

B CHAIN HOIST

DESCRIPTION AND USE

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1. GENERAL

1.01 This section covers the description and operation of the B Chain Hoist.

1.02 This section is being reissued to revise the precaution concerning side loading the hoist.

1.03 The B Chain Hoist is used primarily for:

- Lifting, transferring, or lowering cable (vertical position).
- Pulling guy wires taut (diagonal position).
- Tensioning suspension strand (horizontal position).
- Installing and removing house cable.

1.04 The B Chain Hoist is a brake-type hoist and is available in three load capacities as shown in Table A. The choice of hoist to be used depends upon the anticipated load for the particular job at hand.

2. DESCRIPTION

2.01 The three capacities of B Chain Hoists are shown in Fig. 1. They are similar in design and construction, except the gear reduction assembly is omitted on the 3/4-ton hoist, and the chain of the 3-ton hoist is double-reeved

through a block to which the load hook is attached. Each chain hoist consists of the following principal parts:

(a) An aluminum housing containing an operating mechanism for lifting, holding, and lowering the load, and a load sheave around which the chain travels.

(b) A swivel hook attached to the housing.

(c) A welded-link flexible steel chain to which a swivel load hook is attached. A welded ring at the other end (chain repair link on 3/4-ton hoist) prevents the chain from being inadvertently pulled through the housing when the chain is fully extended.

(d) A ratchet handle to operate the hoist. A control lever is provided on the handle to control the direction of chain movement through the housing when the hoist is under load.

(e) A ratchet plunger enclosed prevents accidental dropping of a load due to the plunger being held in the disengaged position by strand, wires, tree limbs, etc.

2.02 Table A provides descriptive data for the three load capacities of B Chain Hoists. The capacity of each hoist is clearly marked on the housing.

2.03 The B Chain Hoist is designed in such a manner that the load is raised by a ratchet and pawl combination. The load is held between strokes of the operating handle by an automatic brake actuated by the load forcing two circular friction washers against the sides of the ratchet wheel. When a load is lowered or released, the leverage afforded by the operating handle overcomes the friction of the brake and the load follows the downward movement of the handle, permitting infinite adjustment

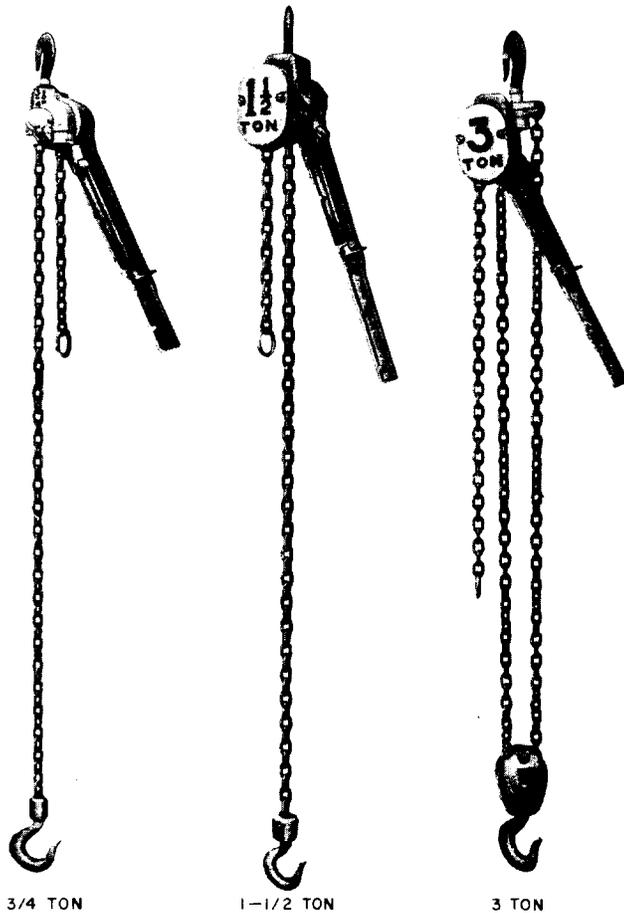


Fig. 1 — B Chain Hoists

for positioning the load in the lowering operation. When movement of the handle is stopped, the load forces the friction washers against the ratchet wheel, braking the load.

3. PRECAUTIONS

3.01 Even though the B Chain Hoists have been designed with a margin of safety, *a hoist should not be used where the work load will exceed its safe load limit.* Use a hoist that has adequate capacity for the job to be performed. Each hoist has the safe load limit clearly marked on the housing.

3.02 Periodically inspect the hoist for the conditions listed in 5.04. The throat opening in each hook shall not exceed the dimensions given in Table A. If a hook exceeds the dimen-

TABLE A — B CHAIN HOIST DATA			
FEATURE	CAPACITY		
	3/4 TON	1-1/2 TON	3 TON
Safe Load Limit (lb)	1500	3000	6000
Pull on Handle for Capacity Load (lb)	76	83	95
Maximum Distance Between Hooks (in.)	10-3/8	12-13/16	16-15/16
Maximum Lift (in.)	60	60	60
Handle Length (in.)	16-11/16	21-5/32	21-5/32
Increment of Lift (in.)	11/64	5/64	1/32
Lowering Adjustment	Infinite Adjustment		
Hook Opening (in.)	1-1/8	1-1/8*	1-3/8
Net Weight (lb)	13-3/8	22-3/4	35

*1-1/2 ton hoists manufactured prior to June 1963 had hook openings of 1-3/16 inches.

sions given, or if any part of the hoist is deformed in any other way, the hoist should be removed from service and returned for repairs as stated in Part 5.

3.03 Be sure the FREE CHAIN button operates freely before operating the hoist. If the FREE CHAIN button does not operate freely, return for repairs as stated in Part 5.

3.04 Except when free chaining a hoist, the FREE CHAIN button should be in the engaged position (flush against housing) otherwise the ratchet mechanism may be damaged should the FREE CHAIN button be struck while in the disengaged position.

3.05 Do not remove the handle stop at the top of the housing. This is a safety feature that prevents handle rotation in the event of a malfunction of the hoist.

3.06 *Never use an extension on the handle or reinforce it in any way to increase the normal leverage of the hoist.* To do so may overload the hoist to the point of failure.

3.07 Do not exert the pull of two men on the handle, since the hoist is designed for one man operation.

3.08 Do not leave the hoist loaded for prolonged periods of time, for example, from one day to the next.

3.09 *Do not attempt to oil the hoist housing or brake assembly.* The brake unit is designed to operate without oil. Lubricant on the brake assembly may cause the hoist to malfunction.

3.10 *Do not disassemble the hoist.* If the hoist does not operate properly, return for repair as stated in Part 5.

3.11 *Do not use the chain hoist as a load binder.* ↗
Side loading, especially around a sharp bend may fracture the hoist housing. ↘

3.12 *Do not jerk the handle to release a load.*
Jerking the handle may cause some slipping of the load and should not be necessary if the safe load limit of the hoist has not been exceeded. See 4.06.

3.13 *Do not tip-load either hook.* Tip-loading will exert undue strain on the hook and may distort the hook.

3.14 *Be careful to avoid contact between the hoist and any power wires in raising and lowering the hoist and in using the hoist on a pole.*

3.15 Be sure there are no kinks in the chain when using a hoist. In a 3-ton hoist this will occur if the block and load hook is rotated through the loop of chain between the housing and the block. To remove the kinks, rotate the block and load hook through the loop of chain in the opposite direction (Fig. 2).

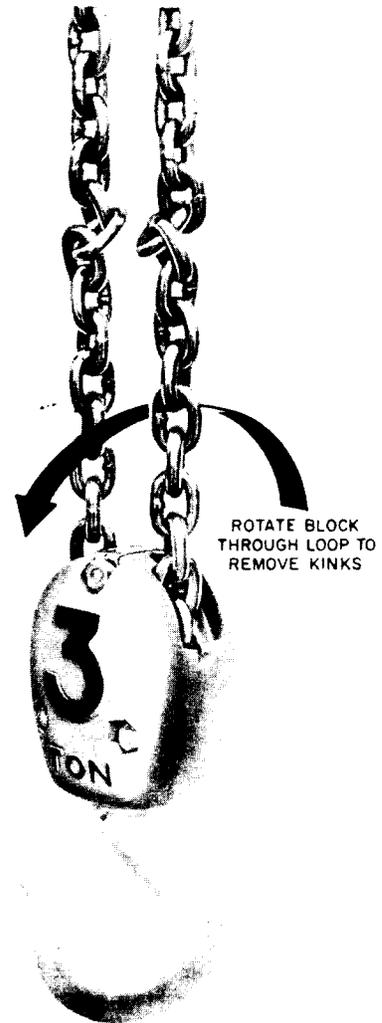


Fig. 2 — Removing Kinks From 3-ton Hoist Chain

4. OPERATION

FREE CHAIN

4.01 To obtain free chain, *with no load applied*, position the control lever on the handle straight out, midway between UP and DN (Fig. 3). Pull FREE CHAIN button out and rotate 30 degrees to a neutral position. Chain may now be moved freely in either direction.

4.02 If the chain binds or sticks with the controls positioned for free chaining, the hoist should be returned for repairs as stated in Part 5.

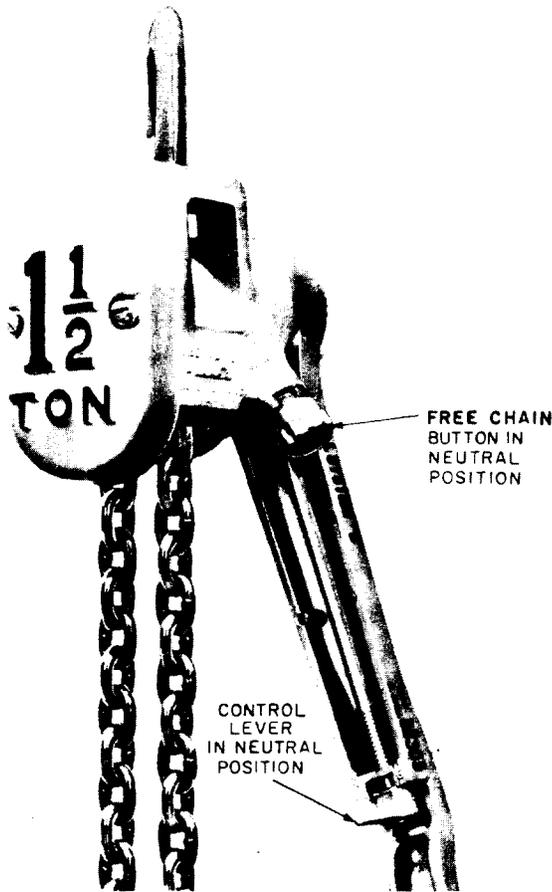


Fig. 3 — Control Lever and FREE CHAIN Button Positioned for Free Chaining

4.03 Before operating the hoist, return FREE CHAIN button to a position flush with the housing and position the control lever to UP or DN position as required.

LIFTING LOAD

4.04 To lift the load (or apply tension) be sure FREE CHAIN button is engaged, then turn the control level on the handle to UP and operate handle (Fig. 4). Remove slack in chain between hoist and load by pulling free end of chain or rotating the hub cap. Be sure the load is applied in a straight line to avoid damage to the hoist and then operate the handle.

Caution: Make certain that FREE CHAIN button remains flush against the housing, otherwise the weight of the load will be on the handle.

LOWERING LOAD

4.05 To lower the load (or release tension), be sure that FREE CHAIN button is engaged, then turn the control lever on the handle to DN and operate the handle (Fig. 5). In the DN position, the handle serves to release the brake, thus permitting infinite adjustments in lowering the load.

Caution: Make certain that FREE CHAIN button remains flush against the housing otherwise the load will be free to drop.

4.06 If a load has been removed from the hoist by some external means, thus freezing the brake, apply a similar load to the load hook then lower the load with the hoist. This will free the brake.

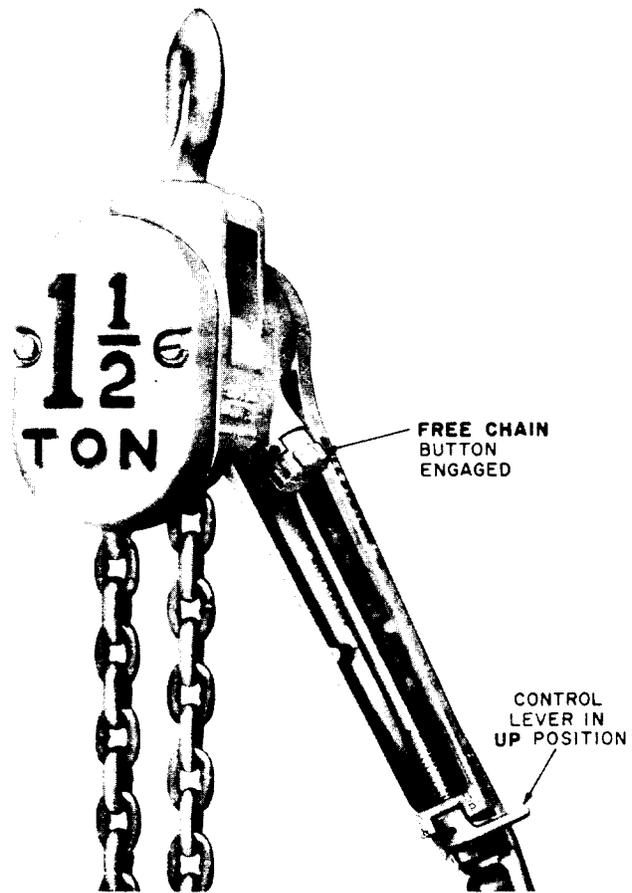


Fig. 4 — Control Lever and FREE CHAIN Button Positioned for Lifting Load



Fig. 5 — Control Lever and FREE CHAIN Button Positioned for Lowering Load

5. MAINTENANCE

5.01 Exercise reasonable care in using the hoists to avoid carrying mud or dirt into the housing. Remove accumulations of mud and dirt on the chain with a clean rag or wire brush.

5.02 Occasionally apply a light coat of Lock-ease Graphited Oil to the chain and to the sheave bearing of the lower block of the 3-ton hoist. If Lock-ease Graphited Oil is not available, apply a thin coat of No. 10 motor oil to the chain with a clean rag. *Avoid excessive lu-*

brication. No lubricant shall be applied to any other part of the hoist.

5.03 No field maintenance or adjustments are required other than that specified in 5.01 and 5.02. If the hoist does not operate properly or if, by visual inspection, the hoist appears to be damaged, return for repairs in accordance with local instructions.

5.04 Following is a list of items that necessitate return for repairs:

- (a) Bent handle.
- (b) Bent, cracked, or otherwise deformed hook(s).
- (c) Cracked or distorted casting.
- (d) Worn or deformed links in the chain.
- (e) Binding or sticking of chain.
- (f) Brake becomes locked and cannot be freed as specified in 4.06.
- (g) FREE CHAIN button does not operate freely.
- (h) UP-DN control lever does not operate freely or is bent or distorted.
- (i) Hoist does not operate properly in any other manner.

5.05 B Chain Hoists should be returned for repairs periodically even though they appear to be operating properly. The repair interval will be determined locally but should not exceed two years.

5.06 Hoists that are returned to the Western Electric Company for repair will have the month and year of each repair stamped on the housing of the hoist.