E CHAIN HOIST

DESCRIPTION AND USE

CONTENTS PAGE

1. GENERAL

1.01 This section covers the description and operation of the E Chain Hoist which 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, aerial, and underground cable.

1.02 This section is reissued to:

- Revise Table A.
- Add precaution against moving control lever to the free-chain position while hoist is under load.
- Include reference to spring steel split-ring on chain ends.

1.03 The E Chain Hoist (Fig. 1) is a ratchet and pawl-type hoist which is available in two load capacities, a 1-1/2 ton and a 3 ton. See Table A. The choice of hoist capacity to be used is dependent upon the anticipated load for the particular job at hand.

TABLE A

E CHAIN HOIST DATA

FEATURE	CAPACITY	
	1-1/2 TON	3 TON
Safe Load Limit (lb.)	3000	6000
Average Pull on Handle for Capacity Load (lb.)	62	65
Minimum Distance Between Hooks (in.)	10-3/8	15-1/2
Maximum Lift (in.)	55-1/2	54
Handle Length (in.)	17	17
Increment of Lift or Lowering (in.)	5/16	5/32
Hook Openings (in.)	1-1/4	1-3/8
Net Weight (lb.)	15	22

2. DESCRIPTION

2.01 The two E Chain Hoists are similar in design and construction, except 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) A steel housing containing the 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

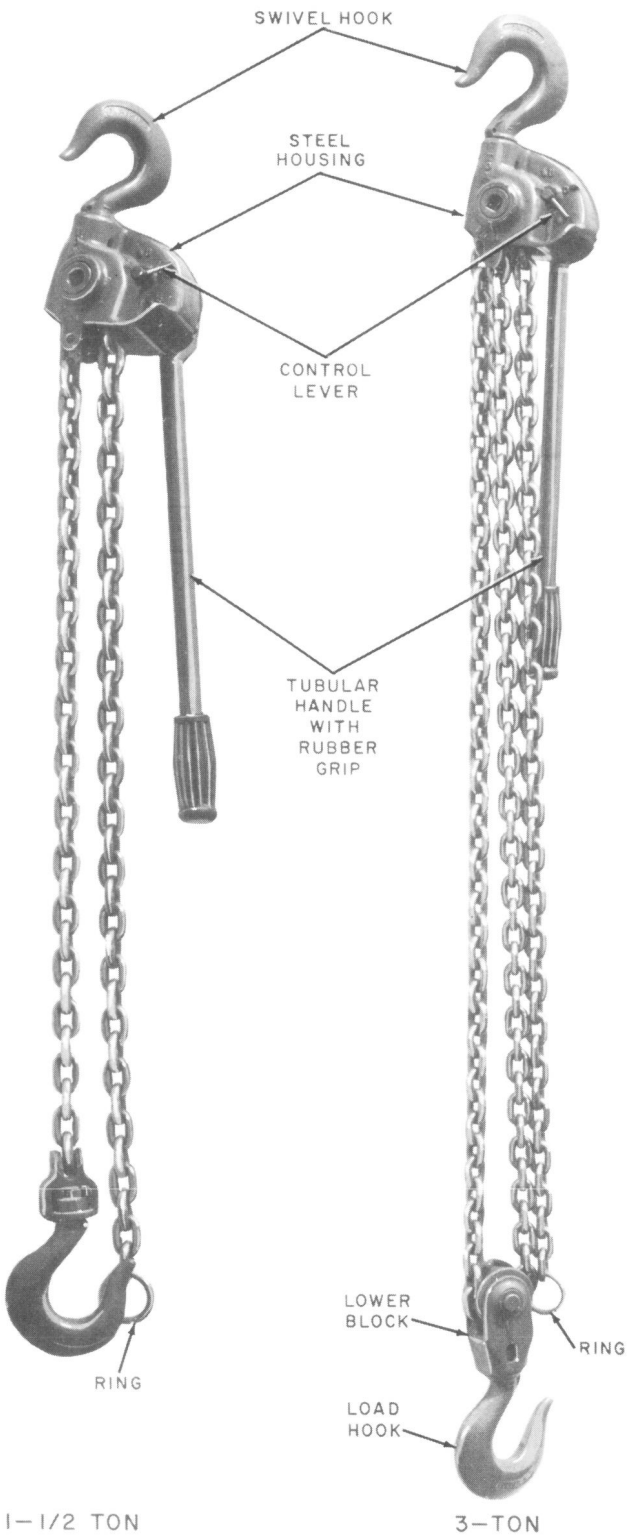

Fig. 1—E Chain Hoist

ring, ➧or spring steel split-ring,➧ at the end opposite the hook prevents the chain from being inadvertently pulled through the housing when the chain is fully extended.

(d) A tubular operating handle designed to bend with excessive overloads. The handle is equipped with a rubber grip to facilitate gripping and to keep the hand from slipping off the handle.

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

3. PRECAUTIONS

3.01 Even though the E 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 The first indication of overloading, when operating the hoist, will be evidenced by a bowing of the handle. Immediately reduce the load to a safe value. Discontinue the operation until it can be safely resumed through the use of equipment suitable for the load, or through a change in the method of operation that is within the safe load limit of available tools.

3.03 ***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 nullify the safety handle feature, and overload the hoist to the point of failure.

3.04 The hoist is designed for one-person operation. Do not exert the pull of two people on the handle.

3.05 ***Never attempt to straighten a bent handle. When the handle of this hoist is bent or deformed in any way, the hoist should be removed from service immediately and returned for inspection and repairs.*** A bent handle indicates the chain hoist has been seriously overloaded.

3.06 Keep a firm grip on the handle when using the hoist so the force of the load working back through the hoist will not cause the handle to slip from the hand and possibly cause injury.

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

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

3.09 ***Do not use the chain hoist as a load binder.*** Side loading, especially over a sharp corner, may fracture the hoist housing.

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

3.11 Periodically examine the hoist for the defects listed in 5.04. If any defects are noted, do not use the hoist. Return for repairs as stated in Part 5.

3.12 ***In raising and lowering the hoist and in using the hoist on a pole, be careful to avoid contact between the hoist and any power wires.***

3.13 When using a hoist, be sure there are no kinks in the chain. 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 (see Fig. 2).

3.14 ***Never turn the control lever from the U (up) or D (down) position to the F (free) position while the hoist is under load. Doing this with a very light load (under 50 pounds), followed by actuation of the handle or tug on the chain may cause the load to release.***

4. OPERATION

FREE CHAIN

4.01 To obtain free chain with no load, turn control lever (Fig. 3) to F (Free) and raise handle slightly. Chain may now be moved in either direction.

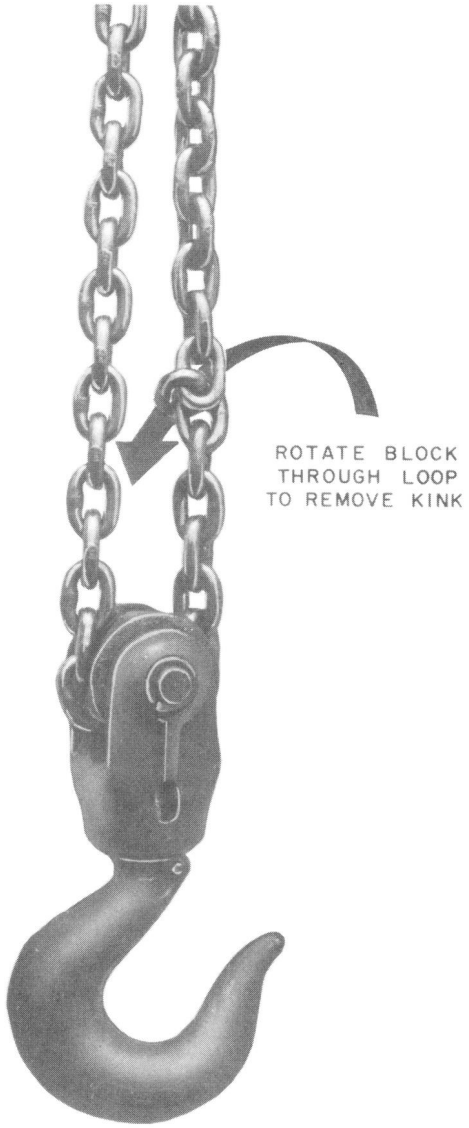

Fig. 2—Removing Kink from 3-Ton Hoist Chain

LIFTING LOAD

4.02 To lift the load (or apply tension), turn control lever (Fig. 3) to U (Up) and actuate handle. Slack may be removed from the chain by pulling the ring end of the chain.

LOWERING LOAD

4.03 To lower the load, turn control lever (Fig. 3) to D (Down) and actuate handle. The control lever will oscillate during the lowering operation.

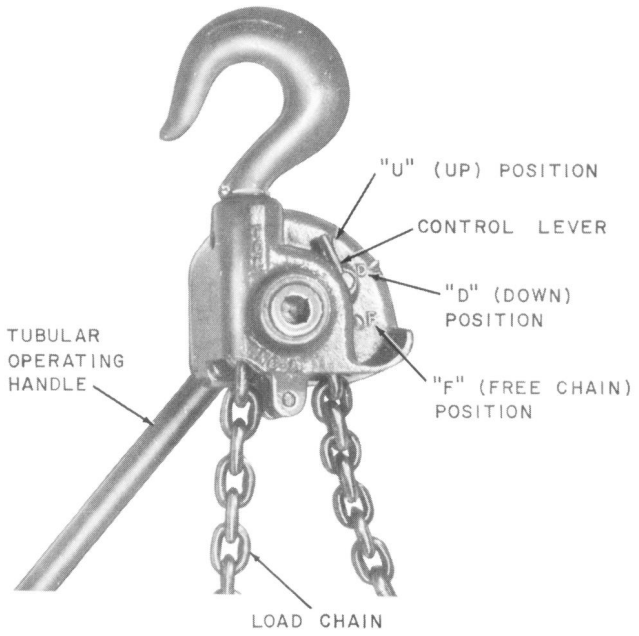

Fig. 3—Control Lever

4.04 When using in the vertical position, install hoist as shown in Fig. 4 with the flat surface of the housing against the pole or wall.

4.05 When using in the horizontal position, install hoist as shown in Fig. 5 with the flat surface of the housing toward the cable, strand, or wire.

5. MAINTENANCE

5.01 Exercise reasonable care in using the hoists to avoid carrying mud or dirt into the housing. Accumulations of mud or dirt should be removed from the chain with a wire brush or a clean rag.

5.02 Occasionally apply a light coat of Lock-EASE* Graphited Oil to the chain and to the sheave bearing on 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 lubrication.***

* Trade name of American Grease Stick Co.

5.03 ***No lubrication of the hoist housing is required.*** It is packed with water-repellent grease at the factory and is sealed in a grease-tight enclosure.

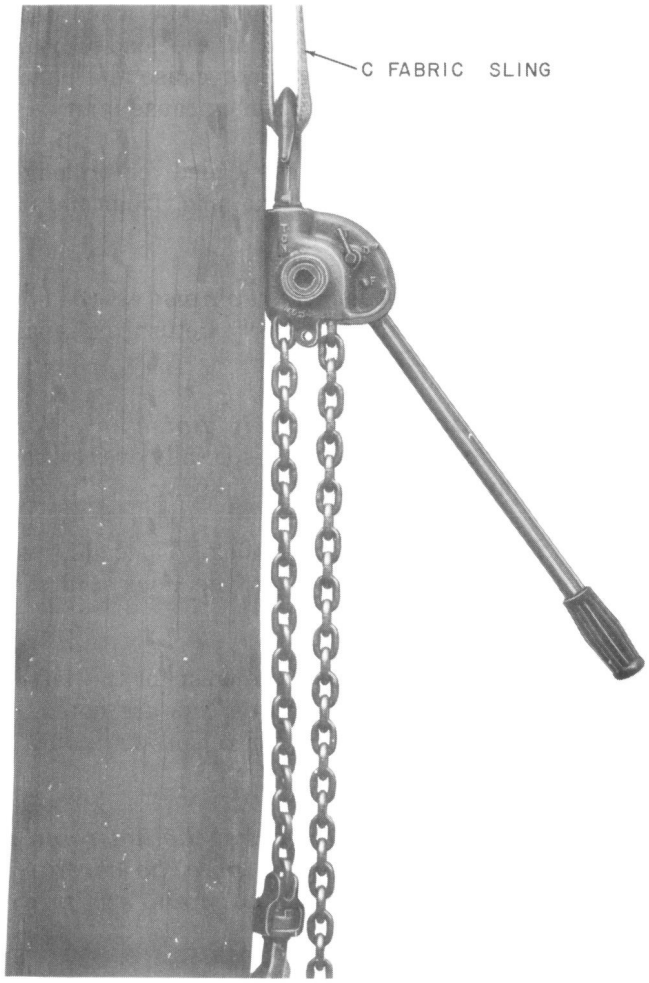

Fig. 4—Vertical Position

5.04 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. 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.

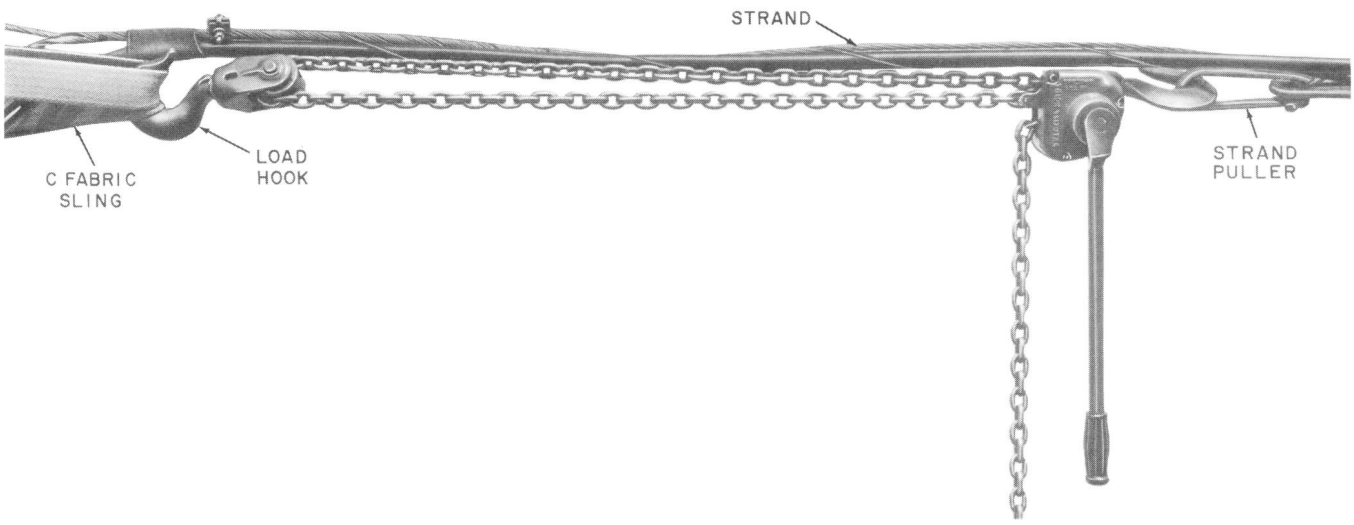

Fig. 5—Horizontal Position

(d) Worn or deformed links in the chain.

(e) Binding or sticking of chain.

(f) Control lever does not operate freely.

(g) Hoist does not operate properly in any other manner.