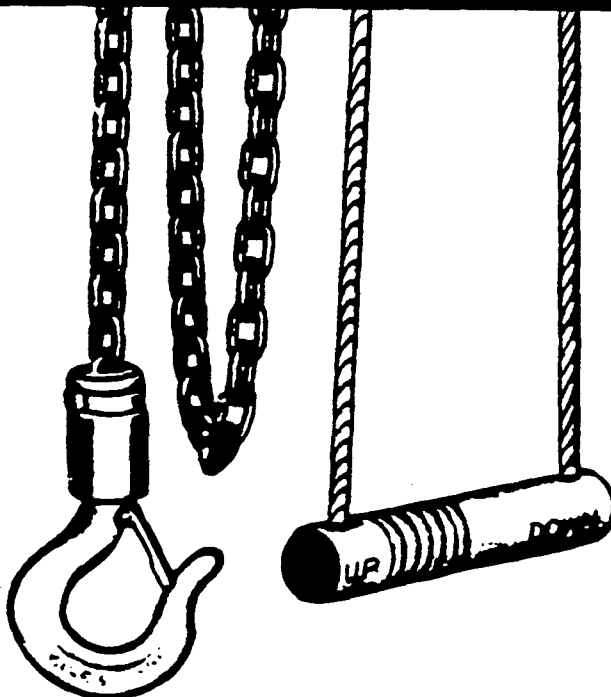


# INSTRUCTIONS AND PARTS MANUAL

# YALE MIDGET KING

ELECTRIC HOIST— $\frac{1}{8}$  TO 2 TON CAPACITY  
LINK AND ROLLER CHAIN MODELS



## IMPORTANT

WHEN ORDERING  
REPLACEMENT  
PARTS GIVE COM-  
PLETE MODEL  
NUMBER OF HOIST.

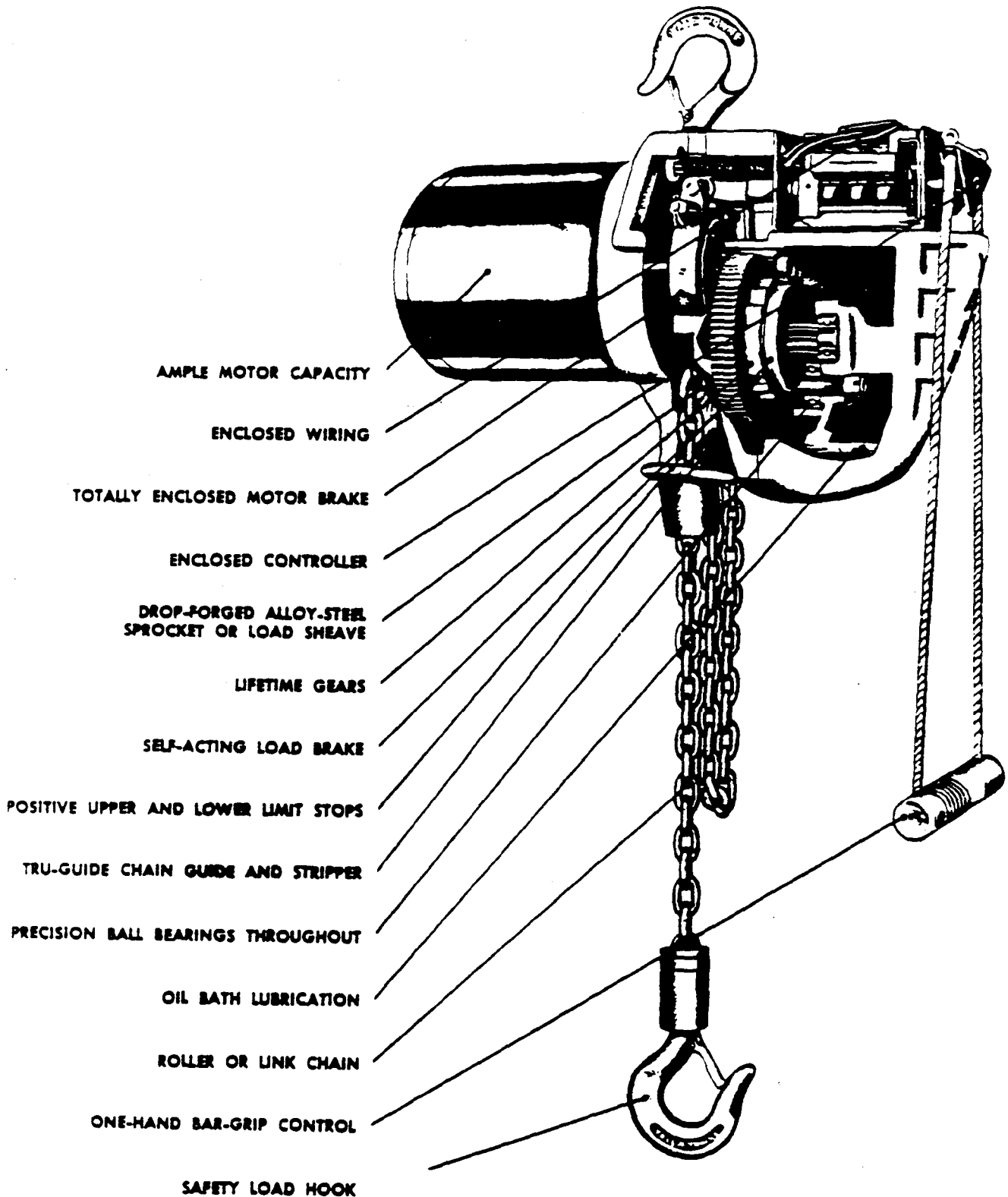
IF MOTOR SPARES  
ARE REQUIRED  
GIVE MOTOR STYLE  
OR MODEL NUMBER  
WHICH IS STAMPED  
ON MOTOR NAME  
PLATE.

The **YALE & TOWNE** Manufacturing Company

YALE

# MIDGET KING Electric Hoist

*The Electric Hoist That Works for Less Than 2 Cents a Day!!*



AMPLE MOTOR CAPACITY

ENCLOSED WIRING

TOTALLY ENCLOSED MOTOR BRAKE

ENCLOSED CONTROLLER

DROP-FORGED ALLOY-STEEL  
SPROCKET OR LOAD SHEAVE

LIFETIME GEARS

SELF-ACTING LOAD BRAKE

POSITIVE UPPER AND LOWER LIMIT STOPS

TRU-GUIDE CHAIN GUIDE AND STRIPPER

PRECISION BALL BEARINGS THROUGHOUT

OIL BATH LUBRICATION

ROLLER OR LINK CHAIN

ONE-HAND BAR-GRIP CONTROL

SAFETY LOAD HOOK

# YALE

## INSTALLATION & OPERATION

Before attempting to operate hoist be sure current supply corresponds to name plate rating.

On polyphase A. C. hoist, it is impossible to predetermine the direction of rotation. It is, therefore, important to carefully check this by pulling on end of control handle marked up. If hook travels in opposite direction or down for 3 phase interchange 2 of the wires for 2 phase interchange the 2 wires of 1 phase at power supply cord.

If hoist is operated with wrong current supply connection, the safety limit stops will not work and serious damage may result.

When facing the controller side the hoist rope should be on the left hand side, and the lowering rope on the right hand side as shown in sketch.

To operate hoist pull end of control handle marked up and hoist hook will travel in that direction. To lower hook, pull on end of control handle marked down & hook will travel in that direction down.

Hoist is equipped with upper and lower safety limit stops. Operating directly on controller shaft these safety stops prevent over travel of hook by returning controller to neutral and applying the motor brake at the limit of hook travel in either hoisting or lowering direction. In the event of over travel at the hook, the motor is automatically and momentarily reversed.

To adjust motor brake remove top screw and loosen bottom screw of both brake covers.

The correct gap between adjusting screw and cam is 1/16".

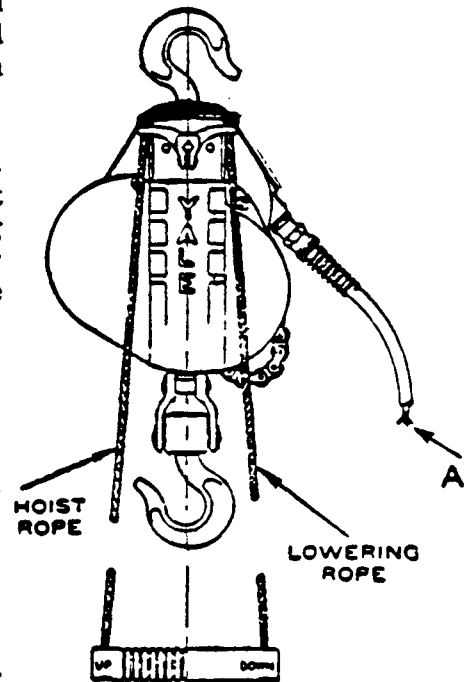
After adjusting be sure to tighten check nuts.

Apply light grease to brake cam surface.

Lubricate gears thru filler plug located in gear case cover with S. A. E. 70 gear oil fill to level of this plug.

Hoist chain (roller type) apply machine or S. A. E. 30 motor oil on full length of chain with a brush.

For link type chain see page 35.



ROLLER CHAIN TYPE PARTS LIST SEE PAGE 10 TO 20

LINK CHAIN TYPE PARTS LIST SEE PAGE 21 TO 31

## RECOMMENDED SEQUENCE OF DISASSEMBLY FOR MIDGET KING HOISTS 250 TO 4000 POUNDS CAPACITY

1. Upper hook assembly may be removed by driving out driv-lok pin, remove collar and thrust washer. Refer to page 33 and 34 for more detailed information.

2. For major disassembly hoist may be placed on its side on the work bench or upside down in a vise which may be tightened on upper hook or swivel lug. Be certain to drain oil before hoist is disassembled or inserted in vise.

3. Remove control ropes (for convenience).

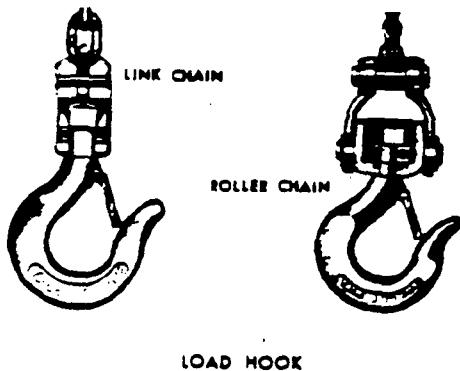
4. To remove roller or link type chain from 250 to 2000 pound capacity hoist, tail should be disassembled by removing spring clip link (91 roller chain) or spring clip link (93 link chain) which fastens chain to housing. Chain may be pulled out by:

(a) Open brake by pushing control arm down in either direction.

(b) Pull steadily on chain until tail is free of sprocket or pocket wheel.

4A. To remove roller or link type chain from 4000 pound capacity hoist in addition to Paragraph 4 above, remove cotter pin (103) and pin (104 link chain) or cotter pin (99) and anchor pin (100 roller chain). Remove load hook assembly when necessary.

5. To remove lower hook assembly from roller chain 250 pound to 2000 pound capacity hoist it is necessary to grind link pins (54); then remove pin, link and hook assembly. Reverse above to install.



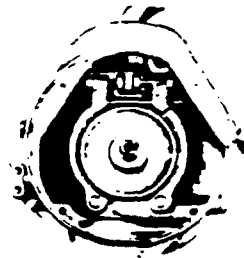
5A. To remove lower hook assembly from link chain 250 pound to 2000 pound capacity hoist it is necessary to remove retaining ring, then remove pin (54) and hook assembly. Reverse above to install.

5B. To remove lower hook assembly from link chain 4000 pound capacity hoist it is necessary to remove three nuts, lockwashers, screws and separate both halves. Reverse above to install.

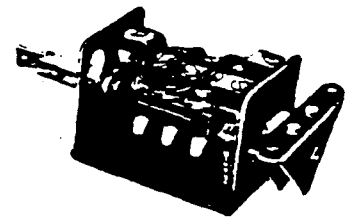
5C. To remove lower hook assembly from roller chain 4000 pound capacity hoist it is necessary to remove cotter pin, sprocket pin and separate both halves. Reverse above to install.

6. Remove screws and lockwashers from name plate, instruction plate and reversing switch cover. Remove plates and cover.

7. Disconnect and tag motor leads. Disconnect and tag leads to power source at reversing switch. Loosen motor lead wire clamp.



MOTOR BRAKE



Reversing Switch

8. Remove four long screws and lockwashers. Pull off motor stator. Rotor will remain in hoist. Caution should be exercised when removing stator to avoid bending rotor shaft or damage to the windings.

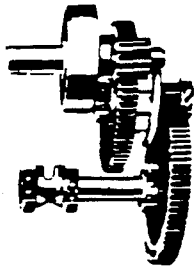
9. Spread open brake shoes and pull out rotor.

10. Remove screws (81), lockwashers (14) and reversing switch (30).

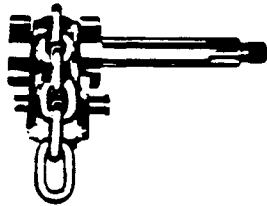
11. Remove brake shoe assembly.

12. Remove screws and lockwashers securing gear case cover (29) to gear case (1). Use caution when removing cover to avoid damage of intermediate pinion bearing. Remove gasket. Clean mating surface of gear case cover and gear case.

13. Remove outer intermediate pinion bearing.



GEAR TRAIN



LOAD SHEAVE & STRIPPER

14. Remove load sheave nut (63) and slow speed gear (61).

15. Remove cotter pin (24), washer (37), pawl (41), spring (40), pawl spring retainer (57) and spring (56).

16. Remove intermediate pinion shaft and load brake assembly.

17. If the load brake fails to hold the load it may be an indication that the brake discs are worn and in that case must be replaced.

## TO DISASSEMBLE

Pull load brake assembly out of the hoist. Remove the snap ring (78), ball bearing (77) and pull off the stop washer (76). Unscrew high speed gear (79) from brake disc hub (67) which releases ratchet assembly (70). To replace brake disc (68) remove three rivets (69). To remove the ball bearings from the suspension frame and the gear case use a bearing puller.

18. Remove limit paddle assembly (49), control connecting link (33) and controller lever (31) when they are bent or damaged.

19. Remove cotter pin (22), stripper pin (21) and stripper (20).

20. Remove snap ring (62) and load sheave assembly. Outer bearing may remain in frame. Remove this bearing.

## INSPECTION

1. All component parts must be thoroughly cleaned before inspection. In the absence of a pressure cleaner, a supply of clean, lint free cloths and a stiff bristle brush must be available. A source of compressed air with a nozzle is highly desirable. Heavy accumulations of grease and dirt can be scraped off with a putty knife or wooden stick. All metal parts should be coated with clean oil or grease, and then covered and kept clean until used.

**CAUTION:** Soaking electrical parts will break down insulation of wiring and coils. Clean the surface only and dry immediately.

Be sure all wire terminals are clean and bright. Contact points are cleaned with a lint free cloth, using dry cleaning solvent.

**BEARINGS AND GEARS.** It may be necessary to brush or tap each piece on a block of wood to dislodge solid particles, rinse again and dry with compressed air. Revolve bearings slowly with fingers. Air should be directed at right angles to bearing case.

**CAUTION:** Do not spin bearings with the air stream because any dirt deposits may scratch bearing surfaces.

Inspect all gears for knicks, scratches, worn or damaged teeth. Replace when necessary. Inspect all bearings for wear, flat spots or damage at seal. Replace when necessary. Replace all worn or damaged parts. Parts section will show what items must be purchased in sets.

## METHOD FOR DETERMINING REPLACEMENT OF ROLLER TYPE HOIST LOAD CHAIN

1. Carefully inspect the chain for the following conditions:
  - a. Exceptionally loose joints.
  - b. Exceptionally tight or stiff joints.
  - c. Worn or broken rollers.
  - d. Bent, cracked or deformed side plates.
  - e. Kinks or twists over entire length of chain.
  - f. Extreme corrosion or rusting.

If visual inspection reveals anyone of the above conditions, the chain should be replaced.
2. If visual inspection reveals no defects, proceed as follows:
  - a. Lay used chain on a flat surface and measure with a vernier caliper over eight (8) rolls while chain is pulled taut. Measurement should be taken in that portion of the chain which has most passed over the load sprocket.
  - b. Repeat step (a) above to measure a new chain of the "same make" as the used chain.
  - c. Subtract the new chain measurement from the used chain measurement and divide the result by seven (7). This is the elongation per pitch which is probably a combination of wear and stretch.
  - d. If the elongation per pitch is .004 to .005 inches or more, it is recommended that the chain be replaced.

### LINK TYPE CHAIN

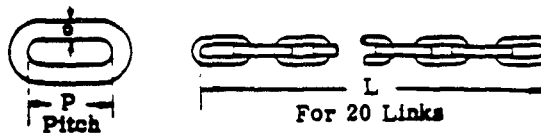
The load chain should be lubricated with oil. Lubrication greatly increases the life of the chain and reduces to a minimum the wear on load sheave pockets. The load sheave pockets should also be greased occasionally.

Periodical inspection and measurement of load chain, see sketch below, will indicate when replacement is necessary. Measure any 20 links as shown. If the chain is worn or stretched 2% longer than specified, then new chain should be obtained.

Worn or stretched chain or worn load sheave pockets can usually be detected by the noise of chain links sliding into load sheave pockets.

When replacing worn-out load sheave, test load chain for worn or stretched links by running it over a new sheave or check chain with dimensions shown below. Worn chain should not be used with a new load sheave since this condition will soon wear out the new sheave.

Always use slings, do not wrap load chain around load.

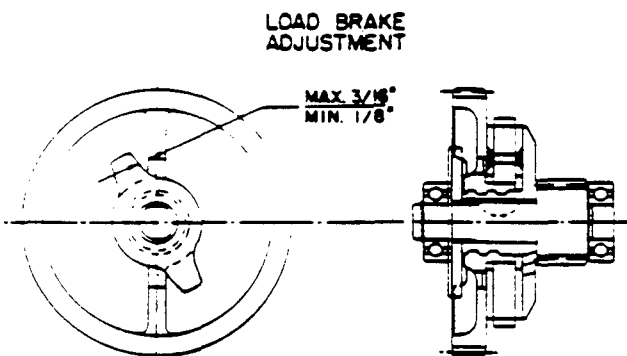


NEW LOAD CHAIN WILL CHECK UP TO THESE DIMENSIONS:

Capacity For Hoists	1/8 & 1/2 Ton	1 & 2 Ton
"D" in Inches	1/4"	5/16"
"P" in Inches	.750	.905
"L" in Inches	15.00	18.10

## SEQUENCE OF REASSEMBLY

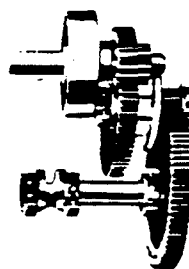
1. Install bearings (19) on each side of load sheave or load sprocket. Be certain oil seals are not damaged. Insert spacer (80) and bearing (64) on shaft.
2. Install load chain guide (15), lockwashers and screws.
3. Lubricate bearings and tap load sheave assembly into place then install snap ring (62).
4. Install stripper (20), stripper pin (21) and cotter pin (22). It is advisable to insert a section of chain by feeding over stripper into load sheave or sprocket to be certain stripper, load sheave and chain guide are positioned to operate properly. For installation of link type chain see page 35.
5. If the load brake has been disassembled for repairs assemble and adjust as follows:
  - a. Replace ratchet assembly (67) (Tap new ratchet on and off new intermediate pinion (66) (once) to remove metal clips.
  - b. Lubricate ratchet lining.
  - c. Screw on high speed gear (79) until it is tight.
  - d. Replace stop washer (76) as shown in drawing below:



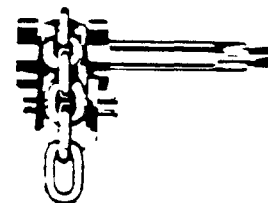
This clearance dimension must be held or brake will jam.

- e. Replace ball bearing (77) and snap ring (78).
- f. Insert pinion in a soft jawed vise (copper inserts may be used) turn high speed gear counterclockwise to be certain it hits the stop washer; then turn clockwise to check the 1/8" to 3/16" clearances as shown in above drawing.

6. Position intermediate pinion shaft and load brake assembly in frame.
7. Install slow speed gear (61) and nut (63) on load sprocket shaft (15) or sheave shaft. Gears must turn freely.

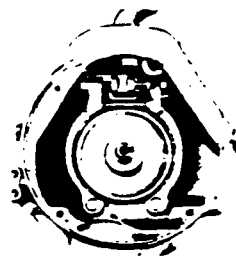


GEAR TRAIN

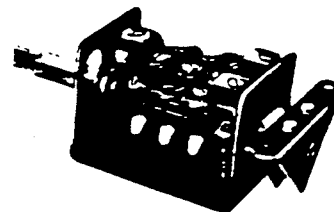


LOAD SHEAVE & STRIPPER

8. Install remaining bearing on intermediate pinion (66).
9. Place a new gasket on mating surface of gear case (1).
10. Place gear case cover (29) over gear case (1) and tap into position. Install lockwashers and screws securing cover and case. Tighten screws.
11. Place brake assembly on anchor studs.
12. Install limit paddle assembly (49), control connecting link (33) and controller lever (31).
13. Install reversing switch. Be certain controller lever (31) is in position and controller shaft is between brake adjusting screws.



MOTOR BRAKE



Reversing Switch

14. Spread open brake shoes and install rotor. Set brake as follows:

- a. Loosen adjusting screw lock nut.
- b. The correct gap between adjusting screw and cam is 1/16 inch.
- c. Tighten lock nut.
- d. Apply a small amount of light grease to brake cam surface.
- e. Open brake by pushing control arm down in either direction, then turn rotor to be certain brake does not drag and gears turn freely.

15. Install stator. Feed wires through clamp and opening at reversing switch. Refer to page 36 through 39 for type of motor used on your particular hoist.

16. Remove tags as motor leads and power source wires are connected. Tighten wire clamp.

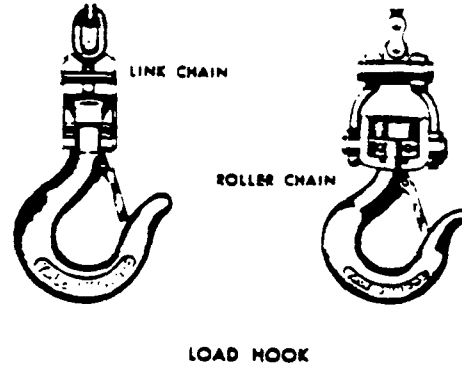
17. Install and connect roller or link type chain on a 250 to 2000 pound capacity hoist as follows:

- a. Open brake
- b. Slowly feed chain through limit paddle, past stripper and load sheave until approximately 24 to 30 inches of tail has been pulled past stripper.
- c. Insert spring clip link (91 roller chain) or spring clip link (93 link chain) through end tail link and fasten at frame anchor.

17A. Connect roller or link type chain on a 4000 pound capacity hoist as shown in Paragraph 15, then install anchor pin (104 link chain) and cotter pin (103) or anchor pin

(100 roller chain) and cotter pin (99). Install upper hook if it was removed for any reason. Refer to page 37 and 34 for more detailed information.

18. Install load hook as shown in Paragraphs 5A through 5C in disassembly section.



19. With hoist in an upright position, fill hoist to proper level. Use specified lubricant.

20. Install rope and handle assembly. (Up) mark on control handle must be toward load (hook) chain.

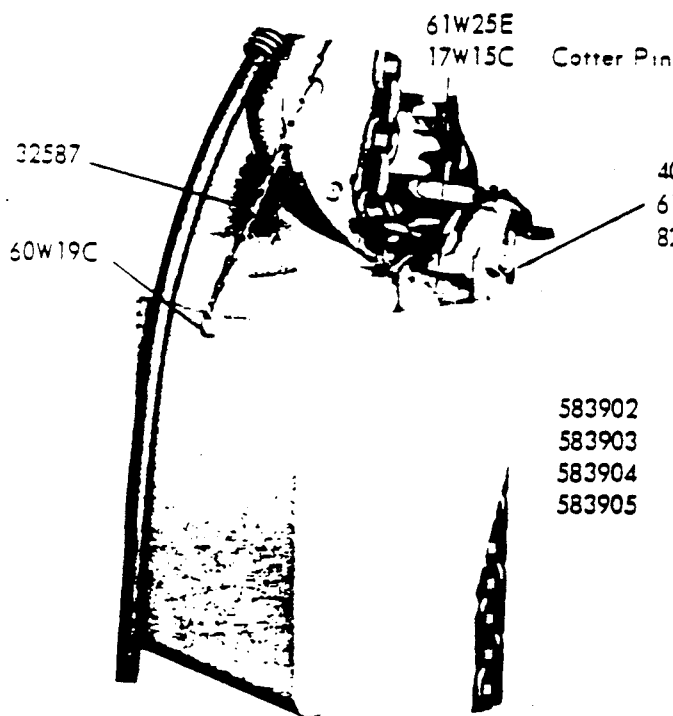
21. Install at power source. Be sure current supply corresponds to name plate rating. On polyphase A. C. hoists it is impossible to predetermine the direction of rotation. It is therefore important to carefully check this by pulling on end of control handle marked up. If hook travels in opposite direction (down) interchange any (2) wires at source.

22. Limit stops must shut off power supply in both directions.

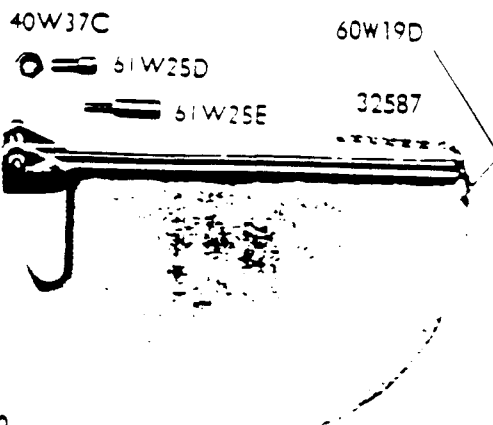


# YALE

## ACCESSORIES



Link Type Chain



Roller Type Chain



ANTI-ROTATING CLAMP CAN BE ROTATED 90°

583902  
583903  
583904  
583905

106WG2  
106WG4  
106WG8  
106WG10

PART NO.	DESCRIPTION	PART USED ON CAPACITY	NO. REQ'D.
583902	Link Type Chain Container Assembly including special screws and sash chain (maximum capacity 15 foot lift) ...	1/8 - 1/4 Ton	1
583903	Link Type Chain Container Assembly including special screws and sash chain (maximum capacity 25 foot lift) ...	1/8 - 1-1/4 Ton	1
583904	Link Type Chain Container Assembly including special screws and sash chain (maximum capacity 1 ton, 15 foot - 2 tons, 7-1/2 foot lift).....	1/2 Ton	1
583905	Link Type Chain Container Assembly including special screws and sash chain (maximum capacity 1 ton, 25 foot - 2 ton, 12-1/2 foot lift).....	1 & 2 Ton	1
106WG2	Roller Type Chain Container Assembly including special screws and sash chain (maximum capacity 15 foot lift) ...	1 & 2 Ton	1
106WG4	Roller Type Chain Container Assembly including special screws and sash chain (maximum capacity 15 foot lift) ...	1/8 to 1/2 Ton	1
106WG8	Roller Type Chain Container Assembly including special screws and sash chain (maximum capacity 25 foot lift) ...	1 Ton	1
106WG10	Roller Type Chain Container Assembly including special screws and sash chain (maximum capacity 1 ton, 25 foot - 2 ton, 10 foot lift).....	1/8 to 1/2 Ton	1
32587	Chain for Chain Container (11-1/2", 9-1/2" long).....	1 to 2 Ton	1
60W19C	Round Head Screw #10 - 24 x 5/16".....	All	1
60W19D	Round Head Screw #10 - 24 x 1/2".....	All	1
40W37C	Hex Nut 3/8" - 16".....	All	1
61W25D	Special Screw - short (for Chain Container).....	All	1
82W37C	Lockwasher 3/8".....	All	1
61W25E	Special Screw - long (for Chain Container).....	All	1
17W15C	Cotter Pin.....	All	1
31WG90	Anti Rotating Clamp Assembly (can be rotated 90°) Two clamps and bolt.....	1/8 to 1 Ton	1

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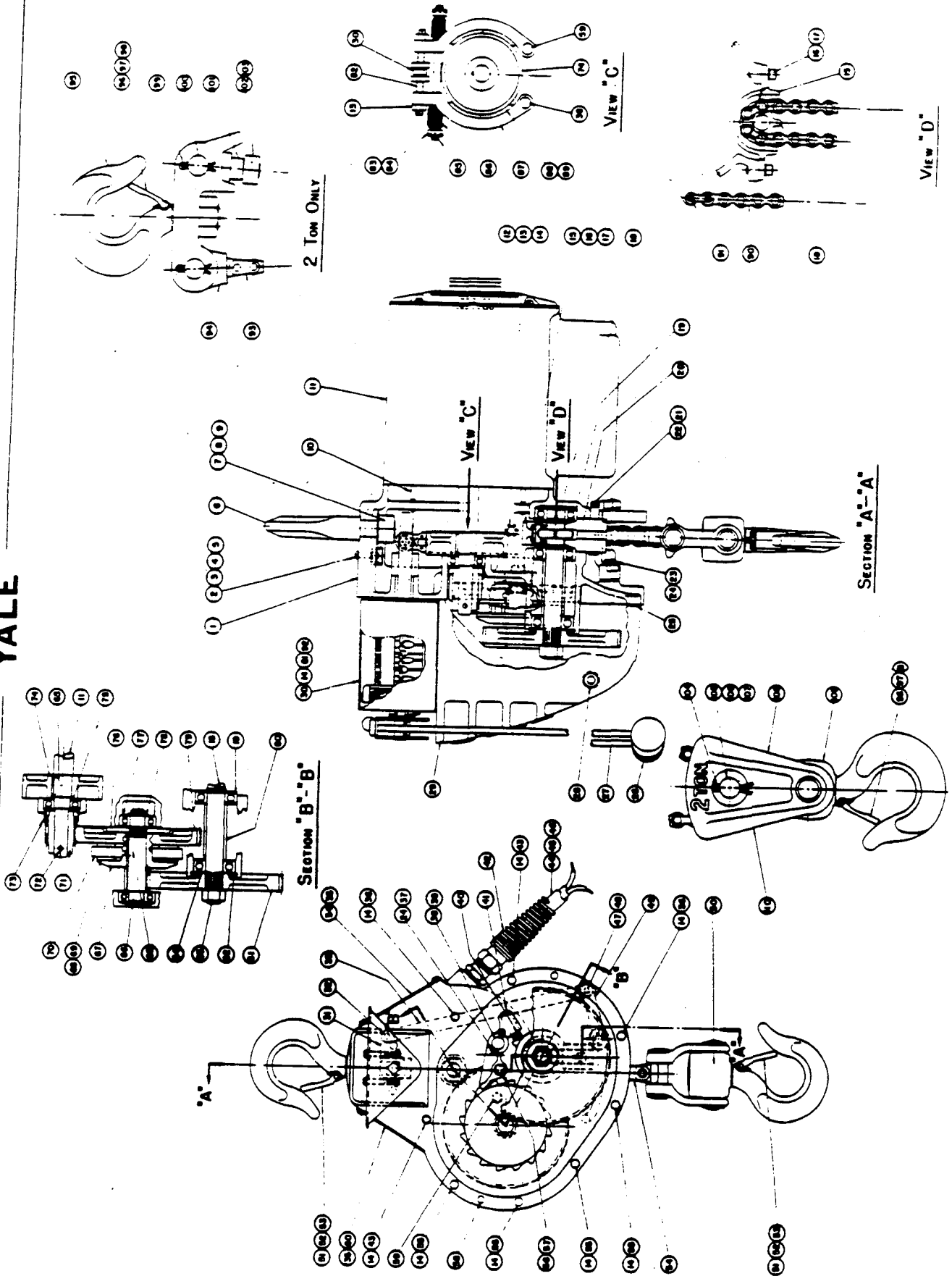
**YALE**

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**Yale Midget King Electric Hoist**

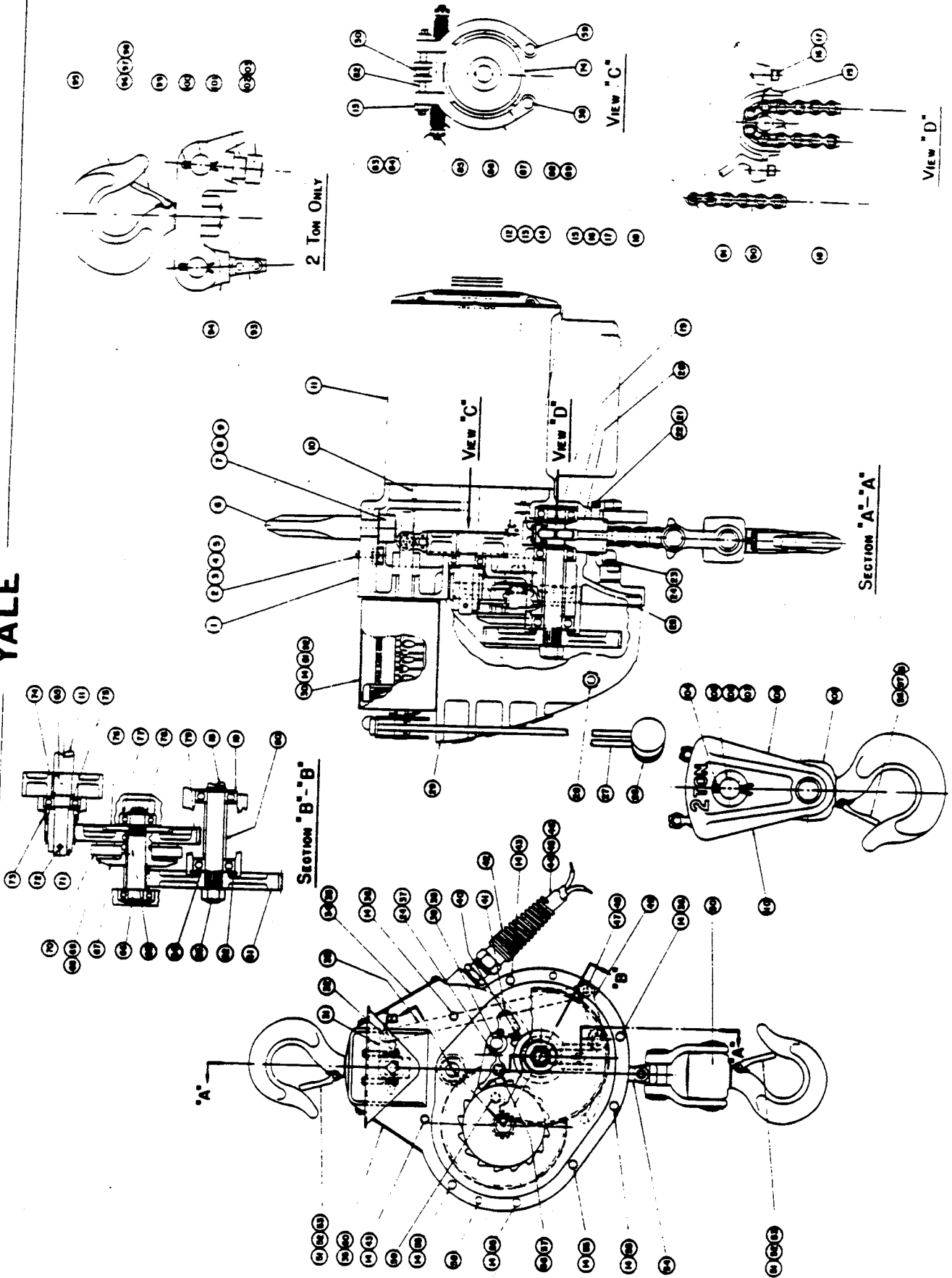
**Roller Chain Type**

YALE



YALE MIDGET KING ELECTRIC HOIST - ROLLER CHAIN TYPE

YALE



YALE MIDGET KING ELECTRIC HOIST - ROLLER CHAIN TYPE

# YALE

**MIDGET KING ELECTRIC HOIST  
ROLLER CHAIN TYPE  
250 TO 1000 LBS. CAPACITY**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
1	332571	Gear Case .....	1
2	24W55	Conduit Clamp.....	1
3	60W19N	Rd. Hd. Phillips Screw .....	1
4	40W19A	Hex Nut.....	1
5	32W19C	Lockwasher .....	1
6	ø	Upper Hook .....	1
7	544163	Hook Collar .....	1
8	524153	Thrust Washer - Oilite.....	1
9	544160	Driv-Lok Pin .....	1
10	*	Motor Bolt (included in item No. 11).....	4
11	**	Motor (see item no. "H" & Motor Section).....	1
12	6W4	Double End Stud .....	1
13	40W25C	Hex Nut .....	4
14	82W25B	Lockwasher - Shake Proof.....	17
15	333220	Load Chain Guide .....	1
16	321K406	Allen Hd. Screw.....	2
17	82W25A	Lockwasher .....	2
18	100W3	Load Sprocket .....	1
19	4W31	Ball Bearing - Sealed .....	2
20	579133	Stripper .....	1
21	45W59	Stripper Pin .....	1
22	17W15C	Cotter Pin .....	1
23	550311	Inner Paddle Stud.....	1
24	17W12A	Cotter Pin .....	2
25	25W12	Gasket.....	1
26	78W11	Control Handle .....	1
27	78XW10	Braided Cotton Line (15 ft. long) .....	1
28	5470D6078	Pipe Plug .....	1
29	***	Gear Case Cover .....	1
30	77W1	Reversing Switch (See Page 32).....	1
31	33W32	Controller Lever .....	1
32	45W47	Control Connecting Pin - Upper .....	1
33	104W1	Control Connecting Link .....	1
34	559762	Brake Cover Name Plate .....	1
35	60W19C	Rd. Hd. Slotted Sems Screw .....	5
36	60W25F	Rd. Hd. Phillips Screw .....	2
37	83W33	Flat Washer .....	1
38	69W5	Brake & Pawl Stud .....	1
39	64W12	Snap Ring .....	1
40	68W20	Pawl Return Spring .....	1
41	43W10	Ratchet Pawl .....	1
42	24W4	Strain Reliever .....	1
43	60W25J	Rd. Hd. Phillips Screw .....	3
44	92WG1C	Portable Rubber Cable .....	1
45	24W92	Connector .....	1

# YALE

MIDGET KING ELECTRIC HOIST  
ROLLER CHAIN TYPE  
250 TO 1000 LBS. CAPACITY (Continued)

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
46	24W87	Terminal (for ground).....	1
47	45W58	Control Connecting Pin - Lower.....	1
48	17W9A	Cotter Pin.....	1
49	563745	Limit Paddle Assembly.....	1
50	31WG26	Lower Hook & Crosshead Assembly-Without Latch ...	1
51	519458	Safety Latch Spring.....	2
52	516332	Safety Latch Rivet.....	2
53	521639	Safety Latch.....	2
54	107W20	Connecting Link.....	1
55	60W25G	Rd. Hd. Phillips Screw.....	4
56	68W19	Pawl Drag Spring.....	1
57	54W7	Pawl Spring Retainer.....	1
58	89W11	Dowel Pin.....	2
59	69W8	Brake Stud.....	1
60	18W22	Brake Cover Instruction Plate.....	1
61	***	Slow Speed Gear.....	1
62	64W8	Snap Ring.....	1
63	40W50F	Stover Locknut.....	1
64	4W32	Ball Bearing.....	1
65	88W15A	Woodruff Key.....	2
66	***	Intermediate Pinion.....	1
67	52W15	Brake Disc Hub.....	1
68	12W7	Brake Disc.....	1
69	55W12H	Tubular Brass Rivet.....	3
70	51W11B	Ratchet.....	1
71	***	Motor Pinion.....	1
72	***	Pin - Motor Pinion.....	1
73	573887	Oil Slinger - Motor Pinion.....	1
74	13W6	Brake Drum.....	1
75	4W30	Ball Bearing - Sealed.....	1
76	83W80	Stop Washer.....	1
77	4W29	Ball Bearing.....	2
78	64W16	Snap Ring.....	1
79	***	High Speed Gear.....	1
80	87W55	Spacer.....	1
81	60W25H	Rd. Hd. Phillips Screw.....	2
82	61W9	Brake Adjusting Screw.....	2
83	40W25F	Slotted Hex Nut.....	2
84	17W6A	Cotter Pin.....	2
85	6W5	Brake Spring Stud.....	1
86	68W22B	Brake Spring.....	2
87	15W5	Brake Shoe.....	2
88	14W7	Brake Lining.....	2
89	55W12A	Tubular Brass Rivet.....	6
90	107W1 <del>66</del>	Roller Chain - 11 ft. lg. (includes items no. 54 & 91)..	1

# YALE

**MIDGET KING ELECTRIC HOIST  
ROLLER CHAIN TYPE  
250 TO 1000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
91	107W3	Coupler Link (slack chain end) .....	1
92	24W50	Wire Terminal .....	6
<b>THE FOLLOWING ARE SERVICEABLE ASSEMBLIES</b>			
A	∅	Top Hook & Safety Latch Assembly - Includes Items No. 6, 51, 52 & 53 (1 each) .....	1
B	563743	Gear Case Assembly - Includes Items No. 1 thru 9, 23, 38, 39 & 59 .....	1
C	104WG1	Control Connecting Link & Lever Assembly - Includes Items No. 31, 32 & 33 .....	1
D	563765	Bottom Safety Hook Assembly With Latch - Includes Items No. 50 thru 54 (1 each) .....	1
E	51WG11B	Ratchet & Disc Assembly - Includes Items No. 68, 69 & 70 .....	1
F	15WG5	Brake Shoe & Lining Assembly - Includes Items No. 87(1), 88 (1), & 89(3 req'd.) .....	2
G	15WG6	Brake Shoe Assembly - Includes Items No. 13(2), 82 thru 86 & F(2 req'd.) .....	1
H	*	Motor Assembly - Includes Items No. 11, 65 & 71 thru 75 .....	

- NOTE:**
- \* Use Complete Name Plate Data & Serial No. of Hoist For Ordering.
  - \*\* Not Serviced Separately.
  - \*\*\* Refer To Table For Specific Part Numbers.
  - ∅ 544163 Collar & 544160 Driv-Loc-Pin Must be Replaced With 544164 Top Hook Or 616641 Top Hook & Safety Latch Assembly (Not Serviced Separately).
  - ∅∅ Chain - For Other Than Std. Use Rough Part No. 107W1A Plus Length Required.

# YALE

## MIDGET KING ELECTRIC HOIST ROLLER CHAIN TYPE 2000 LBS. CAPACITY

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
1	332872	Gear Case .....	1
2	24W55	Conduit Clamp .....	1
3	60W19AA	Rd. Hd. Phillips Screw.....	1
4	40W19A	Hex Nut.....	1
5	82W19C	Lockwasher .....	1
6	ø	Upper Hook .....	1
7	544162	Hook Collar .....	1
8	544158	Thrust Washer - Oilite .....	1
9	544161	Driv-Lok Pin.....	1
10	*	Motor Bolt (included in item no. 11) .....	4
11	**	Motor (see item no. "H" & Motor Section).....	1
12	6W4	Double End Stud .....	1
13	40W25C	Hex Nut.....	4
14	82W25B	Lockwasher - Shake Proof.....	17
15	333221	Load Chain Guide .....	1
16	321K506	Allen Hd. Screw.....	2
17	82W13A	Lockwasher .....	2
18	100W4	Load Sprocket .....	1
19	4W34	Ball Bearing - Sealed .....	2
20	579134	Stripper .....	1
21	45W61	Stripper Pin.....	1
22	17W15C	Cotter Pin .....	1
23	550311	Inner Paddle Stud.....	1
24	17W12A	Cotter Pin .....	2
25	25W13	Gasket.....	1
26	78W11	Control Handle .....	1
27	78XW10	Braided Cotton Line (15 ft. long) .....	1
28	5470D6078	Pipe Plug.....	1
29	***	Gear Case Cover.....	1
30	77W1	Reversing Switch (See Page 32) .....	1
31	33W32	Controller Lever.....	1
32	45W57	Control Connecting Pin - Upper .....	1
33	104W3	Control Connecting Link.....	1
34	559762	Brake Cover Name Plate .....	1
35	60W19C	Rd. Hd. Slotted Sems Screw .....	5
36	60W31C	Rd. Hd. Phillips Screw.....	2
37	83W33	Flat Washer.....	1
38	69W5	Brake & Pawl Stud.....	1
39	64W12	Snap Ring.....	1
40	68W20	Pawl Return Spring .....	1
41	43W10	Ratchet Pawl.....	1
42	24W4	Strain Reliever .....	1
43	60W25J	Rd. Hd. Phillips Screw.....	3
44	92WG1C	Portable Rubber Cable .....	1
45	24W92	Connector.....	1



# YALE

MIDGET KING ELECTRIC HOIST  
 ROLLER CHAIN TYPE  
 2000 LBS. CAPACITY (Continued)

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
46	24W57	Terminal (for ground) .....	1
47	45W58	Control Connecting Pin - Lower .....	1
48	17W9A	Cotter Pin .....	1
49	563747	Limit Paddle Assembly .....	1
50	31WG36	Lower Hook & Crosshead Assembly - Without Latch ..	1
51	331033	Safety Latch Spring .....	2
52	515080	Safety Latch Rivet .....	2
53	521640	Safety Latch .....	2
54	107W21	Connecting Link .....	1
55	60W25G	Rd. Hd. Phillips Screw .....	4
56	68W19	Pawl Drag Spring .....	1
57	54W7	Pawl Spring Retainer .....	1
58	89W11	Dowel Pin .....	2
59	69W8	Brake Stud .....	1
60	18W22	Brake Cover Instruction Plate .....	1
61	***	Slow Speed Gear .....	1
62	64W7	Snap Ring .....	1
63	40W62F	Stover Locknut .....	1
64	4W33	Ball Bearing .....	1
65	88W15A	Woodruff Key .....	2
66	***	Intermediate Pinion .....	1
67	52W15	Brake Disc Hub .....	1
68	12W7	Brake Disc .....	1
69	55W12H	Tubular Brass Rivet .....	3
70	51W12B	Ratchet .....	1
71	***	Motor Pinion .....	1
72	***	Pin - Motor Pinion .....	1
73	573887	Oil Slinger - Motor Pinion .....	1
74	13W6	Brake Drum .....	1
75	4W30	Ball Bearing - Sealed .....	1
76	83W80	Stop Washer .....	1
77	4W29	Ball Bearing .....	2
78	64W16	Snap Ring .....	1
79	***	High Speed Gear .....	1
80	87W56	Spacer .....	1
81	60W25H	Rd. Hd. Phillips Screw .....	2
82	61W9	Brake Adjusting Screw .....	2
83	40W25F	Slotted Hex Nut .....	2
84	17W6A	Cotter Pin .....	2
85	6W5	Brake Spring Stud .....	1
86	68W22B	Brake Spring .....	2
87	15W5	Brake Shoe .....	2
88	14W7	Brake Lining .....	2
89	55W12A	Tubular Brass Rivet .....	6
90	107W4 66	Roller Chain - 11 ft. lg. (includes items no. 54 & 91)..	1

# YALE

**MIDGET KING ELECTRIC HOIST  
ROLLER CHAIN TYPE  
2000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
91	107W6	Coupler Link (slack chain end) .....	1
92	24W50	Wire Terminal .....	6

**THE FOLLOWING ARE SERVICEABLE ASSEMBLIES**

A	∅	Top Hook & Safety Latch Assembly - Includes Items No. 6, 51, 52 & 53 .....	1
B	563744	Gear Case Assembly - Includes Items No. 1 thru 9, 23, 38, 39 & 59 .....	1
C	104WG3	Control Connecting Link & Lever Assembly - Includes Items No. 31, 32 & 33 .....	1
D	563766	Bottom Safety Hook Assembly With Latch - Includes Items No. 50 thru 54(1 each).....	1
E	51WG12B	Ratchet & Disc Assembly - Includes Items No. 68, 69 & 70 .....	1
F	15WG5	Brake Shoe & Lining Assembly - Includes Items No. 87(1), 88(1) & 89(3 req'd.) .....	2
G	15WG6	Brake Shoe Assembly - Includes Items No. 13(2), 82 thru 86 & F(2req'd.) .....	1
H	*	Motor Assembly - Includes Items No. 11, 65, & 71 thru 75 .....	1

- NOTE:**
- \* Use Complete Name Plate Data & Serial No. Of Hoist For Ordering.
  - \*\* Not Serviced Separately.
  - \*\*\* Refer To Table For Specific Part Numbers
  - ∅ 544162 Collar & 544161 Driv-Loc-Pin Must Be Replaced With 544159 Top Hook Or 616642 Top Hook & Safety Latch Assembly (Not Serviced Separately).
  - ∅∅ Chain - For Other Than Std. Use Rough Part No. 107W4A Plus Length Required.

# YALE

## MIDGET KING ELECTRIC HOIST ROLLER CHAIN TYPE 4000 LBS. CAPACITY

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
1	332872	Gear Case .....	1
2	24W55	Conduit Clamp .....	1
3	60W19AA	Rd. Hd. Phillips Screw .....	1
4	40W19A	Hex Nut.....	1
5	82W19C	Lockwasher .....	1
6		(Not Used)	
7		(Not Used)	
8		(Not Used)	
9		(Not Used)	
10	*	Motor Bolt (included in item no. 11).....	4
11	**	Motor (see item no. "J" & Motor Section) .....	1
12	6W4	Double End Stud .....	1
13	40W25C	Hex Nut.....	4
14	82W25B	Lockwasher - Shake Proof .....	17
15	333221	Load Chain Guide .....	1
16	321K506	Allen Hd. Screw.....	2
17	82W31A	Lockwasher .....	2
18	100W4	Load Sprocket .....	1
19	4W34	Ball Bearing - Sealed .....	2
20	579134	Stripper .....	1
21	45W61	Stripper Pin.....	1
22	17W15C	Cotter Pin .....	1
23	550311	Inner Paddle Stud .....	1
24	17W12A	Cotter Pin .....	2
25	25W13	Gasket .....	1
26	78W11	Control Handle .....	1
27	78XW10	Braided Cotton Line (15 ft. long).....	1
28	5470D6078	Pipe Plug .....	1
29	***	Gear Case Cover .....	1
30	77W1	Reversing Switch (See Page 32) .....	1
31	33W32	Controller Lever .....	1
32	45W57	Control Connecting Pin - Upper .....	1
33	104W3	Control Connecting Link .....	1
34	559762	Brake Cover Name Plate .....	1
35	60W19C	Rd. Hd. Slotted Sems Screw .....	5
36	60W31C	Rd. Hd. Phillips Screw .....	2
37	83W33	Flat Washer.....	1
38	69W5	Brake & Pawl Stud .....	1
39	64W12	Snap Ring .....	1
40	68W20	Pawl Return Spring .....	1
41	43W10	Ratchet Pawl .....	1
42	24W4	Strain Reliever .....	1
43	60W25J	Rd. Hd. Phillips Screw.....	3
44	92WG1C	Portable Rubber Cable .....	1
45	24W92	Connector.....	1

# YALE

**MIDGET KING ELECTRIC HOIST  
ROLLER CHAIN TYPE  
4000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
46	24W87	Terminal (for ground) .....	1
47	45W58	Control Connecting Pin - Lower .....	1
48	17W9A	Cotter Pin .....	1
49	563747	Limit Paddle Assembly .....	1
50		(Not Used)	
51		(Not Used)	
52		(Not Used)	
53		(Not Used)	
54		(Not Used)	
55	60W25G	Rd. Hd. Phillips Screw .....	4
56	68W19	Pawl Drag Spring .....	1
57	54W7	Pawl Spring Retainer .....	1
58	89W11	Dowel Pin .....	2
59	69W8	Brake Stud .....	1
60	18W22	Brake Cover Instruction Plate .....	1
61	***	Slow Speed Gear .....	1
62	64W7	Snap Ring .....	1
63	40W62F	Stover Locknut .....	1
64	4W33	Ball Bearing .....	1
65	88W15A	Woodruff Key .....	2
66	***	Intermediate Pinion .....	1
67	52W15	Brake Disc Hub .....	1
68	12W7	Brake Disc .....	1
69	55W12H	Tubular Brass Rivet .....	3
70	51W12B	Ratchet .....	1
71	***	Motor Pinion .....	1
72	***	Pin - Motor Pinion .....	1
73	573887	Oil Slinger - Motor Pinion .....	1
74	13W6	Brake Drum .....	1
75	4W30	Ball Bearing - Sealed .....	1
76	83W80	Stop Washer .....	1
77	4W29	Ball Bearing .....	2
78	64W16	Snap Ring .....	1
79	***	High Speed Gear .....	1
80	87W56	Spacer .....	1
81	60W25H	Rd. Hd. Phillips Screw .....	2
82	61W9	Brake Adjusting Screw .....	2
83	40W25F	Slotted Hex Nut .....	2
84	17W6A	Cotter Pin .....	2
85	6W5	Brake Spring Stud .....	1
86	68W22B	Brake Spring .....	2
87	15W5	Brake Shoe .....	2
88	14W7	Brake Lining .....	2
89	55W12A	Tubular Brass Rivet .....	6
90	107W4B <del>66</del>	Roller Chain - 23 ft. lg. (includes items no. 54 & 91)..	1

# YALE

**MIDGET KING ELECTRIC HOIST  
ROLLER CHAIN TYPE  
4000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
91	107W3	Coupler Link (slack chain end) .....	1
92	24W50	Wire Terminal .....	6
93	107W21	Connecting Link .....	1
94	31W94	Chain Clevis .....	1
95	588142	Hook & Adapter Assembly - W/O Safety Latch .....	1
96	521642	Safety Latch.....	2
97	331033	Safety Latch Spring .....	2
98	515080	Safety Latch Rivet .....	2
99	17W18B	Cotter Pin .....	4
100	45W104	Pin .....	2
101	∅	Top Clevis .....	1
102	544162	Hook Collar .....	1
103	544161	Driv-Loc-Pin .....	1
104	17W25C	Cotter Pin .....	2
105	45W103	Pin.....	1
106	100WG16	Sprocket Assembly With Bushing.....	1
107	99W17	Oilite Bushing.....	1
108	10W93A	Chain Block Half \.....	2
109	31WG5	Hook & Crosshead Assembly - W/O Safety Latch .....	1
110	10WG90	Bottom Block Assembly - Includes Items No. 104, 105, 106, 108 & 109. ....	

**THE FOLLOWING ARE SERVICEABLE ASSEMBLIES**

A	563774	Gear Case Assembly - Includes Items No. 1 thru 5, 23, 38, 39, 59, 101, 102 & 103 .....	1
B	104WG3	Control Connecting Link & Lever Assembly - Includes Items No. 31, 32 & 33 .....	1
C	51WG12B	Ratchet & Disc Assembly - Includes Items No. 68, 69 & 70 .....	1
D	15WG5	Brake Shoe & Lining Assembly - Includes Items No. 87(1), 88(1) & 89(3 req'd).....	2
E	15WG6	Brake Shoe Assembly - Includes Items No. 13(2), 82 thru 86 & D(2 req'd.).....	1
F	616640	Hook & Adapter Assembly With Safety Latch - Includes Items No. 95, 96, 97, 98(1 each), 99 & 100.	1
G	583910	Hook & Crosshead Assembly With Safety Latch - Includes Items No. 96, 97, 98 & 109(1 each).....	1
H	583909	Bottom Block Assembly With Safety Latch - Includes Items No. 96, 97, 98 & 110(1 each).....	1
J	*	Motor Assembly - Includes Items No. 11, 65 & 71 thru 75.....	1

- NOTE:**
- \* Use Complete Name Plate Data & Serial No. of Hoist For Ordering.
  - \*\* Not Serviced Separately.
  - \*\*\* Refer To Table For Specific Part Numbers.
  - ∅ 544162 Collar & 544161 Driv-Loc-Pin Must Be Replaced With 564764 Top Clevis (Not Serviced Separately).
  - ∅∅ Chain - For Other Than Std. Use Rought Part No. 107W4A Plus Length Required.

## 250 TO 1000 LBS. CAPACITY HOIST

MODEL NO.	CAPACITY IN LBS.	LIFT F. P. M.	ITEM 29	ITEM 61	ITEM 66	ITEM 71	ITEM 72	ITEM 79
MR 100 to MR 121	250	34	26W11A	72 TEETH 29W30	21 TEETH 30W89	16 TEETH 30W55	45W66	74 TEETH 28W40
MR 150 to MR 171	500	17	26W11B	61 TEETH 29W27	12 TEETH 30W96	30W55	45W66	28W40
MR 200 to MR 221	500	34	26W11B	29W30	30W89	30W55	45W66	28W40
MR 250 to MR 271	1000	17	26W11C	29W27	30W96	30W55	45W66	28W40
MR 300 to MR 321	1000	24	26W11C	29W30	30W89	12 TEETH 30W60	45W71	78 TEETH 28W41
MR 350 to MR 371	1000	34	26W11C	29W30	30W89	30W55	45W66	28W40

## 2000 LBS. CAPACITY HOIST

MODEL NO.	CAPACITY IN LBS.	LIFT F. P. M.	ITEM 29	ITEM 61	ITEM 66	ITEM 71	ITEM 72	ITEM 79
MR 400 to MR 421	2000	9	26W16	95 TEETH 29W34	12 TEETH 30W97	12 TEETH 30W60	45W71	100 TEETH 28W42
MR 450 to MR 471	2000	13	26W16	29W34	30W97	16 TEETH 30W55	45W66	96 TEETH 28W36
MR 500 to MR 521	2000	17	26W16	92 TEETH 29W28	15 TEETH 30W91	30W55	45W66	28W36

## 4000 LBS. CAPACITY HOIST

MODEL NO. Hook Type	Trolley Type	CAPACITY IN LBS.	LIFT F. P. M.	ITEM 29	ITEM 61	ITEM 66	ITEM 71	ITEM 72	ITEM 79
MR 550 to MR 571	MR 650 to MR 671	4000	6-1/2	26W16A	95 TEETH 29W34	12 TEETH 30W97	16 TEETH 30W55	45W66	96 TEETH 28W36
MR 600 to MR 621	MR 700 to MR 721	4000	8-1/2	26W16A	92 TEETH 29W28	15 TEETH 30W91	30W55	45W66	28W36

## MIDGET KING ELECTRIC HOIST - ROLLER CHAIN TYPE

# YALE

MIDGET KING ELECTRIC HOIST  
LINK CHAIN TYPE  
250 TO 1000 LBS. CAPACITY

See Page 31  
For Link  
Chain Illustration

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
1	332571	Gear Case .....	1
2	24W55	Conduit Clamp .....	1
3	60W19N	Rd. Hd. Screw .....	1
4	40W19A	Hex Nut .....	1
5	82W19C	Lockwasher .....	1
6	Ø	Top Hook .....	1
7	544163	Hook Collar .....	1
8	524153	Thrust Washer - Oilite .....	1
9	544160	Drive-Lok Pin .....	1
10	*	Motor Bolt (included in item no. 11) .....	4
11	**	Motor (see item no. "J" & Motor Section) .....	1
12	6W4	Double End Stud .....	1
13	40W25C	Hex Nut .....	4
14	82W25B	Lockwasher - Shake Proof .....	17
15	333219	Load Chain Guide .....	1
16	321K406	Allen Hd. Screw .....	2
17	82W25A	Lockwasher .....	2
18	333216	Load Sheave .....	1
19	4W31	Ball Bearing - Sealed .....	2
20	515253	Stripper .....	1
21	45W59	Stripper Pin .....	1
22	17W15C	Cotter Pin .....	1
23	550311	Inner Paddle Stud .....	1
24	17W12A	Cotter Pin .....	2
25	25W12	Gasket .....	1
26	78W11	Control Handle .....	1
27	78XW10	Braided Cotton Line (15 ft. lg.) .....	1
28	5470D6078	Pipe Plug .....	1
29	***	Gear Case Cover .....	1
30	77W1	Reversing Switch (See Page 32) .....	1
31	33W32	Controller Lever .....	1
32	45W47	Control Connecting Pin - Upper .....	1
33	104W1	Control Connecting Link .....	1
34	559762	Brake Cover Name Plate .....	1
35	60W19C	Rd. Hd. Slotted Sems Screw .....	5
36	60W25F	Rd. Hd. Phillips Screw .....	2
37	83W33	Flat Washer .....	1
38	69W5	Brake & Pawl Stud .....	1
39	64W12	Snap Ring .....	1
40	68W20	Pawl Return Spring .....	1
41	43W10	Ratchet Pawl .....	1
42	24W4	Strain Reliever .....	1
43	60W25J	Rd. Hd. Phillips Screw .....	3
44	92WG1C	Portable Rubber Cable .....	1
45	24W92	Connector .....	1

# YALE

MIDGET KING ELECTRIC HOIST  
LINK CHAIN TYPE  
250 TO 1000 LBS. CAPACITY (Continued)

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
46	24W87	Terminal .....	1
47	45W53	Control Connecting Pin - Lower .....	1
43	17W9A	Cotter Pin .....	1
49	563746	Limit Paddle Assembly .....	1
50	548093	Bottom Block Sub-Assembly .....	1
51	519458	Safety Latch Spring .....	2
52	516332	Safety Latch Rivet .....	2
53	521639	Safety Latch .....	2
54	597651	Anchor Pin .....	1
	564D322	Retaining Ring .....	1
55	60W25G	Rd. Hd. Phillips Screw .....	4
56	68W19	Pawl Drag Spring .....	1
57	54W7	Pawl Spring Retainer .....	1
58	89W11	Dowel Pin .....	2
59	69W8	Brake Stud .....	1
60	18W22	Brake Cover Instruction Plate .....	1
61	***	Slow Speed Gear .....	1
62	64W8	Snap Ring .....	1
63	40W50F	Stover Locknut .....	1
64	4W32	Ball Bearing .....	1
65	88W15A	Woodruff Key .....	2
66	***	Intermediate Pinion .....	1
67	52W15	Brake Disc Hub .....	1
68	12W7	Brake Disc .....	1
69	55W12H	Tubular Brass Rivet .....	3
70	51W11B	Ratchet .....	1
71	***	Motor Pinion .....	1
72	***	Pin - Motor Pinion .....	1
73	573887	Oil Slinger .....	1
74	13W6	Brake Drum .....	1
75	4W30	Ball Bearing - Sealed .....	1
76	83W80	Stop Washer .....	1
77	4W29	Ball Bearing .....	2
78	64W16	Snap Ring .....	1
79	***	High Speed Gear .....	1
80	87W55	Spacer .....	1
81	60W25H	Rd. Hd. Phillips Screw .....	2
82	61W9	Brake Adjusting Screw .....	2
83	40W25F	Slotted Hex Nut .....	2
84	17W6A	Cotter Pin .....	2
85	6W5	Brake Spring Stud .....	1
86	68W22B	Brake Spring .....	2
87	15W5	Brake Shoe .....	2
88	14W7	Brake Lining .....	2
89	55W12A	Tubular Brass Rivet .....	6



# YALE

**MIDGET KING ELECTRIC HOIST  
LINK CHAIN TYPE  
250 TO 1000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
90	573852	Chain Guide Cup.....	1
91	5450D6054	Roll Pin.....	2
92	571560 <del>06</del>	Load Chain - 11 Ft. Lg.....	1
93	107W3	Coupler Link (slack chain end).....	1
94	24W50	Wire Terminal.....	6

**THE FOLLOWING ARE SERVICEABLE ASSEMBLIES**

A	∅	Top Hook & Safety Latch Assembly - Includes Items No. 6, 51, 52 & 53(1 each).....	1
B	563743	Gear Case Assembly - Includes Items No. 1 thru 9, 23, 38, 39 & 59.....	1
C	104WG1	Control Connecting Link & Lever Assembly - Includes Items No. 31, 32 & 33.....	1
D	548092	Bottom Safety Hook Assembly Without Latch - Includes Items No. 50 & 54.....	1
E	519945	Bottom Safety Hook Assembly With Latch - Includes Items No. 51, 52, 53 & "D"(1 each).....	1
F	51WG11B	Ratchet & Disc Assembly - Includes Items No. 68, 69 & 70.....	1
G	15WG5	Brake Shoe & Lining Assembly - Includes Items No. 87(1 req'd.), 88(1 req'd.) & 89(3 req'd.).....	2
H	15WG6	Brake Shoe Assembly - Includes Items No. 13(2 req'd.) 82 thru 86 & "G"(2 req'd.).....	1
J	*	Motor Assembly - Includes Items No. 11, 65, & 71 thru 75.....	1

- NOTE:**
- \* Use Complete Name Plate Data & Serial No. Of Hoist For Ordering.
  - \*\* Not Serviced Separately.
  - \*\*\* Refer To Table For Specific Part Numbers.
  - ~~∅~~ Chain - For Other Than Std. Use Rough Part No. 607D21 Plus Length Req'd.
  - ∅ 544163 Collar & 544160 Driv-Loc-Pin Must Be Replaced With 544164 Top Hook Or 616641 Top Hook & Safety Latch Assembly (Not Serviced Separately).

# YALE

## MIDGET KING ELECTRIC HOIST LINK CHAIN TYPE 2000 LBS. CAPACITY

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
1	332872	Gear Case .....	1
2	24W55	Conduit Clamp .....	1
3	60W19AA	Rd. Hd. Screw .....	1
4	40W19A	Hex Nut.....	1
5	82W19C	Lockwasher .....	1
6	Ø	Top Hook .....	1
7	544162	Hook Collar .....	1
8	544152	Thrust Washer - Oilite .....	1
9	544161	Drive-Lok Pin .....	1
10	*	Motor Bolt (included in item no. 11) .....	4
11	**	Motor (see item no. "J" & Motor Section) .....	1
12	6W4	Double End Stud .....	1
13	40W25C	Hex Nut .....	4
14	82W25B	Lockwasher - Shake Proof.....	17
15	333218	Load Chain Guide .....	1
16	321K506	Allen Hd. Screw .....	2
17	82W31A	Lockwasher .....	2
18	333217	Load Sheave .....	1
19	4W34	Ball Bearing - Sealed .....	2
20	515254	Stripper.....	1
21	45W61	Stripper Pin .....	1
22	17W15C	Cotter Pin .....	1
23	550311	Inner Paddle Stud.....	1
24	17W12A	Cotter Pin .....	2
25	25W13	Gasket.....	1
26	78W11	Control Handle .....	1
27	78XW10	Braided Cotton Line (15 ft. lg.).....	1
28	5470D6078	Pipe Plug.....	1
29	***	Gear Case Cover .....	1
30	77W1	Reversing Switch (See Page 32).....	1
31	33W32	Controller Lever .....	1
32	45W57	Control Connecting Pin - Upper .....	1
33	104W3	Control Connecting Link .....	1
34	559762	Brake Cover Name Plate .....	1
35	60W19C	Rd. Hd. Slotted Sems Screw .....	5
36	60W31C	Rd. Hd. Phillips Screw.....	2
37	83W33	Flat Washer.....	1
38	69W5	Brake & Pawl Stud.....	1
39	64W12	Snap Ring.....	1
40	68W20	Pawl Return Spring .....	1
41	43W10	Ratchet Pawl.....	1
42	24W4	Strain Reliever .....	1
43	60W25J	Rd. Hd. Phillips Screw.....	3
44	92WG1C	Portable Rubber Cable .....	1
45	24W92	Connector.....	1

# YALE

**MIDGET KING ELECTRIC HOIST  
LINK CHAIN TYPE  
2000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
46	24W87	Terminal .....	1
47	45W58	Control Connecting Pin - Lower .....	1
48	17W9A	Cotter Pin .....	1
49	563746	Limit Paddle Assembly.....	1
50	548095	Bottom Block Sub-Assembly .....	1
51	331033	Safety Latch Spring .....	2
52	515080	Safety Latch Rivet .....	2
53	521640	Safety Latch .....	2
54	597652	Anchor Pin .....	1
	564D323	Retaining Ring .....	1
55	60W25G	Rd. Hd. Phillips Screw.....	4
56	68W19	Pawl Drag Spring.....	1
57	54W7	Pawl Spring Retainer.....	1
58	89W11	Dowel Pin .....	2
59	69W8	Brake Stud.....	1
60	18W22	Brake Cover Instruction Plate .....	1
61	***	Slow Speed Gear.....	1
62	64W7	Snap Ring.....	1
63	40W62F	Stover Locknut .....	1
64	4W33	Ball Bearing .....	1
65	88W15A	Woodruff Key.....	2
66	***	Intermediate Pinion.....	1
67	52W15	Brake Disc Hub .....	1
68	12W7	Brake Disc.....	1
69	55W12H	Tubular Brass Rivet .....	3
70	51W12B	Ratchet .....	1
71	***	Motor Pinion.....	1
72	***	Pin - Motor Pinion.....	1
73	573887	Oil Slinger .....	1
74	13W6	Brake Drum .....	1
75	4W30	Ball Bearing - Sealed .....	1
76	83W80	Stop Washer.....	1
77	4W29	Ball Bearing .....	2
78	64W16	Snap Ring.....	1
79	***	High Speed Gear .....	1
80	87W56	Spacer.....	1
81	60W25H	Rd. Hd. Phillips Screw .....	2
82	61W9	Brake Adjusting Screw .....	2
83	40W25F	Slotted Hex Nut.....	2
84	17W6A	Cotter Pin .....	2
85	6W5	Brake Spring Stud .....	1
86	68W22B	Brake Spring.....	2
87	15W5	Brake Shoe.....	2
88	14W7	Brake Lining .....	2
89	55W12A	Tubular Brass Rivet .....	6

# YALE

## MIDGET KING ELECTRIC HOIST LINK CHAIN TYPE 2000 LBS. CAPACITY (Continued)

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
90	573853	Chain Guide Cup .....	1
91	5450D6054	Roll Pin .....	2
92	571561 $\phi\phi$	Load Chain - 11 ft. lg. ....	1
93	107W6	Coupler Link (slack chain end) .....	1
94	24W50	Wire Terminal .....	6

### THE FOLLOWING ARE SERVICEABLE ASSEMBLIES

A	$\phi$	Top Hook & Safety Latch Assembly - Includes Items No. 6, 51, 52 & 53(1 each) .....	1
B	563744	Gear Case Assembly - Includes Items No. 1 thru 9, 23, 38, 39 & 59 .....	1
C	104WG3	Control Connecting Link & Lever Assembly - Includes Items No. 31, 32 & 33 .....	1
D	548094	Bottom Safety Hook Assembly Without Latch - Includes Items No. 50 & 54 .....	1
E	543575	Bottom Safety Hook Assembly With Latch - Includes Items No. 51, 52, 53 & "D"(1 each) .....	1
F	51WG12B	Ratchet & Disc Assembly - Includes Items No. 68, 69 & 70 .....	1
G	15WG5	Brake Shoe & Lining Assembly - Includes Items No. 87(1 req'd.), 88(1 req'd.) & 89(3 req'd.) .....	2
H	15WG6	Brake Shoe Assembly - Includes Items No. 13(2 req'd.), 82 thru 86 & "G"(2 req'd.) .....	1
J	*	Motor Assembly - Includes Items No. 11, 65 & 71 thru 75 .....	1

- NOTE:
- \* Use Complete Name Plate Data & Serial No. of Hoist For Ordering.
  - \*\* Not Serviced Separately.
  - \*\*\* Refer To Table For Specific Part Numbers.
  - $\phi$  544162 Collar & 544161 Driv-Loc-Pin Must Be Replaced With 544159 Top Hook Or 616642 Top Hook & Safety Latch Assembly (Not Serviced Separately).
  - $\phi\phi$  Chain - For Other Than Std. Use. Rough Part No. 32493 Plus Length Req'd.

# YALE

## MIDGET KING ELECTRIC HOIST LINK CHAIN TYPE 4000 LBS. CAPACITY

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
1	332872	Gear Case .....	1
2	24W55	Conduit Clamp .....	1
3	60W19AA	Rd. Hd. Screw .....	1
4	40W19A	Hex Nut .....	1
5	82W19C	Lockwasher .....	1
6		(Not Used)	
7		(Not Used)	
8		(Not Used)	
9		(Not Used)	
10	*	Motor Bolt (included in item no. 11) .....	4
11	**	Motor (see item no. "J" & Motor Section) .....	1
12	6W4	Double End Stud .....	1
13	40W25C	Hex Nut .....	4
14	82W25B	Lockwasher - Shake Proof .....	17
15	333218	Load Chain Guide .....	1
16	321K506	Allen Hd. Screw .....	2
17	82W31A	Lockwasher .....	2
18	333217	Load Sheave .....	1
19	4W34	Ball Bearing - Sealed .....	2
20	515254	Stripper .....	1
21	45W61	Stripper Pin .....	1
22	17W15C	Cotter Pin .....	1
23	550311	Inner Paddle Stud .....	1
24	17W12A	Cotter Pin .....	2
25	25W13	Gasket .....	1
26	78W11	Control Handle .....	1
27	78XW10	Braided Cotton Line (15 ft. lg.) .....	1
28	5470D6078	Pipe Plug .....	1
29	***	Gear Case Cover .....	1
30	77W1	Reversing Switch (See Page 32) .....	1
31	33W32	Controller Lever .....	1
32	45W57	Control Connecting Pin - Upper .....	1
33	104W3	Control Connecting Link .....	1
34	559762	Brake Cover Name Plate .....	1
35	60W19C	Rd. Hd. Slotted Sems Screw .....	5
36	60W31C	Rd. Hd. Phillips Screw .....	2
37	83W33	Flat Washer .....	1
38	69W5	Brake & Pawl Stud .....	1
39	64W12	Snap Ring .....	1
40	68W20	Pawl Return Spring .....	1
41	43W10	Ratchet Pawl .....	1
42	24W4	Strain Reliever .....	1
43	60W25J	Rd. Hd. Phillips Screw .....	3
44	92WG1C	Portable Rubber Cable .....	1
45	24W92	Connector .....	1

# YALE

**MIDGET KING ELECTRIC HOIST  
LINK CHAIN TYPE  
4000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
46	24W87	Terminal .....	1
47	45W58	Control Connecting Pin - Lower .....	1
48	17W9A	Cotter Pin .....	1
49	563748	Limit Paddle Assembly .....	1
50		(Not Used)	
51		(Not Used)	
52		(Not Used)	
53		(Not Used)	
54		(Not Used)	
55	60W25G	Rd. Hd. Phillips Screw .....	4
56	68W19	Pawl Drag Spring .....	1
57	54W7	Pawl Spring Retainer .....	1
58	89W11	Dowel Pin .....	2
59	69W8	Brake Stud .....	1
60	18W22	Brake Cover Instruction Plate .....	1
61	***	Slow Speed Gear .....	1
62	64W7	Snap Ring .....	1
63	40W62F	Stover Locknut .....	1
64	4W33	Ball Bearing .....	1
65	88W15A	Woodruff Key .....	2
66	***	Intermediate Pinion .....	1
67	52W15	Brake Disc Hub .....	1
68	12W7	Brake Disc .....	1
69	55W12H	Tubular Brass Rivet .....	3
70	51W12B	Ratchet .....	1
71	***	Motor Pinion .....	1
72	***	Pin - Motor Pinion .....	1
73	573887	Oil Slinger .....	1
74	13W6	Brake Drum .....	1
75	4W30	Ball Bearing - Sealed .....	1
76	83W80	Stop Washer .....	1
77	4W29	Ball Bearing .....	2
78	64W16	Snap Ring .....	1
79	***	High Speed Gear .....	1
80	87W56	Spacer .....	1
81	60W25H	Rd. Hd. Phillips Screw .....	2
82	61W9	Brake Adjusting Screw .....	2
83	40W25F	Slotted Hex Nut .....	2
84	17W6A	Cotter Pin .....	2
85	6W5	Brake Spring Stud .....	1
86	68W22B	Brake Spring .....	2
87	15W5	Brake Shoe .....	2
88	14W7	Brake Lining .....	2
89	55W12A	Tubular Brass Rivet .....	6
90	573853	Chain Guide Cup .....	1
91	5450D6054	Roll Pin .....	2
92	571553 <del>66</del>	Load Chain - 23 Ft. Lg. ....	1
93	107W6	Coupler Link (slack chain end) .....	1
94	24W50	Wire Terminal .....	6
95	9W6	Shackle Bolt .....	1
96	40W31G	Slotted Nut .....	1

# YALE

**MIDGET KING ELECTRIC HOIST  
LINK CHAIN TYPE  
4000 LBS. CAPACITY (Continued)**

ITEM	PART NO.	DESCRIPTION	NO. REQ'D.
97	17W9E	Cotter Pin .....	1
98	539955	Clevis .....	1
99	538142	Hook & Adapter Assembly - Without Latch .....	1
100	521642	Safety Latch .....	2
101	331033	Safety Latch Spring .....	2
102	515080	Safety Latch Rivet .....	2
103	17W13B	Cotter Pin .....	4
104	45W104	Pin .....	2
105	ø	Top Clevis .....	1
106	544162	Collar .....	1
107	544161	Driv-Loc-Pin .....	1
108	59W37F	Hex Bolt .....	1
109	59W37S	Hex Bolt .....	2
110	82W37A	Lockwasher .....	3
111	40W37B	Hex Nut .....	3
112	566099	Bottom Block Half .....	2
113	566035	Bottom Block Sheave .....	1
114	572813	Roller Bearing .....	2
115	545345	Hook Sub-Assembly - Without Latch .....	1
116	566032	Bottom Block Assembly - Without Latch (Includes Items No. 108 thru 115) .....	1

**THE FOLLOWING ARE SERVICEABLE ASSEMBLIES**

A	563774	Gear Case Assembly - Includes Items No. 1 thru 5, 23, 38, 39, 59, 105, 106 & 107 .....	1
B	104WG3	Control Connecting Link & Lever Assembly - Includes Items No. 31, 32 & 33 .....	1
C	51WG12B	Ratchet & Disc Assembly - Includes Items No. 68, 69 & 70 .....	1
D	15WG5	Brake Shoe & Lining Assembly - Includes Items No. 87(1 req'd.), 88(1 req'd.) & 89(3 req'd.) .....	2
E	15WG6	Brake Shoe Assembly - Includes Items No. 13 (2 req'd.), 82 thru 86 & "D"(2 req'd) .....	1
F	616640	Hook & Adapter Assembly With Safety Latch - Includes Items No. 99, 100, 101, 102(1 each), 103 & 104 .....	1
G	559964	Bottom Hook Sub-Assembly With Safety Latch - Includes Items No. 100, 101, 102(1 each) & 115 .....	1
H	583914	Bottom Block Assembly With Safety Latch - Includes Items No. 100, 101, 102(1 each) & 116 .....	1
J	*	Motor Assembly - Includes Items No. 11, 65 & 71 thru 75 .....	1

- NOTE:**
- \* Use Complete Name Plate Data & Serial No. Of Hoist For Ordering.
  - \*\* Not Serviced Separately.
  - \*\*\* Refer To Table For Specific Part Numbers.
  - ø 544162 Collar & 544161 Driv-Loc-Pin Must Be Replaced With 564764 Top Clevis (Not Serviced Separately).
  - øø Chain - For Other Than Std. Use Rough Part No. 32493 Plus Length Req'd.

### 250 TO 1000 LBS. CAPACITY

MODEL NO.	CAPACITY IN LBS.	LIFT F. P. M.	ITEM 29	ITEM 61	ITEM 66	ITEM 71	ITEM 72	ITEM 79
ML 100 to ML 121	250	31	26W11A 29W30	72 TEETH 29W30	21 TEETH 30W89	12 TEETH 30W60	45W71	78 TEETH 28W41
ML 150 to ML 171	500	16	26W11B 29W27	81 TEETH 29W27	12 TEETH 30W96	30W60	45W71	28W41
ML 200 to ML 221	500	31	26W11B 29W30	29W30	30W89	30W60	45W71	28W41
ML 250 to ML 271	1000	16	26W11C 29W27	29W27	30W96	30W60	45W71	28W41
ML 300 to ML 321	1000	22	26W11C 29W27	29W27	30W96	16 TEETH 30W55	45W66	74 TEETH 28W40
ML 350 to ML 371	1000	31	26W11C 29W30	29W30	30W89	30W60	45W71	28W41

### 2000 LBS. CAPACITY

MODEL NO.	CAPACITY IN LBS.	LIFT F. P. M.	ITEM 29	ITEM 61	ITEM 66	ITEM 71	ITEM 72	ITEM 79
ML 450 to ML 471	2000	13	26W16 29W34	95 TEETH 29W34	12 TEETH 30W97	12 TEETH 30W60	45W71	100 TEETH 28W42
ML 500 to ML 521	2000	17	26W16 29W34	29W34	30W97	16 TEETH 30W55	45W66	96 TEETH 28W36

### 4000 LBS. CAPACITY

MODEL NO.		CAPACITY IN LBS.	LIFT F. P. M.	ITEM 29	ITEM 61	ITEM 66	ITEM 71	ITEM 72	ITEM 79
Hook Type	Trolley Type								
ML 550 to ML 571	ML 650 to ML 671	4000	6-1/2	26W16A 29W34	95 TEETH 29W34	12 TEETH 30W97	12 TEETH 30W60	45W71	100 TEETH 28W42
ML 600 to ML 621	ML 700 to ML 721	4000	8-1/2	26W16A 29W34	29W34	30W97	16 TEETH 30W55	45W66	96 TEETH 28W36

MIDGET KING ELECTRIC HOIST - LINK CHAIN TYPE



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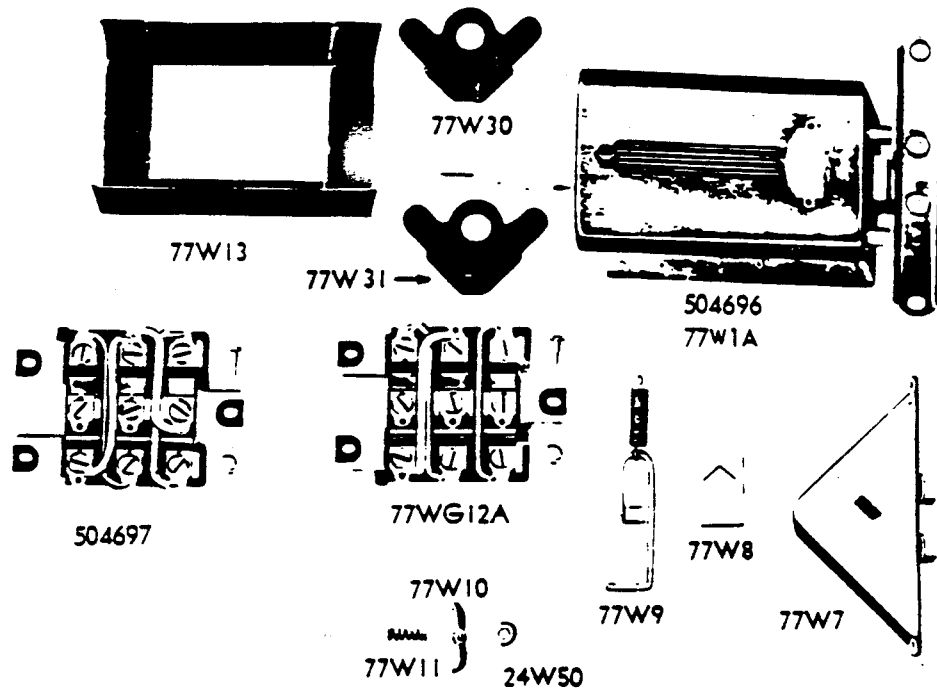
**YALE**

## **Yale Midget King Electric Hoist**

**Link Chain Type**

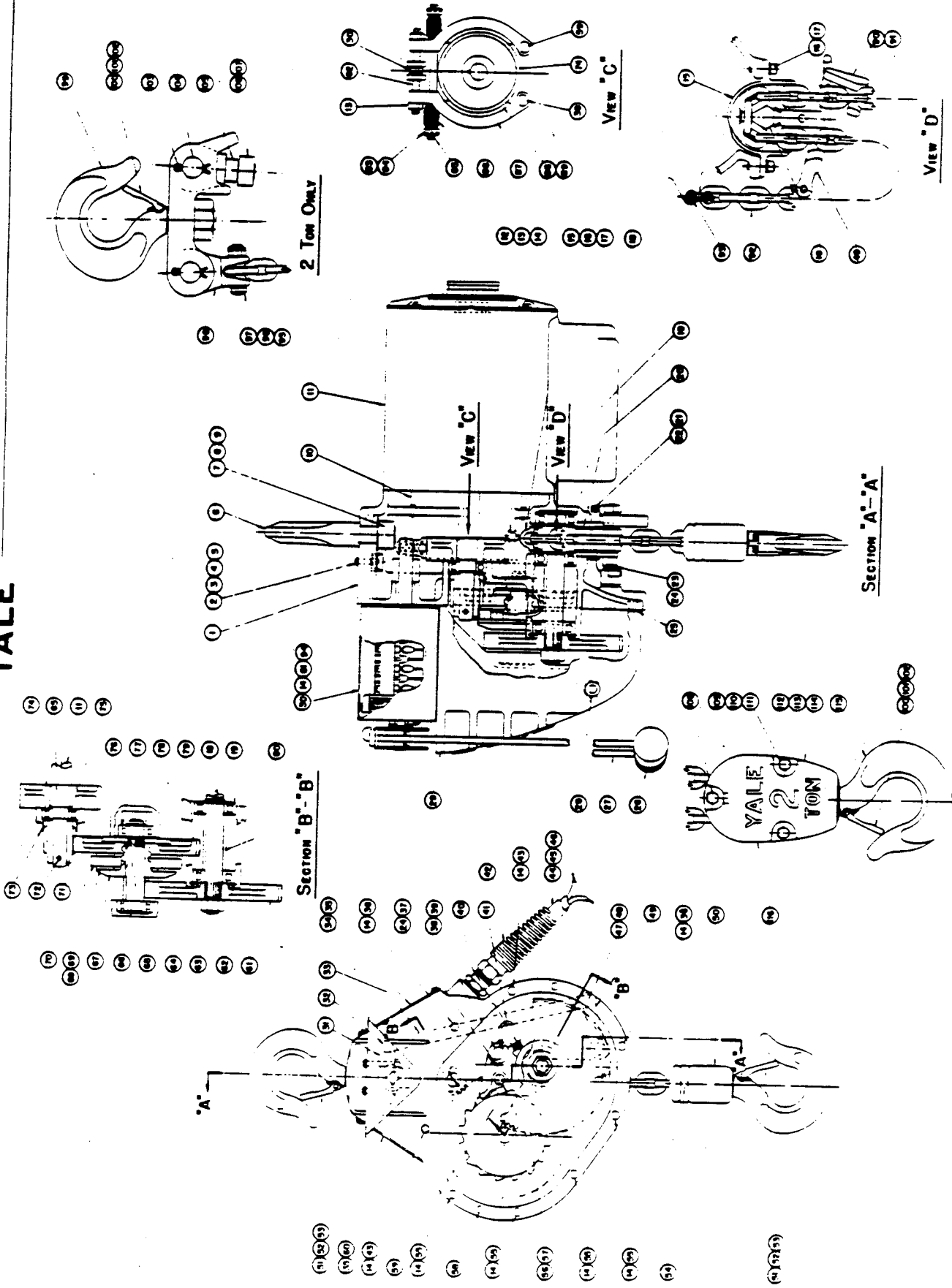
# YALE

## REVERSING SWITCH



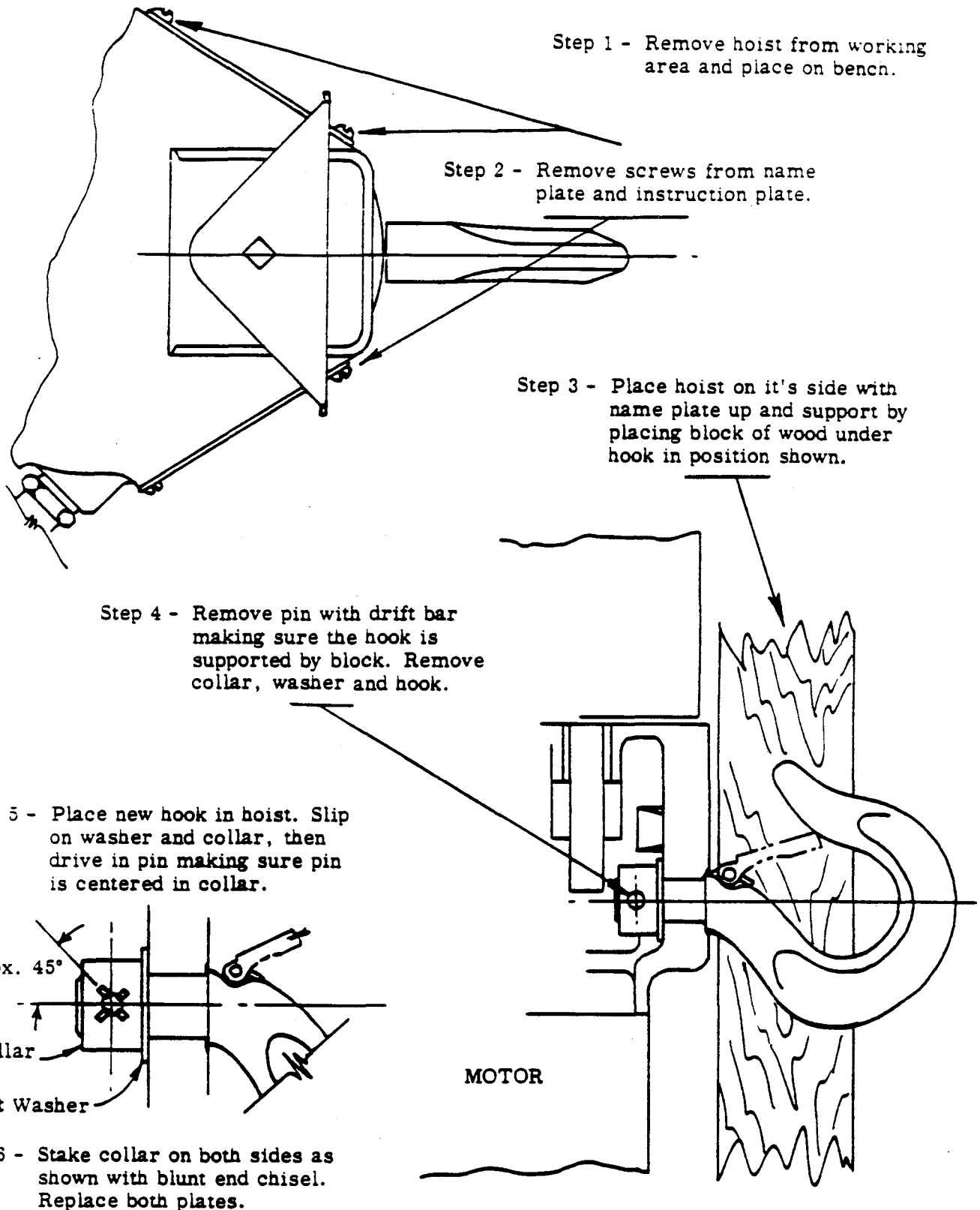
PART NO.	DESCRIPTION	NO. REQ'D.
24W50	Wire Terminal.....	6
504696	Reversing Switch with lever - For single phase A. C. motor.....	1
77W1A	Reversing Switch with lever - For D. C. motor or 2 phase or 3 phase A. C. motor .....	1
77W7	Rope Lever.....	1
77W8	Stop Lever.....	1
77W9	Star Wheel Roller and Lever with Spring.....	1
77W10	Moving Contact Finger.....	6
77W11	Contact Spring .....	6
504697	Stationary Contact Assembly complete with screws and springs for single phase A. C. motor.....	1
77WG12A	Stationary Contact Assembly complete with screws and springs for D. C. motor or 2 phase or 3 phase A. C. motor.....	1
77W13	Cover.....	1
77W30	Contacting Arm. L. H.....	4
77W31	Contacting Arm. R. H.....	3

YALE



YALE MIDGET KING ELECTRIC HOIST - LINK CHAIN TYPE

## PROCEDURE FOR REPLACING TOP HOOK ON MIDGET KING HOIST

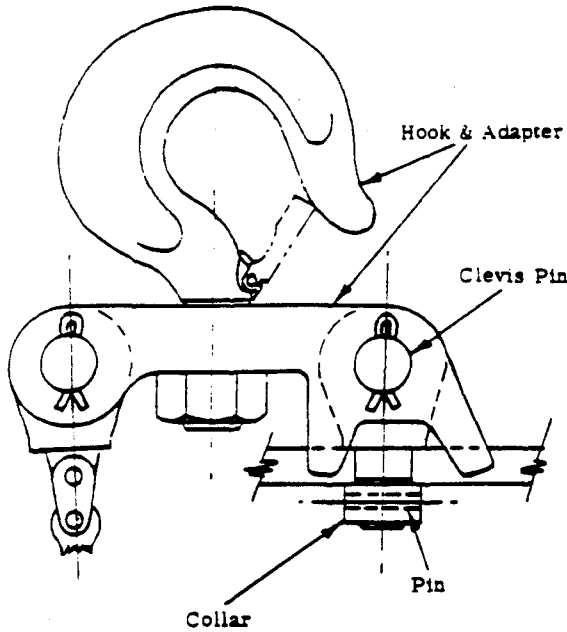


1/8 TO 1 TON CAPACITY MIDGET KING HOIST  
(See page 34 for 2 ton capacity)

# YALE

## PROCEDURE FOR REPLACING TOP HOOK ON MIDGET KING HOIST 2 TON CAPACITY MIDGET KING HOIST

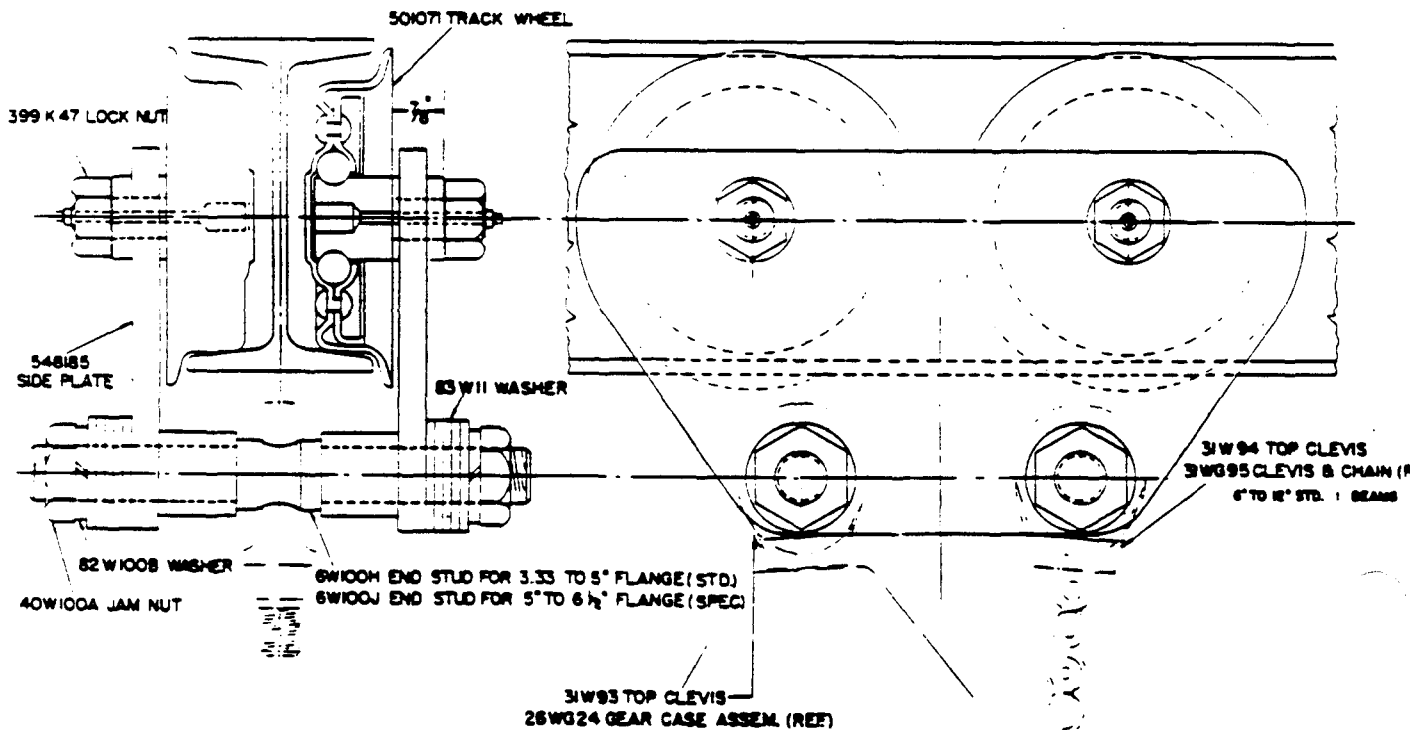
Step 1 - Remove hoist from working area and place on bench.



NOTE: Remove center pin from clevis pin and remove hook & adapter from hoist. Proceed to remove clevis from hoist by referring to procedure used on page 33 starting with Step 2.

## 548202 TROLLEY ASSEMBLY FOR 2 TON TROLLEY TYPE HOIST

(Link or Roller Chain)



# YALE

## INSTRUCTIONS FOR INSTALLATION OF LINK TYPE CHAIN

With a pair of heavy alloy bolt cutters cut a vertical \* link somewhere between bottom block and Hoist.

With a grinder, grind thru case of chain and then with a hacksaw cut out a section of one of the horizontal \* links (as shown in figure 2).

Slip first link of new chain thru cut out link making sure that; (1) first link of new chain is a vertical \* link and (2) Weld on chain is facing outward from sheave.

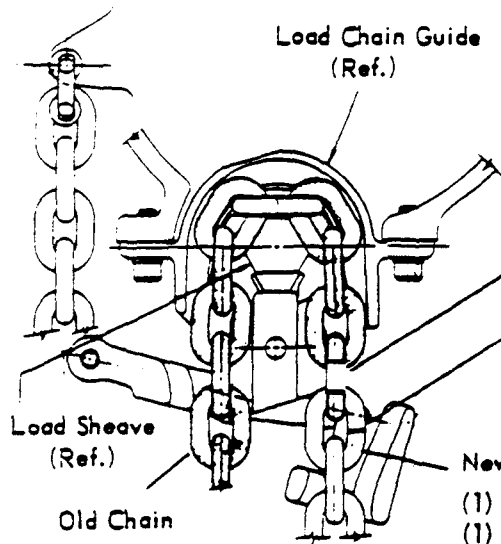


Fig. 1

\* Vertical Link - First Link at Rt. Angles to Sheave Pocket.

\* Horizontal Link - Second Link Laying in Sheave Pocket.

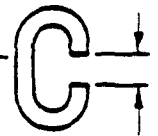
Horizontal Cut Out Link

1st Link New Chain

Must be in this position when entering sheave.  
Must have weld facing out.

New Chain must be fed into Sheave with:

- (1) First Link in vertical position.
- (1) Weld facing outward from Sheave.



Horizontal cut out Link (Fig. 2)

Part No. 625631 for  
250 to 1000 lb. cap.

Part No. 625632 for  
2000 & 4000 lb. cap.

Before using Hoist with new chain installed check chain for twisting. If chain is twisted it was installed wrong.

## LUBRICATION OF LINK CHAIN (Use Esso Pen-o-led EP5 or equivalent)

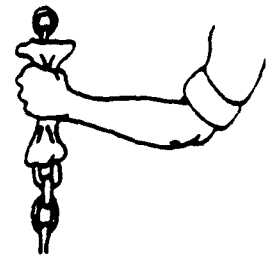


1. Place load chain in container. Then pour lubricating oil, completely covering chain.



2. Remove chain from container allowing excess oil to drain back into container.

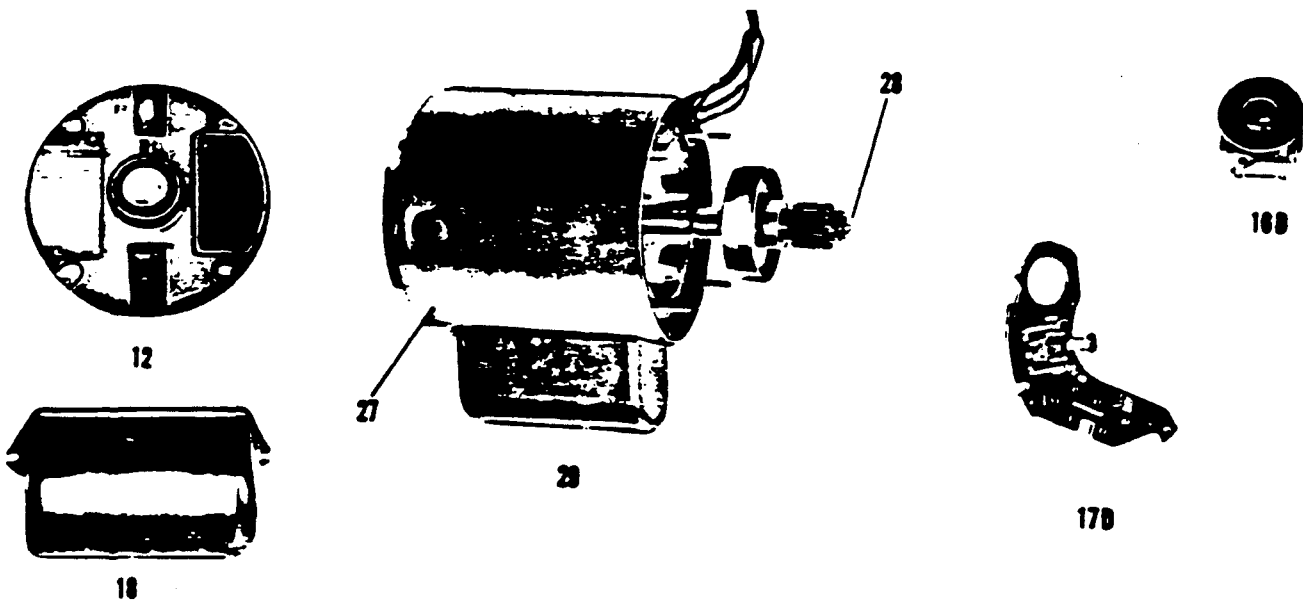
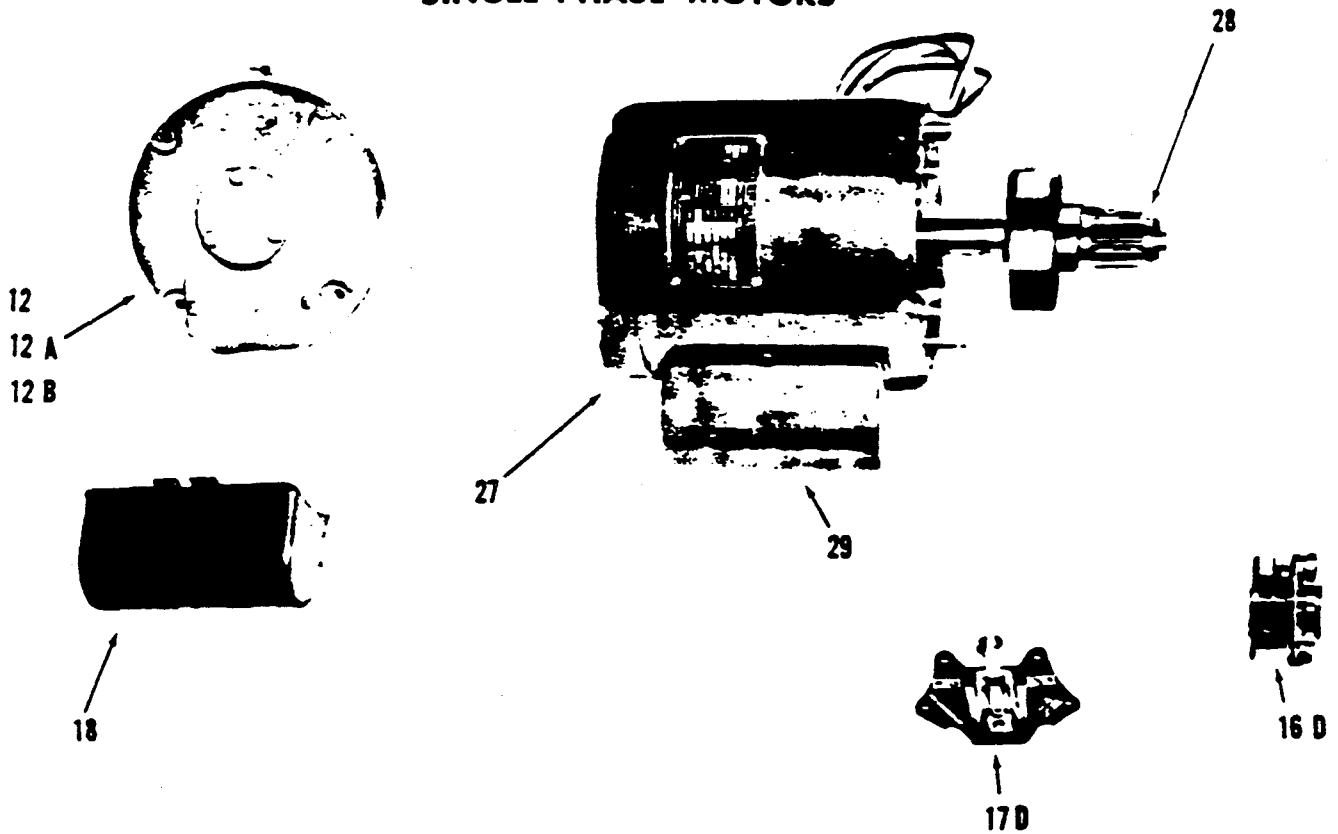
3. Apply lubricated chain to sheave in hoist.



4. After chain is fastened to hoist, wipe off surface of chain with rag. This will make the outer surface of the chain clean and allow lubrication between the links where the lubrication is necessary.

# YALE

## SINGLE-PHASE MOTORS



Above figures numbers refer to Master Spare Parts List which is in dealer's possession.

## SINGLE PHASE MOTOR PARTS

**IMPORTANT:** If motor repair parts are required give all information listed on hoist and motor name plates.

Part Name	Fig. No.
Complete Motor with Brake Drum, Ball Bearing and Pinion .....	29
End Bell—with Bearing .....	12
End Bell .....	12A
Ball Bearing .....	12B
Centrifugal Mechanism .....	16D
Centrifugal Switch .....	17D
Capacitor with Mounting .....	18

*Motor frame with wound primary (27) and rotor with shaft (28) cannot be supplied as spare parts.*

### To Disassemble

Remove hoist name plate cover (559762 & 18W22) and disconnect wires at Reversing Switch. Remove four long screws and pull off Motor Stator. Rotor (28) remains in hoist. Caution should be exercised when removing Stator to avoid bending Rotor Shaft or damaging windings. Spread open brake shoes and pull out Rotor (28).

The Rotating Switch (16D) is on the end of the Rotor Shaft. Test the spring action with fingers.

Remove the End Bell (12) from the Motor Frame (27) and examine the switch contacts. The Stationary Switch (17D) is mounted on the inside of the End Bell or end of Motor Frame. It is connected to the Capacitor (18) which is on the Motor Frame (27). Switch contacts should be clean and free from pitting to insure proper contact. Do not disconnect wiring—unless making replacements.

The Brake Drum, Ball Bearing, and Pinion can be removed by taking out Pin from the Pinion. To remove Bearing use a bearing puller.

### To Assemble

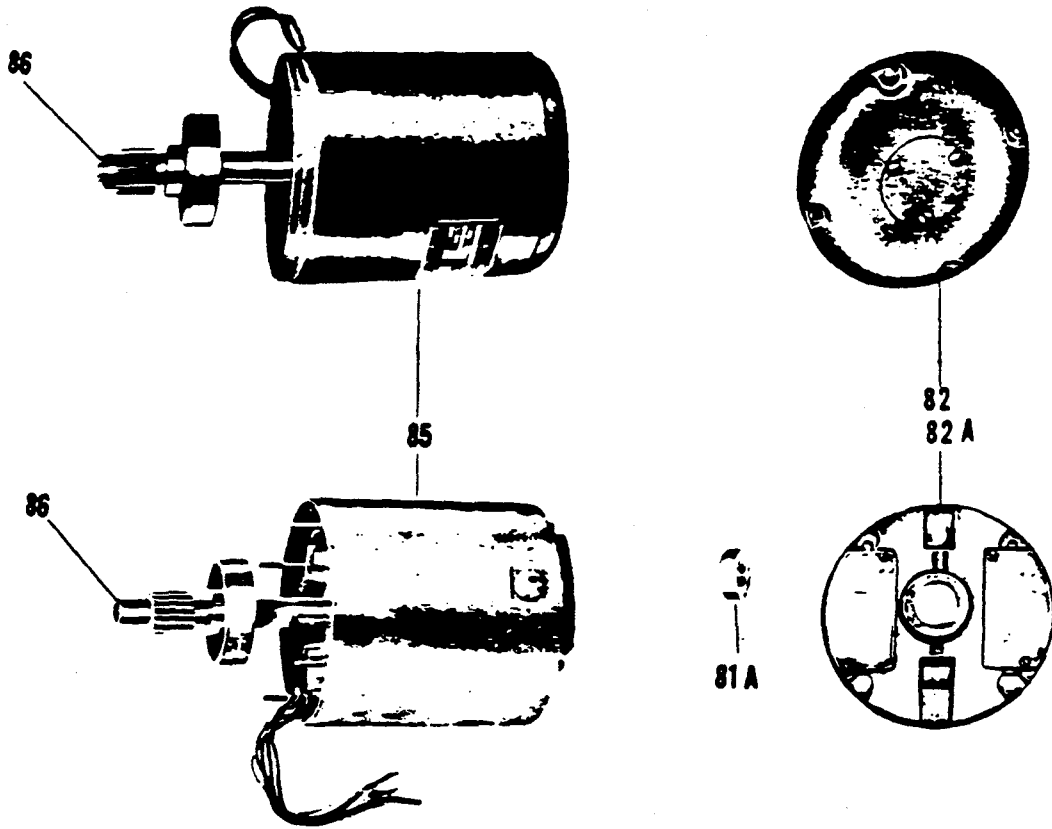
Reverse Disassembling Instructions.

Make sure that Pinion Pin 30W55 or 30W60 is riveted over on both sides of Pinion.

Follow wiring diagram when re-wiring.



## POLYPHASE MOTORS



**IMPORTANT:** If motor repair parts are required give all information listed on hoist and motor name plates.

Part Name	Fig. No.
Complete Motor with Brake Drum, Ball Bearings and Pinion .....	85
End Ball—with Bearing .....	82
End Ball .....	82A
Ball Bearing .....	81A

Motor frame with wound primary and rotor with shaft cannot be supplied separately as spare parts.

### To Disassemble

Remove hoist name plate cover (559762 & 18W22) and disconnect wires at Reversing Switch. Remove four long screws and pull off Stator. Rotor remains in hoist. Caution should be exercised when removing Stator to avoid bending Rotor Shaft or damaging windings. Spread open brake shoes and pull out Rotor.

The Brake Drum, Ball Bearing and Pinion can be removed by taking out Pin from the Pinion. To remove Bearing use a bearing puller.

### To Assemble

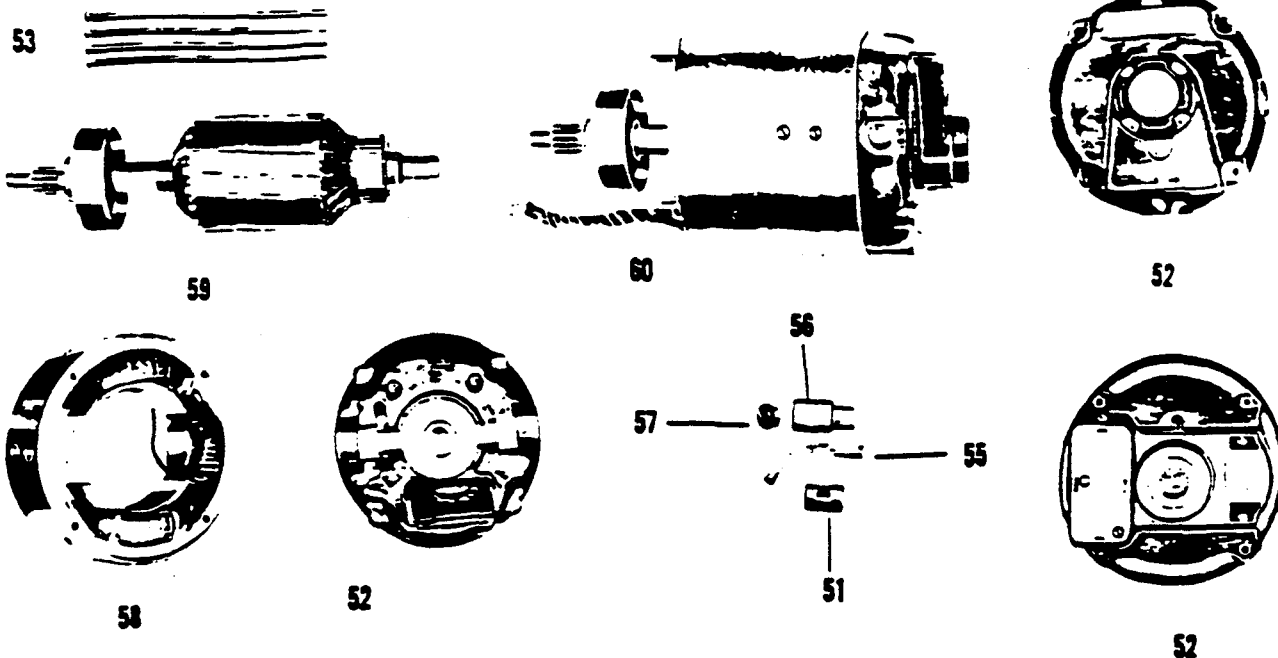
Reverse Disassembling Instructions.

Make sure that Pinion Pin is riveted over on both sides of Pinion.

Follow wiring diagram when re-wiring.

# YALE

## DIRECT CURRENT MOTORS



Part Name	Fig. No.	Quan.
Bearing—Plain Bushing .....	51	1
End Ball—with Bearing .....	52	1
Long Screw .....	53	4
Brush with Brush Spring .....	55	2
Brush Holder .....	56	2
Brush Holder Cap .....	57	2
Field Coils (complete set) without Pole Pieces .....	58	1
Complete Motor with Brake Drum, Ball Bearing and Pinion .....	60	1

Armature and shaft (59) cannot be supplied as spare parts.

**IMPORTANT:** If motor repair parts are required give all information listed on hoist and motor name plates.

### To Disassemble

Remove Brush Holder Caps (57) pull out Brushes (55). Remove hoist name plate cover (559762 & 18W22) and disconnect wires at Reversing Switch. Remove four long screws (53) and pull off Motor Housing with Field Coils (58). Armature (59) remains in hoist. Caution should be exercised when removing field coils to avoid bending armature shaft or damaging windings. Spread open brake shoes and pull out Armature (59).

To remove the Brushes (55) first unscrew the Brush Holder Caps (57) and the Brush and Brush Spring can be pulled out of Motor.

Check commutator for smoothness and cleanliness.

Check brushes for smoothness, cleanliness and pressure on commutator.

If commutator is rough, clean with sandpaper, Not Emery Cloth.

If brushes are worn or spring pressure is light, replace.

The Brake Drum, Ball Bearing, and Pinion can be removed by taking out Pin from the Pinion. To remove other bearings use a bearing puller.

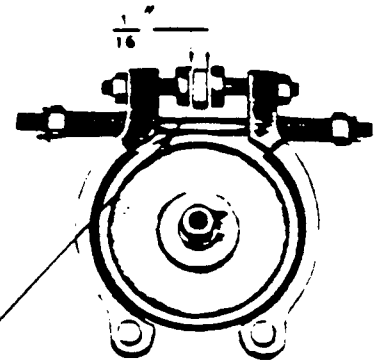
### To Assemble

Reverse Disassembling Instructions.

Make sure that Pinion Pin is riveted over on both sides of Pinion.

Consult wiring diagram when re-wiring.

# YALE



**SUSPENSION HOOK**

**USE S.A.E. 70 AUTO TRANSMISSION OIL. FILL TO OIL LEVEL PLUG.**

To adjust brake remove top screw and loosen lower screw of both brake covers. The correct gap between adjusting screw and cam is  $1/16$ ".

After adjusting be sure to tighten check nuts.

Apply light grease to brake cam surface.

## **IMPORTANT**

Be sure current supply corresponds to name plate rating.

On polyphase A.C. hoists it is impossible to predetermine the direction of rotation. It is therefore important to carefully check this by pulling on end of control handle marked up. If hook travels in opposite direction or "down" interchange any (2) wires at "A".

Lubricate chain regularly with engine oil.

Don't kink load chain or use this load chain as a sling.

**CONTROL HANDLE GRIP**

**LOAD HOOK**

