

73151-1
APR.2019

ACCOLIFT®

LEVER HOIST
3/4 - 9 TONS



www.accomhs.com

NOTICE

It is the responsibility of the owner/user to install, inspect, test, maintain, and operate these Lever hoists in accordance with ASME B30.21, Safety Standard for Lever Hoists.

These general instructions deal with the normal installation, operation and maintenance situations encountered with the Lever hoists described herein. The instructions should not be interpreted to anticipate every possible contingency or to anticipate the final system or configuration that uses these Lever hoists. Read and observe the instructions stated in the manual furnished with equipment to be used with these Lever hoists.

These instructions include information for a variety of Lever hoists. Therefore, all instructions and information may not apply to one specific lever hoist. Disregard those portions of the instructions that do not apply.

If the lever hoist owner/user requires additional information, or if any information in these instructions is not clear, contact Acco Material Handling Solutions York, Pennsylvania or the distributor of the lever hoist. Do not install, inspect, test, maintain, or operate this lever hoist unless this information is fully understood.

WARNING

This lever hoist should not be installed, operated, or maintained by any person who has not read all the contents of these instructions, and ASME B30.21, Safety Standard for Lever Hoists. Failure to read and comply with these instructions or any of the warnings or limitations noted herein can result in serious bodily injury or death, and/or property damage.

Only trained and qualified personnel shall operate and maintain this equipment.

Equipment described herein is not designed for, and should not be used for lifting, supporting, or transporting humans.

User should not use this lever hoist in conjunction with other equipment unless necessary and/or required safety devices applicable to the system are installed by the user.

Modifications to upgrade, rerate or otherwise alter these lever hoists shall be authorized only by the original equipment manufacturer or qualified professional engineer.

PRIOR TO INSTALLATION

Check for damage during shipment. Place claim with carrier if any damage is discovered. DO NOT install or use a damaged lever hoist.

Check and verify that structure or other equipment that will support the lever hoist has a rated load capacity equal to or greater than the rated load capacity of the lever hoist to be used.

⚠ WARNING

SAFETY PRECAUTIONS

1. READ these instructions before installing, operating, or maintaining this equipment.
2. DO NOT lift more than rated load.
3. DO NOT operate hoist when it is restricted from forming a straight line with the direction of loading.
(Refer to Figure 1)
4. DO NOT operate with twisted, kinked, or damaged chain.
5. DO NOT operate if chain is not seated in sheaves or sprockets.
6. DO NOT wrap chain around load or use chain as a sling.
7. DO NOT operate unless load is properly applied to the saddle or bowl of the hook. (Refer to Figure 1)
8. DO NOT operate if load is applied to the tip of the hook. (Refer to Figure 1)
9. DO NOT operate with damaged or missing hook latches.
10. DO NOT operate hoist when it is in free-wheeling position. (Refer to Figure 2)
11. DO NOT lift people.
12. DO NOT lift or move loads over people.
13. DO NOT operate hoist with lever extensions.
14. DO NOT operate with side-pulling or side-loading of load to hoist.
15. DO NOT operate a damaged or malfunctioning hoist.
16. DO NOT lift or suspend loads with multiple hoists. (Refer to Figure 3)
17. DO NOT remove, deface, or obscure warning label or labels on hoist.
18. DO NOT leave load suspended when hoist is unattended unless specific precautions have been instituted and are in place.
19. WARN personnel of approaching loads.

FIGURE 1

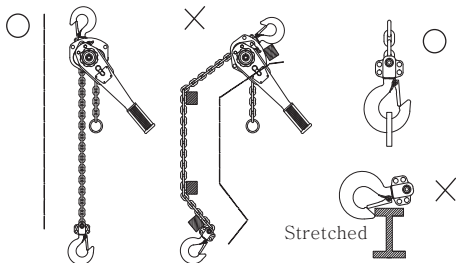


FIGURE 2

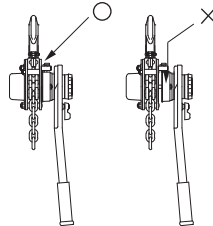
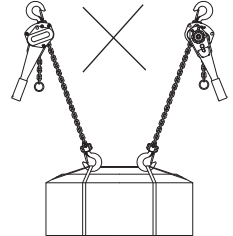


FIGURE 3



1. Maintenance and Inspection

⚠ WARNING

- Only use OEM parts.
 - DO NOT alter load chain.
 - Only specialists authorized by the employer may carry out maintenance, inspection and/or repairs.
 - Conduct maintenance, inspection and/or repairs with the lever hoist unloaded (e.g. - without load).
 - When any disorder is found in the maintenance or inspection, immediately make repair before re-operating the lever hoist.
- ※ The overload protection mechanism should be adjusted only by the manufacturer. (When equipped with the slip clutch option)

⚠ WARNING

- When conducting maintenance, inspections and/or repairs, prepare and attach a warning indicator such as "Under Maintenance", "Under Inspection", "Under Repair", etc.

2. Warning Label



Notice:

Inspections requiring dismantling and assembling of the unit should be carried out only by dealers of our products.

3. Technical information

OPERATING CONDITIONS AND ENVIRONMENT

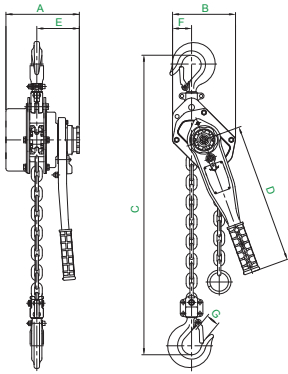
- Temperature range : 14°F to 122 °F
- ※Humidity : 100% or less - do not submerge in water

HOIST SPECIFICATION AND DIMENSIONS

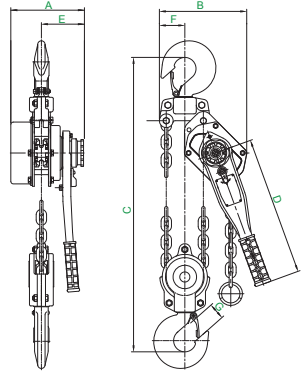
Model		Lever Hoist					
Capacity(SWL)	Ton	3/4T	1-1/2T	2T	3T	6T	9T
Standard lift	ft	5ft & 10ft	5ft & 10ft	5ft & 10ft	5ft & 10ft	5ft & 10ft	5ft & 10ft
Chainfall	no.	1	1	1	1	2	3
Load chain dia.	mm(inch)	6.3(0.25")	7.1(0.28")	7.1(0.28")	9.0(0.35")	9.0(0.35")	9.0(0.35")
Net weight	lbs	14.3	20.9	24.2	35.2	58.8	90.3
Pulling efforts	lbs	66	66	88	81.5	83.7	86
Dimension	mm(inch) A	155.5(6.12")	168.5(6.63")	168.5(6.63")	201(7.91")	201(7.91")	201(7.91")
	B	121(4.76")	141.5(5.57")	141.5(5.57")	172.5(6.79")	241(9.48")	349(13.74")
	C	329.5(12.97")	379(14.92")	395(15.55")	465(18.30")	615(24.21")	775(30.51")
	D	273(10.74")	386(15.19")	386(15.19")	386(15.19")	386(15.19")	386(15.19")
	E	102(4.01")	107(4.21")	107(4.21")	117(4.60")	117(4.60")	117(4.60")
	F	38(1.49")	45(1.77")	45(1.77")	52(2.04")	70(2.75")	131(5.15")
	G	25(0.98")	28(1.10")	30(1.18")	38(1.49")	46(1.81")	57(2.24")

PRODUCT DRAWING

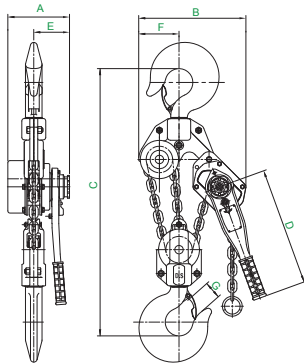
**3/4TON
1-1/2TON
3TON**



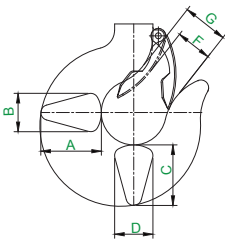
6TON



9TON



HOOK DIMENSIONS



Cap. (Tons)	STANDARD HOOK DIMENSION													
	A		B		C		D		E		F		G	
	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH
3/4	23	0.9	16	0.62	19	0.74	16	0.62	36	1.41	25	0.98	28	1.1
1-1/2	33	1.3	22	0.86	29	1.14	22	0.86	43	1.69	28	1.1	32	1.26
2	36	1.41	24	0.94	32	1.25	24	0.94	47	1.85	30	1.18	35	1.38
3	39	1.53	28	1.1	35	1.37	28	1.1	53	2.08	38	1.49	39.5	1.55
6	55	2.16	38	1.49	46	1.81	38	1.49	61	2.4	46	1.81	50	1.97
9	86	3.38	54	2.12	86	3.38	54	2.12	90	3.54	57	2.24	65	2.56

4. Hoist Operation

⚠ WARNING

- The unit should only be operated by persons who have fully understood the manual and instruction labels on the unit.

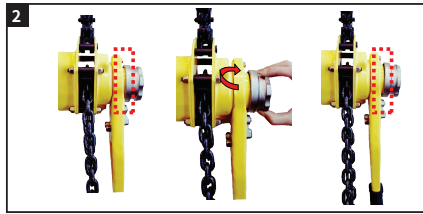
FREE CHAIN PRINCIPLE

Adjusting the length of the load chain

1. THE LENGTH OF THE LOAD CHAIN CAN BE ADJUSTED WITH THE FREE CHAINING MECHANISM AS THE FOLLOWING PICTURES SHOW.



Free chaining allows load chain to be moved freely in either direction because the brake is released under no load situations.



Pulling the grip ring actuates the internal spring to release the mechanical brake allowing load chain to be pulled in either direction to the desired length. Neutral Position (free chaining) completed



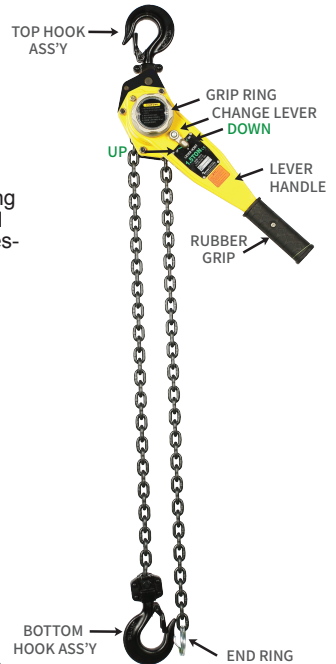
Load chain length can be adjusted by pulling it as shown in the picture.



Set the change lever to the UP position.



Turn the grip ring counter clockwise. Free chaining mode is terminated



- After the manipulations (4) and (5) have been carried out, the bottom hook can be lifted up by operating the lever handle.
- If the load chain is loose and slack, pull the load chain by using the End Ring. The load chain will tighten.

DANGER

- Do not operate the grip ring while a load is applied to the hoist.
- Do not touch the grip ring during lifting or lowering of the load.
- Always check that the change lever is placed in the proper position.

CAUTION

- Do not pull the load chain suddenly in free chain mode. Excessive pulling may set the brake and not allow the load chain to move. If this occurs hoist must be reset.
- To reset the hoist to operate, rotate the grip ring clockwise while lightly pulling on the load side chain. Once slack is removed the grip ring snaps in. This resets the brake and allows the hoist to be operated with lever handle.

GRIP RING OPERATION

To tighten the load chain which is a little loose, set the change lever to the UP position to turn the grip ring clockwise. By this manipulation, the load chain will be quickly tensioned.

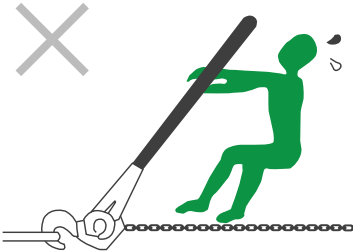
CAUTIONS DURING OPERATION

5. Dangerous Operation

⚠ WARNING

- Never apply a load beyond the rated load of the unit (over-loading).
 - Do not perform over-lifting or overpowering.
 - Do not shock load the lever hoist.
 - Do not get onto a load to be lifted and do not allow anyone to be under a lifted load.
 - Do not use a lever hoist which is not in good working order.
- ※ Do not use the lever hoist in incorrect manners as shown below, which are dangerous.

1) Never allow overload.



- a) The load can be moved merely by operating the handle by one hand.
- b) Do not operate hoist with lever extensions.
- c) If excessive force is required to hoist or pull the load, stop the operation at once. The load may exceed the rated load of the lever hoist.

2) Avoid excessive lifting and lowering.



Winding-up the bottom hook beyond the limit is referred to as “over-lifting” and winding-down beyond the limit is “over-lowering”. These operations may damage the lever hoist. Do not attempt such operation under any circumstances.

3) Avoid shocks.

Do not allow the lever hoist to absorb any shock caused by dropping a load even when drop height seems insignificant. If the shock is intensive, it may cause damage and/or danger even when lifting a light load.

4) Do not mount or stand under any lifted load.

5) The grip made from rubber may be pulled out.

The rubber may be deteriorated depending on conditions used and thus be easily pulled out of the handle.

Never suspend yourself from the handle.

6) Others

- Never use a defective lever hoist.
- Always handle the lever hoist with care. Never throw it down from any height.

MAINTENANCE AND INSPECTION DAILY INSPECTION

- For daily operation, be sure to carry out the following checks prior to operation.
- When any abnormality is found, stop operating the lever hoist and take proper counter-measures in accordance with “the measures when abnormalities are found”.
- When an issue cannot be solved, contact a qualified service organization for repairs.

※Do not continue to operate under abnormal conditions, as it is very dangerous and may lead to a severe accident.

6. Check items

1) Visual appearance for any deformation of missing parts.

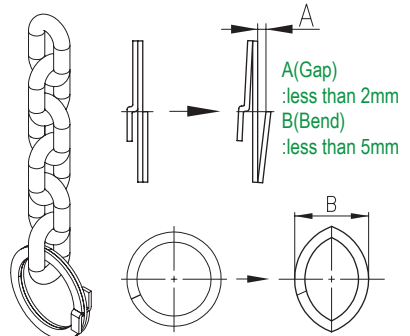
- A) Inspect suspending components of top hook for damage and/or wear.
- B) Bolt, nut, washer and split pin which fix the load chain to the hook assembly must be properly fitted.
- C) The top and bottom hooks must be within design parameters and free of any flaws in material. The safety latch must be present on standard hooks and must be operational. Reference table on page 14 for hook dimensional information.
- D) The load chain must be oiled and free of any remarkable flaw like damage deformation or wear.
- E) The end ring should be fitted to the first link from the end of load chain not equipped with the bottom hook.
- F) The end ring should not be deformed in excess of the limits shown in the sketch below.



2) Check that the Change Lever properly functions, by actually moving it.

3) Check that the pawl normally clicks when the change lever is set to the NEUTRAL position and the grip ring is turned in the clockwise direction.

- 4) Verify that the load chain is not twisted or tangled prior to operating the hoist. Make sure the bottom hook (6T,9T) with multiple fall hoists is not capsized. Correct all chain irregularities before conducting the first hoist operation.



7. Measures when abnormalities are found

- In case that parts are simply missing and any dismantling work is not required, the unit can be operated again by mounting genuine parts on it. When the end ring is deformed or lubrication for the load chain is required the unit can also be operated by exchanging the end ring with new one and by lubricating the load chain respectively. Make sure that the brake functions normally when the lever hoist is again used after the-completed remedy.

The storage location

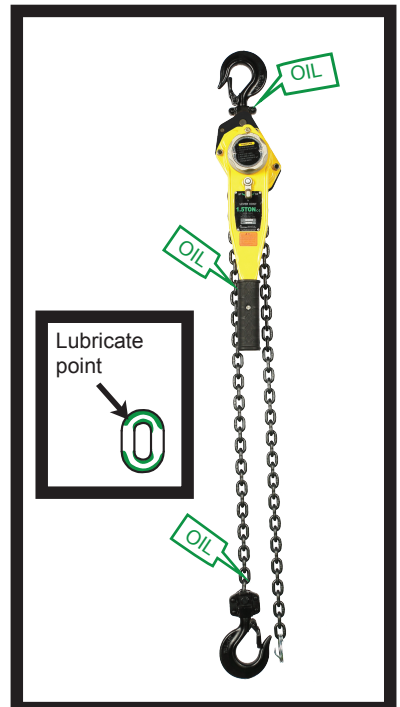
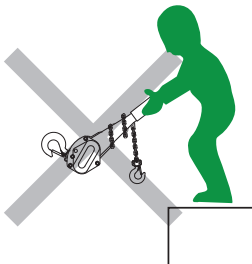
Wipe mud and water off the surface of the unit after it is used, and apply oil to the load chain and the neck of hooks as well as the axle of idle sheave (Models 6T , 9T)

Lubrication

- Load chain should be lubricated for longer life.
Recommended lubrication grease : NLGI NO.0
Load chain should be lubricated every 3months.
Gear oil could be used as an alternative lubricant but it needs more frequent lubrication.

Transport

- Do not drag or throw the hoist when carrying it.



PERIODIC CHECKING

In case of trouble and/or any abnormality, stop operating the hoisting unit and consult a dealer of our products. It may happen that the load chain and the hooks fall into a dangerous state even if they show no remarkable changes in their function. It is therefore indispensable to make a periodic measuring check.

The periodic inspection should normally be made once a month. Observe the following "INSPECTION AND LIMITATION FOR USE".

MAINTENANCE AND INSPECTION

⚠ WARNING

- Do not use parts and the lever hoist over the limit of use.
- In carrying out the daily and periodic inspections, if any wearing parts are found in excess of the standard limit of use, they should be replaced.
- It is very dangerous to use parts over the standard limit of use.

8. Inspection of Load chain and its lifetime

Check the load chain not partially, but over the whole length in a careful manner.

For checking the elongation, measure the inner length of 11 links, that is, the sum of 11 pitches with a vernier caliper as the following sketch shows. It is normally sufficient to check the links in a distance of every 30 cm but check them by making the measuring distance shorter when the elongation of the chain is close to the limitation for use so that none of them should exceed the limit for use.

Scrap the load chain which is found to have one or several links of which wire diameter has been reduced to 95 % or less (the smallest value should be measured) of the initial wire diameter due to worn connecting portion of links or flaws.

Scrap load chains which show any one of these 3 faults :

- Welded portion of the chain link shows a flaw bigger than 0.5 mm in depth.
- The chain link has been deformed.
- The chain link has been exposed to a high temperature, as it shows, for example, welding spatters.

GUIDE FOR LOAD CHAIN REPLACEMENT

Rated load	CHAIN WIRE DIAMETERmm(inch)			PITCH(PX11) mm(inch)	
	Standard value	Chain grade	Limit for use	Standard value	Limit for use
3/4T	6.3(0.25")	T	5.9(0.23")	209(8.23")	216.4(8.52")
1-1/2T	7.1(0.28")	T	6.6(0.26")	231(9.09")	237.9(9.37")
2T	7.1(0.28")	V	6.6(0.26")	231(9.09")	237.9(9.37")
3,6,9T	9.0(0.35")	V	8.4(0.33")	297(11.69)	305.9(12.04")

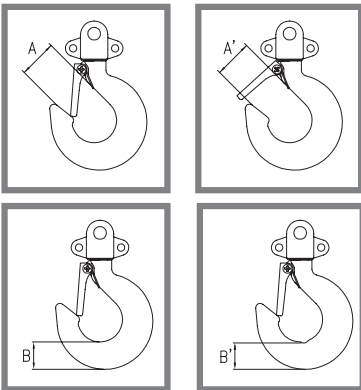


9. Inspection of hook and its lifetime

(common items to both the top and bottom hooks)

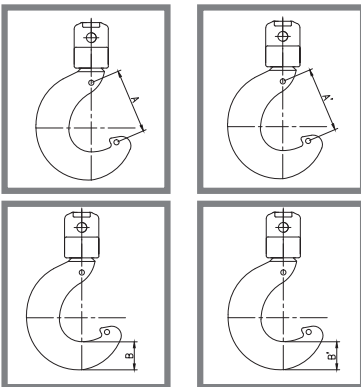
The opening of hook becomes wider when the load substantially exceeds the rated load or a heavy load is applied on the tip of it. Hooks with such a widened opening as the sketches show cannot handle the rated capacity specified, and thus hooks having reached the dimension for exchange (A' in the table below) should be replaced with new ones. It is very dangerous to use such hooks with widened opening again after heating and remedy. Be sure to scrap them and replace them with new ones. Periodically check the portion of the hook contacted by sling tools for wear and replace the hook having reached the dimension for exchange (B' in the table below) with a new one. Hooks showing either of the following faults should also be scrapped :

- It has a flaw of 1 mm or more in depth.
- It has a deformation such as bending or twist (to be visually noticed).



GUIDE FOR HOOK REPLACEMENT

Rated load	Dimension A mm(inch)		Dimension B mm(inch)	
	Standard value(A)	Limit for use(A')	Standard value(B)	Limit for use(B')
3/4T	30(1.18")	31(1.24")	19(0.74")	17.5(0.69")
1-1/2T	35(1.37")	36.75(1.44")	29(1.14")	26.7(1.05")
2T	40(1.57")	42(1.65")	32(1.26")	29.4(1.15")
3T	45(1.77")	47.25(1.86")	35(1.38")	32.2(1.26")
6T	50(1.97")	52.5(2.06")	46(1.81")	42.3(1.66")
9T	60(2.36")	63(2.48")	86(3.39")	79.1(3.11")



GUIDE FOR SHIPYARD HOOK REPLACEMENT

Rated load	Dimension A mm(inch)		Dimension B mm(inch)	
	Standard value(A)	Limit for use(A')	Standard value(B)	Limit for use(B')
1-1/2T	62(2.44")	65.1(2.57")	27(1.06")	24.84(0.97")
2T	68(2.68")	71.4(2.81")	29.5(1.16")	27.1(1.07")
3T	63.5(2.5")	66.7(2.63")	36.5(1.43")	33.6(1.32")

10. Mounting of free chaining mechanism

1. Check that the collar (13-00) is mounted onto the pinion shaft (27-00). (Fig. 1)
2. Set the change lever to the UP position and turn the change gear (12-05) clockwise several times to get rid of any brake gap. Do not operate the handle while doing it.
3. Insert the return spring (33-01) into the device as Fig. 3 shows.



Fig.1



Fig.2



Fig.3

4. Place the grip ring (32-00) onto the collar and the pinion shaft (27-00) and contact one projection of grip ring on its back side with the return spring (33-01). Then turn the grip ring counter-clockwise and then turn a bit clockwise when the said projection falls between first and second steps of the change gear (12-05).

Note: The grip ring should not reach the first step of the feed gear.

5. Insert the spring (33-00) into the grip ring.

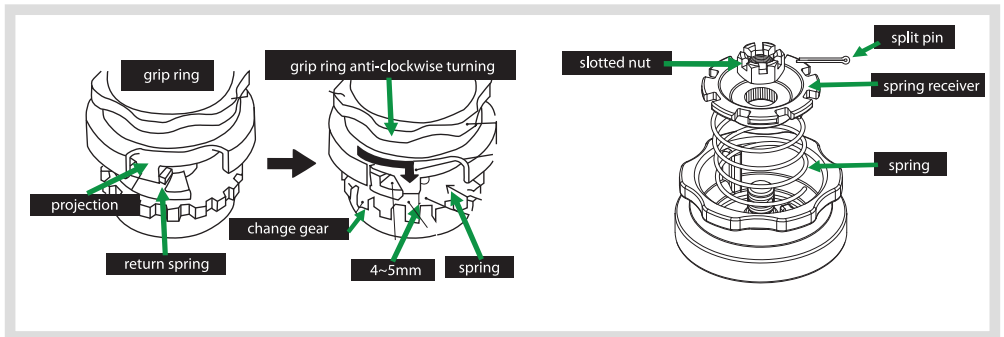


Fig.4

6. Place the spring receiver (20-00) with its inner serration toward the pinion shaft (27-00) and insert the convex portions of the grip ring into the concave portion of the spring receiver while aiming at the position where they mate with each other.
7. Tighten the slotted nut(42-00) firmly onto the thread of the pinion shaft while holding the spring receiver.
8. Free chaining mode has been correctly installed when the pawl clicks and the load chain is wound up by actuating the operation handle. If the load chain cannot be wound up, the free chaining mode has not been correctly set. In this case carry out 3 through 8 again.

CHECKING CHAIN LEVER HOISTS

WARNING

The following shall be observed in using the lever hoist

- (1) The lever hoist should not be used to lift a load exceeding the rated load except for testing purpose.
- (2) Only use OEM load chain.
- (3) Do not operate lever hoist where a shock load will be applied to the hoist.
- (4) Do not use the lever hoist of which range of lift is not sufficient for the work.
- (5) Do not use hooks which are not equipped with a safety latch or of which latch has no safety effect.
- (6) Do not use a load chain which is not equipped with a end ring.
- (7) Do not wind the load chain directly around a load.
- (8) Do not hang a load on the tip of the hook.
- (9) Do not extend the lever handle.
- (10) Do not operate the lever handle by foot.
- (11) Do not perform over-lifting and lowering.
- (12) Do not walk below a suspended load.
- (13) Never use the free chaining mode with a load suspended.
- (14) Do not leave the lever hoist for many hours with a load suspended.
- (15) Before operation, check the load chain for twisting or tangling.
The lever hoist can be used only after such twisting and tangling is corrected.
- (16) When the lever hoist is used in special conditions such as lower or higher temperatures, or corrosive atmosphere, etc., consult factory before use.
- (17) The lever hoist should not be modified by the users. If any modification is required it should be done by the manufacturer.

CAUTION

- (18) Make a routine inspection before use and carry out a periodic inspection.
- (19) Immediately stop operating the lever hoist if a larger force than normal is required to operate.
- (20) Do not drop the chain lever hoist from a high place.
- (21) Apply a lubricant to the load chain before use.
- (22) Use the chain lever hoist, applying lubricants to its gears, bearings, and points which are subject to wear.
- (23) The chain lever hoist should be applied with anti rust if to be kept unused for a long period.
- (24) Consult factory whenever any special usage of the chain lever hoist is required.

11. Lever Hoist Inspection

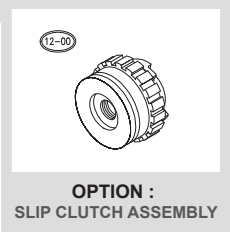
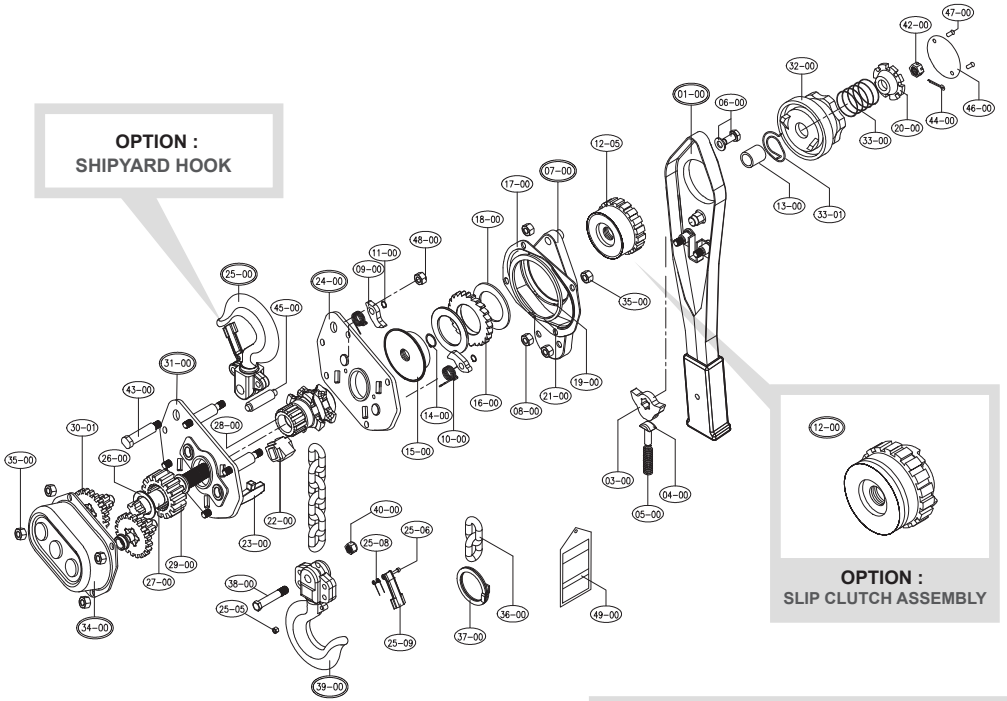
Pre-Operational Inspection needs to be performed visually before the first use of each shift. Daily and frequent Inspection should be performed according to Hoist Inspection Method Criteria below especially for a hoist with heavy and severe service with frequent operation. Hoists that are used infrequently and idle for more than 1 month should be checked and inspected prior to operation. When lever hoist is repaired, make sure that it works in a normal state. Make sure to use genuine replacement parts supplied from factory.

Hoist Inspection Method Criteria

Item	Method	Criteria	Action
Lifting & Lowering operation mechanism	Visual, Auditory	Smooth ratchet sound must be heard in lifting. Lifting and lowering operation should be smoothly carried out. Brake shows no abnormality in lowering	Repair or Replace as required
Braking System - Components	Visual	Pawl, Pawl spring and Pawl stud should not be deformed scarred or show significant wear. Discs should be free of grease oil, scars, gouges and wear and have uniform thickness. Ratchet gear should be free from deformation and severe corrosion.	Replace
Operating system - Components	Visual	Gears should be free from severe wear and breakage, Lever handle should be free from deformation, wear and crack and breakage. End ring must be attached to end of the load chain and should be free from deformation or wear	Replace
Hooks - Surface Condition	Visual	Should be free of nicks, gouges, dents, cracks, weld splatter and corrosion.	Replace

Item	Method	Criteria	Action
Hooks - Wear	Measure	Dimension B should not be less than discard value in guide for hook replacement (page 14)	Replace
Hooks - Stretch	Measure	Dimension A should not be greater than discard value in guide for hook replacement (page 14)	Replace
Hooks - Deformation	Visual	Should be free of twists and deformations.	Replace
Hooks - Bent Shank or Neck	Visual	Shank and neck portions of hook should be free of deformation	Replace
Hook - Swivel	Visual, Function	Surfaces should not show significant wear and should be free of grime, dirt and deformation. Hook should rotate freely with no roughness.	Lubricate, clean or replace as required
Hooks - Idle Sheave (Multiple fall hoist)	Visual, Function	Pockets of Idle Sheave should be free of significant wear. Idle Sheave surfaces should be free of nicks dirt, gouges, and grime.	Lubricate, clean or replace as required
Hook - Safety Latches	Visual, Function	Safety Latch should not be deformed. Attachment of latch to hook should not be loose. Safety latch spring should not be missing and should not be weak. Safety latch movement should not be stiff. When depressed and released latch should snap smartly to its closed position	Replace
Hook - Top hook pin	Visual	Top hook pin should be free of scars or significant deformation	Replace
Load Chain - Surface Condition	Visual	Should be free of nicks, gouges, dents, weld splatter and corrosion. Chain links should not be deformed, and should not show signs of abrasion. Surface where chain links bear on one another should be free of significant wear	Replace
Load Chain - Pitch and Wire Diameter	Measure	11 links dimension should not be greater than value listed in page 13. Diameter should not be less than value listed in page 13.	Replace Inspect load sheave and idle sheave for multiple fall hoists
Load Chain - Lubrication	Visual, Auditory	Entire surface of each chain link should be coated with lubricant and should be free of dirt and grime. Chain should not emit cracking noise when hoisting a load.	Clean and Lubricate
Load Chain - Reeving	Visual	Chain should be reeved properly through load sheave. On multiple fall hoists chain should be installed properly and free of twists.	Reeve/install chain properly
Bolts, Nuts and Rivets	Visual, check with proper tool	Bolts, nuts and rivets should not be loose deformed or corroded.	Tighten or replace as required
Load Sheave and Idle Sheave	Visual	Pockets of load & Idle sheave should be clean and free of significant wear.	Replace
Warning Label	Visual	Warning Label should be affixed to the hoist and should be legible	Replace
Hoist Capacity Label	Visual	Hoist capacity label should be legible and securely attached to the hoist	Replace

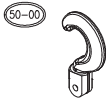
OPTION :
SHIPYARD HOOK



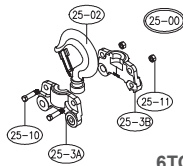
OPTION :
SLIP CLUTCH ASSEMBLY

3/4TON - 3TON

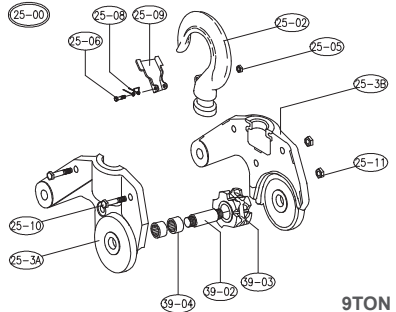
OPTION(1 1/2T, 2T, 3T)



SHIPYARD TOP HOOK

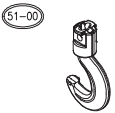


6TON

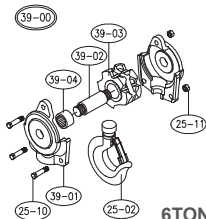


9TON

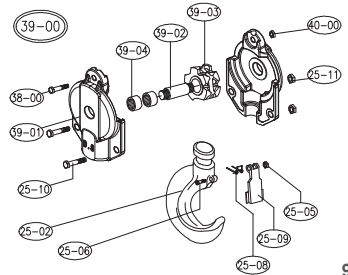
OPTION(1 1/2T, 2T, 3T)



SHIPYARD BOTTOM HOOK



6TON



9TON

PART LIST

NO	DESCRIPTION	QTY	3/4 T	1-1/2 T	2 T	3 T	6 T	9 T	
01-00	LEVER ASS'Y	1	73150-001	73150-101	73150-201	73150-301	73150-601	73150-901	
03-00	CHANGE PAWL	1	73150-003						
04-00	PUSH PIN	1	73150-004						
05-00	PUSH SPRING	1	73150-005						
06-00	BOLT SPRING WASHER	1	73150-006						
07-00	LEVER COVER ASS'Y	1	73150-007	73150-107					
08-00	U-NUT	2	73150-008						
09-00	PAWL	2	73150-009			73150-309			
10-00	PAWL SPRING	2	73150-010	73150-110		73150-310			
11-00	SNAP RING	2	73150-011			73150-311			
12-00	CLUTCH ASS'Y	1	73150-012	73150-112	73150-212	73150-312			
12-05	CHANGE GEAR	1	73150-012A	73150-112A					
13-00	COLLAR	1	73150-013	73150-113					
14-00	SNAP RING	1	73150-014	73150-114					
15-00	HUB	1	73150-015	73150-115					
16-00	RATCHET GEAR	1	73150-016	73150-116					
17-00	BRAKE COVER	1	73150-017	73150-117		73150-317			
18-00	DISC	2	73150-018	73150-118					
19-00	COVER BUSH	1	73150-019	73150-119					
20-00	SPRING RECEIVER	1	73150-020	73150-120					
21-00	SNAP RING	1	73150-021	73150-121					
22-00	CHAIN GUIDE	2	73150-022	73150-122		73150-322			
23-00	STRIPPER	1	73150-023	73150-123		73150-323			
24-00	LEVER SIDE PLATE ASS'Y	1	73150-024	73150-124		73150-324			
25-00	TOP HOOK ASS'Y	1	73150-025	73150-125	73150-225	73150-325	73150-625	73150-925	
25-02	HOOK	2	NA	NA	NA	NA	73150-625H	73150-925H	
25-3A	TOP FRAME A	1	NA	NA	NA	NA	73150-625A	73150-925A	
25-3B	TOP FRAME B	1	NA	NA	NA	NA	73150-625B	73150-925B	
25-05	U-NUT	1	73150-025C	73150-125C		73150-325C	73150-625C	73150-925C	
25-06	WRENCH BOLT	2	73150-025D	73150-125D		73150-325D	73150-625D	73150-925D	
25-08	SAFETY LATCH SPRING	2	73150-025E	73150-125E		73150-325E	73150-625E	73150-925E	
25-09	SAFETY LATCH	2	73150-025F	73150-125F	73150-225F	73150-325F	73150-625F		
25-10	HEX BOLT	5	NA	NA	NA	NA	73150-625G	73150-925G	
25-11	U-NUT	5	N/A				73150-625N	73150-925N	
26-00	PINION SHAFT WASHER	1	73150-026	73150-126		73150-326			
27-00	PINION SHAFT	1	73150-027	73150-127		73150-327			
28-00	LOAD SHEAVE	1	73150-028	73150-128		73150-328			
29-00	1st GEAR	1	73150-029	73150-129		73150-329			
30-01	2nd GEAR & 3rd GEAR	2	73150-030	73150-130		73150-330			
31-00	GEAR SIDE PLATE ASS'Y	1	73150-031	73150-131	73150-231	73150-331			
32-00	GRIP RING	1	73150-032	73150-132					
33-00	GRIP RING SPRING	1	73150-033	73150-133					
33-01	RETURN SPRING	1	73150-033A	73150-133A					
34-00	GEAR COVER ASS'Y	1	73150-034	73150-134		73150-334			
35-00	U-NUT	8	73150-035			73150-335			
36-00	LOAD CHAIN	1	70011-21	70011-25	70011-12	70011-26			

NO	DESCRIPTION	QTY	3/4 T	1-1/2 T	2 T	3 T	6 T	9 T	
37-00	END RING	1	73150-037						
38-00	HOOK BOLT	1	73150-038	73150-138		73150-338			
39-00	BOTTOM HOOK ASSY	1	73150-039	73150-139	73150-239	73150-339	NA	NA	
39-01	BOTTOM FRAME	2	N/A				73150-639F	73150-939F	
39-02	AXLE	1	NA	NA	NA	NA	73150-639A		
39-03	SHEAVE	1	NA	NA	NA	NA	73150-639B		
39-04	NEEDLE BEARING	2	NA	NA	NA	NA	73150-639C		
40-00	U-NUT	1	73150-040	73150-140		73150-340			
42-00	SLOTTED NUT	1	73150-042	73150-142					
43-00	TOP HOOK PIN	1	73150-043	73150-143		73150-343			
44-00	COTTER PIN	1	73150-044	73150-144					
45-00	HANGER PIN	1	73150-045	73150-145		73150-345			
46-00	GRIP RING COVER	1	73150-046	73150-146					
47-00	MACHINE SCREW S/W	2	73150-047						
48-00	U-NUT	1	73150-048	73150-148		73150-348			
49-00	WARNING LABEL (a)	1	68082						
50-00	SHIPYARD TOP HOOK	1	N/A	73150-150	73150-250	73150-350	N/A	N/A	
51-00	SHIPYARD BOTTOM HOOK	1	N/A	73150-151	73150-251	73150-351	N/A	N/A	

(a) 49-00 Warning label not shown on diagram. This label is attached to the last chain link on the dead end side of the load chain. Replace if missing or not legible

NOTICE

TO ORDER PARTS: Provide product name and serial number, lever hoist capacity, part number, part description, and quantity required. Use only Acco® authorized replacement parts in the service and maintenance of this lever hoist.

GENERAL CONDITIONS OF WARRANTY

WARRANTIES: The Seller warrants to the original using Buyer thereof that the goods sold under this Agreement are free from defects in workmanship and materials for a period of two years from the date of shipment to the original using Buyer. No other express warranties are given and no affirmation of Seller or Seller's agents, by word or action, shall constitute a warranty. No warranty is made for components and accessories made by others when such items are warranted by their respective manufacturers.

Installation or operation of the equipment in any manner other than as recommended by Seller, shall void the warranty.

Any variations in details between the goods furnished herein and those covered in Buyer's specifications are due to standards of manufacture not to be construed as exceptions to the specifications.

DISCLAIMER OF IMPLIED WARRANTIES:

(a) SELLER MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO THE GOODS SOLD UNDER THIS AGREEMENT.

(b) This sale is made WITHOUT ANY WARRANTY BY SELLER THAT THE GOODS ARE SUITABLE FOR ANY PARTICULAR PURPOSE..

(c) Buyer hereby waives all other warranties, guarantees, obligations, liabilities, rights, and remedies arising by law or otherwise including any obligation or liability of the Seller arising from tort, and Buyer shall indemnify Seller from any liability, loss, damage, or claim arising from Buyer's tortious use of the goods sold hereby.

REMEDIES:

(a) Under no conditions shall any goods be returned to Seller without it's prior written consent.

(b) The Buyer's sole and exclusive remedy for breach of any warranty is limited to Seller furnishing, at it's expense, duplicate or repaired parts F.O.B. Seller's plant with installation at Buyer's expense if discovery of a claimed defect occurs during the allowable warranty period, and if Seller's inspection determines a defect exists.

(c) The quantity of material shown by invoice shall in all cases govern settlement for shortages, unless notice of shortage, appropriately documented, is given to the carrier and the Seller upon delivery by the Carrier.

(d) Claims for errors, deficiencies or imperfections shall be deemed waived by the Buyer unless Seller is notified in writing of the basis of such claims within 10 days after discovery of claimed defect and such discovery occurs within the warranted period.

(e) Neither Buyer nor User shall be entitled under this Agreement to recover from Seller any incidental or consequential damages of any nature including but not limited to the cost of any labor expended by others in connection with the goods sold hereby by reason of any alleged nonconformity or breach of warranty on the part of the Seller, nor costs of material or account thereof, nor any lost profits whether determinable or speculative.

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