

OWNER'S MANUAL



MANUAL OPERATED LEVER HOIST ALH SERIES



Capacity
0.8 Ton through 9 Ton

WARRANTY INFORMATION AND TECHNICAL SERVICE

All products sold by Atlas Lifting & Rigging are warranted to be free from defects in material and workmanship from the date of shipment. If you need to request repair or service for one of our products, please contact Technical Service at 1-833-ALR-LIFT, available from 8 AM to 5 PM (Eastern Time) anywhere in the US, Monday through Friday.

Warranty Period and Coverage

- ALR products come with a limited warranty of 2 years.
- Accessories have a limited warranty of 1 year from the date of receipt.
- This warranty applies only to the initial purchaser of the product from the date of delivery.
- The warranty covers any defects in workmanship or materials, subject to the limitations outlined below.
- However, this warranty does not cover failures caused directly or indirectly by misuse, abuse, negligence, or accidents, as well as normal wear and tear, improper repairs, alterations, or inadequate maintenance.

Limitations on This Warranty

The product must be used in accordance with ALR recommendations. It must not have been misused, abused, neglected, lacking maintenance, negligent, or unauthorized repairs or alterations.

If a defect in material or workmanship occurs during the specified period, the product will be inspected by ALR. At its discretion, ALR may either replace or repair the hoist at no cost and deliver it to the designated location, either F.O.B. Atlas Lifting & Rigging's place of business or to the customer.

Customers must obtain a Return Goods Authorization form from ALR or an authorized ALR service center before shipping the product for warranty evaluation. An explanation of the product issues must be included with the product. The product should be returned with freight prepaid. After repair, the product will be covered for the remainder of the original warranty period. Other restrictions may apply, so please contact Technical Service for further details regarding warranty restrictions. If it is determined that the product has been misused, abused, neglected, used irresponsibly, or has been subject to unauthorized repairs or modifications, the customer will be responsible for the cost of returning the product.

Atlas Lifting & Rigging disclaims all warranties of any kind, whether expressed or implied, regarding the product's merchantability or suitability for a specific purpose. Atlas Lifting & Rigging will not be held liable for any death or injuries to individuals or property or for any incidental, contingent, special, or consequential damages, losses, or expenses arising from the use or inability to use the product. This applies regardless of whether such damages, losses, or expenses result from acts by Atlas Lifting & Rigging, whether negligent or willful, or any other reasons.

Technical Support

For assistance, please contact Technical Service at 1-833-ALR-LIFT. When calling, be prepared to **provide proof of your initial purchase**. If your product requires further inspection, the Technical Service representative will guide you through any additional steps needed.

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1.0 IMPORTANT INFORMATION AND WARNINGS

Manual lever hoist equipment should only be operated or maintained by those who have read and fully understood all sections of this operator's manual. Failure to read and follow the instructions in this manual can lead to serious injuries, fatalities, or property damage.

1.1 Term and Summary

This manual provides essential information for personnel involved with the installation, operation, and maintenance of this product. Although you may be familiar with this or similar equipment, it is strongly recommended that you read this manual before installing, operating, or maintaining the product.

Danger, Warning, Caution, and Notice

Throughout this manual, steps and procedures may present hazardous situations. The following signal words indicate the seriousness of each hazard.

DANGER Danger refers to a situation that is imminently hazardous and, if not avoided, could result in death, serious injury, or property damage.

WARNING Warning indicates a hazardous situation that, if not avoided, could lead to death, serious injury, or property damage.

CAUTION Caution signifies a potentially dangerous situation that, if not avoided, may lead to minor or moderate injuries and property damage.

NOTICE Notice is used to notify people of important but not directly hazard-related installation, operation, or maintenance information.

1.2 WARNING !!!

1. Before operating, read and understand the entire owner's manual. Ignoring instructions and warnings may result in serious injury.
2. Please familiarize yourself with and adhere to all procedures outlined in the American National Standards, specifically the "Performance Standard for Manually Lever Operated Lever Hoists" (ANSI/ASME HST-3) and "Manually Lever Operated Hoists" (ANSI/ASME B30.21). These standards can be accessed through the American Society of Mechanical Engineers at www.asme.org.
3. Do not use this lever hoist until you have received proper training and acquired adequate knowledge. This device is designed solely for use by individuals who are properly trained and experienced. If you are unfamiliar with the correct and safe operation of a lever hoist, do not attempt to use it.
4. Do not use this lever hoist for anything other than its intended purpose. If used for different reasons, ALR disclaims any real or implied warranty and holds itself harmless from any resulting injury.
5. Do not use the hoist if it is damaged. Do not use it until it has been repaired or replaced. Always inspect the lever hoist for damage before use.
6. Do not use a lever hoist to lift, support, or transport people, or to lift or support loads that are over people.
7. Do not exceed the rated capacity indicated on the ID plates.
8. Ensure that the load is centered between the top and bottom hooks before operating the hoist.
9. Do not use a "cheater pipe" or similar device to extend the lever handle.
10. Please refrain from striking the lever handle with a hammer or any other object.
11. Do not use the chain as a sling, as this may damage it.
12. Do not use more than one hoist to hoist a load, if this is unavoidable, each hoist must have the same capacity as the weight of the payload unless there are operational processes and procedures in place to ensure safe operation of the hoist.

13. Never allow chains to rest on sharp edges. All pulls or lifts must be made with a straight chain that is free of obstacles.
14. Do not use the hoist if the chain is twisted, kinked, or damaged.
15. Please do not attempt to extend or repair the load chain.
16. Do not use the hoist if either hook is stretched, deformed, or has a broken or missing safety latch. Always replace the safety latch and/or the hook before returning the hoist to service.
17. Do not heat treat or weld any part of the lever hoist, especially the load chain.
18. Do not leave a load on the hoist unattended unless there are operational processes and procedures in place to ensure safe operation of the hoist.
19. Do not apply sudden loads to the lever hoist, chain, or hook.
20. Do not operate the Lever Hoist unless it is rigged to pull in a straight line from hook to hook, and the frame is allowed to swivel freely on the upper hook.
21. Do not wrap the load chain around the load or hook it onto itself as a choker chain and avoid bringing the load in contact with the lever hoist.
22. Do not extend the load chain until the end ring or lower hook becomes jammed against the frame.
23. Do not point load the hook; ensure the hook is correctly positioned with the load at the optimum spot.
24. Do not use spray lubricants on or near brake discs.
25. If the lever handle is hard to operate, the load exceeds the hoist's capacity. Reduce the load or choose a hoist with a larger capacity.
26. Do not use the overload warning lever to measure load weight on hoists.

1.3 Introduction

Congratulations on acquiring your ALR Chain Lever Hoist. This heavy-duty hoist is designed to maintain its operational features under normal conditions. This manual provides instructions for installation, safety precautions, general operating procedures, maintenance guidelines, and a parts breakdown.

To ensure years of reliable service from your ALR Chain Lever Hoist, it is essential to follow a routine of careful operation, regular maintenance, and proper lubrication as outlined in this manual.

Before operating, installing, or maintaining your ALR Chain Lever Hoist, please read this manual in its entirety. Only competent and experienced personnel should handle these tasks. Failure to follow the instructions in this manual may result in physical injury or property damage.

In accordance with statutory requirements and for optimal use of your ALR Chain Lever Hoist, we recommend scheduling a periodic maintenance check every 12 months through your ALR distributor. Our experienced and qualified personnel will conduct a thorough service that includes preventative maintenance, genuine spare parts, and repair services.

Before putting your ALR Lever Hoist into regular service, please complete the following procedures after installation:

1. Verify that all joints and fasteners are tight and secure.
2. Operate the hoist with both no load and full load, ensuring smooth operation at all times.
3. Check the operation of the hoist brake under both light load and full load conditions.
4. For traveling units, run them throughout the entire length of the runway, ensuring there is adequate clearance at all times.
5. Ensure that your ALR Test Certificate is stored properly and that the unit(s) have been added to your lifting register for future reference.

1.4 Warning Tag and Label

The warning labels and tags shown in Figures 1 and 2 are provided with each hoist shipped from the factory. Please read and follow all warnings attached to this hoist. Note that the tag and label may not be shown at actual size.

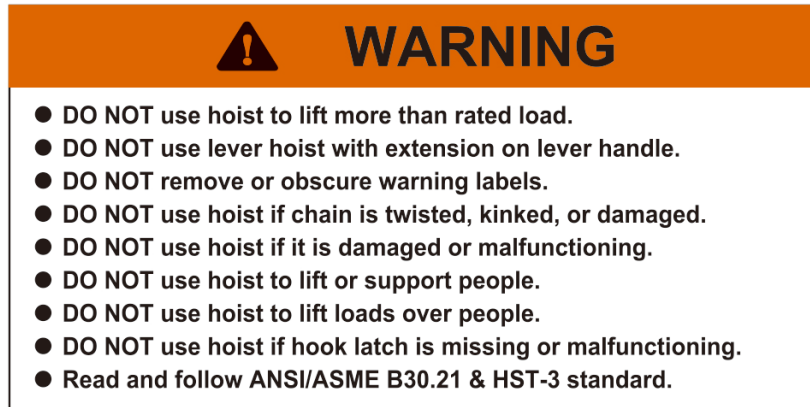


Figure 1 Warning Label on lever hoist's gear cover

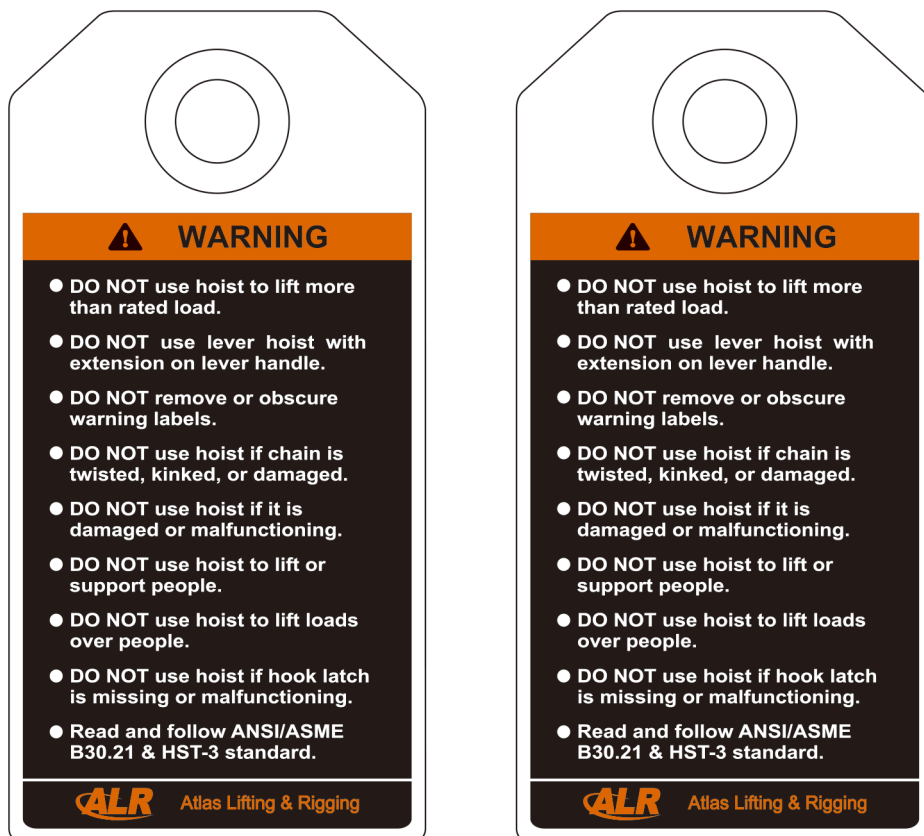


Figure 2 Warning tag to the end of the load chain.

2.0 UNPACKING

Open the carton and inspect it for any shipping damage. If you notice any damage, report it immediately to your distributor and shipping agent. Do not discard any shipping materials until the Lever Hoist has been fully assembled and is functioning correctly. Please read this entire instruction manual carefully for setup, maintenance, and safety instructions.

2.1 Content of Carton

- 1 Lever Operated Lever Hoist
- 1 Owner's Manual
- 1 Test certificate

3.0 PRE-OPERATION INSPECTION

Your ALR Chain Lever Hoist has been tested and meets the ANSI/ASME B30.21 and HST-3 standards.

Before putting your ALR Chain Lever Hoist into regular service, please follow these procedures after installation:

1. Ensure that all joints and fasteners are tight and secure.
2. Operate the hoist both without a load and with a full load, making sure the operation is smooth at all times.
3. Test the hoist brake under both light load and full load conditions.
4. For traveling units, run the hoist the entire length of the runway, ensuring there is adequate clearance at all times.
5. Be sure to store your ALR Test Certificate and add the unit(s) to your lifting register for future reference.

4.0 HOIST OPERATION

4.1 Free Load Chain Principle

- 1) Free chaining allows the load chain to move freely when the brake is released in no-load situations.
- 2) Pulling Hand Wheel #5 activates Twisting Spring 1 #6, releasing the mechanical brake. This allows the load chain to be pulled in either direction to the desired length.
- 3) The brake should be applied while lowering or lifting the load.

4.2 Lifting and Lowering Operation

When operating Lever Handle #10 with the Selector Lever in the "UP" or "DN" position, the lever hoist functions as follows:

- 1) Set the Selector Lever in the direction of the desired load movement and then ratchet the Lever Handle #10 back and forth. Refer to Table 1 for guidance.
- 2) In lifting mode, the mechanical brake is engaged and supports the load on the pawls when the Lever Handle #10 stops.
- 3) In lowering mode, Lever Handle #10 releases the mechanical brake and lowers the load. When Lever Handle #10 stops, the mechanical brake engages and supports the load.
- 4) The brake remains engaged during both the lifting and lowering operations.
- 5) If the Lever handle #10 movement does not lift the load, pull down the load side of the load chain while ratcheting until the load chain is taut.

Table 1 Hoist Lever Operation		
Selector Position	Lever Rotation	Load Movement
UP	Clockwise	Lift
DN	Counterclockwise	Lower

4.3 Introduction

WARNING

Manual operated lever hoist operators are required to read the operation section of this manual, as well as the warnings contained within it. They must also familiarize themselves with the instructions and warning labels on the hoist or lifting system, along with the operation sections of ANSI/ASME B30.21 and ASME B30.10. Operators must be knowledgeable about the manual lever hoist and its controls before they are authorized to operate the hoist or lifting system.

Operators of manual lever hoists must be trained in proper rigging procedures for attaching loads to the hoist hook.

Operators of manual lever hoists should be trained to recognize potential malfunctions that may require adjustment or repair. They should be instructed to stop operating the hoist if any malfunctions occur and to immediately inform their supervisor so that corrective action can be taken.

Hoist operators should not have a history of seizures, loss of physical control, physical defects, or emotional instability that may pose hazards to themselves or others.

Hoist operators must not operate a hoist or lifting system while under the influence of alcohol, drugs, or medication.

NOTICE

- . Read ANSI/ASME B30.21 and ANSI/ASME B30.10.
- . Read the Owner's Manual.
- . Read all warning labels and tag attached to Lever Hoist.

5.0 CARE IN USE

1. Always inspect the hoist carefully before use; your safety and the safety of others may be at risk. Look for any cracks or damage, especially on the hooks and load chain.
2. Keep the load chain clean and properly lubricated to prevent unnecessary damage or wear. While in use, avoid dragging the load chain through dirt or mud.
3. When using the hoist outdoors or in corrosive environments, make sure it is regularly and adequately lubricated.
4. Do not operate the hoist if you do not have a clear view of the load unless there are operational processes and procedures in place to ensure safe operation of the hoist.

6.0 MAINTENANCE & INSPECTION

The maintenance instructions in this manual are intended to guide qualified and experienced personnel in carrying out necessary procedures to extend the unit's service life. ALR does not accept responsibility for how these instructions are followed or for any resulting consequences.

Establishing a regular inspection routine is important to ensure continuous and satisfactory operation. This will allow for the replacement of worn or damaged parts before they become unsafe. The frequency of inspections should be determined based on the specific application and the type of service the chain hoist will experience. Chain hoist inspections are generally categorized into two classes: frequent and periodic.

6.1 Inspection

General

The inspection procedure follows ASME B30.21 guidelines. The definitions provided are derived from ASME B30.21 and are relevant to the inspection procedure.

Personnel Competence – Individuals carrying out the responsibilities outlined in this volume must meet the relevant qualifying criteria specified herein. Additionally, they should possess the necessary education, training, experience, skills, and physical fitness to competently perform these functions, as determined by the employer or the employer's representative.

Qualified Person – A person who possesses a recognized degree or certification, or who, through extensive knowledge, training, and experience, has effectively demonstrated the ability to solve problems related to the subject matter and work.

Normal Service – That distributed service operates with randomly distributed loads within the rated load limit or with uniform loads less than 65% of the rated load for more than 15% of the time.

Heavy Service – This service involves operations that remain within the rated load limit but exceed typical service conditions.

Severe Service – This service includes either normal or heavy operations under unusual operating conditions.

Inspection Classification

Initial Inspection – All new, altered, or modified hoists must be inspected prior to initial use according to the Frequent Inspection criteria.

Inspection Classification – The inspection procedure for hoists in regular service is divided into three general categories based on the frequency of inspections. These intervals are determined by the critical components of the hoist and their level of exposure to wear, deterioration, or malfunction. The three categories are Preoperational, Frequent, and periodic.

Preoperational Inspection – Before each shift's first use, a visual inspection should be conducted. Record keeping is not necessary.

Frequent Inspection – Visual examinations by the operator or designated person with intervals per the following criteria.

- 1) Normal service – monthly
- 2) Heavy service – weekly to monthly
- 3) Severe service – daily to weekly
- 4) Special or infrequent service – as recommended by a qualified person before and after each occurrence.

Periodic Inspection – Visual inspection by a designated person with intervals per the following criteria.

- 1) Normal service – yearly
- 2) Heavy service – semi-annually
- 3) Severe service – quarterly
- 4) Special or infrequent service – as recommended by a qualified person before and after each occurrence.

Preoperational Inspection – Each shift must conduct a visual inspection before first use; records are not required.

- 1) All functional operating mechanisms for proper operation and adjustment, maladjustment, and unusual sounds.
- 2) Hooks and safety latches in accordance with ASME B30.10

Frequent Inspection – Inspections should be conducted regularly, as outlined below. Frequent inspections involve observing the equipment during operation to spot any defects or damage that may arise between scheduled inspections. A designated person is responsible for evaluating the results of these frequent inspections and ensuring that the Lever-Operated Lever Hoist remains in safe working condition.

- 1) All functional operating mechanisms for proper operation and adjustment, maladjustment, and unusual sounds.
- 2) Lever Operated Lever Hoist brake system for proper operation.
- 3) Hooks and safety latches in accordance with ASME B30.10

4) Safety latches operation

Periodic Inspection—The Manual-Operated Lever Hoist should be inspected regularly. A designated individual must evaluate and resolve any findings to ensure the hoist remains in safe working condition.

When the hoist's load suspension parts are disassembled during inspections, a load test in accordance with ASME B30.21 must be performed after reassembly and before the hoist is returned to service.

- 1) Requirements of frequent inspection
- 2) Evidence of loose bolts & nuts.
- 3) Evidence of worn, corroded, cracked, or distorted parts, such as hook, load pin, gears, and load chain.
- 4) Evidence of damaged or excessive wear of load sheave and idle sheaves.
- 5) Evidence of worn or oil-contaminated friction discs, worn pawls & ratchet.
- 6) The nameplate on the Lever Hoist is illegible.
- 7) End connection of load chain.

Occasionally Use Hoist – Lever Hoists are used infrequently and shall be inspected as follows before placing in service.

- 1) Hoist idle more than 1 month but less than 1 year: Inspect per Frequent Inspection criteria.
- 2) Hoist idle more than 1 year: Inspect per Periodic Inspection criteria.

Inspection Methods and Criteria

- 1) The items are based on those listed in ASME B30.21 for the Frequent and Periodic Inspection.
- 2) Frequent Inspection – NOT intended to involve disassembling the Lever Operated Lever Hoist.
Disassembly for further inspection would be required only if Frequent Inspection results so indicate.
Disassembly for further inspection should only be performed by a qualified person trained in the disassembly and re-assembly of the Lever Operated Lever Hoist.
- 3) Periodic Inspection – Disassembly of the Lever Hoist is optional.
Disassembly for further inspection should only be performed by a qualified person trained in the disassembly and re-assembly of the Lever Operated Lever Hoist.

Parts should be from ALR or ALR's Service Agents. Using 'commercial' or other manufacturer's parts to repair the ALR Lever Hoist may cause load loss. www.ALRLift.com or info@alrlift.com

WARNING—TO AVOID INJURY, Use only ALR-supplied replacement parts. Although parts may look alike, ALR parts are made of specific materials or processed to achieve specific properties.

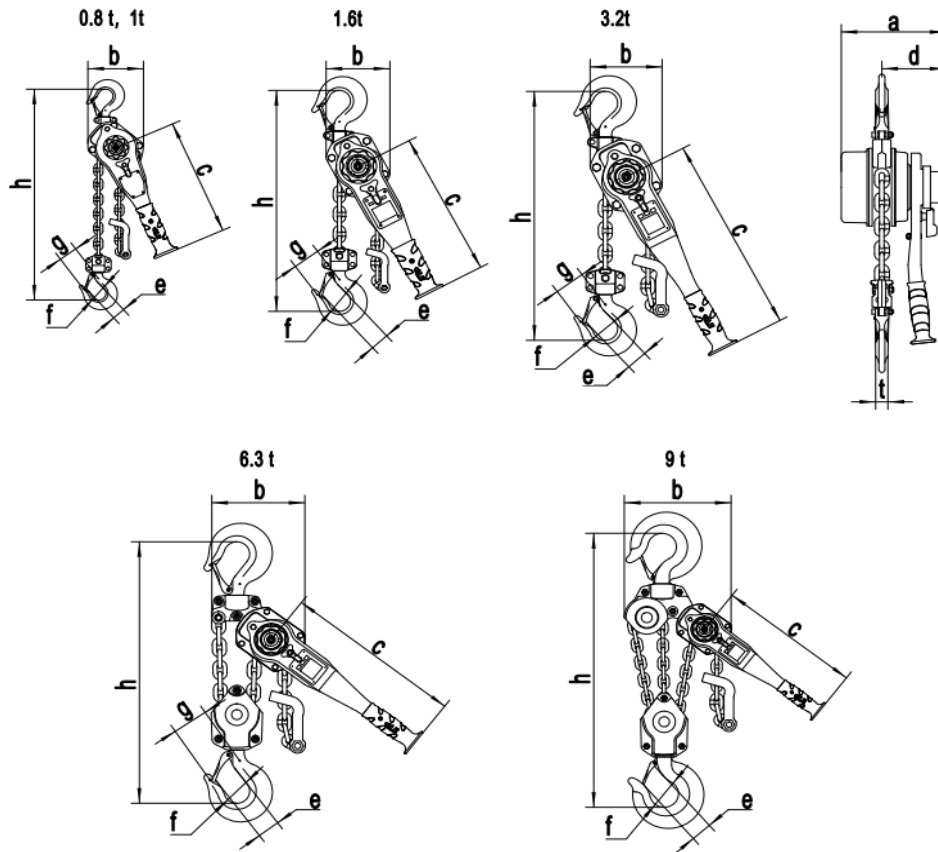
7.0 STORAGE OF HOIST

Note: Always store the unit in a clean and dry area. Ensure that all repair and maintenance work is carried out by qualified personnel, using only the specified genuine parts from ALR.

If you have any questions or comments, please contact your local supplier or ALR. ALR can also be reached at our website, www.ALRLift.com, or by telephone at 1-833-ALR-LIFT.

The ALR ALH-Series Lever Hoists comply with ANSI/ASME B30.21 and HST-3 standards.

8.0 SPECIFICATIONS



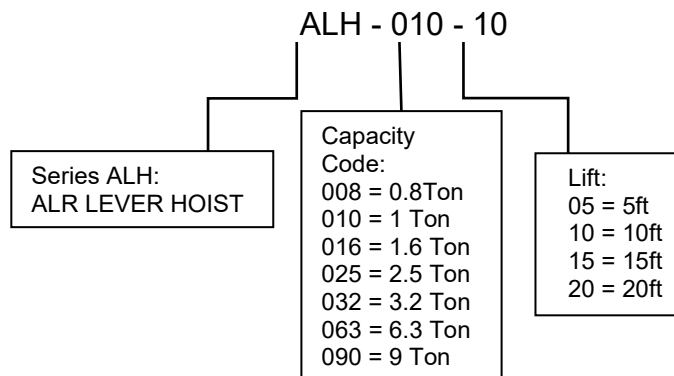
ALR LEVER HOIST SPECIFICATIONS & DIMENSIONS								
Product Number		ALH-008	ALH-010	ALH-016	ALH-025	ALH-032	ALH-063	ALH-090
Capacity (ton)		3/4	1	1.6	2.5	3.2	6.3	9
Number of Falls		1	1	1	1	1	2	3
Capacity	(lbs)	1,760	2,200	3,500	5,500	7,050	13,900	19,800
Capacity Test Load	(lbs)	2,640	3,300	5,280	8,250	10,560	20,790	29,700
Capacity Test Load	(ton)	1.20	1.50	2.40	3.75	4.80	9.45	13.50
Load Chain	(mm)	5.6x17	5.6x17	7.1x21	8.8x24.6	10x30	10x30	10x30
Standard Lift	(ft)	5	5	5	5	5	5	5
Height	h (in)	11.0	11.8	13.2	14.8	15.6	21.3	26.8
Length	a (in)	5.7	5.7	6.5	7.0	7.7	7.7	7.7
Width	b (in)	4.7	4.7	5.0	5.9	6.3	8.6	11.7
Net Weight	(lbs)	13.3	13.7	18.7	26.4	35.4	60.3	92.4
Gross Weight	(lbs)	14.5	14.9	20.2	28.2	38.3	63.4	104.5
Pull to Rated Load	(lbs)	67.7	67.7	76.2	86.8	87.2	89.5	88.1
Dimensions	a (in)	5.7	5.7	6.5	7.0	7.7	7.7	7.7
	b (in)	4.7	4.7	5.0	5.9	6.3	8.6	11.7
	c (in)	9.6	9.6	10.4	10.4	16.3	16.3	16.3
	d (in)	3.8	3.8	3.9	4.1	4.5	4.5	4.5
	e (in)	1.0	1.2	1.4	1.6	1.7	2.1	2.5
	f (in)	1.4	1.7	1.7	1.9	2.0	2.4	3.3
	g (in)	1.6	1.9	2.0	2.3	2.4	3.3	-
	h (in)	11.0	11.8	13.2	14.8	15.6	21.3	26.8
	t (in)	0.6	0.6	0.7	0.8	1.0	1.3	1.6

Note:

Suffix -OP indicates models with overload protection.

Suffix SH indicates models with point ("shipyard") hooks. It is available for 1.6t and 3.2t.

8.1 Stock Number



9.0 INSTALLATION

The support for the lever hoist can be provided by a hook, clevis pin, trolley, or beam clamp. Regardless of the suspension method chosen, it is essential that the supporting components have a rating equal to or greater than the lever hoist's capacity. Additionally, any supporting structures, such as I-beams, should be installed by licensed professionals.

Pre-Operation Inspection

Inspecting the Load Chain

1. An Adjustable Chain Stop #49 must be securely attached to the last link on the slack end of the chain. Refer to Figure 4.

⚠ WARNING Do not operate the hoist with a twisted, kinked or damaged chain. Do not splice the chain.

2. Ensure the chain remains untwisted from the hoist to the hook. If any twist is found in units with multiple falls, the hook must be passed back through the chain loop to eliminate all twists.
3. Replace the chain if the links are stretched too long or seriously worn on the surface, especially at the points where links contact each other. For measuring chain elongation, see "Allowable Limits" on page 16.
4. Do not use a chain that is seriously rusted or cracked.
5. Periodically apply a light coat of 30-weight oil to the chain. This will make operation easier and prolong the chain's life. For optimum results, clean the chain with an acid-free solution before oiling.



Figure 3
Features and terminology

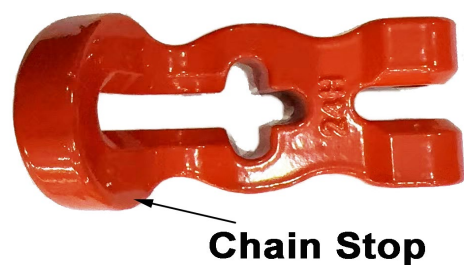


Figure 4

⚠ WARNING The load chain supplied with your ALR lever hoist is designed, manufactured, and tested for proper fit and durability. If chain should ever need replacing, for your own safety use factory replacement chain only. Use of other than factory replacement chain may cause serious injury and/or damage to the lever hoist.

Never extend load chain by welding a second piece to the original.

Inspecting Hooks

It is important to inspect the top and bottom hooks for proper opening and to check for any signs of deformation or damage. Replace any hook immediately if any of the following issues are identified:

- The safety latch no longer contacts the hook opening.
- The vertical angle at the neck of the hook reaches 10° (see Figure 5).
- Chemical corrosion or cracks on the hook.
- Excessive wear on the inside surface.
- The throat opening has enlarged. (See page 16 for the maximum allowable limits for the throat opening.)

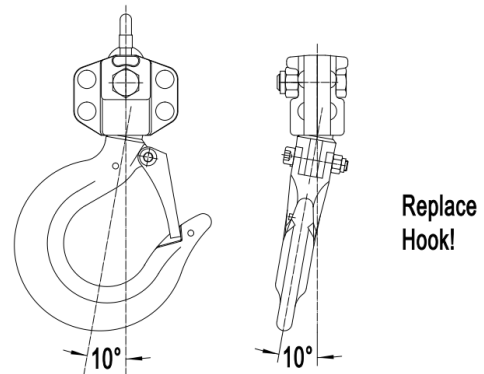


Figure 5

⚠ WARNING Do not repair a hook by heat treating, bending, or welding. These methods can weaken the hook and may lead to failure.

Other Inspections

1. Check for appropriate clicking sounds: With the selector lever in UP position, there will be a clicking sound when the lever handle is rotated in *either direction*. When the selector lever is in DOWN position, there will be a clicking sound only when the lever handle is ratcheted back into position but not as the load is lowered. If these sounds are not present, or if *irregular* clicking noises develop, do not use the hoist – have it inspected and repaired by an authorized service center.
2. If the lever hoist has not been used for an extended period of time, check for proper operation before putting it into service.
3. The brake mechanism must be kept clean and free from dirt, water, and oil. Oil should never penetrate the mechanism. The brake should not slip while using the hoist.

10.0 OPERATION

The ALH Lever Hoist may be used either in a vertical position as a hoist or in an angled or horizontal position as a puller. Below is the general procedure for operating the hoist:

1. Set the top hook securely.
2. Place the selector switch on the handle in the center neutral position, and pull out on the Hand Wheel #5 (Figure 6). This will allow "free-wheel" mode. Pull the load chain by hand to position the bottom hook.
3. Correctly center the load on the bottom hook (Figure 7). Incorrect loading is dangerous to the operator, the lever hoist, and the load.
 - Never load the hook in front of the safety latch (A, Figure 8).
 - Never load the hook tip (B, Figure 8).
 - Never load the hook of the centerline (C, Figure 8).
 - Never load the hook sideways (D, Figure 8).
4. Rotate the Hand Wheel #5 clockwise while simultaneously pulling down on the load chain, as shown in Figure 6. The Hand Wheel #5 will snap back into place, re-engaging the gear.
5. Move the selector switch to the UP position. Ratchet the lever to raise or pull the load. Do not overload the lever hoist.

⚠ WARNING Do not touch the Hand Wheel #5 while lifting or lowering. Do not operate freewheel mode while there is a load on the hoist.

6. To release or lower the load, turn the selector switch on the handle to the DOWN position and ratchet the handle.

NOTE: If the chain is pulled too suddenly in free-wheel mode, the brake may be set, preventing further pulling. Reset the hoist by repeating step 4 above, and then set it back into freewheel mode to continue the operation.

Avoid lifting one load with two hoists. If this is unavoidable, apply equal weight to both hoists and use hoists with the proper lift capacity. The capacity of *each* hoist must be equal to the total load to be lifted.

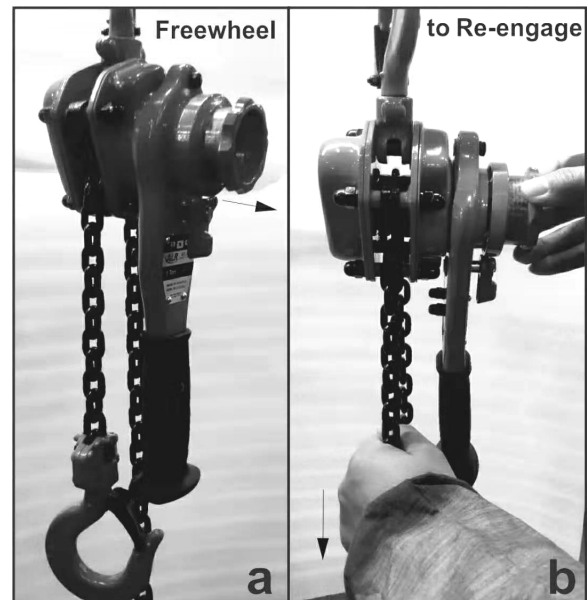


Figure 6

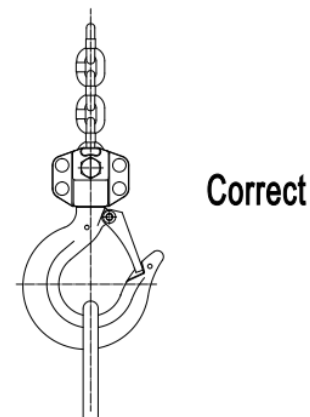


Figure 7

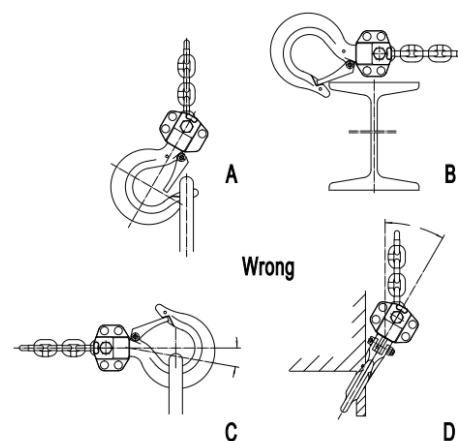


Figure 8

11.0 PRECAUTIONS

- During lifting operations, do not stand under the load.
- Do not use any extension on the lever handle. Do not use your foot to apply pressure to the lever handle.
- Prevent the chain from dragging over sharp edges or corners. This will cause links to weaken, bend, or break.
- When connecting to a wire rope sling, the lever hoist must be applied along a straight line parallel to the surface on which it is resting. See Figure 9.
- When lifting loads, hook the load with slings. **Do not use the lever hoist chain as a sling** (Figure 10).
- Both ends of a sling or rope must be completely on the inside of the safety latch before pulling or lifting the load. Do not put one end on the inside of the latch and leave the other end on the hook end outside the latch.

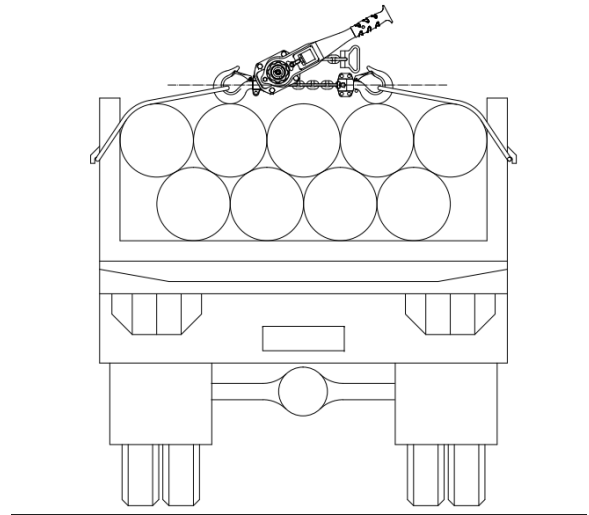


Figure 9

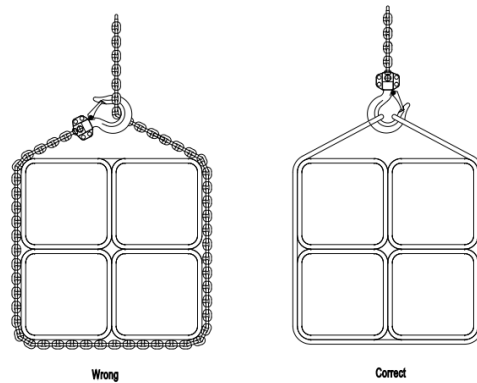


Figure 10

12.0 SHIPYARD HOOK

Shipyards or point hooks, 1.6 ton and 3.2 ton, are available for our ALR lever hoist in both upper and lower hook assemblies.

Shipyards hooks are used in the metal and shipbuilding industries and are designed to position steel plates and fixtures before welding.

13.0 OVERLOAD PROTECTION

ALH Lever Hoists have an optional overload protection feature in the form of a slip clutch (these are identified by "OP" in the model number). The slip clutch is effective at more than 180% of the rated hoist capacity.

The overload limiter will allow the lever handle to rotate without lifting the load if the load is too heavy for the hoist. The overload limiter clutch has been pre-adjusted at the factory and should not require any adjustment by the user. If future adjustments or repairs to the overload limiter should not be done by the operator, qualified personnel must do this.

14.0 TIMING MARKS FOR SPUR GEAR #27 REPLACEMENT

If Spur Gears #27 on the ALH lever hoist need replacement or removal for any reason, we must ensure they are re-installed correctly. Figure 11 shows the proper orientation of the timing marks when meshing the gears.

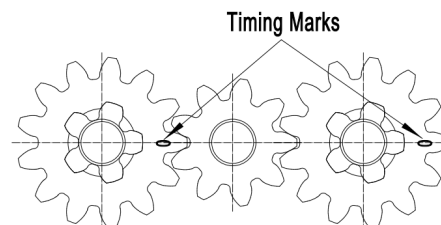


Figure 11

15.0 ALLOWABLE LIMITS

15.1 Load Chain

Carefully inspect the entire load chain. As illustrated in Figure 12, measure nine consecutive links with calipers to find the length. Compare the results with the table in Figure 12. Check every three feet, especially where excessive wear is indicated. Any load chain that shows noticeable deformation or heat influence must be replaced with a new load chain.

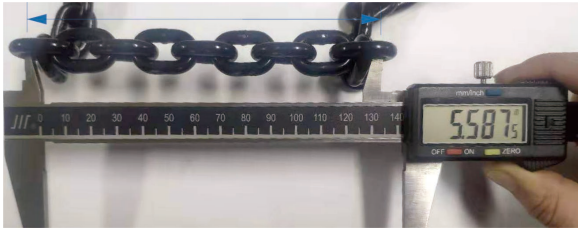


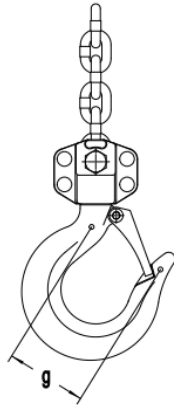
Figure 12

⚠ WARNING Never extend the load chain by welding a second piece to the original.

15.2 Hooks (Top and Bottom)

Replace the hook when the distance between deformation indicators – “g” in Figure 13 – is wider than the limits given in the table.

Never heat treat the hook or attach anything to the hook by welding.



Capacity	Dimension Normal (g)	Dimension Limit (g)
0.8 ton	1.63"	1.79"
1 ton	1.95"	2.15"
1.6 ton	2.05"	2.26"
2.5 ton	2.31"	2.54"
3.2 ton	2.44"	2.68"
6.3 ton	3.32"	3.65"
9 ton	3.54"	3.89"

Figure 13

Capacity	9 Link Normal	9 Link MAX Limit (Replace if >)
0.8 ton	5.56"	5.73"
1 ton	5.56"	5.73"
1.6 ton	7.05"	7.26"
2.5 ton	8.72"	8.98"
3.2 ton	9.92"	10.22"
6.3 ton	9.92"	10.22"
9 ton	9.92"	10.22"

15.3 Sintered Ratchet Disc

Replace the Sintered Ratchet Disc when the distance indicators – “tv” in Figure 14 – are less than the limits given in the table.

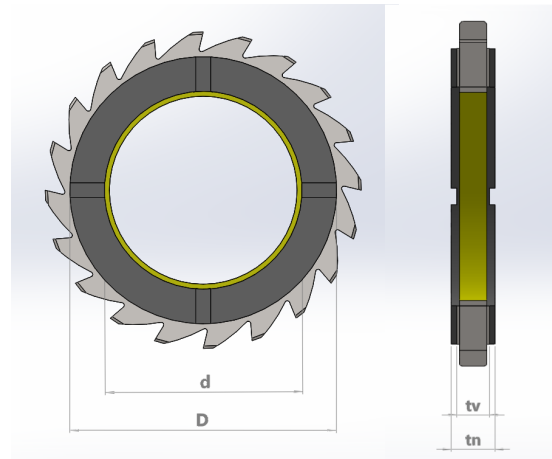


Figure 14

Capacity	D	d	Normal (tn)	Limit (tv)
	(in)	(in)	(in)	(in)
0.8 ton	2.13"	1.57"	0.32"	0.28"
1 ton	2.13"	1.57"	0.32"	0.28"
1.6 ton	2.13"	1.57"	0.32"	0.28"
2.5 ton	2.52"	1.79"	0.32"	0.28"
3.2 ton	2.52"	1.79"	0.32"	0.28"
6.3 ton	2.52"	1.79"	0.32"	0.28"
9 ton	2.52"	1.79"	0.32"	0.28"

16.0 TROUBLESHOOTING

The numbers in parentheses refer to the parts breakdown on the following page.

Trouble	Probable Cause	Remedy*
The hoist will not lift (no clicking sound).	Pawl #41 not engaging Sintered Ratchet Disc #15; possible dirt or foreign material.	Clean and lubricate Pawl #41 & Sintered Ratchet Disc #15.
	Pawl Spring #42 is damaged.	Replace Pawl Spring #42.
	Selector Switch Spring #35 is loose or damaged.	Tighten or replace Selector Switch Spring #35.
Load slips or drifts while being lowered.	Dirt/corrosion/foreign material in hoist components.	Inspect and correct problems. Keep the hoist clean and lubricated.
	The brake is slipping. Disc hub #16 is worn from long-term use or damaged from overloading or misuse.	Replace Disc Hub #16. Do not overload the hoist.
A hoist will not lower the load.	The brake has caught. (The hoist was left under load condition for an extended period or was shock-loaded while operating.)	Place the Selector Switch in the DOWN position and pull hard on the lever handle to reset the brake. Then, resume operation.
	Brake components are corroded or damaged.	Replace components as needed; keep the hoist clean and lubricated.
The hand Wheel will not move in and out.	Disc hub #16 is damaged.	Replace the disc hub.
The hoist will not freewheel.	The brake has caught because the load chain was pulled too hard.	Re-set by rotating the hand wheel clockwise while pulling down on the load chain. Return the hoist to freewheel mode and continue. Pull the load chain less forcibly.

* Any disassembly or repair of the lever hoist should be performed by properly trained personnel. Call ALR, or go to ALRlift.com to find an authorized Service Center nearest you.

17.0 Replacement Parts

When ordering Parts, please provide the Hoist model number and serial number located on the hoist nameplate (see Figure 15 below).



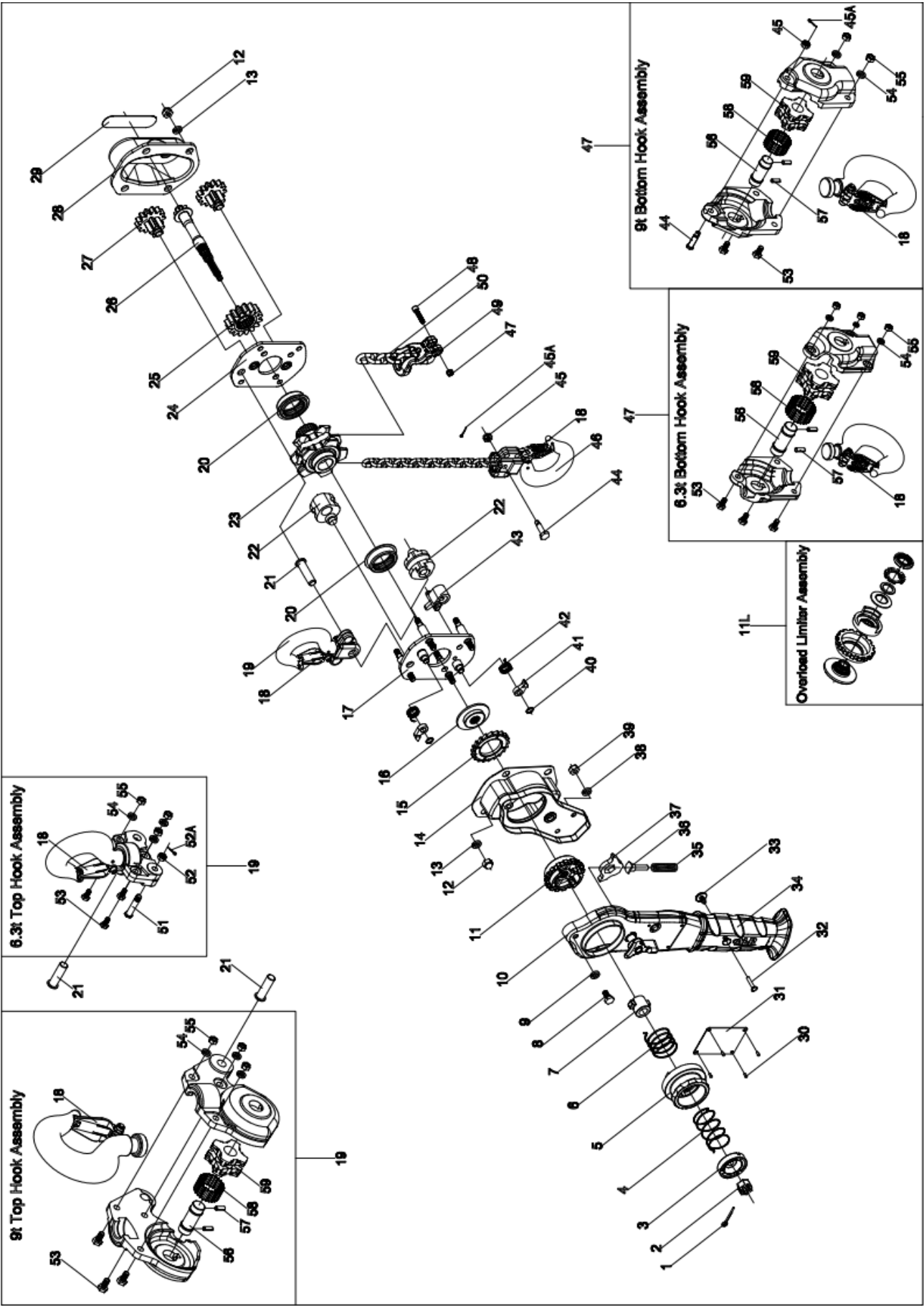
Figure 15 ALH Name Plate

Lever Hoist Parts

Replacement parts are listed on the following pages.

To order parts or reach our service department, call 1-833-ALR-LIFT from 8:00 to 5 p.m. Monday through Friday. Having the Model and Serial Numbers of your lever hoist available when you call will allow us to serve you quickly and accurately.

ALH Lever Hoist Parts Break



ALH Series Lever Operated Chain Hoist BOM

Index No.	Description	Qty	Part No.						
			0.8 ton	1 ton	1.6 ton	2.5 ton	3.2 ton	6.3 ton	9 ton
1	Split Pin	1	P-ALH016-01						
2	Castle Nut	1	P-ALH016-02				P-ALH032-02		
3	Twisting Spring Housing	1	P-ALH016-03				P-ALH032-03		
4	Twisting Spring II	1	P-ALH016-04				P-ALH032-04		
5	Hand Wheel	1	P-ALH016-05				P-ALH032-05		
6	Twisting Spring I	1	P-ALH016-06				P-ALH032-06		
7	Cam	1	P-ALH016-07				P-ALH032-07		
8	Hex Cap Screw	1	P-ALH016-08				P-ALH032-08		
9	Lock Washer	1	P-ALH016-09				P-ALH032-09		
10	Lever Handle Assembly	1	P-ALH010-10		P-ALH016-10			P-ALH032-10	
11	Change Over Gear	1	P-ALH016-11				P-ALH032-11		
11L	Overload Limiter Assembly	1	P-ALH010-11L		P-ALH-016-11L	P-ALH-025-11L	P-ALH032-11L		
12	Acorn Nut	8	P-ALH016-12						
13	Lock Washer	8	P-ALH016-13						
14	Brake Cover Assembly	1	P-ALH010-14		P-ALH016-14	P-ALH025-14	P-ALH032-14		
15	Sintered Ratchet Disc	1	P-ALH016-15				P-ALH032-15		
16	Disc Hub	1	P-ALH016-16				P-ALH032-16		
17	Lever Side Plate Assembly	1	P-ALH010-17		P-ALH016-17	P-ALH025-17	P-ALH032-17		
18	Cast Safety Latch Assembly	2	P-ALH008-18	P-ALH010-18	P-ALH016-18	P-ALH025-18	P-ALH032-18	P-ALH063-18	P-ALH090-18
19	Top Hook Assembly	1	P-ALH008-19	P-ALH010-19	P-ALH016-19	P-ALH025-19	P-ALH032-19	P-ALH063-19	P-ALH090-19
20	Caged Roller Bearings	2	P-ALH010-20		P-ALH016-20	P-ALH025-20	P-ALH032-20		
21	Top Hook Shaft	1	P-ALH010-21		P-ALH016-21	P-ALH025-21	P-ALH032-21		
22	Guide Roller	2	P-ALH010-22		P-ALH016-22	P-ALH025-22	P-ALH032-22		
23	Load Sheave	1	P-ALH010-23		P-ALH016-23	P-ALH025-23	P-ALH032-23		
24	Gear Side Plate Assembly	1	P-ALH010-24		P-ALH016-24	P-ALH025-24	P-ALH032-24		
25	Load Gear	1	P-ALH010-25		P-ALH016-25	P-ALH025-25	P-ALH032-25		
26	Drive Shaft	1	P-ALH010-26		P-ALH016-26	P-ALH025-26	P-ALH032-26		
27	Spur Gear Assembly	2	P-ALH010-27		P-ALH016-27	P-ALH025-27	P-ALH032-27		
28	Gear Cover Assembly	1	P-ALH010-28		P-ALH016-28	P-ALH025-28	P-ALH032-28		
29	Stickers	1	P-ALH010-29		P-ALH016-29	P-ALH025-29	P-ALH032-29		
30	Rivet	4	P-ALH016-30						
31	Name Plate	1	P-ALH008-31	P-ALH010-31	P-ALH016-31	P-ALH025-31	P-ALH032-31	P-ALH063-31	P-ALH090-31
32	Bolt For Handle	1	P-ALH010-32		P-ALH016-32		P-ALH032-32		
33	Nut For Handle	1	P-ALH016-33						
34	Rubber Grip	1	P-ALH010-34		P-ALH016-34	P-ALH025-34	P-ALH032-34		
35	Selector Switch Spring	1	P-ALH025-35				P-ALH032-35		
36	Spring Shaft	1	P-ALH016-36				P-ALH032-36		
37	Change Over Pawl	1	P-ALH016-37				P-ALH032-37		
38	Lock Washer	2	P-ALH016-38				P-ALH032-38		
39	Hex Nut	2	P-ALH016-39				P-ALH032-39		
40	Snap Ring	2	P-ALH016-40			P-ALH025-40	P-ALH032-40		
41	Pawl	2	P-ALH016-41			P-ALH025-41	P-ALH032-41		
42	Pawl Spring	2	P-ALH016-42			P-ALH025-42	P-ALH032-42		
43	Stripper	1	P-ALH010-43		P-ALH016-43	P-ALH025-43	P-ALH032-43		
44	Load Pin	1	P-ALH010-44		P-ALH016-44	P-ALH025-44	P-ALH032-44	N/A	P-ALH090-44
45A	Split Pin		P-ALH016-45A			P-ALH025-45A	P-ALH032-45A	N/A	P-ALH090-45A
45	Castle Nut	1	P-ALH016-45			P-ALH025-45	P-ALH032-45	N/A	P-ALH090-45
46	Bottom Hook Assembly	1	P-ALH008-46	P-ALH010-46	P-ALH016-46	P-ALH025-46	P-ALH032-46	P-ALH063-46	P-ALH090-46
47	Lock Nut	1	P-ALH010-47		P-ALH016-47		P-ALH032-47		
48	Screw	1	P-ALH016-48				P-ALH032-48		
49	Chain stop	1	P-ALH010-49		P-ALH016-49		P-ALH032-49		
50	Load Chain	As Req'd	5.6x17		7.1x21	8.8x24.6	10x30		
51	Load Pin	1	N/A	N/A	N/A	N/A	N/A	P-ALH063-51	N/A
52A	Split Pin	1	N/A	N/A	N/A	N/A	N/A	P-ALH063-52A	N/A
52	Castle Nut	1	N/A	N/A	N/A	N/A	N/A	P-ALH063-52	N/A
53	Socket Cap Screw	6	N/A	N/A	N/A	N/A	N/A	P-ALH063-53	N/A
		5	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH090-53
54	Lock Washer	6	N/A	N/A	N/A	N/A	N/A	P-ALH063-54	N/A
		5	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH063-54
55	Lock Nut	6	N/A	N/A	N/A	N/A	N/A	P-ALH063-55	N/A
		5	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH063-55
56	Idle Shaft	1	N/A	N/A	N/A	N/A	N/A	P-ALH063-56	N/A
		2	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH063-56
57	Cylinder Pin	2	N/A	N/A	N/A	N/A	N/A	P-ALH063-57	N/A
		4	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH063-57
58	Needle Bearing	29	N/A	N/A	N/A	N/A	N/A	P-ALH063-58	N/A
		58	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH063-58
59	Idle Sheave	1	N/A	N/A	N/A	N/A	N/A	P-ALH063-59	N/A
		2	N/A	N/A	N/A	N/A	N/A	N/A	P-ALH063-59

Record your purchase and installation information here.

Purchased from: _____

Date: _____

Serial Number: _____

Model Number: _____

Location Installed: _____

Date Installed: _____

Date in Service: _____

Strength - Safety - Reliability

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