Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

REV 16c

HaulMaster®

1/4, 3/4, 1-1/2 Ton LEVER CHAIN HOIST



Visit our website at: http://www.harborfreight.com
Email our technical support at: productsupport@harborfreight.com

ITEM 67144 66106 96482

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

Copyright© 2008 by Harbor Freight Tools®. All rights reserved.
No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools.
Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

⚠WARNING

Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

Table of Contents

Safety 2
Specifications 4
Installation 4
Operation 5
Inspection 9
Parts List and Diagram 12
Warranty 16

SAFETY

INSTALLATION

OPERATION

INSPECTION

WARNING SYMBOLS AND DEFINITIONS	
⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠ 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.
NOTICE CAUTION	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

⚠ DANGER

TO PREVENT SERIOUS INJURY AND DEATH:

Basic Safety Information

1. **Do not lift more than rated load. Be aware of dynamic loading!** Sudden load movement may briefly create excess load causing product failure.
2. **Do not operate when load is not centered underneath.**
3. **Do not operate while hoist restricted from forming a straight line with loading direction.**
4. **Do not operate hoist with twisted, kinked, or damaged chain.** Inspect chain carefully before every use.
5. **Do not operate a damaged or malfunctioning hoist.** Inspect hoist carefully and test operation before every use.
6. **Do not lift people or lift loads over people.** Falling loads can injure or kill people.
7. **Do not operate hoist with a lever extension.**
8. **Do not remove or cover warning labels and/or tags.** These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
9. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Installation Specific Safety Information

1. The supporting structure the hoist is mounted to (including trolley, monorail, or crane) must be designed to withstand the loads and forces imposed by the hoist for the rated load.
2. Install in location that allows the operator to move and stay clear of the load.
3. Where the slack chain hanging from the hoist may create a hazard, use an appropriate chain container (not provided) to contain the excess chain.
4. Do not lubricate the braking system.
5. Do not insert bolt between chain links to 'splice' chain.
6. Do not use a hammer to force hook/chain into place.
7. Inspect the hoist as explained in Frequent Inspection on page 9 after installation but before use.

Inspection, Testing, and Maintenance Specific Safety Information

1. Perform a "Frequent Inspection" at least monthly, see page 9.
2. Perform a "Periodic (Thorough) Inspection" at least yearly, see page 10.
3. More frequent inspections are needed for hoists that are used heavily.
4. Raise test loads only to the minimum extent needed and stay well clear of load at all times during testing.

Operation Specific Safety Information

1. Wear ANSI-approved safety goggles, ANSI-approved hard hat, and steel-toed work boots during setup and use.
2. This product is not a toy. Do not allow children to play with or near this item.
3. Use as intended only.
   - Do not use to handle molten material.
   - Do not use for aircraft purposes.
   - Do not use to link towed vehicles.
4. Keep hands clear of moving parts.

SAVE THESE INSTRUCTIONS.

Specifications

Rated Capacity	67144: 1/4 Ton (500 lb.) 96482: 3/4 Ton (1,500 lb.) 66106: 1-1/2 Tons (3,000 lb.)
Maximum Extension	5′

Installation Instructions

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Note: For additional information regarding the parts listed in the following pages, refer to *Parts List and Diagram* on page 12.

1. The supporting structure the hoist is mounted to (including trolley, monorail, or crane) must be designed to withstand the loads and forces imposed by the hoist for the rated load.

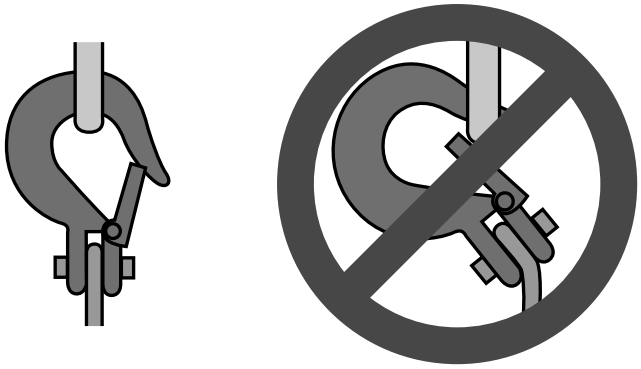


Figure A: Correct and incorrect suspension hook attachment

2. Properly seat the suspension hook on the supporting structure at its intended load bearing point (see the left side diagram of Figure A). Do not allow the hook hitch to support any part of the load. Do not apply the load to the point of the hook (shown in Figure A on the right side diagram).

Components and Controls



Figure B: 67144 1/4 Ton Controls

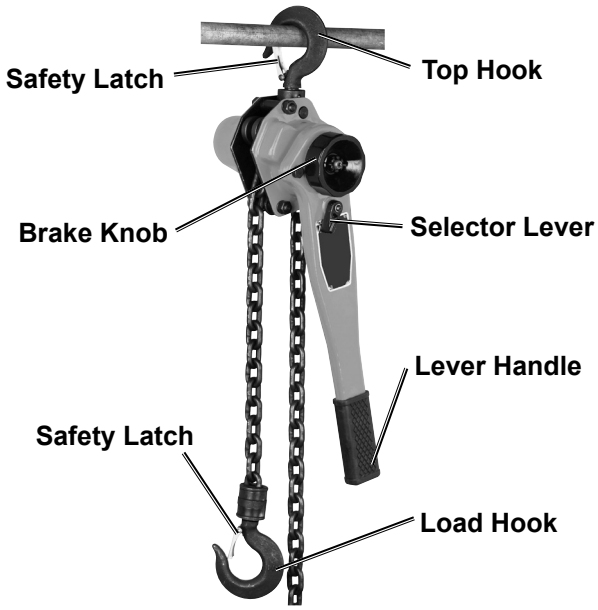


Figure C: 96482 (3/4 Ton) & 66106 (1-1/2 Ton) Controls

Operation Instructions

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠WARNING

TO PREVENT SERIOUS INJURY: Operation of a vertical hoist involves more than pulling the lever. The use of vertical hoists is subject to certain hazards that cannot be met by mechanical means, but only by the exercise of intelligence, care, common sense, and experience in anticipating the motions that will occur as a result of operating the controls.

Before Operating Hoist

1. Familiarize yourself with all operating controls of the hoist and with the operation(s) to be performed. Instructions include the warnings on the hoist and the safety and operating instructions portion of this manual.
2. **⚠WARNING! TO PREVENT SERIOUS INJURY FROM HOIST FAILURE:**
   Do not use damaged equipment.
   If adjustments or repairs are necessary, or any defects are known, have the problem corrected before further use.
3. Do not operate a hoist with an out-of-order sign.
4. Only a qualified technician should perform maintenance to the hoist.
5. Do not use the chain as a ground for welding. Do not touch a welding electrode to the chain.
6. Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent distraction and injury.
7. There must not be objects, such as utility lines, nearby that will present a hazard while working.
8. Inspect the hoist as explained in Frequent Inspection on page 9 after installation but before use.

Operating Controls - 67144 1/4 Ton

1. Turn the Selector Lever to the neutral position (see Figure D) to disengage the ratchet.

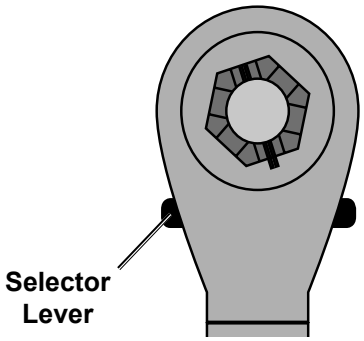


Figure D: Selector Lever "N" / Neutral Position

2. Pull the load chain by hand and attach the Load Hook to the load. The safety latch should be fully engaged. **Do not suspend a load on just the end of the hook,** see Figure A.

3. Move the Selector Lever to the up position (see Figure E) and ratchet the Lever Handle to lift the load.

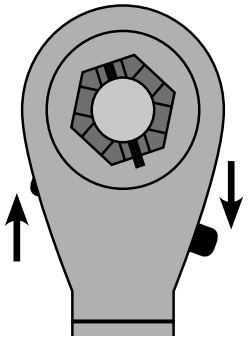


Figure E: Selector Lever "U" / Up Position

Note: If there is slack in the load chain, you may need to pull on the load chain slightly to get the ratchet to engage until the slack is taken up.

4. Lift load slightly and stop momentarily to make sure the load brake works before proceeding.

WARNING! Keep bystanders and pets away when a load is raised. Do not work under a raised load.

5. If the load is to be moved, lower it close to the ground prior to attempting to relocate the load. **Do not touch the Selector Lever until the load is ready to be lowered.**

6. To lower the load, turn the Selector Lever to the down position (see Figure F) and ratchet until the load is resting fully on the work area.

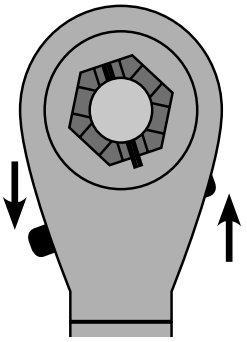


Figure F: Selector Lever "D" / Down Position

Operating Controls - 96482 3/4 Ton and 66106 1-1/2 Ton

1. Turn the Selector Lever to the neutral position (see Figure G) to disengage the ratchet.

ONLY IF UNLOADED, turn Brake Knob counterclockwise to release load holding brake

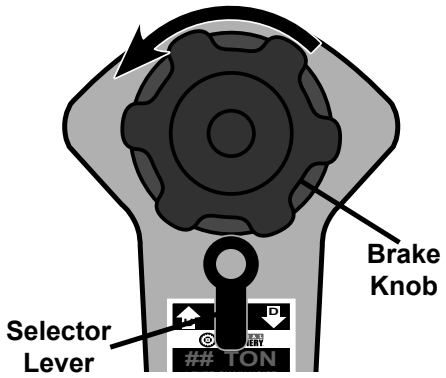


Figure G: Selector Lever and Brake Knob "N" / Neutral Position

2. Turn the Brake Knob counterclockwise until it stops to release the load holding brake.

WARNING! DO NOT TURN THE BRAKE KNOB COUNTERCLOCKWISE UNLESS NO LOAD IS SUPPORTED.

3. Pull the load chain by hand and attach the Load Hook to the load. The safety latch should be fully engaged. **Do not suspend a load on just the end of the hook,** see Figure A.

4. **WARNING! Turn the Brake Knob clockwise until it stops before lifting or lowering a load.**

5. Move the Selector Lever to the up position (see Figure H) and ratchet the Lever Handle to lift the load.

Turn Brake Knob clockwise to engage brake

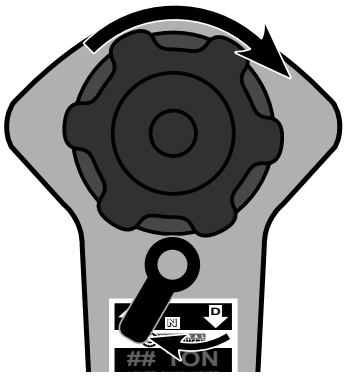


Figure H: Selector Lever and Brake Knob "U" / Up Position

Note: If there is slack in the load chain, you may need to pull on the load chain slightly to get the ratchet to engage until the slack is taken up.

6. Lift load slightly and stop momentarily to make sure the load brake works before proceeding.

WARNING! Keep bystanders and pets away when a load is raised. Do not work under a raised load.

7. If the load is to be moved, lower it close to the ground prior to attempting to relocate the load. **Do not touch the Selector Lever until the load is ready to be lowered.**

8. To lower the load, turn the Selector Lever to the down position (see Figure I) and ratchet until the load is resting fully on the work area.

WARNING! DO NOT LOWER BY TURNING BRAKE KNOB OR LOAD WILL FALL.

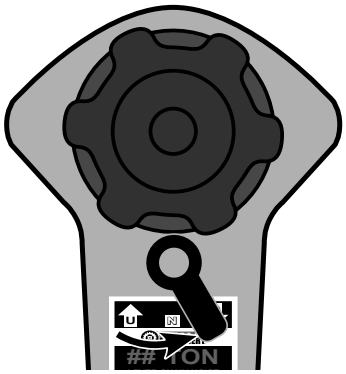


Figure I: Selector Lever "D" / Down Position

Applying the Load

1. Do not wrap the hoist chain around the load.
2. Attach the load to the load hook securely by properly rated, suitable means, such as chains, shackles, hooks, lifting slings, etc. Load must be attached to prevent accidental disconnection.

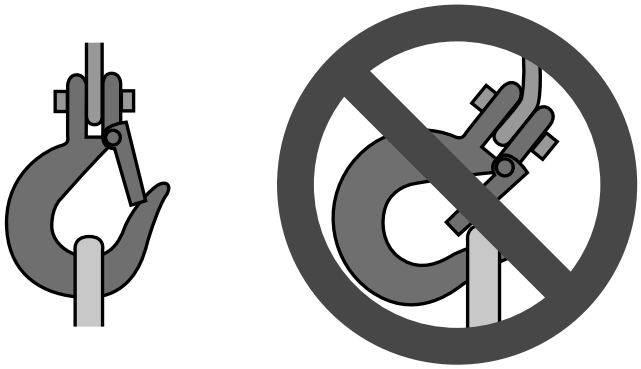


Figure J: Correct and incorrect load hook attachment

3. Properly seat the sling or other device in the base (bowl or saddle) of the hook (see the left side diagram on Figure J). Do not allow the hook hitch to support any part of the load.
4. Do not apply the load to the point of the hook (shown in Figure J on the right side diagram).
5. Before moving the load, make sure chains are not kinked or twisted or that multiple part chains are not twisted around each other.
6. Do not operate the hoist unless chain is seated properly on the drum, pulleys, or sprockets.
7. Do not operate the hoist unless the hoist unit is centered over the load.
8. Do not pick up a load in excess of the rated load appearing on the hoist or load block, except during properly authorized tests. Do not use a hoist overload limiting device to measure the maximum load to be lifted.
9. Give specific attention to load balancing and hitching or slinging to prevent load slipping.

Moving the Load

1. Do not engage in any activity which will divert the operator's attention while operating the hoist.
2. Respond to signals from a designated person only. However, always obey a stop signal, no matter who gives it.
3. Do not lift or lower a load with the hoist until the operator and all other personnel are clear of the load.
4. Make sure the load and hoist will clear all obstacles before moving or rotating the load.
5. Do not lift a load more than a few inches until it is well balanced in the sling or lifting device.
6. Each time a load approaching rated capacity is handled, check hoist brake action by lifting the load just clear of supports and continuing only after verifying that the brake system is operating properly.
7. **WARNING! Do not carry any load over any person.**
8. **WARNING! Do not carry personnel on the hook or the load.**
9. Avoid swinging the load or load hook when traveling the hoist.
10. On trolley mounted hoists, avoid contact between trolleys and between trolleys and stops.

Parking the Load

1. Do not leave a suspended load unattended unless specific precautions have been instituted and are in place.
2. Position the load block above head level for storage when the hoist is not in use.
3. Exercise care when removing a sling from under a landed and blocked load.

Procedures not specifically explained in this manual must be performed only by a qualified technician.

⚠WARNING

TO PREVENT SERIOUS INJURY:
Remove any load before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:
Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Frequent Inspection

Perform the procedures in this section BEFORE INITIAL USE and AT LEAST MONTHLY. Inspection is needed more often for heavily used hoists.

1. Check operating mechanisms for proper operation, proper adjustment, and unusual sounds such as, but not limited to, binding noise of the chain and bearing squeal.
2. Frequent Braking System Inspection
   a. The braking system must automatically stop and hold up to the rated load if the lever is released.
3. Frequent Hook Inspection
   Check hooks for the following problems:
   a. distortion, such as bending, twisting, or increased throat opening;
   b. wear;
   c. cracks, nicks, or gouges;
   d. latch engagement (if equipped);
   e. damaged or malfunctioning latch (if equipped);
   f. hook attachment and securing means.
4. Frequent Hoist Load Chain Inspection:
   a. Test the hoist under load in lifting and lowering directions and observe the operation of the chain and sprockets. The chain should feed smoothly into and away from the sprockets.
   b. If the chain binds, jumps, or is noisy, first see that it is clean and properly lubricated. If the trouble persists, inspect the chain and mating parts for wear, distortion, or other damage.
   c. Examine visually for gouges, nicks, weld spatter, corrosion, and distorted links. Slacken the chain and move the adjacent links to one side to inspect for wear at the contact points. If wear is observed or if stretching is suspected, the chain should be measured as follows:
      1) Select an unworn, unstretched length of the chain (e.g., at the slack end).
      2) Suspend the chain vertically under tension and, using a caliper-type gauge, carefully measure the outside length of any convenient number of links approximately 12″ to 24″ overall.
      3) Carefully measure the same number of links in the used sections and calculate the percentage increase in length.
      4) If the used chain is than the unused chain, replace the chain.
5. Check load chain reeving (the way it threads through the hoist).
6. Check hoist lever for bends, cracks, or other damage.
7. Check for damage to the support for the hoist.

⚠WARNING! TO PREVENT SERIOUS INJURY FROM HOIST FAILURE: Do not use damaged equipment. If any defect or damage is noted, have the problem corrected before further use.

Periodic (Thorough) Inspection

A qualified technician should perform the procedures in this section AT LEAST YEARLY. Inspection is needed more often for heavily used hoists.

Remove or open access covers to allow inspection of components.

1. First, follow all Frequent Inspection procedures. Additionally:
2. Check fasteners for evidence of loosening.
3. Check load blocks, suspension housings, levers, chain attachments, clevises, yokes, suspension bolts, shafts, gears, bearings, pins, rollers, and locking and clamping devices for evidence of wear, corrosion, cracks, and distortion.
4. Check hook retaining nuts or collars, and pins, welds, or rivets used to secure the retaining members for evidence of damage.
5. Check load sprockets, idler sprockets, drums, and pulleys for evidence of damage and wear.
6. Check the brake mechanism for evidence of worn, glazed, or oil contaminated friction disks; worn pawls, cams, or ratchets; and corroded, stretched, or broken pawl springs.
7. Check supporting structure or trolley, if used, for evidence of damage.
8. Check warning label for legibility and replacement.
9. Check end connections of load chains for evidence of wear, corrosion, cracks, damage, and distortion.
10. Check the hoist and hoist mounting for evidence of missing parts.

⚠**WARNING!** **TO PREVENT SERIOUS INJURY FROM HOIST FAILURE: Do not use damaged equipment. If any defect or damage is noted, have the problem corrected before further use.**

Storage Inspection

1. A hoist that has been idle for a period of a month or more, but less than a year, must be inspected before being used according to the Frequent Inspection requirements.
2. A hoist that has been idle for a period of a year or more, must be inspected according to the Periodic Inspection requirements and then tested according to the procedure in the Testing section below before being used.

Maintenance

1. Quarterly (every 3 months), clean off load chain, then lubricate load chain links with lithium grease. Apply grease to inner surfaces of load chain, where the links rub against each other.
2. Repair or replacement of hoist components must be performed only by a qualified technician using only identical replacement parts with the same rating.
3. Operating mechanisms, pawls, and brakes may require adjustment.
4. Note the following regarding specific components:
   a. Replace damaged or worn hooks and chains. Do not repair them by welding or reshaping.
   b. Replace excessively worn braking components such as friction disks, ratchets, pawls, and pawl springs.
   c. Replace or repair all critical parts, including load suspension components, that are cracked, broken, bent, excessively worn, or missing.
   d. Replace bent, cracked, or otherwise damaged levers.
   e. Replace missing or illegible warning labels.
5. Do not repair load-sustaining members by welding. Replace them as needed.
6. Lubricate all moving parts regularly using grease.
7. After maintenance work is completed and before restoring the hoist to normal operation:
   a. reinstall guards;
   b. reactivate safety devices;
   c. remove replaced parts and loose material;
   d. remove maintenance equipment.

Testing

1. Before use, test repaired hoists and hoists that have not been used for a year or more.
2. Check all functions of the hoist, including lifting and lowering, with the hoist unloaded first. (This hoist may require a small load or pull on the load hook to test lowering/extending.)
3. After testing in the unloaded state, attach a 100 lb. load and retest to check proper load control and to check brake operation.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List - 67144 1/4 Ton

Part	Description	Qty
1	Label	1
2	Gear Case	1
3	Top Pin	1
4	Side Plate	2
5	Guide Roller	2
6	Lifting Shaft	1
7	Bushing	1
8	Stay Bolt A	2
9	Top Hook	1
10	Stay Bolt B	1
11	Pawl Spring	1
12	Pawl	1
13	Circlip	1
14	Split Cam	1
15	Spring Washer A	1
16	Hex Nut A	1
17	Chain Stripper	1
18	Chain End Ring	1

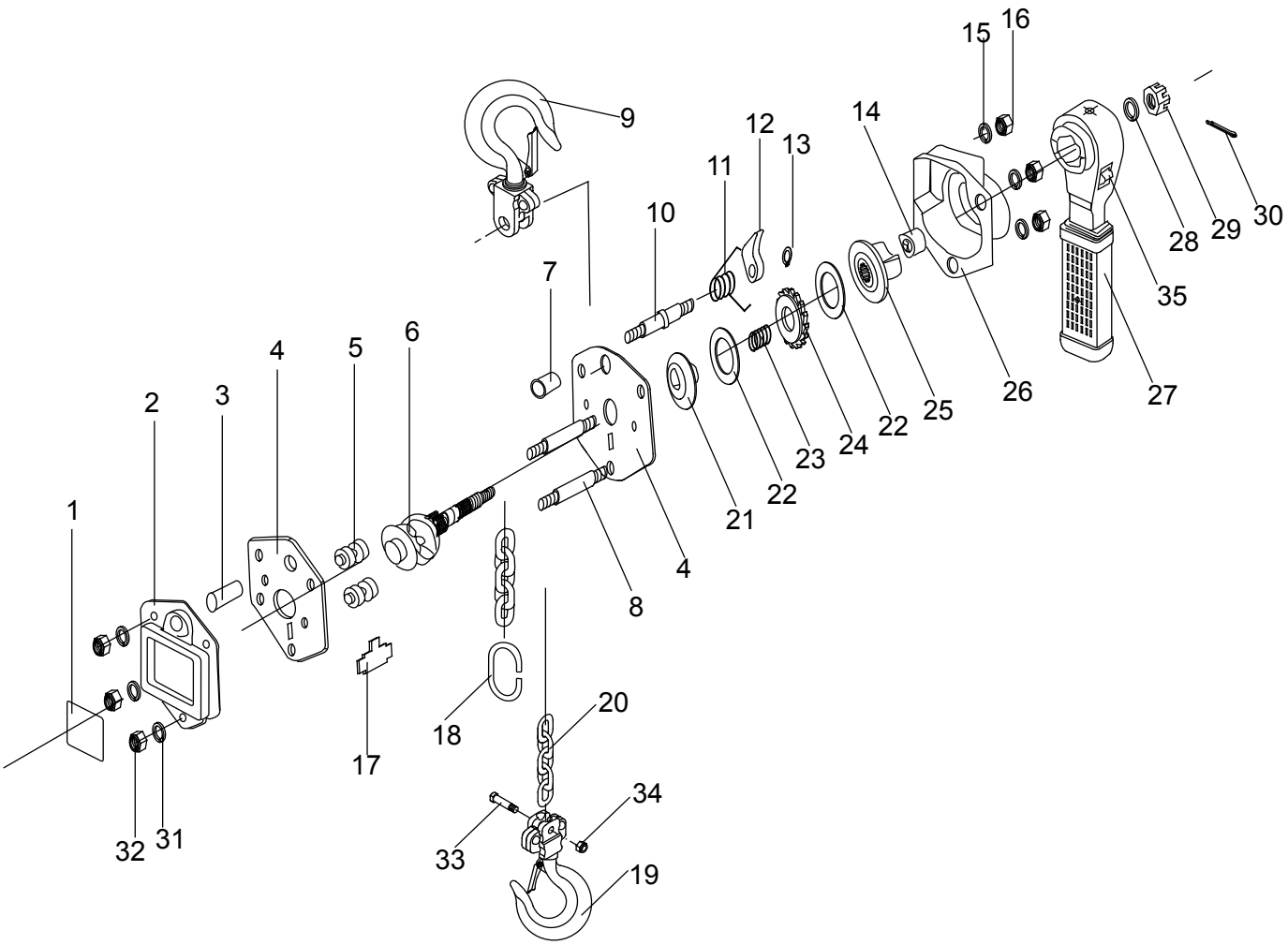
Part	Description	Qty
19	Bottom Hook	1
20	Load Chain	1
21	Brake Seat	1
22	Brake Disc	2
23	Brake Spring	1
24	Ratchet Wheel	1
25	Female Thread Disk	1
26	Brake Cover	1
27	Handle	1
28	Flat Washer	1
29	Slot Knob	1
30	Split Pin	1
31	Spring Washer B	5
32	Hex Nut B	5
33	Suspension Pin	1
34	Locking Nut	1
35	Selector Lever	1

Record Product's Serial Number Here:_____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

Assembly Diagram- 67144 1/4 Ton

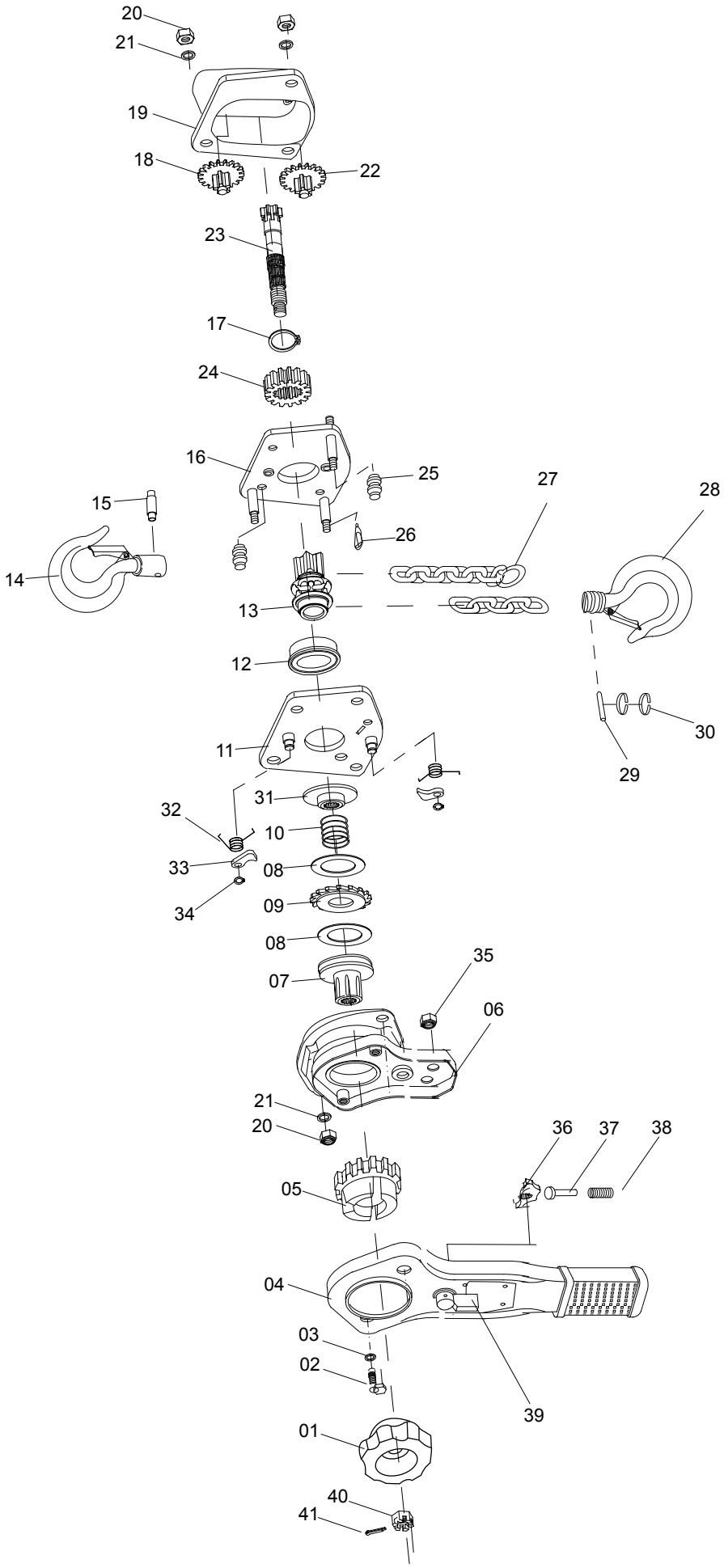


Parts List - 96482 (3/4 Ton) & 66106 (1-1/2 Ton)

Part	Description	Qty
1	Brake Knob	1
2	Screw	2
3	Spring Washer	2
4	Lever Handle	1
5	Selector Wheel	1
6	Handle Case	1
7	Thread Disk	1
8	Brake Disc	2
9	Ratchet Disk	1
10	Brake Spring	1
11	Side Plate A	1
12	Bearing Ring	1
13	Sprocket	1
14	Top Hook	1
15	Top Pin	1
16	Side Plate B	1
17	Snap Ring	1
18	Gear Disk A	1
19	End Plate	1
20	Hex Nut	6
21	Spring Washer	6

Part	Description	Qty
22	Gear Disk B	1
23	Driving Shaft	1
24	Splined Gear	1
25	Guide Roller	2
26	Chain Stripper	1
27	Chain	1
28	Load Hook	1
29	Chain Pin	1
30	Snap Ring	2
31	Brake Seat	1
32	Pawl Spring	2
33	Pawl	2
34	Washer	2
35	Locknut	2
36	Changeover Pawl	1
37	Spring Pin	1
38	Changeover Spring	1
39	Selector Lever	1
40	Slotted Nut	1
41	Split Pin	1

Assembly Diagram- 96482 (3/4 Ton) & 66106 (1-1/2 Ton)



Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

HaulMaster®

3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • 1-888-866-5797