

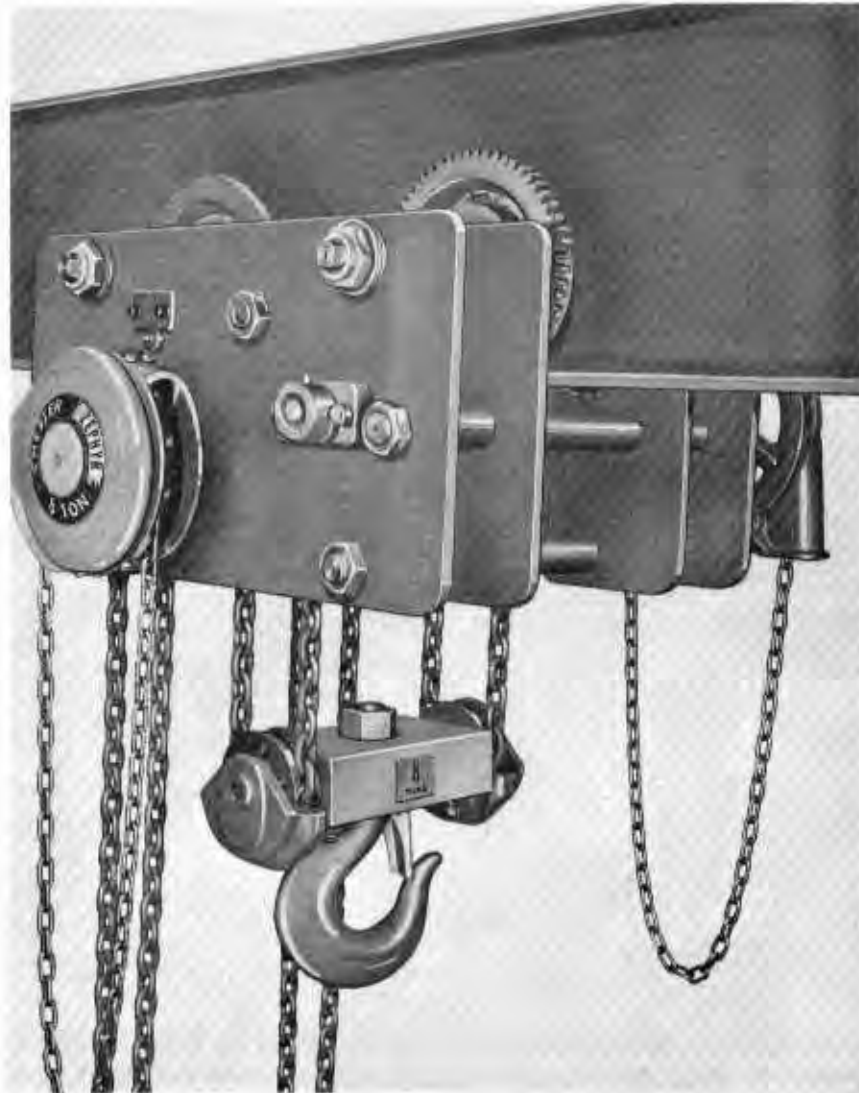
ZLP-ZLG Series

Parts and Instruction
Manual Low Headroom

CHESTER

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SECTION
825
Rev. 9-97



Users should refer to ASME B30.16 Safety Standard and ASME HST-2M Performance Standard for Manual Chain Hoists for specific requirements regarding safety practices for the installation, maintenance, and operation of this equipment.

CHESTER HOIST

P.O. Box 449
7573 St. Rt. 45
Lisbon, Ohio 44432
Phone (330) 424-7248
FAX (330) 424-3126

Chester

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CAUTION: THIS EQUIPMENT ILLUSTRATED AND DESCRIBED IN THIS BULLETIN IS DESIGNED FOR MANUAL OPERATION ONLY AND IS NOT TO BE POWER DRIVEN, NOR IS IT SUITABLE FOR LISTING PEOPLE.

NOTE: Before operating this hoist read ASME B30.16 Safety Standard for Overhead Hoists and this manual. Make this information available to all persons who will install, operate or maintain this equipment.

A Lockout/Tagout policy and procedure shall be implemented by the owner or user of all hoists.

DO's AND DON'TS FOR HOIST OPERATION

DO'S

1. EXAMINE hoist before each shift. CHECK for damaged hooks or chains, also make sure the hoist is properly secured. Make sure your hoist is clean and well lubricated.
2. CHECK daily the chain for improper seating, twisting, kinking, wear or other defects before operating the hoist. If these are not checked, the chain may break under a normal load.
3. BE SURE there are no objects in the way of a load or hook when moving the hoist on the beam.
4. MAKE SURE a load clears neighboring stock piles or machinery when raising or lowering the load.
5. CENTER hoist unit over the load before lifting.
6. AVOID swinging of load or load hook when traveling the hoist.
7. PROPERLY secure outdoor hoist when unattended.
8. KEEP load block above head level when not in use.
9. BE SURE the sling is properly seated in the saddle of the hook. Tip loading leads to hook spreading and possible failure. Hook latch should not support any part of the load.
10. DO READ ASME B30.16 Specification before operating hoist.
11. DO lift a load only a few inches then check load balance and brake operation before proceeding.

DON'TS

1. NEVER lift load with hoist until all personnel are clear.
2. DO NOT allow any unqualified personnel to operate hoist.
3. AVOID collisions or bumping of hoists.
4. DO not transport load over personnel.
5. NEVER carry personnel on the hook or the load.
6. DO NOT operate hoist if you are not physically fit to do so.
7. NEVER pick up a load beyond the capacity appearing on the hoist.
8. DO NOT tamper with any parts of the hoist unless you are a qualified maintenance person.
9. NEVER use the hoist chain as a sling.
10. DO NOT use chain as ground for welding. NEVER touch the welding electrode to the chain.
11. DO NOT divert attention from load while operating hoist.
12. DO NOT leave a load suspended in the air at the end of a work shift, or for extended periods of time and DO NOT leave a load unattended during regular working hours.
13. DO NOT tip or "point" load a hook.
14. DO NOT consider this list all inclusive.
15. DO NOT operate a hoist in need of adjustment or repair.
16. DO NOT operate a hand hoist with power or more than one operator.
17. DO NOT operate a hoist that has been tagged out of service.

Recommended Spare Parts List for Chester Zephyr Low Head Room Plain and Geared Trolley Hoists

CATALOG NO. _____

CAPACITY _____

| Quantity | Part No. (Varies with Capacity) | Description |
|----------|------------------------------------|-----------------------------------|
| 1 | | Pawl Stud |
| 1 | | Pawl Snap Ring |
| 1 | | Pawl Spring |
| 1 | | Pawl |
| 1 pr | | Brake Discs |
| 1 | | Ratchet |
| 2 | | Load Wheel |
| 2 | | Bull Gear Shaft |
| 2 | | Bull Gear |
| 2 pcs | | _____ ' _____ " linear load chain |
| | | Plain Trolley Wheel only |
| | | Geared Trolley Wheel only |

REPAIR PARTS ORDERING INFORMATION

This instruction and parts manual is provided as a convenience to assist you in ordering repair parts for your Chester Zephyr Low Head Room Trolley Hoist.

Give all information listed below. This will enable the factory to promptly fill your order.

1. Provide complete identification data from hoist serial number or nameplate located on the trolley hoist side plate. In the event identification tags are missing, advise hoist capacity and complete beam size on which it operates.
2. Provide part numbers, description, and quantity required.
3. Provide correct shipping destination.

If it becomes necessary to return the complete hoist or certain parts to the factory, authorization is required. Provide a written explanation for return. All returns must be made by prepaid freight.

CHESTER HOIST
P.O. Box 449
7573 St. Rt. 45
Lisbon, Ohio 44432
Phone (330) 424-7248
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INSTALLATION

The hoisting unit is custom sized at the factory to fit on a specific beam size. Most units are slipped over the end of the supporting rail or beam; however, removable wheels* are provided which enables the unit to be fitted on a beam with obstructed ends.

See parts breakdown page 7 for additional information regarding disassembly.

The distance between trolley wheel flanges (measured at the tread diameter) should be $\frac{1}{16}$ " to $\frac{3}{16}$ " greater than the beam flange width for proper running clearance. This clearance should be checked before operating the hoist under load. The hoist should be traversed the entire length of the beam to check for beam interference points, proper side clearance and effectiveness of the beam stops. If everything is satisfactory, the procedure should be repeated with a capacity load as a functional installation test.

WARNING: Before installing this trolley hoist, make certain that the trolley wheel contour is correct for the type of beam the unit will operate on and that the trolley wheel spacing is correct for the beam flange width. Flat flange beams should have flat tread or universal tread wheels and tapered flange beams should have tapered or universal tread wheels.

WARNING: Always make sure all end stops are securely in place before operating a hoist on a runway beam to prevent the hoist from falling from the open beam end.

See page 6 for chain container mounting instructions and warnings.

*Feature not available on units operating on patented monorail tracks.

INSPECTION

NOTE: READ ANSI B30.16 FOR ADDITIONAL INSPECTION REQUIREMENTS

Frequent Inspection – (Daily or before using.)

- (A) BRAKING MECHANISM - Check by lifting load a short distance then lowering to its original position while checking for slippage or free run.
- (B) LOAD CHAIN - For wear, twists, broken or otherwise damaged links. Chain should be clean and free of foreign material or excessive rust. Chain should be properly lubricated.
- (C) HOOK - For wear, heavy nicks, cracks or deformation. The hook must turn freely and the latch should be operative.

Note: Any hook that is twisted or has throat opening in excess of normal indicates overloading or abuse of the hoist and requires an inspection of all other load bearing components for damage.

Annual inspection — (More often if in heavy use or an adverse environment.)

- (A) Chain, load sheaves and other sheaves for excessive wear or chain stretch.
- (B) HOOK - Dye penetrant, magnetic particle or other suitable crack detecting inspection. The hook must turn freely and the latch should be operative.
- (C) HOOK RETAINING PINS OR WELDS should be inspected.
- (D) BRAKE MECHANISM - Worn, glazed or contaminated friction discs, worn pawls and damaged pawl springs.
- (E) LOAD BEARING PARTS - Worn, cracked or distorted parts such as hand chain wheels, chain attachments, suspension bolts, shafts, gears, and bearings.
- (F) CHAIN CONTAINER MOUNTING BOLTS AND BRACKETS. (See page 6.)

INSPECTION RECORD

Written, dated and signed inspection report and records should be made on the hoist. A sample log form is furnished on page 6.

MAINTENANCE AND OPERATING PROCEDURES: (USER'S RESPONSIBILITY)

All equipment should be inspected, tested, operated, and maintained according to the manufacturer's recommendations and the applicable sections of ASME/ANSI B30.16, B30.11, and B30.17. Consideration should also be given to pertinent federal, state and local regulations.

RECORD COPY

Inspection Log

Inspection No. _____ Date _____

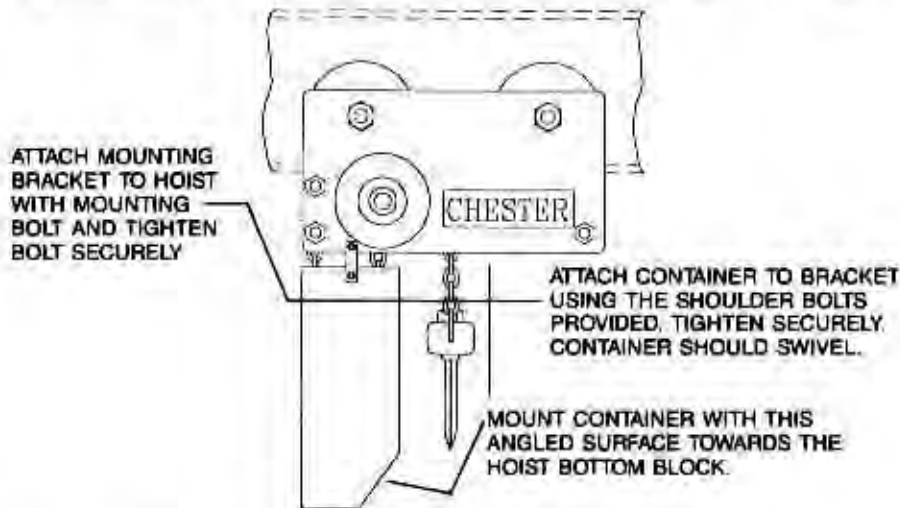
Inspector _____

Comments

- A. Chain and Sheaves _____
- B. Hook and Retainer _____
- C. Brake Mechanism _____
- D. Load Bearing Parts _____
- E. Other Parts _____

CHAIN CONTAINER INSTALLATION NOTE

THE CHAIN CONTAINER FOR THIS HOIST HAS BEEN SHIPPED LOOSE. FOLLOW THESE INSTRUCTIONS TO INSTALL THE CONTAINER AND TO LOAD THE CHAIN INTO THE CONTAINER.



CHAIN LOADING NOTE: Lower load block as far as possible. After installing the chain container run the load block up allowing the hoist mechanism to fill the container. Verify the chain is loading properly into the container.

WARNING!! Never load chain into the container by hand!! Hand loading will cause the chain to tangle which will jam and damage the hoist.

INSPECTION NOTE: The mounting bolts for the container should be checked each time the hoist is inspected to insure they remain tight. The mounting holes on the container and brackets should be checked each time the hoist is inspected to insure they are not elongating and weakening the container or bracket.

HOIST MAINTENANCE

CAUTION: Before disassembling any portion of the hoisting mechanism, the hook assembly must be lowered to the floor level for support, then continue to lower until stopped by the bolted end of the chain. This should prevent the free fall of the hook assembly or load chain when the load brake is disengaged.

Handwheel Side, Parts Service (Includes load brake)

- (A) Unscrew 4 screws to remove handwheel cover. Pull cover and lift hand chain from handwheel, chain will remain looped through handwheel cover. If it is necessary to remove hand chain, find the unwelded link and bend open for removal.
- (B) Grasp handwheel and pull. After removal, the complete handwheel and brake assembly may be more conveniently placed in a soft jawed vise for disassembly.
- (C) Remove cotter pin and unscrew (counter clockwise) the handwheel from spindle. See Fig. 2 Page 8 for reassembly adjustment.
- (D) Lift off brake disc, ratchet, and second brake disc.
- (E) The pawl retaining ring and pawl spring nut should be removed to permit the pawl and pawl spring to be disassembled. The pawl stud can be removed by turning counter clockwise.
- (F) When reassembling, the smaller of the two brake discs is placed on the spindle last (against the handwheel assembly).

Gear Cover Side Parts Service

- (A) Unscrew 4 screws on cover and remove cover.
- (B) Note the proper timing mark position of the two planet gears. See Figure 1 page 8.
- (C) Back-out the square head set screw to permit the pinion cage with the two planet gears to be pulled from the load shaft.
- (D) The two planet gears are removed by pulling the cotter pins and slipping the shafts from the gears.

Reassembling: Mount planet gears in pinion cage with cotter pins in place. Align set screw hole in pinion cage with the set screw hole in the drive shaft and time the planet gears as illustrated in Fig. 1 Page 8.

Trolley Wheel Parts Service

- (A) To disassemble trolley wheels, back off axle nut, then force the axle toward center of hoist. The "C" washer should be free of its retaining cup shaped washer. When the "C" washer is removed, the axle can be withdrawn.

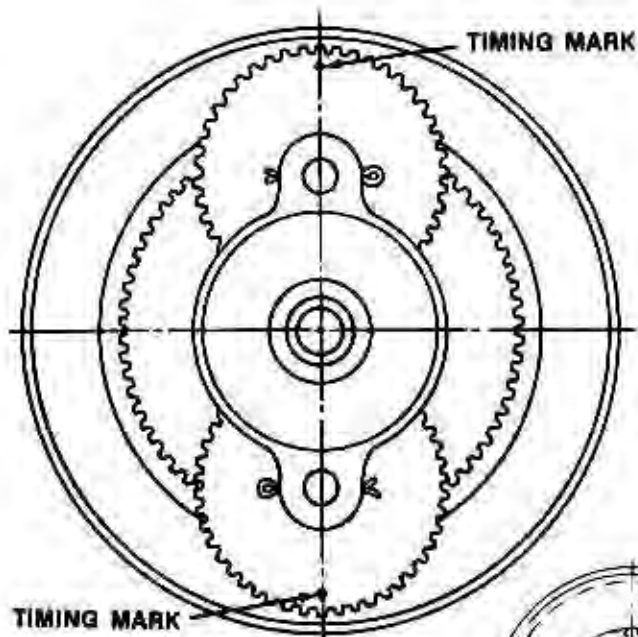


Fig. 1

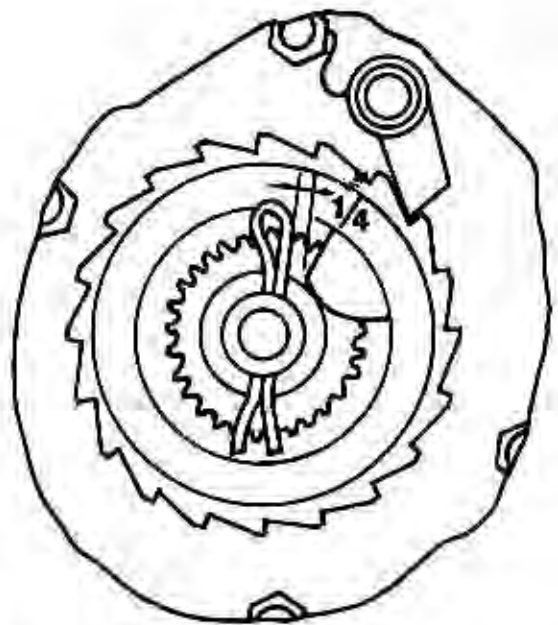


Fig. 2

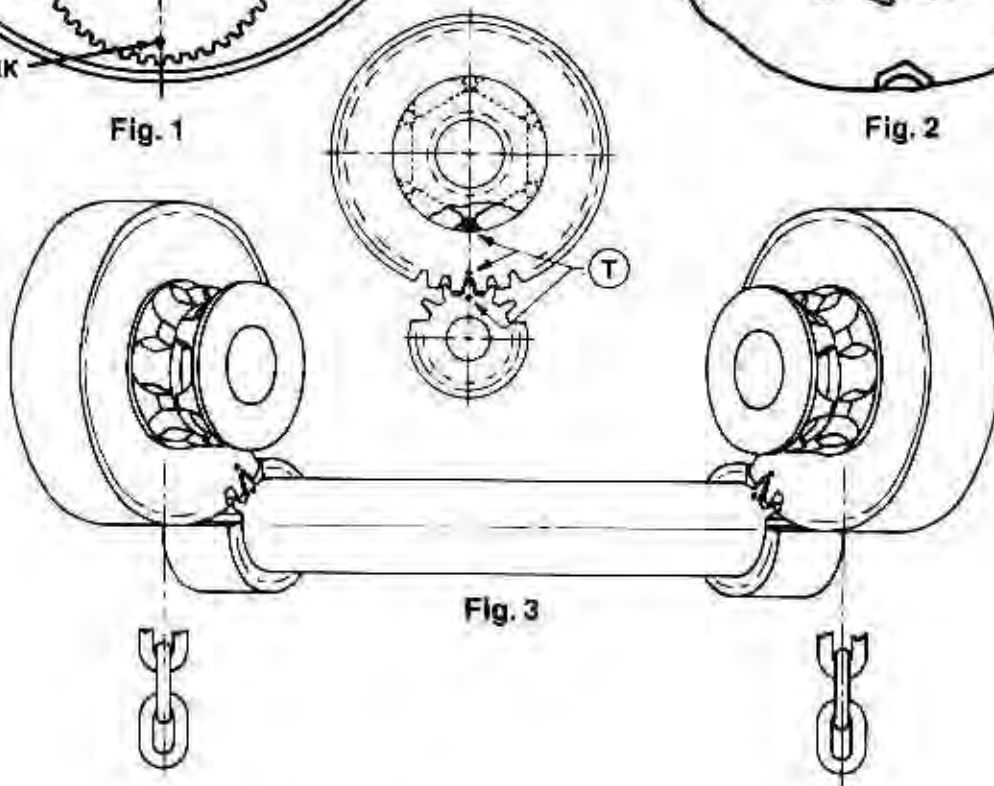


Fig. 3

Ⓣ Indicates three timing marks in alignment

To enable the two independent chains to lift the bottom block evenly, the large gears and load sheaves must first be timed as illustrated. Then both gears must be timed simultaneously with the shaft pinions. This timing procedure is only necessary when the gears have been disengaged during disassembly, Fig. 3.

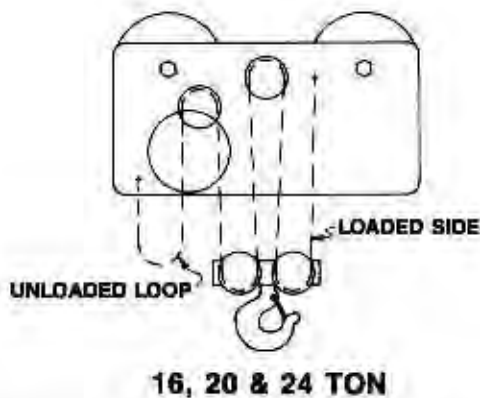
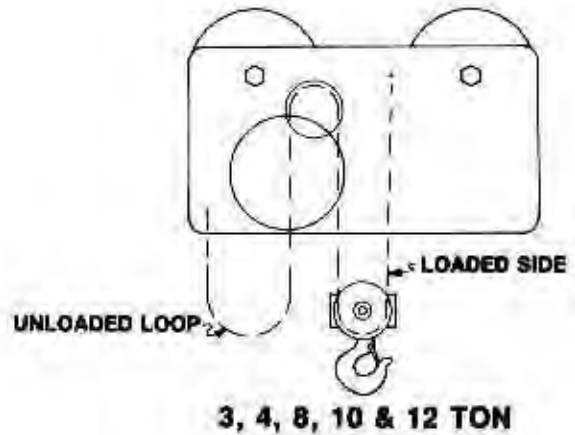
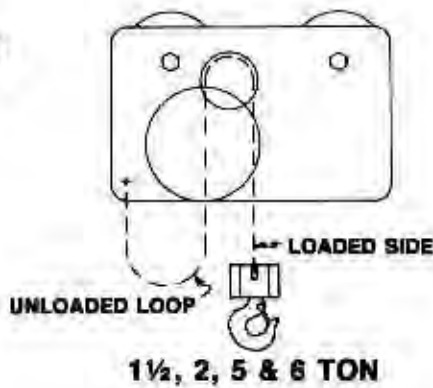
When replacing load chain, the two chains must be exactly the same length. The starting chain link on each chain must be simultaneously fed into the two lifting load sheaves. The starting links will pass over the top of the load sheave in a horizontal position to permit end attachment without twisting the chain. The second link of chain will be a standing link of chain; this link should have the weld furthest away from the center of the load sheave. Fig. 3.

LUBRICATION

| LUBRICANT | LOCATION | INSTRUCTIONS |
|--|--|---|
| NLGI No. 2 Grease | Fittings on chain sheave pins (roller bearing) | Annually or as required |
| | *Trolley wheels | After prolonged use or at reassembly |
| | Pawl Stud | Coat lightly at reassembly |
| | Brake square thread | Coat lightly at reassembly |
| NLGI No. 2 with E.P. additive | Gears | After prolonged use or at reassembly |
| Intermediate oils preferably with E.P. additives | Chain | Immerse in container or swab with oil soaked rag. Wipe off excess oil. Should maintain chain rust free. |
| Bonded lubricants (similar to Dow Molykote M-88) | Chain | Use in place of oil, if oil residues are objectionable. |

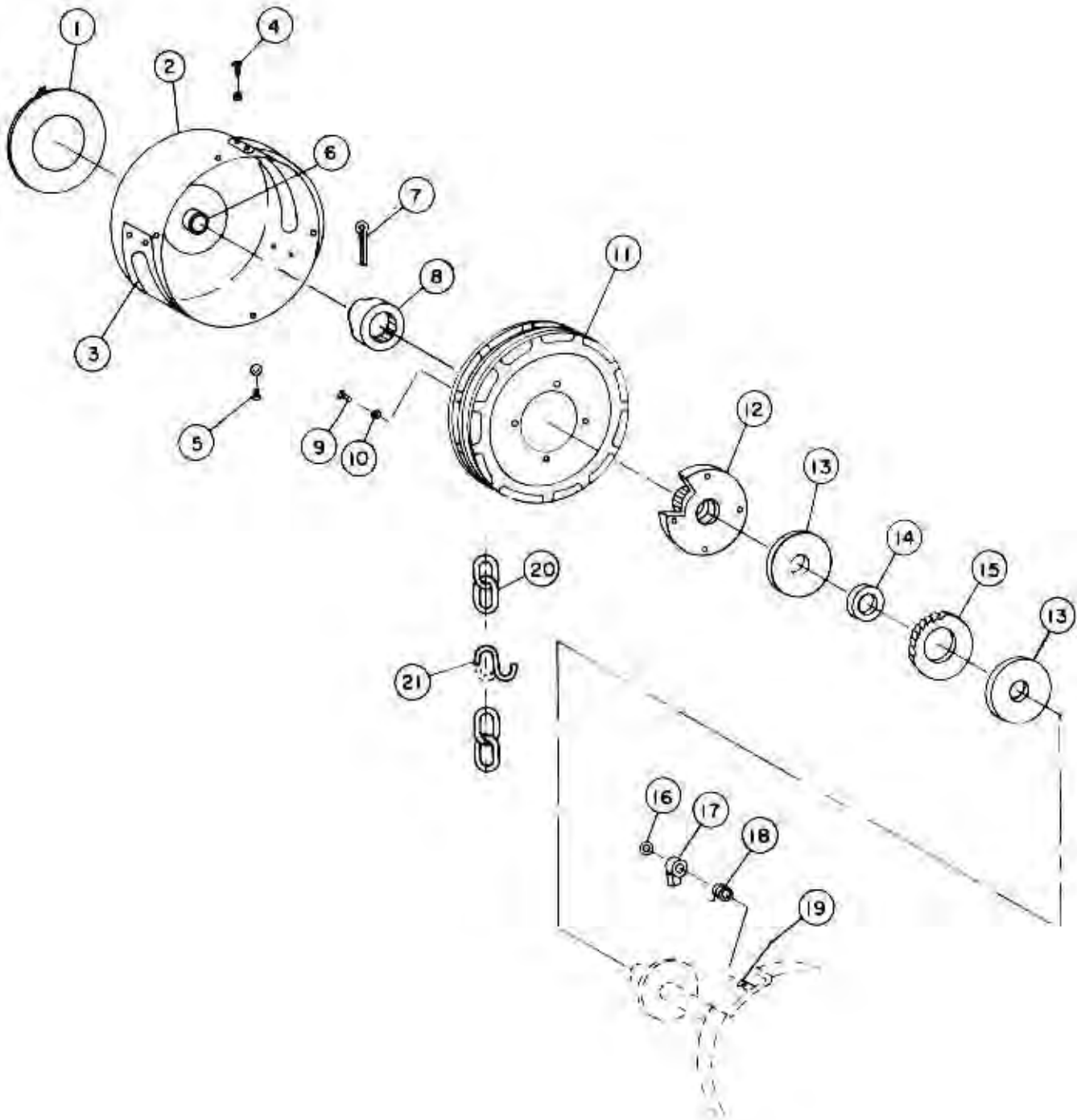
*Not required on units equipped with sealed ball bearings. (Wheels will not have grease fittings.)

CHAIN REEVING



NOTE: LOOKING AT HANDWHEEL SIDE

Mechanism - Handwheel End



Mechanism - Handwheel End

PART NO. PER CAPACITY

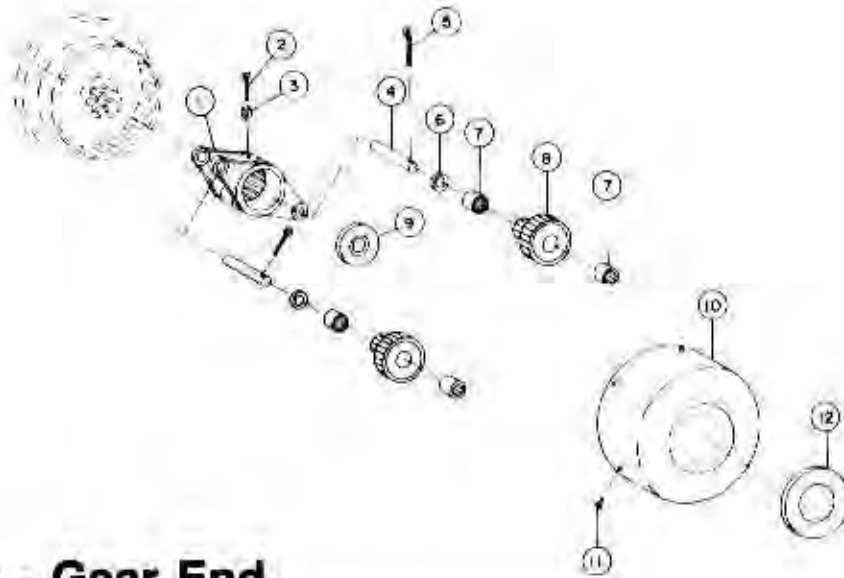
| PC. NO. | DESCRIPTION | 1½ TON | QTY. | 2 TON | QTY. | 3 TON | QTY. |
|---------|----------------------------|-------------|------|-------------|------|-------------|------|
| 1 | Decal | C-947-C | 1 | C-947-C | 1 | C-947-C | 1 |
| 2 | Cover, Handwheel | C-968-A-005 | 1 | C-968-A-005 | 1 | C-968-A-005 | 1 |
| 3 | Guide, Hand Chain | C-914-005 | 2 | C-914-005 | 2 | C-914-005 | 2 |
| 4 | Screw, Hand Chain Guide | 44-25-50 | 8 | 44-25-50 | 8 | 44-25-50 | 8 |
| 5 | Screw, Handwheel Cover | 999 | 4 | 999 | 4 | 999 | 4 |
| 6 | Bushing, Handwheel Cover | C-903-005 | 1 | C-903-005 | 1 | C-903-005 | 1 |
| 7 | Cotter Pin | 135-31-1.75 | 1 | 135-31-1.75 | 1 | 135-31-1.75 | 1 |
| 8 | Ring, Adjustable Check | C-925-005 | 1 | C-925-005 | 1 | C-925-005 | 1 |
| 9 | Screw, Handwheel | 14-25-50 | 4 | 14-25-50 | 4 | 14-25-50 | 4 |
| 10 | Lockwasher, Handwheel | 1-25 | 4 | 1-25 | 4 | 1-25 | 4 |
| 11 | Handwheel | C-928-005 | 1 | C-928-005 | 1 | C-928-005 | 1 |
| 12 | Insert, Threaded Handwheel | C-916-005 | 1 | C-916-005 | 1 | C-916-005 | 1 |
| 13 | Disc, Brake | C-934L-005 | 2 | C-934L-005 | 2 | C-934L-005 | 2 |
| 14 | Bushing, Bronze for 935 | C-907-005 | 1 | C-907-005 | 1 | C-907-005 | 1 |
| 15 | Ratchet | C-935-005 | 1 | C-935-005 | 1 | C-935-005 | 1 |
| 16 | Ring, Pawl Snap | C-908-005 | 1 | C-908-005 | 1 | C-908-005 | 1 |
| 17 | Pawl | C-923-005 | 1 | C-923-005 | 1 | C-923-005 | 1 |
| 18 | Spring, Pawl | C-16256 | 1 | C-16256 | 1 | C-16256 | 1 |
| 19 | Stud, Pawl | C-9301-015 | 1 | C-9301-015 | 1 | C-9301-015 | 1 |
| 20 | Chain, Hand | C-937 | 1 | C-937 | 1 | C-937 | 1 |
| 21 | Link, Connector | C-937L | 1 | C-937L | 1 | C-937L | 1 |
| PC. NO. | DESCRIPTION | 4 TON | QTY. | 5 TON | QTY. | 6 TON | QTY. |
| 1 | Decal | C-947-C | 1 | C-947-C | 1 | C-947-C | 1 |
| 2 | Cover, Handwheel | C-968-A-005 | 1 | C-968-015 | 1 | C-968-015 | 1 |
| 3 | Guide, Hand Chain | C-914-005 | 2 | C-914-015 | 2 | C-914-015 | 2 |
| 4 | Screw, Hand Chain Guide | 44-25-50 | 8 | 44-25-50 | 8 | 44-25-50 | 8 |
| 5 | Screw, Handwheel Cover | 999 | 4 | 999 | 4 | 999 | 4 |
| 6 | Bushing, Handwheel Cover | C-903-005 | 1 | C-903-015 | 1 | C-903-015 | 1 |
| 7 | Cotter Pin | 135-31-1.75 | 1 | 135-31-1.75 | 1 | 135-31-1.75 | 1 |
| 8 | Ring, Adjustable Check | C-925-005 | 1 | C-925-005 | 1 | C-925-005 | 1 |
| 9 | Screw, Handwheel | 14-25-50 | 4 | 14-25-50 | 4 | 14-25-50 | 4 |
| 10 | Lockwasher, Handwheel | 1-25 | 4 | 1-25 | 4 | 1-25 | 4 |
| 11 | Handwheel | C-928-005 | 1 | C-928-015 | 1 | C-928-015 | 1 |
| 12 | Insert, Threaded Handwheel | C-916-005 | 1 | C-916-015 | 1 | C-916-015 | 1 |
| 13 | Disc, Brake | C-934L-005 | 2 | C-934-015 | 2 | C-934-015 | 2 |
| 14 | Bushing, Bronze for 935 | C-907-005 | 1 | C-907-005 | 1 | C-907-005 | 1 |
| 15 | Ratchet | C-935-005 | 1 | C-935-015 | 1 | C-935-015 | 1 |
| 16 | Ring, Pawl Snap | C-908-005 | 1 | C-908-005 | 1 | C-908-005 | 1 |
| 17 | Pawl | C-923-005 | 1 | C-923-005 | 1 | C-923-005 | 1 |
| 18 | Spring, Pawl | C-16256 | 1 | C-16257 | 1 | C-16257 | 1 |
| 19 | Stud, Pawl | C-9301-015 | 1 | C-9301-015 | 1 | C-9301-015 | 1 |
| 20 | Chain, Hand | C-937 | | C-937 | | C-937 | |
| 21 | Link, Connector | C-937L | 1 | C-937L | 1 | C-937L | 1 |

Mechanism - Handwheel End

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 8 TON | QTY. | 10 TON | QTY. | 12 TON | QTY. |
|---------|-----------------------------|-------------|------|-------------|------|-------------|------|
| 1 | Decal | C-947-C | 1 | C-947-C | 1 | C-947-C | 1 |
| 2 | Cover, Handwheel | C-968-015 | 1 | C-968-015 | 1 | C-968-015 | 1 |
| 3 | Guide, Hand Chain | C-914-015 | 2 | C-914-015 | 2 | C-914-015 | 2 |
| 4 | Screw, Hand Chain Guide | 44-25-50 | 8 | 44-25-50 | 8 | 44-25-50 | 8 |
| 5 | Screw, Handwheel Cover | 999 | 4 | 999 | 4 | 999 | 4 |
| 6 | Bushing, Handwheel Cover | C-903-015 | 1 | C-903-015 | 1 | C-903-015 | 1 |
| 7 | Cotter Pin | 135-31-1.75 | 1 | 135-31-1.75 | 1 | 135-31-1.75 | 1 |
| 8 | Ring, Adjustable Check | C-925-005 | 1 | C-925-005 | 1 | C-925-005 | 1 |
| 9 | Screw, Threaded Insert | 14-25-50 | 4 | 14-25-50 | 4 | 14-25-50 | 4 |
| 10 | Lockwasher, Threaded Insert | 1-25 | 4 | 1-25 | 4 | 1-25 | 4 |
| 11 | Handwheel | C-928-015 | 1 | C-928-015 | 1 | C-928-015 | 1 |
| 12 | Insert, Threaded Handwheel | C-916-015 | 1 | C-916-015 | 1 | C-916-015 | 1 |
| 13 | Disc, Brake | C-934-015 | 2 | C-934-015 | 2 | C-934-015 | 2 |
| 14 | Bushing, Bronze for 935 | C-907-005 | 1 | C-907-005 | 1 | C-907-005 | 1 |
| 15 | Ratchet | C-935-015 | 1 | C-935-015 | 1 | C-935-015 | 1 |
| 16 | Ring, Pawl Snap | C-908-005 | 1 | C-908-005 | 1 | C-908-005 | 1 |
| 17 | Pawl | C-923-005 | 1 | C-923-005 | 1 | C-923-005 | 1 |
| 18 | Spring, Pawl | C-16257 | 1 | C-16257 | 1 | C-16257 | 1 |
| 19 | Stud, Pawl | C-9301-015 | 1 | C-9301-015 | 1 | C-9301-015 | 1 |
| 20 | Chain, Hand | C-937 | | C-937 | | C-937 | |
| 21 | Link, Connector | C-937L | 1 | C-937L | 1 | C-937L | 1 |
| PC. NO. | DESCRIPTION | 16 TON | QTY. | 20 TON | QTY. | 24 TON | QTY. |
| 1 | Decal | C-947-C | 1 | C-947-C | 1 | C-947-C | 1 |
| 2 | Cover, Handwheel | C-968-015 | 1 | C-968-015 | 1 | C-968-015 | 1 |
| 3 | Guide, Hand Chain | C-914-015 | 2 | C-914-015 | 2 | C-914-015 | 2 |
| 4 | Screw, Hand Chain Guide | 44-25-50 | 8 | 44-25-50 | 8 | 44-25-50 | 8 |
| 5 | Screw, Handwheel Cover | 999 | 4 | 999 | 4 | 999 | 4 |
| 6 | Bushing, Handwheel Cover | C-903-015 | 1 | C-903-015 | 1 | C-903-015 | 1 |
| 7 | Cotter Pin | 135-31-1.75 | 1 | 135-31-1.75 | 1 | 135-31-1.75 | 1 |
| 8 | Ring, Adjustable Check | C-925-005 | 1 | C-925-005 | 1 | C-925-005 | 1 |
| 9 | Screw, Handwheel | 14-25-50 | 4 | 14-25-50 | 4 | 14-25-50 | 4 |
| 10 | Lockwasher, Handwheel | 1-25 | 4 | 1-25 | 4 | 1-25 | 4 |
| 11 | Handwheel | C-928-015 | 1 | C-928-015 | 1 | C-928-015 | 1 |
| 12 | Insert, Threaded Handwheel | C-916-015 | 1 | C-916-015 | 1 | C-916-015 | 1 |
| 13 | Disc, Brake | C-934-015 | 2 | C-934-015 | 2 | C-934-015 | 2 |
| 14 | Bushing, Bronze for 935 | C-907-005 | 1 | C-907-005 | 1 | C-907-005 | 1 |
| 15 | Ratchet | C-935-015 | 1 | C-935-015 | 1 | C-935-015 | 1 |
| 16 | Ring, Pawl Snap | C-908-005 | 1 | C-908-005 | 1 | C-908-005 | 1 |
| 17 | Pawl | C-923-005 | 1 | C-923-005 | 1 | C-923-005 | 1 |
| 18 | Spring, Pawl | C-16257 | 1 | C-16257 | 1 | C-16257 | 1 |
| 19 | Stud, Pawl | C-9301-015 | 1 | C-9301-015 | 1 | C-9301-015 | 1 |
| 20 | Chain, Hand | C-937 | | C-937 | | C-937 | |
| 21 | Link, Connector | C-937L | 1 | C-937L | 1 | C-937L | 1 |

Mechanism - Gear End



Mechanism - Gear End

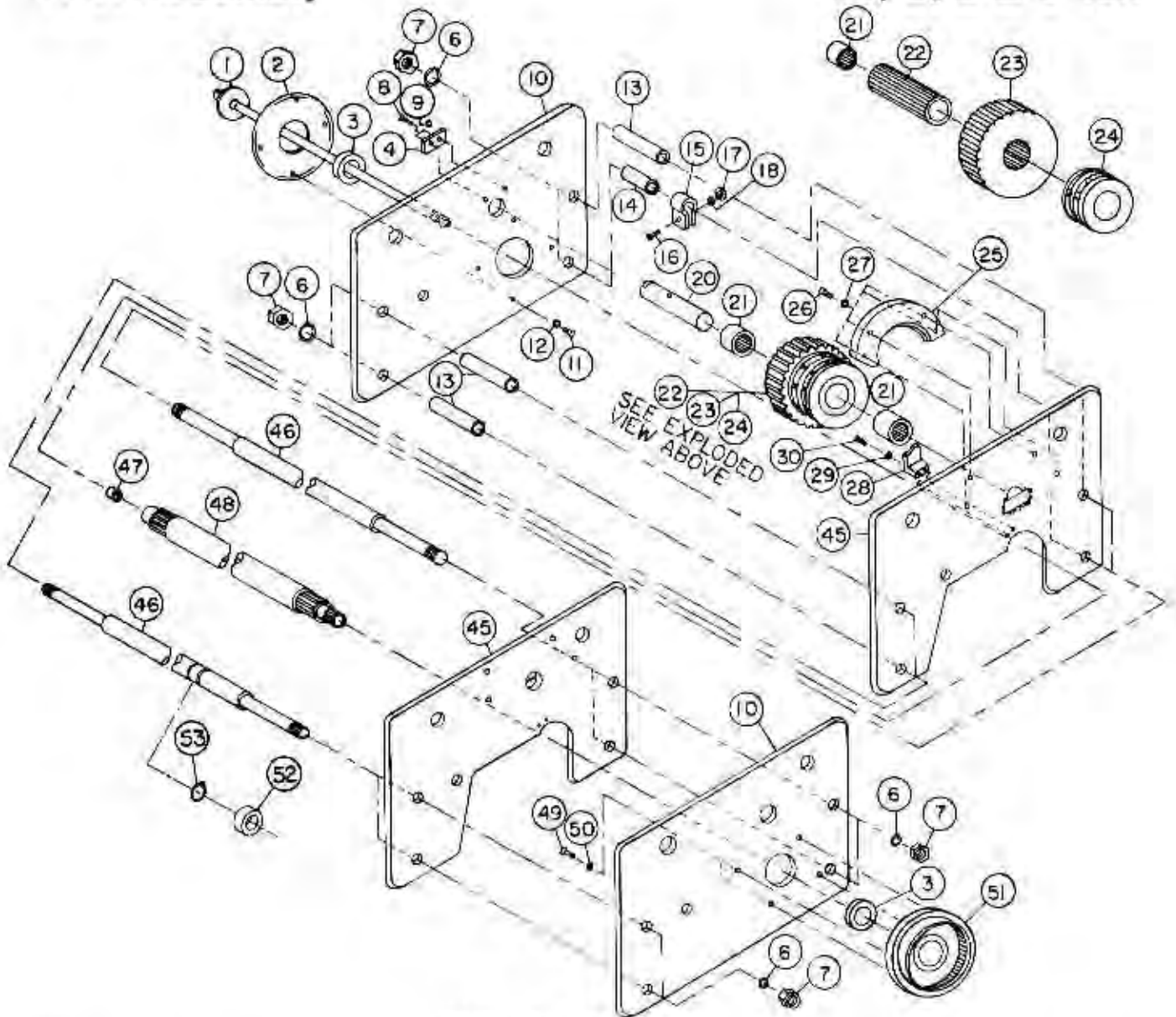
PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ & 2 TON | QTY. | 3 & 4 TON | QTY. | 5 & 6 TON | QTY. |
|---------|------------------------|-------------|------|-------------|------|--------------|------|
| 1 | Cage, Pinion | C-921-01 | 1 | C-921-01 | 1 | C-921-015 | 1 |
| 2 | Screw, Sq. Head | 60-31-87 | 1 | 60-31-87 | 1 | 60-31-87 | 1 |
| 3 | Nut, Lock | 96-31-2 | 1 | 96-31-2 | 1 | 96-31-2 | 1 |
| 4 | Shaft, Gear & Pinion | C-919-005 | 2 | C-919-005 | 2 | C-919-015 | 2 |
| 5 | Cotter Pin | 135-10-1.25 | 2 | 135-10-1.25 | 2 | 135-156-1.50 | 2 |
| 6 | Washer, Thrust | NONE | 0 | NONE | 0 | 6-64-1.12-04 | 2 |
| 7 | Bearing, Gear & Pinion | C-922-005 | 4 | C-922-005 | 4 | C-922-015 | 4 |
| 8 | Gear & Pinion | C-927-01 | 2 | C-927-01 | 2 | C-927-02 | 2 |
| 9 | Block, Cage Bearing | C-959-005 | 1 | C-959-005 | 1 | C-959-015 | 1 |
| 10 | Cover, Gear | C-930-005 | 1 | C-930-005 | 1 | C-930-015 | 1 |
| 11 | Screw, Cover | 999 | 4 | 999 | 4 | 999 | 4 |
| 12 | Decal | C-947-D | 1 | C-947-D | 1 | C-947-D | 1 |

| PC. NO. | DESCRIPTION | 8 TON | QTY. | 10 & 12 TON | QTY. | 16 TON | QTY. | 20 & 24 TON | QTY. |
|---------|------------------------|--------------|------|--------------|------|--------------|------|--------------|------|
| 1 | Cage, Pinion | C-921-015 | 1 | C-921-015 | 1 | C-921-015 | 1 | C-921-015 | 1 |
| 2 | Screw, Sq. Head | 60-31-87 | 1 | 60-31-87 | 1 | 60-31-87 | 1 | 60-31-87 | 1 |
| 3 | Nut, Lock | 96-31-2 | 1 | 96-31-2 | 1 | 96-31-2 | 1 | 96-31-2 | 1 |
| 4 | Shaft, Gear & Pinion | C-919-015 | 2 | C-919-015 | 2 | C-919-015 | 2 | C-919-015 | 2 |
| 5 | Cotter Pin | 135-156-1.50 | 2 | 135-156-1.50 | 2 | 135-156-1.50 | 2 | 135-156-1.50 | 2 |
| 6 | Washer, Thrust | 6-64-1.12-04 | 2 | 6-64-1.12-04 | 2 | 6-64-1.12-04 | 2 | 6-64-1.12-04 | 2 |
| 7 | Bearing, Gear & Pinion | C-922-015 | 4 | C-922-015 | 4 | C-922-015 | 4 | C-922-015 | 4 |
| 8 | Gear & Pinion | C-927-02 | 2 | C-927-02 | 2 | C-927-02 | 2 | C-927-02 | 2 |
| 9 | Block, Cage Bearing | C-959-015 | 1 | C-959-015 | 1 | C-959-015 | 1 | C-959-015 | 1 |
| 10 | Cover, Gear | C-930-015 | 1 | C-930-015 | 1 | C-930-015 | 1 | C-930-015 | 1 |
| 11 | Screw, Cover | 999 | 4 | 999 | 4 | 999 | 4 | 999 | 4 |
| 12 | Decal | C-947-D | 1 | C-947-D | 1 | C-947-D | 1 | C-947-D | 1 |

Hoist Assembly

1½, 2, 5 & 6 Ton



PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ TON | QTY. | 2 TON | QTY. | 5 TON | QTY. | 6 TON | QTY. |
|---------|----------------------------|-------------|------|-------------|------|------------|------|------------|------|
| 1 | Spindle Assembly | C-9318-005 | 1 | C-9318-005 | 1 | C-9318-015 | 1 | C-9318-015 | 1 |
| 2 | Frame Half. Handwheel Side | C-9262-005 | 1 | C-9262-005 | 1 | C-9262-015 | 1 | C-9262-015 | 1 |
| 3 | Bearing, Drive Shaft | C-960-005 | 2 | C-960-005 | 2 | C-960-015 | 2 | C-960-015 | 2 |
| 4 | Keeper, Load Shaft | C-9362-015 | 4 | C-9362-015 | 4 | C-9362-015 | 4 | C-9362-015 | 4 |
| 5 | Keeper, Idler Shaft | NONE | | NONE | | NONE | | NONE | |
| 6 | Lockwasher, Separator Stud | 1-75 | 8 | 1-75 | 8 | 1-100 | 8 | 1-100 | 8 |
| 7 | Nut, Hex, Separator Stud | 96-75-2 | 8 | 96-75-2 | 8 | 96-100-2 | 8 | 96-100-2 | 8 |
| 8 | Bolt, Keeper | 31-31-62 | 8 | 31-31-62 | 8 | 31-37-75 | 8 | 31-37-75 | 8 |
| 9 | Lockwasher, Keeper | 1-31 | 8 | 1-31 | 8 | 1-37 | 8 | 1-37 | 8 |
| 10 | Side Plate, Outboard | C-9300A-015 | 2 | C-9300A-015 | 2 | C-9300A-05 | 2 | C-9300A-05 | 2 |

Hoist Assembly

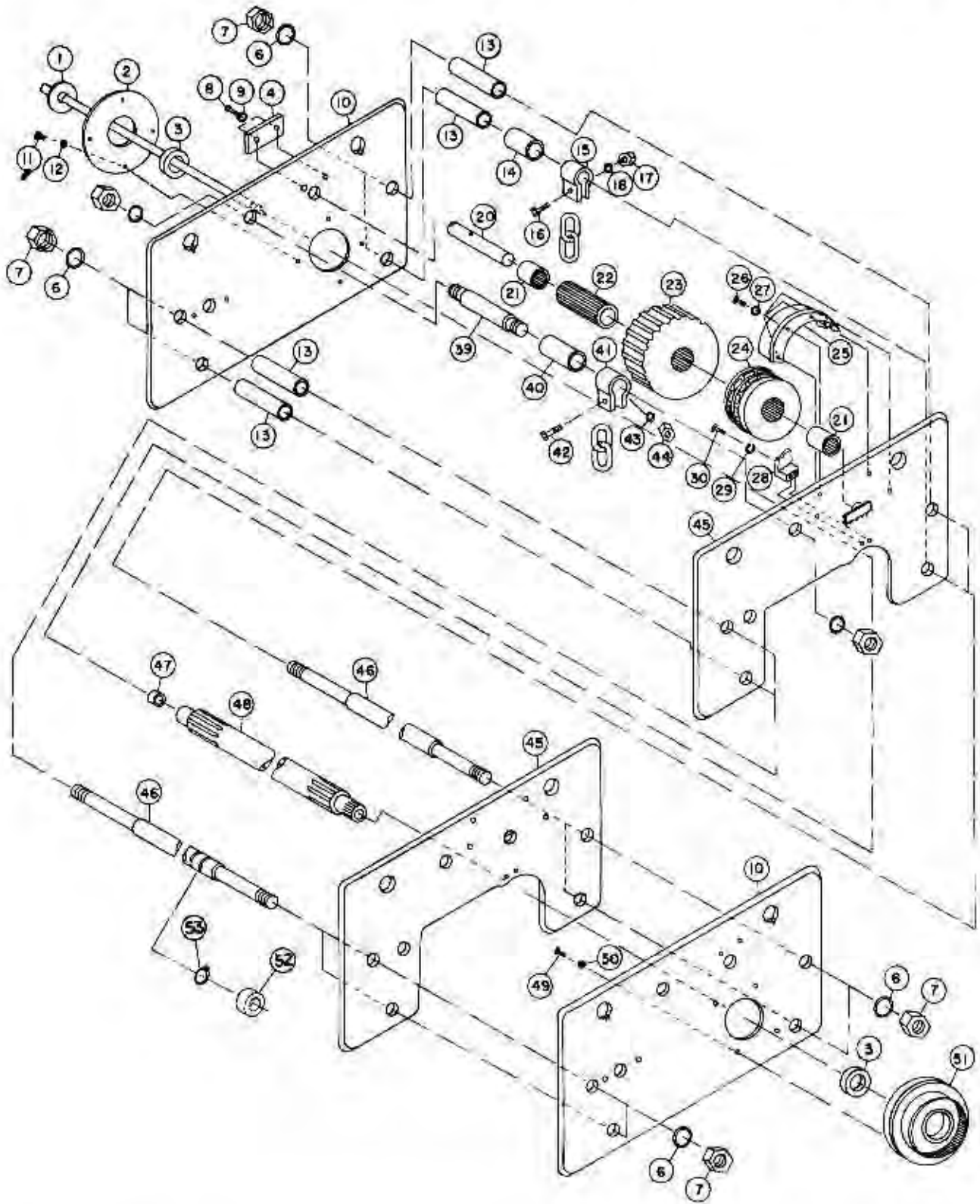
1½, 2, 5 & 6 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ TON | QTY. | 2 TON | QTY. | 5 TON | QTY. | 6 TON | QTY. |
|---------|-----------------------------------|--------------|------|--------------|------|-------------|------|-------------|------|
| 11 | Bolt, Frame Half H'dwh'l Side | 31-37-75 | 4 | 31-37-75 | 4 | 31-43-1.00 | 4 | 31-43-1.00 | 4 |
| 12 | Lockwasher, Frame Half | 1-37 | 4 | 1-37 | 4 | 1-43 | 4 | 1-43 | 4 |
| 13 | Pipe Spacer, Long | C-9307-P1 | 8 | C-9307-P1 | 8 | C-9307-P5 | 8 | C-9307-P5 | 8 |
| 14 | Pipe Spacer, Short | C-9307-P2 | 2 | C-9307-P2 | 2 | C-9307-P6 | 2 | C-9307-P6 | 6 |
| 15 | Bale, Dead End | C-9393-015 | 2 | C-9393-015 | 2 | C-9393-05 | 2 | C-9393-05 | 2 |
| 16 | Bolt, Dead End | 22-31-1.50 | 2 | 22-31-1.50 | 2 | 18-62-2.75 | 2 | 18-62-2.75 | 2 |
| 17 | Nut, Hex, Bale | 70-31-2 | 2 | 70-31-2 | 2 | 70-62-2 | 2 | 70-62-2 | 2 |
| 18 | Lockwasher, Bale | 1-31 | 2 | 1-31 | 2 | 1-62 | 2 | 1-62 | 2 |
| 20 | Axle, Bull Gear | C-9338-015 | 2 | C-9338-015 | 2 | C-9338-05 | 2 | C-9338-05 | 2 |
| 21 | Bearing | TC-12E16-012 | 4 | TC-12E16-012 | 4 | GM-2226-020 | 4 | GM-2226-020 | 4 |
| 22 | Shaft, Bull Gear Splined | C-9374-015 | 2 | C-9374-015 | 2 | C-35469 | 2 | C-35469 | 2 |
| 23 | Gear, Bull | C-9390-015 | 2 | C-9390-015 | 2 | C-9390-05 | 2 | C-9390-05 | 2 |
| 24 | Load Wheel | C-929-005 | 2 | C-929-005 | 2 | C-9329-05 | 2 | C-9329-05 | 2 |
| 25 | Guide, Load Chain | C-9305-015 | 2 | C-9305-015 | 2 | C-9305-05 | 2 | C-9305-05 | 2 |
| 26 | Bolt, Guide | 31-31-75 | 8 | 31-31-75 | 8 | 31-37-1.00 | 8 | 31-37-1.00 | 8 |
| 27 | Lockwasher, Guide | 1-31 | 8 | 1-31 | 8 | 1-37 | 8 | 1-37 | 8 |
| 28 | Stripper | C-9324-015 | 2 | C-9324-015 | 2 | C-9324-05 | 2 | C-9324-05 | 2 |
| 29 | Lockwasher, Stripper | 1-25 | 4 | 1-25 | 4 | 1-31 | 4 | 1-31 | 4 |
| 30 | Bolt Stripper | 31-25-87 | 4 | 31-25-87 | 4 | 31-31-1.25 | 4 | 31-31-1.25 | 4 |
| 45 | Plate, Inboard | C-9300B-015 | 2 | C-9300B-015 | 2 | C-9300B-05 | 2 | C-9300B-05 | 2 |
| 46 | Stud, Separator | C-9312-015 | 4 | C-9312-015 | 4 | C-9312-05 | 4 | C-9312-05 | 4 |
| 47 | Bushing, Drive Shaft | NONE | 0 | NONE | 0 | C-911-015 | 1 | C-911-015 | 1 |
| 48 | Shaft, Drive | C-9384-015 | 1 | C-9384-015 | 1 | C-9384-05 | 1 | C-9384-05 | 1 |
| 49 | Bolt, Frame Half Geared | 31-37-1.00 | 4 | 31-37-1.00 | 4 | 31-43-1.25 | 4 | 31-43-1.25 | 4 |
| 50 | Lockwasher Frame, Half Geared End | 1-37 | 4 | 1-37 | 4 | 1-43 | 4 | 1-43 | 4 |
| 51 | Frame Half, Geared End | C-9261-005 | 1 | C-9261-005 | 1 | C-9261-015 | 1 | C-9261-015 | 1 |
| 52 | Underbeam Roller | C-31421 | 4 | C-31421 | 4 | C-31430 | 4 | C-31430 | 4 |
| 53 | Roller Snap Ring | 5100-100 | 8 | 5100-100 | 8 | 5100-125 | 8 | 5100-125 | 8 |

Hoist Assembly

3, 4, 8, 10 & 12 Ton



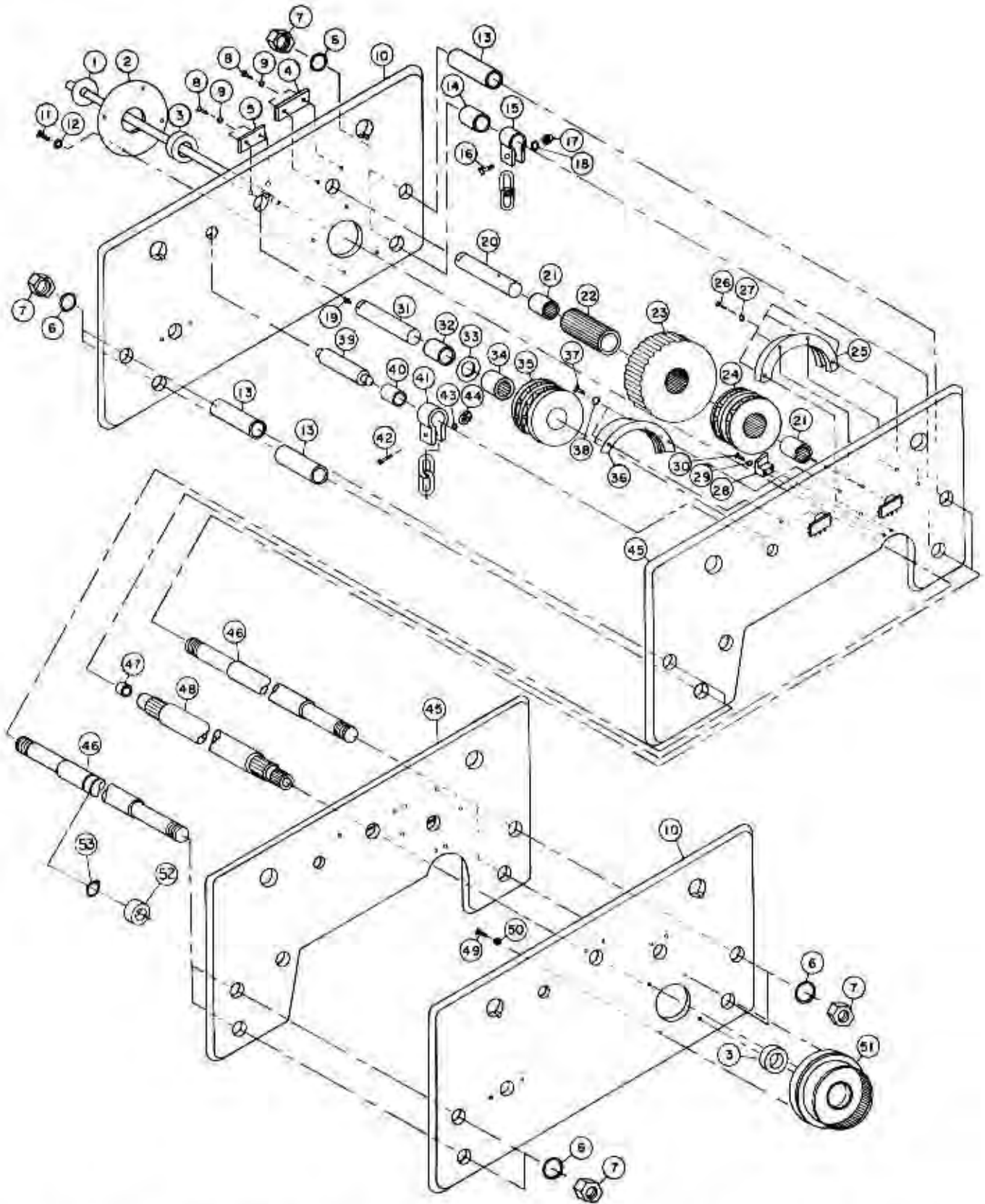
Hoist Assembly

PART NO. PER CAPACITY

3, 4, 8, 10 & 12 Ton

| PC. NO. | DESCRIPTION | 3 & 4 TON | QTY. | 8 TON | QTY. | 10 & 12 TON | QTY. |
|---------|----------------------------|--------------|------|-------------|------|-------------|------|
| 1 | Spindle Assembly | C-9318-005 | 1 | C-9318-015 | 1 | C-9318-015 | 1 |
| 2 | Frame Half, Handwheel Side | C-9262-005 | 1 | C-9262-015 | 1 | C-9262-015 | 1 |
| 3 | Bearing, Drive Shaft | C-960-005 | 2 | C-960-015 | 2 | C-960-015 | 2 |
| 4 | Keeper, Load Shaft | C-9362-015 | 2 | C-9362-05 | 2 | C-9362-05 | 2 |
| 5 | Keeper, Idler Shaft | NONE | | NONE | | NONE | |
| 6 | Lockwasher, Separator Stud | 1-87 | 8 | 1-1.25 | 8 | 1-1.25 | 8 |
| 7 | Nut, Hex, Separator Stud | 96-87-2 | 8 | 96-1.25-2 | 8 | 96-1.25-2 | 8 |
| 8 | Bolt, Keeper | 31-31-62 | 4 | 31-37-75 | 4 | 31-37-75 | 4 |
| 9 | Lockwasher, Keeper | 1-31 | 4 | 1-37 | 4 | 1-37 | 4 |
| 10 | Side Plate, Outboard | C-9300A-03 | 2 | C-9300A-08 | 2 | C-9300A-10 | 2 |
| 11 | Bolt, Frame Half Handwheel | 31-37-75 | 4 | 31-43-1.0 | 4 | 31-43-1.0 | 4 |
| 12 | Lockwasher, Frame Half | 1-37 | 4 | 1-43 | 4 | 1-43 | 4 |
| 13 | Spacer Pipe, Long | C-9307-P3 | 8 | C-9307-P7 | 8 | C-9307-P7 | 8 |
| 14 | Spacer Pipe, Short | C-9307-P2 | 2 | C-9307-P10 | 2 | C-9307-P10 | 2 |
| 15 | Bale, Dead End | C-9393-03 | 2 | C-9393-08 | 2 | C-9393-10 | 2 |
| 16 | Bolt, Dead End | 22-31-1.50 | 2 | 22-43-2.50 | 2 | 18-62-2.75 | 2 |
| 17 | Nut, Hex, Bale | 70-31-2 | 2 | 70-43-2 | 2 | 70-62-2 | 2 |
| 18 | Lockwasher, Bale | 1-31 | 2 | 1-43 | 2 | 1-62 | 2 |
| 20 | Axle, Bull Gear | C-9338-015 | 2 | C-9338-08 | 2 | C-9338-05 | 2 |
| 21 | Bearing | TC-12E16-012 | 4 | GM-2024-020 | 4 | GM-2226-020 | 4 |
| 22 | Shaft, Bull Gear Splined | C-9374-015 | 1 | C-9374-08 | 1 | C-35469 | 1 |
| 23 | Bull Gear | C-9390-015 | 2 | C-9390-08 | 2 | C-9390-05 | 2 |
| 24 | Load Wheel | C-929-005 | 2 | C-9329-08 | 2 | C-9329-05 | 2 |
| 25 | Guide, Load Chain | C-9305-015 | 2 | C-9305-08 | 2 | C-9605-10 | 2 |
| 26 | Bolt, Guide | 31-37-1.00 | 8 | 31-37-1.00 | 8 | 31-37-1.00 | 8 |
| 27 | Lockwasher, Guide | 1-37 | 8 | 1-37 | 8 | 1-37 | 8 |
| 28 | Stripper | C-9324-015 | 2 | C-9324-05 | 2 | C-9324-05 | 2 |
| 29 | Lockwasher, Stripper | 1-25 | 4 | 1-31 | 4 | 1-31 | 4 |
| 30 | Bolt, Stripper | 31-25-87 | 4 | 31-31-1.25 | 4 | 31-31-1.25 | 4 |
| 39 | Stud, Live End | C-9389-03 | 2 | C-9389-08 | 2 | C-9389-10 | 2 |
| 40 | Spacer, Live End | C-9307-P2 | 2 | C-9307-P9 | 2 | C-9307-P9 | 2 |
| 41 | Bale, Live End | C-9394-03 | 2 | C-9394-08 | 2 | C-9394-10 | 2 |
| 42 | Bolt, Live End | 31-31-1.37 | 2 | 31-43-2.50 | 2 | 31-62-3.25 | 2 |
| 43 | Lockwasher, Live End | 1-31 | 2 | 1-43 | 2 | 1-62 | 2 |
| 44 | Nut, Live End | 70-31-2 | 2 | 70-43-2 | 2 | 70-62-2 | 2 |
| 45 | Plate, Inboard | C-9300B-03 | 2 | C-9300B-08 | 2 | C-9300B-10 | 2 |
| 46 | Stud, Separator | C-9312-03 | 4 | C-9312-08 | 4 | C-9312-10 | 4 |
| 47 | Bushing, Drive Shaft | NONE | 0 | C-911-015 | 1 | C-911-05 | 1 |
| 48 | Shaft, Drive | C-9384-015 | 1 | C-9384-05 | 1 | C-9384-05 | 1 |
| 49 | Bolt, Frame Half, Geared | 31-37-1.00 | 4 | 31-43-1.25 | 4 | 31-43-1.25 | 4 |
| 50 | Lockwasher, Frame Half | 1-37 | 4 | 1-43 | 4 | 1-43 | 4 |
| 51 | Frame Half, Geared End | C-9261-005 | 1 | C-9261-015 | 1 | C-9261-015 | 1 |
| 52 | Underbeam Roller | C-31434 | 4 | C-31442 | 4 | C-31453 | 4 |
| 53 | Roller Snap Ring | 5100-1.12 | 8 | 5100-1.75 | 8 | 5100-1.75 | 8 |

Hoist Assembly



Hoist Assembly

PART NO. PER CAPACITY

16, 20 & 24 Ton

| PC. NO. | DESCRIPTION | 16 TON | QTY. | 20 & 24 TON | QTY. |
|---------|----------------------------|----------------|------|----------------|------|
| 1 | Spindle Assembly | C-9318-015 | 1 | C-9318-015 | 1 |
| 2 | Frame Half, Handwheel Side | C-9262-015 | 1 | C-9262-015 | 1 |
| 3 | Bearing, Drive Shaft | C-960-015 | 2 | C-960-015 | 2 |
| 4 | Keeper, Bull Gear Axle | C-9362-16 | 4 | C-9362-16 | 4 |
| 5 | Keeper, Idler Shaft | C-9362-16 | 4 | C-9362-16 | 4 |
| 6 | Lockwasher, Separator Stud | NONE | | NONE | |
| 7 | Nut, Hex Separator Stud | 96-1.75-2 | 8 | 96-2.00-2 | 8 |
| 8 | Bolt, Keeper | 31-37-75 | 8 | 31-37-75 | 8 |
| 9 | Lockwasher, Keeper | 1-37 | 8 | 1-37 | 8 |
| 10 | Side Plate, Outboard | C-9300A-16 | 2 | C-9300A-20 | 2 |
| 11 | Bolt, Frame Half Handwheel | 31-43-75 | 4 | 31-43-1.00 | 4 |
| 12 | Lockwasher, Frame Half | 1-43 | 4 | 1-43 | 4 |
| 13 | Spacer, Pipe Long | C-9307-P12 | 8 | C-9307-P12 | 8 |
| 14 | Spacer, Pipe Short | C-9307-P15 | 2 | C-9307-P15 | 2 |
| 15 | Bale, Dead End | C-9393-16 | 2 | C-9393-20 | 2 |
| 16 | Bolt, Dead End | 22-43-2.25 | 2 | 18-62-2.75 | 2 |
| 17 | Nut, Hex Bale | 70-43-2 | 2 | 70-62-2 | 2 |
| 18 | Lockwasher, Bale | 1-43 | 2 | 1-62 | 2 |
| 20 | Axle Bull Gear | C-34229 | 2 | C-9338-20 | 2 |
| 21 | Bearing | GM-2024-020 | 4 | GM-2226-020 | 4 |
| 22 | Shaft, Bull Gear Splined | C-9374-08 | 1 | C-35469 | 1 |
| 23 | Gear, Bull | C-9390-08 | 2 | C-9390-20 | 2 |
| 24 | Load Wheel | C-9329-08 | 2 | C-9329-05 | 2 |
| 25 | Guide, Load Chain | C-9605-08 | 2 | C-9605-10 | 2 |
| 26 | Bolt, Guide | 31-37-1.00 | 8 | 31-37-1.00 | 8 |
| 27 | Lockwasher, Guide | 1-37 | 8 | 1-37 | 8 |
| 28 | Stripper | C-9324-05 | 2 | C-9324-05 | 2 |
| 29 | Lockwasher, Stripper | 1-31 | 4 | 1-31 | 4 |
| 30 | Bolt Stripper | 31-31-1.50 | 4 | 31-31-1.50 | 4 |
| 31 | Shaft, Top Idler | C-9391-16 | 2 | C-9391-20 | 2 |
| 32 | Spacer, Top Idler | C-9307-P14 | 2 | C-9307-P16 | 2 |
| 33 | Washer, Top Idler | 6-1.87-3.25-12 | 2 | 6-1.87-3.25-12 | 2 |
| 34 | Bearing, Idler Top | GM-2630-028 | 4 | GM-3034-032 | 4 |
| 35 | Sheave, Top Idler | C-35468 | 2 | C-35467 | 2 |
| 36 | Chain Guide, Idler | C-9634-16 | 1 | C-9634-20 | 1 |
| 37 | Bolt, Idler Guide | 31-37-1.00 | 2 | 31-37-1.00 | 2 |
| 38 | Lockwasher, Guide Idler | 1-37 | 2 | 1-37 | 2 |
| 39 | Stud, Live End | C-9389-16 | 2 | C-9389-20 | 2 |
| 40 | Spacer, Bale | C-9307-P13 | 2 | C-9307-P13 | 2 |
| 41 | Bale, Live End | C-9394-16 | 2 | C-9394-20 | 2 |
| 42 | Bolt, Live End Bale | 18-50-2.50 | 2 | 31-37-3.25 | 2 |

Hoist Assembly

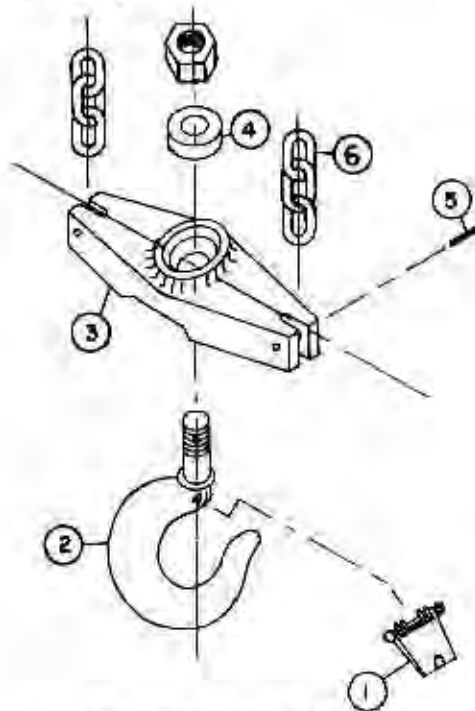
16, 20 & 24 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 16 TON | QTY. | 20 & 24 TON | QTY. |
|---------|-------------------------------|------------|------|-------------|------|
| 43 | Lockwasher, Bale | 1-50 | 2 | 1-37 | 2 |
| 44 | Nut, Bale | 70-50-2 | 2 | 70-37-2 | 2 |
| 45 | Plate, Inboard | C-9300B-16 | 2 | C-9300B-20 | 2 |
| 46 | Stud, Separator | C-9312-16 | 4 | C-9312-20 | 4 |
| 47 | Bushing, Drive Shaft | C-911-015 | 1 | C-911-015 | 1 |
| 48 | Shaft, Drive | C-9384-05 | 1 | C-9384-05 | 1 |
| 49 | Bolt, Frame Half Geared | 31-43-1.50 | 4 | 31-43-1.75 | 4 |
| 50 | Lockwasher, Frame Half Geared | 1-43 | 4 | 1-43 | 4 |
| 51 | Frame Half, Geared End | C-9261-015 | 1 | C-9261-20 | 1 |
| 52 | Underbeam Roller | C-31454 | 4 | C-31457 | 4 |
| 53 | Roller Snap Ring | 5100-225 | 8 | 5100-250 | 8 |

Bottom Block Assembly

1½, 2, 5 & 6 Ton



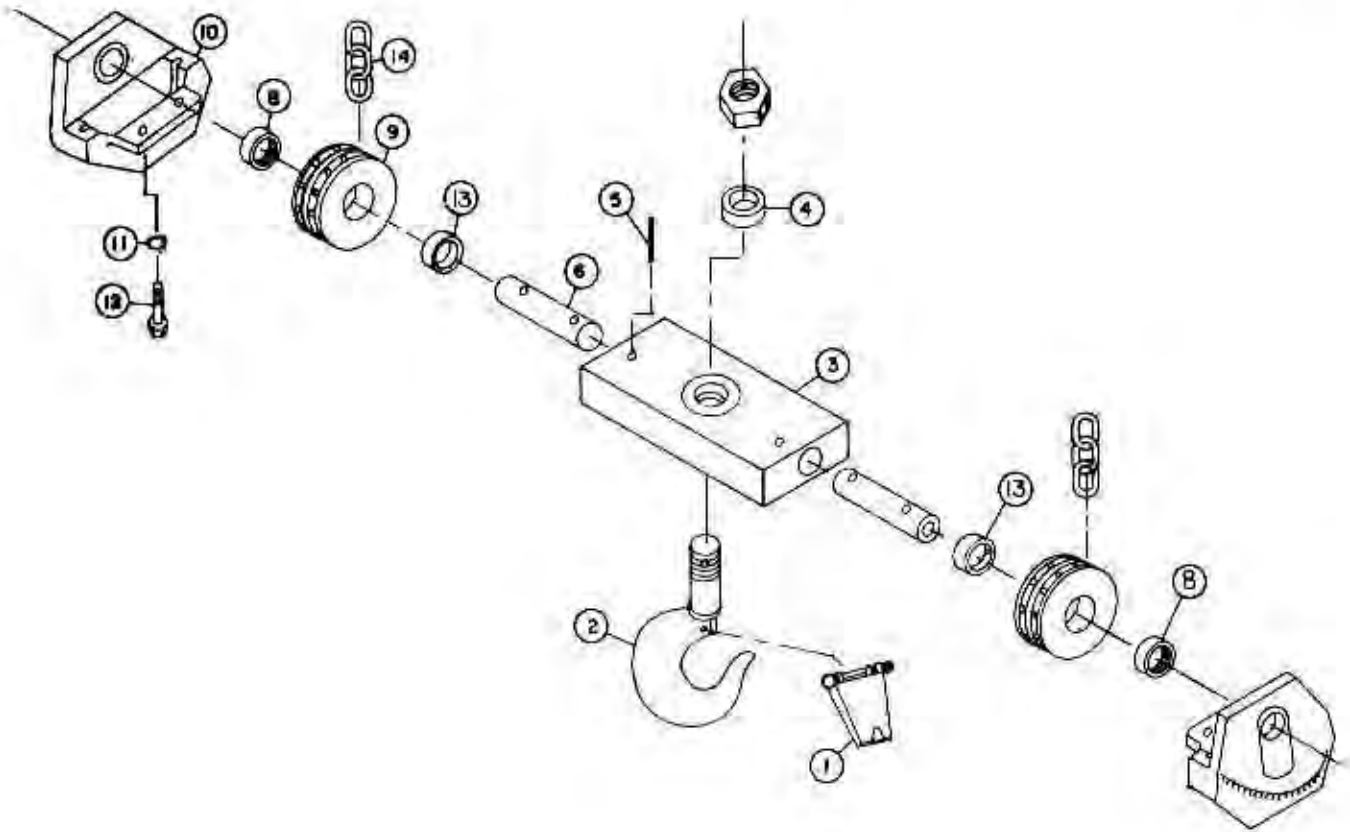
PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ TON | QTY. | 2 TON | QTY. | 5 TON | QTY. | 6 TON | QTY. |
|---------|-------------------|-------------|------|-------------|------|-------------|------|-------------|------|
| 1 | Latch Assembly | HL-10-90063 | 1 | HL-10-90063 | 1 | HL-10-90107 | 1 | HL-10-90107 | 1 |
| 2 | Bottom Hook & Nut | C-9640-015 | 1 | C-9640-015 | 1 | C-9340-05 | 1 | C-9340-06 | 1 |
| 3 | Bottom Crosshead | C-9352-015 | 1 | C-9352-015 | 1 | C-9352-05 | 1 | C-9352-05 | 1 |
| 4 | Thrust Bearing | C-939-015 | 1 | C-939-015 | 1 | C-939-05 | 1 | C-939-05 | 1 |
| 5 | Drive Pin | 131-31-1.75 | 2 | 131-31-1.75 | 2 | 131-43-2 | 2 | 131-43-2 | 2 |
| 6 | Load Chain | C-938A-005 | 2 pc | C-938A-005 | 2 pc | C-38A-03 | 2 pc | C-38A-03 | 2 pc |

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Bottom Block Assembly

3, 4, 8, 10 & 12 Ton

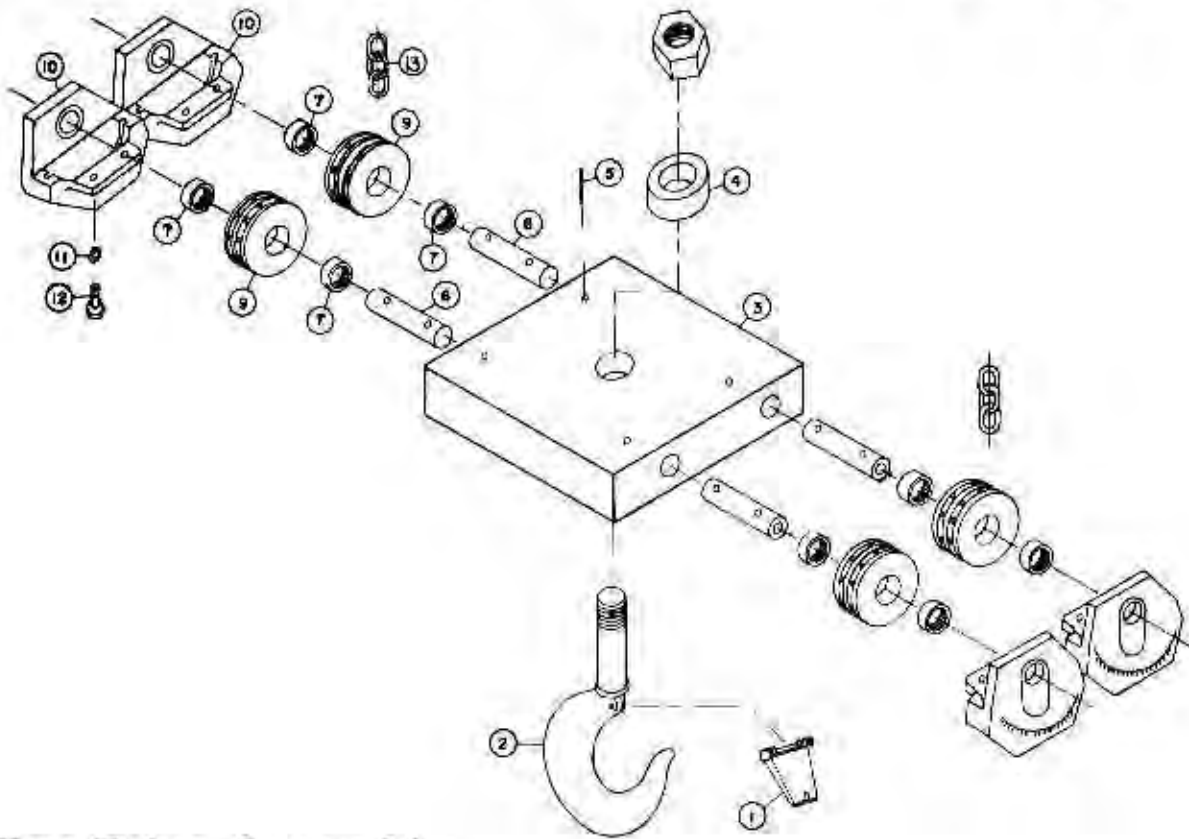


PART NO. PER CAPACITY

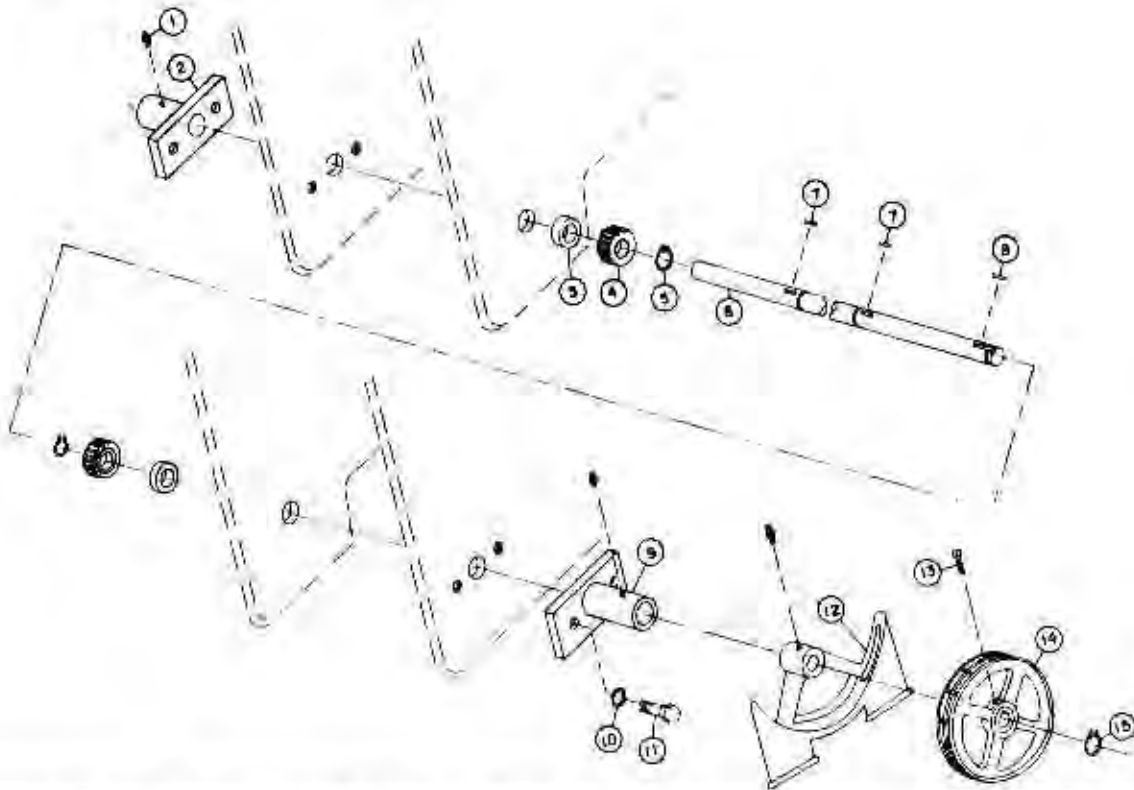
| PC. NO. | DESCRIPTION | 3 TON | QTY. | 4 TON | QTY. | 8 TON | QTY. | 10 TON | QTY. | 12 TON | QTY. |
|---------|----------------------------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|
| 1 | Latch Assembly | HL-10-90081 | 1 | HL-10-90107 | 1 | HL-10-90125 | 1 | HL-10-90125 | 1 | HL-10-90125 | 1 |
| 2 | Bottom Hook & Nut | C-9340-03 | 1 | C-9340-04 | 1 | C-9340-08 | 1 | C-9340-10 | 1 | C-9340-10 | 1 |
| 3 | Bottom Crosshead | C-9352-03 | 1 | C-9352-03 | 1 | C-9352-08 | 1 | C-9352-10 | 1 | C-9352-10 | 1 |
| 4 | Thrust Bearing | C-939-03 | 1 | C-939-04 | 1 | C-939-08 | 1 | C-939-10 | 1 | C-939-10 | 1 |
| 5 | Drive Pin | NONE | | NONE | | 127-37-3.0 | 2 | 127-37-3.0 | 2 | 127-37-3.0 | 2 |
| 6 | Axle, Bottom Block Idler | NONE | | NONE | | C-9354-08 | 2 | C-9354-10 | 2 | C-9354-10 | 2 |
| 8 | Bearing Idler | GM-2226-020 | 2 | GM-2226-020 | 2 | GM-2630-028 | 4 | GM-3034-032 | 4 | GM-3034-032 | 4 |
| 9 | Sheave, Bottom Block Idler | C-9356-03 | 2 | C-9356-03 | 2 | C-35468 | 2 | C-35467 | 2 | C-35467 | 2 |
| 10 | Guard, Bottom Idler | C-9388-03 | 2 | C-9388-03 | 2 | C-9688-08 | 2 | C-9688-10 | 2 | C-9688-10 | 2 |
| 11 | Lockwasher, Guard | 1-50 | 4 | 1-50 | 4 | 1-62 | 4 | 1-62 | 4 | 1-62 | 4 |
| 12 | Bolt, Guard | 18-50-1.75 | 4 | 18-50-1.75 | 4 | 18-62-1.75 | 4 | 18-62-1.75 | 4 | 18-62-1.75 | 4 |
| 13 | Bearing Inner Race | IR-1816 | 2 | IR-1816 | 2 | NONE | | NONE | | NONE | |
| 14 | Load Chain | C-38A-005 | 2 pc | C-38A-005 | 2 pc | C-938-02 | 2 pc | C-38A-03 | 2 pc | C-38A-03 | 2 pc |

Bottom Block Assembly

16, 20 & 24 Ton



Trolley Drive Assembly



Bottom Block Assembly

16, 20 & 24 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 16 TON | QTY. | 20 TON | QTY. | 24 TON | QTY. |
|---------|----------------------------|-------------|------|-------------|------|-------------|------|
| 1 | Latch Assembly | HL-10-90143 | 1 | HL-10-90161 | 1 | HL-10-90161 | 1 |
| 2 | Bottom Hook & Nut | C-9340-16 | 1 | C-9340-20 | 1 | C-9340-20 | 1 |
| 3 | Bottom Crosshead | C-9352-16 | 1 | C-9352-20 | 1 | C-9352-20 | 1 |
| 4 | Thrust Bearing | C-939-16 | 1 | C-939-25 | 1 | C-939-25 | 1 |
| 5 | Drive Pin | 127-37-3.0 | 4 | 127-37-3.0 | 4 | 127-37-3.0 | 4 |
| 6 | Axle, Bottom Block Idler | C-9354-08 | 4 | C-9354-10 | 4 | C-9354-10 | 4 |
| 7 | Bearing, Idler | GM-2630-028 | 8 | GM-3034-032 | 8 | GM-3034-032 | 8 |
| 9 | Sheave, Bottom Block Idler | C-35468 | 4 | C-35467 | 4 | C-35467 | 4 |
| 10 | Guard, Idler Bottom | C-9688-08 | 4 | C-9688-10 | 4 | C-9688-10 | 4 |
| 11 | Lockwasher, Guard | 1-62 | 4 | 1-62 | 4 | 1-62 | 4 |
| 12 | Bolt, Guard | 18-62-1.75 | 8 | 18-62-1.75 | 8 | 18-62-1.75 | 8 |
| 13 | Load Chain | C-938-02 | 2 pc | C-38A-3 | 2 pc | C-38A-3 | 2 pc |

Trolley Drive Assembly

1½, 2, 3, 4, 5, 6, & 8 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ & 2 TON | QTY. | 3 & 4 TON | QTY. | 5 & 6 TON | QTY. | 8 TON | QTY. |
|---------|-----------------------|--------------|------|--------------|------|--------------|------|--------------|------|
| 1 | Lube Fitting | 1743-B | 3 | 1743-B | 3 | 1743-B | 3 | 1743-B | 3 |
| 2 | Block, Bearing Short | C-906-B | 1 | C-906-B | 1 | C-9106S-015 | 1 | C-9106S-015 | 1 |
| 3 | Spacer, Pinion | C-9395-015 | 2 | C-9395-03 | 2 | C-9395-05 | 2 | C-9395-08 | 2 |
| 4 | Gear, Pinion | C-14-T | 2 | C-16-T | 2 | C-16-T | 2 | C-16-T | 2 |
| 5 | Snap Ring, Pinion | 5100-87 | 2 | 5100-87 | 2 | 5100-87 | 2 | 5100-87 | 2 |
| 6 | Shaft, Trolley Drive | C-9611-015 | 1 | C-9611-015 | 1 | C-9611-05 | 1 | C-9611-08 | 1 |
| 7 | Key, Pinion Gear | 13-25-25-50 | 2 | 13-25-25-50 | 2 | 13-25-25-50 | 2 | 13-25-25-50 | 2 |
| 8 | Key, Handwheel | 13-25-25-150 | 1 | 13-25-25-150 | 1 | 13-25-25-150 | 1 | 13-25-25-2.0 | 1 |
| 9 | Block, Bearing Long | C-906-A | 1 | C-906-A | 1 | C-9106-015 | 1 | C-9106S-015 | 1 |
| 10 | Lockwasher, Brg Block | 1-31 | 4 | 1-31 | 4 | 1-50 | 4 | 1-50 | 4 |
| 11 | Bolt, Bearing Block | 14-31-1.00 | 4 | 14-31-1.00 | 4 | 14-50-1.25 | 4 | 14-50-1.50 | 4 |
| 12 | Guard, Swinging | C-9121-0075 | 1 | C-9121-0075 | 1 | C-9121-015 | 1 | C-9121-015 | 1 |
| 13 | Set, Screw, Sq Head | 58-25-87 | 1 | 58-25-87 | 1 | 58-25-87 | 1 | 58-37-1.25 | 1 |
| 14 | Handwheel | C-9120-0075 | 1 | C-9120-0075 | 1 | C-9120-015 | 1 | C-9120-015 | 1 |
| 15 | Snap Ring, Handwheel | 5100-87 | 1 | 5100-87 | 1 | 5100-87 | 1 | 5100-87 | 1 |

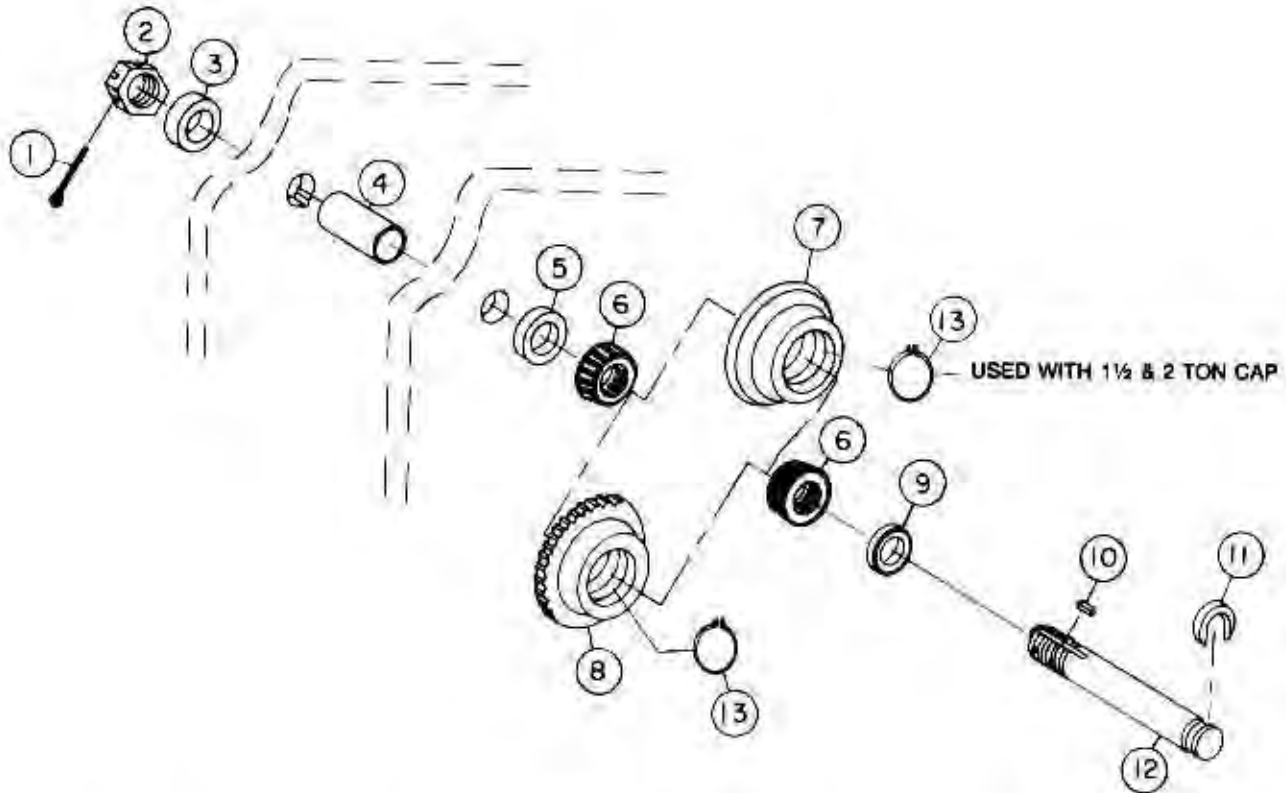
Trolley Drive Assembly

10, 12, 16, 20 & 24 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 10 & 12 TON | QTY. | 16 TON | QTY. | 20 & 24 TON | QTY. |
|---------|------------------------|---------------|------------|---------------|------------|---------------|------|
| 1 | Lube Fitting | 1743-B | 3 | 1743-B | 3 | 1728-B | 3 |
| 2 | Block, Bearing Short | C-9106S-10 | 1 | C-9106S-16 | 1 | C-9106S-10 | 1 |
| 3 | Spacer, Pinion | C-9395-10 | 2 | C-9395-16 | 2 | C-9395-20 | 2 |
| 4 | Gear, Pinion | C-16-T | 2 | C-20-T | 2 | C-20-T | 2 |
| 5 | Snap Ring, Pinion | 5100-125 | 2 | 5100-125 | 2 | 5100-137 | 2 |
| 6 | Shaft, Trolley Drive | C-9611-10 | 1 | C-9611-16 | 1 | C-9611-20 | 1 |
| 7 | Key, Pinion Gear | 13-25-25-50 | 2 | 13-31-31-50 | 2 | 13-31-31-50 | 2 |
| 8 | Key, Handwheel | 13-31-31-1.50 | 1 | 13-31-31-1.50 | 1 | 13-31-31-1.50 | 1 |
| 9 | Block, Bearing Long | C-9106-10 | 1 | C-9106-10 | 1 | C-9106-20 | 1 |
| 10 | Lockwasher, Brg. Block | 1-50 | 4 | 1-50 | 4 | 1-50 | 4 |
| 11 | Bolt, Bearing Block | 14-50-1.50 | 4 | 14-50-1.50 | 4 | 14-50-1.50 | 4 |
| 12 | Guard, Swinging | C-9121-10 | 1 | C-9121-10 | 1 | C-9121-25 | 1 |
| 13 | 58-37-1.25 | 1 | 58-37-1.25 | 1 | 58-37-1.25 | 1 | |
| 14 | Handwheel | C-9120-10 | 1 | C-9120-10 | 1 | C-9120-25 | 1 |
| 15 | Snap. Ring, Handwheel | 5100-125 | 1 | 5100-125 | 1 | 5100-137 | 1 |

Wheel Assembly



Wheel Assembly

1½, 2, 3, 4, 5 & 6 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ & 2 TON | QTY. | 3 & 4 TON | QTY. | 5 & 6 TON | QTY. |
|---------|----------------------------|-------------|------|-------------|------|-------------|------|
| 1 | Cotter Pin | NONE | | NONE | | NONE | |
| 2 | Nut, Axle | 96-75-2 | | C-93112-05 | 1 | C-93112-05 | 1 |
| 3 | Spacer, Outboard | C-9315-015 | 1 | C-9315-03 | 1 | C-9315-05 | 1 |
| 4 | Spacer, Plate | C-9307-P1 | 1 | C-9307-P4 | 1 | C-9307-P7 | 1 |
| 5 | Spacer, Inboard | C-9314-015 | 1 | C-9314-03 | 1 | C-9314-05 | 1 |
| 6 | Bearing | C-9107-015 | 2 | C-9116-03 | 2 | C-9116-03 | 2 |
| 7 | Wheel, Plain W/Bearing Cup | C-9109-015 | 1 | C-9109-03 | 1 | C-9109-05 | 1 |
| 8 | Wheel, Geared W/Brg. Cup | C-9108-015 | 1 | C-9108-03 | 1 | C-9108-05 | 1 |
| 9 | Washer, Axle Cup | C-9309-015 | 1 | C-9309-05 | 1 | C-9309-05 | 1 |
| 10 | Key, Axle | 13-18-18-31 | 1 | 13-25-25-31 | 1 | 13-25-25-37 | 1 |
| 11 | Washer, Axle "C" | C-9308-015 | 1 | C-9308-03 | 1 | C-9308-03 | 1 |
| 12 | Axle | C-9310-015 | 1 | C-9310-03 | 1 | C-9310-05 | 1 |
| 13 | Ring, Snap | 5000-175 | 1 | NONE | | NONE | |

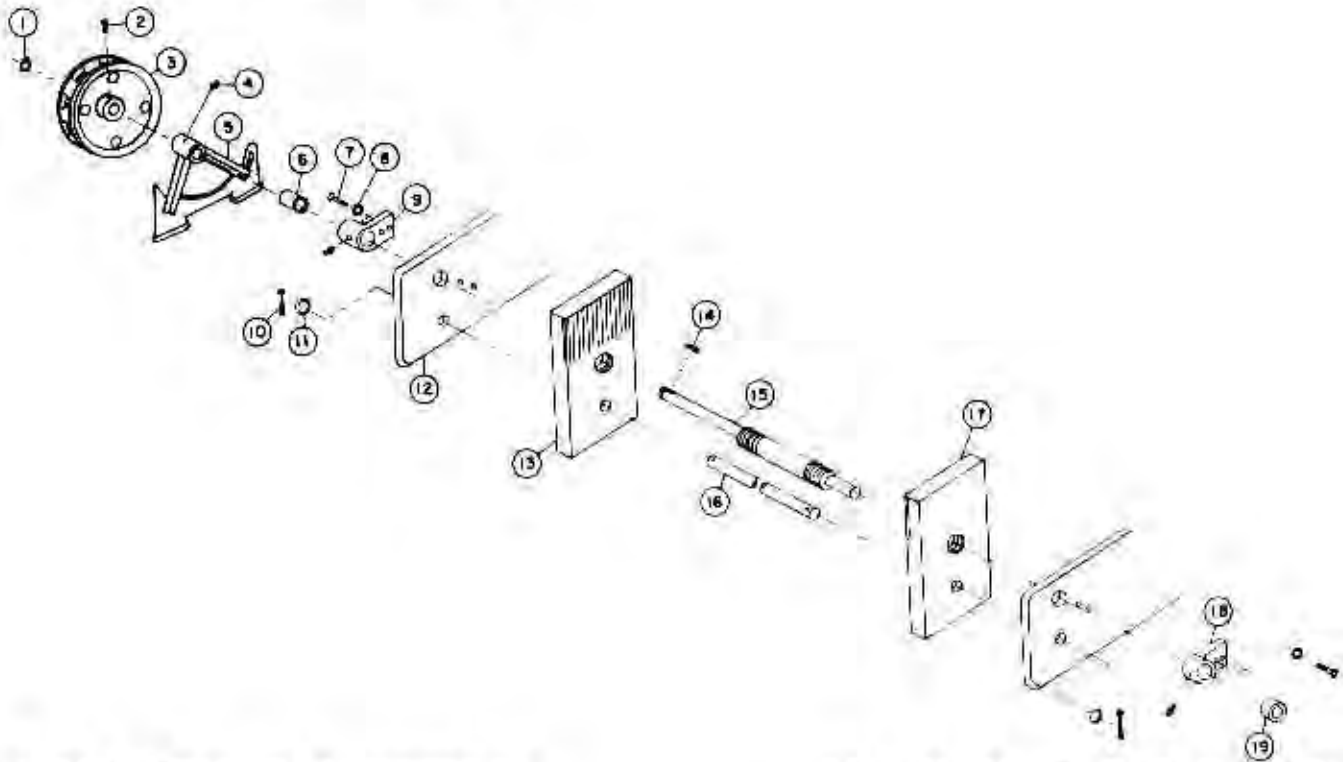
Wheel Assembly

8, 10, 12, 16, 20 & 24 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 8 TON | QTY. | 10 & 12 TON | QTY. | 16 TON | QTY. | 20 & 24 TON | QTY. |
|---------|--------------------------|-------------|------|-------------|------|-------------|------|-------------|------|
| 1 | Cotter Pin | NONE | | NONE | | 135-37-40 | 1 | 135-37-40 | 1 |
| 2 | Nut, Axle | C-93112-08 | 1 | C-93112-10 | 1 | C-93112-10 | 1 | C-93112-10 | 1 |
| 3 | Spacer, Outboard | C-9315-08 | 1 | C-9315-10 | 1 | C-9315-16 | 1 | C-9315-20 | 1 |
| 4 | Spacer, Plate | C-9307-P8 | 1 | C-9307-P11 | 1 | C-9307-P11 | 1 | C-9307-P11 | 1 |
| 5 | Spacer, Inboard | C-9314-08 | 1 | C-9314-10 | 1 | C-9314-16 | 1 | C-9314-20 | 1 |
| 6 | Bearing | C-9116-08 | 2 | C-9116-10 | 2 | C-9116-10 | 2 | C-9116-10 | 2 |
| 7 | Wheel, Plain W/Brg. Cup | C-9109-08 | 1 | C-9109-10 | 1 | C-9109-16 | 1 | C-9109-16 | 1 |
| 8 | Wheel, Geared W/Brg. Cup | C-9108-08 | 1 | C-9108-10 | 1 | C-9108-16 | 1 | C-9108-16 | 1 |
| 9 | Washer, Axle Cup | C-9309-08 | 1 | C-9309-10 | 1 | C-9309-16 | 1 | C-9309-16 | 1 |
| 10 | Key, Axle | 13-31-31-50 | 1 | 13-31-31-50 | 1 | 13-37-37-75 | 1 | 13-37-37-75 | 1 |
| 11 | Washer, Axle "C" | C-9308-08 | 1 | C-9308-10 | 1 | C-9308-16 | 1 | C-9308-16 | 1 |
| 12 | Axle | C-9310-08 | 1 | C-9310-10 | 1 | C-9310-16 | 1 | C-9310-20 | 1 |
| 13 | Ring, Snap | NONE | | NONE | | NONE | | NONE | |

Track Clamp Assembly



Track Clamp Assembly

1½, 2, 3, 4, 5 & 6 TON

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 1½ & 2 TON | QTY. | 3 & 4 TON | QTY. | 5 & 6 TON | QTY. |
|---------|---------------------------|----------------|------|----------------|------|---------------|------|
| 1 | Snap Ring, Handwheel | 5100-87 | 1 | 5100-87 | 1 | 5100-87 | 1 |
| 2 | Set Screw, Square Head | 58-25-87 | 1 | 58-25-87 | 1 | 58-25-87 | 1 |
| 3 | Handwheel | C-9120-0075 | 1 | C-9120-0075 | 1 | C-9120-01 | 1 |
| 4 | Lube Fitting | 1743-B | 3 | 1743-B | 3 | 1743-B | 3 |
| 5 | Guard, Swinging | C-9121-0075 | 1 | C-9121-0075 | 1 | C-9121-01 | 1 |
| 6 | Bushing, Bearing Block | NONE | | NONE | | NONE | |
| 7 | Bolt, Bearing Block | 14-31-1.00 | 4 | 14-31-1.00 | 4 | 14-31-1.00 | 4 |
| 8 | Lockwasher, Bearing Block | 1-31 | 4 | 1-31 | 4 | 1-31 | 4 |
| 9 | Block, Bearing | C-906B | 1 | C-906B | 1 | C-906B | 1 |
| 10 | Cotter Pin | 135-18-1.0 | 2 | 135-18-1.0 | 2 | 135-18-1.0 | 2 |
| 11 | Washer Guide Pin | 2-625 | 2 | 2-625 | 2 | 2-750 | 2 |
| 12 | Side Plate | LHTC-153-B-015 | 2 | LHTC-153-B-015 | 2 | LHC-153-B-05 | 2 |
| 13 | Jaw, Left Hand | LHTC-150L-015 | 1 | LHTC-150-L-03 | 1 | LHTC-150-L-05 | 1 |
| 14 | Key, Handwheel | 13-25-25-1.50 | 1 | 13-25-25-1.50 | 1 | 13-25-25-1.50 | 1 |
| 15 | Screw, Track Clamp | LHTC-151-015 | 1 | LHC-151-03 | 1 | LHTC-151-05 | 1 |
| 16 | Pin Guide | LHTC-152-015 | 1 | LHTC-152-03 | 1 | LHTC-152-05 | 1 |
| 17 | Jaw, Right Hand | LHTC-150-R-015 | 1 | LHTC-150-R-03 | 1 | LHTC-150-R-05 | 1 |
| 18 | Block, Bearing | C-906-B | 1 | C-906-B | 1 | C-906-B | 1 |
| 19 | Bushing, Brg. Block Short | NONE | | NONE | | NONE | |

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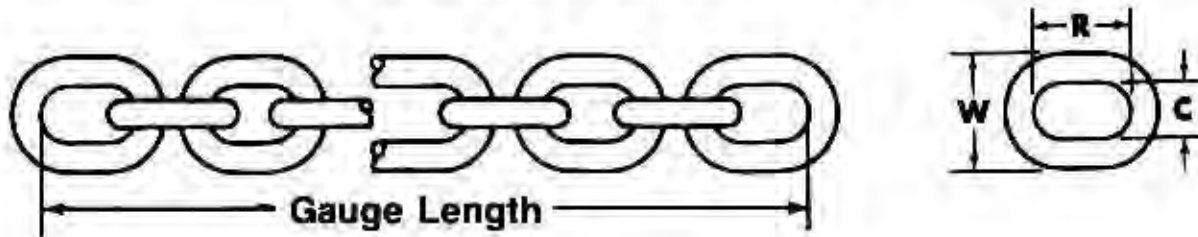
Track Clamp Assembly

8, 10, 12, 16, 20 & 24 Ton

PART NO. PER CAPACITY

| PC. NO. | DESCRIPTION | 8 TON | QTY. | 10 & 12 TON | QTY. | 16 TON | QTY. | 20 & 24 TON | QTY. |
|---------|------------------------------|-----------------|------|-----------------|------|---------------|------|-----------------|------|
| 1 | Snap Ring, Handwheel | 5100-87 | 1 | 5100-87 | 1 | 5100-87 | 1 | 5100-87 | 1 |
| 2 | Set Screw, Square Head | 58-25-87 | 1 | 58-25-87 | 1 | 58-25-87 | 1 | 58-25-87 | 1 |
| 3 | Handwheel | C-9120-01 | 1 | C-9120-01 | 1 | C-9120-01 | 1 | C-9120-01 | 1 |
| 4 | Lube Fitting | 1743-B | 1 | 1743-B | 1 | 1743-B | 1 | 1743-B | 1 |
| 5 | Guard, Swinging | C-9121-01 | 1 | C-9121-01 | 1 | C-9121-01 | 1 | C-9121-01 | 1 |
| 6 | Bushing, Bearing Block | P-100-16 | 2 | P-87-8 | 2 | P-125-8 | 2 | P-100-8 | 2 |
| 7 | Bolt, Bearing Block | 14-50-1.25 | 4 | 14-62-1.5 | 4 | NONE | 4 | 14-62-1.25 | 4 |
| 8 | Lockwasher, Bearing Block | 1-50 | 4 | 1-62 | 4 | NONE | 4 | 1-62 | 4 |
| 9 | Block, Bearing Long | LHTC-153-WA-08 | 1 | LHTC-153-WA-10 | 1 | NONE | 1 | LHTC-153-WA-24 | 1 |
| 10 | Cotter Pin | NONE | | NONE | | 135-25-2.0 | 2 | NONE | 2 |
| 11 | Washer, Guide Pin | NONE | | NONE | | 2-1.0 | 2 | NONE | 2 |
| 12 | Side Plate | LHTC-153-B-08 | 2 | LHTC-153-B-10 | 2 | LHTC-153-16 | 2 | LHTC-153-24 | 2 |
| 13 | Jaw, Left Hand | LHTC-150L-08 | 1 | LHTC-150L-10 | 1 | LHTC-150L-16 | 1 | LHTC-150L-24 | 1 |
| 14 | Key, Handwheel | 13-25-25-1.50 | 1 | 13-25-25-1.50 | 1 | 13-25-25-1.50 | 1 | 13-25-25-1.50 | 1 |
| 15 | Screw, Track Clamp | LHTC-151-08 | 1 | LHTC-151-10 | 1 | LHTC-151-16 | 1 | LHTC-151-24 | 1 |
| 16 | Pin, Guide | LHTC-152-08 | 1 | LHTC-152-10 | 1 | LHTC-152-16 | 1 | LHTC-152-24 | 1 |
| 17 | Jaw, Right Hand | LHTC-150R-08 | 1 | LHTC-150R-10 | 1 | LHTC-150R-16 | 1 | LHTC-150R-24 | 1 |
| 18 | Block, Bearing Short | LHTC-153-WSA-08 | 1 | LHTC-153-WSA-10 | 1 | NONE | 1 | LHTC-153-WSA-24 | 1 |
| 19 | Bushing, Bearing Block Short | P-100-12 | 1 | P-87-14 | 1 | P-125-8 | 1 | P-100-14 | 1 |

Chain Specifications



| Use and Description | Cat. No. | Chain Size | C | W | R | Gauge Length | Net Weight |
|--------------------------|-----------|------------|------|-------|-------|-------------------|---------------|
| LOAD CHAIN | | | | | | | |
| 1 1/2, 2, 3 & 4 Ton | C-38-1/2A | 9/32" | .313 | .876 | .794 | 25 links: 19.925" | .75 lbs., ft |
| 8 & 16 Ton | C-938-2 | 3/8" | .466 | 1.216 | 1.147 | 13 links: 15.015" | 1.23 lbs., ft |
| 5, 6, 10, 12, 20, 24 Ton | C-38-3 | 1/2" | .656 | 1.750 | 1.571 | 11 links: 17.281" | 2.90 lbs., ft |
| HAND CHAIN | | | | | | | |
| ALL CAPACITIES | C-937 | 15/64" | .347 | .816 | 1.056 | 19 links: 20.064" | .46 lbs., ft |

Warranty: All goods sold by SELLER pursuant to this order are sold with only the following warranty: SELLER warrants that the goods shall be free from defects in material and workmanship under normal use and service. SELLER'S obligation under this warranty is limited to reworking or replacing at its option any goods which, within the time stated herein, shall be returned to it at its place of business at the address set forth herein with two-way packaging and shipping costs prepaid and which, upon examination and determination by SELLER, shall be found to have been thus defective. The rework, repair or replacement of defective goods under this warranty will be made without charge for material or labor. This warranty shall remain in force and be valid during the following periods and under the stated circumstances: (a) on goods manufactured by SELLER, or manufactured by others to SELLER'S detailed design for 3 months from date of shipment by SELLER to BUYER and (b) on purchased items not included in (a) and incorporated in the goods for the period and to the extent specified by the original manufacturer. Goods which are allegedly defective can not be returned to SELLER without prior written approval of SELLER. SELLER, at its option may first request samples for inspection purposes. The provisions of this warranty shall not apply to, nor is any other warranty given on, as determined solely by SELLER, goods which have not been used or maintained in accordance with SELLER'S instructions or which have been subject to misuse, negligence or accident or which have been repaired, altered or modified in any way by anyone other than SELLER. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED (INCLUDING SPECIFICALLY, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, AND ALL OTHER OBLIGATION AND ALL WARRANTIES OR MERCHANTABILITY AND FITNESS), AND ALL OTHER OBLIGATION AND LIABILITY ON THE PART OF SELLER. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES UNDER ANY CIRCUMSTANCES OR FOR MORE THAN REPLACEMENT OR REFUND OF THE PURCHASE PRICE ON DEFECTIVE GOODS. Upon request, SELLER will furnish such technical advice or assistance as it has available in reference to the use of the goods; however, it is expressly understood that (i) SELLER assumes no obligation or liability for the advice or assistance given or results obtained, (ii) all such advice or assistance is given and accepted at BUYER'S risk and (iii) such advice or assistance shall not waive or affect SELLER'S liability as herein defined.

Authorization for return must be received from Chester Hoist before returning any equipment for inspection or warranty repair.

IMPORTANT NOTICE

Use of chain or replacement parts other than as supplied as original equipment on Chester Hoists may lead to dangerous operation. Accordingly, Chester Hoist cannot be responsible in such cases and our warranty would be voided.

CAUTION: Some of the hoists and trolleys manufactured by Chester Hoist can be adjusted to fit various sizes of runway beams. Others of our hoists and trolleys are built to fit a runway specified by our customers. Regardless, it is the customer's responsibility to apply such engineering calculations or tests as may be necessary to satisfy itself that the runway beam flanges are capable of carrying the loads expected to be handled."

WARNING

The hoisting equipment shown in this bulletin is intended for industrial use only and should not be used to lift, support, or otherwise transport human cargo or to lift, support or otherwise transport molten metal.

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