

Air Chain Hoist

User Manual

Model no. 298625, 298626, 298627



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Global Industrial Hoists are high quality hoists made with a tough, compact housing for easy operation, transportation and storage. These are made for long lasting use in industrial environments. Very efficient with different speed controls and ability to lift different load capacities.

PLEASE READ THESE INSTRUCTIONS COMPLETELY AND SAVE FOR REFERENCE. UPON RECEIVING, INSPECT THE UNIT FOR ANY DAMAGE OR MISSING PARTS. IF DAMAGE IS EVIDENT, NOTIFY THE CARRIER IMMEDIATELY TO FILE A CLAIM. THESE PRODUCTS MUST BE HANDLED WITH CAUTION BY TRAINED OPERATORS WITH PROPER SAFETY GEAR AND EQUIPMENT. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN SERIOUS INJURY. PLEASE CONTACT GLOBAL INDUSTRIAL CUSTOMER SERVICE (1-800-645-2986) FOR ANY ISSUES OR REPLACEMENT PARTS.

GENERAL DATA:

- Rated Loads: 300 lb, 500 lb, 1000 lb.
- Type: Link Chain
- Air Pressure Recommended: 90 PSI
- Air Consumption: 48 SCFM at 90 PSI
- Net Weight (Basic Hoist): 36 lbs
- Suspension: Hook
- Control: Pendant Throttle
- Air Inlet Size: 3/8 NPTF
- Air Supply Hose: 1/2 I.D. min
- Air Exhaust: 1/2 NPTF

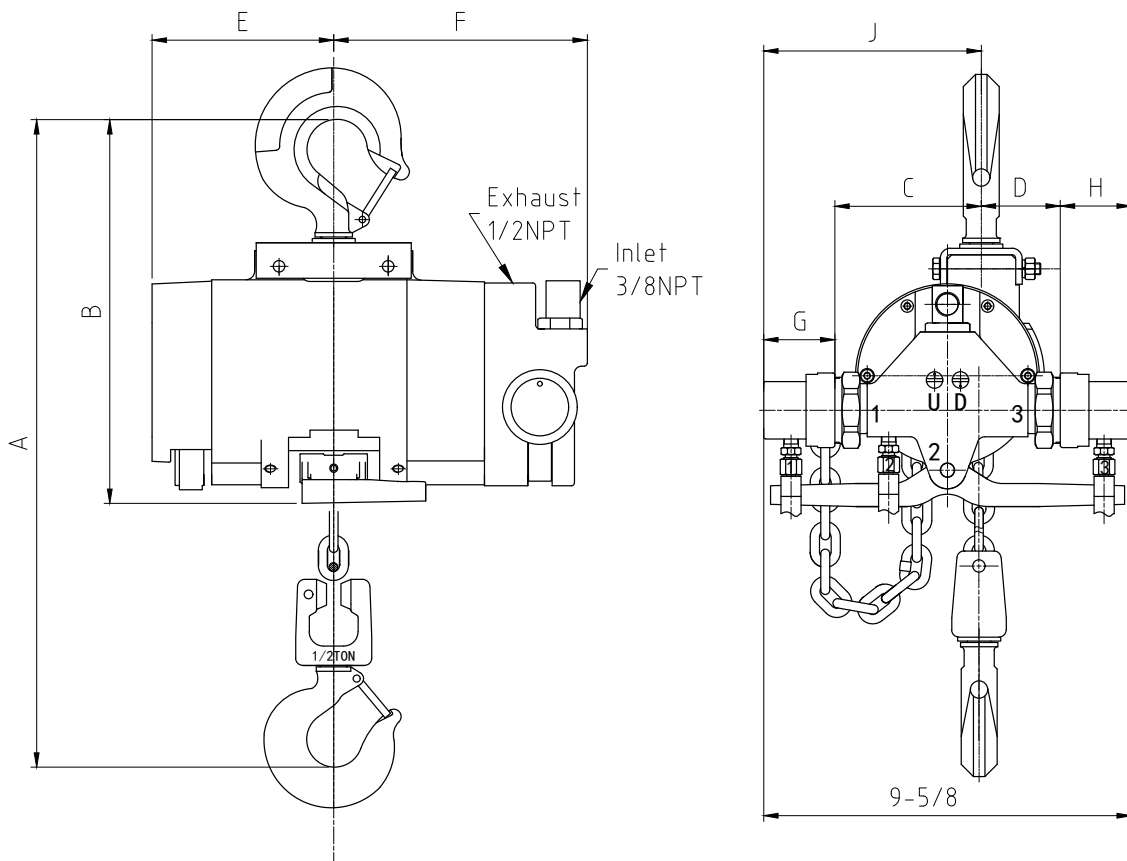


Image 1

Model	Capacity [lb.]	Wt. [lb.]	Lifting Speed Max [fpm]	Lowering Speed Max [fpm]	Lifting Height [Ft.]
298625	300	46	84	65	10
298626	500	46	65	95	10
298627	1000	46	45	120	10

Hoist Dimensions

Dimensions [inches]			
Ref.	298625	298626	298627
A	15.25	15.25	15.25
B	10.25	10.25	10.25
C	4.75	4.75	4.75
D	1.75	1.75	1.75
E	7.0625	7.0625	7.0625
F	5.0625	5.0625	5.0625
G	0.9375	0.9375	0.9375
H	2.1875	2.1875	2.1875
I	5.6875	5.6875	5.6875



SAFETY INFORMATION

PLEASE READ THOROUGHLY AND CAREFULLY. IMPROPER OPERATION OR FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN SERIOUS INJURY.



SAFETY FIRST

- DO NOT operate a damaged hoist.
- DO NOT modify the hoist in any way.
- DO NOT lift more than max capacity.
- DO NOT lift over people, or transport people.
- DO NOT wrap chain around load.
- DO NOT apply the load to the tip of the hook or the hook latch.
- DO NOT operate beyond limits of the load chain travel.
- DO NOT leave load supported by the hoist unattended.
- DO NOT allow the load chain or hook to be used as an electrical or welding ground.
- DO NOT use the hoist's overload limiting clutch to measure load.
- DO NOT use the hoist's limit switches as routine operating stops.
- ALWAYS make sure people remain clear during use.
- ALWAYS make sure the load is centered under hoist.
- ALWAYS make sure the hoist is securely attached to a suitable support.
- ALWAYS take up slack carefully – make sure load is balanced.
- ALWAYS stop immediately if the hoist malfunctions and inspect carefully.
- ALWAYS check brake function by tightening the hoist prior to each lift operation.
- ALWAYS use hook latches and make sure they are closed.
- ALWAYS make sure the load is free to move and will clear all obstructions.
- ALWAYS avoid swinging the load or hook.
- ALWAYS make sure hook travel is in the same direction as shown on the controls.
- ALWAYS inspect the hoist regularly and replace damage or worn parts.
- ALWAYS lubricate load chain per instructions in this manual.

INSTALLATION & SET UP

Suspending/Mounting the Hoist to Supporting Structure:

1. The structure used to support the hoist must have a load rating equal to or greater than that of the hoist.
2. The supporting structure must be able to effectively suspend both the weight of the hoist and the rated load.
3. Proper installation requires that the upper hook is seated in the center of the hook saddle and the spring safety latch is completely closed.
4. The hoist must be in the same straight line with the load to avoid side forces.
5. If trolley is mounted to a beam, make sure the beam has end stops to prevent the trolley running off the end of the beam, causing serious injury.

Connecting Hoist to Air Source:

1. Connect hoist to a filtered and lubricated air source with a least 1/2" I.D (see image 2)
2. If the hoist is connected with trolley, the hose must be long enough to reach from air source.
3. A filter and lubricator unit must be installed between air source and air hose connected to the hoist to assure the air hoist will receive consistent, clean air flow. (see image 3)
4. DO NOT use multi-viscosity, detergent-type engine oil. USE air hoist motor oil or 10W machine oil (approx. viscosity 150 SSU @ 100 deg. F). The lubrication rate for air supply should be 1 drop for every 50-75 cu. Ft. Recommended air pressure is 90 psi.

Speed Adjustments:

1. For lifting speed, the maximum is pre-set. The lowering speed is adjusted to an average setting between minimum and maximum.
2. To adjust speed, turn the adjusting screw shown in image 4. The speed will be max or min when the head slots on the adjusting screws are horizontal. Rotate screws 180 deg. In either direction for full range of speed adjustment.
3. NOTE the max lowering speed with rated load is very high. Adjusting screws should not be adjusted beyond outer surface of hoist housing.



Image 2

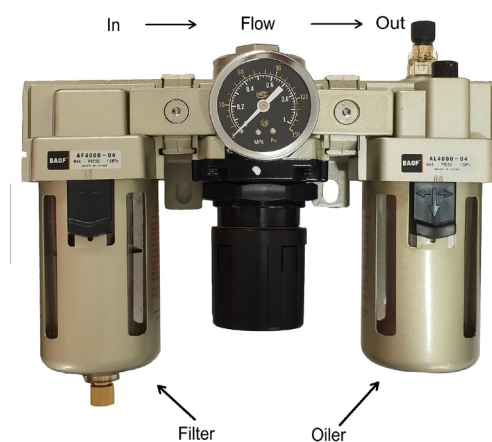


Image 3



Image 4

OPERATION

The operator should be a trained professional and is responsible for safe use with these hoists. They must follow the safety guidelines mentioned on page 5 to prevent damage or injury.

1. Inspect all connections between side hoist frame, hooks, and structural support. Check all parts (brake, hoist, chain, pins) to make sure there is no damage/distortion. DO NOT use if there is any damage or distortion. Chain should be lubricated.
2. DO NOT lift more than rated capacity. Overloading can cause deformation or breakage in the chain/hook and can cause serious injury and damage.
3. Guide load so that it is under control at all times and clear of any personnel.
4. Make sure the hoist is properly mounted to a support with proper air pressure applied.
5. This hoist is equipped with a pendant throttle control with lever type control valve handle suspended from control cylinders shown in image 5.
6. On the pendant throttle control, depress the throttle lever marked "UP" to lift the load.
7. Depress the throttle lever marked "DOWN" to lower the load.
8. Release the lever to stop either lifting or lowering.
9. The lifting/lowering speed varies by the position of the throttle valve lever being depressed.
10. The strain cable is designed for pulling trolley suspended hoist when empty or lightly loaded.
11. Push on load or load chain to traverse heavy loads. Push on one corner of the load to pivot. The lower hook will swivel 360 deg. to allow load to swing to desired position. The upper hook may rotate so that the hoist will be swung by the side pulls to face the load, reducing side thrust.
12. These hoists are equipped with chain stops and limit blocks to prevent over travel when lifting or lowering the load. The control lever will be tripped by the lower block when it reaches highest position. The control lever will be tripped by the tail end of the load chain when it reaches the lowest position, see images 6 and 7. The control lever is connected to a shaft which controls air pressure into the air motor by inlet valve. These limit stops are only designed for preventive measures and not to be used as a regular device.



Image 5

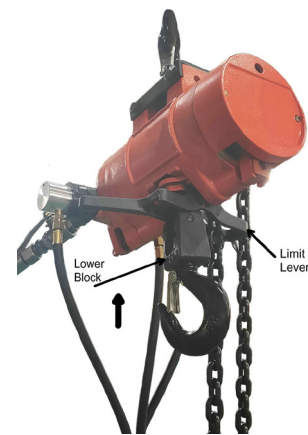


Image 6



Image 7

MAINTENANCE & INSPECTION

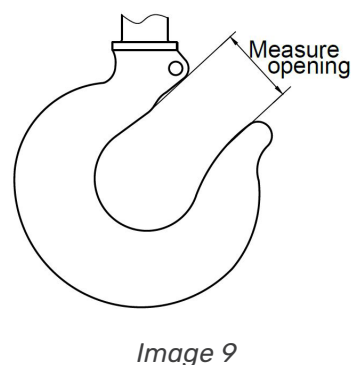
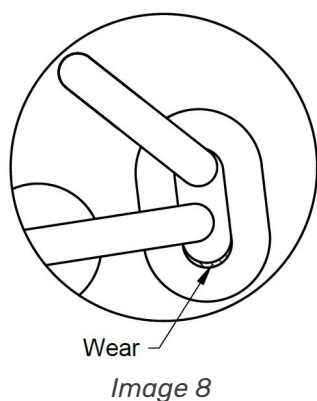
Periodic maintenance checks on the hoist components are recommended to make sure there is no damage. Do not attempt to repair defective parts. Only Global approved that meet specifications for strength and dimensions must be used. Please contact Global Industrial Customer Service (1-800-645-2986) for replacement chains, hooks, etc.

1. Inspect the chain with load in both chain travel directions. The chain should feed smoothly into and away from the sprocket. If there are any binds or jumps, apply lubrication and clean the chain. Check for deformation, distortion or damage to any of the links at any connection points.
2. Greatest wear usually occurs at high and low lift points. Chain must be replaced before the case is worn past 0.015" deep as shown in image 8.
3. Check the hooks for bending, twisting or distortion. The hook must be replaced if it is bent more than the dimension shown in image 9.
4. Check all hook latches, trolley parts, springs, and load bearing components. Apply lubricant if necessary and replace any parts as necessary.
5. Check brake function when the hoist is operating. The brake needs adjusting if the load drifts down before the motor starts. To adjust brake, use a hex key through the hole in the brake cover, and turn counterclockwise to tighten brake or clockwise to loosen brake.

Lubrication

Regular lubrication enables the hoist to operate at high level with long-lasting service.

1. Air Line Lubricator – It is important to monitor the lubricator as it provides lubrication for the control valve and motor. ONLY motor oil or machine oil (10W) should be used.
2. Load & Coil Chains – Keep chains clean regularly. Small amounts of lubrication routinely will increase the performance and life of the chains. Avoid letting the chains run dry.
3. Upper Hook & Control Shaft – Small amounts of SAE60 can be used on the upper hook shank and the control shaft at bearing points.



Hoist Rated Load (lb.)	Hook Throat Opening	
	Normal Opening	Replace Hook if Opening is Greater Than
300	1-1/8"	1-9/32"
500	1-1/8"	1-9/32"
1000	1-1/8"	1-9/32"

DISASSEMBLY & REASSEMBLY

For ease of disassembly, the following disassembly steps may not, where conditions permit, be completed before hoist is removed from its overhead suspension or disconnected from its air supply. If the hoist is in use, remove the chain container. Remove lower block and load chain assembly.

Handle the parts with care when disassembling and reassembling the hoist. Carefully apply pressure evenly when removing and installing parts with press fits. On ball bearing, apply pressure to the side of the inner or outer race, whichever is adjacent to the mating part. Apply a thin film of oil to parts having a tight fit when installed.

Disassembly

Removal of Hoist from Overhead Suspension

1. Turn off source of air
2. Operate control to discharge the air from the hoist.
3. Disconnect air hose at inlet swivel
4. Remove hoist from overhead suspension

Removal of Lower Block and Load Chain Assembly

1. Disconnect end of load chain from the tail end. Anchor the side of the hoist frame on models with single reeved load chain (300, 500, and 1000lb). Remove socket head cap screw, holding end link to tail end anchor on coil chain. Run the chain out of hoist by operating control in "lowering" direction when the hoist is connected to an air source. The chain can be pulled out of the hoist when it is connected to an air source.
2. Run chain out of hoist by operating it in "lowering" direction, and disconnect opposite end of chain from anchor at side of upper suspension bracket on models with double reeved chains (2000lb.).
3. Separate load chain from lower block assembly in single reeved 300, 500, and 1000 lb. models. Drive out small pin securing lower block pin in lower block and push out block pin to release chain.
4. Lower blocks (300, 500, and 1000lb.) are of a pinned construction, permitting individual replacement of body, thrust bearing, or hook. To disassemble, drive spring pin from hook nut: Remove the pin, hold hook nut from turning with drift punch and rotate hook to unscrew it from nut. Separate hook, bearing shield, needle bearing and tow thrust washers from body. Hook and nut are drilled at assembly. And they are replaced only as an assembly.
5. The lower block assembly is disassembled by removing the socket head screws and nuts holding the body halves together on 2000lb. (double reeved) models.

Removal of Brake Cover, Control Lever and Load Brake

1. For convenience, disconnect control hoses from air cylinders, open strain cable "S" hook at eye bolt on throttle housing and remove pendant throttle control assembly from hoist on pendant throttle control. See "Disassembly and Reassembly", page 8, for disassembly and reassembly of pendant throttle control.
2. Take out the two screws securing the brake housing cover to frame and lift off the cover.
3. To remove control lever and shaft, drive spring pins from control lever (Image 10) and valve shifter at end of shaft using a drift punch. Lightly tap valve shifter end of shaft and withdraw shaft by pulling on brake cam end (Image 11). Valve shifter and control lever will fall free as shaft is withdrawn.

4. Carefully pry brake spring up evenly with a screwdriver until spring is about halfway off to remove it. Using brake spring spreader (Image 12), take out spring from brake arms.
5. Take out brake shoes. Make sure not to lose steel fulcrum balls.
6. Take out steel balls from recesses sides of upper brake.



Image 12

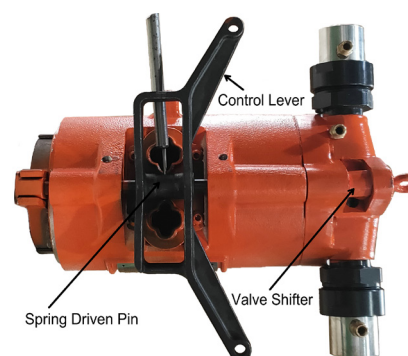


Image 10 Driving spring in from control lever and shaft

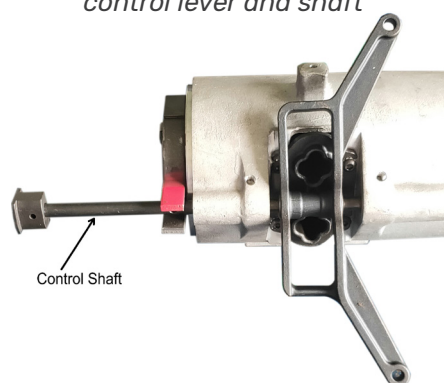


Image 11 Removing control shaft

Removing control head assembly

1. Take out six socket head screws and lift assembly from frame to remove control head assembly.
2. Lift muffler and screen from recess in control head housing.
3. Take out control cylinder assemblies from each side of control head housing (Image 20). Then remove valve springs, spring guides and "O" ring seals from valve bore at each side of housing.
4. The throttle valve is retained in the control head by the valve shifter pin. The pin is assembled with Loctite on the threads and should not be removed during routine servicing. Use a hex key to remove pin from bottom of throttle valve if valve is to be removed (See Image 19). Then remove the valve from bushing in housing. The throttle valve bushing is pressed into place and honed to provide a .0001 to .0003-inch clearance with valve. The housing and bushing assembly should be replaced along with the valve if bushing is scored, worn, or otherwise damaged.
5. Take out air inlet swivel body and bushing from top of housing. Retain bushing gasket for reuse. Pull strainer screen from housing bore.
6. Take out retaining ring from bottom of swivel body and pull off bushing. Take out "O" ring seal from its groove in bushing.
7. Remove cylinder lock ring to disassemble control cylinder (pendant throttle control models). Cylinder and cap will come off with lock ring. Lift out spring. Then remove piston and seal assembly from cylinder. Piston shaft "O" ring seal and retainer washer will drop out as piston is removed.

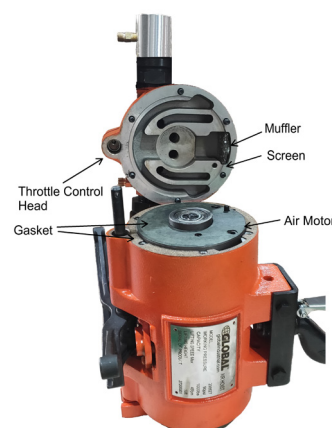


Image 13 Removing control head

Removal and Disassembly of Air Motor

1. Place entire unit on motor end and lift frame straight up as shown to remove air motor from hoist frame. DO NOT tap on end of motor shaft since it will destroy critical rotor alignment and damage motor. Motor may be grasped at bearing boss on the dead end plate to assist in removal if necessary.
2. The motor should not be disassembled. However, if the blades needs to be replaced, the dead (opposite drive end) end plate can be removed to inspect the blades.
3. Removal of dead end plate requires a puller to take out the end plate bearing from the shaft.
4. Take out three button head cap screws from dead end plate. Attach puller to end plate with two 1/4-28 screws. Be careful to NOT turn them into end plate more than 1/4 inch, thus hitting and damaging rotor. Turn puller screw against motor shaft to remove end plate.
5. Check for worn or damaged blades. Check end plate, rotor, and body for damage. The end plates and body are not serviced separately since they are matched and doweled at assembly. Replace motor if there is significant damage.

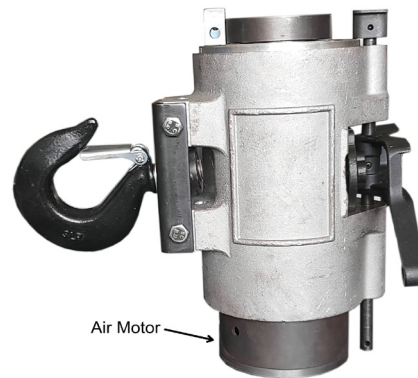


Image 14 Removing Motor from Frame

Removal of Brake Wheel, Internal Load Gears, and Sprocket

1. Rotate brake wheel until the holes in web are aligned with four socket head cap screws. Then lift brake wheel off (Image 15). Remove screws, then lift brake wheel off (Image 16) after prying up lightly and evenly with screwdriver to free ball bearing. Press off the ball bearing and clamp plate after removing retaining ring from wheel hub.
2. Take out four socket head screws securing gear plate to frame and lift off plate and intermediate gears as a unit (Image 17). Do not remove the two socket head screws from flange around brake wheel bearing hole (Image 16) unless it is necessary to replace intermediate gear.
3. Take out four fillister head screws attaching chain guide and stripper assembly to hoist frame. This will free guide to allow sprocket to be pulled through it as it is removed in step (5) (See Image 18).
4. Rotate internal gear (Image 17) to make the holes in web align with six socket head screws securing bearing clamp plate to frame. Remove internal gear, chain sprocket and ball bearings as a unit (Image 18).
5. Remove retaining ring and pull outer ball bearing from sprocket to disassemble intermediate gear, sprocket and ball bearing assembly. Take out spindle nut from other end of sprocket and pull internal gear free of sprocket shaft. Take out clamp plate and pull off remaining ball bearing.

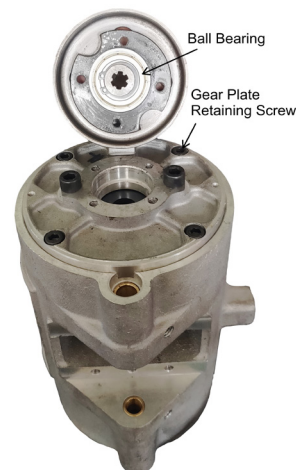
Cleaning and Inspection

All parts should be thoroughly cleaned and inspected to determine their serviceability before reassembly. Replace the parts if they are excessively worn or damaged. Minor nicks and scratches should be filed to remove raised edges.

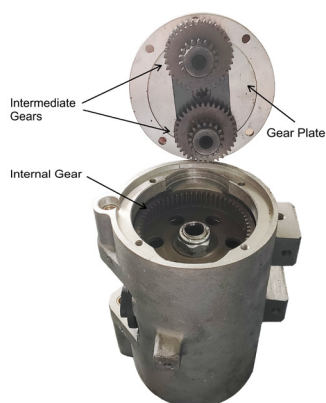
NOTE: Do not wash the bearings that are sealed. They are lubricated at the factory for normal life of the bearing.



*Image 15 Removing Cap Screw
Securing Bearing Clamp Plate*



*Image 16 Removing Brake Wheel and
Ball Bearing Assembly*



*Image 17 Removing gear plate and
intermediate gears*



*Image 18 Removing internal gear, chain
sprocket and ball bearing.*

Reassembly

Follow the procedure that is in reverse order of the disassembly steps to reassemble hoist

Assembly of Motor



CAUTION

1. The full set of blades should be replaced if any blade replacement is required. Blades must be installed so that the edges with chamfered corners face down into the slots.
2. Reassemble end plate and bearing as follows. Remove dowel pins locating end plate to body. Support shaft and press bearing onto shaft, using a drift that contacts both inner and outer race of bearing. To make sure the bearing is not pressed onto shaft so far as to bow the end plate, use a feeler gauge between end plate and body. Align dowel pin holes in end plate with those in body and assemble pins. Assemble three button head cap screws.
3. The only field service recommended on air motors is rotor blade replacement (See "Disassembly and Reassembly", page 8).
4. Use small amount of Air Hoist Motor Oil or good grade 10W machine oil (approximate viscosity 150 SSU at 100°F) to lubricate motor. Multi-viscosity, detergent type engine oil is not recommended.

Assembly of Control Head

Observe these precautions at reassembly of control head and throttle valve:

1. Lightly oil throttle valve and bushing with SAE 20 oil. Assemble valve with threaded hole facing slot at bottom of bushing in housing (Image 19) if shifter pin was removed from valve. Shifter pin should be assembled with loctite. Take extreme care NOT to get any loctite on valve outside diameter since it will lock up valve and scrap the complete head assembly.

NOTE: Before installing, apply lubricating oil to "O" ring and "U" seals.

2. Use new "O" ring seals at each end of valve. Install spring guides and valve springs in bores on each side of housing and secure with control cylinders. Use new "O" ring gaskets.
3. Use new "U" type seals on piston heads and "O" ring seals on piston stems at reassembly of control cylinder (pendant throttle control models). Ensure "U" type seals face direction illustrated in Image 20.
4. Use new "O" ring gaskets on adjusting screws. Turn screws in until heads are flush or slightly below face of housing when installing them in control head housing. Adjustment is accomplished during testing of hoist.
5. Install a new "O" ring seal inside swivel bushing at reassembly of screen and air inlet swivel.
6. Use a new motor-to-head air seal gasket and a new head-to-frame gasket in mounting control head housing on hoist.

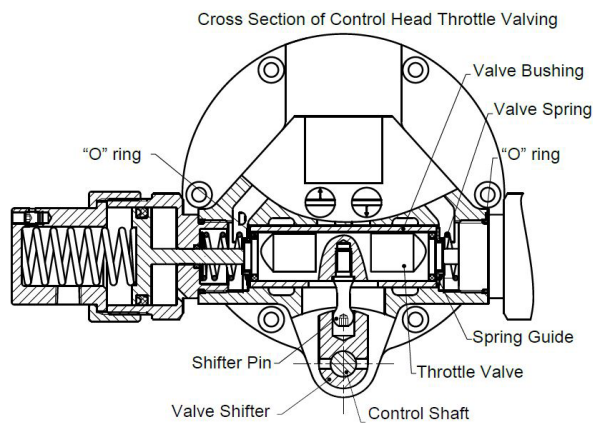


Image 19 Section View Showing Assembly of Throttle Valve, Spring and Valve Shifter in Control Head.

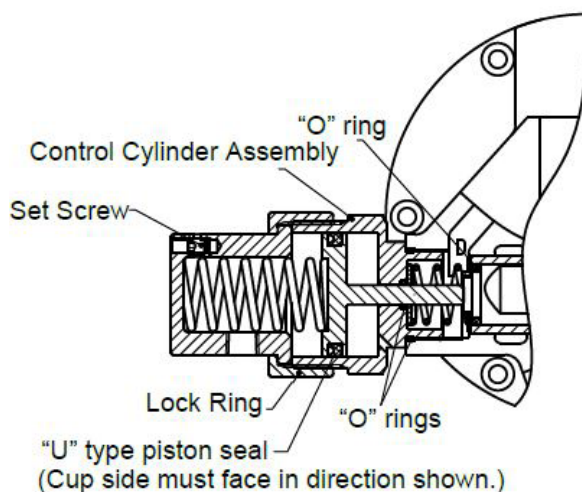


Image 20 Section View Showing Assembly of Control Cylinder on Control Head (Pendant Throttle Control Models)

Assembly of Brake

Replace brake shoes if the brake linings show excessive wear. The brake wheel assembly goes into position first and is fastened in place by the four screws in reassembling the brake (See "Disassembly and Reassembly", Page 8, Image 16). Then put the steel fulcrum balls in their receiving cup, using a small amount of thick grease to hold them in place. Retract the balls completely into the receiving cups. Then put the shoes up to the fulcrum balls and brake wheel. Replace the brake spring, using the spreader tool to start the spring over the shoes (See Page 9, Image 12). Tap the spring into place. Adjust brake shoes per instructions in Image 21.

1. Brake adjustment at reassembly: Turn screw "A" in until arms pivot on fulcrum ball to make "C" = .010-.015".
2. Checking adjustment without load: Without load, and with air turned off, open brake arms manually by operating limit lever to see if brake wheel can be turned freely by hand. The brake may not be properly adjusted if wheel refuses to run. Recheck adjustment. Then check for possible damage, such as bent brake arms, improper lining, brake cam slippage or other malfunctions in the unit if the wheel does not turn freely.
3. Brake adjustment with load:
 - a. With load on hook, press "UP" lever, slowly! Load must not creep down before motor starts. Turn adjusting screw out as required.
 - b. Stop brake and hold load in both directions.

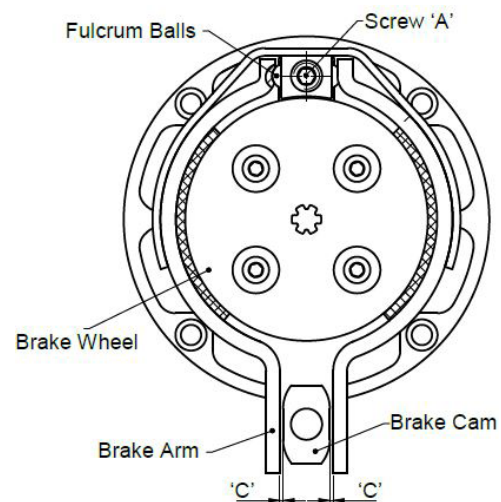


Image 21 Brake Adjustments

Installation of Load Chain

Make sure the weld on the second link faces "out" or away from the sprocket when installing coil chain on the hoist (See Image 22). Then with the air off, brake cover removed, and brake shoes locked in "open" position (with wedge between control lever and hoist body), turn brake wheel in "hoist" direction and feed chain in through lever control into chain sprocket. Supply the chain through, approximately 15" to 16", the tail chain side of the hoist. Take the first link and move it up (do not twist) (See Image 22) to the frame boss and fasten in place. The rest of the chain can be pulled through, and then the lower block fastened in place (on single reeved hoist). On double reeved hoist, allow approximately 17" to 18" of chain to hang on the lifting direction side (See Image 23). Run the lower block assembly onto chain and swing (do not twist) the remainder of the chain up and attach to lug on suspension bracket. Remove wedge from between lever and frame and replace covers.

NOTE: Do not twist the chain. Position the link welds as shown in Image 23

Testing Hoist

Hoist should be tested to insure proper operation after completion of assembly and before placing hoist in service. Test as follow: Suspend hoist from an overhead supporting member of sufficient strength to carry combined weight of hoist and rated load; connect to air supply of correct pressure; perform the following checks and adjustments.

Check Control Operation

Depress lever on pendant control briefly to determine that hook travels in the direction to correspond with control being operated. The control hoses are improperly installed if load hook travels in a direction opposite to control being operated. When each lever on the handle is fully depressed, the control lever should attain a full throw with pendant control. The set screw in the corresponding control cylinder should be turned in if full movement of control lever is not accomplished. The set screw should be turned out if full movement occurs before lever is fully depressed. The screw should not extend beyond end of cylinder.

Check Hoist Under Rated Load

Attach rated load to lower hook and check hoist operation.

1. Operate hoist to raise load. Hoist should stop and hold load at that level when control is released.
2. Operate hoist to lower load from a short distance. Then release control. The hoist should stop and keep the load at that level.
3. Operate hoist to lower load and observe rate of speed at which load descends. Adjust lowering and hoisting speeds to the desired rate of speed as outlined in "Speed Adjustment", page 5.



WARNING

Do not lift more than rated load except for test purposes. It can cause chain breakage, hook deformation and other failures which can result in serious injury and damage. If any load sustaining parts have been altered, replaced or repaired, hoist should be tested to load at 125% of rated capacity by a designated, qualified person, with a written report recording test load, as recommended in ANSI B30.16 Safety Standards.

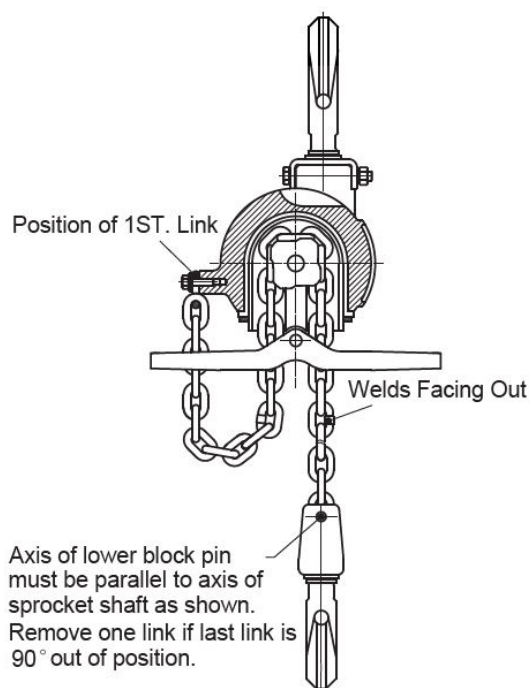


Image 22 Installing Single Reeved Load Chain (300, 500, and 1000 lb. models)

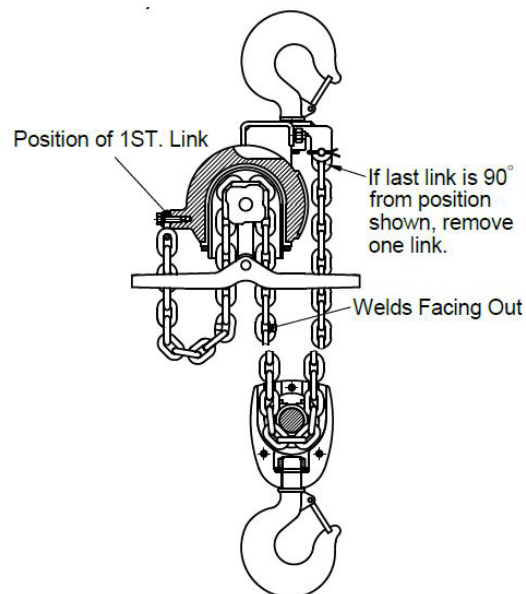


Image 23 Installing Double Reeved Load Chain (2000 lb. Model)

Pendant Throttle Control Assembly

The pendant throttle control assembly will require some maintenance attention after long periods of use. To service the control handle assembly, cut off air supply, bleed air from hoist and control, and disconnect hoses and strain cable at control handle. Disassemble and reassemble control handle as follows.

Disassembly

1. Take out four screws and lift control lever guard from handle.
2. Drive lever pin from handle housing and separate two control levers from housing.
3. Using a suitable spanner tool, unscrew bushings and valves from handle housing. Take out air seal gaskets from bushing seats in the handle assembly. Take out "O" ring seals from ends of valves and pull valves and valve springs from bushings. Take out "O" ring gaskets from bushings.

Reassembly

1. Clean all parts with cleaning solvent and carefully inspect for wear or damage before reassembly.
2. Install new air seal gaskets on bushing seats in the handle housing.
3. Install new "O" ring gaskets on valve bushings. Insert springs and valves in bushings. Install new "O" ring seals on ends of valves. Then reinstall valves and bushings in handle housing using spanner tool. Lubricate "O" rings before reassembly.
4. Put control levers on housing, align holes and install lever pin.
5. Position guard over levers and secure to housing with four machine screws.
6. Control handle assembly should be reinstalled on hoist. Attach control hoses to handle housing as outlined in "Disassembly and Reassembly", page 8, page 13.

INSPECTION SCHEDULE AND MAINTENANCE REPORT

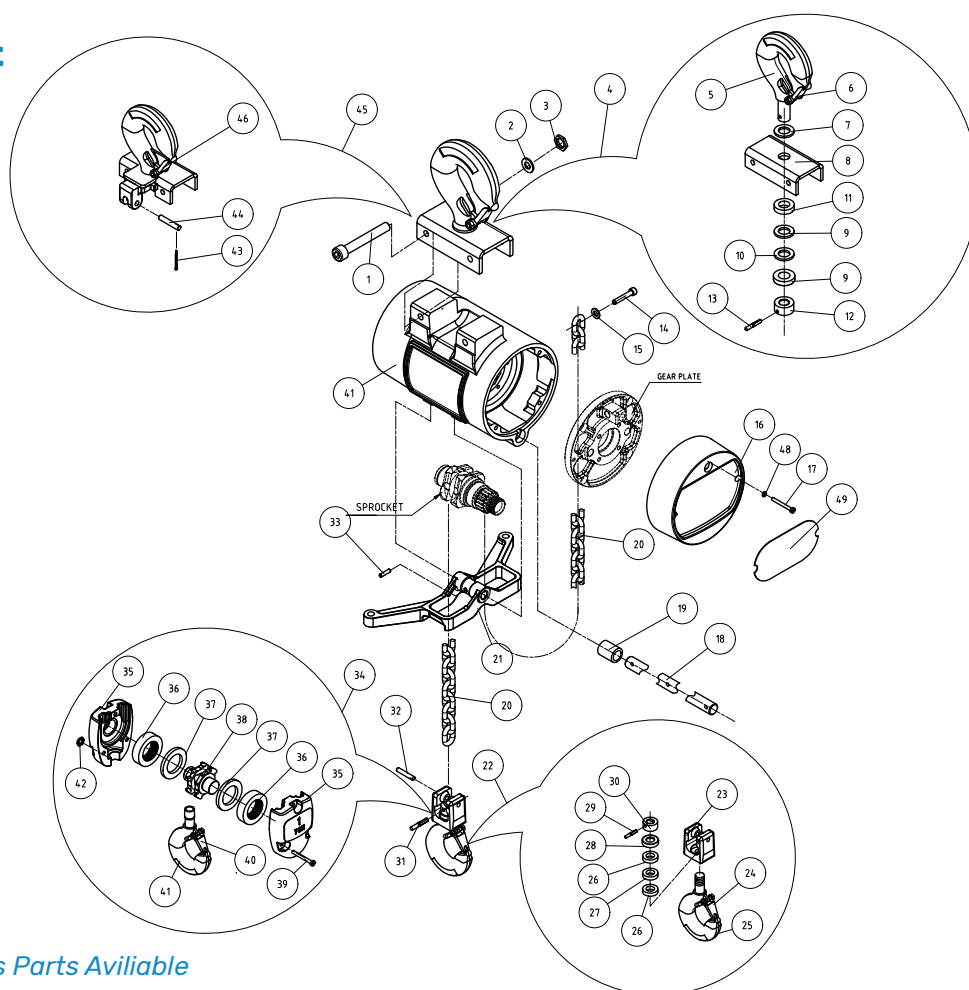
HOIST MODEL NO. 298625 298626 298627
 RATED LOAD: 300lb. 500lb. 1000lb.
 LOCATION IN PLANT: _____

INSPECTION FREQUENCY
 MONTHLY ANNUAL SEMI-ANNUAL
 INSPECTED BY: _____ DATE: _____

COMPONENT, UNIT OR PART and location on hoist		*Recommen- ded Inspection Interval			CONDITION (Check column best indicating condition when part or unit is inspected. Use note column to the right if condition is not listed below.)						CORRECTIVE ACTION NOTES	
LOCATION	COMPONENT, UNIT OR PART	MONTHLY	SEMIANNUAL	ANNUAL	GOOD	ADJUSTMENT	REPAIR REQUIRED (Loose Parts or Wires)	REPLACEMENT REQUIRED (Worn or Damaged)	LUBRICATION REQ. (Low Oil or Grease Rust or Corrosion)	CLEANING OR PAINTING REQUIRED	NOTES	DATE
HOIST	Motor	<input type="radio"/>										
	Motor Brake	<input type="radio"/>										
	Hook Latch Operation	<input type="radio"/>										
	Gears, Shafts & Bearings	<input type="radio"/>										
	Upper Block & Hook	<input type="radio"/>										
	Upper Block & Idler Sprockets	<input type="radio"/>										
	Hook & Throat Opening	<input checked="" type="radio"/>			X						Record Hook Throat Opening	
	Load Chain	<input type="radio"/>										
	Load Sprocket		<input type="radio"/>									
	Guards		<input type="radio"/>									
	Limit Lever	<input type="radio"/>										
	Load Chain Reeving	<input type="radio"/>										
CONTROL STATION	Air Hose	<input type="radio"/>										
	Pendant Throttle	<input type="radio"/>										
TROLLEY	Frame			<input type="radio"/>								
	Wheels		<input type="radio"/>									
	Wheels Spacing on Beam	<input type="radio"/>									In Accordance with Manufacture Specs.	
	Bumpers		<input type="radio"/>									
	Guards		<input type="radio"/>									
	Hand Chain & Wheel	<input type="radio"/>										
AIR SYSTEM	Air Lines & Valves	<input type="radio"/>										
	Filters	<input type="radio"/>									Drained (daily)	
	Lubricators	<input type="radio"/>									Filled (when needed)	
	Regulators	<input type="radio"/>										
RUNWAYS	Monorail Joints		<input type="radio"/>									
	monorail		<input type="radio"/>									
MISC.	General Condition		<input type="radio"/>									
	Load Attachment Chains	<input checked="" type="radio"/>										
	Rope Slings & Connections	<input checked="" type="radio"/>										
	Change Gearcase Lub			<input type="radio"/>								
	Req. Warning Labels	<input type="radio"/>										
	Grease Wheels			<input type="radio"/>							If equipped with grease fittings on axles	

INSPECTION INTERVAL
 SIGNED & DATED REPORT REQUIRED - OSHA
 X MAGNETIC PARTICLE OR EQUIVALENT EXAMINATION REQUIRED

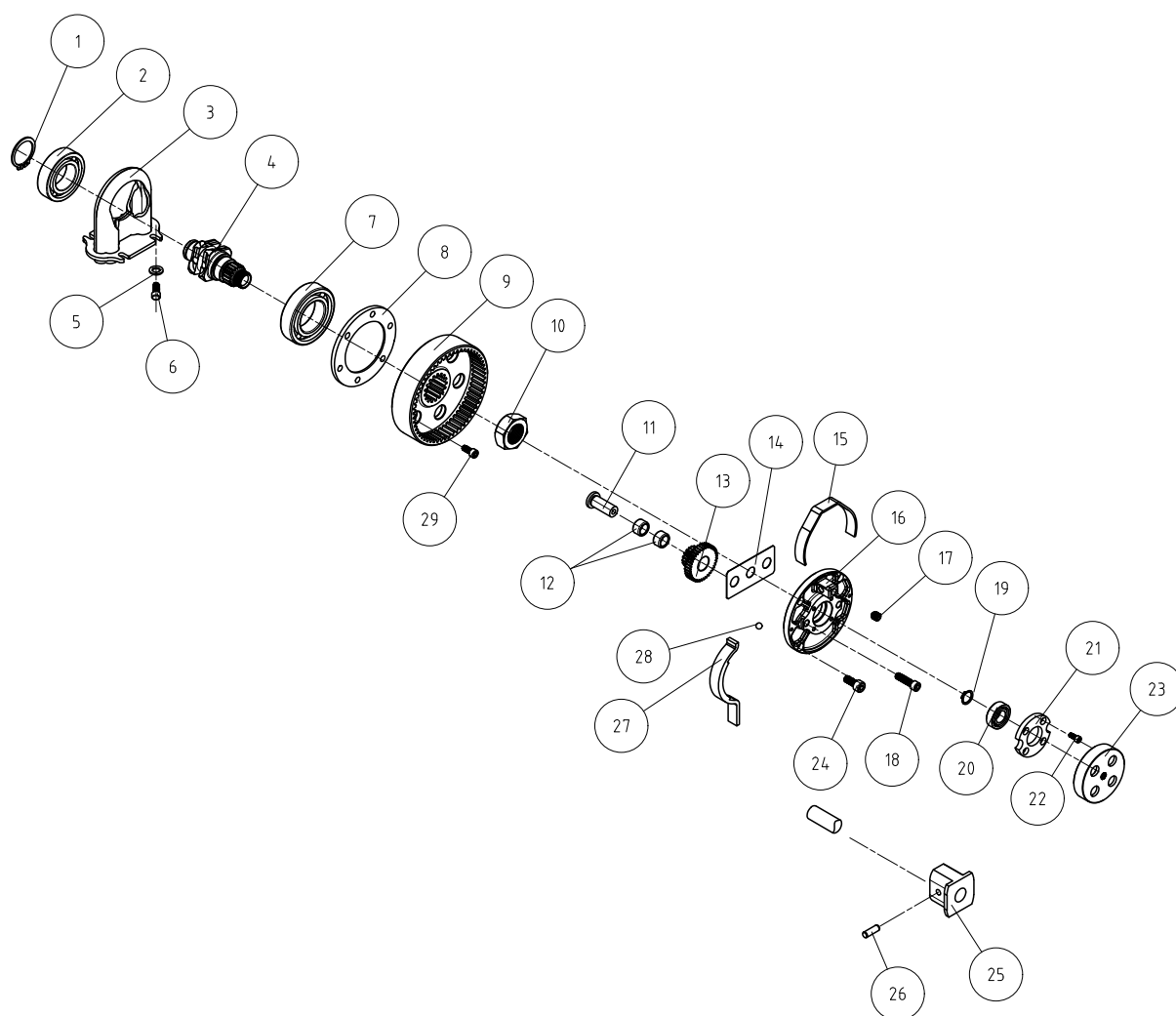
Parts List



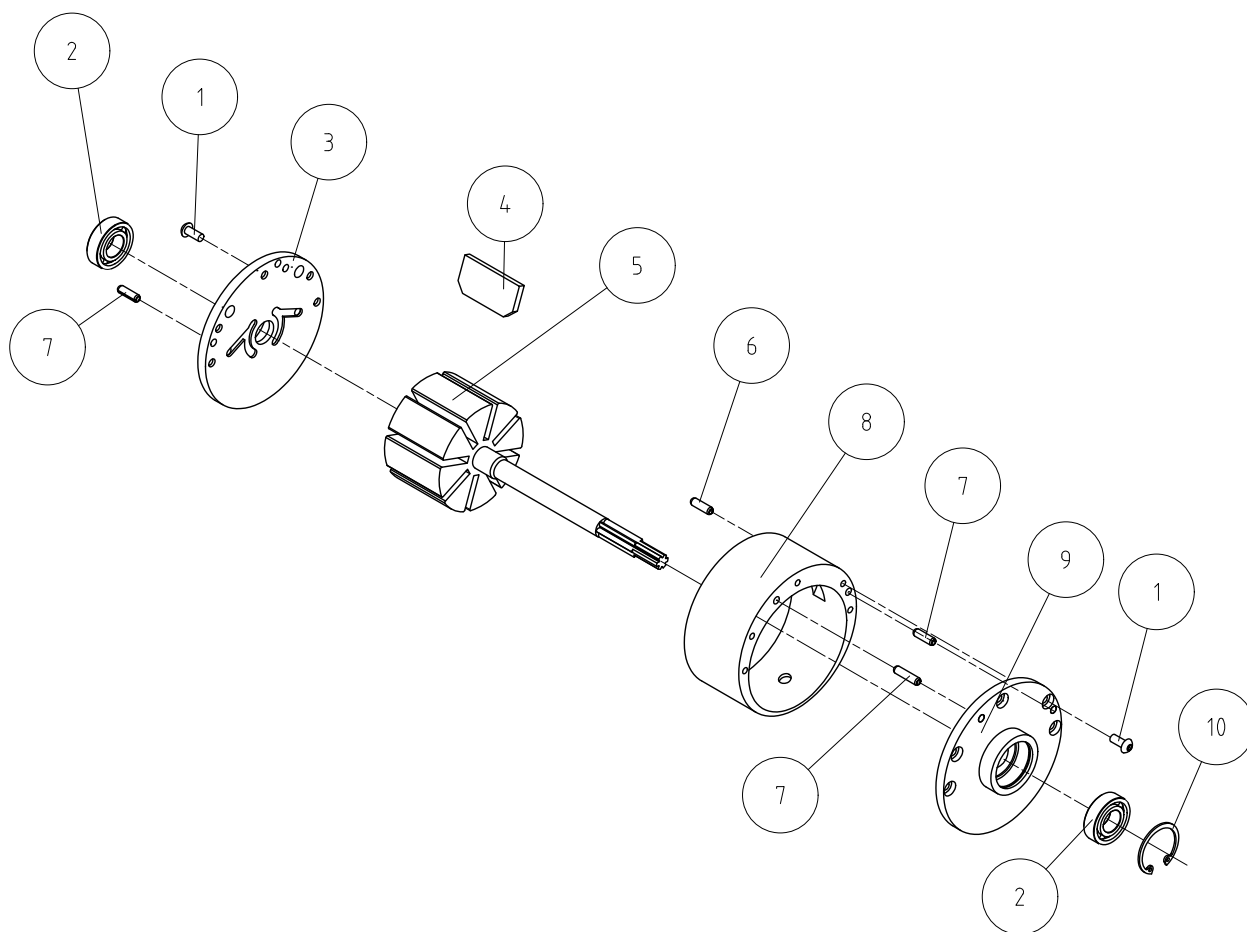
* Denotes Parts Available

Ref. no	Description	Quantity			
		300 lb.	500 lb.	1000 lb.	2000 lb.
1	Bolt -Suspension Bracket	2	2	2	2
2	Lockwasher -Shakeproof, External (8mm)	2	2	2	2
3	Nut -Hex, Cadmium Plated (M8×1mm)	2	2	2	2
4*	Hook and Bracket Assembly - Suspension (Includes Ref. No. 5 thru 13)	1	1	1	
5	Hook and Nut Assembly -Upper (Includes Ref. No. 6)	1	1	1	
6	Latch Kit	1	1	1	
7	Bushing -Machinery	1	1	1	
8	Bracket - Suspension	1	1	1	
9a	Washer -Thrust, Bearing (ISO3031-WS81103)	1	1	1	
9b	Washer -Thrust, Bearing (ISO3031-GS81103)	1	1	1	
10	Bearing Assembly -Needle (ISO3031-AXK1730)	1	1	1	
11	Shield -Bearing	1	1	1	
12	Nut -Hook	1	1	1	
13	Pin -Spring Drive (5×32mm)	1	1	1	
14	Screw -Hex Socket Head Cap (M6×25mm)	1	1	1	1
15	Washer -Flat (8mm)	1	1	1	1
16*	Cover -Brake Housing	1	1	1	1
17	Screw -Slotted Head (M4×35mm)	2	2	2	2

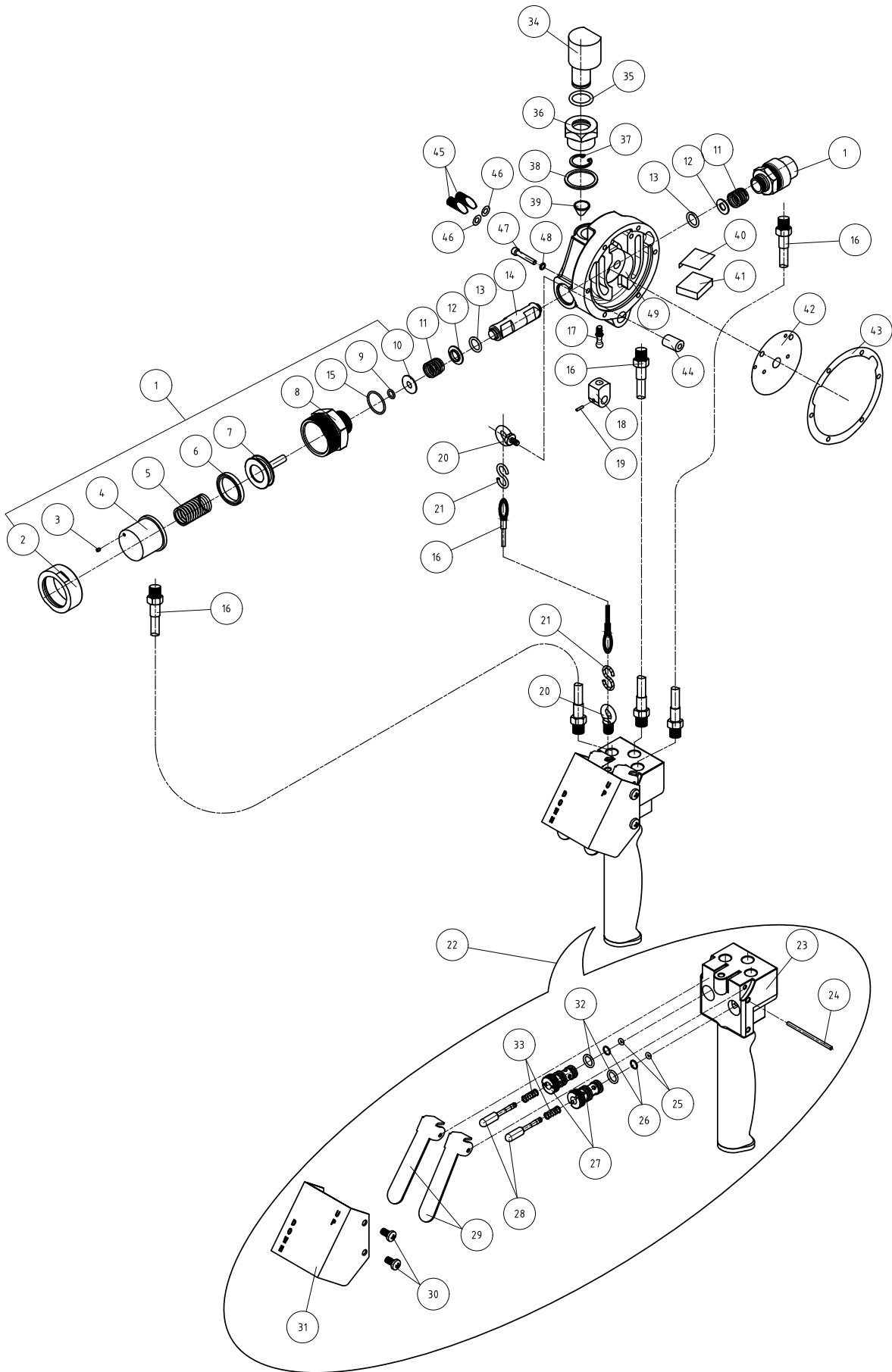
Ref. no	Description	300 lb.	500 lb.	1000 lb.	2000 lb.
18*	Shaft -Control	1	1	1	1
19*	Bushing -Oilite, Control Shaft	3	3	3	3
20*	Chain -Load, Coil Type (11'-5" Lg.)	1 (10')	1 (10')	1 (10')	
	Chain -Load, Coil Type (22'-7" Lg.)	1 (20')	1 (20')	1 (20')	1 (10')
	Chain -Load, Coil Type (44'-8" Lg.)				1 (20')
21*	Lever -Control	1	1	1	1
22*	Block Assembly -Lower (1/4 Ton) (Incl. Ref. No 23 thru 30)	1	1	1	
23	Body -Lower Block	1	1	1	
24	Latch Kit	1	1	1	
25	Hook and Nut Assembly (With Latch)	1	1	1	
26a	Washer - Thrust, Bearing (ISO3031-GS81103)	1	1	1	
26b	Washer - Thrust, Bearing (ISO3031-WS81103)	1	1	1	
27	Bearing Assembly -Needle (ISO3031-AXK1730)	1	1	1	
28	Shield -Bearing	1	1	1	
29	Pin -Spring Drive (5x32mm)	1	1	1	
30	Nut -Hook	1	1	1	
31*	Pin -Spring Drive (2x28mm)	1	1	1	
32*	Pin -Connecting, Lower Block	1	1	1	
33*	Pin -Spring Drive, Control Lever (4x 18mm)	1	1	1	1
34*	Block Assembly -Lower(1 Ton, Includes Ref. No. 35 thru 42)				1
35	Body -Lower Block (Pair)				1
36	Bearing Assembly -Needle (ISO10001-HK2214)				2
37	Washer				2
38	Sprocket -Coil Chain				1
39	Screw -Socket Head Cap (M6x45mm)				3
40	Latch Kit -Lower Hook				1
41	Hook, Bearing and Nut Assembly (With Latch)				1
42	Nut -Hex, Self-Locking (M6x20mm)				3
43*	Hook & Bracket Assembly (With Latch) (Incl. Ref. No. 44-46)				1
44	Pin -Cotter (2 x 28mm)				2
45	Pin -Chain Anchor				1
46	Latch Kit				1
47*	Frame Assembly (Include Ref. No. 19)	1	1	1	1
48	Lockwasher -Spring (4mm)	2	2	2	2
49*	Label -Rated Load				
	300 lb.	1			
	500 lb.		1		
	1000 lb.			1	
	2000 lb.				1



Ref. no	Description	Quantity
1*	Ring-Retaining, External (25mm)	1
2	Bearing Assembly-Ball, Sprocket (ISO3290-6005-2Z)	1
3*	Guide and Stripper Assembly-Chain (Coil Type Only)	1
4*	Sprocket -Chain (Coil Type Only)	1
5	Lockwasher -Shakeproof, Internal (6mm)	4
6	Screw-Button Head (M6×16mm)	4
7	Bearing Assembly-Ball,Sprocket (ISO3290-6006-2Z)	1
8*	Plate-Clamp, Bearing	1
9*	Gear-Internal	1
10	Nut-Spindle (UNF3/4-16 Self-Locking)	1
11*	Shaft -Intermediate Gear	2
12*	Bearing Assembly-Needle (B-97)	4
13*	Gear -Intermediate	2
14*	Thrust Plate	1
15*	Spring -Brake Shoe	1
16*	Plate -Gear	1
17	Screw (M10×20mm)	1
18	Screw -Socket Head (Self-Locking)	2
19*	Ring -Retaining, External (GB/T894.1-17)	1
20	Bearing Assembly-Ball, Brake Wheel (ISO3290-6003-2Z)	1
21*	Plate -Clamp, Brake Wheel Bearing	1
22	Screw -Socket Head (M5×12mm)	4
23*	Wheel - Load Brake	1
24	Screw -Socket Head (Self-Locking) (M6×12mm)	4
25*	Cam -Brake Actuator	1
26*	Pin -Spring Drive, Brake Cam (4×16mm)	1
27*	Shoe Assembly - Brake	2
28*	Ball -Steel, Brake Fulcrum (8mm)	2
29	Screw -Socket Head (M5×12mm)	6



Ref no.	Description	Quantity
*	Motor Assembly	1
1	Screw -Hex Socket Button Head (M5×12mm)	10
2	Bearing - Ball (ISO3290-6002-2Z)	2
3	Plate -End, Dead	1
4*	Blade -Rotor	8
5	Rotor and Shaft Assembly	1
6	Pin -Spring (5×20mm)	1
7	Pin -Spring (5×16mm)	3
8	Body	1
9	Plate -End, Drive	1
10	Ring -Retaining (32mm)	1



Ref. no	Description	Quantity
1*	Cylinder Assembly -Control, Pendant (Incl. Ref. 2-10 and 15)	2
2	Ring -Lock, Cylinder	1
3	Screw -Set, Hex Socket (M5×10mm)	1
4	Cap -End, Cylinder	1
5	Spring -Piston, Cylinder	1
6	Seal -"U" Ring, Piston	1
7	Piston -Control Cylinder	1
8	Cylinder -Pendant Control	1
9	Seal -"O" Ring, Piston Stem (ISO3601.1-6×1.8mm)	1
10	Retainer -"O" Ring Seal	1
11*	Spring -Throttle Valve	2
12*	Guide -Spring, Throttle Valve	2
13*	Seal -" O" Ring, Throttle Valve (ISO3601.1-14×2.65mm)	2
14*	Valve -Throttle	1
15	Gasket -"O" Ring, Control Cylinder (ISO3601.1-25×1.8mm)	2
16*	Hose and Strain Cable Assembly-Pendant Throttle	
	For 10' Lift	1
	For 20' Lift	1
17*	Pin -Valve Shifter	1
18*	Shifter -Throttle Valve	1
19*	Pin -Spring Drive (4×18mm)	1
20	Eye Bolt, Strain Cable	2
21*	"S" Hook-Wire	2
22*	Handle Assembly -Pendant Throttle Control (Includes Ref. Nos. 23 thru 33)	1
23	Case -Control Handle	1
24	Pin-Lever	1
25	Gasket -"O" Ring, Valve (ISO3601.1-2.8×1.8mm)	2
26	Gasket -"O" Ring, Valve Bushing (ISO3601.1-8.5×1.8mm)	2
27	Bushing -Throttle Valve	2
28	Valve -Throttle Control	2
29	Lever -Throttle Control	2
30	Screw -Machine, Round Slotted Head (M5×10mm)	4

Ref. no	Description	Quantity
31	Guard -Control Lever	1
32	Gasket (ISO3601.1-10.6×1.8mm)	2
33	Spring	2
34*	Body -Swivel, Inlet (3/8" -18 N.P.T.)	1
35*	Seal -"O" Ring, Inlet Swivel (ISO3601.1-16×2.65mm)	1
36*	Bushing -Inlet Swivel	1
37*	Ring -Retaining, External	1
38*	Gasket -Inlet Swivel Bushing (Brass) (JB982-24)	1
39*	Screen -Inlet Swivel	1
40*	Screen -Muffler	1
41*	Muffler -Exhaust	1
42*	Gasket -Air Seal, Motor End Plate	1
43*	Gasket -Control Head to Frame	1
44	Bearing Assembly - Needle, Control Shaft (ISO10001-HK1012)	1
45	Screw -Adjusting, Speed	2
46*	Gasket -"O" Ring, Adjusting Screw (ISO3601.1-8.5×1.8mm)	2
47	Screw -Hex Socket Cap (M5×30mm)	6
48	Lockwasher -Spring (5mm)	6
49*	Housing Assembly -Control head. (Includes Ref. No. 14 and Throttle Valve Bushing - not shown)	1

Troubleshooting

Issue	Probable cause(s)	Solution
Hoist can't hold load in suspension.	Brake lining oily, glazed or badly worn.	Remove brake arms and replace with new.
	Brake out of adjustment.	Adjust brake.
	Excessive overload.	Reduce load.
Loss of power	Clogged air intake screen.	Shut off air - disconnect air hose - clean inlet swivel screen.
	Worn or broken rotor blades.	Replace rotor blades.
	Insufficient air pressure.	Check and adjust air pressure.
	Clogged muffler screen.	Remove throttle valve housing. Clean screen and muffler.
The lifting or lowering speed differs from rated speed	Speed adjustment screws improperly set.	Readjust screws. See Hoist Performance Charts.
	Loss of power.	See Loss of power (above).
	Valve shifter or control shaft bent or damaged.	Repair or install new parts, and lubricate.
	Incorrect air pressure or inadequate air supply.	Check pressure near hoist when hoist is operating.
Hoist does not operate.	Brake improperly adjusted.	Adjust brake.
	Clogged air intake screen.	Shut off air - disconnect air hose - clean inlet swivel screen
	Excessive overload.	Reduce load.
	Insufficient air pressure at source.	Check and adjust air pressure.
	Valve shifter not functioning.	Check for proper installation of drive pin in valve shifter and control lever and also that shifter pin is assembled solidly to throttle valve.
	Motor failure.	Disassemble motor and check rotor blades. Replace defective parts.
	Clogged valve.	Remove valve caps - remove any obstructions, clean and lubricate valve.
Control lever does not return to horizontal position	Control shaft bent.	Remove shaft and straighten or replace.
	Foreign material, rust or corrosion causing it to bind.	Remove shaft and clean. Lubricate bearings, brake cam and valve shifter.
	Foreign material, rust or corrosion in control cylinders or pendant throttle control.	Clean control cylinders.
	Brake improperly adjusted.	Adjust brake.
Cannot regulate speed by control handles.	Brake improperly adjusted.	Adjust brake.
	Speed adjustment screws improper	Readjust screws.
Cannot regulate speed by pendant handle.	Brake improperly adjusted.	Adjust brake.
	Control cylinders improperly adjusted.	Adjust control cylinder set screw.



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