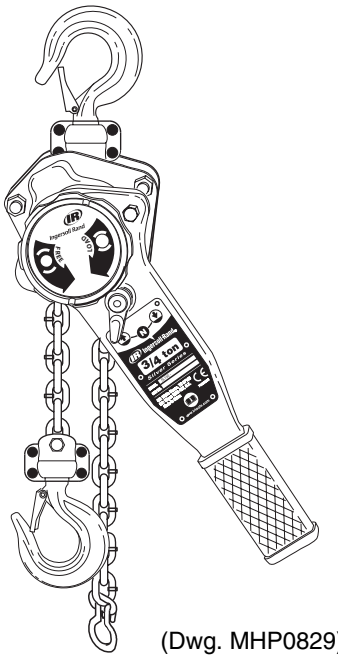
PARTS, OPERATION AND MAINTENANCE MANUAL
for
LEVER CHAIN HOIST MODELS

SLB150
3/4 ton

SLB200
1 ton

SLB300
1-1/2 ton



(Dwg. MHP0829)

SLB600
3 ton

SLB1200
6 ton

READ THIS MANUAL BEFORE USING THESE PRODUCTS. This manual contains important safety, installation, operation and maintenance information. Make this manual available to all persons responsible for the installation, operation and maintenance of these products.

⚠ WARNING

Do not use this hoist for lifting, supporting, or transporting people or lifting or supporting loads over people.

Always operate, inspect and maintain this hoist in accordance with American National Standards Institute Safety Code (ASME B30.21) and any other applicable safety codes and regulations.

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Ingersoll Rand

SAFETY INFORMATION

This manual provides important information for all personnel involved with the safe installation, operation and proper maintenance of this product. Even if you feel you are familiar with this or similar equipment, you should read this manual before operating the product.

Danger, Warning, Caution and Notice

Throughout this manual there are steps and procedures which, if not followed, may result in a hazard. The following signal words are used to identify the level of potential hazard.

DANGER — Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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

CAUTION — Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

NOTICE — Indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.

Safety Summary

Ingersoll Rand hoists are manufactured in accordance with the latest ASME B30.21 standards.

WARNING

• Do not use this hoist for lifting, supporting, or transporting people or lifting or supporting loads over people.
• Hoists are designed to provide a 4 to 1 safety factor. Supporting structures and load-attaching devices used in conjunction with this hoist must provide adequate support to handle all hoist operations, plus the weight of hoist and attached equipment. This is the customer's responsibility. If in doubt, consult a registered structural engineer.

The National Safety Council, Accident Prevention Manual for Industrial Operations, Eighth Edition and other recognized safety sources make a common point: Employees who work near cranes or assist in hooking on or arranging a load should be instructed to keep out from under the load. From a safety standpoint, one factor is paramount: conduct all lifting operations in such a manner that if there were an equipment failure, no personnel would be injured. This means keep out from under a raised load and keep out of the line of force of any load.

The Occupational Safety and Health Act of 1970 generally places the burden of compliance with the user, not the manufacturer. Many OSHA requirements are not concerned or connected with the manufactured product but are, rather, connected with the final installation. It is the owner's and user's responsibility to determine the suitability of a product for any particular use. It is recommended that all applicable industry, trade association, federal, state and local regulations be checked. Read all operating instructions and warnings before operation.

Rigging: It is the responsibility of the operator to exercise caution, use common sense and be familiar with proper rigging techniques. Refer to ASME B30.9 for rigging information, American National Standards Institute, 1430 Broadway, New York, NY 10018.

WARNING TAG

Each hoist is supplied from the factory with a multi-language warning tag shown. If the tag is not attached to your unit, order a new tag and install it. Refer to parts list for part number. Read and obey all warnings and other safety information attached to this hoist. Tag may be shown smaller than actual size.



SAFE OPERATING INSTRUCTIONS

The following warnings and operating instructions have been adapted in part from American National Standard ASME B30.21 and are intended to avoid unsafe operating practices which might lead to injury or property damage.

Ingersoll Rand recognizes that most companies who use hoists have a safety program in force in their plants. In the event that some conflict exists between a rule set forth in this publication and a similar rule already set by an individual company, the more stringent of the two should take precedence.

Safe Operating Instructions are provided to make an operator aware of dangerous practices to avoid and are not necessarily limited to the following list. Refer to specific sections in the manual for additional safety information.

1. Only allow personnel trained in safety and operation of this product to operate hoist.
2. Only operate a hoist if you are physically fit to do so.
3. When a "**DO NOT OPERATE**" sign is placed on hoist, do not operate hoist until sign has been removed by designated personnel.
4. Before each shift, the operator should inspect hoist for wear or damage.
5. Never use a hoist which inspection indicates is worn or damaged.
6. Periodically, inspect hoist thoroughly and replace worn or damaged parts. Refer to "INSPECTION" section.
7. Lubricate hoist regularly. Refer to "LUBRICATION" section.
8. Do not use hoist if hook latch has been sprung or broken.
9. Check that hook latches are engaged before using.
10. Never splice a hoist chain by inserting a bolt between links.
11. Only lift loads less than or equal to rated capacity of hoist. Refer to "SPECIFICATIONS" section.
12. Never use hoist load chain as a sling.
13. Never operate a hoist when load chain is not centered under top hook. Do not "side pull" or "yard."
14. Never operate a hoist with twisted, kinked, "capsized" or damaged load chain.
15. Do not force a chain or hook into place by hammering.
16. Never insert point of hook into a chain link.
17. Be certain load is properly seated in saddle of hook and hook latch is engaged.
18. Do not support load on tip of hook.
19. Never run load chain over a sharp edge. Use a sheave.
20. When using two hoists to suspend one load, select two hoists each having a rated capacity equal to or more than the load. This provides adequate safety in the event of a sudden load shift.
21. Pay attention to the load at all times when operating hoist.
22. Always ensure that you, and all other people, are clear of load path. Do not lift a load over people.
23. Never use hoist for lifting or lowering people, and never allow anyone to stand on a suspended load.
24. Ease slack out of chain and sling when starting a lift. Do not jerk the load.
25. Do not swing a suspended load.
26. Do not leave a load suspended when hoist is unattended or not in use.
27. Never weld or cut on a load suspended by the hoist.
28. Never use hoist chain as a welding electrode.
29. Do not operate hoist if chain jumping, excessive noise, jamming, overloading, or binding occurs.
30. Keep load from hitting load chain.
31. Do not use a cheater bar or extended handle.
32. Never place hand inside throat area of a hook.
33. After use, or when in a non-operational mode, hoist should be secured against unauthorized and unwarranted use.
34. Only operate hoist with manual power.

SPECIFICATIONS

General

The Lever Chain Hoist can be mounted to the suspension shaft of a trolley or a permanent mounting structure. The hoist is designed to lift and lower loads up to rated capacity with minimal lever effort.

To determine hoist configuration refer to capacity and lot number nameplate located on hand lever for model number information.

Model Code Explanation

Example: SLB - 300 - 15

Series
Hoist Capacity
Lift (Hoist load chain/hook travel)

Series	Hoist Capacity	Lift	Options
SLB = **Silver Lever Hoist**	150 = 3/4 metric ton / 750 kg 200 = 1 metric ton / 1,000 kg **300** = **1-1/2 metric ton / 1,500 kg** 600 = 3 metric ton / 3,000 kg 1200 = 6 metric ton / 6,000 kg	**15 = 5 m (standard)** 20 = 6 m XX = Specify length F = Hoist without load chain	S = Shipyard Hook

Specifications Table

Model No.	Capacity (metric tons)	Lever Pull to lift rated load (kg)	Load Chain size (mm)	Wt. of chain per 0.3 m of lift (kg)	No. of chain falls	Hoist Net Weight with standard 1.5 m of lift (kg)
SLB150	3/4	18.5	6 x 18	0.24	1	7.03
SLB200	1	27				
SLB300	1-1/2	24	7.1 x 21.2	0.34		11.0
SLB600	3	24	10 x 30	1.66		20.0
SLB1200	6	26		1.32	2	30.4

INSTALLATION

Prior to installing hoist, carefully inspect it for possible shipping damage. Hoists are supplied fully lubricated from the factory. Ensure load chain is lubricated prior to hoist operation.

⚠ CAUTION

• Owners and users are advised to examine specific, local or other regulations, including American National Standards Institute and/or OSHA Regulations, which may apply to a particular type of use of this product, before installing or putting hoist to use.

The **SLB** lever chain hoist can be used in any position provided it is rigged to pull in a straight line from top hook to bottom hook.

The hoist body must be positioned so that it does not contact the load or support members when in use. Ensure hand lever movement is unrestricted.

When operating in limited areas suitable lifting attachments or slings must be used to prevent hoist body and hand lever from being obstructed.

⚠ CAUTION

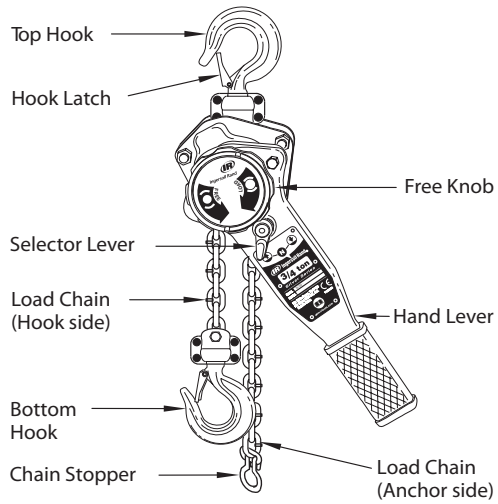
• Ensure hoist top and bottom hooks are properly rigged and hook latches are engaged, prior to use.

Initial Operating Checks

Operate hoist with a test load (10% of rated capacity) by raising and lowering this load several times. Verify brake operation by lowering same load to check load does not slip when lowering stops.

NOTICE

• Each time a load is lifted, operation of load brake should be checked by raising load slightly and stopping to ensure brake will hold load before continuing to lift load.



(Dwg. MHP0830)

Familiarize operators and personnel responsible for hoist installation and service with ASME B30.21 specifications and this manual prior to placing unit into service. All requirements of this specification, including testing should be met before approving hoist for operation.

OPERATION

The four most important aspects of hoist operation are:

1. Follow all safety instructions when operating hoist.
2. Allow only personnel trained in safety and operation of this hoist to operate hoist.
3. Subject each hoist to a regular inspection and maintenance procedure.
4. Be aware of hoist capacity and weight of load at all times.

⚠ WARNING

• The hoist is not designed or suitable for lifting, lowering or moving persons. Never lift loads over people.

Positioning Unloaded Hook (Neutral Position)

Refer to Dwg. MHP0830 on page 4.
Check that chain stopper (54) is securely fastened in last link of load chain anchor end. The load chain stopper is intended to prevent load chain from becoming disengaged from hoist and is not intended to support the load.

⚠ CAUTION

• Ensure load is properly seated in saddle of bottom hook.

In NEUTRAL "N" position hand lever does not engage ratchet gear. The hand lever free-wheels until selector lever is shifted to UP or DOWN position.

1. Set selector lever to NEUTRAL (center) position.
2. Turn free chain knob counterclockwise.
3. Grasp and pull one side of load chain or turn free knob until desired hook location is achieved.
4. Connect hook to load. Pull anchor side of load chain or turn free knob until chain slack is removed.

⚠ WARNING

• Do not support or hang loads from load chain anchor end. Brake may not hold load or operate correctly.

Lifting Load (UP Position - Haul-In)

Refer to Dwg. MHP0825 on page 5.
The following procedure assumes hoist is in NEUTRAL (center) position and hook is attached to a load, but hoist is not supporting the load.

1. Place selector lever in UP position.
2. Rotate free knob clockwise.
3. Pull anchor end of load chain until slack is removed.
4. Rotate (ratchet) hand lever in **clockwise** direction to raise (haul-in) load.

NOTICE

• Ratchet may not engage and raise (haul-in) load until all chain slack is removed and hoist is supporting load weight. If hand lever movement does not produce lifting, apply tension to anchor side of load chain while ratcheting until slack is removed and hoist begins lifting load. If hoist does not operate properly under load, remove load, inspect and repair hoist.

Lowering Load (DOWN Position - Payout)

Refer to Dwg. MHP0825 on page 5.

⚠ WARNING

• Do not continue lowering load after chain stopper has contacted hoist body as damage may occur to hoist resulting in a falling load which can cause severe injury, death or property damage.

The following procedure assumes hoist selector lever is in UP position, hoist is holding a load and the operator wants to lower (payout) the load:

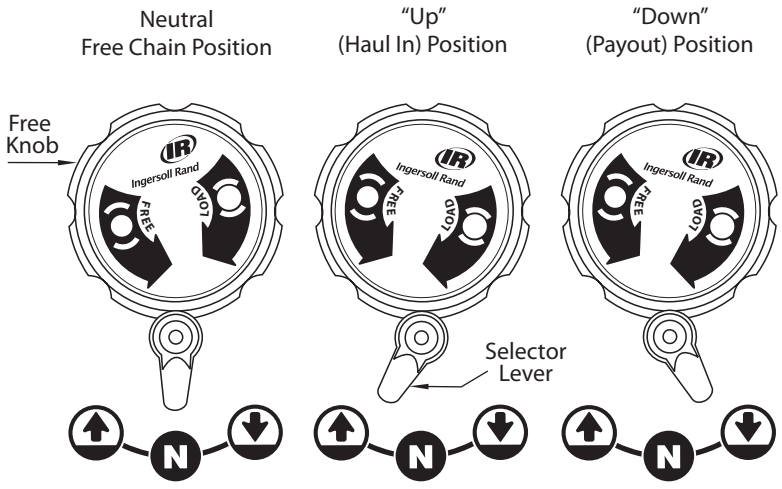
1. Place selector lever in DOWN position.
2. Rotate (ratchet) hand lever in **counterclockwise** direction to lower (payout) load.

⚠ CAUTION

• To prevent injury or property damage always lower loads until load chain becomes slack before shifting to NEUTRAL position.

Storing the Hoist

1. Always store hoist in a no load condition.
2. Switch selector lever to NEUTRAL (center position).
3. Wipe off all dirt and water.
4. Oil the chain, hook pins and hook latch pins.
5. Hang in a dry place.
6. Before returning hoist to service follow instructions for 'Hoists not in Regular Use' in "INSPECTION" section.



(Dwg. MHP0825)

INSPECTION

⚠ WARNING

• All new, altered or modified equipment should be inspected and tested by personnel trained in safety, operation and maintenance of this equipment to ensure safe operation at rated specifications before placing equipment in service.

Frequent and periodic inspections should be performed on equipment in regular service. Frequent inspections are visual examinations performed by operators or service personnel and include observations made during routine equipment operation. Periodic inspections are thorough inspections conducted by personnel trained in the safety, operation and maintenance of this equipment. ASME B30.21 states inspection intervals depend upon the nature of the critical components of the equipment and severity of usage.

Careful inspection on a regular basis will reveal potentially dangerous conditions while still in the early stages, allowing corrective action to be taken before the condition becomes dangerous.

Deficiencies revealed through inspection, or noted during operation, must be reported to designated personnel trained in safety, operation and maintenance of this equipment. A determination as to whether a condition constitutes a safety hazard must be decided, and the correction of noted safety hazards accomplished and documented before placing equipment in service.

Records and Reports

Inspection records, listing all points requiring periodic inspection should be maintained for all load bearing equipment. Written reports, based on severity of service, should be made on the condition of critical parts as a method of documenting **periodic** inspections. These reports should be dated, signed by the person who performed the inspection, and kept on file where they are readily available for review.

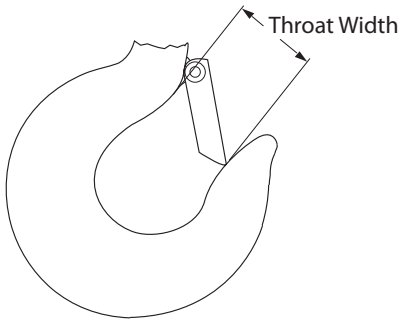
Load Chain Reports

Records should be maintained documenting the condition of load chain removed from service as part of a long-range load chain inspection program. Accurate records will establish a relationship between visual observations noted during frequent inspections and the actual condition of the load chain as determined by periodic inspection methods.

Frequent Inspection

The lever chain hoist should be inspected at the beginning of each shift. Visual inspections should also be conducted during regular service for any damage or evidence of malfunction which appears between regular inspections.

1. OPERATION. Check for visual signs or abnormal noises which could indicate a potential problem. Check chain feed through hoist and on 6 ton units the hook idler sheave. If chain binds, jumps or is excessively noisy or “clicks,” clean and lubricate the chain. If problem persists, chain may have to be replaced. Do not operate hoist until all problems have been determined and corrected.
2. HOOKS. Check for wear or damage, increased throat width, bent shank or twisting of hook. Replace hooks that exceed the throat opening discard width (15%) shown in Table 1 (refer to Dwg. MHP0040 on page 6) or are twisted (refer to Dwg. MHP0111 on page 6). If hook latch snaps past tip of hook, hook is sprung and must be replaced. Check hooks swivel easily and smoothly. Repair or lubricate as necessary.

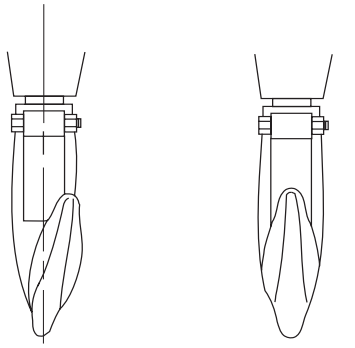


(Dwg. MHP0040)

Table 1

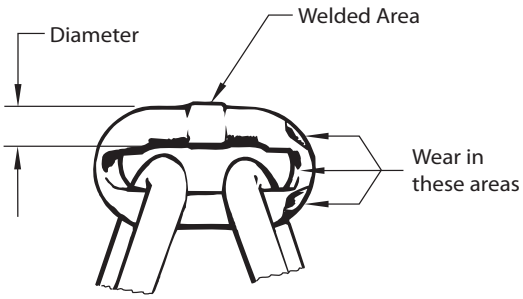
Model No.	Throat Width (mm)	Discard Width (mm)
SLB150	29	31
SLB200	32	35
SLB300	35	39
SLB600	44	48.3
SLB1200	50	55

3. HOOK LATCHES. Check operation of hook latches. Replace if broken or missing.



(Dwg. MHP0111)

4. CHAIN. Refer to Dwg. MHP0102 on page 7. Examine each link for bending, cracks in weld areas or shoulders, transverse nicks and gouges, weld splatter, corrosion pits, striation (minute parallel lines) and chain wear, including bearing surfaces between chain links. Replace a chain that fails any of the inspections. Check lubrication and lubricate if necessary. Refer to “Load Chain” in “LUBRICATION” section.



(Dwg. MHP0102)

CAUTION

• The full extent of chain wear cannot be determined by visual inspection. At any indication of chain wear, inspect chain and load sheave in accordance with instructions in “Periodic Inspection.”
• A worn load chain may cause damage to load sheave. Inspect load sheave and replace if damaged or worn.

5. LOAD CHAIN REEVING. Refer to Dwg. MHP0042 on page 9. Make sure welds on standing links are away from load sheave. Reinstall chain if necessary. On 6 ton hoists, make sure chain is not capsized, twisted or kinked. Ensure chain stopper is installed in last link of load chain. Adjust as required.
6. HAND LEVER. Check for cracks, bending and other damage. Replace if necessary.

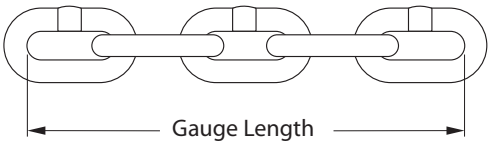
Periodic Inspection

According to ASME B30.21, frequency of periodic inspection depends on the severity of usage:

NORMAL	HEAVY	SEVERE
yearly	semiannually	quarterly

Disassembly may be required for HEAVY or SEVERE usage. Keep accumulative records of periodic inspections to provide a basis for continuing evaluation. Inspect all items in “Frequent Inspection”. Also inspect the following:

1. FASTENERS. Check rivets, capscrews, nuts, cotter pins and other fasteners on hooks and hoist body. Replace if missing and tighten or secure if loose.
2. ALL COMPONENTS. Inspect for wear, damage, distortion, deformation and cleanliness. Disassemble and check gears, shafts, bearings, sheaves, chain guides, springs and covers. Replace worn or damaged parts. Clean, lubricate and reassemble.
3. HOOKS. Inspect hooks for cracks. Use magnetic particle or dye penetrant to check for cracks. Inspect hook retaining parts. Tighten, repair or replace if necessary. Refer to the latest edition of ASME B30.10 (Hooks) for additional hook inspection information.
4. CHAIN SHEAVES. Check for excessive wear or damage. Replace if necessary.
5. BRAKE. Ensure proper operation. Brake must hold hoist rated capacity. If load test indicates the need, disassemble. Brake disks must be free of oil, any grease, unglazed and uniform in thickness. Refer to “MAINTENANCE” section for allowable brake disk wear. Check all other brake surfaces for wear, deformation or foreign deposits. Inspect gear teeth, pawl and pawl spring for damage. Check that brake pawl stops counterclockwise rotation of ratchet gear. Clean and replace damaged components as necessary.
6. SUPPORTING STRUCTURE. If a permanent structure is used, inspect for continued ability to support load.
7. LABELS AND TAGS. Check for presence and legibility. Replace if necessary.
8. LOAD CHAIN. Measure chain for stretching by measuring across five link sections all along chain length, refer to Dwg. MHP0041 on page 7. When any five links in the working length reach or exceed discard length shown in Table 2, replace entire chain. Always use a genuine **Ingersoll Rand** replacement chain.



(Dwg. MHP0041)

Table 2

Model No.	Chain Size (mm)	Normal Length (mm)	Discard Length (mm)
SLB150	6 x 18	90	92.3
SLB200			
SLB300	7.1 x 21.2	105	107.6
SLB600	10 x 30	150	153.7
SLB1200			

9. CHAIN STOPPER. Ensure chain stopper is installed in last link of anchor end of load chain. Replace if missing or damaged. Refer to ‘Attaching End of Load Chain’ in “MAINTENANCE” section.

Hoists Not in Regular Use

1. Hoists which have been idle for a period of one month or more, but less than one year shall be given an inspection conforming with requirements of “Frequent Inspection” before being placed into service.
2. Hoists which have been idle for a period of over one year shall be given a complete inspection conforming with requirements of “Periodic Inspection” before being placed into service.
3. Standby hoists shall be inspected at least semiannually in accordance with requirements of “Frequent Inspection”. In abnormal operating conditions, equipment should be inspected at shorter intervals.

LUBRICATION

General

Thread lubricant or an anti-seize compound use is recommended for threaded shafts, capscrews and nuts. Unless otherwise stated, remove old lubricant, clean part with an acid free solvent and apply a new coating of lubricant to part before assembly.

Gear

Remove prevailing torque type nut (60) on side of hoist opposite hand lever and remove gear case assembly (1). Remove old grease and replace with new. For temperatures -29° to 10° C use EP 1 grease or equivalent. For temperatures -1° to 49° C use EP 2 grease or equivalent.

Load Chain

⚠ WARNING

• Failure to maintain clean and well lubricated load chain may result in chain failure causing injury, death or substantial property damage.

1. Lubricate each link of chain weekly. Apply new lubricant over existing layer.
2. In severe applications or corrosive environments, lubricate more frequently than normal.
3. Lubricate hook and hook latch pivot points with same lubricant used on load chain.
4. To remove rust or abrasive dust buildup, clean chain with an acid free solvent. After cleaning, lubricate chain.
5. Use **Ingersoll Rand** LUBRI-LINK-GREEN® or a SAE 50 to 90W EP oil.

TROUBLESHOOTING

This section provides basic troubleshooting information. Specific causes to problems are best identified by thorough inspections performed by personnel instructed in safety, operation and maintenance of this equipment. The chart below provides a brief guide to common hoist symptoms, probable causes and remedies.

SYMPTOM	CAUSE	REMEDY
Hoist will not hold rated load.	Brake may be slipping.	Inspect and adjust or repair as described in “INSPECTION” and “MAINTENANCE” sections.
Hoist will not lift load.	Excess slack in load chain.	Pull down on load chain while ratcheting until slack is removed and hoist begins lifting load. Refer to “OPERATION” section.
	Hoist is overloaded.	Reduce load to within rated capacity.
	Hoist is in NEUTRAL (N) mode.	Ensure selector lever is in UP position. Refer to “OPERATION” section.
Load chain binds.	Damaged load chain, pinion shaft, gears or sheaves.	Disassemble and inspect components as described in “MAINTENANCE” and “INSPECTION sections.
	Load chain not installed properly (twisted, kinked or “capsized”).	Inspect and adjust or repair as described in “INSPECTION” and “MAINTENANCE” sections.
Load hook latch does not work.	Latch broken.	Replace hook latch.
	Load hook bent or twisted.	Inspect load hook as described in “INSPECTION” section. Replace if necessary.
Hoist will not free chain.	Brake is set.	Rotate free chain knob counterclockwise. Refer to “OPERATION” section.

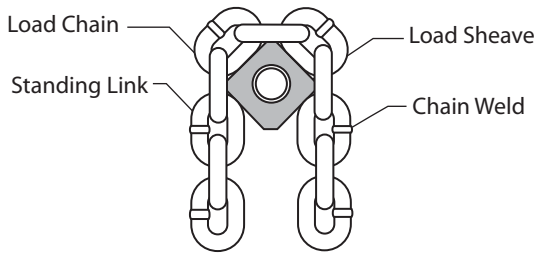
⚠ WARNING

• Never perform maintenance on hoist while it is supporting a load.
• Before performing maintenance, tag hoist:
WARNING - DO NOT OPERATE -
EQUIPMENT BEING REPAIRED.
• Only allow personnel trained in the operation and service of this product to perform maintenance.
• After performing any maintenance on hoist, test to 125% of its rated capacity before returning to service. Testing to 150% of rated capacity might be required to comply with standards and regulations set forth in areas outside of the USA.

Installing New Load Chain

Refer to Dwg. MHP0042 on page 9.

1. Ensure welds of "standing" links on new load chain are facing away from load sheave assembly (7).
2. Ensure load chain (55) is reeved between load sheave assembly (7) and chain guides (6) and (8).
3. Bottom hook assembly (50) must be on left fall of load chain (55) and right fall must have a chain stopper (54) attached to end link.



(Dwg. MHP0042)

NOTICE

• Right and left designations are as viewed from hand lever side of hoist.

4. On 6 ton hoists feed load chain through bottom block assembly and secure to top hook bracket with capscrew (49) and nut (60). Ensure load chain is straight and not twisted. Chain weld on standing links will be to the inside of bottom hook idler sheave (56). Refer to Dwg. MHP0834 on page 9.
5. Lubricate new load chain before using hoist. Refer to "LUBRICATION" section for recommended lubricants.

General Disassembly

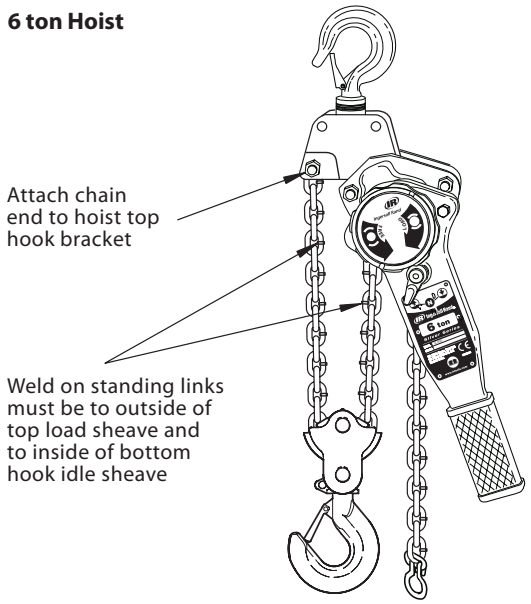
The following instructions provide necessary information to disassemble, inspect, repair and assemble hoist. Hoist assembly parts drawings are provided in "PARTS" section.

If a hoist is being completely disassembled for any reason, follow the order of the topics as they are presented. It is recommended that all maintenance work on hoist be performed on a bench in a clean dust free area.

In the process of disassembling the hoist, observe the following:

1. Never disassemble hoist any further than is necessary to accomplish needed repair. A good part can be damaged during the course of disassembly.
2. Never use excessive force when removing parts. Tapping gently around the perimeter of a cover or housing with a soft hammer, for example, is sufficient to break the seal.
3. Do not apply heat to a part to free it for removal, unless part being heated is already worn or damaged beyond repair and no additional damage will occur to other parts.
   In general, hoist is designed to permit easy disassembly and assembly. Use of heat or excessive force should not be required.
4. Keep work area as clean as practical, to prevent dirt and other foreign matter from getting into bearings or other moving parts.
5. When grasping a part in a vise, always use leather-covered or copper-covered vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members, machined surfaces and housings.
6. Do not remove any part which is press fit in or on a subassembly unless removal of that part is necessary for repairs or replacement.

6 ton Hoist



(Dwg. MHP0834)

Hoist Disassembly

Refer to Dwg. MHP0773 on page 12.

Accessing Brake End

1. Remove retainer wire (30) and lift off cover (29).
2. Remove split pin (71) and castle nut (70) from drive shaft (3).
3. Remove screw (69) and washer (68).
4. Remove two screw (64) and washer (65) from lever handle assembly (25). Lift off lever handle assembly (25).

5. Remove change over pawl (22), spring shaft (23) and change over spring (24) from lever handle assembly (25).
6. Carefully pry change hand wheel (28) from change over gear (20).
7. Remove screw (64), washers (65) and prevailing torque type nut (60) from threaded spacers (94). Remove brake cover assembly (19).
8. Secure drive shaft (3) to prevent rotation and unscrew disk hub (15).
9. Remove friction disk (17), ratchet disk (18) and free spring (16).
10. Remove snap ring (63) from posts on side plate assembly B (12). Remove pawls (14) and pawl spring (13).

Accessing Gear End

1. Remove four prevailing torque type nuts (60) from side plate threaded spacers (94).
2. Remove gear case assembly (1).
3. Remove driver shaft assembly (2).
4. Remove snap ring (62) from load sheave assembly (7) if complete hoist is to be disassembled.

Accessing Load Sheave

Follow steps 1 through 10 in 'Accessing Brake End' and steps 1 through 4 in 'Accessing Gear End'.

1. Slide out Drive shaft (3) from gear end.
2. Carefully remove side plate assembly B (brake side) (12).
3. Remove chain leaders (9) and (11), stripper (10), guide ring B (8) and top hook (45) with top pin (48).
4. Remove splined gear (4) from load sheave assembly (7). Remove load sheave from side plate assembly A (gear side) (5).
5. Only if necessary, tap side plate threaded spacers (94) from side plate assembly A (gear side) (5).

Bottom Hook Disassembly

1. On single fall hoists remove prevailing torque type nut (77) and capscrew (52). Separate load chain from hook.
2. On 6 ton double fall hoists remove retainer rings (95).
3. Carefully slide idler sheave shaft (96) from hook block (57). Remove idler sheave (56) and remove rollers (97) from idler sheave (56).
4. Slide out idler sheave shaft (96) and remove bottom hook (51).

Cleaning, Inspection and Repair

Use the following procedures to clean and inspect the components of hoist.

Cleaning

Clean all hoist component parts in solvent (except for brake disks). Use of a stiff bristle brush will facilitate removal of accumulated dirt and sediments on gears, shafts and housings. Dry each part using low pressure, filtered compressed air. If brake disks are oil-soaked, they must be replaced.

Inspection

All disassembled parts should be inspected to determine their fitness for continued use. Pay particular attention to the following:

1. Inspect all gears for worn, cracked, or broken teeth.
2. Inspect shafts for ridges caused by wear. If ridges caused by wear are apparent on shafts, replace shaft.
3. Inspect all threaded items and replace those having damaged threads.
4. Inspect brake disks for oil. If brake disks are oil-soaked, replace brake disks.
5. Measure thickness of brake disks. New brake disk thickness is 3 mm. Discard brake disks if thickness is 2 mm or less.

Repair

Actual repairs are limited to removal of small burrs and other minor surface imperfections. Use a fine stone or emery cloth for this work.

1. Worn or damaged parts must be replaced. Refer to applicable parts listing for specific replacement parts information.
2. Inspect all remaining parts for evidence of damage. Replace or repair any part which is in questionable condition. The cost of the part is often minor in comparison with the cost of redoing the job.
3. Smooth out all minor nicks, burrs, or galled spots on shafts, bores, pins or spacers.
4. Polish edges of all shaft shoulders to remove small nicks which may have been caused during handling.
5. Remove all nicks and burrs caused by lockwashers.

Hoist Assembly

Refer to Dwg. MHP0773 on page 12.

Load Sheave Assembly

1. Install side plate threaded spacers (94) in side plate assembly A (gear side) (5).
2. Install load sheave (7) in side plate assembly A (5).
3. Apply grease to Bearing A (91) located on end of load sheave (7).
4. Install chain leaders (9) and (11), stripper (10), guide ring B (8) and top hook (45) on top pin (48) in side plate assembly A (5).
5. Carefully install side plate assembly B (brake end) (12) to engage locating diameters of parts installed in step 4.
6. Push side plates together to ensure all parts are located and secure.

Gear End Assembly

Follow steps 1 through 6 described in 'Load Sheave Assembly'.

1. Install splined gear (4) on load sheave (7). Install snap ring (62) on load sheave (7) to secure splined gear (4).
2. Install drive shaft (3) through center of load sheave (7).
3. Install driver shaft gears (2) so gear teeth are correctly timed and spigots locate in bearing sleeves in side plate assembly A (5). Refer to 'Gear Timing' section.
4. Apply a thick coat of grease as recommended in "LUBRICATION" section to all gear teeth. Install gear case (1) over driver shaft (2) to locate and engage gear spigots.
5. Secure gear cover with prevailing torque type nut (60).

Brake End Assembly

Follow steps 1 through 6 described in 'Load Sheave Assembly' and steps 1 through 5 described in 'Gear End Assembly'.

CAUTION

• The brake will not operate properly if there is oil or grease on brake friction disk (17).

1. Thread disk hub (15) onto drive shaft (3) until snug. Stepped side of brake hub must face out.
2. Install pawl springs (13) and pawls (14) to posts on side plate assembly B (brake end) (12) and secure with snap rings (63).
3. Install first friction disk (17) followed by ratchet disk (18) and second friction disk (17). Ratchet disk teeth must engage two pawls (14) mounted on side plate assembly B (12). Only clockwise rotation of ratchet disk (18) must be possible.
4. Install brake lever cover assembly (19) on side plate assembly B (12). Brake cover assembly will locate on threaded spacers (94). Secure with prevailing torque type nuts (60).
5. Install spring (16) on drive shaft (3) then secure load sheave (7) to prevent rotation and thread disk hub (15) onto drive shaft (3) until snug.
6. Install change over spring (24), spring shaft (23) and change over pawl (22) in lever handle assembly (25).
7. Install lever assembly on brake lever cover assembly (19). Secure with washers (65) and screw (64).
8. Install screws (64) and washers (65).
9. To assist further assembly move selector lever to UP position. Install hand wheel (28) and install screws (69) and and washer (68).
10. Install bushing (31).
11. Install and castle nut (70) until snug and then back nut off 3/4 turn and align slot with pin hole in drive shaft (3). Install split pin (71) but do not bend ends apart. Test to ensure adjustment block will freely move to free chain position. If not, back off nut one more slot and retest. Install and bend cotter pin ends apart.
12. Install cover (29) and secure in position with retainer wire (30).

NOTICE

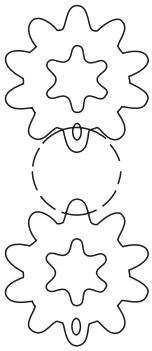
• Ensure hoist will properly shift from UP, DOWN and NEUTRAL positions using selector lever. With selector lever in NEUTRAL (center) position, turn free chain knob counterclockwise. Ensure brake disengages and load chain can be pulled in both directions without sticking or binding.

Bottom Hook Assembly

1. On 6 ton double fall hoists grease and install rollers (97) in bore of idler sheave (56).
2. Install idler sheave shaft (96) through idler sheave (56) bore. Ensure rollers (97) remain in position.
3. Secure idler sheave shaft (96) with retainer rings (95) at both ends.
4. Install hook (51) in hook block (57).
5. Install idler sheave shaft (96) and secure with retainer ring (95).
6. On single fall hoists install last link of load chain in hook assembly and install capscrew (52) and nut (77).

Gear Timing

For proper operation, timing marks on driver shaft gears (2) must be in correct positions. Timing marks are circular impressions near center of driver shaft gears (2). Refer to Dwg. MHP0827 on page 11.



3/4 ton

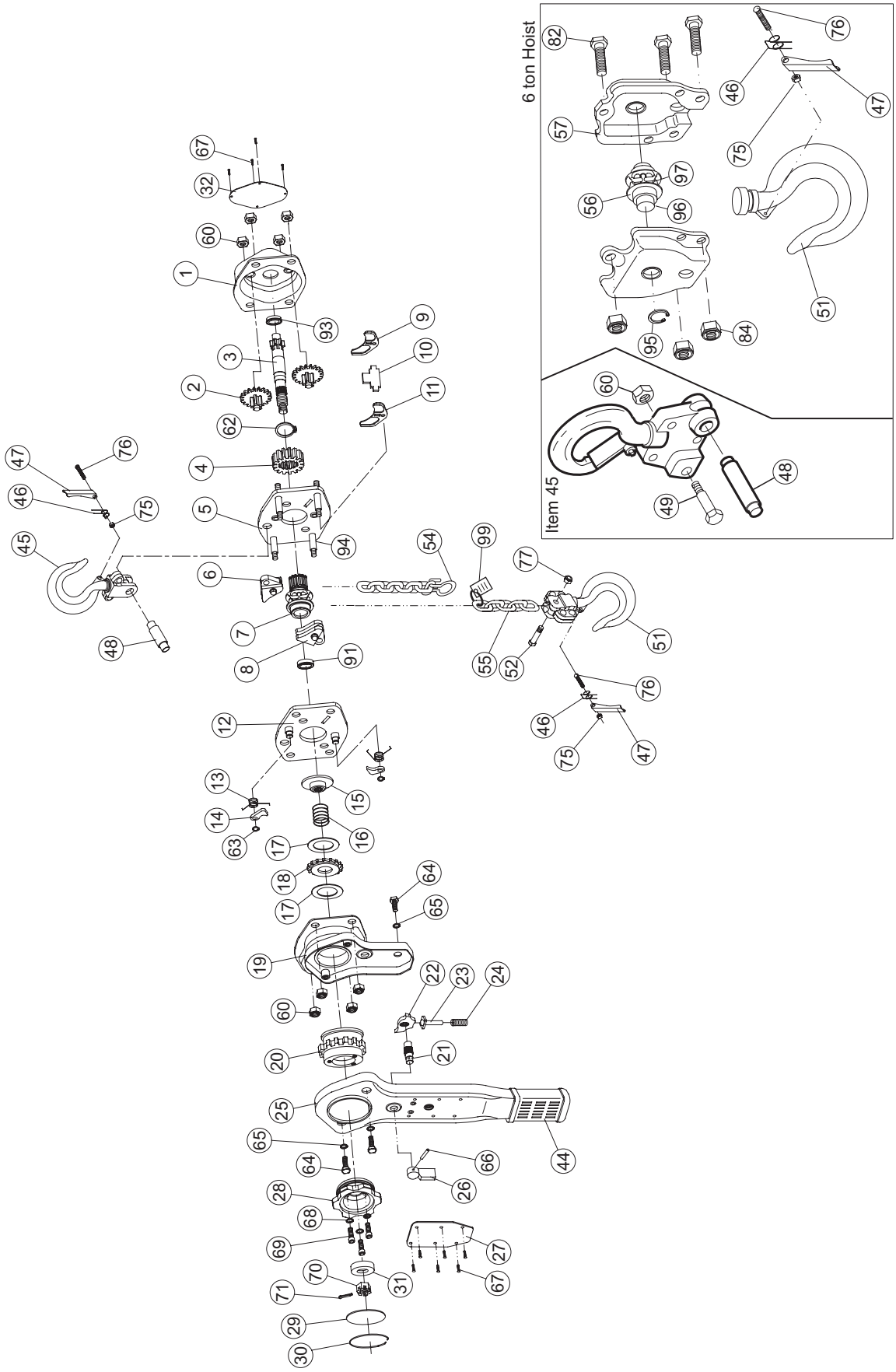
(Dwg. MHP0827)

(3/4 ton shown) timing marks typical for 3/4 - 6 ton

Load Test

Prior to initial use, all new, extensively repaired or altered hoists shall be load tested by or under the direction of a person trained in the operation and maintenance of this hoist, and a written report furnished confirming rating of hoist. Test hoist to 125% of rated hoist capacity. Testing to more than 125% may be necessary to comply with standards and regulations set forth in areas outside of the USA.

HOIST ASSEMBLY PARTS DRAWING



(Dwg. MHP0773)

HOIST ASSEMBLY PARTS LIST

No.	Description	0. 75t	1t	1.5t	3t	6t
1	Gear case assembly	45590098	45590445	45590999	45590262	45590650
2	Driver shaft assembly (includes item 3)	45590114	45590528	45591013	45590288	45590676
3	Drive shaft	N/A	N/A	N/A	N/A	N/A
4	Splined gear	45590122	45590536	45591021	45590296	45590684
5	Side plate assembly A (9, 10, 11 and 94)	45589751	45590437	45590981	45590254	45590643
6	Guide ring A	N/A	N/A	N/A	N/A	N/A
7	Load sheave assembly	45590130	45590544	45591039	45590304	45590692
8	Guide ring B	N/A	N/A	N/A	N/A	N/A
9	Chain leader A	N/A	N/A	N/A	N/A	N/A
10	Stripper	N/A	N/A	N/A	N/A	N/A
11	Chain leader B	N/A	N/A	N/A	N/A	N/A
12	Side plate assembly B (includes items 13, 14, 63 and 91)	45589744	45590429	45590973	45590247	45590635
13	Pawl spring	N/A	N/A	N/A	N/A	N/A
14	Pawl	N/A	N/A	N/A	N/A	N/A
15	Disk hub	N/A	N/A	N/A	N/A	N/A
16	Free spring	N/A	N/A	N/A	N/A	N/A
	Brake Kit (includes items 13(2), 14(2), 15, 16, 18, 70 and 71)	45470838	45470838	45470853	45470861	45470861
17	Friction disk Kit, Qty 2	45470788	45470788	45470804	45470812	45470812
18	Ratchet disk	N/A	N/A	N/A	N/A	N/A
19	Lever cover assembly (includes items 60 (4), 64 and 65)	45589736	45590411	45590965	45590239	45590627
20	Change over gear	45590106	45590452	45591005	45590270	45590668
21	Selector shaft	N/A	N/A	N/A	N/A	N/A
22	change over pawl	N/A	N/A	N/A	N/A	N/A
23	Spring shaft	N/A	N/A	N/A	N/A	N/A
24	Change over spring	N/A	N/A	N/A	N/A	N/A
25	Lever handle assembly (includes items 21, 22, 23, 24, 26 44 and 66)	45589728	45590395	45590759	45590221	45590619
26	Selector lever	N/A	N/A	N/A	N/A	N/A
	Nameplate Kit, (includes items 27, 29, 30, 32 and 67)	45470887	45470895	45470903	45470929	45470937
27	Name plate A	N/A	N/A	N/A	N/A	N/A
28	Hand wheel	N/A	N/A	N/A	N/A	N/A
29	Cover	N/A	N/A	N/A	N/A	N/A
30	Retainer wire	N/A	N/A	N/A	N/A	N/A
31	Bushing	45590148	45590551	45591047	45590312	45590700
32	Name plate B	N/A	N/A	N/A	N/A	N/A
44	Lever handle cover	N/A	N/A	N/A	N/A	N/A
45	Top hook kit (includes items 46, 47, 48, 75, 76)	45471000	45471018	45471026	45471034	45471042
46	Double spring	N/A	N/A	N/A	N/A	N/A
47	Safety latch kit (includes items 46, 75, 76)	45471059	45471067	45471075	45471083	45471091
48	Top pin	N/A	N/A	N/A	N/A	N/A
49	Top chain pin kit (includes item 60)	N/A	N/A	N/A	N/A	45471141
	Bottom hook kit (includes items 46, 47, 51, 52, 75, 76, 77)	45471257	45471265	45471281	45471315	45471323

No.	Description	0. 75t	1t	1.5t	3t	6t
51	Bottom hook	45590155	45590569	45591054	45590320	45590718
52	Chain pin kit (includes item 77)	45471158	45471166	45471174	45471208	N/A
54	Chain stopper	71291686	71291686	71291694	71291702	71291702
55	Load chain	LC618-G10	LC618-G10	LCCF015	LC1030-G10	LC1030-G10
56	Idler sheave	N/A	N/A	N/A	N/A	N/A
57	Hook block component	N/A	N/A	N/A	N/A	N/A
60	Prevailing torque type nut	N/A	N/A	N/A	N/A	N/A
62	Snap ring	N/A	N/A	N/A	N/A	N/A
63	Snap ring	N/A	N/A	N/A	N/A	N/A
64	Screw	N/A	N/A	N/A	N/A	N/A
65	Washer	N/A	N/A	N/A	N/A	N/A
66	Spring pin	N/A	N/A	N/A	N/A	N/A
67	Rivet	N/A	N/A	N/A	N/A	N/A
68	Spring washer	N/A	N/A	N/A	N/A	N/A
69	Screw	N/A	N/A	N/A	N/A	N/A
70	Castle nut	N/A	N/A	N/A	N/A	N/A
71	Split pin	N/A	N/A	N/A	N/A	N/A
75	Prevailing torque type nut	N/A	N/A	N/A	N/A	N/A
76	Screw	N/A	N/A	N/A	N/A	N/A
77	Prevailing torque type nut	N/A	N/A	N/A	N/A	N/A
82	Screw	N/A	N/A	N/A	N/A	N/A
84	Prevailing torque type Nut	N/A	N/A	N/A	N/A	N/A
91	Bearing A	N/A	N/A	N/A	N/A	N/A
93	Bearing B	N/A	N/A	N/A	N/A	N/A
94	Threaded Spacer	N/A	N/A	N/A	N/A	N/A
95	Retainer Ring	N/A	N/A	N/A	N/A	N/A
96	Idler Sheave Shaft	N/A	N/A	N/A	N/A	N/A
97	Roller	N/A	N/A	N/A	N/A	N/A
99	Warning Label	71053599	71053599	71053599	71053599	71053599

PARTS ORDERING INFORMATION

The use of other than genuine **Ingersoll Rand** replacement parts may adversely affect safe operation of this product. For prompt service and genuine **Ingersoll Rand** parts, provide your nearest distributor with the following:

1. Complete model number and lot number as it appears on nameplate.
2. Part number(s) and part description as shown in this manual.
3. Quantity required.



Capacity and lot number nameplate for **SLB** Hoists is located on hand lever, under selector lever. Model and lot number nameplate shown is for a 1-1/2 ton **SLB** Hoist, model **SLB300**.

For your convenience and future reference it is recommended that the following information be recorded.

Hoist Model Number: _____

Hoist Lot Number: _____

Date Purchased: _____

Return Goods Policy

Ingersoll Rand will not accept any returned goods for warranty or service work unless prior arrangements have been made and written authorization has been provided from the location where the goods were purchased. Hoists returned with opened, bent or twisted hooks, or without chain and hooks, will not be repaired or replaced under warranty.

NOTICE

• Continuing improvement and advancement of design may cause changes to this hoist which are not included in this manual. Manuals are periodically revised to incorporate changes. Always check manual edition number on front cover for latest issue.

Disposal

When life of hoist has expired, it is recommended that hoist be disassembled, degreased and parts separated as to materials so that they may be recycled.

For additional information contact:
Ingersoll Rand Company
510 Hester Drive
White House, TN 37188 U.S.A.
Phone: (615) 672-0321
Fax: (615) 672-0801

or

Ingersoll Rand
Douai Operations
111, avenue Roger Salengro
59450 Sin Le Noble, France
Phone: (33) 3-27-93-08-08
Fax: (33) 3-27-93-08-00

ACCESSORIES

Description of Part	Part Number
Chain Lubricant	LUBRI-LINK-GREEN

71480545

Form: MHD56109
Edition 8
August, 2008

Declaration Of Conformity

(FR) CERTIFICAT DE CONFORMITÉ (DE) KONFORMITÄTSERKLÄRUNG (IT) DICHIARAZIONE DI CONFORMITÀ
(ES) DECLARACIÓN DE CONFORMIDAD (NL) CONFORMITEITSVERKLARING
(DA) FABRIKATIONSERKLÆRING (SV) FÖRSÄKRAN OM ÖVERENSSTÄMMELSE
(NO) KONFORMITETSERKLÆRING (FI) VAKUUTUS NORMIEN TÄYTTÄMISESTÄ

Supplier's Name: **Ingersoll Rand**

Address: **Swan Lane, Hindley Green, Wigan WN2 4EZ** • **510 Hester Drive, Whitehouse, TN 37188**

(FR) nom du fournisseur
(DE)Name des Herstellers
(IT) nome del fornitore
(ES) nombre del proveedor
(NL) Naam leverancier
(DA) Leverandørens navn
(SV) Tillverkarens namn
(NO) leverandørens navn
(FI) Toimittajan nimi
(FR) adresse
(DE) Anschrift
(IT) indirizzo
(ES) domicilio
(NL) adres
(DA) adresse
(SV) adress
(NO) adresse
(FI) osoite

Declare under our sole responsibility that the product: **Lever Chain Hoist**

(FR) Déclarons sous notre propre responsabilité que le produit : Palans à Chaîne Levier
(DE) Wir erklären hiermit, dass die Produkte: Hebelbetätigte Kettenzüge
(IT) Dichiariamo sotto la nostra unica responsabilità che il prodotto: Paranchi a Catena a Leva
(ES) Declaramos que, bajo nuestra responsabilidad exclusiva, el producto: Polipastos de Cadena de Palanca
(NL) Verklaren, onder onze uitsluitende aansprakelijkheid, dat het produkt: Rateltakels
(DA) Erklærer som eneansvarlig, at nedenstående produkt: Håndgrebsbetjente Kædetaljer
(SV) Intygar enligt vårt ansvar att produkten: Spaklyftblock Med Kätting
(NO) Erklærer som egenansvarlig at produktet: Jettetaljer
(FI) Vakuutamme ja kannamme yksin täyden vastuun siitä, että tuote: Vipunostotaljat

Models:
SLB150, SLB200, SLB300, SLB600, SLB1200.

(FR) Modèles **(DE) Modelle** **(IT) Modelli** **(ES) Modelos** **(NL) Model**
(DA) Model **(SV) Modell** **(NO) Modeller** **(FI) Mallit**

To which this declaration relates, is in compliance with provisions of Directives: **EN292, VBG 9a**

(FR) objet de ce certificat, est conforme aux prescriptions des Directives: (DE) auf die sich diese Erklärung bezieht, den folgenden Normen und Richtlinien entsprechen: (IT) a cui si riferisce la presente dichiarazione è conforme alle normative delle direttive: (ES) a los que se refiere la presente declaración, cumplen con todo lo establecido en las directivas: (NL) waarop deze verklaring betrekking heeft, overeenkomt met de bepalingen van de richtlijn(en): (DA) som denne erklæring vedrører, overholder bestemmelserne i følgende direktiver: (SV) som detta intyg avser, överensstämmer med följande direktiv: (NO) som denne erklæringen gjelder for, oppfyller bestemmelsene i directiv: (FI) jota tämä vakuutus koskee, täyttää seuraavien direktiivien vaatimukset:

Serial Number Range: **XXX → H06**

(FR) No. Serie:
(DE) Serien-Nr.-Bereich:
(IT) Intervallo dei numeri di serie:
(ES) Gama de N^{os} de Série:
(NL) Serienummers:
(DA) Serienr:
(SV) Serienummer:
(NO) Serienummerområde:
(FI) Sarjanumero:

Approved By:

(FR) Approuvé par:
(DE) Genehmigt durch:
(IT) Approvato da:
(ES) Aprobado por:
(NL) Goedgekeurd door:
(DA) Godkendt af:
(SV) Godkänd av:
(NO) Godkjent av:
(FI) Hyväksyjä:

Date: **August, 2006**

(FR) Date: Aout, 2006
(DE) Datum: Erhaben, 2006
(IT) Data: Agosto, 2006
(ES) Fecha: Agosto, 2006
(NL) Datum: Augustus, 2006
(DA) Dato: August, 2006
(SV) Datum: Augusti, 2006
(NO) Dato: August, 2006
(FI) Päiväys: Elokuu, 2006

John T. Perkins

John T. Perkins - IREP - Annandale, New Jersey USA
Engineering Manager

NOTES

NOTES

HOIST LIMITED WARRANTY

Ingersoll Rand Company warrants to the original user its Hoists and Winches (Products) to be free of defects in material and workmanship for a period of one year from the date of purchase. **Ingersoll Rand** will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any Product proves defective within its original one year warranty period, it should be returned to any Authorized Hoist and Winch Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which **Ingersoll Rand** has determined to have been misused or abused, improperly maintained by the user, or where the malfunction or defect can be attributed to the use of non-genuine **Ingersoll Rand** parts.

Ingersoll Rand makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set forth above. Ingersoll Rand's maximum liability is limited to the purchase price of the Product and in no event shall Ingersoll Rand be liable for any consequential, indirect, incidental, or special damages of any nature rising from the sale or use of the Product, whether based on contract, tort, or otherwise.

Note: Some states do not allow limitations on incidental or consequential damages or how long an implied warranty lasts so that the above limitations may not apply to you.

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

IMPORTANT NOTICE

It is our policy to promote safe delivery of all orders.

This shipment has been thoroughly checked, packed and inspected before leaving our plant and receipt for it in good condition has been received from the carrier. Any loss or damage which occurs to this shipment while en route is not due to any action or conduct of the manufacturer.

Visible Loss or Damage
If any of the goods called for on the bill of lading or express receipt are damaged or the quantity is short, do not accept them until the freight or express agent makes an appropriate notation on your freight bill or express receipt.

Concealed Loss or Damage
When a shipment has been delivered to you in apparent good condition, but upon opening the crate or container, loss or damage has taken place while in transit, notify the carrier's agent immediately.

Damage Claims
You must file claims for damage with the carrier. It is the transportation company's responsibility to reimburse you for repair or replacement of goods damaged in shipment. Claims for loss or damage in shipment must not be deducted from the **Ingersoll Rand** invoice, nor should payment of **Ingersoll Rand** invoice be withheld awaiting adjustment of such claims as the carrier guarantees safe delivery.

You may return products damaged in shipment to us for repair, which services will be for your account and form your basis for claim against the carrier.

www.irtools.com

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