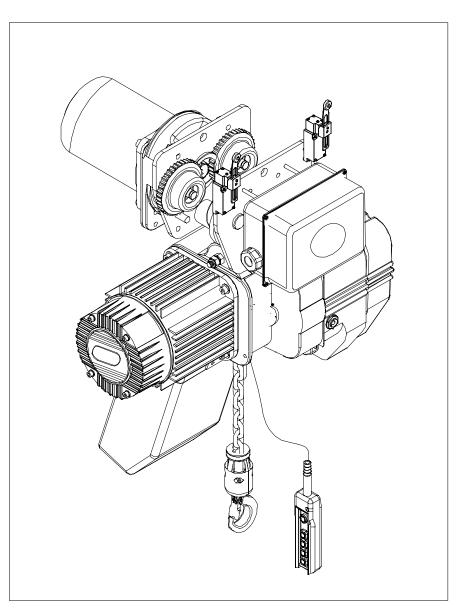


# **KUKDONG** ELECTRIC CHAIN HOIST

# "KD-2 TYPE"

**OPERATING & MAINTENANCE MANUAL** 



# KUKDONG HOIST CO., LTD.

http://www.kdhoist.com

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# **1. Safety Inspection**

We are very pleased that you purchased our hoist, KUKDONG Hoist.

We hope that you would use our hoist with safe and long time without any trouble under periodical inspection and maintenance after select according to correct working service. Besides, it could be caused serious injury or damage of property by falling matters, rotating material, high voltage or hot surface through carelessness.

Installation, maintenance and repairing of hoist must be executed by a qualified person or a trained engineer under safety instruction.

You must keep a safety instruction on user's manual to prevent from potential danger.

We are not responsible for any accidents or problems which are not kept a safety instruction indicated user's manual and any article of danger, warning and caution for hoist

# 1-1. Sign of Danger, Warning and Caution

It is saying to danger, warning and caution to safety in this user's manual. The sign is defined as under.



**"DANGER" :** This sign indicates a very dangerous situation like death or serious injury through carelessness.

**"WARNING"** : This sign indicates a potential dangerous situation like death or serious injury through carelessness.

"CAUTION" : This sign indicates a dangerous situation like light injury through carelessness.

# 1-2. Notice to safety

▲ DANGER

- (1) Please do not walk pass under lifting equipment like hoist and crane etc. It could be caused death or severe injury by falling material.
- (2) Please use the hoist, suitable for explosive proof at the place of flammability, explosion, gas, dust etc.

Non explosive proof hoist could be caused damage of human and material by fire, explosion etc.

- (3) Please do not lift overload. It could be caused each part's trouble or motor burnt and reduce the life time of hoist. Besides, it could be caused severe damage of human and material by accident.
- (4) Please do not operate hoist when any operators or workers are working under hoist. It could be caused death or severe injury.
- (5) Please do install a safety zone with chain, tape and set up the mark of warning sign in the dangerous area when maintenance and inspection. It could be caused serious damage of human and material in case that unexpected operation would be happened by falling or mistake.

# ⚠ WARNING

- (1) Installation, maintenance and repairing of hoist must be executed by a qualified person or a trained engineer under safety instruction.
- (2) You must keep the notice to safety on user's manual to prevent from potential danger for sure.
- (3) Please do an earth according to the related specification before turn power on. It could be caused danger of electric shock if wires would be changed or would not connect an earth.
- (4) Please do not modify control circuit on purpose. Besides, please do not bend or pull power cable or lead wire strongly. It could be caused danger of fire, electric shock or any error.
- (5) Please do not touch hoist body with body or any materials. It could be got severe human injury.
- (6) Please do not exceed the rated lifting length. Even if hoist has extra length 1-1.5m, it could be caused a serious problem of product as you exceed the rated lifting length frequently.
- (7) Please make sure the following notice when you hang up the load or any freight.
  - You must know the weight of load as correct as you know.
  - Please make a sure the center of balance of the load as the load has a various shape.
  - Please do use suitable and safe tools for the load and shape.
  - Please make angle within  $60^{\circ}$  when you use wire rope or chain.
  - The more angles are, the more tension of chain is.
  - Please do not hang up the load with one fall. To be taken center of the load is very difficult and the load is biased.
  - Please do select rope or chain or assistant tools according to weight of the load. To be used thick rope against light weight is very dangerous conversely.
  - Please do not suspend the end of hook. The center of hook is stronger than other part. Biased makes weak and it is very dangerous as the strength of end of hook is about 40%.
- (8) Please do release or remove or transform the function of limit switch device, overload protector, emergency stop device, traversing limit switch device, safety latch device of hook or crash stop these devices from hoist.
- (9) Installation, maintenance and repairing of hoist must be executed by a qualified person or a trained engineer under safety instruction.
- (10) Please do not modify spare parts or components. We are not responsible for serious damage or human injury by these behaviors.
- (11) You must turn power off before maintenance and inspection and set up the sign of warning. It could be damaged by unwanted operation or electric shock.

# ▲ CAUTION

- (1) Please prepare for reasonable protection procedure to prevent from unexpected accident by a unqualified person(the elder, the disable, children etc).
- (2) Unsuitable person related to operation(a drunken person, a medicine taker) must not do any working like installation, operation and maintenance etc.
- (3) Please do use suitable and safe tools for load and shape after checking of weight of load.
- (4) A excessive voltage alteration(over ±10%) and frequency alteration(over ±5%) is caused a shortage of torque and overheating. Besides, if the length of cable becomes long, voltage dropping is serious. So, please keep within 2% of voltage dropping.
- (5) Please do appoint a manager in charge of hoist to prevent from unexpected accident or troubles.

- (6) Please do not do inching operation as less as you can. A frequent inching operation is caused the problem of motor, brake and magnetic contactor.
- (7) Please do not do a sudden reversing operation. A sudden reversing operation is caused any big damage to the hoist.
- (8) Please do hang up the load correctly. Please do not hang up the load at the end of hook and do not run with moving the load.
- (9) Please do not do an inclined operation.
- (10) Please do control push button switch carefully. Please be careful that push button cable gets caught on any obstacle on the way moving. Please do turn power off after finish the operation. A severe collision or hitting is caused any error or broken.
- (11) Please do oil or grease reasonable at the right time and please be careful of any contaminants when oiling.
- (12) Please do check all electric components and device at a fixed time.
- (13) Please do cover a cover for sure after all inspection or maintenance and please do not operate any devices before the finish.

# 2. How to operate KD-2 type

# 2-1. Operating condition

Periodical inspection and maintenance of a hoist after installation can help you use the machine for long time without any problem. But unreasonable use of the machine without regard to working conditions can cause its breakdown.

The manufacturer is not responsible for problems caused by user's behavior that it is not observed the specifications and the notice in the user's manual.

# MARNING Please read the manual before using the hoist.

# 2-2. Hoist classification of KD-2 type

					(Table-1)
Rating of loading	Average daily operation time [h]	≤0.25	≤0.5	≤1	≤2
Light	When normally working with approx. 1/3 of W.L.L. and rarely with W.L.L.	Ι	Ι	II	III
Medium	When normally working with approx. 1/3 to 2/3 of W.L.L. and sometimes with W.L.L.	Ι	II	II	IV
Heavy	When normally working with approx. 2/3 of W.L.L. and often with W.L.L.	II		IV	v
Very Heavy	When normally working with W.L.L. or near W.L.L.		IV	v	-

# M WARNING Please make sure that Grade M3 manufactures the hoist (JIS/ISO).

# **2-3.** Loading time rate and operating frequency

(1) Loading time rate(%ED) =  $\frac{\text{Loading time}}{\text{Loading time} + \text{Stopping time}} \times 100$ 

(2) Loading time rate of the hoist = 25%ED (Dual speed = 20%ED)

(3) Duty rating = 30 minutes (Dual speed = 5/15 minutes)

# 2-4. Model name of KD-2 type (Standard type)

(Table-2)

HOOK SUSPENSION TYPE	MONORAIL TYPE	GEARED TROLLEY TYPE	PLAIN TROLLEY TYPE
KD(T)-2-2Ton(S)	KD(T)-2M-2Ton(S)	KD(T)-2G-2Ton(S)	KD(T)-2P-2Ton(S)
KD(T)-2-2.8, 3, 5Ton(D)	KD(T)-2M-2.8, 3, 5(D)	KD(T)-2G-2.8, 3, 5(D)	KD(T)-2P-2.8, 3, 5(D)
KD(T)-2-7.5, 10Ton	KD(T)-2M-7.5, 10Ton	-	-

[ Please ask manufacturer for special type, except for standard type. Refer to page 44 ] Notice) T : Dual Speed, S : Single Fall, D : Double fall

C

220

300

300

340

340

340

420

420

# 3. Treatment to KD-2 type

# 3-1. Checking points before installation

Please make sure of following points before installation of products.

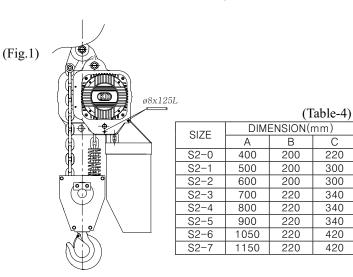
- (1) Type
- (2) Capacity
- (3) Lift
- (4) Power source
- (5) Pushbutton switch length
- (6) Chain bucket size
- (7) Checkpoint when placing order for special type
- (8) Check beam type("I-Beam" or "H-Beam") when installation of trolley Refer to page 14, 15, 16(How to connect trolley).

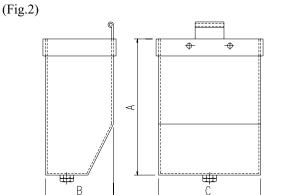
# 3-2. Chain bucket

### CAUTION Â

(1) Please use the standard chain bucket. It is caused broken and deformation of load chain. (Table-3)(Table-4)(Fig. 2)

(2) How to install chain bucket(Fig. 1).





### (Table-3. Chain bucket Size)

(Table-3)

LIFT					
LIFT			PACITY(to	1	
(m)	1.5	2.0	2.8	3.0	5.0
1	S2-0	S2-0	S2-0	S2-0	S2-0
2	S2-0	S2-0	S2-0	S2-0	S2-0
3	S2-0	S2-0	S2-0	S2-0	S2-0
4	S2-0	S2-0	S2-0	S2-0	S2-0
5	S2-0	S2-0	S2-0	S2-0	S2-1
6	S2-0	S2-0	S2-1	S2-1	S2-1
7	S2-0	S2-0	S2-1	S2-1	S2-1
8	S2-0	S2-0	S2-1	S2-1	S2-1
9	S2-0	S2-0	S2-1	S2-1	S2-2
10	S2-0	S2-1	S2-2	S2-2	S2-2
11	S2-1	S2-1	S2-2	S2-2	S2-2
12	S2-1	S2-1	S2-2	S2-2	S2-3
13	S2-1	S2-1	S2-3	S2-3	S2-3
14	S2-1	S2-1	S2-3	S2-3	S2-3
15	S2-1	S2-1	S2-3	S2-3	S2-3
16	S2-1	S2-1	S2-3	S2-3	S2-3
17	S2-1	S2-2	S2-3	S2-3	S2-4
18	S2-1	S2-2	S2-4	S2-4	S2-4
19	S2-2	S2-2	S2-4	S2-4	S2-4
20	S2-2	S2-2	S2-4	S2-4	S2-5
21	S2-2	S2-2	S2-5	S2-5	S2-5
22	S2-2	S2-2	S2-5	S2-5	S2-5
23	S2-2	S2-3	S2-5	S2-5	S2-6
24	S2-2	S2-3	S2-6	S2-6	S2-6
25	S2-3	S2-3	S2-6	S2-6	S2-6
26	S2-3	S2-3	S2-6	S2-6	S2-6
27	S2-3	S2-3	S2-6	S2-6	S2-6
28	S2-3	S2-3	S2-6	S2-6	S2-6
29	S2-3	S2-3	S2-6	S2-6	S2-6
30	S2-3	S2-3	S2-6	S2-6	S2-7
31	S2-4	S2-4	S2-7	S2-7	S2-7
32	S2-4	S2-4	S2-7	S2-7	S2-7

**N.B)** 1. Chain bucket(S2) is made by steel. 2. A specific link chain is required in case of installation of chain bucket(S2).

### - 5 -

# 3-3. Power switch and power cable size

Power switch and the thickness of power cable greatly affect the functions of hoist and its secure operating. Please prepare for power switches and power cable according to Table-5.

								(1able-3)		
	Conseite		Hoisting Traversing Power				Electric cord thickness[mm <sup>2</sup> ]			
Туре	Capacity	Motor	Motor	Switch	С	ord leng	th[m-ma	x]		
	[ton]	[kw]	[kw]	[A]	10	20	30	40		
	2(S), 2.8(D), 3(D), 5(D)	3.0	-	20	3.5	3.5	3.5	5.5		
KD-2	7.5, 10	2x3.0	-	30	5.5	5.5	8.0	8.0		
	2(S), 2.8(D), 3(D), 5(D)	3.0	0.4	20	3.5	3.5	3.5	5.5		
KD-2M	7.5, 10	2x3.0	0.75	40	5.5	5.5	8.0	8.0		

\* Above contents in chart are based on 220V 60Hz / \* S : Single Fall, D : Double Fall

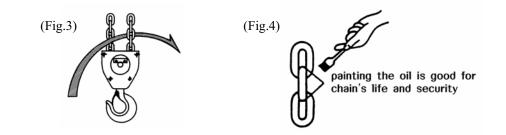


If there is much distance between hoist and power, use bigger power, use bigger power cable than standard requirements as there may be a dropping of electric pressure or overheating of hoist motor and cable etc.

### 3-4. Warning points after installation

- (1) If there are more chains than two, check if chains get twisted like Fig.3
  - (Twisted chain caused chain's breaking)
- (2) Apply oil on the chains surely, which will lengthen the life span of chains and prevent from troubles (Refer to Fig.4). Also, keep chains clean all the time or it will be caused chain's breaking.

**MARNING** Please do not use grease absolutely.

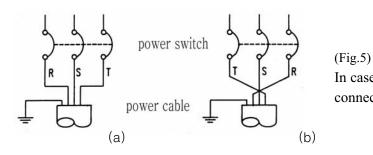


(3) If the bottom hook will not go up, but go down when you press "↑" of push button switch at the state of unload(Negative operation), change the connection of 2 phases among three phases of R, S, T as shown in Fig.5 and then it will work well and normally.

(Table 5)

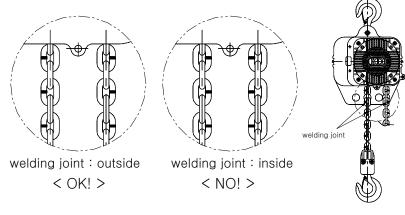


If you keep operating the machine in the opposite direction in the state of negative phase, it will be caused serious damages to the machine. We are not allowed to do it.



In case that (a) is negative operation, change the connection of 2 phases R and T like (b).

(4) When you install load chain into hoist, the welding part of the load chain is positioned outside so that the welding part is not faced to load sheave like Fig.6. (In time of repairing and replacing the load chain)



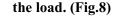
(Fig.6)

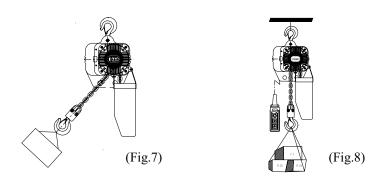
# 3-5. Checkpoint on operating

A DANGER Please do make

Please do make sure the following notice.

- (1) We are not allowed to modify any hoist to elevator for human or cargo.
- (2) Please do not operate an inclined operation. (Fig.7)
- (It is caused any trouble to hoist.)(3) Please must operate under the rated load and please do not stand and pass under



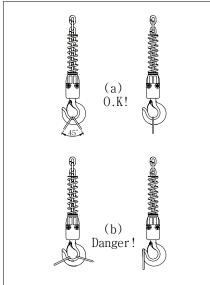


(1) Checkpoints before operating

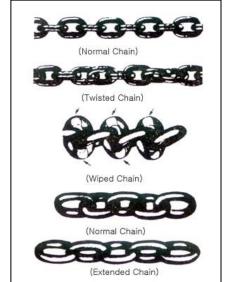
# ▲ DANGER

# Do not do a deformation load chain intentionally.

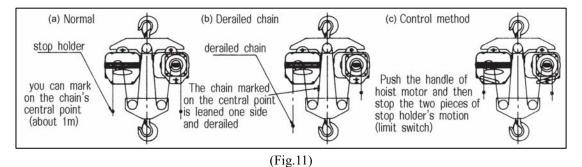
- (a) Is oil applied on the load chain?
- (b) Are the load chains entangled if the load chains are more than two?
- © Does it work downward though you press "1" of push button?
- d Does the push button work smoothly?
- (e) Does the slip clutch work at the state of unload?
- (f) Does the brake work well without slip? [Table-9]
- (g) Does a trolley work well without any interference on the monorail?
- (2) Checking points on operating
  - (a) Never drag the push button cable to move a trolley when you want to connect trolley.
  - (b) At normal use, do not use over load limit switch. It is a way to prevent breakdown of a hoist.
  - © Press the push button switch securely and thoroughly.
  - (d) Put up goods normally to hook block and never use the machine irregularly.(Fig.9)
  - (e) Do not use the hoist when the load chains are entangled.(Fig.10)
  - (f) Do not do any sudden plugging or continual inching operation
  - (g) In case that the hoist consists of 2 hoist body, it could be caused the problem if load chain would be inclined toward one side. Please check and adjust such a position like Fig.11. (Ex. Fig.11)







(Fig.10)



(3) Checkpoints after operation

# ▲ CAUTION

- ⓐ Turn off the power switch surely after using the hoist.
- (b) Do not stop operation it when it is loaded.
- © Be sure to cover a hoist lest rain or water should leak in the main part when it is installed outside.

# 4. Maintenance and Inspection

It is very important to check the hoist daily, monthly and yearly to preserve its long lift-span and be sure to observe the following notice to security when checking of hoist.

# <u> M</u> WARNING

- (1) Turn power switch off and control power switches with associates.
- (2) Never check hoist when a hoist is loaded.
- (3) Set the sign of "repairing "or "checking" when repairing or maintenance.

# 4-1. Inspection before operation (daily inspection)

- (1) Checkpoint before operation
  - (a) Is oil applied on the load chains?
  - (b) Are the load chains entangled or twisted?
  - © Is safety latch attached normally?
  - (d) Does the limit switch work normally at the state of unload?
  - (e) Does the hoist brake work normally without slip?
  - (f) Does the operation of trolley(left direction and right direction) work normally?
  - (g) Is the weight of goods loaded on a hoist reasonable?
  - (h) Is it sure that there is no one under loaded goods?

# 4-2. Periodical inspection

Since parts and components of the machine will wear away and will not work well after long use, inspect the machine periodically according to checkpoints for secure working.

(1) monthly inspection (once a month, in the presence of a manger)

(2) yearly inspection (once a year, in the presence of a manager and a trained person)

# 4-3. Check of brake and how to adjust

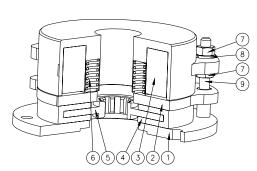
# \Lambda WARNING

DC brake consists of the following picture and Adjusting of gap is as under.
If the gap of brake is open over 0.6mm, please adjust to be 0.3mm like (8) and (9). (Fig.12)

• If the gap of brake is under 0.3mm, motor could be burnt.

# AUTION Hints to install and check DC brake

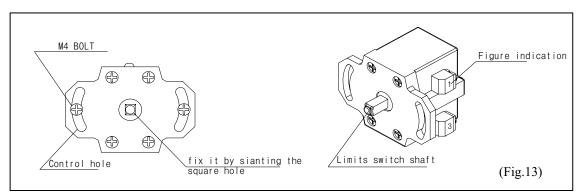
- (1) Please do use and change AC power source into DC power source through rectifier.
- (2) Please do use coil voltage DC90V when input power is 220V, 380V.
- In case of 440V, please do use coil voltage DC190V.
- (3) Please do not expose brake coil and output the wire to heat.
- (4) Please do not test 500V Mega insulation against brake.



No.	Name	Q'ty
1	Flange	1
2	Armature	1
3	Brake Coil	1
4	Lining	1
5	Lining plate	1
6	Spring	5
7	Hex. Nut - M8	6
8	Spring washer - M8	3
9	Stay bolt	3

(Fig.12) Structure of DC brake

# 4-4. How to adjust limit switch



# The moving direction or contacting operation for the shaft of limit switch

(Table-6)

Model	Type of Limit switch	Contacting operation	Terminal numbers & moving angles
KD-2 type	HY-SQ5-SH-GP1	1 2 Contacting point when going up 3 4 Contacting point when going down	

- (1) Limit switch can stop the motor if hook reach an upper limit or lower limit.
- (2) Adjusting of limit switch is required to do correct operation absolutely. It is relieved the impact to the hoist.
- (3) Normal position of limit switch is that the body and shaft becomes parallel. If limit switch does not move normally, please do adjust it again with adjusting nut.
- (4) Please do not do an upper and lower limit operation and check it periodically.

### 4-5. Check of hook, load chain

# \Lambda WARNING

Hook and load chain can be worn away as a long time goes by. Besides, it is also opened and rusted according to working places and conditions. You must inspect and judge based on Table-7, Table-8 as hook and load chain is very important parts on hoist.

In case that the limited dimension is over, do replace them with new one for safety.

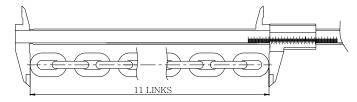
### (1) Hook

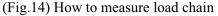
		·	(Table-7)
	Standard	Normal dimension(A)	• • • •
	(ton)	(mm)	(mm)
	2(S)	33.5	37
	2.8(D), 3(D)	39.9	48.1
	5(D)	48.3	57.8
	7.5, 10	70.5	85.5

(2) Load chain

<u>oq</u>	Туре	Standard load (ton)	Chain diameter Ød (mm)	Standard dimension Pitch (mm)	Using limit 11 links(mm)
PITCH		2.8(D), 3(D)	9.5	28.6	337.6
	KD-2	2(S), 5(D) 7.5, 10	11.2	34.3	403.7

Notice) S : Single Fall, D: Double Fall





(Table-8)

				Table-9)
Division	Overhauling subject	Overhauling standard	Usual time	Periodic time
	External view	No damage, crack and deformation	ullet	$\odot$
	Abnormal sound	No noises form the motor and the gear	ullet	
X · 1 1	Gear case	No abrasion such as rust, damage and breakdown		
Main body	Reduction	No deformation and breakdown of gear		
	gear section	No abrasion and deformation of bearing		
	Load sheave	No hard abrasion, damages and deformations		
	Rust & cracks	No rust(erosion), cracks(flaws) and few abrasion	ullet	
Load chain	Dimensions	Diameter and pitch should be fit to the standards	$\odot$	$\odot$
	Oiling conditions	Coated with oil properly	ullet	۰
	Opening	Not get wider than the standards dimensions		۰
Top &	Holders	No harmful damages, deformation and not opening		۰
Bottom hook	Bottom swivel hook	No problems with bearing		۰
	Bolt & Nut	No abrasion and curves		۰
Limit	Limit operation	Good operation when an upper and lower limit	ullet	۰
switch	Limit stop holder	No broken, release of nut, severe damage		۰
Brake	Slipping	Within 10mm when you operate host 2~3 times with rated load	۲	۰
	Cabtyre cables	No breakage and damages of the rubber covered cables No disconnection		۰
Electric	Push button switch	Effective connection and proper functioning	$\odot$	
components	Motor	No overheating and humming		
	Insulated resistance	Insulation resistance exceeds $2M\Omega$ by DC500V Megger		۰
	Connection parts	Bolts, nuts, springs, washers, pins and etc should be assembled normally		٠
01	Name plate	Features and specifications of hoist should be attached.		۰
Others		Assembled parts should be fixed firmly with bolts		•
	Chain bucket	Good conditions and no foreign object in it		۲
Emergency switch		Power off surely		۰

# 4-6. Checkpoints of electric chain hoist

# 4-7. Checkpoint of trolley

	1	Γ		ble-10)
Division	Overhauling subject	Overhauling standard	Usual time	Periodi time
	Side plates	No bending and damages		۰
	Connecting parts	No looseness breakage and missing and no breaking away from the right place		۲
		No abrasion of wheel, roller and gear		
Plain trolley	Wheel, Roller	Well lubricated gears	۰	
		Rotate smoothly		۲
	Bearing	Proper engagement with shafts and rotate smoothly		۲
Na	Name plate	Exact specifications should be written		⊙
		No damages breakage and abrasion		•
	Reduction gear section	Well lubricated roller gears		۰
		No backlash in the gears and bearings		•
	Brake	Stop smoothly without casting too long	·	۰
Motorized trolley	Name plate	Exact specifications should be written		
	Electric	Cabtyre cables : No breakage and damages of the rubber covered cables No disconnection		٠
	components	Motor : No overheating and humming		•
		Insulation resistance exceeds $2M\Omega$ by DC500V Megger		·
	Hand wheel	No excessive wear in the ratcheted section and pocket sections to engage with hand chain		٠
Geared	Name plate	Exact specifications should be written		
trolley	Pinion shaft	Well lubricated for smooth rotation		۰
	Hand chain	No excessive elongation and deformation that cause smooth engagement with the hand wheel pockets		·

	(Table-11)
Overhauling subject	Overhauling contents
Unloading test	Does the hoist works as the signs of push button indicate?
Limit switch test	Does the hoist works at the state of unloads and rated load normally?
Rated capacity test	When the hoist works " $\uparrow$ ", " $\downarrow$ ", " $\leftarrow$ " and " $\rightarrow$ " direction, are there any noises and vibrations and is there any brake slipping?
Overloading test	Are there any problems at test load?

# 4-8. Test points after periodical inspection

# 4-9. Checkpoint of lubricating and refueling

(Table-12)

No.	Refueling parts	Kind of oil	Refueling time	Amount	Caution
1	Top hook pin, Bottom hook block	Cup grease (SHELL M.M.P #2)	Yearly	Adequate	
2	Gear section	MACHINE OIL (SHELL MEROPA 220)	Yearly	1700cc	Refuel after removing impurity in gear box
3	Load chain	11	Often	Adequate	Coating on surface of chain. (Not be dried)

Caution) We are using SHELL product. In case of using other oil, use same grade like ISO 220 grade.

# 4-10. First aid

(Table-13)

Condition	Checkpoints	Broken condition	(lable-13)
		It will not work though you press "↑"and "↓" of push button	- Press the push button for sure - Connect wires perfectly
When it does not operate initially?	Is power supplied certainly?	Motor generates much heat and many noise	<ul> <li>Combine wires completely as it may be because the input wires are broken.</li> <li>Check if the three-phase power is supplying normally.</li> <li>Replace the rectifier for a brake with a new one if it is out.</li> <li>Check if the brake works when it is applied.</li> </ul>
		It does not work after upper or lower limit switch is operated	- Turn handle of limit switch normally.
	Is the single-phase working?	Motor makes noises and heat from motor rises.	<ul> <li>Check if the voltage is normal</li> <li>Inspect the breaking of power wires or power switches and check if the fuse is normal.</li> </ul>
In case of stop the	Is limit switch worked normally	When work in the slant or the chain is twisted, the limit switch handle let hoist stop.	<ul> <li>Adjust limit switch handle to the normal condition.</li> <li>Straighten the severe slant and twisted condition to become normal.</li> </ul>
motor when hoist is working	Imperfect connection	When the power wires, terminal, switches are not connected perfectly.	- Exchange or repair
	Excessive load	Motor makes noises and excessive current flows.	- Use it within the range of rated load.
	The poor braking state	The lining of brake is worn out.	<ul> <li>Adjust the gap of brake.</li> <li>Repair or replace the lining of brake</li> </ul>
Braking trouble	Chain keeps running down slowly	Mechanical troubles of a brake	- Ask for help from special agents for after sale service
Electric accident	Leakage	When you touch the body, the chains and etc., you feel electricity.	<ul> <li>Make sure of a perfect earth.</li> <li>Check the insulation resistance</li> <li>Dry the moisture around switches completely.</li> </ul>

# 5. How to connect trolleys

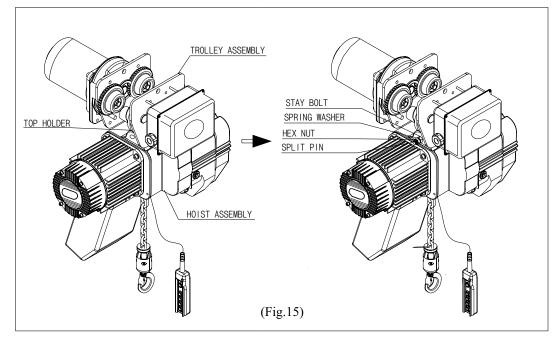
When you connect trolley, you can use it in various ways with KD hoist.

Select a model among the following three trolley types.

- (1) Electric motorized trolley : MODEL-KD-2M
- (2) Geared trolley : MODEL-KD-2G
- (3) Plain trolley : MODEL-KD-2P

# 5-1. How to connect trolley and KD type hoist (Fig.15)

- (1) Please approach the top holder of trolley to the stay bolt hole of hoist.
- (2) Please insert a stay bolt between the hole on the top of hoist and the hole of top holder.
- (3) Please screw up the spring washer and nuts after insert.
- (4) Please fix them with split pins after screwing up.



# 5-2. How to install trolley on the runway beam

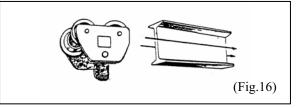
When you install a trolley on I-beam or H-beam type, set them up in the following way.

- (1) Please check the width of the beam and trolley.
  - (Roller wheels of trolley are divided into two; one is for I-beam and the other is for H-beam.)
- (2) Please assemble them by adjusting the adjusting collar on the stay bolts to the inside or the outside of side place.

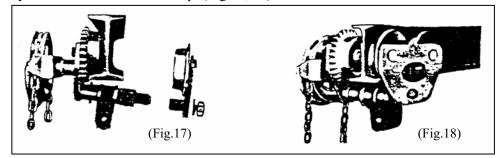
				(Table-	14)
Conscitution)	Range	of application	BEAM breat	h(mm)	
Capacity(ton)	Collar(no.)	2	4	6	
2		100	125	150	
2.8, 3	3	100	125	150	
5		125	150	175	

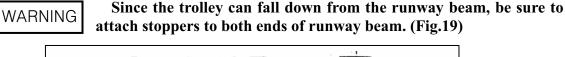
Note) Since Kuk Dong hoist is manufactured as standards based on above table-14, adjust intervals and collars in accordance with the width of beam.

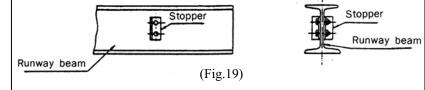
(3) The best way is to install a trolley from the end of the runway beam. (Fig.16)



(4) If you install in the center of beam as another way, after unscrewing stay bolts of the trolley and removing the side plate, put a trolley on one end of a beam and set the other side of the side plate to the stay bolt hole and screw them up. (Fig.17, 18)







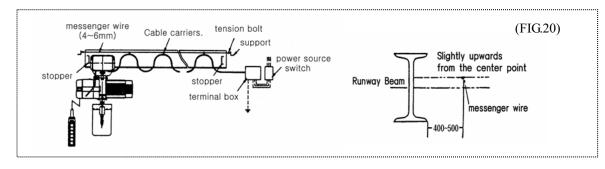
(5) When you install an electric motorized trolley on the curved runway beam, it is normal to attach the plate on the side of motor to the outside of curved runway beam.

# 5-3. How to connect electric power source

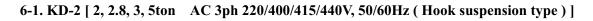
(1) The main power cable should be installed in parallel with the runway beam and the power wire should move together when a trolley moves. (Fig.20)

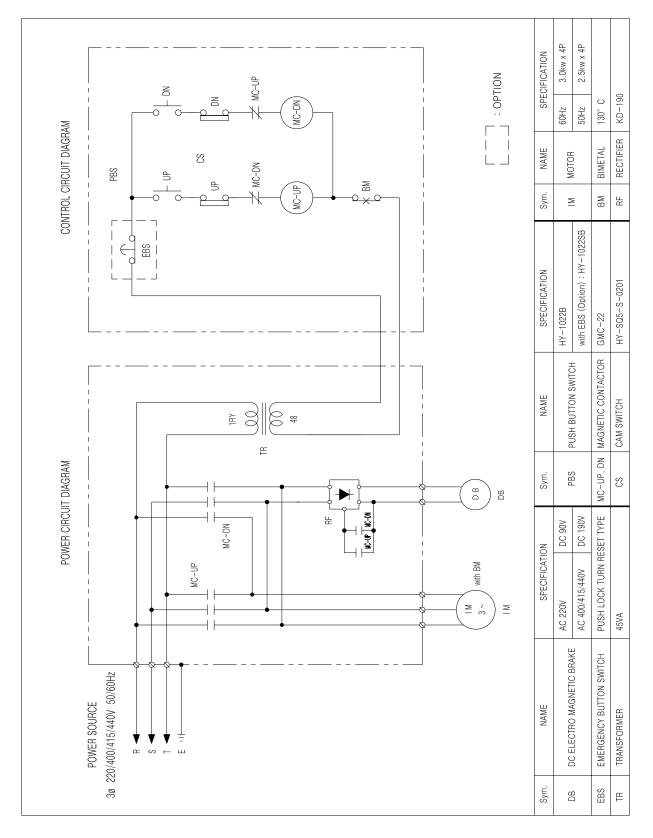
Install the trolley from the ending part of runway beam.

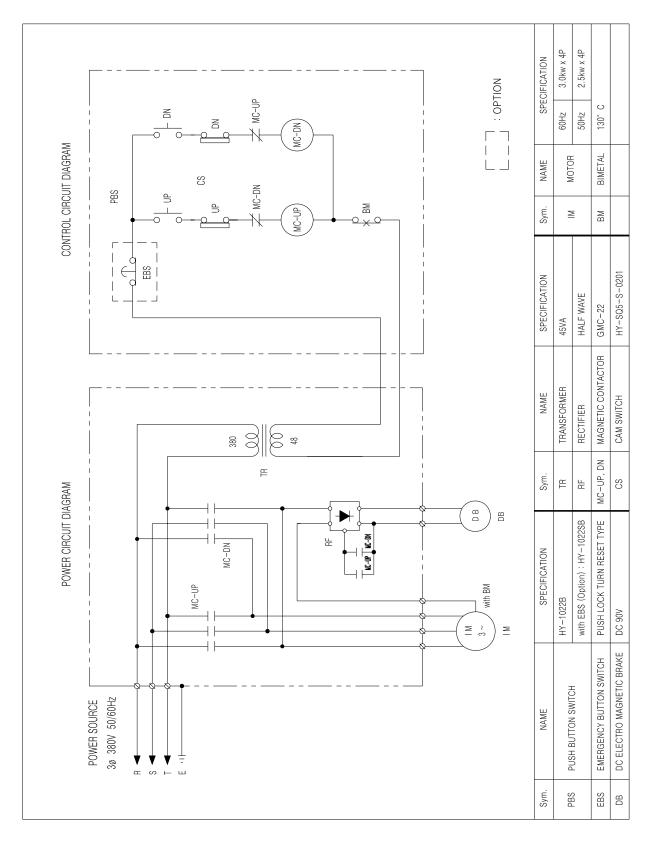
- (2) The cable carriers should be installed at intervals of 1.5 meters.
- (3) The curved runway beam should be installed in a different way. As an instance, the cable carriers follow the runway beam.
- (4) Since the rotating radius of curved runway beam is different according to the capacity of hoist, consult with agents about the specifications of right products related to your working places.



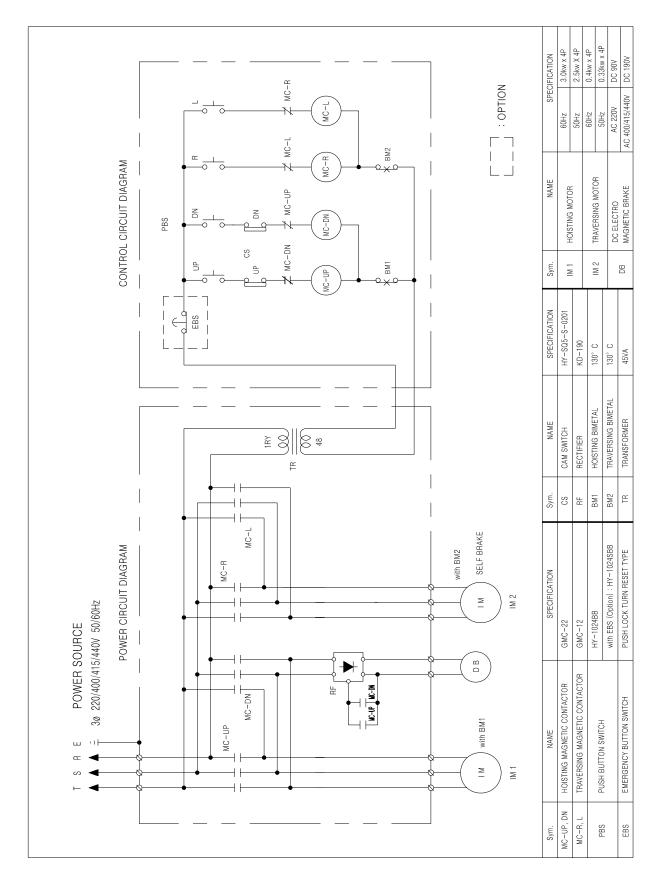
# 6. The circuit diagram of electric chain hoist



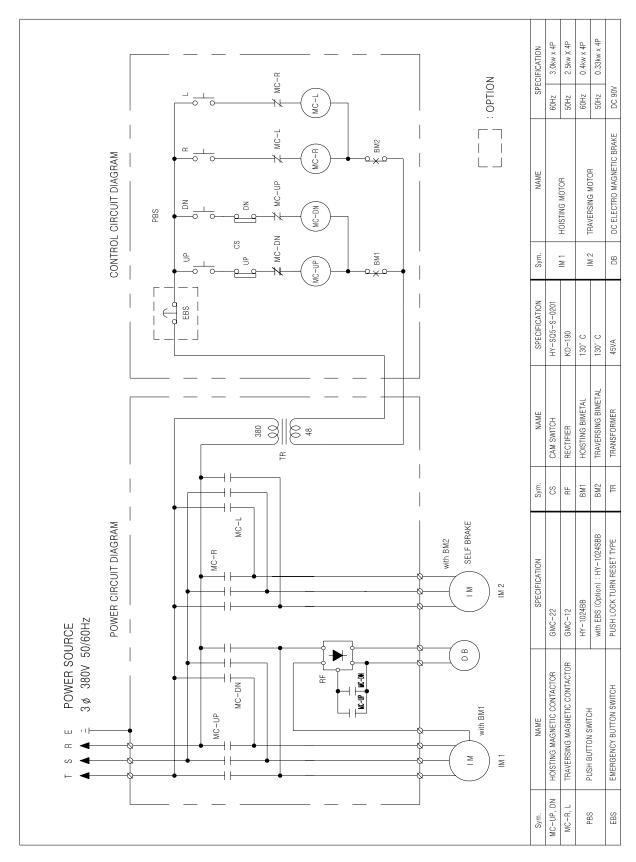




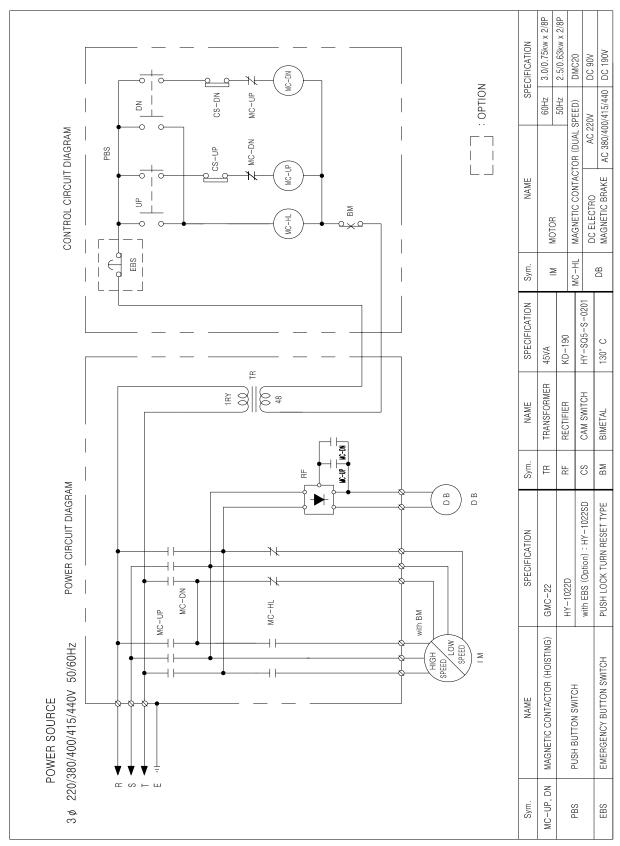
# 6-2. KD-2 [ 2, 2.8, 3, 5ton AC 3ph 380V, 50/60Hz ( Hook suspension type ) ]



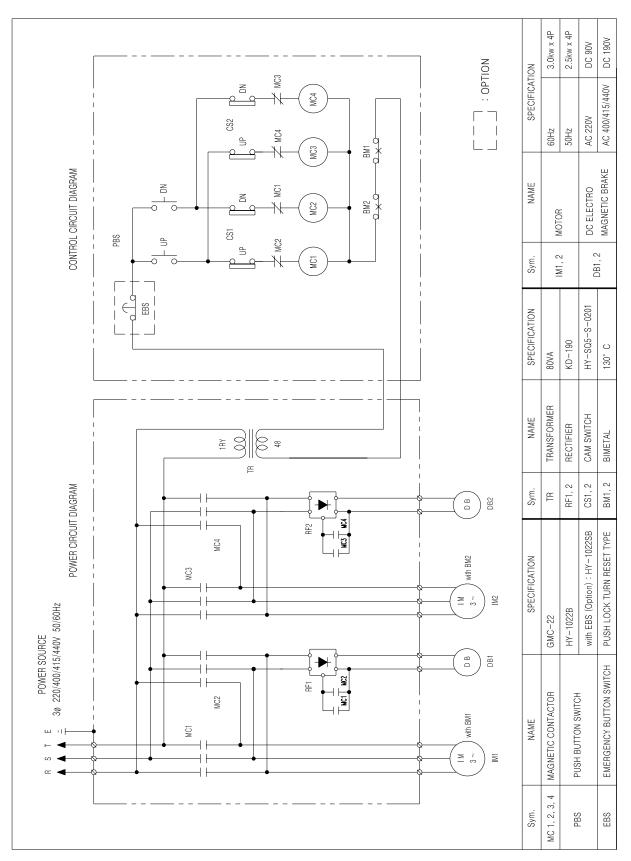
# 6-3. KD-2M [ 2, 2.8, 3, 5ton AC 3ph 220/400/415/440V, 50/60Hz ( Motorized trolley type ) ]



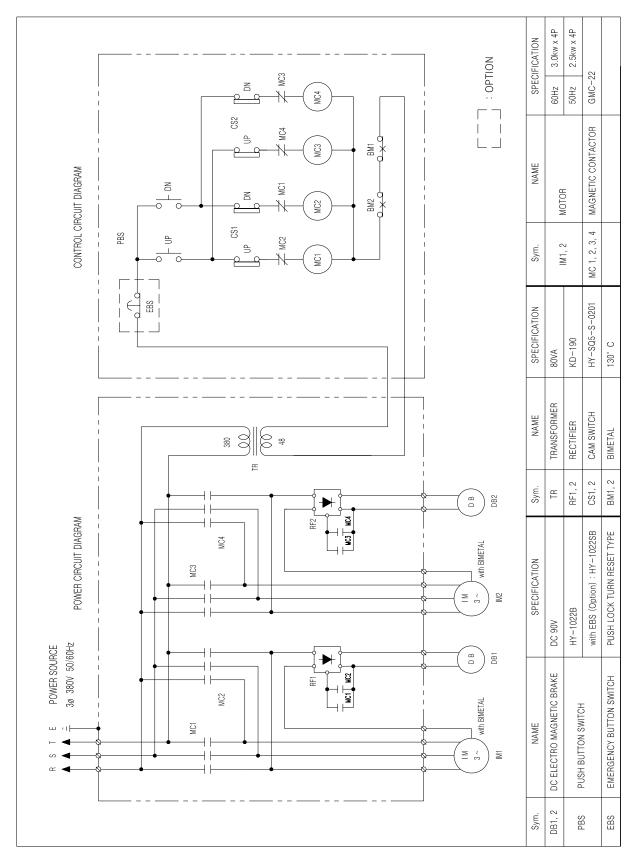
# 6-4. KD-2M [ 2, 2.8, 3, 5ton AC 3ph 380V, 50/60Hz ( Motorized trolley type ) ]



6-5. KDT-2 [2, 2.8, 3, 5ton AC 3ph (Dual speed type)]

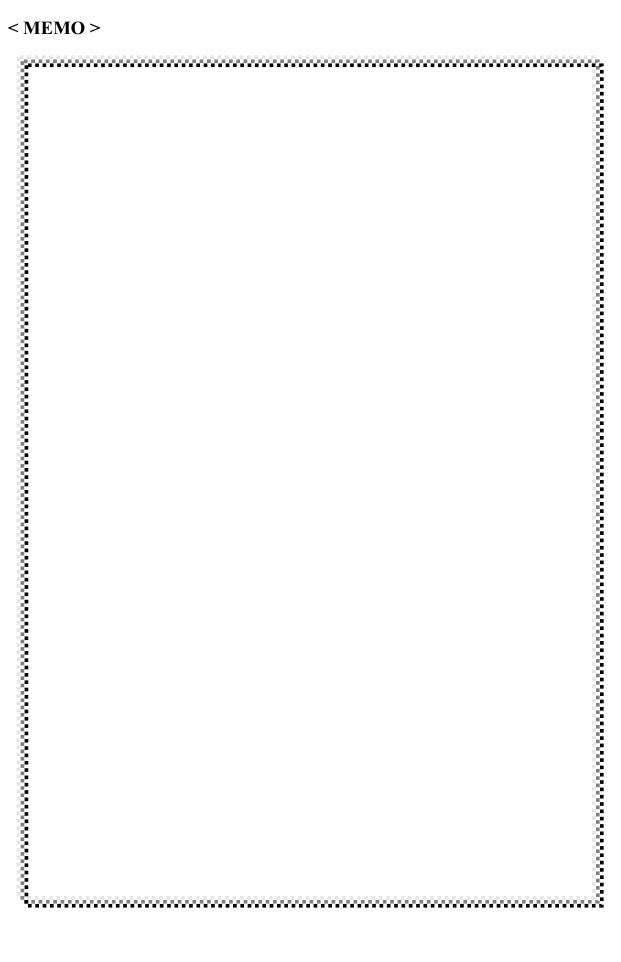


6-6. KD-2 [ 7.5, 10ton AC 3ph 220/400/415/440V, 50/60Hz ( Large capacity type ) ]



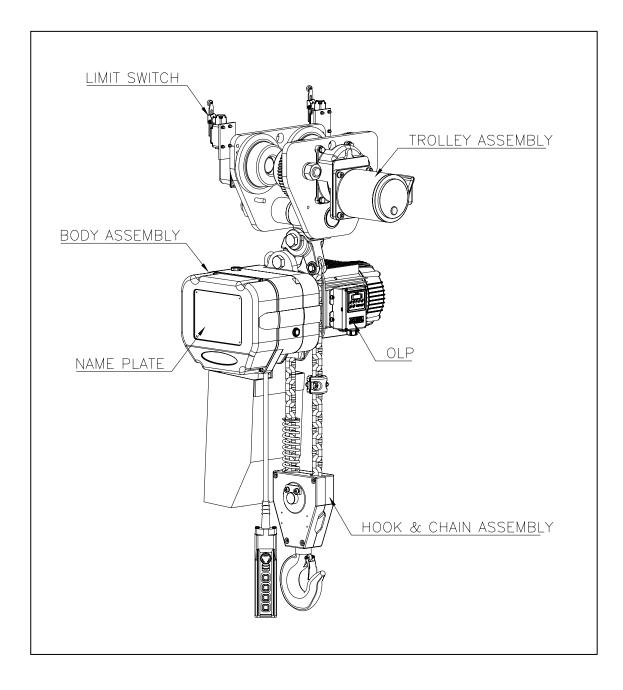
6-7. KD-2 [ 7.5, 10ton AC 3ph 380V, 50/60Hz ( Large capacity type ) ]

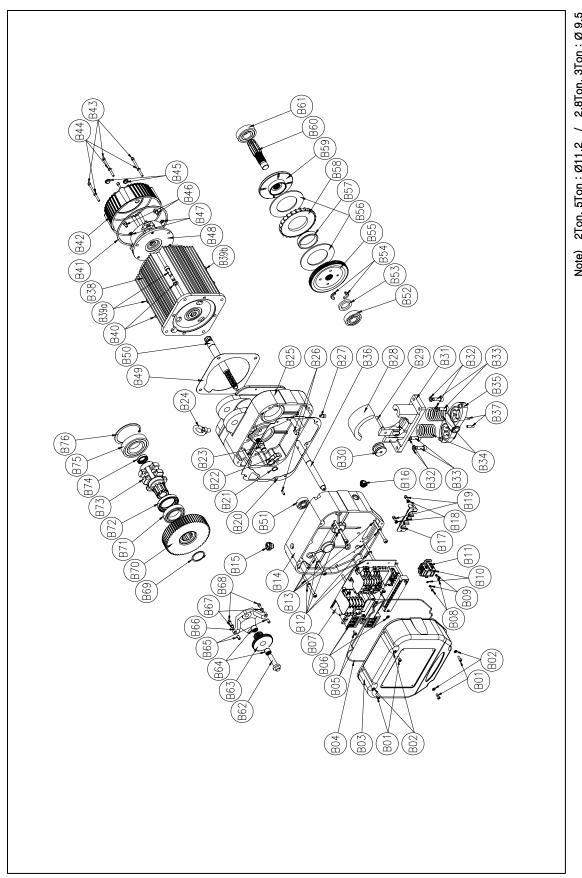
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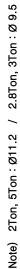


# 7. PART LIST

# 7-1. ELECTRIC CHAIN HOIST ASSEMBLY

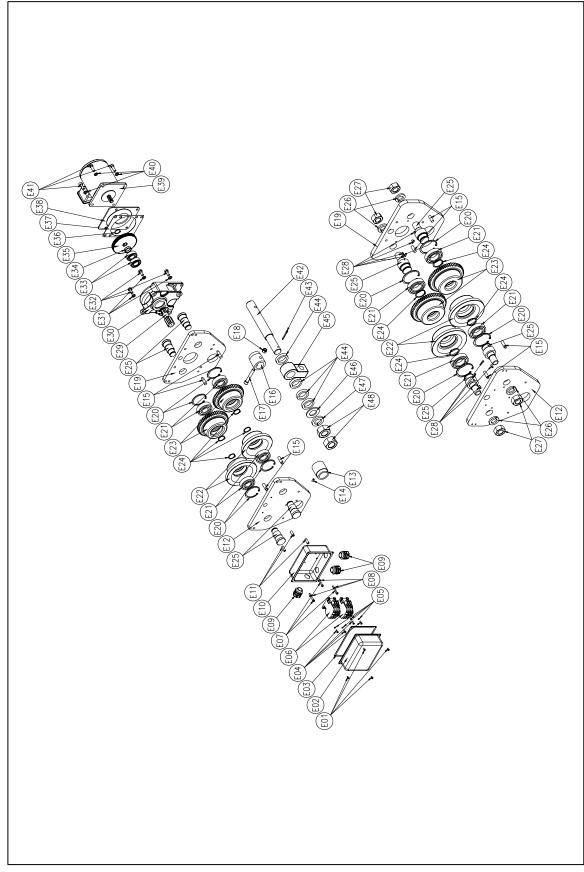






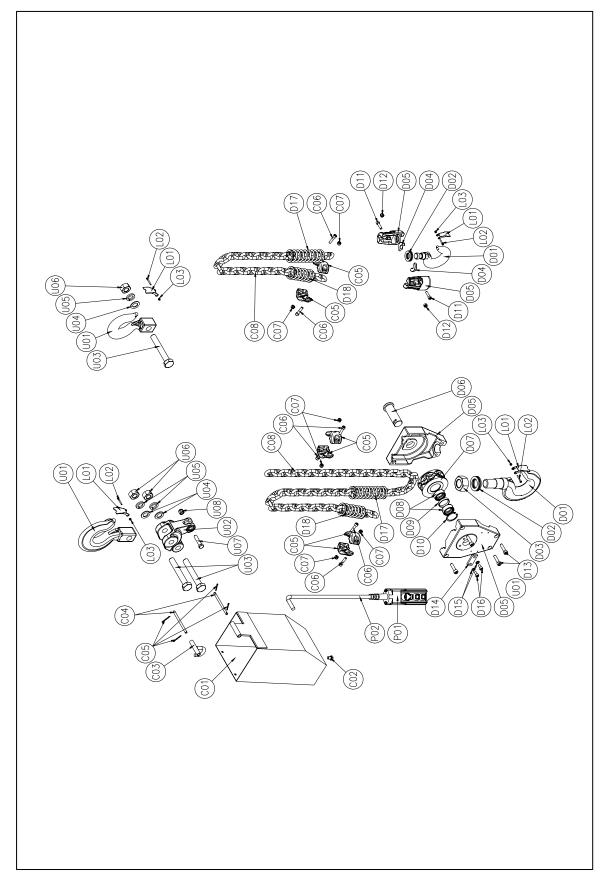
# 7-2. BODY ASSEMBLY

SOCKET HEAD BOLT         M6A15         4 $\sim$ B39           SPING WASHER         M6         1         A         B39           SPING WASHER         M6         1         KD-2         B40           ELECTRICFELD COVER $03.1X1022$ 1         KD-2         B43           SPING WASHER $0610$ 3         KD-2         B43           SPING WASHER $0610$ 3         KD-2         B43           SPING WASHER $0610$ 3         HC-2         B43           SPING WASHER $061$ 2         B44         B47           SPING WASHER $M44$ 2         B46         B47           SPING WASHER $M44$ 2         B46         B47           SOCKET HEAD BOLT $M44$ 2         B46         B46           SOCKET HEAD BOLT $M44$ 2         B46         B46           SOCKET HEAD BOLT $M8100$ 6         CM S05-SGP1         B49           SOCKET HEAD BOLT $M8100$ 6         M410         E           SOCKET HEAD BOLT         M8100         6         M412         B46	PART No.	PART NAME	SIZE	Q'TY	REMARK	PART No.	PART NAME	SIZE	Q'TY	REMARK
SPRING WASHER         M6         4         A         B40           ELECTRIC FELD COVER $8.31.1082$ 1 $KD-2$ $B41$ DeRNG $8.31.1082$ 1 $KD-2$ $B41$ SOCKET HEAD BOLT $M8x10$ 3 $KD-2$ $B43$ SOCKET HEAD BOLT $M8x10$ 3 $KD-2$ $B43$ SPRING WASHER $M61$ 2 $B44$ $B44$ ROUND HEAD BOLT $M8x10$ 2 $B45$ $B45$ SPRING WASHER $M4$ 2 $B45$ $B46$ SOCKET HEAD BOLT $M841$ 2 $B45$ $B45$ CAM SWITCH $M4$ 2 $B45$ $B46$ SOCKET HEAD BOLT $M8410$ 2 $B45$ $B46$ CAM SWITCH $M810$ 6 $T1/2$ $B46$ SOCKET HEAD BOLT $M810$ 6 $T1/2$ $B46$ CAB         SOCKET HEAD BOLT $M810$ 6 $T1/2$ $B46$ DLCAP $M810$	B01	SOCKET HEAD BOLT	M6x15	4		B39	SOCKET HEAD BOLT	M10x30/M10x25	2/2	B39a / B39b
ELECTRIC FIELD COVER         1         KD-2         B41           0 -RING         03.1x1082         1         KD-2         B41           0 -RING         03.1x1082         1         KD-2         B42           1         SPRING WASHER         M6x10         3         B44           1         SPRING WASHER         M6         1         KD-2         B46           1         SPRING WASHER         M6         1         KD-2         B44           1         KD-2         M6         1         KD-2         B46           1         SPRING WASHER         M6         1         KD-2         B46           1         ROUD HEAD BOLT         M44         2         B47         B46           1         M1         2         HY-S05-S-GP1         B49         B46           1         M8x100         6         KO-2         B46         B46           200L CAR	B02	SPRING WASHER	MG	4		B40	SPRING WASHER	M10	4	
O-FING $03.11082$ $1$ $KD-2$ Only $B42$ SOCKET HEAD BOLT         M6K10         3         FCD-2 Only         B43           ELECTRIG WATHER         M6         3         FCD-2         B43           ELECTRIG WATHER         M6         3         FCD-2         B43           ROUND HEAD BOLT         M44         2         B44           SPRING WASHER         M44         2         B46           SPRING WASHER         M44         2         B47           SPRING WASHER         M84         1         HY-SO5-S-GP1         B48           CABLE FIXING PLATE         M8100         6         PC-2         B46           COLCAP         M8100         6         PC-2         B50           OLL GADE         #21         1         FY1/2         B50           CABLE FIXING PLATE         M6         2         FX1/2         B50           SOCKET HEAD BOLT         M6X15         1         FY1/2         B50           GEAR CASE B         #21         1         FY1/2         B50           DUL GADE         #21         1         FY1/2         B50           SOCKET HEAD BOLT         M6415	B03	ELECTRIC FIELD COVER		-	KD-2	B41	BRAKE GASKET		-	
SOCKET HEAD BOLT         M6x10         3         4         843           SPRING WASHER         M6         3         FRD-3         B44           ELECTRIC CONTPOL ASS'Y         M41         2         B45           ROUND HER         M41         2         B45           ROUND KSHER         M41         2         B46           SPRING WASHER         M4         2         B47           ROUND KSHER         M4         2         B47           SPRING WASHER         M4         2         B47           ROUND KSHER         M4         2         B47           ROUND KSHER         M4         2         B47           SOCKET HEAD BOLT         M8x100         6         B45           OL CAP         #21         1         F0-2         B55           OL CAP         #21         1         F0-2         B56           SOCKET HEAD BOLT         M6         2         B54         B55           OL CAP         #21         1         F0-2         B56           SOCKET HEAD BOLT         M6         2         B54         B55           OL CAP         #21         RD-2         B55         B55	B04	O-RING	Ø3.1x1082	1	KD-2 Only	B42	BRAKE COVER		1	KD-2
SPRING WASHER         M6         3         644           ELECTRIC CONTROL ASSYY         1         KD-2         B45           ELECTRIC CONTROL ASSY         M4x14         2         B46           SPRING WASHER         M4         2         B46           SPRING WASHER         M4         2         B46           SPRING WASHER         M4         2         B46           SPRING WASHER         M8         0         2         B46           SPRING WASHER         M8         6         PCAIN WASHER         B43           CAM SWITCH         M8         6         PCAIN WASHER         B44           CAM SWITCH         M8         6         PCAIN         B47           SOCKET HEAD BOLT         M8x100         6         PCO/NY         B55           OL GAUGE         #21         1         KD-2         B56           SOCKET HEAD BOLT         M6x15         2         KD-2         B56           SOCKET HEAD BOLT         M6x15         1         KD-2         B56           SOCKET HEAD BOLT         M6x15         2         KD-2         B56           SOCKET HEAD BOLT         M6x15         1         KD-2         B56      <	B05	SOCKET HEAD BOLT	M6x10	З		B43	SOCKET HEAD BOLT	M6x85	4	
ELECTRIC CONTROL ASS'Y         MAX14         Z         KD-2         B45           ROUND HEXD BOLT         MAX14         Z         PA         B46           ROUND HEXD BOLT         MAX14         Z         B46           ROUND HEXD BOLT         MAX14         Z         B46           ROUND HEXD BOLT         MAX14         Z         B46           RAN WASHER         MA         H         Z         B46           RAN WASHER         MA         H         Z         B46           SPRING WASHER         M8         H         H         HY-S05-S-GP1         B49           SOCKET HEAD BOLT         M8x100         6         HY-S05-S-GP1         B49         B50           OLLOAGE         #21         1         PT1/2         B51         B51           OLLOAGE         #21         1         PT1/2         B53         B56           OLLOAGE         #21         1         PT1/2         B56         B56           SOCKET HEAD BOLT         M6x15         Z         M6x15         B56         B56           SOCKET HEAD BOLT         M6x15         Z         M6x16         B56         B57           SOCKET HEAD BOLT         M6x15	B06	SPRING WASHER	M6	ო		B44	SPRING WASHER	M6	4	
ROUND HEAD BOLT         M4X14         2         M4X14         2         B46           SPRING WASHER         M4         2         HY*G05-S-GP1         B47           FLAIN WASHER         M4         2         HY*G05-S-GP1         B48           CAM SWICH         M8100         6         HY*G05-S-GP1         B49           SPRING WASHER         M81         6         HY*G05-S-GP1         B49           SPRING WASHER         M8100         6         HY*G05-S-GP1         B49           SPRING WASHER         M8100         6         HY*G05-S-GP1         B51           OLL CAP         #21         1         HY*G05-S-GP1         B53           OLL CAP         #21         1         KD-2         B54           OLL CAP         #21         1         KD-2         B54           OLL CAP         #21         1         KD-2         B56           SOCKET HEAD BOLT         M6x15         2         RD-2         B56           SOCKET HEAD BOLT         M6x15         2         RD-2         B56           PAWL         M6x15         1         KD-2         B56           SOCKET HEAD BOLT         M6x15         1         KD-2 <tr< td=""><td>B07</td><td></td><td></td><td>1</td><td>KD-2</td><td>B45</td><td>DUST CAP</td><td>Ø20x6</td><td>2</td><td></td></tr<>	B07			1	KD-2	B45	DUST CAP	Ø20x6	2	
SPRING WASHER $M4$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$	B08	ROUND HEAD BOLT	M4x14	2		B46	SOCKET HEAD BOLT	M8x15	З	
PLAIN WASHER $M4$ 2         B48           ICAM SWITCH         M         1         HY-SQ5-S-GP1         B49           CAM SWITCH         M8x100         6         HY-SQ5-S-GP1         B49           SPRING WASHER         M8x100         6         HY-SQ5-S-GP1         B49           SPRING WASHER         M8x100         6         HY-SQ5-S-GP1         B49           SPRING WASHER         M8x100         6         HY-SQ5-S-GP1         B50           OL GAUGE         #21         1         P11/2         B55         B53           OL GAUGE         #21         1         P11/2         B56         B56           SPRING WASHER         M6         2         M0×12         B56         B57           OL GAUGE         #21         1         P11/2         B56         B56           SOCKET HEAD BOLT         M6         2         M0×12         B56         B56           SOCKET HEAD BOLT         M6         7         M0×12         B56         B56           PANL         M10         1         PML Spring         B66         B66           PANL         M10         1         M0×12         B67         B67 <tr< td=""><td>B09</td><td>SPRING WASHER</td><td>M4</td><td>2</td><td></td><td>B47</td><td>SPRING WASHER</td><td>M8</td><td>ო</td><td></td></tr<>	B09	SPRING WASHER	M4	2		B47	SPRING WASHER	M8	ო	
CAM SWITCH         I         HY-SQ5-S-GP1         B49           SPRING WASHER         M8         6         HY-SQ5-S-GP1         B50           SOCKET HEAD BOLT         M8.100         6         HY-SQ5-S-GP1         B50           SOCKET HEAD BOLT         M8.100         6         HX-2         B53           OLCAP $\#21$ 1         PT1/2         B53           OLLCAP $\#21$ 1         HD-2         B53           SOCKET HEAD BOLT         M6         2         HX-Spring         B56           SOCKET HEAD BOLT         M12         1         RUL-Spring         B66           PAWL <ning< td="">         S18         1         RUL-Spring         B66           PAWL<ning< td="">         SOCKET HEAD BOLT         M10X15         1         R04           SOCKET HEAD BOLT&lt;</ning<></ning<>	B10	PLAIN WASHER	M4	2		B48	DC ELECTRIC MAGNETIC BRAKE	DC-90 / DC-190	-	
SPRING WASHER         M8         M8         6         950         850           SCCKET HEAD BOLT         M8x100         6 $$ 851         851           GEAR CASE B $\#21$ 1 $KD-2$ 853         853           OLL CAP $\#21$ 1 $KD-2$ 853         853           OLL GAUGE $\#21$ 1 $KD-2$ 853         853           OLL GAUGE $\#21$ 1 $KD-2$ 853         854           OLL GAUGE $\#21$ 1 $KD-2$ 853         854           SPRING PLATE $M6$ 2 $854$ 854         855           SOCKET HEAD BOLT $M6x15$ 2 $KD-2$ 856         856           SOCKET HEAD BOLT $M6x15$ 2 $KD-2$ 856         869           ANL $M10$ $M12$ $11$ $KD-2$ 866         866           SOCKET HEAD BOLT $M12$ $11$ $KD-2$ 866         866           ANL $KM12$ $11$ $KD-2$ 866         866	B11	CAM SWITCH		-	HY-SQ5-S-GP1	B49	MOTOR GASKET		-	KD-2
SOCKET HEAD BOLT         M8x100         6         B61           GEAR CASE B $\#21$ 1 $KD-2$ B53           OIL CAP $\#21$ 1 $PT1/2$ B53           OIL CAUC $\#21$ 1 $PT1/2$ B53           SPRING WASHER $M6x15$ 2 $KD-2$ Only         B55           SOCKET HEAD BOLT $M6x15$ 2 $KD-2$ Only         B56           SOCKET HEAD BOLT $M6x15$ 1 $RD-2$ Only         B56           RAL         NIN         1 $KD-2$ Only         B56         B56           RAL         NIN $T1$ $KD-2$ Only         B56         B56           RAL         NIN $T1$ $KD-2$ Only         B56         B56           RAL         NIN $T1$ $T1/2$ $R56$ B56           RAL         NIN $M10x15$ <td< td=""><td>B12</td><td>SPRING WASHER</td><td>M8</td><td>9</td><td></td><td>B50</td><td>PINION SHAFT</td><td>Ø25x253</td><td>-</td><td></td></td<>	B12	SPRING WASHER	M8	9		B50	PINION SHAFT	Ø25x253	-	
GEAR CASE B $\#21$ 1 $KD-2$ $B52$ OIL CAP $\#21$ 1 $T1/2$ $B53$ OIL CAP $\#21$ 1 $T1/2$ $B53$ OIL CAD $\#21$ 1 $T1/2$ $B55$ OIL CAUE $\#21$ 1 $KD-2$ $B55$ $B54$ SPRING WASHER $M6$ 2 $ROCKT$ $B55$ $B55$ SPRING WASHER $M6$ 2 $ROCKT$ $B55$ $B56$ SOCKET HEAD BOLT $M6X15$ 2 $T0$ $B56$ $B57$ SOCKET HEAD BOLT $M6X15$ 1 $T0$ $B66$ $B66$ PAWL $T1$ $T1$ $T0$ $B66$ $T1$ PAWL $T0$ $T1$ <t< td=""><td>B13</td><td>SOCKET HEAD BOLT</td><td>M8x100</td><td>9</td><td></td><td>B51</td><td>BALL BEARING</td><td>6303zz</td><td>-</td><td></td></t<>	B13	SOCKET HEAD BOLT	M8x100	9		B51	BALL BEARING	6303zz	-	
0L CAP         #21         1         PT 1/2         B53           0L GAUGE         #21         1         PT 1/2         B54           0L GAUGE         #21         1         ND-2 Only         B55           SPRING WASHER         M6         2         ND-2 Only         B55           SPRING WASHER         M6         2         ND-2 Only         B56           SPRING WASHER         M6         2         ND-2 Only         B56           SPRING WASHER         M6         2         ND-2 Only         B56           SOCKET HEAD BOLT         M6×15         2         ND-2 Only         B56           SNAP RING         SIS         1         ND-2 Only         B56           PAWL         NI         1         ND-2 Only         B61           PAWL         NI         NI         ND-2         B63           SOCKET HEAD BOLT         M12	B14	GEAR CASE B		-	KD-2	B52	BALL BEARING	6305zz	-	
0L GAUGE         #21         1         PT 1/2         B54           CABLE FIXING PLATE         M6         2         KD-2 Only         B55           SPRING WASHER         M6         2         KD-2 Only         B55           SPRING WASHER         M6         2         B57         B56           SOCKET HEAD BOLT         M6x15         2         PAM         B57           SOCKET HEAD BOLT         M6x15         2         PAM         B59           SNAP RING         S18         1         PAML Spring         B56           PAML         N1         1         PAML Spring         B60           PAML         M10         M12         1         PAML Spring         B61           PAML PIN         M12         1         PAML Spring         B61         B63           PAML PIN         M12         1         CD-2         B63         B64           SOCKET HEAD BOLT         M10x1	B15	OIL CAP	#21	-	PT 1/2	B53	COTTER RING	Ø50x Ø34x6.3t	-	
CABLE FIXING PLATE         M         1         KD-2 Only         B55           SPRING WASHER         M6         2         KD-2 Only         B55           SOCKET HEAD BOLT         M6x15         2         B57         B57           SOCKET HEAD BOLT         M6x15         2         HAP         B57           SOCKET HEAD BOLT         M6x15         2         HAP         B57           SNAP RING         S18         1         PAWL         B59           PAWL         N12         1         PAWL Spring         B60           PAWL PIN         M12         1         KD-2         B67           PAWL PIN         M12         1         PAWL Spring         B67           PAWL PIN         M12         1         KD-2         B63           SPRING PIN         M10x15         1         KD-2         B63           SOCKET HEAD BOLT         M10x15         1         KD-2         B63           SOCKET HEAD BOLT         M10x15         1         D1         B63           SOCKET HEAD BOLT         M10x15         1         D1         B63           ROLLER PIN         Ø9.5 / Ø11.2         1         D1         B64	B16	OIL GAUGE	#21	-	PT 1/2	B54	COTTER	R17xR10.5x6.8t	2	
SPRING WASHER         M6         2         B56           SOCKET HEAD BOLT         M6x15         2         B57           SOCKET HEAD BOLT         M6x15         2         B57           GEAR CASE GASKET         M6x15         2         B57           SNAP RING         S18         1         B59           SNAP RING         S18         1         PAWL           AML         N         1         PAWLSpring         B60           PAWL         N12         1         PAWLSpring         B61           PAWL         M10         M12         1         PAWLSpring         B63           PAWL         N10         M12         1         PAWLSpring         B66           PAWL         M10         M12         1         PAWLSpring         B63           SPRING PIN         M10x15         1         D1         B63           SOCKET HEAD BOLT         M10x15         1         D1         B64           ROLLER PIN         Ø9.5 / Ø11.2         1         D1         B65           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B67           STRIPPER         Ø10.5 / Ø11.2         1         B66	B17	CABLE FIXING PLATE		-	KD-2 Only	B55	PINION GEAR	Ø182.78x32	+	2spd.: Ø150x26
SOCKET HEAD BOLT         M6x15         2         B57           GEAR CASE GASKET         1         1         B58           SNAP RING         \$18         1         B58           SNAP RING         \$18         1         B59           SNAP RING         \$18         1         B59           ANL         NUL         \$10         1         B59           PAWL         MAL         M10         1         B61           PAWL         M10         1         NML Spring         B60           PAWL         M10         1         NML Spring         B61           PAWL         M10         0         1         NML Spring         B63           SPRING PIN         M10×15         1         NML Spring         B66           SOCKET HEAD BOLT         M10×15         1         NML Spring         B66           NOLLER         M10×15         1         NML Spring         B66         B66           SOCKET HEAD BOLT         M10×15         1         NML Spring         B66         B66           SOCKET HEAD BOLT         M10×16         M10×16         M10         B66         B66           SOCKET HEAD BOLT         M10×16	B18	SPRING WASHER	M6	2		B56	RATCHET WHEEL LINING	T3.8xØ145xØ92	2	2spd.: T1.3xØ133xØ80
GEAR CASE GASKET         1         1         558           SNAP RING         \$18         1         PAWL         \$59           SNAP RING         \$18         1         PAWL Spring         \$59           PAWL         \$10         1         PAWL Spring         \$50           PAWL         \$10         \$1         PAWL Spring         \$50           PAWL         \$10         \$1         \$1         \$66           PAWL         \$10         \$1         \$1         \$66           PAWL         \$10         \$1         \$1         \$66           PAWL         \$10         \$1         \$66         \$66           PAWL         \$10         \$66×20         \$1         \$66           Spring PIN         \$66×20         \$1         \$66         \$66           Socket HEAD BOLT         \$10         \$1         \$1         \$66           Socket HEAD BOLT         \$05.011.2         \$1         \$66         \$66           Socket HEAD BOLT         \$09.5 / \$11.2         \$1         \$66         \$66           Socket HEAD BOLT         \$00.5 / \$11.2         \$1         \$66         \$66           Socket HEAD BOLT         \$0.5 / \$011.2	B19	SOCKET HEAD BOLT	M6x15	2		B57	BUSH	Ø90xØ79x16	٢	
SNAP RING         S18         1         E59           PAWL         PAWL         1         PAWLSpring         B59           PAWL         PAWL         1         PAWLSpring         B60           PAWL         M12         1         PAWLSpring         B61           PAWLPIN         M12         1         PAWLSpring         B61           FYE BOLT         M12         1         KD-2         B63           SPRING PIN         Ø52/Ø11.2         1         KD-2         B63           SOCKET HEAD BOLT         M10x15         1         Oil Drain         B66           CHAIN GUIDE         Ø9.5 / Ø11.2         1         Did Prain         B66           ROLLER PIN         Ø8x55         1         Oil Drain         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66           STRIPER         Ø1.0         M10x30         4         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66         B66           ROLLER PIN         Ø1.0         Ø1.0         B70         B70         B	B20	GEAR CASE GASKET		-		B58	RATCHET WHEEL	Ø160xØ89.8x13	٢	2spd.: Ø143xØ77x13
PAWL         TAWLSpring         B60           PAWLPIN         1         PAWLSpring         B60           PAWLPIN         1         1         B61         B61           EVE BOLT         M12         1         KD-2         B63         B63           GEAR CASE A         M12         1         KD-2         B63         B63           SPRING PIN         Ø6x20         1         KD-2         B63         B63           SOCKET HEAD BOLT         M10x15         1         CII Ann GUIDE         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         CII Ann GUIDE         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         D10 Ann         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         D10 Ann         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         D10 Ann         B66	B21	SNAP RING	S18	-		B59	PRESSURE PLATE	Ø145x29	-	2spd.: Ø133x29
PAWL PIN         1         1         161           EYE BOLT         M12         1         KD-2         B63           EYE BOLT         M12         1         KD-2         B63           GEAR CASE A         M12         1         KD-2         B63           SPRING PIN         Ø6x200         1         B65         B63           SOCKET HEAD BOLT         M10x15         1         D01 Drain         B65           CHAIN GUIDE         Ø9.5 / Ø11.2         1         D01 Drain         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66           STRIPPER         Ø10.0         Ø1.2         1         B69         B66           STRIPER         M10030         4         High-Tension         B70         B70           SOCKET HEAD BOLT         M10x30         2         UNIT SHAT         B74         B73           LIMIT SHAFT         Ø2.5.570         2         UD Point </td <td>B22</td> <td>PAWL</td> <td></td> <td>-</td> <td>PAWL Spring</td> <td>B60</td> <td>2nd PINION</td> <td>2T / 3T / 5T</td> <td>-</td> <td></td>	B22	PAWL		-	PAWL Spring	B60	2nd PINION	2T / 3T / 5T	-	
EYE BOLT       M12       1       KD-2       B62         GEAR CASE A       1       KD-2       B63         SPRING PIN       Ø6x20       1       KD-2       B63         SOCKET HEAD BOLT       M10x15       1       OID Drain       B65         CHAIN GUIDE       Ø9.5 / Ø11.2       1       OID Drain       B66         ROLLER PIN       Ø8x55       1       B66       B67         ROLLER PIN       Ø9.5 / Ø11.2       1       B66       B67         STRIPPER       Ø10.5 / Ø11.2       1       B66       B68         SOCKET HEAD BOLT       M10x30       4       High-Tension       B70         LIMIT SPRING       Ø5.5 x70       2       B70       B71       B74         LIMIT SPRING       Ø9.5 / Ø11.2       1       B74       B74         LIMIT SHAFT       Ø20x243       1       B74       B74         HOISTING MOTOR       A       DIOPoint       B75 <td< td=""><td>B23</td><td>PAWL PIN</td><td></td><td>-</td><td></td><td>B61</td><td>BALL BEARING</td><td>6306zz</td><td>-</td><td></td></td<>	B23	PAWL PIN		-		B61	BALL BEARING	6306zz	-	
GEAR CASE A       1       KD-2       B63         SPRING PIN       Ø6x20       1       KD-2       B63         SPRING PIN       Ø6x20       1       B64       B64         SOCKET HEAD BOLT       M10x15       1       Oil Drain       B65         ROLLER PIN       Ø9.5 / Ø11.2       1       B66       B67         STRIPPER       Ø9.5 / Ø11.2       1       B66       B68         NOLLER       Ø9.5 / Ø11.2       1       B69       B70         SORET HEAD BOLT       M10x30       4       High-Tension       B71         LIMIT SPRING       Ø5.5x70       2       Immore B71       B72         LIMIT SPRING       Ø5.5x70       2       Unbriton       B73         LIMIT SHAFT       Ø20x243       1       E00 Point       B74         LIMIT SHAFT       Ø20x243       1       M10x10       B74         ADOR       SOCKET HEAD STOP BOLT       M830       Cup Point       B75 <td>B24</td> <td>EYE BOLT</td> <td>M12</td> <td>-</td> <td></td> <td>B62</td> <td>2nd PINION GEAR SHAFT</td> <td>Ø28x76</td> <td>۲</td> <td>2spd. Only</td>	B24	EYE BOLT	M12	-		B62	2nd PINION GEAR SHAFT	Ø28x76	۲	2spd. Only
SPRING PIN         Ø6x20         1         b64           SOCKET HEAD BOLT         M10x15         1         0il Drain         B65           CHAIN GUDE         Ø9.5 / Ø11.2         1         0il Drain         B65           ROLLER PIN         Ø9.5 / Ø11.2         1         B65         B65           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B65           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B67           STRIPPER         Ø9.5 / Ø11.2         1         B68         B67           STRIPER         Ø9.5 / Ø11.2         1         B68         B69           STRIPER         Ø9.5 / Ø11.2         1         B69         B70           SOCKET HEAD BOLT         M10x30         4         High-Tension         B71           LIMIT SPRING         Ø5.5 / Ø11.2         1         B72         B73           LIMIT HANDLE         Ø9.5 / Ø11.2         1         B74         B74           LIMIT SHAFT         Ø20x243         1         B74         B74           SOCKET HEAD STOP BOLT         M8300         2         Cup Point         B75           HOISTING         M830         2         Cup Point         B7	B25	GEAR CASE A		+	KD-2	B63	2nd PINION GEAR	Ø79.36x44	٢	2spd. Only
SOCKET HEAD BOLT         M10x15         1         Oil Drain         B65           CHAIN GUIDE         Ø9.5 / Ø11.2         1         Oil Drain         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66         B66           ROLLER PIN         Ø9.5 / Ø11.2         1         B66         B66         B66           STRIPPER         Ø9.5 / Ø11.2         1         Proper         B69         B70           STRIPPER         Ø9.5 / Ø11.2         1         Proper         B70         B70           SOCKET HEAD BOLT         M10x300         4         High-Tension         B71         B70           LIMIT SPRING         Ø5.5x700         2         Proper         B72         B73         B74           LIMIT SPRING         Ø5.6x701         2         Cup Point         B73         B74         B74           LIMIT SHAFT         Ø20x243         1         Eventor         B75         B76         B76           ALMIT SHAFT         Ø20x243         2         Cup Point         B76         B76         B76           HOISTING MOTOR	B26	SPRING PIN	Ø6x20	-		B64	NEEDLE BEARING	HK1516	2	2spd. Only
CHAIN GUIDE       Ø9.5 / Ø11.2       1       B66         ROLLER PIN       Ø8x55       1       B67         ROLLER PIN       Ø8x55       1       B67         ROLLER       Ø9.5 / Ø11.2       1       B67         STRIPPER       Ø9.5 / Ø11.2       1       B68         STRIPER       Ø9.5 / Ø11.2       1       B69         STRIPER       Ø1.0       4       B69         SPRING WASHER       M10       4       B70         SOCKET HEAD BOLT       M10x300       4       High-Tension         LIMIT SPRING       Ø5.5x700       2       B73         LIMIT HANDLE       Ø9.5 / Ø11.2       1       B73         LIMIT SHAFT       Ø2.0x243       1       B74         SOCKET HEAD STOP BOLT       M8x30       2       Cup Point       B75         HOISTING MOTOR       M8x30       2       Cup Point       B75	B27	SOCKET HEAD BOLT	M10x15	1	Oil Drain	B65	SPRING PIN	Ø10x20	2	2spd. Only
ROLLER PIN         Ø8x55         1         B67           ROLLER         ROLLER         Ø9.5 / Ø11.2         1         B68           STRIPPER         Ø9.5 / Ø11.2         1         B68         B69           STRIPER         Ø9.5 / Ø11.2         1         B69         B69           SPRING WASHER         Ø10.0         4         B69         B70           SOCKET HEAD BOLT         M10x30         4         High-Tension         B71           LIMIT SPRING         Ø5.5x70         2         B72         B73           LIMIT SPRING         Ø5.5x70         2         B73         B73           LIMIT HANDLE         Ø2.5x70         2         Cup Point         B73           LIMIT SARFT         Ø2.5x70         2         Cup Point         B73           LIMIT SHAFT         Ø2.5x70         2         Cup Point         B74           ALLIMIT SHAFT         Ø2.5x70         2         Cup Point         B74           HOISTING MOTOR         A         1         Y         Y	B28	CHAIN GUIDE	•	+		B66	SUPPORTER		1	2spd. Only
ROLLER         Ø9.5 / Ø11.2         1         B68           STRIPPER         Ø9.5 / Ø11.2         1         B69           STRIPER         Ø9.5 / Ø11.2         1         B69           SPRING WASHER         M10         4         B70           SOCKET HEAD BOLT         M10x30         4         High-Tension         B71           LIMIT SPRING         Ø5.5x70         2         M10         B72         B73           LIMIT HANDLE         Ø9.5 / Ø11.2         1         B73         B73         B73           LIMIT SPRING         Ø5.5x70         2         Cup Point         B73         B73           LIMIT SPRING         Ø2.5x70         2         Cup Point         B73         B73           LIMIT SHAFT         Ø2.0x243         1         EVENDING         B74         B74           ADSCKET HEAD STOP BOLT         M8x30         2         Cup Point         B75         B76	B29	ROLLER PIN	Ø8x55	1		B67	SPRING WASHER	M6	3	2spd. Only
STRIPER       Ø9.5 / Ø11.2       1       B69         SPRING WASHER       M10       4       B70         SOCKET HEAD BOLT       M10x30       4       B70         LIMIT SPRING       Ø5.5x70       2       B71         LIMIT HANDLE       Ø9.5 / Ø11.2       1       B73         LIMIT SHAFT       Ø9.5 / Ø11.2       1       B73         LIMIT SHAFT       Ø9.5 / Ø11.2       1       B73         LIMIT SHAFT       Ø2.0x243       1       B73         LIMIT SHAFT       Ø2.0x243       1       B74         ALSTNG MOTOR       M8x30       2       Cup Point       B75	B30	ROLLER	Ø11.	1		B68	SOCKET HEAD BOLT	M6x40	3	2spd. Only
SPRING WASHER         M10         4         B70           SOCKET HEAD BOLT         M10x30         4         High-Tension         B71           LIMIT SPRING         Ø5.5x70         2         High-Tension         B72           LIMIT SPRING         Ø5.5x70         2         B73         B73           LIMIT HANDLE         Ø9.5 / Ø11.2         1         B73         B73           LIMIT SHAFT         Ø20x243         1         B74         B74           NOXKET HEAD STOP BOLT         M8x30         2         Cup Point         B75           HOISTING MOTOR         1         TOL         T         T6         T6	B31	STRIPPER	-	1		B69	SNAP RING	S45	-	
SOCKET HEAD BOLT         M10x30         4         High-Tension         B71           LIMIT SPRING         Ø5.5x70         2         High-Tension         B72           LIMIT HANDLE         Ø5.5x70         2         B73         B73           LIMIT HANDLE         Ø9.5 / Ø11.2         1         B73         B73           LIMIT SHAFT         Ø2.0x243         1         B74         B74           SOCKET HEAD STOP BOLT         M8x30         2         Cup Point         B75           HOISTING MOTOR         1         SOCKET         B76         S76	B32	SPRING WASHER	M10	4		B70	LOAD GEAR	2T / 3T / 5T	-	
LIMIT SPRING         Ø5.5x70         2         B72           LIMIT HANDLE         Ø9.5 / Ø11.2         1         B73           LIMIT SHAFT         Ø9.5 / Ø11.2         1         B73           SOCKET HEAD STOP BOLT         Ø8x30         2         Cup Point         B75           HOISTING MOTOR         1         M8x30         2         Cup Point         B75	B33	SOCKET HEAD BOLT	M10x30	4	High-Tension	B71	BALL BEARING	6010zz	1	
LIMIT HANDLE         Ø9.5 / Ø11.2         1         B73           LIMIT SHAFT         Ø20x243         1         B74           SOCKET HEAD STOP BOLT         M8x30         2         Cup Point         B75           HOISTING MOTOR         1         M8x30         2         M76         M76	B34	LIMIT SPRING	Ø5.5x70	2		B72	OIL RETAINER	58x80x12	-	
LIMIT SHAFT         Ø20x243         1         B74           SOCKET HEAD STOP BOLT         M8x30         2         Cup Point         B75           HOISTING MOTOR         1         R76         R76         R76	B35	LIMIT HANDLE		-		B73	LOAD SHEAVE	Ø9.5 / Ø11.2	-	
SOCKET HEAD STOP BOLT         M8x30         2         Cup Point         B75           HOISTING MOTOR         1         R76         R76	B36	LIMIT SHAFT	Ø20x243	-		B74	OIL RETAINER	25x40x8	-	
HOISTING MOTOR B76	B37	SOCKET HEAD STOP BOLT	M8x30	2	Cup Point	B75	BALL BEARING	6211zz	-	
	B38	HOISTING MOTOR		-		B76	SNAP RING	R100	-	



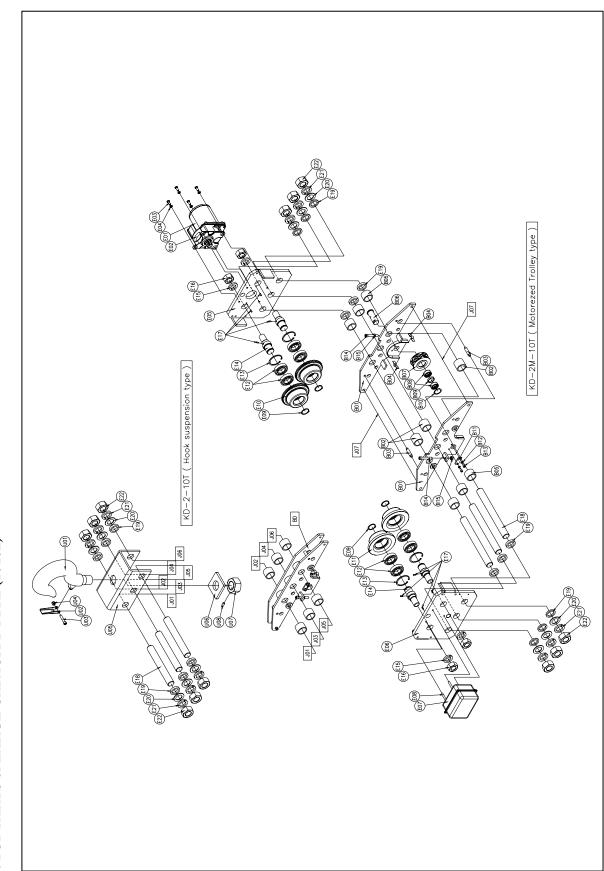
# 7-3. TROLLEY ASSEMBLY

	DADT NAME		SIZE		) T,C			TAPT NAME		SIZE		)T(	
.0N		2T	3(2.8)T	5T	ב כ	REMARK	PARI NO.		2T	3(2.8)T	5T	ב כ	REMARK
E01	TAP SCREW		M4x10		4		E26	SPRING WASHER			M30	4	5Ton Only
E02	SWITCH HOLDER COVER	×	KMT-0.4kw		1		E27	Hex. NUT			M30	4	5Ton Only
E03	SWITCH HOLDER GASKET	×	KMT-0.4kw		1		E28	SPRING PIN			Ø6x20	8	5Ton Only
E04	ROUND HEAD BOLT		M4x15		4		E29	OUT PINION		Ø35x102		1	
E05	SPRING WASHER		M4		4		E30	SNAP RING		R52		1	
E06	MAGNETIC CONTACTOR		DMH 10		1		E31	REDUCER CASE		KMT-0.4kw	,	1	
E07	SOCKET HEAD BOLT		M6x45		3		E32	SPRING WASHER		M10		4	
E08	SPRING WASHER		M6		3		E33	Hex. HEAD BOLT		M10x25		4	
E09	CABLE GRAND	NE	NEC-01-20A		2	Hole cover : 1ea	E34	BALL BEARING		6205zz		2	
E10	SWITCH HOLDER	×	KMT-0.4kw		1		E35	REDUCER COLLAR	8	Ø34x3.4tx9L		1	
E11	STAY PIPE	ØØ	Ø6.5Xø10X28L	L	3		E36	PINION GEAR	12m/min:@1;	12m/min:Ø123.2x16 / 24m/min:Ø63.4x16	iin:Ø63.4x16	1	
E12	PLAIN SIDE PLATE	T12x296x217	T16x337x255	T20x384x300	1		E37	SNAP RING		S25		1	
E13	PLAIN SIDE COLLAR PIPE	Ø 48.6x7.1tx47L	Ø60.5x8.7tx49.5L	Ø 76.3x10.4b82.5L	1		E38	TROLLEY GASKET		KMT-0.4kw	/	1	
E14	SOCKET HEAD BOLT		M8x15		1	CUP POINT	E39	RDUCER COVER	-	KMT-0.4kw	,	1	
E15	STAY PIN		Ø12x42		4		E40	TRAVERSING MOTOR		0.4kw x 4P		1	
E16	GEAR SIDE COLLAR PIPE	Ø 48.6x7.1tx47L	Ø60.5x8.7tx49.5L	Ø 76.3x10.4b82.5L	1		E41	SPRING WASHER	M10			4	
E17	SOCKET HEAD BOLT	M10x65	M12x90	M12x90	1	High-Tension	E42	SOCKET HEAD BOLT	M10x30			4	
E18	Hex. LOCK NUT	M10	M12	M12	1		E43	STAY BOLT	Ø35x300	Ø42x325	Ø55x370	1	
E19	GEAR SIDE PLATE	T12x296x217	T16x337x255	T20x384x300	1		E44	SPLIT PIN	Ø4x55	Ø4x65	Ø4x65	1	
E20	SNAP RING	R62	R72	R85	4		E45	COLLAR	T12.5x048.6x036.8	T12.5x000.5x043	T12.5xØ70xØ 57	4	
E21	BALL BEARING	6305zz	6306zz	6209zz	4		E46	HANGER				1	
E22	PLAIN WHEEL	Ø135.8	Ø156.8	Ø180.9	2		E47	PLAIN WASHER	M30	M36	M42	1	
E23	GEARED WHEEL	Ø135.8	Ø156.8	Ø180.9	2		E48	SPRING WASHER	M30	M36	M42	1	
E24	SNAP RING	S25	S30	S45	4		E49	Hex. NUT	M30	M36	M42	2	
E05	WHEEL DIN	MADVER	M44v81	Ø55v112	Ч								



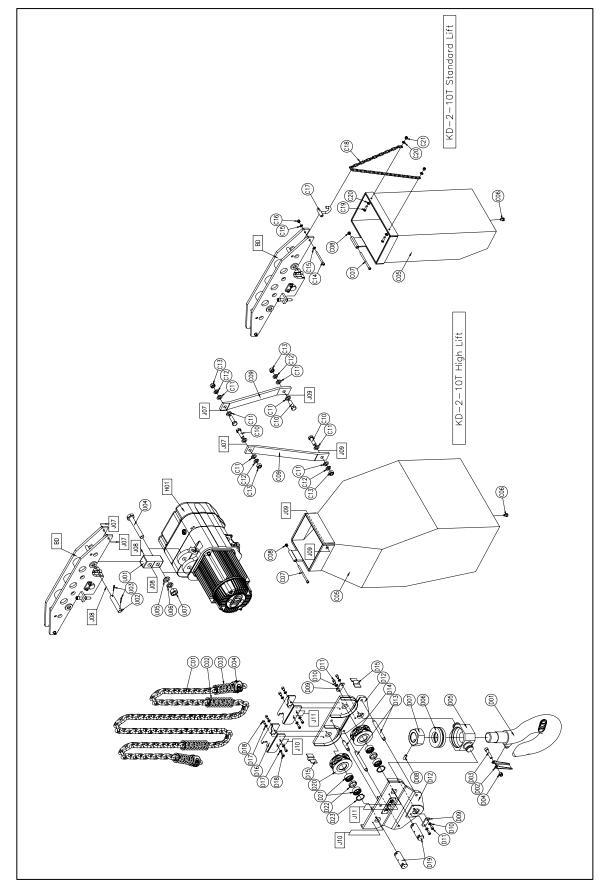


Parti No.			SIZE		, H	
TOP HOOK         IOP HOOK         IO         IOP         IO         IOP         IOP <thidp< th="">         IOP         IOP         <thi< th=""><th></th><th></th><th>2T 3(2.8)T</th><th>T 5T</th><th>ב כ</th><th>KEMARK</th></thi<></thidp<>			2T 3(2.8)T	T 5T	ב כ	KEMARK
TOP HOLDER         I <th< td=""><td></td><td>SAFETY LATCH &amp; SPRING</td><td></td><td></td><td></td><td></td></th<>		SAFETY LATCH & SPRING				
Hex. HEAD BOLT         Tea         2ea         2ea         -         Imple instant         L03           PLAIN WASHER         1ea         2ea         2ea         -         M22         C01           FRING WASHER         1ea         2ea         2ea         -         M22         C01           Hex. NUT         1ea         2ea         2ea         -         M22         C01           Hex. NUT         1         1ea         2ea         2ea         -         M22         C01           Hex. LUCK NUT         -         M1260         N12.60         N12.60         1         M01         C02           Hex. LUCK NUT         -         M12         M12         1         C03         C03           Hex. LUCK NUT         -         M12         M12         1         C03         C04           Hex. LUCK NUT         -         M12         M12         1         C04         C05           Hex. NUT         -         M30         M36         1         C04         C05           Hex. NUT         -         M30         M36         1         C06         C07           Hex. NUT         -         M30         M36         <	L02	ROUND HEAD BOLT	M4x25 M4x30	0 M4x30	-	
PLAIN WASHER         1ea         2ea         2ea         -         M22         C01           Hex. NUT         1ea         2ea         2ea         -         M22         C01           Hex. NUT         1ea         2ea         2ea         -         M22         C01           Hex. NUT         1ea         2ea         2ea         -         M22         C01           Hex. LOCK NUT         -         M12x60         M12         M12         1         High-Tension         C03           Hex. LOCK NUT         -         M12         M12         1         High-Tension         C03           Hex. LOCK NUT         -         M12         M12         1         C04         C04           Hex. NUT         -         M12         M12         1         C03         C01           Hex. NUT         -         M12         M12         1         C04         C05           BOTTOM HOOK         #51105         #51106         #2908         1         C07         C07           Hex. NUT         042x19         047x24         -         2         116         C06         C07           BOTTOM HOLDER         11a         21all Only         <	L03	Hex. LOCK NUT	M4 M4	M4	-	
SPRING WASHER         1ea         2ea         2ea         -         M22         C01           Hex. NUT         1ea         2ea         2ea         -         M22         C02           Hex. HEAD BOLT         -         M12x60         M12x60         1         Hqn <sup>-Tension</sup> C03           Hex. HEAD BOLT         -         M12         M12         M12         1         C02         C02           Hex. LOCK NUT         -         M12         M12         1         Hqn <sup>-Tension</sup> C03           BOTTOM HOCK         -         M12         M12         1         C04         C04           Hex. NUT         -         M12         M12         1         C04         C05           BOTTOM HOCK         #51105         #51106         #2908         1         C06         C07           Hex. NUT         042419         #2         M36         1         C06         C06           Hex. NUT         04241         2         M36         1         C06         C07           Hex. NUT         04241         2         2         141         C01         C06           IDLE SHEAVE         04241         2         2 <td< td=""><td>M22</td><td></td><td></td><td></td><td></td><td></td></td<>	M22					
Hex. NUT         1ea         2ea         2ea         -         M22         C02           Hex. HEAD BOLT         -         M12 x60         M12x60         M12x60         To         M02         C02           Hex. LOCK NUT         -         M12         M12         M12         To         M02         C03           Hex. LOCK NUT         -         M12         M12         M12         T         M02         C04           BOTTOM HOOK         +         M12         M12         M12         M12         C04         C04           Hex. NUT         -         M12         M12         M12         M12         C05         C05           Hex. NUT         -         M12         M12         M12         M12         C05         C05           Hex. NUT         -         M12         M12         M12         M12         C05         C05           Hex. NUT         -         M30         #51105         #51105         #51105         #200         C05         C05           Hex. NUT         -         M30         M36         1         C06         C07         C07           Hex. NUT         -         M30         M36         - </td <td>C01</td> <td>CHAIN BUCKET</td> <td></td> <td></td> <td><del>, -</del></td> <td></td>	C01	CHAIN BUCKET			<del>, -</del>	
Hex. HEAD BOLT          M12x60         M12x60         1         High-Tension         C03           Hex. LOCK NUT          M12         M12         1         High-Tension         C03           Hex. LOCK NUT          M12         M12         1         P         C04           BOTTOM HOOK          M12         M12         1         C07         C04           BOTTOM HOOK         #51105         #51106         #5908         1         C06         C06           Hex. NUT          M30         M36         1         C06         C06           Hex. NUT          M30         M36         1         C06         C07           Hex. NUT          M30         M36         1         C06         C06           Hex. NUT          M30         M36         1         C06         C07           Hex. NUT          M30         M36         1         C06         C06           IDLE SHEAVE         1601         2101         2101         C1         C08         C06           IDLE SHEAVE         1         2141         C11         C1         C1<	C02	Hex. HEAD BOLT				OIL DRAIN BOLT
Hex.LOCK NUT          M12         M12         M12         T         C04           BOTTOM HOCK         F51105         #51106         #51106         #51106         #51106         #5100         206           THRUST BEARING         #51105         #51106         #51106         #51106         #51106         #5100         200         206           Hex. NUT          M30         M36         1         200         200           Hex. NUT          M30         M36         1         200         200           Hex. NUT          M30         M36         1         200         200           IDE SHEAVE         #51105         #5105         #12         21         201         207           IDLE SHEAVE         042x19         047x24          2         1410 Only         202           IDLE SHEAVE         04306         2         011.2         1         2410 Only         202           IDLE SHEAVE         04306         2         111.2         1         2410 Only         202           IDLE SHEAVE         04306         2         14306         2         1400 N         200           ID	C03	CHAIN BUCKET RING			<del>, -</del>	
Image: constraint of		CHAIN BUCKET PIN			2	
BOTTOM HOOK         #51105         #51106         #2908         1         C06           THRUST BEARING         #51105         #51106         #2908         1         C07           Hex. NUT         -         M30         M36         1         C07         C07           Hex. NUT         2         M30         M36         1         C07         C07           Hex. NUT         2         M30         M36         1         C07         C08           IDLE SHEAVE         2         M30         M36         1         2         0           IDLE SHEAVE         1         2fall         2         2         0         2           IDLE SHEAVE         2         0         2         1         2         0           IDLE SHEAVE         -         2         0         1         2         0           IDLE SHEAVE         -         2         0         1         2         0         0           IDLE SHEAVE         -         2         0         1         2         1         0         0         0           IDLE SHEAVE         -         2         0         1         2         0         0<		CHAIN STOP HOLDER	2	4	I	
THRUST BEARING         #51105         #51106         #5106         #5106         #5106         #5008         1         C07           Hex. NUT         -         M30         M36         1         C07         C08           Hex. NUT         -         M30         M36         1         C08         C08           Hex. NUT         2         M30         M36         1         C08         C08           COTTER         Ø42x19         Ø47x24          2         1fall Only         C08           BOTTOM HOLDER         1 fall         Zfall         Zfall         2         Zfall         P         P01           IDLE SHEAVE         1         Zfall         Zfall         Z         Zfall Only         P02           IDLE SHEAVE         -         Ø25x93         Ø35x96         1         Zfall Only         P02           IDLE SHEAVE         -         Ø25x93         Ø35x96         Z         Zfall Only         P02           IDLE SHEAVE         -         Ø35x96         R11.2         Z         Zfall Only         P02           IDLE SHEAVE         -         R9490         Z         Zfall Only         P02           IDLE SHEAVE COLLAR		SOCKET HEAD BOLT	2ea 4ea	4ea	I	M8x35
Hex. NUT          M30         M36         1         C08           COTTER         202719         247x24          2         1fall Only         C08           DEDTOM HOLDER         11all         2fall         2fall         2         1         P01           DLE SHEAVE         11all         2fall         2fall         2         P01         P01           IDLE SHEAVE         11all         2fall         2         1         2         P01           IDLE SHEAVE         2         255x93         255x93         255x93         255x93         275all Only         P01           IDLE SHEAVE          2         201.2         1         2         P01           IDLE SHEAVE          29.5         211.2         1         2         P01           IDLE SHEAVE          29.5         211.2         1         2         P01           IDLE SHEAVE          29.5         211.2         1         2         2           IDLE SHEAVE          29.5         211.2         1         2         2           IDLE SHEAVE          29.5         1         2		Hex. LOCK NUT	2ea 4ea	4ea	I	M8
COTTER         Ø42x19         Ø47x24          2         Ital Only         P01           BOTTOM HOLDER         1 fail         2 fail         2 fail         2 fail         2         1 fail         P01           BOTTOM HOLDER         1 fail         2 fail         2 fail         2         2         P01           IDLE SHEAVE         -         02.5x93         035x98         1         2 fail Only         P02           IDLE SHEAVE         -         02.5         011.2         1         2 fail Only         P02           IDLE SHEAVE         -         02.5         011.2         1         2 fail Only         P02           IDLE SHEAVE         -         02.5x93         035x98         7 ha4906         2         7         2           IDLE SHEAVE         -         02.5x9146         1         2 fail Only         P02         2           IDLE SHEAVE         -         87.04446         1         1         2 fail Only         2           IDLE SHEAVE         -         87.04446         1         1         2         2         2           IDLE SHEAVE         -         87.04466         1         1         2         2         2		AD CHAIN	Ø9.5 Ø11.2	2 Ø11.2	I	
BOTTOM HOLDER         Itali         2tali         2tali         2tali         2tali         2tali         P01           IDLE SHEAVE PIN          @25x93         @35x98         1         2fall Only         P02           IDLE SHEAVE          @25x93         @35x98         1         2fall Only         P02           IDLE SHEAVE          @9.5         @11.2         1         2fall Only         P02           NEEDLE BEARING          @9.5         @11.2         1         2fall Only         P02           NEEDLE BEARING          @9.5         @11.2         1         2fall Only         P02           NEEDLE BEARING          @9.5         @11.2         1         2fall Only         P02           NAP RING          R37         R47         1         2fall Only         P03           SOCKET HEAD BOLT         M8x30          2         1fall Only         P04           Hex. LOCK NUT         M8         M8          2         1fall Only         P04           SOCKET HEAD BOLT         -         M8x50          2         1fall Only         P14           KEY PLATE	1 fall Only					
IDLE SHEAVE PIN          Ø25x93         Ø35x96         1         Zfall Only         P02           IDLE SHEAVE          Ø9.5         Ø11.2         1         2fall Only         P02           IDLE SHEAVE          Ø9.5         Ø11.2         1         1         2fall Only         P02           NEEDLE BEARING          RN4906         2         RNA4906         2         2         2           NEEDLE BEARING          RN44904         RNA4906         2         1         2         2         2           NOP RING          R37         R47         1         2		PUSH BUTTON			<b>.</b>	3P, 5P, 7P
IDLE SHEAVE     Ø9.5     Ø11.2     1       NEEDLE BEARING     -     RNA4904     RNA4906     2       NEEDLE BEARING     -     RNA4904     RNA4906     2       IDLE SHEAVE COLLAR     -     877     R47     1       SNAP RING     -     R37     R47     1       SNAP RING     -     R37     R47     1       SOCKET HEAD BOLT     M8x30     M8x30     -     2       Hex. LOCK NUT     M8     M8     -     2       SOCKET HEAD BOLT     -     M8x50     -     2       KEY PLATE     -     M8x50     4     1       SOCKET HEAD BOLT     -     M8x50     4     2       REY PLATE     -     M8x50     10     2       SOCKET HEAD BOLT     -     M8x50     4     2       SOCKET HEAD BOLT     -     M8x50     4     2       KEY PLATE     -     M8x50     10     4       SOCKET HEAD BOLT     -     M8x50     4     2       KEY PLATE     -     M8x50     10     2       SOCKET HEAD BOLT     -     M8x50     4     2       KEY PLATE     -     -     M8x50     4	P02	CONTROL CABLE			I	
NEEDLE BEARING         -         RNA4904         RNA4906         2           IDLE SHEAVE COLLAR         -         807/044/81         1         1           IDLE SHEAVE COLLAR         -         807/044/81         1         1           SNAP RING         -         R37         R47         1         1           SOCKET HEAD BOLT         M8x30         M8x30         -         2         2           Hex. LOCK NUT         M8         M8         -         2         2           KEV PLATE         -         M8x50         M8x50         4         2           SOCKET HEAD BOLT         -         M8x50         4         2         2           Rev PLATE         -         M8x50         M8x50         4         2           SPRING WASHER         -         M8x50         4         2         2						
IDLE SHEAVE COLLAR         -         027.0604:001         037.0604:061         1           SNAP RING         -         837         R47         1           SOCKET HEAD BOLT         M8x30         M8x30         -         2           Hex. LOCK NUT         M8         M8         -         2           KEY PLATE         -         M8x50         44         2           SOCKET HEAD BOLT         M8         M8         -         2           Hex. LOCK NUT         M8         M8         -         2           SOCKET HEAD BOLT         -         M8x50         4         2           SOCKET HEAD BOLT         -         M8x50         4         2           SOCKET HEAD BOLT         -         M8x50         4         2           KEY PLATE         -         M8x50         4         2           SPRING WASHER         -         M83         2         3						
SNAP RING         -         R37         R47         1           SOCKET HEAD BOLT         M8x30         M8x30         -         2           Hex. LOCK NUT         M8         M8         -         2           Key PLATE         M8         M8         -         2           Key PLATE         -         M8x50         44         -           Socket HEAD BOLT         -         M8x50         43         -           Socket HEAD BOLT         -         M8x50         M8x50         4           Socket HEAD BOLT         -         M8x50         M8x50         4           Key PLATE         -         M8         M8         2         2           Socket HEAD BOLT         -         M8x50         M8x50         4         2						
SOCKET HEAD BOLT         M8x30         M8x30         -         2           Hex. LOCK NUT         M8         M8         -         2           Nex. LOCK NUT         M8         M8         -         2           KEY PLATE         -         M8x50         44         2           KEY PLATE         -         M8x50         48         2           SPRING WASHER         -         M8x50         48         2						
Hex. LOCK NUT         M8         M8         -         2           SOCKET HEAD BOLT         -         M8x50         M8x50         4           KEY PLATE         -         T6x60x25         T6x60x25         1           SPRING WASHER         -         M8x         M8x         2	1 fall Only					
SOCKET HEAD BOLT         -         M8x50         M8x50         4           KEY PLATE         -         T6x60x25         T6x60x25         1           SPRING WASHER         -         M8         M8         2	1 fall Only					
KEY PLATE         -         T6x60x25         T6x60x25         1           SPRING WASHER         -         M8         M8         2           SOCULET LIEAD DOLT         -         M004.6         M004.6         0	2fall Only					
SPRING WASHER - M8 M8 2 SOCIET LIEAD POLT	2fall Only					
	2fall Only					
	2fall Only					
D17 BOTTOM HOOK SPRING Ø6.2x151 1 1						
D18 TAIL SPRING Ø6.2x102 1 1						



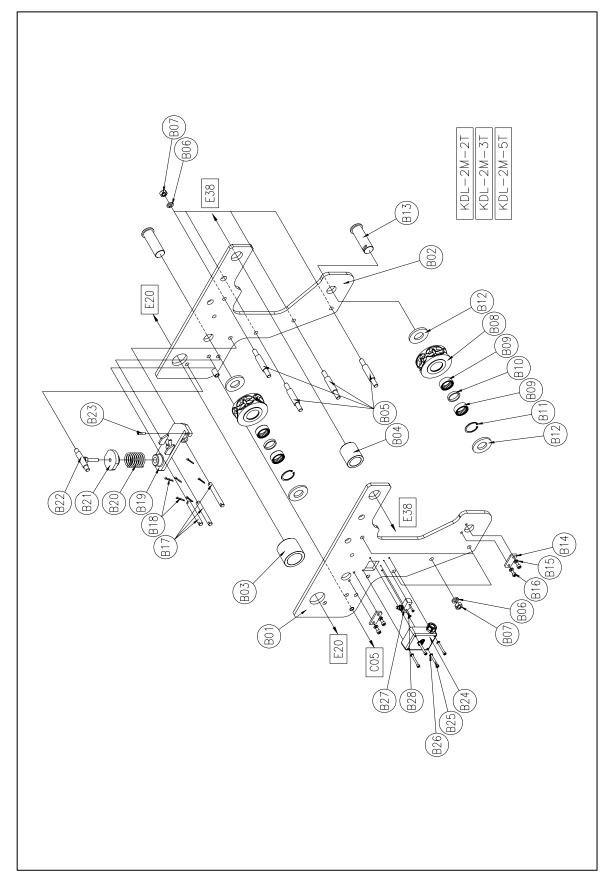


REMARK	Monorail type	Hook suspension type						with SAFETY LATCH SPRING					TOP HOOK NUT																					
Q'TY	12	9	9	9	9		-	-	-	-	1	-	-	-		-																		
SIZE	Ø60.5xØ43.5x12.5T	Ø60.5xØ43.5x12.5T	M42	M42	M42		10Ton	10Ton	M12x60	M12	10Ton	T15x120x120	M56	M12x30		10 Ton																		
PART NAME	COLLAR	COLLAR	PLAIN WASHER	SPRING WASHER	Hex. NUT		тор ноок	SAFETY LATCH	SOCKET HEAD BOLT	Hex. LOCK NUT	TOP HOLDER	TOP HOLDER SUPPORTER	Hex. NUT	SOCKET HEAD STOP BOLT		TOP HOLDER Ass'y	TOP HOLDER-STAY BOLT	TOP HOLDER-CHAIN BUCKET PIN																
PART No.	E19		E20	E21	E22		U01	U02	003	U04	002	90N	U07	U08		BD	J01	J02	203	J04	J05	90F	20ſ											
REMARK				for TOP HOLDER	Monorail type	Hook suspension type	for TOP HOLDER																											Monorail type
Q'TY	2	3	2	2	6	9	+	+	0	-	1	-	N	2	0	2	1	-	4	4	+	-	+	С	4	2	2	8	4	4	4	4	8	e
SIZE	T12x770x220	Ø60.5x5.5tx51	Ø16x71	T1.5	Ø60.5x5.5tx63.5	Ø60.5x5.5tx42.5	Ø35x95	Ø11.2	RNA4906	Ø42xØ47x8.2t	R47	T6x60x25	M8	B8x15	M12x80	M12	0.75kwx4P	KMT-0.75kw	M10x25	M10	T20x405x310	T20x405x310	KMT-0.75kw	Ø6.5xØ10x60	S45	Ø180.9	Ø180.9	6209zz	R85	Ø55x112	M30	M30	Ø6x20	Ø42x405
PART NAME	TOP HOLDER PLATE	STAY PIPE A	STAY PIN A	CHAIN GUIDE A	STAY PIPE B	STAY PIPE B	IDLE SHEAVE PIN	IDLE SHEAVE	NEEDLE BEARING	IDLE SHEAVE COLLAR	SNAP RING	KEY PLATE	SPRING WASHER	SOCKET HEAD BOLT	SOCKET HEAD BOLT	Hex. NUT	TRAVERSING MOTOR	REDUCER CASE	Hex. HEAD BOLT	SPRING WASHER	GEAR SIDE PLATE	PLAIN SIDE PLATE	SWITCH HOLDER	STAY PIPE	SNAP RING	GEARED WHEEL	PLAIN WHEEL	BALL BEARING	SNAP RING	WHEEL PIN	SPRING WASHER	Hex. NUT	SPRING PIN	STAY BOLT
PART No.	B01	B02	B03	B04	B05		B06	B07	B08	B09	B10	B11	B12	B13	B14	B15	E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11	E12	E13	E14	E15	E16	E17	E18



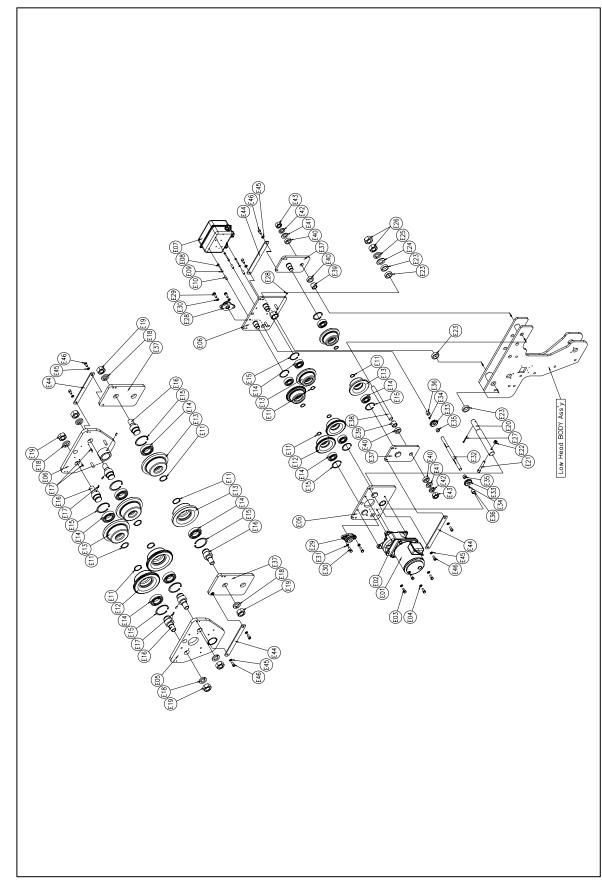


PART No.	PART NAME	SIZE	Q'TY	REMARK	PART No.	PART NAME	SIZE	Ω'ΤΥ	REMARK
D01	воттом ноок	10Ton	-		C11	PLAIN WASHER	M16	16	for High lift type
D02	SAFETY LATCH	10Ton	٢	wth SAFETY LATCH SPRING	C12	SPRING WASHER	M16	8	for High lift type
D03	SOCKET HEAD BOLT	M12x60	1		C13	Hex. NUT	M16	8	for High lift type
D04	Hex. LOCK NUT	M12	٢		C14	SOCKET HEAD BOLT	M8x90	2	for Standard lift type
D05	TAIL CROSS	10Ton	-		C15	PLAIN WASHER	M8	4	for Standard lift type
D06	THRUST BEARING	51312	-		C16	Hex. LOCK NUT	M8	2	for Standard lift type
D07	Hex. NUT	M56	-	BOTTOM HOOK NUT	C17	CHAIN BUCKET RING		2	for Standard lift type
D08	SOCKET HEAD STOP BOLT	M12x30	٢	CUP POINT	C18	CHAIN BUCKET CHAIN	Ø5	2	
D09	KEY PLATE	T6x60x25	2		C19	Hex. HEAD BOLT	M8x30	4	
D10	SPRING WASHER	M8	4		C20	PLAIN WASHER	M8	8	
D11	SOCKET HEAD BOLT	M8x15	4		C21	Hex. LOCK NUT	M8	4	
D12	BOTTOM HOLDER PLATE	T12x314x360	2						
D13	STAY PIN B	Ø16x148	2		U01	HANGER	10Ton	2	
D14	STAY PIN A	Ø16x71	1		U02	TOP HOOK PIN	Ø22x117	2	for HANGER
D15	CHAIN GUIDE B	T1.5	2	for BOTTOM HOLDER	U03	SPLIT PIN	Ø4x32	4	for TOP HOOK PIN
D16	BOTTOM HOLDER BRACKET	T4.5	2	for BOTTOM HOLDER	U04	Hex. HEAD BOLT	M22x150	2	High-Tension
D17	SPRING WASHER	M8	8		U05	PLAIN WASHER	M22	2	
D18	SOCKET HEAD BOLT	M8x15	8		006 0	SPRING WASHER	M22	2	
D19	IDLE SHEAVE PIN	Ø35x100	2	for BOTTOM HOLDER	U07	Hex. NUT	M22	2	
D20	IDLE SHEAVE	Ø11.2	0						
D21	NEEDLE BEARING	RNA 4906	4		H01	HOIST BODY Ass'y		2	KD-2-5Ton
D22	IDLE SHEAVE COLLAR	Ø42xØ47x8.2t	2		BD	TOP HOLDER Ass'y		-	10Ton
D23	SNAP RING	R47	2						
					70L	TOP HOLDER-CHAIN BUCKET PIN			
C01	LOAD CHAIN	Ø11.2	-	4fall lines	J08	TOP HOLDER-HANGER			
C02	BOTTOM HOOK SPRING	Ø6.2x151	2		60F	CHAIN BUCKET-CHAIN BUCKET GUIDE			
C03	TAIL SPRING	Ø6.2x102	2		J10	BOTTOM HOLDER-BOTTOM HOLDER BRACKET			
C04	CHAIN STOP HOLDER	Ø9.5 / Ø11.2	4		J11	BOTTOM HOLDER-BOTTOM HOLDER BRACKET			
	SOCKET HEAD BOLT	M8x35	4						
	Hex. LOCK NUT	M8	4						
C05	CHAIN BUCKET		2						
C06	Hex. HEAD BOLT	M10x15	2	<b>OIL DRAIN BOLT</b>					
C07	SOCKET HEAD BOLT	M8x120	0	High-Tension					
C08	Hex. LOCK NUT	M8	2						
C09	CHAIN BUCKET GUIDE	T12x50x494	0	for High lift type					
C10	Hex. HEAD BOLT	M16x50	8	for High lift type					



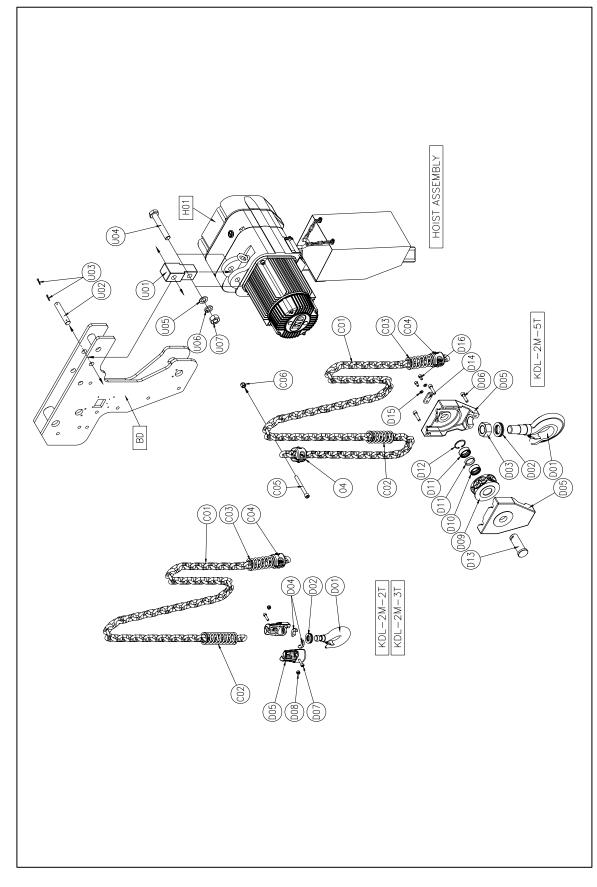


B01 N0. B02 B03 B03 B04 0.			SIZE			
		2Т	3(2.8)T	5T	2	REMARK
	SIDE PLATE B				+	KDL-2M
	SIDE PLATE A				1	KDL-2M
	TROLLEY CENTER COLLAR PIPE	Ø48.6x5.9tx65	Ø60.5x8.7tx65	Ø76.3x10.4tx65	+	
	SUB TROLLEY CENTER COLLAR PIPE	Ø34x4.5tx65	Ø42.7x4.9tx65	Ø60.5x8.7tx65	+	
	STAY PIN		Ø20x128		4	2-M14 Bolt
B06 S	SPRING WASHER		M14		8	
B07 H	Hex. NUT		M14		8	
B08	IDLE SHEAVE		Ø11.2		2	
B09	NEEDLE BEARING		RNA4906		4	
B10   II	IDLE SHEAVE COLLAR		Ø37x Ø44x8t		2	
B11 0	SNAP RING		R47		0	
B12 S	SHEAVE COLLAR		Ø70xØ35.1X7t		4	
B13 II	IDLE SHEAVE PIN		Ø45x108		2	
B14 K	KEY PLATE		T6x60x25		2	
B15 S	SPRING WASHER		M8		4	
B16 S	SOCKET HEAD BOLT		M8x15		4	
B17 S	SUPPORT PIN		Ø18x100		З	
B18 S	SPLIT PIN		Ø4x32		9	
B19 L	LIMIT HANDLE		Ø11.2		-	
B20 0	COIL SPRING		Ø5x62			
B21 S	SPRING POSITIONER		Ø70x27			
B22 S	SPRING RECEIVER				-	
B23 S	SOCKET HEAD STOP BOLT		M8x30		-	CUP POINT
B24 L	LIMIT SWITCH COVER		110x80x85 (ABS B85G)		-	
B25 S	SOCKET HEAD BOLT		M6x25		4	
B26 S	SPRING WASHER		M6		4	
B27 N	Micro LIMIT SWITCH		Z4G1P05B		1	
B28 F	ROUND HEAD BOLT		M4×30		2	
C05	Hex. HEAD BOLT	I	1	M12x100	-	Hiah-Tension(5Ton Onlv)
	STAY BOLT	Ø35×300	Ø42x325	Ø55×370	-	Main Trolley
	STAY BOLT	Ø24x290	Ø30x320	Ø42x355	-	Sub Trolley



7-8. TROLLEY ASSEMBLY for LOW HEAD TYPE

			SIZE		) H		H L	L H C C		SIZE		, ř	
PARI NO.	PART NAME	2T	3(2.8)T	5T	α I ζ	KEIMARK	PAHI NO.	PARI NAME	2T	3(2.8)T	5T	ב כ	KEMAKK
E01	TRAVERSING MOTOR		0.4kw x 4P		1		E24	PLAIN WASHER	M30	M36	M42	-	
E02	REDUCER CASE		KMT-0.4kw		1		E25	SPRING WASHER	M30	M36	M42	1	
E03	Hex. HEAD BOLT		M10x25		4		E26	Hex. NUT	M30	M36	M42	2	
E04	SPRING WASHER		M10		4		E27	SPLIT PIN	Ø5x55	Ø4x65	Ø4x65	-	
E05	GEAR SIDE PLATE	T12x296x217	T16x337x255	T20x384x300	-		E28	SOCKET HEAD STOP BOLT		M8x15	10		CUP POINT
E06	PLAIN SIDE PLATE	T12x296x217	T16x337x255	T20x384x300	1		E29	BALL BEARING	NCFL	JCFL203	I	2	Flange type
E07	SWITCH HOLDER		KMT-0.4kw		1		E30	Hex. HEAD BOLT	M10	M10x30	I	4	
E08	SOCKET HEAD BOLT	M6x45			3		E31	SPRING WASHER	M10	10	I	4	
E09	SPRING WASHER	M6			3		E32	IDLE SHAFT	Ø20x290	Ø20x310	I		
E10	STAY PIPE	8	Ø6.5xØ10x28	8	3		E33	IDLE GEAR	Ø51x17	x17		2	
E11	SNAP RING	S25	S30	S45	6		E34	КЕҮ	6x6x12L	12L	I	2	
E12	GEARED WHEEL	Ø135.8(3ea)	Ø156.8(3ea)	Ø180.9(2ea)	I		E35	IDLE COLLAR A	Ø21.7x2.0	Ø21.7x2.65Tx12.5	I	4	
E13	PLAIN WHEEL	Ø135.8(3ea)	Ø156.8(3ea)	Ø180.9(4ea)	I		E36	IDLE COLLAR B	Ø21.7x2.65Tx17.3	65Tx17.3	I	2	
E14	BALL BEARING	6305zz	6306zz	6209zz	6		E37	SUB TROLLEY SIDE PLATE	T12x136x217	T16x245x150	T16x284x180	2	
E15	SNAP RING	R62	R72	R85	9		E38	SUB TROLLEY STAY BOLT	Ø24x290	Ø30x320	Ø42x355		
E16	WHEEL PIN	I	I	Ø55x112	9		E39	SUB TROLLEY COLLAR A	Ø34x4.5Tx25.5	Ø42.7X4.9Tx30.5	Ø60.5x8.7Tx42.5	2	
E17	SPRING PIN	I	I	Ø6x20	12	5Ton Only	E40	SUB TROLLEY COLLAR B	Ø45xØ26x12.5	Ø50Xø31x12.5	Ø67xØ43x12.5	4	
E18	SPRING WASHER	I	I	M30	6	5Ton Only	E41	PLAIN WASHER	M24	M30	M36	2	
E19	Hex. NUT			M30	9	5Ton Only	E42	SPRING WASHER	M24	M30	M36	2	
E20	STAY BOLT	Ø35x300	Ø42x325	Ø55x370	-		E43	Hex. NUT	M24	M30	M36	2	
E21	SOCKET HEAD BOLT	M10x65	M12x90	M12x90	-	High-Tension	E44	FIXING PLATE	T6x30x294	T6x30x277	1x277	2	
E22	Hex. LOCK NUT	M10	M12	M12	-		E45	SPRING WASHER		M10		4	
E23	COLLAR	T12.5x048.6x008.8	T12.5c060.5x043	T12.5xØ76xØ57	4		E46	SOCKET HEAD BOLT		M10x20		4	



7-9. HOOK & CHAIN ASSEMBLY for LOW HEAD TYPE

	KEMAKK	Ø11.2			Ø11.2	M8x35	M8	High-Tension(5Ton Only)	5Ton Only		KD-2	KDL-2M													
) H	<u>م</u> ا ۲	-	-	+	-	- -	- N	- H	1 5		1 K	т Т													
	5T	2fall			4ea	4ea	4ea	M12x110	M12																
SIZE	3(2.8)T	1 fall	Ø6.2x151	Ø6.2x102	2ea	2ea	2ea	I	I																
	2T	1 fall	0	0	2ea	2ea	2ea	I	I																
L L L L L L L L L L L L L L L L L L L	PARI NAME	LOAD CHAIN	BOTTOM HOOK SPRING	TAIL SPRING	CHAIN STOP HOLDER	SOCKET HEAD BOLT	Hex. LOCK NUT	Hex. HEAD BOLT	Hex. LOCK NUT		HOIST BODY ASS'Y	Low Head BODY ASS'Y													
H	PARI No.	C01	C02	C03	C04			C05	C06		H01	BD													
	HEMAKK				High-Tension							5Ton Only	1 fall Only		5Ton Only	1 fall Only	1 fall Only	5Ton Only	5Ton Only	5Ton Only	5Ton Only	5Ton Only	5Ton Only	5Ton Only	5Ton Only
, F. (	×	1	1	2	1	1	1	-		+	1	+	1	2	4	2	2	1	2	+	-	1	1	2	2
	5T									2fall	#2908	M36	I		M10x40	I	I	Ø11.2	RNA4906	Ø37xØ44x8T	R47	Ø35×98	T6x60x25	M8	M8x15
SIZE	3(2.8)T		Ø22x117	Ø4x32	M22x150	M22	M22	M22		1 fall	#51106	I	Ø47x24		Ι	M8x30	M8	I	I	I	I	Ι	I	I	I
	2T									1 fall	#51105	I	Ø42x19		I	M8x30	M8	I	I	I	I	I	I	I	I
	PARI NAME	HANGER	TOP HOOK PIN	SPLIT PIN	Hex. HEAD BOLT	PLAIN WASHER	SPRING WASHER	Hex. NUT		BOTTOM HOOK ASS'Y	THRUST BEARING	Hex. NUT	COTTER	BOTTOM HOLDER	SOCKET HEAD BOLT	SOCKET HEAD BOLT	Hex. LOCK NUT	IDEL SHAEVE	NEEDLE BEARING	IDLE SHEAVE COLLAR	SNAP RING	IDLE SHEAVE PIN	KEY PLATE	SPRING WASHER	SOCKET HEAD BOLT
	PARI NO.	U01	U02	U03	U04	002	90N	U07		D01	D02	D03	D04	D05	D06	D07	D08	60Q	D10	D11	D12	D13	D14	D15	D16

# KUKDONG

# PRODUCTS

- ELCTRIC CHAIN HOIST(0.5~30ton)
- ELCTRIC CHAIN HOIST(0.25ton)
  - MINI HOIST
- ELECTRIC CHAIN HOIST(0.25~0.5ton)
  - KES 90(Single phase)
- CHAIN BLOCK(0.5~30ton)
- LEVER BLOCK(0.75~6ton)
- CRANE :
  - SUSPENSION CRANE
  - OVER HEAD CRANE
  - JIB CRANE
  - GANTRY CRANE
  - GEARED & PLAIN TROLLEY(0.5~30ton)
  - GEARED MOTOR(0.4Kw,0.75Kw,1.5Kw)

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- END CARRIAGE(SADDLE)
- LOAD CHAIN

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