MANUALLY OPERATED CHAIN HOIST
MODEL H-100-KII - K-75
OPERATION MANUAL

Thank you for your purchase of our product. It is quite important that you carefully read this operation manual before using the chain hoist. This manual should be kept close to the chain hoist, as the maintenance and inspection works absolutely require it.

Please consult distributors of our products about the inspection requiring dismantling and assembling of the unit.

1) SAFE OPERATING PRACTICES
Improper operation of the chain hoist will possibly cause a dangerous situation such as falling of lifted loads and so on. Carefully read this manual for proper operation before setting-up, installations, operations, maintenance and inspections of the chain hoist.

Do not begin to operate it before you have familiar with its knowledge, safety information and all the special cares.

The cautions in handling the unit are classified into two levels in this manual;

WARNING
This symbol is used to indicate that a death or serious injuries will be caused in all probability in the user or persons around when the products are improperly used.

CAUTION
This symbol is used to indicate that damage may be caused to the user or persons around or only material loss will occur when the products are improperly used.

Even the matters indicated as “CAUTION” may bring a serious result depending on the situation. Strictly observe both the notices as they contain very important matters.

Examples of the symbol:

* smile mark indicates that there are warning/cautions matters. In a sketch a concrete warning (“caution for falling of load” in case of the symbol on the left) is described.
* Q-mark indicates actions to be prohibited. In a sketch or nearly a concrete warning is described.
* Q-mark indicates that any action will be required or directed. In a sketch a concrete warning (“general notices for operation” in the case of the symbol on the left) is described.
* The manual must be kept in place where the operator can read it when ever he needs.

1. General

** WARNING
** The unit should be operated only by those who are familiar with the manual and contents of the instructions label.

- Do not lift a load which exceeds the rated load.
- Do not carry out operations under a suspended load.
- Do not use the chain hoist for the oblique pulling.
- Do not use the chain hoist for the purpose of lifting the above a load and then lift it.

** CAUTION
** Turnover should be done by means of a device specialized in that purpose or only by a skilled person.

- Do not operate the chain hoist in such a manner that it can freely swing about.

2. Installation and Setting-up

** WARNING
** Inspection before operation and periodic inspection must be by all means carried out.

The installation work should be performed only by the specialized contractor or experienced technician. The chain hoist should not be installed in places deviated from the provision where it is, for example, exposed to rain, water or other unsuitable chemicals.

** CAUTION
** Attach a stopper to the ends of the traverse and travel rails. Make sure that a location on which the chain hoist is installed has a sufficient strength.

- Suspend the chain hoist in a manner that it can freely swing about.

3. Operation and Handling

** WARNING
** Do not get on a suspended load.
- Do not leave a suspended load unattended.
- Do not use the chain hoist for the oblique pulling.
- Do not use the chain hoist for the purpose of lifting the above a load and then lift it.

** CAUTION
** Do not use the chain hoist for the purpose of lifting the above a load and then lift it.
- Do not use the chain hoist for the earth lifting (for example, hooking fixed objects such as houses or structures). Do not use the chain hoist in improper use of the suspended load.
- Operation should be done by means of a device specialized in that purpose or only by a skilled person.

- Make sure before operation that the brake function properly works. Do not operate the chain hoist when the brake is in disorder.

- Do not apply the electric welding on a suspended load.
- Do not allow the load chain to be used as a ground (earth) for the welding machine.
- Do not allow the load chain to be touched by a live welding electrode.
- Do not operate the load chain hoist in such a manner that a load and/or its chain hoist is suspended from any structure.

4. Maintenance, Inspection and Modification

** WARNING
** Never use parts other than genuine ones made by us.
- Never do shortening or lengthening of the load chain.
- Never use load chains made by any other manufacturers than us.
- Load chains are of specific property, never use the chain of other type hoists. It should be exchanged for new genuine one.

- Only specialists authorized by the employer may carry out the maintenance, inspection or repair.
- Carry out the maintenance, inspection or repair with the chain hoist unloaded (e.g. without loads).
- When any disorder is found in the maintenance or inspection, immediately make repair before re-operating the chain hoist.

** CAUTION
** Whenever carrying out the maintenance, inspection or repair, prepare a warning indication of “Under working” (“Under inspection”, etc.).

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

II) INSTALLATION AND OPERATION

1. Installation

** WARNING
** The unit should not be operated by persons who have not fully understood this manual, instructions or plates on the unit.

- Operate the chain hoist only on the basis of such as buildings on which the hoist body is installed to be loads more than 4 times the rated load.

It is very dangerous to use a support of which strength is not sufficient, as it may be damaged due to the load.

** CAUTION
** Never install the hoist in a place where persons may come within 3m of the driven head.

2. Proper Handling and Cautions

** WARNING
** Inspect all the tools to be used on the day before use.
- Wrong slinging may cause quite dangerous situations such as fallen loads etc.

Avoid slinging methods as shown below, with all are very dangerous.

- Incorrect slinging: the load coincides with the axle of the hook (Fig. 1)
- The hook which was wearing abnormal sound and/or vibration.
- The load chain which is not routed around the hook clearly.
- The hook cover may be worn out due to the movement of the wire rope being dewrisked.

** CAUTION
** The hook must be utilized in the proper position and hooks are secured by the pin of the type illustrated.

- Do not use the hook without a pin or without any kind of pin.

3. Slinging method

- Correct slinging: the load coincides with the axle of the hook (Fig. 1)
- The supporting structure or the sling is set on an impinging point of the hook.
- String the wire angle, it should be within 65 degrees.
- Only the nip of the hook be used.

4. How to operate the load to the hook
- Incorrect slinging: (Avoid the examples below): (A) (Fig. 1) (B) (Fig. 2) (C) (Fig. 3) (D) (Fig. 4) (E) (Fig. 5) (F) (Fig. 6) (G) (Fig. 7) (H) (Fig. 8) (I) (Fig. 9) (J) (Fig. 10)
PERIODIC INSPECTION

In case of troubles and/or any abnormalities, stop operating the hoisting unit and take proper countermeasures by a specialist possessing enough knowledge on the unit or by a dealer of its products. It may happen that the load chain and the load chain parts fall in a dangerous state even if they show no remarkable changes in their function. It is therefore indispensable to make a periodic measuring check based on "the Methods for Maintenance and Inspection" as stated below. The periodic inspection should be normally made once a month. Exchange damaged or deformed parts with new ones.

IV. THE METHODS FOR MAINTENANCE AND INSPECTION

1. Checking the load chain and its lifetime

- Do not use parts of the load chain or the limit over the limit.
- If any wearing parts are found in excess of the standard limit of use as stated below in carrying out the daily and periodic voluntary inspections, they should be replaced for use.
- It is very dangerous to use parts over the standard limit of use.

2. When replacing load chains, be sure to use the load chain manufactured by us. Load chains manufactured by other manufacturers are not applicable.

Table 1 Limitation of the deformed load chain for use

<table>
<thead>
<tr>
<th>Load chain</th>
<th>Number of failures</th>
<th>Link diameter (mm) for new chain X 1.05</th>
<th>Link diameter (mm) for new chain X 1.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 t-1</td>
<td>1-1</td>
<td>55</td>
<td>67</td>
</tr>
<tr>
<td>0.5 t-1</td>
<td>1-1</td>
<td>55</td>
<td>67</td>
</tr>
<tr>
<td>1-1</td>
<td>1-1</td>
<td>67</td>
<td>82</td>
</tr>
<tr>
<td>1-1</td>
<td>1-1</td>
<td>67</td>
<td>82</td>
</tr>
</tbody>
</table>

The load chain begins to break from one piece of weak load chain links and thus it is important to carefully inspect the whole chain.

For checking the elongation, measure the inner length of 5 links with a Vernier caliper as shown in the sketch. It is normally sufficient to check the links in a distance of approx. every 50 cm but check them by making the measuring distance shorter when the elongation of the chain is close to the limitation for use stated in Table 1 so that none of them will exceed the limitation for use.

Exchange the load chain with a new one which is found by visual check to be clearly influenced by higher temperatures or to be closely deformed. Furthermore, do not use a load chain to the original one by users themselves.

2. Checking the hook and its lifetime

- When the dimension shown by "A" in the sketch has exceeded the limitation as specified in Table 2, the hook should be replaced with a new genuine one. It is very dangerous to use such a deformed hook by making repair by heating and welding.

Table 2 Limitation of deformed hook for use

<table>
<thead>
<tr>
<th>Load chain</th>
<th>Number of failures</th>
<th>Limit value A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 t-1</td>
<td>1-1</td>
<td>31.5</td>
</tr>
<tr>
<td>0.5 t-1</td>
<td>1-1</td>
<td>31.5</td>
</tr>
<tr>
<td>1-1</td>
<td>1-1</td>
<td>43.5</td>
</tr>
<tr>
<td>1-1</td>
<td>1-1</td>
<td>43.5</td>
</tr>
</tbody>
</table>

- Do not use a hook pin on the re-assembling the stop bolt.

V. CRITERIA FOR USING AND CHECKING CHAIN HOISTS (BASED ON JIS B 8802)

1. Criteria for use

The following shall be observed in using the chain hoist.

(1) Make sure that the class of the chain hoist is fit for conditions of its use.
(2) The chain hoist should not be used in load exceeding the rated load except for testing purpose.
(3) For our chain hoist, never use load made by any other manufacturers than us.
(4) Do not use a load chain of which range of lift is not sufficient.
(5) Do not use a bottom hook which is not equipped with a safety latch or of which latch has no safety effect.
(6) Do not use a chain block on which many sprag hooks are missing.
(7) Do not wind the load chain directly around a load.
(8) Do not hang a load on the top of the hook.
(9) Do not quickly pull the hand chain on lifting and lowering operation.
(10) Do not perform over-lifting and over-lowering.
(11) Do not walk before a load, particularly during lifting.
(12) Avoid to pull a load in oblique direction.
(13) Avoid an operation of so-called earth lifting.

2. Criteria for check

(1) Use the chain hoist by checking it daily and periodically.
(2) Refer to Table 1 (?) which gives check items, check methods and check criteria to be used in the daily check. However, items other than those specified should be also checked, when the chain hoist is frequently used, or in special cases.
(3) The periodic inspection should be made according to the table 1.
(4) When the chain hoist is repaired, inspect it on periodic check items given in Table 1 after its repair, and make sure that it works in a normal state. Use spare parts only made by us.

MARKING AND THE LIKE

- Marking (nameplate) Visual Presence of marking (nameplate)
- Mark of the load chain Visual Check the grade for the load chain

FUNCTION

- Lifting and lowering Visual Lifting and lowering without a load
- Deformation of shaft Visual Visually is usually checked by measurement in periodic check.
- Wear and corrosion Visual Visually is usually checked by measurement in periodic check.
- Flaws and other harmful defects Visual Visually Free from cracks and other harmful defects.
- Lash Visual Function Visual Free from severe wear and deformation or operates properly.

HAND CHAIN

- Hand chain Visual or by measurement Visible Free from severe deformation and pitch elongation.

BODY

- Frame Visual Visible Free from severe deformation and corrosion.
- Gear case Visual Visible Free from severe deformation and corrosion.
- Gear Visual Visible Visible Free from severe wear and deformation.
- Brake after dismounting check them visually or by measurement.
- Brake after dismounting check them visually or by measurement.
- Brake after dismounting check them visually or by measurement.
- Brake after dismounting check them visually or by measurement.
- Hand chain wheel Visual or by measurement Visible Free from severe wear and deformation.
- Hand chain wheel Visual or by measurement Visible Free from severe wear and deformation.
- Bearings Visual or by measurement Visible or by measurement Free from harmful defects such as wear, cracks, breakage, etc.
- Chain stopper pin Visual or by measurement Visible Free from deformation and loose ring.

BOLTS AND NUTS

- Bolts, nuts, screws, split pins, snap rings, etc. of all the components Visual Visible

INSPECTION CERTIFICATE

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

INSPECTOR T. NAGASU

ELEPHANT CHAIN BLOCK CO., LTD.

Osaka, JAPAN

#951-202A

2001. 2. 10.000
Recommended maintenance for friction discs within Elephant Chain Block Co., Ltd. manual hoist products KII, KIIOP, Super 100, C21, YA, YII, and YIII.

<table>
<thead>
<tr>
<th></th>
<th>Standard value of friction disc thickness</th>
<th>The limit is 2.25mm, being 90% of the standard.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C 21 Series</strong></td>
<td>0.5t ~ 5 ton capacity is 2.5mm.</td>
<td></td>
</tr>
<tr>
<td><strong>KII, KIIOP, Super 100</strong></td>
<td>0.5t ~ 50 ton capacity is 2.5mm.</td>
<td></td>
</tr>
<tr>
<td><strong>YII-50, YA YII YII 0.8t ~ 1t</strong></td>
<td>YII 0.5t, 0.8t and 1 ton capacity as listed to the left is 3mm. The limit is 2.7mm, being 90% of the standard.</td>
<td></td>
</tr>
<tr>
<td><strong>YA,YII,YIII 1.6t ~ 12t</strong></td>
<td>1.6 ~ 12 ton capacity is 3.5mm.</td>
<td></td>
</tr>
<tr>
<td><strong>YA-50, YII-25</strong></td>
<td>Standard value of friction disc thickness YA 0.5t and YII-25 250kg capacity is 2.5mm. The limit is 2.25mm, being 90% of the standard.</td>
<td></td>
</tr>
</tbody>
</table>