Instruction Manual and Safety Instructions for Owners (Operators)

Chain lever hoist

Elephant lever model YA/YAⅢ

(Automatic free chaining type)

Rated load : 0.8t to 9t

Model No. :

Serial Number :

Date of initial use :

※The above information needs to be filled in by the purchaser.

⚠WARNING

Owners (operators) are required to completely understand the installation, operation, maintenance and inspection of the equipment described within this instruction manual prior to use. Failure to understand or comply with the contents of this Manual may result in property damage, serious injury or death.

- Thank you very much for your purchase of Elephant products.
- Before using Elephant lever hoists, please read this instruction manual carefully to ensure that you fully understand the product and its proper use.
- Please store this instruction manual securely as it is required for maintenance, inspection, disassembly and assembly of the product.

ELEPHANT 39 **ELEPHANT CHAIN BLOCK CO.,LTD.**

Index

1. Safety Information and Warnings

1.1 Terminology

This Instruction Manual contains safety information necessary for owners responsible for the installation, operation, maintenance and inspection of this Product, and for operators actually engaged in the operation of the Product. In order to fully comprehend the structure and operation of this Product, please make sure that you understand the contents of this Instruction Manual.

The safety information provided within this Instruction Manual includes circumstances possibly leading to hazardous situations. The four terms "Danger, Warning, Caution, and Notice" are used to clearly indicate the seriousness of hazardous conditions.

⚠ **DANGER**	Danger indicates an imminently hazardous situation which, if not avoided, may result in fatalities or serious injuries.
⚠ **WARNING**	Warning indicates a potentially hazardous situation which, if not avoided, may result in fatalities or serious injuries.
⚠ **CAUTION**	Caution indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injuries.
NOTICE	Notices cover implementation procedures which do not require caution against personal injury.

⚠ DANGER

- Never perform any operation that could result in a [DANGER] condition as described in the Instruction Manual.

⚠ WARNING

- Failure to comprehend and comply with the restrictions described within this Instruction Manual may result in fatalities, severe injuries, or property damage.
- Owners and operators of this Equipment are prohibited from using the Equipment for any purpose other than that for which it was originally intended, or make any modifications that may impair the safety of this Equipment.
- This Equipment must not be used in a corrosive atmosphere such as acidic, alkaline, steam, high temperature, toxic gas, salt water, etc.
- This Equipment must not be used in a condition where it is repeatedly subjected to dynamic loads due to connecting it to other powered cranes or such load application devices.
- This Equipment shall not be used for transporting, supporting, lifting, or lowering people, or for transporting, supporting, lifting, or lowering loads above people. This Equipment is not intended for transporting people in any way.

⚠ CAUTION

- ●Owners and operators of this Equipment are required to record the model, serial number, and initial date of use on the front cover of this Manual prior to using the Equipment.
- ●This Manual is intended to provide safety information on installation, operation, maintenance, and inspection of the Equipment under normal operating conditions.
- ●If this Equipment is used in combination with other equipment, the supplier of the equipment combination concerned is responsible for ensuring compliance with applicable industrial standards, laws and regulations of the country.
- ●Repair and maintenance of this Equipment shall be conducted only with parts certified by ELEPHANT CHAIN BLOCK CO., LTD.

NOTICE

- ●Owners and operators of this Equipment are responsible for ensuring that all personnel engaged in the installation, operation, inspection, test, and servicing of this Equipment sufficiently comprehend the contents of this Manual, the applicable portions of laws and regulations of the country.
- ●Owners and operators are responsible for the installation, operation, inspection, testing, and maintenance of this Equipment in accordance with laws and regulations of the country.
- ●Owners and operators should contact the dealer of this Equipment if any item in this Manual is unclear, or in case any additional information is necessary. Do not install, operate, inspect, test, or maintain this Equipment unless all uncertain articles are clarified accordingly.
- ●Owners and operators shoud designate a periodic inspection schedule for this Equipment, maintaining records of the inspections conducted.

1.2 Restrictions on the use of this Equipment are as follows :

(1)This Equipment is to be used to pull or lift loads in horizontal or diagonal directions, or to tighten loads.

(2)Do not use this Equipment to transport humans.

(3)Do not incorporate the Product as part of facility equipment or machinery.

(4)The Equipment is to be used within a temperature range of −40°C to +60°C (with humidity of 100%RH or less).

(5)Never use this Equipment in locations constantly subjected to wind, rain, or waves, or in locations susceptible to salt damage, acid, alkali, etc., as this may cause damage to the Equipment and load chains.

1.3 Warning Tags, Labels

The warning tag indicated in Figure 1 below is attached to this Equipment upon shipment from the factory. Owners and operators of this Equipment are required to comprehend and comply with all articles provided on warning tags and labels.

If tags are not attached on the no-load side of the load chain of the Equipment, procure tags from your dealer and attach them accordingly. Read and follow all warnings attached to this Equipment. (Tag is not shown actual size.)

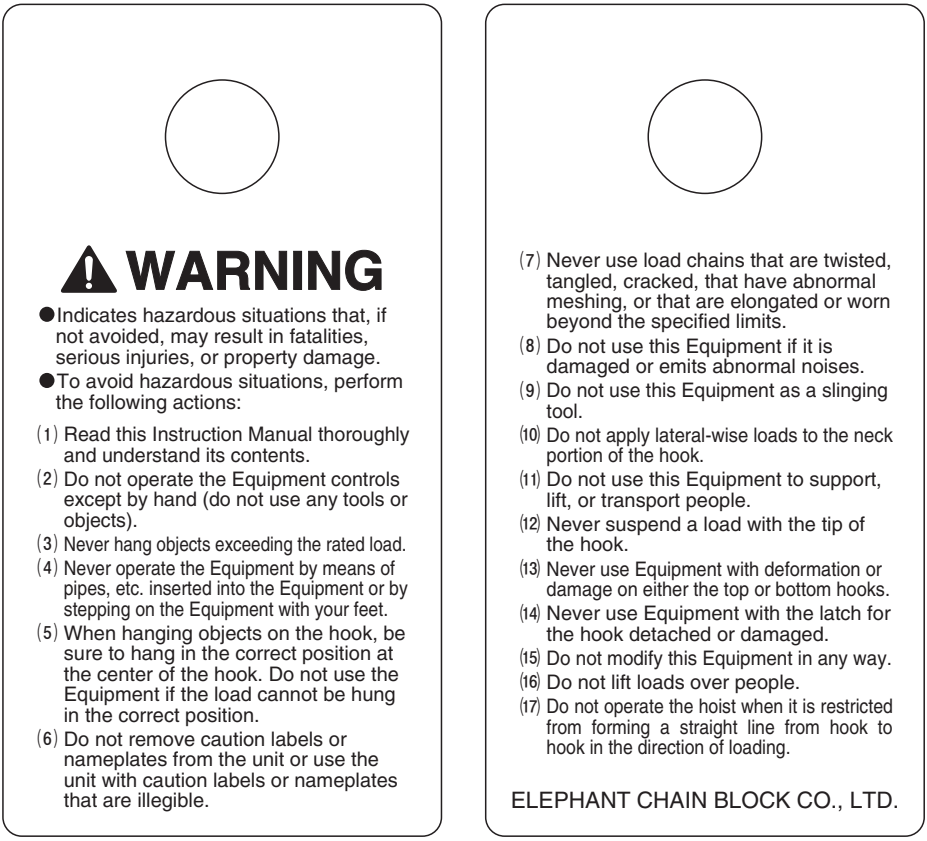


Figure 1

2. Regarding the personnel operating and using lever hoists

2.1 Names of Parts

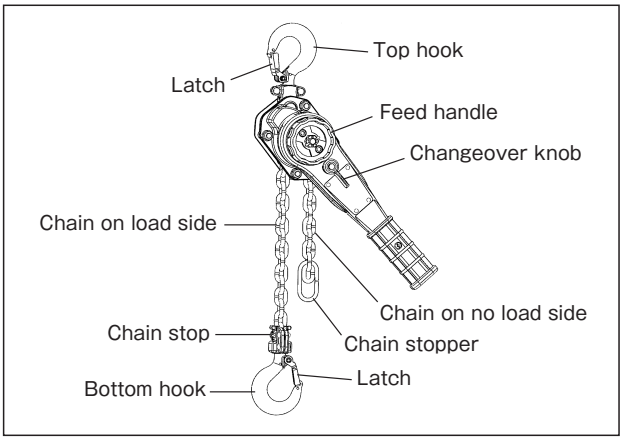
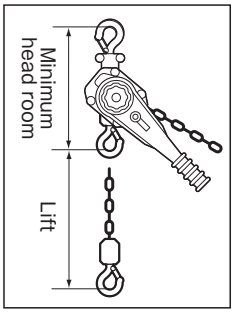


Figure 2

Minimum head room and lift



2.2 Unpacking the Product

(1)Check that the box labeling and product matches your order.
(2)Please confirm the contents of the container.
(3)Make sure the product has not been damaged during transportation.
(4)Check that no accessories are missing or disengaged.
(5)Check the integrity and condition of screws, fittings, etc. for all components.

2.3 Specifications Table

Table 1 Specifications

Model	Rated load	Lift	Load chain		Minimum head room	Hand force	Self-weight
			Diameter	Number of chain falls			
YA−80	0.8t	1.5m	5.6mm	1	290mm	294N	6.0kg
YA−100	1t	1.5m	5.6mm	1	312mm	363N	6.2kg
YA−160	1.6t	1.5m	7.1mm	1	352mm	353N	9.2kg
YA−320	3.2t	1.5m	9mm	1	420mm	432N	15.5kg
YA−630	6.3t	1.5m	9mm	2	564mm	441N	26.5kg
YA−900	9t	1.5m	9mm	3	689mm	451N	42.0kg

2.3.1 YA Dimensions

YA−80
YA−100
YA−160
YA−320

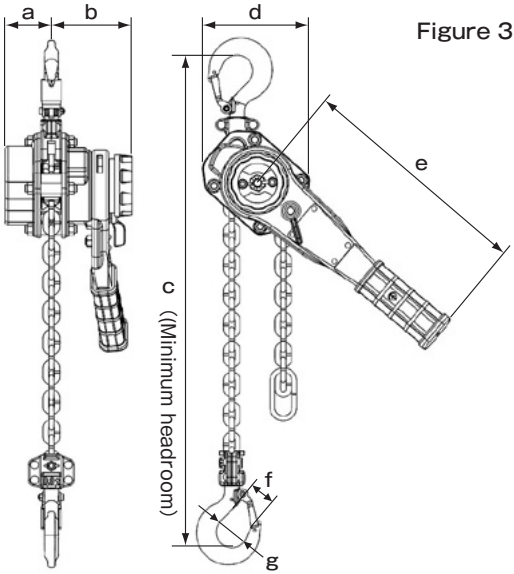
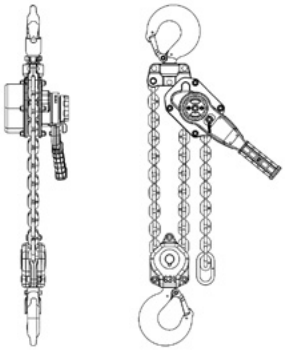


Figure 3

YA−630



YA−900

Table 2

Model	Rated load	a	b	c	d	e	f	g
YA−80	0.8t	53mm	91mm	290mm	122mm	268mm	23mm	36mm
YA−100	1t	53mm	91mm	312mm	122mm	268mm	28mm	43mm
YA−160	1.6t	63mm	99mm	352mm	136mm	310mm	29mm	43mm
YA−320	3.2t	82.5mm	104mm	420mm	180mm	360mm	36mm	53mm
YA−630	6.3t	82.5mm	104mm	564mm	235mm	360mm	47mm	70mm
YA−900	9t	82.5mm	104mm	689mm	300mm	360mm	73mm	85mm

2.3.2 YA Hook Dimensions

(1)Measure dimensions A, B, and C in Figure 4 below, and record the actual measurements at the time of purchase. Although limit dimensions may also be determined based on the reference standard values, it should be noted that there will be some dimensional errors due to the forging process.

(2) If any of dimensions A, B, and C have reached the indicated limits, replace the hook with a new one.

(3)The opening of the hook will expand in the event loads exceeding the rated load are applied to the mouth, or if a concentrated load is applied to the tip section.

(4)Hooks with expanded openings lose their original strength and shock-absorbing capabilities, and should be replaced upon exceeding the limit.

(5)Never reuse hooks with expanded openings straightened by heating or repairing. Such attempts could cause extremely hazardous results. Hooks with flaws 1 mm or more deep or bent/twisted hooks should also be replaced.

Table 3

Model	Rated load	A	B	C
YA−80	0.8t	46.6mm	19mm	15mm
YA−100	1t	51mm	22mm	16mm
YA−160	1.6t	55mm	26mm	21mm
YA−320	3.2t	67mm	35mm	28mm
YA−630	6.3t	91.5mm	46mm	34mm
YA−900	9t	125mm	61.1mm	47.5mm

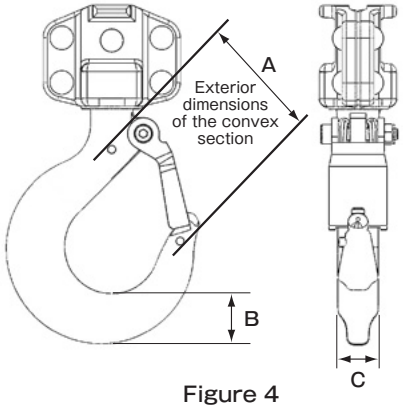


Figure 4

※Dimensions of the top and bottom hooks are the same.

Purchased Product			
Model	A	B	C

※Record actual measurement value at the time of purchase.

2.4 YAⅢ (with Overload Protection)

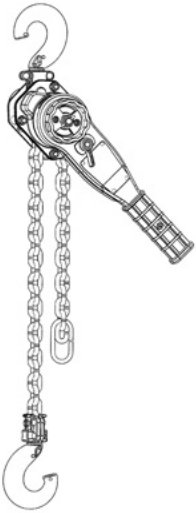
※The "Ⅲ" in model YAⅢ indicates overload protection.

※Except for the presence of dedicated parts, model YAⅢ does not differ from model YA. (See breakdown schematics)

※Overload protection means that when attempting to hoist a load in excess of the rated load, the lever will idle away (slip) preventing the load from being lifted. (The overload setting cannot be altered.)

2.5 YAS Shipyard Hook

The "S" in model YAS indicates the attachment of a shipyard hook.
The "Shipyard hook" is a special hook to facilitate canning and butting operations within the shipbuilding industry.
The shipyard hook has a reinforced tip, as compared to a normal hook.



⚠ WARNING

(1)Read this Instruction Manual thoroughly and understand its contents.

(2)Do not apply lateral-wise load to the neck portion of the hook.

(3)Make sure canning hooks are securely fixed to the load and will not dislodge from the load.

2.5.1 YAS Hook Dimensions

Table 4

Model	Rated load	A	B	C
YAS−80	0.8t	54.0mm	23.5mm	19.0mm
YAS−100	1t	54.0mm	23.5mm	19.0mm
YAS−160	1.6t	55.0mm	28.5mm	23.0mm
YAS−320	3.2t	70.2mm	37.0mm	28.0mm

※Dimensions of the top and bottom hooks are the same.

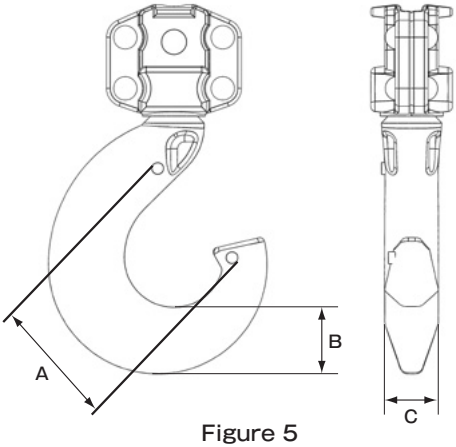


Figure 5

Purchased Product			
Model	A	B	C

※Record actual measurement value at the time of purchase.

3. Pre-Operational Procedures

3.1 Chain

⚠ WARNING

(1)Make sure the chain stopper is attached to the second-to-last chain link on the no-load side of the load chain.

(2)Before operating the equipment, make sure the load chain is not twisted or tangled. Hook for 6.3t (2 falls) and 9t (3 falls) are multiple falls hook. Make sure the hooks are not reversed. Be sure to correct any problems before using this equipment. (Figure 6, Figure 7)

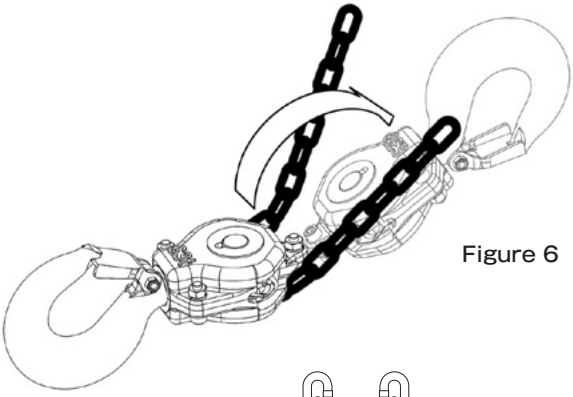
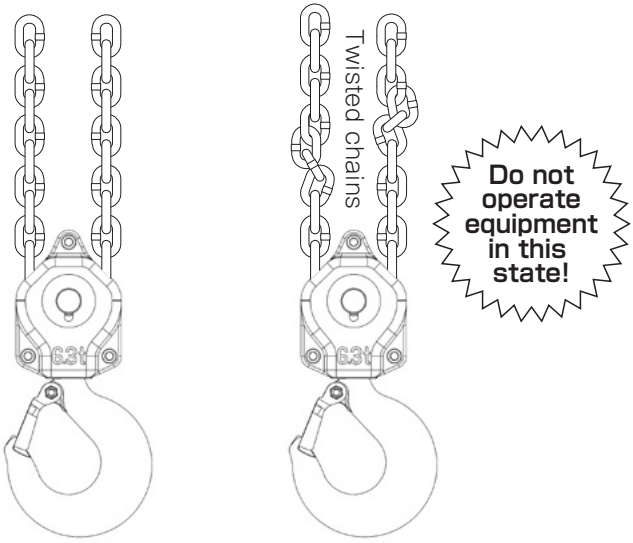


Figure 6



Correctly oriented chain

Twisted chain due to reversed hook

Figure 7

3.2 Lever Hoist Installation

⚠ WARNING

(1)Never install lever hoists without sufficient expertise in the equipment.

(2)Make sure the location of equipment installation has sufficient strength to support the equipment under load.

(3)When suspending a load from the hook, be sure to hang it in the correct position at the center of the hook.

(4)Never suspend loads from the tip of a hook.

(5)Never use the hoist with the hook working as a fulcrum (the suspended hook is shifted from its vertical position).

⚠ CAUTION

※Do not attach hooks in the manner illustrated in the figure below (both up and down) as it is dangerous.

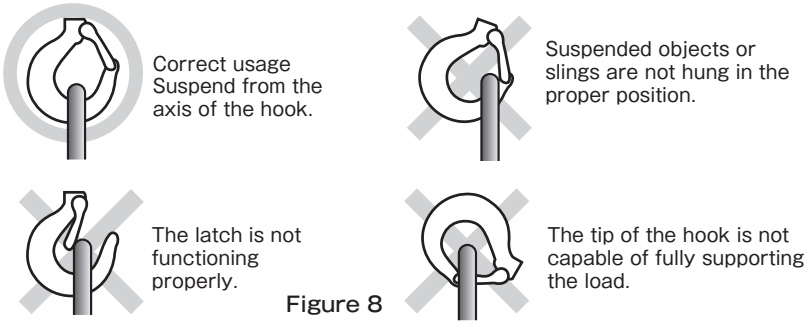


Figure 8

NOTICE

(1)When installing the hoist outdoors, lubricate the load chain. After use, clean the lever, apply lubricant, and store in a dry place.

3.3 Pre-Operational Inspection and Test Run

⚠ WARNING

(1)Before use, check the chain sling, wire rope, sling and all other hoisting equipment for appropriate rated load. Inspect all equipment for damage, replace it as needed with new equipment, or have it repaired before use.

(2)Before operating this equipment, check the entire length of the chain and straighten any twists.

(3)Measure the dimensions of the top and bottom hooks at the time of purchase, and record the actual measurements.

(4)Make sure the model, serial number, and initial date of use for this equipment is recorded accordingly at the time of purchase.

(5)Make sure the location of equipment installation has sufficient strength to support the equipment under load

3.3 Pre-Operational Inspection and Test Run (continued)

⚠ WARNING

(6)Make sure the equipment has been installed correctly.

(7)Make sure all nuts, bolts, and cotter pin are sufficiently secured in position.

(8)Understand the work to be done with the equipment and operate accordingly.

(9)Users are required to ensure this equipment has been safely installed and operated in accordance with laws and regulations of the country, and that the maintenance and inspection requirements have been met.

(10)Before operating this equipment, make sure no interfering objects are present within its entire range of operation.

4. Precautions for Use

4.1 General Handling

⚠ DANGER

(1)Individuals unfamiliar with the contents of the instruction manual and caution nameplate must not operate this product.

(2)Do not use this product to support, lift, or transport people.

(3)Do not allow anyone to enter the area underneath or within the movement range of suspended loads.

Additionally, do not move the load above anyone. (Figure 9)

(4)Use this product within a temperature range of −40℃ to +60℃ (with humidity of less than 100%RH) .

(5)Do not use this product in water.

(6)Never use this equipment in locations constantly subjected to wind, rain, or waves, or in locations susceptible to salt damage, acid, alkali, etc., as this could cause damage to the equipment and load chains.

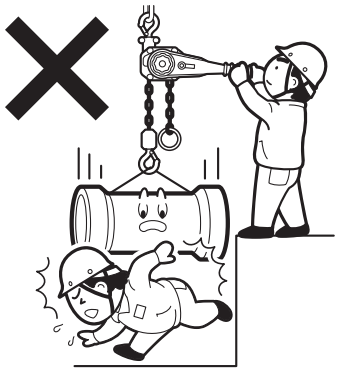


Figure 9

⚠ WARNING

(1)Only operators who have thoroughly read and fully understand the contents of this instruction manual should carry out work related to inspection and repair of the equipment. It is also necessary to understand relevant standards, laws and regulations of the country. Use of this product without thorough understanding of all relevant information is strictly prohibited.

(2)Those without an accurate understanding of its controls are not to operate this equipment.

(3)Those without an understanding of the proper operating procedures for attaching loads to the top and bottom hooks are not to use this equipment.

⚠ WARNING

(4)Operator are required to understand the adjustment, failure, and repair of this equipment. Operators unable to stop operation and take corrective action in the event of a malfunction are not to use this equipment.

(5)Operators should be attentive of potential malfunctions of the equipment which may require adjustment or repair, and must stop operation and contact a supervisor immediately in the event such a malfunction occurs.

(6)Individuals with restrictions in eyesight, field of vision, reaction time, or manual dexterity are not to operate this equipment.

(7)Individuals without sufficient bodily control, those with physical deficiencies, are emotionally unstable, have a history of seizures, are prone to seizures, or are otherwise likely to operate the equipment in a manner potentially hazardous to the operator or others are not to operate this equipment.

(8)Operator under the influence of drugs, medical drugs, or alcohol are not to operate this equipment.

NOTICE

Understanding of the hazard tags/labels and nameplate (tonnage) attached to the unit is required.

●Engineering functions of this equipment alone cannot mitigate all hazards, which include hazards that can be mitigated by the operator's knowledge, experience, caution, and common sense. In order to enhance awareness of the above, fully understand the contents of this instruction manual and use the equipment safely.

4.2 Precautions before Operation

⚠ WARNING

(1)Never suspend loads exceeding the rated load.(Figure 10)

(2)Do not use this equipment if it is damaged or emits abnormal noises.

(3)Never use load chains that are twisted, tangled, cracked, have abnormal meshing, or are elongated or worn beyond specified limits.

(4)If attached with two or more load chains, do not use this equipment if the bottom hook is in an abnormal state of passing through the load chains. (Figure 11)

(5)Do not intrude into the area beneath the load or within the moving range of the load.

Additionally, do not move the load above anyone.

(6)Never operate the hoist in such a manner as to let the load drop even a slight distance.

(7)Never cut, splice, or weld the load chain.

(8)Do not operate the lever hoist if the load cannot be suspended from the center portion of the hook.

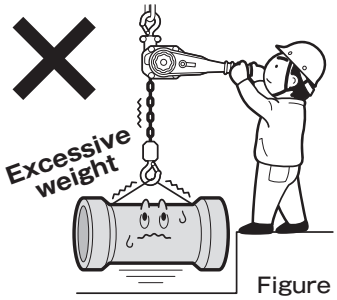


Figure 10

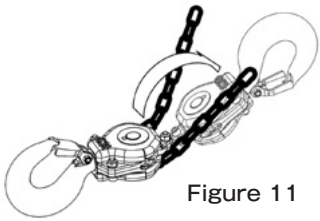


Figure 11

⚠ WARNING

(9)Do not use this equipment as a sling suspension device. Also, do not use with the load chain wrapped around the load.

(10)Never operate equipment by means of pipes, etc. inserted into the Equipment or by stepping on the Equipment with your feet. (Figure 12)

(11)Never apply loads exceeding the rated load on a single unit of this equipment when performing two-hoist lifting. (Figure 13)

(12)Never over-wind or over-lower loads.

(13)Never suspend a load with the tip portion of the hook. (Figure 14)

(14)When suspending loads from the hook, never operate the hook in such a way that a lateral load is applied to either the top or bottom hooks.

(15)Do not leave the load suspended for a long time.

(16)Do not connect the grounding from welding machines to the load chain. (Figure 15)

(17)Never allow welding electrodes to come in contact with the load chain.

(18)Do not remove caution labels or nameplates from the unit or use the unit with caution labels or nameplates in an illegible condition.

(19)Do not use the product if the nameplate affixed to the main unit is illegible.

(20)Make sure that all personnel are clear of the support load.

(21)Do not allow sparks from welding, etc. into come in contact with this equipment.

(22)When lifting or moving a load, notify surrounding workers.

(23)Never install this equipment without sufficient expertise in the equipment.

(24)Make sure the location of equipment installation maintains sufficient strength to support the equipment under load.

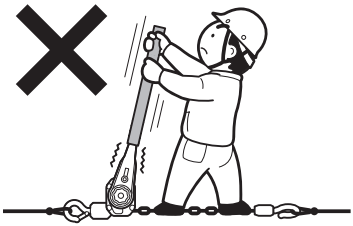


Figure 12

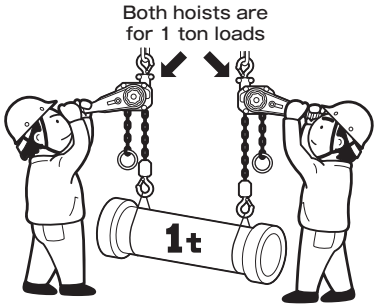


Figure 13

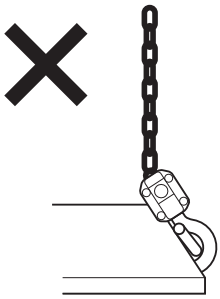


Figure 14

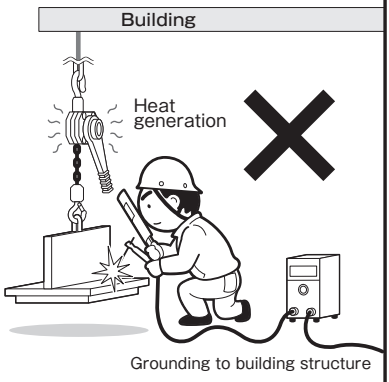


Figure 15

⚠ WARNING

(25)Do not allow anyone to ride on suspended loads. Never use the lever hoist for human transport purposes. (Figure 16)

(26)Never reverse a suspended load without sufficient expertise in doing so.

(27)Do not suspend excessive loads.

(28)When maintaining the load in a suspended condition for a short period of time, be sure to leave the switch pawls in the lifting position.

(29)Never use the hoist or the hook to work as a fulcrum.

(30)Do not use damaged or deformed top/bottom hooks.

(31)Never use this equipment if the load chain is deformed or damaged.

(32)Do not operate the equipment with the load chain lodged against a steel plate or other corners. (Figure 17)

(33)Do not operate the load chain by any means other than human power (do not use any tools or objects on the controls).

(34)Do not apply abrupt force to the load chain during idle operation.

(35)Suspend slings properly onto the hook.

(36)During lifting, temporarily pause winding once either the load chain or sling comes under tension.

(37)Keep the lever hoist unit and load chain clean and free of sand and other debris.

(38)Make sure the lifting height is sufficient for the intended work.

(39)Make sure the load chain is sufficiently lubricated.

(40)Do not modify this equipment in any way.

(41)Do not use with the load chain wrapped around the load. (Figure 18)

(42)Do not suspend the load chain directly from rope hook fixtures on trucks. Do not use the load chain as a suspension device. (Figure 19)

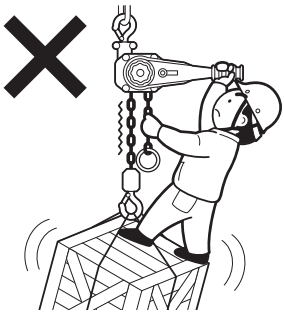


Figure 16

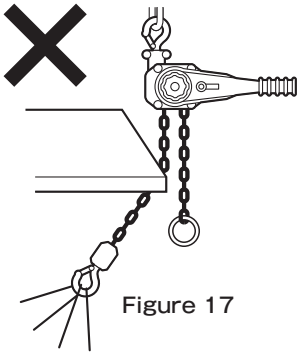


Figure 17

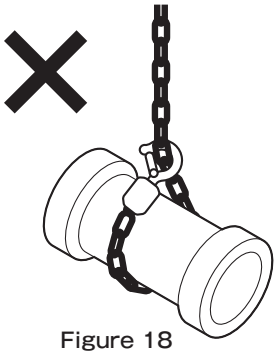


Figure 18

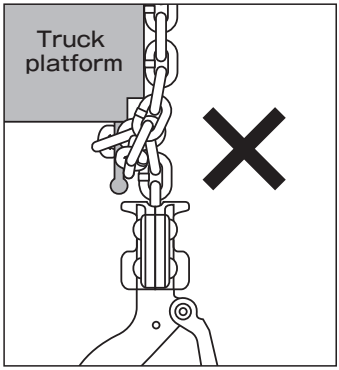


Figure 19

⚠ WARNING

(43)Do not hang hooks onto the rope hook fixtures of trucks in a manner subjecting the neck portion of hooks to strain when tying down the cargo (could result in neck breakage).

(Do not use hooks in a manner that it is subjected to lateral bending forces.) (Figure 20)

Instead, hook wire slings onto the rope hook fixtures first, and then tie down the cargo.

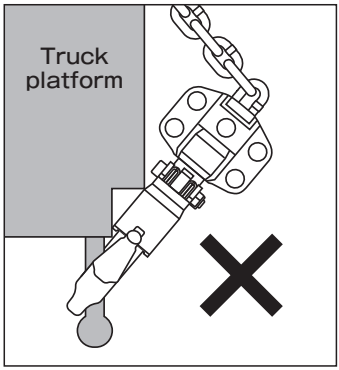


Figure 20

⚠ CAUTION

(1)When operating this equipment, be sure to maintain a firm foothold, and otherwise ensure safe working conditions (for performance of operations).

(2)Always check the brake function before using this equipment.

(3)Make sure the latch for the hook is properly attached. The latch helps prevent slings, chain slings, and other slinging tools and loads from being released.

(4)Make sure all obstacles are removed from the vicinity of the load.

(5)Avoid shaking either the load or the hook.

(6)Make sure the hook is moving in the predetermined direction.

(7)Inspect this equipment periodically and replace any damaged or worn parts. Maintain records of the inspections.

(8)Never use other than genuine parts from the manufacturer of this equipment.

(9)When measuring applied loads, do not use the overload protection device as the measuring instrument.

(10)Do not become distracted from the load during operation.

(11)Repairs of the equipment must only be done by qualified service technicians.

(12)After finishing operation of the hoist, wipe off any mud, water, and foreign matter, and apply lubrication to the chain and hook.

(13)Never apply lubricants to the brake parts.

(14)Store the equipment in a dry location, protected from rain and dew.

(15)Always loosen the brake for storage, and never store the equipment with the brake in a tightened condition.

※If the hoist is stored with the brake tightened, it will not be able to perform lowering operations the next time it is used.

In this case, perform a lowering operation once to disengage the brake.

(16)When disposing of this equipment, disassemble it to prevent its reuse by others.

5. Lever Hoist Operation

5.1 Regarding automatic free chaining operation

Model YA lever hoists are equipped with an "automatic free chaining operation system" enabling free chaining operation by simply switching the changeover knob in the absence of loads.

※Automatic free chaining operation enables the load chain to move freely by releasing the brake when there is no load.

5.2 Adjustment of Load Chain Length (Free chaining Operation)

⚠ DANGER

(1)Never select the free chaining operation when a load is applied to the equipment. Always select it when there is no load.

(2)Do not touch the feed handle when lifting or lowering loads.

⚠ WARNING

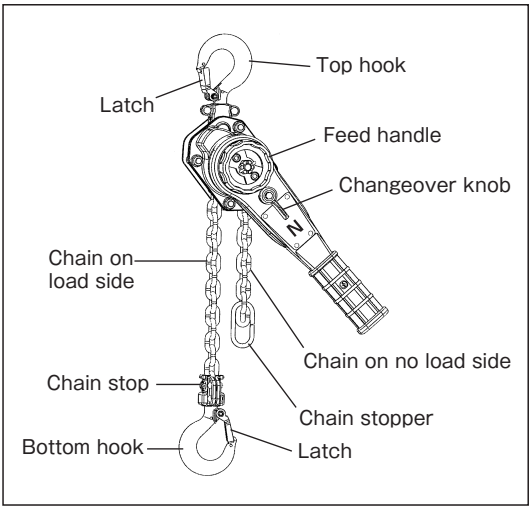
(1)Be sure to check that the changeover knob is set to the correct position.

To adjust the length of the load chain in the absence of loads, perform the free chaining operation in the order shown in Figures 21 to 23 below:

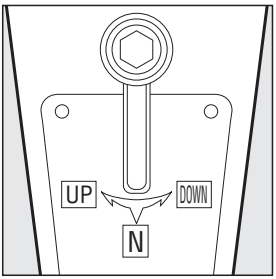
(1)Set the changeover knob to "N". The changeover knob is located beneath the feed handle.

(2)Turn the feed handle leftward (counterclockwise) about 1/2 rotation.

(3)Slowly pull the load chain on the no-load side (chain stopper side), then slowly pull the load chain on the load side (bottom hook side) to adjust the position according to the work to be performed.

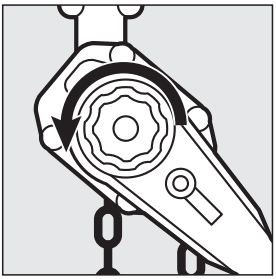


Free chaining method



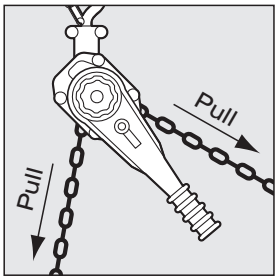
(1)Set changeover knob to position "N".

Figure 21



(2)Turn feed handle leftward (counter clockwise) about 1/2 rotation.

Figure 22



(3)Slowly pull load chain on the no-load side (chain stopper side), then slowly pull load chain on the load side (bottom hook side), adjusting the position according to the work to be performed.

Figure 23

⚠ CAUTION

(1)Do not abruptly pull on the load chain during free chaining operation.
(2)Pulling with excessive force causes the brake to engage, rendering the load chain immobile. In such situations, readjustment is required.

5.3 Lifting/Lowering Operation

(1)Set the hoist and adjust the load chain using free chaining operation to a height allowing for easy suspension of the load on the bottom hook.
(2)Suspend the load on the bottom hook.
(3)Set the changeover knob to (UP), and apply load to the load chain.
(Rotate the feed handle clockwise to remove any slack or twist in the load chain.)
(4)Clockwise rotation of the lever raises the load chain and the bottom hook.
(5)Set the changeover knob to (DOWN) and move the lever counterclockwise to lower the load chain and the bottom hook.
(6)If the lever is heavy when lowering, apply force to the lever only at the beginning of operation.
(7)After tightening, be sure to set the changeover knob into the (UP) position.
(8)If the load chain does not move either upward or downward even when lifting/lowering with the lever when no load or a light load is applied, operate while pulling on the load chain lightly without a load. (This is not a malfunction)
(9)When lifting or lowering, the brake will engage the moment the load is applied.
(10)When lifting, the mechanical brake rotates while in a tightened condition, immediately supporting the load by means of pawls upon ceasing the lifting operation.
(11)When lowering, the mechanical brake is loosened corresponding to the amount of lever operation, and the load chain is wound down, with the mechanical brake immediately tightening to support the load when the lowering operation stops.

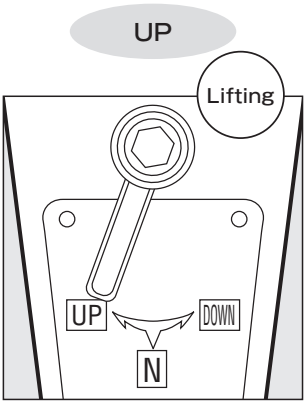


Figure 24

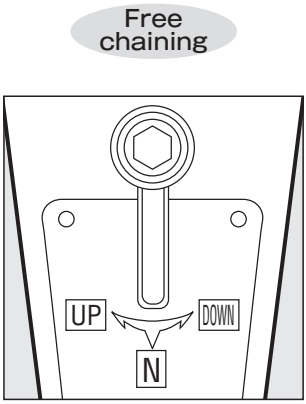


Figure 25

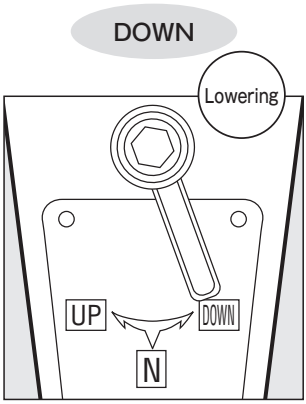


Figure 26

⚠ WARNING

(1)Make sure the location of equipment installation has sufficient strength to support the equipment under load.
(2)When performing two-hoist lifting, each unit involved in the suspension shall be individually capable of bearing the entire suspended load.
(3)Never over-wind or over-lower loads.
(4)Inspect the slings prior to hoisting. Some slinging methods may be extremely dangerous.
(5)Do not operate the feed handle when lifting or lowering.

⚠ CAUTION

(1)Before lifting/lowering, make sure the hoist is not in free chaining operation, and the changeover knob is set to the correct position.
(2)If the load chain does not descend upon performing the lowering operation under light load conditions, lightly pull the chain on the load side.

5.4 Overload Protection (Model YAⅢ)

The overload protection device prevents loads in excess of the rated load from being lifted or drawn by letting the lever idle away (slip). (The overload setting cannot be altered.)

⚠ DANGER

(1)Do not lift loads exceeding the rated load.
(2)If overload protection is activated, stop the lifting operation immediately and unload the load. In such situations, lighten the suspended load or change the capacity of this equipment.
(3)Do not adjust, modify, or disassemble the overload protection device.
(4)In case of problems with the overload protection device, replace the device.
(5)Do not use the overload protection device for unintended purposes including load measurement.

6. Maintenance and Inspection of Lever hoists

6.1 Maintenance and Inspection

To use this equipment at ease, it is essential to perform daily and periodic inspection. Please read below explanation thoroughly and inspect in right way.

Danger

1. Specialist or a person who has expertise designated by owner should perform the inspection and repairment.
2. In inspecting the product, do not put a load on it.
3. Never modify the product.
4. Never cut and weld the load chains.
5. Do not use the part and product over the limit of use.

6.2 Inspection items

(1)Check if there any deformation or missing part noticeable at a glance on the appearance.

A : Check if there any deformation of the part that top hook is connected to the unit on.

B : Check if bolt, nut, and cotter pin which are connecting load chain on bottom hook are fixed correctly.

C : Check if shape of top and bottom hook is normal, if there any scar, opening of hook, if their safety latch is normal.

D : Check if there are any scar or deformation, elongation of pitch, wear on the load chain.

(2)Check if changeover knob can move smoothly. Confirm it by operating it.

(3)Set changeover knob to position "DOWN" and turn feed handle clockwise. Check if you can hear click sound of the pawl.

6.3 Inspection, Testing Methods and Reference Values

Inspection/testing method and standard values are as follows:

Inspection and testing methods for YA parts (*Refer to the breakdown schematics for part numbers.)
※Although details of inspection and limit dimensions are specified for respective parts, users should determine the frequency of use and duration of service individually, replacing the necessary parts with new parts or new products in order to prevent accidents and enhance the operational safety factor.
※Please note, some of the parts are forged and may have slight dimensional errors.
The following dimensions are limit values based on reference standard values.

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Top hook set (No.1)	Visual inspection, measurement	Inspect opening of the hook, hook thickness and wear in vertical/horizontal dimensions Inspect diameter of the top hook pin-hole for elongation Inspect the hook for bends, twists, damage, etc. and smooth hook rotation Dimensions are not to exceed the reference standard values.	Replace with a new part.

Table 5

Rated load	Position	Reference standard values	Enter actual measured value at the time of purchase
0.8t	A : Between punches	46.6mm	Not to exceed dimension A
	B : Hook thickness, vertical	19.0mm	18.0mm
	C : Hook thickness, horizontal	15.0mm	14.2mm
	D : Hole diameter, top hook pin	12.5mm	13.1mm
1t	A : Between punches	51.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	22.0mm	20.9mm
	C : Hook thickness, horizontal	16.0mm	15.2mm
	D : Hole diameter, top hook pin	12.5mm	13.1mm
1.6t	A : Between punches	55.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	26.0mm	24.7mm
	C : Hook thickness, horizontal	21.0mm	19.9mm
	D : Hole diameter, top hook pin	14.5mm	15.2mm
3.2t	A : Between punches	67.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	35.0mm	33.2mm
	C : Hook thickness, horizontal	28.0mm	26.6mm
	D : Hole diameter, top hook pin	16.5mm	17.3mm
6.3t	A : Between punches	91.5mm	Not to exceed dimension A
	B : Hook thickness, vertical	46.0mm	43.7mm
	C : Hook thickness, horizontal	34.0mm	32.3mm
	D : Hole diameter, top hook pin	16.5mm	17.3mm
9t	A : Between punches	125.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	61.1mm	58.0mm
	C : Hook thickness, horizontal	47.5mm	45.1mm
	D : Hole diameter, top hook pin	16.5mm	17.3mm

Dimension A is not to exceed dimension A value.
Actual measured values of dimensions B, C, and D are not to indicate wear of 5% or more.

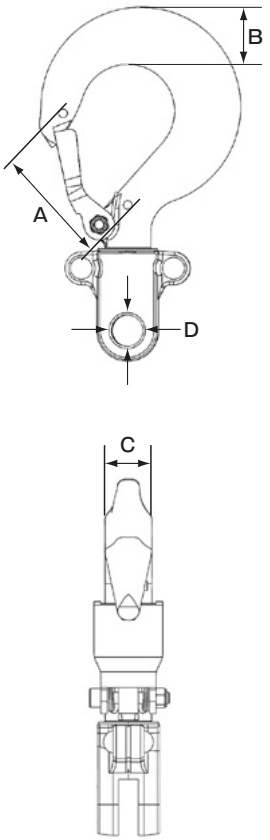


Figure 27

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Safety latch set (No.2)	Visual inspection, measurement	Confirm engagement with the hook, the repulsive force of the spring, and if there is any damage or deformation.	Replace with a new part.

Table 6

Rated load	Engraving	Dimension A	Dimension B
0.8t	C－3	45.0mm	22.0mm
1t	F－4	48.0mm	22.0mm
1.6t	F－5	54.0mm	31.0mm
3.2t	C－8	66.5mm	37.2mm
6.3t	5.0	82.0mm	45.0mm
9t	C10	109.5mm	60.0mm

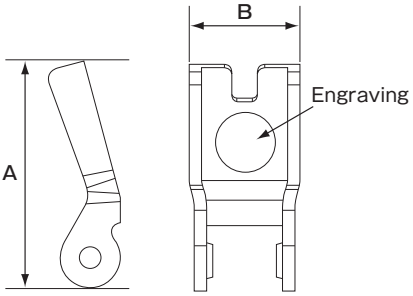


Figure 28

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Bottom hook set (No.7)	Visual inspection	Inspect the opening of the hook, hook thickness and wear in vertical/horizontal dimensions, elongation of the chain retaining bolt hole Inspect the hook for bends, twists, damage, etc. and smooth hook rotation Dimensions are not to exceed the reference standard values.	Replace with a new part.

Table 7

Rated load	Position	Reference standard values	Enter actual measured value at the time of purchase
0.8t	A : Between punches	46.6mm	Not to exceed dimension A
	B : Hook thickness, vertical	19.0mm	18.0mm
	C : Hook thickness, horizontal	15.0mm	14.2mm
	D : Chain stop bolt hole diameter	8.8mm	9.3mm
1t	A : Between punches	51.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	22.0mm	20.9mm
	C : Hook thickness, horizontal	16.0mm	15.2mm
	D : Chain stop bolt hole diameter	8.8mm	9.3mm
1.6t	A : Between punches	55.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	26.0mm	24.7mm
	C : Hook thickness, horizontal	21.0mm	19.9mm
	D : Chain stop bolt hole diameter	10.8mm	11.3mm
3.2t	A : Between punches	67.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	35.0mm	33.2mm
	C : Hook thickness, horizontal	28.0mm	26.6mm
	D : Chain stop bolt hole diameter	12.7mm	13.2mm
6.3t	A : Between punches	91.5mm	Not to exceed dimension A
	B : Hook thickness, vertical	46.0mm	43.7mm
	C : Hook thickness, horizontal	34.0mm	32.3mm
	D : Chain stop bolt hole diameter	12.7mm	13.2mm
9t	A : Between punches	125.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	61.1mm	58.0mm
	C : Hook thickness, horizontal	47.5mm	45.1mm
	D : Chain stop bolt hole diameter	13.4mm	13.9mm

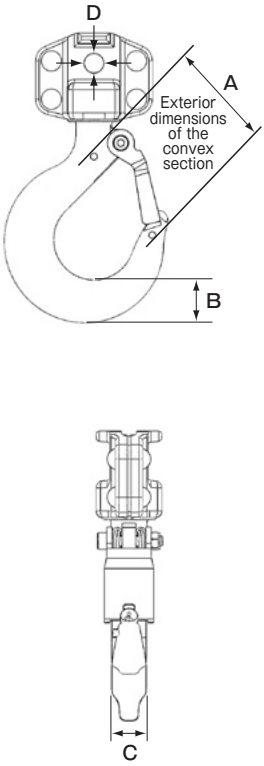


Figure 29

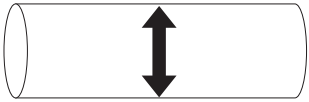
Dimension A is not to exceed dimension A value.
Dimensions B and C are not to indicate wear of 5% or more in relation to the actual measured value.
Dimension D is not to indicate wear of 0.5mm or more in relation to the above reference standard value.

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Top hook pin (No.6)	Visual inspection, measurement	Inspect for pin diameter wear.	Replace with a new part.

Table 8

Rated load	Dimension A reference standard value	Limit value
0.8t	12mm	11.4mm
1t	12mm	11.4mm
1.6t	14mm	13.3mm
3.2t	16mm	15.2mm
6.3t	16mm	15.2mm
9t	16mm	15.2mm

Not to indicate wear of 5% or more in relation to above dimensional value.



Dimension A

Figure 30

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Chain stop bolt set (No.8)	Visual inspection	Inspect for wear of the chain stop bolt diameter; damage or deformation of the retaining bolt; cracks in the hex. castle nut Deterioration of the cotter pin	Replace with a new part. ※Periodic replacement is recommended

Table 9

Rated load	Dimension A	Dimension A limit value	Dimension B	Dimension C	Engraving
0.8t	8.5mm	8.0mm	23.0mm	M6XP1	EF
1t	8.5mm	8.0mm	23.0mm	M6XP1	EF
1.6t	10.5mm	10.0mm	29.5mm	M8XP1.25	EH
3.2t	12.5mm	12.0mm	39.0mm	M10XP1.5	EK
6.3t	12.5mm	12.0mm	39.0mm	M10XP1.5	EK
9t	13.0mm	12.5mm	48.0mm	M12XP1.75	None

Wear shall not 0.5mm or more of the above dimensional value

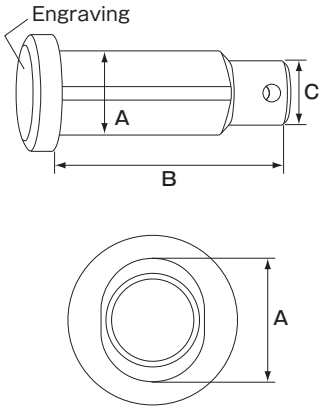


Figure 31

Hex. nut (No.13)	Visual inspection	Inspect for damage, wear, deformation, etc.	Replace with a new part.
Spring washer (No.14)	Visual inspection	Inspect for damage, wear, deformation, etc.	Replace with a new part.
Gear cover set (No.18)	Visual inspection	Inspect for significant deformation and wear with bumps identifiable by hand. Inspect for cracks, wear, or rattling of the metal clasped to the gear cover.	Replace with a new part.
Pinion shaft (No.19)	Visual inspection	Inspect for chipped gear teeth, bumpy wear or damage, and smooth rotation of the gear when passing through the disc hub and feed gear.	Replace with a new part.
Washer for pinion shaft (No.20)	Visual inspection	Inspect for significant deformation, wear with bumps identifiable by hand.	Replace with a new part.
Hex. castle nut (No.21)	Visual inspection	Inspect for damage, wear, deformation, etc.	Replace with a new part.
Cotter pin (No.22)	Visual inspection	Inspect for damage, wear, deformation, etc.	Replace with a new part.
2nd and 3rd gear set (No.23)	Visual inspection	Inspect for chipped gear teeth, bumpy wear or damage	Replace with a new part.

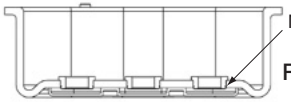
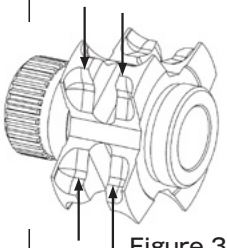
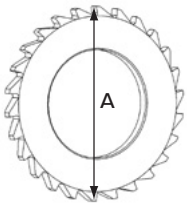


Figure 32

<table>
<tr><th>Inspection item
(part name)
part number</th><th>Method</th><th>Inspection/test details/standard values</th><th>Measures</th></tr>
<tr><td>Load gear
(No.24)</td><td>Visual
inspection</td><td>Inspect for chipped gear teeth, bumpy wear or damage</td><td>Replace with a new part.</td></tr>
<tr><td>Load sheave
(No.25)</td><td>Visual
inspection</td><td>Inspect for bumpy wear, damage, deformation, etc., on parts engaging the chain (pocket). Inspect for signs of obduction by the chain
Locations with possibility of being obducted by the chain
 
Figure 33</td><td>Replace with a new part.</td></tr>
<tr><td>Chain guide set
(No.26)</td><td>Visual
inspection</td><td>Inspect for bumpy wear, damage and signs of obduction by the chain</td><td>Replace with a new part.</td></tr>
<tr><td>Chain stripper
(No.27)</td><td>Visual
inspection</td><td>Inspect for bumpy wear, damage and signs of obduction by the chain</td><td>Replace with a new part.</td></tr>
<tr><td>Disk hub
(No.28)</td><td>Visual
inspection</td><td>Inspect for chipped gear teeth, bumpy wear and damage; smooth rotation when the pinion shaft is passed through.</td><td>Replace with a new part.</td></tr>
<tr><td>E-ring for disc hub
(No.29)</td><td>Visual
inspection</td><td>Inspect for opening of ring and damage</td><td>Replace with a new part.</td></tr>
<tr><td>Ratchet wheel
(No.30)</td><td>Visual
inspection</td><td>Inspect for chipped teeth, wear in positions engaging the pawls, damage Braking section to be free of any bumpy wear
Table 10
<table>
<tr><th>Rated load</th><th>Dimension A</th><th>Dimension A
limit value</th></tr>
<tr><td>0.8t</td><td>66.0mm</td><td>62.7mm</td></tr>
<tr><td>1t</td><td>66.0mm</td><td>62.7mm</td></tr>
<tr><td>1.6t</td><td>72.0mm</td><td>68.4mm</td></tr>
<tr><td>3.2t</td><td>72.0mm</td><td>68.4mm</td></tr>
<tr><td>6.3t</td><td>72.0mm</td><td>68.4mm</td></tr>
<tr><td>9t</td><td>72.0mm</td><td>68.4mm</td></tr>
</table>


Dimension A :
Ratchet wheel diameter
Figure 34
Not to indicate wear of 5% or more in relation to above dimensional value.</td><td>Replace with a new part.</td></tr>
</table>

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Brake lining (No.31)	Visual inspection	Inspect for chipped teeth, wear in positions engaging the pawls, damage Braking section to be free of any bumpy wear	Replace with a new part.

Table 11

Rated load	Dimension A	Dimension A limit value	Dimension B	Dimension C
0.8t	3.0mm	2.8mm	55.0mm	34.5mm
1t	3.0mm	2.8mm	55.0mm	34.5mm
1.6t	3.5mm	3.3mm	64.0mm	40.5mm
3.2t	3.5mm	3.3mm	64.0mm	40.5mm
6.3t	3.5mm	3.3mm	64.0mm	40.5mm
9t	3.5mm	3.3mm	64.0mm	40.5mm

To be free of wear deviating 0.2mm or more from the dimensional value above

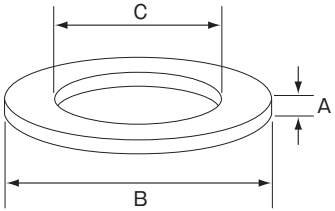


Figure 35

Lever set (No.33)	Visual inspection	Inspect for significant deformation and normal movement of the changeover knob.	Replace with a new part.
Lever grip (No.34)	Visual inspection	Inspect for cracks in the rubber handle, deformation, etc.	Replace with a new part.
Bracket screw (No.35)	Visual inspection	Inspect for attachment of bracket screws	Replace with a new part.
Name plate (No.92)	Visual inspection	Inspect for damage, legibility	Replace with a new part.
Hex. nut (No.36)	Visual inspection	Inspect for damage, wear, deformation, etc.	Replace with a new part.
Spring washer (No.37)	Visual inspection	Inspect for damage, wear, deformation, etc.	Replace with a new part.
Feed gear (No.38)	Visual inspection	Inspect for chipped gear teeth, bumpy wear and damage Inspect for smooth rotation when the pinion shaft is passed through	Replace with a new part.
Ratchet for feed gear (No.39)	Visual inspection	Inspect for significant deformation and wear with bumps identifiable by hand.	Replace with a new part.
Ratchet spring pin (No.40)	Visual inspection	Inspect for damage, deformation and wear	Replace with a new part.

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Lever cover set (No.43)	Visual inspection	Inspect for any significant deformation and catching in the rotating parts.	Replace with a new part.
Gear-side plate set (No.82)	Visual inspection	Inspect for damage or deformation of the top hook pin hole, sheave hole, and stay bolt.	Replace with a new part.

Table 12

Rated load	Dimension A	Dimension A limit value
0.8t	12.5mm	13.0mm
1t	12.5mm	13.0mm
1.6t	14.5mm	15.0mm
3.2t	16.5mm	17.0mm
6.3t	16.5mm	17.0mm
9t	16.5mm	17.0mm

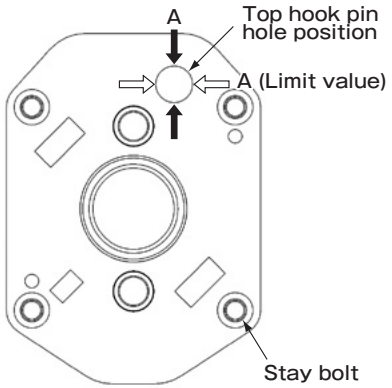


Figure 36

To be without wear of 0.5mm or more in relation to the above dimensional value. Measurement to be taken at 90° angles horizontally and vertically.

Lever-side plate set (No.83)	Visual inspection	Inspect for damage or deformation of the top hook pin hole and sheave hole.	Replace with a new part.

Table 13

Rated load	Dimension A	Dimension A limit value
0.8t	12.5mm	13.0mm
1t	12.5mm	13.0mm
1.6t	14.5mm	15.0mm
3.2t	16.5mm	17.0mm
6.3t	16.5mm	17.0mm
9t	16.5mm	17.0mm

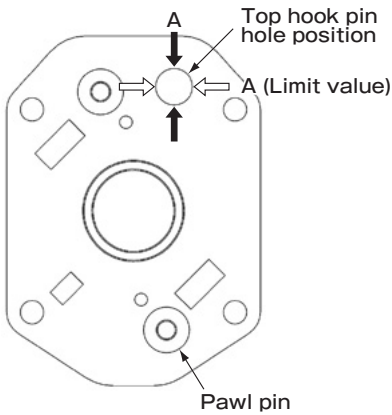


Figure 37

To be without wear of 0.5mm or more in relation to the above dimensional value. Measurement to be taken at 90° angles horizontally and vertically.

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Pawl (No.15)	Visual inspection	Inspect for chipped teeth on pawls, bumpy wear and damage	Replace with a new part.
Pawl spring (No.16)	Visual inspection	To be without wear on the surfaces contacting the pawls. Bending portion of the spring to be free of indicate cracks or breaks. Spring to be free of expansion/contraction or deformation due to compression.	Replace with a new part.
E-ring for pawl (No.17)	Visual inspection	Inspect for opening of ring and damage	Replace with a new part.
Ratchet spring (No.85)	Visual inspection	Inspect for expansion/contraction beyond the specified value.	Replace with a new part.

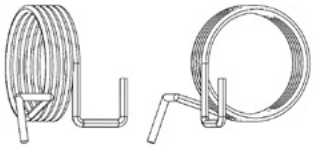


Figure 38

Table 14

Rated load	Dimension A reference standard value	
0.8t	35mm	To be without expansion/contraction beyond the dimension indicated on the left (to be without deformation due to compression)
1t	35mm	
1.6t	48mm	
3.2t	48mm	
6.3t	48mm	
9t	48mm	

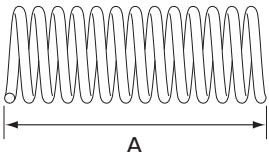


Figure 39

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Spring for floating mechanism (No.87)	Visual inspection	Inspect for expansion/contraction beyond the specified value.	Replace with a new part.

Table 15

Rated load	Dimension A reference standard value	
0.8t	32.5mm	To be without expansion/contraction beyond the dimension indicated on the left (to be without deformation due to compression)
1t	32.5mm	
1.6t	38.5mm	
3.2t	42.0mm	
6.3t	42.0mm	
9t	42.0mm	

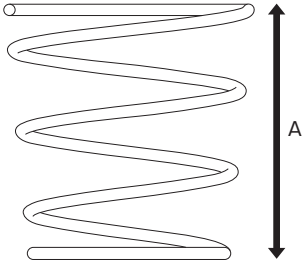


Figure 40

Feed handle (No.88)	Visual inspection	To be without damage or deformation	Replace with a new part.
Chain stopper (No.91)	Visual inspection, measurement	Inspect for expansion/contraction beyond the specified value.	Replace with a new part.

Table 16

Rated load	A	B	C	
0.8t	50mm	20mm	1mm	To be without expansion/contraction beyond the dimension indicated on the left (to be without deformation due to compression)
1t	50mm	20mm	1mm	
1.6t	63mm	26mm	1mm	
3.2t	79mm	34mm	1mm	
6.3t	79mm	34mm	1mm	
9t	79mm	34mm	1mm	

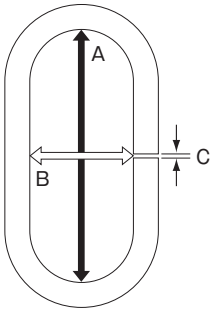


Figure 41

Check washer (No.102)	Visual inspection	Inspect for significant deformation, wear with bumps identifiable by hand.	Replace with a new part.
Hex. socket head cap screw set (No.103)	Visual inspection	Inspect for damage, deformation and wear	Replace with a new part.
Tag (No.110)	Visual inspection	Inspect for damage, deformation and wear	Replace with a new part.

Inspect and test Model YAⅢ parts indicated below:

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
TORCON device set for Model YAⅢ (No.138)	Visual inspection	Inspect for chipped gear teeth, bumpy wear and damage Inspect for smooth rotation when the pinion shaft is passed through	Replace with a new part.
Spring for floating mechanism for Model YAⅢ (No.187)	Visual inspection, measurement	Inspect for expansion/contraction beyond the specified value.	Replace with a new part.
Feed handle for Model YAⅢ (No.188)	Visual inspection	To be without damage or deformation	Replace with a new part.
Hex. socket head cap screw set for Model YAⅢ (No.173)	Visual inspection	Inspect for damage, deformation and wear	Replace with a new part.
Name plate for Model YAⅢ (No.92)	Visual inspection	Inspect for damage, legibility	Replace with a new part.

Table 17

Rated load	Dimension A reference standard value	
0.8t	22mm	To be without expansion/contraction beyond the dimension indicated on the left (to be without deformation due to compression)
1t	22mm	
1.6t	24mm	
3.2t	24mm	
6.3t	24mm	
9t	24mm	

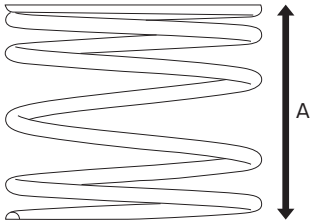


Figure 42

※Parts other than the above are in common with Model YA.

Inspect and test Model YAS parts indicated below:

Inspection Items /Points	Inspection contents/methods	Countermeasure
Top hook set	Inspect opening of the hook, hook thickness and wear in vertical/horizontal dimensions; diameter of the top hook pin-hole for elongation Inspect the hook for bends, twists, damage, etc. and smooth hook rotation. Dimensions are not to exceed the reference standard values.	Replace with a new part.

Table 18

Rated load	Position	Reference standard values	Enter actual measured values at the time of purchase.
0.8t	A : Between punches	54.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	23.5mm	22.3mm
	C : Hook thickness, horizontal	19.0mm	18mm
	D : Hole diameter, top hook pin	12.5mm	13.1mm
1t	A : Between punches	54.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	23.5mm	22.3mm
	C : Hook thickness, horizontal	19.0mm	18mm
	D : Hole diameter, top hook pin	12.5mm	13.1mm
1.6t	A : Between punches	55.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	28.5mm	27.0mm
	C : Hook thickness, horizontal	23.0mm	21.8mm
	D : Hole diameter, top hook pin	14.5mm	15.2mm
3.2t	A : Between punches	70.2mm	Not to exceed dimension A
	B : Hook thickness, vertical	37.0mm	35.1mm
	C : Hook thickness, horizontal	28.0mm	26.6mm
	D : Hole diameter, top hook pin	16.5mm	17.3mm

Dimension A is not to exceed dimension A value.
Actual measured values of dimensions B, C, and D are not to indicate wear of 5% or more.
※Parts other than the hook section are in common with Model YA.

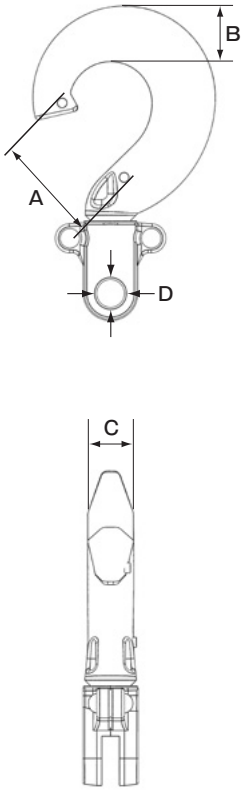


Figure 43

Inspection Items /Points	Inspection contents/methods	Countermeasure
Bottom hook set	Inspect opening of the hook, hook thickness and wear in vertical/horizontal dimensions; diameter of the chain retainer bolt-hole for elongation Inspect the hook for bends, twists, damage, etc. and smooth hook rotation. Dimensions are not to exceed the reference standard values.	Replace with a new part.

Table 19

Rated load	Position	Reference standard values	Enter actual measured values at the time of purchase
0.8t	A : Between punches	54.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	23.5mm	22.3mm
	C : Hook thickness, horizontal	19.0mm	18mm
	D : Chain stop bolt hole diameter	8.8mm	9.3mm
1t	A : Between punches	54.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	23.5mm	22.3mm
	C : Hook thickness, horizontal	19.0mm	18mm
	D : Chain stop bolt hole diameter	8.8mm	9.3mm
1.6t	A : Between punches	55.0mm	Not to exceed dimension A
	B : Hook thickness, vertical	28.5mm	27.0mm
	C : Hook thickness, horizontal	23.0mm	21.8mm
	D : Chain stop bolt hole diameter	10.8mm	11.3mm
3.2t	A : Between punches	70.2mm	Not to exceed dimension A
	B : Hook thickness, vertical	37.0mm	35.1mm
	C : Hook thickness, horizontal	28.0mm	26.6mm
	D : Chain stop bolt hole diameter	12.7mm	13.2mm

Dimension A is not to exceed dimension A value.
Dimensions B, and C are not to indicate wear of 5% or more in relation to the actual measured value.
Dimension D is not to indicate wear of 0.5mm or more in relation to the above reference standard value.
※Parts other than the hook section are in common with Model YA.

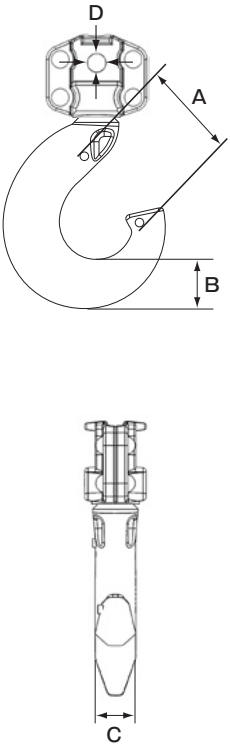


Figure 44

Inspection item (part name) part number	Method	Inspection/test details/standard values	Measures
Load chain (No.53)	Visual inspection	Inspect for any damage, deformation, or elongation beyond the specified value	Replace with a new part.

Table 20

Rated load	Diameter (mm)		Pitch (P×5) (mm)	
	Standard value	Limit value	Standard value	Limit value
0.8t	5.6mm	5.3mm	85.6mm	88.2mm
1t	5.6mm	5.3mm	85.6mm	88.2mm
1.6t	7.1mm	6.7mm	105.3mm	108.4mm
3.2t	9.0mm	8.5mm	135.3mm	139.3mm
6.3t	9.0mm	8.5mm	135.3mm	139.3mm
9t	9.0mm	8.5mm	135.3mm	139.3mm

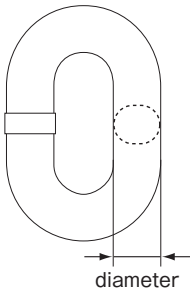
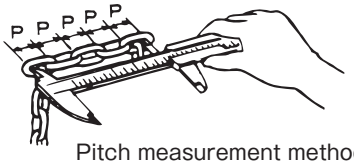


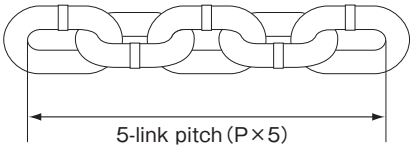
Figure 45

Wear of the diameter is not to exceed 5% of the dimension value indicated above. 5-link pitch must not be elongated by 3% or more of the dimension value indicated above.



Pitch measurement method

Figure 46



5-link pitch

Figure 47

※Model YAⅢ uses five different parts: No.138 feed gear, No.187 spring for floating mechanism, No.188 feed handle, No.92 name plate, and No.173 Hex. socket head cap screw set.

Lubrication and greasing of various parts

Load chain

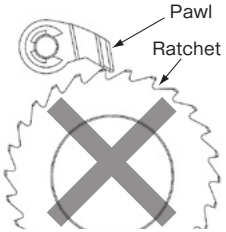
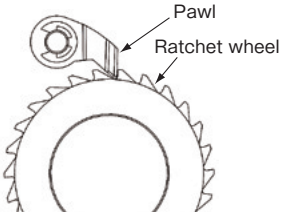
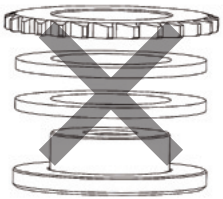
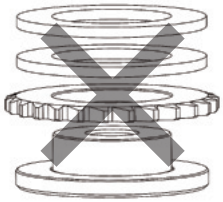
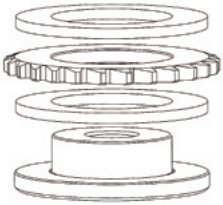
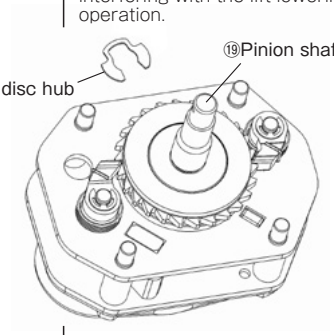
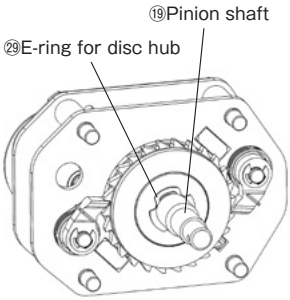
- First, use cleaning solution to remove dust and dirt from the load chain.
- Apply NLGI No. 00 grease.
- Depending on the frequency of use and other conditions, increase the frequency of grease application to the load chain during daily inspections.

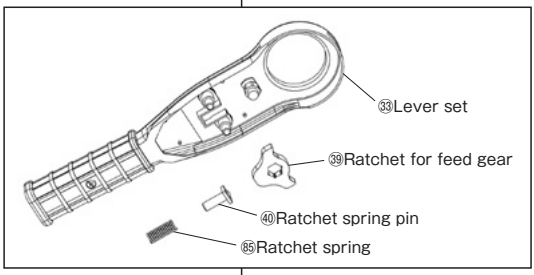
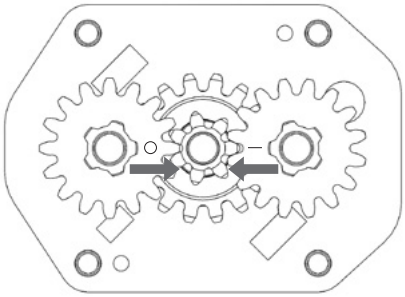
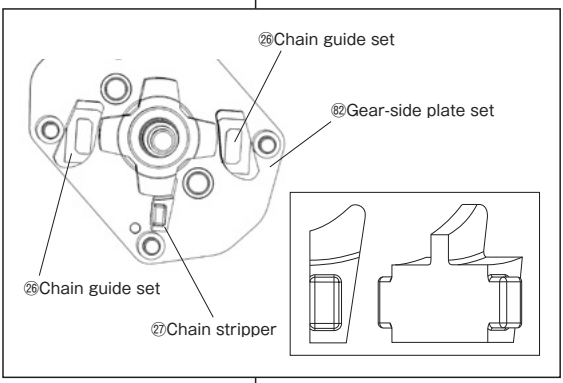
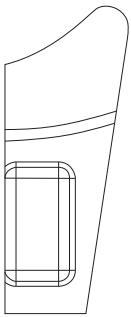
Gears and other parts

- First, use cleaning solution to remove any dust and dirt from the old grease coating of the gears.
- Apply NLGI No. 1 grease evenly to the gear sections.
- Apply grease to the pawls and rotating parts of the lever, as well as the rotating parts of the load sheave and side plate.

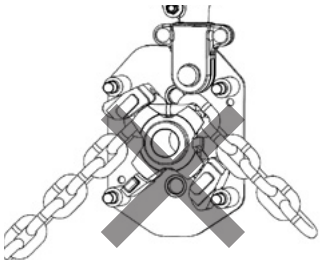
6.4 Is this a malfunction!? First check for (commonly found assembly errors)

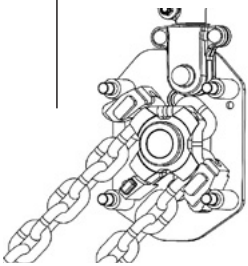
・Check again according to the instructions below before calling for repairs:

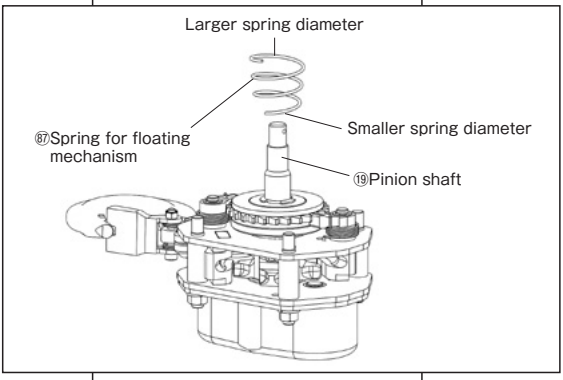
When in this situation:	The cause and target of inspection is:	How to fix:
①Lever does not move either up or down. There is no audible pawl engaging sound.	Ratchet wheel in the brake section is not assembled correctly. Ratchet wheel is assembled backwards and is not engaged with the pawl. 	Reassemble ratchet wheel correctly. Make sure the pawl and the ratchet wheel are engaged, and also check for the clicking sound when the ratchet wheel is turned. 
②Lever does not move either up or down. There is no audible pawl engaging sound.	The brake part is assembled correctly, but there is no sound of the pawl and ratchet wheel engaging. Check the brake section, pawl and pawl spring for dirt, corrosion, or spring failure.	Disassemble, clean and lubricate the brake, pawl, and pawl spring parts. Replace pawl spring and check the spring force.
③Lever does not move either up or down. There is no clicking sound of the pawl engaging. 	Ratchet wheel is not assembled correctly. Pawl does not make proper contact with the wheel. Pawl spring is damaged. 	Assemble correctly so that the pawl engages the ratchet wheel. Confirm the clicking sound of ratchet wheel meshing with the pawl before use. 
④Lever does not move either up or down.	E-ring for disc hub is not attached. When E-ring for disc hub is not attached, a gap will be created in the brake section, interfering with the lift-lowering operation. 	Install E-ring for disc hub correctly. 

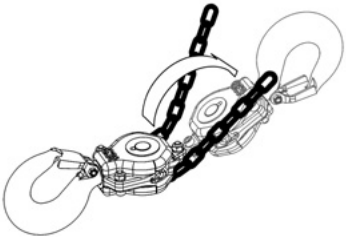
<table>
<tr><th>When in this situation:</th><th>The cause and target of inspection is:</th><th>How to fix:</th></tr>
<tr><td>⑤Lever does not move either up or down.
There is no audible pawl engaging sound.
 
</td><td>When attaching feed gear pawl to the lever, the pawl may have been attached without checking the setting of the changeover knob to position N.</td><td>Check that the changeover knob is set to N, and then install the ratchet for feed gear.
After installing the lever, align ratchet for feed gear to UP and DN positions, and check if the feed gear pawl and feed gear engage each other with audible clicking sounds.</td></tr>
<tr><td>⑥Lever does not move.
Lever rotation is heavy.
  </td><td>Incorrectly assembled second and third gears.</td><td>Marks are engraved on the 2nd and 3rd gears. Install them so ○ and | are facing each other.
After installing, rotate gears to make sure they are not stuck.
<table><tr><th colspan="3">Gear combination</th></tr><tr><td>0.8、1t</td><td>○</td><td>|</td></tr><tr><td>1.6t</td><td>○</td><td>|</td></tr><tr><td>3.2t、6.3t、9t</td><td>⬯</td><td>↑</td></tr></table></td></tr>
<tr><td>⑦Chain does not move smoothly.
 
</td><td>Chain stripper is not oriented correctly.</td><td>Make sure the chain stripper is oriented correctly.
  </td></tr>
</table>

When in this situation:	The cause and target of inspection is:	How to fix:
⑧Chain does not move smoothly.	Chain is not threaded in the correct position, and the meshing between the chain and the load sheave is not sufficient.	Reassemble the chain in the correct position and check the chain engagement rise.
⑨Chain does not move smoothly.	Incorrect assembly of the auto-rotating spring. The end of the spring with the larger diameter is facing the disk hub side.	Reassemble correctly. Assemble so that the end of the spring with the smaller diameter is positioned on the disk hub side and the end with the larger diameter is on the feed handle side.
⑩Bottom hooks on two-hoist lifting type equipment does not lift fully to the end (touching the body).	Bottom hook is reversed and the chain is twisted.	Restore reversed bottom hook and check if the chain is twisted. Then confirm whether the bottom hook rises fully until it touches the main unit.

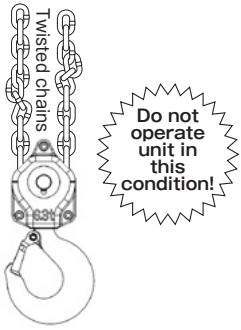






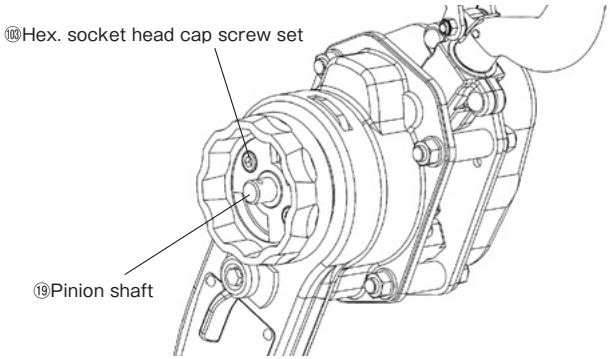


Chain in correct orientation



Twisted chain due to reversed hook

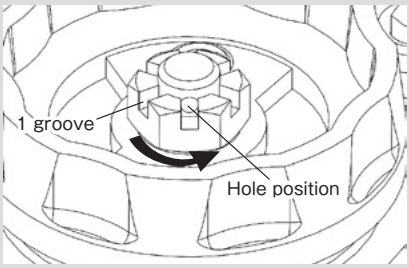
When in this situation:	The cause and target of inspection is:	How to fix:
⑪Unable to perform lowering operation	Hex. castle nut is left tightened to the end. Impact load has been applied. (Unable to perform lowering operation due to biting)	Loosen Hex. castle nut by one or two holes and readjust. In case of biting, lift load once and release brake by setting lever to lowering.



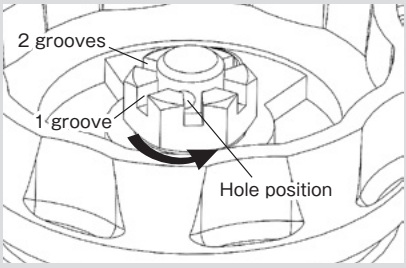
If hole position is just right, loosen by one groove.

If nut is positioned over the hole position, loosen nut by 2 grooves.

When the hole position is aligned



When the hole position is not aligned



⑫Load slips and skids while descending.	Foreign matter is lodged in the brake section. Brake section is not assembled correctly. Brake is damaged or worn.	Remove foreign matter and clean the brake section. Reassemble correctly. Replace with a new part.
⑬The lever cannot be lowered after it has been used once.	Brake has become engaged. ※The brake section is configured similarly to a bolt and nut mechanism. Biting is similar to excessively tightened nuts. When disassembling the lever, it was removed without lowering (release the brake).	Apply load to the lever and provide some extra force to the lowering motion to release the brake. Clean the brake section.
⑭Load chain does not move freely during free chaining operation.	Load chain was pulled too hard during free chaining operation, and the brakes engaged.	Pull slowly on the load chain.

Inspection records

Model		Date of inspection	
Tonnage		Name of qualified person (Name of inspector)	
Production No.			
Lift			

Inspection Part (Part No., Part Name)			Inspection contents	Judgment	Remarks
1		Top hook set	Check for openings in hook, twists, damage, etc.		
			Between punches		
			Hook thickness, vertical		
			Hook thickness, horizontal		
			Hole diameter of top hook pin		
	2	Safety latch set	Whether the hook is engaged, damaged, deformed, etc.		
6		Top hook pin	Inspect for pin diameter wear.		
7		Bottom hook set	Check for openings in hook, twists, damage, etc.		
			Between punches		
			Hook thickness, vertical		
			Hook thickness, horizontal		
			Hole diameter of chain stop bolt set		
	2	Safety latch set	Whether the hook is engaged, damaged, deformed, etc.		
	8	Chain stop bolt set	Check the bolt diameter for wear, damage, deformation, etc.		
13		Hex. nut	Inspect for damage, wear, deformation, etc.		
14		Spring washer	Inspect for damage, wear, deformation, etc.		
18		Gear cover set	Inspect for wear with bumps identifiable by hand and other damage.		
19		Pinion shaft	Inspect for chipped gear teeth and other damage		
20		Washer for pinion shaft	Inspect for damage, wear, deformation, etc.		
21		Hex. castle nut	Inspect for damage, wear, deformation, etc.		
22		Cotter Pin	Inspect for damage, wear, deformation, etc.		
23		2nd and 3rd gear set	Inspect for chipped gear teeth and other damage		
24		Load gear	Inspect for chipped gear teeth and other damage		
25		Load sheave	Inspect for engagement with the chain, damage, deformation, etc.		
26		Chain guide set	Inspect for proper operation of the changeover knob		

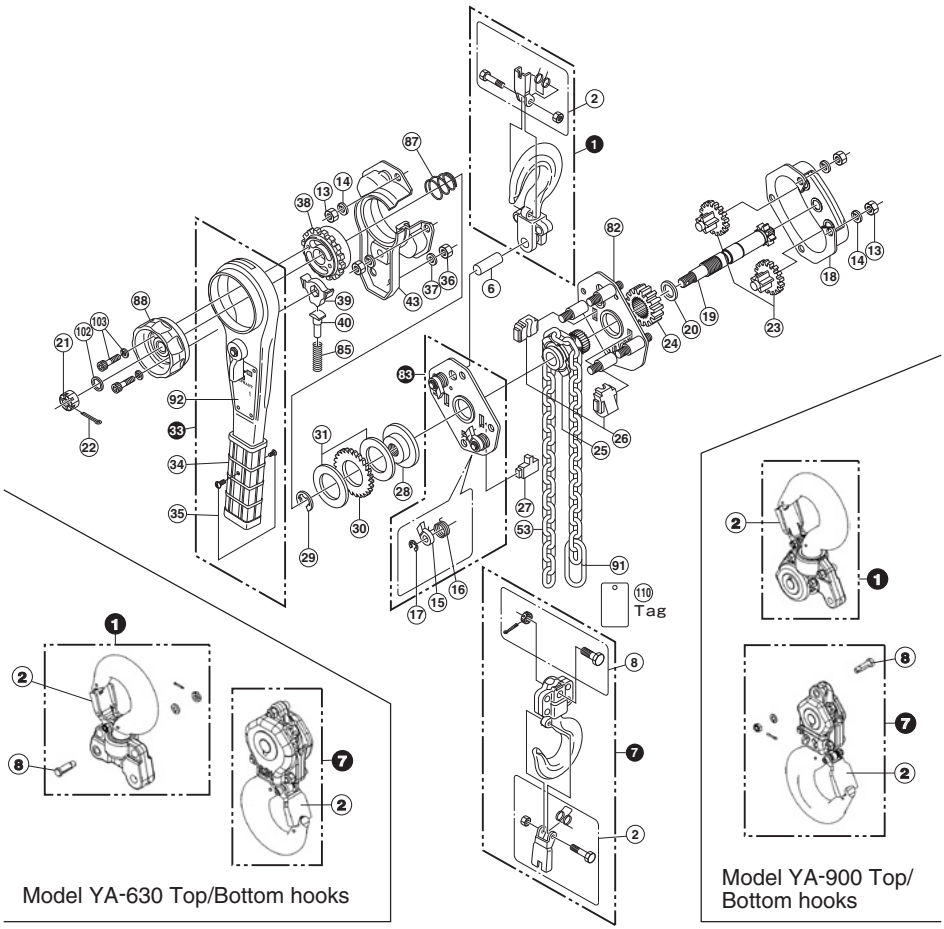
Inspection Part (Part No., Part Name)			Inspection contents	Judgment	Remarks
27		Chain stripper	Inspect for cracks in the rubber handle, deformation, etc.		
28		Disk hub	Inspect for damage, wear, deformation, etc.		
29		E-ring for disc hub	Inspect for damage, wear, deformation, etc.		
30		Ratchet wheel	Inspect for chipped gear teeth and other damage		
31		Brake lining	Inspect for chipped pawls, wear, etc.		
33		Lever set	Inspect for damage, wear, deformation, etc.		
	34	Lever grip	Inspect for damage, wear, deformation, etc.		
	35	Bracket screw	Inspect for wear and deformation of the pin hole diameter in the respective parts		
	92	Name plate	Inspect for wear and deformation of the pin hole diameter in the respective parts		
36		Hex. nut	Inspect for damage, wear, deformation, etc.		
37		Spring washer	Inspect for damage, wear, deformation, etc.		
38		Feed gear	Inspect for wear with bumps identifiable by hand and other damage.		
39		Ratchet for feed gear	Inspect for damage, wear, deformation, etc.		
40		Ratchet spring pin	Inspect for openings in the snap ring and damage, etc.		
43		Lever cover set	Inspect for damage, wear, deformation, etc.		
82		Gear-side plate set	Inspect for damage, wear, deformation, etc.		
83		Lever-side plate set	Inspect for damage, wear, deformation, etc.		
	15	Pawl	Inspect for damage, wear, deformation, etc.		
	16	Pawl spring	Inspect for damage, wear, deformation, etc.		
	17	E-ring for pawl	Inspect for damage, wear, deformation, etc.		
85		Ratchet spring	Inspect for damage, wear, deformation, etc.		
87		Spring for floating mechanism	Inspect for damage, wear, deformation, etc.		
88		Feed handle	Inspect for damage, wear, deformation, etc.		
91		Chain stopper	Inspect for chipped gear teeth and other damage		
102		Check washer	Inspect for openings in the snap ring and damage, etc.		
103		Hex. socket head cap screw set	Inspect for chipped gear teeth and other damage		
110		Tag	Inspect for chipped gear teeth and other damage		
53		Load chain	Inspect for wear, damage, deformation, etc.		

Judgment : ○ (Good) , × (Replacement)

※Perform the inspections and tests indicated above. Be sure to maintain records of the inspections.

※Be sure to replace any parts that are found to be even slightly unsafe with new parts.

Breakdown Schematics and Parts Names : Models YA-80, 100, 160, 320, 630, 900

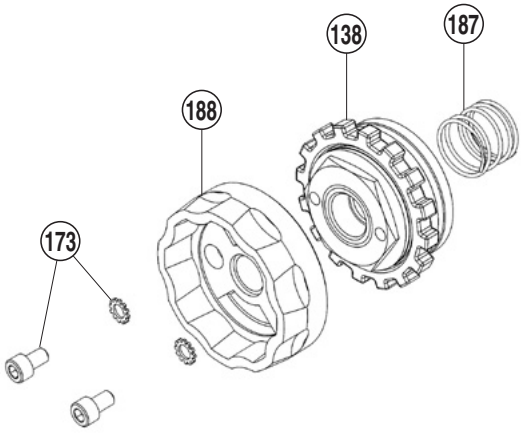


Symbols in Breakdown Schematics		Parts Names	Symbols in Breakdown Schematics		Parts Names	Symbols in Breakdown Schematics		Parts Names	Symbols in Breakdown Schematics		Parts Names
Set	Individual unit		Set	Individual unit		Set	Individual unit		Set	Individual unit	
1		Top hook set		22	Cotter Pin		35	Bracket screw		17	E-ring for pawl
	2	Safety latch set		23	2nd and 3rd gear set		92	Name plate		85	Ratchet spring
	6	Top hook pin		24	Load gear		36	Hex. nut		87	Spring for floating mechanism
7		Bottom hook set		25	Load sheave		37	Spring washer			
	2	Safety latch set		26	Chain guide set		38	Feed gear		88	Feed handle
	8	Chain stop bolt set		27	Chain stripper		39	Ratchet for feed gear		91	Chain stopper
	13	Hex. nut		28	Disk hub		40	Ratchet spring pin		102	Check washer
	14	Spring washer		29	E-ring for disc hub		43	Lever cover set		103	Hex. socket head cap screw set
	18	Gear cover set		30	Ratchet wheel		82	Gear-side plate set			
	19	Pinion shaft		31	Brake lining	83		Lever-side plate set		110	Tag
	20	Washer for pinion shaft	33		Lever set		15	Pawl		53	Load chain set
	21	Hex. castle nut		34	Lever grip		16	Pawl spring			

※Parts indicated with black lines are included in the parts with gray lines.
Example : Part No. 7, Bottom hook ass'y includes Part No. 2, Safety latch set and Part No. 8, Chain stop bolt set.

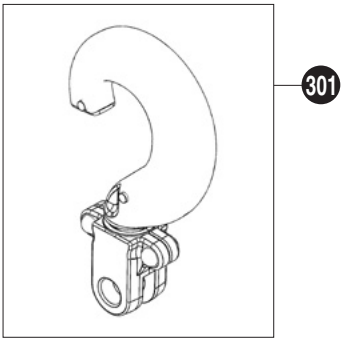
※The black line parts are also provided for sale individually.
※Only for Model YA-630, the chain stop bolt set is included in the top hook.

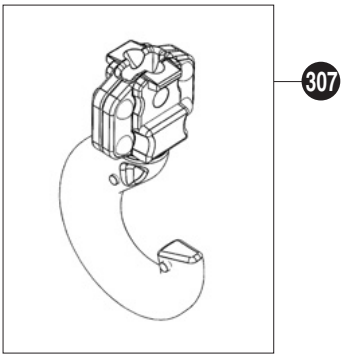
YAⅢ



Symbols in Breakdown Schematics		Parts Names
Set	Individual unit	
	138	TORCON device set
	173	Hex. socket head cap screw set
	187	Spring for floating mechanism
	188	Feed handle

YAS





Symbols in Breakdown Schematics		Parts Names
Set	Individual unit	
301		Top hook set
307		Bottom hook set

EC declaration of conformity

in compliance with the EC Machinery Directive 2006/42/EC, Annex Ⅱ A

We hereby confirm that due to its design and construction and in the type marketed by us the machine designated below conforms with the pertinent essential safety and health requirements of the relevant EC Directive.

In case of a modification of the machine which is not agreed with us, this declaration is no longer valid.

Designation of the
machine : Manual chain lever hoist

Types : YA-80, YA-100, YA-160, YA-320, YA-630, YA-900
YAⅢ-80, YAⅢ-100, YAⅢ-160, YAⅢ-320, YAⅢ-630,
YAⅢ-900

Pertinent
EC Directives : EC Machinery Directive 2006/42/EC

Used harmonized
standards, especially : EN 13157:2004+A1:2009 Hand powered lifting equipment
(except for the part of "5.1.6 Operating effort")
ISO 9001-2015 (Certificate Number IQA-1547)
JIS B 8819, JIS B 8812

Date/signature of manufacturer : 2nd. Mar. 2022

Information on the signer : T. Uryu

(T. Uryu)
Quality assurance division

ELEPHANT CHAIN BLOCK CO., LTD.

180 Iwamuro 2-chome, Osaka-Sayama-City,
Osaka Postal code 589-8502, JAPAN
Phone : 072-365-7778 Fax : 072-365-7869

UK declaration of conformity

in compliance with the Supply of Machinery (Safety) Regulations 2008.

We hereby confirm that due to its design and construction and in the type marketed by us the machine designated below conforms with the pertinent essential safety and health requirements of the relevant UK regulations.

In case of a modification of the machine which is not agreed with us, this declaration is no longer valid.

Designation of the
machine : Manual chain lever hoist

Types : YA-80, YA-100, YA-160, YA-320, YA-630, YA-900
YAⅢ-80, YAⅢ-100, YAⅢ-160, YAⅢ-320, YAⅢ-630,
YAⅢ-900

Pertinent
UK Directives : Supply of Machinery (Safety) Regulations 2008

Used harmonized
standards, especially : BS EN 13157:2004+A1:2009 Hand powered lifting equipment
(except for the part of "5.2.6 Operating effort")
ISO 9001-2015 (Certificate Number IQA-1547)
JIS B 8802, JIS B 8812

Date/signature of manufacturer : 2nd. Jun. 2022

Information on the signer : T. Uryu

(T. Uryu)
Quality assurance division

ELEPHANT CHAIN BLOCK CO., LTD.

180 Iwamuro 2-chome, Osaka-Sayama-City,
Osaka Postal code 589-8502, JAPAN
Phone : 072-365-7778 Fax : 072-365-7869

The goods has passed rigid inspection by us ahead of delivery in accordance with our standard in terms of test load and all other respects in good and satisfactory condition.

Inspector T. Uryu

ELEPHANT CHAIN BLOCK CO.,LTD.

180 Iwamuro 2-chome, Osaka-Sayama-City,
Osaka, Postal code 589-8502, JAPAN
Phone : 072-365-7778 Fax : 072-365-7869

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