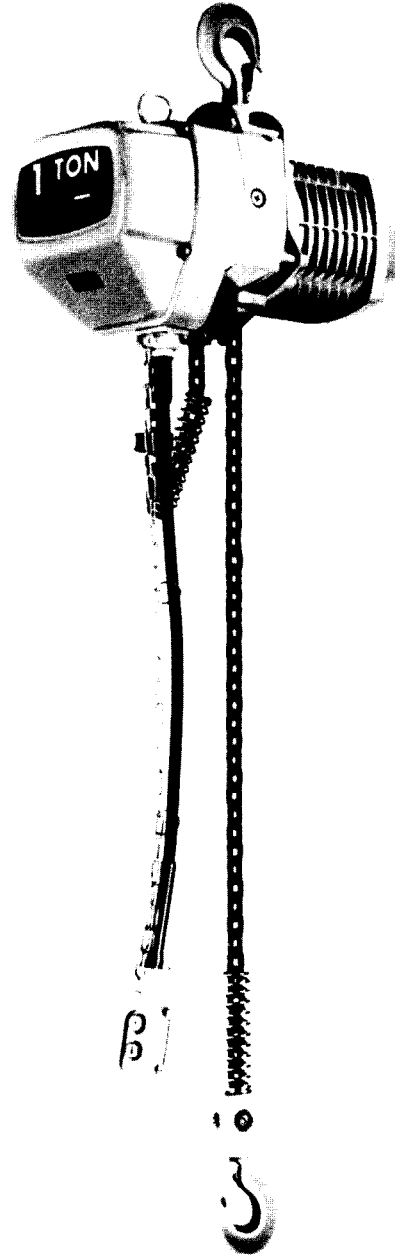


# **BEEBE Operating and Maintenance Instructions**

BEEBE BROS. ELECTRIC CHAIN HOIST  
HOOK SUSPENSION  
TROLLEY SUSPENSION  
MOTORIZED TROLLEY SUSPENSION

Read before using or installing.



## **IMPORTANT!!**

**When everything  
else fails read the  
INSTRUCTIONS.**

"It is the owner and users' 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 carefully."

### **IMPORTANT:**

The National Safety Council, Accident Prevention Manual for Industrial Operations, Seventh Edition and other recognized safety sources make a common point: "All employees working with cranes or hoists or assisting in hooking or arranging a load should be instructed to keep out from under 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 raised load and keep out of the line of force of any load."



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## CONTENTS

	Page
1. Assembly Procedure	1
1.1. Trolley to Beam	2
1-2. Electric Hoist To Trolley	2
1-3. Assembly Notes	2
1-4. Chain Bucket	2
1-5. Chain Bucket Not Used	2
1-6. Prevention of Capsized Load Chain	2
1-7. Lubrication	3
2. Connecting Electrical Control	3
2-1. Hook Suspension Type	3
2-2. Motorized Trolley Type	3
2-3. Power Supply Cable System	4
2-4. Power Supply	5
3. Operation	5
3-1. Operational Tests	5
3-2. Normal Operation	5
3-3. Operating Practice	6
4. Maintenance	6
4-1. Preventative Maintenance	6
4-2. Maintenance & Repair Procedures	6
4-3. Inspection Procedures	6
4-4. Electric Hoist Inspection Check List	7
4-5. Motor Brake Inspection	8
4-6. Trolley Inspection	8
4-7. Functional Testing After Hoist Repair	8
5. Storage	8
6. Trouble Shooting	9

### GENERAL:

You have purchased one of the world's fine quality electric hoists for standard hoist duty service. With proper installation, inspection, maintenance and repair this product will give you many years of fine, trouble-free service.

It is the purpose of this manual to provide you with sufficient information to allow you to correctly install, operate, maintain, and repair these units in order to insure long and satisfactory use.

Before shipment each unit was tested for the following functions:

1. Hoisting and lowering
2. Proper operation of brakes.
3. Proper operation of limit switches, locking, and safety devices
4. Tested to 125 percent of rated load or more
5. The load chain was proof tested to 150 percent of the hoist rated capacity divided by the number of chain falls supporting the load.

### OSHA:

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 of the requirements of OSHA are not concerned or connected with the manufactured product but with the final installation.

To the best of our knowledge, Beebe Bros. Hoists are built to comply with the specifications and standards at the time of manufacture as we interpret them, which are in accordance with our understanding of ANSI B30. 16 - 1973 Overhead Hoists and the Occupational Safety and Health Act of 1970.

Among other regulations, the user should be sure to install in accordance with the National Electric Code 1975 ANSI C-1-1975, as approved April 17, 1975. Be sure to check other federal, state and local rule, regulations, standards, etc. which may apply to the installation and use in your particular area.

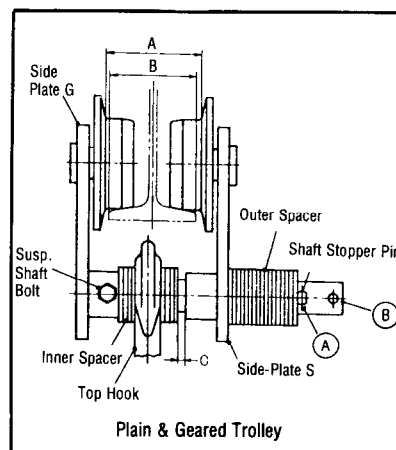
## 1. ASSEMBLY PROCEDURE

### 1-1. Assembling Plain, Geared or Motorized Trolley to Beam - Fig. 1 & 2

1. Insert the suspension shaft into the side plate "G" and secure the shaft with the suspension shaft bolt.
2. The motorized trolley is shipped assembled, remove shaft stopper pin and disassemble side-plate "S" suspender and spacers from suspension shaft.
3. Referring to Fig. 1 & 2 Place an equal or within  $\pm 1$  number of adjusting spacers on each side of the suspender until Dimension "A" is approximately  $\frac{1}{4}$  inch larger than beam width "B". For plain or geared trolley units allow a hook clearance or  $\frac{1}{4}$  to  $\frac{1}{2}$  inch for Dimension "C".
4. Install the side plate "S" and the outer adjusting spacers onto the suspension shaft, then insert the shaft stopper pin into the hole B.

Position side plate "S" & spacers against stopper pin thereby allowing the trolley assembly to be placed around the beam flange. If suspension shaft has been shortened & hole B omitted, then remove outer spacers & slide sideplate "S" against stopper pin to allow clearance for placing trolley around beam flange.

If assembly clearance is inadequate for beam flange width used, then remove stopper pin, slide side plate "S" out to obtain necessary clearance and temporarily use tie wire between side plates to keep side plate "S" in position during assembly around beam flange. Rest side plate "G" wheels on beam & slide side plate "S" over so that its wheels also rest on beam. Move spacers over against side plate "S", remove stopper pin from hole B, if applicable, and place in hole A. Secure stopper pin with cotter pin.



### IMPORTANT

On all trolley installations it is recommended that stops be installed on both ends of the I-beam to prevent the trolley from falling from beam end.

Fig. 1

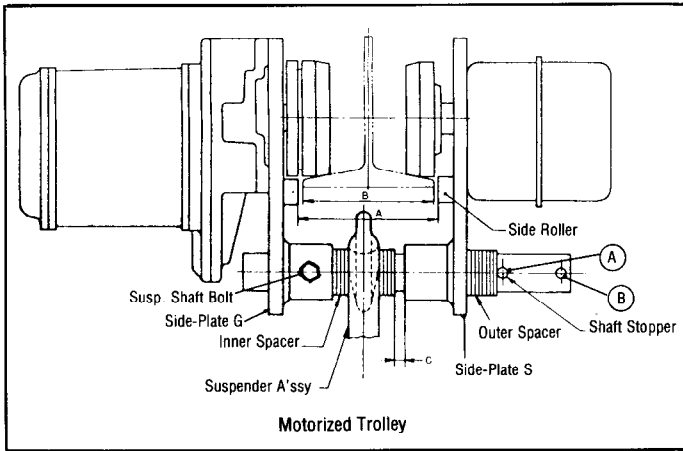


Fig. 2

**1-2 Assembling Electric Hoist to Plain, Geared or Motorized Trolley**

1. Plain Trolley: Hoist can be mounted in either direction.
2. Geared Trolley: Power supply cable for electric chain hoist should be on the opposite side of the trolley hand wheel.
3. Motorized Trolley: (Fig. 10) Remove top hook from hoist and fix the suspender to the hoist using the top pin. Secure with slotted nut and cotter pin.

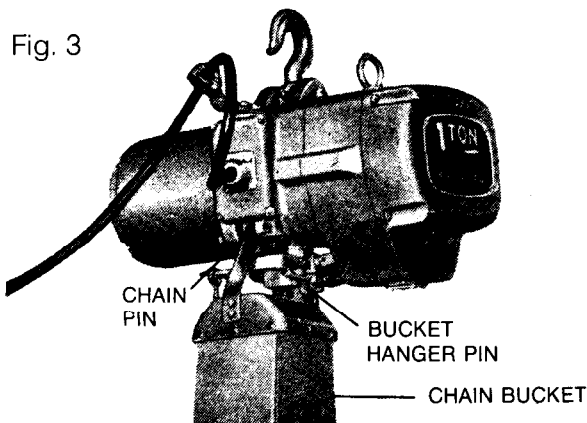
**1-3 Assembly Notes**

1. If space permits, an alternate way to install trolley on I-beam is from end of beam as follows: After adjusting spacers as in 1-1-3, place stopper pin in hole A and secure with cotter pin. Remove rail stop from end of I-beam, roll trolley wheels onto beam flange and replace rail stop.
2. If a larger beam width is required, consult factory.
3. Do not mount trolley on I-beam permanently or apply a load using hole B in suspension shaft. Such loading could cause damage to suspension shaft.
4. If trolley is mounted on a curved beam, the service life of the wheels and runway beam will be substantially lengthened if a small amount of grease is applied to lower flange of beam in contact with trolley wheels.

**1-4 Chain Bucket (Optional)**

All Beebe Electric Hoists may be provided with a chain bucket except for extra long lift. Slide the chain spring over the chain and attach the stopper to the chain on the 3rd link from the end. Install a chain bucket with the hanger pin and the chain pin as indicated in Fig. 3. Make sure length of load chain is within capacity labeled on chain bucket.

Fig. 3



**NOTE**

A socket head capscrew is used for installing the chain bucket to the hoist body of the 1/4 ton to 2 ton-L hoists: A special bolt is used for the 1 1/2 ton to 5 ton hoists.

**1-5 When a Chain Bucket is not used.**

The chain spring and stopper may be installed as indicated for the chain bucket and allowed to hang down or the chain spring may be installed and the stopper attached on the 15th link for the 1/4 ton to 2 ton-L hoists, and on the 13th link for the 1 1/2 ton to 5 ton hoists as shown in Fig. 4. Connect the end of the load chain to the hoist body without any twists in the load chain.

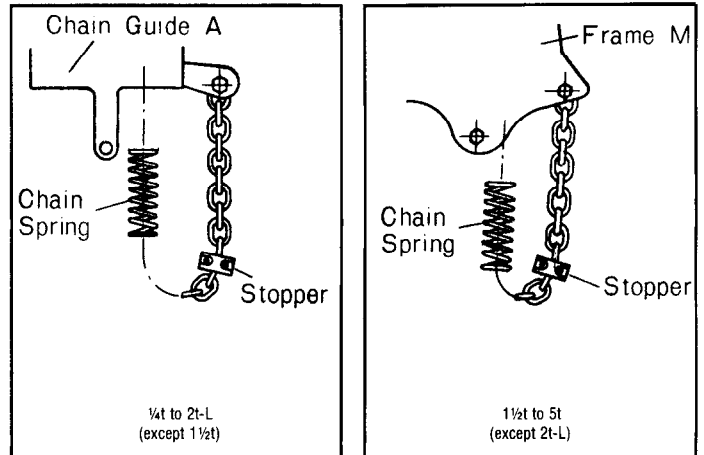


Fig. 4

**1-6 Prevention of Capsized Load Chain**

Be sure there are no twists in the chain before using. The unit should be constantly checked for twisting on multiple chain units 1, 2, 3, 5, 10 and 15 ton because it is possible for the bottom hook to become capsized which creates jamming. The welded part of the chain should always face inwards when reeved through hook assembly (Fig. 5).

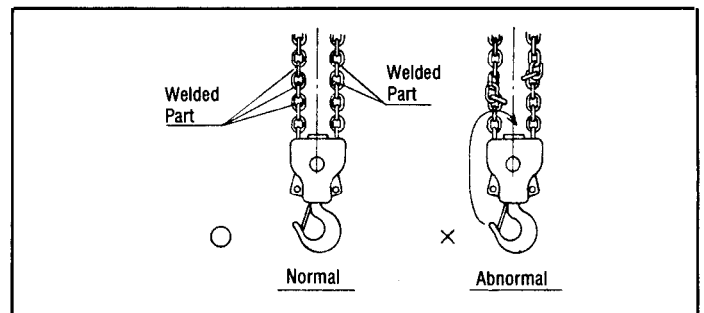


Fig. 5

**1-7 Lubrication**

Your Beebe Electric Hoist has no lubricant in the gear box when shipped. Fill the gear box with the oil provided to the oil check hole before using. If the Beebe gear oil is not available, the following quantities and types of gear oil are recommended:

Part	Lubricant	Lubrication Point	Lubrication Instructions	Drain Point
Gear Case For Hoist	Shell Tellus 941 or Texaco Meropa No. 320	Fill and level plug	Fill to level	Located in bottom of unit

Hoist Cap (ton)	Oil Capacity (Qt.)		
	Std. type	With friction clutch	With mechanical brake
¼, ½-L, ½-S, 1-L	0.4	0.4	0.6
1-S, 2-L	0.6	0.6	1.0
1½, 2-S, 2½, 3, 5	1.0	1.0	2.0 (1.0x2)

Part	Lubricant	Lubrication Point	Lubrication Instructions
Gear Case For Trolley	Shell Leaded Grease No. 2 or equal	Alemite Fitting	If no Alemite fitting exists, lubricate when unit is disassembled
Track Wheel Pinion and Gear Teeth	Shell Leaded Grease No. 2 or Dry Moly Lube for dusty or abrasive conditions	Gear Teeth	Coat gear and pinion with lubricant
Chain	Keystone Moly 23 or equal		Allow Lubricant to penetrate between links and wipe off excess with rag
Bottom Block and Idler Sheave Bearings	Shell Alvania EP2 or equal		Lubricate when unit is disassembled

## 2. CONNECTING THE ELECTRICAL CONTROL

**IMPORTANT**—Make sure electric power supply to hoist circuit is disconnected.

### 2-1. Hook Suspension Type Electric Chain Hoist

- Install two button type pendant per Fig. 6 and 7.
  - Insert 5 pin plug of push button cord into 5 pin socket and secure with coupling screws.
  - Place cord chain in clevis of socket holder B and fasten with cord chain and cotter pin.
- Chain hoists over 1½ ton type except 2 ton-L type. Fig. 7.
  - Insert cord chain stopper into tip of the cord chain and secure chain stopper to socket holder B with machine screws.
- Plug-in 4 pin plug of the power supply cable into 4 pin socket and secure with coupling screw. Attach cable clamp arm to socket holder A with bolts. Do not twist the cable.

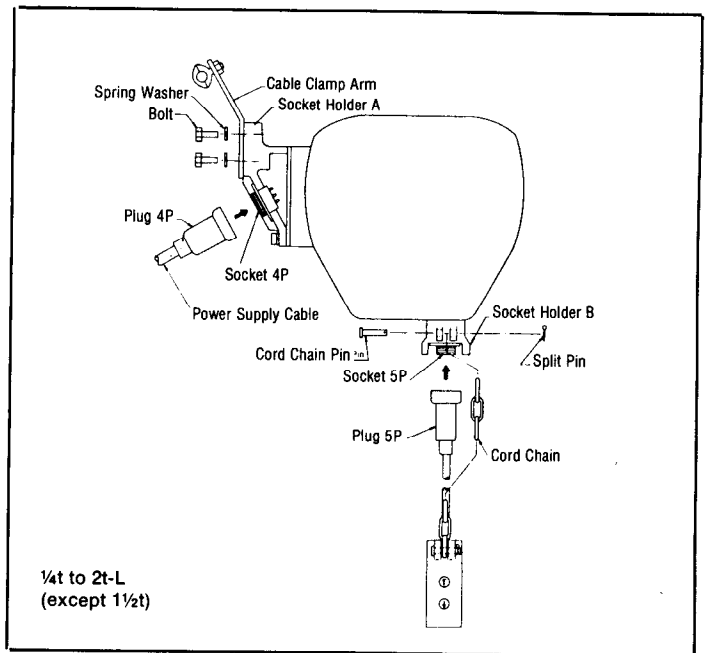


Fig. 6

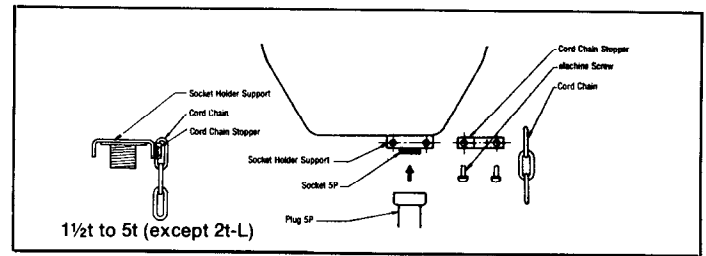


Fig. 7

### 2-2. Motorized Trolley Type Electric Chain Hoist

- Install four button type pendant per Fig. 8 & 9.
  - Insert 8 pin plug of the push button cord into the 8 pin socket of the switch box and secure with coupling screw.
- Wiring the motorized trolley switch box and the electric chain hoist per Fig. 8.
  - Insert 4 pin plug into the 4 pin socket and the 5 pin plug into the 5 pin socket of the electric chain hoist and secure with coupling screws.

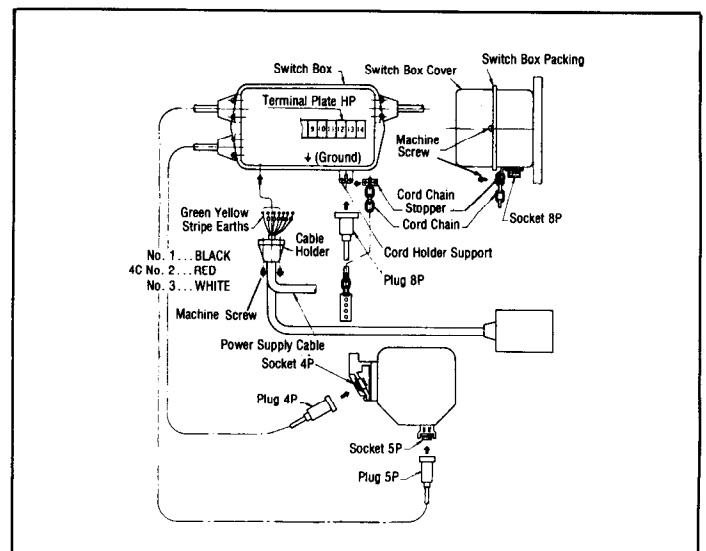


Fig. 8

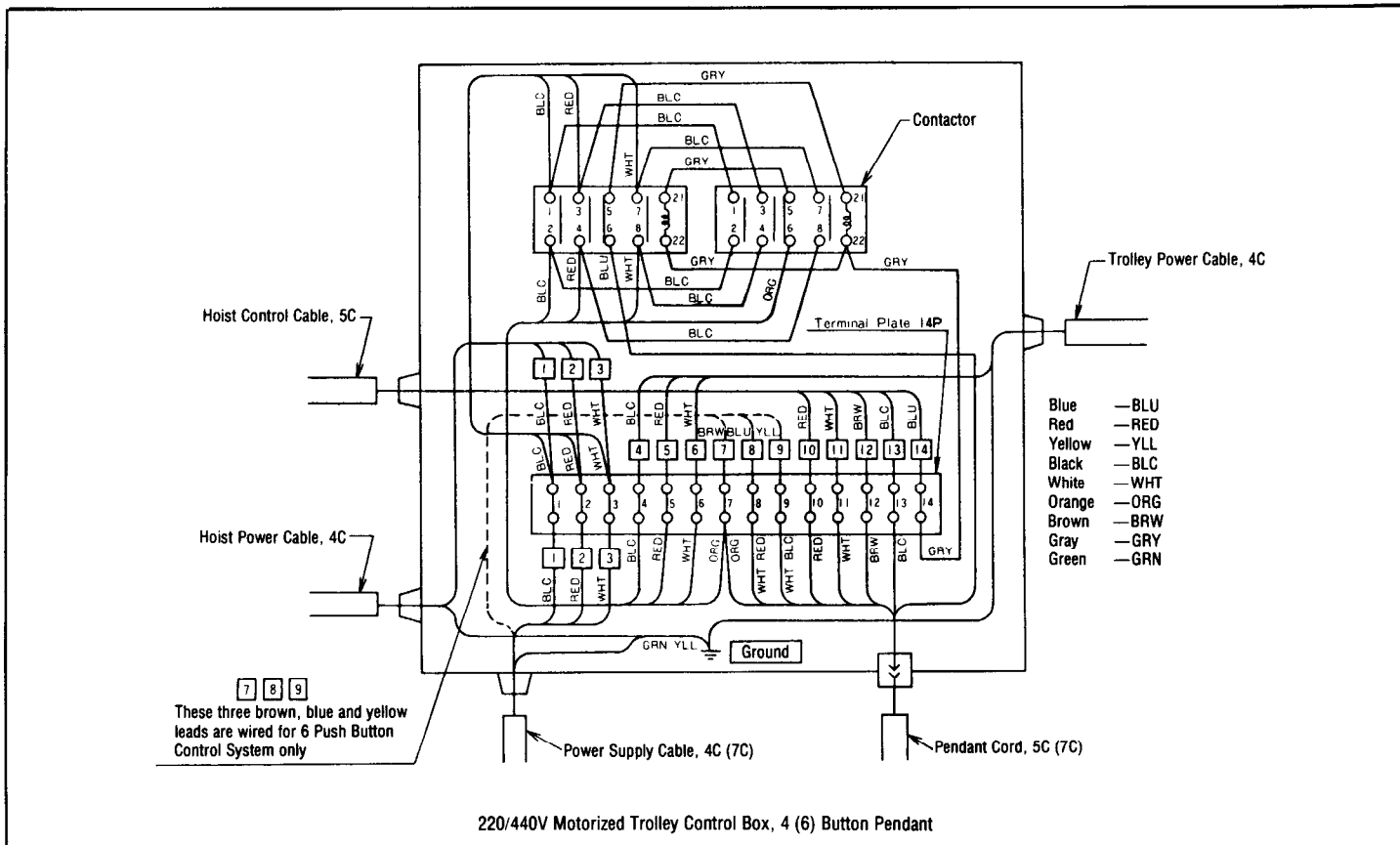


Fig. 9

3. Wiring Instructions for Power Supply Cable

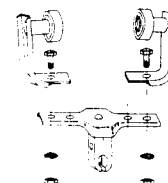
- a) Remove the switch box cover.
- b) Attach the cable holder to the switch box with machine screws.
- c) Connect the red, black and white conductors of the four conductor wire to the 14 lug terminal strip. See Fig. 9.
- d) The green and yellow stripped conductor is the ground wire. Connect the ground wire to the location marked ground.
- e) Check all connections for correctness and install switch box cover.
- f) Install dust seal on switch box.

2-3. Power Supply Cable System

Two (2) systems are generally used: one is a messenger wire system along a straight I beam, the other is a cable trolley along a curved beam.

1. I BEAM - messenger wire installation is most commonly used; 1/8 to 1/4" diameter wire rope is required. This system is most economical & works best on shorter spans. The messenger wire should be installed as in the drawing below.

2. CABLE TROLLEY — This system uses a trolley which rides on the beam rail and is assembled in accordance with the drawing on the right:



The interval of the cable trolley installation is approximately 3' for a curved beam with a 5' swing radius.

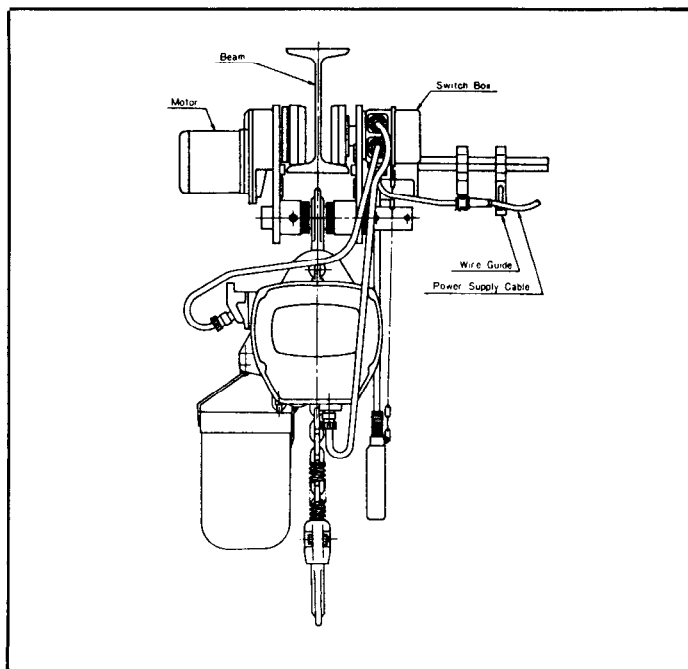
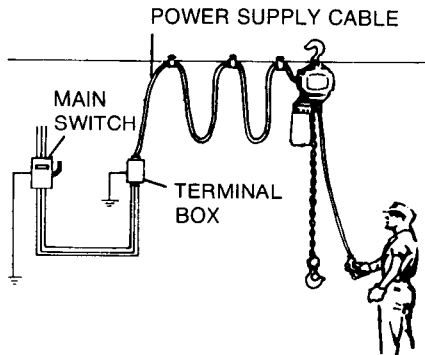


Fig. 10

## 2-4. Power Supply

1. Check for adequate circuit breakers or fuses.
2. Connect and ground in accordance with National Electric Code ANSI-C1-1975.
3. Check voltage and convert as necessary by:
  - (1) Removing control cover and
    - (a) Rewire per schematic in manual or inside control cover.
    - (b) For motorized trolley, rewire per schematic inside trolley motor control cover and inside junction box on side of trolley motor.
    - (c) Double check for correct line voltage.
4. Terminal box should be installed at an appropriate place and connected firmly with power supply lead wires. A disconnect switch should be installed in the branch circuit supplying the trolley and hoist. This circuit should have either slow blow fuses or circuit breakers of the rating specified by the National Electric Code and be correctly grounded.







5. Make sure connections are securely made. Improper connections cause overheating or the motor may possibly burn out.
6. If welding near hoist, keep load chain or hook away from the grounding lead of the electric welder.
7. **SPECIAL NON-REVERSING RELAY PROTECTS THE HOIST FROM DAMAGE DUE TO INCORRECT CONNECTIONS OF POWER SUPPLY.** If the three conductors of power supply are connected wrong or if the motor is wired single phase, the motor will not start. Reverse any two of the three for proper connection, or check for single phase wiring.

## 3. OPERATION

### 3-1. Operational Tests

Units should be regularly checked to make sure the following is functioning properly:

1. Hoisting, Lowering and trolley travel in same direction as arrow on push button.
  - a. raise load 
  - b. lower load 
  - c. travel right 
  - d. travel left 
- e. The push button control is electrically interlocked so that it will not operate if buttons are simultaneously pushed or if wired wrong.

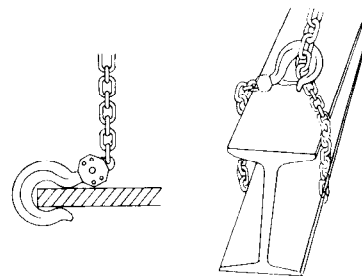
2. Operation of brakes

3. Operation of limit devices

These tests should be made under no load conditions before the hoist is used to handle the load.

### 3-2. Normal Operation

1. Hook travels in direction of arrow. The push button control is electrically interlocked so that it will not operate if buttons are simultaneously pushed or if wired wrong.
2. If the hoist is furnished with a load brake it is normal when the bottom hook is raised to hear a clicking sound of the load brake mechanism and when the hook is lowered no clicking is heard.
3. Beebe Electric Hoists are designed for normal hoisting service; to insure long and safe use please observe the following:
  - Use only within the rated capacity—**DO NOT OVERLOAD** — overloading may sometimes result in burning out a motor, shortening the life of the machine, or causing other problems.
  - Do not jog excessively. This can cause overloading of the motor and burning out of the control.
  - Position the load correctly. Place the load on the hooks only in a straight line.
  - Hooks are furnished with safety latches. Make certain the safety latches are correct before use.
  - If the motor hums it is not working even though button is pushed. Release the button immediately and examine for the following:
    - a. Overloading
    - b. Low voltage condition
    - c. Incorrect wiring
    - d. Loose connection
    - e. Limit switches tripped
    - f. Motor brake malfunction
  - Avoid sudden reverse operation. Hoisting operation should be stopped completely before reversing. If not the motor may be overloaded and gearing, drive train, etc. shocked.
  - Ease into loads, take up slack to prevent shock load condition.
  - Stop operation when there are any indications of jamming, overloading, bindings, etc.
4. Some common mis-applications to avoid are as follows:
  - a. Never run the chain over a sharp edge
  - b. Do not reach around corners or load hooks in the manner as illustrated below. Such loading can cause damage to the hook assembly, chain and hoist bar.



- c. Avoid using two hoists to handle one load unless necessary — if this is necessary it is important that the load is supported by a larger capacity hoist than the load requires, and also that the load is in balance.
- d. Do not use hoist chain or hoist hooks as slings or chokers.
- e. Do not use for lifting, lowering or moving persons. Never lift loads over people.

### 3-3. Operating Practice

1. Each individual who will operate a Beebe Electric Hoist should be instructed in the material contained in this manual before using the hoist. Good practices are as follows:
  - Do not engage in any practice which would divert the operator's attention while using the hoist.
  - When an out of order sign is on the controls the hoist operator should not power the hoist or start operation until the sign has been removed by a designated person.
  - Before starting the hoist, be sure all personnel are clear of the area.
  - The operator should familiarize himself with all equipment and its proper care. If adjustments or repairs are necessary, they should be reported promptly to someone properly authorized and also should be notified to the next operator upon changing shifts.
  - All controls should be tested by the operator at the beginning of each shift. If any controls are not operating in the proper manner, they should be repaired before using.
  - Before operating, be sure hands are clear from all moving parts.
  - Hoisting chain should not be wrapped around the load. The load should be attached only to the hook or slings so that it pulls in a straight line on the load hook.
  - The load should not be moved or lifted more than a little until it is well balanced in the sling or lifting device.
  - Care should be taken that:
    - a. Chains are not kinked or twisted
    - b. Load does not contact any obstructions or become jammed.
    - c. Multiple parts of chain are not twisted about each other or that on multiple chain units the load hook should not be upset
    - d. The chain should be properly seated in the drum
    - e. Pull in straight line only

- f. Do not operate hoist for handling people or handling loads over people.
- g. The operator should test the brakes each time a load approaching the rated load is handled by raising a sufficient distance to clear the floor and check for brake action. The lift should be continued only after the operator is sure the brake system is proper.
- h. Inch the hoist into engagement with the load to avoid shocking and to also avoid unnecessary starts and stops.
- i. Do not leave the load suspended in the air unattended unless other precautions such as safety lines, etc. are taken.
- j. The limit devices should not be used as a normal operating control.
- k. Do not bump rail stop with trolley.
- l. On the plain type trolley, do not use the hoist control cord for pulling the trolley. Instead use the load chain of the hoist which may be pulled when unloaded but should be pushed in the desired direction when the load is suspended. On geared-type trolleys, pull the hand chain in a downward motion only to start movement.
- m. Do not allow load to hit load chain bucket.

### 4. MAINTENANCE

#### 4-1. Preventative Maintenance — Minimum Requirements

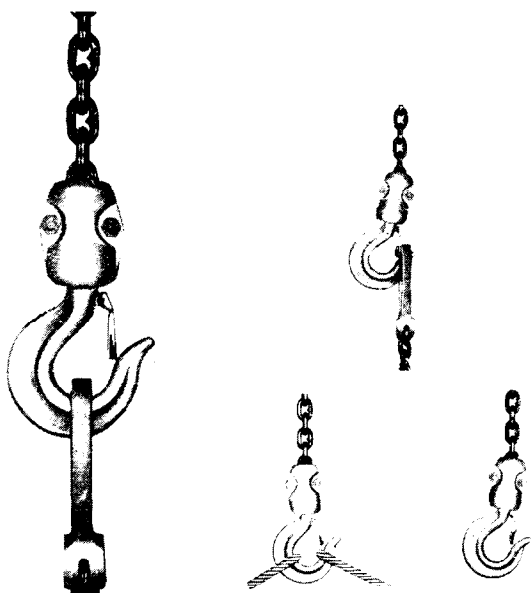
1. Check the oil in the gear box at least once every three months; if low replenish. If the hoist is used at a normal frequency, the oil in the gearbox can be used without changing. However when the hoist is used at a high frequency, the oil should be changed at the user's discretion.
2. Always keep load chain oiled.

#### 4-2. Maintenance and Repair Procedures

1. Disconnect the electrical supply to the unit.
2. Install warning "out of order" signs while the unit is being worked on.
3. After adjustments and repairs, the hoist shall be operated in accordance with the same recommendations for a new unit.

#### 4-3. Inspection Procedures

1. Initial inspection  
All new hoists are inspected by manufacturer and should be by user before operating.
2. Regular procedures for inspecting the hoist should be established.
  1. Intervals of inspection are dependent upon the nature of the components of the hoist and the degree of exposure to wear, deterioration, shock, etc.
  2. Two classifications are commonly used. These are frequent and periodic.
    - a. Frequent - daily to monthly intervals
    - b. Periodic - monthly to yearly
  3. In frequent inspections check for the following:
    - a. All controls and operating mechanisms operating properly - daily
    - b. All safety devices for malfunction - daily
    - c. Deterioration of power supply system
    - d. Hooks for deep formations, cracks, openings, etc.



CORRECT

INCORRECT

- Any hook that is twisted or has throat opening over 15% in excess of normal indicates abuse or overloading of the unit. Accordingly other load bearing components of the hoist should be inspected for damage-daily
- e. Chain should be inspected daily for wear, twist, distortion, stretching, etc. Also check for weld splatter, cleanliness, etc. If wear or stretching is suspected, the chain should be measured according to the following procedure:

Select an unworn, unstretched length of chain near slack end. Suspend chain vertically under tension and measure outside length of any convenient number of links with a caliper gage. Measure same number of links in used sections. If used sections measure 1.015 or greater times length of unused section, then replace chain with same size, grade & construction as original chain.

#### 4-4. Periodic Inspection Check for the following:

- a. In addition to the frequent inspection the following items should be checked also, periodically:
- Loose bolts or rivets
  - Cracked castings, or chain sheaves
  - Corroded, worn, cracked, bent or distorted parts such as pins, bearings, shafts, gears, etc.
  - Excessive wear on motor brake or load brake
  - Excessive wear on chain, sprocket, drums, sheaves, chain stretch, etc.
  - Magnetic particle or dye tests for crack detection on hooks
  - Electrical system for signs of pitting, deterioration, burning, etc. including limit switches, push buttons, reversing switches, etc.
  - Supporting structure such as trolleys, I beams etc., should be continually checked to see that they can support the pull and loads
  - Link chain should be inspected and replaced in accordance with 3e. above.

#### 4-5. Electric Hoist Inspection Check List

	OK	REPAIR
<b>HOOKS</b>		
Retaining Hardware		
Loose		
Cracks		
Excessive Wear		
Bent		
Spreading		
Freely Rotate		
Latch Damaged		
<b>BRAKES</b>		
Motor Brake Worn/ Not Operating		
Excessive Loadbrake Drift/Backlash		
Excessive Disc Wear		
<b>LIMIT SWITCHES</b>		
Operating Properly		
<b>HOUSING</b>		
Distorted		
Cracks		
Loose Retaining Hdwe.		
<b>SUPPORTING STRUCTURE</b>		
Continued Ability to Support Imposed Loads		
Worn or Distorted Trolley Parts		
<b>WARNING LABELS</b>		
Missing		
Illegible		
<b>WIRING</b>		
Loose Connections		
Frayed		
Damaged		
Proper Grounding		
<b>OVERLOAD DEVICE</b>		
Operating Properly (Limit Clutch)		
<b>OPERATION CONTROLS</b>		
Contactors Fitting		
Operating Properly		
Damaged Push Button Housing		
<b>LUBRICATION</b>		
Oil Dark or Low		
Oil Leaks		
All Points Lubricated per Lub Chart		
<b>LOAD CHAIN</b>		
Binding		
Cracked		
Twisted		
Distorted		
Corroded		
Excessive Wear		
Worn Chain Guides		
<b>LOAD &amp; IDLER SHEAVES</b>		
Worn Excessively		
Cracked/Scored		
Bearing Noise		
<b>COLLECTORS</b>		
Binding		
Excessive Wear		



#### 4-5. Motor Brake Inspection

Procedures for inspection and adjustment of motor brakes of single speed and dual speed models.

##### 1. BEFORE INSPECTION:

- 1) Make sure that power supply is cut.
- 2) Make sure that hoist is not loaded.
- 3) Fix load chain with tie wire so that when motor brake is disassembled, load chain will not fall out of hoist.

##### 2. STRUCTURE OF BRAKE UNIT

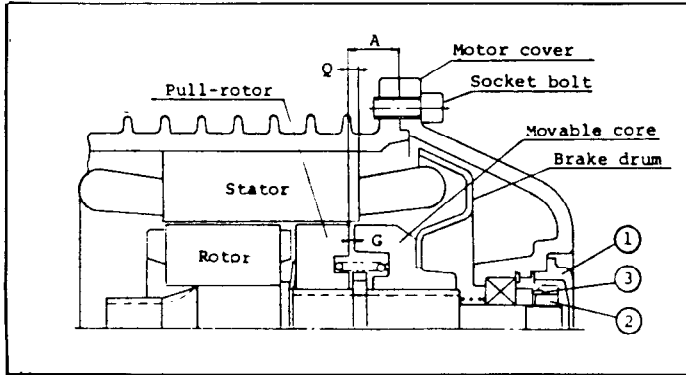


Fig. 11

##### 3. CORE GAP "G"

Core pull-in performance decreases when core gap exceeds .080 inch or near .080 inch. In such a case, restore proper brake gap according to the following procedures.

- 1) Remove socket bolts fixing motor cover.
- 2) Remove motor cover, brake drum and rotor assembly in a set from hoist.
- 3) Remove rubber cover ①.
- 4) Raise outer tooth of lock washer ③ which fixes nut ②.
- 5) Loosen nut, exchange lock washer for a new one, and then assemble.
- 6) Turn nut and adjust brake gap "G" properly as shown in Table 1 below with thickness gauge.

##### 4. WEAR DIMENSION "A"

- 1) In addition to the above-mentioned "G" dimension, the "Q" dimension shown in Fig. 11 also affects core pull-in performance.
- 2) The specified "Q" dimension shall be .039 inch min. Measure "A" dimension in Fig. 11 to confirm "Q" dimension.
- 3) In case the measurement result satisfies "A" dimension in Table 1 below, then "Q" dimension is within the specified dimension, and the hoist may be used as it is.

Capacity (ton)		¼	½	1	1½ 2 2½
Min. "A" dimension (inch)	Single speed	.709	.670	.622	.571
	Dual speed	.670	.630	.984	1.240
"G" dimension (inch)		.020 .031			.031 .043

NOTE: In case the measurement result does not satisfy "A" dimension in the above table, exchange motor cover or brake drum for a new one, and start again from Item 2.

##### 5. SECURING ADJUSTMENT NUT

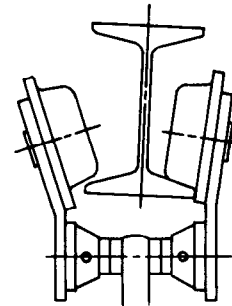
- 1) Make sure that any one of the four grooves of nut 2 meshes any one of the outer teeth of lock washer 3. Note: In case the positions do not mesh, turn nut to right, and stop where any of the grooves meshes any tooth first.
- 2) Bend meshing tooth of lock washer into the nut groove.
- 3) Install rubber ① on motor cover.

##### 6. ASSEMBLING

- 1) Install the adjusted set mentioned in the preceding item in the hoist taking care not to damage coil or stator.
- 2) Apply Loctite 222 to motor cover socket bolts and tighten bolts securely.

#### 4-6. Trolley Inspection

Check side plates of Trolley (see illustration). If distorted be sure to correct or replace before use - Note: Failure to correct may cause a serious accident.



#### 4-7. Functional Testing after Hoist Repair

After repair of hoist, test with a light load for proper function. If load sustaining parts have been altered, replaced or repaired, load test unit with 125% of the rated capacity by lifting and lowering for a short distance. If applicable, test operation of brake, travel limit devices, limit switches, push buttons, etc., that were involved in the repair (if no load sustaining parts were repaired or altered, a normal load may be used for test). A written report, documenting repairs and tests should be prepared by the person responsible and kept on file for future reference.

**NOTE: REPLACE WORN OR MISSING PARTS WITH GENUINE BEEBE BROS. FACTORY REPLACEMENT PARTS ONLY.**

**CAUTION: PRIOR TO TESTING, ALL SUPPORTING STRUCTURES, ANCHORAGES AND/OR SUSPENSIONS MUST BE APPROVED BY THE APPOINTED PERSON FOR THE TEST LOADS TO BE USED.**

**CAUTION: WHEN REPLACING A LOAD CHAIN, USE ONLY BEEBE BROS. REPLACEMENT CHAIN.**

##### 5. STORAGE

1. Store hoist in a moisture free place.
2. If hoist is installed outdoors, cover it after each use.

## TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY	REMARK
Won't move.  Won't lift.	Non reverse relay prevents operation because the motor is turning in wrong direction, or single phasing is occurring.	Interchange any two power supply leads. Repair discontinuity of wiring.	See the check of operation on page 5.
	Blown fuse	Install regular fuse.	Never use ordinary wire or fuse of oversize capacity.
	Discontinuity in power cable. Discontinuity in push button cord.	Check discontinuity in the cable where the cable is subject to frequent bending and straightening out the cable. Repair the cable.	Interrupt the operation immediately if the motor hums but does not rotate.
	Voltage drop	Check the voltage with a volt-ohm meter and check wiring.	
	Over load	Check the weight of the load	
	Slip due to poor friction clutch performance.	Replace with new clutch that has already been adjusted by Beebe.	
	Motor brake lining "Frozen" in drum	Remove motor end cover and remove rust and/or contaminants from brake drum and lining.	See instructions on page 8.
Brake slips.	Worn brake shoe	Need to check and repair the brake.	See instructions on page 8.
Snapping sound	Worn load chain. Rusted load chain. No oil on load chain.	Need to check and repair the load chain. Oil load chain.	See instructions on page 7.
Trolley won't stop. Trolley slips on beam.	Poor braking (motorized trolley). Angulation of beam. Oil from wheel on the beam.	Repair and adjust the brake. Check and correct the beam angulation. Wipe off the oil.	
Electrical leak	Poor grounding work.	Provide correct grounding.	
	Travel surface of the beam is painted.	Remove paint.	Leak at places other than electric chain hoist may be sometimes responsible.
	Foreign matter or moisture deposited on electrical parts.	Dry or remove the foreign matter.	
Oil leak	Wrong oil plug.	Install the correct oil plug with new gasket.	
	Oil plug is loosened	Tighten plug	If oil leak occurs at place other than oil plug, disassemble and check thoroughly for the cause and repair.
	Worn shaft seal	Replace with new seal	
	Loose housing bolts	Tighten bolts	



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