

■ Applied Collar Numbers for Each Trolley Capacity on I-Beam.

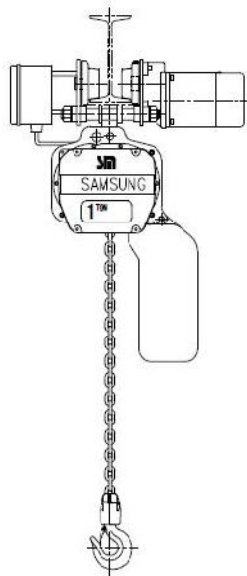
Each collar width per pcs : 12.5mm

I-Beam width(mm)	Adjusting Collar Numbers for Each Trolley Capacity (total no. =1/2right + 1/2left)			
	0.25~0.5ton	1ton	2~3ton	5ton
each collar width x total numbers	4pcs	4pcs	4pcs	4pcs
	75mm	0pcs	0pcs	0pcs
	100mm	1pcs	1pcs	1pcs
	125mm	2pcs	2pcs	2pcs
	150mm	3pcs	3pcs	3pcs

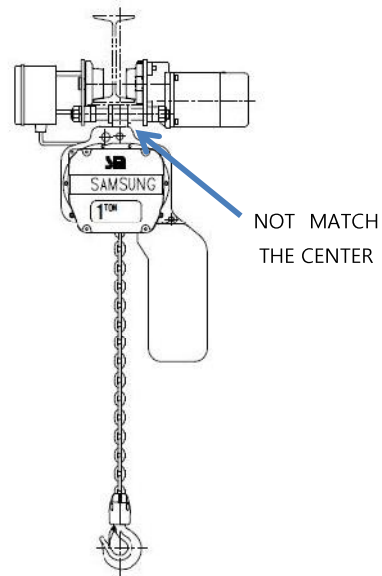
⚠ WARNING

RIGHT installation : Fit both sides of the connector with the same number of adjusting collars.
 WRONG installation : It can result in serious accidents.

RIGHT Installation



WRONG Installation



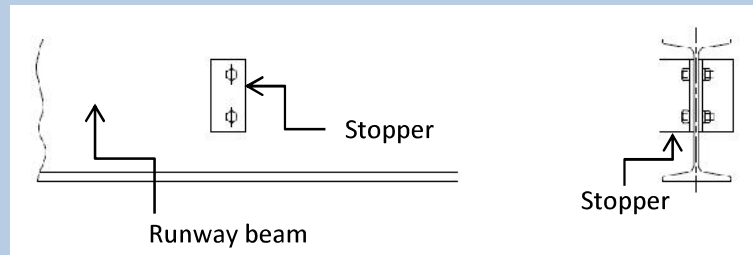
- (A) Without collars, the setting of connector become loose and not secure
- (B) With One-sided setting of collars, it shall result in the un-balanced trolley installation.

⚠ WARNING

(Customer scope for installation)

1. Customer is strongly recommended to install END STOPPER as this is the customer's responsibility

To prevent possible falling of trolley from the runway beam, the customer shall install END STOPPER as follows.



2. For trolley limit switches used as a safety device, they shall be installed in parallel with I-beam at both ends to detect the runway limit of the end of trolley travel. Please refer to the figure for proper installation.

4.3.2. How to connect electric power source ("CIS" : customer installation scope under customer responsibility)

- ① In parallel with I-beam, install the power cable to optimize the trolley movement.
 - ② With each interval of 1.5 meter, the cable wheel shall be installed.
 - ③ The minimum allowable curve radius of I-beam differs with each rated load of hoist.
- Please refer to the specification of hoist in manual article no. 1.4. Motor Trolley Mounted Series, Single Speed

4.4. Initial start-up

Once these checks have been completed, proceed as follows (be ready to press the emergency stop button as all times).

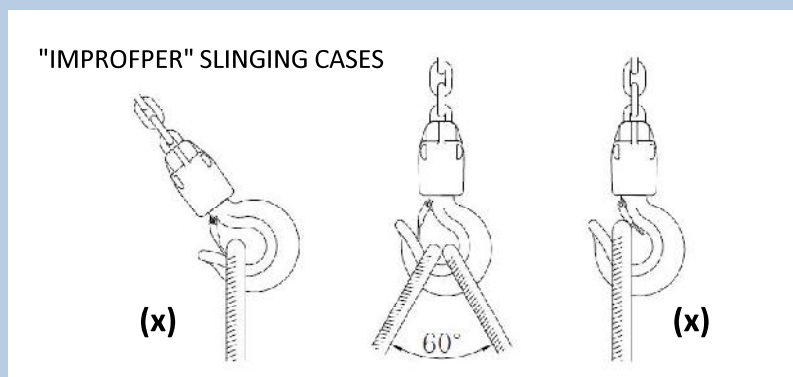
1. Start operating the hoist without a load.
2. Check, when not under load, that the movement of the hook corresponds to the direction of the arrows on the pushbutton station.
3. Check the operation of the hoist limit switch: operate the hoist, without a load, until it reaches the upper and lower hook positions and let the limiter slip briefly.
4. Check the operation of the brake: lift up a nominal load and then lower it.
5. Perform a load test with +10% of the nominal load and static tests with +25% of the nominal load on your installation equipped with our hoist.
6. The hoist which you have just purchased should only be used with a maximum load equal to the hoist's rated load. The length of its useful service life depends on the demands placed upon it, the average operating time, the number of start-stops and proper maintenance.

5. Precautions during operation

⚠ CAUTION

Indicates a potentially hazardous situation, which, if not avoided, MAY result in minor or moderate injury. To avoid such a potentially hazardous situation, THE OPERATOR SHALL

1. Perform a daily inspection according to the instruction manual.
2. Inspect the load chain for any type of deformation or damage and check the load chain lubrication.
3. Visually inspect hooks and hook latches for any type of deformation of throat opening, wear on saddle or load bearing point, and twisting.
4. Report missing or illegible warning labels to the supervisor.
5. Not Operate the hoist if any damage or malfunctions exist.
6. Know hand signals used for hoist operations as per instruction manual.
7. Always notify others when a load transport is about to begin.
8. Always make sure that the supporting structures are strong enough to support the weight of the load and hoist.
9. Maintain firm footing or be otherwise secured when operating the hoist.
10. Check brake function by tensioning the hoist prior to each lift operation.
11. Use hook latches. Latches are to retain slings, chains, etc. under slack conditions only.
12. Place slings balanced on the bottom hook. Avoid "Improper" slinging cases shown below.



13. Make sure the hook latches are closed and not supporting any parts of the load.
14. Make sure the load is free to move and will clear all obstructions.
15. Avoid swinging the load or hook.
16. Make sure hook travel is in the same direction as shown on the controls.
17. Inspect the hoist regularly, replace damaged or worn parts, and keep appropriate records of maintenance.
18. Use only manufacturer's recommended parts when repairing the unit.
19. Lubricate load chain per hoist manufacturer's recommendations.
20. NOT use the hoist's overload limiting clutch to measure load.

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21. NOT use limit switches as routine operating stops. They are emergency devices only.
 22. NOT allow your attention to be diverted from operating the hoist.
 23. NOT allow the hoist to be subjected to sharp contact with other hoists, structures, or objects through misuse.
 24. NOT adjust or repair the hoist unless qualified to perform such adjustments or repairs.
 25. The hoist should be maintained regularly, following the instructions in this manual.
 26. Keep the moving components clean and oiled as indicated in this manual.
 27. Make sure that the limit switch stops are in place, and that all limit switches are functioning properly...
 28. Before operation, check that the load is correctly fastened and installed on the hook.
 29. When moving the load, make sure that it is sufficiently raised and distant from the surrounding machines and other objects so as to avoid all obstacles during operation.
 31. If manually moving the hoist, push the load.
 32. Avoid rocking the load or the hook when using the traveling trolley or crane, by limiting the starting and braking jerks.
 33. Use the material under normal working conditions with ambient temperature, atmosphere.
 34. Use only for indoor operation of hoist. For outdoor operation, provide adequate protection to ensure a rainproof environment.
 35. NOT operate the hoist if any damage or malfunctions exist; and SHALL report any damage or malfunctions to the supervisor.
 36. NOT operate the hoist if tagged-out.
 37. NOT lift, lower, transport personnel by means of the hoist, hoist trolley, hoist hook, or load.

NOTICE

Always read and follow the INSTRUCTION for OPERATOR, which contains the main CAUTION and WARNING instructions. It shall be assembled onto the Push Button Switch Control regardless of working conditions. For safer hoisting operation, please refer to the Hand Signals for OPERATOR on the backside.

6. Maintenance and servicing

6.1. Electrical connection



(customer responsible scope for installation)

Before removing the control box cover, check that the hoist power supply is disconnected and locked and tagged.

- ▶ The customer must supply the power supply cable, the fuses and the main disconnect switch (refer to the wiring diagram).
- ▶ Check that the power supply voltage is correct for the hoist.
- ▶ Check that the voltage does not vary by more than $\pm 10\%$ from the nominal value.
- ▶ Make sure that the main hoist power disconnect switch is de-energized.
- ▶ Do not use conductors smaller than those listed in the manual to supply power to the hoist.
- ▶ Never bypass limit switches, remove limit switch stops, or otherwise defeat limit switches.

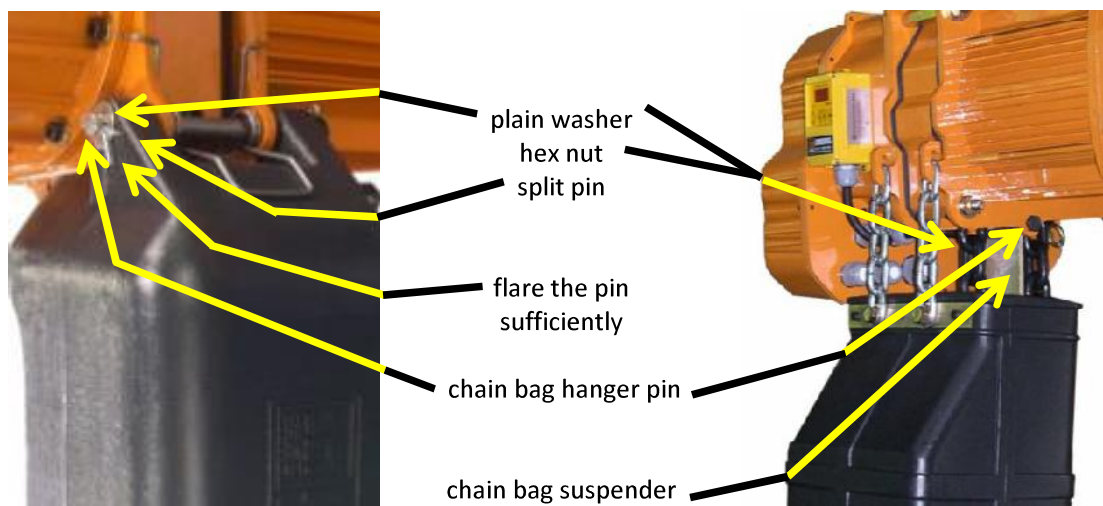
6.2. Chain container (chain bag)

⚠ WARNING

Do not attempt to store more quantity of chain in chain container than that specified in the table. When containing more than the maximum specified quantity, it may result in serious damage to hoist and hazardous conditions to the operator and nearby people or goods. For the hoist with double chain-falls, the chain container should be installed with the unloaded load chain projecting by about 50cm. When the chain container is pushed to the sides by the loads, the load chain may gush out or may not smoothly go through the chain hoist body, posing a danger.

■ How to install Chain Container

- ① Insert the load chain into the chain container.
- ② Place the container support chain on support metal plate of Chain Container to secure the container.
- ③ Insert chain bag support pin" and lock both ends with "split pin"



- ④ Line up chains strait so as not to be twisted.
- ⑤ Place the remaining container support chain on the Support Metal Plate.

6.3. Chain stopper in the chain container.



The chain stopper for slack fall stop is a safety component, not a functional one. Make sure that the stop is correctly fitted. The chain stopper of non-loaded side must be fixed 6inch (15cm) from the load chain end as shown in the left figure.



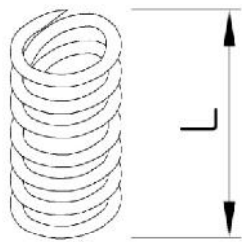
At the time of product installation, securely fix using the wrench. Check monthly for the looseness of the socket bolts and tighten.

Securely using the wrench.

6.4. Chain stopper spring

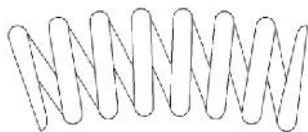
For safe operation, the Chain Stopper Spring must be replaced when the free length "L" is short of the dimension in the following table.

■ Standard "L" length



Capacity	Chainfall (reeving)	Standard "L" length	Replacement required
3ton	1chain-fall	130mm	115mm
5ton	2chain-falls	130mm	115mm

■ Replacement required



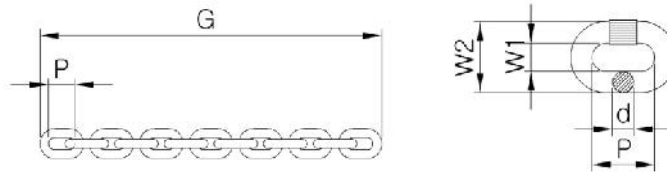
6.5. Load chain



Check if the chain is twisted or not.
 Never try to use hoist when the load chains are entangled.
 Pull the bottom hook to the normal vertical position before use.
 Never use the lifting chain as a sling.
 Never twist the lifting chain.
 Do not bundle the chain into the chain bucket.
 Always keep the chain clean and oiled and check that it is in good condition every day.
 Only a genuine, manufacturer's chain may be used.

■ Specification of Load Chain

Diameter x pitch (mm)		5x15	7.1x21	8x24	11.2x34
Class, Grade		G80			
Surface hardness		520-620 HV10			
Breaking force min.	KN	31.5	63	80	160
Stress at breaking force	N/mm ²	800	800	800	800
Breaking elongation min.	%	10	10	10	10
Marking					
Working load Limit, 1 fall	kg	500	1250	1500	3000
Weight per Meter	kg	0.55	1.1	1.1	2.7
Dimension(mm)	d	5	7.1	8	11.2
	p	15	21	24	34
	W1	6.9	8.4	9.5	13.7
	W2	17	24	26.6	37.2



Dimension of load chain	mm	5x15	7.1x21	8x24	11.2x34
Minimum link thickness allowed(d):	mm	4.7	6.8	7.5	10.9
Maximum pitch allowed(t):	mm	15.1	21.3	24.1	34
Length of 11 links	mm	166.1	231.3	265.1	375.3

- ☞ For link thickness, when the wear has increased by more than 5%
- ☞ For pitch, when the wear has increased by more than 3%

Check the load chain for deformation or cracks. In this case, the wear on the chain guide and chain sheave should also be checked and they should be replaced if necessary. If a single link is defective in any way whatever, the chain must be replaced. If these limits are exceeded, the chain must be replaced immediately. The gage dimension to be checked shall be measured over 11 links from inside end of link to inside end of link (as shown in figure on previous page).

To remove the chain for 1-fall chain:

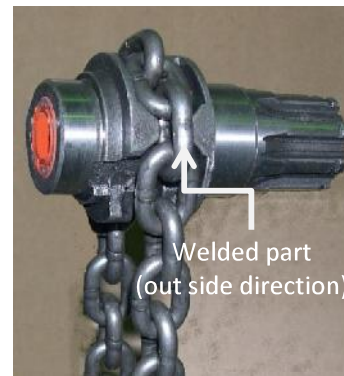
- a. Remove the load from the hook.
- b. Disassemble the hook block.
- c. Lower the chain into the chain container.
- d. Remove the chain container and unscrew and remove the lower chain guide.

To remove the chain for 2-fall chain:

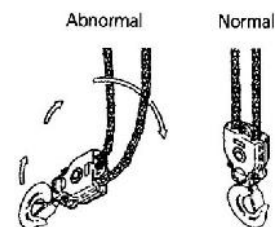
- a. Raise the hook block to about 20 inches (50cm) from the hoist body.
- b. Remove the chain bucket.
- c. Disassemble the fixed point of the chain.
- d. Let the rest of the chain slide through the chain sheave.

6.5.2. Checking chain alignment (the welded part outward from the center)

- ① Before installation, the welded part position should be checked for safe operation. With the welded part of chain links outward from load sheave or hoist center, the load chain should be aligned before installation. If not aligned correctly outward, it can cause a hazardous condition.



- ② For the safe operation of load chain, make sure that the bottom hook assembly is not upside down or capsized. In this case, the operator shall restore the chain to normal and make sure the welds on the chain links are in alignment. Do NOT use the hoist with twisted chain. For "Abnormal" case, please turn the bottom hook assembly between the chains to align the load chain.



- ③ For the inspection of idler sheave of bottom hook assembly, turn idler sheave by lifting the load chain up and down as per the figure.

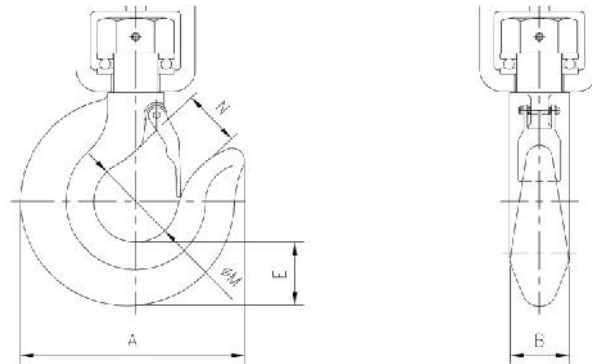


6.6. Hook

6.6.1. Measurement of wear on the hook

CAPACITY (Ton)	STANDARD HOOK DIMENSION (MM)					FOR MAINTENANCE (REPLACEMENT REQUIRED)
	A	B	E	M	N	MAXIMUM THROAT OPEN =N×115%
0.25T	75	19.5	22.5	33	30	>34.5
0.5T	75	19.5	22.5	33	30	>34.5
1T	94	24	32	36	25.5	>29.325
1.25T	90	24	27	39.5	30	>34.5
1.5T	116	31.5	39	48	33	>37.95
2T	117	26	39	46	32	>36.8
2.5T	120	31.5	38.5	50	33	>37.95
3T	140	37	45	54	39.5	>45.425
5T	166	47	54	67	47.5	>54.625

*FOR ALL MODELS, IT IS USED WITH SAME SIZE FOR BOTH TOP HOOK AND BOTTOM HOOK.

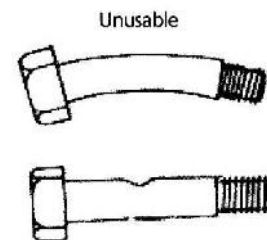


Check hooks for deformation or cracks. Hooks must be replaced if throat opening has increased by more than 15%, or if throat opening has more than 10-degree twist from plane of straight hook. For the wear on the hook and the load bottom hook, it shall be checked regularly. Measure the throat opening. If the throat opening exceeds the maximum opening allowed, replace the hook. Damaged safety latches shall be replaced immediately.

6.6.2. Chain fixing pin on hook

For the double chain-falls, the bottom hook assembly is fastened together with Chain Fixing Pin.

If any deformation is detected, it shall be replaced. Otherwise, the load chain and the hook assembly can fail.



Pin that is bent or pressed is to be replaced.

6.7. Load sheave and chain guide

Load sheave ensures perfect positioning of the chain with 5 or 4 pockets for better distribution of the load. Load chain is to be geometrically lined up in accordance with chain guide and load sheave.

Chain guide assures proper engagement of the chain on the load sheave and minimizes load chain wear. The chain guide also serves as the trip mechanism for the upper and lower hook travel limit switch. When contacted by the hook travel spring, the chain guide will actuate either the UP or DOWN travel limit switch and stop hoisting motion.

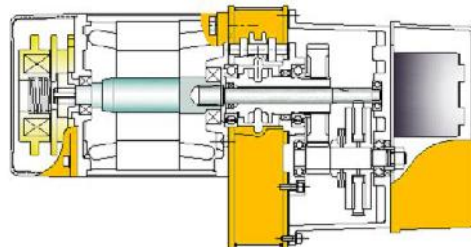


6.8. Slip clutch type Over-winding Limiter.(0.25~2.5ton)

This is the HOIST over-travel device.

The limit switch works in two steps.

- The 1st step : machinical slip clutch
- The 2nd step : Then interrupts the over load limit circuit



6.8.1. Replacement of brake linings

Before disassembling motor brake, the electric power supply shall be turned off.

When the braking function is detected as "POOR" or "ABNORMAL", the motor brake is be checked. The thickness of the Brake disc assembly can be measured as per the picture on right. According to the following table of "Replacement Thickness of Brake Disc Assembly", the replacement of disc assembly shall be made when it is worn to the "To be Replaced" figures.



■ Replacement of Brake Disc Assembly

Product	Hoist Motor			Traversing Motor		
	Beginning thickness	Exchange thickness	Max.gap	Beginning thickness	Exchange thickness	Max.gap
0.25~0.5 ton	8mm	7.2mm	0.8mm	8mm	7.2mm	0.8mm
1~2.5 ton	12mm	10.8mm	1.2mm	8mm	7.2mm	0.8mm
3~5 ton	12mm	10.8mm	1.2mm	8mm	7.2mm	0.8mm

6.9. Motor

Heavy-duty Motor with Overheat Thermal Sensor

High torque and heavy duty hoist motor with insulation class "F". Frequent operation is efficient with 30 min. rating.

With the built-in thermal sensor, it automatically stops the operation to cool down when the motor internal temperature exceeds 120. C. A.D.C. rectifier provides D.C. voltage for the motor brake.

Type of motor enclosure: TEFC

6.9.1. Motor rating of Hoist and Trolley

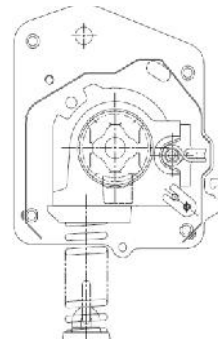
Motor	Capacity, chainfall (reeving)	Motor (kw)	Rated current(A)		
			220V,60Hz	380V,60Hz	440V,60Hz
Hoist motor	0.25ton-1fall	0.5Kw	2.8	1.6	1.4
	0.5ton-2falls				
	1ton-1fall	1.5Kw			
	2ton-2falls				
	1.25ton-1fall	2.0Kw			
	2.5ton-2falls				
	1.5ton-1fall	2.5Kw			
	3.0ton-2falls				
	3.0ton-1fall	3.5Kw			
5.0ton-2falls					
Trolley motor	0.25ton-1fall	0.2Kw	1.3	1.2	0.7
	0.5ton-2falls				
	1ton-1fall				
	2ton-2falls				
	1.25ton-1fall				
	2.5ton-2falls				
	1.5ton-1fall				
	3.0ton-2falls	0.4Kw			
	3.0ton-1fall				
	5.0ton-2falls				

6.10. Double Action Over-winding Limiter (built-in inside)

This is the HOIST over-travel device.

The limit switch works in two steps.

- The 1st step : Interrupts the control circuit
- The 2nd step : Then interrupts the main power circuit



Operation

When both the load chain and chain stopper spring, assembled to chain box, reaches the maximum upper or lower position, it contacts the chain guide. Rotation of chain guide, rotates the limit assembly that is connected to the chain guide. This automatically actuates limit and de-energizes either the raising or lowering circuit.



6.11. Preventive Incorrect Phase Limiter and Fuse sets

These components are the safety devices.

■ Preventive Incorrect Phase Limiter

At the time of installation, it automatically checks the connected phase sequence (3ph). If the detected phase sequence will result in reverse operation of the hoist, the P.I.P.L. will prevent hoist operation until this condition is corrected.

■ Control Transformer Fuses

Primary and secondary fusing if the control transformer is provided.



Fuse Set ▶

Preventive Incorrect Phase ▲

6.12. Push Button Pendant Switch-installed with Emergency stop button (red color)

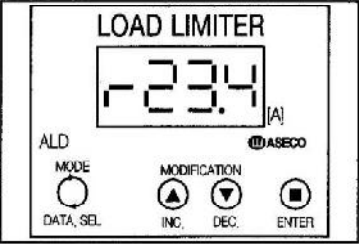
Rain-proof, IP64 protection, with 2,4 or 6 buttons. All models are equipped with Emergency Stop function.

Easy to operate and designed with 150VAC control voltage. It is compact to enable easy one-handed sure grip control. The push button cable is provided with built-in strain relief to help prevent cable damage.

6.13. Overload Alert Sound Limiter (Protector) audible 'beeping' sound

When the hoist is overloaded with more than 110% of the rated load, it signals an audible alert to the operator. When the alert "beeping." sounds, the UP-motion will not operate but the DOWN motion will operate so the overload can be lowered.

LOAD LIMITER USER MANUAL (ALD-XXX)

<p>1. FORMATION OF FRONT PANEL THERE ARE 4-DIGIT FND, 4PIN TACT SWITCH ON THE FRONT PANEL AND 2 LED (1 RED, 1 GREEN), A BUZZER AT THE BOTTOM OF THE HOUSING.</p>  <p>1) DISPLAY PART (1) - a : 7-SEGMENT FND HOIST MOTOR RUNNING CURRENT OR SETTING DATA(CURRENT OR TIME) IS DISPLAYED ON THE FND DEVICE. -1ST DIGIT : FUNCTION DIGIT r : MAIN MOTOR RUNNING CURRENT(A) r : CREEP MOTOR RUNNING CURRENT(A) c : MAIN MOTOR O/L SETTING CURRENT(A) c : CREEP MOTOR O/L SETTING CURRENT(A) d : STARTING DELAY TIME (SEC) o : O/L OPERATING TIME (SEC) t : MAIN MOTOR TESTING CURRENT(A) t : CREEP MOTOR TESTING CURRENT(A) F : MAIN MOTOR O/L FAULT CURRENT(A) F : CREEP MOTOR O/L FAULT CURRENT(A) -2nd, 3rd, 4th digit : DISPLAYING CURRENT(A) OR TIME(SEC) CORRESPONDING TO THE FIRST DIGIT FUNCTION, ②-b : LED(RED) LIGHTING RED COLOR WHEN O/L FAULT HAPPEN.</p>	<p>2) DATA MODIFICATION PART ① - a : MODE PB (DATA SEL.) EACH PRESS OF THE MODE PB CHANGES DISPLAYING DATA FROM r xx,x TO cxx,x, TO c, xx,x, TO d xx,x, TO o xx,x, TO t xx,x, TO t, xx,x, TO F xx,x AGAIN. MODE CHANGING IS ALLOWABLE IN CASE OF NO MOTOR CURRENT STATUS ②-b DATA MODIFICATION PB (INC, DEC.) DATA INCREASING BY INC. PB, DECREASING BY DEC. PB ③-c ENTER PB SAVE DATA IN EPROM AS A NEW DATA OR CLEAR O/L FAULT MESSAGE. NO OPERATION ENTER PB FROM OUTSIDE OF O/L CASE.</p> <p>2. FUNCTION AND OPERATION</p> <p>1) OVER LOAD(O/L) SETTING. -- a : 0.6-75A FOR MAIN MOTOR o : 0.6-20A FOR CREEP MOTOR</p> <p>2) STARTING DELAY TIME SETTING(d) 0.5-5.0 SEC</p> <p>3) O/L OPERATING TIME SETTING(o) 0.5-5.0 SEC O/L RELEASING TIME IS SAME AS O/L OP. TIME HOIST MUST BE OPERATED LOWERING DIRECTION AS MUCH AS HOISTING UP DIRECTION.</p> <p>4) TESTING OPERATION SELECT THE FUNCTION t (main motor test), OR t, (creep motor test) IN NO MOTOR CURRENT STATUS. PUSH INC. PB ONE TIME, THEN TESTING SIGNAL FLOW INTERNALLY. AFTER CORRESPONDING TIME(d+o) PASSED, O/L FAULT IS DETECTED AND OUTPUT RELAY CONTACT(NORMALLY ENERGIZED COIL), EMIT RED LED. TO CLEAR TEST FAULT. PUSH ENTER PB OR DO HOISTING LOWERING DURING d+o TIME.</p>
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⚠ WARNING

Do NOT open the outer enclosure. The stored value of the overload limiter shall NOT be changed or modified by anyone other than the manufacturer or an authorized agent. The value inscribed on the overload limiter is the optimal number and value for the hoist, changing this setting can cause equipment damage or personal injury. The manufacturer is not responsible for damage, injury, or death resulting from unauthorized tampering with this device.

The outer enclosure of the overload limiter is sealed by the manufacturer to ensure the alert warning enclosure is not opened.

■ Description for the Inside Panel Overload Alert Limiter (How to modify the setting figures)



■ MODE Setting Figures for Overload Alert Limiter(60(50)hz, Single Speed)

Capacity, chainfall (reeving)	Motor (kw)	Rated current(A)			delay/overload/reset time
		220V 60(50)Hz	380V 60(50)Hz	440V 60(50)Hz	
0.25ton-1fall	0.5Kw	2.8(2.3)	1.6(1.3)	1.4(1.2)	1sec/1sec/1.5sec
0.5ton-2falls					
1ton-1fall	1.5Kw	6.4(5.3)	3.7(3.1)	3.2(2.7)	
2ton-2falls					
1.25ton-1fall	2.0Kw	8.5(7.1)	4.9(4.1)	4.3(3.6)	
2.5ton-2falls					
1.5ton-1fall	2.5Kw	9.5(7.9)	5.5(4.6)	4.8(4.0)	
3.0ton-2falls					
3.0ton-1fall	3.5Kw	14.9(12.4)	8.6(7.1)	7.5(6.2)	
5.0ton-2falls					

⚠ WARNING

- ▶ Only authorized person(s) or the person shall service the electric load limiter.
- ▶ This device is composed of digitally controlled circuits. When programming changes are made by unauthorized personnel, it can allow the equipment to be overloaded and result in equipment damage, personal injury, or death.
- ▶ Before installing this device, be sure to read the instruction manual carefully.

7. Preventive maintenance

7.1. Recommended Periodic Maintenance and Inspection Table

Check	Interval	Qualification of the customer s personnel
Brake operation	Daily	Operator
Visual inspection of the chain	Daily	Operator
Suspension of the control box by the steel wire	Daily	Operator
Cleanness and lubrication of the chain	Monthly	Operator
Limiter operation	Monthly	Operator
Measuring of the wear on the chain	Every 3 months	Operator
Measuring of the wear on the hooks	Every 3 months	Operator
Tightening of the hook block screws	Every 3 months	Operator
Checking of the locking plate screws	Every 3 months	Operator
Lubrication of the idler sprocket	Annually	Operator
Checking of the screw tightening torques and checking for signs of corrosion	Annually	Qualified mechanic
Adjustment of the limiter and brake	Annually	Qualified mechanic
Lubrication of the gears	Lubricated for life	

7.2. Lubrication

Lubrication point	Possible brands	Quantity & Applied model no.	
Chain	Chain lubricating fluid	As required	
Gears	SHELL OMALA 220 MOBIL MOBIL 632	1liter	1ton (chain-fall reeving 1) 2ton (chain-fall reeving 2)
	ESSO EP220 CALTEX MEROPA220	3liter	2ton (chain-fall reeving 1) 3ton (chain-fall reeving 2) 5ton (chain-fall reeving 2)

7.3. Recommended Technical Support for Various Spare Parts

Spare part	To be replaced by	Qualification of the personnel
Upper chain guide	Authorized manufacturer personnel	Qualified electrician
Output shaft	Authorized manufacturer personnel	Qualified mechanic
Ratchet gear assembly	Authorized manufacturer personnel	Qualified mechanic
Gearing (1st/2nd stage)	Authorized manufacturer personnel	Qualified mechanic
Other sealing and O-rings	Authorized manufacturer personnel	Qualified mechanic
Load limiter	Authorized manufacturer personnel	Qualified electrician
Electric box	Authorized manufacturer personnel	Qualified electrician
PC-board	Authorized manufacturer personnel	Qualified electrician
Overload limiter	Authorized manufacturer personnel	Qualified electrician
Dual brake system	Authorized manufacturer personnel	Qualified electrician
Chain	Customer	Qualified mechanic
Chain container (chain bag)	Customer	Qualified mechanic
Chain stopper	Customer	Qualified mechanic
Suspension hook	Customer	Qualified mechanic
Hook assembly	Customer	Qualified mechanic
Fuses	Customer	Qualified electrician

7.4. Troubleshooting

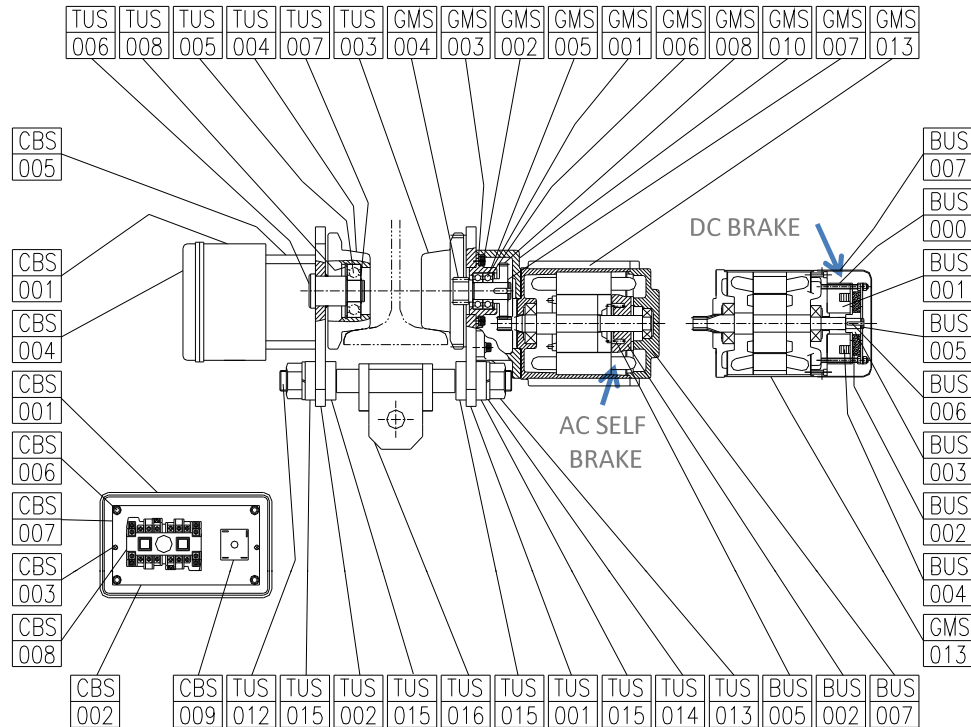
Problem	Cause	Solution
The chain hoist does not work	The emergency stop button is activated	Deactivate it
	Triggered fuse	Replace the fuse
	Temperature control (optional) activated	Allow to cool down
	Contactor terminal screws loose	Tighten them
	Main switch is off	Turn it on
Impossible to lift the load	Overload	Reduce the loa
	Limiter worn or incorrectly adjusted	Adjust or replace it
Braking path of more than 4inch (10 cm)	Braking lining worn	Adjust the brake and replace the brake components if necessary
The travel direction does not correspond to that indicated on the control box	The power supply is incorrectly connected	Change two phases of the power supply
Abnormal noises while the load is being moved	The chain components are not lubricated	Lubricate the components
	Chain is worn	Replace it
	Load sheave or chain guide is worn	Replace the sheave or chain guide
	Idler sheave is worn	Replace it
	A supply phase is missing	Check the connection of the phases

Once the hoist has been used for the FEM class duration, all of the components must be checked by an authorized agent or by the manufacturer. The hoist should no longer be used, unless agreement is obtained from the authorized agent or the manufacturer.

For discarding chain hoist, please remove all greases and oils from the hoist.

Parts illustrations

■ Exploded View of Motor trolley Parts



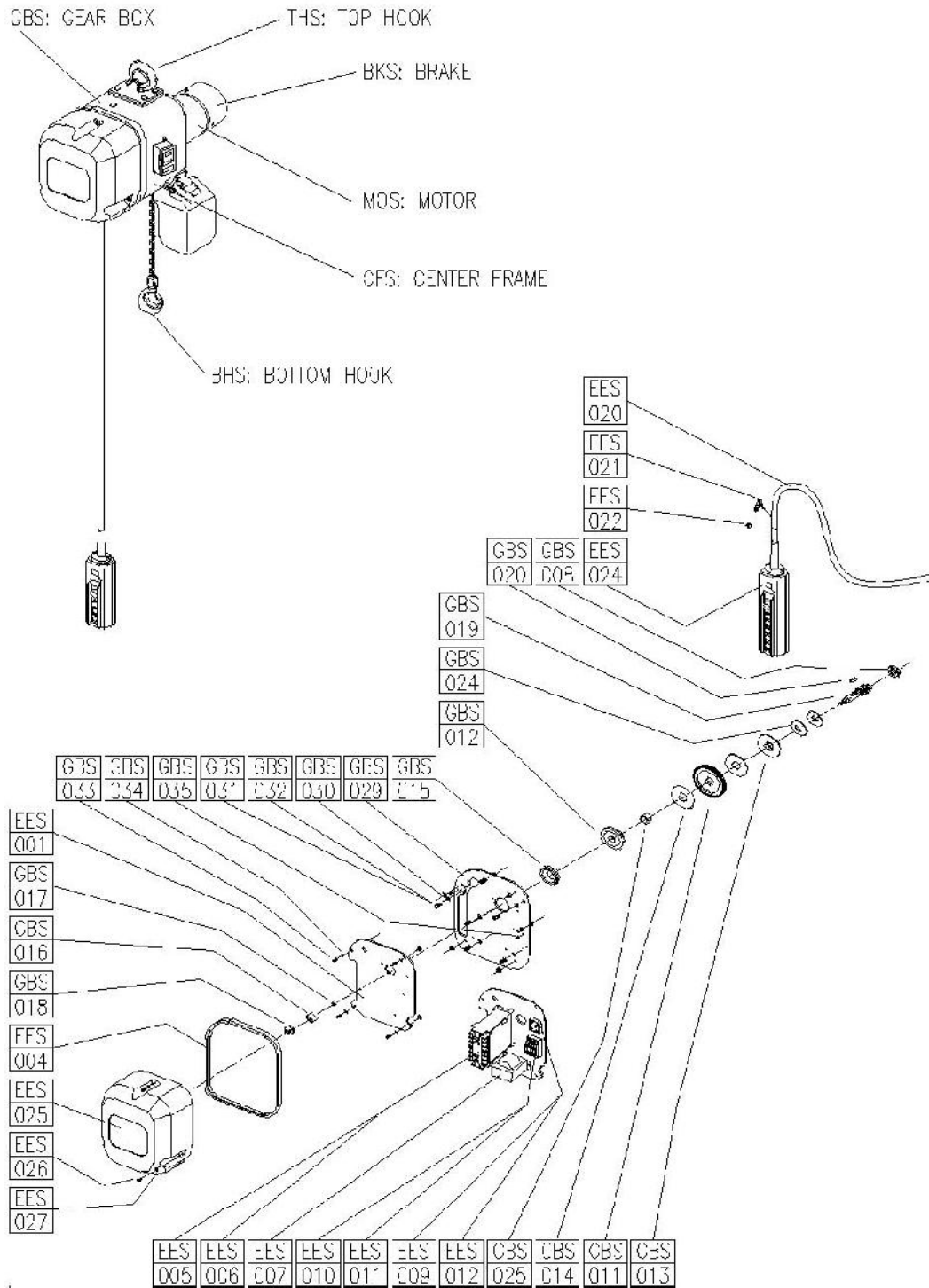
Parts List of Motor trolley

TUS000	TROLLEY UNIT SECTION	CBS003	SET SCREW	GMS012	SPRING WASHER
TUS001	GEAR SIDE PLATE	CBS004	COVER	GMS013	MOTOR ASSEMBLY
TUS002	PLAIN SIDE PLATE	CBS005	STUD PIPE	GMS014	HEX. SOCKETED BOLT
TUS003	GEAR ROLLER	CBS006	HEX. SOCKETED BOLT	GMS015	SPRING WASHER
TUS004	PLAIN ROLLER	CBS007	SPRING WASHER	EPS000	ELECTRICAL PARTS
TUS005	BEARING for ROLLER	CBS008	ELCTRO MAGNETIC CONTACTOR	EPS001	LIMIT SWITCH
TUS006	ROLLER PIN	CBS009	DIODE	EPS002	LIMIT SWITCH MOUNTING PLATE
TUS007	SNAP RING-A	CBS010	CABLE GLAND	EPS003	HEX. SOCKETED BOLT
TUS008	SNAP RING-B	GMS000	GEARED MOTOR	EPS004	SPRING WASHER
TUS009	ANTI DROP BRACKET	GMS001	BEARING HOUSING	EPS005	POWER SOURCE COLLECT BAR
TUS010	HEX. SOCKETED BOLT	GMS002	HEX. SOCKETED BOLT	EPS006	HEX. SOCKETED BOLT
TUS011	SPRING WASHER	GMS003	SPRING WASHER	EPS007	SPRING WASHER
TUS012	STAY BOLT	GMS004	PINION	BUS000	BRAKE ASSEMBLY
TUS013	HEX. NUT	GMS005	BEARING	BUS001	MAGNET CORE
TUS014	SPRING WASHER	GMS006	SNAP RING-C	BUS002	BRAKE LINING
TUS015	ADJUST COLLAR	GMS007	SNAP RING-D	BUS003	BRAKE HUB
TUS016	HOLDER	GMS008	PINION GEAR	BUS004	BRAKE SPRING
CBS000	CONTROL BOX	GMS009	SUNK KEY	BUS005	SNAP RING
CBS001	CONTROL BOX	GMS010	GEAR CASE	BUS006	SUNK KEY
CBS002	BASE PANEL	GMS011	HEX. SOCKETED BOLT	BUS007	MOTOR REAR COVER

Parts illustrations

■ Exploded View of Chain hoist Parts

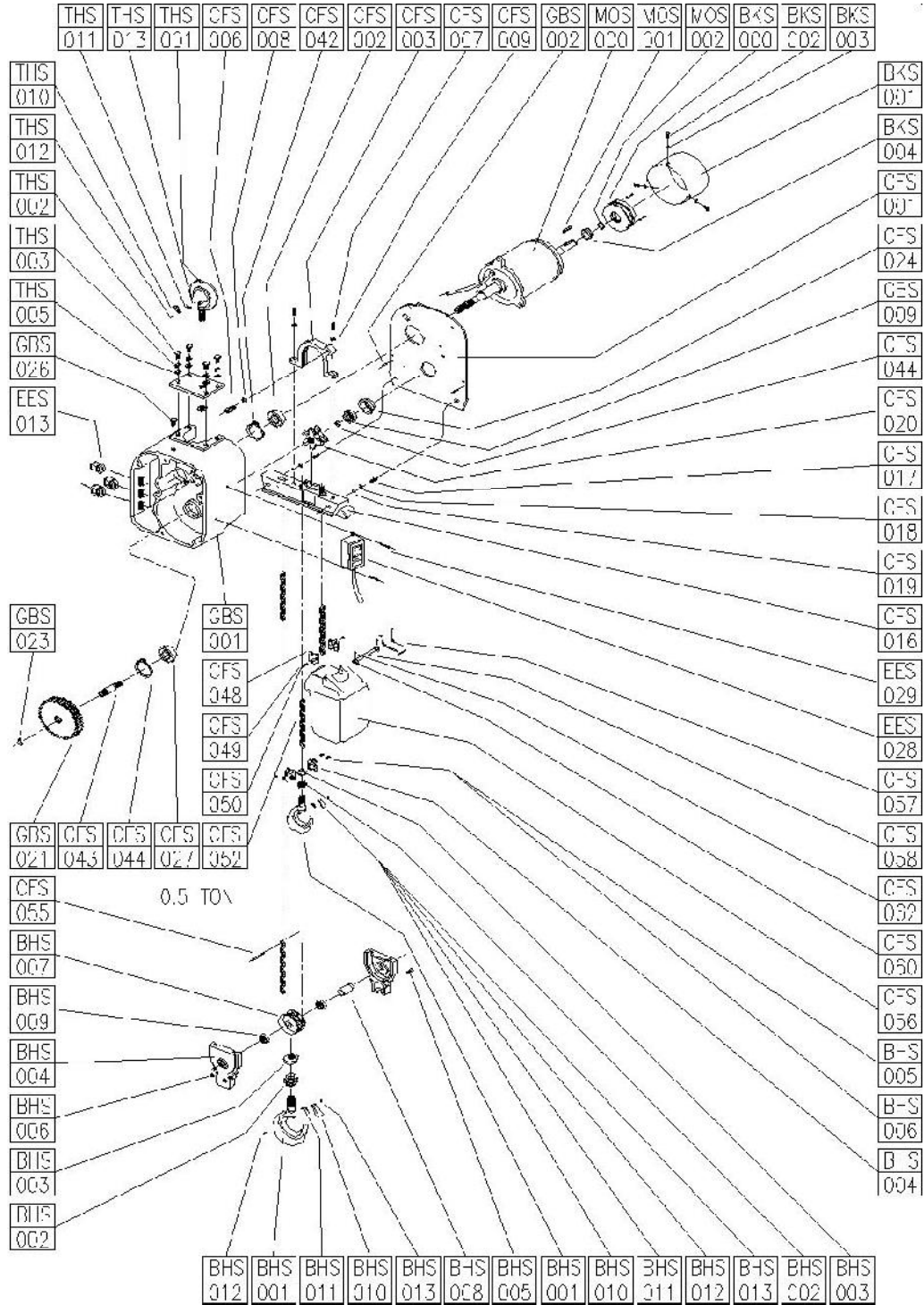
SC-0.25(0.5) Ton Chain hoist



Parts illustrations

■ Exploded View of Chain hoist Parts

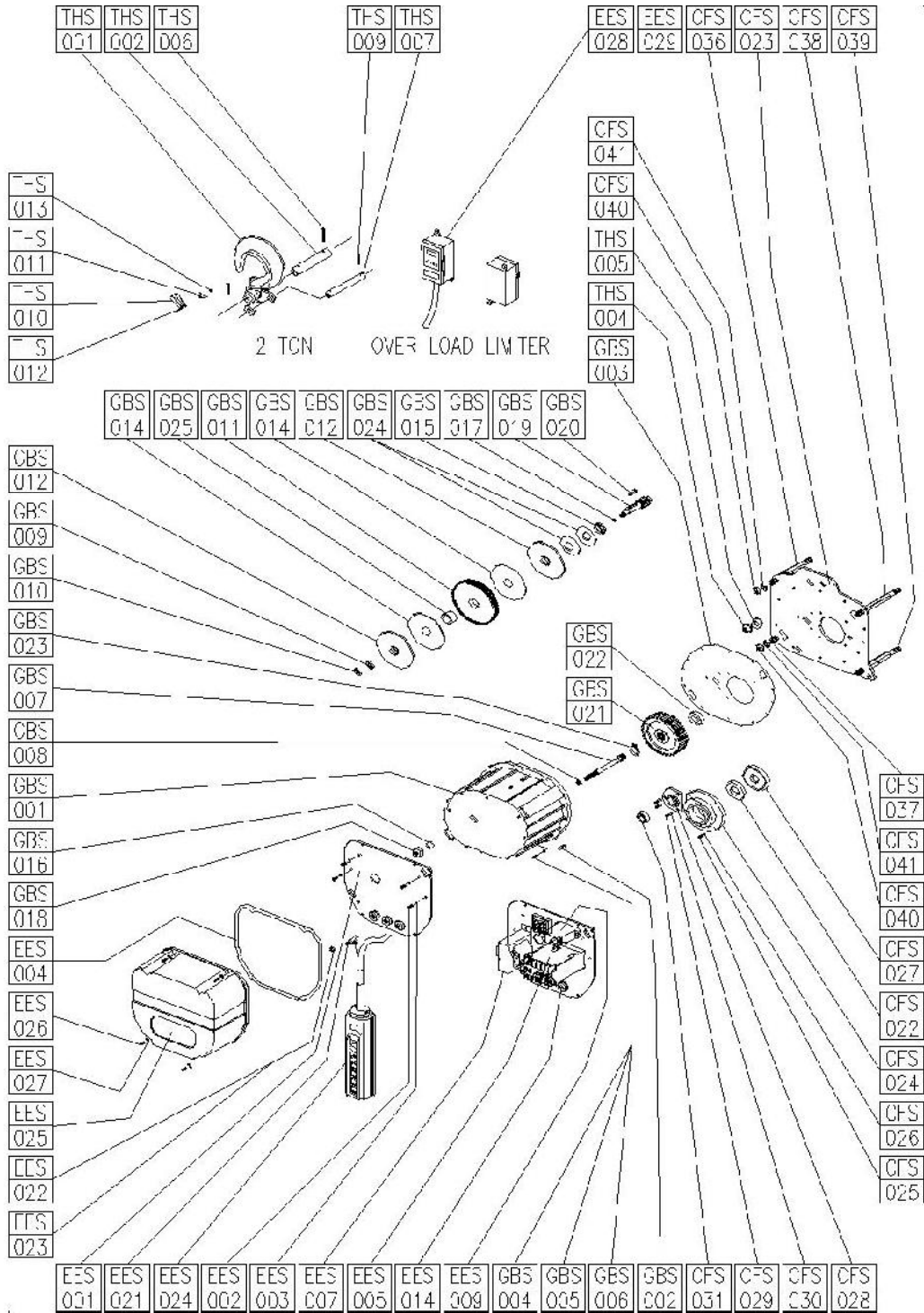
SC-0.25(0.5) Ton Chain hoist



Parts illustrations

■ Exploded View of Chain hoist Parts

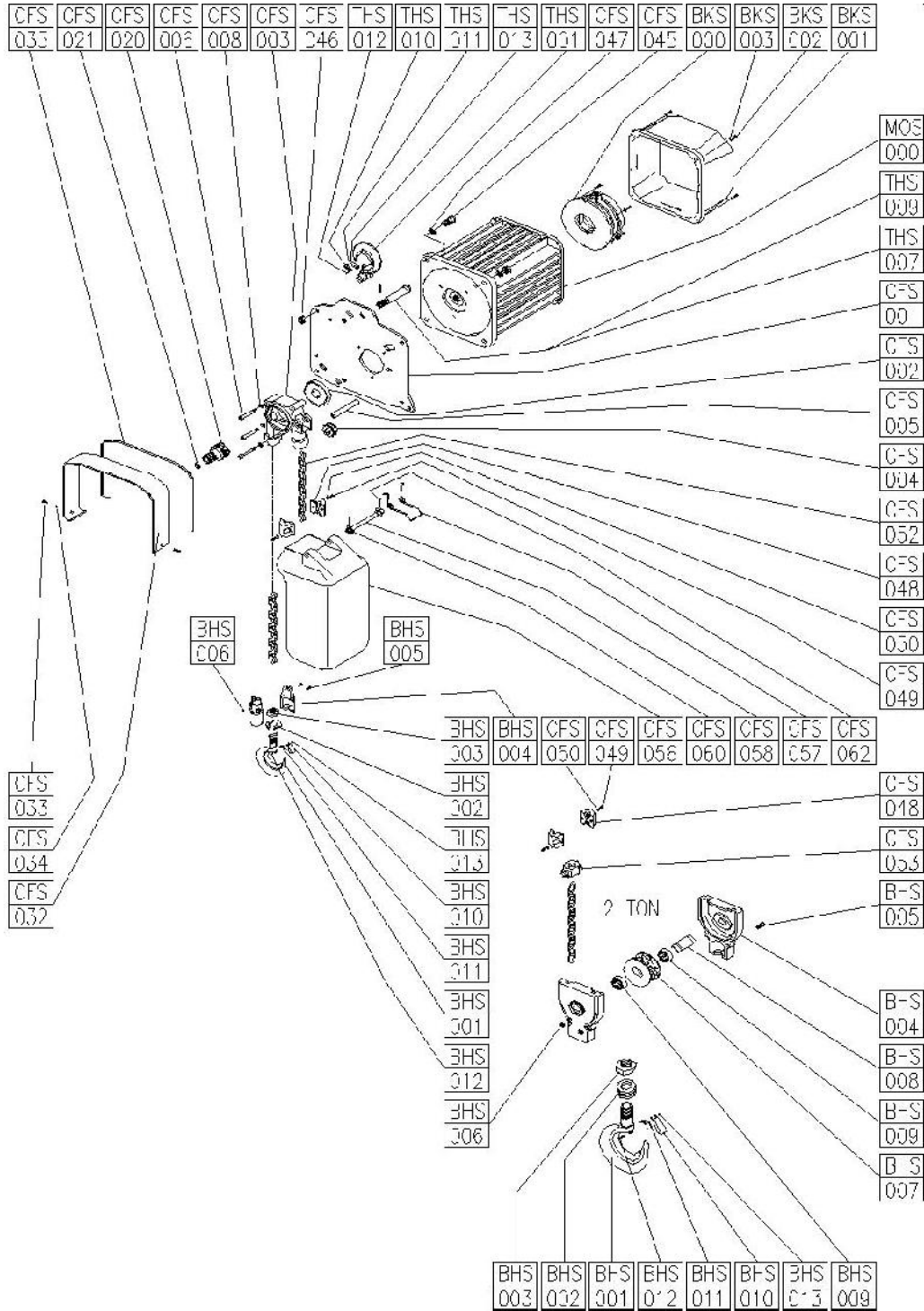
SM-1(2.5) Ton Chain hoist



Parts illustrations

■ Exploded View of Chain hoist Parts

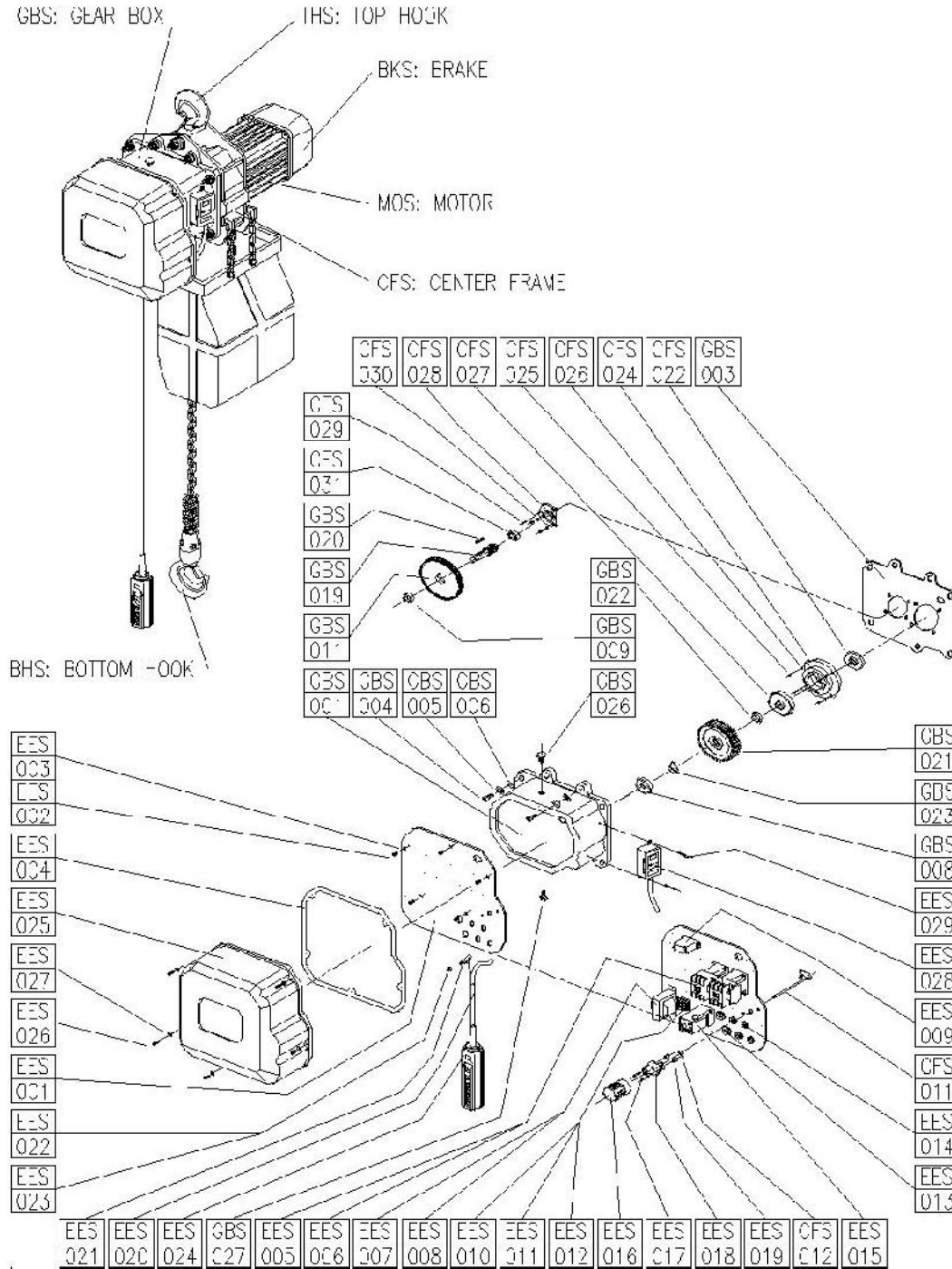
SM-1(2.5) Ton Chain hoist



Parts illustrations

■ Exploded View of Chain hoist Parts

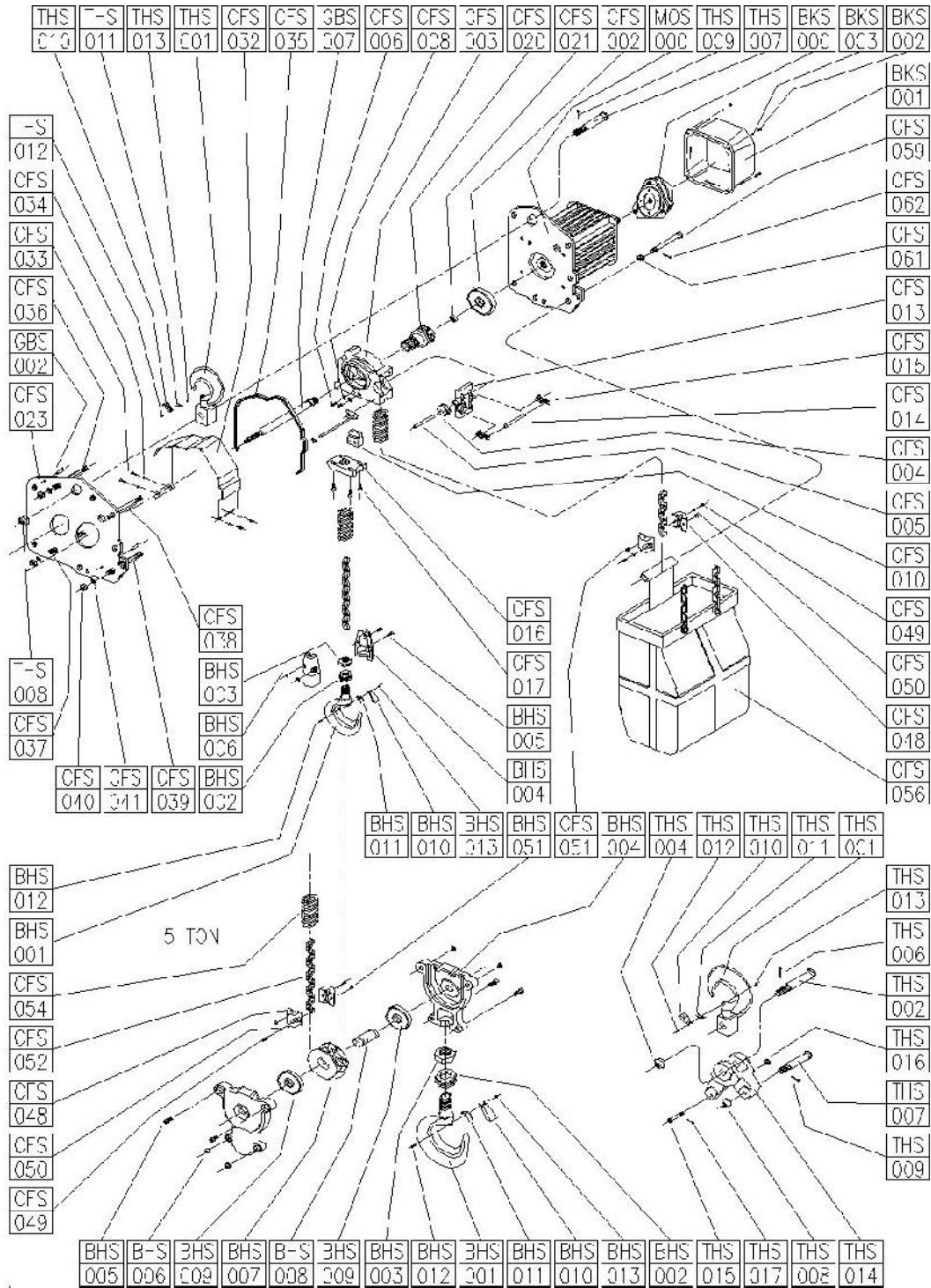
SM-3(5) Ton Chain hoist



Parts illustrations

■ Exploded View of Chain hoist Parts

SM-3(5) Ton Chain hoist



Parts List of Chain Hoist

CFS000	CENTER FRAME ASSEMBLY	CFS056	CHAIN BUCKET	GBS017	O-RING
CFS001	MOTOR SIDE PLATE	CFS057	BUCKET SPRING	GBS018	TORQUE ADJUSTING NUT
CFS002	BALL BEARING	CFS058	BUCKET PIN	GBS019	2nd PINION
CFS003	LOAD CHAIN GUIDE	CFS059	HEX, BOLT	GBS020	SUNK KEY
CFS004	GUIDE ROLLER	CFS060	ROUND WASHER	GBS021	LOAD GEAR
CFS005	GUIDE ROLLER PIN	CFS061	HEX, NUT	GBS022	LOAD GEAR COLLAR
CFS006	HEX. SOCKETED BOLT	CFS062	SPLIT PIN	GBS023	SNAP RING
CFS007	HEX. SOCKETED BOLT	THS000	TOP HOOK ASSEMBLY	GBS024	DISC SPRING
CFS008	SPRING WASHER	THS001	TOP HOOK	GBS025	DU BUSH
CFS009	HEX NUT	THS002	TOP HOOK PIN-A	GBS026	OIL CAP
CFS010	CHAIN SEPARATER	THS003	SPRING WASHER	GBS027	OIL DRAIN PLUG
CFS011	LEVER SHAFT	THS004	HEX. NUT	GBS028	DU BUSH
CFS012	LIMIT COUPLING	THS005	ROUND WASHER	GBS029	GEAR BOX COVER
CFS013	GUIDE ROLLER BRACKET	THS006	SPLIT PIN	GBS030	HEX. NUT
CFS014	SPRING HOLDER PIN	THS007	TOP HOOK PIN-B	GBS031	HEX. SOCKETED BOLT
CFS015	SPRING	THS008	HEX. NUT	GBS032	SPRING WASHER
CFS016	CHAIN SLIDER	THS009	SPLIT PIN	GBS033	HEX. SOCKETED BOLT
CFS017	CHAIN SLIDER BOLT	THS010	SAFETY LATCH	GBS034	SPRING WASHER
CFS018	SPRING WASHER	THS011	LATCH SPRING	GBS035	SPRING PIN
CFS019	ROUND WASHER	THS012	SET SCREW	EES000	ELEC. EQUIPMENT ASS'Y
CFS020	LOAD SHEAVE	THS013	HEX. NUT	EES001	ELEC. EQUIPMENT PLATE
CFS021	OIL SEAL	THS014	ARM	EES002	HEX. SOCKETED BOLT
CFS022	OIL SEAL	THS015	HEX, SOCKETED BOLT	EES003	SPRING WASHER
CFS023	GEAR SIDE PLATE	THS016	HEX. NUT	EES004	PACKING
CFS024	BEARING HOUSING-A	THS017	SPLIT PIN	EES005	MAGNET CONTACTOR
CFS025	HEX, SOCKETED BOLT	BHS000	BOTTOM HOOK ASSEMBLY	EES006	SET SCREW
CFS026	SPRING WASHER	BHS001	BOTTOM HOOK	EES007	TRANSFORMER
CFS027	BEARING	BHS002	THRUST BEARING	EES008	SET SCREW
CFS028	BEARING HOUSING-B	BHS003	HEX. NUT	EES009	RECTIFIER / DIODE
CFS029	HEX, SOCKETED BOLT	BHS004	BOTTOM HOLDER	EES010	FUSE BOX
CFS030	SPRING WASHER	BHS005	HEX. SOCKETED BOLT	EES011	FUSE
CFS031	BEARING	BHS006	HEX. LOCK NUT	EES012	SET SCREW
CFS032	CENTER FRAME COVER	BHS007	IDLE SHEAVE	EES013	CABLE GRAND
CFS033	HEX, SOCKETED BOLT	BHS008	IDLE SHEAVE PIN	EES014	CABLE GRAND
CFS034	ROUND WASHER	BHS009	BEARING	EES015	DPSR
CFS035	COVER SEAL	BHS010	SAFETY LATCH	EES016	CAM SWITCH
CFS036	STUD BOLT-A	BHS011	LATCH SPRING	EES017	HEX. SOCKETED BOLT
CFS037	STUD BOLT-B	BHS012	SET SCREW	EES018	CAM SWITCH BRACKET
CFS038	STUD BOLT-C	BHS013	HEX. NUT	EES019	CAM SWITCH COLLAR
CFS039	STUD BOLT-D	GBS000	GEAR BOX ASSEMBLY	EES020	PUSH BUTTON CABLE
CFS040	HEX. NUT	GBS001	GEAR BOX	EES021	CABLE CLAMP
CFS041	SPRING WASHER	GBS002	SPRING PIN	EES022	HEX NUT
CFS042	SNAP RING	GBS003	GASKET	EES023	SPRING WASHER
CFS043	LOAD SHAFT	GBS004	HEX. SOCKETED BOLT	EES024	PUSH BUTTON SWITCH
CFS044	SNAP RING	GBS004	HEX. BOLT(3~5TON)	EES025	CONTROL BOX COVER
CFS045	HEX, BOLT	GBS005	SPRING WASHER	EES026	HEX. SOCKETED BOLT
CFS046	HEX, NUT	GBS006	ROUND WASHER	EES027	SPRING WASHER
CFS047	SPRING WASHER	GBS007	DRIVING SHAFT	EES028	LOAD LIMITER
CFS048	CHAIN STOPPER SET	GBS008	BEARING	EES029	SET SCREW
CFS049	HEX. SOCKETED BOLT	GBS009	BEARING	MOS000	HOIST MOTOR ASSEMBLY
CFS050	SPRING WASHER	GBS010	OIL SEAL	MOS001	SUNK KEY
CFS051	HEX, NUT	GBS011	1ST GEAR	MOS002	SNAP RING
CFS052	LOAD CHAIN(1FALL)	GBS012	FRITION HUB-A	BKS000	BRAKE ASSEMBLY
CFS052	LOAD CHAIN(2FALLS)	GBS013	FRITION HUB-B	BKS001	BRAKE COVER
CFS053	LOAD CHAIN HANGER	GBS014	FRICTION LINING	BKS002	HEX. SOCKETED BOLT
CFS054	BUFFER SPRING	GBS015	HUB SUPPORTER	BKS003	SPRING WASHER
CFS055	HEX. SOCKETED BOLT	GBS016	PRESSURE COLLAR	BKS004	LINNING HUB

CERTIFICATE

C E R T I F I C A T E



of Conformity
EC Council Directive 98/37/EC
Machinery

Registration No.: AM 50136419 0001

Report No.: 13008867 001

Holder: Samsung Machinery Co., Ltd.
242-21, Gojeong-ri,
Tongjin-eup, Gimpo,
Gyeonggi-do 415-862
Rep. of Korea

Product: Kettenförderer
Electric Chain Hoist

Identification: Type Designation(s): SC-Sxxx, SCT-Sxxx, SMO-Syyyy, SMT-Syyyy
xxx = 025, 050
yyyy = 1000, 2000, 3000, 5000
Serial No. : n.a. (Prototype)

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. This is to certify that the tested sample is in conformity with all provision of Annex I of Council Directive 98/37/EC, referred to as the Machinery Directive. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Annex II of the Directive.

Cologne, 26.08.2008



Certification Body

Dipl.-Ing. D. Löffler

TÜV Rheinland Product Safety GmbH - Am Grauen Stein - D-51105 Köln

CE The CE marking may be used if all relevant and effective EC Directives are complied with. CE

A series of horizontal lines for writing or notes. It starts with a thick black line at the top, followed by numerous thin blue lines.

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Installation or operation of the equipment in any manner other than as recommended by Seller, shall void the warranty.

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- (a) Under no conditions shall any goods be returned to Seller without its prior written consent.
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- (c) The quantity of material shown by invoice shall in all cases govern settlement for shortages, unless notice of shortage, appropriately documented, is given to the carrier and the Seller upon delivery by the Carrier.
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