COMPACT LEVER BLOCK

OPERATIONS MANUAL

1/2 TON

5' LIFT

P/N: TM0371 S/N:

IMPORTANT SAFETY INFORMATION

Please read, understand and follow all safety information contained in these instructions prior to the use of this hoist. Retain these instructions for further use. These instructions are applicable for **Manually Operated Lever Chain Hoists (Chain Pullers)** offered by Premium Tool & Abrasives Co. Ltd.

INTENDED USE

This hoist is designed to be used to lift or pull a load from a stationary position. Only accessories specifically recommended by PTA Canada should be used with this tool. Use in any other manner or with other accessories could lead to unsafe operating conditions.

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WARNING

This unit must only be used in compliance with all applicable safety regulations and standards, including ASME B30.21, concerning installation, use, maintenance and inspection of equipment lifting devices.

WARRANTY

Premium Tool & Abrasives warrants its Lever Chain Hoists for a period of 1 year from the purchase date against manufacturing defects and will repair or replace (at its option) without charge any items returned. Repairs or replacements are warranted as described for the remainder of the original warranty period. Providing proof of purchase is strictly the responsibility of the customer. This warranty is void if the item has been damaged by accident or unreasonable use, neglect, improper service, or other causes not arising out of defects in material or workmanship. No other expressed warranty is given or authorized. Premium Tool & Abrasives disclaims any implied warranty of MERCHANTABILITY or FITNESS for any period beyond the expressed warranty and shall not be liable for incidental or consequential damages.

To obtain warranty service, please request a returned goods authorization number (RGA) from your nearest Authorized Warranty Repair Centre or from Premium Tool & Abrasives. Warranty claim items must be shipped to Premium Tool & Abrasives prepaid or delivered to 10761 - 181 ST, NW. Edmonton, AB, Canada, T5S 1N3.

IMPORTANT SAFETY INSTRUCTIONS

- Read, understand and follow the safety information contained in these instructions prior to using this tool. Keep these instructions for further reference.
- Do not exceed rated capacity. Hooks and handles are designed to bend or stretch when overloading is detected.
- Never use handle extensions (cheaters).
- During operation always ensure a firm footing. Operate the hoist from a location that will be clear of the load at all times. People must stay clear of load at all times. Never use the hoist to lift, support, or transport people. Never lift loads over or near people.
- Before lifting a load, confirm that the lever hoist is in good condition and functioning properly. Inspect the lever hoist regularly. Never use a lever hoist when malfunction, unusual performance, damage, or extensive wear are found.
- Always keep the load chain well lubricated and protect it from weld spatter and other damaging contaminants. Never allow the load chain or hooks be used as a ground for welding and never touch them with live welding electrodes.
- Never use the lever hoist with twisted, kinked, damaged or worn load chains. Never attempt to lengthen the load chain.
- Always use proper slings and attachments in the correct manner and confirm that they are seated properly in the hook.
- Also confirm that the safety latch assembly has closed completely and not supporting any part of the load.
- Slacked load chain must be taken up carefully. While checking the balance of the load, lift and lower the load about 4” to test the brake system before lifting further. Loads must be lifted slowly.
- Never run the load chain out beyond the range of the hoist.
- Never allow your attention to be diverted when operating the lever hoist and never leave a suspended load unattended.
- Do not allow a load to drop, such as over the edge of a platform, while connected to a lever hoist. The sudden drop, even of a small distance, can cause a severe momentary overload, seriously damaging the lever hoist and possibly resulting in the loss of the load. This can occur at loads rated well below the rated capacity.
- Never adjust or repair a lever hoist unless you are qualified to perform hoist maintenance.
- Never modify the lever hoist. Approval from PTA is required for all nonstandard maintenance.
- Use only genuine PTA parts when repairing the lever hoist.
- Never remove or obscure the name plate on the lever hoist.

BOX CONTENTS

Upon unpacking your chain lever puller make sure to check for any damage from the shipping process. Compare the contents of your package with the following parts list to make sure all the parts are intact. Do not discard any of the shipping material until the unit is assembled.

1 LEVER HOIST
1 NYLON POUCH
1 OWNER’S MANUAL

PRODUCT SPECIFICATIONS

CAPACITY	STD LIFT	STANDARD	CHAIN DIA.	HOOK OPENING	WEIGHT
1/2 TON	5’	TM0371	4 mm	29 mm	6 LBS / 2.7 KG

USAGE INSTRUCTIONS

1 PREPARATION FOR USE

- Inspect carefully for any damage that may occur during shipping. Check for loose, missing, or damaged parts.
- Lubricate the load chain along the whole length with machine oil (See Figure 1)
- Examine the load chain to ensure that there are no twists.
- Confirm that the supporting structure is strong enough to support the full rated capacity of the lever hoist with a generous factor of safety.

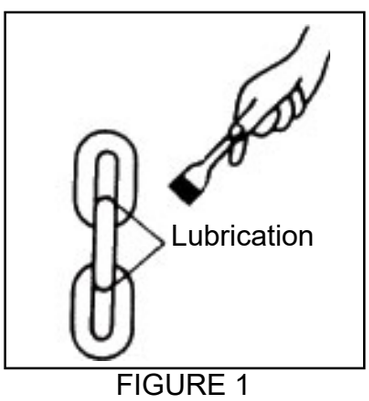

FIGURE 1

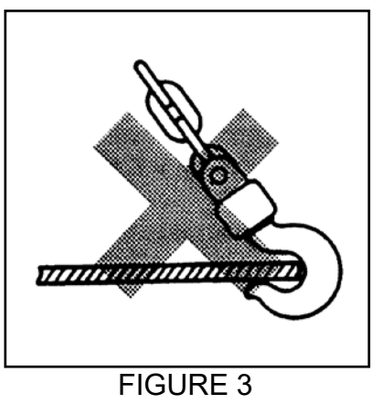
FIGURE 3

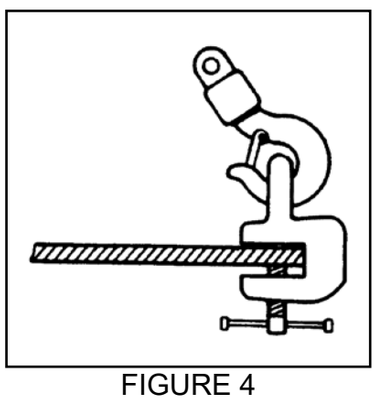
FIGURE 4

2 OPERATING INSTRUCTIONS

Hoisting (Pulling) and Lowering (Releasing)

Hoisting (Pulling)

- Set the selector lever to the “UP” position. **There is no need to shock this host to lift a load,** simply take up the slacked load chain by turning the guide handle clockwise or by free wheeling (instructions below). Next, manipulate the operating handle clockwise.

Lowering (Releasing)

- Set the selector lever to the “DOWN” position. Manipulate the operating handle counterclockwise. When there is no load on the lever hoist, the load chain can be slackened by turning the guide handle counterclockwise.

Free-Wheeling

This operation allows for the user to quickly make large adjustments to the load chain length. Set the selector lever to the “N” position and pull the load chain out in the desired direction.

- Pull the load chain in the desired direction.
- Do not ‘shock load’ the PTA Compact Lever Hoist. Use free-wheeling to loosen slack, move the selector lever to the “UP” position and manipulate the hand lever clockwise to being raising the load.

Free-Wheeling will *not be possible* during the following conditions:

- When the lever hoist is under a load.
- When the guide handle is in contact with something and not rotating freely.
- When the brake has locked from a large or abrupt load, turn the guide handle 45 degrees counterclockwise to unlock the brake.
- When the brake is locked.
- The brake can be unlocked by setting the selector lever to the “DOWN” position and manipulating the operating handle counterclockwise.

Free-Wheeling

DO NOT operate the hoist Free Knob while a load is applied to the hoist.
DO NOT touch the Free Knob during lifting or lowering of the load.
DO NOT pull the load chain suddenly in free chain mode. Excessive pulling may set the brake and not allow the load chain to move. If this occurs the hoist must be reset.
TO RESET the braking system, set the selector lever to “DN” position and pull hard on the lever.
ALWAYS check that the selector is placed in the proper direction

3 OPERATING PRECAUTIONS

- Keep the load within the rated capacity marked on the lever hoist. An excess load may lead to an accident.
- The lever hoist is overloaded when the lever handle is bent or the clasp on the load hook will no longer close.
- Before operating, lift and lower the load about 4” (10cm) and test the braking system. Ineffective braking may lead to an accident.
- Loads must be lifted as slowly as possible. Load swinging and abrupt shocks will impose excessive stress on the lever hoist and could lead to overloading or brake locking.
- Extreme temperatures will affect the durability of the lever hoist. In subzero temperatures, loads must be lifted and lowered very slowly and carefully.
- When hooking, the load must be applied squarely to the centre of the hook and the hook must not come loose during operation. Never use the hook directly on a load (See Figure 3). Lift loads only with applicable clamps or hooks (See Figure 4).
- Mount the top hook for a fixed location. Ensure the fixed suspension point rests on the centre of the hooks saddle and that the hook’s safety latch is engaged.

Figures 5 through 8 show improper hooking methods, which may cause the hook to elongate or bend. These hooking methods may also obstruct the load chain and prevent the lever hoist from operating properly. In applications similar these, be sure to use the correct slings and attachments to ensure safe operation and long life of the lever hoist.

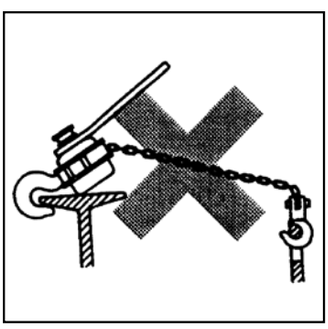

FIGURE 5

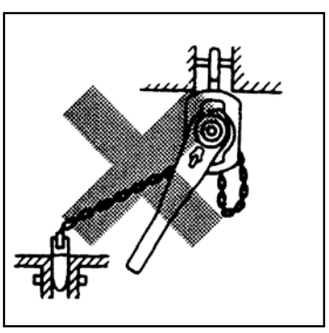

FIGURE 6

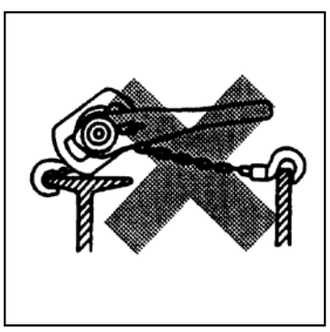

FIGURE 7

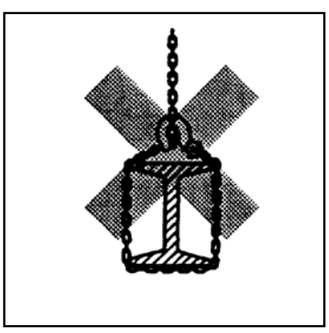

FIGURE 8

USAGE INSTRUCTIONS

4 CARE AFTER USE

- Always store your chain hoist in a no-load condition.
- Always service and repair the lever hoist after use. Thoroughly clean the dust or if used in the rain, wipe off the dirt and moisture. Lubricate all moving parts of the hoist after use, especially the load chain, to prevent rust.
- Inspect the hooks and load chain for bends and any other type of defects. Also check to see if the hooks freely rotate. If any defect is found, replace the defective component before using the lever hoist again.

INSPECTION PROCEDURES

1 OPERATING PRECAUTIONS

- All new, altered or modified equipment should be inspected and tested by personnel trained in the 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 up the nature of the critical components of the equipment and severity of usage.
- Deficiencies revealed through inspection or operation must be reported to designated personnel trained in safety, operation and maintenance of this equipment. Any corrective action must be completed and documented by written report before placing the equipment in service.

2 RECORDS AND REPORTS

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

3 FREQUENT INSPECTION

- The Lever Block 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.
  - » OPERATION: Check for visual signs or abnormal noises which could indicate a potential problem. Do not operate a hoist unless the chain feeds through the hoist and hook block smoothly. If the chain binds, jumps or is excessively noisy, clean and lubricate the chain. Do not operate the hoist until all problems have been corrected. The bottom hook should stop moving when the lever stops moving.
  - » HOOKS: Check for wear and damage monthly. This includes: cracks, twists, latch engagement and latch operation (See Figure 9). Replace hooks that exceed the throat opening discard width (See Inspection Criteria). If the hook latch snaps past the tip of the hook, the hook has been overloaded and must be replaced. Check the hook support bearings for lubrication and damage. Check that hooks swivel easily and smoothly. Repair or lubricate as needed.
  - » HOOK LATCHES: Check operation of hook latches. Replace if broken or missing. Ensure they catch the tip of hook.
  - » CHAIN: Examine each link for bending, cracks in weld areas or shoulders, transverse nicks and gouges, weld spatter, corrosion pits, striation (minute parallel lines) and chain wear, including bearing surfaces between chain links (See Figure 10). Replace a chain that fails any of these inspections. Check lubrication and lubricate if necessary.
  - » LOAD CHAIN REEVING: Make sure welds on standing links are away from the load sheave. Reinstall chain if necessary (See Figure 11). Make sure chain is not capsized, twisted or kinked (See Figure 2 & 3). Adjust as required.
  - » HAND LEVER: Check for cracks, bending and other damage. Replace if necessary.

4 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. Any deficiencies must be corrected before hoist is returned to service. Keep records of periodic inspections to provide a basis for continuing evaluation. Inspect all items in ‘Frequent Inspection’. Also inspect the following:
  - » Chain for excessive wear or stretch (See Section 5).
  - » Worn, cracked or distorted parts such as hook blocks, top hooks, chain guide, stripper, loose end pin, shafts, gears, hook collar and bearings.
  - » Inspect for wear on the top of the pawl, teeth of the ratchet and pockets of the liftwheel and handwheel.
  - » Loose or missing bolts, nuts, pints or rivets.
  - » Inspect brake components for worn, glazed or contaminated friction discs and scoring of the handwheel hub, ratchet, and friction hub.
  - » Corroded, stretched or broken pawl spring.
  - » Free movement of the pawl on the pawl stud.
  - » Hook inspections using dye penetrant, magnetic particle or other suitable crack-detecting inspections should be performed at least once per year, if external conditions indicate possible unusual usage.
  - » Ensure chain stopper is installed in the last link of the anchor end of the load chain. Replace if missing.

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6 HOISTS NOT IN REGULAR USE

• A hoist that has been idle for a period of one month or more should be given an Frequent Inspection before use.
• A hoist that has been idle for a period longer than one year should be given a Periodic Inspection before use.
• Standby hoists should be inspected at least semiannually in accordance with the Frequent Inspection. In abnormal operating conditions this inspection should be completed at shorter intervals.

TROUBLE SHOOTING PROCEDURES

CONDITION	PROBABLE CAUSE	HOW TO REPAIR
Hoist will not lift load	1. Excess slack in load chain. 2. Hoist is overloaded. 3. Hoist is in NEUTRAL (N) mode	1. Pull down on load chain while ratcheting until slack is removed and hoist begins lifting load 2. Reduce load to within rated capacity 3. Ensure selector lever is in UP position.
Slip caused by ineffective braking	1. Worn-out friction discs. 2. Excessive oil on the braking surface. 3. Incorrect assembly of the braking system.	1. Replace with new friction discs. 2. Disassemble and clean. 3. Assemble correctly.
Load dropped while lowering	1. Damaged friction discs. 2. Foreign matters in the braking system.	1. Replace with new friction discs. 2. Disassemble and clean.
Load chain binds	1. Damaged load chain, pinion shaft, gears or sheaves. 2. Load chain not installed properly (twisted, kinked or capsized).	1. Disassemble and inspect components. 2. Inspect and adjust or repair.
Jammed operating handle	1. Over-tightening of the brake.	1. Operate lever hoist as if lowering a load.
Noises during hoisting and lowering operation	1. Wear or deformation of the load chain and load sheave.	1. Replace with new parts.
Operating handle becomes difficult to operate during lifting or lowering operation	1. Over-hoisting or over-lowering. 2. Twist in the load chain causing it to get caught between load sheave and load chain guide.	1. Operate the hoist in opposite direction. 2. Operate the hoist in the opposite direction and remove the twist from the load chain.
Load will not go down	1. The hoist was left under load for extended period. 2. Over tightened brake. 3. Shock loaded during operation. 4. Brake rusted tight.	1. For non-load limited hoists, set the selector lever to the down position then pull hard on the lever. This may reset the brake. 2-4. If load cannot be moved, use another lifting device to remove the load from the affected hoist and replace brake components and perform hoist maintenance.

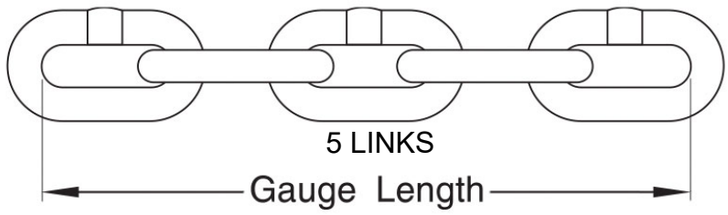
INSPECTION CRITERIA

- The lever block is designed and manufactured to withstand heavy duty material handling operations, but wear and damage are unavoidable after a extended use in less than ideal environments.
- Never leave the hoist in a damp environment or damp weather such as rain. Always store the hoist in a dry, well ventilated area.
- Proper lubrication will help lengthen the life of the lever block. Before storing, check to see if the hoist is well lubricated. Be especially sure that the moving parts, such as gears and bearings, are well lubricated.
- Load chain and hooks

  Note: The load chains and hooks are precisely heat-treated.
  Never weld or heat-treat the load chain.

Load Chain

Load chains worn-out or elongated beyond the permissible dimensions must be replaced at once. To examine, clean the chain with an acid-free solvent and, using a calliper style gauge, measure the inside length of 5 links of chain under light tension. Replace the entire load chain immediately if even one link of the load chain is extensively worn-out, elongated or damaged.



LOAD CHAIN DIMENSIONS

CAPACITY (TONS)	DIAMETER (Ø mm)		5 LINK LENGTH (mm)	
	STD	DISCARD	STD	DISCARD
1/2	4	3.6	60.2	62.0

***5 link inner diameter dimensions**

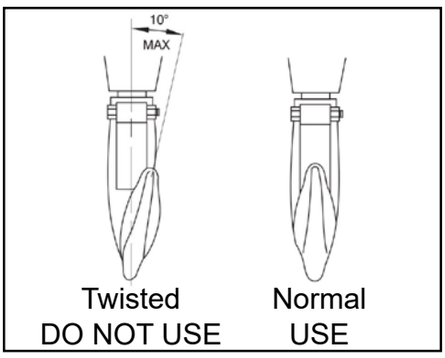


FIGURE 9

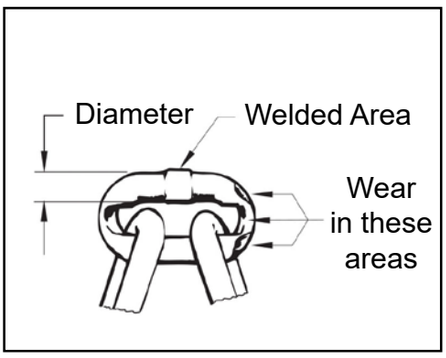


FIGURE 10

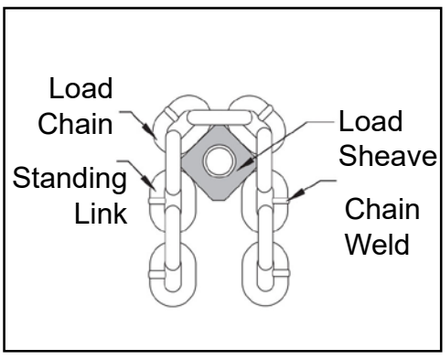


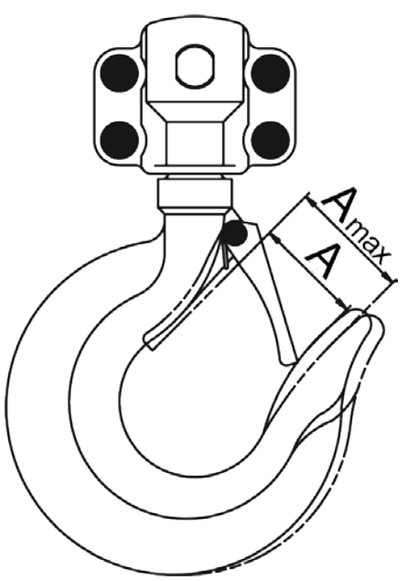
FIGURE 11

Hooks

PTA material handling hooks are designed to bend slightly when overloaded. If the hook opening is elongated beyond the permissible dimension, the hook is dangerously deformed and must be repaired at once. No deformation of the hook will arise when the lever block is used and maintained properly.

HOOK DIMENSIONS

CAPACITY (TONS)	A SIZE (mm)	
	STD	DISCARD
1/2	29	30.5



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WARNINGS TAGS AND LABELS

MANUALLY OPERATED LEVER CHAIN HOISTS

The warning tags illustrated below are supplied with each hoist shipped from Premium Tool. If the tag is not attached to your hoist's no-load side of the load chain, order a tag from your dealer or PTA Canada and install it. Read and follow all warnings and guidelines attached to this hoist.

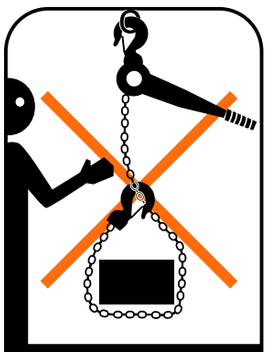
⚠ WARNING

IMPROPER lever hoist use could result in death or serious injury.
To AVOID these hazards:

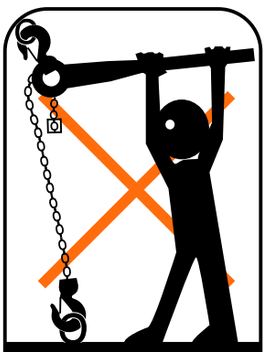
PTA CANADA®

SEE OTHER SIDE

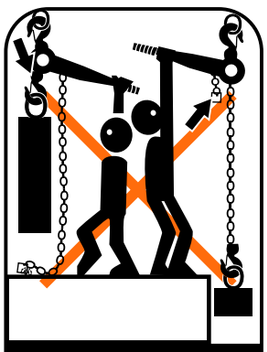
NEVER throw a hoist.



NEVER use the hoist chain as a sling.



NEVER use an extended pipe or bar on handle.



NEVER operate so far that the hook or chain stopper link touches the block.

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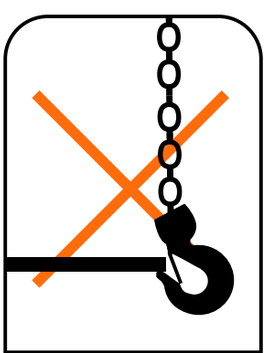
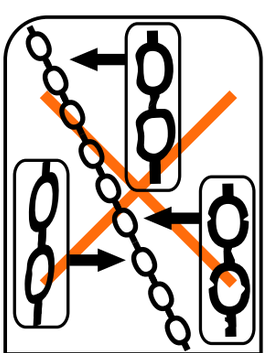
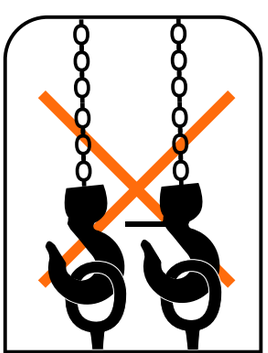


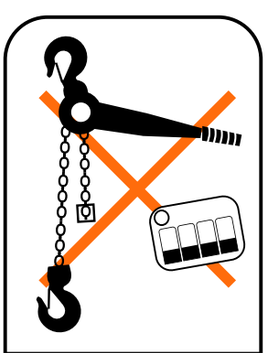
NEVER support a load on the tip of the hook.



NEVER use a twisted, kinked, damaged, or stretched load chain.



NEVER use a hoist if the hook latch is missing or broken.



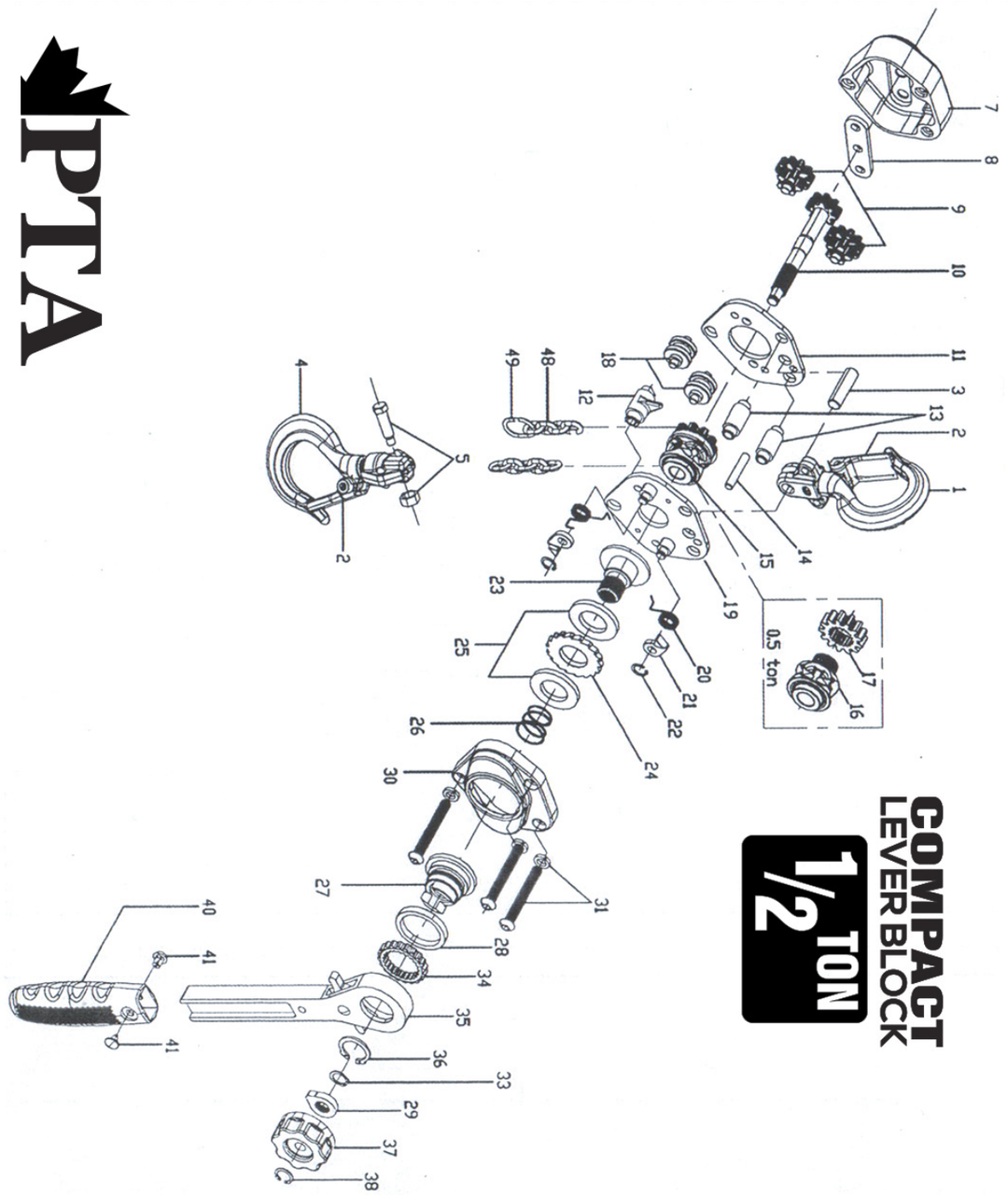
NEVER remove or obscure the warning tags.

PTA CANADA®

SEE OTHER SIDE

TM0371 PARTS SCHEMATIC

Part No.	Description	QTY
1	Top Hook Assembly	1
2	Safety Latch Kit	2
3	Top Hook Shaft	1
4	Bottom Hook Assembly	1
5	Chain Pin & Lock Nut	1
7	Gear Cover Set	1
8	Reinforced Plate	1
9	Load Gear	2
10	Pinion Shaft	1
11	Gear Side Plate	1
12	Chain Stripper	1
13	Stay Bolt	2
14	Pin	1
15	Load Sheave Assembly	1
16	Load Sprocket	1
17	Load Gear	1
18	Chain Guide	2
19	Lever Side Plate Assembly	1
20	Pawl Assembly (20+21+22)	2
23	Brake Seat	1
24	Ratchet Disc	1
25	Friction Disc	2
26	Twisting Spring	1
27	Brake Plate	1
28	Bushing	1
29	Stop Knob	1
30	Brake Cover	1
31	Socket Head Screw & Washer	3
33	Snap Ring	1
34	Change Over Gear	1
35	Lever Handle Assembly	1
36	Snap Ring	1
37	Hand Wheel	1
38	Snap Ring	1
40	Rubber Grip	1
41	Bolt & Locking Nut	2
48	Load Chain	1
49	End Chain Ring	1



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Telephone: 780.438.6576
Facsimilie: 780.436.4103
e-mail: pta@premiumtool.com

FOR OTHER PRODUCT CATALOGUES,
ASSISTANCE OR A DISTRIBUTOR IN YOUR AREA,
PLEASE CALL:

1 800 661 6576