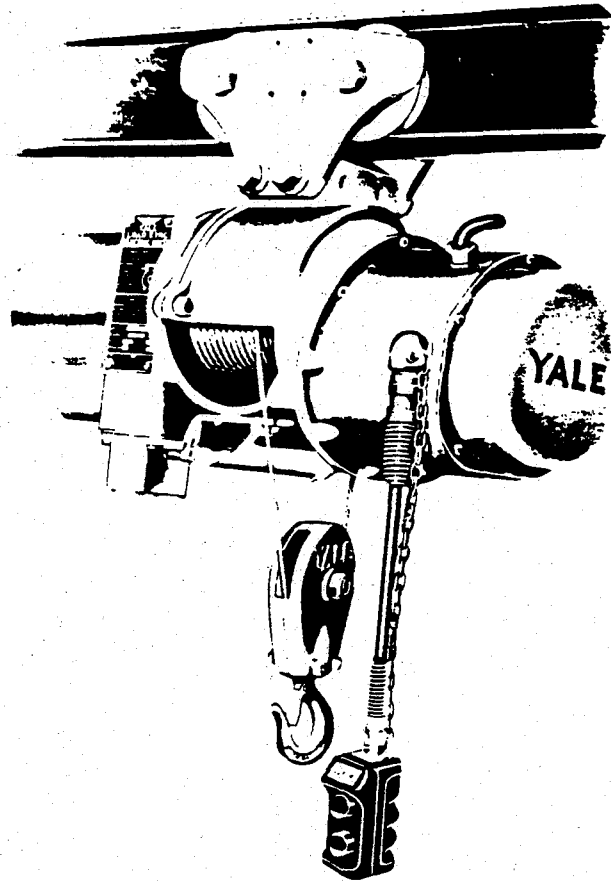
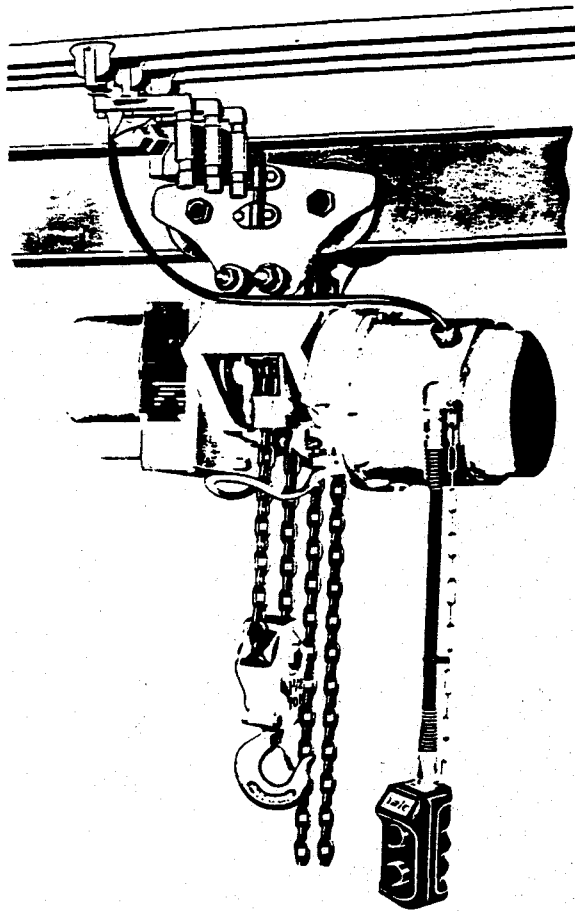


LE SERIES
Wire Rope and Chain Hoist

Parts and Instruction
Manual

Yale®





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When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Part

GENERAL INFORMATION



1. Purpose and Description Of Equipment

YALE[®] LE SERIES ELECTRIC HOISTS are designed to meet the growing demands for a low cost rugged and efficient power hoist. The hoist will range in capacities of 1/4 to 1 ton for wire rope units and from 1/4 to 2 ton for link chain units. Its' small size and rugged construction creates a useful as well as economical unit for limited space application. ALL YALE[®] LE SERIES ELECTRIC HOISTS are controlled by simple push buttons clearly marked indicating direction of load hook travel. For the protection of the operator and equipment YALE[®] engineers have incorporated safety devices.

2. Types Of Suspension

Trolley Suspension

The standard Trolley Suspension, see Figure 1, is adjustable for American Standard I-Beams 5 inch to 12 inch depth. A special Trolley Suspension for 4 inch depth I-Beams is also available. Adjustment is made by arrangement of the trolley washers. To install the trolley, insert mounting bolts through the hoist frame lugs and then slip on the required washers for the inside of each trolley side plate. Attach the side plates and put the remaining washers on the outside of each side plate. Tighten the bolts and unit is complete. The same instructions are used for right angle mounting except that the hoist is turned crosswise to the beam or track. It is important that the supporting member be checked before installation.

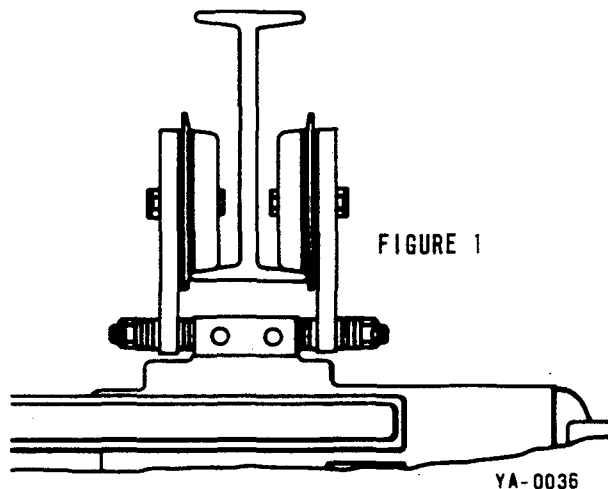


FIGURE 1

Lug or Bolt Suspension

This type of suspension, see Figure 2, requires that the hoist be rigidly supported between two (2) suspension members or brackets spaced far enough apart and properly drilled to accommodate the hoist frame lugs.

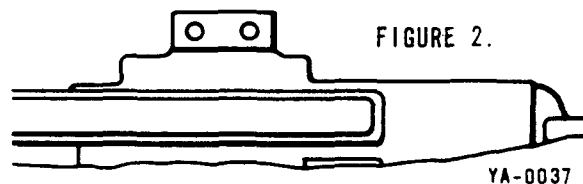


FIGURE 2.

Hook Suspension

The Hook Suspension, see Figure 3, is attached to the hoist by removing the two (2) bolts furnished and slipping the hook adapter over the hoist frame lugs. Insert bolts and tighten mounting securely to the hoist.

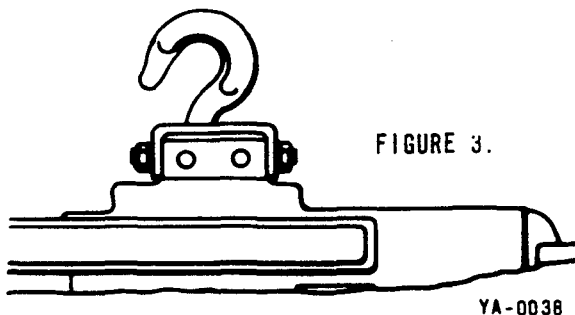


FIGURE 3.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



3. Repair Parts Ordering Information

This instruction and parts manual is provided as a convenience to assist you in ordering repair parts for your YALE® LE SERIES ELECTRIC HOIST. To insure prompt service, place all parts orders with your local YALE® distributor.

Please give all information listed below in items (a), (b), (c) and (d). This will enable your distributor to fill your order promptly.

- (a) Give complete data from hoist nameplate.
- (b) Give part numbers, description and quantity required.
- (c) Give the correct shipping destination.
- (d) For ordering motor repair parts, give all data on the hoist and motor nameplates.

If it becomes necessary to return the complete hoist or certain parts to the factory, a letter requesting such a return is necessary. This letter should contain an explanation for requesting the return. A return authorization will be issued giving you clearance for returning the hoist or parts to the factory. Should you need additional help in ordering, contact your local YALE® distributor.

4. Recommended Spare Parts For One Year

WIRE ROPE HOIST

CHAIN HOIST

QTY	PART NO	DESCRIPTION	QTY	PART NO	DESCRIPTION
2	0102564-00	BRAKE SHOE WITH LINING	2	0102564-00	BRAKE SHOE WITH LINING
1	0105904-00	LIMIT SWITCH CONTACT	2	0105904-00	LIMIT SWITCH CONTACT
1	0105967-00	SWITCH	1	0107856-00	RATCHET AND BRAKE DISC
1	0107856-00	RATCHET AND BRAKE DISC	1	0667985-00	CONTROLLER SPARE PARTS KIT
1	0667985-00	CONTROLLER SPARE PARTS KIT	* 1	0033645-00	LOAD CHAIN
* 1	0108644-00	ROPE ASSEMBLY, 10' LIFT	* 1	6400649-01	SOLENOID COIL ***
* 1	0108645-00	ROPE ASSEMBLY, 20' LIFT	* 1	6400649-15	SOLENOID COIL ***
* 1	6400649-01	SOLENOID COIL ***	* 1	6400649-04	SOLENOID COIL ***
* 1	6400649-15	SOLENOID COIL ***	** 2	0523638-00	REVERSING CONTACTOR ****
* 1	6400649-04	SOLENOID COIL ***	** 2	0523640-00	REVERSING CONTACTOR ****
** 2	0523638-00	REVERSING CONTACTOR ****			
** 2	0523640-00	REVERSING CONTACTOR ****			

- * Order According To Lift Or Voltage.
- ** Order According To Control Voltage.
- *** See Page 39 For Solenoid Coils
- **** See Page 42 And 43 For Reversing Contactors

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts

INSTALLATION



General Installation Instructions

Before shipment the hoist is rigidly tested, inspected and carefully adjusted for proper operation. However, to avoid unnecessary damage to the hoist and to insure proper installation the following points must be checked.

- (a) Suspend the hoist per instructions found on page 2 under types of suspension.
- (b) After suspending the hoist check the gear case to be sure oil has been added. If not, fill the gear case to the level of the filler plug with YALE[®] gear oil part number 0106091-00 or equivalent. See Figure 4.

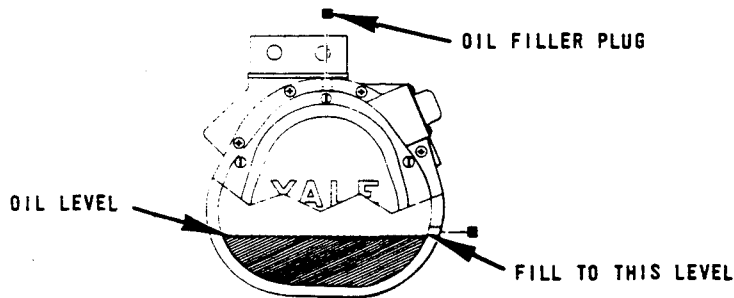


FIGURE 4.

YA-0042

CAUTION

DO NOT OPERATE HOIST WITHOUT THE PROPER OIL LEVEL. AVOID OVERFILLING.

CAUTION

REMOVE THE WOODEN BLOCK THAT IS WEDGED BETWEEN THE SUSPENSION FRAME AND ROPE DRUM AFTER THE UNIT IS SUSPENDED. EXAMINE THE HOIST ROPE FOR ANY KINKS OR DAMAGE THAT MAY HAVE RESULTED DURING SHIPMENT.

- (c) Connect the power cord to the electrical current supply.

CAUTION

BE SURE THE CURRENT SUPPLY CORRESPONDS TO THE RATING AS LISTED ON THE HOIST AND MOTOR NAMEPLATES.

- (d) Due to the nature of polyphase alternating current motors it is impossible to predetermine the direction of motor rotation upon initial connection. It is very important to check the direction of hook travel by inching or momentarily depressing the push button rather than a prolonged travel. First make sure the load hook is at least four (4) feet below the bottom of the hoist. Momentarily depress the "DOWN" button. If the load hook lowers, the hoist is connected properly. If the load hook raises, discontinue any operation until this situation is corrected. If the load hook travels in a direction opposite to that marked on the push button, it will be necessary to interchange any two (2) wires for three phase or two (2) wires of any one phase for two phase power.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



INSTALLATION

CAUTION

DO NOT ATTEMPT TO REWIRE THE PUSH BUTTON AS THIS WILL RENDER THE LIMIT SWITCHES INOPERABLE AND COULD CAUSE INJURY TO THE OPERATOR OR DAMAGE TO THE EQUIPMENT.

- (e) After it has been determined that the hoist is operating in the proper direction, the limit switches should be checked as described in paragraphs (f) and (g) below.
- WIRE ROPE HOIST LIMIT SWITCHES**
- (f) The wire rope units are equipped with a plugging upper limit switch and an anti-rewind lower limit switch. To check the upper plugging limit switch lower the bottom block to a position about eight (8) feet below the hoist. Depress the "UP" button and while the bottom block is raising, lift the limit switch paddle with your hand. When the paddle is lifted from $3/16$ inch to $1/4$ inch the hoist will cutoff. Lift the paddle further and the unit will instantaneously lower the bottom block. If for some reason this switch does not operate properly, the adjusting screw on the camshaft may be adjusted as shown in Figure 5 below. To check the lower anti-rewind switch, position the load hook approximately four (4) feet below the hoist. Depress the "DOWN" button and while the load hook lowers depress the limit switch lever. The motor should stop. This is a snap action switch and no adjustment should be needed.
- LINK CHAIN LIMIT SWITCHES**
- (g) All link chain units are equipped with both upper and lower plugging type switches. To check the upper limit, lower the load hook to a position approximately six (6) feet from the bottom of the hoist. Depress the "UP" button and while the hook is raising lift the limit

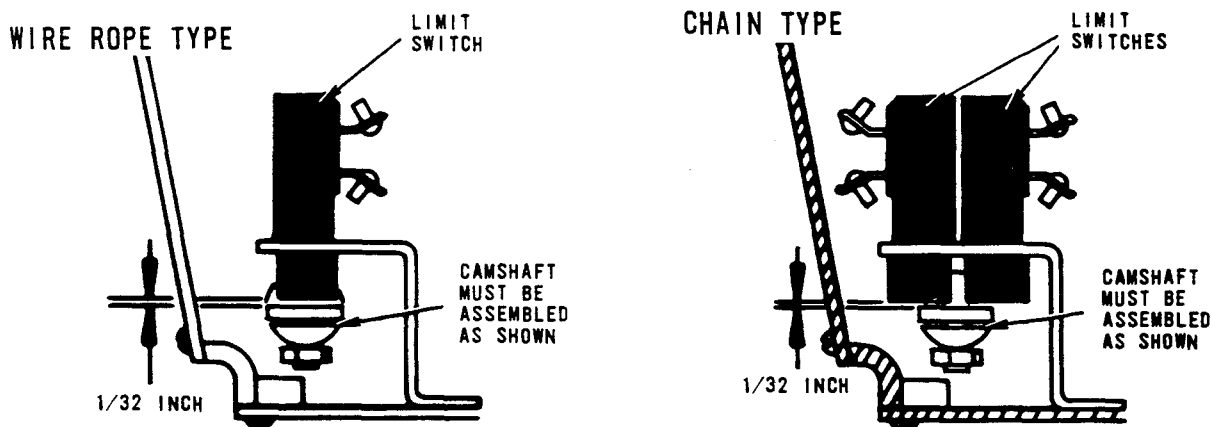


FIGURE 5.

YA-0043

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

INSTALLATION



switch paddle. After lifting the paddle $3/16$ to $1/4$ inch the motor will stop. Further lifting of the paddle will cause the motor to instantaneously reverse and the hook will lower. The lower limit is checked in much the same way as the upper except you press the "DOWN" button and pull down on the paddle. After approximately $3/16$ to $1/4$ inch the motor will stop. Any further pulling will cause the motor to reverse and raise the hook.

- (h) Before lifting a load with a wire rope unit make sure the hoisting rope is not kinked and that it lies smoothly in the grooves of the drum and sheave. Your unit is now ready for service and with the proper maintenance and care should give you many years of productive service.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



PREVENTIVE MAINTENANCE

LE Series Lubrication

PART	LUBRICANT	LUBRICATION POINT	LUBRICATION INSTRUCTIONS	DRAIN POINT
GEAR CASE	ESSO HDX 50 Texaco URSA ED 50 Gulf HD 50	Socket head pipe plug in side of gear case.	With the hoist suspended, fill until oil runs out of fill hole.	Socket head pipe plug in bottom of gear case
FC1 AND FC1A (With Special Load Brake Assembly)	ESSO Torque Fluid 56 Gulf Universa Tractor Fluid	Same as Load King Electric.	Same as Load King Electric.	Same as Load King Electric.
MOTOR BRAKE	Machine Oil Gulf Crown No. 2 Or Equivalent.	Pivot points in linkage. Brake shoe cam and shoe studs.	One or two drops on the pivot pins only. Light coating on cam and studs.	
LIMIT SWITCH (Wire Rope Type)	Machine Oil Gulf Crown No. 2 Or Equivalent.	Limit paddle pivot pins. Limit switch cam and contact push button.	Two or three drops between pins and gear case and motor adapter. Light film of grease.	
LIMIT SWITCH (Chain Type)	Machine Oil Gulf Crown No. 2 Or Equivalent.	Limit paddle pivot pins. Male member of neutralizer assembly. Limit switch cam and contact push button.	Two or three drops on neutralizer rod anchor pin in limit paddle. Light film of grease. Light film of grease.	
CHAIN: LINK	Humble Pen-O-Led EP5 Houghton Sta-Put 465 Gulf Multi-Purpose Gear Lubricant #140	Chain	Run entire chain into a can or pan of oil. Allow chain to soak. Remove the chain from oil and allow to drip. Wipe excess oil from chain.	
WIRE ROPE	Prepared Cable Lubricant	Wire Rope	Light coat of lubricant.	
BOTTOM BLOCK SHEAVE	Lubri-Plate Gulf Crown No. 2 Or Equivalent.	Bottom block sheave bearings.	Light coat between the sheave axle and bearings.	

Trolley Lubrication

PART	LUBRICANT	LUBRICATION POINT	LUBRICATION INSTRUCTIONS
HAND CHAIN GUIDE (IF APPLICABLE)	Gulf Crown No. 2	Alemite Fitting	Lubricate Until Grease Can Be Seen
SUPPORT BRACKET (IF APPLICABLE)	Gulf Crown No. 2	Alemite Fitting	Lubricate Until Grease Can Be Seen
TROLLEY (WITH PRESSED STEEL WHEELS)	Gulf Crown No. 2	Axles Are Hollow; Use Grease Gun Fitting 0596774-00.	Fill Until Grease Can Be Seen On Inner Side Of Wheel

NOTE: IF TROLLEY IS NOT EQUIPPED WITH ALEMITE FITTINGS, THE BEARINGS ARE LIFETIME LUBRICATED.

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts

PREVENTIVE MAINTENANCE



Preventive Maintenance Schedule

The periods between inspections will vary due to the wide range of duty cycles and operating conditions encountered with this type of equipment. The following inspection periods are based on average duty with single shift operation (40 hours per week) under normal environmental conditions. If the hoist is used in heavier applications or under adverse environmental conditions, it should be inspected more frequently.

Daily Inspection

Inspect the following items before operating hoist.

1. CONTROLS: Check all controls and operating mechanism for proper operation.
2. LIMIT SWITCHES: Check all limit switches for proper operation. The trip-setting of limit switches and limiting devices shall be determined by tests under no-load conditions. Tests shall be conducted first by hand, if practical, and then under slowest speed obtainable. Test with increasing speeds up to maximum speed.
3. ELECTRICAL CONNECTIONS: Check for worn or frayed wires or loose connections.
4. HOOKS: Check for cracks or deformation. The bottom hook must swivel freely.
5. CHAIN: Check for nicks, gouges, corrosion, twist, and distorted links.
6. WIRE-ROPE: Check for kinks, crimps, unstranding, wear, broken wires and end connections.

Note: Bent or twisted hooks indicate overloading or abuse of the unit. Other load bearing components of the hoist or trolley should be inspected if overloading is apparent.



DO NOT OPERATE THE HOIST IF IT IS FUNCTIONING IMPROPERLY OR DAMAGE IS NOTED.

Quarterly Inspection

1. All items under daily inspection.
2. CHAIN: If chain binds, jumps or is noisy, check for cleanliness and proper lubrication. If trouble persists, inspect chain for wear and stretch. See page 11.
3. WIRE ROPE: Check for kinks, crimps, wear, broken wire or reduction in rope diameter. See rope inspection page 10.
4. HOOKS: Check for cracks or deformations. Replace hooks if the throat opening is 15% in excess of normal hook opening, or 10° twist from normal plane of hook. See table on page 12.
5. ELECTRICAL PARTS: Check for signs of pitting or any deterioration of controls, limit switches or push button stations.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



Quarterly Inspection continued

6. **LOAD AND IDLER SHEAVES:** Sheaves which are worn should be replaced. Worn sheaves can greatly reduce the life of the hoisting chain.
7. **DRUM AND SHEAVES:** Drums or Sheaves which have worn or scored surfaces should be replaced. Worn sheaves or drums can greatly reduce the life of the hoisting rope.
8. **BRAKES:** Check for hook drift with a rated load on the hook. If hook does not stop within one to two inches when push button is released, check the load brake. This is done by holding the motor brake open manually and running in the hoisting direction with a rated load on the hook. When the push button is released the load should stop immediately with no more than one inch of downward motion. If the load does drift further than one inch the load brake discs should be replaced. If the load does not drift more than one inch the load brake is performing satisfactorily. The motor brake should be checked for excessive wear or uneven lining wear. Replace the motor brake lining if worn to the rivets. If the drum is scored it should be replaced.

Annual Inspection

1. All items under daily and quarterly inspection.
2. **HOOKS:** Magnetic particle or other suitable crack detecting inspection should be performed at least once a year.
3. **LOAD BEARING PARTS:** Check for worn, cracked or distorted parts such as hook blocks, suspension housing, outriggers, clevises, yokes, suspension bolts, shafts and bearings on hoist and trolley if so equipped.
4. **SUPPORTING STRUCTURE OR TROLLEY:** if used, should be checked for continued ability to support the imposed loads.
5. **LOAD BRAKE:** Check load brake for worn disc, broken or stretched pawl springs. For allowable load brake wear see table on page 12
6. **HARDWARE:** Check for loose bolts, nuts and rivets. Check for damaged or missing hook latch.
7. **OVERLOAD DEVICE:** Check overload device with one and a half times capacity load.

Note: INSPECTION RECORD
The last page of this manual is an inspection record log to be filled out and signed by the person making the inspection.

Function Testing

After repair of hoist, test with a light load for proper function. Load test unit with 125% of the rated capacity by lifting and lowering through a short distance. If Hoist is equipped with an overload device, Load Test Unit with 100% of rated capacity, check overload device with one and a half times capacity load.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

PREVENTIVE MAINTENANCE



Wire Rope Inspection

All wire rope is to be inspected once a month and a dated inspection report maintained. Page 67 of this manual can be used to record these inspections. Wire rope should be replaced if any of the following conditions are noted.

1. Twelve randomly distributed broken wires in one rope lay, or four broken wires in one strand in one rope lay.
2. Wear of (1/3) one third of the original diameter or outside individual wires.
3. Kinking, crushing, birdcaging or any distortion of the wire rope.
4. Evidence of heat damage.
5. Reductions from nominal diameter of more than:

new rope diameter	maximum reduction
5/16" and under	1/64"
3/8" thru 1/2"	1/32"
9/16" thru 3/4"	3/64"
7/8" thru 1 1/8"	1/16"
1 1/4" thru 1 1/2"	3/32"

6. Rope sockets should be inspected for broken wires. If broken wires are noted, the rope should be replaced.



REPLACEMENT WIRE ROPE SHOULD BE THE SAME SIZE, GRADE AND CONSTRUCTION AS THE ORIGINAL WIRE ROPE. AFTER WIRE ROPE REPLACEMENT CHECK FOR PROPER LIMIT SWITCH OPERATION.



ROPE PILE UP ON THE HOISTING DRUM WILL SEVERELY DAMAGE THE HOISTING ROPE. IF THIS CONDITION IS NOTED THE HOISTING ROPE SHOULD BE INSPECTED ACCORDING TO THE PARAGRAPH ON WIRE ROPE INSPECTION. IF DAMAGED ROPE IS FOUND, CHECK DRUM AND FRAME MEMBERS FOR DAMAGE.

How To Measure Wire Rope

The correct diameter of a wire rope is the diameter of a circumscribed circle which will enclose all the strands. It is the largest cross-sectional measurement as illustrated below. The measurement should be made carefully with calipers. The illustrations below show the correct and incorrect method of measuring the diameter of wire rope.

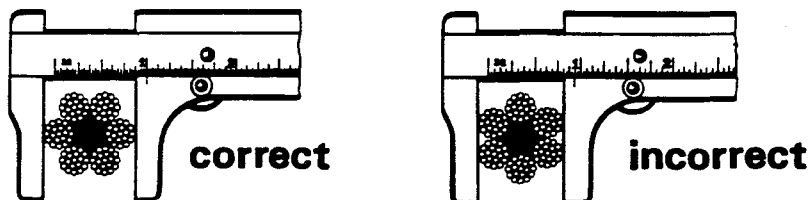
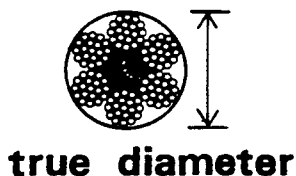


FIGURE 6.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



Chain Inspection

Chains For YALE[®] Hoists

YO SERIES CARBON LOAD CHAIN (Link)

PART NUMBER	CHAIN SERIES	D DIAMETER	P PITCH	L GAUGE LENGTH NOMINAL	L GAUGE LENGTH MAXIMUM	L NUMBER OF LINKS IN GAUGE
33734 33735*	YO	9/32	.79	20.36	20.86	25
33740 33741*	YO	3/8	1.01	19.94	20.42	19
33744 33745*	YO	7/16	1.17	18.38	18.82	15
33746 33747*	YO	1/2	1.44	16.81	17.20	11
33748 33749*	YO	9/16	1.71	19.89	20.36	11

*CADMIUM PLATED

New Load Chain Will Measure These Dimensions:

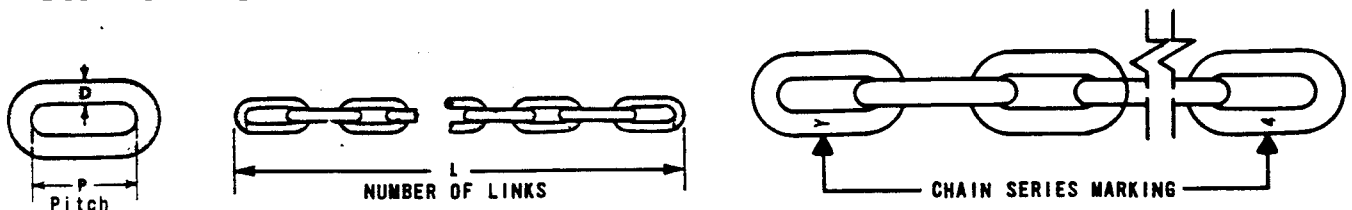


FIGURE 7.

Load Chain is Marked in This Manner, With The Numeral And Letter 12 To 18 Inches Apart.

Y3, Y4 AND Y5 LOAD CHAIN (Link)

PART NUMBER	CHAIN SERIES	D DIAMETER	P PITCH	L GAUGE LENGTH NOMINAL	L GAUGE LENGTH MAXIMUM	L NUMBER OF LINKS IN GAUGE
33640 33641*	Y4	1/4	.75	14.79	15.00	19
6409898-00 6427004-01*	Y4	9/32	.79	20.36	20.66	25
33645 33646*	Y4	5/16	.91	17.86	18.12	19
6442948-81	Y5	5/16	.79	15.63	15.86	19
33650 33651*	Y3	3/8	1.13	22.13	22.46	19
33655 33656*	Y3	7/16	1.31	20.55	20.86	15

*CADMIUM PLATED

INSPECTION OF CHAIN SHOULD BE MADE WITH A LIGHT LOAD ON THE HOOK.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

PREVENTIVE MAINTENANCE



Load Brake Disc Wear Chart

MODEL	A DIMENSION	MAXIMUM WEAR ALLOWED
LE SERIES (Load King Electric)	1/8	3/64 Bonded Disc * Riveted Disc

* Replace If Worn To Rivets.

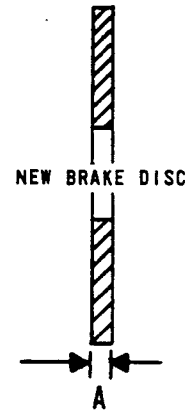


FIGURE 8.

Hook Dimensions

LE SERIES (Load King Electric)

CAPACITY IN TONS	TOP HOOK		BOTTOM HOOK	
	NORMAL	MAXIMUM	NORMAL	MAXIMUM
1/4	1 1/32	1 9/32	1 1/32	1 7/32
1/2	1 1/32	1 9/32	1 1/32	1 7/32
3/4	1 5/32	1 27/64	1 5/32	1 27/64
1	1 5/32	1 27/64	1 5/32	1 27/64
1 1/2	1 1/4	1 7/16	1 1/4	1 7/16
2	1 1/4	1 7/16	1 1/4	1 7/16

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



Trouble Shooting

1. Hook Does Not Respond To Push Button

<u>Possible Cause</u>	<u>Remedy</u>
(a) Power failure in supply lines.	(a) Check switches, circuit breakers and connections in the supply lines.
(b) Wrong voltage or frequency.	(b) All electrical characteristics are listed on the hoist nameplate. Be sure supply matches same.
(c) Loose or broken connections.	(c) Disconnect the hoist from the power source. Remove the control cover. Check all connections and continuity of each wire.
(d) Magnetic contactors not functioning.	(d) Check connections from power source. Check the coils for an open or short circuit.
(e) Transformer burn out.	(e) Check continuity and output of transformer.

2. Hook Lowers But Will Not Raise

<u>Possible Cause</u>	<u>Remedy</u>
(a) Excessive load.	(a) Reduce loading to capacity limit of the hoist indicated on the hoist nameplate.
(b) Hoisting circuit open.	(b) Check for loose connection. Examine the upper limit switch. This is a normally closed switch. Check continuity and replace switch if circuit is open.
(c) Broken wire in push button.	(c) Check the continuity of each wire. If there is an internal break, replace the cable.
(d) Magnetic contactor not functioning.	(d) Refer to paragraph (d) found under number 1. Hook does not respond to push button.
(e) Motor centrifugal switch not operating (single phase units only).	(e) Check connections to the switch and examine the centrifugal mechanism for loose or damaged parts. Replace parts as required.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

TROUBLE SHOOTING GUIDE



3. Hook Raises But Will Not Lower

<u>Possible Cause</u>	<u>Remedy</u>
(a) Lowering circuit open.	(a) Check for loose connections. Examine the lower limit switch. This is a normally closed switch. Check continuity and replace switch if circuit is open.
(b) Broken wire in push button cable.	(b) Check the continuity of each wire. If there is an internal break, replace the cable.
(c) Magnetic contactors not functioning.	(c) Check connectors in the control circuit. Check the coils for an open or short circuit.

4. Hook Does Not Stop Promptly

<u>Possible Cause</u>	<u>Remedy</u>
(a) Excessive load.	(a) Reduce loading to capacity limit of the hoist as indicated on the hoist nameplate.
(b) Load brake loose.	(b) Reposition the stopwasher as shown in disassembly instructions.
(c) Brake discs worn or glazed.	(c) Replace discs.
(d) Pawl not releasing.	(d) Check for tight fit of pawl on stud or the retainer, if the retainer is stuck in the pawl. Replace pawl.
(e) Motor brake slipping.	(e) Replace brake shoes if necessary. Adjust brake shoes per paragraph of disassembly instructions.

5. Motor Overheats

<u>Possible Cause</u>	<u>Remedy</u>
(a) Defective centrifugal switch.	(a) Replace
(b) Defective centrifugal mechanism.	(b) Replace motor assembly.
(c) Defective capacitor.	(c) Replace.
(d) Rotor dragging in stator.	(d) Tighten motor bolts. Check for foreign matter between rotor and stator.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



Motor Overheats continued

- | | |
|----------------------------|--|
| (e) Motor brake too tight. | (e) Adjust per paragraph of dis-assembly instructions. |
| (f) Low voltage. | (f) Check voltage at power source. |

6. To Detect Open And Short Circuits

Open circuits in the coils of electrical components may be detected by isolating the coil and checking for continuity with an OHM meter or with the unit in series using a light or bell. Motor current draw in the stator should be measured with the rotor in place and running. Brake and contactor solenoid coil current should be measured with the core iron in operating position.

7. Collectors And Wiring

Collectors may be installed on either side of a plain trolley and on the plain side of a geared or motor driven trolley. After installation see that the collectors make proper contact throughout the full travel of the trolley. A flexible conductor cable may be used to supply power to a trolley mounted hoist. The length of the conductor should be adequate for the full travel of the trolley. A long conductor will usually require a clamp or strain relief fitting at the hoist to prevent kinking where the conductor enters the hoist. To keep the slack conductor away from the hoist and load a messenger wire system, a counterweighted pulley or a spring loaded reel may be used. If the hoist refuses to start, DO NOT HOLD THE PUSH BUTTON DOWN, find the cause and correct it. If the hoist slows down, makes unusual noise, vibrates, emits smoke or an odor, or in any way gives evidence of abnormal operation it is best to stop and give the hoist a through inspection. Failure to heed such a warning may result in a breakdown and needless delay.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

DISASSEMBLY



Recommended Sequence Of Disassembly And Reassembly

Before doing any maintenance work on the hoist read the instructions thoroughly. By following these instructions you will save time and trouble.

TO COMPLETELY DISASSEMBLE THE HOIST: Follow all of the disassembly procedures in the order they are listed.

TO DISASSEMBLE ANY ONE SPECIFIC UNIT OF THE HOIST (such as the motor, reversing switch, etc.): Follow the instructions for that specific unit.

GROUP 1 breaks down the main structural parts of the hoist.

GROUPS 2 through 6 break down the mechanical units of the hoist.

GROUPS 7 through 11 break down the electrical units of the hoist.

GROUPS 12 and 13 break down the accessories of the hoist.

GROUP 14 explains the reassembly procedure of the hoist.

Group 1: To Disassemble The Main Structural Parts

- (a) Lower the bottom block assembly by pressing the "DOWN" button until the cable is completely off the drum (on rope hoists) and the chain is run to its lower limit on chain hoists.
- (b) On rope hoist remove the two (2) cotter pins from the rope anchor pin (located in center at rear of hoist) and slide the pin out of the mounting lugs on the suspension frame.
On chain hoists remove the cotter pin and pull the chain anchor pin from the suspension frame. This will allow one end of the chain to pass over the load sheave and fall free.
- (c) On rope hoists remove the screw from the cable drum and pull the cable anchor from the slot in the drum. On chain hoists remove the two (2) cotter pins, back off the slotted nuts and remove the shackle bolt. Inspect each link carefully. If any links are bent, nicked or worn, the complete chain should be replaced.

CAUTION

BEFORE CONTINUING FURTHER DISASSEMBLY DISCONNECT ALL POWER TO THE HOIST.

- (d) After all power has been disconnected, remove the cover from the control package (opposite end from motor) and disconnect the power leads at the reversing switch and transformer.

Note: When removing leads it would be wise to tag them and their points of connection as the leads are removed. This will help to insure the proper connection at the time of reassembly.

- (e) Drain the oil from the gear case by removing the drain plug from the bottom of the gear case.
- (f) The hoist should now be removed from the working area if possible, and placed on a maintenance bench for further disassembly.

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Note: Never disassemble the hoist in dirty surroundings or allow dirt, grit or any other foreign material to get on the working parts of the hoist or into the working areas of those parts.

- (g) On rope hoists remove the cotter pin from the upper limit switch paddle pin, which is located on the gear case end of the hoist, and the cotter pin from the upper limit switch camshaft. This will release the upper limit switch paddle. On chain hoists remove the cotter pin and pull out the neutralizing rod pin. Parts shown on hoist frame parts page number 26.

Then remove the cotter pins from the camshaft and operating lever pin. This will allow the removal of the limit switch operating lever.

- (h) Remove the twelve (12) screws from the wire harness cover and disconnect the harness wires from the control package. Pull the end of the harness out through the access hole in the gear case.

Group 2: To Remove Gearing

- (a) Follow steps (a) through (h) as listed in TO DISASSEMBLE THE MAIN STRUCTURAL PARTS.
- (b) Remove the gear case by removing ten (10) screws and pulling the gear case from the suspension frame. Be very careful not to damage the bearings or gears. Separate the two housings making sure the parting is even and parallel to each other. This will prevent the two (2) dowel pins from binding in the gear case.
- (c) On rope hoists, all gearing except the slow speed gear may be removed. If it becomes necessary to remove the slow speed gear, the motor adapter and motor will have to be removed first. This may be done by following the steps as listed under TO REMOVE THE MOTOR (Group 11). The slow speed gear and drum shaft can now be removed.
- On chain hoists all the gearing is now exposed along with the driving pinion, slow speed gear and the load sheave shaft.
- (d) On the chain hoist only. Remove the load sheave by prying out the slow speed gear and load shaft evenly, using two (2) "L" shaped tools. These two parts are pressed together and will come out as a unit. The load sheave and spacers will fall free.

Note: If any gears have to be replaced, it is advisable to replace them in pairs, mating gears.

Group 3: To Remove And Disassemble The Load Brake

- (a) Follow the instructions listed under TO REMOVE GEARING (Group 2).
- (b) Remove the load brake assembly from the hoist.
- (c) Remove the snap ring and pull off the stopwashers. Unscrew the high speed gear from the brake disc hub. This will release the ratchet and disc assembly.

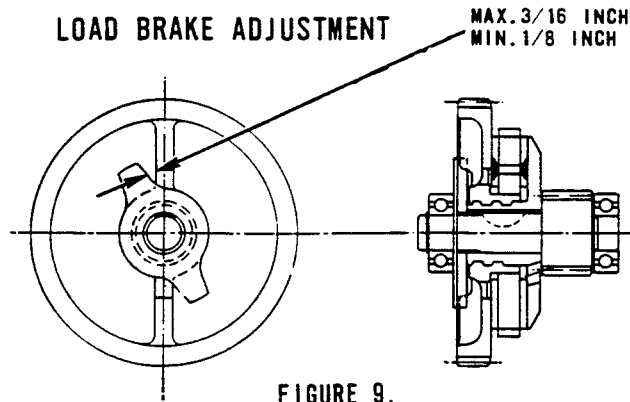
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DISASSEMBLY



Group 3: continued

- (d) Measure the brake discs. New they measure 1/8 inch thick. If either one or both of the discs are worn 3/64 inch or more they should be replaced. See Figure 9 for load brake adjustment.

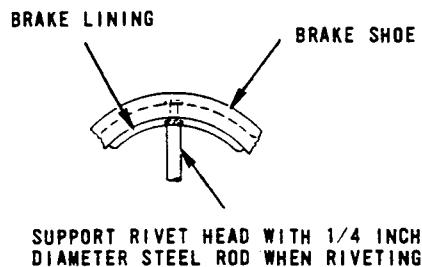
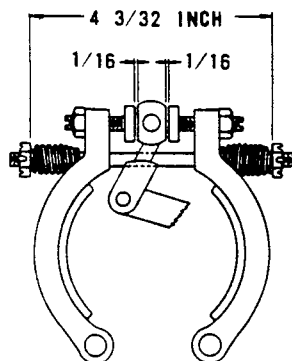


YA-0045

Group 4: To Adjust The Motor Brake

- (a) If the bottom block does not come to a quick stop, the solenoid motor brake should be adjusted as follows:
- (b) Remove the hoist nameplate. This will give access for motor brake adjustments.
- (c) Adjust the gap between the plunger cam and the adjusting screws to approximately 1/16 inch clearance. If greater braking is desired, tighten the spring tension but make sure that the spring does not bottom when the brake is fully released. When the hoist is operated the solenoid should immediately snap into the released position. If the solenoid action is sluggish or does not release, check the action of the plunger for rust or other conditions that might cause binding. See Figure 10 for motor brake adjustment.

ADJUSTMENT OF NUTS



YA-0046

FIGURE 10.

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Group 5: To Remove The Motor Brake

- (a) Disconnect all power to the hoist before attempting repairs of any nature.
- (b) Remove motor brake cover and hoist nameplate. Motor brake cover is located across from and on the opposite side of hoist from nameplate.
- (c) Reach through opening that is normally covered by the nameplate. Grasp the solenoid plunger and linkage assembly (for parts identification see page 30, MOTOR BRAKE ASSEMBLY). Pull linkage assembly up until plunger is clear of solenoid frame. Remove the cotter pin and slide plunger lever off stud. Remove plunger and linkage from motor adapter.
- (d) Force a block of wood between the brake shoe adjusting screws to keep the brake shoes open and off the brake drum.
- (e) The brake shoes can now be wedged off the brake studs by forcing a long screw driver between the brake shoes and the motor adapter. When brake shoes are slid off the studs they may be removed from the motor adapter.
- (f) Brake lining may be replaced as shown in Figure 10, page 18.

Group 6: To Disassemble The Bottom Block

- (a) On rope hoists remove the elastic stop nut and two (2) hex head screws. This will open the two bottom block halves. Remove the cable from the sheave. Remove the snap rings from the center of the sheave and push out the bearing.
On chain hoists remove the cotter pin, back off the slotted nut and remove the shackle bolt on 1/4, 1/2 and 3/4 ton capacities. On 1 and 1 1/2 ton capacities remove the nuts and lockwashers (for parts identification see page 33, BOTTOM BLOCK ASSEMBLY CHAIN HOISTS). Pull out the pin and two (2) screws from the bottom block halves. Separate the halves. Remove the hoisting chain and bottom block sheave. Remove the bottom hook assembly.

Group 7: To Remove And Disassemble The Reversing Switch

- (a) Disconnect all power to the hoist.
- (b) After all power has been disconnected, remove the hoist end cover (opposite end from motor) and disconnect all leads running from the power supply cord to the reversing switch and transformer. Tagging all leads and their points of connection as they are removed will insure proper connection at time of reassembly.
- (c) To replace movable contacts only (for parts description see page 40, REVERSING SWITCH ASSEMBLY). It is not necessary to remove the entire reversing switch. First reach in and push the movable contact block assembly down. With a pair of long nose pliers grasp the end of the movable contact that has to be replaced and twist it sideways. Lift it clear of the movable contact assembly.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

DISASSEMBLY



Note: The contacts should be used until all of the silver tip is worn away.

CAUTION

DO NOT FILE SILVER TIPS AS THIS WASTES SILVER.

- (d) Remove two (2) round head mounting screws holding reversing switch and remove switch.
- (e) To remove terminal block from frame and interlock assembly. Remove four (4) round head screws found on the back of the frame. Replace worn out stationary contacts.
- (f) To remove movable contact block assembly loosen two (2) screws holding contact block to core assembly. Lift contact block assembly up movable core until it clears, then pull out. If springs are worn or broken, replace.
- (g) After movable contact block is removed, the movable core assembly may be removed by letting it slip out the bottom of the coil. If it sticks, remove bottom coil frame by detaching two (2) round head screws. Pull out brass tube, this will make the movable core easier to pull out.
- (h) To remove coils detach two (2) round head screws from bottom coil frame and remove coil frame. Detach two (2) binder head screws from coil link and slide coils off movable core assembly.

Group 8: To Remove Transformer AC Only

- (a) Disconnect all power to hoist and remove end cover (opposite end from motor).
- (b) Disconnect all leads from transformer to wire harness.
- (c) Remove mounting screws and pull transformer out of hoist.

Group 9: To Remove Resistor DC Only

- (a) Disconnect all power to hoist and remove end cover (opposite end from motor).
- (b) Disconnect all leads from resistor to wire harness.
- (c) Remove mounting screws and pull resistor out of hoist.

Group 10: To Remove The Upper And Lower Limit Switch And Solenoid Assembly

- (a) Disconnect all power to hoist.
- (b) On the chain hoist, remove the camshaft that makes contact with the limit switch buttons by detaching cotter pin and sliding the camshaft out from under the limit switches.
- (c) Remove the bottom cover plate located under the motor adapter by detaching four (4) screws. This will permit the upper and lower limit switch and solenoid assembly to drop out on models prior to May, 1970.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

**Group 10: continued**

- Later Models: The cotter pin must be removed from pin holding plunger cam between brake shoes. Slide plunger cam off pin and remove assembly from the bottom.
- (d) Remove the leads and tag them as they are removed. This will make reconnection easier.
 - (e) The solenoid coil may be removed from the solenoid frame by first removing the screws from the plunger retainer and then removing the retainer.
 - (f) The solenoid coil and frame assembly can be removed from the bottom cover plate by removing the mounting screws and pulling the frame from between the mounting.
 - (g) To remove the plunger and linkage assembly reach through access that the hoist nameplate normally covers and grasp the plunger and linkage assembly until plunger clears solenoid frame. Lift linkage assembly out of the hoist.
 - (h) On the rope hoist, remove the bottom cover plate by detaching four (4) screws. This gives access to the lower limit switch. Remove wire jumpers by detaching two (2) screws from switch. Remove the two (2) screws that hold the switch in place and switch will drop out.
 - (i) To remove complete lower limit switch assembly on wire rope hoists. Detach four (4) screws from bottom cover plate. Detach bottom cover plate. Detach both jumpers from switch. Remove two (2) fillister head mounting screws holding lower limit switch to motor adapter. Complete lower limit switch will now drop off.
 - (j) To remove the upper limit switch (wire rope hoists only) it is not necessary to remove the solenoid assembly. Remove the upper limit switch by removing the brake shoe cover plate (located on opposite side from hoist nameplate). Take out switch mounting screws. Remove the leads attached to the switch.
 - (k) Remove the camshaft that makes contact with the upper limit switch button by detaching cotter pin and sliding camshaft from under the upper limit switch. Using a screw driver small enough to fit through the two holes in the bottom cover plate, remove the switch mounting screws and remove switch.
 - (l) To remove the solenoid assembly (on the rope hoist) it is not necessary to remove the upper limit switch first. This will come off with the solenoid.
 - (m) To remove the complete solenoid assembly. Remove the cover plate (opposite side from nameplate). Detach wires from the limit switch. Remove cotter pin holding plunger cam between motor brake adjusting screws. Remove four (4) screws from bottom cover plate. Slide plunger cam from between motor brake adjusting screws. Complete assembly may now be removed from bottom of hoist.

Group 11: To Remove The Motor

- (a) Disconnect all power from hoist.
- (b) Follow instructions found in paragraphs (c) and (d) under TO REMOVE UPPER AND LOWER LIMIT SWITCH AND SOLENOID ASSEMBLY (Group 10).

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

DISASSEMBLY



Group 11: continued

- (a) Disconnect all power from hoist.
- (b) Follow instructions found in paragraphs (c) and (d) under TO REMOVE UPPER AND LOWER LIMIT SWITCH AND SOLENOID ASSEMBLY (Group 10).
- (c) After limit switch and solenoid assembly has been removed, pry open motor brake shoes as far as possible and slip a block between the adjusting screws. This will hold them clear of the brake drum.
- (d) Remove end cover and detach the leads from reversing switch and transformer to resistor.
- (e) Remove wire harness cover and pull these leads through opening.
- (f) Remove motor mounting screws and pull motor away from the motor adapter, simultaneously feeding wire harness through access provided.

CAUTION

WHEN REMOVING THE MOTOR, THE ROTOR ASSEMBLY MAY SLIDE FREE OF THE STATOR AND FRAME. BE CAREFUL NOT TO REST THE MOTOR ON THE END OF THE ROTOR OR DROP THE ROTOR OUT OF THE HOIST.

- (g) Detach screws from motor adapter. Remove motor adapter from the hoist.

Group 12: Disassembly Of Accessories

- (a) To disassemble the trolley, support the hoist properly to avoid danger of falling. Remove hex nuts from double end studs. Remove double end studs from trolley side plate and hoist frame lugs. Remove spacer washers as studs are being removed. Refer to page 52, PLAIN TROLLEY ASSEMBLY, for arrangement of trolley spacer washer.

Group 13: To Disassemble The Top Hook Adapter

- (a) The hook adapter can be removed by detaching the two (2) double end studs that pass through the adapter and the hoist frame lugs. Be sure hoist is properly supported to avoid dropping. See Figure 11 for hook adapter mounting.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

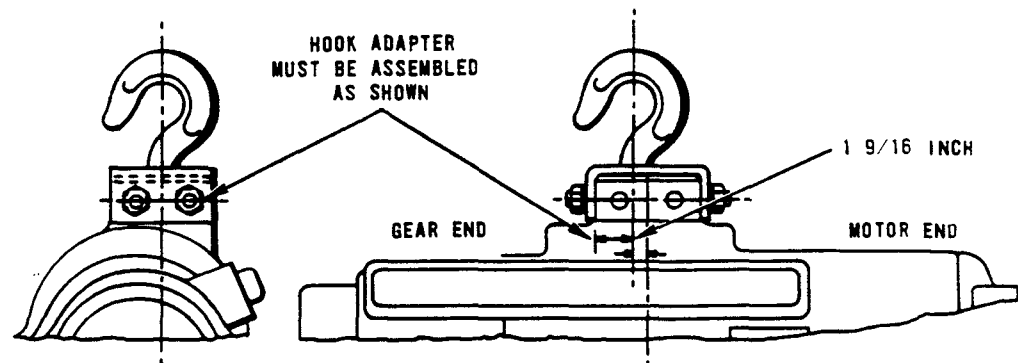


FIGURE 11.

YA-0047

Group 14: Reassembly Of Chain Hoists

- (a) If the hoist has been completely disassembled, reassemble the unit as listed below.
- (b) Line up the sheave and spacers, then push the slow speed gear and sheave shaft through the gear case. Replace the gear case assembly.
- (c) Bolt the motor adapter to the suspension frame.
- (d) Replace all the other parts in the reverse order they are listed in the disassembly procedures.

Reassembly Of Rope Hoists

- (a) If the hoist has been completely disassembled, follow the procedure listed below.
- (b) Put the slow speed gear and drum shaft into the suspension frame and replace the drum on the shaft.
- (c) Bolt the motor adapter to the suspension frame.
- (d) Replace all other parts in the reverse order they are listed in the disassembly procedures.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series Frame Parts For Wire Rope Hoist

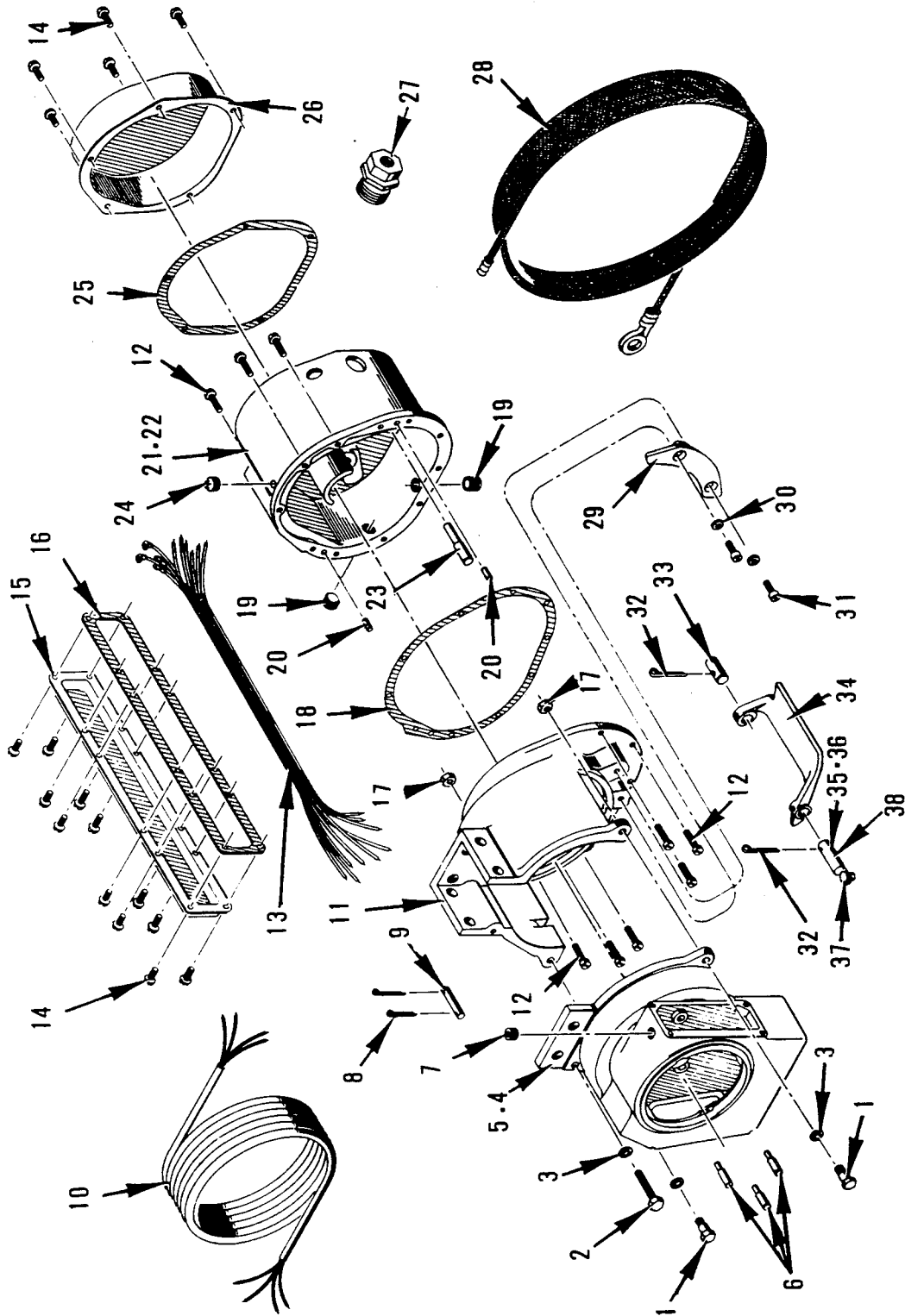


FIGURE 12.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series
Frame Parts For Wire Rope Hoist**

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0116535-00	DOWEL BOLT	2
2	0146382-00	HEX HEAD SCREW	1
3	0656194-00	SHAKEPROOF WASHER	3
4	5039190-00	MOTOR ADAPTER ASSEMBLY (Consists Of Items 5 And 6)	1
**5	0100688-00	MOTOR ADAPTER	1
**6	5029891-00	BRAKE STUD	3
7	0230802-00	PIPE PLUG	1
8	0102806-00	COTTER PIN	2
9	0107028-00	ROPE ANCHOR	1
10	0628173-00	POWER CORD	1
11	0110990-00	SUSPENSION FRAME	1
12	0109223-00	ROUND HEAD SCREW	10
*13	6403954-00	WIRE HARNESS (Single Phase)	1
	6403954-00	WIRE HARNESS (2 Phase 4 Wire)	1
	6403964-00	WIRE HARNESS (3 Phase)	1
	6403954-00	WIRE HARNESS (D.C. Only)	1
14	6400869-01	SELF TAPPING SCREW	17
15	0102966-00	COVER PLATE	1
16	0104083-00	GASKET	1
17	0149709-00	HEX NUT	2
18	0104074-00	GASKET	1
19	0230825-00	PIPE PLUG	2
20	6400529-01	DOWEL PIN	2
21	0104212-00	GEAR CASE ASSEMBLY (Consists Of Items 22 And 23)	1
	0626305-00	GEAR CASE ASSEMBLY (For 2 Speed Only)	1
**22	0104211-00	GEAR CASE	1
**23	0110710-00	PAWL STUD	1
24	0107171-00	VENT PLUG	1
25	0104075-00	GASKET	1
26	0102967-00	END COVER	1
	0103017-00	END COVER (2 Speed Only)	1
27	0103721-00	WATERTIGHT CONNECTOR	1
28	0108644-00	ROPE ASSEMBLY (10 Foot Lift)	1
	0108645-00	ROPE ASSEMBLY (20 Foot Lift)	1
	5000508-00	ROPE ASSEMBLY (10 Foot Lift) For 2 Speed Only	1
29	0102095-00	ROPE GUIDE (20 Foot Lift Only)	1
30	0150264-00	LOCKWASHER (20 Foot Lift Only)	2
31	0109595-00	ALLEN HEAD SCREW (20 Foot Lift Only)	2
32	0102820-00	COTTER PIN	2
33	0107022-00	PADDLE PIN	1
34	0105251-00	PADDLE	1
35	6404261-00	CAM SHAFT ASSEMBLY (Consists Of Items 36, 37 And 38)	1
36	6404271-00	CAM SHAFT	1
37	6404281-00	ADJUSTING SCREW	1
38	0106606-00	JAM NUT	1
39	0108080-00	GASKET	1
40	0108081-00	GASKET	1
41	0108082-00	GASKET	1

* When Replacing Harness Be Sure To Use Wiring Diagrams Illustrating Numbered Wires In Place Of Color Coded Wires.
** Must Be Purchased As Assembly Only.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series Frame Parts For Chain Hoist

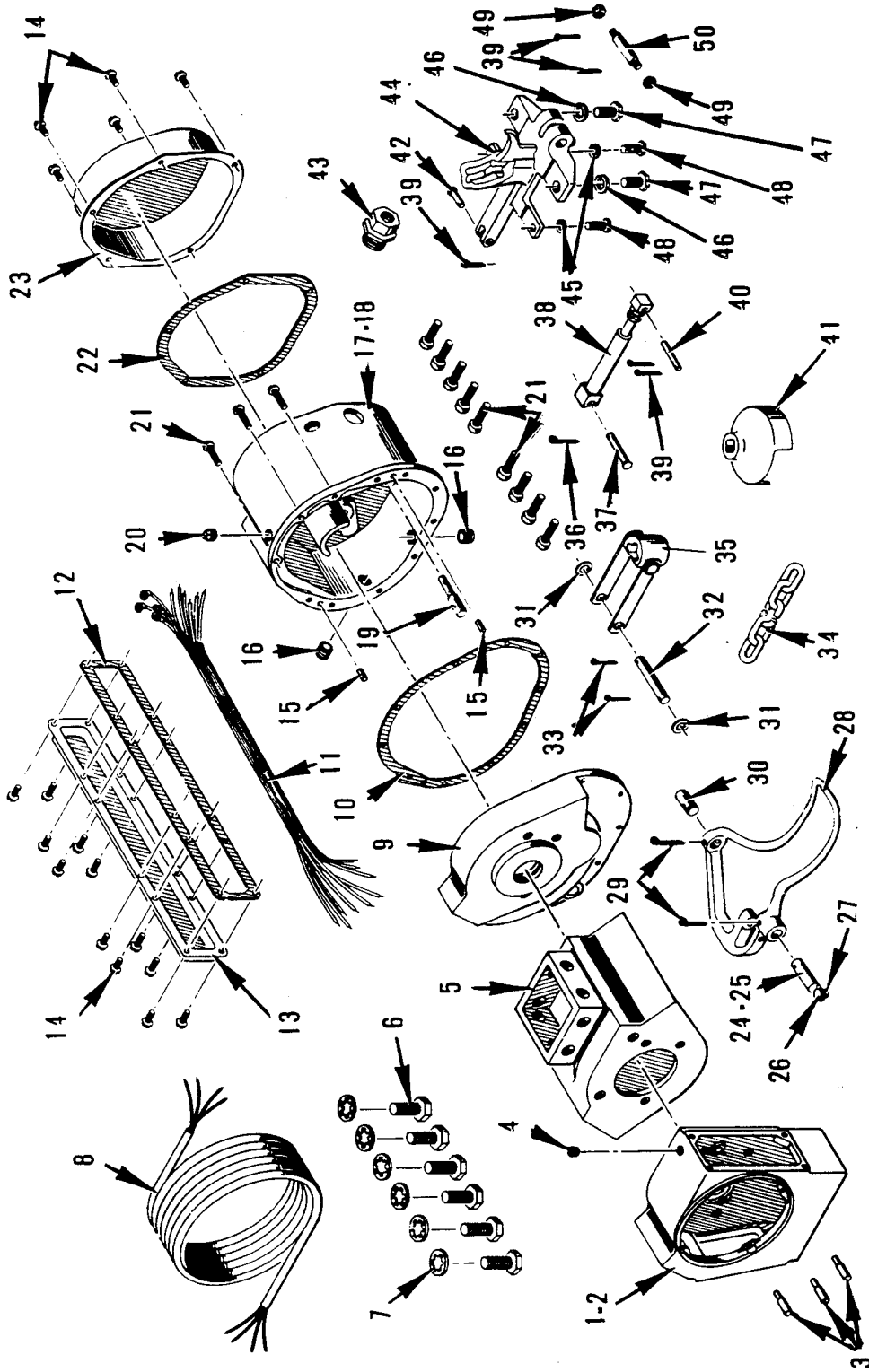


FIGURE 13.

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



**LE Series
Frame Parts For Chain Hoist**

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	5039200-00	MOTOR ADAPTER ASSEMBLY (Consists Of Items 2 And 3)	1
2	0100700-00	MOTOR ADAPTER	1
3	5029891-00	BRAKE STUD	3
4	0230802-00	PIPE PLUG	1
5	0111062-00	SUSPENSION FRAME	1
6	0109306-00	HEX HEAD SCREW	6
7	0114129-00	SHAKEPROOF LOCKWASHER	6
8	0628173-00	POWER CORD	1
9	0104231-00	GEAR CASE (Motor Half)	1
10	0104074-00	GASKET	1
11	6403954-00	WIRE HARNESS (Single Phase)	1
	6403954-00	WIRE HARNESS (2 Phase 4 Wire)	1
	6403954-00	WIRE HARNESS (D.C. Only)	1
	6403954-00	WIRE HARNESS (Polyphase)	1
12	0104083-00	GASKET	1
13	0102966-00	COVER	1
14	6400869-01	ROUND HEAD SCREW	16
15	6400529-01	DOWEL PIN	2
16	0230825-00	PIPE PLUG	2
17	0104212-00	GEAR CASE ASSEMBLY (Consists Of Items 18 And 19)	1
	0626305-00	GEAR CASE ASSEMBLY (For 2 Speed Only)	1
18	0104211-00	GEAR CASE	1
19	0110710-00	PAWL STUD	1
20	0107171-00	VENT PLUG	1
21	0109223-00	ROUND HEAD SCREW	10
22	0104075-00	GASKET	1
23	0102967-00	COVER (For Single Speed Only)	1
	6404196-00	COVER (For 2 Speed Only)	1
24	6404291-00	CAM SHAFT ASSEMBLY (Consists Of Items 25, 26 And 27)	1
25	6404301-00	CAM SHAFT	1
26	6404311-00	ADJUSTING SCREW	1
27	0106606-00	JAM NUT	1
28	0105336-00	OPERATING LEVER	1
29	0102820-00	COTTER PIN	2
30	0107022-00	OPERATING LEVER PIN	1
31	0142209-00	FLAT WASHER	2
32	0106874-00	CHAIN GUIDE PIN	1
33	0102795-00	COTTER PIN	2
34	6435428-00	LOAD CHAIN (10 Foot Lift)	1
	0033645-00	LOAD CHAIN (16 Foot Lift)	1
35	0120495-00	CHAIN GUIDE ASSEMBLY	1
36	0102792-00	COTTER PIN	1
37	0110719-00	NEUTRALIZING STUD	1
38	0118713-00	NEUTRALIZING PUSH ROD ASSEMBLY	1
39	0102782-00	COTTER PIN	4
40	0107111-00	NEUTRALIZING PIN	1
41	0105972-00	BUMPER (1/4 Ton)	1
	0105973-00	BUMPER (1/2 Ton)	1
	0105974-00	BUMPER (3/4 Ton)	1
	0629895-00	BUMPER (1 Ton)	1
42	0107084-00	CHAIN ANCHOR PIN	1
43	0103721-00	WATERTIGHT CONNECTOR	1
44	0120512-00	STRIPPER	1
45	0150262-00	LOCKWASHER	2
46	0152262-00	LOCKWASHER	2
47	0109312-00	HEX HEAD SCREW	2
48	0109260-00	HEX HEAD SCREW	2
49	0106626-00	SLOTTED NUT	2
50	0101183-00	SHACKLE BOLT	1
51	0104080-00	GASKET	1
52	0104081-00	GASKET	1
53	0104082-00	GASKET	1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series Wire Rope Drum And Gear Parts

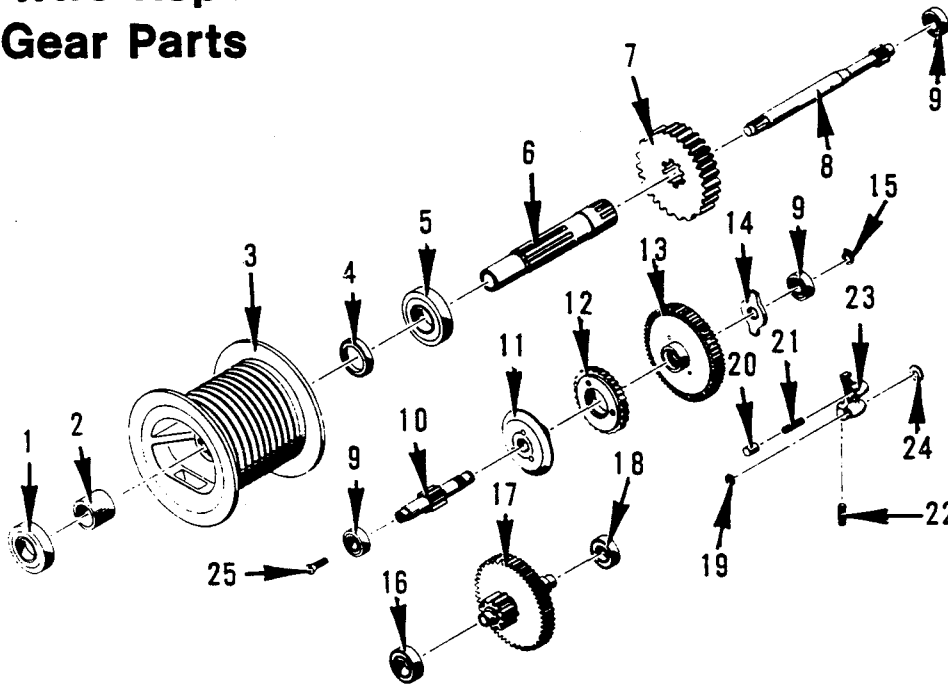


FIGURE 14.

YD-0013

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0151208-00	BEARING	1
2	0116363-00	SPACER	1
3	0103516-00	HOIST DRUM	1
4	0116159-00	SEAL (Bearing)	1
5	0100814-00	BEARING	1
6	0103654-00	SHAFT (Drum)	1
7	0104499-00	GEAR (Slow Speed)	1
8	SEE TABLE	DRIVING PINION	1
9	0100850-00	BEARING	3
10	SEE TABLE	INTERMEDIATE PINION	1
11	0107925-00	HUB (Brake Disc)	1
*12	0107856-00	RATCHET AND DISC ASSEMBLY	1
13	SEE TABLE	GEAR (High Speed)	1
14	0114268-00	STOP WASHER	1
15	0110030-00	SNAP RING	1
16	0100855-00	BEARING	1
17	SEE TABLE	GEAR AND PINION	1
18	0100807-00	BEARING	1
19	0110031-00	SNAP RING	1
20	0107999-00	SPRING RETAINER	1
21	0110591-00	PAWL DRAG SPRING	1
22	0110592-00	PAWL RETURN SPRING	1
23	0106829-00	RATCHET PAWL	1
24	0114230-00	WASHER (Plain)	1
25	6400429-00	ROUND HEAD SCREW	1

* Ratchet Or Brake Disc Cannot Be Furnished Separately, Must Be Purchased As Assembly 0107856-00.

GEAR TABLE FOR ROPE HOIST

ITEM NUMBER	SPEED IN FEET PER MINUTE			
	12 F.P.M.	16 F.P.M.	25 F.P.M.	35 F.P.M.
8	0104640-00	0104641-00	0104640-00	0104641-00
10	0104642-00	0104642-00	0104643-00	0104643-00
13	0104391-00	0104390-00	0104391-00	0104390-00
17	0104504-00	0104504-00	0104503-00	0104503-00
GEAR RATIO	107 to 1	76.5 to 1	50.2 to 1	35.7 to 1

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



LE Series Chain Hoist Load Sheave And Gear Parts

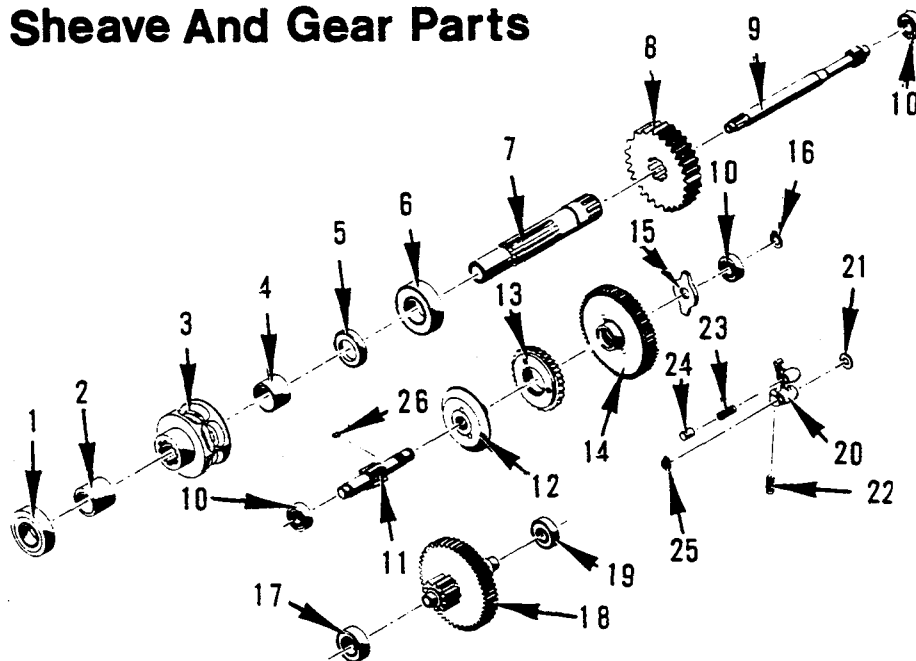


FIGURE 15.

YD-0007

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0151208-00	BALL BEARING	1
2	0116362-00	SPACER (Long)	1
3	0120694-00	LOAD SHEAVE	1
4	0116374-00	SPACER (Short)	1
5	0116159-00	SEAL (Bearing)	1
6	0100814-00	BEARING	1
7	0103654-00	LOAD SHEAVE SHAFT	1
8	0104499-00	SLOW SPEED GEAR	1
*9	SEE TABLE	DRIVING PINION	1
10	0100850-00	BALL BEARING	3
*11	SEE TABLE	INTERMEDIATE PINION	1
12	0107925-00	BRAKE DISC HUB	1
**13	0107856-00	RATCHET AND DISC ASSEMBLY	1
*14	SEE TABLE	HIGH SPEED GEAR	1
15	0114268-00	STOP WASHER	1
16	0110030-00	SNAP RING	1
17	0100855-00	BALL BEARING	1
*18	SEE TABLE	GEAR AND PINION	1
19	0100807-00	BALL BEARING	1
20	0106829-00	PAWL	1
21	0114230-00	FLAT WASHER	1
22	0110592-00	SPRING (Pawl Return)	1
23	0110591-00	SPRING (Pawl Drag)	1
24	0107999-00	SPRING RETAINER	1
25	0110031-00	SNAP RING	1
26	0116474-00	WOODRUFF KEY	1

* Refer To Gear Table For Specific Part Numbers.
** Ratchet And Brake Disc Sold As An Assembly Only.

GEAR TABLE FOR CHAIN HOISTS

ITEM NUMBER	SPEED IN FEET PER MINUTE						
	9 F.P.M.	13 F.P.M.	14 F.P.M.	19 F.P.M.	20 F.P.M.	29 F.P.M.	41 F.P.M.
9	0104641-00	0104640-00	0104640-00	0104641-00	0104641-00	0104640-00	0104641-00
11	0104642-00	0104642-00	0104643-00	0104642-00	0104643-00	0104643-00	0104643-00
14	0104390-00	0104391-00	0104391-00	0104390-00	0104390-00	0104391-00	0104390-00
18	0104504-00	0104504-00	0104503-00	0104504-00	0104503-00	0104503-00	0104503-00
GEAR RATIO	76.5 to 1	107 to 1	50.2 to 1	76.5 to 1	35.7 to 1	50.2 to 1	35.7 to 1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Motor Brake Assembly And Associated Parts

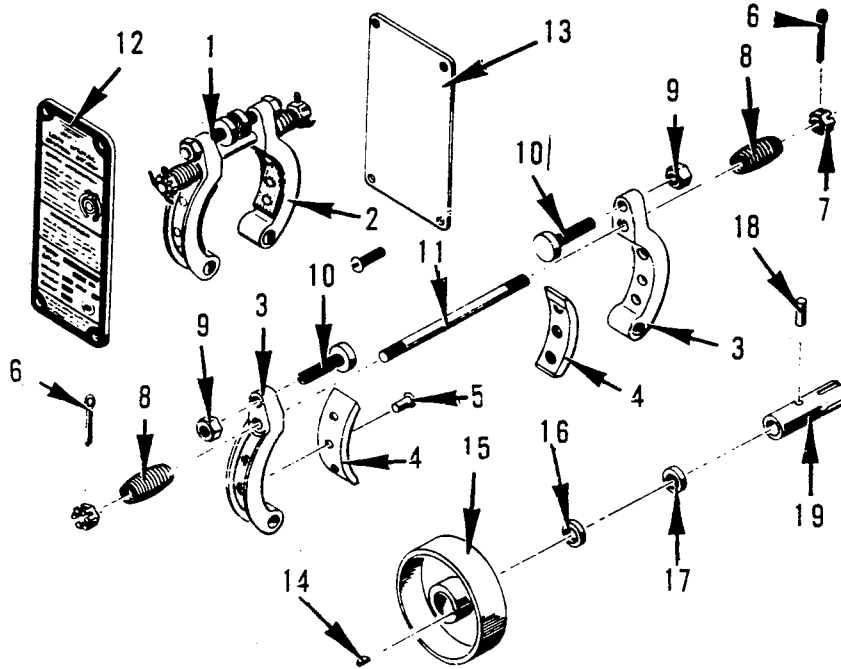


FIGURE 16.

YC-0026

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0102572-00	BRAKE SHOE ASSEMBLY (Consists Of Items 2 Through 11)	1
2	0102564-00	SHOE AND LINING ASSEMBLY (Consists Of Items 3, 4 And 5)	2
3	0102563-00	BRAKE SHOE	2
4	0102523-00	BRAKE LINING	2
5	6401049-00	RIVET	6
6	0102775-00	COTTER PIN	2
7	0106612-00	SLOTTED NUT	2
8	0110596-00	BRAKE SPRING	2
9	0106608-00	HEX NUT	2
10	0109541-00	BRAKE ADJUSTING SCREW	2
11	0100956-00	BRAKE SPRING STUD	1
12	0102958-00	NAMEPLATE	1
13	6400961-00	COVER PLATE	1
14	0116474-00	WOODRUFF KEY	1
15	0102468-00	BRAKE DRUM	1
16	0116160-00	BEARING SEAL	1
17	0151208-00	BEARING	1
18	0106959-00	PIN	1
19	0116181-00	COUPLING	1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series Wire Rope
Lower Limit Switch**

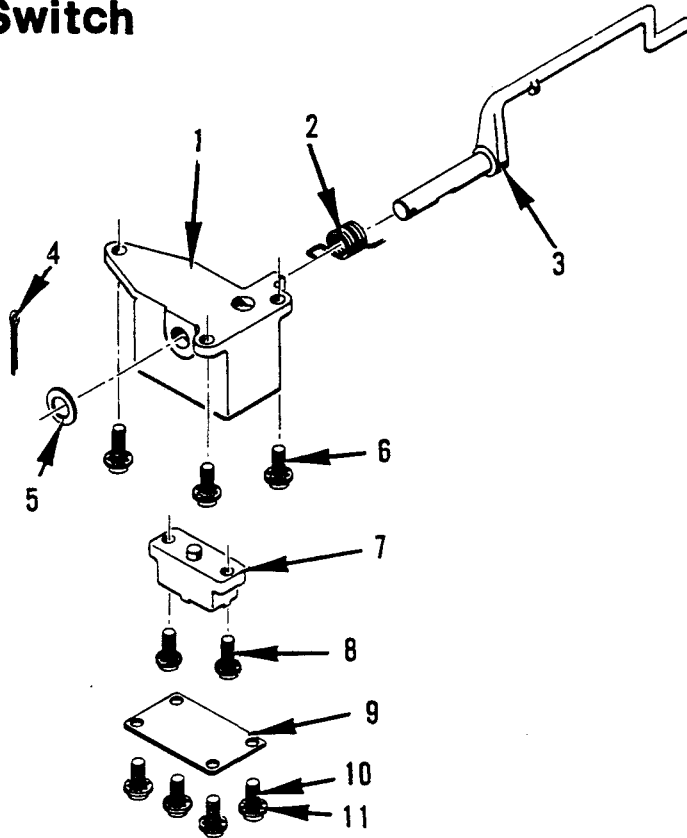


FIGURE 17.

YC-0018

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0106014-00	LIMIT SWITCH BOX	1
2	0110653-00	SPRING	1
3	0105317-00	OPERATING LEVER	1
4	0102792-00	COTTER PIN	1
5	0142209-00	WASHER	1
6	6400429-00	SEMS SCREW	3
7	0105967-00	CONTACT BLOCK (Switch)	1
8	6400809-00	ROUND HEAD SCREW	2
9	0103007-00	COVER (Limit Switch)	1
10	0109453-00	ROUND HEAD SCREW	4
11	0114098-00	SHAKEPROOF WASHER	4

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Wire Rope Bottom Block Assembly

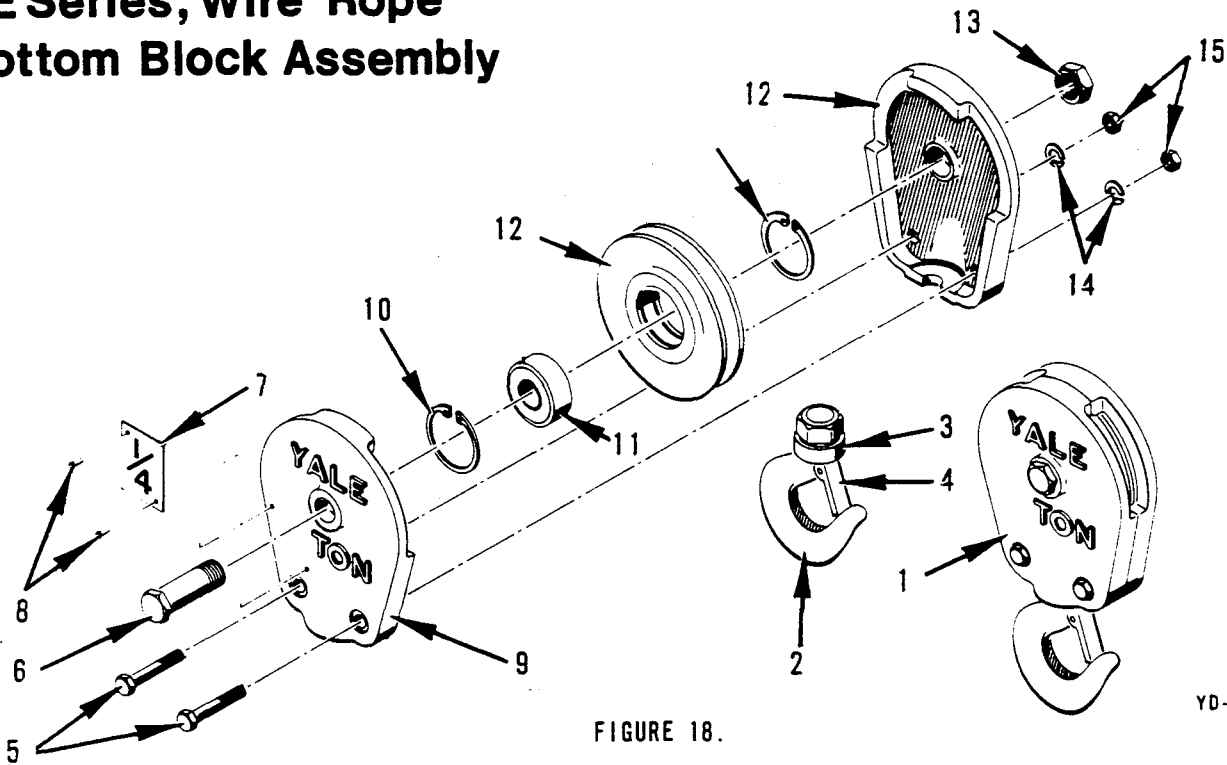


FIGURE 18.

YD-0025

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY.
1	0605737-00	BOTTOM BLOCK ASSEMBLY (1/4 Ton)	1
	0605738-00	BOTTOM BLOCK ASSEMBLY (1/2 Ton)	1
	0605739-00	BOTTOM BLOCK ASSEMBLY (1 Ton)	1
2	6479090-00	BOTTOM HOOK ASSEMBLY, WITH SAFETY LATCH (1/4 And 1/2 Ton)	1
	6479100-00	BOTTOM HOOK ASSEMBLY, WITH SAFETY LATCH (1 Ton)	1
3	0100851-00	THRUST BEARING (1/4 And 1/2 Ton)	1
	0100852-00	THRUST BEARING (1 Ton)	1
4	0669400-00	SAFETY LATCH KIT (1/4 And 1/2 Ton)	1
	0669402-00	SAFETY LATCH KIT (1 Ton)	1
5	0146367-00	HEX HEAD SCREW	2
6	0107023-00	SHEAVE AXLE	1
7	0595020-00	CAPACITY PLATE (1/4 Ton)	2
	0595021-00	CAPACITY PLATE (1/2 Ton)	2
	0595028-00	CAPACITY PLATE (1 Ton)	2
8	0209149-00	DRIVE RIVET	2
9	6414394-00	BOTTOM BLOCK HALF	2
10	0110017-00	RETAINING RING	2
11	0100808-00	BEARING	1
12	0109965-00	SHEAVE	1
13	0106685-00	ELASTIC STOP NUT	1
14	0114121-00	LOCKWASHER	2
15	0106616-00	HEX NUT	2

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series, Link Chain
Bottom Block Assembly, old style**

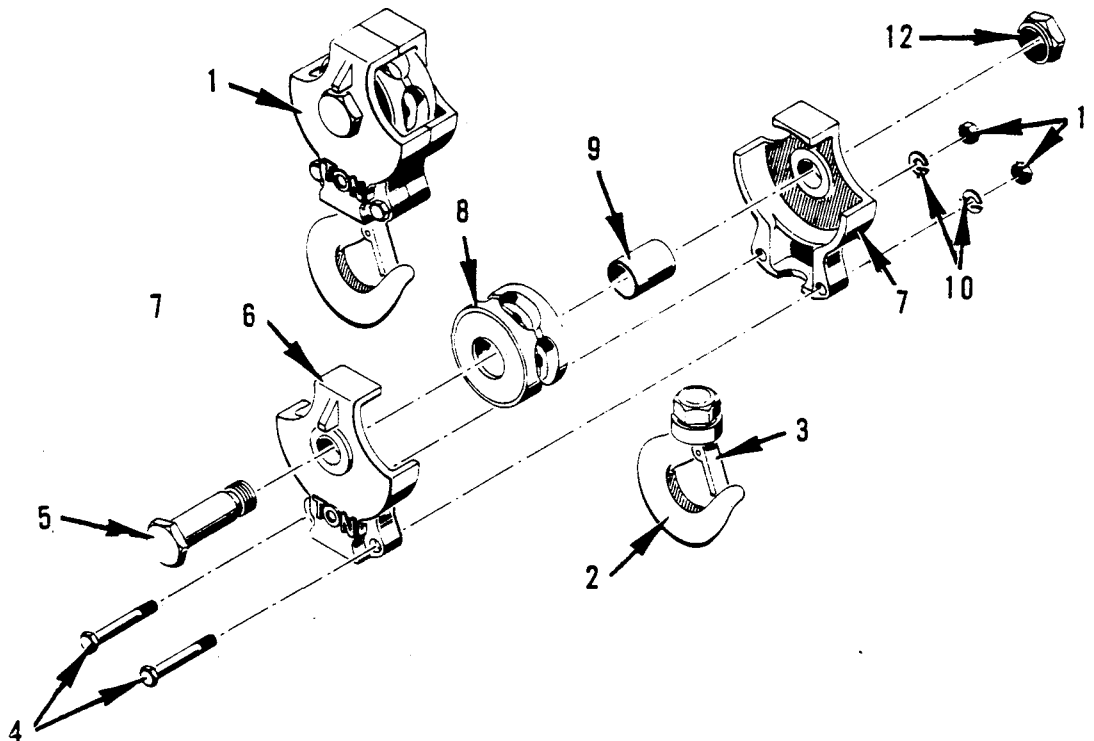


FIGURE 19.

YD-0028

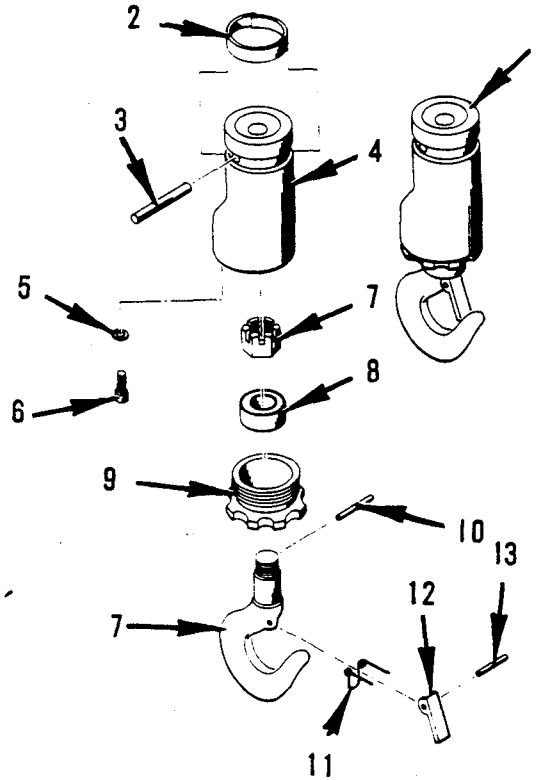
ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0101539-00	BOTTOM BLOCK ASSEMBLY, 1 1/2 TON (Includes Items 2,3 And 4 Through 11)	1
	0630942-00	BOTTOM BLOCK ASSEMBLY, 2 TON (Includes Items 2,3 And 4 Through 11)	1
2	0606915-00	BOTTOM HOOK ASSEMBLY, 2 TON (Includes Hook, Bearing, Nut And Latch)	1
3	0639050-00	LATCH (1 1/2 And 2 TON (1 1/2 And 2 Ton)	1
	0639052-00	SPRING (1 1/2 And 2 Ton)	1
	0639051-00	BOLT AND NUT (1 1/2 And 2 Ton)	1
4	0109270-00	HEX HEAD SCREW	2
5	0107027-00	SHEAVE AXLE	1
6	0101503-00	BOTTOM BLOCK HALF (1 1/2 Ton)	2
	0101501-00	BOTTOM BLOCK HALF (2 Ton)	2
	A101504-00	BOTTOM BLOCK HALF (1 1/2 Ton)	2
7	0120698-00	SHEAVE	1
8	0117757-00	BUSHING	1
9	0114121-00	LOCKWASHER	2
10	0106621-00	HEX NUT	2
11	0106685-00	ELASTIC STOP NUT	1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Link Chain Bottom Block Assembly 1/2 And 1 Ton Capacity



YC-0017

FIGURE 20.

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	6435000-00	BOTTOM BLOCK ASSEMBLY, 1000 POUND CAPACITY (Consists Of Items 2 Through 11)	1
	6429340-00	BOTTOM BLOCK ASSEMBLY, 2000 POUND CAPACITY (Consists Of Items 2 Through 11)	1
2	0159190-00	RING RETAINER (1000 Pound Capacity)	1
	0159191-00	RING RETAINER (2000 Pound Capacity)	1
3	6407951-00	ANCHOR PIN (1000 Pound Capacity)	1
	6407961-00	ANCHOR PIN (2000 Pound Capacity)	1
4	6413413-00	BOTTOM BLOCK (1000 Pound Capacity)	1
	6408393-00	BOTTOM BLOCK (2000 Pound Capacity)	1
5	0150319-00	LOCKWASHER	1
6	0655726-00	ALLEN SCREW	1
7	6463490-00	HOOK AND NUT, W/SAFETY LATCH (1000 Pound Capacity)	1
	6463500-00	HOOK AND NUT, W/SAFETY LATCH (2000 Pound Capacity)	1
8	0151221-00	BEARING (1000 Pound Capacity)	1
	0151222-00	BEARING (2000 Pound Capacity)	1
9	6406651-00	ADAPTER (1000 Pound Capacity)	1
	6406681-00	ADAPTER (2000 Pound Capacity)	1
10	0612140-00	ROLL PIN (1000 Pound Capacity)	1
	0599891-00	ROLL PIN (2000 Pound Capacity)	1
	0669400-00	SAFETY LATCH KIT (1000 Pound Capacity)	1
11	0669402-00	SAFETY LATCH KIT (2000 Pound Capacity)	1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series, Resistor Assembly
DC Units Only**

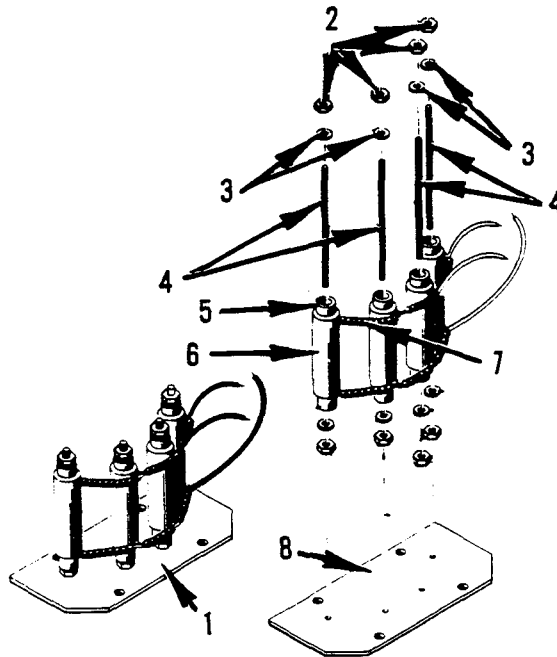


FIGURE 21.

YC-0023

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0118284-00	RESISTOR ASSEMBLY (230 Volts Direct Current)	1
	0118285-00	RESISTOR ASSEMBLY (115 Volts Direct Current)	1
		Consists Of Items 2 Through 8	
2	0106599-00	HEX NUT #8-32	8
3	0114099-00	#8 LOCKWASHER	8
4	0100966-00	DOUBLE END STUD	4
5	0105078-00	INSULATING BUSHING	8
6	0118169-00	RESISTOR (115 Volts Direct Current)	3
	0118170-00	RESISTOR (115 Volts Direct Current)	1
	0118169-00	RESISTOR (230 Volts Direct Current)	4
7	0105075-00	INSULATING BEAD	40
8	0102131-00	BASE PLATE	1

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



Yale

REPAIR PARTS

LE Series, Wire Rope And Link Chain Limit Switch And Solenoid Assembly, new style

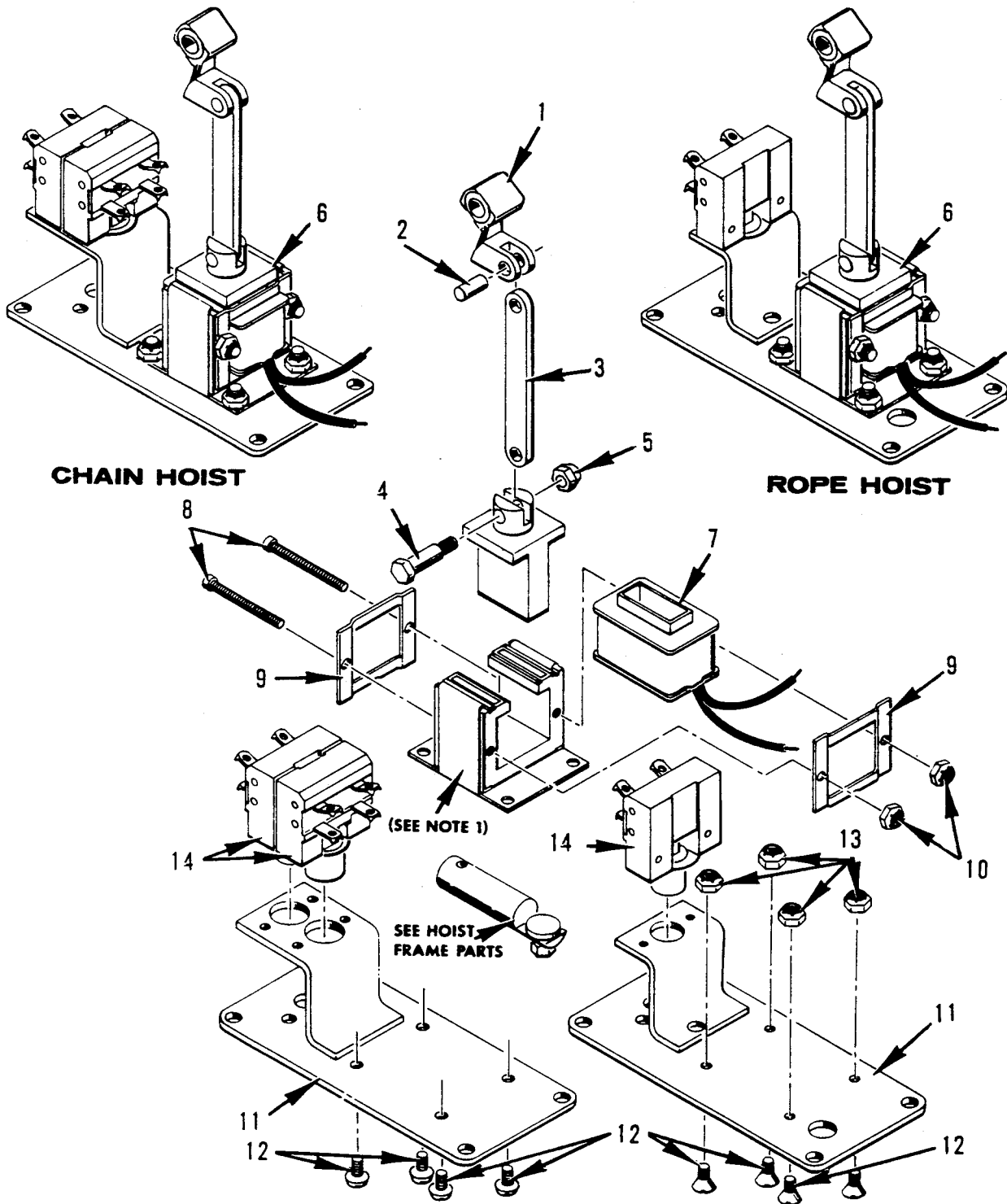


FIGURE 23.

YD-0010

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



**Limit Switch And Solenoid Assembly
LE Series, Wire Rope And Link Chain**

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0105255-00	LEVER	1
2	0107025-00	PIN	1
3	0118447-00	LINK	1
4	6435658-00	HEX HEAD SCREW	1
5	5021049-01	LOCKNUT	1
*6	SEE TABLE	COMPLETE SOLENOID ASSEMBLY (Consists Of Items 7 Through 10) (See Note 1)	1
7	SEE TABLE	SOLENOID COIL	1
8	0211687-00	FILLISTER HEAD SCREW	2
9	6437718-00	SOLENOID SIDE PLATE	2
10	6401129-01	ELASTIC STOP NUT	2
11	6414973-00	COVER PLATE (Rope Hoist)	1
	6414983-00	COVER PLATE (Chain Hoist)	1
12	0109559-00	FLAT HEAD SCREW (Rope Hoist)	4
	0148752-00	ROUND HEAD SCREW (Chain Hoist)	4
13	0213217-00	ELASTIC STOP NUT	4
14	0105904-00	CONTACT BLOCK (Rope Hoist)	1
	0105904-00	CONTACT BLOCK (Chain Hoist)	2

* Solenoid Frame Or Plunger Not Supplied As Repair Part. Complete Solenoid Assembly (Item 6) Must Be Purchased.

COMPLETE SOLENOID ASSEMBLY

Voltage	25 Hz	50 Hz	60 Hz	D.C.
115	6415003-09	6415003-05	6415003-01	6415023-01
230	6415003-10	6415003-06	6415003-02	6415023-02
460	6415003-11	6415003-07	6415003-03	
575	6415003-12	6415003-08	6415003-04	
230/460			6415003-13	

SOLENOID COIL

Volts	25 Hz	50 Hz	60 Hz	D.C.
115	6400649-09	6400649-05	6400649-01	6400649-13
230	6400649-10	6400649-06	6400649-02	6400649-14
460	6400649-11	6400649-07	6400649-03	
575	6400649-12	6400649-08	6400649-04	
230/460			6400649-15	

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



Yale

LE Series, Reversing Contactor Size 00

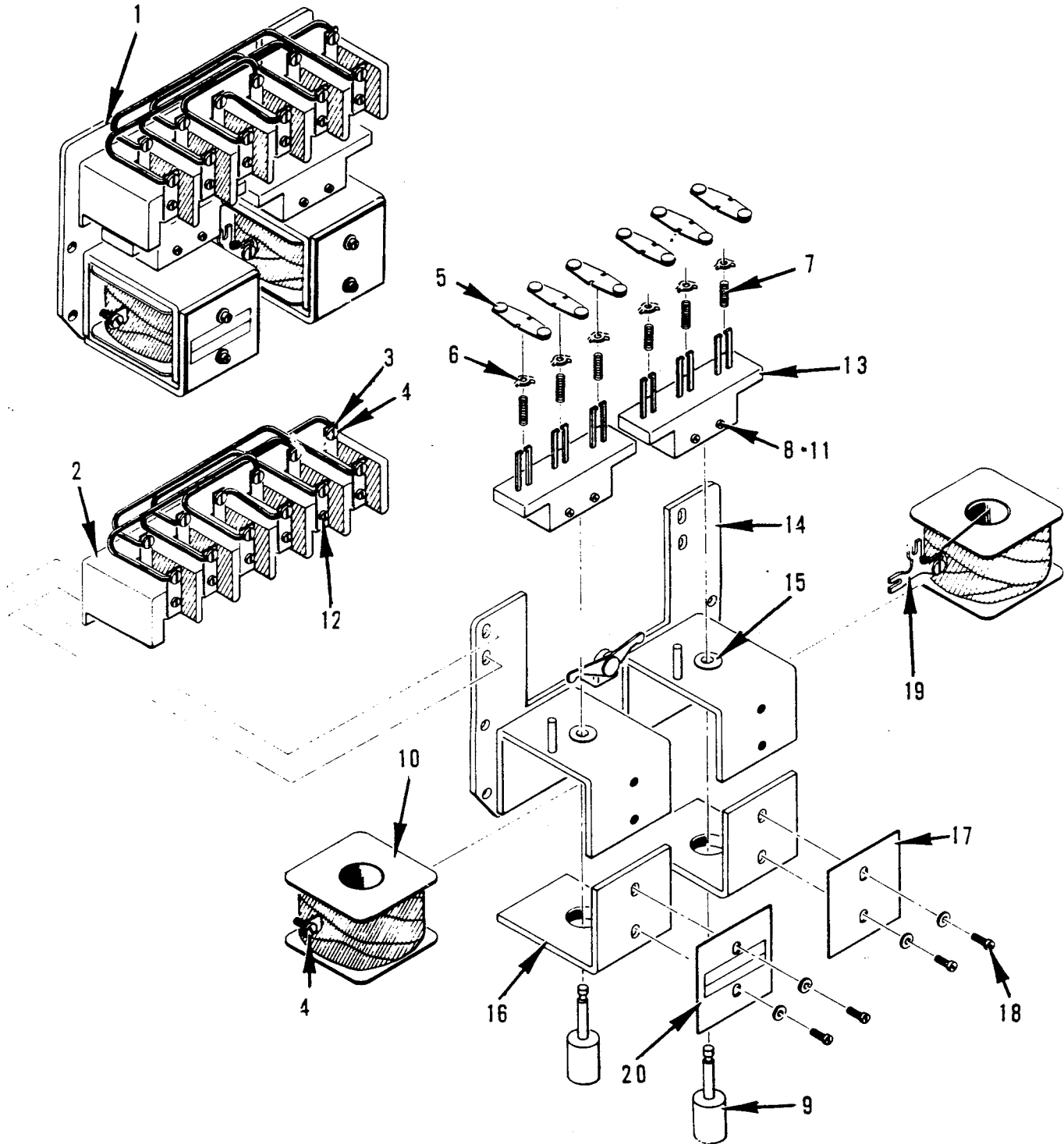


FIGURE 24.

YD-0014

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series, Reversing Contactor
Size 00**

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	SEE TABLES	REVERSING CONTACTOR	1
2	0523718-00	TERMINAL BLOCK	1
3	0523713-00	STATIONARY CONTACT ASSEMBLY	12
4	0523725-00	SCREW	17
5	0523716-00	MOVABLE CONTACT	6
6	0523715-00	CUP WASHER	6
7	0523717-00	SPRING	6
8	0624603-00	ROUND HEAD SCREW	4
9	0613067-00	MOVABLE CORE ASSEMBLY	2
10	SEE TABLES	COIL	2
11	0523721-00	CLAMP	2
12	0523734-00	ROUND HEAD SCREW (Brass)	12
13	0624604-00	MOVABLE CONTACT BLOCK ASSEMBLY	2
14	0624662-00	FRAME AND INTERLOCK ASSEMBLY	1
15	0594472-00	CORE AND TUBE ASSEMBLY	2
16	0624605-00	BOTTOM COIL FRAME	2
17	0624606-00	NAMEPLATE	1
18	0594424-00	ROUND HEAD SCREW	4
19	0523720-00	COIL LINK	1
20	0594469-00	NAMEPLATE	1

SINGLE PHASE REVERSING CONTACTORS

Pilot Voltage	Reversing Contactor	Coil
24 Volt - 25 Hz	0637317-00	0523639-00
24 Volt - 50 Hz	0504013-00	0523638-00
24 Volt - 60 Hz	0504013-00	0523638-00
115 Volt - 25 Hz	0637318-00	0523641-00
115 Volt - 50 Hz	0504807-00	0523640-00
115 Volt - 60 Hz	0504807-00	0523640-00

POLYPHASE REVERSING CONTACTOR

Pilot Voltage	Reversing Contactor	Coil
24 Volt - 25 Hz	0235089-00	0523639-00
24 Volt - 50 Hz	0235086-00	0523638-00
24 Volt - 60 Hz	0235086-00	0523638-00
115 Volt - 25 Hz	0644570-00	0523641-00
115 Volt - 50 Hz	0113297-00	0523640-00
115 Volt - 60 Hz	0113297-00	0523640-00

DIRECT CURRENT REVERSING CONTACTOR

Voltage	Reversing Contactor	Coil
115 Volt D.C.	0644558-00	0523642-00
230 Volt D.C.	0644563-00	0523644-00

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Reversing Contactor Size 00

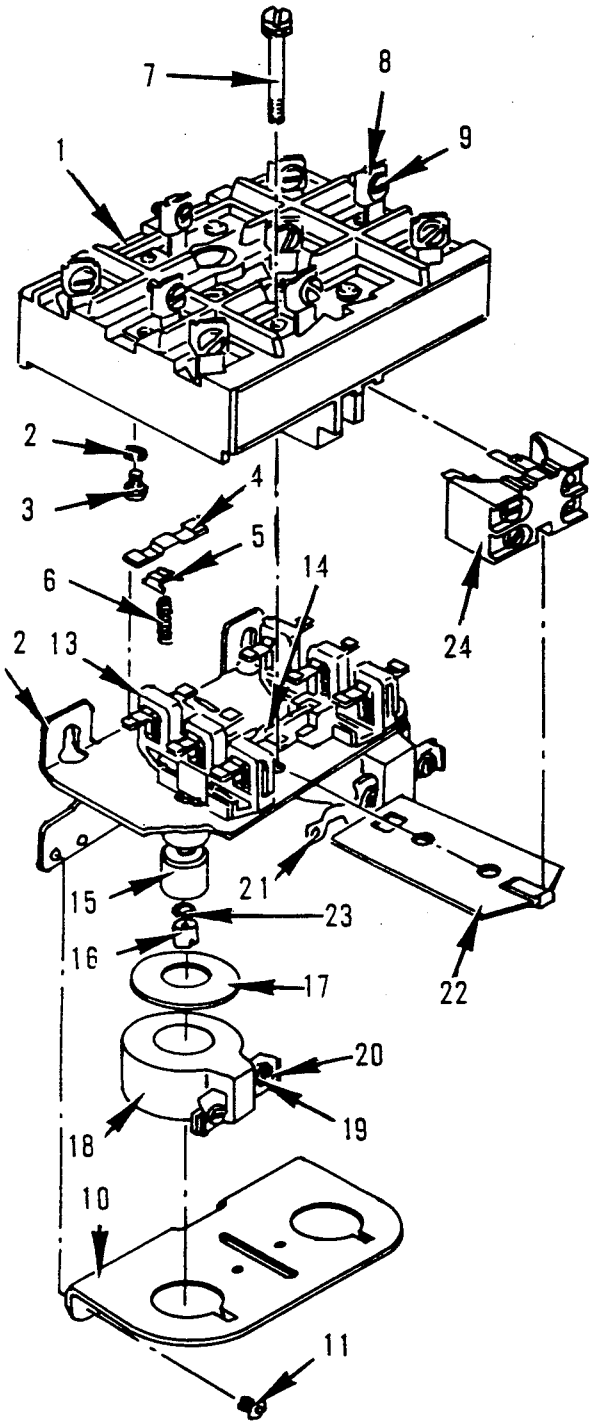


FIGURE 25.

Y8-0033

COMPLETE SWITCH WITHOUT INTERLOCKS

PILOT VOLTS	REV. SWITCH	2 SPD. SW.
24 VOLT 60 HZ	5037490-00	5003139-01
110 VOLT 60 HZ	5037500-00	5003139-02
230 VOLT 60 HZ	5037510-00	5037560-00
460 VOLT 60 HZ	5037520-00	5037570-00
575 VOLT 60 HZ	5037530-00	5037580-00
24 VOLT 25 HZ	5037540-00	5037590-00
110 VOLT 25 HZ	5037510-00	5037560-00
230 VOLT 25 HZ	5037550-00	5037600-00

COMPLETE SWITCH WITH N O INTERLOCKS

PILOT VOLTS	REV. SWITCH	2 SPD. SW.
24 VOLT 60 HZ	5038710-00	5038780-00
110 VOLT 60 HZ	5038720-00	5038790-00
230 VOLT 60 HZ	5038730-00	5038800-00
460 VOLT 60 HZ	5038740-00	5038810-00
575 VOLT 60 HZ	5038750-00	5038820-00
24 VOLT 25 HZ	5038760-00	5038830-00
110 VOLT 25 HZ	5038730-00	5038800-00
230 VOLT 25 HZ	5038770-00	5038840-00

COMPLETE SWITCH WITH N C INTERLOCKS

PILOT VOLTS	REV. SWITCH	2 SPD. SW.
24 VOLT 60 HZ	5019718-00	5019728-00
110 VOLT 60 HZ	5028168-00	5028178-00
230 VOLT 60 HZ	5037610-00	5037660-00
460 VOLT 60 HZ	5037620-00	5037670-00
575 VOLT 60 HZ	5037630-00	5037680-00
24 VOLT 25 HZ	5037640-00	5037690-00
110 VOLT 25 HZ	5037610-00	5037660-00
230 VOLT 25 HZ	5037650-00	5037700-00

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series, Reversing Contactor
Size 00**

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
**1	6409198-00	CONTACT BLOCK ONLY	1
*2	0150254-00	#8 LOCKWASHER	12
*3	6400038-00	STATIONARY CONTACT SCREW	12
*4	6400048-00	MOVABLE CONTACT	6
*5	6400058-00	RETAINER	6
6	6409208-00	CONTACT SPRING	6
7	6409218-00	#10-24 X 1 1/4 SCREW ASSEMBLY	2
8	0616334-00	PRESSURE WIRE TERMINAL CLIP	9
9	0593511-00	#6-32 X 5/16 SCREW ASSEMBLY	9
10	6409318-00	BOTTOM PLATE	1
11	6409328-00	#8-32 X 1/4 SCREW ASSEMBLY	2
12	6409228-00	BASE ASSEMBLY	1
**13	6409238-00	CONTACT CARRIER	2
14	6409248-00	MECHANICAL INTERLOCK	1
***15	6409258-00	ARMATURE ASSEMBLY	2
16	6409268-00	#10-32 SLOTTED NUT	2
17	6409278-00	WASHER	2
18	SEE TABLE	MAGNETIC COIL	2
19	6409288-00	#6-32 X 3/8 SCREW ASSEMBLY	4
20	0616334-00	TERMINAL CLIP	4
21	6409298-00	COIL JUMPER	1
22	6409308-00	INTERLOCK LATCH	1
23	0150256-00	#10 LOCKWASHER	2
24	5030688-00	ELECTRICAL INTERLOCK N.O.	1
	5030698-00	ELECTRICAL INTERLOCK N.C.	1

- * Included In Parts Kit 6400028-00.
- ** Both The Contact Block (Item 1) And Contact Carrier (Item 13) Must Be Ordered When Replacing Either Of These Items.
- *** When Replacing Armature Assembly (Item 15) A Slotted Nut (Item 16) And Lockwasher (Item 23) Must Be Ordered.

MAGNETIC COIL TABLE

FREQ.	24 VOLT	115 VOLT	230 VOLT	460 VOLT	575 VOLT
60 Hz	5030618-00	5030628-00	5030638-00	5030648-00	5030658-00
50 Hz	5030618-00	5030628-00	5030638-00	5030648-00	5030658-00
25 Hz	5030668-00	5030638-00	5030678-00		

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts

REPAIR PARTS



LE Series Push Button Pendant Assembly

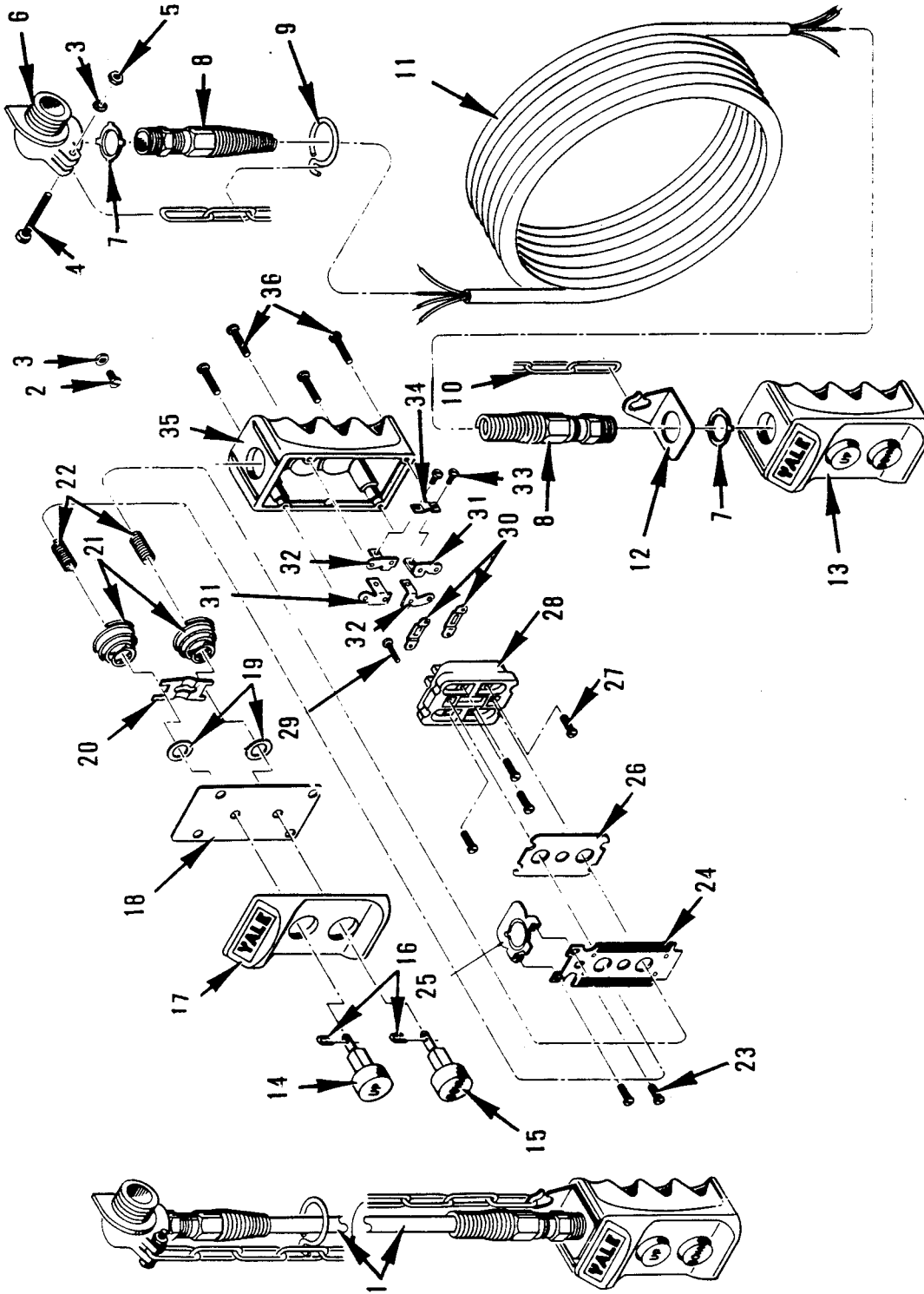


FIGURE 26.

YD-0027

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



LE Series
Push Button Pendant Assembly

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0107573-00	PENDANT ASSEMBLY (10 Foot Lift) (Consists Of Items 2 Through 13)	1
	0107574-00	PENDANT ASSEMBLY (20 Foot Lift) (Consists Of Items 2 Through 13)	1
2	0109450-00	GROUND SCREW	1
3	0114106-00	LOCKWASHER	2
4	0109463-00	ROUND HEAD SCREW	1
5	0106601-00	HEX NUT	1
6	0103876-00	ELBOW	1
7	0103739-00	LOCKNUT	2
8	0103983-00	STRAIN RELIEVER	2
9	0107225-00	"S" HOOK (10 Foot Lift)	2
	0107225-00	"S" HOOK (20 Foot Lift)	5
10	0107222-00	ANCHOR CHAIN (Specify Length)	1
11	0116783-00	CORD (Specify Length)	1
12	0103933-00	HANGER BRACKET	1
13	5030768-00	PUSH BUTTON STATION (Consists Of Items 14 Through 36)	1
*14	0593079-00	BUTTON (Up)	1
*15	0593080-00	BUTTON (Down)	1
*16	5030768-16	LOCKING CLIP	2
17	5030768-04	COVER	1
*18	5030768-09	NEOPRENE DIAPHRAGM	1
*19	5030768-10	BRASS WASHER	2
*20	5030768-11	INTERLOCK BAR	1
*21	5030768-12	SPIRAL SPRING	2
*22	5030768-17	CONTACT FINGER SPRING	2
*23	5030768-19	SCREW ASSEMBLY	2
*24	5030768-07	BASE SUPPORT	1
*25	5030768-08	BASE ANCHOR	1
*26	5030768-27	LINER	1
*27	5030768-29	SCREW	4
*28	5030768-15	PUSH BUTTON BASE	1
*29	5030768-30	SCREW	4
*30	5030768-31	CONTACT FINGER	2
*31	5030768-22	CONTACT TERMINAL	2
*32	5030768-23	CONTACT TERMINAL	2
*33	5030768-32	TERMINAL SCREW	4
*34	5030768-25	METAL CONNECTOR	1
*35	5030768-01	BOX	1
*36	5030768-28	SCREW	4

* Items Can Be Purchased In Interior Assembly Complete Kit.
Part Number 5030768-24.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, 2 Speed Push Button Pendant Assembly

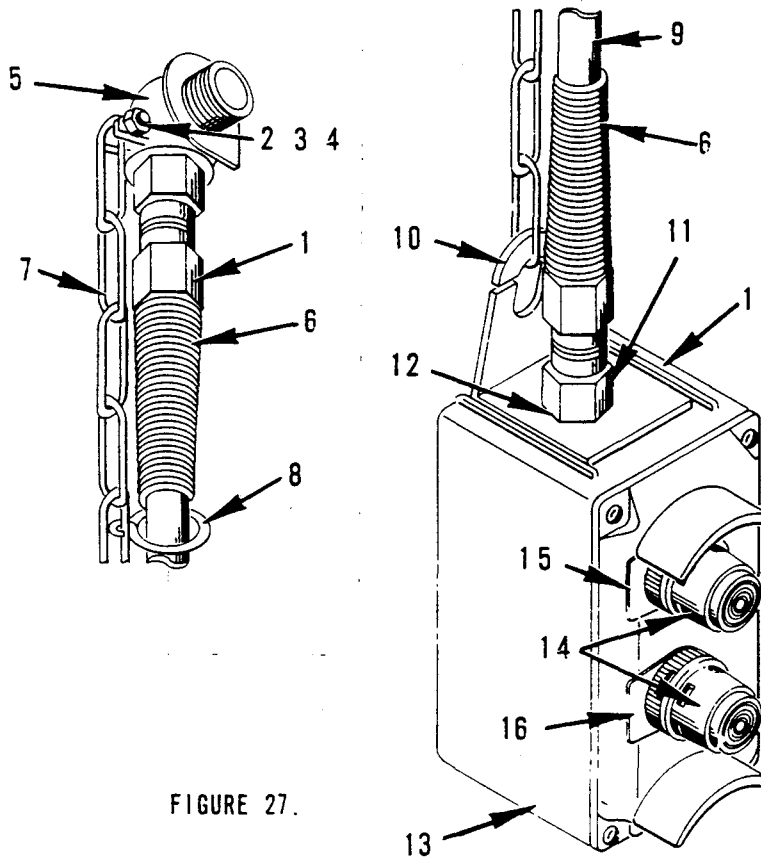


FIGURE 27.

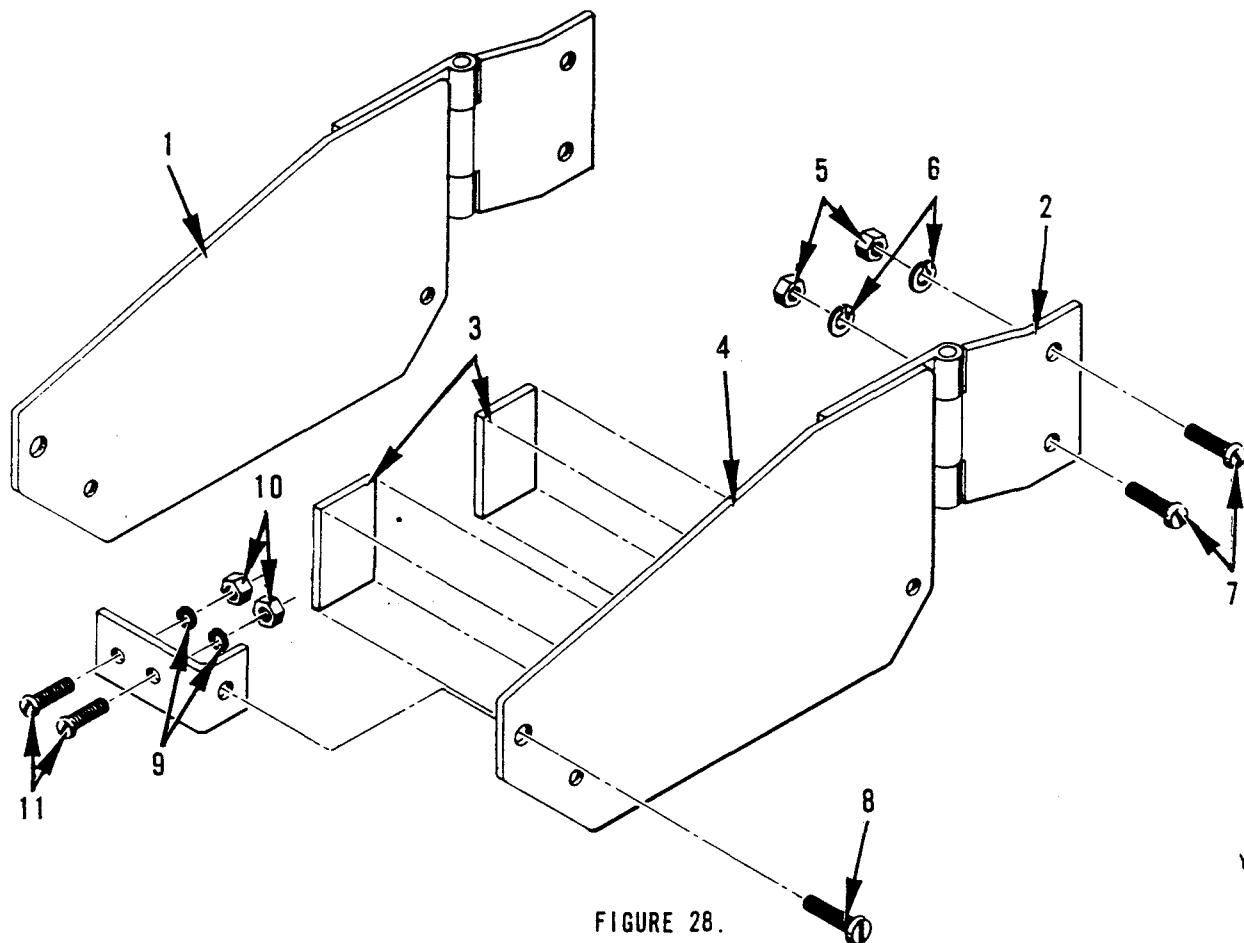
YC-0022

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0512659-00	PUSH BUTTON ASSEMBLY FOR 2 SPEED ONLY (Consists Of Items 2 Through 16)	1
2	0109463-00	ROUND HEAD SCREW	1
3	0106601-00	HEX NUT	1
4	0114106-00	LOCKWASHER	1
5	0103876-00	ELBOW	1
6	0103709-00	STRAIN RELIEVER	2
7	0107222-00	ANCHOR CHAIN (Specify Length)	1
8	0107225-00	"S" HOOK (10 Foot Lift)	3
9	0116606-00	PUSH BUTTON CORD (Specify Length)	1
10	0103934-00	HANGER BRACKET	1
11	0103811-00	REDUCER	1
12	0103739-00	LOCKNUT (Not Shown)	2
13	0512657-00	PUSH BUTTON HOUSING	1
14	0512271-00	2 SPEED ELEMENT	2
15	0116812-00	NAMEPLATE (Up)	1
16	0116813-00	NAMEPLATE (Down)	1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



LE Series, 2 Speed Hinge And Panel Assembly



YC-0024

FIGURE 28.

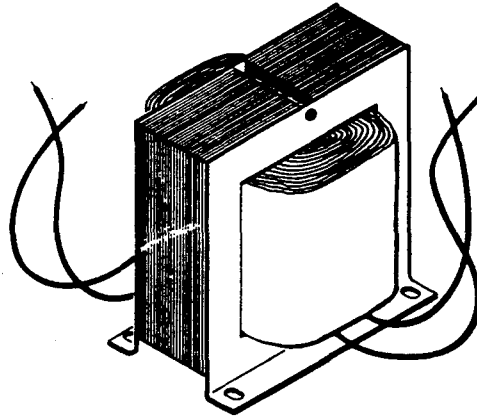
ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0626301-00	HINGE AND PANEL ASSEMBLY (Consists Of Items 2, 3 And 4)	1
2	0626302-00	HINGE	1
3	0626398-00	BACKING STRIP	2
4	0626303-00	PANEL	1
5	0140362-00	HEX NUT	2
6	0150256-00	LOCKWASHER	2
7	0148635-00	ROUND HEAD SCREW	2
8	0109453-00	SEMS SCREW	1
9	0114094-00	LOCKWASHER	2
10	0594977-00	HEX NUT	2
11	0148724-00	ROUND HEAD SCREW	2

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Part

REPAIR PARTS



LE Series, Transformers



YA-0019

FIGURE 29.

PRIMARY VOLTAGE	SECONDARY VOLTAGE	HERTZ	PART NUMBER
115	24	60	6424213-01
115	115	60	6424213-05
230	24	60	6424213-01
230	115	60	6424213-05
230/460	24	60	6424213-03
230/460	115	60	6424213-07
200	24	25	6424213-02
200	115	25	6424213-06
575	24	25	6424213-04
575	115	25	6424213-08

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



LE Series, Single Phase Motors

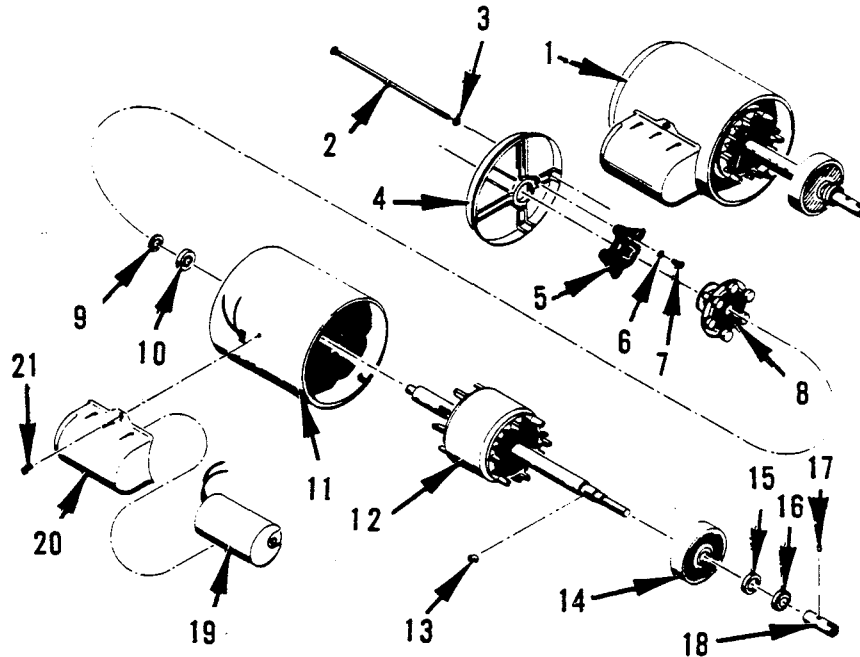


FIGURE 30.

YD-0008

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	*	COMPLETE MOTOR ASSEMBLY (Consists Of Items 2 Through 21)	1
2	*	THRU-BOLT	4
3	*	WASHER	4
4	*	END BELL	1
5	*	CENTRIFUGAL SWITCH	1
6	*	WASHER	2
7	*	ROUND HEAD SCREW	2
8	*	CENTRIFUGAL MECHANISM	1
9	*	WASHER	1
10	*	BALL BEARING	1
11 +	*	STATOR AND FRAME	1
12 +	*	ROTOR	1
13	0116474-00	WOODRUFF KEY	1
14	0102468-00	BRAKE DRUM	1
15	0116160-00	SEAL	1
16	0100836-00	BEARING	1
17	0106959-00	PIN	1
18	0116181-00	COUPLING	1
19	*	CAPACITOR	1
20	*	CAPACITOR MOUNTING HOUSING	1
21	*	MOUNTING SCREW	2

* When Ordering Repair Parts For Motor Give Quantity, Description And Complete Data From Motor Nameplate.

+ Stator Or Rotor Cannot Be Supplied Separately As Repair Parts.

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts

REPAIR PARTS



LE Series, Poly Phase Motors

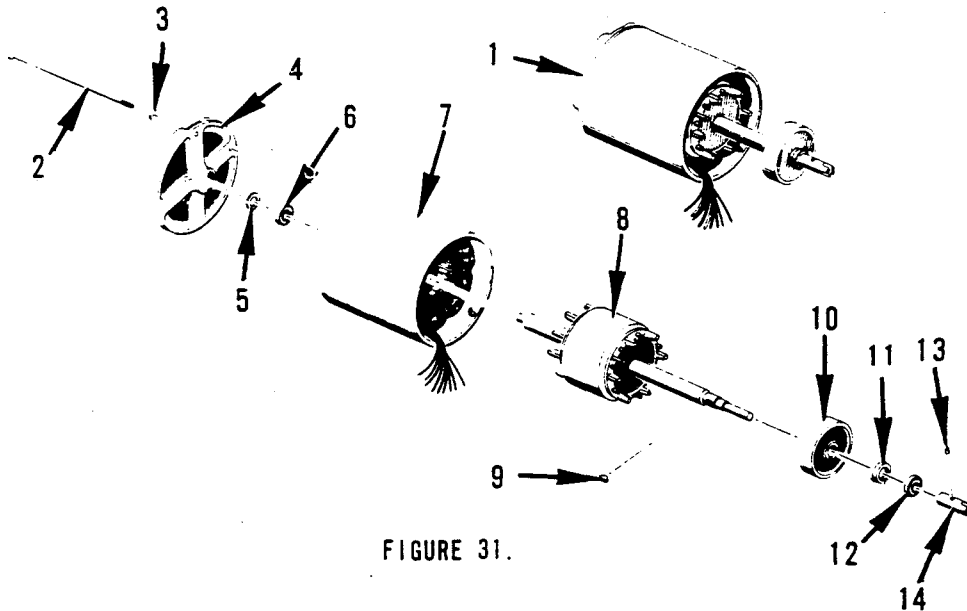


FIGURE 31.

YD-0029

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	*	COMPLETE MOTOR ASSEMBLY (Consists Of Items 2 Through 14)	1
2	*	THRU-BOLT	4
3	*	WASHER	4
4	*	END BELL	1
5	*	WASHER	1
6	*	BALL BEARING	1
7 †	*	STATOR AND FRAME	1
8 †	*	ROTOR	1
9	0116474-00	WOODRUFF KEY	1
10	0102468-00	BRAKE DRUM	1
11	0116160-00	SEAL	1
12	0100836-00	BEARING	1
13	0106959-00	PIN	1
14	0116181-00	COUPLING	1

* When Ordering Repair Parts For Motor Give Quantity, Description And Complete Data From Motor Nameplate.

† Stator And Rotor Cannot Be Supplied Separately As Repair Parts.

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



LE Series, Direct Current Motors

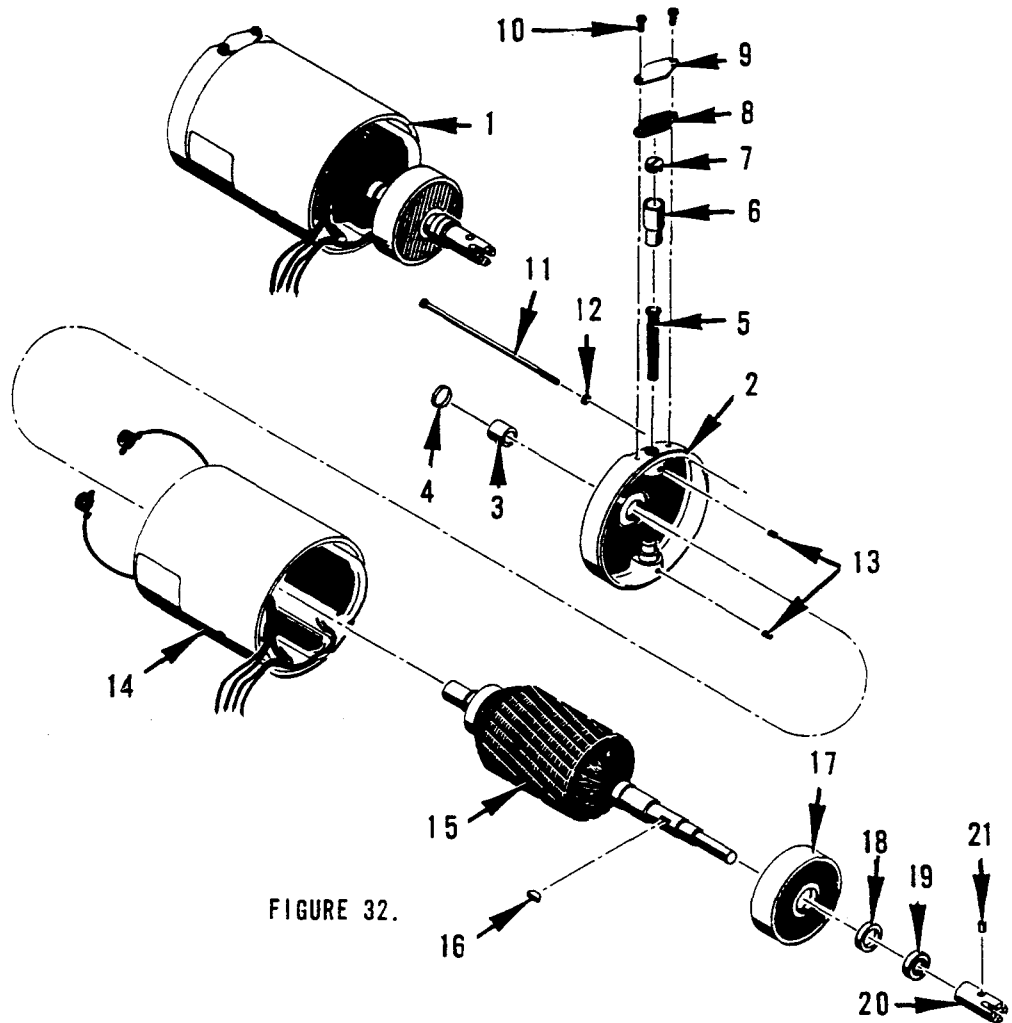


FIGURE 32.

YD-0012

ITEM NUMBER	DESCRIPTION	QTY
1	COMPLETE MOTOR WITH BRAKE DRUM AND COUPLING	1
2	END BELL	1
3	BEARING (Plain Bushing)	1
4	EXPANSION PLUG	1
5	BRUSH WITH BRUSH SPRING	2
6	BRUSH HOLDER	2
7	BRUSH HOLDER CAP	2
8	GASKET	2
9	BRUSH ACCESS COVER PLATE	2
10	SCREW	4
11	LONG SCREW (Motor Mounting)	4
12	WASHER (Motor Mounting Screw)	4
13	SET SCREW	2
14	HOUSING WITH FIELD COILS	1
*15	ARMATURE AND SHAFT	1
16	WOODRUFF KEY	1
17	BRAKE DRUM	1
18	SEAL	1
19	BALL BEARING	1
20	COUPLING	1
21	COUPLING PIN	1

* Armature And Shaft Cannot Be Supplied As Spare Parts.

IMPORTANT: If Motor Repair Parts Are Required Give All Information Listed On Hoist And Motor Nameplates.

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



Yale

LE Series, Plain Trolley Assembly With Pressed Steel Wheels For 5 to 12 Inch Standard I-Beams

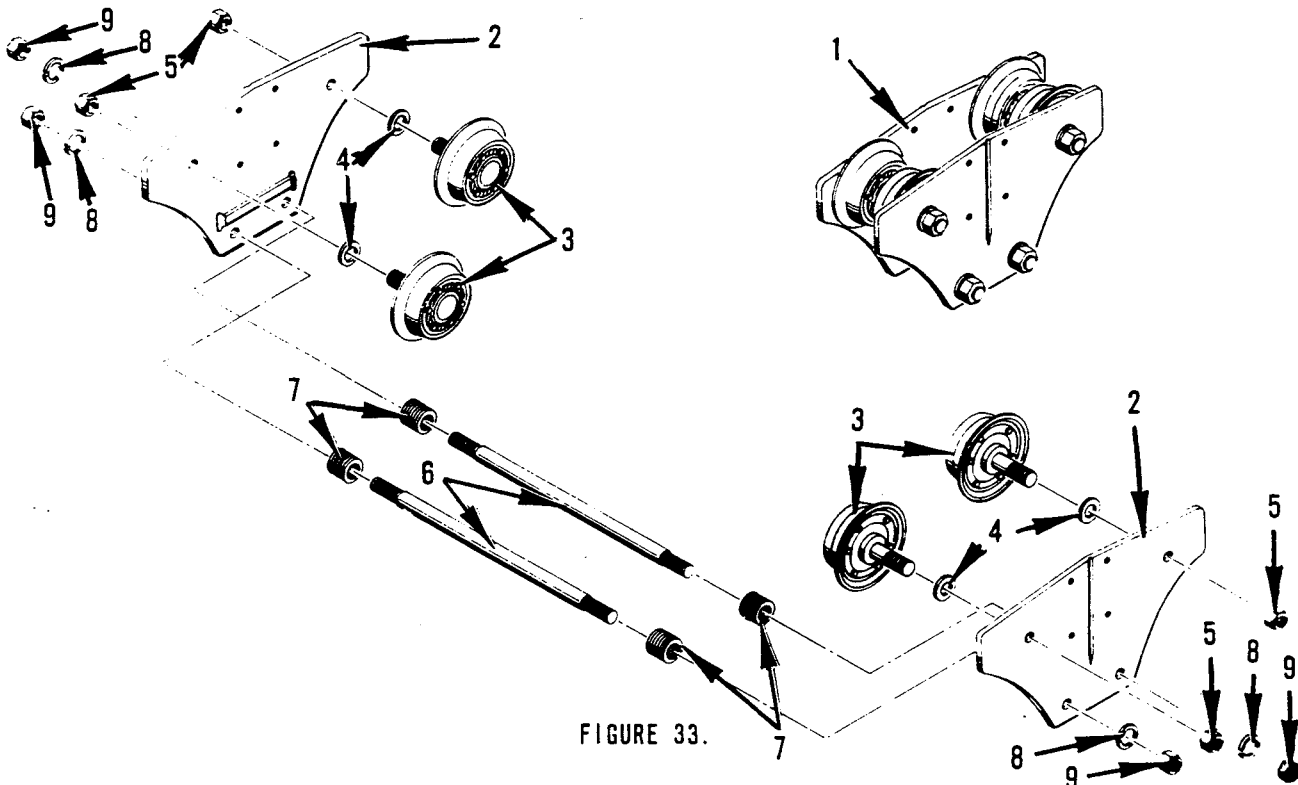


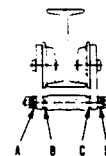
FIGURE 33.

YD-0015

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	5005394-00	PLAIN TROLLEY ASSEMBLY 1000, 2000, 3000 POUND LIFT (Consists Of Items 2 Through 9)	1
2	0112320-00	TROLLEY SIDE PLATE	2
3	0249628-00	TRACK WHEEL	4
4	0236018-00	WASHER	4
5	0150160-00	STOVER LOCKNUT	4
6	0101024-00	DOUBLE END STUD	2
7	0114199-00	ADJUSTING WASHER	28
8	0114142-00	LOCKWASHER 5/8 INCH	4
9	0106665-00	HEX NUT	4

TABULATION OF ADJUSTING WASHERS

I-BEAM SIZE	A	B	C	D
5"-10# I-Beam Flange 3.00" Wide	7	0	0	7
6"-12.5# I-Beam Flange 3.33" Wide	6	1	1	6
7"-15.3# I-Beam Flange 3.66" Wide	5	2	2	5
8"-18.4# I-Beam Flange 4.00" Wide	4	3	3	4
9"-21.8# I-Beam Flange 4.33" Wide	3	4	4	3
10"-25.4# I-Beam Flange 4.66" Wide	2	5	5	2
12"-31.8# I-Beam Flange 5.00" Wide	1	6	6	1



When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



LE Series, Top Hook And Adapter Assembly

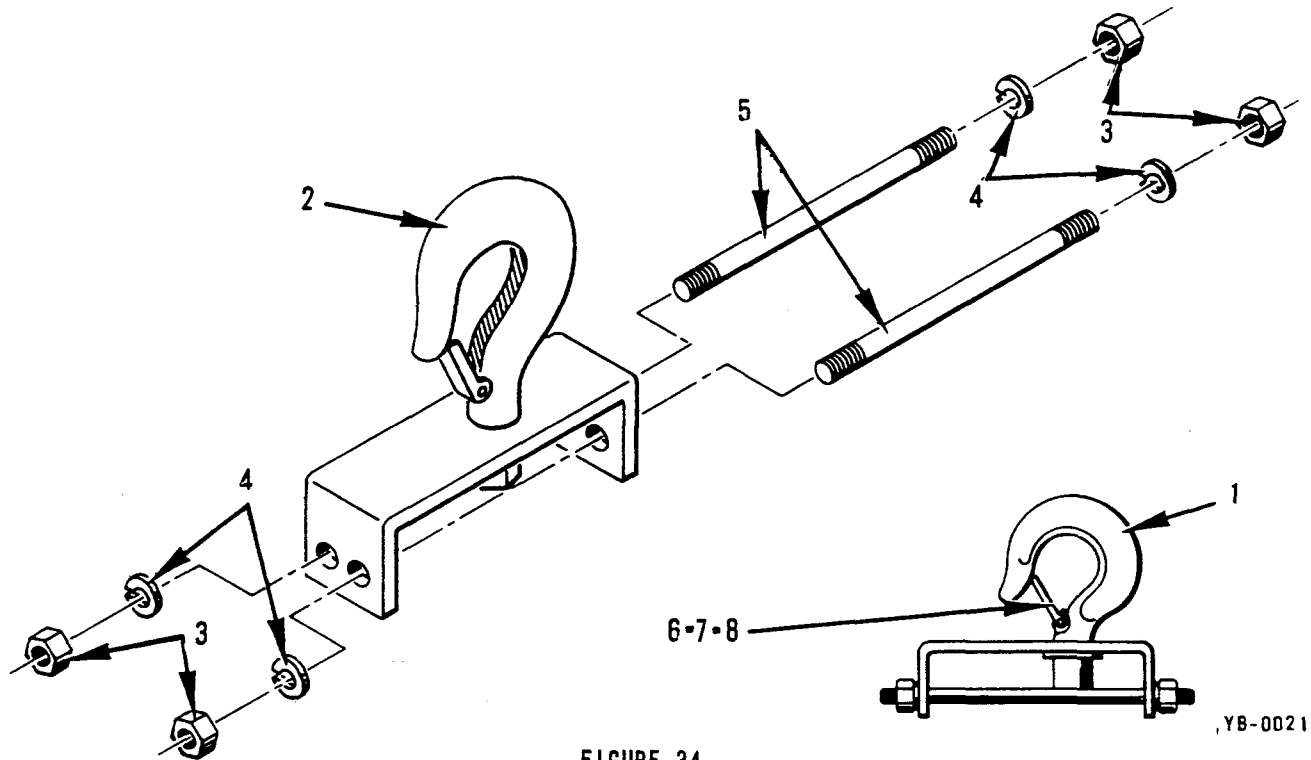


FIGURE 34.

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0117030-00	TOP HOOK ADAPTER ASSEMBLY (500 And 1000 Pound Capacity)	1
	0117031-00	TOP HOOK ADAPTER ASSEMBLY (1500 And 2000 Pound Capacity)	1
	0644557-00	TOP HOOK ADAPTER ASSEMBLY (3000 And 4000 Pound Capacity) Consisting Of Items 2 Through 8	1
2	0117020-00	ADAPTER ASSEMBLY (500 And 1000 Pound Capacity)	1
	0117021-00	ADAPTER ASSEMBLY (1500 And 2000 Pound Capacity)	1
	0117040-00	ADAPTER ASSEMBLY (3000 And 4000 Pound Capacity)	1
3	0106665-00	HEX NUT	4
4	0114142-00	LOCKWASHER	4
5	0101018-00	DOUBLE END STUD	2
6	0519458-00	SPRING (500 And 1000 Pound Capacity)	1
	0331033-00	SPRING (1500 And 2000 Pound Capacity)	1
	0639052-00	SPRING (3000 And 4000 Pound Capacity)	1
7	0521639-00	LATCH (500 And 1000 Pound Capacity)	1
	0512640-00	LATCH (1500 And 2000 Pound Capacity)	1
	0639050-00	LATCH (3000 And 4000 Pound Capacity)	1
8	0516332-00	SAFETY LATCH RIVET (500 And 1000 Pound Capacity)	1
	0515080-00	SAFETY LATCH RIVET (1500 And 2000 Pound Capacity)	1
	0639051-00	SAFETY LATCH RIVET (3000 And 4000 Pound Capacity)	1

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Geared Trolley Assembly For 5 To 12 Inch Standard I-Beams

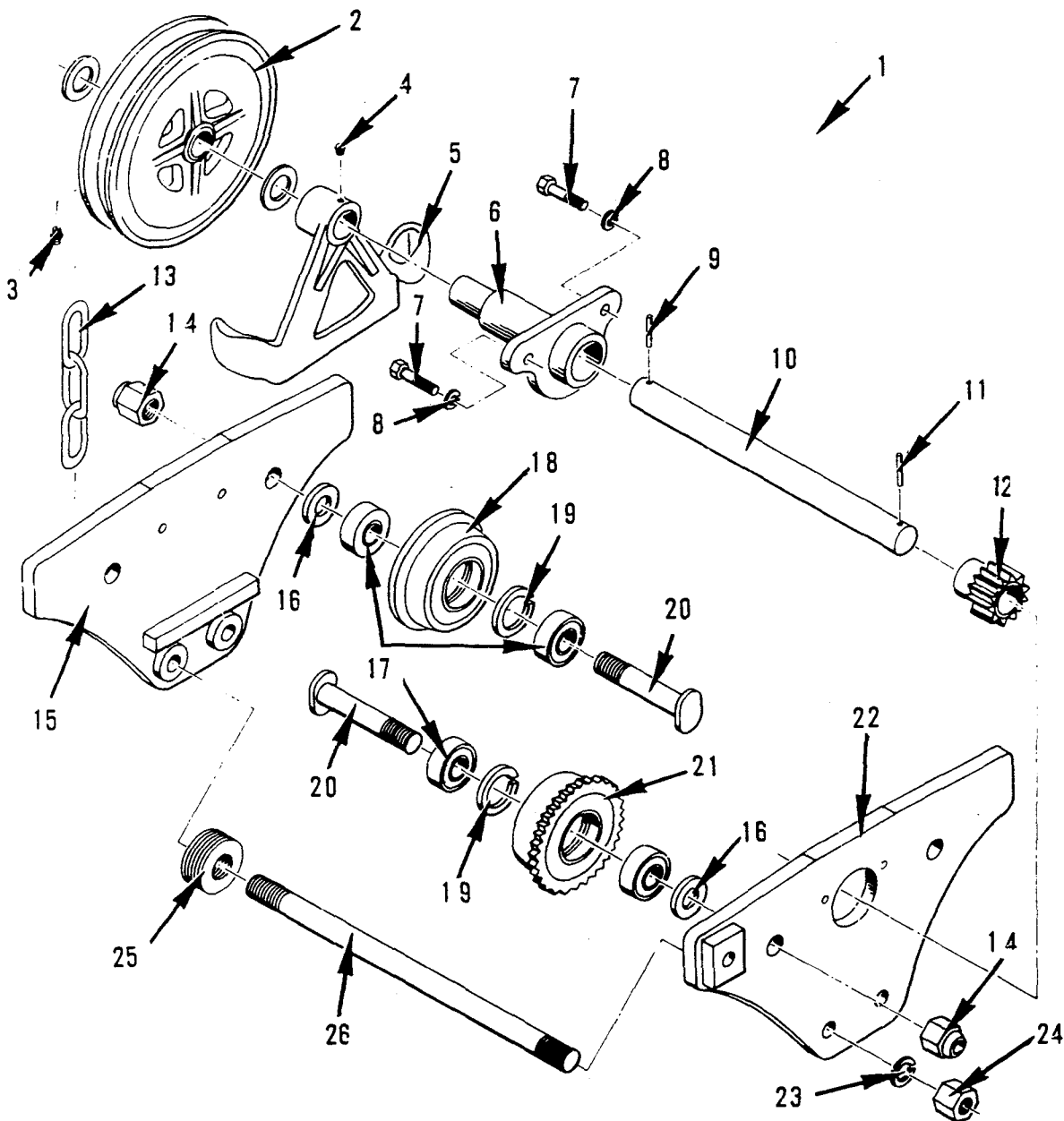


FIGURE 35.

YA-0158

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



**LE Series, Geared Trolley Assembly
For 5 To 12 Inch Standard I-Beams**

ITEM NUMBER	1/2-1 TON PART NUMBER	2 TON PART NUMBER	DESCRIPTION	QTY
1	6446530-00	5024860-00	GEARED TROLLEY ASSEMBLY (Includes Items 2 Through 26)	1
2	0250218-00	0250218-00	HANDWHEEL	1
3	0332182-00	0227845-00	ALEMITE FITTING	1
4	0156287-00	0156287-00	ALEMITE FITTING	1
5	0603328-00	0603328-00	CHAIN GUIDE	1
6	0603329-00	0603329-00	EXTENSION BRACKET	1
7	0146382-00	0570482-00	SCREW	2
8	0114126-00	0114126-00	LOCKWASHER	2
9	0230207-00	0230207-00	ROLL PIN	1
10	0603336-00	0603336-00	SHAFT	1
11	0250666-00	0250666-00	DRIVE-LOC PIN	1
12	0250202-00	0250202-00	PINION	1
13	0033730-00	0033730-00	HAND CHAIN (Specify Length)	1
14	0150160-00	0150158-00	STOVER NUT	4
15	5021844-00	0625391-00	TROLLEY SIDE PLATE, PLAIN	1
16	5006371-00		SPACER	8
17	0250645-00	0250647-00	BALL BEARING	8
18	0249664-00	6412103-00	TROLLEY WHEEL, PLAIN	2
19	6400469-02	0621591-00	RETAINING RING	4
20	5024441-00	0250576-00	AXLE	4
21	0249666-00	6412113-00	TROLLEY WHEEL, GEARED	2
22	5021854-00	0625392-00	TROLLEY SIDE PLATE, GEARED	2
23	0150268-00	0150268-00	LOCKWASHER	4
24	0106664-00	0149374-00	HEX NUT	4
*25	0114200-00		ADJUSTING WASHER	28
*		0114200-00	ADJUSTING WASHER	2
26	0101016-00	0101016-00	DOUBLE END STUD	2

*For Spacing Of Adjusting Washers, See Page 6.

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Part

REPAIR PARTS



LE Series, Special Trolley Assembly For 4 Inch I-Beams 1/4, 1/2, 1 And 2 Ton Capacity

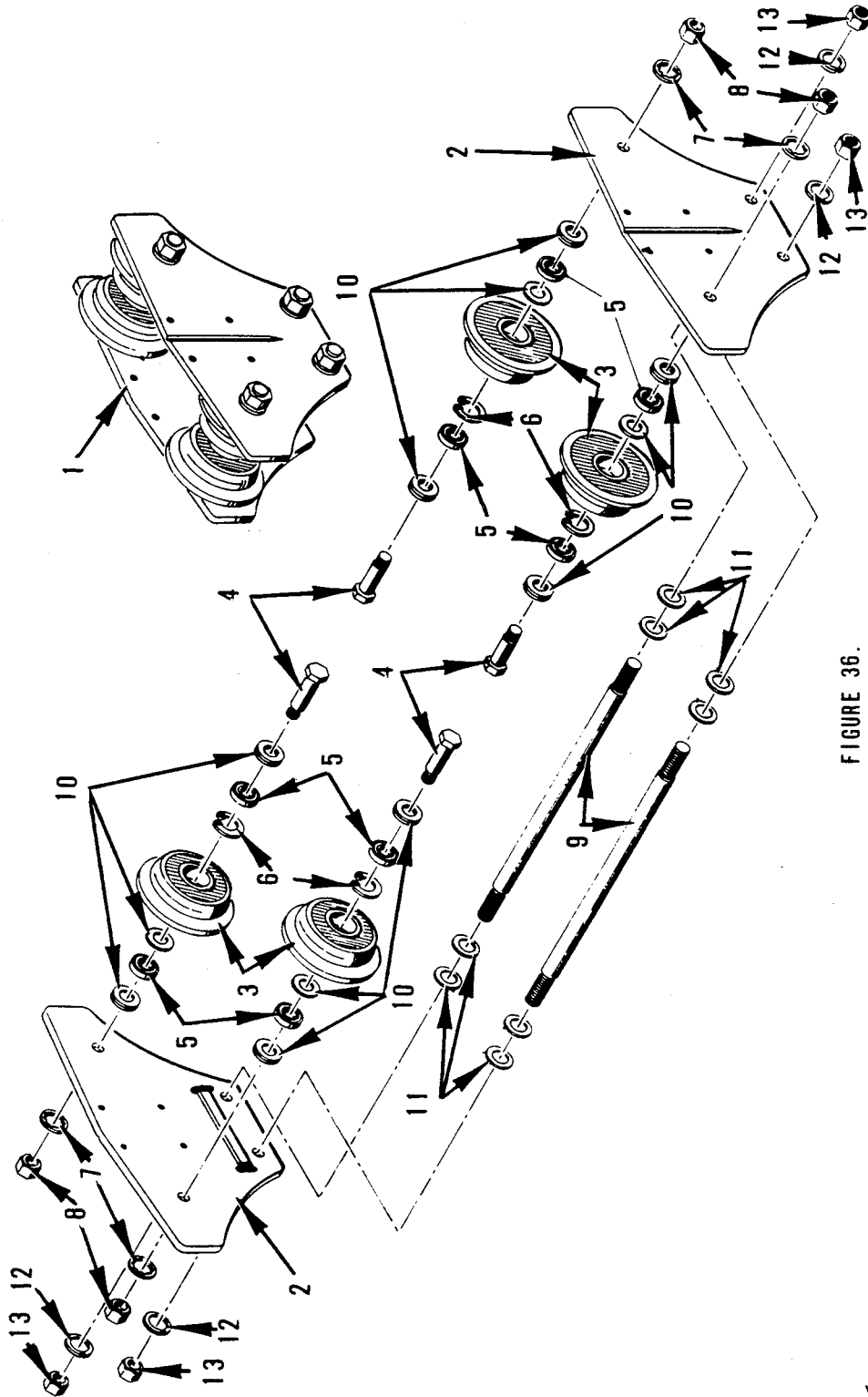


FIGURE 36.

YD-0009

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



REPAIR PARTS

LE Series, Special Trolley Assembly For 4 Inch I-Beams 1/4, 1/2, 1 And 2 Ton Capacity

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0112400-00	SPECIAL TROLLEY ASSEMBLY 500 AND 1000 POUND LIFT (Consists Of Items 2 Through 13)	1
	5033270-00	SPECIAL TROLLEY ASSEMBLY 2000 AND 4000 POUND LIFT (Consists Of Items 2 Through 13)	1
2	0112381-00	TROLLEY SIDE PLATE	2
3	0112725-00	TRACK WHEEL (500 And 1000 Pound Lift)	4
	5029871-00	TRACK WHEEL (2000 And 4000 Pound Lift)	4
4	0112382-00	WHEEL AXLE (500 And 1000 Pound Lift)	4
	5029881-00	WHEEL AXLE (2000 And 4000 Pound Lift)	4
5	0100861-00	RADIAL BEARING (500 And 1000 Pound Lift)	8
	0250647-00	SPECIAL RADIAL BEARING (2000 And 4000 Pound Lift)	8
6	0159241-00	SNAP RING (500 And 1000 Pound Lift)	4
	0605561-00	SNAP RING (2000 And 4000 Pound Lift)	4
7	0114145-00	SHAKEPROOF WASHER	4
8	0106664-00	HEX NUT (500 And 1000 Pound Lift)	4
	0150158-00	STOVER NUT (2000 And 4000 Pound Lift)	4
9	0101018-00	DOUBLE END STUD (500 And 1000 Pound Lift)	2
	0101015-00	DOUBLE END STUD (2000 And 4000 Pound Lift)	2
10	0116422-00	SPACER (500 And 1000 Pound Lift)	20
	0161109-00	SPACER (2000 And 4000 Pound Lift)	4
11	0114200-00	ADJUSTING WASHER (500 And 1000 Pound Lift)	8
	0114200-00	ADJUSTING WASHER (2000 And 4000 Pound Lift)	12
12	0150268-00	LOCKWASHER	4
13	0106665-00	HEX NUT	4

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Plain Trolley Assembly, Wire Rope 6 To 18 Inch Standard I-Beams

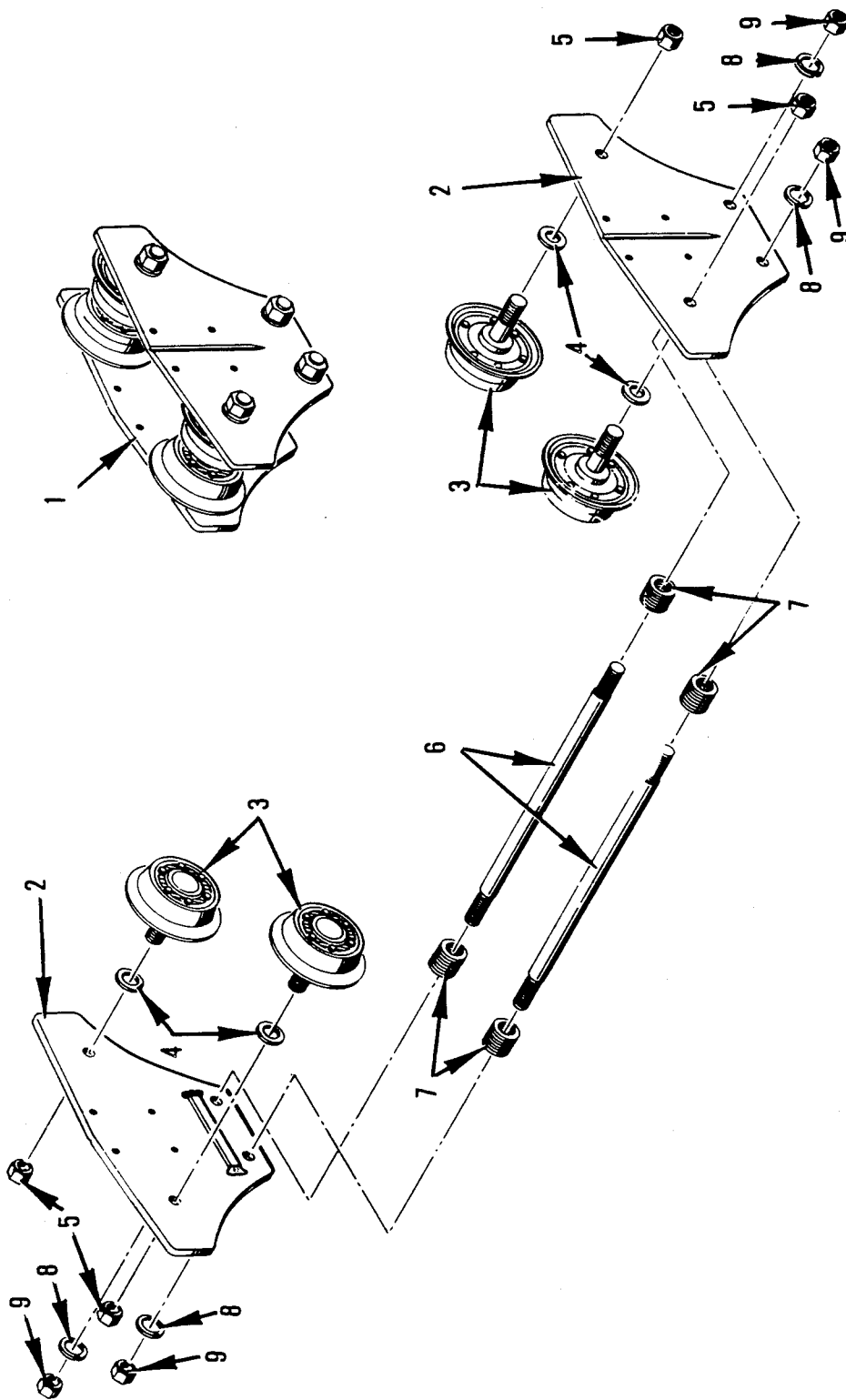


FIGURE 37.

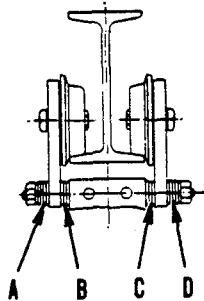
YA-0085

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts



**LE Series, Plain Trolley Assembly, Wire Rope
6 To 18 Inch Standard I-Beams**

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0595380-00	TROLLEY ASSEMBLY (Consists Of Items 2 Through 9)	1
2	0595378-00	TROLLEY SIDE PLATE	2
3	0501071-00	TRACK WHEEL	4
4	5006361-00	WHEEL SPACER	8
5	0150158-00	STOVER LOCKNUT	4
6	0101120-00	DOUBLE END STUD	2
7	0114200-00	ADJUSTING WASHER	48
8	0114142-00	LOCKWASHER	4
9	0106665-00	HEX NUT	4



I-BEAM SIZE	A	B	C	D
6"-12.5# I-BEAM FLANGE 3.33" WIDE	8	4	4	8
8"-18.4# I-BEAM FLANGE 4.00" WIDE	6	6	6	6
10"-25.4# I-BEAM FLANGE 4.66" WIDE	4	8	8	4
12"-31.8# I-BEAM FLANGE 5.00" WIDE	3	9	9	3
15"-42.9# I-BEAM FLANGE 5.50" WIDE	1	11	10	2
18"-54.7# I-BEAM FLANGE 6.00" WIDE	0	12	12	0

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

REPAIR PARTS



LE Series, Current Collector Assembly

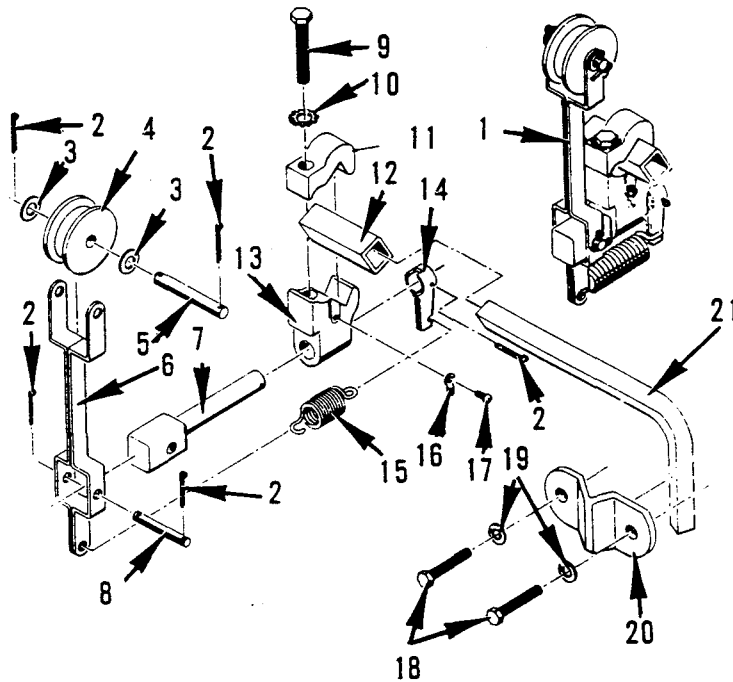


FIGURE 38.

YD-0016

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0113119-00	CURRENT COLLECTOR (Consists Of Items 2 Through 17)	*
2	0102786-00	COTTER PIN (Plated)	5
3	0114290-00	WASHER	2
4	0103250-00	COLLECTOR WHEEL	1
5	0107058-00	COLLECTOR WHEEL PIN	1
6	0103252-00	ARM	1
7	0103249-00	PIVOT YOKE	1
8	0107057-00	PIVOT YOKE PIN	1
9	0109305-00	HEX SCREW (Plated)	1
10	0114128-00	SHAKEPROOF WASHER	1
11	0103255-00	CLAMP	1
12	0103278-00	INSULATOR	1
13	0103253-00	BODY	1
14	0103251-00	SPRING CLIP	1
15	0110639-00	SPRING (Plated)	1
16	0103870-00	SOLDERLESS LUG	1
17	0109453-00	ROUND HEAD SCREW	1
18	0146362-00	HEX HEAD SCREW	*
19	0114121-00	LOCKWASHER	*
20	0103153-00	CLAMP	*
21	0103232-00	COLLECTOR STEM	*

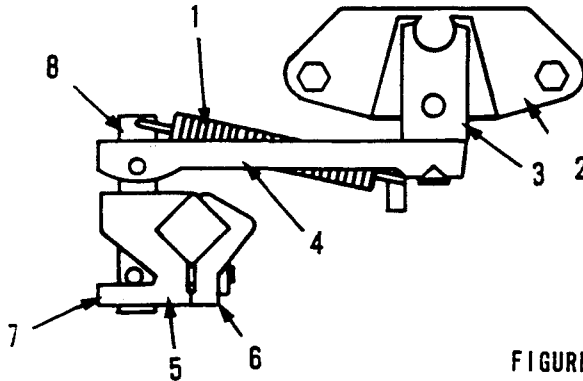
* For Quantities Items 1, 18, 19, 20 And 21 See Table.

NUMBER	CURRENT CHARACTERISTICS	QUANTITY				
		Item 1	Item 18	Item 19	Item 20	Item 21
0103124-00	Single Phase And Direct Current	2	4	4	2	2
0565418-00	Polyphase (3 Wire)	3	4	4	2	2
0565419-00	Two Phase - 4 Wire	4	4	4	2	2

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



LE Series, Current Collector Assembly



COLLECTOR ASSEMBLIES	
30 amp	6428168-01
35 amp	6428168-03
60 amp	6428168-02
100 amp	6428168-04

FIGURE 39.

ITEM NUMBER	DESCRIPTION	30 AMP	35 AMP	60 AMP	100 AMP
1	SPRING	6442618-02	6442618-01	6442618-03	6442618-04
2	CASE ASSEMBLY	6442628-02	6442628-01	6442628-02	6442628-02
3	YOKE ASSEMBLY	6442638-02	6442638-01	6442638-02	6442638-02
4	COLLECTOR ARM (Standard)	6442648-01	6442648-01	6442648-01	6442648-01
	COLLECTOR ARM (Long)	6442648-02	6442648-02	6442648-02	6442648-02
5	CLAMP ASSEMBLY	6442658-01	6442658-01	6442658-01	6442658-01
6	CLAMP (Only)	6442658-02	6442658-02	6442658-02	6442658-02
7	SWIVEL (Only)	6442658-03	6442658-03	6442658-03	6442658-03
8	POST ASSEMBLY	6442668-00	6442668-00	6442668-00	6442668-00
9	CONTACT SHOE (Not Shown)	6442598-02	6442598-01	6442598-03	6442598-04
10	SHOE CLIP (Not Shown)	6442608-01	N/A	6442608-02	6442608-03

Use Item Checked.

ITEM NUMBER	DESCRIPTION	PART NUMBER	LENGTH	QTY.
11	ADJUSTING BAR (When Used)	<input type="checkbox"/> 0103157-00 <input type="checkbox"/> 0103162-00		2 2
12	STEM (When Used)	<input type="checkbox"/> 5017043-00 <input type="checkbox"/> 5024373-00 <input type="checkbox"/> 0329768-00 <input type="checkbox"/> 0546392-00 <input type="checkbox"/> 5024383-00 <input type="checkbox"/> _____	8" 7" 11" 14" 12"	2 2 2 2 2
13	BRACKET ASSEMBLY	5037120-00		2

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts

REPAIR PARTS



LE Series, Chain Container

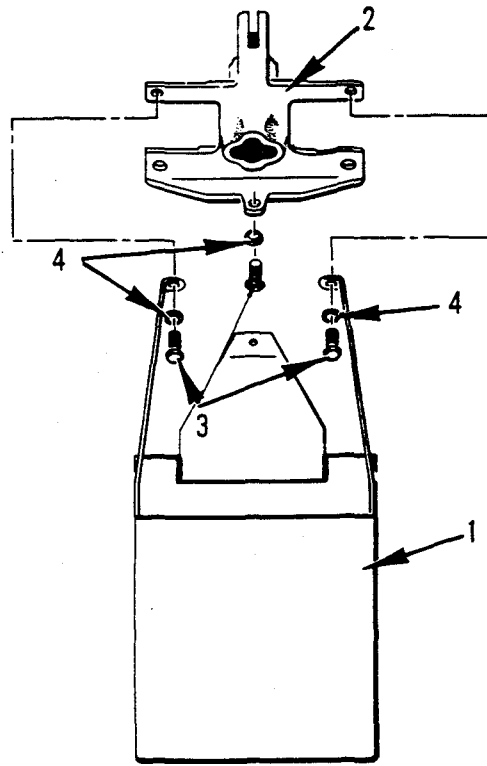


FIGURE 40.

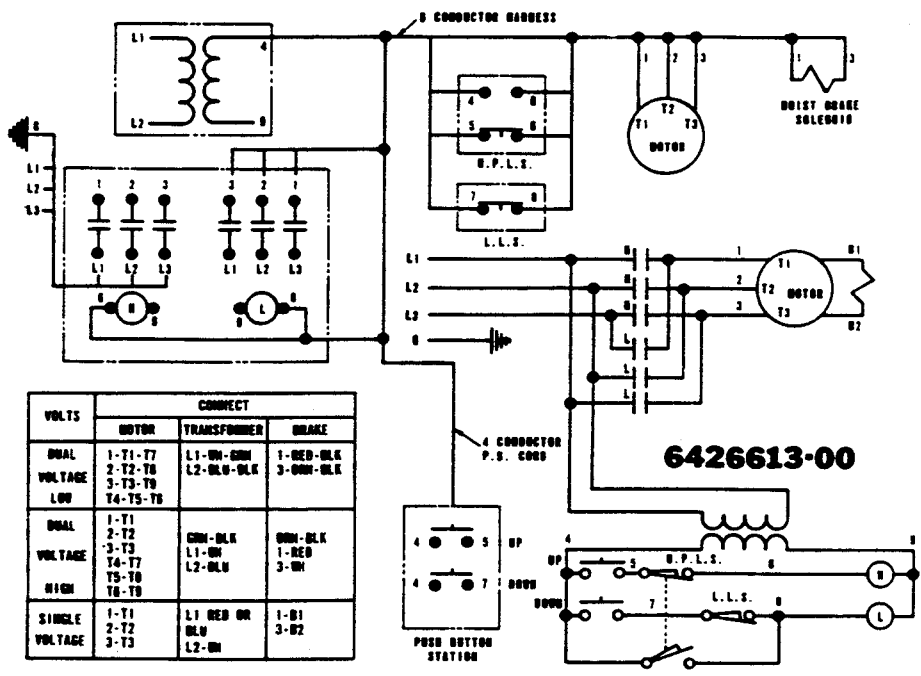
ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	0118554-00	CHAIN CONTAINER (20 Foot Capacity)	1
	0118555-00	CHAIN CONTAINER (40 Foot Capacity)	1
2	0120512-00	STRIPPER	1
3	0109260-00	HEX HEAD SCREW	3
4	0150262-00	LOCKWASHER	3

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



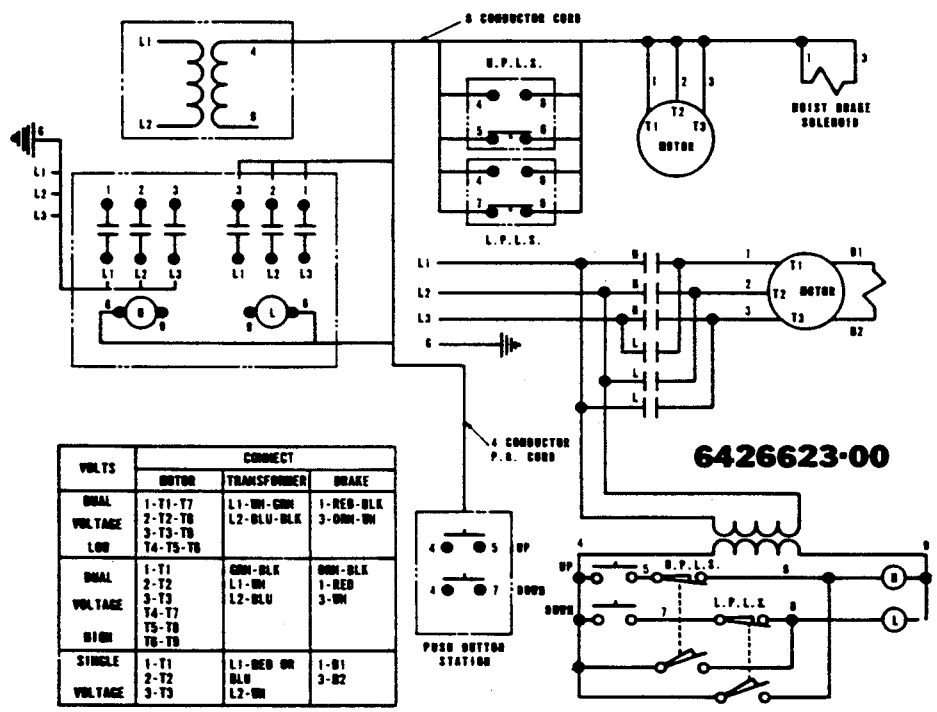
WIRING DIAGRAMS

LE Series, Wire Rope Dual Voltage 3 ϕ Wiring Diagram 6426613-00



YB-0048

LE Series, Link Chain Dual Voltage 3 ϕ Wiring Diagram 6426623-00



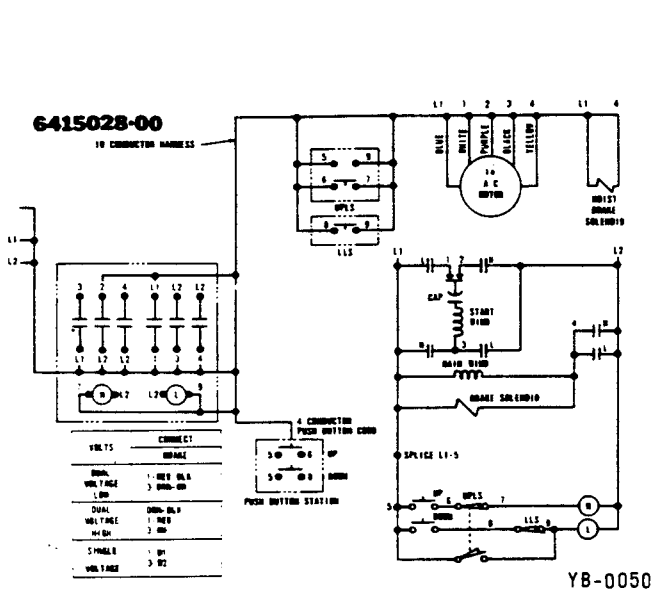
YB-0049

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

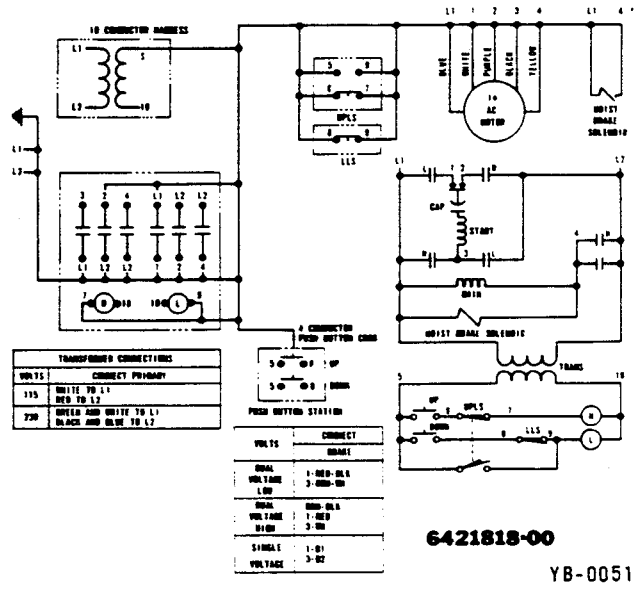
WIRING DIAGRAMS



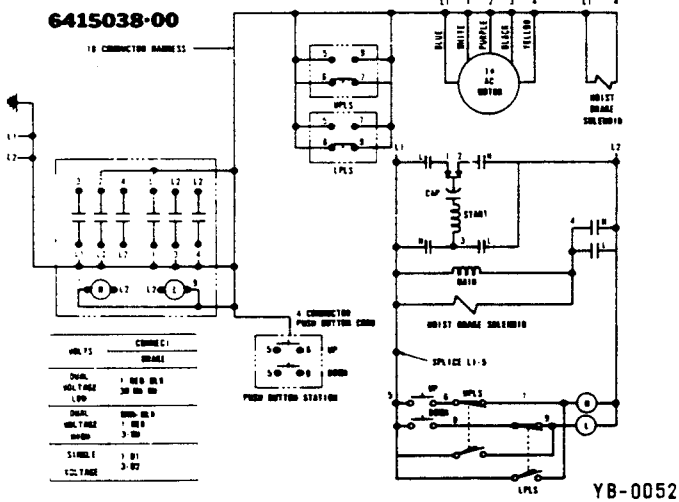
LE Series



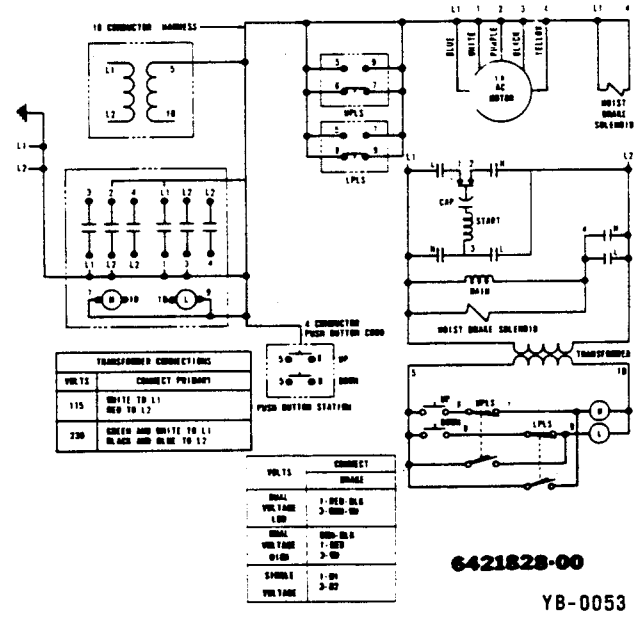
**Single Phase Wire Rope
Wiring Diagram 6415028-00**



**Single Phase Wire Rope
Wiring Diagram 6421818-00**



**Single Phase Link Chain
Wiring Diagram 6415038-00**



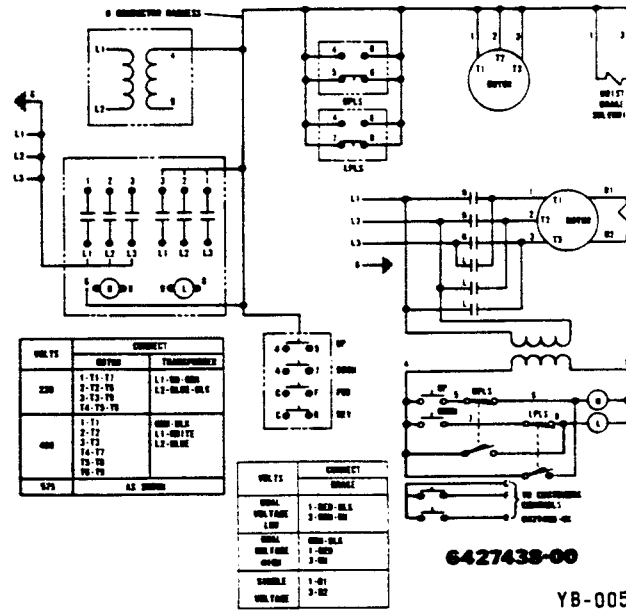
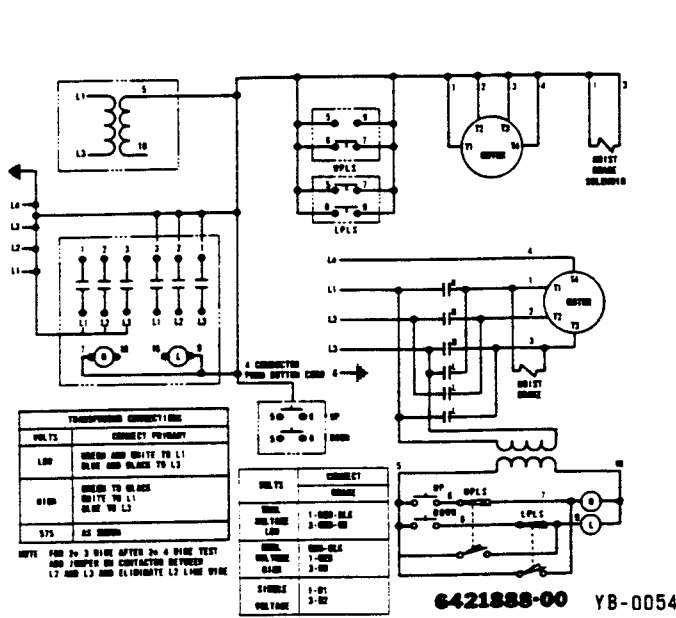
**Single Phase Link Chain
Wiring Diagram 6421828-00**

When Replacement Parts Are Needed, Order Only **YALE®** Factory Engineered Parts

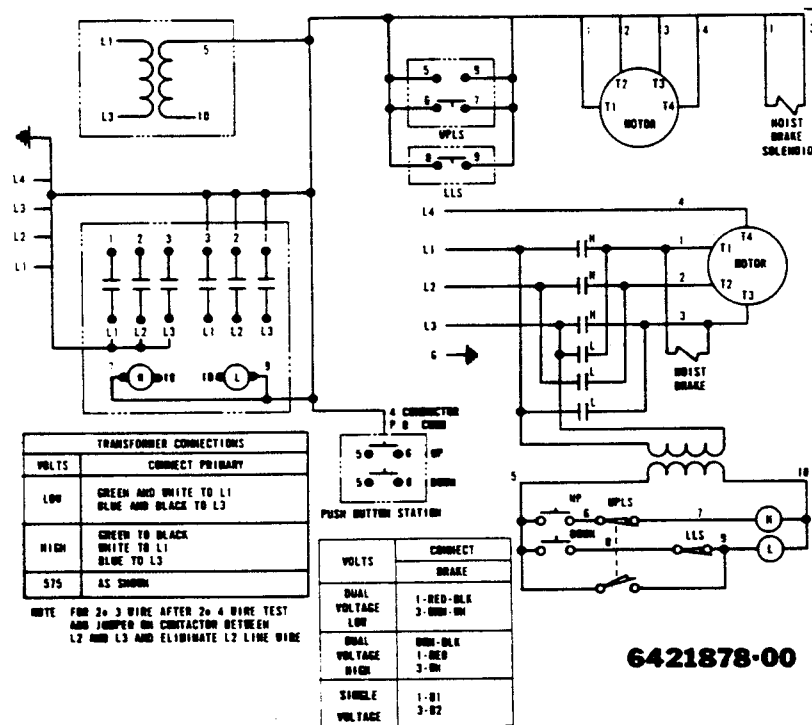


WIRING DIAGRAMS

LE Series



Two Phase Link Chain Wiring Diagram 6421888-00 **3Ø Dual Voltage Link Chain Wiring Diagram 6427438-00**



Two Phase Wire Rope Wiring Diagram 6421878-00

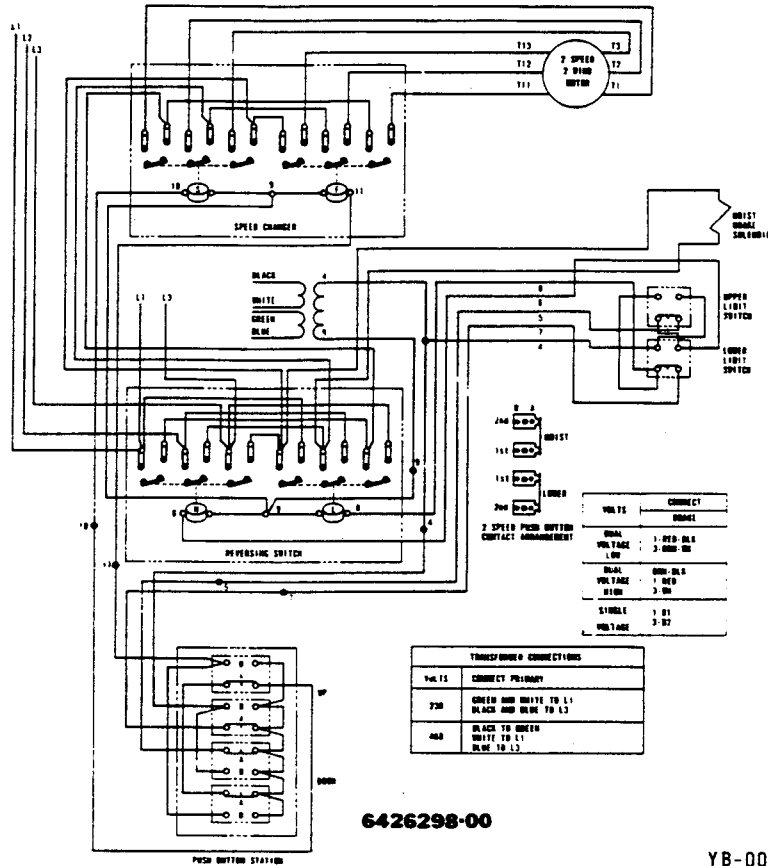
YB-0056

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts

WIRING DIAGRAMS

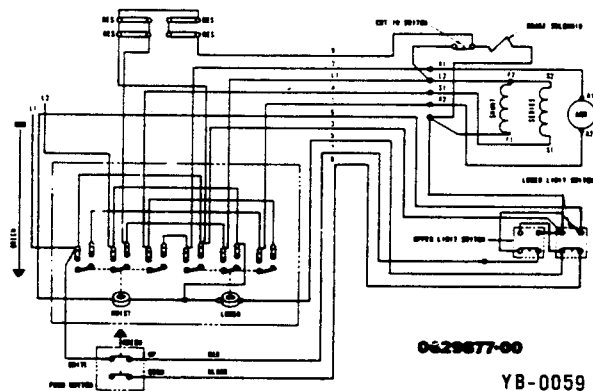
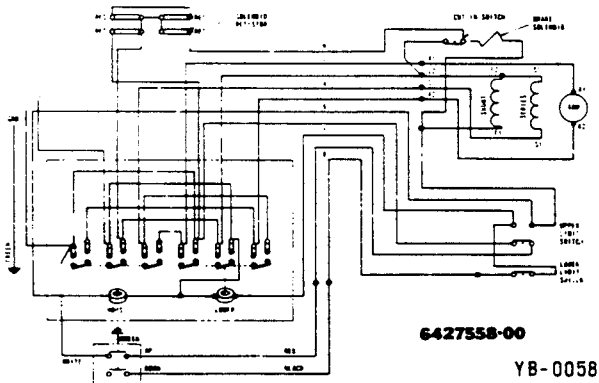


LE Series



YB-0057

2 Speed 2 Winding Link Chain Wiring Diagram 6426298-00



Wire Rope Direct Current Direct Current Link Chain Wiring Diagram 6427558-00 Wiring Diagram 0629877-00

When Replacement Parts Are Needed, Order Only YALE® Factory Engineered Parts



INSPECTION RECORD

Inspection Record

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

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COMMENTS _____

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COMMENTS _____

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

DATE _____ PERSON INSPECTING HOIST _____

COMMENTS _____

When Replacement Parts Are Needed, Order Only YALE[®] Factory Engineered Parts

Yale® HOISTS

Warranty

Every hoist is thoroughly inspected and tested prior to shipment from the factory. Should any problems develop, return the complete hoist prepaid to your nearest Yale Authorized Warranty Repair Station.

This warranty does not apply where: (1) deterioration is caused by normal wear, abuse, improper or inadequate power supply, eccentric or side loading, overloading, chemical or abrasive actions, improper maintenance or excessive heat; (2) problems resulted from repairs, modifications or alterations made by persons other than factory or Duff-Norton personnel;

(3) the hoist has been abused or damaged as a result of an accident; (4) repair parts or accessories other than those supplied by Duff-Norton are used on the hoist. Equipment and accessories not of the seller's manufacture are warranted only to the extent that they are warranted by the manufacturer. EXCEPT AS STATED HEREIN, DUFF-NORTON MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Improvements:

Yale is constantly striving to improve its product. Changes in design and improvements will be made whenever the manufacturer believes the efficiency of the product will be improved without incurring any obligation to incorporate such improvements in any products which have been shipped or are in service.

Important Notice:

Use of chain, wire rope or replacement parts other than as supplied as original equipment on Yale hoists may lead to dangerous operation. Accordingly, Yale cannot be responsible in such cases and our warranty should be voided.

For more information write Yale Hoists, Forrest City, Arkansas 72335.



Yale® Hoists
Highway 1 North
P.O. Box 1000
Forrest City, Arkansas 72335
Customer Service Phone (800) 999-6318
Fax (800) 766-0223

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