INSTRUCTION MANUAL

AIR HOIST

ATC -60K
ATC-125K
ATC-60K-5
ATC-125K-5

Copied digital data from https://www.endo-kogyo.co.jp/

⚠WARNING

- Never use the HOIST for lifting or lowering people.
- Supply this manual to the user.
- Read this manual before installation, operation, or maintenance.
- Keep this manual available.

ENDO KOGYO CO., LTD.

HM-10061e

ENDO

Issued on Jan. 2016

Copyright and liabilities

The copyright for this manual belongs to Endo Kogyo Co., Ltd.
The manual is provided for the limited purpose of supporting the safe and proper use of the product. It cannot be used for other purposes.
The customer may not use or make copies of this manual, in whole or in part, outside of this purpose without receiving prior consent from Endo Kogyo Co., Ltd.
The customer is also prohibited from translating or modifying the content of the manual, in whole or in part.
The content described in the manual is subject to change without advance notice.
Please note this in advance.

ENDO KOGYO CO., LTD.

Copied digital data
from https://www.endo-kogyo.co.jp /

SAFETY ALERT SYMBOL AND ALERT SIGNS

Please read this manual carefully and follow its instructions.
The SAFETY ALERT SYMBOL(⚠), WARNING, CAUTION, and NOTE carry special messages.

⚠ This SAFETY ALERT SYMBOL is used to call your attention to items or operations that could be dangerous to you or other persons using this equipment.
Please read these messages and follow these instructions carefully.

⚠WARNING : WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION : CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury, damage or destruction or the equipment and others.

NOTE : NOTE indicates a special instruction in operation or maintenance.

Copied digital data from https://www.endokoyo.co.jp/

Scope of warranty and liabilities for the equipment

1. We will repair or replace the product free of charge if a failure due to manufacturing defects occurs under proper usage during the warranty period.
   For details, contact us or your dealer.

2. The warranty will be void in the following cases:
   1) Change in ownership.
   2) Repair, adjustment, or modification performed by a party other than the manufacturer, agents, or dealers.

3. The warranty period is one (1) year from the date of purchase except for consumables.

4. Repairs applicable to any of the following shall be charged even during the warranty period:
   1) Failure/damage caused by incorrect use.
   2) Failure/damage caused by use of non-genuine parts.
   3) Failure/damage caused by fire, earthquake, natural disaster, or other unexpected incident.
   4) Incident caused by fall, shock, negligence, or by inadequate storage.
   5) Failure/damage caused by use of parts or other equipment that are not included in this product.
   6) Replacement of consumables.
   7) Usage in violation of dangers or cautions stipulated in this Instruction Manual or the warning labels.
   8) Failure/damage caused by any reason that is not attributable to the manufacturer.

5. Warranty exclusions such as mechanical loss.
   Either during or after the warranty period, mechanical loss, damage to anything other than our product(s), or other duties incurred on you/your customer as a result of the failure of our product(s) are outside the scope of the warranty.

Copied digital data from https://www.kondo-kogyo.co.jp/

CONTENTS

1. ⚠ Safety Instructions ---- 1
2. Model Description ---- 5
3. Checks and Instructions before Installation ---- 6
   3.1 Checks of the Product ---- 6
   3.2 Instructions on Working Conditions ---- 6
4. Installation ---- 6
   4.1 Installation ---- 6
   4.2 Before Air Connection ---- 7
5. Checks after Installation and Test run ---- 7
   5.1 Load chain ---- 7
   5.2 Hoisting Operation ---- 7
   5.3 Hoisting and Lowering Limit Switches ---- 8
   5.4 Check of the stopper ---- 8
   5.5 Check of the emergency stop device ---- 9
   5.6 Check of the Lifting Height ---- 9
   5.7 Load Test ---- 9
6. Checks before Operation – At the beginning of each shift ---- 10
   6.1 Check before Start up ---- 10
   6.2 Check by Idling Operation ---- 10
   6.3 Check by Load Operation ---- 10
7. Periodic Inspections ---- 11
8. Maintenance and Inspection ---- 12
   8.1 Lubrication ---- 12
   8.2 Inspection ---- 14
   8.3 Storing the Hoist ---- 18
   8.4 Troubleshooting ---- 19
9. Adjustment of Operating Limit of Control Lever ---- 20
10. Brake Adjustment ---- 20
11. Change of the operation handle ---- 21
12. Disassembly and Reassembly ---- 22
   12.1 Procedures of Disassembly ---- 22
   12.2 Reassembly ---- 23
13. Parts list ---- 27

Copied digital data from https://www.ender-kogyo.co.jp/

1. ⚠ Safety Instructions

If the hoist is not used correctly a serious accident may occur, such as dropping the load or the hoist itself. Before installing, operating, controlling, inspecting of hoist, read and understand this instruction manual.
Until understanding of all equipment terminology, safety information, caution and warning, do not use the air hoist.

1.1 General Instructions

⚠ WARNING

- Never use the hoist to lift or lower people.
  Also never carry the loads over people or around people.
- Before installing, operating, controlling, inspecting of the hoist, read and understand this instruction manual.
- After reading, keep this manual available for maintenance and inspections.
- Always check the supporting member from which the hoist is suspended is strong enough to support the weight of the hoist plus the weight of the rated load, etc.
  The customer has the responsibility for this.

Copied digital data
Visit https://www.endo-kogyo.co.jp/

1.2 Instructions for safe operation

If there are a difference between instruction manual and the standard of your company, give the priority to stricter standards from either of both.

1.2.1 General handling

⚠ WARNING

- Never operate the hoist unless the contents of this manual and caution plate (warning label) are completely known.
- Never operate the hoist nor sling a load unless you were trained in safety rules and in operating manner of the hoist. Never allow untrained persons to do so.
- Never remove or deface any nameplates, caution plates or warning labels which are attached to the hoist.
- Always check the hoist before each shift, and inspect it periodically.
- Never operate the hoist if you are not physically fit to do so.
  The operator must have good hearing, vision and depth perception.
- When any instruction signs put on the push button switches such as EQUIPMENT BEING INSPECTED or DO NO RUN, never operate the hoist until the sign is removed by the designated person.

1.2.2 Installation

⚠ WARNING

- Always employ specialists or well trained persons for installation.
- Never install the hoist in any environments which is out of specifications. For example, the hoist should not be exposed to rain or water.
- Always install stoppers at the end of the rails for traveling or traversing.
- Always check the supporting member for the hoist has enough strength.
- Make the hoist able to swing freely by using the top hook or the fitting.
  * Never fix the hoist.

⚠ CAUTION

Never operate the hoist when the hoist is placed on the floor.
Only operate the Hoist when it is hanging.

1.2.3 Air Pressure

⚠ WARNING

The air hoist is designed to work within working air pressure range of 0.4~ 0.6MPa {4~6kgf/cm^2}.
If it is necessary, reduce and set the air pressure to the requirement of working air pressure.

Copied digital data from https://www.endo-kogyo.co.jp/

1.2.4 Operation and Handling

⚠ WARNING

- Never lift a load greater than the rated capacity of the hoist.
  *The rated load is marked on the hoist body.
- Never stand on a suspended load.
  Never apply and use the hoist for transporting people.
- Never stand and walk under the suspended loads, and keep out of its area of projection. Never place hands, feet and etc., under or between suspended loads.
- Never operate the hoist when anyone is in the traveling area of the load.
- Always check there are no objects in the ways of the load or the load hook when moving the hoist.
- Never carry a load over people.
- Never leave a load suspended for any extended period.
- Always pay attention to the load at all times when operating the hoist.
- Never swing the load or the load hook when moving the hoist.
- Never use the preventive device against reverse winding (over lowering limit switch), as a means of stopping the hoist.
  It is for emergency stop only.
- Never pull a load at an angle.
  Never lift a load when the load hook is not over the load's center of gravity.
  *Always move the hoist over the load's center of gravity before lifting.
- Never use the road chain as a sling
-

- Never do earth lifting (lifting locked loads).
- Never turn over a suspended load.
  *Always employ special equipments in case of turn over work.
- Always check movement of the push button switches before operation.
  Never operate the hoist if the push button switches do not move smoothly.
- Stop the hoist immediately when up / down operations are contrary to the indications marked on the push button switches.
- Always check operation of the brake before using the hoist.
- Never use the hoist if the brake dose not work well.
- Never operate the hoist when damaged or abnormal sound / vibration occurs.
- Never operate the hoist with the load chain in any of the following conditions.
  ① Twisted, kinked, and deformed.
  ② When elongation or the reduction of diameter exceeds the service limits.
  ③ Cracked, damaged and corroded.
  ④ Improperly engaged on the chain wheel.
- Always keep the load chain clean and well lubricated.
- Never perform cutting work on a load suspended by the hoist.
- Never perform electro-welding work on a load suspended by the hoist.
- Never use the load chain of the hoist as a ground for welding.
- Never attach a welding electrode to the load chain of the hoist.
- Never lift any single load with 2 or more hoists.
- Never lock the push buttons switches.
  *The hoist must be operated by the operator himself / herself at all times.
- Keep the load block overhead when not in use.
- When moving a load with a plain trolley, never push the load chain but the push the load itself. Never pull the load.
- Never use the emergency stop button, as means to stop normally – this is an emergency device only.
- Rectify any dangerous situation before releasing the emergency stop button when the emergency button is used
- Do not loosen or remove the emergency button.
  Tighten the emergency stop button by hand if loosened.

Copied data from http://www.endo-kogyo.co.jp/

⚠ CAUTION

- Never use the hook with a damaged or malfunctioning hook latch.
- Always operate the Hoist carefully during lifting and lowering operations.
  Never start, stop or reverse the hoist suddenly.
- Never allow the suspended load to touch the nearby structure or power lines, etc.
- Never jerk the coil hose nor catch it on the nearby structure
- Never allow the hoist or trolley to collide with the I-beam stopper or the structure.
- Always check the load hook can swivel smoothly before operating the hoist.
- Always position the slings at the center or the load hook.
- When starting to lift, stop the hoist once as the load chain becomes tensioned.
  *Never jerk the hoist. Carefully take up the slackened load chain.
- Always check the load-lifting height of the hoist is enough for required work.

1.2.5 Maintenance, Inspection and Alterations

⚠ WARNING

- Never alter the hoists or its accessories.
- Always use genuine parts for replacement.
- Always shut off the air supply before carrying out maintenance, inspection or repair.
- Always employ specialists or well trained persons for maintenance, inspection and repair.
- Always remove the load from the hoist before maintenance, inspection or repair.
- Always disassemble the hoist on the floor.
- If any problems are detected during maintenance or inspection, never use the hoist but correct and repair the problems immediately.
- Periodically, inspect the hoist thoroughly and replace any worn or damaged parts.
- Stretched, worn or damaged hooks should be discarded.
  Never attempt to repair it, just replace it with a new hook.
- Always put up an instruction sign ("EQUIPMENT BEING INSPECTED", "DO NOT OPEN THE VALUE", etc.) before carrying out maintenance, inspection or repair.
- Never do anything if you have any questions about the hoist, please do not hesitate to contact you dealer or us.

⚠ CAUTION

- Follow the lubrication instructions.
- Never operate the hoist without lubricator and filter.
- Always hang the hoist when carrying out test run after maintenance or repair.
  * Never operate the hoist when the hoist is placed on the floor.

Copied digital data from http://www.endo-kogyo.co.jp/

2. Model description

2.1 Specifications

Model	Rated Load Kg	Lift mm	Air pressure Mpa {kgf/cm²}	Lifting speed m/min	Air consumption m³/min [normal]	Air inlet	Mass kg
ATC-60K ATC-60K-5	60	2	0.4 {4}	14.0	0.45	R 3/8	14.3
			0.5 {5}	17.0	0.58		
			0.6 {6}	20.0	0.68		
ATC-125K ATC-125K-5	125	2	0.4 {4}	6.5	0.42	R 3/8	14.5
			0.5 {5}	10.5	0.55		
			0.6 {6}	12.0	0.65		

Working conditions
Application area : Indoor and normal atmospheric conditions
Temperature range : −10℃ to +50℃

2.2 Names of main parts

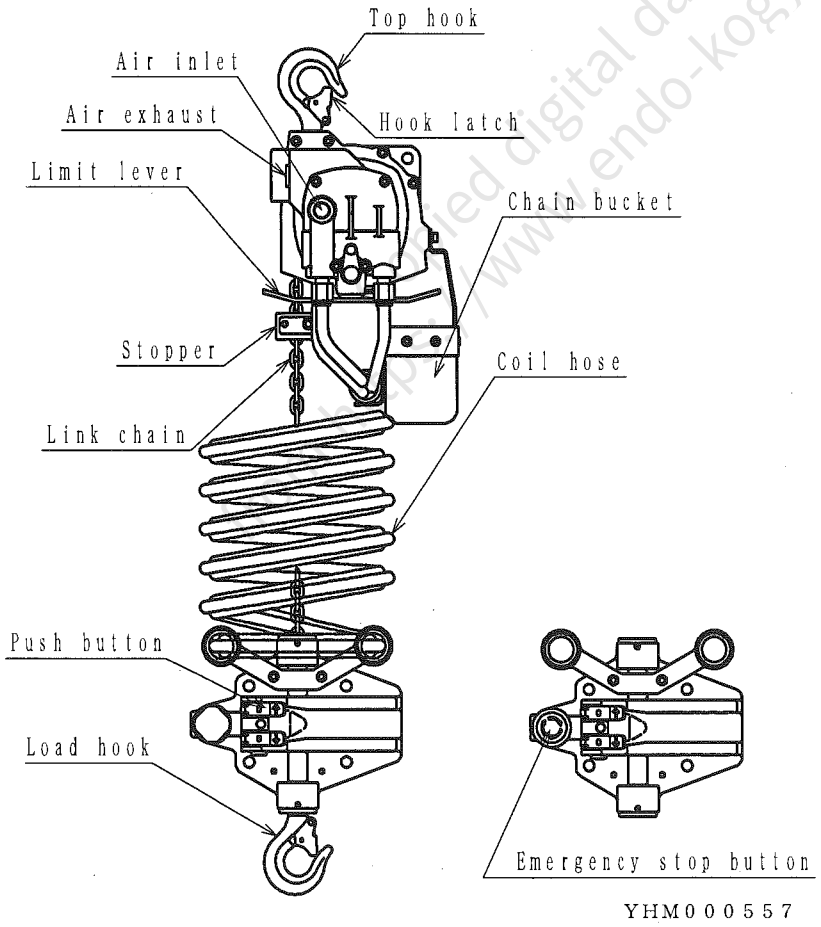


Fig.1

Digitized digital data http://www.endo-kogyo.co.jp/

3. Checks and Instructions before Installation

3.1 Checks of the Product

- Check the delivered hoist is what you ordered (check the name plate).
- Check there was no damaged or deformation on the hoist during transportation.
- Check the pressure of the available air supply corresponds to the working air pressure of the hoist.

3.2 Instructions on Working Conditions

⚠ WARNING

- Never use the hoist at a temperature below −10℃ or above +50℃.

⚠ CAUTION

- Do not install and leave the hoist outdoors.
  If it is necessary to use the hoist outdoors, always make a shelter with a roof for housing the hoist.
- Under hostile environments such as high temperatures, high humidity, acidic, corrosive and / or extremely dusty atmospheric conditions, the mechanical parts of the hoist may be seriously damaged (for example, corroded).
  Therefore, frequently check the hoist is maintained in normal conditions at all times.

Copied from https://www.sinfonia-tech.co.jp/

4. Installation

4.1 Installation

⚠ WARNING

Always check the supporting member from which the hoist is suspended is strong enough to support the weight of the hoist plus the weight of the rated load, etc. The customer has responsibility for this.

⚠ CAUTION

Never operate the hoist when the hoist is placed on the floor (never lay it down). Only operate the hoist when it is hanging.

Make certain the hoist is properly installed.
A little extra time and effort in doing so can contribute a lot toward preventing accidents and helping you get the best service possible.

<u>The supporting member for the hoist should have successfully passed an inspection for the applicable safety standard.</u>

- Check the top hook is correctly rigged onto the supporting member and the hook latch is correctly closed.
- Never use a supporting member that suspends the hoist at an angle.

4.2 Before Air Connection

> **⚠ WARNING**
> The hoist is designed to operate within a working pressure range of 0.4～0.6 MPa {4～6 kgf/cm^2}.
> Always keep the working pressure no greater than 0.6 MPa {6 kgf/cm^2}.
> If necessary, use an air regulator for reducing air pressure.

- Check sufficient air can be supplied to the opening area of the hoist.
  Compare the air supply from the compressor to the air consumption of the hoist. (See Chapter 2 "Specifications".)
  For a pipe of excessively small diameter or of great length, the pressure drop can become large enough to prevent the specified performance.
- Use an air hose whose inside diameter is at least 9.5 mm (3/8 in.).
- Before connecting the air hose or pipe to the hoist., be sure to flush or blow out with air to prevent the invasion of foreign matter (dust, etc.) into the air motor.
- Compressed air supplied to the hoist should be free from moisture or foreign matter.
  Install an air filter to eliminate them from air supply.
- Install a lubricator to feed lubricant to the air motor.
  See Chapter 8, Section 8.1 "Lubrication". (Never operate the hoist without lubricant.)
- Connect the air filter, regulator and lubricator as close to the hoist as possible.
- When the air hose is connected to the hoist, pour about 10 drops of lubricant into connecting port of the hoist.
  See Chapter 8 , Section 8. 1 "(5) Recommended lubricants".
- Install a dump valve (drain valve) at the lowest point in the piping.

5. Checks after Installation and Test run

5.1 Load chain

Check the welds on Load chain are faced away from the center of Chain wheel (See Fig. 2).

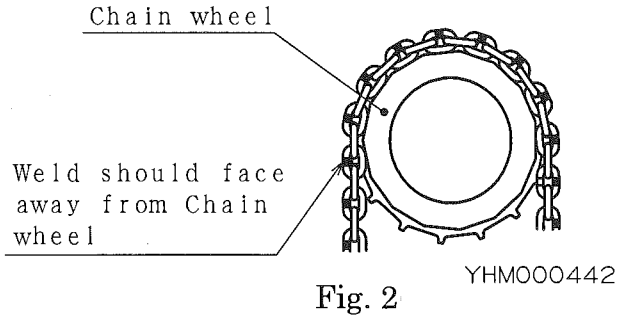


Fig. 2

5.2 Hoisting Operation

At the initial operation, repeat up / down operations several times at low speed then go to the full-speed operation. Adjust the speed by controlling the pushing force on the push buttons.
At this point, check the lubricator is feeding lubricator to Air motor.
(See Chapter 8 "1. Lubrication".)
Check the indications marked on the push buttons correctly show the actual directions of up / down operations.

5.3 Hoisting and Lowering Limit Switches (See Fig. 3)

After checking the pushing buttons for correct operation, slowly lift Load hook (Bottom hook) to the upper limit. At this point, Limit lever is pushed up by Stopper so that the hoist is stopped automatically.
Next, slowly lower Load hook to lower limit. Limit lever is lifted up by Load chain so that the hoist is stopped automatically.
Ensure these operations are carefully carried out (See Fig.3).

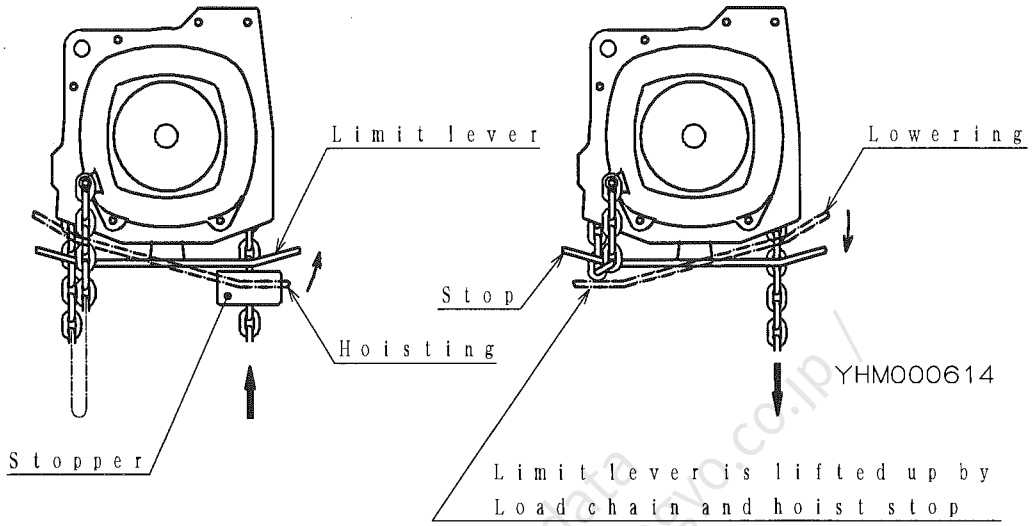


Fig. 3

5.4 Check of the stopper

> **⚠ CAUTION**
> Keep stopper more than 200mm from the limit lever. If less than 200mm, the coil hose could be damaged. (See fig. 4.)

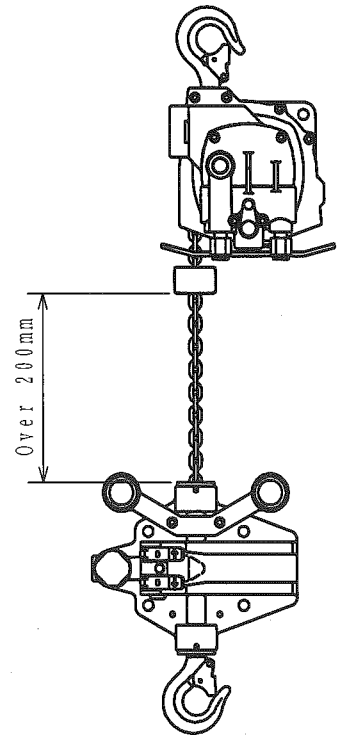


fig. 4

Copied digital data from https://www.endo-kogyo.co.jp/

5.5 Check of the emergency stop device (ATC-60K-5, ATC-125K-5)

> **⚠ WARNING**
> Do not release the emergency stop button with the push-button pushed, or the hoist works suddenly and it could result in personal injury or death.

(1) Check that hoisting and lowering are surely stopped by the emergency stop button with the push-button pushed.
(2) Keep away your finger from the push-button. Turn the emergency stop button clockwise according to the arrow for releasing the emergency stop button
(3)Check that hoisting and lowering can be performed normallyafter releasing the emergency stop button

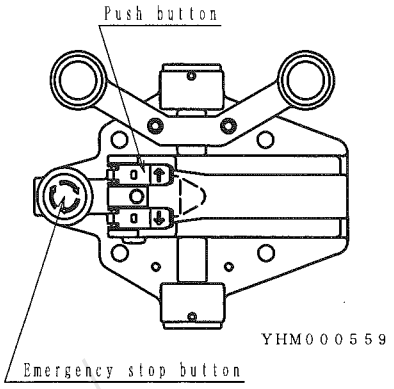


Fig.5

> **⚠ WARNING**
> It is loosened if the emergency stop button is turned counterclockwise.
> If loosened, turn it clockwise again.

5.6 Check of the Lifting Height

> **⚠ WARNING**
> Never use Upper and Lower limit switches as a means of stopping hoist. Use the switches only in emergency case.

Check that Upper and Lower limit switches does not work in ordinary operation. Install the hoist again if s the switches work in ordinary operation.

5.7 Load Test

- Lift the rated load a few inches off the floor and check ability of the brake to stop and hold the load without excessive drift.
  In case of using the hoist with the trolley, traverse the trolley over the entire length of I-beam with the rated load suspended a few inches off the floor.
  Check the condition of I-beam and the length of the air hose.
- Lift 125% of the rated load and check the operation.
  This test should be performed for the safety check concerning the hoist, I-beam, etc.

Copied digital data from https://www.ondo-kogyo.co.jp/

6. Checks before Operation – At the beginning of each shift

> **⚠ WARNING**
> - Always execute the following checks at the beginning of each shift.
> - If a malfunction occurs during the operation of the hoist, stop operation immediately and take the necessary steps to rectify the problem.
>
> Never operate the hoist if damaged or malfunctioning.
> This is serious hazard and could result in personal injury or death.

6.1 Check before Start up

(1) Check Load chain is not twisted, kinked, damaged, or worn.
Wear or damaged on the chain can not be detected by casual or formal observation.
See Chapter 5 "1. Load chain" and Chapter 8.2 "2.(2) Inspection of Load Chain and Service limit".
(2) Keep Load chain clean and well lubricated.
(3) Check Load hook is not stretched or damaged and Hook latch is in the normal position.
(4) Check the hook holder is not damaged and Load hook can swivel smoothly.
(5) Check that coil hose is not damaged
(6) Check the trolley wheels track the rails properly and the wheels and rails are not worn.
(7) Check the lifting sling (suspension fastening) is not damaged or worn.

6.2 Check by Idling Operation

(1) Check the push button switches can be easily operated and the up / down operations are correct as indicated.
(2) Check Load chain flows freely and smoothly into and out of Chain wheel and there is no noise indicative of binding or other malfunctions.
(3) Check Upper and Lower limit switches function correctly.
See Chapter Ⅴ "3. Hoisting and Lowering Limit Switches".
(4) Check the emergency stop device function correctly. (ATC-60K-5, ATC-125K-5)
See chapter 5 "5 Check of the emergency stop device".
(5) Check the hoist is not abnormally noisy or vibrating.

6.3 Check by Load Operation

(1) Lift the rated or near the rated load a few inches off the floor and check ability or braking system to stop and hold the load without excessive drift.
(2) Check Load chain flows freely and smoothly into and out of Chain wheel and there is no audible clicking or other evidence of binding or malfunction.
(3) Check the hoist is not abnormally noisy or vibrating.

Non-contact Copied digital data http://www.endo-kogyo.co.jp /

7. Periodic Inspections

⚠ WARNING

- Always put up instruction sign (" EQUIPMENT BEING INSPECTED", "DO NOT RUN", etc.) on the push button switches before carrying out inspections.
- Periodically, inspect the hoist thoroughly and replace any worn or damaged parts.
- Always shut off the air supply before carrying out inspections. Exceptions are checks or inspections of the push button switches, brake, Upper and Lower limit switches etc., during that the hoist should be operated.

- Preparing a special table for inspection is recommended.

■ Monthly Inspection

Inspect the hoist at least once a month. Correct and repair any problems which are detected.

- Required interval for inspection depends on the operating environment, operating frequency and loading conditions of the hoist. Therefore, make the inspection interval shorter according to your operating condition.
- For inspection items and methods, see Chapter 8, Section 8.2 "Inspection".

■ Annual Inspection – Disassembly is required

Completely disassemble the hoist at least once a year for inspection and maintenance. Correct and repair any problems which are detected.

- Inspect the hoist yearly or every 1000 hours of operation, whichever is shorter. If diary operation time exceeds 5 hours, inspect the hoist every 6 months. However, the required interval for inspection also depends on the operating environment and loading conditions of the hoist. Therefore , make the inspection interval shorter according to your operating condition.

- For inspection items and methods, see Chapter 8, Section 8. 2 "Inspection".

■ Service Limit of Parts

If any part is found to be worn beyond its service limit in the monthly, annual, or other inspections, never reuse it.

from HITACHI digital data
http://www.kendo-kogyo.co.jp/

8. Maintenance and Inspection

⚠ WARNING

- Never alter the hoist or its accessories.
- Always remove the load from the hoist before maintenance, inspection or repair. Exception is a inspection of brake, etc.
- Always put up an instruction sign ("EQUIPMENT BEING INSPECTED", "DO NOT OPEN THE VALUE", etc.) before carrying out maintenance, inspection or repair.
- Always shut off the air supply before carrying out maintenance, inspection, or repair.
  Exceptions are checks or inspections of the push button switches, brake, Upper and Lower limit switch, etc., during that the hoist should be operated.
- Always employ specialists or well trained persons for maintenance, inspection and repair.
- Always disassemble the hoist on the floor.
- Always use genuine parts for replacement.
- Replace any parts damaged or worn beyond its service limit.
- Always execute the load test after disassembling the hoist for maintenance or inspection. See Section 8. 2 "(9) General Operation Inspection".

Always use the hoist correctly for safety and getting the best service.

8.1 Lubrication

(1) Air motor

- To prevent the air motor from dry operation, continuously lubricate using a lubricator.
- Adjust the frequency and volume of lubrication at the lubricator so that one drop of lubricant might fall off from the nozzle when the hoist works with no load at one meter lift 3 times.
- Periodically check the oil level in the lubricator, and replenish if necessary. Never allow the oil level to go below the indicated line.
- Periodically remove drain water deposited in the air filter bowl.

⚠ CAUTION

Always shut off the air supply before putting lubricant in the lubricator.

(2) Reduction Gear Unit

- The reduction gear has been greased before shipment.
- Replace grease in the reduction gear when the hoist is disassembled for maintenance or inspection. Daily lubrication is not required.
- Required quantity of grease is 50 cm^3 (50 ml).

(3) Load chain

- Always keep Load chain and the chain anchor pin clean and well lubricated.
- Before installation, load test or initial operation, be sure to lubricate Load chain. Even if operating with no load, lubricate Load chain.
- Periodically coat Load chain with lubricant to minimize wear on Load chain or Chain Wheel.
  Poorly lubricated Load chains will wear out quickly, making the hoist operation dangerous.

Copied digital data from http://www.endo-kogyo.co.jp/

- Determine the lubrication interval according to the operating frequency and the loading conditions.
- Before reapplying lubricant, completely clean wire rope.
  Lubricate in the no-load condition.
- If a suspended load is close to the rated load, continuously monitor the condition of Load chain and reapply lubricant if necessary.
- Use heavy gear oil, for example, "Shell OmalaS2G320", etc.

(4) Load hook
- Each time the hoist is disassembled for inspection, maintenance, or replacement of Load chain, lubricate the hook. (Shank.)
  Use the same type or equivalents of Reduction (Incl. Bearing of reduction gear)

(5) Recommended Lubricants
The following table shows the recommended lubricants.
Always use the same type or equivalents recommended by the oil manufacturer.

Manufacturer	Air motor (Lubricator)	Reduction (Incl. Bearing of reduction gear)
Exxon Mobil	Mobil DTE Light	Mobilux EP2
Cosmo Oil	COSMO ALLPUS32	COSMO GREASE DYNAMAX EP No.2
JX Nippon Oil & Energy	FBK OIL RO32	EPNOC GREASE AP(N)2
Shell	Tellus S2 M32	Alvania Grease EP2

- When disassembling, apply lithium saponified silicon grease (Molykote BR2-S, and the like) corresponding to the No. 2 class of NLGI (National Lubrication Grease Institute) to the O-rings for dynamic seal.

Copied digital data from https://www.e-kopy.com/

8.2 Inspection

(1) Inspection of Hook and Service Limit

> **⚠ WARNING**
> Never repair the hooks.
> Always replace a stretched, worn or damaged hook with new one.

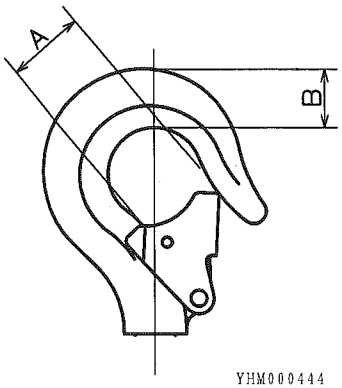
■ Inspection on Hook Opening, Cracks and Wear.

If any of the following conditions apply to the inspected hook, never reuse, always replace with new one.

- The hook opening is visibly stretched, or the opening dimension is different from the specified.
- The hook is deformed or cracked.
  Carefully check for any bends or cracks on the hook shank.
- Wear on the hook saddle, where the lifting sling (suspension fastening) rests, reaches the service limit.
- The hook latch is damaged or malfunctioning.

■ Hook Opening Dimension and Wear Limit

For the hook opening dimension A, measure the hook before use a reference for later inspections.



(mm)

	Standard dimension	Service Limit
A	26.0	-
B	19.0	16.9

(2) Inspection of Load Chain and Service Limit

Clean Load chain using solvent so any damage can be located.
The inspection should be carried out on each link of Load chain.
Never use acidic solvents.

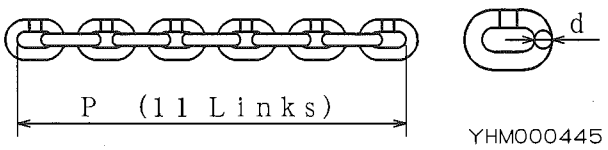
■ Never use Load chain having any one of following defects.
Replace it with a new Load chain.

- Flaws or cracks.
- In particular, carefully check the weld on the links and end links which are connected to the main body or Load hook (Hook holder).
- Deformed or corroded.
- Stretch exceeding the service limit.
- Reduction of diameter exceeding the service limit.

from https://www.endo-kogyo.co.jp/ Copied with Data

■ Limit of Stretch and Wear

For dimensions P and d, measure the entire working length of Load chain.
Pay special attention to the links which engage Chain wheel when the load is at the upper or lower limit.
If the hoist is always used for the same lifting distance, wear on these links will be about two to four times that of other links.
For dimension P , measure the length of 11 links while testing Load chain as shown in the figure below.



YHM000445

(mm)

	Standard dimension	Service Limit
d	4.0	3.6
P	132.0	134.6

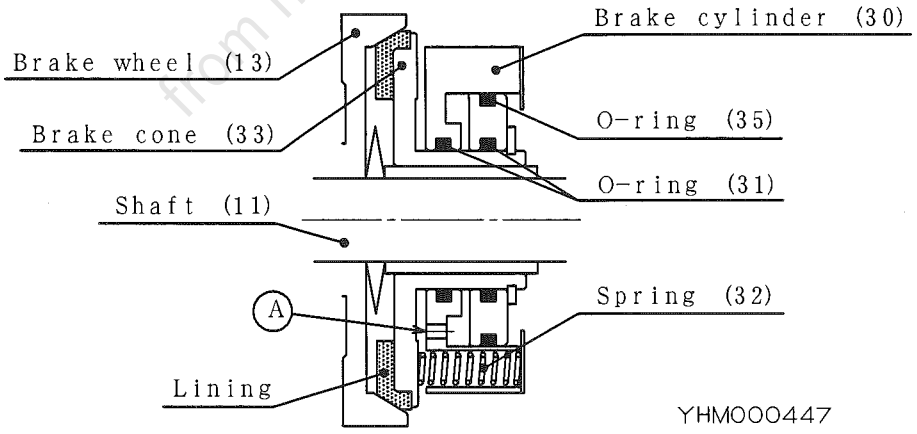
■ Replacement Parts and Maintenance after Inspection

- Never use a new Load chain with a worn Chain wheel.
- See Chapter 11 "Disassembly and reassembly".
- Always use a manufacture's genuine replacement chain. Never use any other chain.
- Always coat Load chain with lubricant after inspection or upon replacement. See Chapter 8 "1. Lubrication".

(3) Inspection of Brake and Service Limit

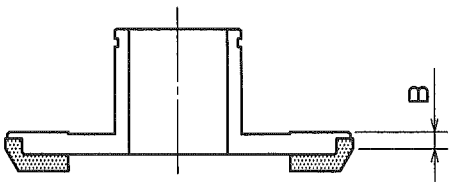
Disassemble the brake and inspect the lining and component parts.
For disassembly, see Chapter 11 "1. Procedures of Disassembly".

- Does wear on the lining exceed the service limit?
- Are Springs (32) decayed, cracked or flawed?
- Are there any pressed marks or cracks at the engaged part between Brake wheel (13) and Shaft (11)?
- Is the air exhaust hole Ⓐ on Brake cylinder (30) open?
- Are there flaws, deformation or wear on O –ring (31), (35)?



YHM000447

■ Wear Limit of Lining



YHM000172

(mm)

	Standard dimension	Service Limit
B	2.6	2.0

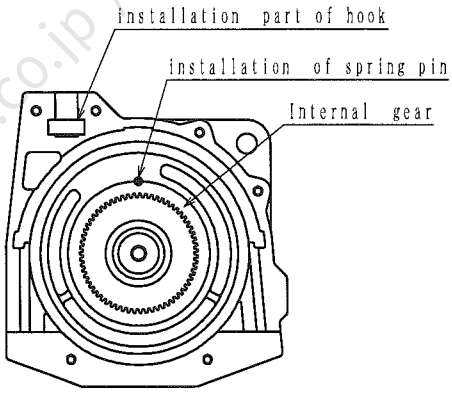
from https://www.e-kogyo.co.jp/ Digital data

■ Replacement Parts
- Always replace Springs (32) whenever Brake cone (33) is replaced.
- Replace all three springs (32) at same time.

(4) Inspection of Chain wheel
- Are there any visible indents from Load chain on the pocket of Chain wheel?
- Is there any deformation, or cracks?
  Carefully check the filleted and connected sections of the shaft.
- Are Bearings damaged or worn?
  Those which do not rotate smoothly (feels rugged when manually rotated) are beyond their service limit.
- Replace Chain wheel at the same time as Load chain.

(5) Inspection of Hook holder
- Is there any deformation, cracks, or indents on Hook Holder?
  Carefully check the part where Load chain is attached.
  I s there any deformation, flaws, cracks, or corrosion?
- Are Bolts loose?

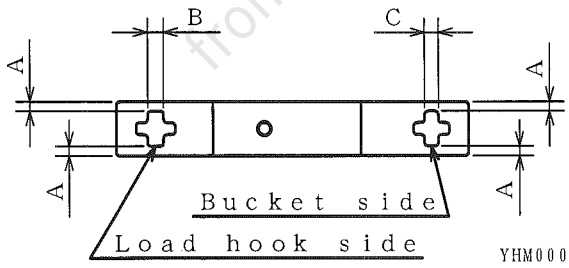
(6) Inspection of Casing (Main body Case)
- Are there any flaws, cracks, deformation or corrosion?
  Carefully check the part where Top hook and Chain guide is attached.
- Has Bolt, which fixes the dead end of Load chain
- (end link on the non-loading side), dropped or is it loose?
- Are Bolts loose?



YHM000496

(7) Inspection of Chain Guide
- Are there any flaws, cracks, or deformation?
- Is there excessive wear on the contact surface from Load chain?
  It is exceeding service limit if the chain twists and goes into the chain guide.

■Wear limit of the chain guide



YHM000497

(mm)

	Standard dimension	Service limit
A	3.75	2.0
B	7.0	8.0
C	6.0	7.0

(8)Inspection of Switch and Valve
- Are there any flaws, deformation or wear on the O-rings?
- Are the springs decayed, cracked or flawed?
- Is the hose damaged, or is the connection part loose?
- Do the push buttons correctly return to the neutral position after being pushed?
- Are the bolts loose?

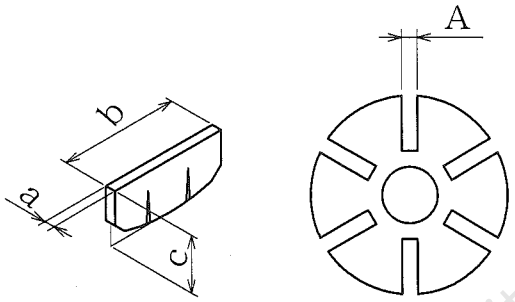
Copied digital data from http://www.endo-kogyo.co.jp/

(9) Inspection of Air Motor

■ Replace Parts which show the following conditions:

- The vanes are warped (curved), seized or cracked.
  Wear on the vanes reached the service limit.
- The side face of the rotor is gouged or seized.
- The vane slot of the rotor is worn beyond the service limit or is narrower than the standard dimension.
- The rotor is cracked, or the keyway is deformed.
- There is a visible indent or deformation on the key.
- The end plate is gouged or seized, or the surface is rough due to wear.
- Abnormal wear , flaws or corrosion is found on / in the cylinder.
- The bearings are damaged, worn, or do not rotate smoothly (feels rugged when manually rotated).

■ When Limit of Vane and Rotor

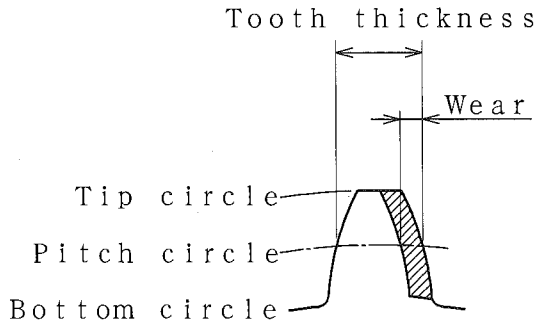


(mm)

	Standard Dimension	Service Limit
A	3.2	3.4
a	3.0	2.7
b	30	29.7
c	18.5	17.5

(10) Inspection of Reduction Gear Unit

- Are there any shavings, burrs, marks, or deformation on the keyway or the brake wheel engaging portion of the shaft?
- Is any part deformed or cracked?
- Are the bearings damaged or worn?
  Those which do not rotate smoothly
  (feels rugged when manually rotated)
  are beyond their service limit.
- The wear limit of the gear on the pitch circle should be within 5% of original dimension of tooth thickness.

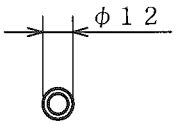


(11) Inspection of Chain Bucket

- Is there excessive wear on fabric Chain bucket?
- Are the mounting bolts loose?
- Is there any dust or foreign matter in Chain bucket?
- Chain bucket should be large enough to contain entire Load chain.

(12) Coil hose

- Are there any flaws, deformation or wear?
- Are there any discoloration or stiffened?
- Is the connection part loose?
- Is the hose swelled and thickened?
- It is service limit when the outside diameter of the hose becomes 13mm or more by air pressure power 0.6Mpa.
- NOTE: Replace the hose faster than usual under the environment in high temperature, humidity, or direct sunshine because of deterioration of the hose.



Digital data http://www.endo-kogyo.co.jp/

(13) General Operation Inspection

After completing the inspections described in the foregoing sections, reassemble the whole unit according to Chapter 11 "2. Reassembly" and inspect as follows:

■ Idling

- Check the push button switches can be easily operated and up / down operations are correct as indicated.
- Check hoisting speed can be changed from low to high speed by controlling the pushing force on the push button switches.
- Check Load chain flows freely and smoothly into and out of Chain wheel and there is no noise indicative of binding or other malfunctions.
- Check Upper and Lower limit switches function correctly.
  See Chapter 5 "3. Hoisting and Lowering Limit Switches".
- Check the emergency stop device function correctly. (ATC-60K-5, ATC-125K-5)
  See chapter 5 "5 Check of the emergency stop device".
- Check the Hoist is not abnormally noisy or vibrating.

■ Rated Load Test

- Check for malfunctions while lifting and lowering.
  Operate the hoist at least twice through the full lifting range.
- Lift the rated load a few inches off the floor and check ability of braking system to stop and hold the load without excessive drift.
- Check Load chain flows freely and smoothly into and out of Chain wheel and there is no audible clicking or other evidence of binding or malfunction.
- Check there is no significant reduction in the hoist performance.
- Check the hoist is not abnormally noisy or vibrating.

8.3 Storing the Hoist

If the hoist is to be stored for a long time, supplylubricating oil type rust preventive oils (class2), through the air inlet port and run the hoist at low speed for several seconds.

Store the hoist in a dry location.

Copied digitally from https://www.ondo-navi.co.jp/

8.4 Troubleshooting

> **⚠ WARNING**
> If a malfunction occurs during the operation of the hoist, stop operation immediately and take the necessary steps to rectify the problem.

> **⚠ CAUTION**
> Careless repairs can cause damaged to the hoist or personal injury. Therefore, be careful but through when making repairs.

The following table shows probable cause and solutions of common malfunctions.

Malfunction	Main Cause	Solution
Motor does not run. Slow rotation or no rotation of Motor.	- Insufficient air pressure.	- Increase air pressure.
	- Supplied air volume is insufficient.	- Increase compressor output.
	- Inner diameter of pipe is too small.	- Replace pipe with a larger inside diameter.
	- Silencer is clogged.	- Replace with new Silencer.
	- Powder or dust in Motor.	- Clean Motor then lubricate. Clean air filter and replace filter element.
	- Vanes have been enlarged due to moisture or long term storage.	- Replace Vanes. Discharge drain water from air filter. Or clean air filter and replace filter element.
	- Vanes are burned due to the dry operation.	- Clean Motor and polish Vanes Replace Vanes if required. Supply oil to lubricator or clean lubricator.
	- Vanes are worn or damaged.	- Replace Vanes.
	- Limit lever is bent or damaged.	- Replace Limit lever.
	- Limit valve does not return to the neutral position.	- Check the operation system, eg., bending of limit lever. Disassemble and check Valve housing if required.
	- Reduction gear: Incorrect assembly. Or gears, bearings, etc., are worn or damaged.	- Disassemble and check. Replace the worn or damaged parts.
Brake does not work sufficiently.	- Lining is worn.	- Replace with new Brake corn.
	- Main valve does not return to the neutral position.	- Check the damage on O-rings and Springs, etc.
	- Air exhaust hole on Brake cylinder is clogged.	- Clean . See Chapter 8"2.(3) Inspection of Brake and Service Limit".

Copied digital data from https://www.sato-kogyo.co.jp

9. Adjust of Operating Limit of Control Lever (See Fig. 6)

> **⚠ CAUTION**
> Before readjustment, be sure to sure to shut off the air supply.

Limit lever (76) has been adjusted before shipping so it touches Casing (24), physically stopping limit lever before Limit valve reaches the operating limit position. This prevents Limit valve from overloading.

■ Re-adjust Limit lever for each lifting and lowering direction in the following manner:

① Loosen Hex. Nut (80), and screw Hex. head bolt (79) completely into Limit lever (76).
② Loosen Hex. head bolt (79) until it touches Casing (24) while Limit lever (76) is being pulled down.
③ Release Limit lever (76), and loosen Hex. head bolt (79) another 1 turn, then lock Hex. head bolt (79) with Hex. nut (80).

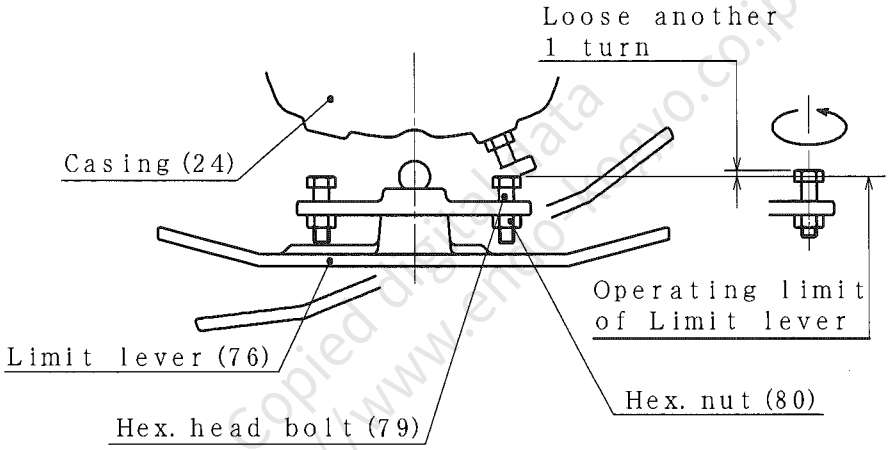


Fig. 6 YHM000446

Copied digital data from https://www.emoto-tsuyo.co.jp/

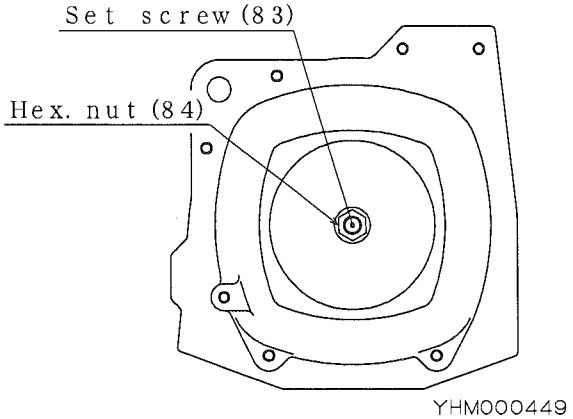
10. Brake Adjustment (See Fig. 7.)

> **⚠ CAUTION**
> Always shut off the air supply before carrying out brake adjustment.

The brake has been adjusted before shipping. But the braking force will decrease because of wear on the lining during operation. Therefore, the brake should be inspected and readjusted. Make the readjustment in the following manner:

① Loosen the hex. nut.
② Tighten the set screw 1/6～2/6 turns clockwise. And lock the set screw with the hex. nut.
③ Lift the rated load and repeat up / down operation several times.
Check ability of the brake to stop and hold the load without excessive drift.

NOTE: If the set screw is over-tightened, the lifting ability of the hoist will decline.



YHM000449

Fig. 7

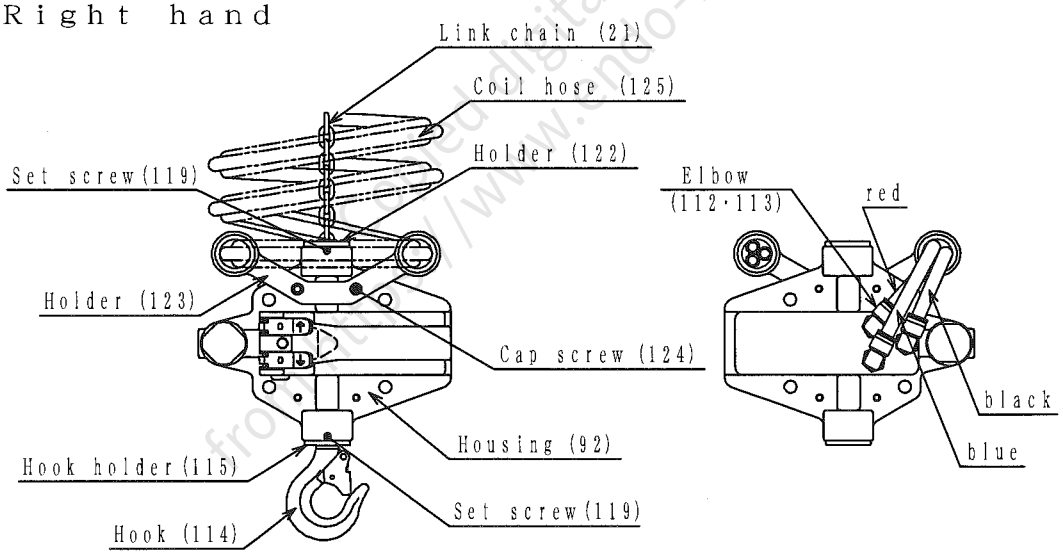
11. Change of the operation handle

> **⚠ WARNING**
> Always shut off the air supply before changing the operation handle.

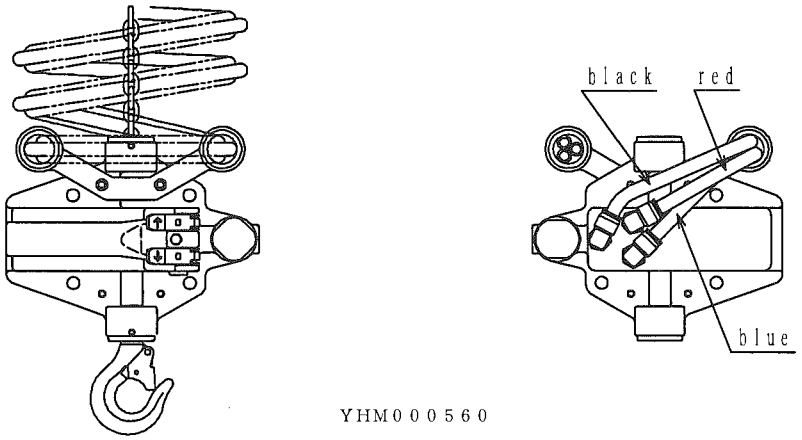
The operation handle is assembled for the right hand when shipping.
The operation handle for the left handle is available.
Change for the left handle according to the following procedure. (See page 30 & 33)

-1)Disconnect Coil hose (125) from Elbow (112) and Long elbow (113).
-2)Remove Cap screw (124) and Housing (92) from Holder (123).
-3)Remove Set screws (119) on the upper side of the housing and loosen Holder(122), then Limk chain(21) and the housing are separated.
-4)Cut Coil hose (blue) about 70mm.
NOTE: Cut Coil hose squarely axially.
-5)Remove Set screws(119) on the lower side of the housing, loosen Hook holder(115) and detach the whole unit of Hook(114) all together.
-6)Attach the whole unit of the hook to the other side of the housing.
-7)Attach the housing to the link chain.
-8)Install Coil hose to Elbow according to the following figure.
NOTE: Insert the hose completely.

Right hand



Left hand



YHM000560

from http://www.tradedigital data /www.ando-kogyo.co.jp /

12. Disassembly and Reassembly

⚠ WARNING

- Always shut off the air supply before carrying out disassembly or reassembly.
- Always disassemble or reassemble the hoist on the floor.
- Always employ specialists or well trained persons for disassembly and reassembly.

⚠ CAUTION

- Careless work can cause damage to the hoist or personal injury.
- Therefore, take care during disassembly and reassembly.
- Before reassembly, thoroughly clean all disassembled parts and check for cracks, flaws, deformation and wear.
- Never use acidic solvents for cleaning.
- Replace any damaged or excessively worn parts.
  Also replace burred or damaged screws.

12.1 Procedures of Disassembly

NOTE

- Whenever grasping a part in a vice, always use copper- covered vice jaws to protect the surface of the part and help prevent distortion.
  Referring to the disassembly drawing (on Page 30, 33), disassemble the hoist using the following procedure.
  When replacing the worn part, only disassemble the necessary part for replacement.

-1) Remove the hoist from the supporting member.

⚠ WARNING

Replace the load, shut off the air supply, disconnect the piping, then remove the hoist. If this is neglected, serious danger will occur.

-2) Remove Coil hose (125) from Connector (85).
-3) Remove Chain bucket (86).
-4) Remove Cap screw (38) and disconnect the dead end of Link chain (21) from the hoist.
-5) Remove Set screws(119) , Hook holder (122), Boss (120) and Pin (121).
-6) Remove Handle assembly from Link chain (21).
-7) Loosen Set screw (83), remove Steel ball (82) and Washer (81).
  If Washer (81) does not move, it is unnecessary to remove.
-8) Valve housing unit (57～80)
  ① Remove Cap screw (77), Limit lever (76), washer (75).
  ② Remove Retaining ring (73) and Cap (72).
  ③ Remove Button head cap screw (64). Disconnect Shaft (63) from Valve housing (57) and remove Bushing (67)、O-ring(66) and lever (62).
  ④ Remove Retaining ring (71) and Cover (69).
  ⑤ Remove Spring (68) and Valve cone (61).
  NOTE: Do not remove Liner (58) except when O-ring (59) or Liner (58) itself is required to be replaced.

Copied digital data from https://www.sanden-kanyo.co.jp/

-9) Remove Valve housing (57).
Remove End plate (51), Cylinder (46) and Rotor (49) and then remove Vanes (50) and Key (48). Screw caps screws (74) into the tap hole of End plate (51) and remove it from Casing (24).
-10) Loose Cap screws (44),(45) sequentially by 1/6 turns, and remove Case (1) and (24).
-11) Remove Chain guide (23) from Link chain (21).
-12) Remove End plate (25), Brake cylinder (30) and Brake cone (33) together form Casing(24).
-13) Brake cylinder unit (30)
① While pressing Brake cone (33) to the End plate (25) side, loosen Cap screws (37) sequentially by 1/6 turns, and remove Brake cylinder (30).
-14) Remove Chain wheel (7), Link chain (21) and Chain guide(22) together form Casing (1).
-15) Remove Planet shaft (6A or 6B), Gear wheel (7), Shaft (11) and Brake wheel (17) together.
-16) Remove Retaining ring (10), and pins(9). And remove Gear wheel (7) from Planet shaft.
-17) Handle part (92～116)
①Remove Elbow (112) and Cap (99).
②Remove Spring (98), Spool (96) and Pin (95).
The emergency stop device (ATC-60K-5, ATC-125K-5)
①Remove Cap (105).
②Remove Spool (113).
③Remove Liner (101).
NOTE: Never remove Liner (101) except replacing new parts or O ring (102).

12.2 Reassembly

NOTE
- Never use solvents to clean rubber parts, such as O-ring, etc., or plastic parts.
- Whenever grasping a part in a vice, always use copper-covered vice jaws to protect the surface of the part and help prevent distortion.
- Always press on the inner ring of a ball-type bearing when installing the bearing on a shaft.
- Always press on the outer ring of a ball-type bearing when pressing the bearing into a bearing recess.
- Always press against the stamped end of a needle-type bearing when pressing the bearing into a bearing recess.

-1) Always replace Conical spring washer (36) and Button head cap screw (64) with new one.
-2) Assembling direction for Retaining ring (See Fig. 8.)
Set up Retaining ring so that the non-chamfered face bears the load.

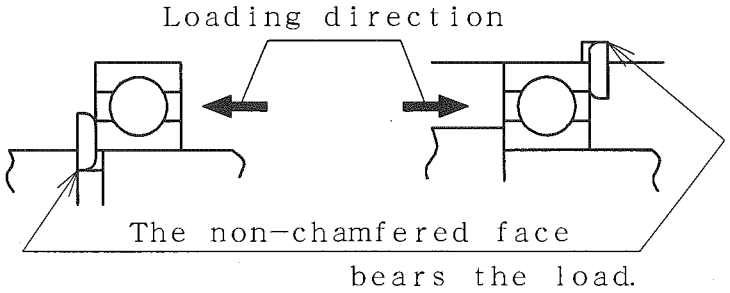


Fig. 8

from http://www.enoo-kogyo.co.jp / Copied digital data

-3) Reduction gear unit

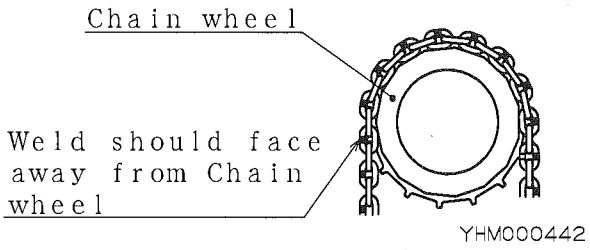
① Apply about 3cm³ (3mL) of grease to 63T internal gear (2).

② Assemble Planet shaft (6A or 6B), Gear wheels (7), shaft (11) and Brake wheel (13). Then attach Spacer (14) to shaft, and install them into Casing (1).
When assembling, apply about 12cm³ (12mL) of grease to Gear wheel.
Note: Be careful grease does not adhere to the inside surface of Brake wheel [the sliding surface where Brake cone (33) contacts].

-4) Chain wheel unit

① Pass Link chain (21) over Chain wheel (17). And install it and Chain guide together into Casing (1).
Note: The weld must face away from the center of Chain wheel.

② Pass Link chain through Chain guide (22) with care it has not been twisted.



-5) Brake unit

① Apply grease to O-ring (31) (35), the grooves of Brake piston (34) and Brake cylinder (30) a little, then install O-rings (31) (35). Install Brake cone (33) and Brake piston (34) in Brake cylinder (30).

② Degrease the threaded holes of End plate (25) and Cap screws (37) using solvent e.g, Trichloroethylene.

③ Install Steel balls (28) and Set plate (29) to End plate (25). The oval holes of Set plate (29) should meet Steel balls (28).

④ Install Springs (32) in brake cylinder (30), and install them to End plate (25). Apply adhesive to Cap screws (37) and tighten them sequentially by 1/6 turns. Use Loctite 222 or equivalents for adhesive.

⑤ Install End plate (25) into Casing (24). Assembling direction differs depending on the models. See fig.9.
Note: Be careful grease does not adhere to the lining of Brake cone (33).

from https://www.endo-kogyo.co.jp/ original digital data

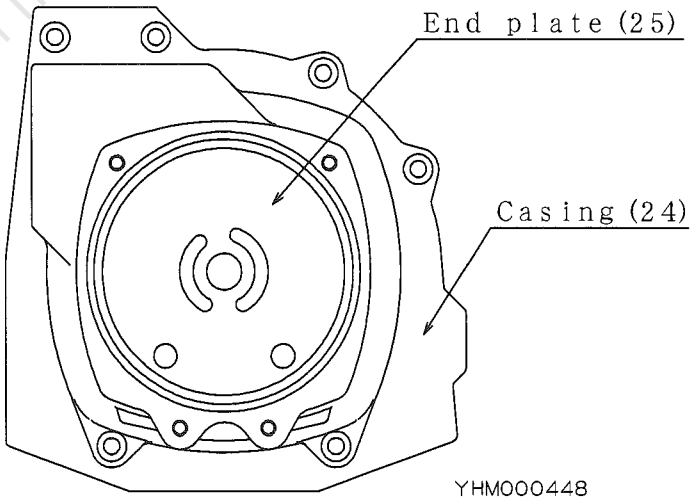


Fig. 9

-6) Install Hook (40) and washer (39) in Casing (1). Install Casing (42) on Casing (1). Tighten Cap screws (44), (45) sequentially by 1/6 turns.

Attach the washer's bevel edge side down. See fig.10

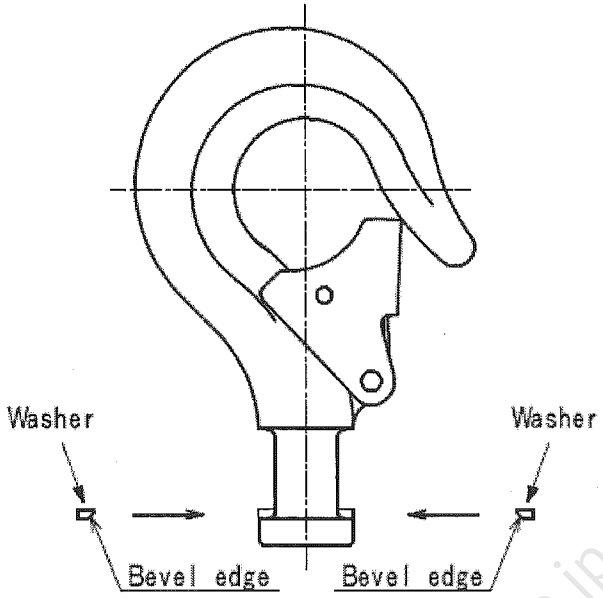


Fig.10

-7) Air motor unit

① Install Cylinder (46), Key (65), Rotor (49) and Vanes (50) in this order. Rotate Cylinder (46) when installing Vanes (50).

② Lubricate Vanes (50) a little. (Use the same lubricant used for the lubricator.) See Chapter 8, 1"(3) Recommended Lubricants".

③ Attach End plate (25) and End plate (51) with adjusting the hole of cylinder.

-8) Valve housing unit (57～80)

① Treat Liner (82) and Valve cone (61) carefully , as even a small flaw will render them useless.

② Apply oil to O-rings (59) and place them onto liner.
(Use the same oil used in the lubricator.)
Insert Liner into Valve housing (57), so the oblong hole of Liner aligns with the set hole of lever also the center 4mm-hole of liner aligns with the hole of Screw (60).

③ Fix Liner with Screw (60) after a check aligning the center 4mm-hole of liner with the hole of Screw (60).

④ Apply oil to Valve cones and place them onto liner.
(Use the same oil used in the lubricator.)

⑤ Install Lever (62) into Valve cones.

⑥ Install O-rings (66), Bushing (67) and Shaft into Valve housing.

⑦ Always use new Button head cap screw (64) when reassembling.

⑧ Attach shaft to Limit lever (76).

⑨ Install Hex. head bolt (79) into Limit lever. See 9 "Adjust of Operating Limit of Control Lever".

-9) Install Washer (81) and Steel ball (82). Tighten Set Screw (83) until it touches Steel ball . Then fix Set screw with Hex. nut (84).

Copied from https://www.nagashiogyo.co.jp/

-10) Handle part (92～116)

Apply oil to O-ring (102) and place them onto Liner.
(Use the same oil used in the lubricator.)
Install Liner to Housing (92). The hole of Liner and plug (100) which is installed to Housing must be straight (See fig. 11).

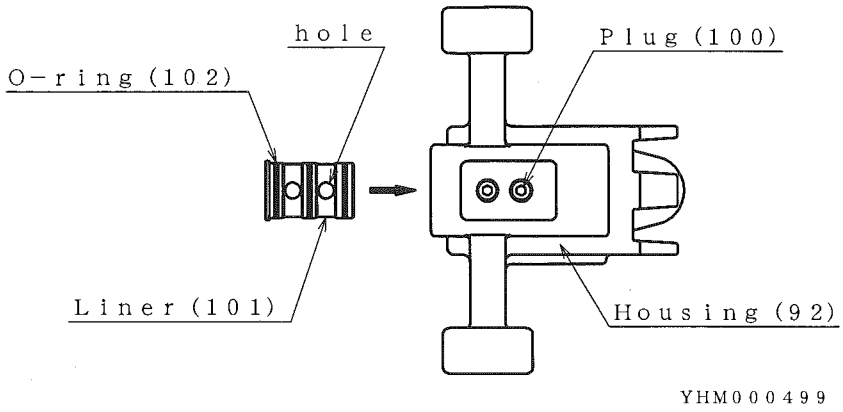


fig. 11

-11) I roll it up and install one set of housing part to the link chain of the side.

-12) I install a Set screw (119).

-13)Install Stopper (90) to Link chain keeping stopper more then 200mm from the limit lever.
See 5.4 [Check of the stopper]

-14) Connect Coil hose according to Fig.12.
NOTE: Insert the hose completely.

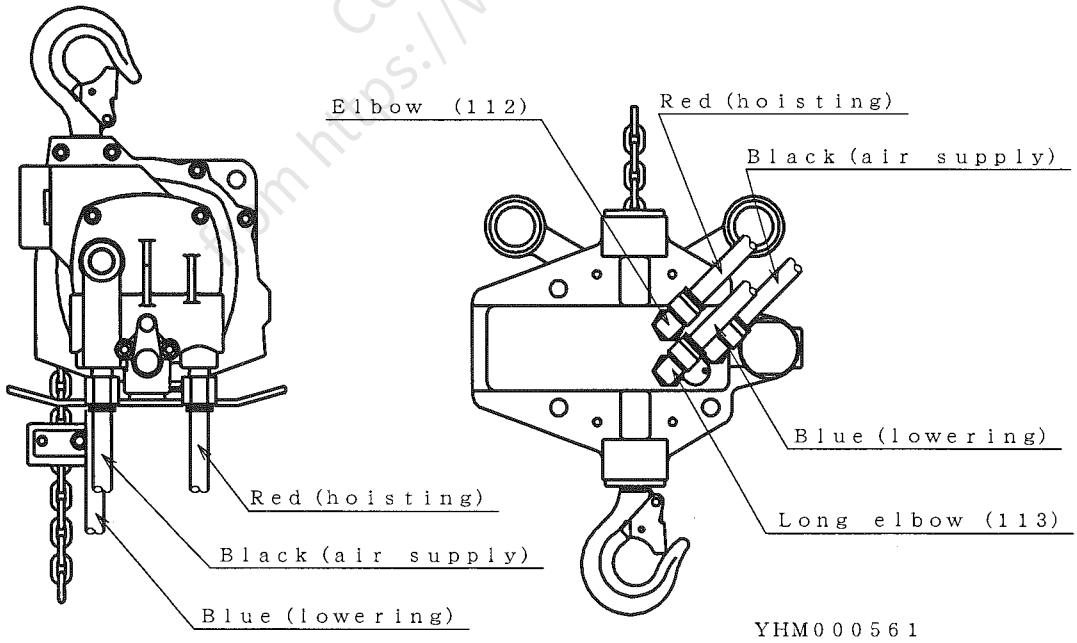


Fig.12.

-15) Pass Link chain for lowering through Limit lever. And install it into Casing (24) with Cap screw (38) with care it has not been twisted.

Copied digital data from https://www.ends-kogyo.co.jp /

13. Parts list

Remarks when purchasing parts

- Specify the part No., part name and model name of the hoist.
- State SER. No. (product No.) clearly if attached.
- Parts without a part number cannot be supplied individually. Please purchase a set or complete unit.

■ How to read parts list

Ref No.	Part No.	Quantity		Description
		60K	125K	
-	LHP001463	1	1	Casing assembly
1	P2H100066	1	1	- Casing
2	P2H300141	1	1	- 63T internal gear
3	KA42410412	1	1	- Spring pin
4	KA42419812	1	1	- Spring pin
5	KA60403010	2	2	Ball-type bearing
6A	P2H200218	1	-	Planet shaft
6B	P2H200215	-	1	Planet shaft

The mark indicates the range of the set or the complete unit.

Copied digital data from https://www.endo-kogyo.co.jp/

PARTS LIST ATC−60K, ATC−125K

Ref. No.	Part No.	Quantity 60K	Quantity 125K	Descrption
—	LHP001463	1	1	Casing set
1	P2H100066	1	1	−Casing
2	P2H300141	1	1	−63T internal gear
3	KA42410412	1	1	−Spring pin
4	KA42419812	1	1	−Spring pin
● 5	KA60103010	2	2	Ball bearing
6A	P2H200218	1	–	Planet shaft
6B	P2H200215	–	1	Planet shaft
–	LHP000177	1	–	Gear wheel set
–	LHP000176	–	1	Gear wheel set
7	–	2	3	−Gear wheel
● 8	P2H400041	4	6	−Needl bearing
9	P2H400204	2	3	Pin
10	KA40110035	1	1	Retaining ring
11	P2H300149	1	1	Shaft
12	KA60102030	1	1	Ball bearing
13	P2H300163	1	1	Brake wheel
14	P2H400265	1	1	Spacer
15	P2H300265	2	2	Coned disc spring
16	P2H400266	1	1	Spacer
–	LHP001464	1	–	Chain wheel set
–	LHP001465	–	1	Chain wheel set
17	P2H200216	1	1	−Chain wheel
18A	P2H300248	1	–	−59T internal gear
18B	P2H300165	–	1	−60T internal gear
3	KA42410412	1	1	−Spring pin
4	KA42419812	1	1	−Spring pin
19	KA60101170	1	1	Ball bearing
20	KA60107140	1	1	Ball bearing
● 21	P2H300975	1	1	Link chain
22	P2H300918	1	1	Chain guide
23	P2H301100	1	1	Chain guide
24	P2H100067	1	1	Casing
–	LHP000183	1	1	End plate set
25	–	1	1	−End plate
26	–	1	1	−Bearing
● 27	KA60103011	2	2	Ball bearing
28	KA63100301	2	2	Steel ball
29	P2H400274	1	1	Set plate
30	P2H300166	1	1	Brake cylinder
● 31	P2H400469	2	2	O-ring
● 32	P2H400275	3	3	Spring
● 33	LHP000070	1	1	Brake cone
34	P2H400276	1	1	Brake piston
● 35	P2H400470	1	1	O-ring
● 36	KA40110020	1	1	Retaining ring
37	P2H400277	3	3	Cap screw
38	KA00910512	9	9	Cap screw
39	LHP001916	1	1	Washer set
–	LHP000165	1	1	Hook compl.
40	–	1	1	−Hook
–	LHP001674	1	1	−Hook latch set
41	–	1	1	−−Hook latch
42	–	1	1	−−Spring
43	–	1	1	−−Rivet
44	KA00910530	4	4	Cap screw
45	KA00910540	2	2	Cap screw
46	P2H200064	1	1	Cylinder
47	KA42410420	1	1	Spring pin
48	P2H400290	1	1	Key
49	P2H300168	1	1	Rotor
● –	LHP000352	1	1	Vane set
50	–	7	7	-Vane
51	LHP001460	1	1	End plate
52	P2H401974	1	1	Support
53	P2H401975	1	1	Silencer
54	P2H300921	1	1	Cover
55	KA00910525	4	4	Cap screw
● 56	KA50200900	1	1	O-ring
–	LHP001466	1	1	Valve housing assembly
57	P2H200217	1	1	−Valve housing
58	P2H300922	1	1	−Liner
● 59	KA50200200	1	1	−O-ring
60	P2H401966	1	1	−Screw
61	P2H300923	1	1	Valve cone
62	P2H401967	1	1	Lever
63	P2H401968	1	1	Shaft
● 64	P2H401964	1	1	Button head cap screw
65	KA32410621	2	2	CD-washer
● 66	KA50100100	2	2	O-ring
67	P2H401969	2	2	Bushing
68	P2H401970	2	2	Spring
69	P2H401971	2	2	Cover
● 70	KA50200250	2	2	O-ring
71	KA40210028	2	2	Retaining ring
72	P2H401972	1	1	Cap
● 59	KA50200200	1	1	O-ring
73	KA40210022	1	1	Retaining ring
74	P2H400177	2	2	Cap screw
75	P2H401973	1	1	Washer
76	P2H300924	1	1	Limit lever
77	KA00910516	2	2	Cap screw
78	KA32410520	2	2	CD-washer
79	P2H400883	2	2	Hex.head bolt
80	KA20110500	2	2	Hex.nut
81	P2H400300	1	1	Washer

We recommend that you stock parts indicated a bullet(●).

Part without a part number cannot be supplied individually.

When ordering spare parts, specify the part number (not the reference number), description and model name of the hoist.

from https://www.chiyoda-ty.co.jp / Copied digital data

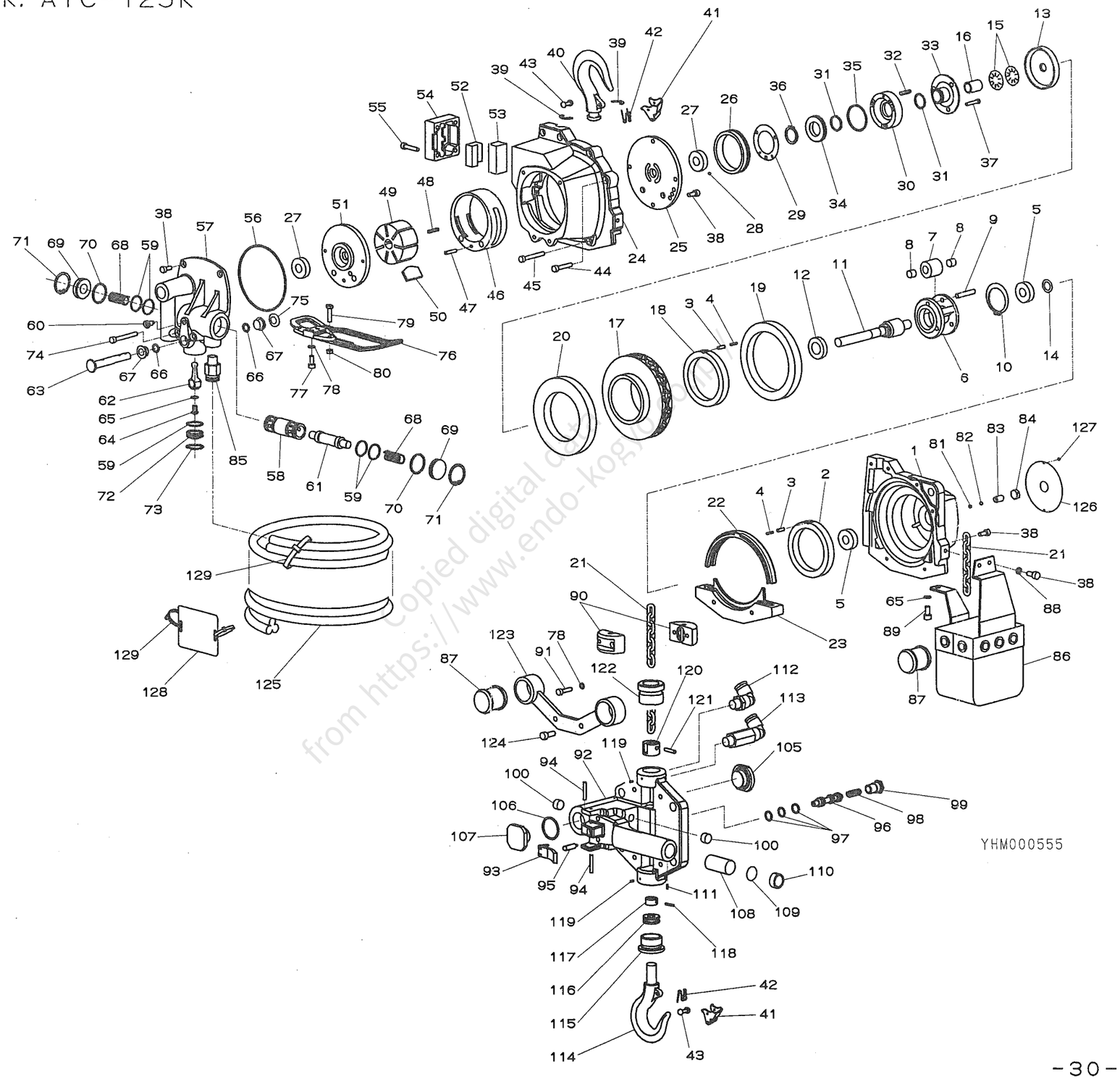
PARTS LIST ATC−60K, ATC−125K

Ref. No.	Part No.	Quantity 60K	Quantity 125K	Descrption
82	KA63100304	1	1	Steel ball
83	KA16510814	1	1	Set screw
84	KA21310800	1	1	Hex.nut
85	P2H402000	3	3	Connector
86	LHP001524	1	1	Chain bucket
87	P2H402041	1	1	Bushing
88	KA31120500	2	2	Spring washer
89	KA00910612	1	1	Cap screw
—	LHP001529	1	1	Stopper set
90	—	2	2	−Stopper
91	KA00910520	2	2	−Cap screw
78	KA32410520	2	2	−CD-washer
—	LHP001682	1	1	Handle assembly
—	LHP001819	1	1	−Handle compl.
92	P2H100071	1	1	−−Valve housing
93	LHP001526	1	1	−−Push button set
94	KA42410325	4	4	−−Spring pin
95	P2H402043	2	2	−−Pin
96	P2H300972	2	2	−−Spool
● 97	KA50100080	6	6	−−O-ring
98	P2H400293	2	2	−−Spring
99	P2H402042	2	2	−−Cap
100	P2H400007	7	7	−−Plug
105	P2H402056	1	1	−−Plug
● 106	KA50200280	1	1	−−O-ring
107	P2H402051	1	1	−−Cap
108	P2H400296	1	1	−−Silencer
109	P2H400297	1	1	−−Support
110	P2H400298	1	1	−−Collar
111	KA42410206	2	2	−−Spring pin
112	P2H402039	2	2	−Elbow
113	P2H402040	1	1	−Long elbow
119	KA16510506	2	2	−Set screw
120	P2H402201	1	1	−Boss
121	P2H402199	1	1	−Pin
122	P2H402200	1	1	−Holder
123	LHP001525	1	1	−Holder
87	P2H402041	2	2	−Bushing
124	KA00910616	2	2	−Cap screw
—	LHP001683	1	1	Rotary hook
—	LHP000843	1	1	−Hook compl.
114	—	1	1	−−Hook
—	LHP001674	1	1	−−Hook latch set
41	—	1	1	−−−Hook latch
42	—	1	1	−−−Spring
43	—	1	1	−−−Rivet
117	—	1	1	−−Nut
118	KA42419820	1	1	−−Spring pin
115	P2H401216	1	1	−Hook holder
● 116	KA60401000	1	1	−Thrust bearing
● 125	LHP001698	1	1	Coil hose (Right hand)
126	P2H300978	1	−	Name plate
126	P2H300979	−	1	Name plate
127	KA14549803	4	4	Drive screw
128	P2H300983	1	1	Caution plate
129	P2H400465	3	3	Convex belt
● 125	LHP001699	1	1	Coil hose (Left hand)

from https://www.endo-kogyo.co.jp/ Copied digital data

We recommend that you stock parts indicated a bullet(●).
Part without a part number cannot be supplied individually.
When ordering spare parts, specify the part number (not the reference number), description and model name of the hoist.

■ATC-60K, ATC-125K



Copied digital data
from https://www.endo-kog.co.jp/

PARTS LIST ATC−60K−5, ATC−125K−5

Ref. No.	Part No.	Quantity 60K-5	Quantity 125K-5	Descrption
—	LHP001463	1	1	Casing set
1	P2H100066	1	1	−Casing
2	P2H300141	1	1	−63T internal gear
3	KA42410412	1	1	−Spring pin
4	KA42419812	1	1	−Spring pin
● 5	KA60103010	2	2	Ball bearing
6A	P2H200218	1	–	Planet shaft
6B	P2H200215	–	1	Planet shaft
–	LHP000177	1	–	Gear wheel set
–	LHP000176	–	1	Gear wheel set
7	–	2	3	−Gear wheel
● 8	P2H400041	4	6	−Needl bearing
9	P2H400204	2	3	Pin
10	KA40110035	1	1	Retaining ring
11	P2H300149	1	1	Shaft
12	KA60102030	1	1	Ball bearing
13	P2H300163	1	1	Brake wheel
14	P2H400265	1	1	Spacer
15	P2H300265	2	2	Coned disc spring
16	P2H400266	1	1	Spacer
–	LHP001464	1	–	Chain wheel set
–	LHP001465	–	1	Chain wheel set
17	P2H200216	1	1	−Chain wheel
18A	P2H300248	1	–	−59T internal gear
18B	P2H300165	–	1	−60T internal gear
3	KA42410412	1	1	−Spring pin
4	KA42419812	1	1	−Spring pin
19	KA60101170	1	1	Ball bearing
20	KA60107140	1	1	Ball bearing
● 21	P2H300975	1	1	Link chain
22	P2H300918	1	1	Chain guide
23	P2H301100	1	1	Chain guide
24	P2H100067	1	1	Casing
–	LHP000183	1	1	End plate set
25	–	1	1	−End plate
26	–	1	1	−Bearing
● 27	KA60103011	2	2	Ball bearing
28	KA63100301	2	2	Steel ball
29	P2H400274	1	1	Set plate
30	P2H300166	1	1	Brake cylinder
● 31	P2H400469	2	2	O-ring
● 32	P2H400275	3	3	Spring
● 33	LHP000070	1	1	Brake cone
34	P2H400276	1	1	Brake piston
● 35	P2H400470	1	1	O-ring
● 36	KA40110020	1	1	Retaining ring
37	P2H400277	3	3	Cap screw
38	KA00910512	9	9	Cap screw
39	LHP001916	1	1	Washer set
–	LHP000165	1	1	Hook compl.
40	–	1	1	−Hook
–	LHP001674	1	1	−Hook latch set
41	–	1	1	− −Hook latch
42	–	1	1	− −Spring
43	–	1	1	− −Rivet
44	KA00910530	4	4	Cap screw
45	KA00910540	2	2	Cap screw
46	P2H200064	1	1	Cylinder
47	KA42410420	1	1	Spring pin
48	P2H400290	1	1	Key
49	P2H300168	1	1	Rotor
● –	LHP000352	1	1	Vane set
50	–	7	7	-Vane
51	LHP001460	1	1	End plate
52	P2H401974	1	1	Support
53	P2H401975	1	1	Silencer
54	P2H300921	1	1	Cover
55	KA00910525	4	4	Cap screw
● 56	KA50200900	1	1	O-ring
–	LHP001466	1	1	Valve housing assembly
57	P2H200217	1	1	−Valve housing
58	P2H300922	1	1	−Liner
● 59	KA50200200	1	1	−O-ring
60	P2H401966	1	1	−Screw
61	P2H300923	1	1	Valve cone
62	P2H401967	1	1	Lever
63	P2H401968	1	1	Shaft
● 64	P2H401964	1	1	Button head cap screw
65	KA32410621	2	2	CD-washer
● 66	KA50100100	2	2	O-ring
67	P2H401969	2	2	Bushing
68	P2H401970	2	2	Spring
69	P2H401971	2	2	Cover
● 70	KA50200250	2	2	O-ring
71	KA40210028	2	2	Retaining ring
72	P2H401972	1	1	Cap
● 59	KA50200200	1	1	O-ring
73	KA40210022	1	1	Retaining ring
74	P2H400177	2	2	Cap screw
75	P2H401973	1	1	Washer
76	P2H300924	1	1	Limit lever
77	KA00910516	2	2	Cap screw
78	KA32410520	2	2	CD-washer
79	P2H400883	2	2	Hex.head bolt
80	KA20110500	2	2	Hex.nut
81	P2H400300	1	1	Washer

from https://www.chuo-tec.co.jp / Copied digital data

We recommend that you stock parts indicated a bullet(●).

Part without a part number cannot be supplied individually.

When ordering spare parts, specify the part number (not the reference number), description and model name of the hoist.

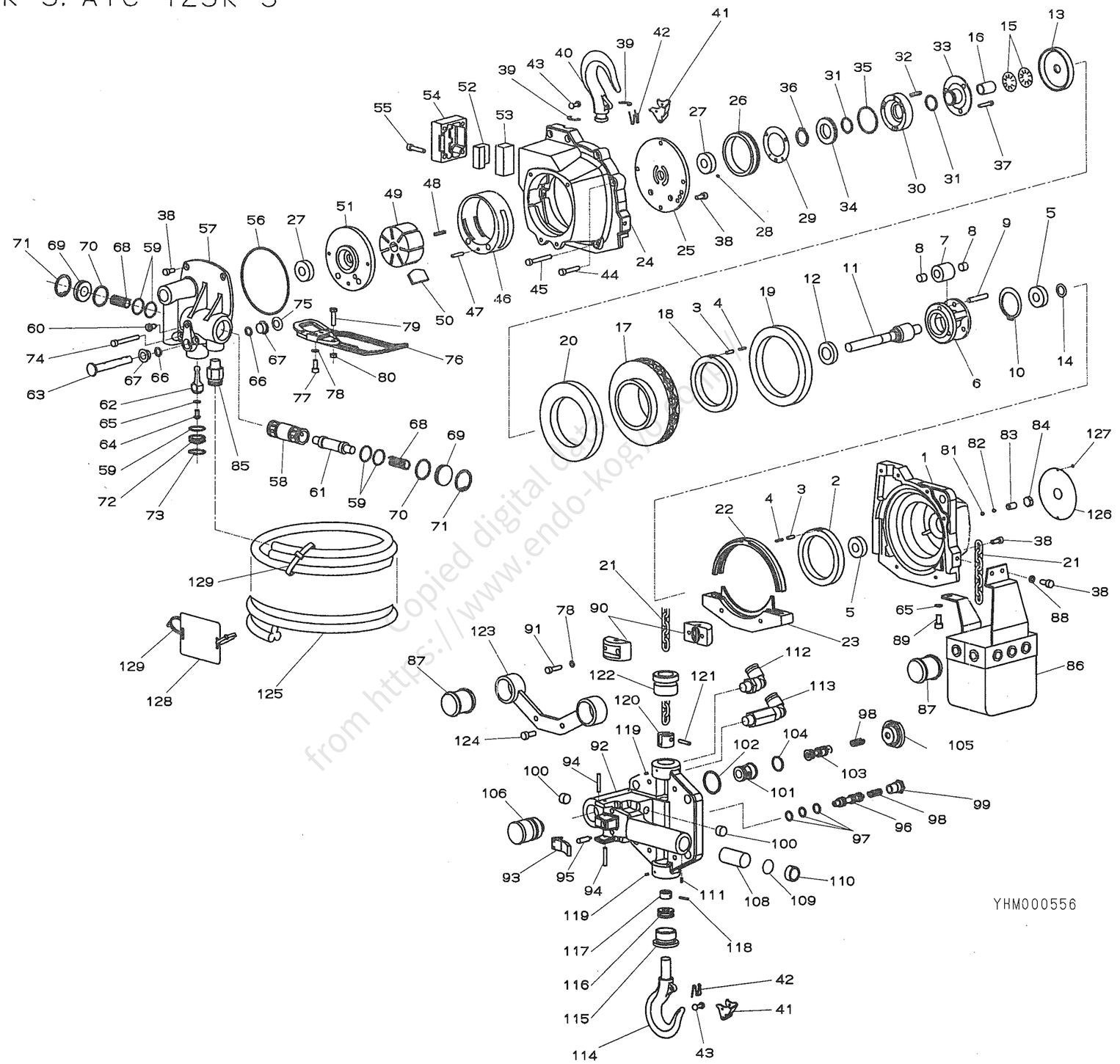
PARTS LIST ATC−60K−5, ATC−125K−5

Ref. No.	Part No.	Quantity 60K-5	Quantity 125K-5	Descrption
82	KA63100304	1	1	Steel ball
83	KA16510814	1	1	Set screw
84	KA21310800	1	1	Hex.nut
85	P2H402000	3	3	Connector
86	LHP001524	1	1	Chain bucket
87	P2H402041	1	1	Bushing
88	KA31120500	2	2	Spring washer
89	KA00910612	1	1	Cap screw
—	LHP001529	1	1	Stopper set
90	—	2	2	−Stopper
91	KA00910520	2	2	−Cap screw
78	KA32410520	2	2	−CD-washer
—	LHP001691	1	1	Handle assembly
—	LHP001821	1	1	−Handle compl.
92	P2H100071	1	1	− −Valve housing
93	LHP001526	1	1	− −Push button set
94	KA42410325	4	4	− −Spring pin
95	P2H402043	2	2	− −Pin
96	P2H300972	2	2	− −Spool
● 97	KA50100080	6	6	− −O-ring
98	P2H400293	3	3	− −Spring
99	P2H402042	2	2	− −Cap
100	P2H400007	7	7	− −Plug
101	P2H300989	1	1	− −Liner
● 102	KA50200220	3	3	− −O-ring
103	P2H402057	1	1	− −Spool
● 104	KA50200125	3	3	− −O-ring
105	P2H402058	1	1	− −Cap
106	P2H400938	1	1	− −Emergency stop button
108	P2H400296	1	1	− −Silencer
109	P2H400297	1	1	− −Support
110	P2H400298	1	1	− −Collar
111	KA42410206	2	2	− −Spring pin
112	P2H402039	2	2	−Elbow
113	P2H402040	1	1	−Long elbow
119	KA16510506	2	2	−Set screw
120	P2H402201	1	1	−Boss
121	P2H402199	1	1	−Pin
122	P2H402200	1	1	−Holder
123	LHP001525	1	1	−Holder
87	P2B402041	2	2	−Bushing
124	KA00910616	2	2	−Cap screw
—	LHP001683	1	1	Rotary hook
—	LHP000843	1	1	−Hook compl.
114	—	1	1	− −Hook
—	LHP001674	1	1	− −Hook latch set
41	—	1	1	− − −Hook latch
42	—	1	1	− − −Spring
43	—	1	1	− − −Rivet
117	—	1	1	− −Nut
118	KA42419820	1	1	− −Spring pin
115	P2H401216	1	1	−Hook holder
● 116	KA60401000	1	1	−Thrust bearing
● 125	LHP001698	1	1	Coil hose (Right hand)
126	P2H300978	1	−	Name plate
126	P2H300979	−	1	Name plate
127	KA14549803	4	4	Drive screw
128	P2H300983	1	1	Caution plate
129	P2H400465	3	3	Convex belt
● 125	LHP001699	1	1	Coil hose (Left hand)

Copied digital data from https://www.endo-kogyo.co.jp/

We recommend that you stock parts indicated a bullet(●).
Part without a part number cannot be supplied individually.
When ordering spare parts, specify the part number (not the reference number), description and model name of the hoist.

■ATC-60K-5, ATC-125K-5



Copied digital data from https://www.endo-kogyo.co.jp/

Copied digital data
from https://www.endo-kogyo.co.jp /

ENDO 遠藤工業株式会社

〒959-1261　新潟県燕市秋葉町 3 丁目 14 番 7 号
TEL:0256-62-5133　FAX:0256-62-5772
https://www.endo-kogyo.co.jp

事業所情報につきましては、
二次元バーコードよりご確認ください。

ENDO ENDO KOGYO CO., LTD.

3-14-7, Akiba cho, Tsubame, Niigata 959-1261, Japan
https://www.endo-kogyo.co.jp/english TEL: 81-256-62-5133

- 本書ならびに本商品の仕様は改善のために予告なしに変更することがあります。
- 本書の内容の無断転載を禁止します。
- This manual and the specifications of this product are subject to change for improvement without advance notice.
- It is strictly prohibited to reprint or copy any information contained in this manual.