

# OPERATION AND MAINTENANCE MANUAL for BEEBE

**MODEL ME005**  
**1/2 TON MANUAL CHAIN HOIST**

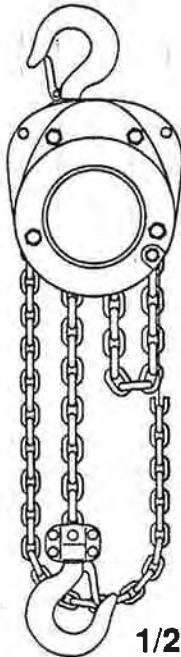
**MODEL ME010**  
**1 TON MANUAL CHAIN HOIST**

**MODEL ME015**  
**1-1/2 TON MANUAL CHAIN HOIST**

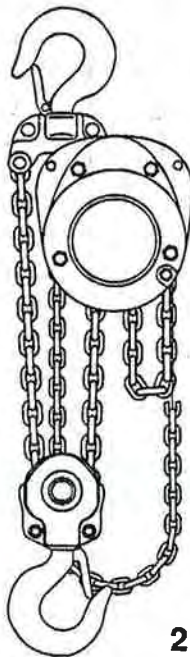
**MODEL ME020**  
**2 TON MANUAL CHAIN HOIST**

**MODEL ME030**  
**3 TON MANUAL CHAIN HOIST**

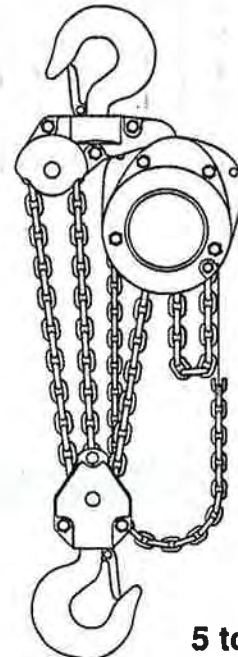
**MODEL ME050**  
**5 TON MANUAL CHAIN HOIST**



1/2 to 1-1/2 ton



2 to 3 ton



5 ton

**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 (ANSI B30.16) and any other applicable safety codes and regulations.

Read all the enclosed instructions and warning labels before installing, operating or repairing this hoist.

Refer All Communications to the Nearest  
Ingersoll-Rand Material Handling Products  
Office or Distributor.

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**INGERSOLL-RAND®**  
**MATERIAL HANDLING PRODUCTS**

## SAFETY SUMMARY

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

**WARNING:** The supporting structures and load-attaching devices used in conjunction with this hoist must provide an adequate safety factor to handle the rated load, plus the weight of the hoist. If in doubt, consult a qualified 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.

To the best of our knowledge, INGERSOLL-RAND Material Handling Products hoists are manufactured in accordance with the latest standards in effect at time of manufacture.

However, contrary to common belief, the Occupational Safety and Health Act of 1970, as we understand it, 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 responsibility and user's responsibility to determine the suitability of a product for any particular use. Check all applicable industry, trade association, federal, state and local regulations. 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. See ANSI/ASME B30.9 for rigging information, American National Standards Institute, 1430 Broadway, New York, NY 10018.

**NOTE:** Using other than genuine INGERSOLL-RAND Material Handling Products parts will result in the void of warranty.

Hoists returned with opened, bent or twisted hooks; or without chain and hooks, will not be repaired or replaced under warranty.

## SAFETY INSTRUCTIONS

1. Only allow qualified people (trained in safety and operation) to operate the hoist.
2. Only operate a hoist if you are physically fit.
3. When a "DO NOT OPERATE" sign is placed on the hoist controls, do not operate the hoist until the sign has been removed by designated personnel.
4. Before each shift, the operator should inspect the hoist for wear or damage.
5. Never use a hoist which inspection indicates is defective.
6. Periodically, inspect the hoist thoroughly and replace worn or damaged parts.
7. Lubricate the hoist regularly.
8. Do not use hoist if safety latch on a hook has been sprung or broken.
9. Check that the safety 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 the rated capacity of the hoist. See warning labels attached to the hoist.
12. Never use the hoist chain as a sling.
13. Never operate a hoist when the load chain is not centered under the 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 the point of the hook into a chain link.
17. Be certain the load is properly seated in the saddle of the hook.
18. Do not support the load on the tip of the hook.
19. Never run the load chain over a sharp edge. Use a sheave.
20. When using two hoists to suspend one load, select two hoists both having rated capacities equal to or more than the load to be lifted. This provides adequate safety in the event of a sudden load shift or failure of one hoist.
21. Pay attention to the load at all times when operating the hoist.

22. Always ensure that you, and all other people, are clear of the path of the load. Do not lift a load over people.
23. Never use the hoist for lifting or lowering people, and never allow anyone to stand on a suspended load.
24. Ease the slack out of the chain and sling when starting a lift. Do not jerk the load.
25. Do not swing a suspended load.
26. Never suspend a load for an extended period of time.
27. Never leave a suspended load unattended.
28. Never weld or cut a load suspended by the hoist.
29. Never use the hoist chain as a welding electrode.
30. Do not operate hoist if chain jumping, excessive noise, jamming, overloading, or binding occurs.
31. Keep the load from hitting the load chain.
32. Only operate the hoist with manual power.
33. After use, properly secure hoist and loads.

## OPERATION

When facing the hand chain side of the hoist:

Rotate hand chain clockwise to raise load.

Rotate hand chain counterclockwise to lower load.

**NOTE:** The clicking sound of the pawl on the ratchet gear is normal when a load is being raised.

## INSPECTION

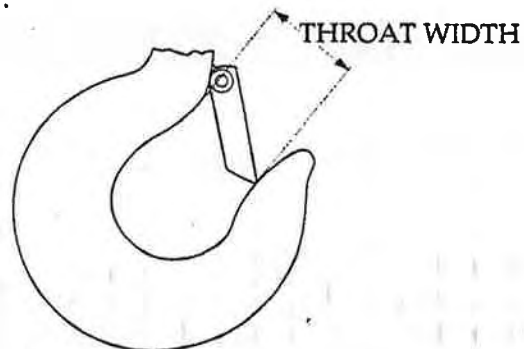
There are two types of inspection, the frequent inspection performed by the operator while using the hoist and periodic inspections performed by qualified personnel.

### Frequent Inspection

On a hoist in continuous service, frequent inspection should be made at the beginning of each shift. In addition, visual inspections should be conducted during regular service for any damage or evidence of malfunction.

1. **OPERATION.** Check for visual or abnormal noises which could indicate a defect. Do not operate a hoist unless the chain feeds through the hoist and hook block smoothly. Listen for "clicking", binding or malfunctioning. If chain binds, jumps, or is excessively noisy, clean and lubricate the chain. If problem persists, replace the chain. Do not operate the hoist until all defects have been corrected. Check that hand chain moves freely and without binding or excessive drag. Hook should stop moving when hand chain stops moving.
2. **HOOKS.** Check for wear or damage, increase throat width, bent shank or bending of hook. Replace hooks with any increase in throat width or 10% bend. If the hook latch snaps past the tip of the hook, the hook is sprung and must be replaced. Check hook support bearings for lubrication and damage. Make sure that they swivel easily and smoothly. Repair or lubricate as necessary.

Model No.:	Throat Width:	
	in.	(mm)
ME005	1.22	31.0
ME010	1.34	34.0
ME015	1.48	37.5
ME020	1.57	40.0
ME030	1.81	46.0
ME050	1.97	50.0



3. **HOOK LATCH.** Check operation of the safety latch. Replace if broken or missing.
4. **CHAIN.** Examine each of the links 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. See "Load Chain" under "LUBRICATION."

**NOTE:** Excessive wear or stretching may not be apparent from visual observation. Also inspect chain by measuring five links in accordance with instructions in "Periodic Inspection."

**NOTE:** A worn load chain may cause the load sheave to wear rapidly. Inspect the load sheave and replace if damaged or worn.

5. **CHAIN REEVING.** Ensure welds on standing links are away from load sheave. Re-install chain if necessary. Make sure chain is not capsized, twisted or kinked. Adjust as required.

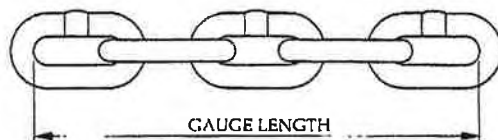
## Periodic Inspection

According to ANSI/ASME B30.16-1987, frequency of periodic inspection depends on the severity of usage: NORMAL, yearly; HEAVY, semiannually; SEVERE, quarterly. Disassembly may be required for HEAVY or SEVERE usage. Keep accumulative written records of periodic inspections to provide a basis for continuing evaluation.

Inspect all the items in a frequent inspection. Also inspect the following:

1. **FASTENERS.** Check rivets, cap screws, nuts, cotter pins and other fasteners on hook, hoist body and chain bucket, if used. Replace if missing and tighten if loose.
2. **ALL COMPONENTS.** Inspect for wear, damage, distortion, deformation and cleanliness. If external evidence indicates the need, disassemble. Check gears, shafts, bearings, sheaves, chain guides, springs and covers. Replace worn or damaged parts. Clean, lubricate and reassemble.
3. **HOOK.** Inspect hooks for cracks using magnetic particle or other suitable method. Inspect hook retaining parts. Tighten or repair, if necessary.
4. **CHAIN SHEAVES.** Check for damage or excessive wear. Replace if necessary.
5. **BRAKES.** Ensure proper operation. Brake should not slip with test load (10% of capacity). If external inspection indicates the need, disassemble. Brake discs must be free of excess oil or grease, unglazed, uniform and at least 5/64 inch (2 mm) thick. Check all other brake surfaces for wear, deformation or foreign deposits. Check pawl brake, gear teeth should be undamaged, and stop gear rotation counterclockwise. Check pawl spring for damage. Clean and replace components as necessary.
6. **SUPPORTING STRUCTURE.** Check for distortion, wear and continued ability to support load.
7. **LABELS.** Check for presence and legibility. Replace if necessary.
8. **TAIL PIN.** Ensure tail pin on chain hoist is engaged and unbent. Repair if damaged, replace if missing. See "Attaching End of Load Chain" under "MAINTENANCE."
9. **LOAD CHAIN.** Measure the chain for stretching by suspending a light load (50 to 100 pounds) from the hoist and measuring across five link sections all along the chain as illustrated below. When any five links in the working length reaches or exceeds the discard length, replace the entire chain. Always use a genuine INGERSOLL-RAND Material Handling Products replacement chain.

Model No.:	Part No.:	Chain Size: (mm)	Normal Length:		Discard Length:	
			in.	(mm)	in.	(mm)
ME005	LCCF005	5.0	2.97	75.5	3.06	77.7
ME010	LCCF010	6.3	3.76	95.5	3.87	98.3
ME015	LCCF015	7.1	4.17	106.0	4.30	109.1
ME020	LCCF010	6.3	3.76	95.5	3.87	98.3
ME030	LCCF015	7.1	4.17	106.0	4.30	109.1
ME050	LCCF015	7.1	4.17	106.0	4.30	109.1



## LUBRICATION

### Gear (19)

Remove old grease and replace with new. For temperatures -20 to 50 F (-29 to 10 C) use EP 1 grease or equivalent. For temperatures 30 to 120 F (-1 to 49 C) use EP 2 grease or equivalent. See "Accessing Gear (19)" under "MAINTENANCE."

### Load Chain

**WARNING:** Failure to maintain clean and well lubricated load chain will void the manufacturer's warranty.

1. In a corrosive environment, lubricate more frequently than normal.
2. Lubricate each link of the chain and apply new lubricant over existing layer.
3. Lubricate hook and safety latch pivot points.
4. Use BEEBE Lubri-Link or a SAE 50-90W EP oil.
5. Clean chain with acid free solvent to remove rust or abrasive dust build-up. After cleaning, lubricate chain.
6. Lubricate load chain weekly, or more frequently, depending on severity of service.

## MAINTENANCE

**WARNING:** Never perform maintenance on the hoist while it is supporting a load.

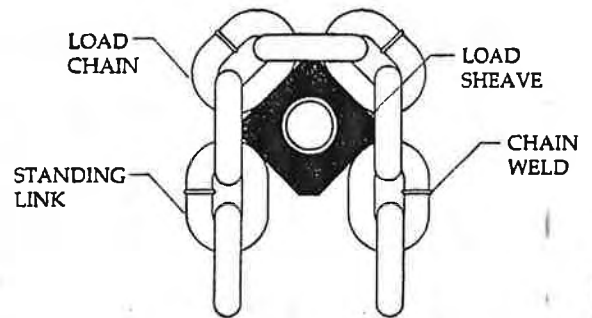
**WARNING:** Before performing maintenance, tag controls: DANGER - DO NOT OPERATE - EQUIPMENT BEING REPAIRED.

**WARNING:** Only allow qualified service personnel to perform maintenance.

**WARNING:** Test hoist to 125% of its rated capacity before returning to service.

### Installing New Chain

1. Ensure welds of "standing" links on the new chain are facing away from the load sheave (18).
2. Ensure load chain (42) is reeved between load sheave (18) and chain guides (20 and 20-A).
3. Hook (4) must be on right fall of load chain (42) and left fall must be attached to hoist body with tail pin (40). Right and left are designated when viewed from the hand chain side of the hoist.



### Attaching End of Load Chain

1. Remove socket bolt (41) and remove tail pin (40).
2. Make sure load chain (42) is not twisted, kinked or "capsized."
3. Position end link of load chain (42) between body A (10) and body B (11) and slide tail pin (40) through end link. Secure by installing socket bolt (41).

### Disassembly

To remove brake discs (30 and 32), disassemble the hoist with the following procedure:

1. Unscrew phillips head screws (38) and remove lockwashers (39). Remove wheel cover (37).
2. Remove split pin (36) and pull out stopper pin (35). Remove wheel stopper (34).
3. Remove hand wheel (33) by holding load chain (42) and rotating hand wheel (33) counterclockwise. Remove brake disc (32).
4. Remove ratchet disc (31) and brake disc (30).

### Assembly

**CAUTION:** The brake will not operate properly if there is too much oil or grease on the brake discs (30 and 32).

1. Soak replacement brake discs (30 and 32) in SAE 30W oil for at least one hour. Wipe off excess oil.
2. Place brake disc (30) on friction disc (29).
- NOTE:** Brake disc (30) is narrower than brake disc (32).
3. Install ratchet gear (31). Pawls (22) and ratchet gear (31) must "click" when gear (31) is rotated clockwise and must also stop gear (19) from rotating counterclockwise.
4. Place brake disc (32) on ratchet disc (31).
5. Ensure hand chain (43) is properly seated in hand wheel (33). With brake surface towards brake disc (32), place hand wheel (33) on pinion (14). Rotate hand wheel (33) clockwise until clicking occurs. Hold load chain (42) to keep pinion (14) from rotating, if necessary.
6. Align pilot holes in wheel stopper (34) and pinion (14).
7. Insert stopper pin (35) through wheel stopper (34). Secure stopper pin (35) with split pin (36).
8. Position wheel cover (37) and secure with lock washers (39) and screws (38).

### Accessing Gear (19)

1. Follow the steps 1 through 4 under "Disassembly" to access screws (22 and 22-A).
2. Loosen screws (22 and 22-A) until nuts (23) come off. Remove screws (22 and 22-A).
3. Position hoist with body B (11) up.
4. While using cutouts in body B (11) to hold frame (13) against body A (10), carefully pry body B (11) apart from frame (13). Remove body B (11).
5. Inspect gear (19). Repair or replace if necessary. Lubricate as needed.
6. Making sure chain stripper (21) is seated in frame (13), position body B (11) on frame (13).
7. Place nuts (23) into indentions in body B (11). Insert and tighten screws (22 and 22-A).
8. Lay hoist on body B (11) and make sure friction disc (29) is seated. Rotate friction disc (29) clockwise if necessary.
9. Follow steps 2 through 8 under "Assembly" to complete assembly of hoist.

## PARTS ORDERING INFORMATION

The use of replacement parts other than INGERSOLL-RAND Material Handling Products will invalidate the Company's warranty. For prompt service and genuine INGERSOLL-RAND Material Handling Products parts, provide your nearest Distributor with the following:

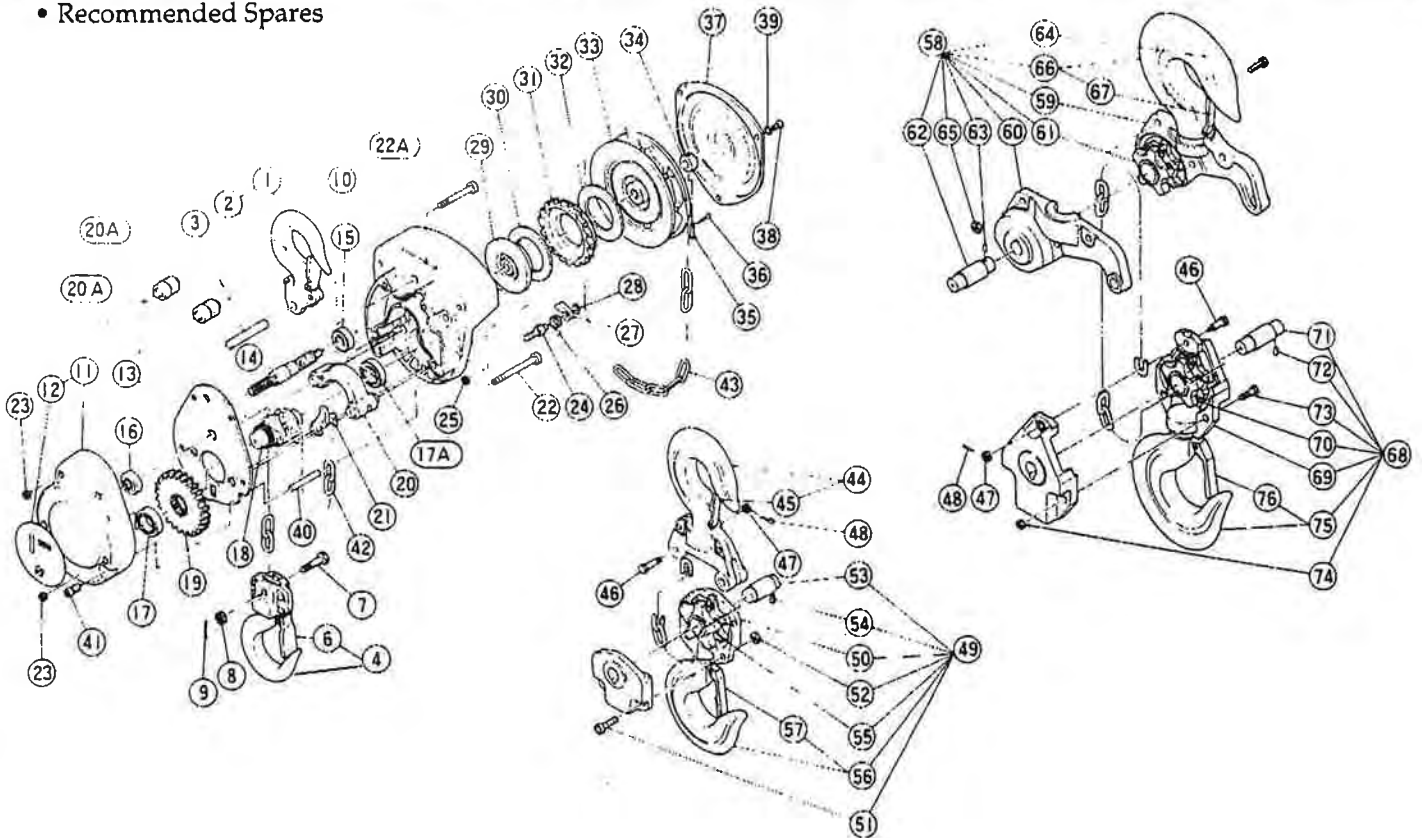
1. Complete model number as it appears on the nameplate: ME plus capacity.
2. Part number and part name as shown in manual.
3. Quantity required.

## ME MANUAL CHAIN HOIST PARTS LIST & ASSEMBLY

ITEM NO.	DESCRIPTION OF PART	QTY. TOTAL	CAPACITY PART NO.					
			1/2	1	1-1/2	2	3	5
1	Top Hook Assembly	1	71255	71307	71627	---	---	---
2	Safety Latch T	1	71256	71306	71628	---	---	---
3	Top Pin	1	71254	71305	71629	71305	71629	
•4	Bottom Hook Assembly	1	71253	71304	71630	---	---	---
•6	Safety Latch B	1	71256	71306	71628	---	---	---
•7	Chain Pin	1	72096	72097	72098	---	---	---
•8	Slotted Nut	1	72099	72100	72101	---	---	---
•9	Split Pin	1	72102	72103	72104	---	---	---
10	Body A	1	71248	71299	71636	71299	71636	
11	Body B	1	71247	71298	71637	71298	71637	
12	Name Plate B	1	---	---	---	---	---	---
13	Frame	1	71245	71296	71642	71296	71642	
14	Pinion	1	71244	71295	71267	71295	71267	72094
15	Bearing A	1	50388	50385				
16	Bearing B	1	50384		70262	50384	70262	71641
17	Bearing C	1	50387	50386	71638	50386	71638	
17A	Bearing D	1	71592	71639	71640	71639	71640	
18	Load Sheave	1	71243	71294	71268	71294	71268	72095
19	Load Gear	1	71242	71293	71643	71293	71643	---
20	Chain Guide	1	---	71292	71644	71292	71644	
20A	Guide Roller	2	71241	---	---	---	---	---
21	Stripper	1	71240	71291	71645	71291	71645	
22	Socket Bolt	2	71237	71290	71646	71290	71646	
22A	Socket Bolt	2	71238	71289	71647	71289	71647	
23	U-Nut	4	71239					
24	Pawl Pin	1	71236					
25	U-Nut	1	71239					
26	Pawl Spring	1	71234					
27	Pawl	1	71233					
28	Snap Ring	1	71232					
29	Friction Disc	1	71231	71648				
•30	Brake Disc B	1	71230	71649				
31	Ratchet Disc	1	71229	71650				
•32	Brake Disc A	1	71228	71651				
33	Hand Wheel	1	71227	71652	71653	71652	71653	
34	Wheel Stopper	1	71226	71654				
35	Wheel Stopper Pin	1	71225					
36	Split Pin	1	71224					
37	Wheel Cover	1	71223	71655	71656	71655	71656	
38	Screw	3	71222					
39	Spring Washer	3	71221					
40	Tail Pin	1	71220	71657	71658	71657	71658	
41	Socket Bolt	1	71219	71659				
42	Load Chain	1	LCCF005	LCCF010	LCCF015	LCCF010	LCCF015	
43	Hand Chain	1	HCCF005					
44	Top Hook Assembly	1	---	---	---	71260	71277	---
45	Safety Latch T	1	---	---	---	71261	71278	---
46	Chain Pin	1	---	---	---	71269	71279	
47	Slotted Nut	1	---	---	---	71270	71280	
48	Split Pin	1	---	---	---	71271	71281	

ITEM NO.	DESCRIPTION OF PART	QTY. TOTAL	CAPACITY PART NO.					
			1/2	1	1-1/2	2	3	5
•49	Bottom Hook Set	1	---	---	---	71272	71282	---
50	Bottom Yoke	2	---	---	---	71665	71283	---
51	Socket Bolt	2	---	---	---	71246	71284	---
52	U-Nut	2	---	---	---	71297	71285	---
53	Shaft	1	---	---	---	71273	71286	---
54	Spring Pin	1	---	---	---	71274		---
55	Idle Sheave	1	---	---	---	71275	71287	---
56	Bottom Hook	1	---	---	---	71276	71288	---
•57	Safety Latch B	1	---	---	---	71261	71278	---
58	Top Hook Set	1	---	---	---	---	---	71259
59	Top Yoke A	1	---	---	---	---	---	71660
60	Top Yoke B	1	---	---	---	---	---	71661
61	Idle Sheave	1	---	---	---	---	---	71263
62	Shaft	1	---	---	---	---	---	71264
63	Spring Pin	1	---	---	---	---	---	71662
64	Socket Bolt	3	---	---	---	---	---	71663
65	U-Nut	3	---	---	---	---	---	71664
66	Top Hook	1	---	---	---	---	---	71258
67	Safety Latch T	1	---	---	---	---	---	71265
•68	Bottom Hook Set	1	---	---	---	---	---	71266
69	Bottom Yoke	2	---	---	---	---	---	71262
70	Idle Sheave	1	---	---	---	---	---	71263
71	Shaft	1	---	---	---	---	---	71264
72	Spring Pin	1	---	---	---	---	---	71274
73	Socket Bolt	2	---	---	---	---	---	71284
74	U-Nut	2	---	---	---	---	---	71285
75	Bottom Hook	1	---	---	---	---	---	71258
•76	Safety Latch B	1	---	---	---	---	---	71265

• Recommended Spares



Revision A, January 1989. Insert in OMMME.

NOTE: The changes in this addendum are incorporated in the manuals shipped with the unit.

**Page 4**

"Periodic Inspection," sentence 4 of item 5.

WAS: "Brake discs must be free of excess oil or grease, unglazed, uniform and at least 5/64 inch (2 mm) thick."

NOW: "Brake discs must be free of excess oil, any grease, unglazed, uniform and at least 3/32 inch (2.4 mm) thick."

**Page 5**

"Assembly," step 1.

WAS: "Soak replacement brake discs (30 and 32) in SAE 30W oil for at least one hour. Wipe off excess oil."

NOW: "Soak replacement brake discs B and A (30 and 32) in SAE 30W oil for at least two hours. Wipe off excess oil."

"Assembly," sentence 2 of step 3.

WAS: "Pawls (22) and ratchet gear (31) must "click" when gear (31) is rotated clockwise and must also stop gear (19) from rotating counterclockwise."

NOW: "Pawls (27) and ratchet gear (31) must "click" when gear (31) is rotated clockwise and must also stop gear (31) from rotating counterclockwise."

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**Item 31**

WAS: "Ratchet Disc"

NOW: "Ratchet Gear"



## WARRANTY

INGERSOLL-RAND Material Handling Products ("Manufacturer") extends the following warranty to the original purchaser ("Purchaser") of each new product ("Product") manufactured or sold by it.

(a) Manufacturer warrants Product to be free from defects in material and workmanship under normal use and service for a period of one year from Manufacturer's original sale.

(b) Manufacturer's liability and Purchaser's sole remedy under this warranty, and for any and all other claims arising out of the purchase and use of Product, including any alleged negligence on the part of Manufacturer, is limited to repair or replacement, at Manufacturer's option, of such defective Product or part thereof, provided that the defective Product or part thereof is returned to Manufacturer's factory or authorized service center, transportation prepaid, and that examination by Manufacturer discloses that the Product is defective under the terms of this warranty.

(c) Manufacturer does not warrant components of products provided by other manufacturers. However, to the extent possible, Manufacturer will pass along to Purchaser applicable warranties of such other manufacturers.

(d) This warranty is conditioned upon installation and use of Product in accordance with Manufacturer's operating instructions. This warranty is **IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** Manufacturer shall have no liability or obligation as to any Product which has been misused, altered or changed in any way, including without limitation use of a "cheater" handle for extra leverage on hoists or pullers, conversion of hand winches or hoists to power operations\* or use of any Product for lifting, lowering or moving persons.

(e) **MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES** arising from the sale, delivery or use of Products.

Manufacturer neither assumes nor authorizes any person to assume for it any other liability or obligation in connection with sale and use of Products other than stated above. Caution: Purchaser and user are cautioned to examine specific, local or other regulations, including American National Standard Regulations, which may apply to a particular type of product before installing or putting to use.

\*Except power rewinding pursuant to operating instructions

**Please Note:** Units purchased without chain and/or hooks must have Ingersoll-Rand Material Handling Products chain and hooks installed before the warranty is valid.

### Shipping Damage

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 enroute 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.

INGERSOLL-RAND  
MATERIAL HANDLING PRODUCTS  
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