructions.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

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This section is for the following models:
W/B40CL, W/B40-60XL, W40XT, W45XT,
W60-80XT, B/C60-80XT, C60-80XT2, CA60-80XT,
T5XT, W20-40XTA, W20-40XTC,
W20-30XTR, W60Z, B60Z

**"THE
QUALITY
KEEPERS"**

**HYSTER
APPROVED
PARTS**

**Thanks very much for your reading,
Want to get more information,
Please click here, Then get the complete
manual**

JustClickHere 

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please download the PDF document first, and then
click on it.**

**Have any questions please write to me:
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INTRODUCTION

GENERAL

See Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, Figure 6, and Figure 7.

This section describes the parts of the frame. Low lift walkie and low lift walkie rider models have a main frame weldment and a fork frame weldment. High lift walkie models have a main frame weldment and a mast weldment. The T5XT model consists of a single frame weldment. There is no disassembly for the frame or fork weldments as each weldment is a single piece.

On the low lift walkie and low lift walkie rider models, the lifting mechanism parts join the two weldments together. To separate the two weldments, see the section **LIFTING MECHANISM, 4000 SRM 510** for W40XT and W45XT, **LIFTING MECHANISM, 4000 SRM 281** for W40-60XL and W40CL and **LIFTING MECHANISM, 4000 SRM 536** for W/B/C60-80XT, CA60-80XT/XT2, W60Z, and B0Z.

This section includes the description and repair procedures for standard and optional casters.

DESCRIPTION

The main frame has mounts for: the lifting mechanism, the electrical system parts, the hydraulic pump assembly, and the master drive unit (MDU). There is also a mount for the casters (if equipped). The mounting holes for the casters are in the main frame weldment. Repair procedures for major systems/parts that fasten to the main frame are found in separate SRM sections.

Models with a fork frame weldment have mounts for the lifting mechanism. The fork frame weldment is fastened to the main frame by the links of the lifting mechanism. The forks lift to raise the load. The battery end of the weldment is lifted by the cylinder. The fork tips are lifted the same amount by linkage operating the load wheel assemblies.

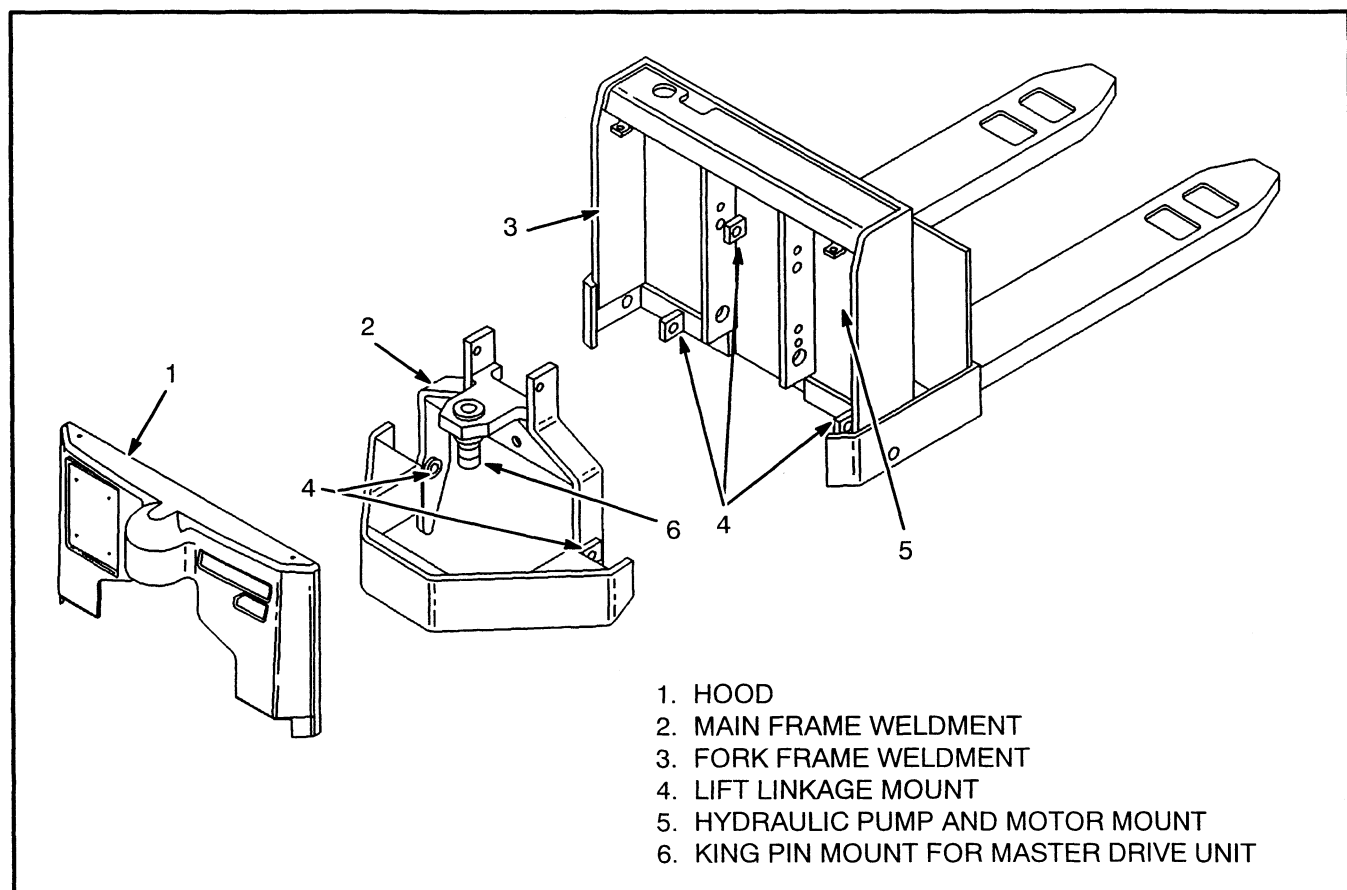
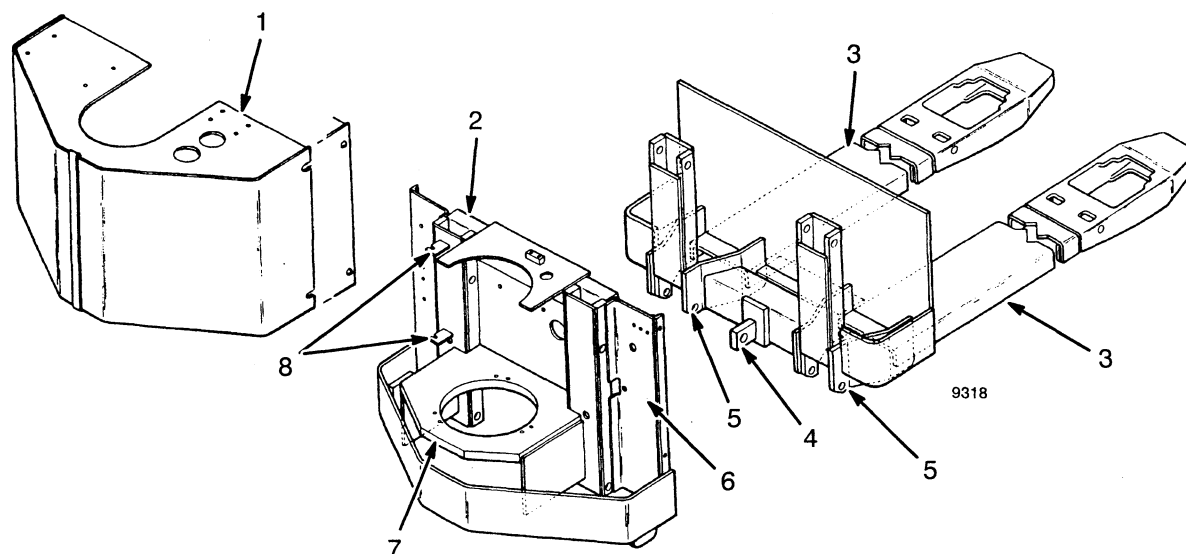
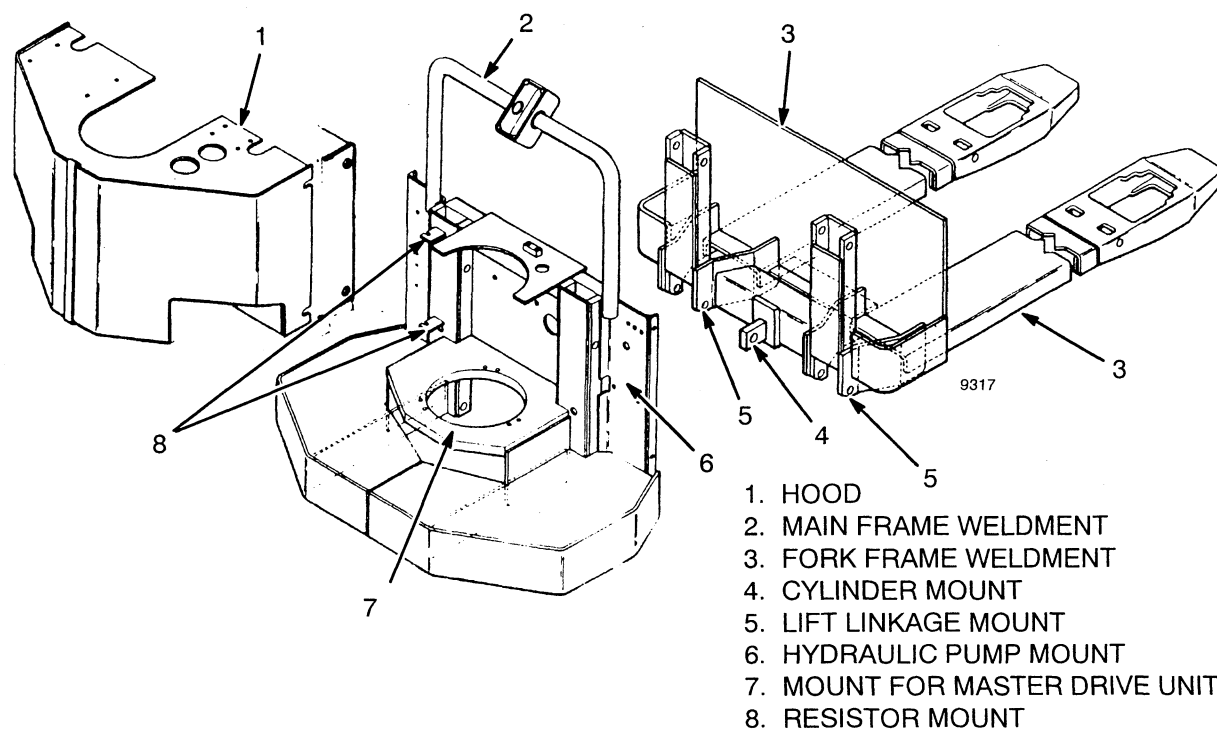


FIGURE 1 - FRAME WELDMENT - W40XT, W45XT



- | | |
|------------------------|--------------------------------|
| 1. HOOD | 5. LIFT LINKAGE MOUNT |
| 2. MAIN FRAME WELDMENT | 6. HYDRAULIC PUMP MOUNT |
| 3. FORK FRAME WELDMENT | 7. MOUNT FOR MASTER DRIVE UNIT |
| 4. CYLINDER MOUNT | 8. RESISTOR MOUNT |

FIGURE 2 - FRAME WELDMENT - W40-60XL, W40CL



- | |
|--------------------------------|
| 1. HOOD |
| 2. MAIN FRAME WELDMENT |
| 3. FORK FRAME WELDMENT |
| 4. CYLINDER MOUNT |
| 5. LIFT LINKAGE MOUNT |
| 6. HYDRAULIC PUMP MOUNT |
| 7. MOUNT FOR MASTER DRIVE UNIT |
| 8. RESISTOR MOUNT |

FIGURE 3 - FRAME WELDMENT - B40-60XL, B40CL

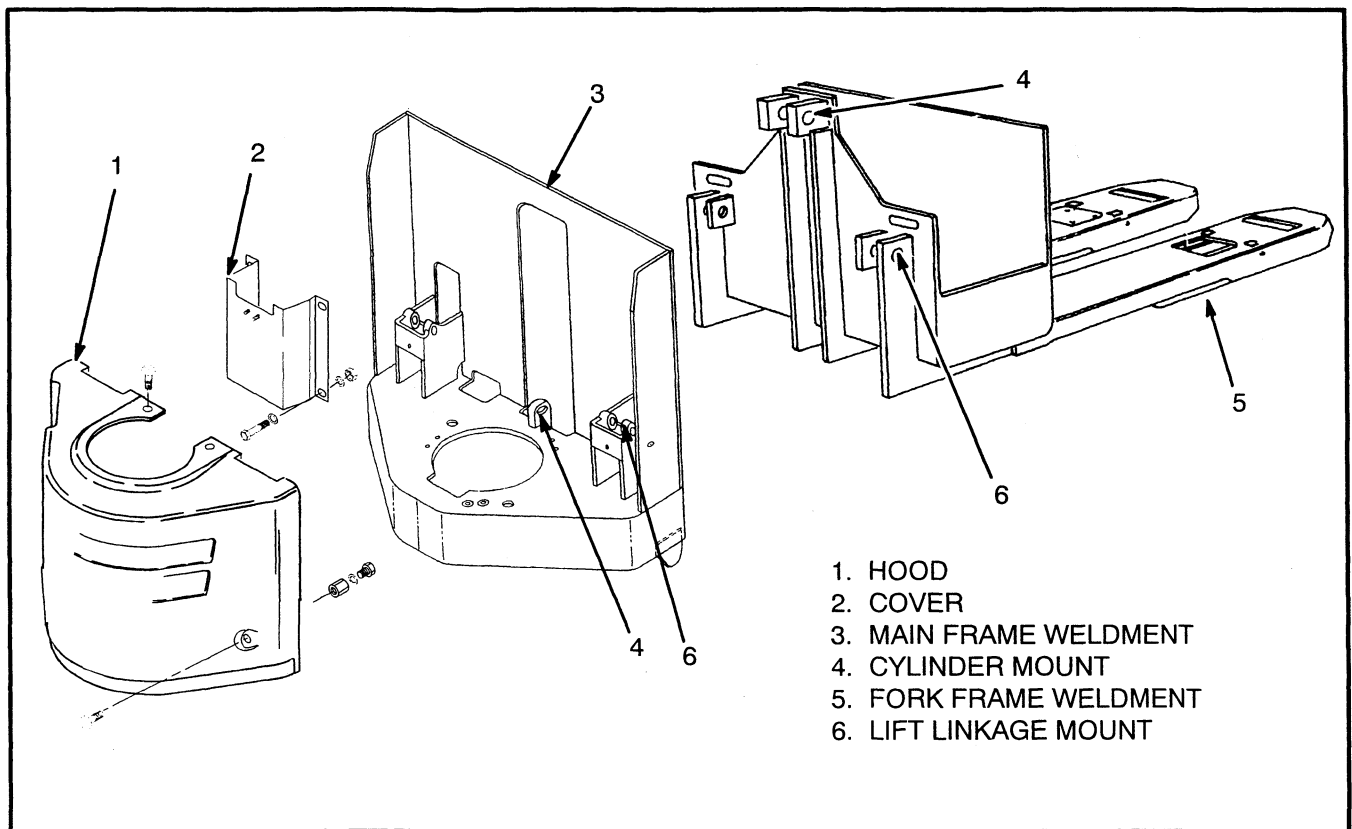


FIGURE 4 - FRAME WELDMENT - W60-80XT

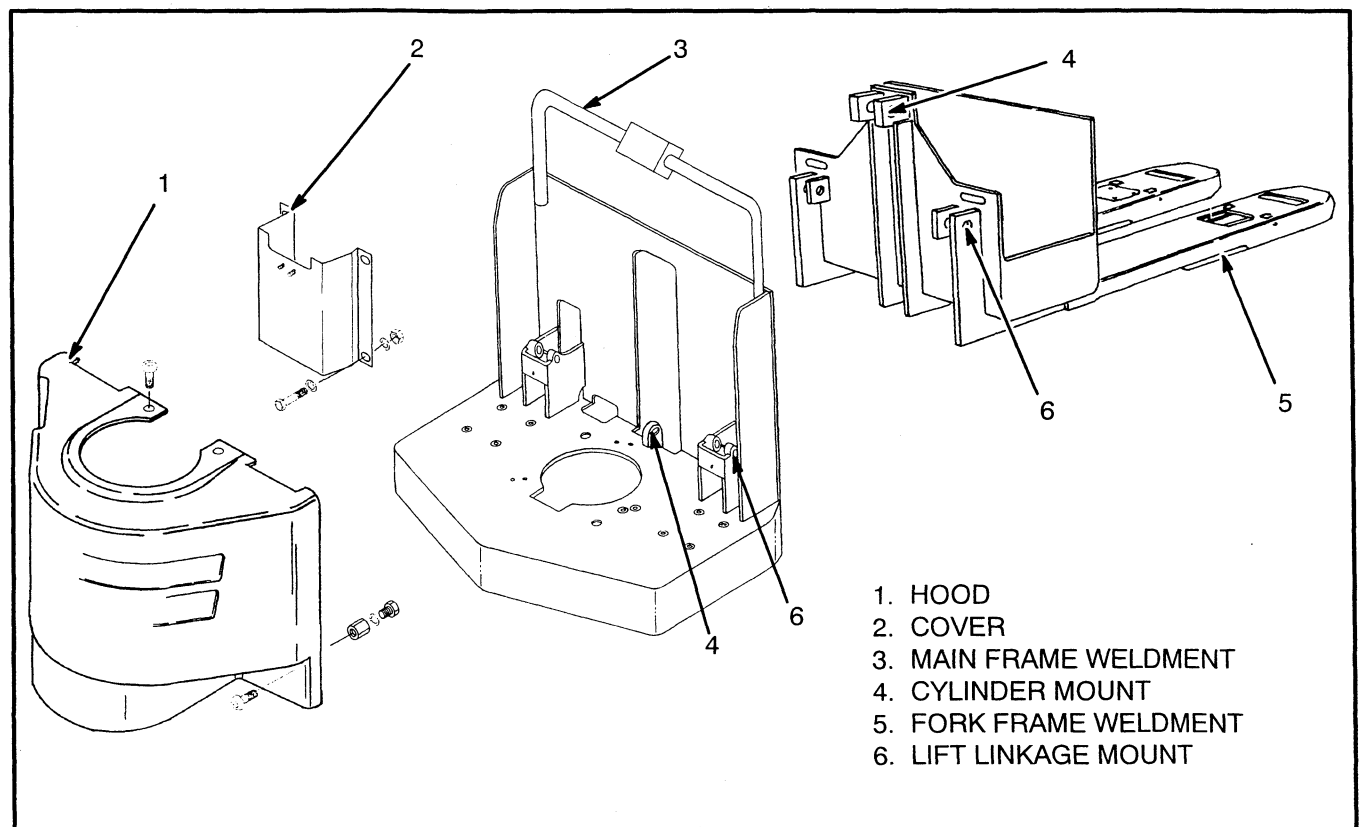


FIGURE 5 - FRAME WELDMENT - B60-80XT

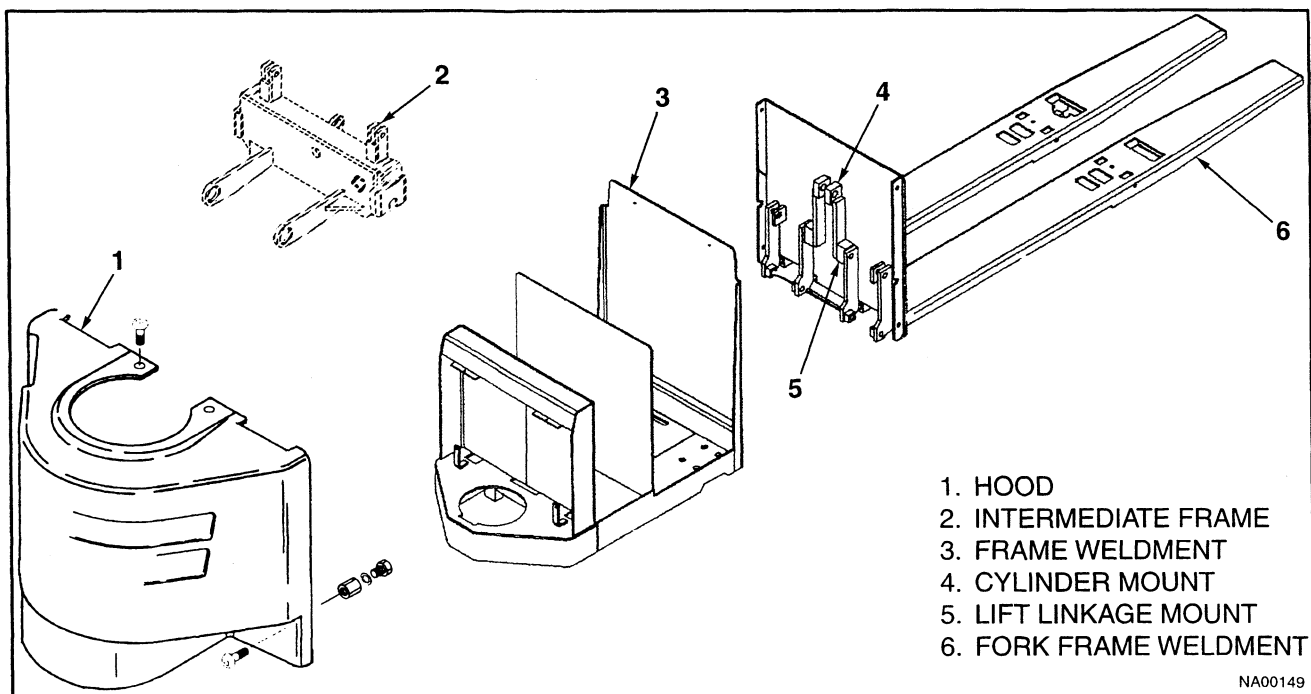


FIGURE 6 - FRAME WELDMENT – CA60-80XT

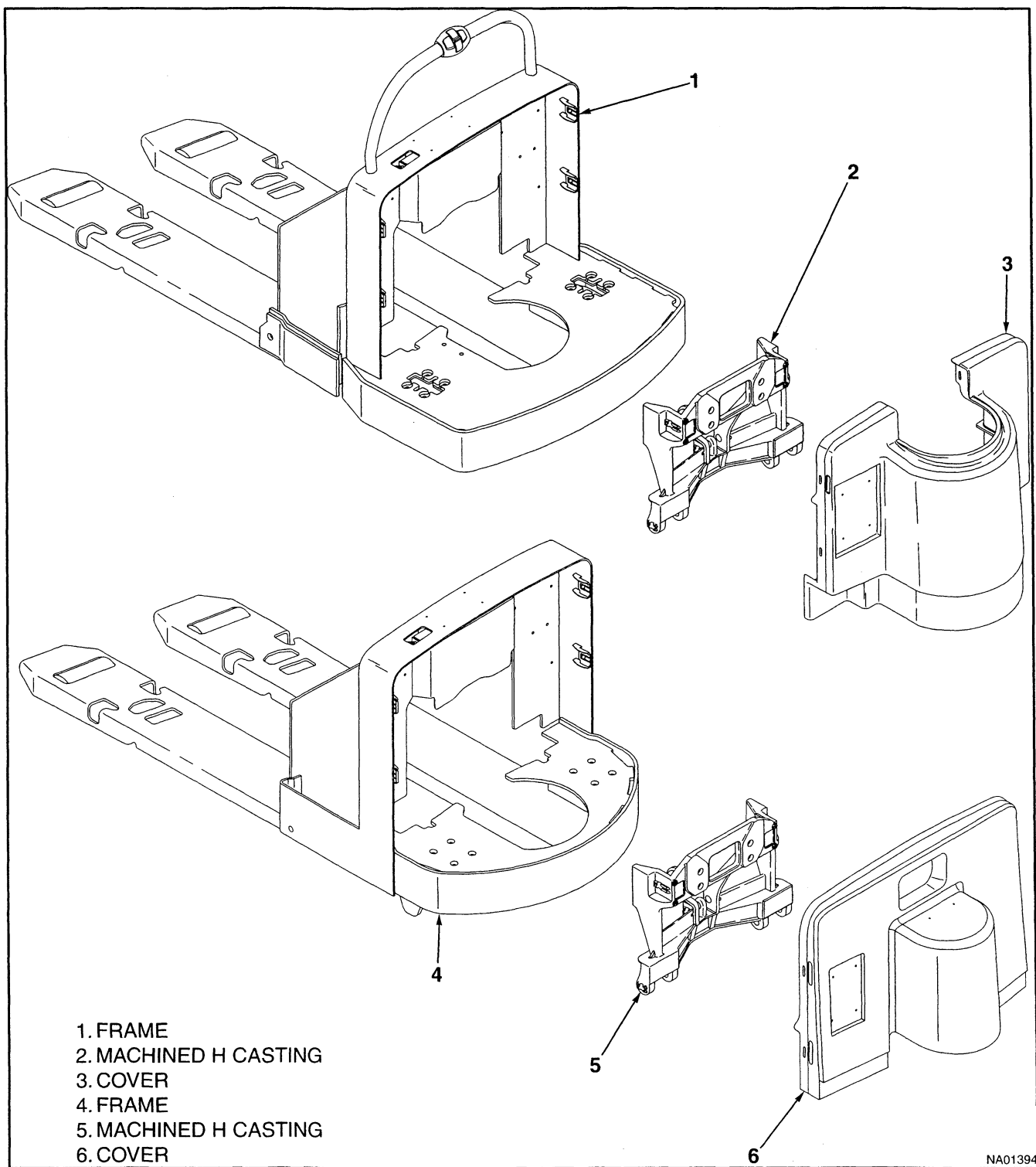


FIGURE 7 - FRAME WELDMENT - B60Z, W 60Z

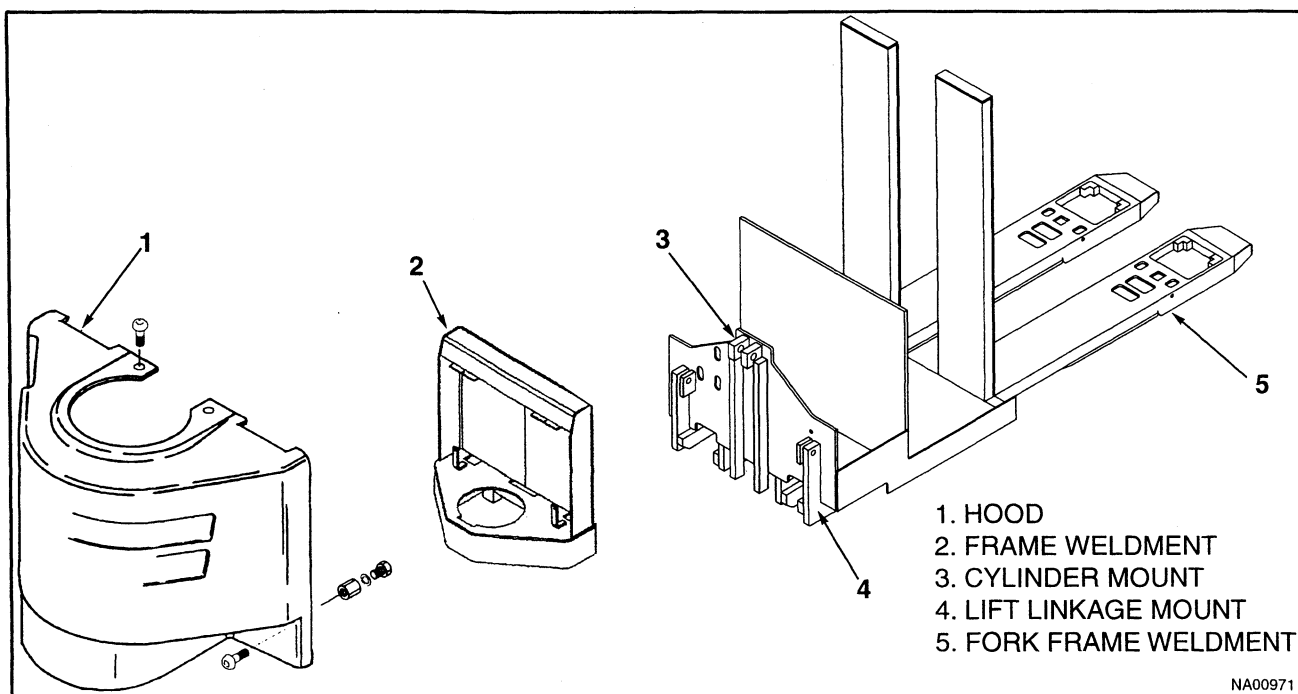


FIGURE 8 - FRAME WELDMENT – C60-80XT2

REPAIR

FRAME REMOVAL AND DISASSEMBLY

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 and 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.

Most repairs can be done by removing the necessary systems or parts. See the section of the Service Manual for the system or part to be removed. If the two frame weldments must be separated, see the section **LIFTING MECHANISM 4000 SRM 534** for W/B/C60-80XT CA60-80XT/XT2, W60Z, and B60Z **LIFTING MECHANISM 4000 SRM 510** for W40XT and W45XT and **LIFTING MECHANISM 4000 SRM 4** for W/B40CL and W/B4060XL.

Removal and disassembly of the standard or optional casters are found in this section. Removal and installation instructions for the optional bumpers are also in this section. See Figure 9 through Figure 11.

CASTER REMOVAL AND DISASSEMBLY - W/B40CL AND W/B40-60XL, SEE FIGURE 9 AND FIGURE 10

1. Loosen or remove the capscrews that fasten the MDU compartment cover to the frame. Remove the cover.
2. Place the wheel of the MDU on a tapered block approximately 50 mm (2 inches) thick.

NOTE: Most repairs of the casters can be done without removing the caster from the main frame. If the casters must be removed, follow Step 3.

3. Remove the eight screws and nuts that fasten the two casters to the main frame. Remove the casters.

NOTE: Step 4 is for the disassembly of the W40-60XL caster. Step 5 is for the disassembly of the B40-60XL or B40CL spring caster.

4. Disassemble each of the W40-60XL casters as far as necessary to replace damaged or worn parts.

a. Remove the axle nut and axle. Remove the

wheel.

b. Remove the bearing from the wheel.

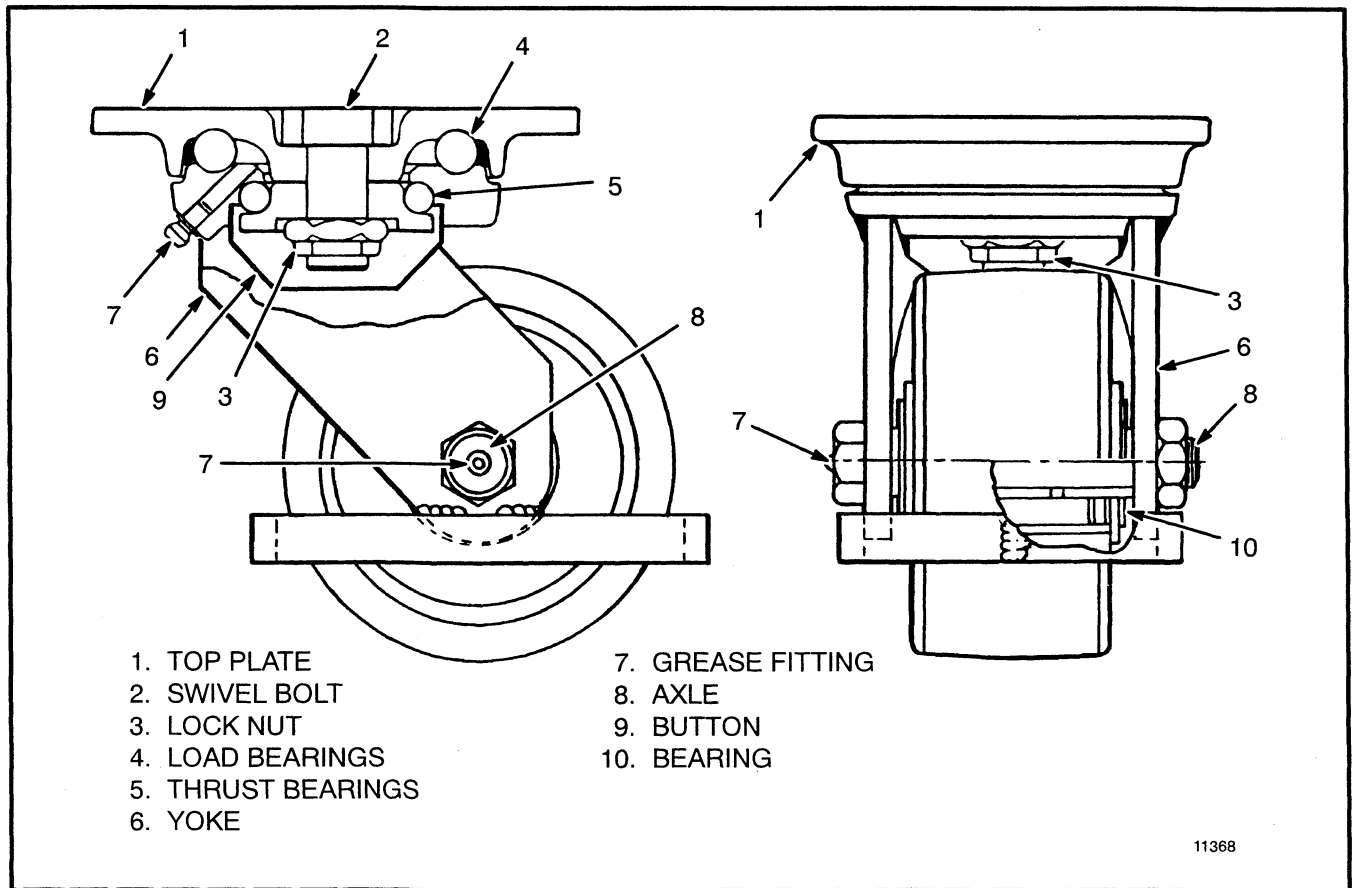


FIGURE 9 - OPTIONAL CASTERS - W40-60XL

5. Disassemble each B40-60XL or B40CL caster as far as necessary to replace the damaged or worn parts as follows:

a. Remove the nut(s) on each rod end for the spring(s).

b. Remove the wheel axle, wheel, seal, washer, and bearing.

c. Remove the nuts and washers that fasten the pivot arms to the yoke. Remove the pivot arms, rod

end(s), pivot bearings, and spring(s). Remove the spring axle and rod end(s).

d. Remove the seal cap (B40-60XL only) and the lock nut that fastens the yoke to the top plate.

e. Remove the yoke, button, thrust bearing balls, and load bearing balls. Remove the swivel bolt from the top plate.

6. Remove the eight screws and nuts that fasten the two bumpers to the main frame. Remove the bumpers and spacers. See Figure 11.

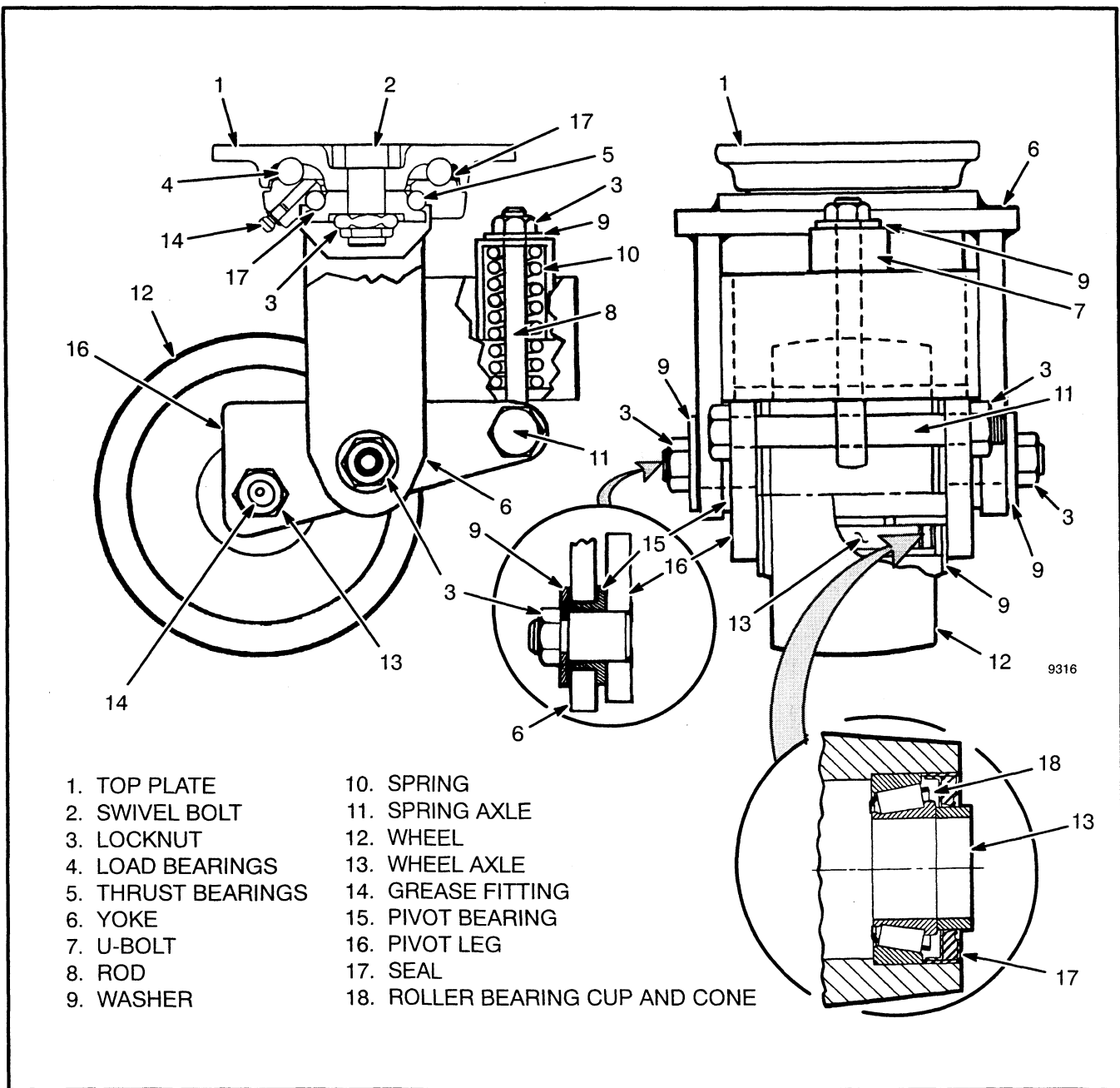


FIGURE 10 - OPTIONAL CASTERS – B40-60XL, B40CL

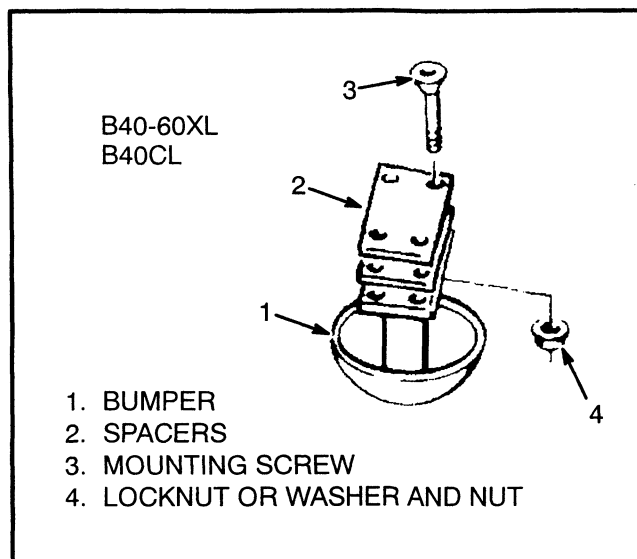


FIGURE 11 - OPTIONAL BUMPER

CASTER REMOVAL AND DISASSEMBLY - W40XT, W45XT AND W/B/C60-80XT SEE FIGURE 12

⚠ WARNING

Put blocks under both forks and on both sides of the drive tire. The blocks must prevent the lift truck from falling and causing personal injury or damage.

1. Raise the drive wheel off the floor. Block the lift truck. See HOW TO PUT A LIFT TRUCK ON BLOCKS, in the section **PERIODIC MAINTENANCE, 8000 SRM 627**. Disconnect the battery.
2. Remove the four countersunk screws and nuts retaining the caster and spacer to the frame. Remove the caster.
3. Repeat the same procedure for the other caster, if necessary.
4. To disassemble the caster assembly remove the locknut retaining the caster wheel on the caster wheel axle. Drive the caster wheel axle out of the arms and remove the caster wheel.
5. Remove the locknut retaining the spacer between the arms. Remove the capscrew, washers, and spacer.
6. Remove the locknuts retaining the spacers and springs. Remove the spacers, springs, and capscrews.

7. Remove one of the E-Rings retaining the pin and bushings between the arms. Disassemble the pin, bushings, and arms.

8. Remove one of the E-Rings retaining the pin and bushings to the yoke. Disassemble the pin and bushings from the yoke.

CASTER INSTALLATION - W40XT, W45XT AND W/B/C60-80XT SEE FIGURE 12

1. Align the caster and spacer with the holes in the frame and install the four countersunk screws and nuts. Tighten the nuts to 115 N•m (85 lbf ft) torque.
2. Repeat step 1 to install the other caster, if necessary.
3. Remove the blocks from under the lift truck and lower the lift truck to the floor. Test the operation of the lift truck prior to returning the lift truck to service.

CASTER WHEEL REPLACEMENT - W40XT, W45XT, W/B/C60-80XT/XT2, B60Z AND W60Z SEE FIGURE 12, AND 14

NOTE: The caster does not have to be removed from the lift truck frame to replace the caster wheel or the caster wheel axle.

⚠ WARNING

Put blocks under both forks and on both sides of the drive tire. The blocks must prevent the lift truck from falling and causing personal injury or damage.

1. Raise the drive wheel off the floor. Block the lift truck. See HOW TO PUT A LIFT TRUCK ON BLOCKS, in the section **PERIODIC MAINTENANCE, 8000 SRM 627**. Disconnect the battery.
2. Remove the locknut retaining the caster wheel on the caster wheel axle. Drive the caster wheel axle out of the arms and remove the caster wheel.
3. Align the new caster wheel between both arms and install the caster wheel axle. Install the nut on the caster wheel axle. Tighten the nuts to 34-47 N•m (25-35 lbf ft) torque.
4. Remove the blocks from under the lift truck and lower the lift truck to the floor. Test the operation of the lift truck prior to returning the lift truck to service.

1. SCREW
2. SPACER
3. YOKE ASSEMBLY
4. NUT
5. BOLT WITH NUT
6. BOLT WITH NUT
7. PIN
8. PIN
9. BUSHING
10. SNAP RING
11. WASHER
12. AXLE
13. ARM
14. WHEEL
15. SPACER
16. SPACER
17. SPRING
18. BUSHING

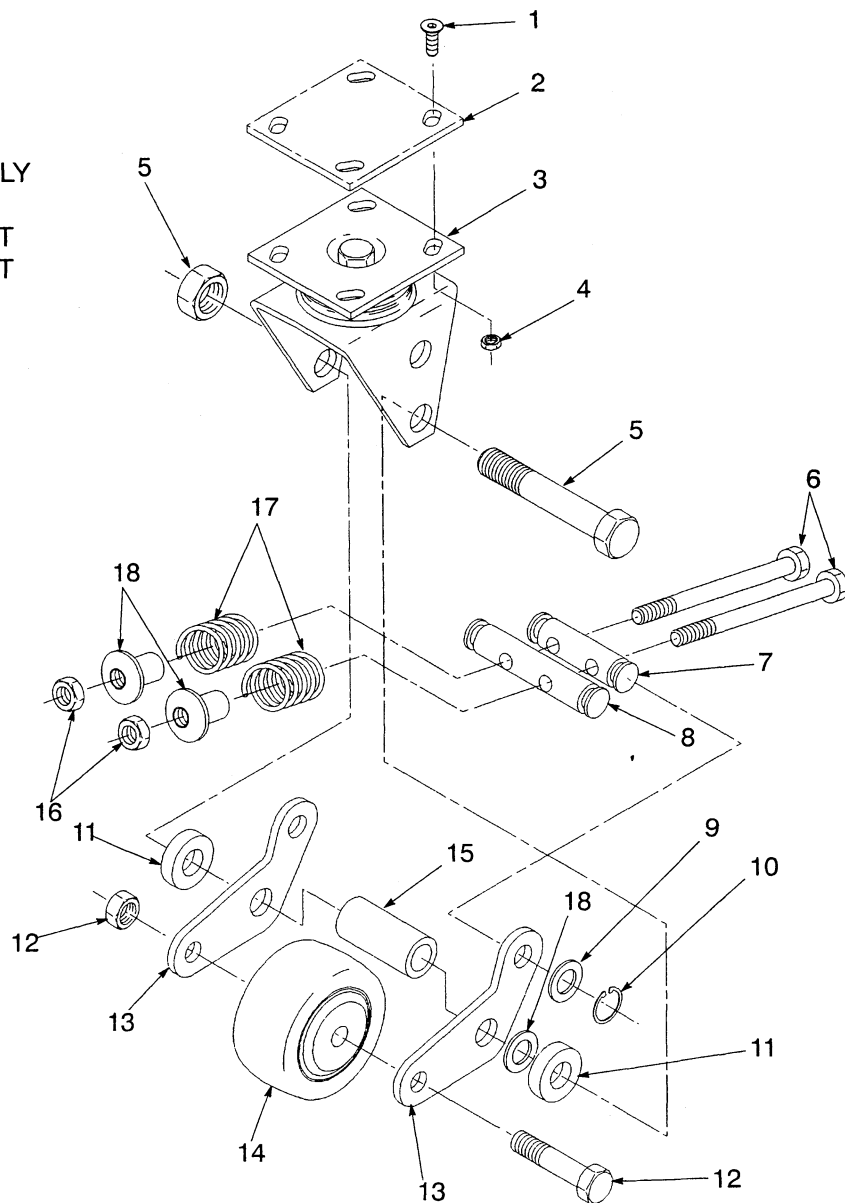
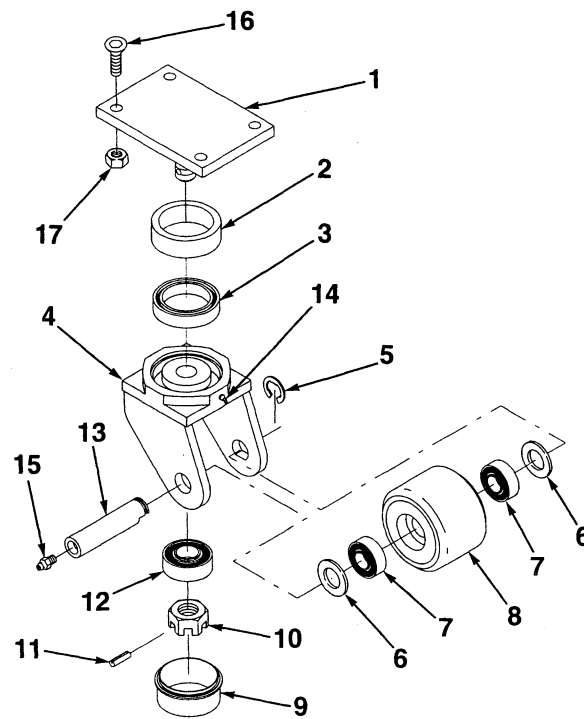


FIGURE 12 - CASTER - W40XT, W45XT, W/B/C60-80XT

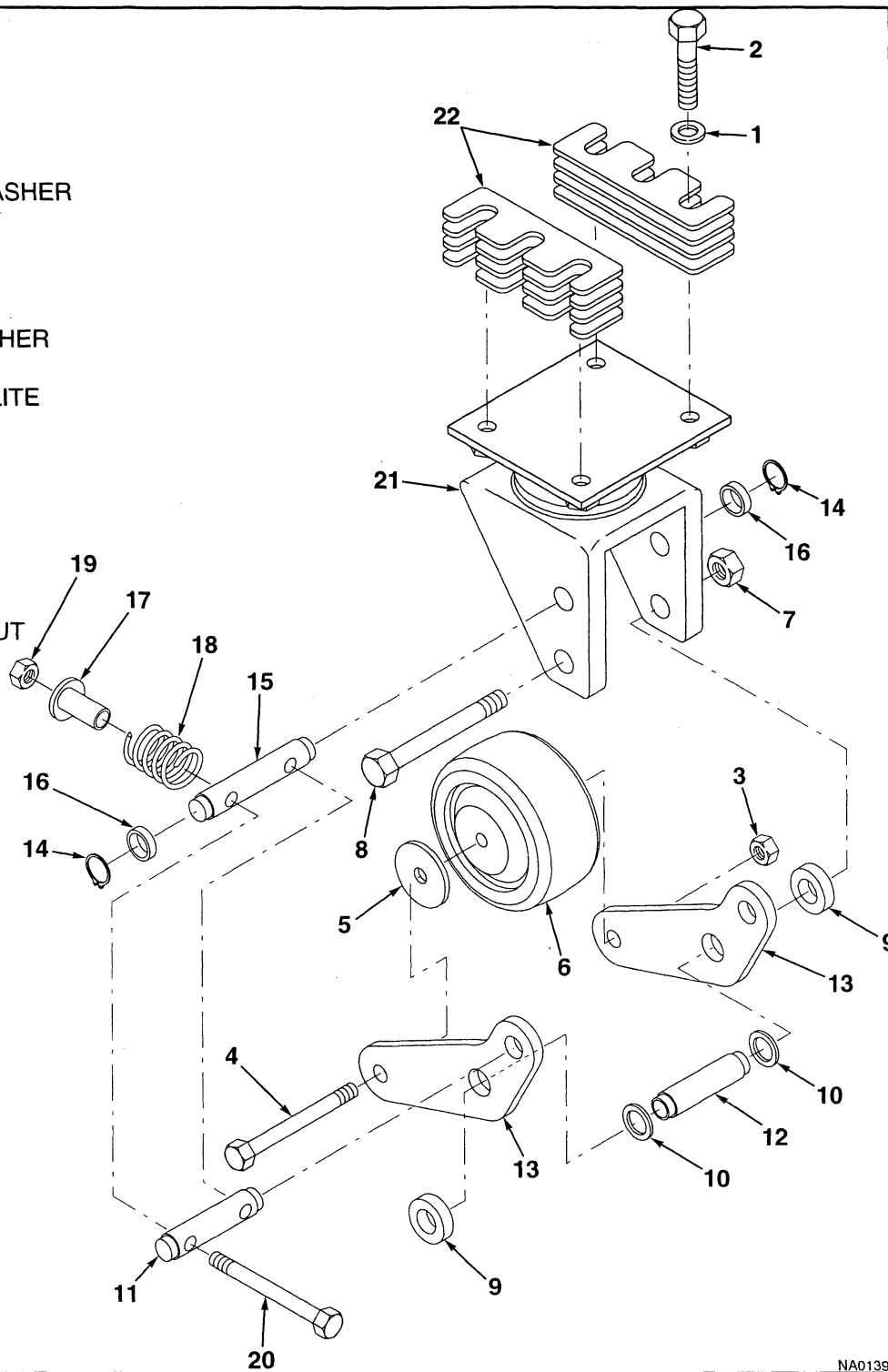


- | | |
|--------------|--------------------|
| 1. TOP PLATE | 10. CASTLE NUT |
| 2. SEAL | 11. ROLL PIN |
| 3. BEARING | 12. BEARING |
| 4. YOKE | 13. SHAFT |
| 5. SNAP RING | 14. GREASE FITTING |
| 6. WASHER | 15. GREASE FITTING |
| 7. BEARING | 16. SCREW |
| 8. WHEEL | 17. NUT |
| 9. SEAL | |

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FIGURE 13 - CASTER - C60-80XT/XT2

1. WASHER
2. SCREW
3. WHEEL AXLE NUT
4. WHEEL AXLE
5. WHEEL GUARD WASHER
6. WHEEL ASSEMBLY
7. PIVOT AXLE NUT
8. PIVOT AXLE
9. PIVOT OILITE
10. ARM SPACER WASHER
11. ARM PIN
12. PIVOT FLANGE OILITE
13. ARM
14. RETAINING RING
15. PIN
16. OILITE BUSHING
17. SPACER
18. SPRING
19. SPRING JAM NUT
20. HEX BOLT WITH NUT
21. YOKE ASSEMBLY
22. SHIMS



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FIGURE 14 - CASTER -B60Z-W60Z

FRAME ASSEMBLY AND INSTALLATION

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 and 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.

NOTE: To join the main frame and fork weldment, see the section **LIFTING MECHANISM, 4000 SRM 536** for W/B/C60-80XT, CA60-80XT/XT2, B60 and W60 **LIFTING MECHANISM, 4000 SRM 510** for W40XT and W45XT and **LIFTING MECHANISM, 4000 SRM 4** for W/B40-60XL and W/B40CL.

CASTER ASSEMBLY AND INSTALLATION - W/B40-60XL AND W/B40CL SEE FIGURE 9 AND FIGURE 10

1. Install the swivel bolt in the top plate. Install the balls of the load bearing and the load bearing seal on the yoke. Install the yoke on the top plate. Install the balls of the thrust bearing and seal on the button. Install the button on the swivel bolt and yoke. Install and tighten the lock nut to 197 N•m (145 ft lb) torque. On the B40-60XL caster, install the seal cap over the button and locknut.

NOTE: Steps 2 and 3 are for the B40-60XL and B40CL units only.

2. Install the pivot bearings on the pivot legs. Install the pivot legs on the yoke and install the washers and nuts. Tighten the nuts.

3. Hold the rod end(s) in position and install the spring axle in the pivot legs and rod end(s). Install the spring(s), washers and nut(s) on the rod end(s).

4. If the snap rings on the B40-60XL or B40CL units were removed, reinstall them. Install the wheel bearings and washers in the caster wheel. Hold the seal in position and install the caster wheel in the pivot legs. Install the caster wheel axle and nut. Lubricate all grease fittings as described in the **PERIODIC MAINTENANCE SRM** for your model truck.

5. Install each caster using the four screws and nuts.

6. If removed, for the W/B40-60XL and W/B40CL install each bumper with spacers using the four screws and nuts that fasten the bumpers to the main frame. See Figure 11.

7. Install the hood to the frame.

CASTER ASSEMBLY AND INSTALLATION - W40XT, W45XT, W/B/C60-80XT AND CA60-80XT/XT2, B60Z AND W60Z SEE FIGURE 12, FIGURE 13 AND FIGURE 14

1. Align the bushings in the yoke and install the pin. Install the E-Rings on the pin to retain the pin and bushings to the yoke.

2. Align the arms, spacer, and washers in the yoke and install the capscrew and locknut. Tighten the locknut to 0-4 N•m (0-3 lbf ft) torque.

3. Align the spacer between the arms and install the E-Rings on the pin to retain the bushings and pin to the arms.

4. Align the holes in the pins and install the capscrews, springs, spacers, and locknuts. The springs should be pre-loaded to 1113 N (250 lb). Install Caster Spring Adjustment Tool 2310126 over the caster spring. Tighten the nuts until the edge of the spring is even with the edge of the adjustment tool. The final spring length should range between 48.00 and 48.51 mm (1.890 and 1.910 in).

5. Align the caster wheel between the arms and install the caster wheel axle. Tighten the nuts to 34-47 N•m (25-35 lbf ft) torque.

PAINTING INSTRUCTIONS SEE FIGURE 15 THROUGH FIGURE 27

WARNING

Always use solvents and paints in an area with ventilation. Do not use solvents or paints near heat or fire.

WARNING

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

1. Remove all dirt from the surface to be painted. Clean the area to be painted using a solvent for painted surfaces. Make sure all oil and grease are removed.
2. Remove the top surface of paint and all rust from the metal. Use a special paper that has a rough surface on one side. Paint all metal surfaces where the paint is completely removed using primer. Apply the primer before applying the color paint.
3. Protect all surfaces that will not be painted. Do not paint cylinder rods, cables, labels, plates, or controls.
4. Paint the surfaces using Hyster paint. Follow the directions on the container. Paint all surfaces the original color.

LABEL REPLACEMENT SEE FIGURE 15 THROUGH FIGURE 27

WARNING

Replace damaged Warning or Caution labels immediately.

If labels or information plates are missing or damaged, they must be replaced.

NOTE: The capacity plate is installed using rivets. Remove old rivets before installing a new capacity plate. See your Hyster lift truck dealer to make sure the capacity plate information is correct and complete before installing a new Capacity Plate. Fasten the capacity plate with the rivet heads outside.

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. The label cannot be moved after it touches the surface. Put 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.