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# MANUAL

User's Manual(Operator)

## HSZ-A816 SERIES CHAIN HOIST



This equipment should not be installed, operated or maintained by any person who has not read and understood all the contents of this manual. Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and/or property damage.

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#### 1. DEFINITIONS

This HSZ-A816 Series chain hoist has been designed for vertically lifting and lowering loads, by hand, under normal atmospheric conditions of the work place.



Indicates a imminently hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING** 

Indicates a imminently hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION** 

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used alert against unsafe practices.

#### 2. SAFETY RULES

#### 2.1 General

Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and property damage. 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

Equipment described herein should not be used in conjunction with other equipment unless necessary and required safety devices applicable to the system. The company shall have no liability to the client for any loss, damage or other claims for compensation arising from this type of misuse. Modifications to upgrade, rerate, or otherwise alter this equipment shall be authorized only by the original equipment manufacturer.

## **↑** DANGER



(1) NEVER use a hoist for lifting, supporting or transporting people.



② NEVER use your foot to apply pressure on hoist.



(3) NEVER use two or more hoists together to lift load beyond the rated capacity of hoist.



rated capacity of the hoist.



(4) NEVER lift up load beyond the (5) NEVER lift or transport loads over or near people.

#### 2.2 Rules before use

↑ CAUTION

Hoist operators shall be required to read this manual, the warning contained in this manual, instruction and warning labels on the hoist or lifting system. The operator shall also be required to be familiar with the hoist controls before being authorized to operate the hoist or lifting system.



Dot not use the hoist if there are deep nick, gouges or stretch on hook, contact our company or the distributor of the hoist and replace the hook with new parts.

#### **↑** CAUTION

- 1. Ensure every description of name plate is clear and visible.
- 2. Check the hoist before daily use according to the Daily Inspection.
- 3. Estimate the weight of load and choose the hoist of suitable rated capacity.
- 4. Ensure hooks not be deformed and rotates freely with no roughness.
- 5. Ensure the running of the brake system is normal.
- 6. Lubricate load chain according to recommendations of manufacturer

#### 2.3 Rules for operation

#### **↑** WARNING



1 NEVER use a twisted, kinked, damaged or stretched load chain.



④ NEVER support a load on the tip of the hook..



2 NEVER use the hoist chain as a sling.



(5) NEVER run the load chain over an sharp edge.



③ NEVER use the hoist as a support.



(6) NEVER weld or cut a load suspended by a hoist.

#### **↑** WARNING

- 1. NEVER use damaged hoist or hoist that is not working properly.
- 2. NEVER swing a suspended load.
- 3. NEVER use the hoist chain as a welding electrode.
- 4. NEVER operate a hoist so far that the bottom hook touches the hoist body.
- 5. NEVER operate a hoist so far that the load chain pulls the anchorage.
- 6. NEVER operate a hoist if excessive noise occurs.
- 7. NEVER allow your attention to be diverted from operating the hoist.

#### 2.4 Rules after use

Put down the load slowly and safely after lifting.

MARNING NEVER suspend a load for an extended period of time.

## 2.5 Inspection and maintenance



Ensure the qualified service personnel inspect the hoist periodically.



Do not attempt repair of a hook by heat treating, bending or attaching anything by welding. Such procedures will weaken and may cause failure of the hook.

#### 2.6 Others



Always consult the manufacturer or your dealer if you plan to use a hoist in an excessively corrosive environment (salt water, sea air and/ or acid, explosive environment or other corrosive compounds, etc.).



NEVER use a hoist which has been taken out of service until the hoist has been properly repaired or replaced.

#### 3. MAIN SPECIFICATION

#### 3.1 Operation conditions

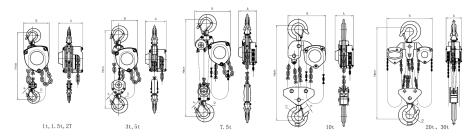
Allowable ambient conditions

Operation temperature:  $-10^{\circ}$  C to  $+60^{\circ}$  C

Operation humidity: 100%RH or less, this product should not be used under water.

Non-asbestos material: Friction plates are made of asbestos free material.

### 3.2 Technical specification



Model		Z005-A816	Z010-A816	Z015-A816	Z020-A816	Z030-A816	Z050-A816	Z075-A816	Z100-A816	Z200-A816	Z300-A816
Capacity	tons	0.5	1	1.5	2	3	5	7.5	10	20	30
Load chain	mm	5×15	6×18	7.1×21	8×24	7.1×21	10×30	10×30	10×30	10×30	10×30
Hand chain	mm					5×2	23.7				
Strands of load chain		1	1	1	1	2	2	3	4	8	12
Strands lift	m	2.5	2.5	2.5	3	3	3	3	3	3	3
Moving distance of laod wheel with one meter lifting	m	41.4	57.2	77.1	67.5	154.2	173.6	260.4	347.2	347.2×2	347.2×2
Effort required to lift rated load	N	186	270	302	460	311	462	475	488	488×2	488×2
Running test load	KN	6.13	12.25	18.38	24.5	36.75	61.25	91.9	122.5	245	367.5
	A	128	138.5	161	161	161	180	180	194	209	312
	В	122	148	175	175	232	258	329	384	625	691
Dimensions (mm)	Hmin	295	345	410	431	414	600	770	798	890	1380
(mm)	D	35	40	45	52	55	68	68	85	110	110
	к	22	26	29	35	39	43	43	58	81	81
Extra weight per metre of extra lift	kg	1.4	1.6	1.9	2.2	3	5.2	7.3	9.5	19	27.7
Net weight	kg	7	10.3	14.7	17.6	22.5	39.2	65.6	83.9	163.3	220

Note: Bottom hook in manual instruction is standard A type, if you choose another type, please contact with manufacturer directly.

#### 4. OPERATION

#### 4.1 Introduction

This hoist has been designed for vertically lifting and lowering loads, by hand, under normal atmospheric conditions of the work place. However, since dealing with heavy loads may involve unexpected danger, all the Safety Rule must be followed.

Safety Working Environment: the operator must be aware of the following points while using the hoist.

- (1) The operator must have a clear and unobstructed view of the entire travel area before operating the hoist. When not possible, a second or more persons must serve as scouts in the nearby area.
- (2) The operator must check the entire travel area is safe and secure before operating the hoist.

#### 4.2 Features

Face the hand chain wheel side of the hoist, pull hand chain clockwise to raise the load and pull hand chain counter clockwise to lower the load.

The clicking sound of the pawl when load is being raised indicates normal operation.

#### 5. INSPECTION

#### 5.1 General

There are two types of inspection, the Daily Inspection performed by the operator before using the hoist, and the more thorough Periodic Inspection performed by qualified service personnel who have the authority to remove the hoist from service.

#### 5.2 Daily inspection

Item	Method	Discard criteria	Remedy
Name plate	Check visually	Every description should be clear and visible.	Replace the name plate.

Function	Face the hand characteristic to raise the load at The clicking sour normal operation	Repair or replace as necessary.	
Hook	Check visually	No wear, deformation or damage, and the swivels should rotate freely.	Replace
Hook latches	Check visually	No deformation and harmful flaws.	Replace the part.
Load chain	Check visually	No obvious rust or corrosion. Lubrication must be on surface.	Oil the load chain, replace the load chain.
Other	Check visually	No missing nuts and/or split pins. No flaws or damages on the hoist surface. No missing and/or twist chain stopper.	Replace the parts.

## 5.3 Periodic inspection

Periodic inspection shall be made at the interval shown below and should the given procedures.

NORMAL (Normal use): Six monthly inspection

HEAVY (Frequent use): Quarterly inspection

SEVERE (Excessively frequent use): Monthly inspection

Item	Method		Discard criteria						
1. Hook		Measure th	Measure the dimension A when new						
assembly		Capacity(t)	A*(mm)	B(	mm)	C(mm)			
		Capacity(t)	Normal	Standard	Discard	Standard	Discard		
1.1 Stretch		0.5	25.0	15	≤14.3	19.3	≤18.4		
		1	30.0	18	≤17.1	25.1	≤23.9		
and wear		1.5	33.0	21	≤20.0	28.8	≤27.4		
	Measure	2	39.0	27	≤25.7	33.4	≤31.8	Replace	
		3	43.7	30	≤28.5	41.4	≤39.4		
Tra		5	47.5	34	≤32.3	49.0	≤46.6		
\X \ \		7.5	47.5	34	≤32.3	49.0	≤46.6		
		10	58.0	42	≤39.9	62.2	≤59.1		
		20	85.0	60	≤57	88.5	≤84.1		
l B		30	85.0	60	≤57	88.5	≤84.1		
		*These val to a toleran hook is nev times that i	ce. The A	dimension	n should b should not	e measured be greater	than 1.05		
1.2 Flaw	Check visually		Should be free from significant rust, weld splatter, deep nick, or gouges.						
1.3 Rotate	Check visually and function	Should r	Should rotate freely with no roughness.				Replace		
1.4 Hook yoke	Check visually and function	Should n	Should not slack or miss rivets, nuts or bolts.				Replace		
1.5 Hook latch	Check visually	Proper p	Proper positioning and smooth working.						

2. Load chain 2.1 Wear	Measure	L=PX5   D	Replace
2.2 Flaws, deformations	Check visually	Should be free from twist or harmful flaw.	Replace
2.3 Rust	Check visually	Should be free from obvious rust.	Remove rust, oil the chain
Item	Method	Discard criteria	Remedy
3. Bottom hook pin  3.1 Twist, deformations	Check visually, measure	Replace the hook pin if there is obvious deformation, and the screw thread of hook pin should be free of flaw and deformation.    Capacity(t)   D(mm)     Standard   Discard     0.5   6.0   $\leq 5.7$   1   7.5   $\leq 7.1$   1.5, 2, 3 (8)   10.0   $\leq 9.5$   5   14.5   $\leq 13.8$   7.5, 10   12   $\leq 11.4$	Replace
3.2 Rust	Check visually	Should be free from obvious rust.	Remove rust, oil the pin
4.Top/Bottom hook pin hole  4.1 Deformations	Measure	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Replace hook assembly

<b>5. Broke system</b> 5.1 Rust	Check visually	All parts should be free from rust.	Remove rust, oil the parts, or replace.
5.2 Flaw on friction disc	Check visually	Should be free from harmful flaw.	Replace
5.3 Wear on friction disc	Measure	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Replace
5.4 Flatness of friction disc	Check clearance with gauge.	Clearance should be uniform. Internal part should not be thicker than external part.	Replace
5.5 Pawl	Check visually	Should be free from wear on the surface.	Replace
5.6 Pawl spring	Check visually	Should be free from deformation	Replace
5.7 Ratchet disc	Measure	$\begin{tabular}{l lllllllllllllllllllllllllllllllllll$	Replace
6. Lifting system			
6.1 Load sheave	Check visually	Should be free from large wear or deformation.	Replace
6.2 Gear	Check visually	Tooth should be free from large wear or flaw.	Replace
6.2 Gear box	Check visually	Should be free from wear or deformation.	Replace
6.3 Hand wheel	Check visually	No large wear or no deformation on the surface of hand chain pocket.  Turn and check if it touches the cover.	Replace
7. Body 7.1 Top hook pin hole on the side plate	Basic dimension	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	Replace

7.2 Top hook pin	Measure	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Replace
7.3 Guide plate	Check visually	Should be free from wear or deformation.	Replace
7.4 Chain stopper ring	Check visually	Should be free from wear or deformation.	Replace
8. Function 8.1 Lifting and lowering	Lift and lower a light load.	No abnormal difficulty in lifting and lowering.	Overhaul and service.
8.2 Brake	Lift and lower a light load.	Confirm that none of the problems listed below occur during lifting and lower: (1) Lifting impossible. (2) Load slips down slowly. (3) Load falls when the operator releases the hand lever.	Overhaul and service.

## 6. MAINTENANCE

#### 6.1 General

Incorrect maintenance may result in serious bodily injury or death. Only trained and competent personnel could maintain this equipment.



After performing any maintenance on the hoist, always test the hoist according to this manul before returning to service.

## **⚠** CAUTION

- (1) Always take care hand or clothes will not be caught in a chain, idle sheave or other moving parts.
- (2) Never operate the hoist when maintenance.
- (3) Always inspect all the items if abnormal difficulty in lifting and lowering.
- (4) Never perform maintenance on the hoist while it is supporting a load.
- (5) Always wipe off all dirt and water.
- (6) Always store the hoist in dry and clean place.

#### 6.2 Lubrication

Make sure to lubricate load chain, hook latches, top/bottom hook pin and hook yoke, etc.. Load chain is one of the important parts of a hoist, it is should be lubricated well with machine oil.

## **⚠** CAUTION

- (1) Lubricate load chain weekly, or more frequently, depending on severity of service.
- (2) Lubricate load chain more frequently than normal in a corrosive environment.

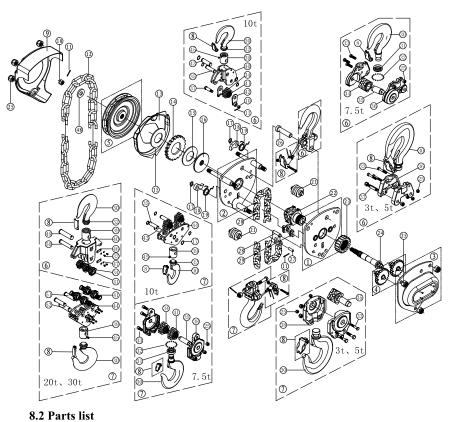
Notes: Recommended lubricant of this product is lithic grease #3.

## 7. TROUBLESHOOTING

Trouble	Cause and explanation	Remedy
The pawl makes the proper clicking sound but fails to lift the load.	Worn friction plates. When used at high frequency without performing maintenance regularly, the friction plates will wear down. This will create gaps between the friction disc and hand wheel and cause the brake to slip.	Disassemble and replace the friction plates.
The pawl produces	The pawl has been improperly assembled. If the pawl is assembled facing the other way, or otherwise assembled incorrectly, it will not cleanly mesh with the ratchet disc.	Disassemble and then reassemble parts correctly.
absolutely no sound and fails to lift the load.	The pawl is not moving smoothly. Unless maintenance is performed regularly, dirt will adhere to the grease on the pawl and pawl shaft. Movement will become sluggish and the pawl will remain stuck in the kicked out position.	Disassemble and then reassemble parts correctly.
The chain is tight when lifting, even without a load. ( A squeaking noise can be heard at times.)	Worn gear teeth or worn bearing. Unless maintenance is performed regularly, greased parts will dry, resulting in wear and damaged, and improper meshing of gears.	Disassemble and replace the pinion, load gear, gear case, side plate and ball bearing.
Improper lowering or the chain is	The brake is too tight. Due to shock during work, or because the load was left suspended for a long period of time, the brake tightened.	Free the brakes forcibly by jerking the hand chain.
extremely tight when lowering.	The brake is rusted. Unless maintenance is performed regularly, rusting will occur.	Disassemble and replace parts where necessary.
The hoist drops the	The braking surface is dirty. During assembly, the braking surface must be wiped cleaned of dirt.	Disassemble and then reassemble parts correctly.
load when the instant lowering is started.	The braking surface is oily. The braking surface must not be allowed to become soiled with grease or machine oil because it is a dry-type brake.	Disassemble and then reassemble parts. Do not oil or grease the braking surface or friction plates.
Load slipping	The braking surface is oily. The braking surface must not be allowed to become soiled with grease or machine oil because it is a dry-type brake.	Disassemble and then reassemble parts. Do not oil or grease the braking surface or friction plates.
	The braking surface is dirty. During assembly, the braking surface must be wiped cleaned of dirt.	Disassemble and then reassemble parts correctly.

## 8. PARTS LIST

## 8.1 Exploded View Drawing HSZ-A816 SERIES CHAIN HOIST 0.5T-30T



No.	Parts Name	No.	Parts Name	No.	Parts Name
1	Gear side plate assembly	19	Pawl spring	37	Hook pin
2	Brake side plate assembly	20	Load chain	38	Bottom hook frame set
3	Gear case assembly	21	Guide roller	39	Top hook frame
4	Disc gear assembly	22	Load sheave	40	Top hook frame set
5	Hand chain wheel	23	Splined gear	41	Roller needle
6	Top hook assembly	24	Drive shaft	42	Chain sling plate
7	Bottom hook assembly	25	Lock nut	43	Hook shaft
8	Safety latch assembly	26	Top hook shaft	44	Bottom hook frame set
9	Hand wheel cover	27	Tail chain pin	45	Holding screw
10	Castle nut	28	End anchor	46	Stripper
11	Split pin	29	Stripper	47	Spring washer
12	Hand chain	30	Top/Bottom hook	48	Washer
13	Ratchet disc cover	31	Bearing ring	49	Top hook shaft
14	Ratchet disc	32	Roll ball	50	Top hook wheel shaft
15	Friction disc	33	Hex bolt	51	Bottom hook wheel pin
16	Break seat	34	Top hook wheel	52	Bottom hook pin
17	Snap ring	35	Bottom hook wheel pin		
18	Pawl	36	Top hook frame set		