



Electric Chain Hoist

Operation Manual & Parts List

Series:

- | | |
|--------------------------------------|-------------------------------------|
| ☐ YSS(D)-200 | ☐ YST(D)-200 |
| ☐ YSS(D)-250 | ☐ YST(D)-250 |
| ☐ YSS(D)-300 | ☐ YST(D)-300 |
| ☐ YSS(D)-500 | ☐ YST(D)-500 |
| ☐ YSS(D)-750 | |
| ☐ YSS(D)-1000 | |



CHENG DAY MACHINERY WORKS CO., LTD.

SAFETY-IMPORTANT

The use of any hoist and trolley presents some risk of personal injury or property damage.

That risk is greatly increased if proper instructions and warnings are not followed. Before using this hoist, each user should become thoroughly familiar with all warnings, instructions and recommendations herein.



This symbol points out important safety instructions which if not followed could endanger the personal safety and or property of yourself and others.

Read and follow all instructions in this manual and any provided with the equipment before attempting to operate your electric chain hoist.



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1. Foreword

This manual contains important information to help you properly install, operate and maintain the electric chain hoist for maximum performance, economy and safety.

Please study its contents thoroughly before putting the electric chain hoist into operation. By practicing correct operation, procedures and by carrying out the preventative maintenance recommendations, you will be assured of dependable service. In order to help us to supply correct spare parts quickly, please always specify,

- (1) Hoist model
- (2) Serial number
- (3) Part number, plus the description.

We will have your trust of Cheng Day's long term satisfactory service as our belief.

Should you have any queries, please contact :



(Please ask for a company's stamp from your local agent.)

2. MAIN SPECIFICATION

2.1 Specification

The following specifications are common to all electric chain hoists.

Table 2-1 Specifications

Item		Detail	
Working temperature range(°C)		-5 to +40	
Working humidity range (%)		85 or less	
Protection(Optional)	Hoist	IP 42	
	Push button	IP 65	
Electric power supply		Three Phase, 220V~600V,50Hz,60Hz	
Noise Level (dB)	Single speed hoist	81	
	Dual Speed hoist	81	
Chain size	WLL (working load limit)(t)	Nominal diameter (mm)	Pitch (mm)
	2T, 3T	10.0	30.2
	2.5T,5T, 7.5T, 10T	11.2	34.0

Remarks :

- (1) Contact an authorized dealer for information on using the hoist over the working temperature or humidity range.
- (2) For dimensions and other details, refer to the latest catalogue.
- (3) Noise levels were measured at a distance of 1m horizontally from the hoists during normal operation.

2.2 Mechanical Classification (Grade) and Life

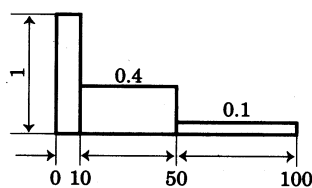
Safety and life for electric chain hoists are guaranteed only when the said equipment is operated in accordance with the prescribed grade.

Electric chain hoists have been designed for grade 2m except YSF-series 1Dm in the FEM regulations (FEM 9.511). Details are provided in Table 2-2.

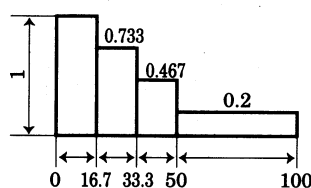
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classifications

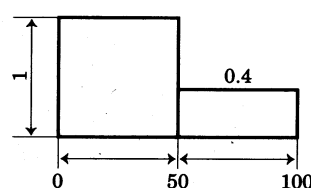
Load Spectrum (Load distribution)	Definitions	Cubic mean value	1Dm	2m
			Average daily operating time (h)	Average daily operating time (h)
			Total operating time (h)	Total operating time (h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	0.25-0.5	4-8
			800	12500
2 (medium)	Mechanisms or parts thereof, usually subject to small loads but rather often to maximum loads.	$0.50 < k \leq 0.63$	0.12-0.25	2-4
			400	6300
3 (heavy)	Mechanisms or parts thereof, usually subject to medium loads but frequently to maximum loads.	$0.63 < k \leq 0.80$	≤ 0.12	1-2
			200	3200
4 (very heavy)	Mechanisms or parts thereof, usually subject to maximum or almost maximum loads.	$0.80 < k \leq 1.00$	-	0.5-1
			-	1600



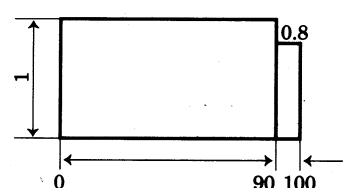
% operating time
Load spectrum 1



% operating time
Load spectrum 2



% operating time
Load spectrum 3



% operating time
Load spectrum 4

2.3 Safety Devices

(1) Motor brake

“Electro-Magnetic Brake” is of a unique design in its field. It features simultaneous motor braking upon switching off power even under full load condition.

(2) Mechanical load brake

The mechanical load brake can hold a full capacity load independent of motor brake.

This brake assures that load does not accelerate while being lowered.

(3) Hook and hook latch

The hook is drop-forged from high tensile steel and heat treated for strength and Toughness. The bottom hook is capable of 360° swivel and fitted with safety latch to ensure safe lifting.

(4) Phase error relay

The Phase error relay circuit has been exclusively developed to prevent motor from running when the phase are incorrectly connected.

(5) Limit Switches (except YSE series)

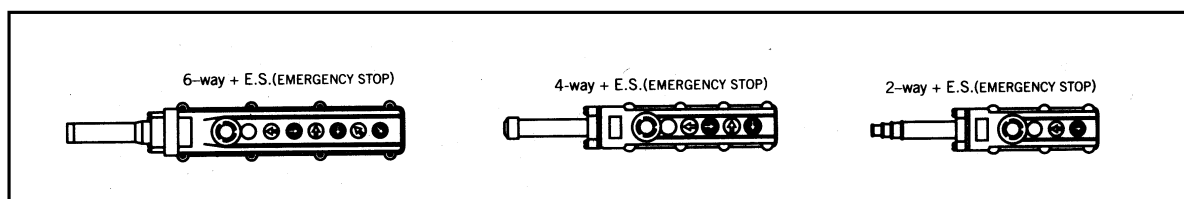
Upper and lower limit switches are fitted for switching off power automatically in case of over lifting or over lowering.

(6) Emergency stop device (optional)

This button is used to stop the hoist in an emergency situation. It is a red, Mushroom type button, located at the uppermost position of the pendant. When pressed, power to the equipment is switched off and the button locks automatically.

Turning it to the right will release the lock and enable re-starting.

(Illust.1)



Illust.1

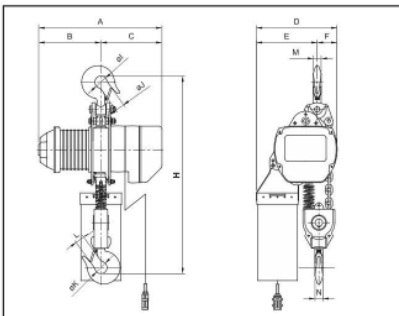
2.4 Main Specification and Dimensions of Hook Suspension Type Hoist :

■ SPECIFICATIONS:

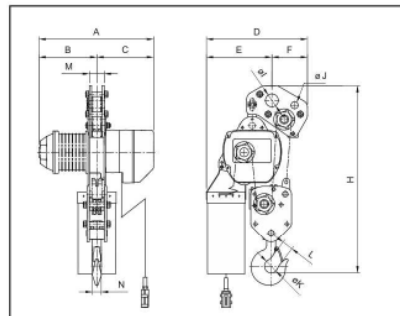
Capacity (ton)			2	2.5	3	5	7.5	10	15	20	30
Life Height (m)			3 (6) etc.								
Load Chain (mm)			Ø10	Ø11.2	Ø10	Ø11.2					
Single Speed (m/min)	50Hz	YSS	6.6	5.3	4.3	2.7	1.8	2.7	1.8	1.3	0.92
	60Hz	YSS	7.9	6.4	5.2	3.2	2.1	3.2	2.1	1.5	1.1
Dual Speed (m/min)	50Hz	YSSD	6.6/2.2	5.3/1.8	4.3/1.4	2.7/0.9	1.8/0.6	2.7/0.9	1.8/0.6	1.3/0.43	0.9/0.31
	60Hz	YSSD	7.9/2.6	6.4/2.1	5.2/1.7	3.2/1.1	2.1/0.7	3.2/1.1	2.1/0.7	1.5/0.5	1.1/0.37
Motor Power (kw)			3.7					3.7X2		5.0X2	
Motor Power (kw)			3.7/1.2					3.7/1.2X2		5.0/1.7X2	
Power Supply			3 Phase, 220V- 600V								
E.D. Rating (%)			40								
Load Chain Fall Number			1		2		3	4	6	8	12
N.W./G.W. (kg)			125/155	130/160	140/170	153/183	195/230	410/470	510/580	890/990	1035/1135
Packing LXWXH (cm)			73X57X51				73X70X70	86X80X75	140X85X97	170X105X167	175X110X185
Msrmnt (Cu.ft)			7.5				12.6	18.3	40.8	105.3	125.8

ØDual speed E.D. Rating = 40/20%

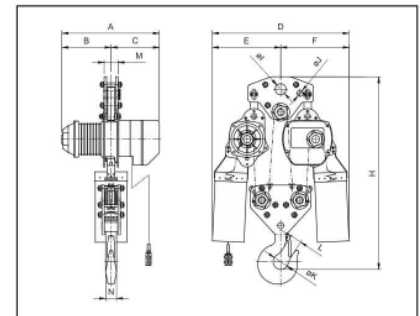
■ DIMENSIONS OF HOOK SUSPENSION TYPE HOIST:



YSS-200~500



YSS-750

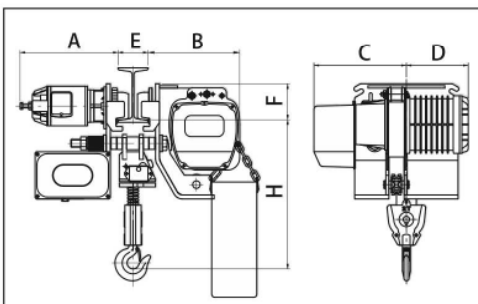


YSS-1000

■ SPECIFICATIONS:

Capacity (ton)	Model	Dimensions (mm)														
		H	A		B		C	D	E	F	I	J	K	L	M	N
2	YSS-200	835	640	SD689	326	SD375	314	448	278	170	52	40	52	40	34	34
2.5	YSS-250	880	640	SD689	326	SD375	314	448	278	170	52	40	52	40	34	34
3	YSS-300	960	640	SD689	326	SD375	314	448	340	108	52	40	52	40	34	34
5	YSS-500	1030	640	SD689	326	SD375	314	448	356	92	62	45	62	45	44	44
7.5	YSS-750	1150	640	SD689	326	SD375	314	587	388	199	72	40	75	55	83	48
10	YSS-1000	1270	640	SD689	326	SD375	314	970	485	485	72	40	100	70	91	64

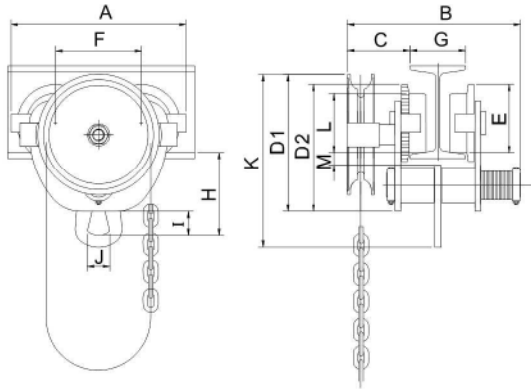
■ FEATURES OF YLT/YHT/YST SERIES:



Model	Capacity (ton)	Dimension (mm)							Hoisting			Traversing		
		H	A	B	C	D	E	F	Speed(m/min)		Motor kw pole	Speed(m/min)		Motor kw pole
									50Hz	60Hz		50Hz	60Hz	
YST-200	2	702	371	443	324	319	125-175	143	6.6	7.9	3.7,4P	20	24	0.6,4P
YSTD-200						376			6.6/2.2	7.9/2.6	3.7/1.2,4/12P	20/6.7	24/8	0.6/0.2,4/12P
YST-250	2.5	724	371	443	324	319	125-175	143	5.3	6.4	3.7,4P	20	24	0.6,4P
YSTD-250					376	5.3/1.8			6.4/2.1	3.7/1.2,4/12P	20/6.7	24/8	0.6/0.2,4/12P	
YST-300	3	765	371	443	274	363	125-175	143	4.3	5.2	3.7,4P	20	24	0.6,4P
YSTD-300					420	4.3/1.4			5.2/1.7	3.7/1.2,4/12P	20/6.7	24/8	0.6/0.2,4/12P	
YST-500	5	805	371	443	265	372	125-175	148	2.7	3.2	3.7,4P	20	24	0.6,4P
YSTD-500					429	2.7/0.9			3.2/1.1	3.7/1.2,4/12P	20/6.7	24/8	0.6/0.2,4/12P	

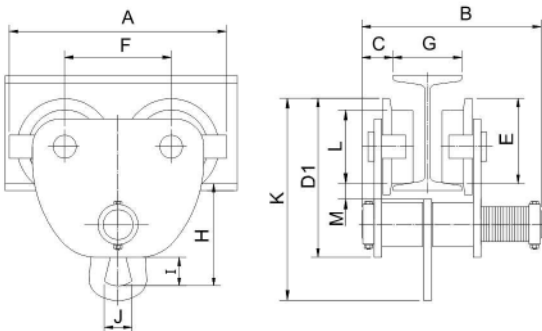
■ Trolley

● Geared Trolley (GT)



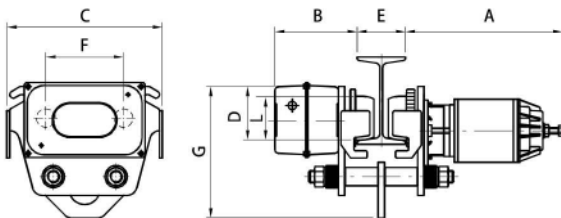
Model	Capacity (ton)	Dimensions (mm)														Min radius of curve (m)	NW. (kg)
		A	B	C	D1	D2	E	F	H	I	J	K	L	M	G		
GT-050	0.5	194	266	81	150	151	69	89	115	33	28	199	60	32	50-150	1	8.8
GT-100	1	217	273	84	170	167	78	100	125	35	31	221	70	29	75-150	1	13.5
GT-200	2	247	309	91	224	207	91	116	171	55	56	301	80	31	100-175	1.3	19.8
GT-300	3	270	346	96	241	239	103	130	215	79	60	355	90	35	100-200	1.5	30.3
GT-500	5	310	350	98	235	251	117	140	218	84	60	370	100	33	125-200	1.6	37
GT-750	7.5	368	382	110	280	292	135	184	260	103	76	435	120	40	150-200	2.2	64
GT-1000	10	398	389	114	301	322	152	197	275	105	76	467	140	35	150-200	2.2	86

● Plain Trolley (PT)



Model	Capacity (ton)	Dimensions (mm)														Min radius of curve (m)	NW. (kg)
		A	B	C	D1	E	F	H	I	J	K	L	M	G			
PT-050	0.5	194	220	35	151	69	89	115	33	28	199	60	32	50-150	1	6.4	
PT-100	1	217	227	39	167	78	100	125	35	31	218	70	29	75-150	1	10.6	
PT-200	2	247	260	43	207	91	116	171	55	56	284	80	31	100-175	1.3	16.8	
PT-300	3	270	300	50	239	103	130	215	79	60	353	90	35	100-200	1.5	25.8	
PT-500	5	310	304	52	251	117	140	218	84	60	370	100	33	125-200	1.6	32.6	
PT-750	7.5	368	343	72	292	135	184	260	103	76	435	120	40	150-200	2.2	59.5	
PT-1000	10	398	350	75	322	152	197	275	105	76	467	140	35	150-200	2.2	81.4	

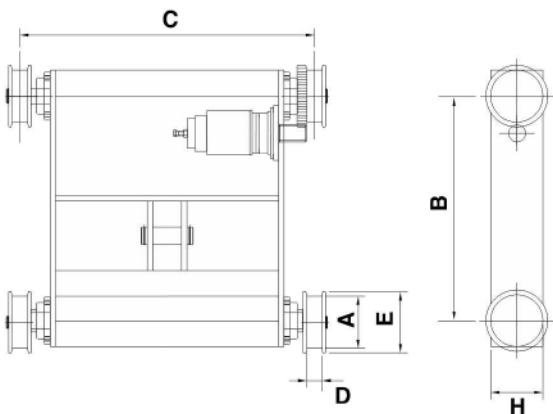
● Monorail Motorized Trolley (MT)



Model	Capacity (ton)	Dimensions (mm)								Speed (m/min)		Motor (kw)	Pole (P)	Min radius of curve (m)	NW. (kg)
		A	B	C	D	E	F	G	L	50Hz	60Hz				
MTS-100	1	328	173	294	105	75-125	149	253	78	20	24.16	0.25/0.17	4/6	1.3	40
MTD-100										20/6.7	24/8	0.25/0.08	4/12		
MTS-200	2	328	173	322	119	100-150	161	279	90	20	24.16	0.25/0.17	4/6	1.5	45
MTD-200										20/6.7	24/8	0.25/0.08	4/12		
MTS-300	3	368	180	356	124	125-175	172	303	100	20	24.16	0.6/0.4	4/6	1.8	65
MTD-300										20/6.7	24/8	0.6/0.2	4/12		
MTS-500	5	372	184	386	134	125-175	183	327	110	20	24.16	0.6/0.4	4/6	2.0	89
MTD-500										20/6.7	24/8	0.6/0.2	4/12		
MTS-750	7.5	411	193	454	167	150-200	229	400	140	20	24	0.9	4	3.0	155
MTD-750										20/6.7	24/8	0.9/0.3	4/12		
MTS-1000	10	577	193	560	205	150-200	278	450	160	15	18	1.5	4	3.5	218
MTD-1000										15/5	18/6	1.5/0.5	4/12		
MTS-1500	15	576	212	702	274	190	360	574	180	12	14	1.5	4	-	350
MTD-1500										12/4	14/4.7	1.5/0.5	4/12		
MTS-2000	20	656	223	882	365	200	416	674	250	13	15	2.2	4	-	575
MTD-2000										13/4.3	15/5	2.2/0.73	4/12		

MTS-100~500: 50Hz uses 4P motor; 60Hz uses 4P or 6P motor
(Please specify as ordering 6P motor)

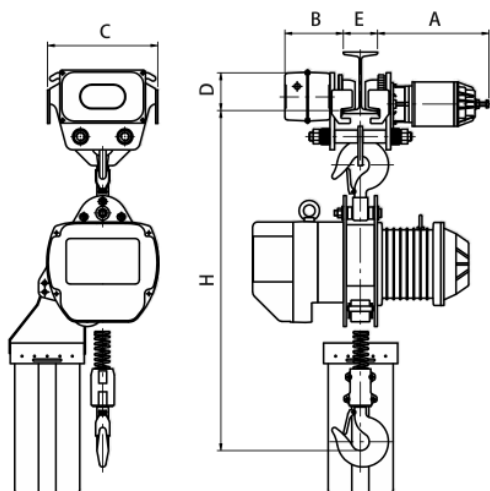
● Motor Saddle Trolley (MST)



Model	Capacity (ton)	Speed (m/min)		Dimensions (mm)						Motor (kw)	Pole (P)	NW. (kg)
		50Hz	60Hz	A	B	C	D	E	H			
MSTS-100	1	20	19	120	580	700	40	147	125	0.25	4	94
MTD-100		20/6.7	19/6.3							0.25/0.08	4/12	
MSTS-200	2	20	19	120	580	700	40	147	125	0.25	4	94
MTD-200		20/6.7	19/6.3							0.25/0.08	4/12	
MSTS-300	3	18	22	150	650	850	45	176	155	0.4	4	182
MTD-300		18/6	22/7.3							0.4/0.13	4/12	
MSTS-500	5	18	22	150	650	850	45	176	155	0.6	6	182
MTD-500		18/9	22/11							0.6/0.3	6/12	
MSTS-750	7.5	19	23	160	800	1000	50	187	225	0.9	4	306
MTD-750		19/6.3	23/7.7							0.9/0.3	4/12	
MSTS-1000	10	21	20	215	900	1200	50	246	327.5	0.9-2pcs	4	504
MTD-1000		21/7	20/6.7							0.9/0.3-2pcs	4/12	

MST-100 — 50Hz with pinion of M3.5x15T
MST-200 — 60Hz with pinion of M3.5x12T
MST-1000 —
MST-300 — 50Hz/60Hz with pinion of M3.5x13T
MST-500 — 50Hz/60Hz with pinion of M3.5x20T
MST-750 — 50Hz/60Hz with pinion of M3.5x15T

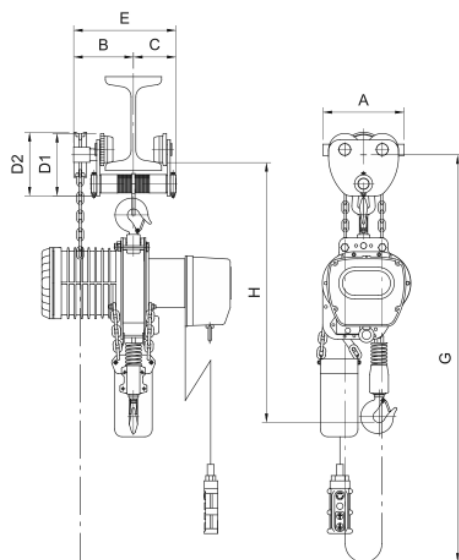
■ DIMENSIONS OF HOIST WITH MOTORIZED TROLLEY



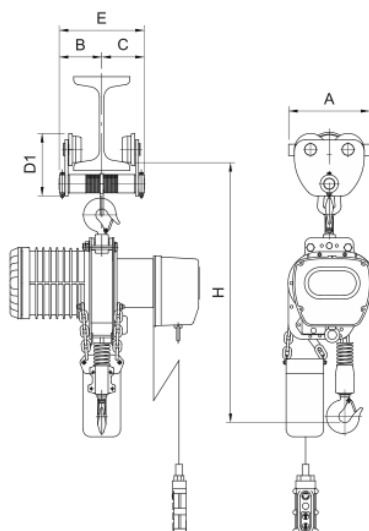
Capacity (ton)	Model	Dimensions(mm)					
		H	A	B	C	D	E
YSS	2 MT-200	995	328	173	322	119	100-150
	2.5 MT-300	1040	368	180	356	124	125-175
	3 MT-300	1120	368	180	356	124	125-175
	5 MT-500	1200	372	184	386	134	125-175
	7.5 MT-750	1300	381	193	454	167	150-200
	10 MT-1000	1415	471	193	560	205	150-200

YSS-2ton~10ton

■ DIMENSIONS OF HOIST WITH GT / PT



Hoist With GT



Hoist With PT

Capacity (ton)	Model	Dimensions(mm)								Flange Width (mm)
		H	A	B	C	D1	D2	E	G	
YSS	2 GT-200	1010	247	179	130	224	207	309	3279	100-175
	2 PT-200	1010	247	130	130	207	-	260	-	100-175
	2.5 GT-300	1100	270	196	150	241	239	346	3353	100-200
	2.5 PT-300	1100	270	150	150	239	-	300	-	100-200
	3 GT-300	1175	270	196	150	241	239	346	3353	100-200
	3 PT-300	1175	270	150	150	239	-	300	-	100-200
	5 GT-500	1250	310	198	152	235	251	350	3356	125-200
	5 PT-500	1250	310	151	152	251	-	304	-	125-200

3. SAFETY RULES

DANGER

The hoist herein is not designed for, and should not be used for, lifting, supporting, or transporting personnel. Any modifications to upgrade, re-rate, or otherwise alter the hoist equipment must be authorized by either the original manufacturer or a qualified professional engineer.

(1) Only the trained personnel are allowed to operate the hoist.

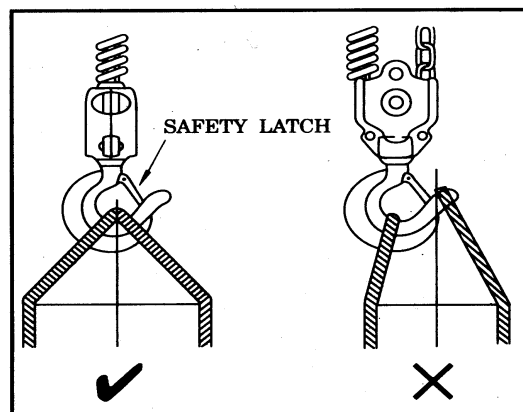
(2)

DANGER

Do not use the hoist in explosive atmosphere.

(3) Prior to each lifting operation, it is essential to make sure that:

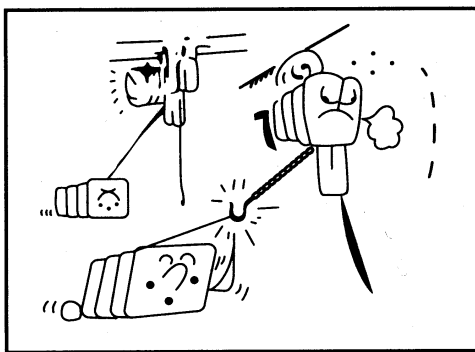
- (a) The correct lifting sling is being used.
- (b) The lifting sling is located in the hook as shown below (Illus. 2) and that a safety latch has been fitted.



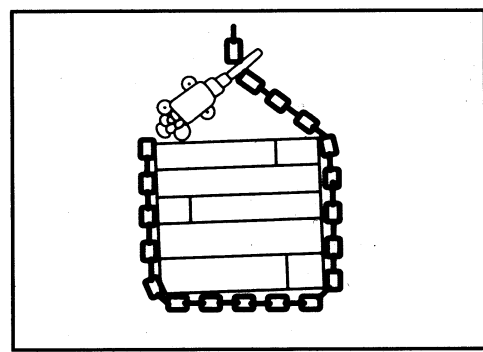
Illus. 2

- (c) The object to be hoisted is well secured for direct lifting (a proper lifting frame or apparatus is strongly recommended for direct lifting.)

- (4) Firm and steady button operation is required, never push the button switch intermittently.
- (5) Always avoid excessive inching operation.
- (6) Always make sure the hoist motor completely stops before reversing.
- (7) Always leave the push button switch cable and bottom hook vertically static after completion of operation, never leave them at any position which may cause swing or slip.
- (8) Sling must be applied to load evenly and centrally to ensure correct balance. Never lift any object which is insecure or out of balance.
- (9) Never use hoist to end or side pull a load. (Illus. 3)
- (10) Never wrap around and hook back the load chain as a sling to lift a load. (Illus. 4)



Illus. 3



Illus. 4

(11)

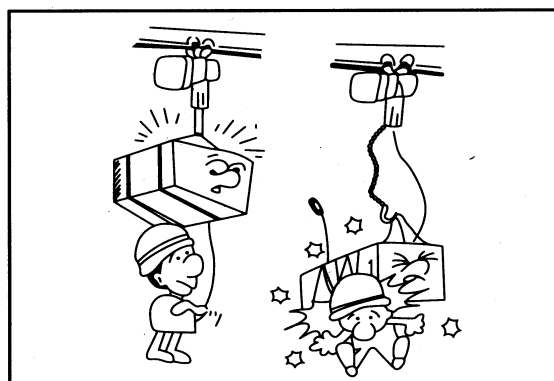
! WARNING

Do not use the hoist chain as a welding electrode.

(12)

! DANGER

Never stand under a raised load (Illus. 5)



Illus. 5

- (13) Lifting must always be personally attended, never leave a raised load unattended.
- (14) Over-capacity-load lifting is hazardous and should not be undertaken.
- (15) Never lift a load when the load chain is twisted.
- (16) Regularly inspect and check the condition of load chain. Do not operate with damaged chain.
- (17) Bucket Specifications:

Key No.	Bucket No.	Chain Size	Chain length (M)	Bucket Size (mm)	Material
200781	6	Ø10	< 8.8	190 × 190 × 440	canvas
200782	7	Ø10	8.8 - 20.8	190 × 190 × 560	canvas
200783	8	Ø10	21 - 30.8	190 × 190 × 680	canvas
200784	8-1	Ø10	21- 26.8 M	400 × 210 × 605 × t2	steel
200785	9	Ø10	27 - 38.8 M	400 × 210 × 695 × t2	steel
200786	10	Ø10	39 - 47.8 M	400 × 210 × 770 × t2	steel
200781	6	Ø11.2	< 8.8	190 × 190 × 440	canvas
200782	7	Ø11.2	8.8 - 18.8	190 × 190 × 560	canvas
200783	8	Ø11.2	19 - 27.8	190 × 190 × 680	canvas
200784	8-1	Ø11.2	< 19M	400 × 210 × 605 × t2	steel
200785	9	Ø11.2	19.8 - 31 M	400 × 210 × 695 × t2	steel
200786	10	Ø11.2	32 - 40.8 M	400 × 210 × 770 × t2	steel

4. INSTALLATION

4.1 Unpacking Information

After removing the hoist from its packing box, carefully inspect the external condition of the electrical cables, contactor, gearbox and motor casing for damage.

Check and ensure that these items are present.

Each hoist is supplied as standard with the following accessories:

1.Chain bucket	1 set
2.Power cable	3 meters
3.Push button control switch	1 piece

Table 4-1

4.2 Voltage

CAUTION

If power supply deviates from standard by more than $\pm 10\%$ abnormal operation or damage to the motor may result. It is imperative to ensure correct voltage supply before commencing operation.

4.3 Installation

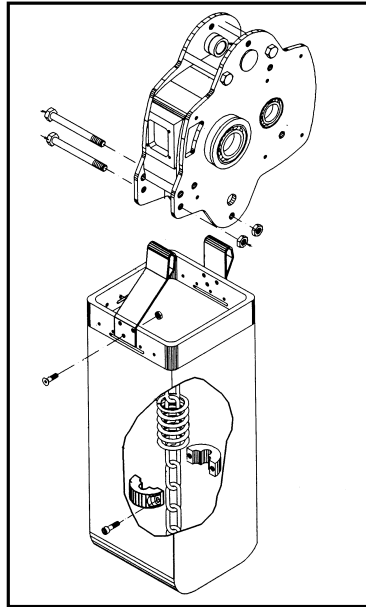
WARNING

Connection to power supply before installation procedures having been completed is strictly prohibited.

(1) Prior to installation check and ensure that the top hook assembly is securely attached to the hoist by means of the connecting pin (page 35, item 13)

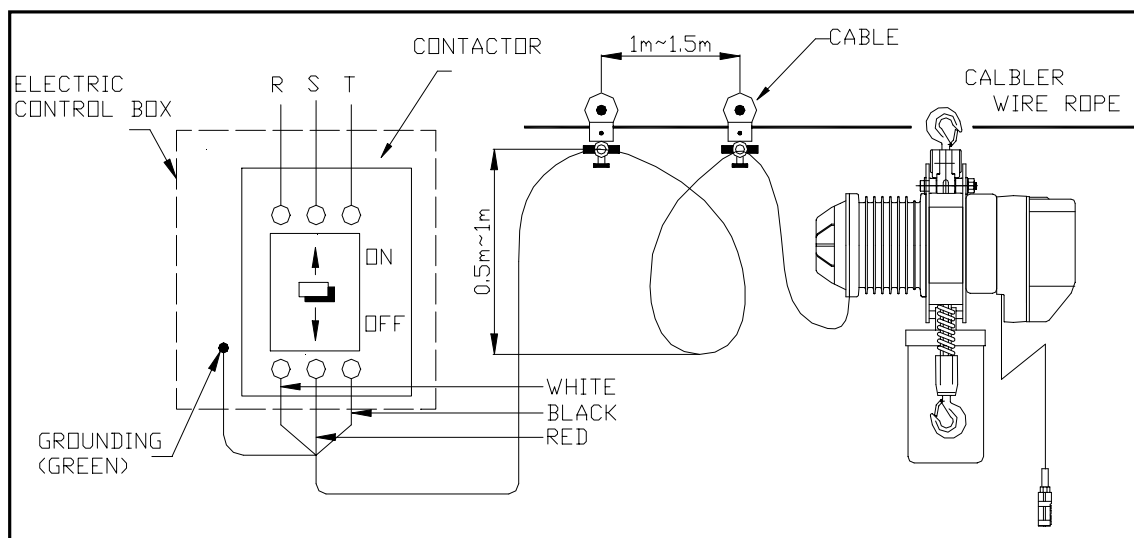
NOTE : If the hoist is to be suspended from an electric trolley, assembly may be eased by firstly removing the top hook, just attaching hoist top hook to the trolley load plate.

(2) Assemble chain bucket.



Illus. 6

(3) Connect power supply to hoist and operate the push button switch. This operation must be carried out by a trained person .



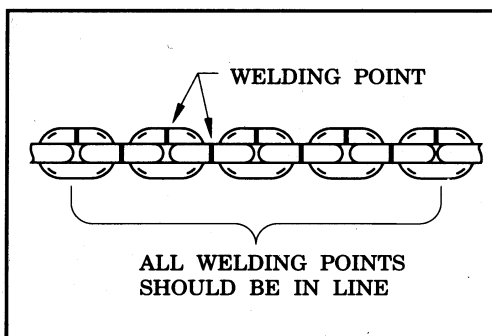
Illus. 7

(4) Operation Test

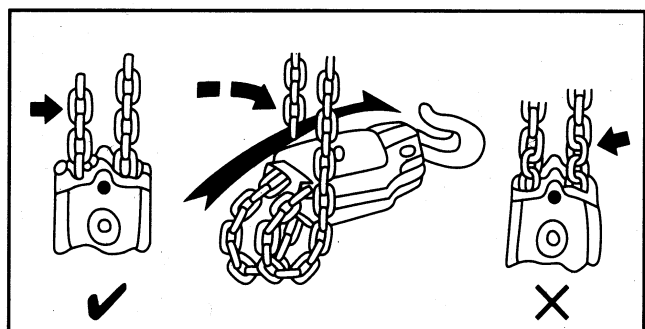
- (A) Firmly push  switch button to lower load chain until the limit spring touches the limit switch. Power should be cut off automatically.
- (B) Firmly push  switch button to check the collection of load chain into chain bucket.
- (C) Check the emergency stop device function (if fitted):
While holding down either  or  button on the push button switch, push the emergency stop button. Check that the hook stops when the emergency stop button is pushed. Also, check the hoist does not move in response to the push button switch. Finally, check that the emergency stop device pops out when turned to the right and that operation can be resumed thereafter. If the equipment fails to pass another above checks, check the wiring and automatic locking function of the emergency stop device.
- (D) Check load chain lubrication (It has been lubricated at our works, but the lubricant may dry out during transportation). Any readily available lubricant is recommended. It is further advisable to keep a small amount of lubricant in chain bucket to allow chain in oil bath.
- (E) Check chain position. Weld joints on links must face the same direction (Illus. 8), correct chain operation can only be achieved when all joints are vertically in line.

CAUTION

The bottom hook on multi-fall hoist must never be rotated as shown below (Illus. 9).



Illus. 8



Illus. 9

5. OPERATION

After running test and checks have been completed, the hoist will be ready for normal operation.

WARNING

Since dealing with heavy loads may involve unexpected danger, all of the "SAFETY RULES" (Ref 3.) must be followed and the operator must be aware of the following points while using the hoist.

- (1) The operator must have a clear and unobstructed view of the entire working area before operating the hoist.
- (2) The operator must check that the entire working area is safe and secure before operating the hoist.
- (3) When using the hoist with a motorized trolley, the operator must take care to prevent excessive load swinging by sympathetic use of the trolley controls.

6. MAINTENANCE AND INSPECTION

DANGER

Do not perform maintenance on the hoist while it is carrying a load except monthly checking for the brake or limit switch.

DANGER

Before performing maintenance do not forget to affix tags to the power source and the push button switch reading: "DANGER", "EQUIPMENT BEING REPAIRED".

6.1 Maintenance

- (1) Check the level of gear box lubricant after the first 500 hours operation, thereafter check every 3 months and lubricate accordingly.
NOTE: WE RECOMMEND USING A LUBRICANT OIL EQUIVALENT TO ISO VG460.
- (2) Always keep the hoist unit dry and never misuse it in a manner likely to reduce its durability.
- (3) When it is necessary to keep the unit outdoors, a protective covering should be fitted.

6.2 Inspection

(1) Daily inspection: Before starting daily operation, check the following

- (a) Correct power supply.
- (b) "Up", "Down" and "Emergency stop" (where fitted) test runs under no load.
- (c) Correct motor performance.
- (d) No abnormal or excessive noise.
- (e) No malfunction of the bottom hook safety latch.
- (f) Proper function of moving/turning parts, limit switches and brake.
- (g) Well lubricated load chain.

(2) Monthly inspection

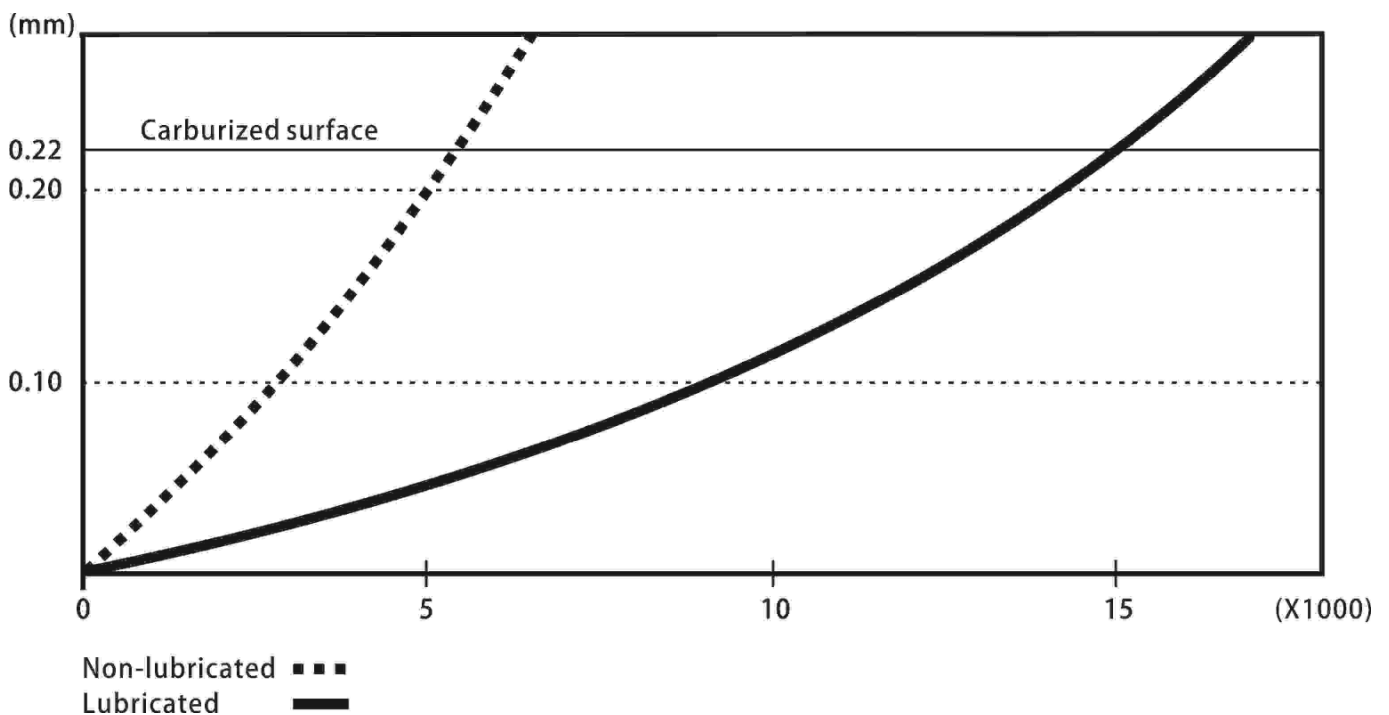
(a) Load chain :

Chain Wearing Test

Load Spectrum	Cubic mean Value	Using times	
		Non-lubricated	Lubricated
1 (Light)	50%	44000	120000
2 (Medium)	63%	22000	60000
3 (Heavy)	80%	11000	30000
4 (Very heavy)	100%	5500	15000

Above testing data under lifting height 1M

1M pinpoint wearing test(100%Capacity)

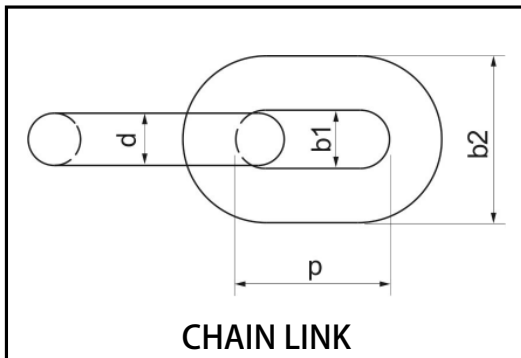


Number of cycles (Lifting + lowering)

! WARNING

Always use the hoist manufacture's recommended parts when repairing a hoist.

Distorted, elongated or worn chain link will not sit properly on the load sprocket wheel and may cause chain breakage and/or damage to the hoist unit. To ensure safe and efficient operation, the chain links must be checked for their pitch (inside length), inside width and outside width monthly according to following table.

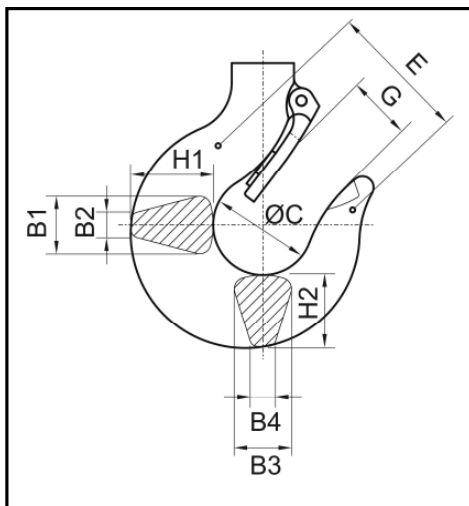


Dia-Meter (m/m) (d)	Load (ton)	Inside Length (m/m) (p)	Inside Width (m/m) (b1)	Outside Width (m/m) (b2)	Breaking Load (kN)
10.0	2,3T	30.2	12.5	33.2	128
11.2	2.5,5T 7.5,10T	34	14	37.5	160

Table 6-2-a

(b) Load hook:

Check hook with care. If hook shows crack deformation or wear in excess of 5% of its original size, it should be replaced (Ref. following table)



Capacity (ton)	Dimensions (mm)									Allow Stress (kg/mm ²)
2,2.5,3	H1	B1	B2	H2	B3	B4	C	G	E	70
5	66	44	23	60	44	23	62	45	100	70
7.5	75	48	16	68	48	16	75	55	105	100
10	100	68	27	95	64	27	100	70	150	70

Table 6-2-b

(c) Limit Switches :



A qualified electrician should perform this inspection.

Check correct operation of the limit switches. Clean thoroughly and apply a thin lubrication to ensure correct operation.

(3) Annual inspection



Your dealer should be asked to perform this inspection.

- (a) Check gearing for any excessive wear or damage.
- (b) Replace gearbox lubricant completely (1400 C.C~1500C.C $\pm 10\%$), as following table for your reference Table 6-2-c.
- (c) Check brake lining and ratchet pawl for any wear or damage.
- (d) Check operation of pawl spring.
- (e) After reassembly of above check, lifting a load several times to ensure good performance of the hoist before starting duty operation.

※ Oil Quality Table

For Load Chain / All Model						
Model	Lubricate Method	Lubricant Adding		Lubricant Changing		Recommended oils
		Period	Q'ty / c.c.	Period	Q'ty / c.c.	
All Model	Smear oil on load chain surface	Weekly	-	-	-	ISO VG460
All Gear Box	Soak in oil	Monthly	Suitable	Annual	1400 ~ 1500	ISO VG460

※ Table of recommended oils

ISO-VGDIN 51519 viscosity At 40°C mm ² /s (cST)	Approximate viscosity of the VG Categories 50°C mm ² /s (cST)	ARAL	BP	ESSO	MOBIL OIL
VG460	251	Aral Degol BG 460-BMB 460	BP Energol GR-XP 460	Spartan EP-460	Mobilgear 634

ISO-VGDIN 51519 viscosity At 40°C mm ² /s (cST)	Approximate viscosity of the VG Categories 50°C mm ² /s (cST)	SHELL	TEXACO	I.P.	AGIP	TOTAL
VG460	251	Omala oil 460	Meropa 460	Mellana 460	Blasia 460	Carter EP 460

Table 6-2-c

Chain Gauge — Wear and Stretch Measuring

- (1) The chain gauge is useful and convenience for measuring.
- (2) Please use a chain gauge to measure the chain pitch and diameter, such as illustrations (1) and (2).
- (3) Every chain ring must be measured , and the chain must be replaced when one of chain rings is wear or stretch.
- (4) It will be a cutting-out possibility if you use a chain fall either wear or stretch during operation.
- (5) Do not replace a chain fall by yourself and do please contact specific either service centers or contractors to help you out.
- (6) The chain fall must be replaced whole instead of a partial part.
- (7) The load sheave, regulator, and chain compressing wheel must be replaced the same time as you do a second time replacement.

Remark

- (1) Chain must be perfect condition without any defects and attachments.

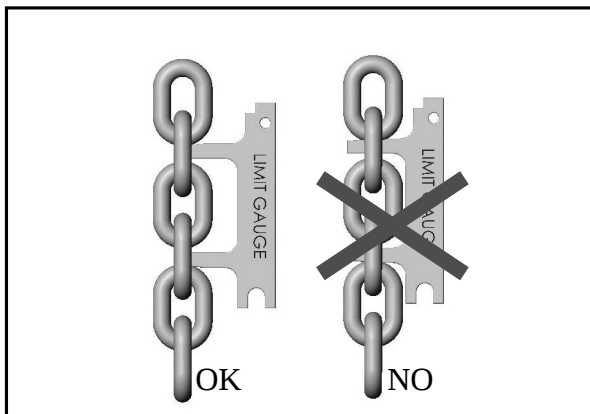


Illustration (1)
Chain pitch measure

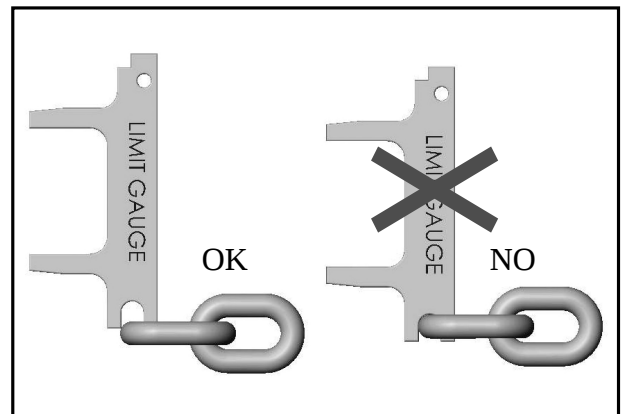


Illustration (2)
Diameter measure

7. TROUBLESHOOTING

7.1 Wiring Diagrams

(1) C10011 : dual voltage 220V/380V +220V/440V +230V/460V motor lead wiring diagram	22
(2) A50005A-1RM : single speed wiring diagram	23
(3) A80004RM : dual speed wiring diagram	23
(4) A50131A-1RM : 10Tons, single speed wiring diagram	24
(5) A80009RM : 10Tons, dual speed wiring diagram	24
(6) A50226-1RM : YST series, single speed wiring diagram	25
(7) A80022RM : YSTD series, dual speed wiring diagram	25

The above models are available in the following specification :

- (a) 3-Phase
- (b) 50 or 60 Hertz
- (c) Single and dual voltage

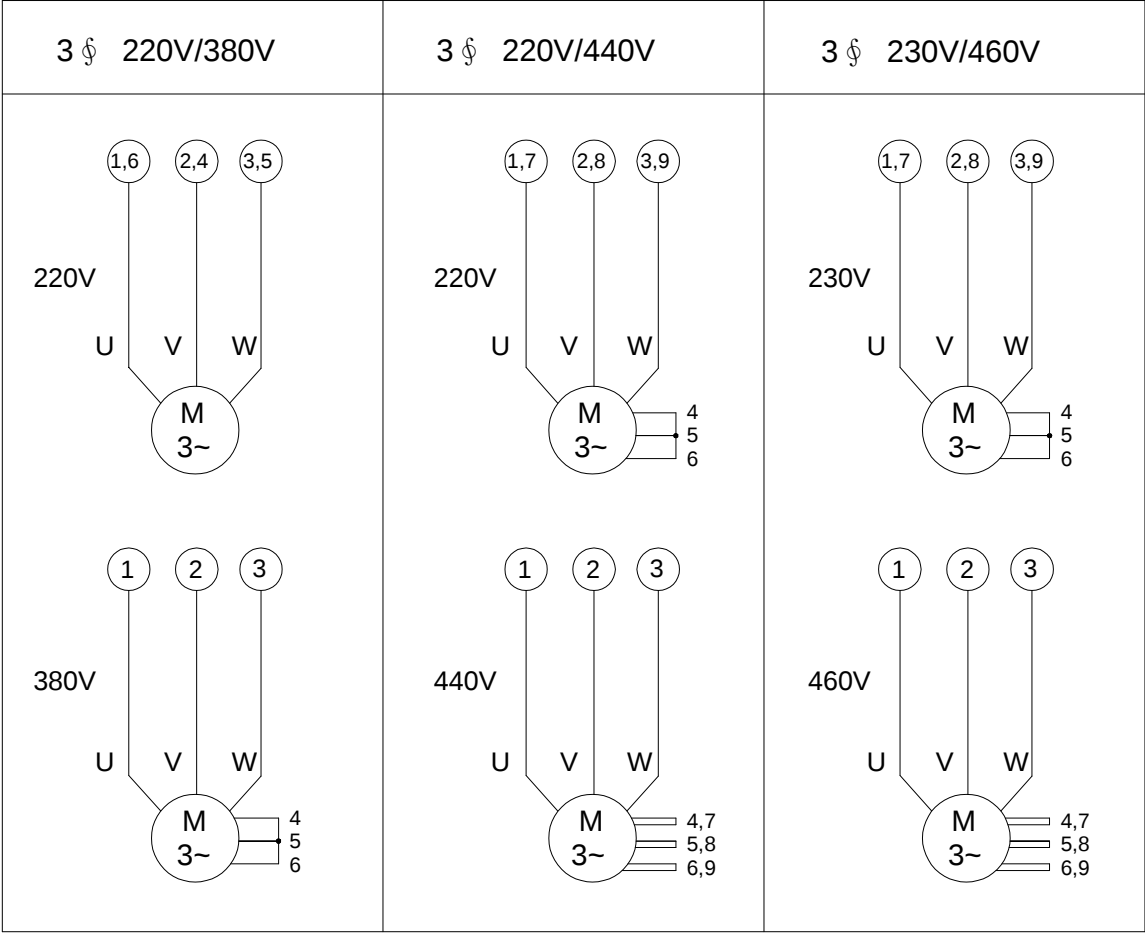
Voltage Hertz	Dual Voltage	Single Voltage
50 Hz	220V/380V	220V
60 Hz	220V/440V 230V/460V	to 600V

Table 7-1

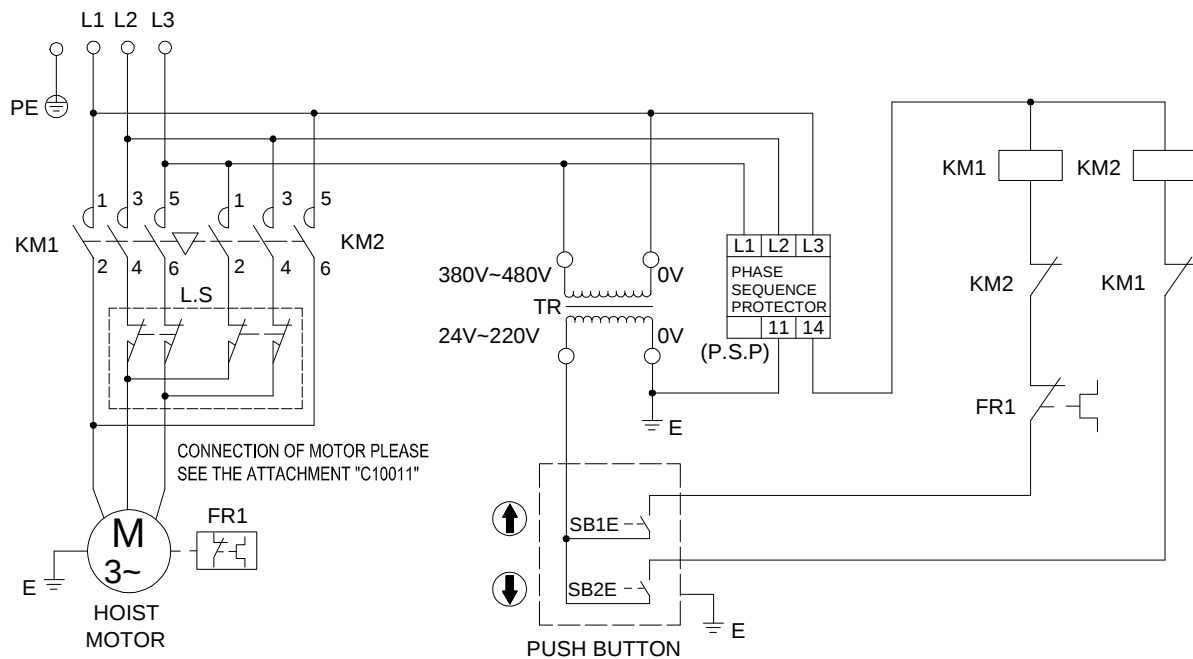
Warranty Details

1. Warranty Period : One year for Mechanical Spare Parts after purchase the product.
2. Non-Warranty Scope :
 - a. Electrical Spare Parts (ex. Contactor, Pendant, Phase Error Relay, etc.)
 - b. Expense Spare Parts (ex. Chain Bucket, Brake Lining, etc.)
 - c. Damage caused by unsuitable operation.
(ex. Galvanize plant, Chemical Plant, Dye-work, etc.)
 - d. Damage caused by operating on the wrong electric voltage.
 - e. Damage caused by user amend the product.
 - f. Damage caused by natural disaster.
3. Warranty Scope shall be permitted by Cheng Day Machinery and Within One Year of damaged Mechanical Spare Parts Repair and Replacement.
(circumstance stated in detail No. 2 are not included.)

DUAL VOLTAGE CONNECTION OF MOTOR LEADS

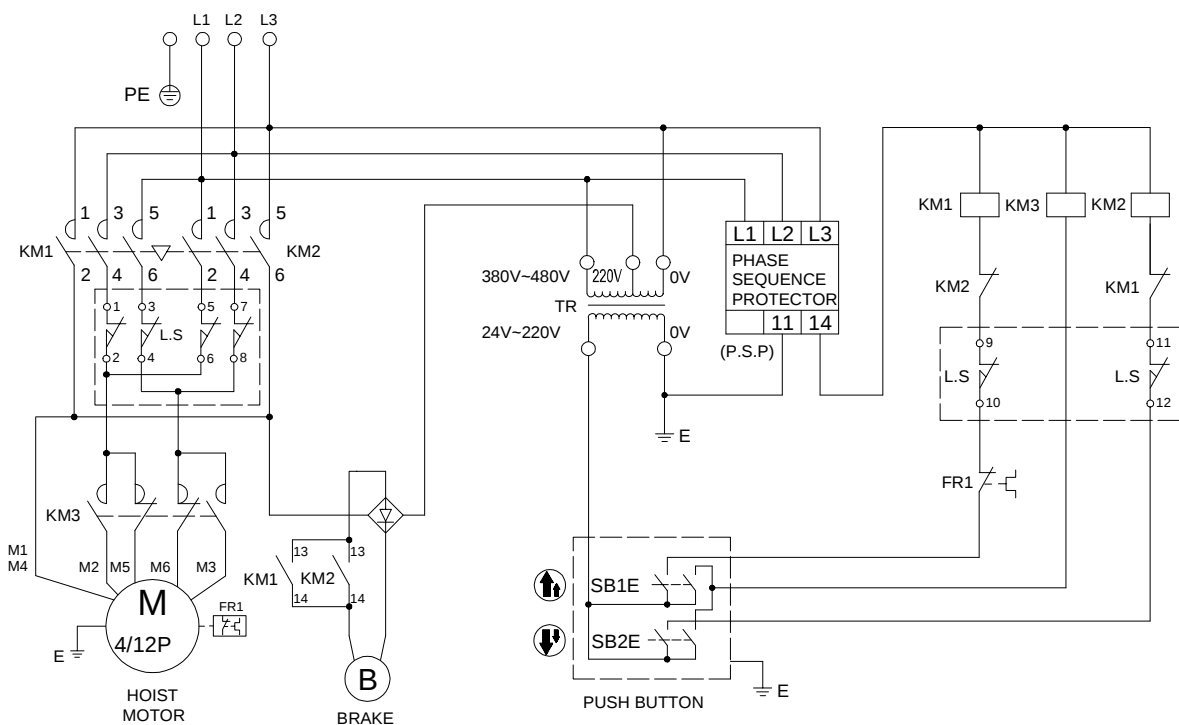


C10011



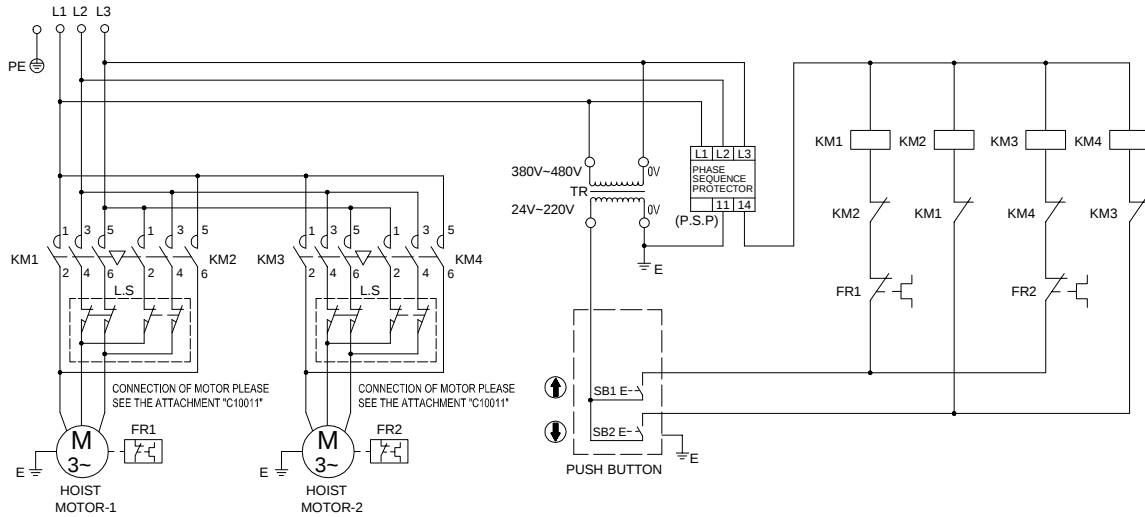
PE:PROTECTION EARTH
 SB1:PUSH BUTTON "UP"
 SB2:PUSH BUTTON "DOWN"
 TR:TRANSFORMER
 KM1:CONTACTOR FOR "UP"
 KM2:CONTACTOR FOR "DOWN"
 FR1:TEMPERATURE SWITCH
 L.S.:LIMIT SWITCH FOR UP/DOWN
 P.S.P:PHASE SEQUENCE PROTECTOR

A50005A-1RM



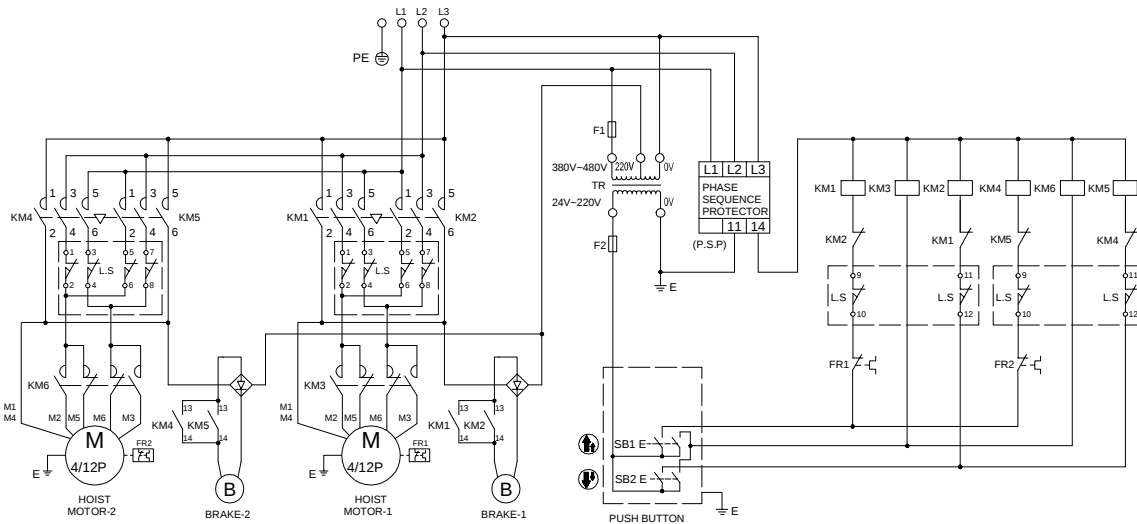
PE:PROTECTION EARTH
 SB1:DUAL SPEED,PUSH BUTTON "UP"
 SB2:DUAL SPEED,PUSH BUTTON "DOWN"
 TR:TRANSFORMER
 KM1:CONTACTOR FOR "UP"
 KM2:CONTACTOR FOR "DOWN"
 KM3:CONTACTOR FOR "UP"&"DOWN" DUAL SPEED
 FR1:TEMPERATURE SWITCH
 L.S.:LIMIT SWITCH FOR UP/DOWN
 P.S.P:PHASE SEQUENCE PROTECTOR

A80004RM



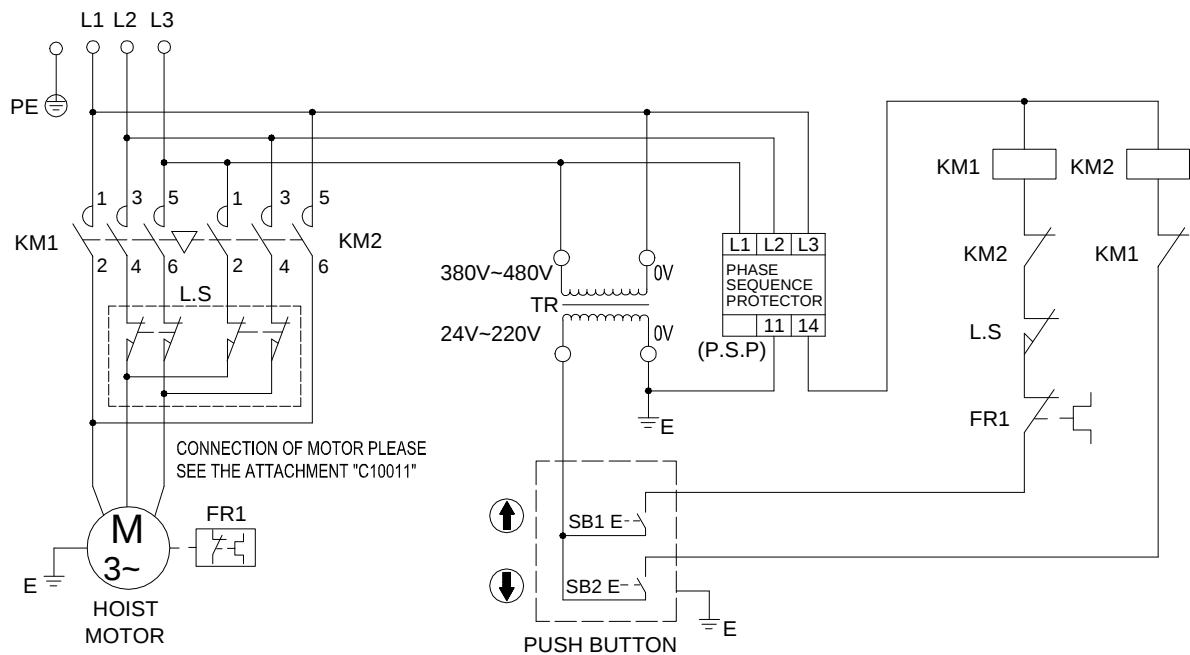
PE:PROTECTION EARTH
 SB1:PUSH BUTTON "UP"
 SB2:PUSH BUTTON "DOWN"
 TR:TRANSFORMER
 KM1,KM3:CONTACTOR FOR "UP"
 KM2,KM4:CONTACTOR FOR "DOWN"
 FR1,FR2:TEMPERATURE SWITCH
 L.S:LIMIT SWITCH FOR UP/DOWN
 P.S.P:PHASE SEQUENCE PROTECTOR

A50131A-1RM



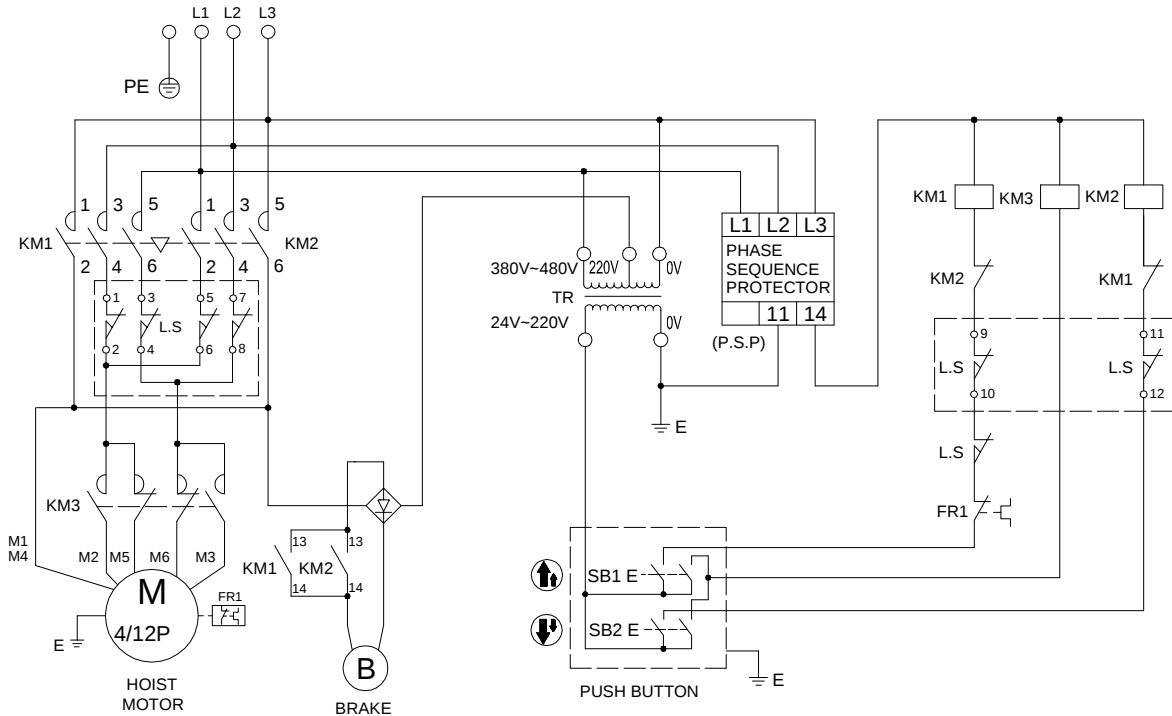
PE:PROTECTION EARTH
 SB1:DUAL SPEED,PUSH BUTTON "UP"
 SB2:DUAL SPEED,PUSH BUTTON "DOWN"
 TR:TRANSFORMER
 KM1,KM3:CONTACTOR FOR "UP"
 KM2,KM4:CONTACTOR FOR "DOWN"
 KM3,KM6:CONTACTOR FOR "UP"&"DOWN" DUAL SPEED
 FR1,FR2:TEMPERATURE SWITCH
 L.S:LIMIT SWITCH FOR UP/DOWN
 P.S.P:PHASE SEQUENCE PROTECTOR

A80009RM



PE:PROTECTION EARTH
 SB1:PUSH BUTTON "UP"
 SB2:PUSH BUTTON "DOWN"
 TR:TRANSFORMER
 KM1:CONTACTOR FOR "UP"
 KM2:CONTACTOR FOR "DOWN"
 FR1:TEMPERATURE SWITCH
 L.S.:LIMIT SWITCH FOR UP/DOWN
 P.S.P.:PHASE SEQUENCE PROTECTOR

A50226-1RM



PE:PROTECTION EARTH
 SB1:DUAL SPEED,PUSH BUTTON "UP"
 SB2:DUAL SPEED,PUSH BUTTON "DOWN"
 TR:TRANSFORMER
 KM1:CONTACTOR FOR "UP"
 KM2:CONTACTOR FOR "DOWN"
 KM3:CONTACTOR FOR "UP"&"DOWN" DUAL SPEED
 FR1:TEMPERATURE SWITCH
 L.S.:LIMIT SWITCH FOR UP/DOWN
 P.S.P.:PHASE SEQUENCE PROTECTOR

A80022RM

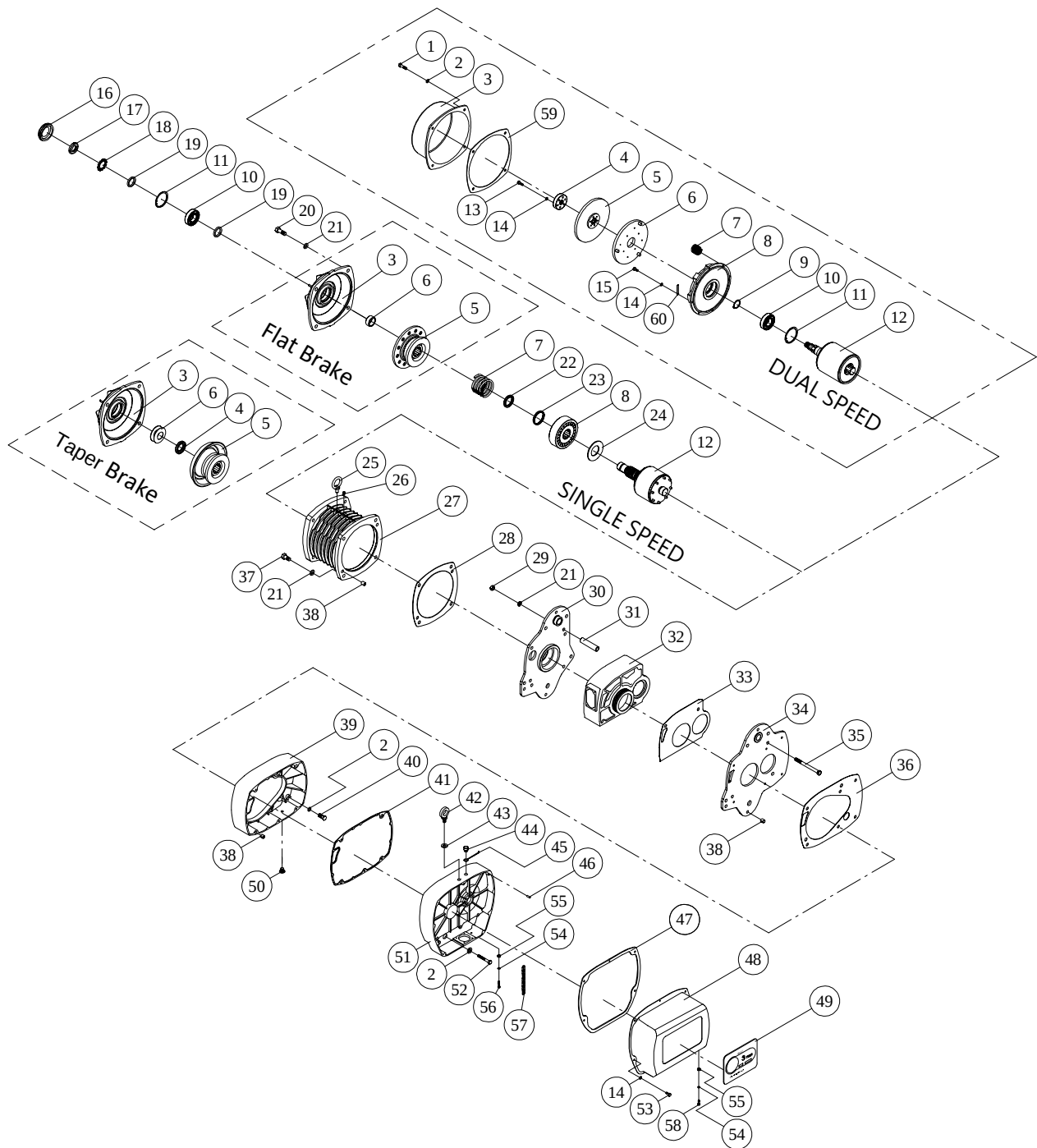
7.2 Troubleshooting and Remedial action

SITUATION	CAUSE	REMEDY
Hoist will not operate	(1) Phase error relay operated due to incorrect phase connections	Reverse any two phase connections.
	(2) Blown power fuse or tripped power circuit breaker	Check supply requirements and replace the fuse/reset breaker to meet requirements.
	(3) Blown control circuit fuse	Check fuse for correct rating and replace
	(4) Broken/disconnected power or control circuit wire	Locate and repair/reconnect
	(5) Low supply voltage	Check if 10% reduction of voltage, have mains supply checked.
	(6) Motor hums but does not rotate	Check phases of motor - insulate and repair.
	(7) Emergency stop button release pushed (if fitted)	Check the cause as necessary
	(8) Faulty contactor	Operate manually if hoist runs then control circuit/coil is faulty - locate fault and repair. If hoist does not run then check main supply. If input supply is correct but there is a faulty output supply then replace the contactor
Hoist will not stop	Welded contacts in contactor	Replace contactor
Brake slips	Abrasion of motor brake	Replace
Abnormal sound. on load chain/ chain sprocket	(1) Chain dry	Lubricate
	(2) Worn chain sprocket	Replace load chain and chain sprocket
Electric shock	(1) Poor earth connection	Provide correct earth connection
	(2) Accumulated foreign matter/moisture on electrical parts	Remove foreign matter/dry electrical parts
Oil leak	(1) No oil plug	Attach the normal oil plug
	(2) Oil plug loosen	Fasten the plug tightly
	(3) No plug packing	Attach normal packing
	(4) Worn or deteriorated oil packing	Attach the new packing

8. Drawings and parts list

(1) VIII-1 Motor Assembly & Housing Drawing	28
(2) VIII-1 Motor Assembly & Housing B.O.M	29
(3) VIII-2A Hook Assembly 2,2.5,3,5 Tons Drawing	32
(4) VIII-2A Hook Assembly 2,2.5,3,5 Tons B.O.M	33
(5) VIII-2B Hook Assembly 7.5 Tons Drawing	35
(6) VIII-2B Hook Assembly 7.5 Tons B.O.M	36
(7) VIII-2C Hook Assembly 10 Tons Drawing	38
(8) VIII-2C Hook Assembly 10 Tons B.O.M	39
(9) VIII-3 Reducing Gear Box Drawing	41
(10) VIII-3 Reducing Gear Box B.O.M	42
(11) VIII-4 Load Chain Section Drawing	43
(12) VIII-4 Load Chain Section B.O.M	44
(13) VIII-5 Electric Parts Drawing (Standard Parts)	45
(14) VIII-5 Electric Parts B.O.M (Standard Parts)	46
(15) VIII-6 Low Headroom Model's Drawing	48
(16) VIII-6 Low Headroom Model's B.O.M	49

VIII-1 MOTOR ASS'Y & HOUSING



VIII - 1 MOTOR ASSEMBLY & HOUSING B.O.M

S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			2T,3T,2.5T,5T,7.5T			10T		
			S		D	S		D
			Taper Brake	Flat Brake		Taper Brake	Flat Brake	
1	400014	Hex. Recess Bolt<M8×1.25×30L>			4			8
2	400095	Spring Washer<M8>	14		18	28		36
3	106022	Motor End Cover	1			2		
	100424			1			2	
	100425				1			2
4	268438	Spacer Sleeve	1			2		
	100495	Brake Gap Adjuster			1			2
5	105978	Brake Drum	1			2		
	100395			1			2	
	100409	Revolving Brake Disc			1			2
6	207118	Bauer Disc Spring	2			4		
	100490	Spacer Sleeve		1			2	
	100406	Brake Lining			1			2
7	400237	Brake Spring	1			2		
	400239				6			12
8	105981	Magnet Producer	1			2		
	100498	Magnet Coil Ass'y			1			2
9	400193	Retaining Ring<S-30>			1			2
10	400113	Bearing<6206 2RU>	1			2		
11	400200	Retaining Ring<R-62>	1			2		
12	100325	Motor Rotor	1			2		
			1			2		
13	400006	Hex. Recess Bolt<M6×1.0×16L>			3			6
14	400094	Spring Washer<M6>	4		15	8		30
15	400006	Hex. Recess Bolt<M6×1.0×16L>			8			16
16	400264	Rubber Cap	1			2		
17	400220	Castle Nut<AN06>	1			2		
18	400221	External Tooth Washer<AW06>	1			2		
19	100430	Bearing Stop Ring	2			4		
20	400023	Hex. Recess Bolt<M12×1.75×35L>	4			8		
21	400097	Spring Washer<M12>	12			24		
22	100363	Motor Shaft Spacer	2			4		

VIII - 1 MOTOR ASSEMBLY & HOUSING B.O.M

S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			2T,3T,2.5T,5T,7.5T			10T		
			S		D	S		D
			Taper Brake	Flat Brake		Taper Brake	Flat Brake	
23	100365	Motor Retaining Ring	1			2		
24	100410	Cone Spring	1			2		
25	400218	Eye Bolt<M10×1.5>	1			2		
26	400585	Bolt<M8×1.25×16L>	2			4		
27	A	Motor Stator Ass'y	1			2		
	B				1			2
28	402507	Gasket 7#	1			2		
29	400084	Nut<M12×1.75>	4			8		
30	100339	Motor Front Plate Ass'y	1			2		
31	209510	Connecting Screws Sleeve	4			8		
32	200698	Load Sheave Housing	1			2		
33	210139	Gasket 55#	1			2		
34	200066	Gear End Plate	1			2		
35	400032	Hex. Bolt<M12×1.75×120L>	4			8		
36	402510	Gasket 10#	1			2		
37	400021	Hex. Recess Bolt<M12×1.25×25L>	4			8		
38	400215	Spring Pin<Ø12×14L>	4			8		
39	200245	Gear Box A	1			2		
40	400025	Hex. Recess Bolt<M8×1.25×30 L>	6			12		
41	402511	Gasket 11#	1			2		
42	400219	Eye Bolt<M16×1.5>	1			2		
43	400227	Gasket Ring	1			2		
44	200926	Hex. Oil Plug	1			2		
45	200927	Air Plug	1			2		
46	400212	Spring Pin<Ø5×16L>	1			2		
47	402522	Gasket 22#	1			2		
48	300764	Electric Housing	1			2		
49		Name Plate	1			2		
50	300523	Lubricant Drain Bolt	1			2		
51	200246	Gear Box B	1			2		
	200426	Gear Box B<USA>	1			2		
52	400460	Hex. Recess Bolt<M8×1.25×65L>	8			16		

VIII - 1 MOTOR ASSEMBLY & HOUSING B.O.M

S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			2T,3T,2.5T,5T,7.5T			10T		
			S		D	S		D
			Taper Brake	Flat Brake		Taper Brake	Flat Brake	
53	400005	Hex. Recess Bolt<M6×1.0×12L>	4			8		
54	400661	Flat Washer<M4>	2			2		
55	406412	Lock Nut<M4×0.7>	2			2		
56	408449	Hex. Recess Bolt<M4×0.7×20L>	1			1		
57	400559	Bucket Chain<Ø2.6×23.2×9.5 7 >	1			1		
58	405026	Hex. Recess Bolt<M4×0.7×14L>	1			1		
59	402582	Gasket 67#			1			2
60	300801	Cable Fixing Plate			1			2

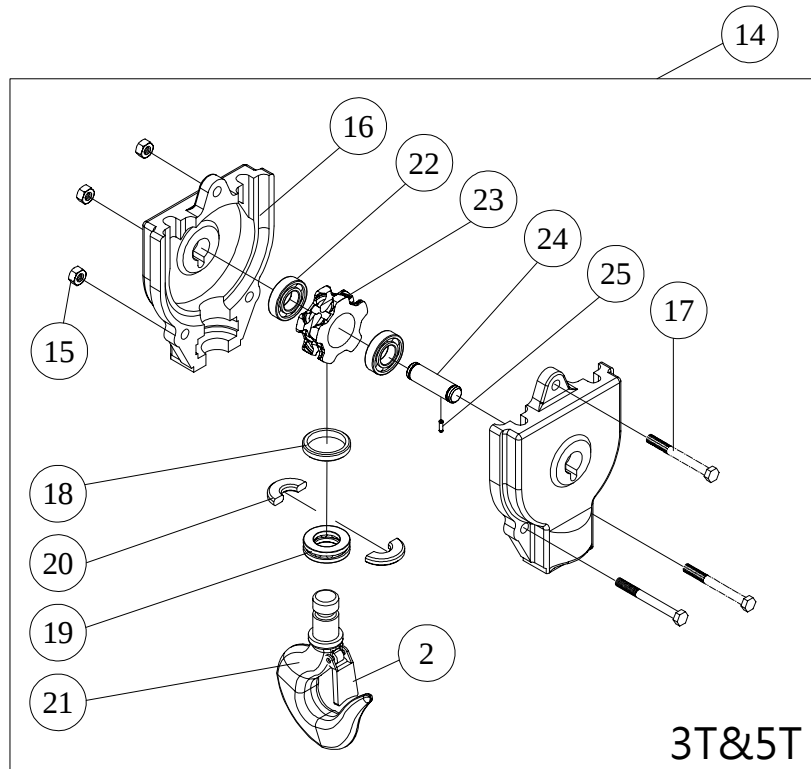
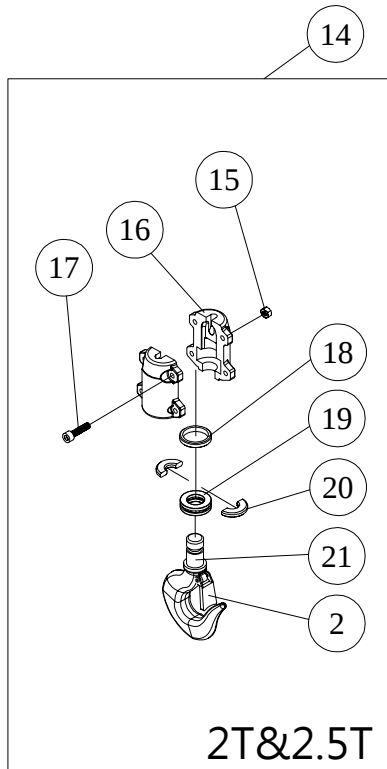
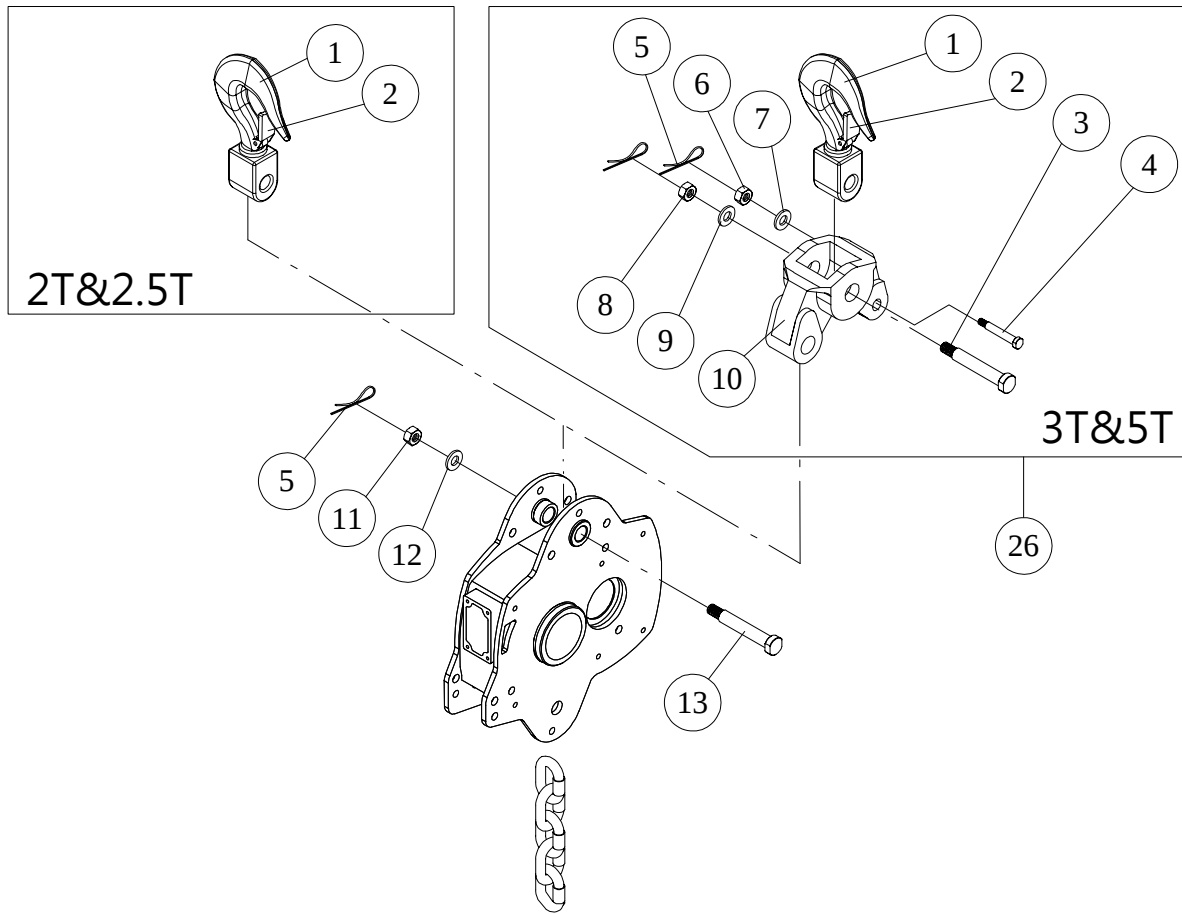
VIII - 1 MOTOR ASSEMBLY & HOUSING B.O.M

S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE		DESCRIPTION	Ø - HZ - V	
27	A	132701	Motor Stator Ass 'y (S)	3Ø 60HZ	220 / 380V
		132702			220 / 440V
		132707			230 / 460V
		132708			400V
		132706			600V
		132711		3Ø 50HZ	220 / 380V
		132712			400V
		132713			415V
		132714			525V
	B	132801	Motor Stator Ass 'y (D)	3Ø 60HZ	220V
		132802			230V
		132803			380V
		132804			460V
		132805			600V
		132811		3Ø 50HZ	220V
		132812			380V
		132813			415V
		132814			525V

※ For others voltage please contact with dealer for correct part no.

HOOK ASSEMBLY (2, 2.5, 3, 5T)



VIII - 2A HOOK ASSEMBLY B.O.M (2, 2.5, 3, 5T)

S : SINGLE SPEED D : DUAL SPEED

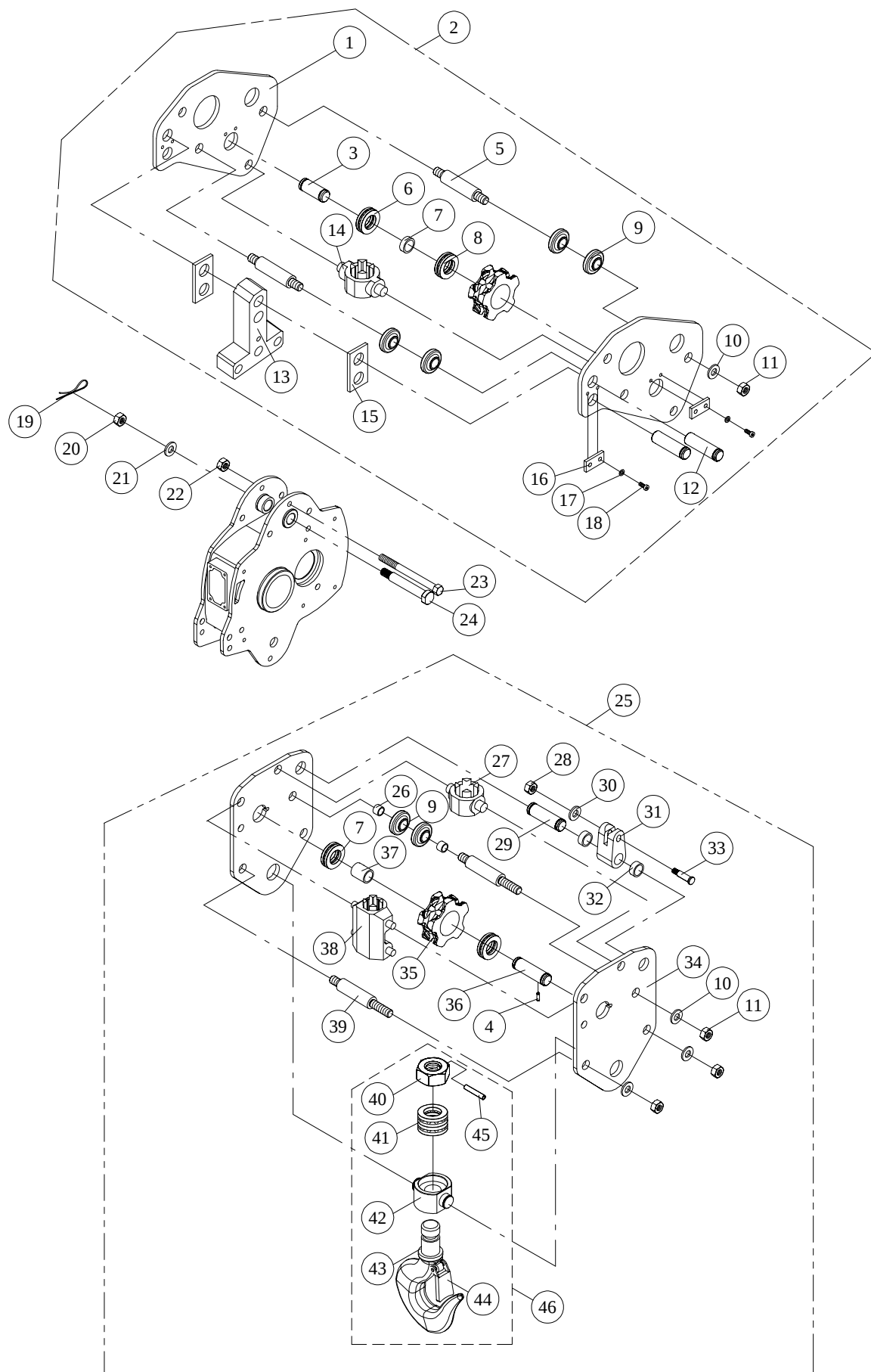
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT							
			2T		2.5T		3T		5T	
			S	D	S	D	S	D	S	D
1	209347	Top Hook	1		1					
	209345						1			
	209348								1	
2	400489	Safety Latch Ass'y	2		2		2		2	
3	200094	Top Hook Pin<Ø25 × 107L>					1			
	200095	Top Hook Pin<Ø34 × 134L>							1	
4	200177	Chain Connecting Pin<Ø19 × 70L>					1			
	200178	Chain Connecting Pin<Ø19 × 72L>							1	
5	400603	Cotter Pin<3/32" × 1"L>	1		1		2		2	
6	400091	Lock Nut<M12 × 1.75>					1		1	
7	400097	Spring Washer<M12>					1		1	
8	400085	Nut<M16 × 1.5>					1			
	400086	Nut<M20 × 2.0>							1	
9	400099	Spring Washer<M20>							1	
10	200155	Hook Bracket					1			
	200156								1	
11	400085	Nut<M16 × 1.5>	1		1		1		1	
12	400098	Spring Washer<M16>	1		1		1		1	
13	200165	Rigid Hook Connecting Pin	1		1		1		1	
14	200759	Bottom Hook Ass'y	1							
	200026				1					
	200025						1			
	200027								1	
15	400088	Lock Nut<M8 × 1.25>	4							
	400089	Lock Nut<M10 × 1.5>			4		3		3	
16	200099	Bottom Hook Housing	2							
	200126				2					
	200100						2			
	200101								2	

VIII - 2A HOOK ASSEMBLY B.O.M (2, 2.5, 3, 5T)

S : SINGLE SPEED D : DUAL SPEED

[illegible]

HOOK ASSEMBLY (7.5T)



VIII - 2B HOOK ASSEMBLY B.O.M (7.5 T)

S : SINGLE SPEED D : DUAL SPEED

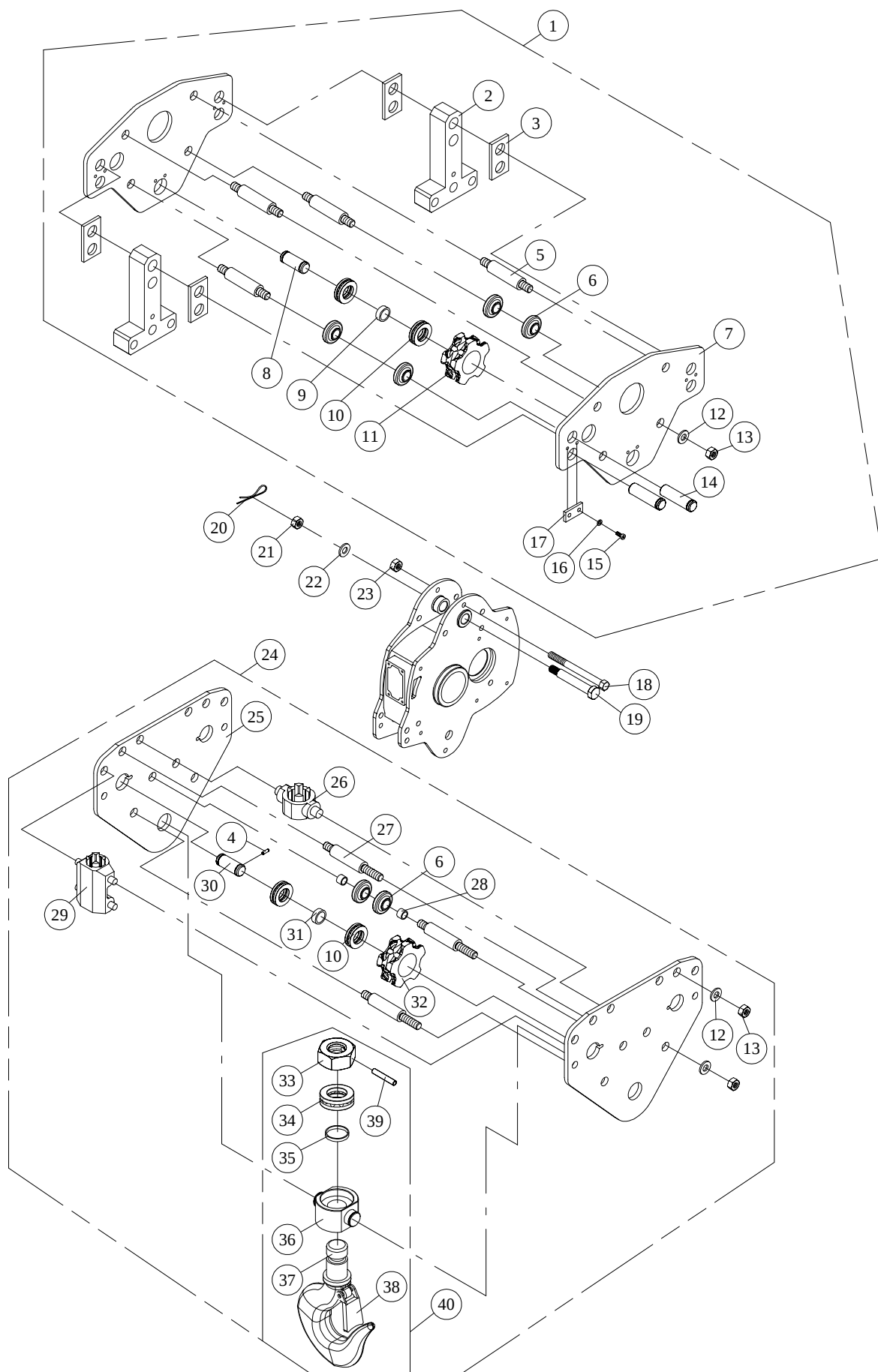
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			7.5T	
			S	D
1	200162	Side Plate	2	
2	200754	Suspended Frame Ass'y	1	
3	200119	Idle Wheel's Axle<Ø40 × 100L>	1	
4	400212	Spring Pin<Ø5 × 16L>	1	
5	200148	Stay Bolt<Ø25 × 124L>	3	
6	200125	Idle Wheel's Inner Sleeve<Ø49.5 × Ø40.5 × 5.5L>	1	
7	400174	Needle Bearing<TA 4025Z>	4	
8	200113	Idle Wheel<Ø50 × 56L>	1	
9	400287	Rubber Chain Guide Wheel	6	
10	400099	Spring Washer<M20>	12	
11	400086	Nut<M20 × 2>	12	
12	200166	Side Plates Connecting Pin<Ø25 × 97>	2	
13	200311	Rigid Hook<t45 × 140 × 197L>	1	
14	200315	Chain Guide(B)	1	
15	200174	Rigid Hook Spacer Plate<Ø26.5 P44 t6 × 50 × 92L>	2	
16	200636	Connecting Pin's Stopper<Ø8.5 P28 t6.0 × 25 × 50L>	2	
17	400095	Spring Washer<M8>	4	
18	400012	Hex. Recess Bolt<M8 × 1.25 × 20L>	4	
19	400603	Cotter Pin<3/32" × 1"L>	1	
20	400085	Nut<M16 × 1.5>	1	
21	400098	Spring Washer<M16>	1	
22	400089	Lock Nut<M10 × 1.5>	1	
23	400029	Hex. Recess Bolt<M10 × 1.5 × 120L>	1	
24	200165	Rigid Hook Connecting Pin<Ø25 × 138L>	1	
25	200762	Bottom Hook Ass'y	1	
26	200145	Stay Bolt Sleeve<Ø32 × Ø27 × 13L>	2	
27	200316	Chain Guide(C)	1	
28	400091	Lock Nut<M12 × 1.75>	1	
29	200187	Chain Limiter's Pin<Ø32 × 108L>	1	
30	400097	Spring Washer<M12>	1	

VIII - 2B HOOK ASSEMBLY B.O.M (7.5 T)

S : SINGLE SPEED D : DUAL SPEED

[illegible]

HOOK ASSEMBLY (10T)



VIII - 2C HOOK ASSEMBLY B.O.M(10T)

S : SINGLE SPEED D : DUAL SPEED

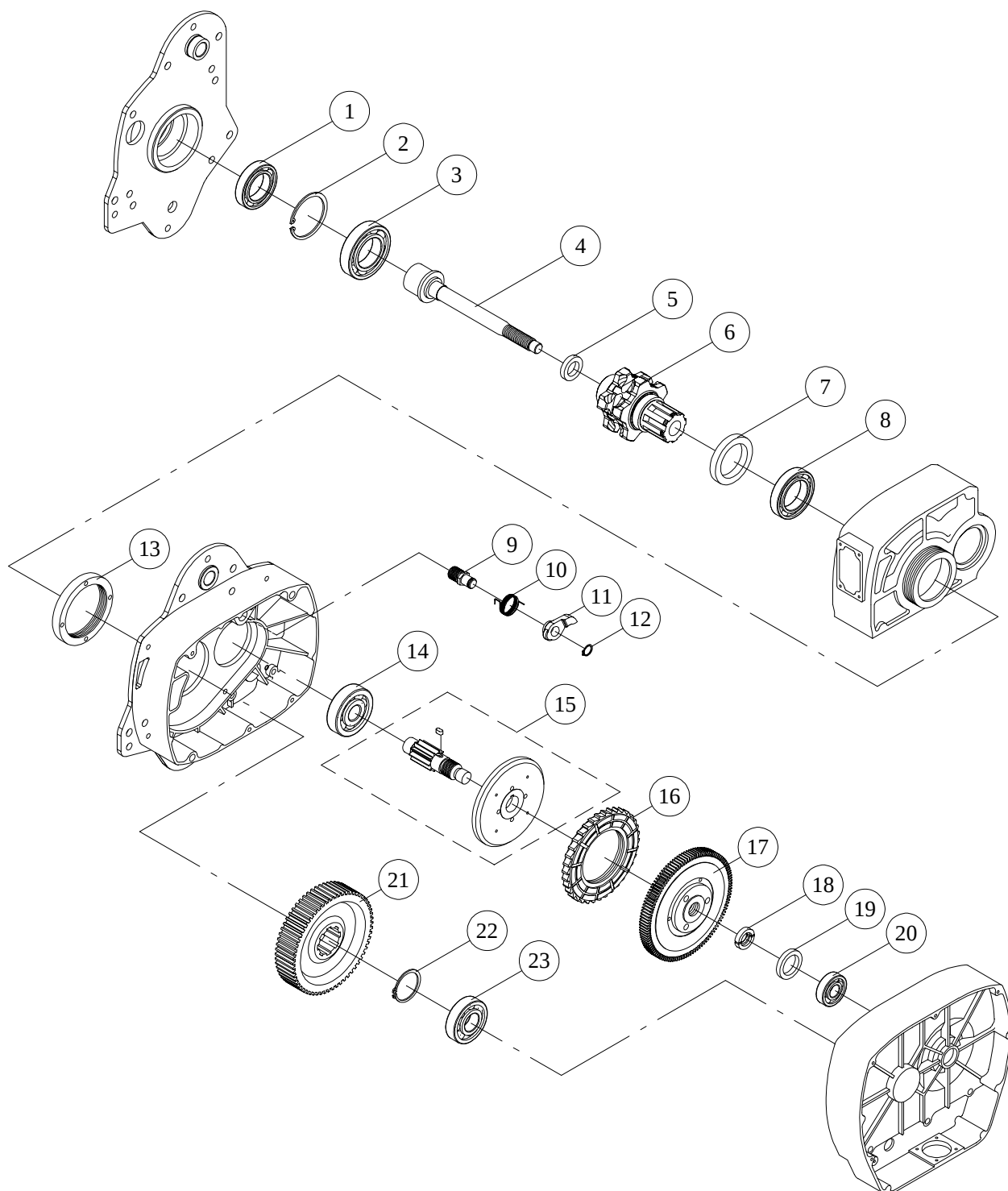
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			10T	
			S	D
1	200755	Top Hook Ass'y	1	
2	200312	Side Plate Connector<t45 × 140 × 223L>	2	
3	200174	Side Plate Connector Spacer<Ø26.5 P44 t6 × 50 × 92L>	4	
4	400212	Spring Pin<Ø5 × 16L>	1	
5	200149	Side Plate Stay Bolt<Ø25 × 139L>	4	
6	400287	Rubber Chain Guide Wheel	8	
7	200163	Side Plate	2	
8	200120	Idle Wheel Axle<Ø40 × 108L>	1	
9	200125	Idle Wheel Inner Sleeve<Ø49.5 × Ø40.5 × 5.5L>	1	
10	400174	Needle Bearing<TA 4025Z>	6	
11	200113	Idle Wheel<Ø50 × 56L >	1	
12	400099	Spring Washer<M20>	20	
13	400086	Nut<M20 × 2.0>	20	
14	200167	Side Plate Connecting Pin<Ø25.5 × 107L>	4	
15	400012	Hex. Recess Bolt<M8 × 1.25 × 20L>	6	
16	400095	Spring Washer<M8>	6	
17	200636	Connecting Pin Stopper Plate<Ø8.5 P28 t6 × 25 × 50L>	3	
18	400029	Hex. Bolt<M10 × 1.5 × 120L>	2	
19	200165	Rigid Hook Connecting Pin<Ø25 × 138L>	2	
20	400603	Cotter Pin<3/32" × 1"L>	2	
21	400085	Nut<M16 × 1.5>	2	
22	400098	Spring Washer<M16>	2	
23	400089	Lock Nut<M10 × 1.5>	2	
24	200763	Bottom Hook Ass'y	1	
25	200106	Bottom Hook Side Plate	2	
26	200316	Chain Guide(C)	2	
27	200144	Bottom Hook Stay Bolt<Ø25 × 169L>	6	
28	200145	Stay Bolt Spacer Sleeve<Ø32 × Ø27 × 13L>	4	
29	200314	Chain Guide(A)	2	
30	200118	Bottom Hook Idle Wheel Axle<Ø40 × 123L>	2	
31	200122	Idle Wheel Inner Sleeve<Ø49.5 × 40.5 × 31L>	2	

VIII - 2C HOOK ASSEMBLY B.O.M(10T)

S : SINGLE SPEED D : DUAL SPEED

[illegible]

VIII-3 REDUCING GEAR BOX



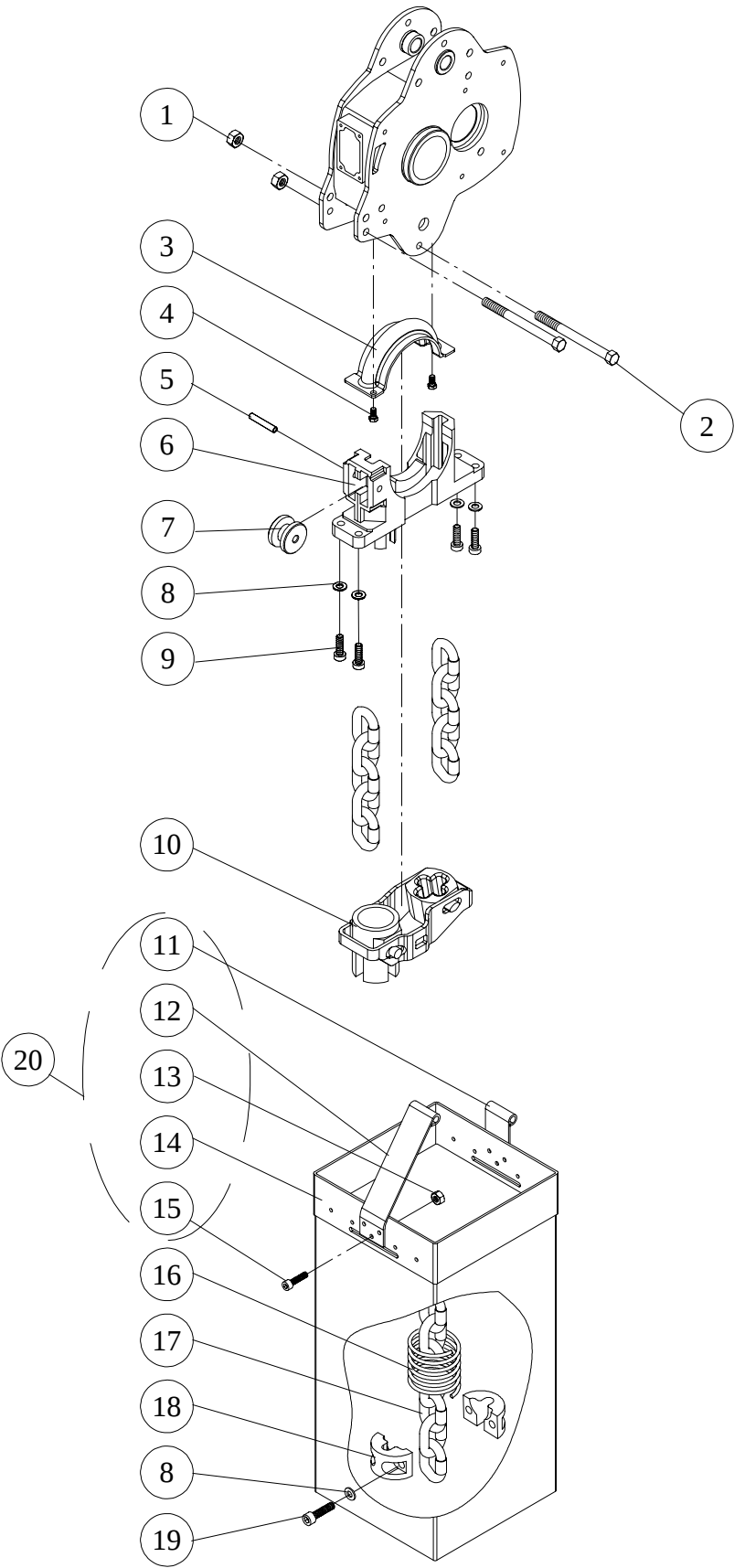
EX190E5

VIII - 3 REDUCING GEAR BOX ASSEMBLY B.O.M

S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT									
			2T		3T		2.5, 5T		7.5T		10T	
			S	D	S	D	S	D	S	D	S	D
1	400140	Bearing<6009ZZ>	1		1		1		1		2	
2	400201	Retaining Ring<R-75>	1		1		1		1		2	
3	407841	Bearing<6210Z>	1		1		1		1		2	
4	200695	Front Motor Axle Ass'y	1		1		1		1		2	
5	404488	Oil Seal<Ø25 × Ø40 × 8>	1		1		1		1		2	
6	200198	Load Sheave	1		1							
	200199						1		1		2	
7	400185	Oil Seal<Ø58 × Ø80 × 12>	1		1		1		1		2	
8	405567	Bearing<6010>	1		1		1		1		2	
9	200286	Ratchet Pawl Shaft	1		1		1		1		2	
10	400241	Ratchet Spring	1		1		1		1		2	
11	200288	Ratchet Pawl	1		1		1		1		2	
12	400190	Retaining Ring<S-16>	1		1		1		1		2	
13	200699	Compress Retaining Sleeve	1		1		1		1		2	
14	407772	Bearing<6405>	1		1		1		1		2	
15	200733	3 rd Gear Ass'y	1									
	200734				1							
	200735						1		1		2	
16	200741	Ratchet Wheel Ass'y	1		1		1		1		2	
17	200665	2 nd Gear	1		1		1		1		2	
18	200274	Half Spacer	2		2		2		2		4	
19	200277	Bearing Spacer	1		1		1		1		2	
20	407746	Bearing<6304>	1		1		1		1		2	
21	200266	4 th Gear	1									
	200265				1							
	200267						1		1		2	
22	400197	Retaining Ring<S-50>	1		1		1		1		2	
23	400135	Bearing<6303>	1		1		1		1		2	

LOAD CHAIN SECTION



VIII - 4 LOAD CHAIN SECTION ASSEMBLY B.O.M

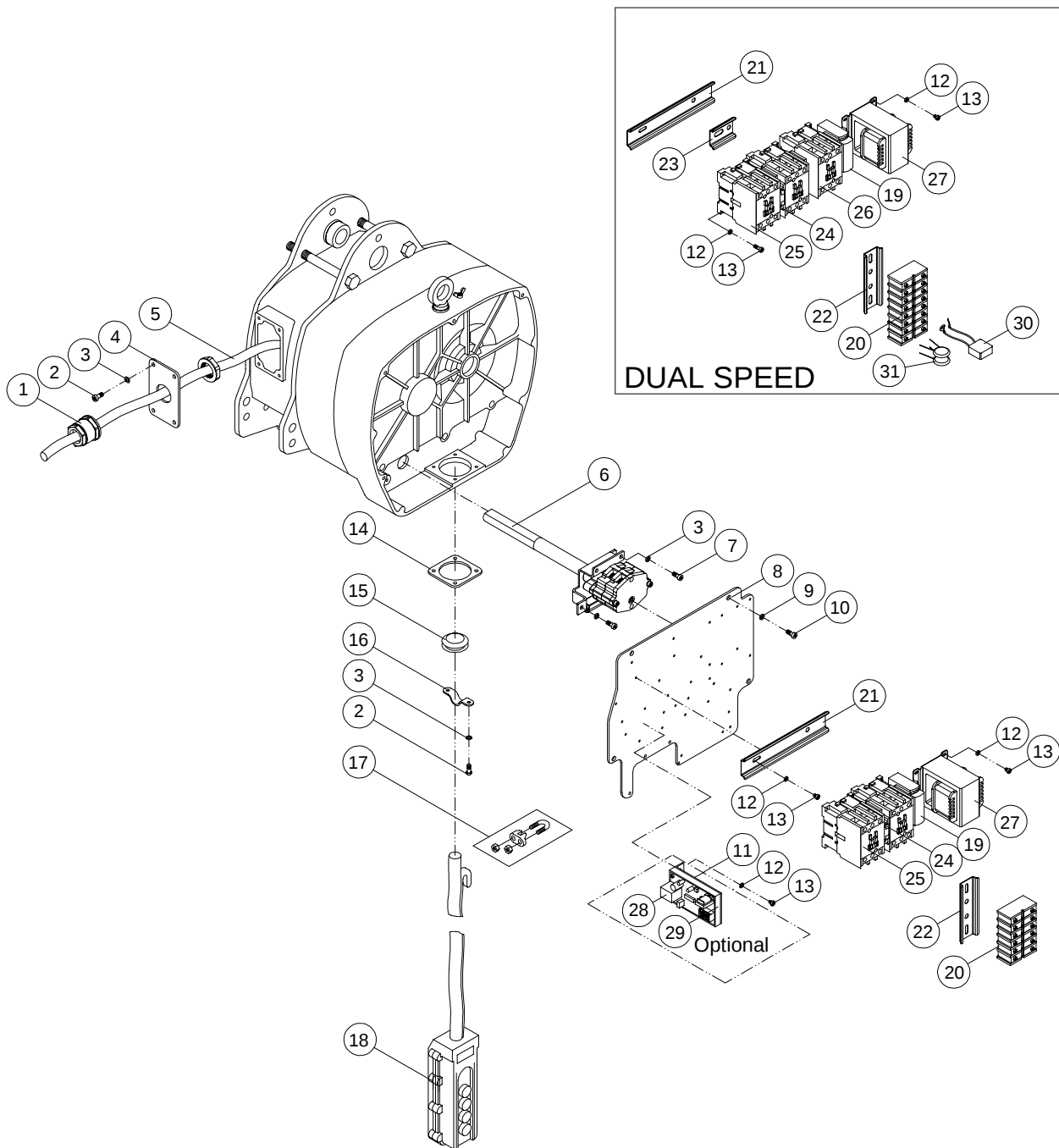
S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT											
			2T		3T		2.5T		5T		7.5T		10T	
			S	D	S	D	S	D	S	D	S	D	S	D
1	400089	Lock Nut<M10×1.5>	2		2		2		2		2		4	
2	400029	Hex. Bolt<M10×1.5×120L>	2		2		2		2		2		4	
3	200203	Chain Regulating Plate<t2.0×50×160L>	1		1		1		1		1		2	
4	400005	Hex. Bolt<M6×1.0×12L>	2		2		2		2		2		4	
5	400273	Compressing Wheel Axle<M8×55L>	1		1		1		1		1		2	
6	200194	Chain Regulator<Ø10>	1		1									
	200195	Chain Regulator<Ø11.2>					1		1		1		2	
7	200191	Chain Regulating Wheel<Ø10 Ø39×25L>	1		1									
	200192	Chain Regulating Wheel<Ø1.2 Ø 40×28L>					1		1		1		2	
8	400095	Spring Washer<M8>	6		6		6		6		6		12	
9	400013	Hex. Recess Bolt<M8×1.25×25L>	4		4		4		4		4		8	
10	200564	Chain Guide Ass'y	1		1									
	200561						1		1		1		2	
11	200223	Bucket Arm(B)<t4.0×50×107L>	1		1		1		1		1		2	
12	200222	Bucket Arm(A)<t4.0×50×195L>	1		1		1		1		1		2	
13	400087	Lock Nut<M6×1.0>	6		6		6		6		6		12	
14	200218	Chain Bucket	1		1		1		1		1		2	
15	400056	Cross Headed Screw<M6×1.0×15L>	6		6		6		6		6		12	
16	400233	Limit Spring<Ø10>	2		3									
	400234	Limit Spring<Ø11.2>					2		3		3		4	
17	400543	Load Chain<Ø10>	3M		3M									
	400544	Load Chain<Ø11.2>					3M		3M		3M		3M	
18	200201	Chain Stopper<Ø10>	2		4									
	200202	Chain Stopper<Ø11.2>					2		4		4		4	
19	400014	Hex. Recess Bolt<M8×1.25×30L>	2		2		2		2		2		4	
20	200781	Chain Bucket 6#	1		1		1		1		1		2	

No.20 Depends on the chain length that request by customers.

(Parts No. Please refer to page12).

VIII – 5 ELECTRIC PARTS (Standard Parts)



EX190E7

VIII - 5 ELECTRIC ASSEMBLY B.O.M (Standard Parts)

S : SINGLE SPEED D : DUAL SPEED

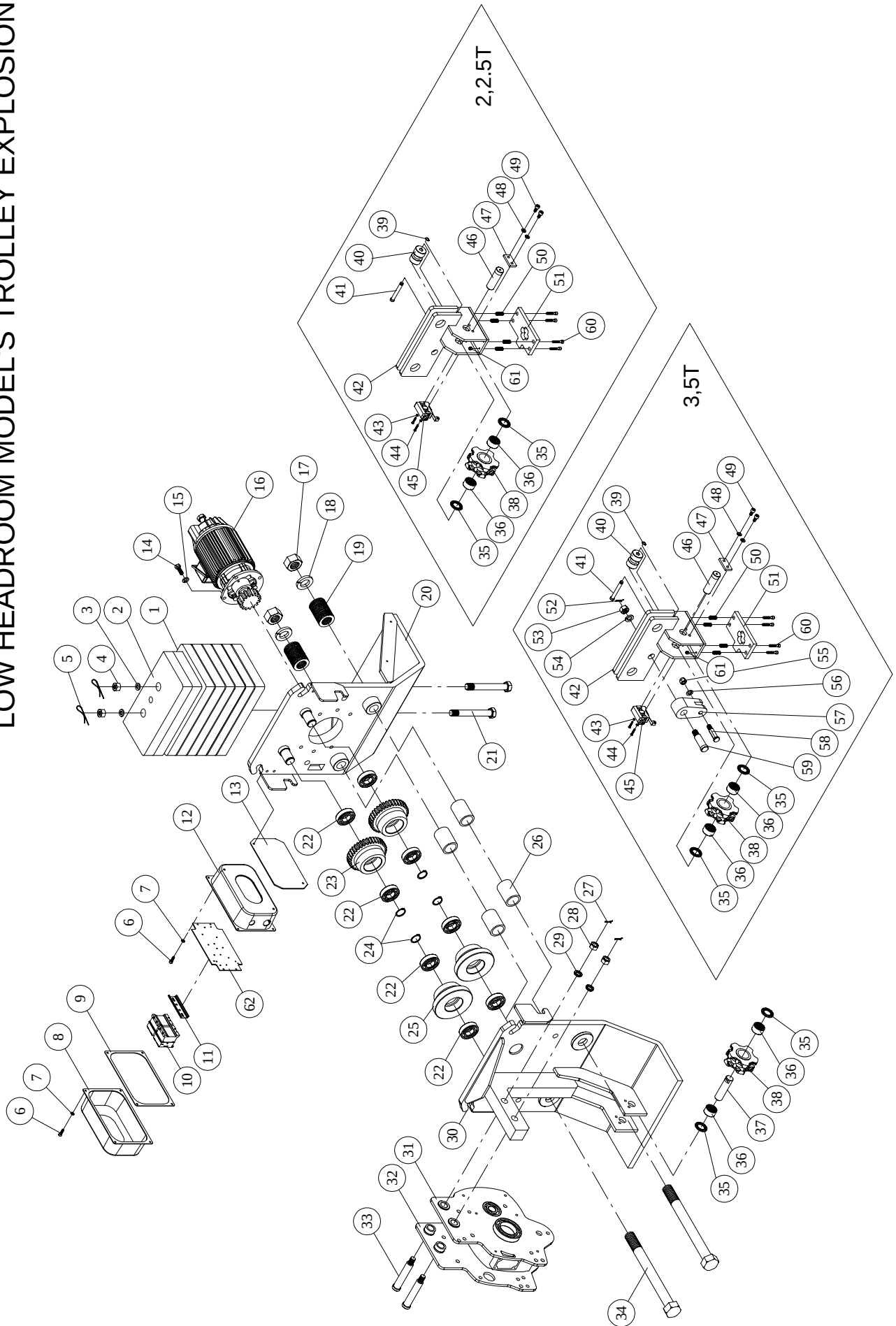
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT									
			2T		3T		2.5, 5T		7.5T		10T	
			S	D	S	D	S	D	S	D	S	D
1	400222	Cable Gland(M20)	1		1		1		1		1	
	400941	Cable Gland(M25)									1	
2	400053	Cross Headed Screw<M5×0.8×12L>	4		4		4		4		8	
3	400093	Spring Washer<M5>	7		7		7		7		14	
4	300343	Power Cable Holding Plate	1		1		1		1		1	
	300360										1	
5		Power Cable Ass'y	1		1		1		1		2	
6	208668	Limit Switch Ass'y	1		1		1		1		2	
	208677			1		1		1		1		2
	208669	Limit Switch Ass'y (THA)	1	1	1	1	1	1	1	1	2	2
7	400620	Cross Headed Screw<M5×0.8×8L>	3		3		3		3		6	
8	300337	Electric Components Plate	1		1		1		1		2	
9	400094	Spring Washer<M6>	4		4		4		4		8	
10	400005	Hex. Recess Bolt<M6×1.0×12L>	4		4		4		4		8	
11	300340	P.E.R Holding Plate	1		1		1		1		1	
12	400092	Spring Washer<M4>	14		14		14		14		24	
13	400048	Cross Headed Screw<M4×0.7×6L>	13		13		13		13		22	
14	300332	Control Cable Holding Plate	1		1		1		1		2	
15	400271	Rubber Cap	1		1		1		1		2	
16	300342	Wire Holder Clamp	1		1		1		1		2	
17	400297	Wire Clip(3/16")	1		1		1		1		1	
18		Single Speed Pbs	1		1		1		1		1	
		Dual Speed Pbs		1		1		1		1		1
19	302376	Negative Phase Protector (N.P.P)	1		1		1		1		1	
20	302342	Terminal Block	6	8	6	8	6	8	6	8	12	16
21	300091	Contactor Rail	1		1		1		1		1	
22	300079	Contactor Rail	1		1		1		1		1	
23	300078	Contactor Rail	-	1	-	1	-	1	-	1	-	1
24	300800	Contactor Interlock	1		1		1		1		2	

VIII - 5 ELECTRIC ASSEMBLY B.O.M (Standard Parts)

S : SINGLE SPEED D : DUAL SPEED

[illegible]

LOW HEADROOM MODEL'S TROLLEY EXPLOSION



VIII - 6 LOW HEADROOM MODEL'S TROLLEY B.O.M

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			2T	2.5T	3T	5T
1	207404	Counter Weight Block A	6			
2	207406	Counter Weight Block B	2			
3	400103	Spring Washer<1" >	2			
4	400071	Lock Nut<1"×8UNC >	2			
5	400608	Cotter Pin<Ø4.6×55L>	2			
6	400006	Hex. Recess Bolt<M6×1.0×16L>	6			
7	400094	Spring Washer<M6>	6			
8	300394	Electric Components Upper Cover	1			
9	402583	Electric Casing Gasket 68#	1			
10	301107	Contactor	2			
11	300079	Contactor Rail<2PC>	1			
12	300782	Electric Components Lower Cover	1			
13	402516	Electric Casing Gasket 16#	1			
14	400046	Hex. Bolt<M10×1.5×25L>	4			
15	400096	Spring Washer<M10>	4			
16		Motor<0.6KW>	1			
17	400072	Hex. Nut<1 1/4"×7UNC>	2	2	2	
	400073	Hex. Nut<1 1/2"×6UNC>				2
18	400105	Spring Washer<1 1/4">	2	2	2	
	400106	Spring Washer<1 1/2">				2
19	203223	Spacer Washer<Ø54×Ø34×1/8"t>	40	40	40	
	203224	Spacer Washer<Ø60×Ø40×1/8"t>				32
20	202752	Trolley Motor End Side Plate Ass'y	1	1		
	202751				1	1
	202753					1
21	207408	Hex. Recess Bolt<1"×8UNC×279.4>	2			
22	407824	Bearing<6206Z>	8	8	8	
	407808	Bearing<6207Z>				8
23	203113	Drive Wheel<M3.5×36T×59L>	2	2	2	
	203114	Drive Wheel<M3.5×39T×67L>				2
24	400193	Retaining Ring<S-30>	4	4	4	
	400194	Retaining Ring<S-35>				4

VIII - 6 LOW HEADROOM MODEL'S TROLLEY B.O.M

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			2T	2.5T	3T	5T
25	203133	Idler Wheel<Ø133 × 54L>	2	2	2	
	203134	Idler Wheel<Ø143.5 × 59L>				2
26	202809	Spacer Tube B<Ø55 × Ø32.2 × 35L>	4	4	4	
	202856	Spacer Tube<Ø60 × Ø38.5 × 33.5L>				4
27	400603	Cotter Pin<Ø3/32" × 1"L>	2			
28	400085	Nut<M16 × 1.5>	2			
29	400098	Spring Washer<M16>	2			
30	202760	Hoist Mounting Side Plate Ass'y	1			
	202761			1		
	202762				1	
	202763					1
31	202835	Gear End Plate	1			
32	100330	Motor Front Plate Ass'y	1			
33	202855	Connecting Pin<Ø27 × 138L>	2			
34	400499	Hex. Bolt<1 1/4" × 7UNC × 355.6L >	2	2	2	
	400496	Hex. Bolt<1 1/2" × 6UNC × 355.6L>				2
35	400176	Needle Bearing<AXK/2AS 2542>	4		4	
	400169	Needle Bearing<AXK/2AS 4060>		4		4
36	408051	Needle Bearing<HK 25/20>	4		4	
	400174	Needle Bearing<TA 4025 Z>		4		4
37	217355	Sprocket Axle<Ø25 × 92L>	1		1	
	217356	Sprocket Axle<Ø41 × 102L>		1		1
38	200110	Sprocket<Ø32 × 42L>	2		2	
	200111	Sprocket<Ø50 × 51L>		2		2
39	400188	Retaining Ring<S-10>	1			
40	202842	Chain Pressing Roller<Ø37 × 51L>	1		1	
	202843	Chain Pressing Roller<Ø37 × 61L>		1		1
41	202844	Pressing Roller Axle<Ø14 × 80L>	1		1	
	202845	Pressing Roller Axle<Ø14 × 91L>		1		1
42	202801	Load Bracket Ass'y	1			
	202800			1		
	202821				1	
	202822					1
43	400092	Spring Washer<M4>	2			
44	400617	Cross Head Screw<M4 × 0.7 × 25L>	2			
45	300534	Limit Switch<TZ-7121>	1			

VIII - 6 LOW HEADROOM MODEL'S TROLLEY B.O.M

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			2T	2.5T	3T	5T
46	202816	Load Sprocket Axle<Ø26 × 80L>	1		1	
	202817	Load Sprocket Axle<Ø41 × 91L>		1		1
47	200636	Key Plate<Ø8.5 P28 t6.0 × 25 × 50L>	2			
48	400095	Spring Washer<M8 >	4	4	4	4
49	400011	Hex. Recess Bolt<M8 × 1.25 × 12L>	4			
50	400340	Compressing Spring	4			
51	202781	Limit Plate	1		1	
	202782			1		1
52	400603	Cotter Pin<3/32" × 1L>			1	1
53	400085	Nut<M16 × 1.5>			1	
	400086	Nut<M20 × 2.0>				1
54	400098	Spring Washer<M16>			1	
	400099	Spring Washer<M20>				1
55	400091	Lock Nut<M12 × 1.75>			1	1
56	400097	Spring Washer<M12>			1	1
57	202846	Chain Connector			1	
	202847					1
58	200177	Chain Connecting Pin<Ø19 × 70L>			1	
	202813	Chain Connecting Pin<Ø19 × 75L>				1
59	200094	Top Hook Pin<Ø25 × 107L>			1	
	200095	Top Hook Pin<Ø34 × 134L>				1
60	400009	Hex. Recess Bolt<M6 × 1.0 × 35L>	4			
61	400087	Nut<M16 × 1.0>	4			
62	300392	Fixed Plate	1			

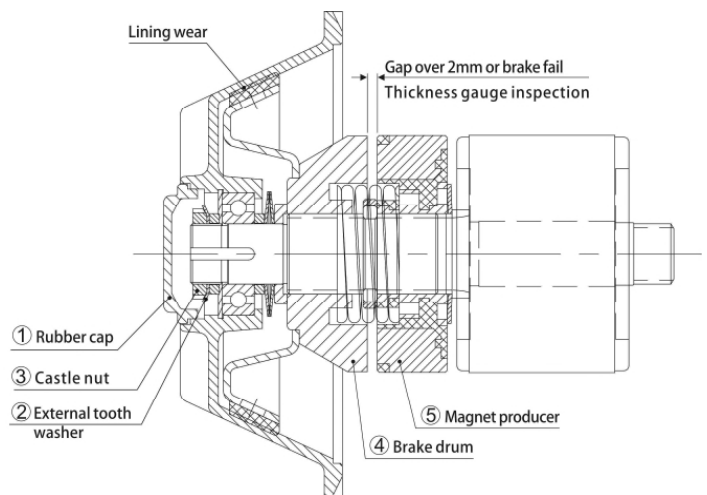
KEY NO.	PARTS CODE	DESCRIPTION	Ø - HZ - V	
16	101305	Motor<0.6KW × 4P M3.5 × 16T	3Ø 60HZ	220V / 380V
	101306			220V / 440V
	101295			230V / 460V
	101309			600V
	101310		3Ø 50HZ	220 / 380V
	101307			400V
	101312			415V
	101321			440V
	101314			525V

※ For others voltage please contact with dealer for correct part no.

9. Adjustment of conical type motor brake

Large gap or brake fail

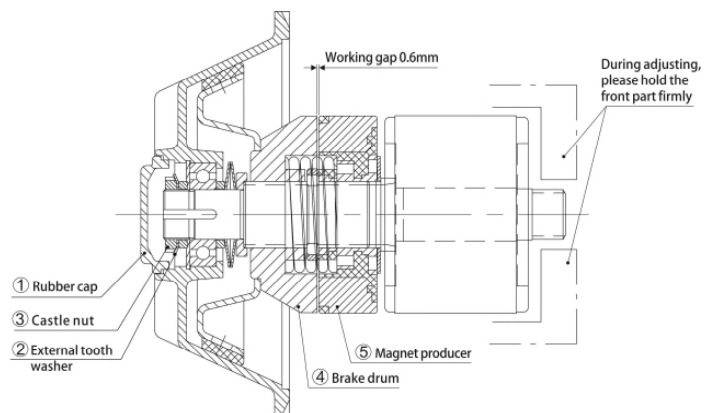
1. Inspect every 6 months (for more frequently use, recommend to inspect monthly.)
2. Firstly, using 2mm thickness gauge to insert into the gap between ④ Brake Drum and ⑤ Magnet Producer to check the condition of wear out on the friction disc. (follow the arrow direction of view 1)
3. If the gap is smaller than 2mm, it's in the normal condition and can be use continuously.
4. If greater than 2mm, adjust the brake gap.



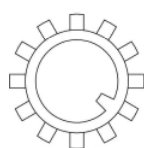
view 1

How to Adjust The Brake Gap

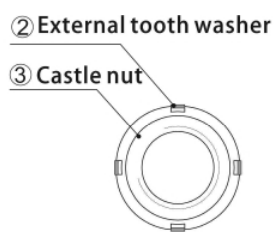
1. Open ① rubber cap.
2. Open the ② external tooth washer acc. to view B.
3. After external tooth washer opened, lock ③ the castle nut tightly, to make the gap between ④ brake drum and ⑤ magnet producer be 0.6mm.
4. Lock ② external tooth washer into ③ castle nut acc. to view A.
5. Lock ① rubber cap.



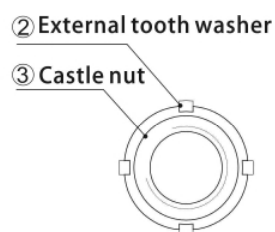
view 2



External tooth washer



view A



view B

The Standard Instruction and Inspection for Chain Block

The additional remarks quote from the standard regulations.

I Instructions: Please pay attention to the followings while using

- 1 · Ensure the conditions of the hoists and the ISO approval.
- 2 · The capacity should be within the normal capacity.
- 3 · Never use the load chain over standard. (above ISO 80)
- 4 · Always use the hoist when the lift height is standard.
- 5 · Keep daily inspection before using.
- 6 · Inspect the load chain and chain ring are free. Never lift a load when the chain is twisted.
- 7 · Never use the loose bottom hook.
- 8 · Never use the load chain without "Up" and "Down" device.
- 9 · Never use the chain to wrap the load.
- 10 · Never lift a load with the front of the hook.
- 11 · Never push the button switch
- 12 · Never lift a load over the limit lift height.
- 13 · Never stand under the raised load.
- 14 · Never slant a load over 15°C.
- 15 · Always avoid the hoist fall.
- 16 · Replace the load chain every year when the hoist is used frequently.
- 17 · Replace the load chain half a year and the bottom hook twice a year if the working environment temperature is above 100°C or below -40°C and the environment is corrosive and fracture.
Inspect the bottom hook and replace regularly when it's used frequently.
- 18 · Inspect the load chain monthly by electroplate or heat treatment manufacturers and replace it yearly.
- 19 · Never weld the load chain after broken.
- 20 · The load chain should be lubricated before using.
- 21 · Apply lubricant on the gear, bearing and other parts regularly.
- 22 · Prevent the hoist from rusting after infrequent use.
- 23 · Never modify the hoist by yourself. Please contact the original manufacturer to help you out.
- 24 · Never lift the same object with two hoists. If necessary, make sure the lifting should be operated within normal capacity.

Daily inspection

Electric Chain Hoist Daily Inspection Checklist

Series No.:

Hoist Model:

Date of Purchasing: / / (D/M/Y)

Unit:

Date: / /

No	Part	Item	Standard	V X	Y N
1	Motor	Outlook	The temperate controls within E level insulating temperate(135°C)		
2	Hook	Hook Throat Distortion Motion	The hook opening widens. The hook distorts. The hook spins smoothly. The hook breaks or dents.		
3	Load Chain	Elongate Wear Distort Corrode Break Lubricate Rotate	The elongation is over. The chain diameter is overused. The distortion is visible The chain corrodes. The load chain cracks. Apply lubricant (except grease). The weld joints face the same direction.		
4	Brake		The brake slips or creaks.		
5	Push Bottom Switch	Operation Outlook	The motion is as standard. The cover is broken or deformed.		
6	Limit Switch	Operation	The motion is correct.		
7	Wiring	Wiring Outlook	The wiring is loose. The wiring is broken or hard.		

Monthly inspection

Electric Chain Hoist Monthly Inspection Checklist

Series No.:

Hoist Model:

Date of Purchasing: / / (D/M/Y)

Unit:

Date: / /

No	Part	Item	Standard	V X	Y N
1	Limit Switch	Operate	Motion correct		
2	Hook	Hook Throat Distortion Motion Others	Opening Widens. Distorts. Spins Smoothly. Breaks or Dents.		
3	Load Chain	Elongate Wear Distort Corrode Break Lubricate	The elongation is over. The chain diameter is overused. The distortion is visible Corrodes. Cracks. Apply lubricant (except grease).		
4	Hex. Bolt		unwind		
5	Pendant Cable	outlook	Distortion		
6	Gear Box		Apply lubricant		

Yearly inspection

Electric Chain Hoist Yearly Inspection Checklist

Series No.:

Hoist Model:

Date of Purchasing: / / (D/M/Y)

Unit:

Date: / /

No	Part	Item	Standard	V X	Y N
1	Bearing	Outlook	Leak or breaks		
2	Gear	Outlook	Leak or breaks		
3	Oil seal	Outlook	Harden or leak of oil		
4	Ratch	Wear Distortion	Wear away over limit The distortion is visible		
5	Load Sheave	Wear Distortion	Wear away over limit The distortion is visible		
6	Guide Tube	Wear Distortion	Wear away over limit The distortion is visible		
7	brake	Action Wear Distort Other	Voice Wear away over limit The distortion is visible Leak or defects		
8	Hex. Bolt	Everywhere	unwind		
9	Lubricate	change	Add new oil		
10	Load test	Normal rated weight	Replay hang products up and down		