

AIR HOIST

TCR-series

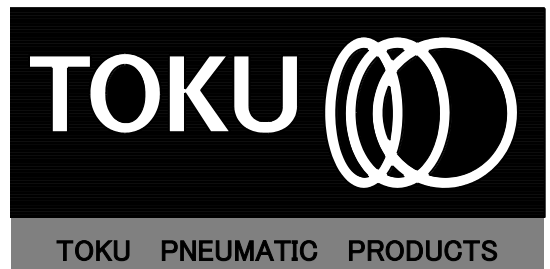
TCR-250C

TCR-250DP

TCR-250DPE

TCR-250M

TCR-250ME



www.air-allied.com.au

MANUAL

INSTRUCTION MANUAL

This manual is a guidebook which will show you how to use the air chain hoist safely and efficiently.

Read this manual thoroughly before starting to use air hoist.

This manual shall be accessible at all time.

TOKU PNEUMATIC CO., LTD

21-07

No.5

(1) INTRODUCTION

We thank you for your recent purchase of a TOKU AIR HOIST

This manual is a guidebook which will show you how to use the air chain hoist safely and efficiently. Please read this manual in its entirety and understand the contents before proceeding to operate the hoist. Also, convey this information to the actual operators of the hoist.

The air hoist was designed to operate on compressed air to lift and lower loads. As a result, before operating the hoist it is necessary to also read the instruction manual for the compressor. In addition, for proper regulations about usage of the hoist, consult the "crane safety regulation standards"

Usage other than the ones written in this manual should be performed with the consideration of safety and responsibility.

PLEASE UNDERSTAND THE FOLLOWING POINTS BEFORE READING THIS MANUAL;

◆ With regards to the safety precautions, the following words are used to identify safety messages in the manual.

⚠ WARNING; This word is used on safety messages and labels where a potential dangerous situation could result in serious injury or death if the hazard is not avoided.

⚠ CAUTION; This word is used in safety messages and on labels for hazards which could result in minor or moderate injury if the hazard is not avoided.

IMPORTANT; This word may indicate hazards whose result could be damage to the equipment.

◆ Keep this manual handy and read it periodically.

◆ In case of loss or damage of this manual, ask your dealer for new one.

◆ If the hoist is not used by one person, please have the new person read this manual before operating the hoist.

◆ This manual shall be translated for non-English speakers.

◆ If you transfer the hoist to another source, make sure that you give the manual to the new owner.

※(Information in this manual are subject to change without notice.)

If you have any questions about the hoist or this instruction manual, please contact Air & Allied Sales (Pacific) Pty Ltd (see below for contact details).

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(3) Safety Precautions

WARNING

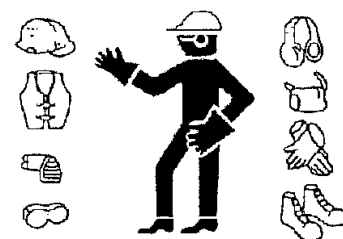
When using the hoist, obey the safety precautions written in this instruction manual.

WARNING; Obey the safety rules at the job site.

- The people who operate the hoist should be the one who have received instruction to properly operate the hoist.
- Obey all rules, safety procedures and operational methods at the job sit.
- When using the hoist with other people, make sure your signals during operation are well discussed before jointly using the hoist.

WARNING; Wear proper clothing and safety protection

- Wear proper clothing when operating the hoist.
- To protect the body, wear safety items such as a helmet, mask, safety shoes and gloves. Or if the sound level is high, where ear plugs.
- Do not wear a tie or loose fit clothing when operating the hoist. They may get caught in the chain during operation.



WARNING; Safe operation begins with proper posture.

It is dangerous to operate the hoist when your posture is not in balance. Make sure your footing is proper and your body is stable when operating the hoist.

WARNING; Do not allow unauthorized staff near the hoist area.

Do not allow unauthorized staff near the hoist area. Especially children.

WARNING; Difficult operations will lead to accidents.

Do not use the hoist for operations over its capacity. These operations may lead to damage of the hoist and should be avoided.

WARNING; Stop operating the hoist if trouble occurs.

In case of any trouble during operation, immediately stop operating the hoist and inspect or repair. Otherwise it results in damage of machine or injury.

⚠ WARNING; Attach the hoses properly.

Make sure that the hose socket is securely tightened by hose band.
Otherwise hose will be disconnected and result in dangerous occurrences.

⚠ WARNING; Do not modify the hoist.

- Do not remove screws of covers which are on the hoist.
- Do not modify the hoist. This will lead to danger.

The responsibility will be yours if an accident occurs due to these modifications.

⚠ WARNING; Handle the hoist with care.

Do not drop or hit the hoist externally. This will lead to cracks and damage to the hoist. Also, do not stamp or engrave information directly onto the hoist. If a crack develops, and air is leaking through the crack, do not operate the hoist.

⚠ WARNING; Periodically inspection of the hoist is the basics to safety.

Periodic inspection of the hoist will allow your hoist to operate smoothly and safely. Referring to the crane safety standards, daily and monthly inspection programs should be performed.

⚠ WARNING; For inspection or repair of the hoist, consult your dealer.

Contact your dealer for repairs or inspections of the hoist. When parts are needed to be changed, use only genuine TOKU parts. Non-genuine parts are not certified their strength and durability. That may cause fatal accidents, and it is very dangerous.

⚠ CAUTION; Do not use the chain or hook as an earth connection.

During a weld operation, do not use the chain or hook as an earth connection. This may lead to the cause of an accident or other damages.

⚠ CAUTION; Keeping the area tidy is the first step to safety.

Keeping the job site tidy is the first step to a safe environment. Keep the facility clean and neat at all times.

IMPORTANT; Good Maintenance will extend the life of your hoist.

Keep a good maintenance program for the hoist and keep it clean.

(4) Precautions during operation

⚠ WARNING; Installation of hoist must be performed by trained personnel

Installation of the hoist must be performed by trained personnel only. If installation is not performed properly this may lead to an accident with personal and is very dangerous.

⚠ WARNING; All supporting materials and installation items must meet safety standards.

Before installing the hoist, make sure that all supporting materials will hold the rated load of the hoist and the safety factor involved to support the hoist with load. If not performed properly the load may fall and is very dangerous.

⚠ WARNING; Only trained personnel is allowed to operate the hoist.

The hoist must be operated only by personal that have received safety and operational training. If this is not obeyed, this may lead to an accident with personal and is very dangerous.

⚠ WARNING; Before operating the hoist, reconfirm the safety issues with the operators and the person involved.

Check the operating position and footing before operating the hoist. Make sure the surrounding personal are safe and make sure everyone is aware of the signals when operating the hoist.

⚠ WARNING; Use agreed signals when working with a partner.

When using the hoist jointly with another person, use signals agreed at the job site and obey them during a joint operation.

⚠ WARNING; Do not over load the hoist.

Before lifting the load, confirm that the load is within the rated load of the hoist. The hoist or chain may break and the load may fall and this is very dangerous.

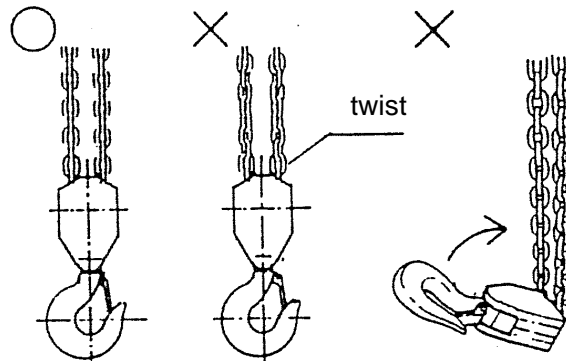
⚠ WARNING; Check the slings and hook safety claw before using the hoist.

Make sure the sling is connected correctly before lifting. Also, make sure the hook safety claw is working correctly. If it is used in poor conditions, this may lead to removal of the sling and the load may fall.

⚠ WARNING; Before using the hoist, make sure the chain is not twisted.

As shown in the diagram, make sure the chain is not twisted during usage of the hoist.

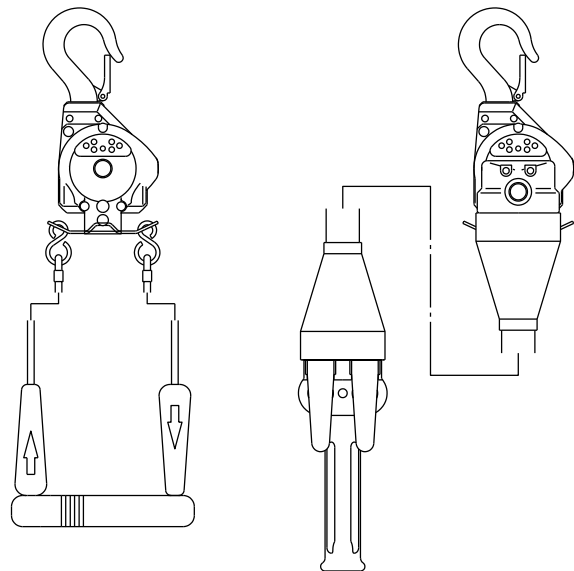
Otherwise chain may break and can cause accidents.



⚠ WARNING; Do not depress the pendant lever unnecessarily.

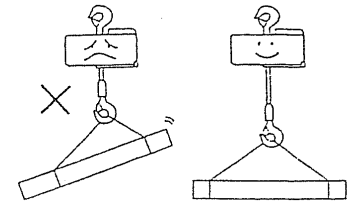
Make sure the conditions are correct before operating the hoist. Under poor conditions, the load may fall onto the floor or the load may fall onto the operator. It is very dangerous.

- Pressing the pendant lever will start operation of the hoist and releasing will stop the hoist.
- Pulling the cord will start the hoist and releasing the hoist will stop the hoist.



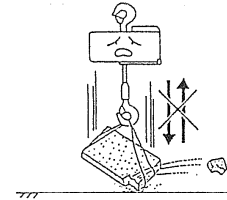
⚠ WARNING; Make sure the load is balanced.

When using a wire rope or a sling, make sure the load is balanced before lifting. The load may fall and it is dangerous.



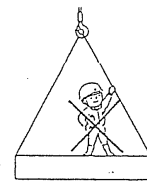
⚠ WARNING; Do not lift or lower suddenly.

When suddenly lowering the load, this may lead to poor balance of the load and the load may fall.



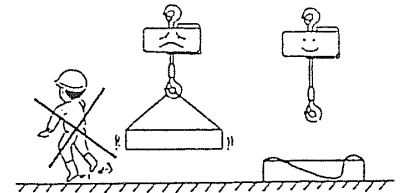
⚠ WARNING; Do not use the hoist to lift people.

The hoist is used to lift loads. Never lift people using the hoist. This is very dangerous.



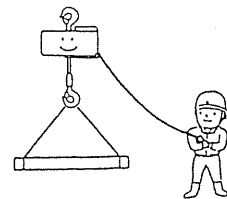
⚠ WARNING; Do not leave the load hanging.

Do not leave the job site when load is in suspension. Always place the load on the ground before leaving.



⚠ WARNING; Do not work under the load.

Make sure you are away from the load when operating the hoist. It is dangerous if the load falls.



⚠ WARNING; Do not touch the hoist, under hook area and chain during operation of the hoist.


It is dangerous if your hand gets caught in these areas.

⚠ WARNING; Do not touch the hoist right after operation.

After operating the hoist, do not touch the hoist. After operation, the hoist may become hot. Please let the hoist cool before touching.

⚠ WARNING; Do not use the over-traveling limiter to stop the hoist.

Over-traveling limiter is a safety device for emergency. Do not use this as a stopper. Otherwise they cannot work properly when an emergency due to wear or damage. Always use hoist with sufficient height of lifting.

 WARNING; Use one hoist for one load.

When lifting one load by more than 2 hoists, imbalanced of stress applied to single hoist.

 WARNING; Lubrication to the chain.


Always lubricate lift chain. If there is no oil on the chain, chain will be worn out quickly. This may lead to dropping of the load and personal injury due to breaking of the chain and it is very dangerous.

Apply lubricants to chain links.


EPINOC GREASE AP (N) 0. Every 5,000 cycles or whenever the chain is dry.

 CAUTION; Do not pull or use the hoist side way.

The hoist was designed to be used in the vertical direction. Using the hoist in the horizontal direction is not recommended and may result in an accident or premature wear of parts.

 CAUTION; Do not suddenly change the direction of the hoist.

Suddenly changing the direction of the hoist will shock certain areas of the hoist and may cause breakage of parts or lead to an accident.

 CAUTION; Do not pull on the pendant hose or cords when trying to move the hoist.

This will lead to damage to the hose and may cause the hoist to malfunction.

 CAUTION; Use the hoist indoors.

Using the hoist outside may become effected by rain and moisture allowing the hoist to rust leading to malfunction. Do not use the hoist outdoors.

 CAUTION; Storage must be considered carefully.

Store the hoist away from children in a dry area. When storing the hoist for a longer period of time, to prevent internal rust, apply 3 cc of lubrication into the air hose and operate the hoist for 3-4 seconds.



CAUTION; Make sure the correct air pressure is used with the hoist.

• Operating air pressure is 0.4-0.6 MPa «Recommended air pressure 0.6 MPa»

Operating at air pressures above 0.4-0.6 MPa will affect the durability, performance and safety of the hoist. As a result, it is important to consider the pressure for the air compressor, volume and piping aspects to operate the hoist at its best level.

※ Please note the air pressures stated above are actual operating air pressures and not the air pressure when the hoist is not operating, which is normally slightly lower. As a result, always check the air pressure when the air hoist is operating. The air pressure shall be measured within 10 meters away from air hoist.



CAUTION; Operate the hoist in the correct ambient temperature.

The recommended ambient temperature for the hoist is from -10 °C to 60 °C.

«Recommended 20 °C»

Operating the hoist out of the above temperature range will affect the durability, performance and safety of the hoist.



CAUTION; Air maintenance is important.

Always use an air filter, regulator and lubricator (line oiler) near the hoist.

The size we recommend is a size larger than the actual piping size and for the air regulator we recommend the pilot type regulator.

If a pilot style regulator is not available, we recommend a regulator one size larger than the standard size. (To keep the performance level for the hoist)

With regards to the lubricator (line oiler), we recommend a flow of 10-15 drops/min (0.2-0.3cc) of lubrication.

If air maintenance is not performed properly, this will lead to rust, malfunctioning and premature wear of the internal parts, and this may result in personal injury.

IMPORTANT; Do not operate air hoist too long without load.

This may lead to damage to the internal parts of the motor or premature wear of these parts.

(5) Specifications

1. Operating conditions

- ① Operating Air pressure: 0.4 MPa-0.6 MPa «Recommended 0.6MPa»
- ② Operating Ambient Temp. range: -10°C to 60°C «Recommended 20°C»
- ③ Operating location: Inside
- ④ Applications: For vertical lifting loads

2. Specifications

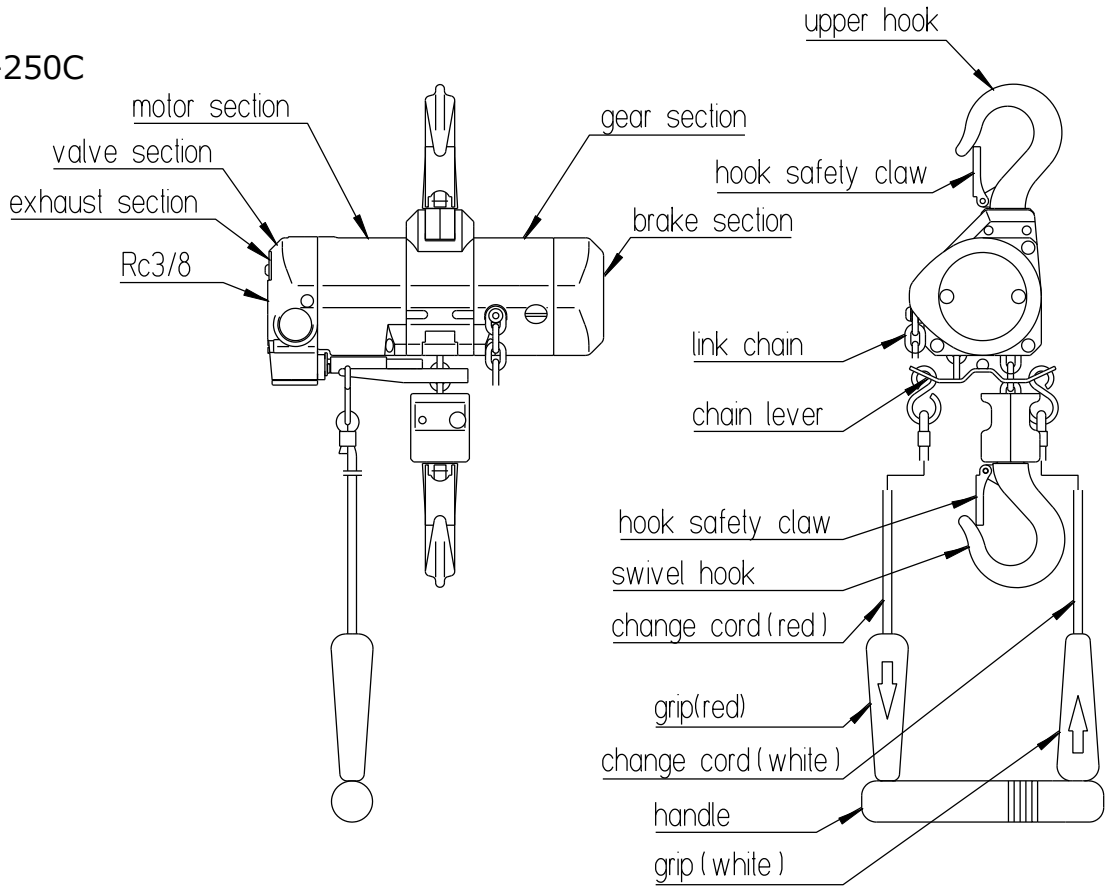
MODEL	Operating type	CAPACITY [kg]	LIFTING WITH FULL LOAD [m/min] / CONSUMPTION [m3/min]	LIFTING WITHOUT LOAD [m/min] / CONSUMPTION [m3/min]	STANDARD LIFTING HIGHT [m]	AIR INLET	WEIGHT WITH(WO) CHAIN [kg]	MINIMUM HOOK DISTANCE [mm]	CHAIN SIZE (WEIGHT kg/m)
TCR-250C	Cord	250	9 / 0.8	18.6 / 1	3	3/8	7 (5.8)	305	4x12(0.35)
TCR-250DP	Pendant		8.1 / 0.7	16.7 / 0.9			8.6 (7.4)		
TCR-250DPE			8 / 0.7	16.7 / 0.9	8.9 (7.7)				
TCR-250M/ME			2	11 (10)	837				

※ Lifting speed is measured at 0.6 MPa with standard setting (2 meters pendant hose or cord).

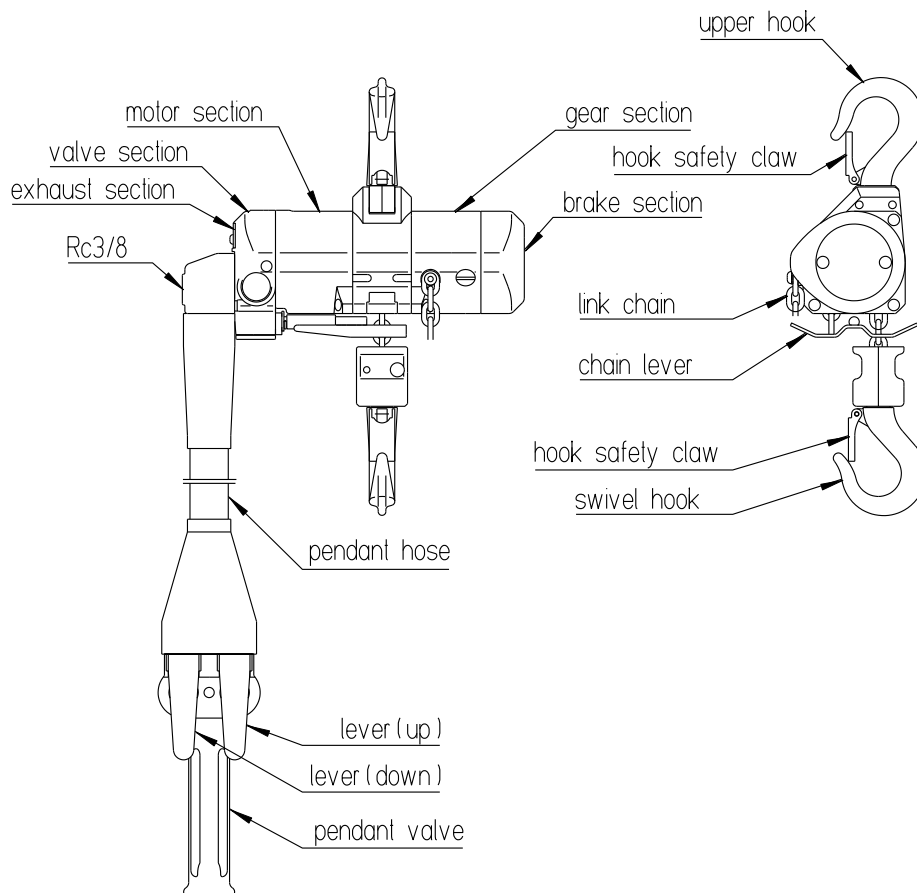
※ Above specification can vary depending on working condition such as weight of load, working air pressure, and length of pendant hose.

(6) Name of parts

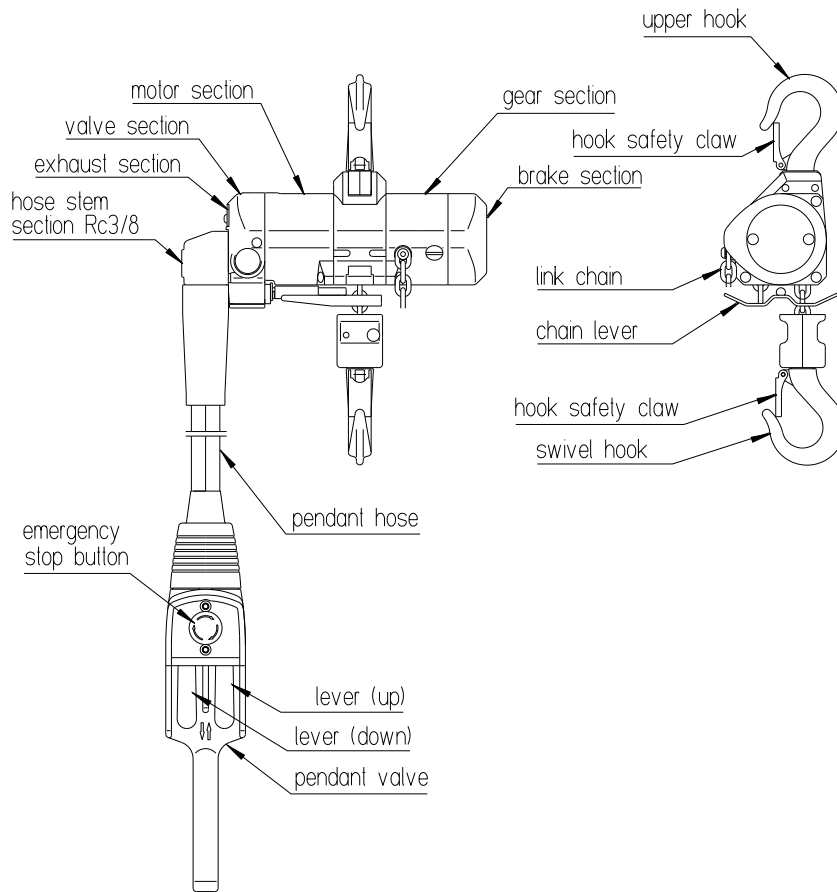
TCR-250C



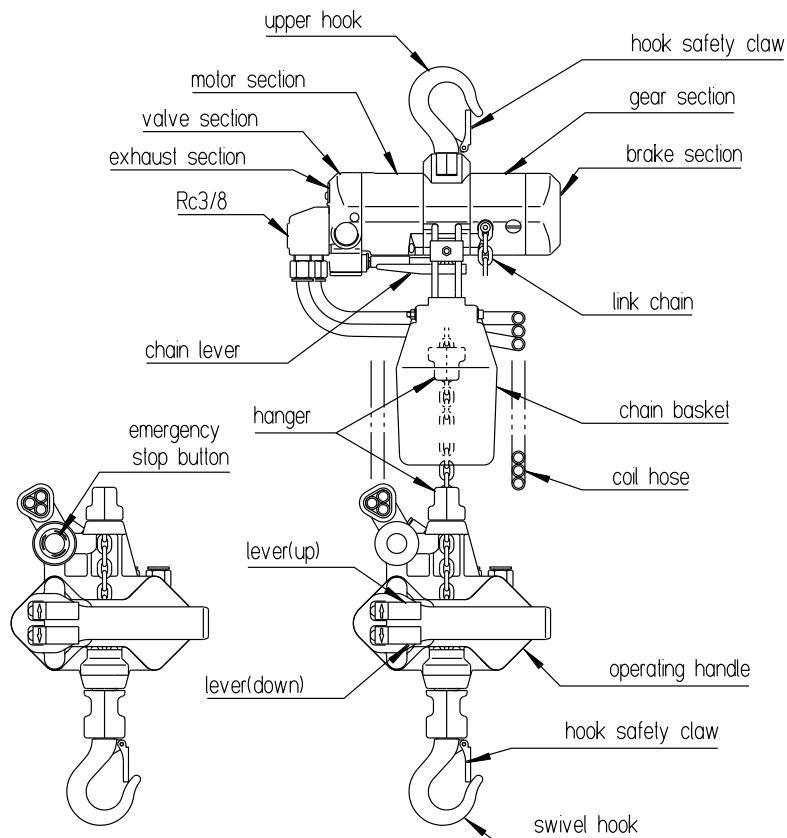
TCR-250DP



TCR-250DPE



TCR-250M/ME



(7) Preparation before operation

1. Preparation of the compressor and drain removal

- Method of selection; (Air consumption of each model is shown in the chapter "Specification".)

$$(\text{Air consumption} \times 10) \times \text{Hoist Quantity} \leq \text{Compressor Horse Power}$$

- Method of drain removal;

Rust will develop leading to the cause of trouble if the drain is not removed from the compressor.

Remove the drain at the bottom of the air tank on your compressor. Remove excess water and oil.

Supply clean dry air to the hoist. (Refer to the compressor manual for details)

2. Piping

Refer to the diagram below for piping or installation. The inner diameter of piping shall be larger than **19 mm**. Larger is better. If the main or secondary pipe is smaller in diameter or too long, you will experience pressure drop and this will reduce the performance of your hoist.

⚠ CAUTION; Always install an Air Filter, regulator and lubricator (Line Oiler) near the hoist.

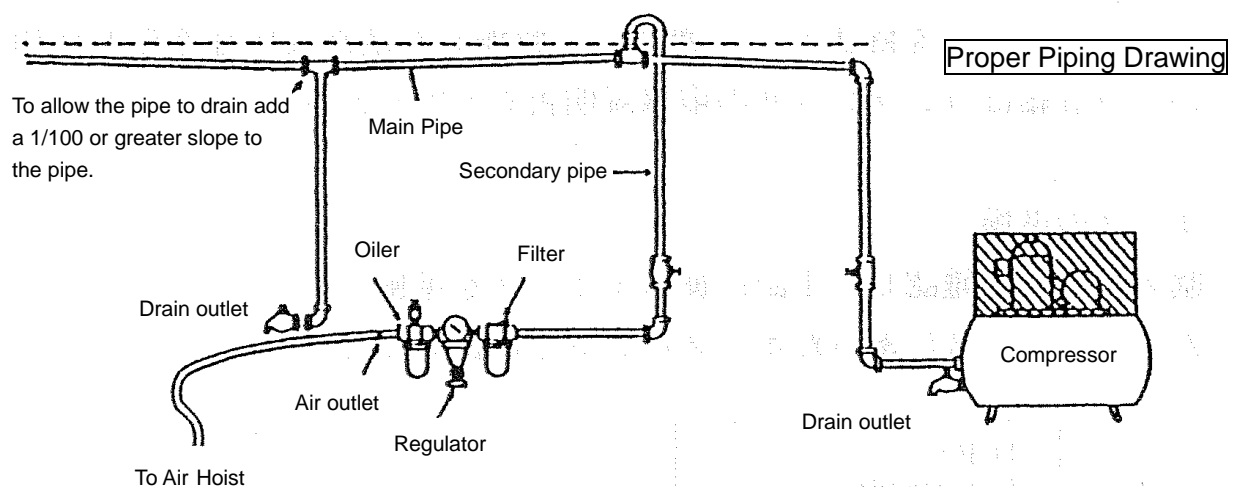
Always use an air filter, regulator and lubricator (line oiler) near the hoist.

The size we recommend is a size larger than the actual piping size and for the air regulator we recommend the pilot type regulator.

If a pilot style regulator is not available, we recommend a regulator one size larger than the standard size. (To keep the performance level for the hoist)

With regards to the lubricator (line oiler), we recommend a flow of 10-15 drops/min (0.2-0.3cc) of lubrication.

If air maintenance is not performed properly, this will lead to rust, malfunctioning and premature wear of the internal parts, and this may result in personal injury.



3. Preparation of the Air Hose

⚠ CAUTION; Do not use Quick Coupler for connection.

Quick Coupler restricts air flow too much. This leads to significant degradation of the hoist performance and to trouble on brake part.

Do not use quick coupling to connect hose and piping.

•Size of Hose; The hose size for this hoist is **ID 9.5mm or larger**

Prepare suitable hose band for hose size.

•Length of Hose;

IMPORTANT; We recommend to keep the hose length within 10 meters.

If the hose is too long, the air pressure will drop at the hoist. In order to prevent the pressure drop, **use a hose with ID larger than 12.7mm.**

Please refer to the following chart showing the relationship between air flow and pressure drop for a 10 meter long hose.

HOSE SIZE [mm]	INLET PRESSURE [MPa]	AIR FLOW IN 10M HOSE [m ³ /min]						
		0.25	0.50	0.75	1.00	1.25	1.50	2.00
9.5	0.4	0.012	0.045	0.101	0.179	0.260	-	-
	0.5	0.010	0.039	0.090	0.149	0.231	0.337	-
	0.6	0.009	0.033	0.076	0.135	0.201	0.289	-
	0.7	0.008	0.030	0.064	0.118	0.177	0.254	-
12.7	0.4	0.003	0.011	0.025	0.043	0.066	0.095	-
	0.5	0.002	0.009	0.021	0.037	0.055	0.080	-
	0.6	0.002	0.008	0.018	0.032	0.047	0.068	0.121
	0.7	0.002	0.007	0.016	0.027	0.043	0.060	0.102

[MPa]

※The chart information shows the pressure reduction at each Air Pressure at free flow. The pressure drop has been calculated by subtracting the pressure from the inlet of the hose to the outlet port.

※If the hose length is longer than 10 meters, the relationship of the pressure drop is proportional to the extended length.

As a result, if the hose length is 20 meters, you would multiply the above chart numbers by 2.

4. Check hanging point strength

⚠ WARNING; Before installing the hoist to the beam make sure the safety factor is met.

Before installing the Air hoist to the beam, make sure the rated load for the beam exceeds the rated load for the air hoist with the proper safety factor. If the rated load of the beam does not exceed the rated load of the air hoist, please do not install the air hoist to this location.

5. Installation of chain basket (See the drawing shown below)

Standard : TCR-250M/ME

Option : TCR-250C/DP/DPE

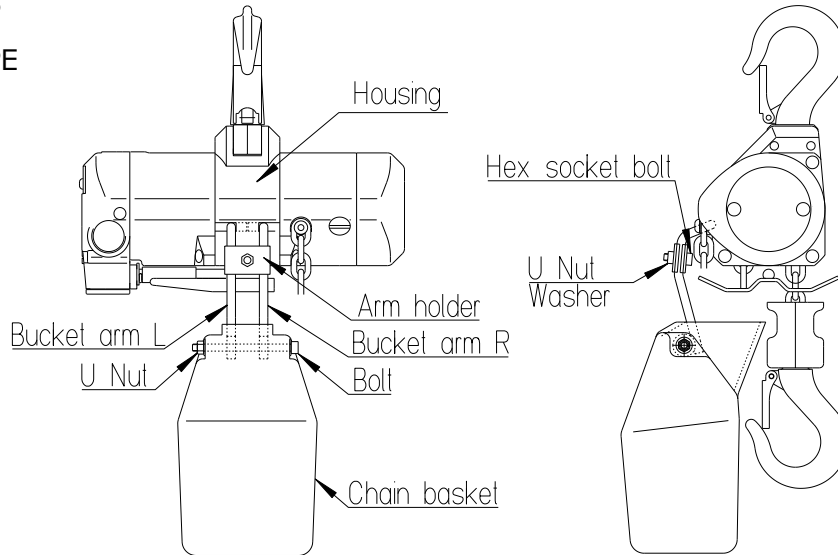
• Install the chain basket as shown in the drawing below.

※ Make sure that bolts and nuts do not loosen when touching Bucket Arm.

TCR-250C

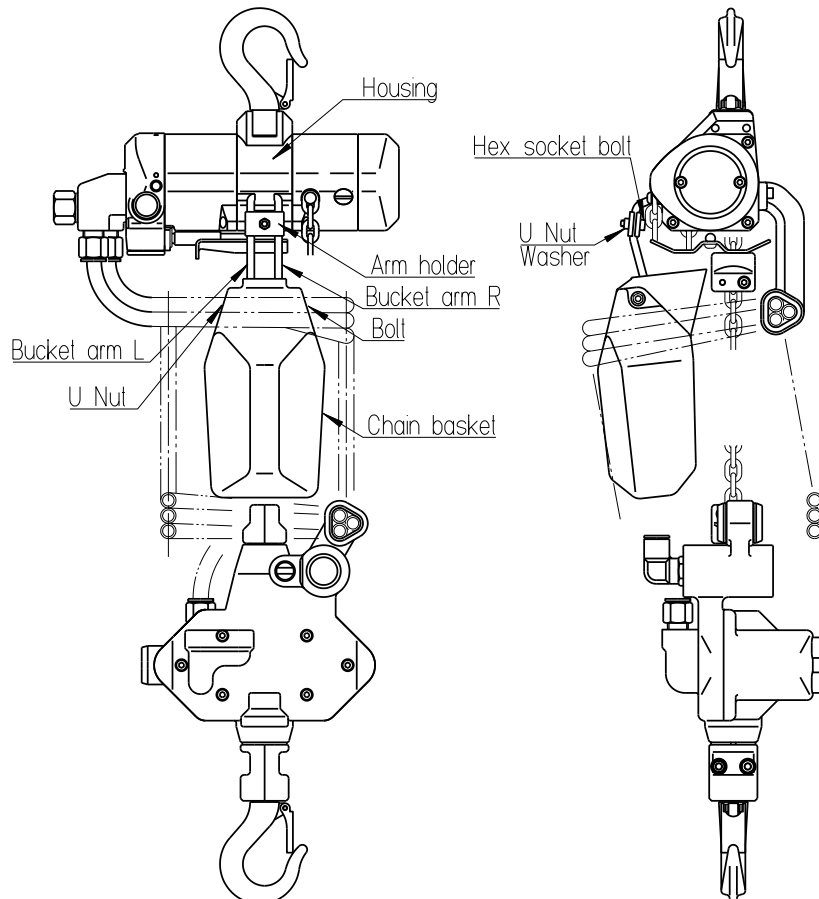
TCR-250DP

TCR-250DPE



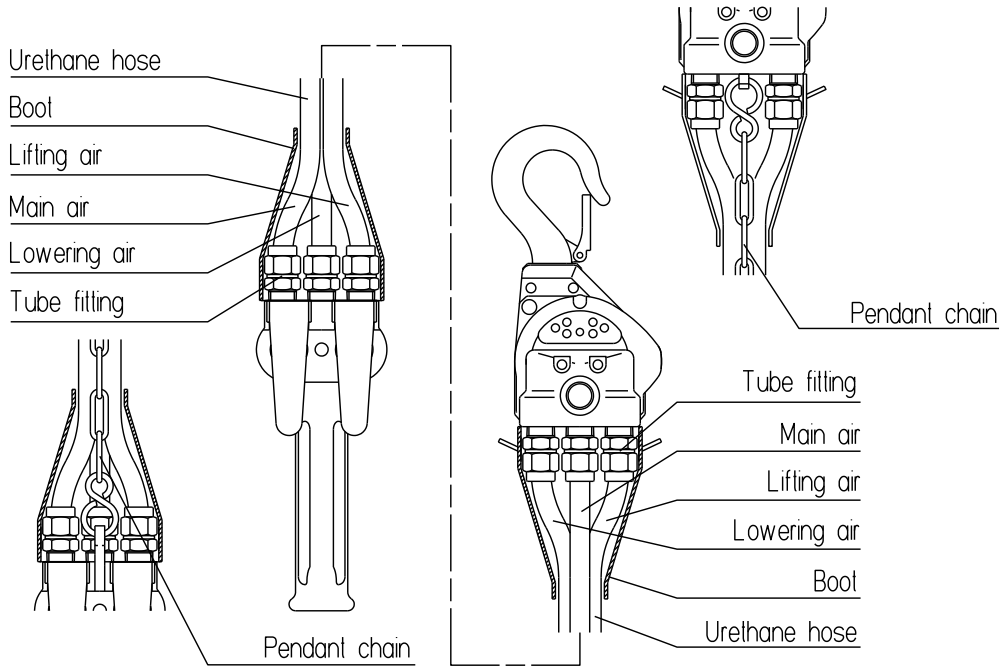
TCR-250M

TCR-250ME



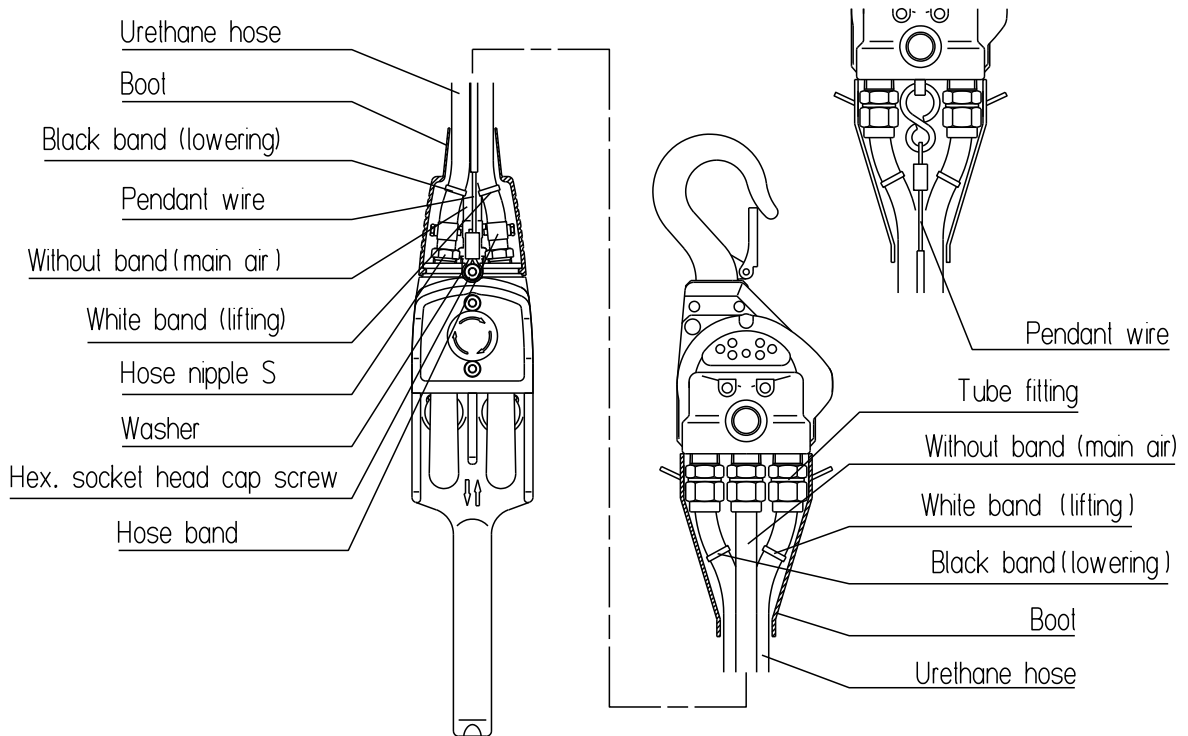
6. Installation of Pendant (TCR-250DP)

- Install the pendant as shown in the drawing below.
- Make sure each urethane hose is connected to the correct port.



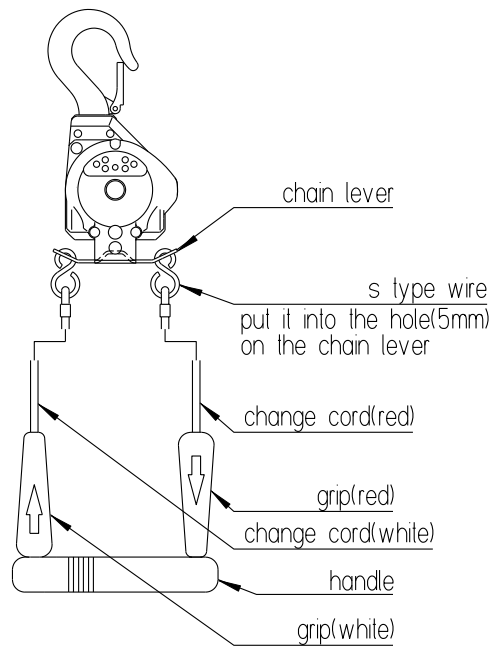
7. Installation of Pendant (TCR-250DPE)

- Install the pendant as shown in the drawing below.
- Make sure each urethane hose is connected to the correct port.
- Fasten the hose band tightly.



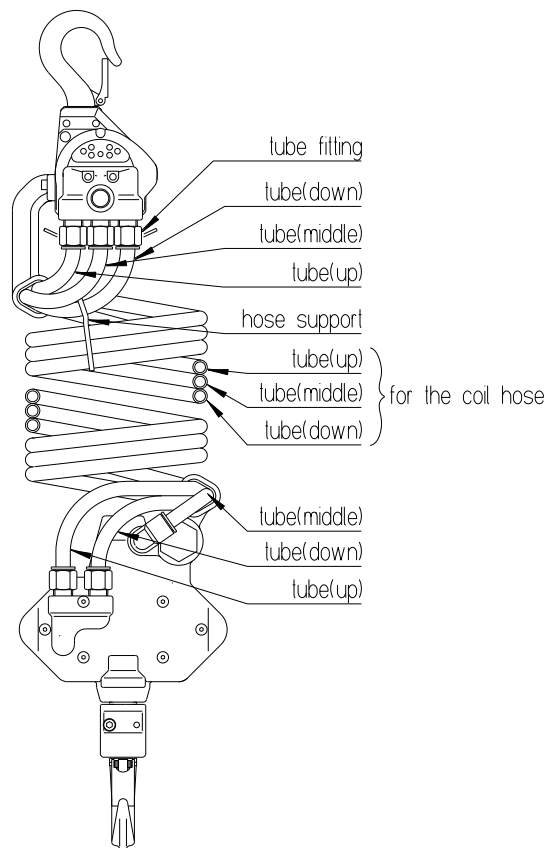
8. Installation of Cord (TCR-250C)

- Install the Cord as shown in the drawing below.



9. Installation of Coil hose (TCR-250M/ME)

- Install the tubes and the hose support as shown in the drawing below.
- Make sure to insert the tube until the end.
- Make sure each tubes are connected to the correct port.



1 0. Installation of air hoist

- ① Hang up the hoist.
- ② Install the upper hook to the supporting beam.

⚠ WARNING; Make sure the upper hook is assembled correctly.

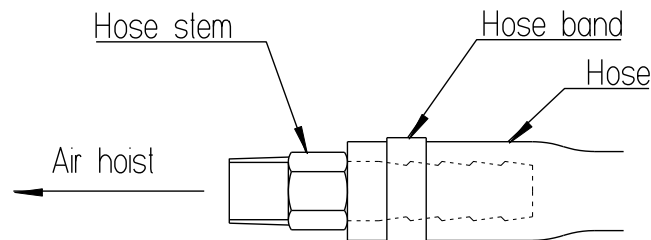
Make sure the upper hook is assembled to the recommended material and also make sure the hook safety claw is securely locked.

- ③ Apply seal tape to the hose nipple, and assemble to the Air Hoist.
- ④ Stop the air flow by closing the main valve on the compressor.
- ⑤ Before connecting the air line to the air hoist, apply 10 drops of lubricating oil into the hose.

IMPORTANT; Remove all dirt or foreign matter from the connecting area of the hose.

If foreign matter enters the hoist, this may lead to seizure of the hoist or malfunctioning.

- ⑥ Assemble the hose stem and nut securely to the hose using the hose band.
(Please note the hose band is not an accessory item)



(8) Before Operation

1. Check operating air pressure

⚠ CAUTION; Maintain the correct air pressure.

- Operating air pressure is 0.4-0.6 MPa «Recommended air pressure 0.6 MPa»

Operating at air pressures above 0.4-0.6 MPa will affect the durability, performance and safety of the hoist. As a result, it is important to consider the pressure for the air compressor, volume and piping aspects to operate the hoist at its best level.

- ✘ Please note the air pressures stated above are actual operating air pressures and not the air pressure when the hoist is not operating, which is normally slightly lower. As a result, always check the air pressure when the air hoist is operating. The air pressure shall be measured within 10 meters away from air hoist.

2. Lubrication

⚠ WARNING; Maintain correct lubrication.

- The lubricator (line oiler) in the air line will supply lubrication to the air motor.
Oil supply should be 10-15 drops/min. (0.2 - 0.3 cc)
- Always lubricate lift chain. If there is no oil on the chain, chain will be worn out quickly. This may lead to dropping of the load and personal injury due to breaking of the chain and it is very dangerous. Apply lubricants to chain links.
EPINOC GREASE AP (N) 0. Every 5,000 cycles or whenever the chain is dry.
Insufficient lubrication will not only lead to defects and unintentional operation due to rust or wear on internal parts but also results in accidents injury or death.
- Gear part does not need daily lubrication. Apply grease when carrying out annual inspection.

Lubrication

Type	Grade	Location	Method
Turbine Oil	ISO VG 32-56	Air Motor	Daily: Line Oiler in piping
Lithium Grease	EPINOC Grease AP(N)0	Chain	Link part of the chain

3. Test operation

⚠ WARNING; Before actual operation, check for abnormal operation or sounds.

Operate the hoist with no load up and down at low speed. Check for abnormal operation or sounds. If abnormal operation or sounds are found, stop operation and return the unit for inspection to your service center.

If the hoist is operated with problems this may lead to personal injury.

4. Check the installing position of over-traveling limiter accessories

⚠ WARNING; Install the accessories of over-traveling limiter to the designated position properly.

Check the installing position of accessories for over-traveling limiter. Correct position is shown in the chapter "(14) How to install the chain" or "Installation of chain basket".

If the installation is wrong, correct them at designated position.

If the attachment is not installed at the designated position, the safety equipment does not work properly. This may lead to breaking of the chain, dropping of the load and personal injury and it is very dangerous.

5. Test operation of over-traveling limiter

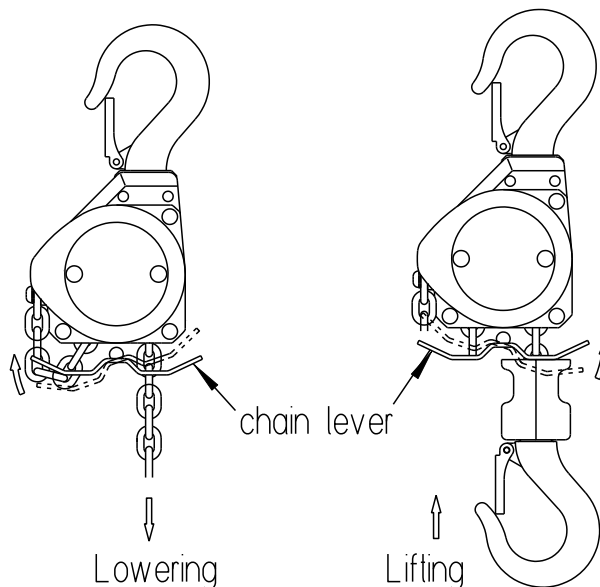
⚠ WARNING; Before actual operation, make sure that over-traveling limiter works properly.

Using no load, slowly operate the air hoist to check the operation of the limit lever in the lifting and lowering mode. Make sure the air hoist stops properly in both directions and also make sure the chain is lifting the chain lever properly.

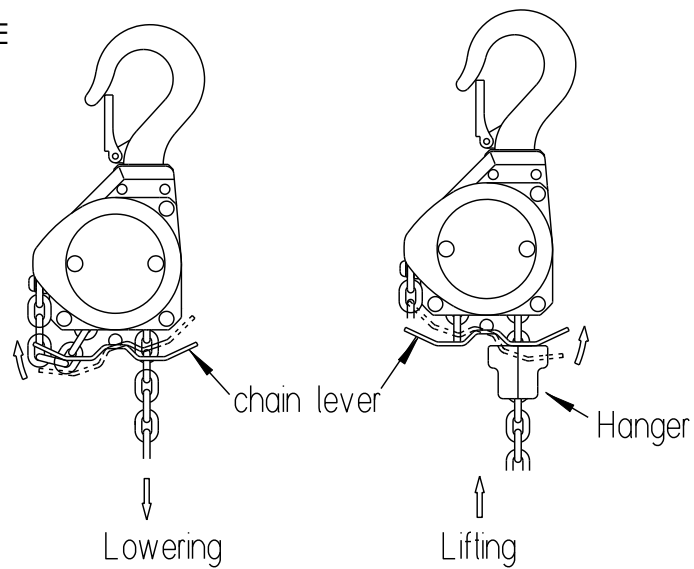
If any problems are found, stop operation and return the unit for inspection to your service center.

If the hoist is operated with problems this may lead to personal injury.

TCR-250C
TCR-250DP
TCR-250DPE



TCR-250M/ME



6. Check the sling equipment

⚠ WARNING; Check the sling chain and wire rope.

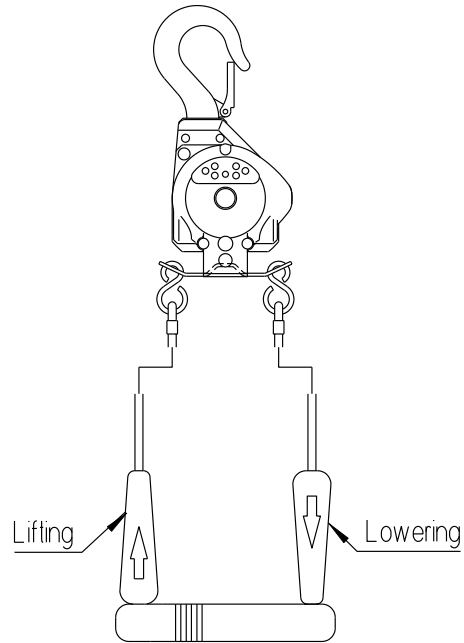
Before using the slings and wire ropes, make sure they are rated correctly to use for the job, and also make sure they are not damaged in any way.

If the hoist is operated with abnormally, this may lead to dropping of the load and may lead to personal injury.

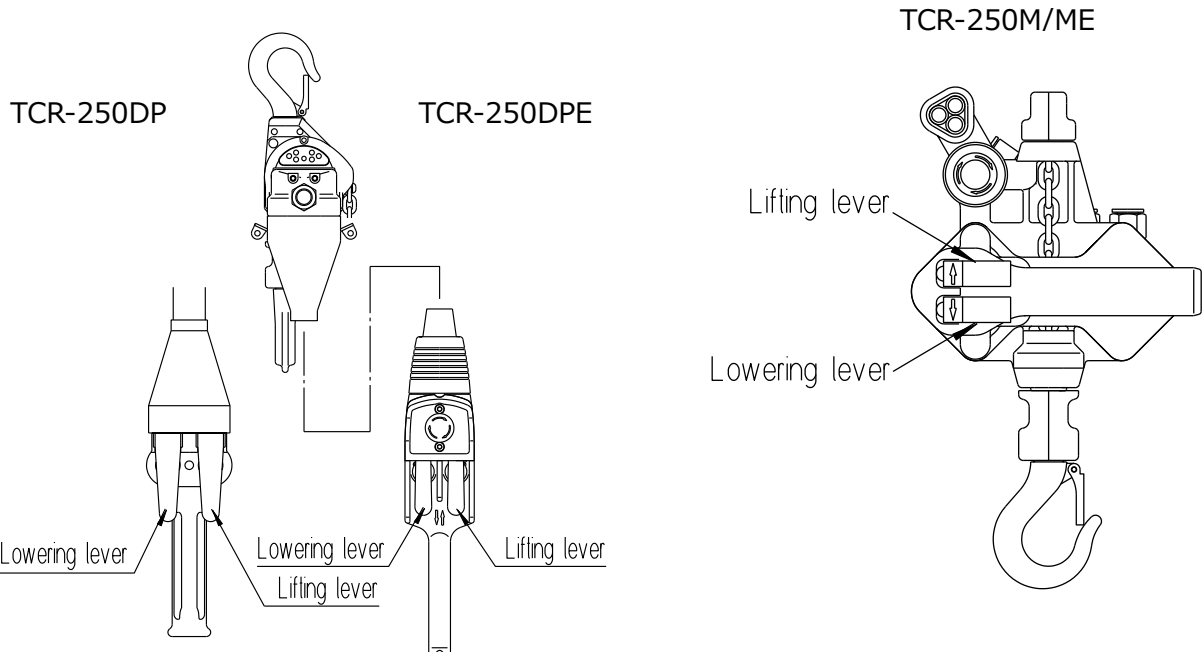
(9) How to operate

1. How to start and stop the Hoist

TCR-250C (Cord)
Pull the cord to operate. Release to stop.



TCR-250DP/DPE/M/ME (Pendant)
Press the lever to operate. Release to stop.

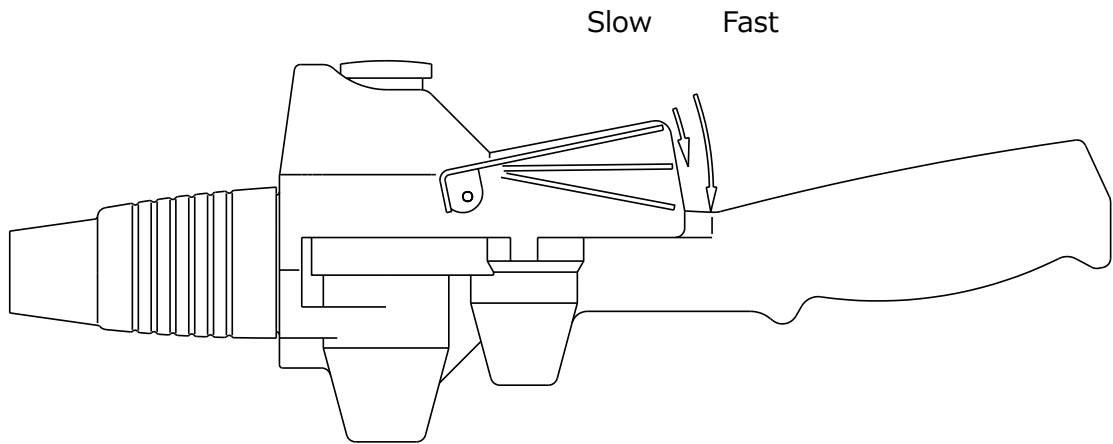


2. Speed Adjustment

•TCR-250DP/DPE/M/ME

For the pendant type, the more you depress the lever, the faster the hoist will operate.

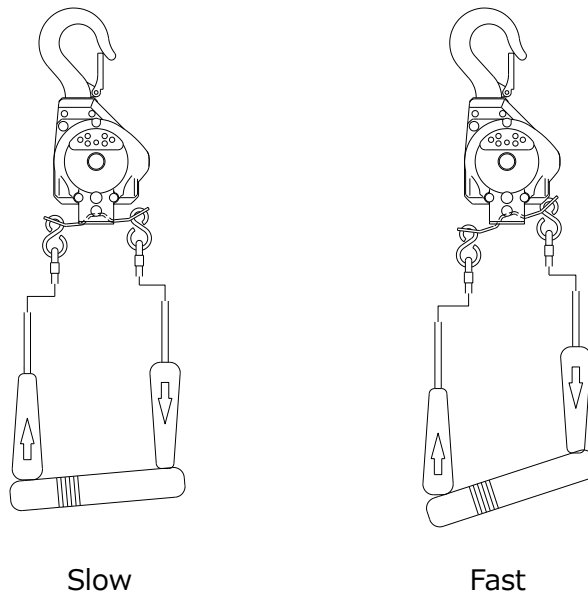
As shown in the diagram below, if you depress the lever a small amount the speed will be slow.



•TCR-250C

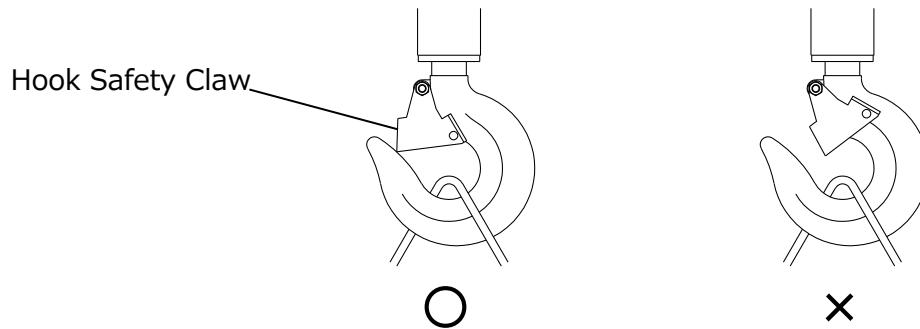
For the cord type, the more you pull the cord, the faster the hoist will operate.

As shown in the diagram below, if you pull the cord a small amount the speed will be slow.



3. Lifting and lowering the load

- ① Put a wire rope or a chain sling onto the load.
- ② Put the wire rope or chain sling onto the swivel hook.
- ③ Make sure that the hook safety claw is locked and secured.



- ④ Lift up the load slowly until the chain gets tensed, then stop the hoist.
- ⑤ Make sure that the wire rope or chain sling are securely fastened.
- ⑥ Resume lifting up after confirmation.
- ⑦ Slowly place the load on a stable ground.

4. Emergency Stop Button (TCR-250DPE/ME)

⚠ CAUTION; Do not hit the Emergency Button.

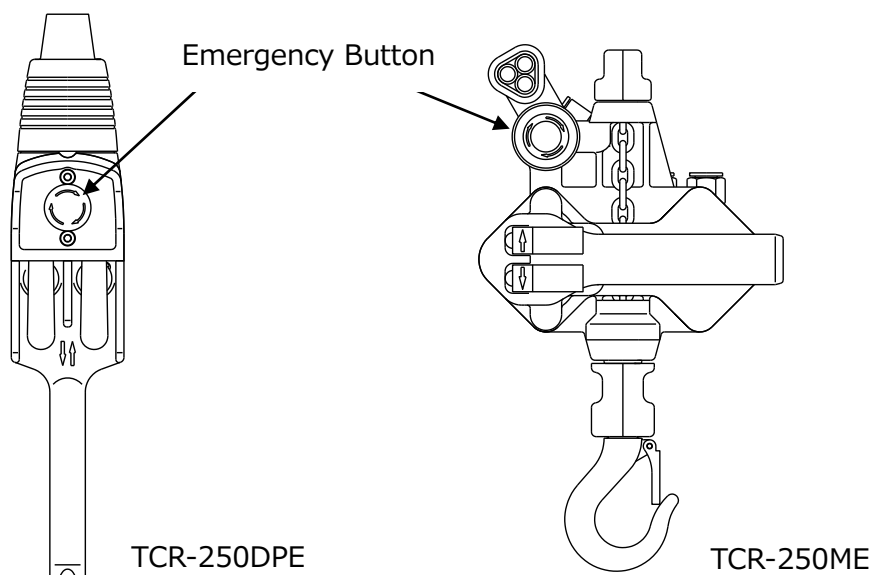
•When using the Emergency button, do not hit the button but use your finger.

If you hit the button, it may break and lead to injury of your hand or body and can be dangerous.

During operation of the Air Hoist, if a problem develops with the pendant valve and the hoist does not stop after the pendant lever is released, press the Emergency stop button to stop the hoist.

•How to use

By pressing the RED button in the middle of the pendant valve, it will stop the hoist. By turning the knob in the clockwise direction, this will release the Emergency button to its normal state.



5. Special function (TCR-250M/ME)

① Handle-Under hook distance adjustment.

The handle of TCR-250M/ME can be attached to link chain. This enables to fix the under hook onto handle, or set the under hook free. By fixing the under hook onto handle, one-handed operation is available when the sling is flexible like wires. By setting the under hook free, easy hooking is available when using eye-bolt for sling.

How to adjust

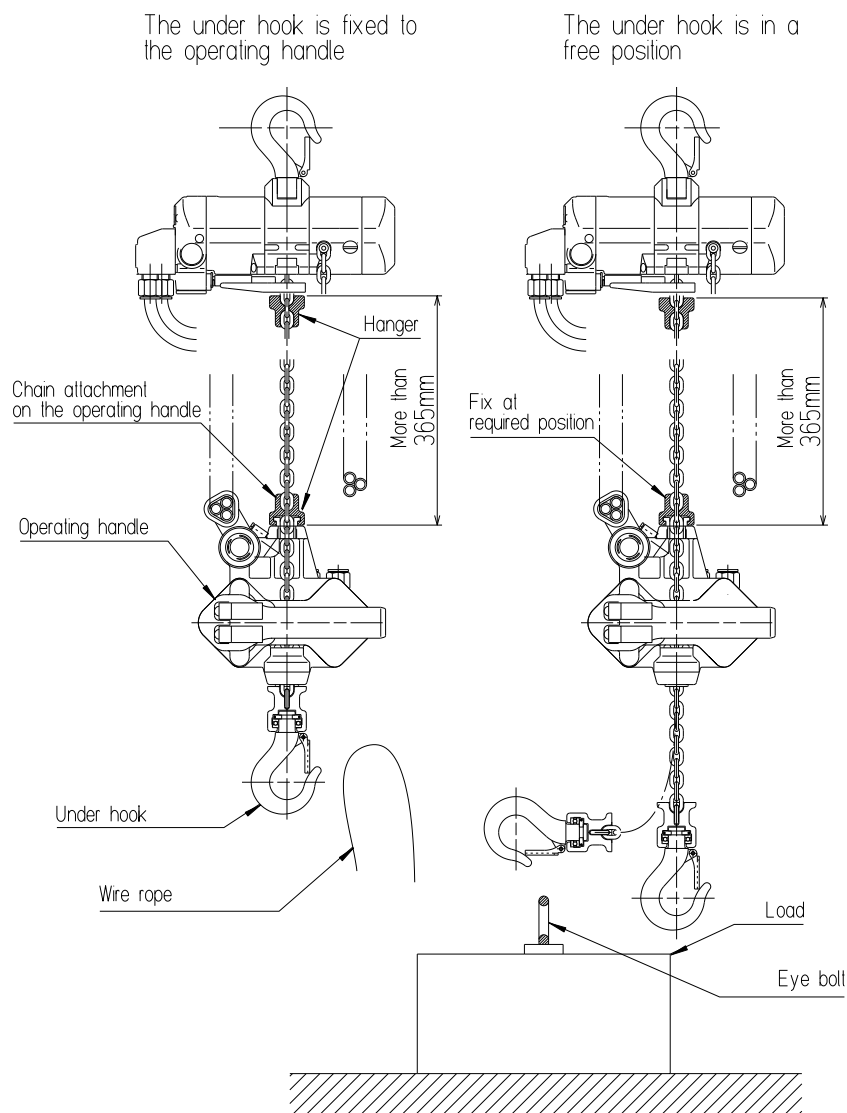
Loosen bolts and remove hanger on the bottom shown in the diagram.

Adjust handle position then fix the hanger.

Remove upper hanger and adjust the distance between each hangers longer than 365 mm.

Fix the hanger.

※ Lower hanger fixes handle to chain. Upper hanger is a limiter to protect coil hoses when over-lifting.



② Handle conversion

The handle can convert for right handed and left handed.

Instruction

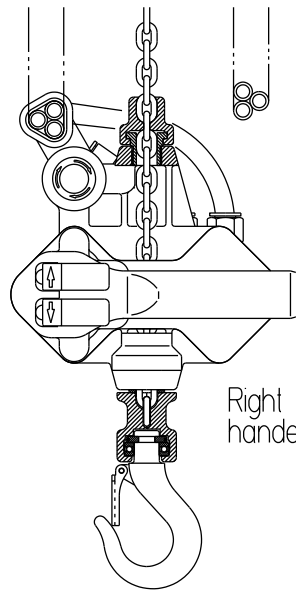
⚠ WARNING

Before converting, always shut off the main air (pressurized air from air compressor).

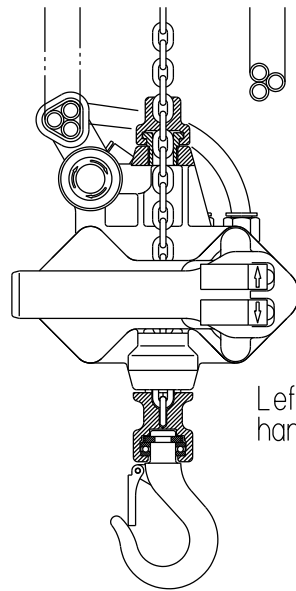
Loosen all of the 6 bolts on backside of handle and remove valve body with grip.

Make sure all of the 8 O-rings are fixed in grooves as shown in the diagram.

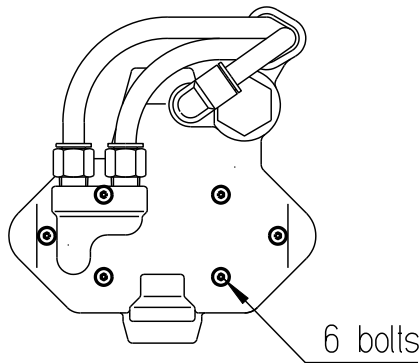
Reverse the valve body, aligning pinholes and pin, tighten the bolts.



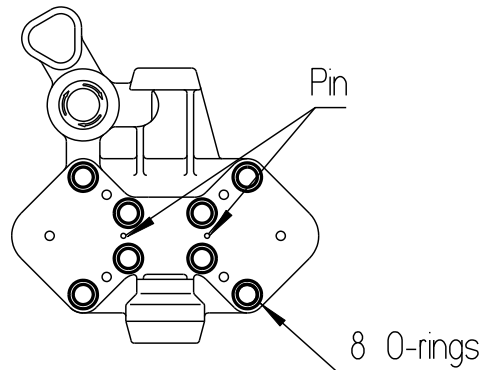
Right handed use



Left handed use



6 bolts



8 O-rings

The back of handle

(1 0) Maintenance and inspection

WARNING; Inspect the Air Hoist regularly.

To operate the hoist safely, it is necessary to obey the crane safety regulations and also perform daily inspections, monthly inspections and annual inspections. If the hoist is not inspected on a regular basis this may lead to damage to the hoist and result in personal injury

★ DAILY INSPECTION

1. Air pressure and oil

Confirm the hoist is operating at 0.6 MPa air pressure. Make sure the line oiler is operating correctly. If oil lacks to the motor, this will lead to early wear of the motor parts.

2. Hook and hook claw

If the hook is unable to rotate, the chain may be twisted and the load may rotate. Make sure that the hook claw can work correctly.

3. Chain lubrication

If the chain is not lubricated, it will result in premature wear.

WARNING; Lubrication to the chain.

Always lubricate lift chain. If there is no oil on the chain, chain will be worn out quickly. This may lead to dropping of the load and personal injury due to breaking of the chain and it is very dangerous.

Apply lubricants to chain links.

EPINOC GREASE AP (N) 0. Every 5,000 cycles or whenever the chain is dry.

4. Hoist operation and noise

Make sure that the air hoist is running without abnormal noise. If any defect can be found, stop the operation immediately.

★ MONTHLY INSPECTION (shall be carried out more depending on working frequency)

1. Chain (Rust, elongation and damage)
Inspect the chain according to "Maintenance Chart".
If it exceeds the limits, stop using and replace.
2. Brake
Make sure that the brake is working properly. If the load should slip down, stop using and contact the dealer or distributor to repair the hoist.
3. Hook
Make sure that hook can rotate smoothly and does not have excessive damage or deformation
Check the hook for deformation and the clearance between hook and hook end piece according to "Maintenance Chart".
If it exceeds the limit, replace the hook immediately.
4. Bolts and Nuts
Make sure that the bolts and nuts are securely tightened. Loosened bolts and nuts may cause breakage of the other parts.
5. Over-traveling limiter
Make sure that over-traveling limiter works properly. Carry out the check without load.

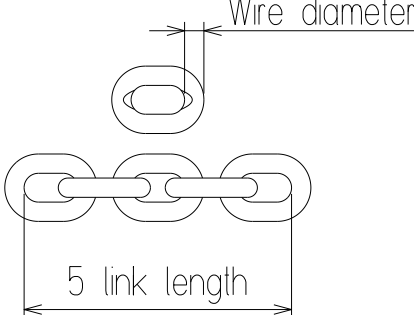
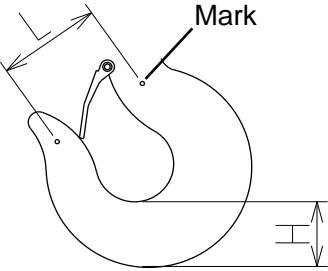
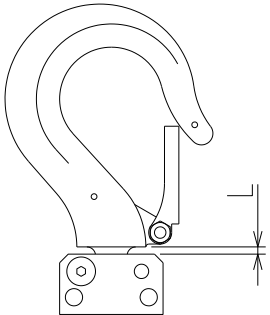
★ ANNUAL INSPECTION (shall be carried out more depending on working frequency)

Annual inspection shall be carried out by authorized service establishments at least once a year. The interval shall be (1) one year, (2) 10,000 cycles, or (3) 50 hours in actual operation, whichever comes first. Inspection and maintenance shall be carried out at suitable intervals depending on the frequency of use and the working condition.

★ Record of inspection and test (when using with Trolley)

1. When using the air hoist with trolley, the results of Monthly Inspection, Annual Inspection and test has to be recorded and stored at least 3 years.
2. When using the air hoist with trolley, the equipment has to be registered at government authorities depending on regional law or regulation.

Maintenance Chart

Part	Dimension Criteria	Service Limit
Chain		<ul style="list-style-type: none"> • If chain is badly oxidized, replace it. • If chain is badly damaged, replace it. • If the dimension exceeds following limits, replace the chain. <p>Diameter 4.2mm-3.8mm 5 link length 60mm-61.5mm</p>
Hook	 <p>Brand new dimension L= _____ H= _____</p>	<ul style="list-style-type: none"> • If the length L is larger than brand-new dimension, replace it. • If H is 1 mm bigger than brand-new dimension, replace it. • If the Hook can't rotate smoothly, repair or replace it. • If hook safety claw cannot work properly, replace it.
Hook Hook End Piece		<ul style="list-style-type: none"> • If L exceeds following limit, replace both Hook and Hook End Piece. <p>Limit L=2.5mm</p>

(1 1) How to install the chain

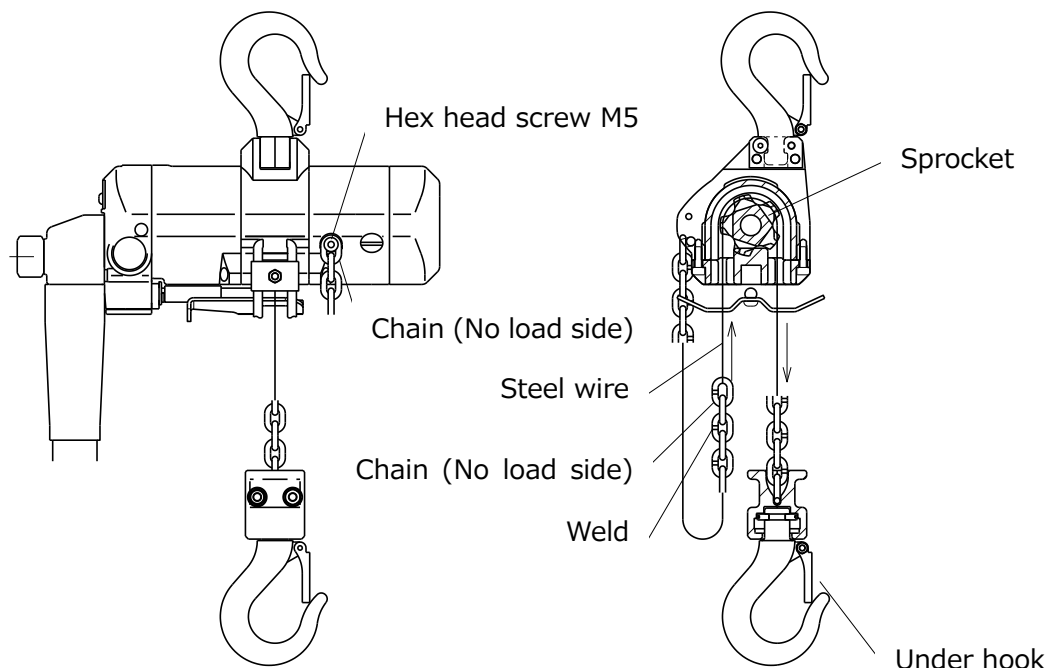
Only authorized personnel can install the chain. Ask authorized service establishment for chain installation.

WARNING

When connecting the end of the chain to the hoist, make sure the chain is not twisted when assembling the chain through the hook case.

If the chain is twisted and assembled, the chain will break and may result in personal injury.

- ① Use TOKU genuine chain.
 - ② Suspend the hoist and attach a wire to the end of the chain. (Smaller wire is easier)
 - ③ Operate the hoist, adjust the chain sprocket as shown in the diagram below.
 - ④ Insert the wire into the chain entrance at the lowering side of the hoist.
 - ⑤ Pull the wire to insert the chain into the hoist from the vertical link, then the chain contacts sprocket. Make sure that the weld on the chain link is facing the outside.
 - ⑥ Pulling the wire, operate air hoist slowly in lowering direction to wind the chain. Make sure not to seize the chain by sprocket and chain guide.
(If the chain is seized, the chain and internal parts need to be inspected.)
 - ⑦ Remove the steel wire from the chain and assemble the washer, spring and under hook to the end of the chain as shown in the drawing below.
 - ⑧ Secure the end of the chain (No load side) on the side of the hoist. Make sure that the chain is not twisted more than 90 degrees when assembling to the hoist
- ※ When using with chain basket, refer to “Installation of the chain basket”.



(1 2) Trouble shooting

⚠ WARNING; Contact the distributor for Inspection and repairs.

When the air hoist needs to be disassembled or repaired, please contact Air & Allied Sales (Pacific) P/L for your local authorised service center. Use genuine Toku parts to make sure the strength and durability of the parts are correct, if imitation parts are used this may lead to personal injury and is dangerous.

Item	Cause	Countermeasure
Does not operate.	•Lack of air pressure.	•Adjust air pressure.
	•Rusting of the valve.	•Repair at Service facility.
	•Problem with motor area.	•Repair at Service facility.
	•Problem with brake area.	•Repair at Service facility.
	•Bending or crimping of pendant hose.	•Correct band or crimp
Lifting speed is slow.	•Lack of air pressure.	•Adjust air pressure.
	•The hose size is too small.	•Check hose size.
	•Problem with motor area.	•Repair at Service facility.
	•Problem with brake area.	•Repair at Service facility.
	•Plugged silencer area.	•Repair at Service facility.
	•Bending or crimping of pendant hose.	•Correct band or crimp.
Cannot lift rated load.	•Lack of air pressure	•Adjust air pressure.
	•Problem with motor area	•Repair at Service facility.

Customer Memo

Record information such as the distributor name, model number and serial number.
It will be of good use when you bring the unit in for servicing.

Date of Purchase	Distributor Information
Model	
Serial Number	

This is a high precision manufactured product. As a result if the unit does not work
Operate properly do not attempt to repair the unit. Contact our distributor Air & Allied Sales
(Pacific) P/L. Also, if parts are needed or if you have any questions about how the unit works,
please do not hesitate to contact Air & Allied Sales (Pacific) Pty Ltd.