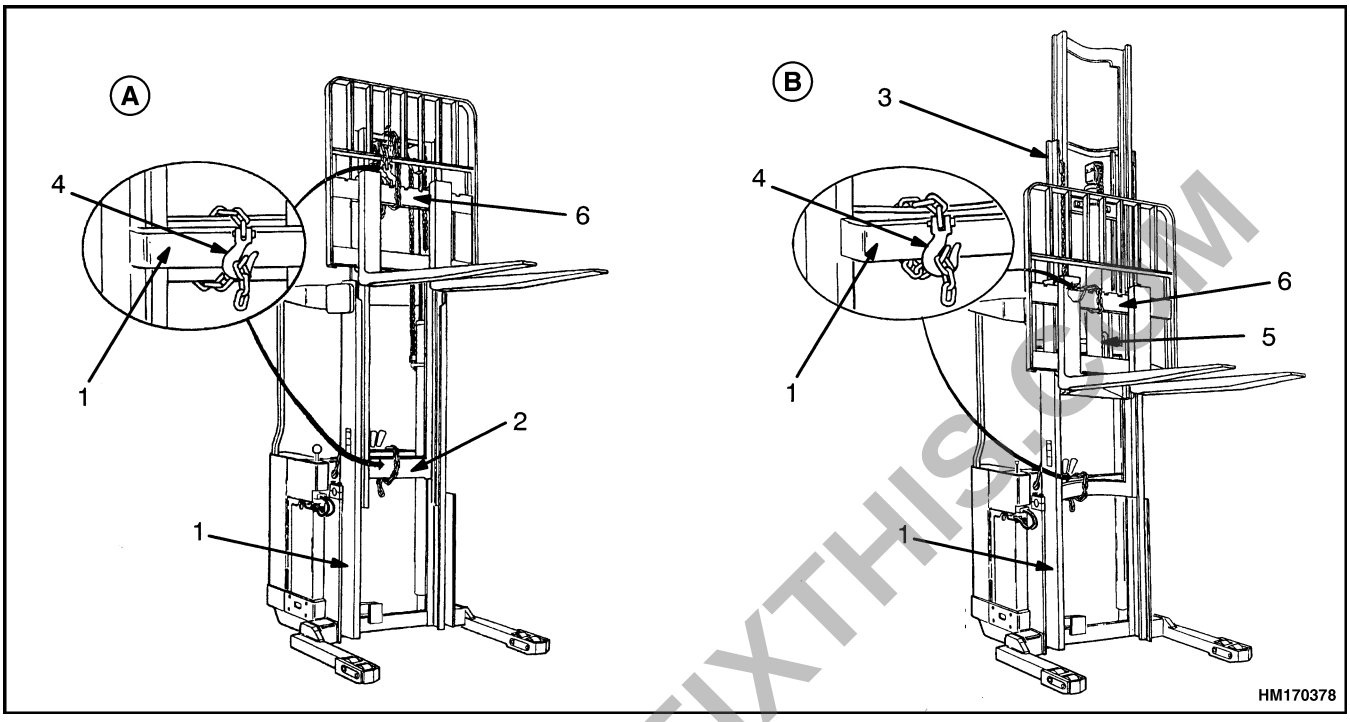


A. TWO-STAGE MAST

B. THREE-STAGE MAST

1. OUTER WELDMENT
2. INNER WELDMENT
3. INTERMEDIATE WELDMENT
4. SAFETY CHAIN HOOK
5. FREE-LIFT CYLINDER
6. CROSSMEMBER

Figure 1. Safety Chain the Mast, Typical Mast

Load Backrest Extension, Carriage, Load Rollers, Side Rollers, and Forks

LOAD BACKREST EXTENSION, REMOVE AND INSTALL

1. Loosen the two upper capscrews that fasten the load backrest extension to the carriage.

2. Remove these two capscrews and lay the load backrest extension on the forks.

3. Remove the two lower capscrews that fasten the load backrest extension to the carriage.

4. Lift the load backrest extension off the forks.

5. Reverse the procedure to install the load backrest extension. Tighten the capscrews to 203 N•m (150 lbf ft).

CARRIAGE ASSEMBLY, REMOVE AND INSTALL

See the section **Attachment** 5000 SRM 580 or **Attachment** 5000 SRM 1254 to remove and install the attachment carriage.

NOTE: The carriage can be removed with the forks and load backrest extension attached or with the forks and load backrest removed. Do only those procedures necessary for your repair. See Fork, Replace to remove the forks. See Load Backrest Extension, Remove and Install to remove the load backrest extension.

NOTE: Most repairs of the reach carriage can be completed without removing it from the mast. See the section **Reach Carriages** 4500 SRM 483 or **Reach Carriages** 4500 SRM 971 for repair procedures.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Troubleshooting

PROBLEM	POSSIBLE CAUSE	PROCEDURE OR ACTION
No operation of lift cylinders.	No oil or not enough oil to supply cylinders.	Check oil level and add oil as needed.
	Bad hydraulic leaks, bad pump or pump drive, relief valve set too low, bad check valve.	Repair hydraulic leaks. Replace pump or pump drive. Replace check valve. Reset relief valve to correct setting.
Slow operation of lift cylinders.	Not enough oil supply to cylinder(s).	Check oil level and add oil as needed.
	Bad cylinder seal(s). Check for seal leaks inside the cylinder by installing a gate valve in the hydraulic line. See Hydraulic System Leaks Check of this section.	Replace cylinder seals.
	Relief valve pressure is wrong.	Adjust relief valve to correct pressure setting.
	The spring for the relief valve is weak or damaged.	Repair relief valve.
Rough movement of the mast assembly.	Air in the hydraulic system.	Remove air from hydraulic system.
	Bent rods, cylinders with distortion or damage.	Replace cylinders.
	Mast assembly damaged or not in alignment.	Repair damage or realign mast assembly.
	Wear plugs or wear strips adjusted too tight.	Adjust plugs or strips correctly.
	Improper lubrication of mast channels.	Lubricate mast channels properly.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Legend for Figure 6

A. OLD STYLE LATCH PIN ASSEMBLY

1. FORK
2. LATCH PIN
3. SPRING
4. WASHER
5. WASHER

B. NEW STYLE LATCH PIN ASSEMBLY

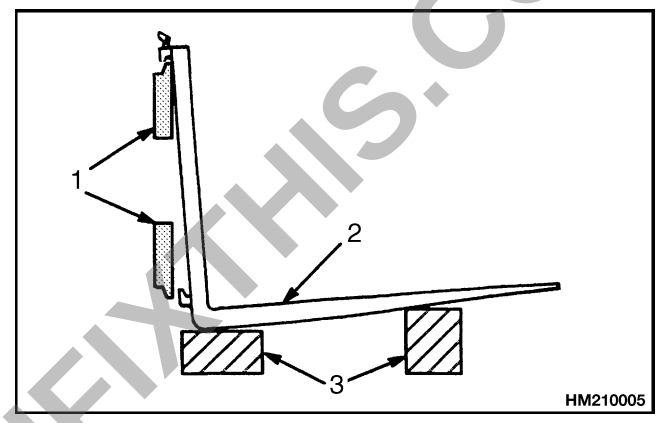
6. WEDGE
7. KNOB
8. LEVER
9. ROLL PIN
10. LATCH PIN ASSEMBLY

Remove

Lift the latch lever and slide the fork to the fork removal notch on the carriage. The removal notch is in the bottom crossmember of the carriage as shown in Figure 2. Lower the carriage with a block under the fork or raise the fork tip. See Figure 7. The bottom hook of the fork will move through the fork removal notch. Lower the carriage further or raise the fork so that the top hook of the fork is disengaged from the top crossmember. Move the carriage away from the fork, or use the lifting device to move the fork away from the carriage. Follow the same procedure to remove the other fork.

Install

Move the fork or carriage so that the top hook on the fork engages the top crossmember of the carriage. Raise the carriage or lower the fork to move the lower hook through the removal notch. Slide the fork on the carriage so that both upper and lower hooks are engaged and the latch pin engages a notch.



1. CARRIAGE BARS
2. HOOK FORK
3. BLOCKS

Figure 7. Hook Fork Removal

Two-Stage Mast Assembly

REMOVE

Read and follow the Safety Procedures When Working Near Mast, as well as all WARNINGS and CAUTIONS.

NOTE: If the mast assembly will be disassembled after it is removed from the truck, **first** remove the standard carriage or the reach carriage as a complete assembly. See Carriage Assembly, Remove and Install. If the reach carriage will be removed with the mast assembly, operate the REACH/RETRACT control button to retract the forks fully. Install safety chains so that the forks cannot extend. Install the safety chains around the center plates of the scissor arm weldment and a crossmember of the mast. Make sure a safety chain does not touch the mount for the hose sheave, lift chains, chain or hose sheaves, hoses, tubes, or fittings. If installed, operate the SIDESHIFT control to move the sideshift frame to the center position.

1. Remove the capscrews and nuts that fasten the operator guard and remove the guard. See Figure 8 or Figure 9.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Three-Stage Mast Assembly

THREE-STAGE MAST ASSEMBLY, REMOVE

Read and follow the Safety Procedures When Working Near Mast, as well as all WARNINGS and CAUTIONS. See Figure 18 and Figure 19.

NOTE: If the mast assembly will be disassembled after it is removed from the truck, **first** remove the standard carriage, the reach carriage, or the attachment carriage as a complete assembly. See Carriage Assembly, Remove and Install. If the reach carriage will be removed with the mast assembly, operate the REACH/RETRACT control button to retract the forks fully. Install safety chains so the forks cannot extend. Install the safety chains around the center plates of the scissor arm weldment and a crossmember of the mast. Make sure a safety chain does not touch the mount for the hose sheave, lift chains, chain or hose sheaves, hoses, tubes, or fittings. If installed, operate the SIDESHIFT control button to move the sideshift frame to the center position.

NOTE: For mast removal on the N30XMH, refer to the procedure for N30XMH Only.

1. Remove the capscrews and nuts that fasten the mast operator guard and remove the guard. See Figure 8 or Figure 9.
2. Remove the capscrews that fasten the rear legs to the overhead guard. See Figure 8. The overhead guard will be removed with the mast assembly.

⚠ CAUTION

Do NOT move the control button for the reach, retract, tilt, or sideshift functions. Oil will flow from the hoses for these functions.

3. Operate the LIFT/LOWER control to raise the inner weldment high enough to remove the four capscrews, shims, and nutplates that fasten the bottom of the mast to the truck frame. See Figure 10.
4. Install safety chains to keep the mast components from moving. Remove the capscrews, washers, and clamps that fasten the lift cylinder hoses to the mast weldments. Do NOT disconnect any hydraulic fittings.
5. Remove the safety chains installed in Step 4. Do not damage hydraulic hoses as the mast lowers. Carefully operate the LIFT/LOWER control to lower the inner weldment fully. Make sure all hydraulic pressure is removed from the system.
6. Mark the trunnion caps so they can be reassembled in the same position and on the same trunnion from which they are removed. Use chains to connect a crane or other lifting device to the top of the mast assembly. Make sure the chains will not damage the sheaves or other parts of the mast assembly. Make sure the chains and crane have the capacity to lift approximately 2000 kg (4409 lb). Use safety chains to fasten all the mast weldments together so they cannot move. If installed, install a chain or sling to the reach carriage to keep the mast assembly from tipping during removal. Remove the four capscrews that fasten the trunnion caps.
7. Operate the crane until it gives support to the weight of the mast assembly. Move the crane to a position so that the mast assembly will be lifted vertically. Raise the mast assembly high enough to clear the trunnions. Move the mast assembly approximately 30 cm (1 ft) away from the truck for access to the hoses.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TABLE OF CONTENTS

General 1
Safety Procedures When Working Near Mast 2
Load Backrest Extension, Carriage, Load Rollers, Side Rollers, and Forks 3
  Load Backrest Extension, Remove and Install 3
  Carriage Assembly, Remove and Install 3
  Carriage Load Rollers, Remove and Install 6
  Side Rollers, Disassemble and Assemble 6
  Fork, Replace 7
    Hook-Type Forks 7
      Remove 8
      Install 8
Two-Stage Mast Assembly 8
  Remove 8
  Clean and Inspect 11
  Lift Cylinders, Remove and Install Dual-Lift Cylinders 13
  Lift Cylinder, Remove and Install Single Main-Lift Cylinders 14
    Remove 15
    Install 15
  Inner Mast Assembly, Remove and Install 16
  Hoses, Replace 16
  Hose and Cable Sheaves, Replace 18
  Two-Stage Lift Chains 18
    Remove and Install 19
    Clean and Inspect 19
  Two-Stage Chain Sheave, Remove and Install 19
  Load Rollers and Wear Plugs, Remove and Install 20
  Two-Stage Mast Assembly, Install 21
Three-Stage Mast Assembly 22
  Three-Stage Mast Assembly, Remove 22
    N30XHM, N30XMH$_2$ (C210), and V30ZMD (D210/E210) Only 25
  Clean and Inspect 25
  Free-Lift Cylinder, Remove and Install 26
  Main Cylinders (Standard), Remove and Install 28
  Main Cylinders N30XMH, N30XMH$_2$ (C210) and V30ZMD (D210/E210), Remove and Install 28
  Inner and Intermediate Mast Assemblies, Remove and Install 29
  Hoses, Replace 31
  Hose and Cable Sheaves, Replace 31
    Free-Lift Hose Sheave 31
    Carriage Sheaves 32
  Three-Stage Lift Chains, Remove and Install 32
    General 32
    Free-Lift Chains 32
    Main-Lift Chains 33
  Three-Stage Chain Sheaves, Disassemble and Assemble 33
    Free-Lift Chain Sheaves 33
    Main-Lift Chain Sheaves 33
  Load Rollers and Wear Plugs, Remove and Install 34
  Three-Stage Mast Assemble, Install 35
Mast Operation Check 36
Hydraulic System Leaks Check 36
Lift Chains Check 37

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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 **HYSTER 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.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TABLE OF CONTENTS (Continued)

General 37
Clean and Inspect 37
Lubrication 37
Mast Adjustments 38
General 38
Adjust Wear Plugs - Mast 39
Adjust Free-Lift Chain (Three-Stage Only) 40
Adjust Main-Lift Chains 41
Two-Stage 41
Three-Stage 42
Adjust Wear Strips 42
Carriage Adjustments 43
Adjust Wear Plug - Carriage 43
Adjust Side Rollers - Carriage 43
Adjust Thrust Rollers - Carriage 44
Troubleshooting 45

This section is for the following models:

N50FA N40-45FR [D138];
N30XMH, N30XMH$_2$ [C210];
N25XMDR3, N30-40XMR3 [C470];
N50XMA3 [C471];
N30XMDR3, N45XMR3 [G138];
N30XMXDR3, N45XMXR3 [B264];
W30-40ZA [B453];
W20-30ZR [B455];
W25-30-40ZC [B454];
W25-30ZA$_2$ [B495];
V30ZMD [D210/E210]

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 7 of 52 pages

The full manual includes:

- All 52 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Hyster N50FA, N40-45FR, N30XMH, N30XMH2, N25XMDR3, N30-40XMR3, N50XMA3, N30XMDR3, N45XMR3, N30XMXDR3, N45XMXR3, W30-40ZA, W20-30ZR, W25-30-40ZC, W25-30ZA2, V30ZMD Repair Manual



Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual