Repair Parts Bulletin

for

Robbins & Myers J C Electric Hoist

IMPORTANT!

KEEP FOR FUTURE REFERENCE

HOW TO ORDER PARTS CORRECTLY

1. Address your Orders to Robbins & Myers, Hoist & Crane Division.
2. Always give Serial Number of Hoist found on Brass Plate on Side of Hoist.
3. Do not send Serial Number of any Control Parts.
4. Give Serial Number of Motor only when ordering Motor Parts.
5. Give both Part Number and Name.

ROBBINS & MYERS, INC. HOIST & CRANE DIVISION, SPRINGFIELD, OHIO

Manufacturers of Electric Hoists, Cranes, Motors, Fans and Pumps

R. & M. SALES-SERVICE OFFICES AND REPRESENTATIVES

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Buffalo 7
155 Ensminger Rd., Station B

Charleston
3416 Chesterfield Ave.

Chicago 35
1829 No. Harlem Ave.

Cincinnati 14
2425 Spring Grove Ave.

Cleveland 14
221 Leader Bldg.

Dallas 9
4801 Lemmon Ave.

Dayton 6
700 Xenia Ave.

Denver 2
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Duluth 2
324 W. Michigan St.

Ferndale 20 (Detroit)
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2333 S. Hanley Rd.

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Brantford, Ontario
Robbins & Myers Co. of Canada, Ltd.

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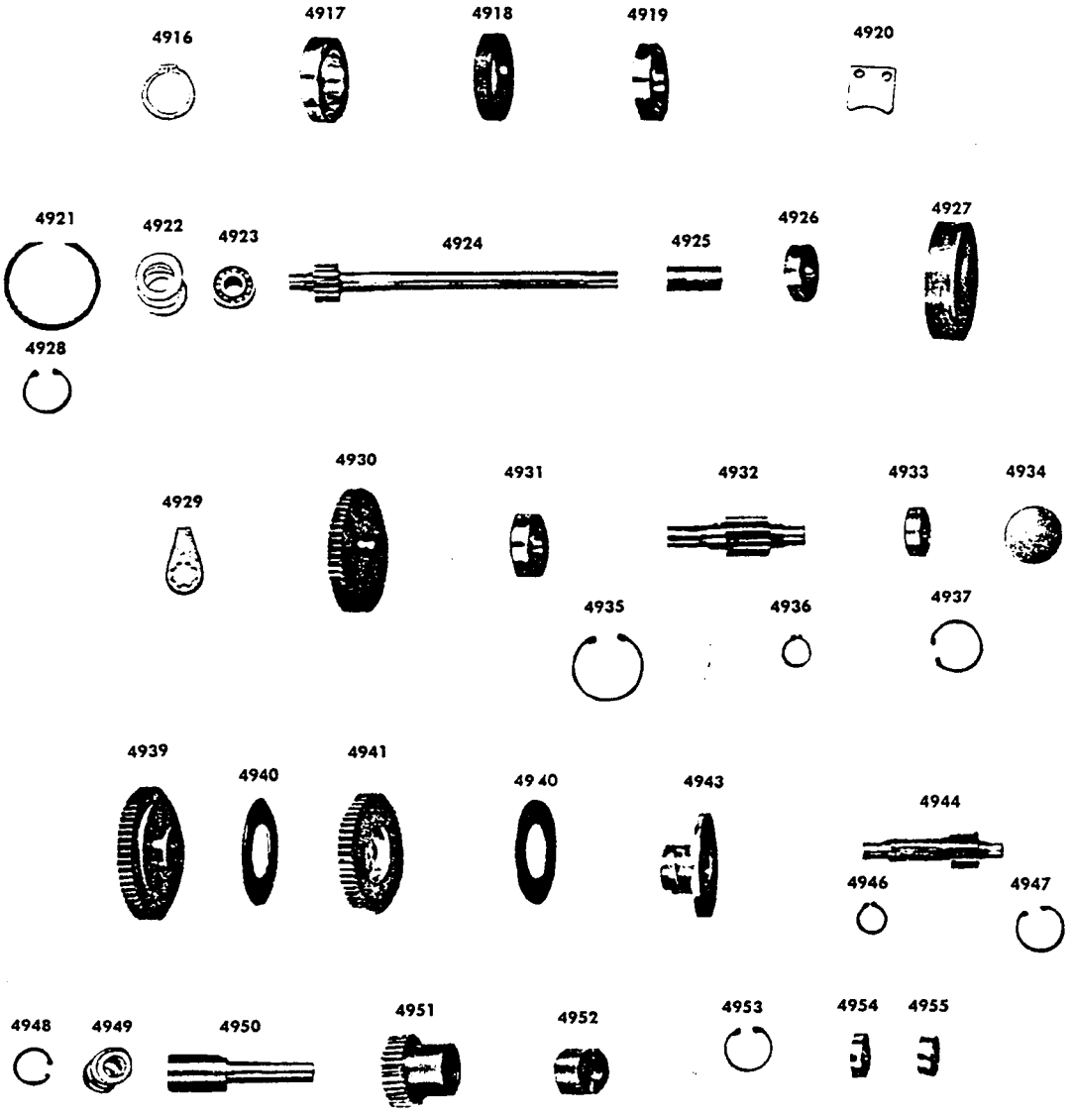
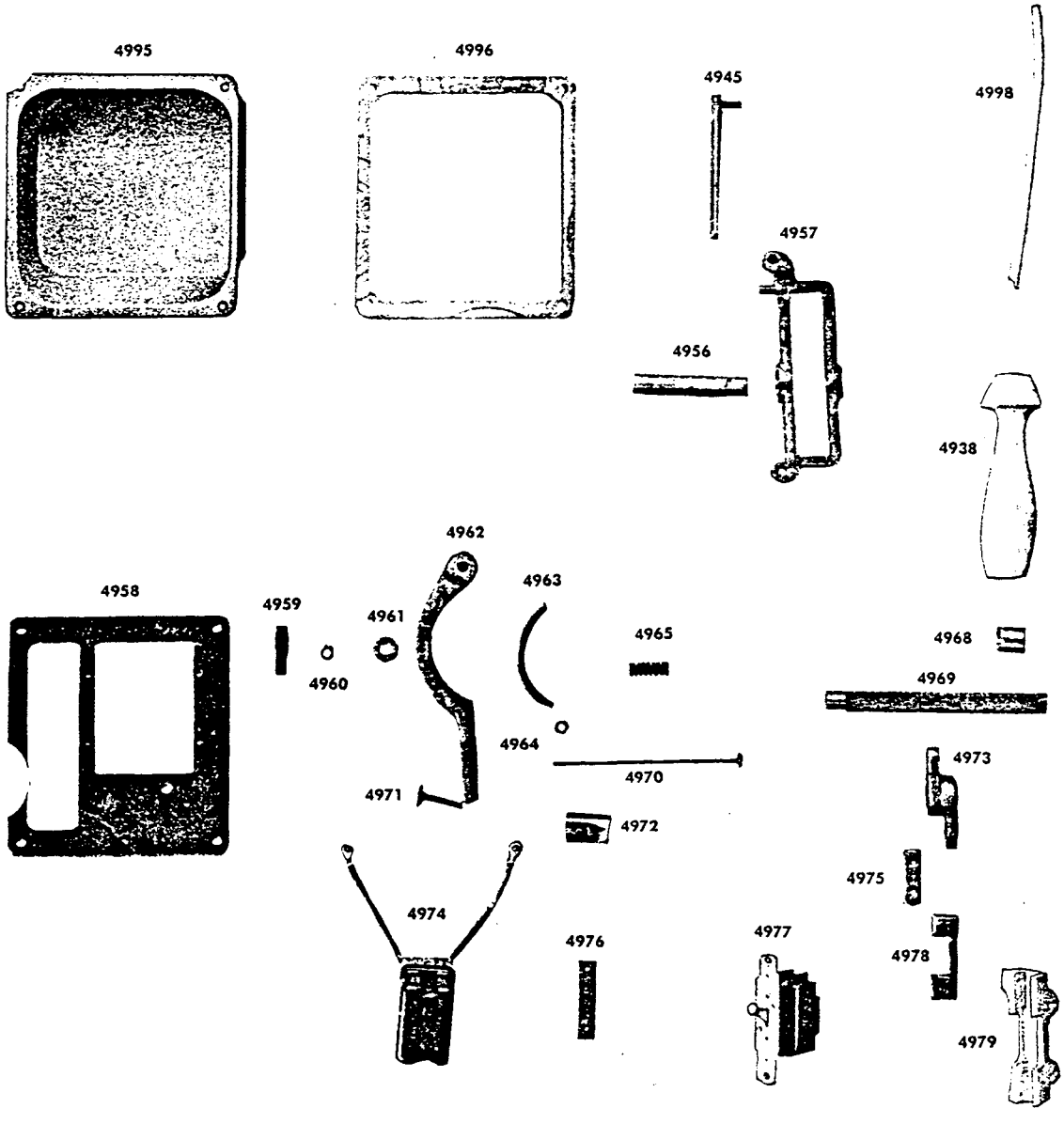
Robbins & Myers Co. of Canada, Ltd.



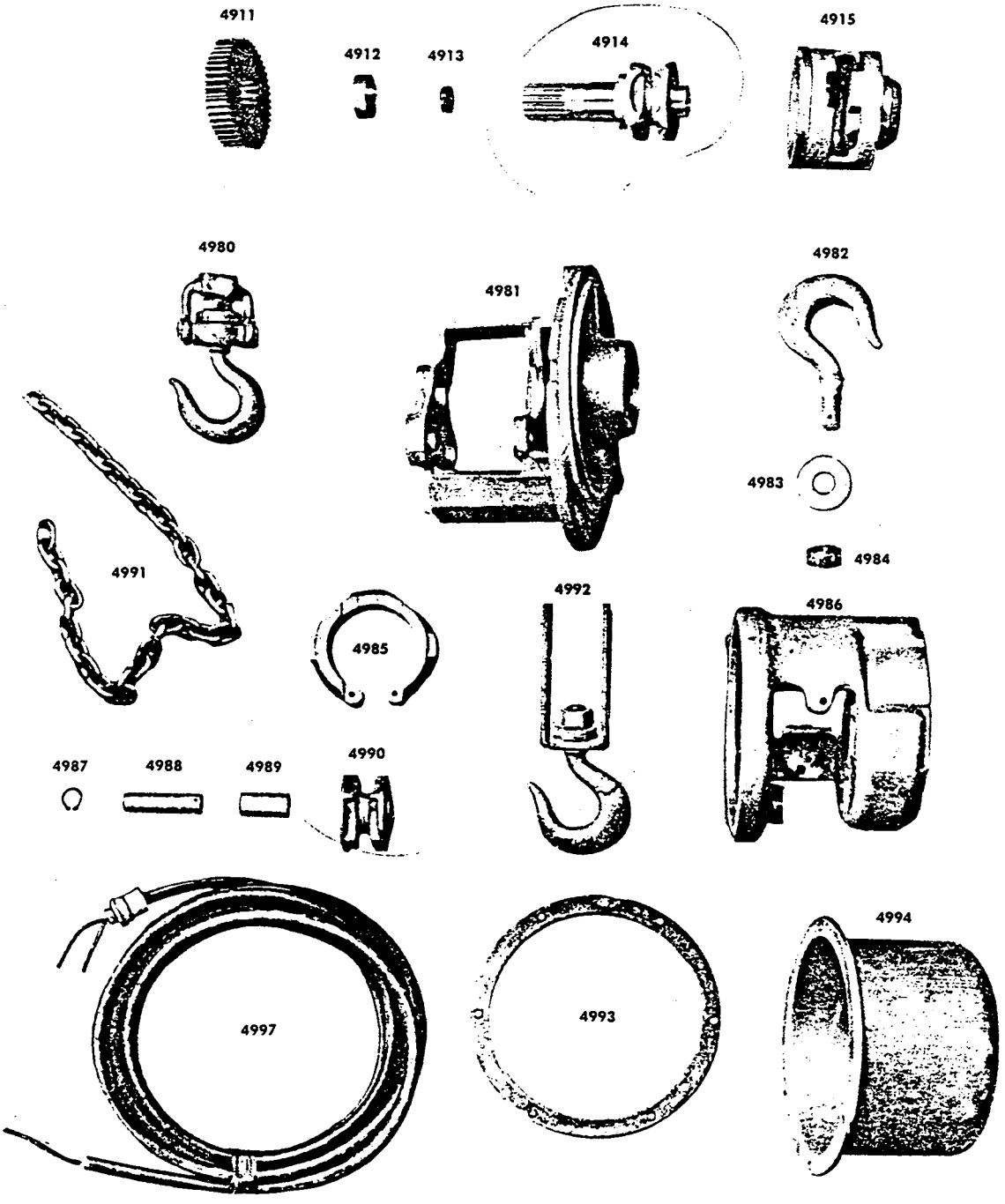
PARTS NAME REFERENCE

4916 External Snap Ring
4917 Ball Bearing
4918 Large Oil Seal
4919 Ball Bearing
4920 Stripper
4921 Snap Ring
4922 Shim
4923 Ball Bearing
4924 Drive Shaft
4925 Coupling
4926 Ball Bearing
4927 Brake Wheel
4928 Internal Snap Ring
4929 Reverse Lever
4930 Intermediate Gear
4931 Ball Bearing
4932 Drum Pinion
4933 Ball Bearing
4934 Welch Plug
4935 Internal Snap Ring
4936 External Snap Ring
4937 Internal Snap Ring
4939 Motor Gear
4940 Brake Liner
4941 Ratchet Gear
4943 Thrust Disc
4944 Intermediate Pinion
4946 External Snap Ring
4947 Internal Snap Ring
4948 Internal Snap Ring
4949 Shim
4950 Clutch Shaft
4951 Clutch Spring and Pinion
4952 Shaft Adapter
4953 Internal Snap Ring
4954 Ball Bearing
4955 Ball Bearing



PARTS NAME REFERENCE

4938	Handles
4945	Link Assembly
4956	Limit Paddle Shaft
4957	Limit Paddle
4958	Control Panel
4959	Brake Shoe Pin
4960	External Snap Ring
4961	Plain Washer
4962	Brake Shoe
4963	Lining
4964	Hex. Nut
4965	Spring
4968	Bushing
4969	Lever Shaft
4970	Spring Guide
4971	Adj. Buttons
4972	Break Cam
4973	Limit Shaft Lever
4974	Relay
4975	Link
4976	Spacer
4977	Toggle Switch
4978	Plunger
4979	Plunger Guide
4995	Control Cover
4996	Gasket
4998	Control Rope

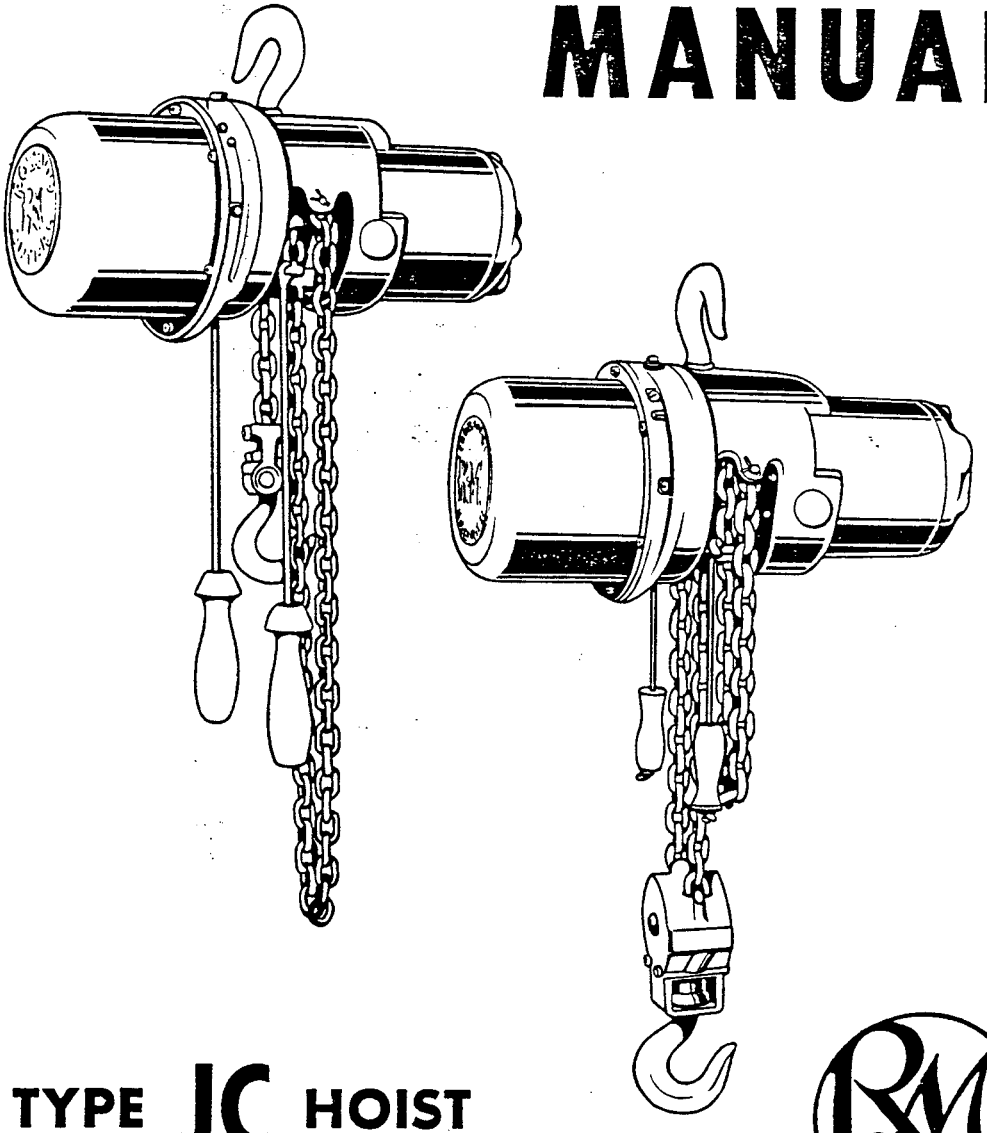


PARTS NAME REFERENCE

4911	Drum Gear	4982	Hook	4989	Sheave Bushing
4912	Gear Spacer	4983	Washer	4990	Lower Sprocket
4913	Small Oil Seal	4984	Hex. Nut	4991	Load Chain
4914	Chain Drive Shaft	4985	Lower Chain Guide	4992	Hook, Strap, Bearing & Nut Assy.
4915	Upper Chain Guide	4986	Body	4993	Gasket
4980	Lower Swivel Hook	4987	Snap Ring—External	4994	Gear Cover
4981	Gear Case	4988	Lower Sheave Pin	4997	Conductor Cable & Fitting

Bulletin 855

ROBBINS & MYERS
INSTALLATION and MAINTENANCE
MANUAL



TYPE JC HOIST

IMPORTANT • KEEP FOR FUTURE REFERENCE

ROBBINS & MYERS, INC. HOIST & CRANE DIVISION
Springfield, Ohio • Brantford, Ontario

To the purchasers of
Robbins & Myers Type "JC" Electric Hoists:

This folder has been prepared primarily to acquaint you with the general aspects of installation, operation, and maintenance of the hoist you have purchased. It is our earnest desire to express our appreciation for the privilege of serving you.

We feel that the advantage of advanced engineering, based on our experience in designing hoists for all types of industrial service – plus superior workmanship and the highest quality materials available will provide for you the utmost of service and satisfaction through the years of use.

We have carefully outlined the procedures necessary to affect a safe, serviceable hoisting application. Proper installation is important to the ultimate performance of the hoist. Study the instructions carefully and observe all precautions to prolong the life of the hoist and its accessories. Keep this folder where it will be readily accessible in case of an emergency.

ROBBINS & MYERS, INC.

Guarantee

Robbins & Myers, Inc. stands behind every product which bears its name. The equipment you have purchased has been designed and built to rigid specifications of quality and performance. Materials and workmanship are guaranteed for a period of one year from date of shipment. Any part proved defective within that interval will be replaced without charge f.o.b. factory. We ask only that the purchaser give written notice of such defect. We cannot, of course, assume responsibility for unauthorized repairs or alterations.

NSTALLATION

Robbins & Myers Type "JC" Hoists can be installed with a minimum of effort and expense for stationary lifting operations. In addition, with the use of the R & M Bulldog Trolley, these units can be adapted for trolley mounting to transport loads on inexpensive I-beam tracks from one area of activity to another. Before operating the hoist in either type of service, observe the following instructions for preliminary lubrication and connecting main line leads.

HOOK MOUNTING – All models of the "JC" Hoist are equipped with drop-forged swivel-type mounting hooks. (Fig. 1.) Suitable for use with any type of stationary support, the hook enables the operator to select the proper lifting position for safe hoisting operations. Anti-friction bearing swiveled load hooks are furnished with both single chain and double chain units.

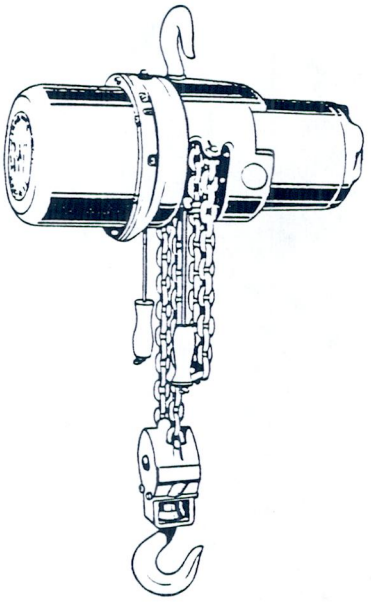


FIG. 1

TROLLEY MOUNTING – For simplified trolley installation the "JC" Hoist can be used in conjunction with the R&M Bulldog Trolley. (Fig. 2.) Designed for capacities to 1-ton, the Bulldog is adjustable for use on 4" to 15" American Standard 9° bevel flange I-beams. A set of eighteen steel spacers, included with each trolley, permit centering of the hoist on the lower flange of the beam. Determined by the flange width of beam used, the placing of an appropriate equal number of spacers inside or outside of the trolley frames on either side of the trolley center will provide a required clearance of ⅛" between wheel flanges and the flange of the beam. If spacing washers are properly applied, the trolley will operate efficiently on straight or curved track – with a limitation of 24" minimum radius of curve.

NOTE: TROLLEY WILL NOT OPERATE ON FLAT FLANGE BEAMS.

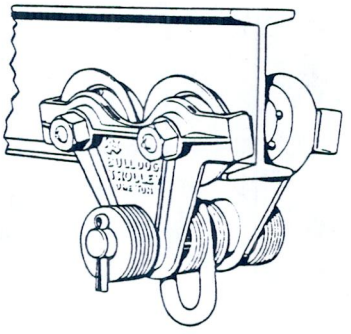


FIG. 2

LUBRICATION

After hanging the hoist, this procedure should be carefully followed to add oil to the gear housing (Fig. 3). Remove the two plugs on the housing flange. Through the top hole fill with a medium motor oil (SAE 20 or 30 recommended for normal service) until the oil supply is visible in the lower hole. Normally the "JC" series hoist will require 1½ quarts. Replace the plugs and wipe excess oil from housing. By maintaining the proper oil level in the case, lubrication problems are eliminated. All open bearings in the gear case are splash lubricated. One shaft bearing and the motor and sheave bearings are permanently double-sealed, prelubricated type which are packed with adequate grease for years of rugged hoisting duty.

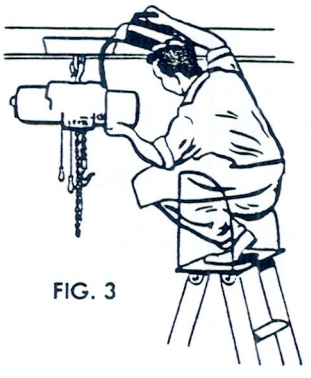


FIG. 3

REPLACEMENT OF OIL SEALS—Before new seals are positioned make certain there are no burrs or rough spots on the shaft. Push the seal through carefully, with the sealing members toward the oil supply. (See Fig. 4.)

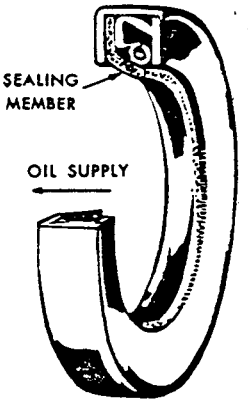


FIG. 4

CONNECTING MAIN LEADS

Make certain that your current supply is the same as stamped on the motor nameplate. If your hoist is to be operated on a single phase circuit, test the line voltage by instrument for full voltage at motor terminals when motor is operating under full load. Connect the hoist leads to the power supply in the manner shown in the accompanying illustration (Fig. 5). Check the movement of the hook by inching the right hand control rope when facing the motor. Should the hook fail to rise, release the control and recheck the power connections. If your hoist is a three-phase model, the inter-changing of any two of the three power leads will reverse the polarity of the circuit and change the rotation of the motor. *(CAUTION: Do not under any circumstances change the internal wiring of the hoist. For other currents, consult the wiring diagram inside the control cover. DO NOT DISREGARD THESE INSTRUCTIONS. Continued operation of the hoist when the rotation is reversed may result in extensive damage. The manufacturers cannot assume responsibility for repairs if the proper precautions have not been taken.)*

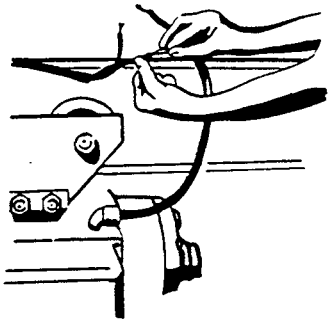


FIG. 5

MOTORS

Designed to provide the utmost in dependable hoisting service, the motor which powers your hoist was developed by R & M motor engineers to attain the maximum performance of the hoisting mechanism. Enclosed against normal hazards of dust and moisture, each motor is equipped with single-row width, permanently-sealed ball bearings (Fig. 6) which are packed with sufficient grease for years of rugged hoisting service. Engineered to applicable NEMA construction standards, these motors develop high torque with a maximum temperature rise of 55°C in 30 minutes.

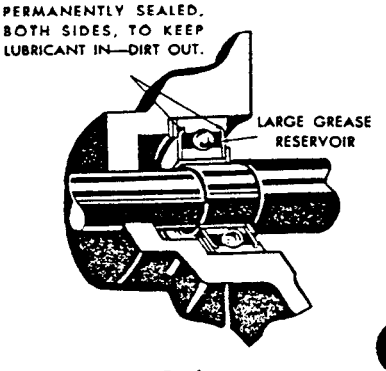


FIG. 6

LIMIT SWITCHES

In the "JC" hoist a pocketed sheave takes the load chain. This load chain lays in the pockets as shown in Fig. 7 encompassing about half of the diameter of the pocket sheave. One end of the chain has the hook attached and the other end loops up and is bolted to the hoist frame. If the chain be threaded through a lever the ascending hook block will serve to rotate it as will the ascending loop in the chain — each in different direction. From this action an upper and lower limit switch is obtained. The pulling of the control rope rotates a shaft which brings the controller into electrical contact. The same shaft rotates the limit lever to a position so that the hook or chain loop will return the control to neutral position and the motor brake is applied. (See Fig. 11.)

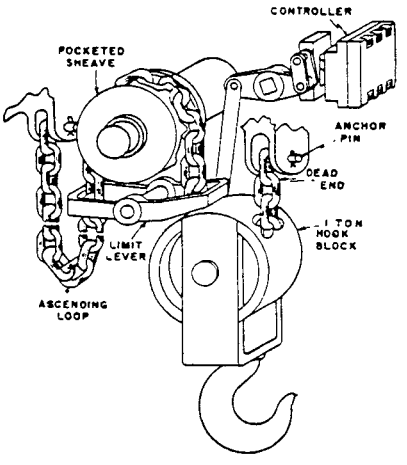


FIG. 7

AUTOMATIC LOAD BRAKE

Fundamentally, the well-designed electric hoist must perform two definite operations. In addition to the lifting and lowering of loads, it must be capable of suspending them in mid-air for indefinite periods of time without danger of slipping or dropping. An oversize Weston type load brake (Fig. 8) incorporated in the internal gearing (Fig. 9) of the R & M Type "JC" Hoist, automatically controls speed when the load is lowered; prevents dropping in event of power failure. Large area friction discs between the drive gear and the brake gear provide a positive check against slipping or dropping while the load is lifted or held stationary. Released only when the load is lowered, the brake is controlled by a non-reversing clutch. Friction discs will ordinarily withstand years of service before replacement is necessary. The Weston load brake operates in an oil bath to cushion the braking action and to aid in dissipating heat.

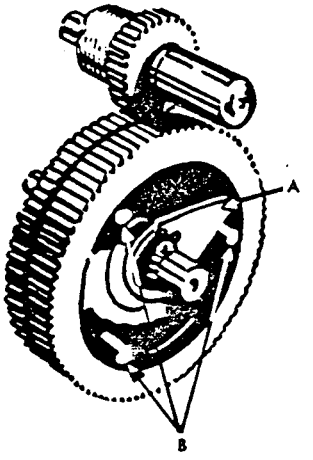


FIG. 8

LOAD BRAKE ADJUSTMENT—To assure proper adjustment, the drive lever (Fig. 8A) should be positioned between $\frac{1}{16}$" and ¼" from one of the three stops (Fig. 8B). It may be necessary to try the lever at all three stops to attain the proper measurement.

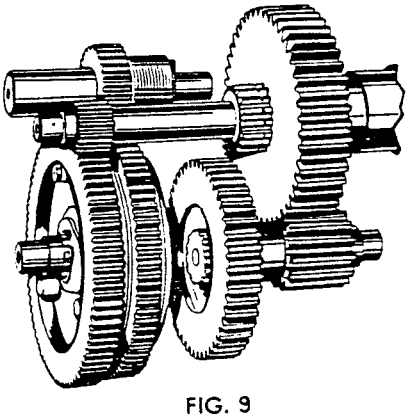


FIG. 9

TO DISASSEMBLE LOAD BRAKE (Fig. 10). Remove the outer retaining ring (1) with special retaining ring pliers. Remove bearing (2) and inner retaining ring (3). Remove retaining ring (4) from opposite end of shaft (5). Push shaft through housing and remove gear assembly (6). Other gears are removed by removing retaining rings.

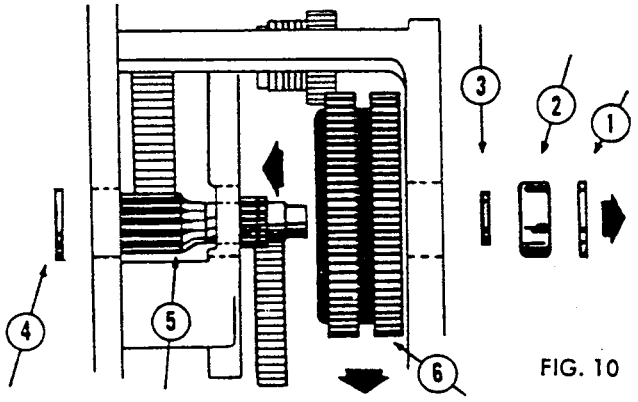


FIG. 10

MOTOR BRAKE

Increased braking area of shoe-type motor brakes (Fig. 11) on Type "JC" hoists permits smoother, cushioned stops; prevents drift of the hook. Engineered for smoother braking action with more uniform distribution of wear, these brakes provide longer life and greater efficiency.

Brakes on rope controlled hoists are manually operated. A mechanical linkage between the rope controller shaft and the camming lever activates the brake when the control ropes are moved.

Proper adjustment of motor brakes on rope controlled units can be accomplished only if the gap between the cam and both buttons are the same. Rope controlled hoists should be adjusted so that the distance between cam and buttons is $\frac{3}{32}$". *Do not attempt to adjust tension on the brake springs.* The springs will maintain correct pressures on the shoes with necessary accommodations for normal wear.

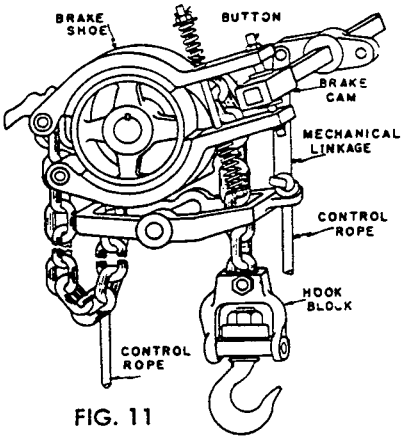


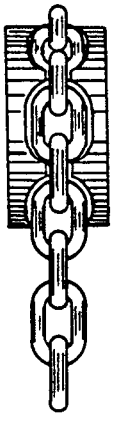
FIG. 11

LOAD CHAIN

The load chain supplied with the R & M "JC" Hoist is made expressly for the purpose it serves. Special alloy steel, heat treated and hardened to exacting specifications, assures accurate dimensions of links, uniformity of gauge, and an unvarying strength of material to prolong the life of the chain. *Do not, under any circumstances attempt to use ordinary commercial chain or repair links if replacement becomes necessary. Robbins & Myers, Inc., cannot assume responsibility for difficulties which result from infractions of these instructions.*

Reasonable care will provide years of wear if the following precautions are observed:

1. Do not overload the hoist.
2. Keep chain links straight.
3. Never wrap the hoisting chain around the load.
4. Periodically lubricate chain by slushing with 600 W oil.



CHAIN MUST LAY FLAT — NO TWIST

FIG. 12

TO INSTALL A NEW CHAIN The following procedure should be observed when it becomes necessary to install a new chain:

1. Attach a wire to the end of the chain, allowing 12" to extend from the end. See Fig. 13.
2. Push the wire upward through the center groove in the sprocket until it can be reached from the other side. Start the chain from the side of the sprocket nearest the control box on the hoist.
3. Then place the first link of the chain in the horizontal sheave pocket.
4. Operate the hoist slowly in the hoisting direction holding the link in the pocket by keeping the lead wire taut. Run the hoist slowly until you are certain that the chain is properly seated in the sprocket. Do not attempt to guide or force the chain. Continue to hoist until approximately one foot of chain extends downward on the opposite side of the hoist sprocket. Make certain that the chain is fed through the limit paddle located below the sprocket and not over or around it.
5. Now remove the lead wire from the end of the chain and fasten the chain to the anchor pin. See Fig. 14. Be sure that the loop is placed around the end of the limit paddle to serve as a lower limit. Check again to insure that there is no twist in the chain. Fasten the anchor pin with cotter pins, one on each end.
6. (a) If your hoist utilizes a single line load chain (500 and 1000 lb. capacity hoists only) attach the hook block to the free end of the chain. See Fig. 11. Rivet over the end of the bolt to prevent the nut from working off. The hoist is now ready for operation.

6. (b) If your hoist utilizes a double line load chain (2000 lb. capacity hoists only) run the chain through the hoist until approximately two feet hangs free. Thread the end through the lower block. See Fig. 7. This can be accomplished by attaching a lead wire to the chain, as described in Section 2, or by simply laying the first link, *flatwise*, in the pocket and working the sheave around by hand. As the chain is started, make certain again that it is not twisted. To eliminate twist, let the chain hang free and start it, flatwise, just as it hangs.

CAUTION: If the end link does not lie flat in the bottom block sheave without twisting the chain a one-quarter turn, then remove the first link. See Fig. 14.

7. For double load chain hoists only. Fasten the free end of the chain to the anchor pin. See Fig. 7. The pin is located behind the control box plate. Make a final test to assure that the chain is not twisted before the cotter pins are inserted. The hoist is then ready for operation.

Even under normal usage, the chain should be replaced periodically. While wear is often not apparent, a hazard exists if the chain is stretched. When the pitch length is increased until the chain no longer fits the sheave pockets properly, the load will tend to drop slightly as the links come out of the pockets when the load is lowered. Another effective method of checking is to measure the length of 30 links of the chain. When this measurement exceeds 24¾ inches, the chain should be promptly replaced.

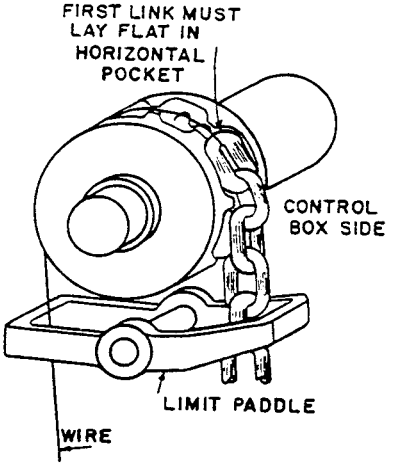


FIG. 13

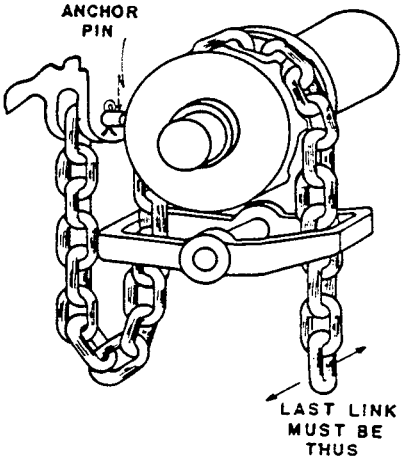
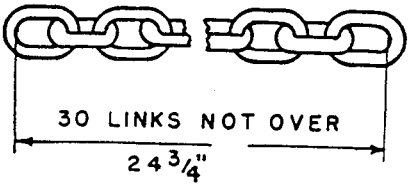
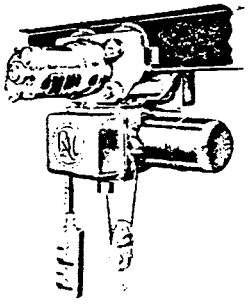


FIG. 14



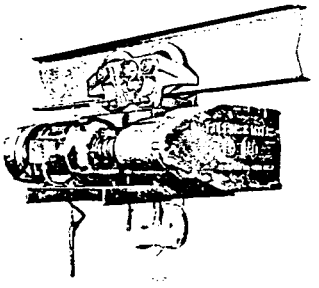
Industry Engineered for Modern Plant Requirements

TYPE "J" HOISTS



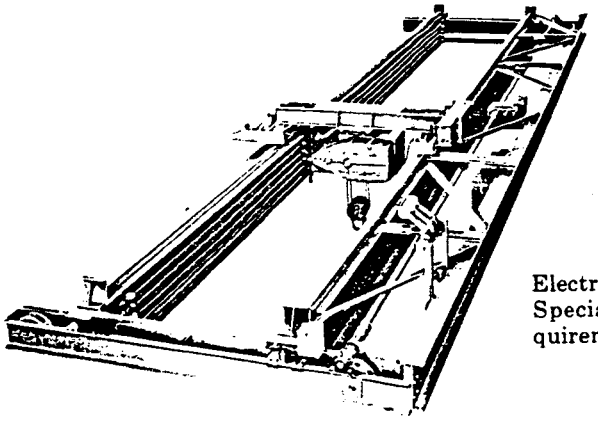
New Type "J" Wire Rope Electric Hoists for hook, lug, or trolley mounting. Pendent rope or push button control. Capacities to 2 tons.

TYPE "F" HOISTS



Type "F." Heavy-duty electric hoists for hoc lug or trolley-mounting. Rope, push butto or remote controls. Capacities to 10 tons.

CRANES



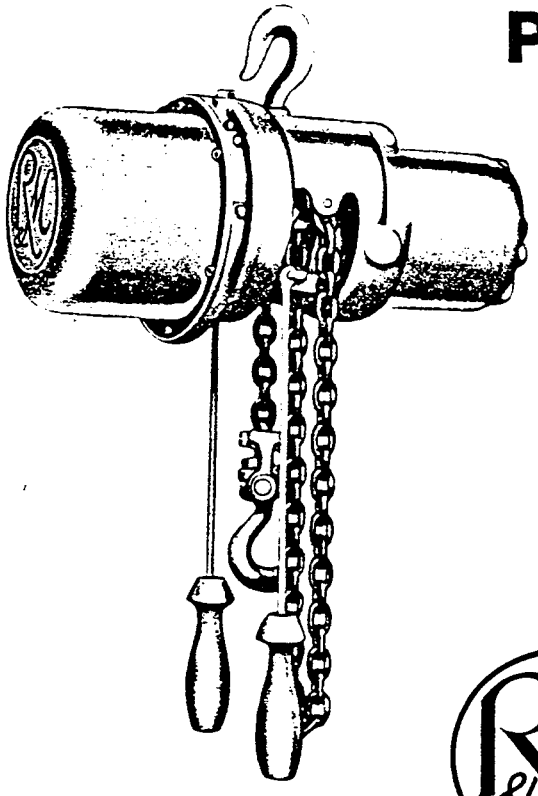
Electric and hand powered. All types and sizes. Special models built to individual lifting requirements. Capacities to 25 tons.

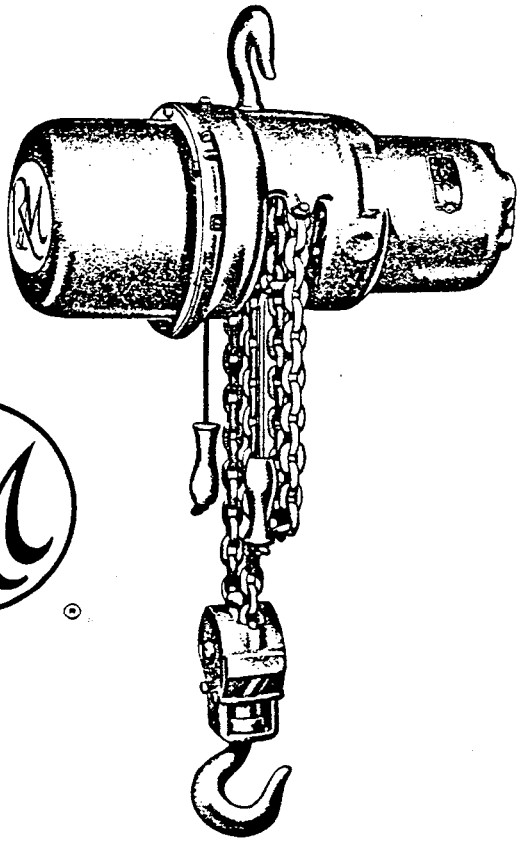
ROBBINS & MYERS, INC. HOIST & CRANE DIVIS
Springfield 99, Ohio — Brantford, On

Also manufacturers of Electric Fans • Electric Motors • Moyno Industrial Pumps • Shallow Well Water Systems • Industrial Ventilating Equipment

FORM No. 3276-A

ROBBINS & MYERS
REPAIR PARTS
PRICE LIST





TYPE JC HOIST

IMPORTANT • KEEP FOR FUTURE REFERENCE

ROBBINS & MYERS, INC. HOIST & CRANE DIVISION
Springfield, Ohio, U.S.A. Brantford, Ontario

ITEM	DRAWING NO.	DESCRIPTION	LIST PRICE
4916	22-06497-006	External Snap Ring	.20
4917	6-30-020-107-0	Ball Bearing	4.10
4918	22-06534-001	Large Oil Seal	1.80
4919	22-06532-001	Ball Bearing	12.90
4920	22-06628-001	Stripper	.60
4921	22-02244-010	Snap Ring	.30
4922	6-23-020-046-0	Shim	.30
4923	6-30-041-201-0	Ball Bearing	5.40
4924	23-05316-002	Drive Shaft	30.00
4925	22-06524-001	Coupling	2.20
4926	6-30-050-203-0	Ball Bearing	8.60
4927	23-05220-002	Brake Wheel	9.40
4928	22-06498-007	Internal Snap Ring	.20
4929	22-06529-001	Reverse Lever	1.10
4930	23-05267-001	Intermediate Gear	21.70
4931	6-30-041-204-0	Ball Bearing	5.70
4932	23-05258-001	Drum Pinion	17.10
4933	6-30-041-202-0	Ball Bearing	5.40
4934	22-00311-001	Welch Plug	.30
4935	22-06498-008	Internal Snap Ring	.30
4936	22-06497-005	External Snap Ring	.20
4937	22-06498-002	Internal Snap Ring	.20
4939	24-03971-002	Motor Gear	27.90
4940	22-06527-001	Brake Liner	.80
4941	23-05263-001	Ratchet Gear	9.40
4943	23-05264-001	Thrust Disc	21.20
4944	23-05259-001	Intermediate Pinion	15.00
4946	22-06497-005	External Snap Ring	.20
4947	22-06498-007	Internal Snap Ring	.20
4948	22-06498-001	Internal Snap Ring	.20
4949	6-23-021-055-0	Shim (5 in set)	.30/1 set
4950	22-06455-002	Clutch Shaft	4.10
4951	22-06507-002	Clutch Spring & Pinion	13.60
4952	22-06487-001	Shaft Adapter	7.20
4953	22-06498-007	Internal Snap Ring	.20
4954	6-30-041-201-0	Ball Bearing	5.40
4955	6-30-041-201-0	Ball Bearing	5.40
4938	23-00103-001	Handles	1.60
4945	22-08561-001	Link Assembly	3.00
4956	22-06627-001	Limit Paddle Shaft	1.60
4957	23-06376-001	Limit Paddle	6.50
4958	24-03959-002	Control Panel	2.60
4959	22-06460-001	Brake Shoe Pin	.50
4960	22-06497-001	Internal Snap Ring	.30
4961	6-23-004-002-1	Plain Washer	.55/1/2 doz.

ITEM	DRAWING NO.	DESCRIPTION	LIST PRICE
4962	23-05221-001	Brake Shoe	4.30
4963	22-06459-001	Lining	.80
4964	6-14-001-007-1	Hex Nut	.55/1/2 doz.
4965	22-06462-001	Spring	.20
4968	22-05466-003	Bushing	1.90
4969	22-06625-001	Lever Shaft	2.60
4970	22-06461-002	Spring Guide	1.10
4971	22-06463-001	Adj. Buttons	.20
4972	22-06612-001	Brake Cam	3.10
4973	22-06611-001	Limit Shaft Lever	3.60
4974	Not Used	Relay	
4975	22-06622-002	Link	.55
4976	22-06621-001	Spacer	.30
4977	22-06631-001	Toggle Switch	20.40
4978	22-06620-001	Plunger	4.10
4979	23-05318-001	Plunger Guide	3.10
4995	24-03960-002	Control Cover	5.20
4996	23-05302-002	Gasket	1.00
[illegible]98	22-04380-001	Control Rope	.30/ft.
[illegible]11	23-05266-001	Drum Gear	20.10
4912	22-06526-001	Gear Spacer	2.00
4913	22-06533-001	Small Oil Seal	.60
4914	24-04139-001	Chain Drive Shaft	37.20
4915	23-05308-001	Upper Chain Guide	15.80
4980	22-06941-001	Lower Swivel Hook	28.00
4981	25-01768-001	Gear Case	82.80
4982	22-00875-007	Hook	8.50
4983	6-23-004-010-1	Washer	.30
4984	6-14-007-008-0	Hex-Nut	.60
4985	23-05310-001	Lower Chain Guide	7.80
4986	25-01786-001	Body	109.10
4987	22-06497-005	External Snap Ring	.20
4988	22-06629-001	Lower Sheave Pin	3.10
4989	22-06630-001	Sheave Bushing	1.80
4990	24-04141-001	Lower Sprocket	6.50
4991	22-06939-001	Load Chain	2.90/ft.
4992	24-04143-001	Hook Assembly	27.60
4993	23-05262-001	Gasket	1.10
4994	24-03972-001	Gear Cover	5.10
4997	22-04381-003	Conductor Cable & Fitting	.85/ft.

HOW TO ORDER PARTS CORRECTLY

1. Address your Orders to Robbins & Myers, Hoist & Crane Division.
2. Always give Serial Number of Hoist found on Brass Plate on Side of Hoist.
3. Do not send Serial Number of any Control Parts.
4. Give Serial Number of Motor only when ordering Motor Parts.
5. Give both Part Number and Name.

ROBBINS & MYERS, INC. HOIST & CRANE DIVISION, SPRINGFIELD, OHIO

Manufacturers of Electric Hoists, Cranes, Motors, Fans and Pumps

R. & M. SALES-SERVICE OFFICES AND REPRESENTATIVES

Atlanta, Ga.
609 Walton Bldg.

Baltimore 27, Md.
1600 S. Caton St.

Birmingham 2, Ala.
1814 First Ave., N.

Charleston 4, W. Va.
3416 Chesterfield Ave.

Chicago 41, Ill.
5517 W. Montrose Ave.

Cleveland 15, Ohio
3030 Euclid Ave.

Dallas 7, Tex.
2514 Irving Blvd.

Dayton 2, Ohio
333 W. First St.

Denver 2, Colo.
1795 Sheridan Blvd.

(Detroit) Ferndale 20, Mich.
1840 Hilton Rd.

(Fort Wayne) New Haven, Ind.
1205 Park Ave.

Houston 6, Tex.
2027 Harold St.

(Los Angeles) Compton, Cal.
2310 N. Alameda

Memphis 4, Tenn.
651 S. Cooper St.

Meriden, Conn.
401 Liberty St.

Minneapolis 14, Minn.
215 Sixth St., S. E.

Newark 8, N. J.
700 Bergen St.

Newton Highlands, Mass.
50 Needham St.

Brantford, Ontario
Robbins & Myers Co. of Canada, Ltd.

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8418 W. Chester Pike

Pittsburgh 16, Pa.
2961 W. Liberty Ave.

Richmond 19, Va.
617 Mutual Bldg.

Seattle 99, Wash.
329 Second Ave., W.

St. Louis 17, Mo.
2333 S. Hanley Rd.

Syracuse 2, N. Y.
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722 Ontario St.

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Form No. 3276-A

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