

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Dayton® Air Chain Hoists

Description

Dayton air hoists are all precision built chain type hoists which are designed with three rated loads, 1/4, 1/2 and 1 ton. Each model features a pendant throttle control, a swivel top mount hook and a swivel load chain hook with safety latch.



Unpacking

When unpacking the air hoist, check for both damage that may have occurred during transit and missing parts. If damage has occurred, a claim must be filed with carrier.

Basic Hoist Data

- Rated Loads: 1/4, 1/2, and 1-Ton
- Air Pressure Recommended: 90 psi
- Air Consumption: 48 SCFM at 90 psi
- Net Weight (Basic Hoist): 36lbs
- Suspension: Hook
- Control: Pendant Throttle
- Air Inlet Size: 3/8 NPTF
- Air Supply Hose: 1/2 I.D. min.
- Air Exhaust: 1/2 NPTF

Specifications

Type	Capacity (tons)	Pendant Throttle Control		Parts of Load Chain	Lifting Speed Max (fpm)	Lowering Speed Max (fpm)	Chain Length (In)
		Model No.	Net Wt.(lbs.)				
Link Chain	1/4	29XL85, 29XL90	46	1	65	95	11'-5", 22'-7"
	1/2	29XL86, 29XL87	46	1	45	120	11'-5", 22'-7"
	1	29XL88, 29XL89	59	2	23	60	22'-7", 44'-8"

General Safety Information



Improper operation of a hoist can

create a potentially hazardous situation which, if not avoided, could result in death or serious injury. To avoid such a potentially hazardous situation, the operator must observe the following precautions:

1. **DO NOT** operate a damaged, malfunctioning or unusually performing hoist.
2. **DO NOT** operate the hoist until you have thoroughly read and understood this Operating Instructions and Parts Manual.
3. **DO NOT** operate a hoist which has been modified.
4. **DO NOT** lift more than rated load for the hoist.
5. **DO NOT** use hoist with twisted, kinked, damaged, or worn load chain.
6. **DO NOT** use the hoist to lift, support, or transport people.
7. **DO NOT** lift loads over people.
8. **DO NOT** operate a hoist unless all persons are and remain clear of the supported load.
9. **DO NOT** operate unless load is centered under hoist.
10. **DO NOT** attempt to lengthen the load chain or repair damaged load chain.
11. Protect the hoist's load chain from weld splatter or other damaging contaminants.
12. **DO NOT** operate hoist when it is restricted from forming a straight line from hook to hook in the direction of loading.
13. **DO NOT** use load chain as a sling, or wrap load chain around load.
14. **DO NOT** apply the load to the tip of the hook or to the hook latch.
15. **DO NOT** apply the load unless load chain is properly seated in the load sheave(s).
16. **DO NOT** apply load if bearing prevents equal loading on all load supporting chains.
17. **DO NOT** operate beyond the limits of the load chain travel.
18. **DO NOT** leave load supported by the hoist unattended unless specific precautions have been taken.
19. **DO NOT** allow the load chain or hook to be used as an electrical or welding ground.
20. **DO NOT** allow the load chain or hook to be touched by a live welding electrode.
21. **DO NOT** remove or obscure the warnings on the hoist.
22. **DO NOT** operate a hoist on which the safety placards or decals are missing or illegible.
23. **DO NOT** operate a hoist unless it has been securely attached to a suitable support.

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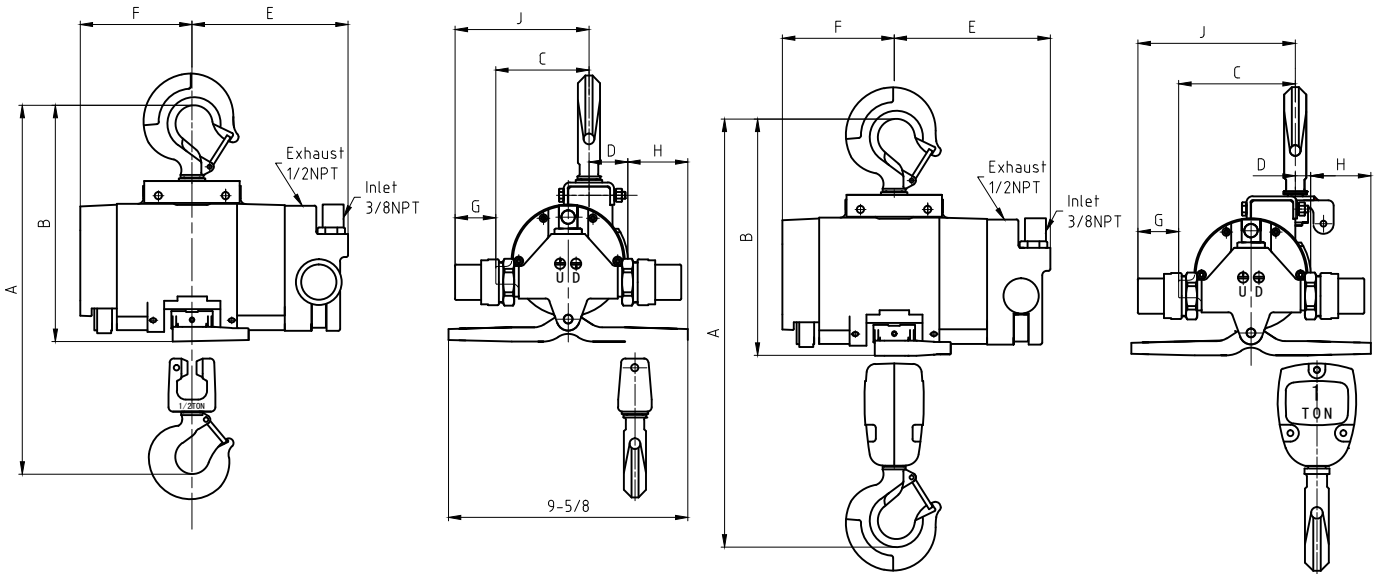
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- 24. **DO NOT** operate a hoist unless load slings or other approved single attachments are properly sized and seated in the hook saddle.
- 25. Take up slack carefully - make sure load is balanced and load holding action is secure before continuing.
- 26. Shut down a hoist that malfunctions or performs unusually and report such malfunction.
- 27. Make sure hoist limit devices function properly.
- 28. Warn personnel of an approaching load.
- 29. Maintain a firm footing or be otherwise secured when operating the hoist.

- 30. Check brake function by tensioning the hoist prior to each lift operation.
- 31. Use hook latches. Latches are to retain slings, chains, etc. under slack conditions only.
- 32. Make sure the hook latches are closed and not supporting any parts of the loads.
- 33. Make sure the load is free to move and will clear all obstructions.
- 34. Avoid swinging the load or hook.
- 35. Make sure hook travel is in the same direction as shown on the controls.
- 36. Inspect the hoist regularly, replace damaged or worn parts, and keep

- appropriate records of maintenance.
- 37. Use Grainger parts when repairing the unit.
- 38. Lubricate load chain per instructions in this manual.
- 39. **DO NOT** use the hoist's overload limiting clutch to measure load.
- 40. **DO NOT** use the hoist's limit switches as routine operating stops. They are emergency devices only.
- 41. **DO NOT** allow your attention to be diverted from operating the hoist.
- 42. **DO NOT** allow the hoist to be subjected to sharp contact with other hoists, structures, or objects through misuse.

Dimension



1/4 and 1/2 Ton Standard
29XL85, 29XL90, 29XL86, 29XL87

1 Ton Standard
29XL88, 29XL89

OUTLINE DIMENSIONS									
Model Number	A	B	C	D	E	F	G	H	J
29XL85,29XL90 29XL86,29XL87	15-1/4	10-1/4	4-3/4	1-3/4	7-1/16	5-1/16	15/16	2-3/16	5-11/16
29XL88, 29XL89	18	10-1/4	5-3/4	3/4	7-1/16	5-1/16	15/16	2-3/16	5-11/16

All dimensions are shown in inches

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Hoist Performance Charts

1/4 TON RATED LOAD HOIST

LOAD Air Pressure	125 LBS.				250 LBS.				500 LBS.			
	UP		DOWN		UP		DOWN		UP		DOWN	
	psiG	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
0	0	0	5	8	0	0	15	40	0	0	25	65
60	35	70	30	75	30	65	35	85	20	50	40	95
70	40	75	30	80	35	70	35	85	25	60	40	95
80	40	80	35	80	35	75	35	85	30	60	40	95
90	40	80	35	80	35	80	35	85	30	65	40	95
100	40	80	35	80	40	80	35	85	30	65	40	95

1/2 TON RATED LOAD HOIST

LOAD Air Pressure	250 LBS.				500 LBS.				1000 LBS.			
	UP		DOWN		UP		DOWN		UP		DOWN	
	psiG	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
0	0	0	15	40	0	0	25	65	0	0	45	125
60	30	65	35	85	20	50	40	95	0	20	45	125
70	35	70	35	85	25	60	40	95	0	30	50	120
80	35	75	35	85	30	60	40	95	10	40	55	120
90	25	80	35	85	30	65	40	95	15	45	55	120
100	40	80	35	85	30	65	40	95	20	50	55	120

1 TON RATED LOAD HOIST

LOAD Air Pressure	500 LBS.				1000 LBS.				2000 LBS.			
	UP		DOWN		UP		DOWN		UP		DOWN	
	psiG	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
0	0	0	8	20	0	0	13	33	0	0	25	65
60	15	32	16	42	10	25	20	50	0	10	25	65
70	16	35	17	42	12	30	20	50	0	15	25	60
80	17	37	18	42	14	31	20	48	5	20	30	60
90	18	40	18	42	15	32	20	47	7	23	30	60
100	20	40	18	42	15	34	20	45	10	25	30	60

NOTE: Hoist Speeds are shown in feet per minute (f.p.m.).

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Installation

Dayton air hoists are completely tested and lubricated before being shipped from the factory. Please attach to a suitable overhead suspension in area; connect hoist to nearest air supply; check and adjust hoist speed before placing hoist into service.

Suspending Hoist

1. For suspended hook hoists, the installer must choose a suitable supporting structure that is capable to adequately suspend both the weight of the hoist and rated load. Proper installation requires that the upper hook is seated in the center of the hook saddle and the spring safety latch is completely closed. In some cases, the spring latch may be removed from the hook before installation, so remember to reload the latch on the hook after the installation is done.

CAUTION *The structure used to support the hoist must have a load rating equal to or greater than that of the hoist. Hoist must be in the same straight line with the load to avoid side forces.*

WARNING *If trolley is mounted on an open-end beam, end stops must be installed on the beam to prevent trolley from running off the end of the beam which may result in injury to operator and others, and damages to load or other property.*

2. If chain container is to be used on hoist, install it following the instructions included with the containers.

Connecting Hoist to Air Service

1. Connect hoist to nearest filtered and lubricated air source with a

minimum 1/2 " I.D. air hose assembly (See Figure 1). Avoid using reducing bushing, nipple or hose assemblies of smaller sizes which may cause restrictions.

2. If hoist is connected with trolley, make sure the hose is far enough to reach from the air source and the farthest end of the trolley.

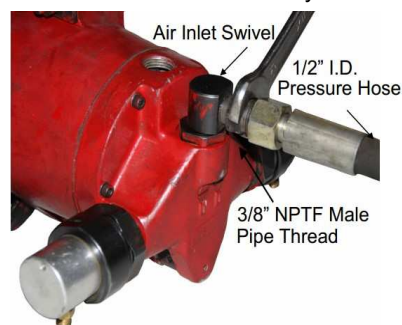


Figure 1 -Connecting Air Hose to Hoist

3. A filter and lubricator unit (Figure 2) must be installed between air source and air hose leading to hoist. The use of a Filter/Lubricator will assure the air hoist will receive a continuous supply of clean and well lubricated air. Air hoist motor oil or good grade 10W machine oil (approximate viscosity 150 SSU at 100°F) must be used. DO NOT USE multi-viscosity, detergent-type engine oil. The lubricate rate for the air supply should be set at one drop for every 50 to 75 cubic feet.

4. The recommended operating air pressure is 90 psi. A pressure regulator is recommended in the air line to ensure an air pressure of 100 psi is not exceeded. Meanwhile, the hoists can be operated under a wide range of air pressures. Refer to "Hoist Performance Charts" (See Page 3).

Hoisting and Lowering Speed Adjustments

1. The hoist lifting speed is factory set for maximum at the factory. The lowering speed is adjusted to an average setting, between minimum and maximum.

2. To achieve speeds other than the factory settings, turn the designated adjusting screw in small increments, in either direction, while operating the hoist under load. Refer to Figure 3.

CAUTION *BE AWARE that maximum lowering speed with rated load is very high. Heads of adjusting screws should not be adjusted beyond outer surface of hoist housing.*

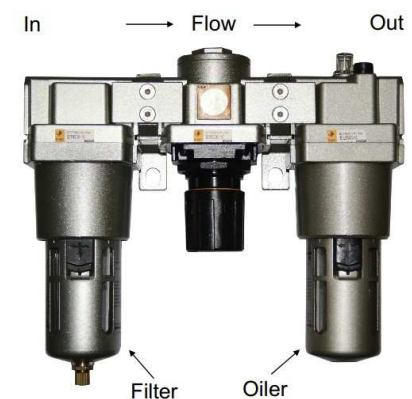


Figure 2 -Air Filter and Lubricator Unit



Figure 3 -Hoisting and Lowering Speed Adjustment

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3. The hoist speeds will be either maximum or minimum when the screwdriver slots on heads of the adjusting screws are horizontal (hoist in normal suspended position). Rotating the screws 180 degrees in either direction provides the full range of speed adjustment.

NOTE: Arrow stamped on end of screws to assist operator with adjustment.

NOTE: Refer to page 1-2 for Recommended Practices for Air Powered Hoists.

Operation

The Dayton air hoist is designed with a pendant throttle control which has a convenient lever type control valve handle (Figure 4) suspended from control cylinders on sides of control head housing.

WARNING

Do not lift more than rated load except for test

purposes. Overloading may result in chain breakage, hook deformation or other failures which may cause serious injury and damage. A test at greater than rated load should be a properly supervised official test only, not an operator test. If any load sustaining parts have been altered, replaced or repaired, hoist should be load tested at 125% of rated load by a designated, qualified person with a written report recording test and meet ANSI B30.16 Safety Standards.

Pre-operational Checks

Please follow the below instructions before operating a loaded hoist:

1. Inspect chain anchor connections between side hoist frame and upper hook on 1 ton

double reeved models. Fixed screws or pins should be secure and not bent or broken. Chain should be firmly anchored.

2. Check the hoist brake to ensure proper adjustment and operation. (See "Maintenance," page 8)

3. Inspect the hook. It should not be bent or twisted, and should not be opened beyond the given sizes in Figure.9. The hook latch should not be bent or damaged, and the springs not broken.

4. Check the chain to ensure that it is not twisted, distorted, or capsized as it travels into the hoist housing.

5. Chain should be lubricated (See "Lubrication," page 6)

WARNING

Do not operate the hoist with defective chain anchor pin, brake or hook.

Operating Hoist

With hoist installation and air pressure applied, hoists should be operated following the steps below.

1. Pendant throttle control
 - a. Depress the throttle lever marked "UP" to lift the load (see Figure 4).
 - b. Depress the throttle lever marked "DOWN" to lower the load.
 - c. Release the lever to stop either lifting or lowering.
 - d. Lifting and lowering speed varies by the position of the throttle valve lever being depressed.

Pulling and Pivoting Hoist and Load

1. A strain cable is designed on the valve handle on pendant throttle control which is suitable for pulling trolley suspended hoist when empty or lightly loaded. Push on load or load chain to traverse heavily loaded hoists.

2. Push on one corner of load to pivot load. The lower hook will swivel through 360 ° to allow load swing to the desired position. Also the upper hook is designed to rotate so that hoist will be swung by the side pulls to face the load, thereby reducing side thrust.

Upper and Lower Limit Stops

Lower limit blocks and chain stops are designed to prevent overtravel when lifting or lowering the load, which may damage the hoist. When it reaches the highest position, the lower block trips the control lever (Figure 5). When it reaches the lowest position, the tail end of the load chain trips the control lever (Figure 6). The control lever is connected to a shaft which controls air pressure into the air motor by inlet valve. The limit stops are used as a safety device only and should not be used as a routine device to stop the lower block or hoist.



Figure 4 -Pendant Throttle Control Handle

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Operation (Continued)

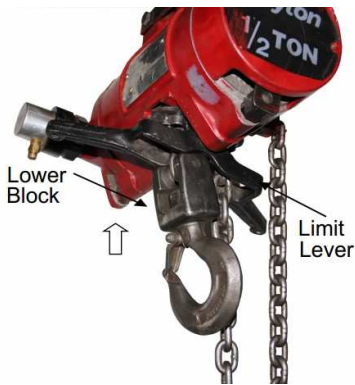


Figure 5 -Control Lever Being Tripped by Lower Block

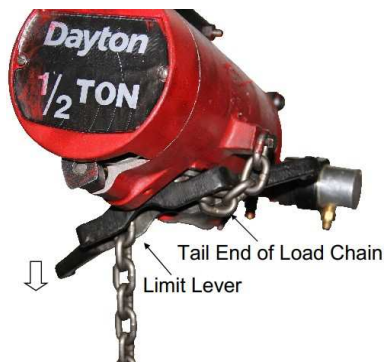


Figure 6 -Control Lever Being Tripped by Tail End of Load Chain

Operating Precautions

WARNING Equipment described herein is not designed or suitable for raising or lowering persons.

The safe operation of overhead hoist is the operator's responsibility. Listed below are some of the basic rules, that allows operators to realize dangerous practices to avoid and precautions to take for their own safety and the safety of others. Compliance with these rules, in addition to regular checks and periodic inspections of equipment could save personnel injury and equipment damage. In order to avoid potentially dangerous situations, the operator should:

1. Operate hoist carefully to become familiar with its performance.
 2. Not exceed the rated load.
 3. Slack chain carefully to avoid jerking load.
 4. Not use the load chain as a sling.
 5. Be sure there is no twists in the coil load chain. On 1 ton chain hoists, check the lower block is not inverted between chains.
 6. Check the upper and lower limit stop operation by raising or lowering empty hook to the limited travel. Hoist must shut off.
 7. When lifting loads, make sure it is free to move without any obstacles.
 8. Stand clear of all loads and never lift or travel load over people.
 9. Avoid operating when the hoist hook is not under the center of hoist. Be sure that hoist trolley or other supports are positioned correctly for load handling before lifting.
 10. Guide load so that it is under control at all times.
 11. Not operate hoist with twisted, kinked or damaged chain.
 12. Not operate damaged or malfunctioning hoist.
 13. Conduct regular visual examinations for signs of damage or wear.
 14. Observe inspection and maintenance sections described in this manual.
 15. Not lift or transport loads until all personnel are clear. Do not lift people on the hook or load.
 16. Pay attention to the load while operating hoist. Never leave suspended loads unattended.
 17. Not use limit stops as a routine device. This is just a safety device.
 18. Not "Jog" when not necessary.
 19. Personnel who are not qualified shall not operate hoist.
 20. Not remove or obscure warning labels.
 21. Use common sense and best judgment whenever operating a hoist. Comply with the safety standards of the American National Standards ANSI B30.16, the latest issue.
- See General Safety Instructions on page 1 & 2, and Cautions and Warnings as shown.

Lubrication

Regular lubrication services listed here should be performed at regular intervals in order to maintain optimum performance and ensure long service life. Lubrication frequency will depend on the type of hoist lifting service. Refer to the following sections regarding Lubrication and Maintenance instructions.

Service Air Line Lubricator

Servicing the air line filter and lubricator unit is of most importance because it is the only source of the lubrication for control valve and air motor. Fill the lubricator with air hoist motor oil or good grade 10W oil (viscosity about 150 SSU at 100 °F). Multi-viscosity or detergent engine oil is not recommended.

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Lubrication (Continued) Gearcase

Gearbox is greased at the factory and no further lubrication is needed unless the gearbox is disassembled for any reason. Then, in the reassembly, parts should be washed (using a commercial fluid) and repacked with NLGI EP-2 grease.

Lubricate Load Chain

Small amount of lubricant will greatly increase load chain life, so the chain should not be allowed to run dry. Chain should be cleaned and lubricated as directed below. Users should set up a schedule for lubrication after observing operating conditions for a few days.

Coil Chain

In ordinary circumstances, alloy steel chain should be only checked weekly. Under hot and dirty conditions, it may be necessary to clean the chain at least once a day and lubricate it several times between cleanings. Thoroughly clean it with oil solvent and relubricate it by gently coating it with penetrating oil and graphite. Be sure that lubricant covers the wear surfaces between links.

Lubricate Upper Hook and Lower Block Assembly

1. On 1 ton chain hoists, add a few drops of SAE60 oil into the upper hook shank entering bracket hook.
2. On single reeving hoists (1/4 and 1/2 tons), remove the upper and lower hook as described in the "Disassembly and Reassembly"(Page 10) and grease thrust bearing with high-quality bearing grease.
3. On double reeving hoists (1 ton) lower block, disassemble as described in the "Disassembly and

Reassembly"(page 10) and grease needle roller bearings for sprocket shaft and hook with high-quality bearing grease.

Lubricate Control Shaft, Brake Cam and Valve Shifter

1. Add a few drops of SAE60 oil on the control shaft at bearing points.
2. Add graphite grease on valves shifters and brake cam.



WARNING *Prior to any internal work on hoist, remove load and make sure the air source is turned off.*

Maintenance

1. Preventive maintenance services on Dayton Air hoist are, in most cases, a simple periodic inspection procedures to determine the conditions of hoist components. The following are the recommended inspection procedures, based on the average daily hoist usage. Hoist should be checked weekly when subject to serious service or to adverse environments.

Thirty-day Inspection

Hoist may be left suspended.

Inspect Load Chain

Operate hoist chain under load and check the chain over sprocket in both chain travel directions. Chain should feed smoothly into and away from the sprocket. If the chain binds, jumps, or is noisy, first check that it is clean and properly lubricated. If the problem persists, check the chain for wear, deformation or other damage.

1. Coil type load chain. Clean the chain for inspection. Visually inspect the gouges, nicks, weld splatter, corrosion, or distorted links. Loosen the chain and check

the wear on bearing surface between links (see Figure 7). Greatest wear tends to occur at high or low lift point, especially when hoist is subject to repeated cycles. Chain must be replaced before the case is worn through while case hardness of chain is about .015" deep. Also check the chain extension, using a vernier caliper (see Figure 8). Choose an intact, unstretched chain (usually in the slack or tail), and measure and record length over the number of chain links (stadium), shown in Figure 8. Measure and record the same length of a worn section in the load side of the chain. Obtain the amount of wear by subtracting the measurement of the worn section from the unworn section. If the result is greater than that in the "Allow chain wear" table, the chain has elongated beyond the maximum allowed length and must be replaced. Only factory approved chain can be replaced for corroded, nicked, gouged, twisted or worn links. Do not weld or attempt to repair coil chain.

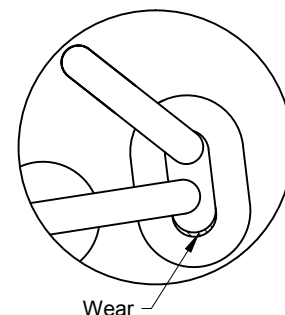


Figure 7 -Check Chain Wear at Bearing Surfaces between Links



CAUTION *Do not assume that load chain is safe, because it measures below replacement points given herein. Other factors such as those mentioned above, may lead to unsafe or ready for replacement long before elongation replacement is necessary.*

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Maintenance (Continued)



When replacing load chain, use only factory

approved chain meeting factory specifications for materials, hardness, strength and dimensions. Chain hoist specifications not meeting the Dayton specification can be dangerous because it will not fit in the load sprocket and chain guide, causing damage to hoist, and it will wear premature, deform and eventually break.

Model Number	Lines of Load Chain	Rated Load For Standard Model
29XL85, 29XL90	1	1/4 Ton
29XL86, 29XL87	1	1/2 Ton
29XL88, 29XL89	2	1 Ton

Allowable Chain Wear- elongation

Chain Size (Wire Dia.)	No. of Pitches to Measure	Maximum Wear Limit
1/4	13	.145 "

2. Inspect anchor end of chain at side of hoist frame for damage to last link. Replace damaged parts.

3. Inspect connection of chain to lower block on 1/4 and 1/2 ton hoists. Replace parts showing evidence of damage, twisting or elongation.

4. Inspect connection of chain to anchor on side of suspension bracket on double reeved 1 ton hoists. Replace parts showing evidence of damage, twisting or elongation.

5. If required, lubricate load chain (See "Lubrication", page 7).

Inspect Lower Block

1. Check for bent or distorted hook. It must be replaced if hook is opened beyond the dimension given in Figure 9. Also check to see that hook swivels. Lubricate if necessary.

2. Check sprocket and bearings in lower block for freedom of movement and signs of damage on 1 ton hoists. Lubricate if necessary. Replace damaged parts.

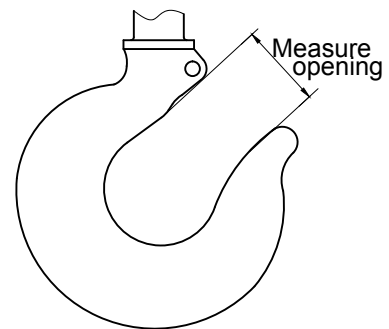
3. Check hook latches. Replace damaged or bent latches or broken springs.



Hooks, upper or lower, damaged from chemicals, deformation or cracks or having more than 15 percent in excess of normal throat opening or more than 10 degrees twist from the plane of the unbent hook, or opened, allowing the hook latch to bypass hook tip must be replaced. Any hook that is twisted or has excessive throat opening indicates abuse or overloading of the hoist. Inspect other load bearing components of the hoist for damage (See paragraph under "ANNUAL INSPECTION" on the same page).

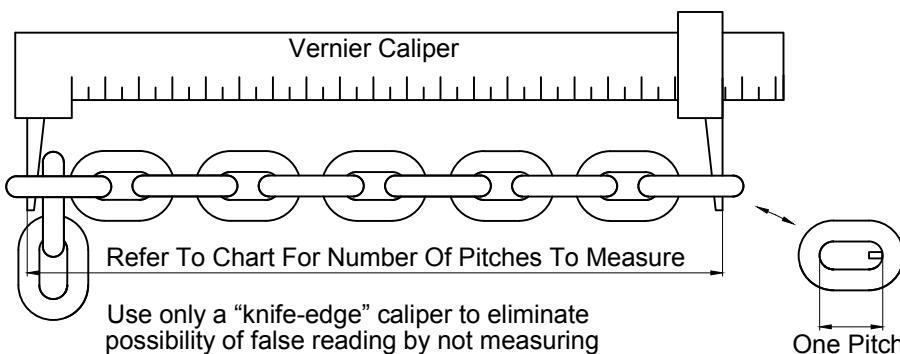
Inspect Upper Suspension

1. Check for bent or distorted hook on hook suspended models. It must be replaced if hook is opened beyond the dimension given in Figure 9. Also check to see that hook swivels. Lubricate if necessary.



Hoist Rated Load (Tons)	Hook Throat Opening	
	Normal Opening	Replace Hook If Opening is Greater Than
1/4	1-1/8 "	1-9/32 "
1/2	1-1/8 "	1-9/32 "
1	1-1/4 "	1-7/16 "

Figure 9 -Upper and Lower Hook openings



Refer To Chart For Number Of Pitches To Measure

Use only a "knife-edge" caliper to eliminate possibility of false reading by not measuring full pitch length.

Figure 8 -Checking Coil Chain Using Vernier Caliper

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Maintenance (Continued)

2. Check condition of trolley parts and lug bracket on push trolley suspended models. Replace any damaged or cracked bracket or trolley parts.

3. Check hook latch. Replace damaged or bent latch or broken spring.

Check Brake Operation

1. With air turned on and with rated load attached to lower hook, operate hoist to raise load, applying pressure to throttle control lever. The brake is out of adjustment if load drifts down before the motor starts to actuate.

2. To adjust brake, insert hex key through hole in brake cover. Turn screw counterclockwise to tighten brake or clockwise to loosen brake (See Figure 21).

Annual Inspection

Hoist must be disconnected from air service and removed from overhead suspension. Hoists subjected to severe service or to adverse environments should be examined weekly or as conditions warrant.

1. Hoist should be partially disassembled as necessary to inspect hoist parts noted in paragraphs 2 through 8 below. Refer to "Disassembly and Reassembly" steps on page 10.

2. Check brake. Take out brake housing cover and brake shoes as outlined in "Disassembly and Reassembly" (Page 10). Inspect brake shoe linings and brake wheel for wear and scoring. Replace badly worn or scored parts. Inspect condition of brake cam and spring. Replace any damaged parts.

3. Check internal load gears. Take out gear plate and intermediate gears as outlined in "Disassembly and Reassembly", page 11.

Inspect condition of gear teeth on internal gear, intermediate gears, and motor shaft pinion. Replace worn or damaged parts.

4. Check chain sprocket and bearings. Take out sprocket and internal gear as a unit, "Disassembly and Reassembly", Page 11-12. Inspect condition of pockets on chain sprocket and ball bearing assemblies. Replace worn or damaged parts.

5. Check throttle valve shifter. Take out valve shifter and control shaft (See "Disassembly and Reassembly", Page 10.) and shifter pin (see "Disassembly and Reassembly", Page 10.). Inspect condition of shifter, pin and shaft bearings. Replace worn or damaged parts.

6. Check throttle valve housing. Take out throttle housing assembly (See "Disassembly and Reassembly", page 10). Inspect condition of throttle valve, valve bushing (in housing) and "O" rings on valves. Replace worn or damaged parts.

7. Check air motor. Take out air motor assembly from hoist (See "Disassembly and Reassembly", page 11). Inspect motor for condition of bearings, possible rotor rubbing on body or end plates, blade freedom in rotor slots, shaft and gear. Do not service other than lubricating well with light oil if motor appears to be in good condition.

8. Reassemble and test hoist. Reassemble hoist as outlined in "Disassembly and Reassembly", page 12. After reassembly, test hoist in accordance with

"Disassembly and Reassembly", page 14.

Disassembly and Reassembly

1. The following disassembly and reassembly instructions apply to all models of Dayton air hoists. Where needed, variations to instructions are provided to cover differences between models (suspensions, controls, load chain, capacity sizes) with applicable models specifically noted.

2. A complete teardown procedure is given. However, a partial teardown may be performed, using applicable portions of the instructions, if only certain parts require repair or replacement.

3. For easier handling during disassembly, the following disassembly steps may, where conditions permit, be completed before hoist is removed from its overhead suspension or disconnected from its air supply: If hoist is so equipped, remove the chain container. Remove lower block and load chain assembly, following procedure outlined in "Disassembly and Reassembly," below.

4. These hoists contain precision machined parts and should be handled with care at disassembly and reassembly. Be careful to apply pressure evenly when removing or installing parts with press fits. On ball bearings, apply pressure to face of inner or outer race, whichever is adjacent to mating part. It will avoid damage to bearing races from brinelling by pressing through bearing balls. Apply a thin film of oil to parts having a tight fit when installed.

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Disassembly and Reassembly (Continued)

Disassembly

Removal of Hoist from Overhead Suspension

1. Turn off air at source
2. Operate control to bleed air from 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 tail end, anchor boss at side of hoist frame on models with single reeved load chains (1/4 and 1/2 ton). Remove socket head cap screw, holding end link to tail end anchor on oil chain. Run chain out of hoist by operating control in "lowering" direction if hoist is connected to air service. The chain can be pulled out of hoist by hand while holding brake open by pulling down on control lever if hoist is not connected to air service.

2. Disconnect end of chain as in paragraph (1) above, 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 (1 ton).

3. Separate load chain from lower block assembly on single reeved 1/4 and 1/2 ton models. Drive out small spring pin securing lower block pin in lower block and push out lower block pin to release chain.

4. Lower blocks (1/4 and 1/2 ton) are of a pinned construction, permitting individual replacement

of body, thrust bearing, or hook. To disassemble, drive spring pin from hook nut. With pin removed, hold hook nut from turning with drift punch and rotate hook to unscrew it from nut. Separate hook, bearing shield, needle bearing and two 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 taking out socket head screws and nuts holding body halves together on 1 ton (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 14, for disassembly and reassembly of pendant throttle control.

2. Take out two screws securing brake housing cover to frame and lift off cover.

3. To remove control lever and shaft, drive spring pins from control lever (Figure 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 (Figure 11). Valve shifter and control lever will fall free as shaft is withdrawn.

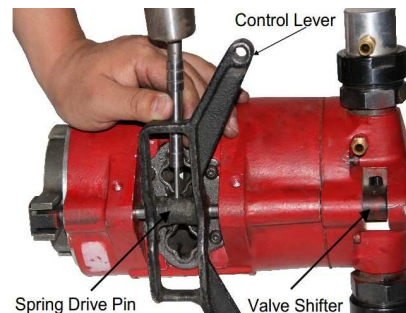
4. Carefully pry brake spring up evenly with a screwdriver until spring is about halfway off to remove it. Using brake spring spreader (Figure 12), take out spring from brake arms



WARNING Do not pry spring all the way off with screwdriver, since spring is apt to fly in most any direction with considerable force.

5. Take out brake shoes. Make sure not to lose steel fulcrum balls.

6. Take out steel balls from recesses in sides of upper brake boss.



Spring Drive Pin
Figure 10 -Driving Spring Pin from Control Lever and Shaft

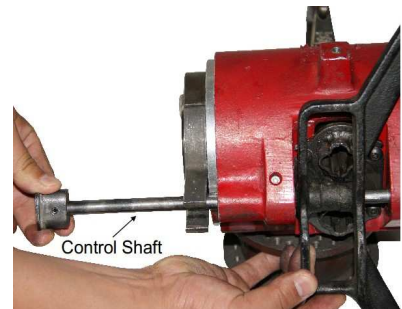
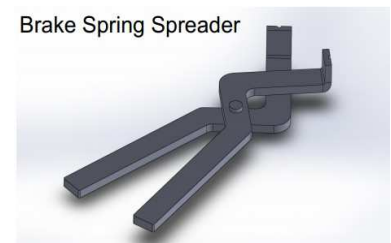


Figure 11 -Removing Control Shaft



Brake Spring Spreader
Figure 12 -Special Tool for Removing Brake Spring

Dayton[®] Air Chain Hoists

Disassembly and Reassembly (Continued)

Removal and Disassembly of Control Head Assembly



Figure 13 -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 (Figure 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 for routine servicing. Use a hex key to remove pin from bottom of throttle valve if valve is to be removed (See Figure 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.

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. Motor is a unit construction and generally should not be disassembled. However, if it is felt that the blades need replacing, 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 taking care NOT to 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.



Figure 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 (Figure 15). Remove screws, then lift brake wheel off (Figure 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.



Figure 15 -Removing Cap Screws Securing Bearing Clamp Plate

Dayton[®] Air Chain Hoists

ENGLISH

Disassembly and Reassembly (Continued)



Figure 16 -Removing Brake Wheel and Ball Bearing Assembly

2. Take out four socket head screws securing gear plate to frame and lift off plate and intermediate gears as a unit (Figure 17). Do not remove the two socket head screws from flange around brake wheel bearing hole (Figure 16) unless it is necessary to replace intermediate gear.

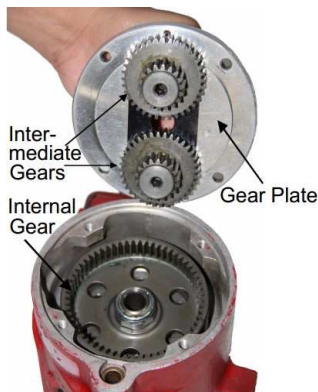


Figure 17 -Removing Gear Plate and Intermediate Gears

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 Figure 18).

4. Rotate internal gear (Figure 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 (Figure 18).



Figure 18 -Removing Internal Gear, Chain Sprocket and Ball Bearing Assembly

5. Remove retaining ring and pull out 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. And they must be replaced if they are exposed to wash or infiltration with foreign matter.

Reassembly General

Follow the procedure that is in reverse order of the disassembly steps outlined in "Disassembly

and Reassembly", page 9, to reassemble hoist. The special assembly precautions listed below should be observed to assure proper assembly.

Assembly of Motor

Observe the following precautions when reassembling motor:

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

3. The only field service recommended on air motors is rotor blade replacement (See "Disassembly and Reassembly", page 9).

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:

Dayton[®] Air Chain Hoists

Disassembly and Reassembly (Continued)

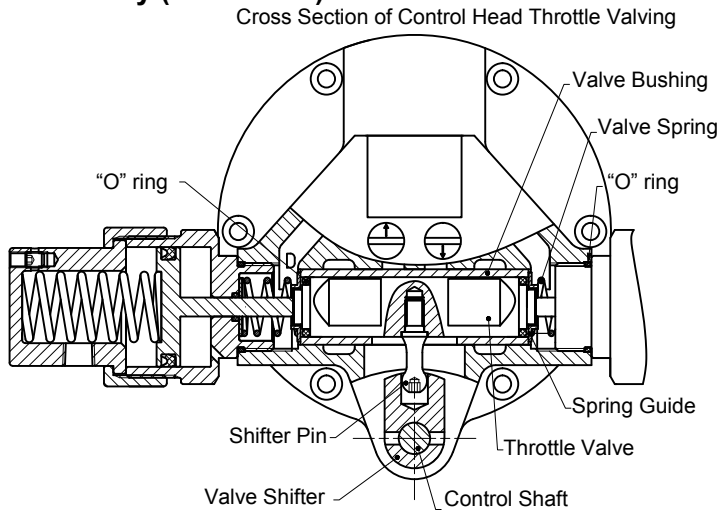


Figure 19 -Section View Showing Assembly of Throttle Valve, Springs and Valve Shifter in Control Head

1. Lightly oil throttle valve and bushing with SAE 20 oil. Assemble valve with threaded hole facing slot at bottom of bushing in housing (Figure 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 and scrap the complete head assembly.

NOTE: Before installing, apply lubricating oil to "O" ring and "U" seals. Take care during installation so as not to cut, pinch, or otherwise damage them.

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 Figure 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 (See "Installation", page 4).

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.

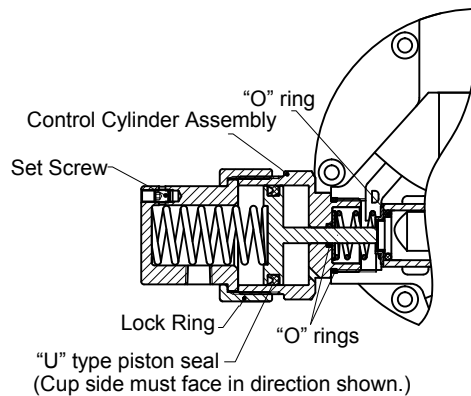


Figure 20 -Section View Showing Assembly of Control Cylinder on Control Head (Pendant Throttle Control Models)

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 11, Figure 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 10, Figure 12). Tap the spring into place. Adjust brake shoes per instructions in Figure 21.

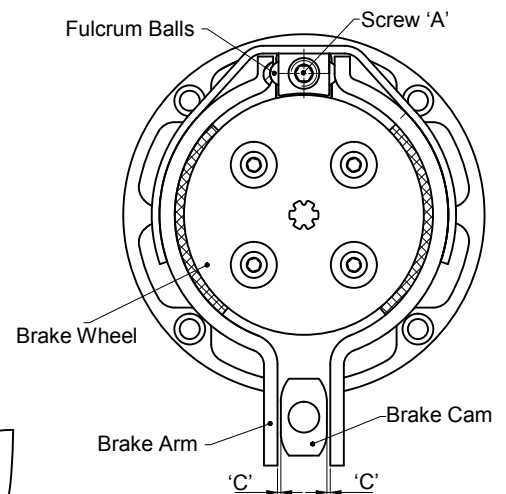


Figure 21 -Brake Adjustments

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

Dayton[®] Air Chain Hoists

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Disassembly and Reassembly (Continued)

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.

Installation of Load Chain

1. Make sure the weld on the second link faces "out" or away from the sprocket when installing coil chain on the hoist (See Figure 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. Sustainably supply the chain through until approximately 15" to 16" hangs through the tail chain side of the hoist. Take the first link and swing it up (do not twist) (See Figure 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 Figure 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 Figure 23.

Assembly Of Pendant Throttle Control

On pendant throttle control, attach control hoses to cylinders on throttle valve housing as follows: Facing air inlet end of hoist, connect the hose to "DOWN" lever side of pendant handle to cylinder on right-hand side of housing; connect hose to "UP" lever side to cylinder on left-hand side of housing. The third hose connects to tapped hole in bottom left side of control head and at top rear of handle.

Testing Hoist General

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.

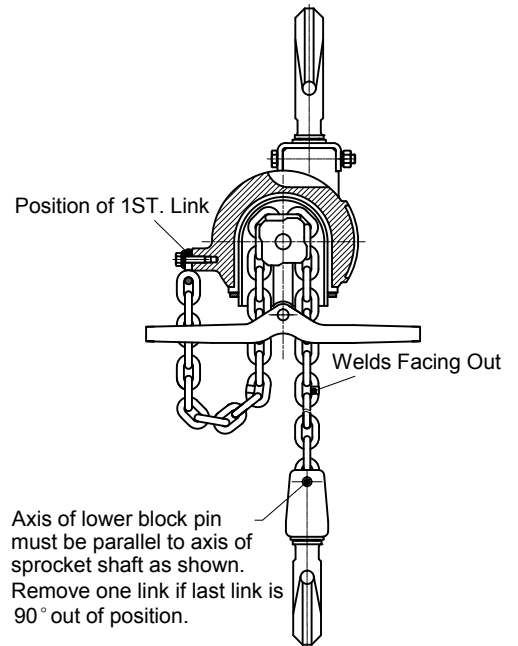


Figure 22 -Installing Single Reeved Load Chain (1/4 and 1/2 Ton Models)

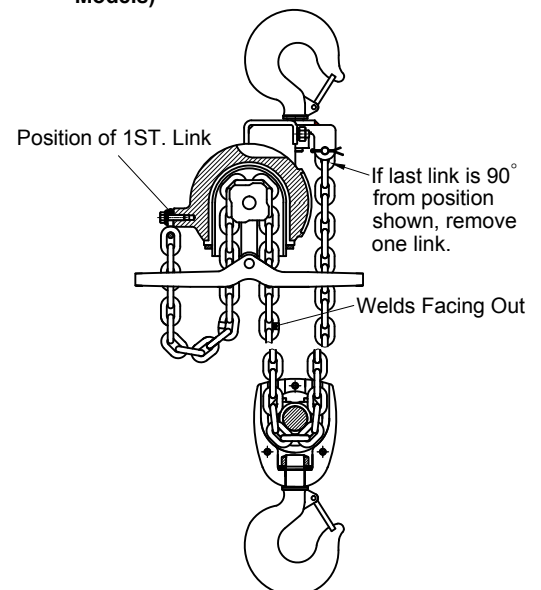


Figure 23 -Installing Double Reeved Load Chain (1 Ton Model)

Dayton[®] Air Chain Hoists

Disassembly and Reassembly (Continued)

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 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 "Installation", page 4.



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. A test at greater than rated load should only be a properly supervised official test, not an operator test. If any load sustaining parts have been altered, replaced or repaired, hoist should be load tested at 125% of rated load by a designated, qualified person, with a written report recording test load, as recommended in ANSI B30.16 Safety Standards.*

Pendant Throttle Control Assembly

General

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 in 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 9. page 14.

Parts List

1. Parts illustrations and parts lists covering Dayton air hoists bearing model number given on front cover will be found on following pages. When ordering replacement parts, include with order the exact Stock Number and Model Number from hoist nameplate.

2. There are four columns in the parts list. The first column, Ref. No., is the index number of the parts on the exploded view illustrations. The second column, Description means a brief description to help identify the part. The third column, Part Number, lists the number of the part for ordering purposes. The fourth column(s) list the quantity of parts used.

NOTE: Information herein is subject to change without notice. You must order them from Grainger Parts.

INSPECTION SCHEDULE AND MAINTENANCE REPORT AIR POWERED HOISTS

HOIST SERIAL NO.(MFGRS) _____
 RATED LOAD _____
 TYPE _____

CUSTOMER HOIST IDENTITY NO. _____
 LOCATION IN PLANT _____
 THIS INSPECTION IS

MONTHLY ANNUAL SEMI-ANNUAL
 INSPECTED BY _____ DATE _____

COMPONENT, UNIT OR PART and location on hoist		*Recommended 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 REQUIRED	REPAIR REQUIRED (Loose Parts or Wires)	REPLACEMENT REQUIRED (Worn or Damaged)	LUBRICATION REQ. (Low oil or Grease Rust or Corrosion)	CLEANING OR PAINTING REQUIRED	DATE
HOIST	Motor	<input checked="" type="radio"/>									
	Motor Brake	<input checked="" type="radio"/>									
	Hook Latch Opertion	<input checked="" type="radio"/>									
	Gears, Shafts & Bearings	<input checked="" type="radio"/>									
	Upper Block & Hook	<input checked="" type="radio"/>									
	Lower Block & Idler Sprocket	<input checked="" type="radio"/>									
	Hook & Throat Opening	<input checked="" type="radio"/>	X								Record Hook Throttle Opening
	Load Chain	<input checked="" type="radio"/>									
	Load Sprocket			<input checked="" type="radio"/>							
	Guards			<input checked="" type="radio"/>							
	Limit Lever	<input checked="" type="radio"/>									
	Load Chain Reeving	<input checked="" type="radio"/>									
CONTROL STATION	Air Hose	<input checked="" type="radio"/>									
	Pendant Throttle	<input checked="" type="radio"/>									
TROLLEY	Frame			<input checked="" type="radio"/>							
	Wheel		<input checked="" type="radio"/>								
	Wheel Spacing on Beam	<input checked="" type="radio"/>									In Accordance with Manufacture Specs.
	Bumpers		<input checked="" type="radio"/>								
	Guards		<input checked="" type="radio"/>								
	Hand Chain & Wheel	<input checked="" type="radio"/>									
Air System	Air Lines & Valves	<input checked="" type="radio"/>									
	Filters	<input checked="" type="radio"/>									Drained (daily)
	Lubrications	<input checked="" type="radio"/>									Filled (when needed)
	Regulators	<input checked="" type="radio"/>									
RUNWAYS	Monorail Jionts		<input checked="" type="radio"/>								
	Monorail		<input checked="" type="radio"/>								
MISC.	General Condition	<input checked="" type="radio"/>									
	Load Attachemnt Chains	<input checked="" type="radio"/>									
	Rope Slings & Connections	<input checked="" type="radio"/>									
	Change Gearcase Lub.			<input checked="" type="radio"/>							
	Req. Warning Lables	<input checked="" type="radio"/>									
	Grease Wheels			<input checked="" type="radio"/>							If equipped with grease fittings on axles

*See text for DAILY & WEEKLY REQUIREMENTS
 INSPECTION INTERVAL

● SINGLED & DATED REPORT REQUIRED- OSHA
 X MAGNETIC PARTICLE OR EQUIVALENT EXAMINATION REQUIRED

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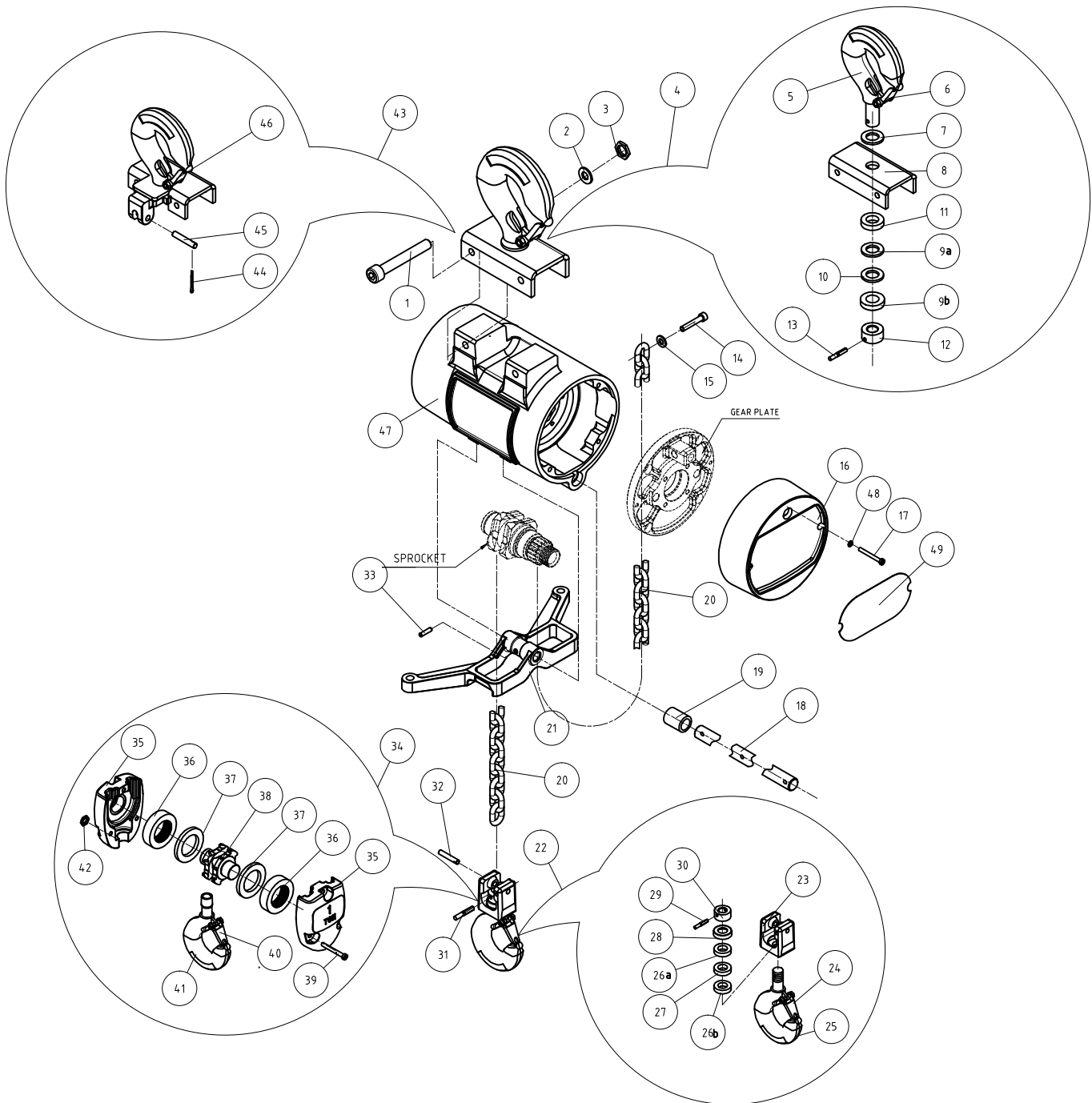
For Repair Parts, Call 1-800-323-0620

24 hours a day – 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

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Dayton[®] Air Chain Hoists

Parts List

Ref. No.	Description	Part Number	Quantity		
			1/4 Ton	1/2 Ton	1 Ton
1	Bolt -Suspension Bracket	+++	2	2	2
2	Lockwasher -Shakeproof, External (8mm)	+++	2	2	2
3	Nut -Hex, Cadmium Plated (M8×1mm)	+++	2	2	2
*4	Hook and Bracket Assembly - Suspension (Includes Ref. No. 5 thru 13)	MH29XL8501G	1	1	-
5	Hook and Nut Assembly -Upper (Includes Ref. No. 6)	+++	1	1	-
6	Latch Kit	+++	1	1	-
7	Bushing -Machinery	+++	1	1	-
8	Bracket - Suspension	+++	1	1	-
9a	Washer -Thrust, Bearing (ISO3031-WS81103)	+++	1	1	-
9b	Washer -Thrust, Bearing (ISO3031-GS81103)	+++	1	1	-
10	Bearing Assembly -Needle (ISO3031-AXK1730)	+++	1	1	-
11	Shield -Bearing	+++	1	1	-
12	Nut -Hook	+++	1	1	-
13	Pin -Spring Drive (5×32mm)	+++	1	1	-
14	Screw -Hex Socket Head Cap (M6×25mm)	+++	1	1	1
15	Washer -Flat (8mm)	+++	1	1	1
*16	Cover -Brake Housing	MH29XL8502G	1	1	1
17	Screw -Slotted Head (M4×35mm)	+++	2	2	2
*18	Shaft -Control	MH29XL8503G	1	1	1
*19	Bushing -Oilite, Control Shaft	MH29XL8504G	3	3	3
*20	Chain -Load, Coil Type (11'-5" Lg.) (ISO3077 d6.3×p19×L3500mm)	MH29XL8505G	1 (10ft)	1 (10ft)	-
	Chain -Load, Coil Type (22'-7" Lg.) (ISO3077 d6.3×p19×L6900mm)	MH29XL8701G	1 (20ft)	1 (20ft)	1 (10ft)
	Chain -Load, Coil Type (44'-8" Lg.) (ISO3077 d6.3×p19×L13700mm)	MH29XL8901G	-	-	1 (20ft)
*21	Lever -Control	MH29XL8506G	1	1	1

* Denotes parts available

+++ Denotes not available as a repair part

Dayton[®] Air Chain Hoists

Parts List (Continue)

Ref. No.	Description	Part Number	Quantity		
			1/4 Ton	1/2 Ton	1 Ton
*22	Block Assembly -Lower (1/4 Ton) (Includes Ref. No. 23 thru 30)	MH29XL8507G	1	-	-
	Block Assembly -Lower (1/2 Ton)	MH29XL8702G	-	1	-
23	Body -Lower Block (1/4 Ton)	+++	1	-	-
	Body -Lower Block (1/2Ton)	+++	-	1	-
24	Latch Kit	+++	1	1	-
25	Hook and Nut Assembly (With Latch)	+++	1	1	-
26a	Washer - Thrust, Bearing (ISO3031-GS81103)	+++	1	1	-
26b	Washer - Thrust, Bearing (ISO3031-WS81103)	+++	1	1	-
27	Bearing Assembly –Needle (ISO3031-AXK1730)	+++	1	1	-
28	Shield -Bearing	+++	1	1	-
29	Pin -Spring Drive (5×32mm)	+++	1	1	-
30	Nut -Hook	+++	1	1	-
*31	Pin -Spring Drive (2×18mm)	MH29XL8540G	1	1	-
*32	Pin -Connecting, Lower Block	MH29XL8508G	1	1	-
*33	Pin -Spring Drive, Control Lever (4×18mm)	MH29XL8541G	1	1	1
*34	Block Assembly -Lower(1 Ton, Includes Ref. Nos. 35thru 42)	MH29XL8902G	-	-	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 (M6×45mm)	+++	-	-	3
40	Latch Kit -Lower Hook	+++	-	-	1
41	Hook, Bearing and Nut Assembly (With Latch)	+++	-	-	1
42	Nut -Hex, Self-Locking (M6×20mm)	+++	-	-	3
*43	Hook and Bracket Assembly (With Latch) (Includes Ref. No. 44 thru 46)	MH29XL8903G	-	-	1
44	Pin –Cotter (2×28mm)	+++	-	-	2
45	Pin -Chain Anchor	+++	-	-	1
46	Latch Kit	+++	-	-	1
*47	Frame Assembly (Include Ref. No. 19)	MH29XL8542G	1	1	1
48	Lockwasher –Spring (4mm)	+++	2	2	2
*49	Label -Rated Load				
	1/4 Ton	MH29XL8509G	1	-	-
	1/2 Ton	MH29XL8703G	-	1	-
	1 Ton	MH29XL8904G	-	-	1

* Denotes parts available

+++ Denotes not available as a repair part

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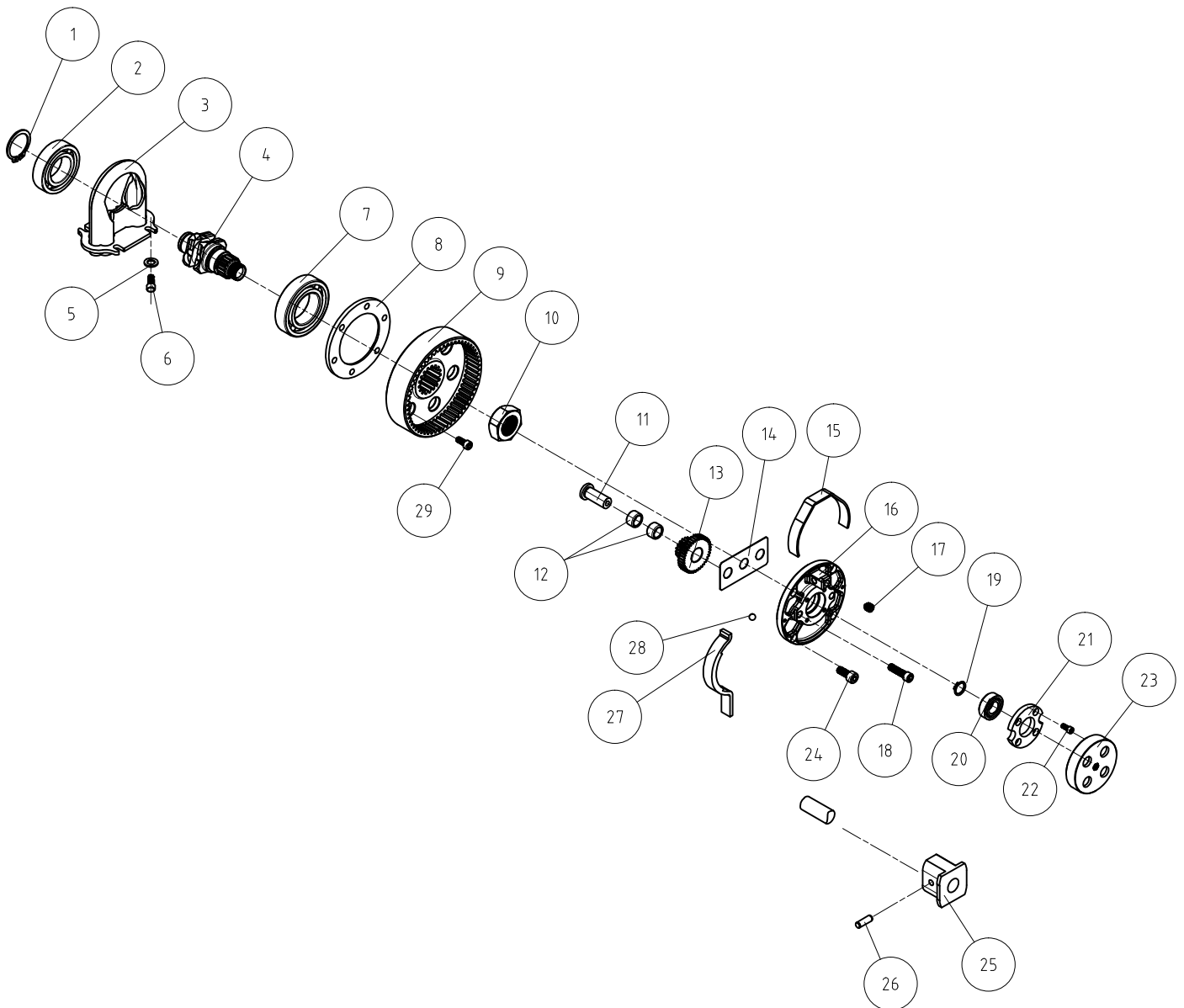
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Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

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Dayton[®] Air Chain Hoists

Parts List

Ref. No.	Description	Part Number	Quantity
*1	Ring-Retaining, External (25mm)	MH29XL8543G	1
2	Bearing Assembly-Ball, Sprocket (ISO3290-6005-2Z)	+++	1
*3	Guide and Stripper Assembly-Chain (Coil Type Only)	MH29XL8510G	1
*4	Sprocket -Chain (Coil Type Only)	MH29XL8511G	1
5	Screw-Button Head (6mm)	+++	4
6	Lockwasher -Shakeproof, Internal (M6×12mm)	+++	4
7	Bearing Assembly-Ball,Sprocket (ISO3290-6006-2Z)	+++	1
*8	Plate-Clamp, Bearing	MH29XL8544G	1
*9	Gear-Internal	MH29XL8512G	1
10	Nut-Spindle (UNF3/4-16 Self-Locking)	+++	1
*11	Shaft -Intermediate Gear	MH29XL8513G	2
*12	Bearing Assembly-Needle (B-97)	MH29XL8514G	4
*13	Gear -Intermediate	MH29XL8515G	2
*14	Thrust Plate	MH29XL8516G	1
*15	Spring -Brake Shoe	MH29XL8517G	1
*16	Plate -Gear	MH29XL8545G	1
17	Screw (M10×20mm)	+++	1
18	Screw -Socket Head (Self-Locking)	+++	2
*19	Ring -Retaining, External (GB/T894.1-17)	MH29XL8546G	1
20	Bearing Assembly-Ball, Brake Wheel (ISO3290-6003-2Z)	+++	1
*21	Plate -Clamp, Brake Wheel Bearing	MH29XL8547G	1
22	Screw -Socket Head (M5×12mm)	+++	4
*23	Wheel - Load Brake	MH29XL8518G	1
24	Screw -Socket Head (Self-Locking) (M6×12mm)	+++	4
*25	Cam -Brake Actuator	MH29XL8519G	1
*26	Pin -Spring Drive, Brake Cam (4×16mm)	MH29XL8548G	1
*27	Shoe Assembly - Brake	MH29XL8520G	2
*28	Ball -Steel, Brake Fulcrum (8mm)	MH29XL8549G	2
29	Screw -Socket Head (M5×12mm)	+++	6

* Denotes parts available

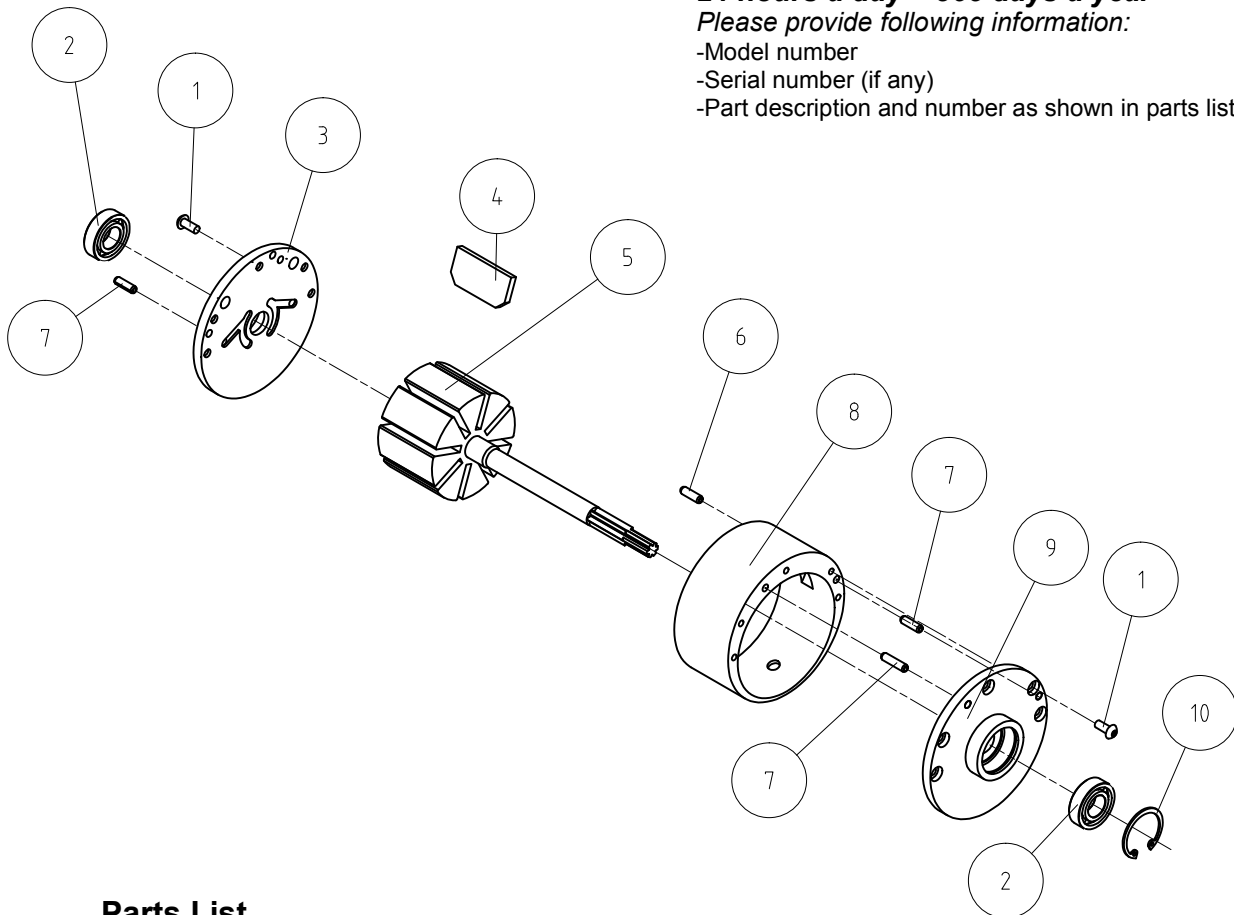
+++ Denotes not available as a repair part

Dayton[®] Air Chain Hoists

**For Repair Parts, Call 1-800-323-0620
24 hours a day – 365 days a year**

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list



Parts List

Ref. No.	Description	Part Number	Quantity
*	Motor Assembly -Air	MH29XL8550G	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	MH29XL8521G	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

* Denotes parts available

+++ Denotes not available as a repair part

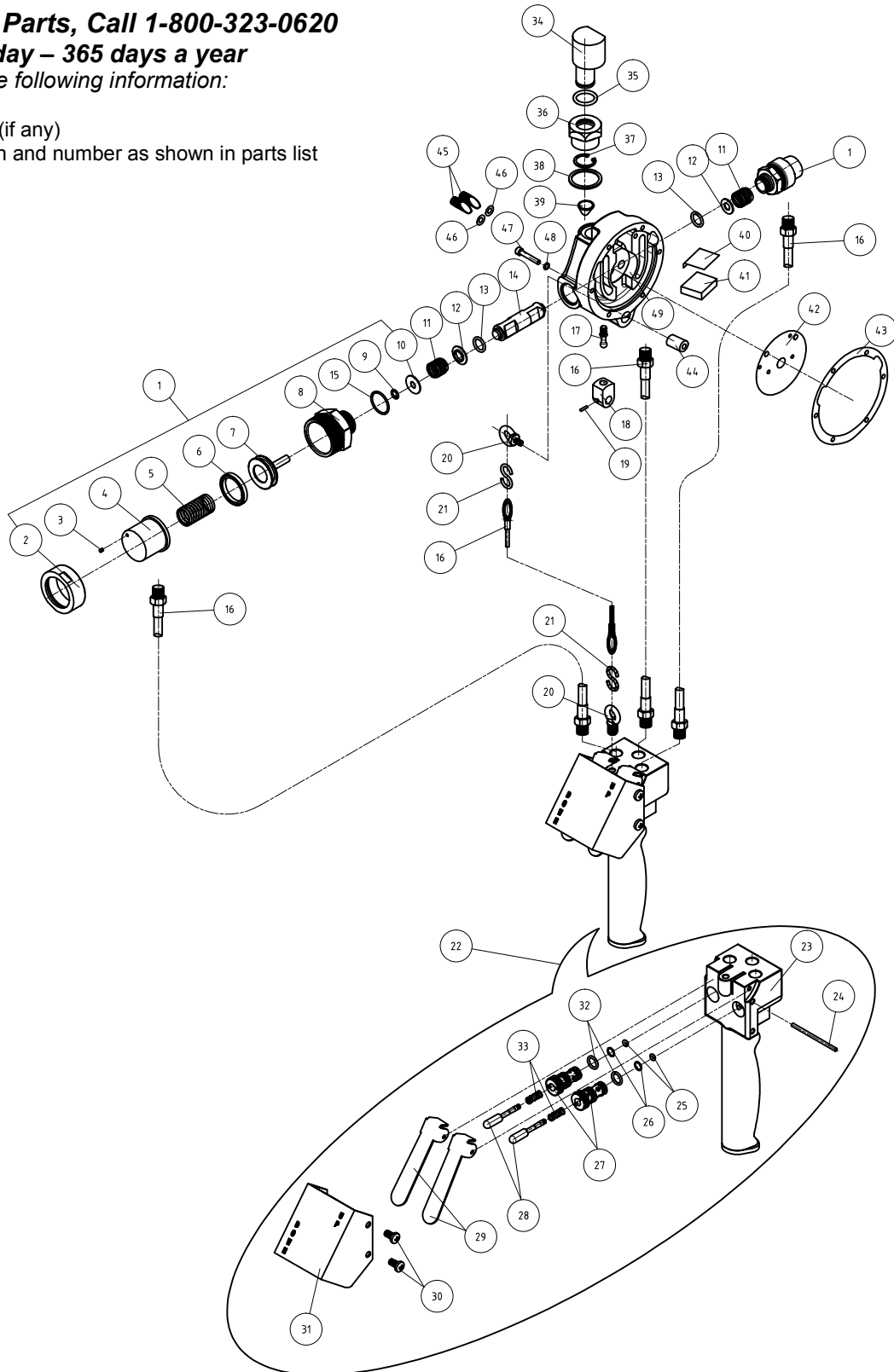
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Dayton[®] Air Chain Hoists

Parts List

Ref. No.	Description	Part Number	Quantity
*1	Cylinder Assembly -Control, Pendant (Includes Ref. Nos. 2 thru 10 and 15)	MH29XL8522G	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	MH29XL8523G	2
*12	Guide -Spring, Throttle Valve	MH29XL8524G	2
*13	Seal -" O" Ring, Throttle Valve (ISO3601.1-14×2.65mm)	MH29XL8525G	2
*14	Valve -Throttle	MH29XL8526G	1
15	Gasket -" O" Ring, Control Cylinder (ISO3601.1-25×1.8mm)	+++	2
*16	Hose and Strain Cable Assembly-Pendant Throttle		
	For 10' Lift	MH29XL8527G	1
	For 20' Lift	MH29XL8704G	1
*17	Pin -Valve Shifter	MH29XL8528G	1
*18	Shifter -Throttle Valve	MH29XL8529G	1
*19	Pin -Spring Drive (4×18mm)	MH29XL8551G	1
20	Eye Bolt, Strain Cable	+++	2
*21	"S" Hook-Wire	MH29XL8552G	2
*22	Handle Assembly -Pendant Throttle Control (Includes Ref. Nos. 23 thru 33)	MH29XL8553G	1
23	Case -Control Handle	+++	1
24	Pin-Lever	+++	1
25	Gasket -" O" Ring, Valve (ISO3601.1-2.8×1.8mm)	+++	2

* Denotes parts available

+++ Denotes not available as a repair part

Dayton[®] Air Chain Hoists

Parts List (Continue)

Ref. No.	Description	Part Number	Quantity
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
31	Guard -Control Lever	+++	1
32	Gasket -" O" Ring, Valve Bushing (ISO3601.1-10.6×1.8mm)	+++	2
33	Spring	+++	2
*34	Body -Swivel, Inlet (3/8" -18 N.P.T.)	MH29XL8530G	1
*35	Seal -" O" Ring, Inlet Swivel (ISO3601.1×2.65mm)	MH29XL8531G	1
*36	Bushing -Inlet Swivel	MH29XL8532G	1
*37	Ring -Retaining, External	MH29XL8533G	1
*38	Gasket -Inlet Swivel Bushing (Brass) (JB982-24)	MH29XL8534G	1
*39	Screen -Inlet Swivel	MH29XL8535G	1
*40	Screen -Muffler	MH29XL8536G	1
*41	Muffler -Exhaust	MH29XL8537G	1
*42	Gasket -Air Seal, Motor End Plate	MH29XL8538G	1
*43	Gasket -Control Head to Frame	MH29XL8539G	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)	MH29XL8554G	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)	MH29XL8555G	1

* Denotes parts available

+++ Denotes not available as a repair part

Dayton[®] Air Chain Hoists

Troubleshooting Chart

Trouble	Probable Cause(s)	Remedy
Hoist can't hold load in suspension.	1. Brake lining oily, glazed or badly worn.	1. Remove brake arms and replace with new.
	2. Brake out of adjustment.	2. Adjust brake.
	3. Excessive overload.	3. Reduce load.
Lose power.	1. Clogged air intake screen.	1. Shut off air - disconnect air hose - clean inlet swivel screen.
	2. Worn or broken rotor blades.	2. Replace rotor blades.
	3. Insufficient air pressure.	3. Check and adjust air pressure.
	4. Clogged muffler screen.	4. Remove throttle valve housing. Clean screen and muffler.
The lifting or lowering speed differs from rated speed at full load.	1. Speed adjustment screws improperly set.	1. Readjust screws. See Hoist Performance Charts.
	2. Loss of power.	2. See Lose Power (above).
	3. Valve shifter or control shaft bent or damaged.	3. Repair or install new parts, and lubricate.
	4. Incorrect air pressure or inadequate air supply.	4. Check pressure near hoist when hoist is operating.
Hoist does not operate.	1. Brake improperly adjusted.	1. Adjust brake.
	2. Clogged air intake screen.	2. Shut off air - disconnect air hose - clean inlet swivel screen.
	3. Excessive overload.	3. Reduce load.
	4. Insufficient air pressure at source.	4. Check and adjust air pressure .
	5. Valve shifter not functioning.	5. Check for proper installation of drive pin in valve shifter and control lever and also that shifter pin is assembled solidly to throttle valve.
	6. Motor failure.	6. Disassemble motor and check rotor blades. Replace defective parts.
	7. Clogged valve.	7. Remove valve caps - remove any obstructions, clean and lubricate valve.
Control lever does not return to horizontal position	1. Control shaft bent.	1. Remove shaft and straighten or replace.
	2. Foreign material, rust or corrosion causing it to bind.	2. Remove shaft and clean. Lubricate bearings, brake cam and valve shifter.
	3. Foreign material, rust or corrosion in control cylinders or pendant throttle control.	3. Clean control cylinders.
	4. Brake improperly adjusted.	4. Adjust brake.
Cannot regulate speed by control handles.	1. Brake improperly adjusted.	1. Adjust brake.
	2. Speed adjustment screws improperly set.	2. Readjust screws.
Cannot regulate speed by pendant handle.	1. Brake improperly adjusted.	1. Adjust brake.
	2. Control cylinders improperly adjusted.	2. Adjust control cylinder set screw.

ENGLISH

Dayton[®] Air Chain Hoists

DAYTON ONE-YEAR LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. All Dayton[®] product models covered in this manual are warranted by Dayton Electric Mfg. Co. ("Dayton") to the original user against defects in workmanship or materials under normal use for one year after date of purchase. If the Dayton product is part of a set, only the portion that is defective is subject to this warranty. Any product or part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton or Dayton's designee designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced with a new or reconditioned product or part of equal utility or a full refund given, at Dayton's or Dayton's designee's option, at no charge. For limited warranty claim procedures, see "Warranty Service" below. This warranty is void if there is evidence of misuse, mis-repair, mis-installation, abuse or alteration. This warranty does not cover normal wear and tear of Dayton products or portions of them, or products or portions of them which are consumable in normal use. This limited warranty gives purchasers specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

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