

PART NUMBERS FOR PACKAGED LUBRICANTS USED IN THE YALE LEVER HOIST (REFER TO PAGES 7, 8 AND 9 FOR LUBRICATION INSTRUCTIONS)		
LUBRICANT USAGE	TYPE OF LUBRICANT	PART NUMBERS AND PACKAGED QUANTITIES OF LUBRICANTS
TIP OF RATCHET PLUNGER AND SEAT FOR KNOB HOOK	GREASE-GRAPHITE MIXTURE	40626 (1 LB., .46 kg. CAN)
TIP OF LEVER PLUNGER AND BRAKE CAM	DRY-LUBE-OIL-GRAPHITE MIXTURE	40553 (½ LB., .23 kg CAN)
FRAME BEARINGS AND INSIDE OF LEVER HEAD	GREASE	40630 (1 LB., .46 kg. CAN)
GEARS (1½, 3 AND 6 TON UNITS)	GREASE	28610 (1 LB., .46 kg. CAN) 28613 (4 LB., 1.8 kg. CAN)
BETWEEN UPPER HOOK NUT AND WASHER	GREASE-GRAPHITE MIXTURE	40626 (1 LB., .46kg. CAN)
LOAD CHAIN	OIL	28608 (1 PT., .5L CAN) 28619 (1 GAL., 3.8L CAN)

When ordering lubricants, specify the type of lubricant, part number and packaged quantity required.

Touch-up paint for the Yale Lever Hoist:

* (1) case (12-12 oz., 354 ml Aerosol Cans) of Yellow Touch-up Paint Part Number 40215.

*Touch-up paints are only available in case quantities.

NOTE: When painting the hoists, also order warning labels and capacity labels that may be coated during painting.

CUTTING CHAIN

Hoistaloy® load chain is hardened for wear resistance and is difficult to cut. However, the following methods are recommended when cutting off a length of worn chain.

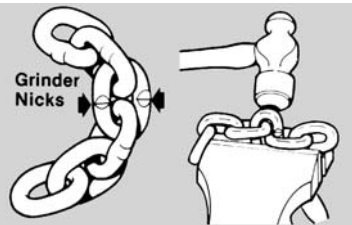


Figure 17. Cutting Chain by nicking

- Use a grinder and nick the link on both sides (Figure 17), then secure the link in a vise and break off with a hammer.
- Use a 7 inch (178mm) minimum diameter by 1/8 inch (3.17mm) thick abrasive wheel (of type recommended by wheel supplier) that will clear adjacent links.

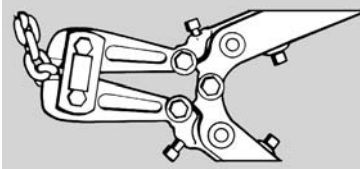


Figure 18. Cutting Chain with a Bolt Cutter


(3) Chain may also be cut using a blot cutter (Figure 18) similar to the H.K. Porter No. 0590MTC with special cutter jaws for cutting hardened chain (1 inch., 25.4mm) long cutting edge).

TESTING

Prior to initial use, all altered or repaired hoists or used hoists that have not been operated for the previous 12 months shall be tested by the user for proper operation.

Test the unit first in the unloaded state and then with a light load of 100 pounds (45kg.) time the number load supporting parts of load chain to be sure it operates properly and the brake holds the load when the lever is released; then test with a load of 125% of rated capacity.

In addition, hoists in which load sustaining parts have been replaced shall be tested with 125% of rated capacity by or under the direction of an appointed person and a written report prepared for record purposes.

**WARNING**

CUTTING CHAIN CAN PRODUCE FLY PARTICLES.

TO AVOID INJURY:

- WEAR EYE PROTECTION
- PROVIDE A SHIELD, SUCH AS A HEAVY RAG, OVER CHAIN TO PREVENT FLYING PARTICLES.

TROUBLE SHOOTING


For disassembly and assembly follow instructions on pages 7 thru 10. Always test the Yale Lever Hoist under load after reassembly of any parts to be sure it operates properly and holds the load when the lever is released.

IF TOOL	CAUSE MAY BE	CHECK AND REMEDY
1. is hard to operate in either direction	A) Load chain worn long to gauge, thus binding between liftwheel and frame. B) Load chain rusty, corroded or clogged with foreign matter such as cement or mud. C) Bushings clogged with matter such as cement and dust. D) Lever head binding on frame. E) Brake parts corroded or clogged with foreign matter. F) Liftwheel pockets clogged with foreign matter or worn excessively causing chain to bind between liftwheel and frame. G) Liftwheel twisted or bent - gear teeth bent. (1 1/2, 3 & 6-ton only).	A) Check chain, (see page 7) and replace if worn excessively. B) Clean chain by tumble polishing or using a non-acid or non-caustic type solvent. Check chain for gouges, damaged or bent links. Lubricate with Lubriplate®, Bar and Chain Oil 10-R (Fiske Bros. Refining Co.) or equal lubricant. C) Disassemble and clean liftwheel bushings, pinion shaft bushings, ratchet bushings, and sliding surfaces of ratchet plunger and lever plunger. Any parts worn excessively should be replaced. D) Clean by removing any foreign matter which may be between the head of the lever and the frame section surrounding the brake. E) Disassemble brake and clean thoroughly (by wiping with a cloth - not by washing in a solvent). Replace washers if too gummy, worn or scored. Keep washers and brake surfaces clean and dry. F) Clean out pockets and use if not worn excessively.
2. is hard to operate in down direction.	A) Brake adjusting nut is too tight. B) Brake parts corroded or clogged with foreign matter. C) Chain binding in frame. A) Chain binding in frame. B) Chain twisted- 3 & 6-ton only.	A) See instructions on brake assembly, page 8. B) See item 1E. C) See items 1A and 1B.
3. is hard to operate in up direction.	A) Chain binding in frame. B) Chain twisted- 3 & 6-ton only. C) Overload.	A) See Items 1A and 1B. B) Re-reeve chain or on 3-ton unit, if both chains are twisted, capsize hook block through loop in chain until twists are removed. Caution: Do not operate the hoist in the up direction with twisted chain or chain may become jammed in frame or hook block. C) Reduce load or use correct capacity unit.


SAFETY PRECAUTIONS

Each Yale Manually Lever Operated Hoist is built in accordance with the specifications contained herein and at the time of manufacture complies with our interpretation of applicable sections of *ASME B30.21, *ANSI/ASME HST-3M and the Occupational Safety and Health Act-1970.

The safety laws for elevators and for dumbwaiters specify construction details that are not incorporated in Yale industrial hoists. We recommend the use of equipment that meets state and national safety codes for such use. Yale Hoists cannot be responsible for applications other than those for which Yale equipment is recommended.



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH IF NOT FOLLOWED COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL AND ANY PROVIDED WITH THE EQUIPMENT BEFORE ATTEMPTING TO OPERATE YOUR YALE LEVER HOIST.




*Copies of these standards may be obtained from ASME Order Department, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300.

**WARNING!**

Improper operation of a hoist can create a potentially hazardous situation which, if not avoided, could result in death or serious injury. To avoid such a potentially hazardous situation, the operator shall:

- NOT operate a malfunctioning or unusually performing hoist.
- NOT operate the hoist until you have thoroughly read and understood this Operating, Maintenance and Parts Manual.
- NOT operate a hoist which has been modified without the manufacturer's approval or certification to be in conformity with applicable OSHA regulations.
- NOT lift or pull more than rated load for the hoist.
- NOT use damaged hoist or hoist that is Not working properly.
- NOT use hoist with twisted, kinked, damaged, or worn load chain.
- NOT operate with any lever extension (cheater bar).
- NOT attempt to "free-chain" the hoist while a load is applied.
- NOT use the hoist to lift, support, or transport people.
- NOT lift loads over people and make sure all personnel remain clear of the supported load.
- NOT attempt to lengthen the load chain or repair damaged load chain.
- Protect the hoist's load chain from weld splatter or other damaging contaminants.
- NOT operate hoist when it is restricted from forming a straight line from hook to hook in the direction of loading.
- NOT use load chain as a sling or wrap load chain around load.
- NOT apply the load to the tip of the hook or to the hook latch.
- NOT apply load unless load chain is properly seated in the chain wheel(s) or sprocket(s).
- NOT apply load if bearing prevents equal loading on all load supporting chains.
- NOT operate beyond the limits of the load chain travel.
- NOT leave load supported by the hoist unattended unless specific precautions have been taken.
- NOT allow the chain or hook to be used as an electrical or welding ground.
- NOT allow the chain or hook to be touched by a live welding electrode.
- NOT remove or obscure the warnings on the hoist.
- NOT operate a hoist which has Not been securely attached to a suitable support.
- NOT operate a hoist unless load slings or other approved single attachments are properly sized and seated in the hook saddle.

**CAUTION!**

Improper operation of a hoist can create a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. To avoid such a potentially hazardous situation, the operator shall:

- Maintain a firm footing or be otherwise secured when operating the hoist.
- Check brake function by tensioning the hoist prior to each lift or pulling function.
- Use hook latches. Latches are to retain slings, chains, etc. under slack conditions only.
- Make sure the hook latches are closed and not supporting any parts of the load.
- Make sure the load is free to move and will clear all obstructions.
- Avoid swinging the load or hook.
- Avoid lever "fly-back" by keeping a firm grip on the lever until operating stroke is completed and the lever is at rest.
- Inspect the hoist regularly, replace damaged or worn parts, and keep appropriate records of maintenance.
- Use the hoist manufacturer's recommended parts when repairing the unit.
- Lubricate load chain per hoist manufacturer's recommendations.
- NOT use the hoist load limiting or warning device to measure load.
- NOT operate except with manual power.
- NOT permit more than one operator to pull on lever at the same time. More than one operator is likely to cause hoist overload.
- NOT allow your attention to be diverted from operating the hoist.
- NOT allow the hoist to be subjected to sharp contact with other hoists, structures, or objects through misuse.
- NOT adjust or repair the hoist unless qualified to perform such adjustments or repairs.

HOIST SAFETY IS UP TO YOU...

WARNING –DO NOT APPLY MORE THAN RATED LOAD.

1 CHOOSE THE RIGHT HOIST FOR THE JOB...

Choose a Yale Lever Hoist with a capacity for the job. Know the capacities of your hoists and the weight of your loads. Then match them.

The application, the size and type of load, the attachments to be used and the period of use must also be taken into consideration in selecting the right hoist for the job.

Remember the hoist was designed to ease our burden and carelessness not only endangers the operator, but in many cases, a valuable load.



WARNING –DO NOT OPERATE DAMAGED OR MALFUNCTIONING UNIT.
–DO NOT OPERATE WITH TWISTED, KINKED OR DAMAGED CHAIN.

2 INSPECT

All hoists should be visually inspected before use, in addition to regular, periodic maintenance inspections.

Inspect hoists for operational warning notices and legibility.

Deficiencies should be noted and brought to the attention of supervisors. Be sure defective hoists are tagged and taken out of service until repairs are made.



Under no circumstances should you operate a malfunctioning hoist.

Check chain for gouged, twisted, distorted links and foreign material. Do not operate hoists with twisted, kinked or damaged chain links.

Load chain should be properly lubricated.

Hooks that are bent, worn or whose openings are enlarged beyond normal throat opening should not be used. If latch does not engage throat opening of hook, hoist should be taken out of service.

Chains should be checked for deposits of foreign material which may be carried into the hoist mechanism.

Check brake for evidence of slippage under load.



WARNING

–DO NOT PULL AT AN ANGLE. BE SURE LEVER HOIST AND LOAD ARE IN A STRAIGHT LINE.
–DO NOT USE UNLESS FRAME AND CHAIN FORM A STRAIGHT LINE BETWEEN HOOKS.
–DO NOT USE IF FRAME IS IN CONTACT WITH ANY OBJECT.
–DO NOT USE LOAD CHAIN AS A SLING.
–DO NOT USE AN EXTENSION ON THE LEVER.

3 USE HOIST PROPERLY



Be sure the hoist is solidly held in the uppermost part of the support hook arc.



Be sure the hoist and load are in a straight line. Do not use unless frame and chain form a straight line between hooks.



Be sure load is hooked securely. Do not tip load the hook. Do not load hook latch. Hook latch is to prevent detachment of load under slack chain conditions only.



Do not operate with hoist frame resting against any object. Apply the load gently. Do not jerk it.



Never use an extension on the lever! You're dangerously overloading the hoist if you exceed the rated lever pull or if you have to use a lever extension to lift or pull a load.

WARNING –DO NOT LIFT PEOPLE OR LOADS OVER PEOPLE.

4 PRACTICE CAUTION ALWAYS

Do not lift co-workers with a Yale Lever Hoist.

Make sure everyone is clear of the load when you apply tension.

Do not remove or obscure operational warning notices.



5 OPERATOR SERVICE

CLEANING: Lever Hoists should be kept clean and free of dust, dirt, moisture, etc., which will in any way affect the operation or safety of the equipment.
LUBRICATION: Chain should be properly lubricated.
AFTER REPAIRS: Carefully operate the hoist before returning it to full service.



VIOLATION OF ANY OF THESE WARNINGS LISTED MAY RESULT SERIOUS PERSONAL INJURY TO THE OPERATOR OR NEARBY PERSONNEL BY RELEASED LOAD OR BROKEN HOIST COMPONENTS.

