



Electric Chain Hoist

Operation Manual
&
Parts List

Series : □500&500D



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 "U-MEGA" 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,

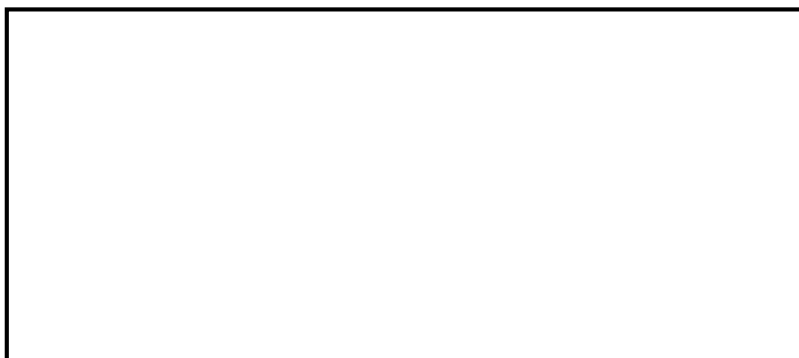
(1) Hoist Model

(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 -500 series	10.0	30.2
	2.5T,5T, 7.5T, 10T-500series	11.2	34

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

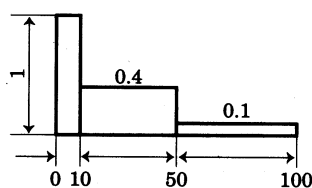
Safety and life for electric chain hoists are guaranteed only when the said equipment is operated in accordance with the prescribed grade.

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

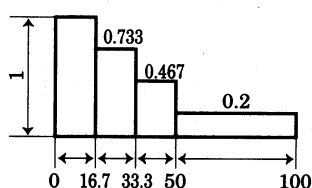
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classifications

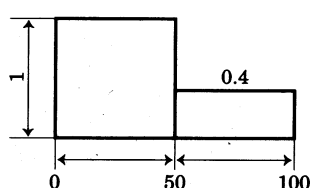
Load Spectrum (Load distribution)	Definitions	Cubic mean value	2m
			Average daily operating time (h)
			Total operating time (h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	4-8
			12500
2 (medium)	Mechanisms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



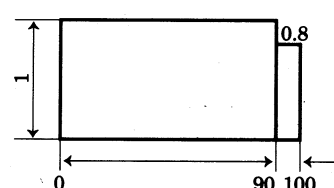
% operating time
Load spectrum 1



% 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.

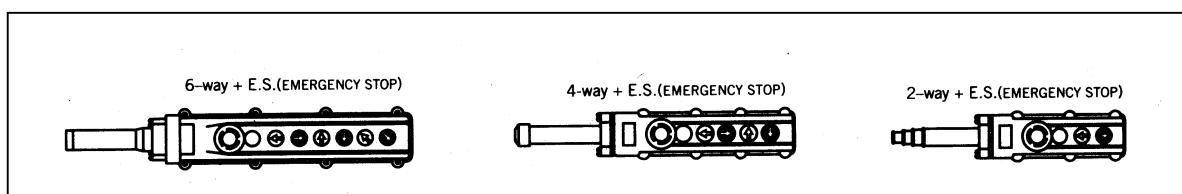
(5) Limit Switches

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)

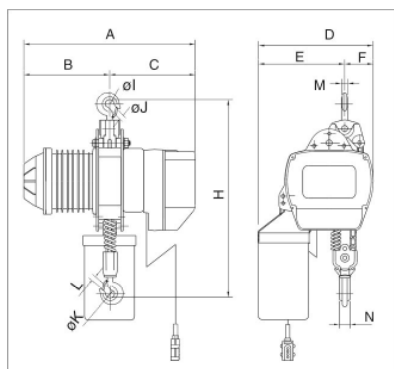
This button is used to stop the hoist in an emergency situation. It is a red, Mushroom type button, located at the uppermost position of the pendant. When pressed, power to the equipment is switched off and the button locks automatically. Turning it to the right will release the lock and enable re-starting.

(Illust. 1)

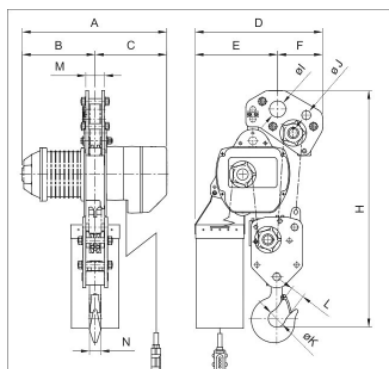


Illust. 1

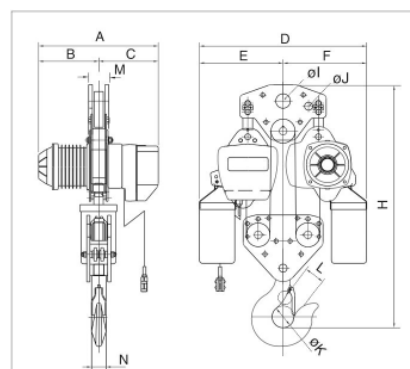
2.4 Main Specification and Dimensions of Hook Suspension Type Hoist



520~550 SERIES



575 SERIES



5100 SERIES

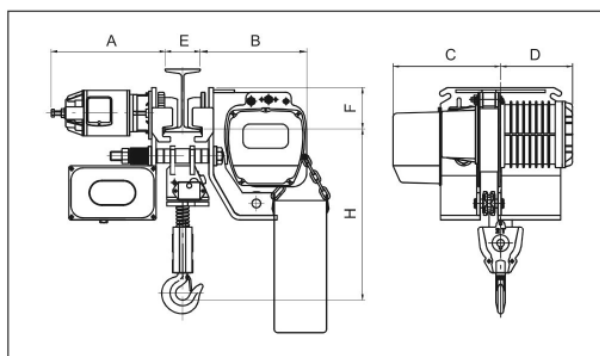
SPECIFICATIONS

Model	Nominal Capacity (ton)	Height of Lift (m)	Load Chain (mm)	Lifting Speed (m/min)				Motor Power		Power Supply	Duty Rating (%)	Load Chain Fall Lines	Test Load (ton)	N.W./G.W (kg)
				50HZ		60HZ		Single Speed	Dual Speed					
				Single Speed	Dual Speed	Single Speed	Dual Speed							
UH(D)-520	2	3(6)	ø10	6.6	6.6 / 2.2	7.9	7.9 / 2.6	3.7	3.7/1.2	3Phase 220V-600V	40	1	2.5	125 / 155
UH(D)-525	2.5		ø11.2	5.3	5.3/1.8	6.4	6.4/2.1					1	3.13	130 / 160
UH(D)-530	3		ø10	4.3	4.3 / 1.4	5.2	5.2 / 1.7					2	3.75	140 / 170
UH(D)-550	5		ø11.2	2.7	2.7/0.9	3.2	3.2/1.1					2	6.25	153 / 183
UH(D)-575	7.5		ø11.2	1.8	1.8 / 0.6	2.1	2.1 / 0.7					3	9.4	195 / 230
UH(D)-5100	10		ø11.2	2.7	2.7/0.9	3.2	3.2/1.1					3.7x2	3.7/1.2x2	4

DIMENSIONS (mm)

Model	Nominal Capacity (ton)	Fig.	H	A		B		C	D	E	F	I	J	K	L	M	N	
				Single Speed	Dual Speed	Single Speed	Dual Speed											
UH(D)-520	2	3	835	640	689	326	375	314	448	278	170	52	40	52	40	34	34	
UH(D)-525	2.5	3	880						448	278	170	52	40	52	40	34	34	
UH(D)-530	3	3	960						448	340	108	52	40	52	40	34	34	
UH(D)-550	5	3	1030		689	375	326		375	448	356	92	62	45	62	45	44	44
UH(D)-575	7.5	4	1150							587	388	199	72	40	75	55	83	48
UH(D)-5100	10	5	1270							970	485	485	72	40	100	70	91	64

LOW HEADROOM



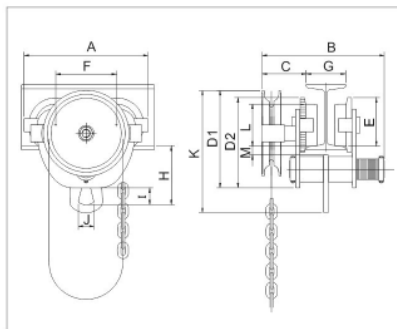
Model	Capacity (ton)	Dimension (mm)							Hoisting		Traversing		N.W. (kg)
		H	A	B	C	D	E	F	Speed(m/min) 50Hz 60Hz	Motor kw pole	Speed(m/min) 50Hz 60Hz	Motor kw pole	
ULH-520	2	702	371	443	324	319	125-175	143	6.6 7.9	3.7, 4P	20 24	0.6, 4P	438
ULHD-520						376			6.6/2.2 7.9/2.6	3.7/1.2, 4/12P	20/6.7 24/8	0.6/0.2, 4/12P	
ULH-525	2.5	724	371	443	324	319	125-175	143	5.3 6.4	3.7, 4P	20 24	0.6, 4P	448
ULHD-525						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	
ULH-530	3	765	371	443	274	363	125-175	143	4.3 5.2	3.7, 4P	20 24	0.6, 4P	465
ULHD-530						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	
ULH-550	5	805	371	443	265	372	125-175	148	2.7 3.2	3.7, 4P	20 24	0.6, 4P	505
ULHD-550						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	

※Maximum lifting height : 6M

2.5 Optional Trolley Accessory

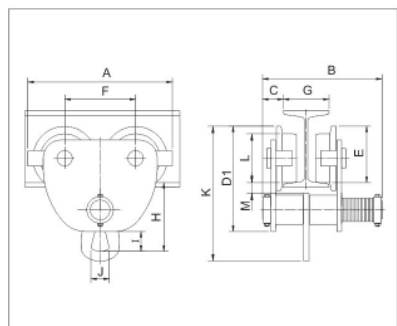
Trolley

Geared Trolley (GT)



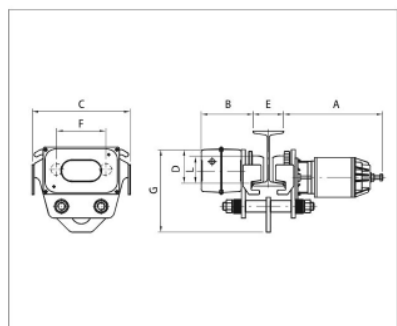
Model	Capacity (ton)	Dimensions (mm)														Min radius of curve (m)	N.W. (kg)
		A	B	C	D1	D2	E	F	H	I	J	K	L	M	G		
GT-050	0.5	194	266	81	150	151	69	89	115	33	28	199	60	32	50-150	1	8.8
GT-100	1	217	273	84	170	167	78	100	125	35	31	221	70	29	75-150	1	13.5
GT-200	2	247	309	91	224	207	91	116	171	55	56	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)	N.W. (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

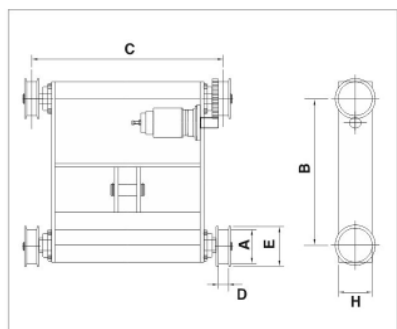
Monorail Motorized Trolley



Model	Capacity (ton)	Dimensions (mm)								Speed (m/min)		Motor (kw)	Pole (P)	Min radius of curve (m)	N.W. (kg)
		A	B	C	D	E	F	G	L	50Hz	60Hz				
UT-310	1	328	173	294	105	75-125	149	253	78	20	24.16	0.25/0.17	4.6	1.3	40
UTD-310										20/6.7	24/8	0.25/0.08	4/12		
UT-320	2	328	173	322	119	100-150	161	279	90	20	24.16	0.25/0.17	4.6	1.5	45
UTD-320										20/6.7	24/8	0.25/0.08	4/12		
UT-330	3	368	180	356	124	125-175	172	303	100	20	24.16	0.6/0.4	4.6	1.8	65
UTD-330										20/6.7	24/8	0.6/0.2	4/12		
UT-350	5	372	184	386	134	125-175	183	327	110	20	24.16	0.6/0.4	4.6	2.0	89
UTD-350										20/6.7	24/8	0.6/0.2	4/12		
UT-375	7.5	411	193	454	167	150-200	229	400	140	20	24	0.9	4	3.0	155
UTD-375										20/6.7	24/8	0.9/0.3	4/12		
UT-3100	10	577	193	560	205	150-200	278	450	160	15	18	1.5	4	3.5	218
UTD-3100		652								15/5	18/6	1.5/0.5	4/12		
UT-3150	15	576	212	702	274	190	360	574	180	12	14	1.5	4	-	350
UTD-3150		675								12/4	14/4.7	1.5/0.5	4/12		
UT-3200	20	656	223	882	365	200	416	674	250	13	15	2.2	4	-	575
UTD-3200		726								13/4.3	15/5	2.2/0.73	4/12		

UT-310~350: 50Hz uses 4P motor; 60Hz uses 4P or 6P motor
(Please specify as ordering 6P motor)

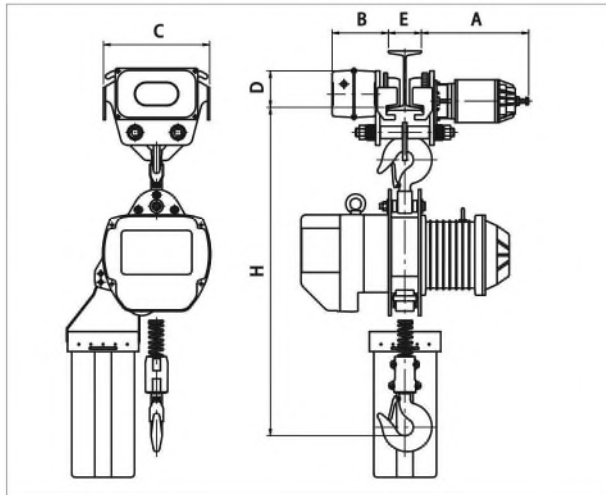
Motor Saddle Trolley



Model	Capacity (ton)	Speed (m/min)		Dimensions (mm)						Motor (kw)	Pole (P)	N.W. (kg)
		50Hz	60Hz	A	B	C	D	E	H			
UST-310	1	20	19	120	580	700	40	147	125	0.25	4	94
USTD-310		20/6.7	19/6.3							0.25/0.08	4/12	
UST-320	2	20	19	120	580	700	40	147	125	0.25	4	94
USTD-320		20/6.7	19/6.3							0.25/0.08	4/12	
UST-330	3	18	22	150	650	850	45	176	155	0.4	4	182
USTD-330		18/6	22/7.3							0.4/0.13	4/12	
UST-350	5	18	22	150	650	850	45	176	155	0.6	6	182
USTD-350		18/9	22/11							0.6/0.3	6/12	
UST-375	7.5	19	23	160	800	1000	50	187	225	0.9	4	306
USTD-375		19/6.3	23/7.7							0.9/0.3	4/12	
UST-3100	10	21	20	215	900	1200	50	246	327.5	0.9-2pcs	4	504
USTD-3100		21/7	20/6.7							0.9/0.3-2pcs	4/12	

UST-310 — 50Hz with pinion of M3.5x15T
UST-320 — 60Hz with pinion of M3.5x12T
UST-3100 — 50Hz/60Hz with pinion of M3.5x13T
UST-330 — 50Hz/60Hz with pinion of M3.5x20T
UST-375 — 50Hz/60Hz with pinion of M3.5x15T

■ Hoist with trolleys



500 series
Hoist with trolley's dimension (mm)

Model	Capacity (ton)	H	A	B	C	D	Flange Width (E)
UHT-520	2	995	328	173	322	119	100~150
UHT-525	2.5	1040	368	180	356	124	125~175
UHT-530	3	1120	368	180	356	124	125~175
UHT-550	5	1200	372	184	386	134	125~175
UHT-575	7.5	1300	411	193	454	167	150~200
UHT-5100	10	1415	577	193	560	205	150~200
UHT-5150	15	1490	576	212	702	274	190
UHT-5200	20	2080	656	223	882	365	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.

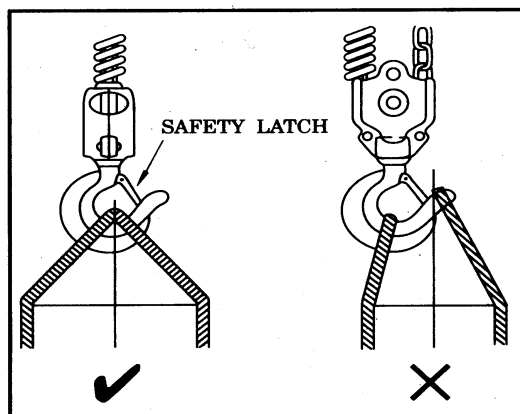
DANGER

(2)

Do not use the hoist in explosive atmosphere.

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

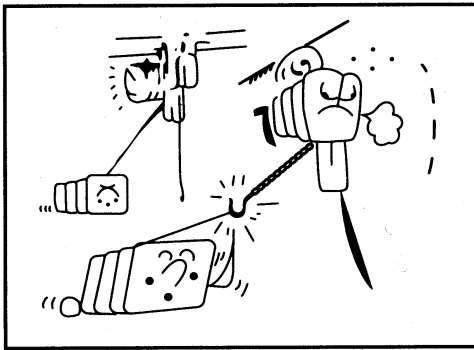
- (a) The correct lifting sling is being used.
- (b) The lifting sling is located in the hook as shown below (Illus.2) and that a safety latch has been fitted.



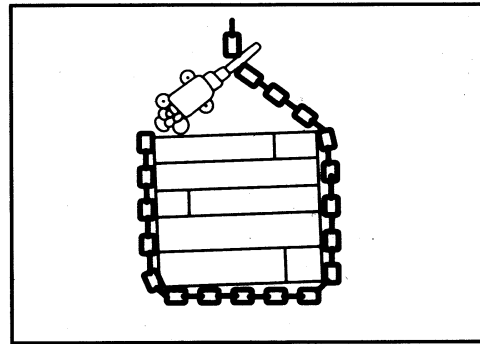
Illus. 2

- (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)

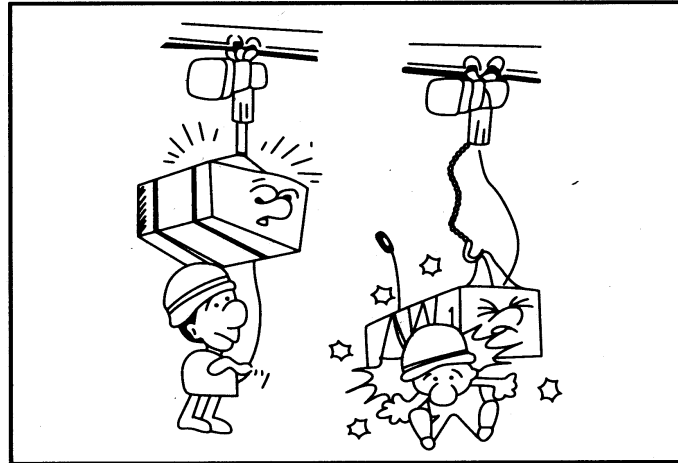
! WARNING

Do not use the hoist chain as a welding electrode.

(12)



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.

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

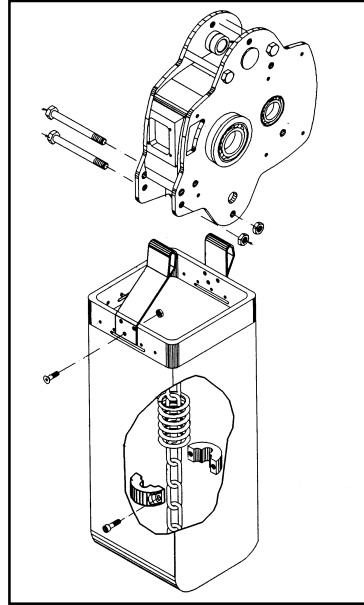
WARNING

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 32, 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.

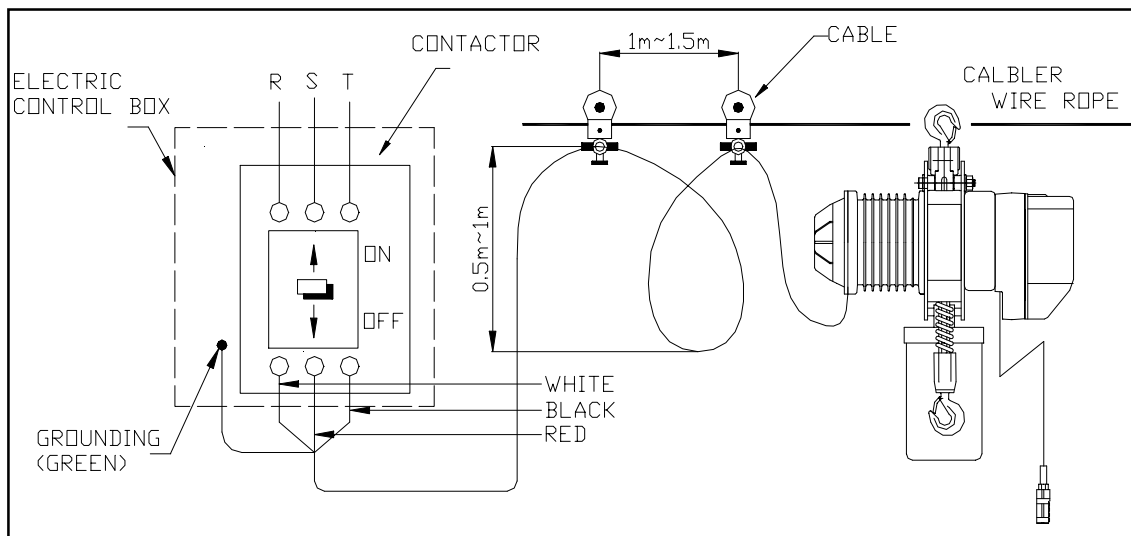
- (2) Assemble chain bucket.



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.

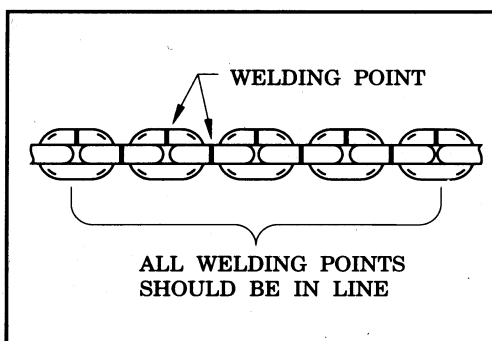
- (C) Check the emergency stop device function (if fitted):

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.

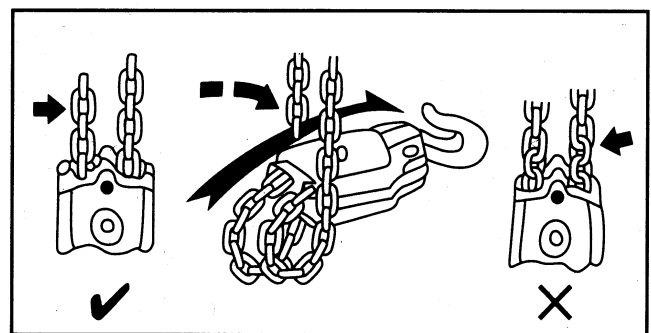
- (D) Check load chain lubrication (It has been lubricated at our works, but the lubricant may dry out during transportation). Any readily available lubricant is recommended. It is further advisable to keep a small amount of lubricant in chain bucket to allow chain in oil bath.
- (E) Check chain position. 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.

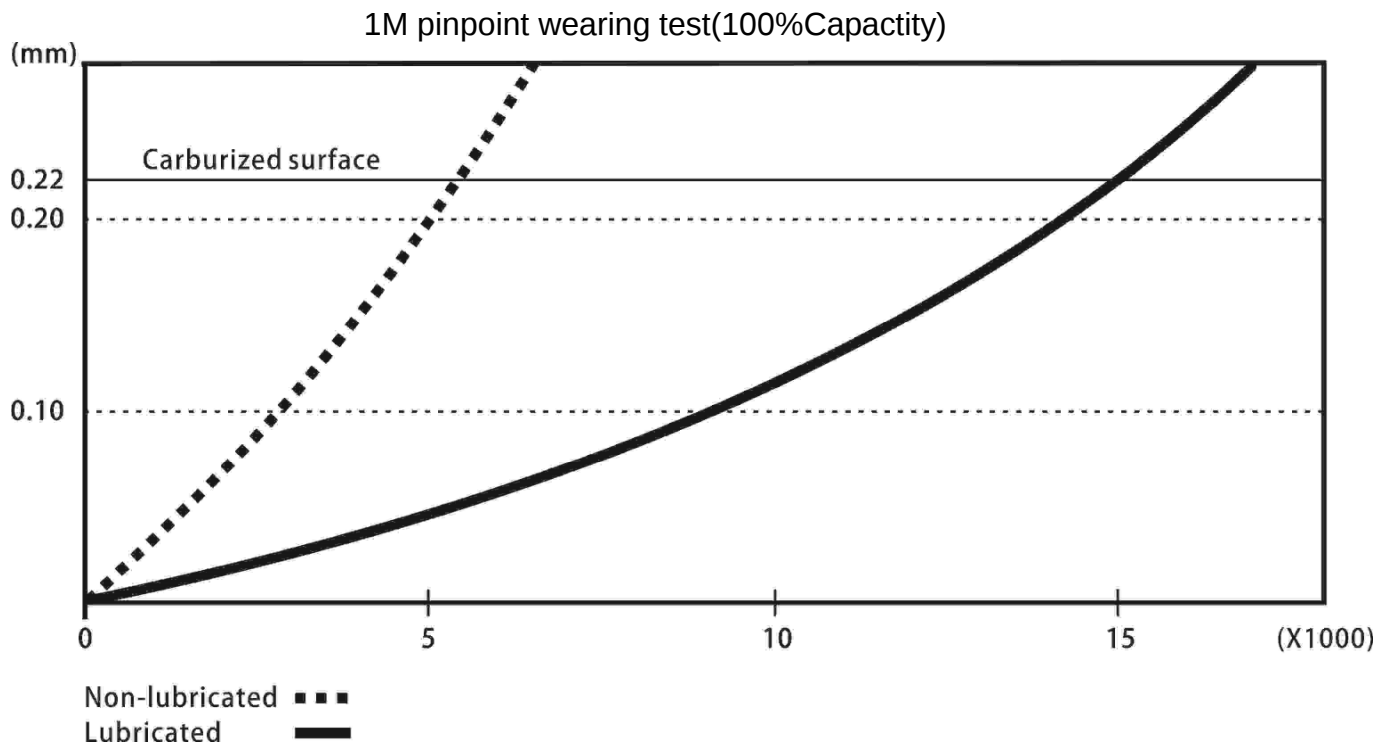
6.2 Inspection

- (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

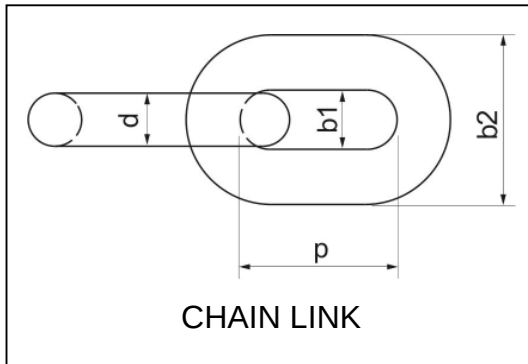


Number of cycles (Lifting + lowering)

⚠ 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.

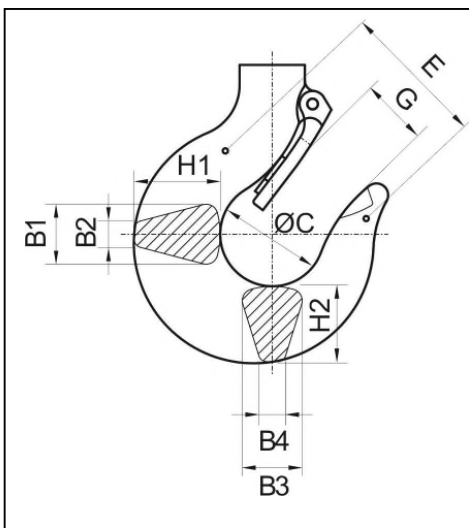


Dia-Meter (m/m) (d)	Load (ton)	Inside Length (m/m) (p)	Inside Width (m/m) (b1)	Outside Width (m/m) (b2)	Breaking Load (kN)
10.0	2,3T	30.2	12.5	33.2	128
11.2	2.5,5 7.5,10T	34	14	37.5	160

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)
	H1	B1	B2	H2	B3	B4	C	G	E	
2,2.5,3	55	34	19	48	34	19	52	40	90	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:



WARNING

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



WARNING

Your dealer should be asked to perform this inspection.

- (a) Check gearing for any excessive wear or damage.
- (b) Replace gearbox lubricant completely.
- (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

Ø190 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

(c) Limit Switches:



WARNING

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



WARNING

Your dealer should be asked to perform this inspection.

- (a) Check gearing for any excessive wear or damage.
- (b) Replace gearbox lubricant completely (**700 C.C ~800C.C ±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.

※Table of recommended oils according to DIN 51354

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.

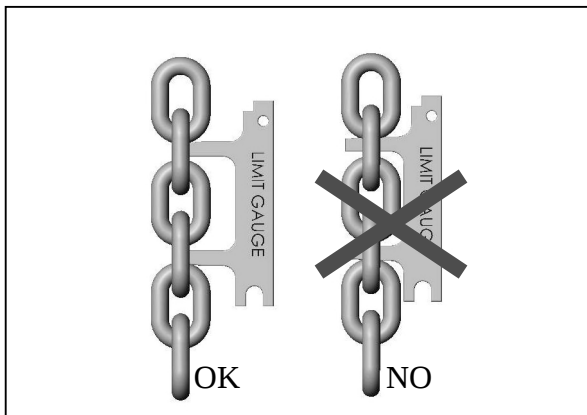


Illustration (1)
Chain pitch measure

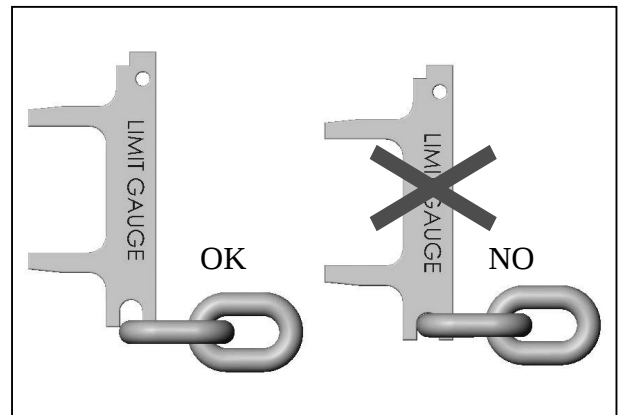


Illustration (2)
Diameter measure

7. TROUBLESHOOTING

7.1 Wiring Diagrams

(1) C10011: dual voltage 220V/380V +220V/440V +230V/460V motor lead wiring diagram	23
(2) 003/A50041A-1RM: single speed wiring diagram with electronic over load limit	24
(3) 005/A80018-1RM: dual speed wiring diagram	24
(4) 004/A50243-1RM: dual speed wiring diagram with electronic over load limit	25
(5) 006/A80024-1RM: 10Tons, single speed wiring diagram	25
(6) 021/A05254-1RM: UHT series, single speed wiring diagram	26
(7) 022/A80022-1RM: UHTD series, dual speed wiring diagram	26

The above models are available in the following specification:

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

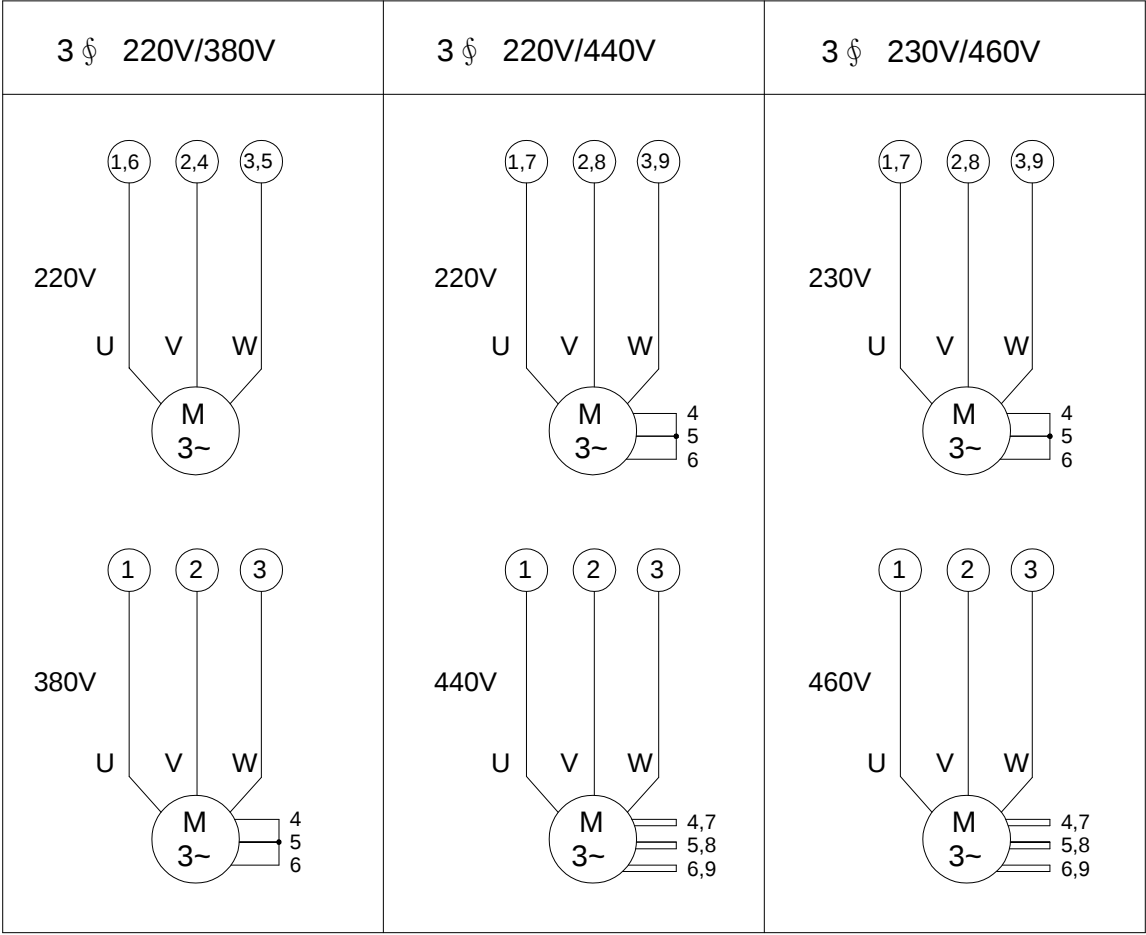
Hertz \ Voltage	Dual Voltage	Single Voltage
50 Hz	220V/380V 220V/440V 230V/460V	220V to 600V
60 Hz		

Table 7-1

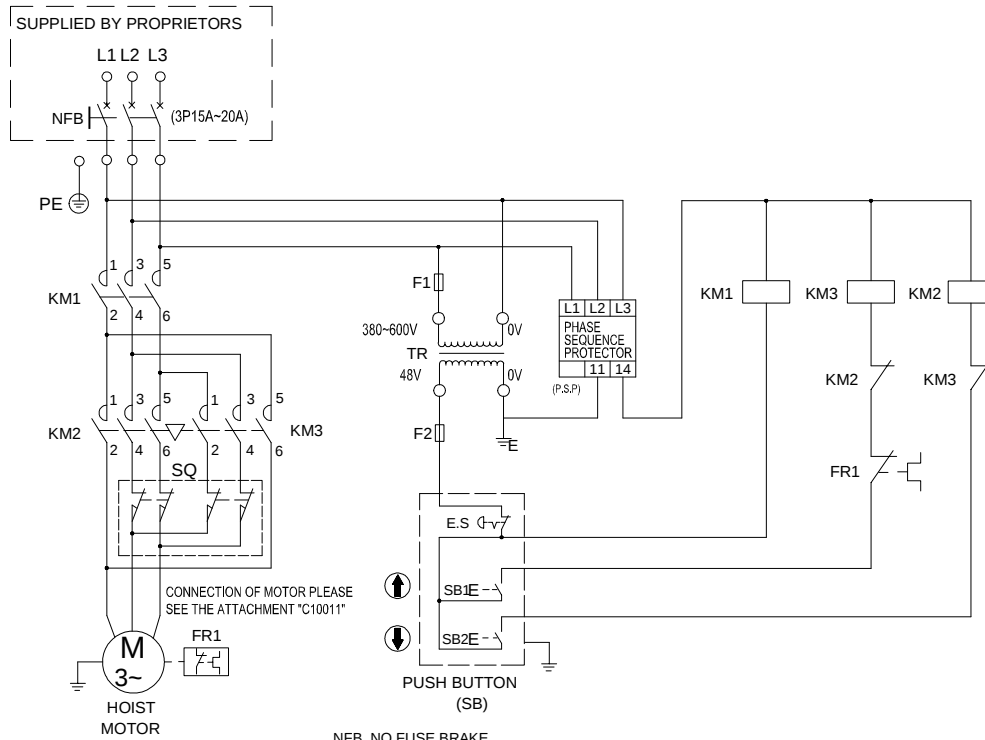
Warranty Details

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

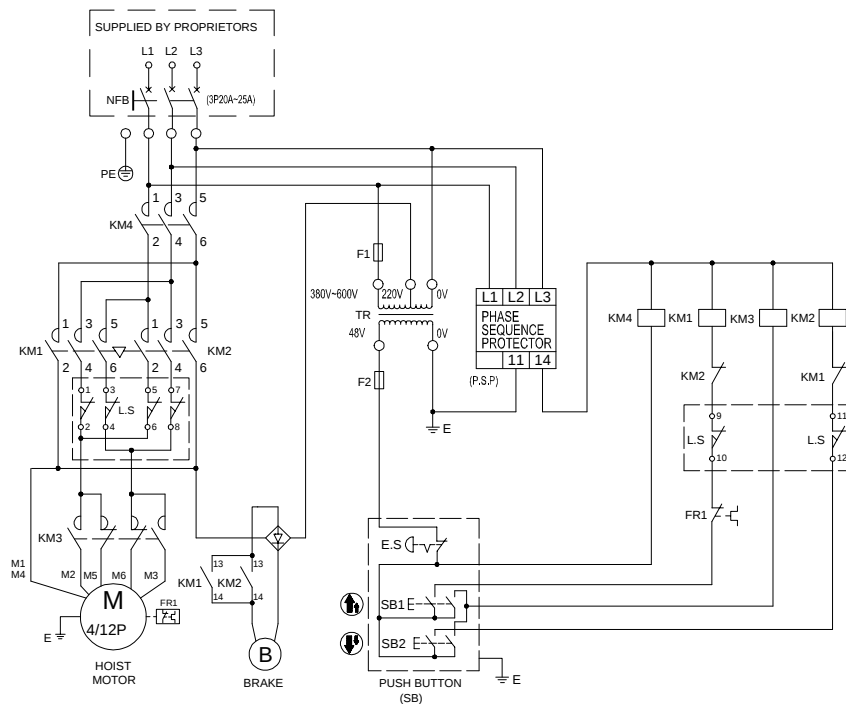


C10011



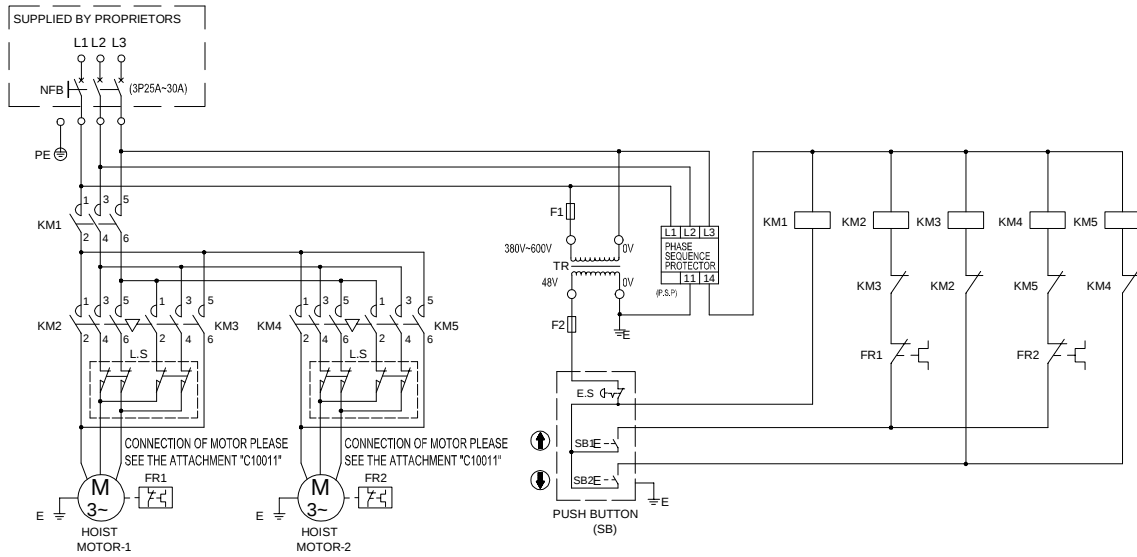
NFB NO FUSE BRAKE
 PE PROTECTION EARTH
 E.S EMERGENCY STOP
 SB1 PUSH BUTTON LIFTING
 SB2 PUSH BUTTON LOWERING
 TR TRANSFORMER FOR CONTROL POWER
 KM2 CONTACTOR LIFTING
 KM3 CONTACTOR LOWERING
 KM1 POWER SOURCE, CONTACTOR MAIN
 SQ LIMIT SWITCH UP/DOWN
 FR1 TEMPERATURE SWITCH

003/A50041A-1RM



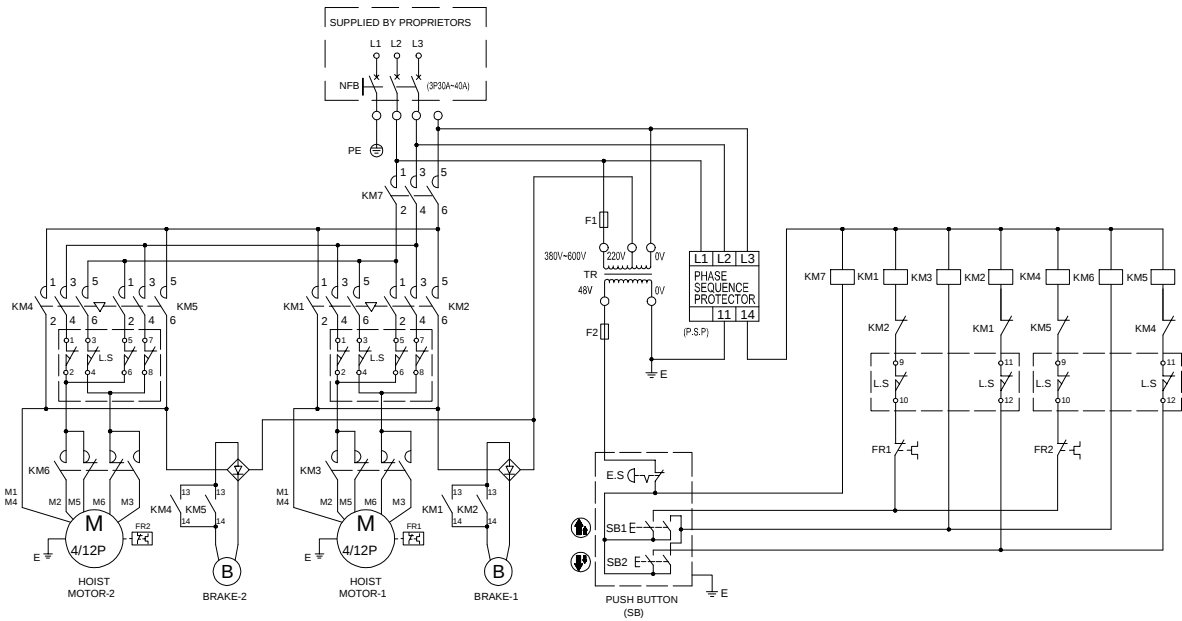
NFB NO FUSE BRAKE, SUPPLY BY CUSTOMER
 PE PROTECTION EARTH
 E.S EMERGENCY STOP
 SB1 DUAL SPEED,PUSH BUTTON LIFTING
 SB2 DUAL SPEED,PUSH BUTTON LOWERING
 TR TRANSFORMER FOR CONTROL POWER
 KM1 CONTACTOR LIFTING
 KM2 CONTACTOR LOWERING
 KM3 CONTACTOR, DUAL SPEED CONTROL
 KM4 POWER SOURCE, CONTACTOR MAIN
 SQ1 LIMIT SWITCH UP/DOWN
 FR1 TEMPERATURE SWITCH
 B BRAKE COIL

005/A80018-1RM



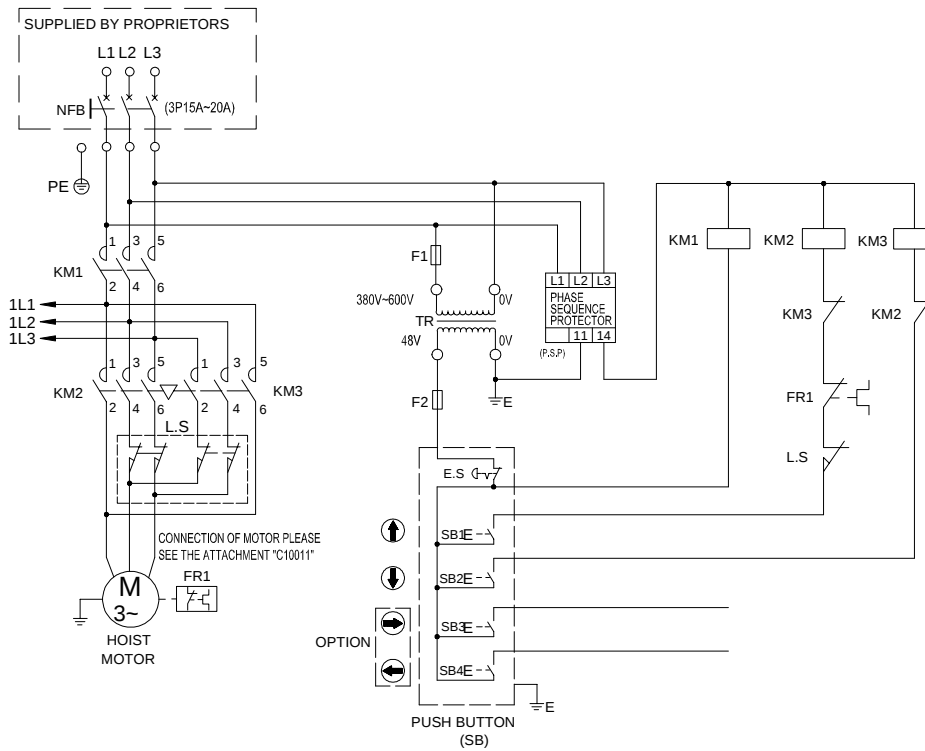
NFB NO FUSE BRAKE
 PE PROTECTION EARTH
 E.S EMERGENCY STOP
 SB1 PUSH BUTTON LIFTING
 SB2 PUSH BUTTON LOWERING
 TR TRANSFORMER FOR CONTROL POWER
 KM2,KM3 CONTACTOR LIFTING&LOWERING
 KM4,KM5 CONTACTOR LIFTING&LOWERING
 KM1 POWER SOURCE, CONTACTOR MAIN
 SQ1,SQ2 LIMIT SWITCH UP/DOWN
 FR1,FR2 TEMPERATURE SWITCH

004/A50243-1RM



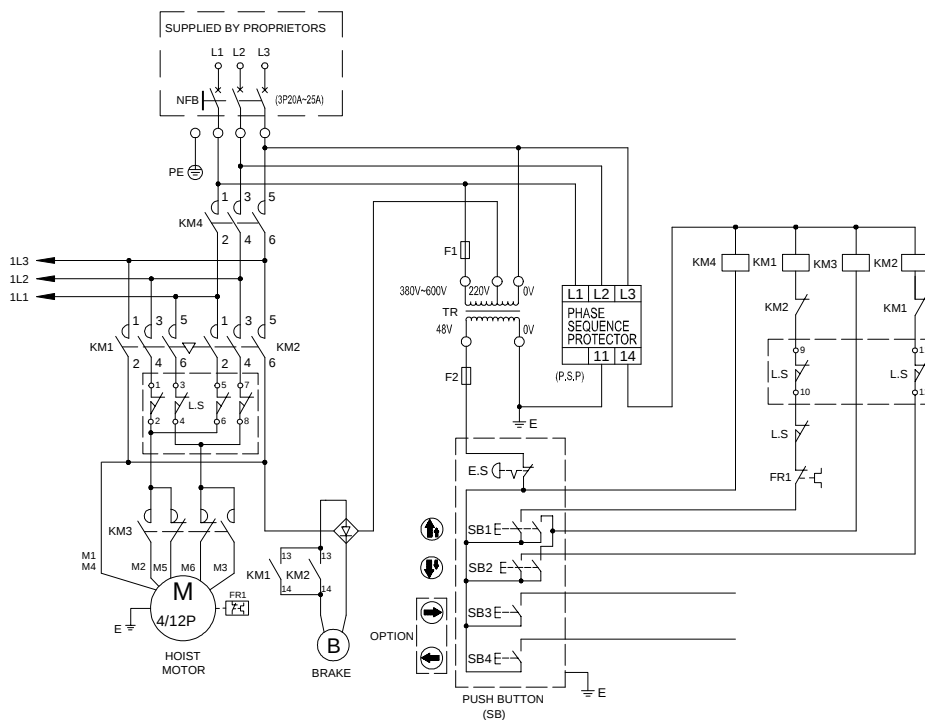
NFB NO FUSE BRAKE
 PE PROTECTION EARTH
 E.S EMERGENCY STOP
 SB1 DUAL SPEED,PUSH BUTTON LIFTING
 SB2 DUAL SPEED,PUSH BUTTON LOWERING
 TR TRANSFORMER FOR CONTROL POWER
 KM1,KM2 CONTACTOR LIFTING&LOWERING
 KM4,KM5 CONTACTOR LIFTING&LOWERING
 KM3,KM6 CONTACTOR, DUAL SPEED CONTROL
 KM7 POWER SOURCE, CONTACTOR MAIN
 SQ1,SQ2 LIMIT SWITCH UP/DOWN
 FR1,FR2 TEMPERATURE SWITCH
 (B) BRAKE COIL

006/A80024-1RM



NFB NO FUSE BRAKE
 PE PROTECTION EARTH
 E.S EMERGENCY STOP
 SB1 PUSH BUTTON LIFTING
 SB2 PUSH BUTTON LOWERING
 TR TRANSFORMER FOR CONTROL POWER
 KM2 CONTACTOR LIFTING
 KM3 CONTACTOR LOWERING
 KM1 POWER SOURCE, CONTACTOR MAIN
 SQ,SQ1 LIMIT SWITCH UP/DOWN
 FR1 TEMPERATURE SWITCH

021/A50254-1RM



NFB NO FUSE BRAKE, SUPPLY BY CUSTOMER
 PE PROTECTION EARTH
 E.S EMERGENCY STOP
 SB1 DUAL SPEED, PUSH BUTTON LIFTING
 SB2 DUAL SPEED, PUSH BUTTON LOWERING
 TR TRANSFORMER FOR CONTROL POWER
 KM1 CONTACTOR LIFTING
 KM2 CONTACTOR LOWERING
 KM3 CONTACTOR, DUAL SPEED CONTROL
 KM4 POWER SOURCE, CONTACTOR MAIN
 SQ1,SQ2 LIMIT SWITCH UP/DOWN
 FR1 TEMPERATURE SWITCH
 B BRAKE COIL

022/A80022-1RM

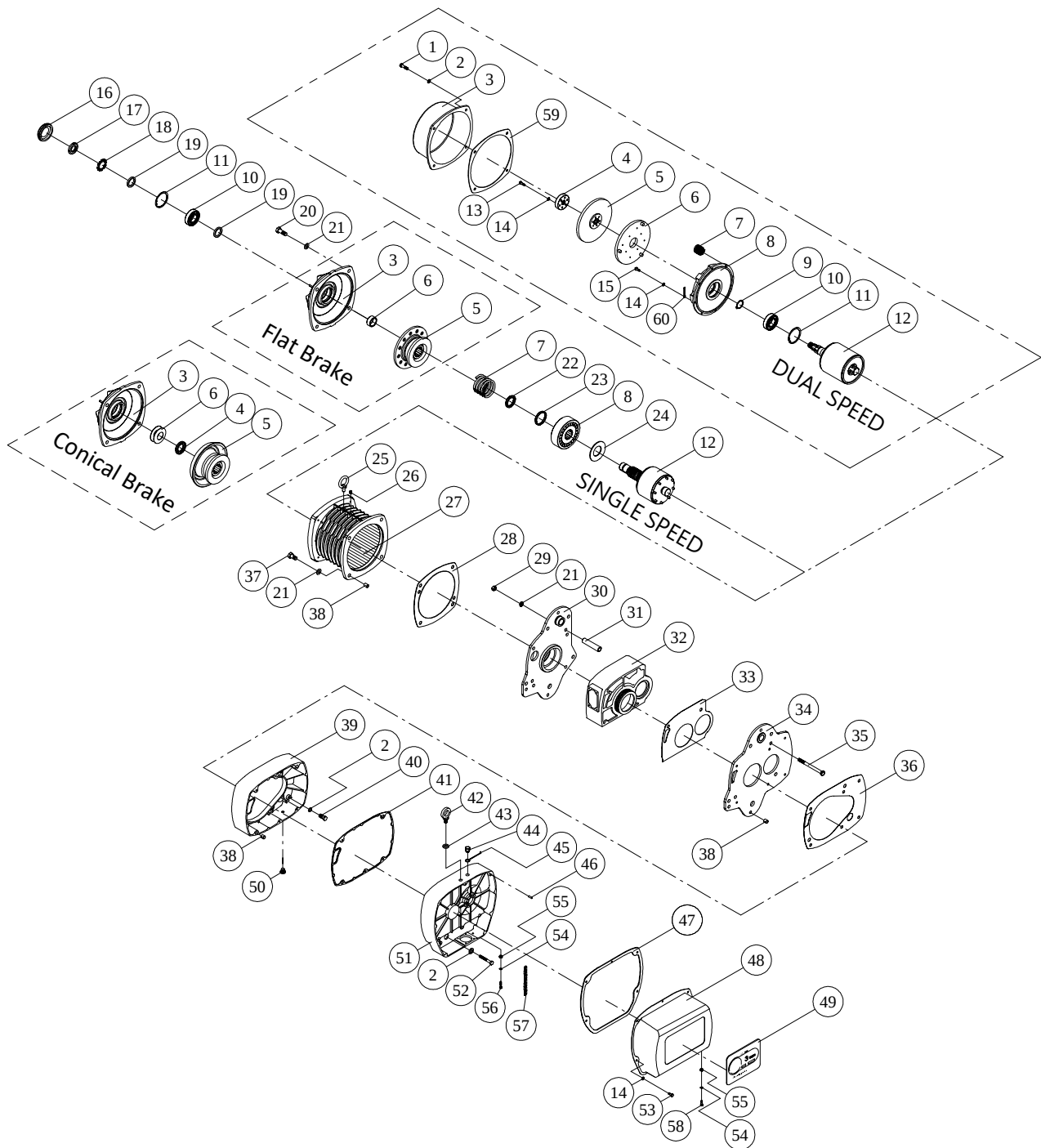
7.2 Troubleshooting and Remedial action

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

8. Drawings and parts list

(1) VIII-1 Motor Assembly & Housing Drawing	29
(2) VIII-1 Motor Assembly & Housing B.O.M	30
(3) VIII-2A Hook Assembly 2,2.5,3,5 Tons Drawing	33
(4) VIII-2A Hook Assembly 2,2.5,3,5 Tons B.O.M	34
(5) VIII-2B Hook Assembly 7.5 Tons Drawing	36
(6) VIII-2B Hook Assembly 7.5 Tons B.O.M	37
(7) VIII-2C Hook Assembly 10 Tons Drawing	39
(8) VIII-2C Hook Assembly 10 Tons B.O.M	40
(9) VIII-3 Reducing Gear Box Drawing	42
(10) VIII-3 Reducing Gear Box B.O.M	43
(11) VIII-4 Load Chain Section Drawing	44
(12) VIII-4 Load Chain Section B.O.M	45
(13) VIII-5 Electric Parts Drawing (Standard Parts)	46
(14) VIII-5 Electric Parts B.O.M (Standard Parts)	47
(15) VIII-6 Low Headroom Model's Drawing	49
(16) VIII-6 Low Headroom Model's B.O.M	50

VIII-1 MOTOR ASS'Y & HOUSING



VIII-1 MOTOR ASSEMBLY & HOUSING

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
			Conical Brake	Flat Brake		Conical Brake	Flat Brake	
1	400014	Hex. Recess Bolt <M8×1.25×30L>			4			8
2	400095	Spring Washer <M8>	14		18	28		36
3	106022B	Motor End Cover	1			2		
	100424B			1			2	
	100425B				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		
	100375				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

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
			Conical Brake	Flat Brake		Conical 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	Connecting Screws Sleeve	4			8		
30	100339	Nut <M12×1.75>	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	200245B	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	300764B	Electric Housing	1			2		
49		Name Plate	1			2		
50	300523	Lubricant Drain Bolt	1			2		
51	200246B	Gear Box B	1			2		
52	400460	Hex. Recess Bolt <M8×1.25×65L>	8			16		

VIII – 1 MOTOR ASSEMBLY & HOUSING

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
			Conical Brake	Flat Brake		Conical Brake	Flat Brake	
53	400005	Hex. Recess Bolt <M6×1.0×12L>	8			16		
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

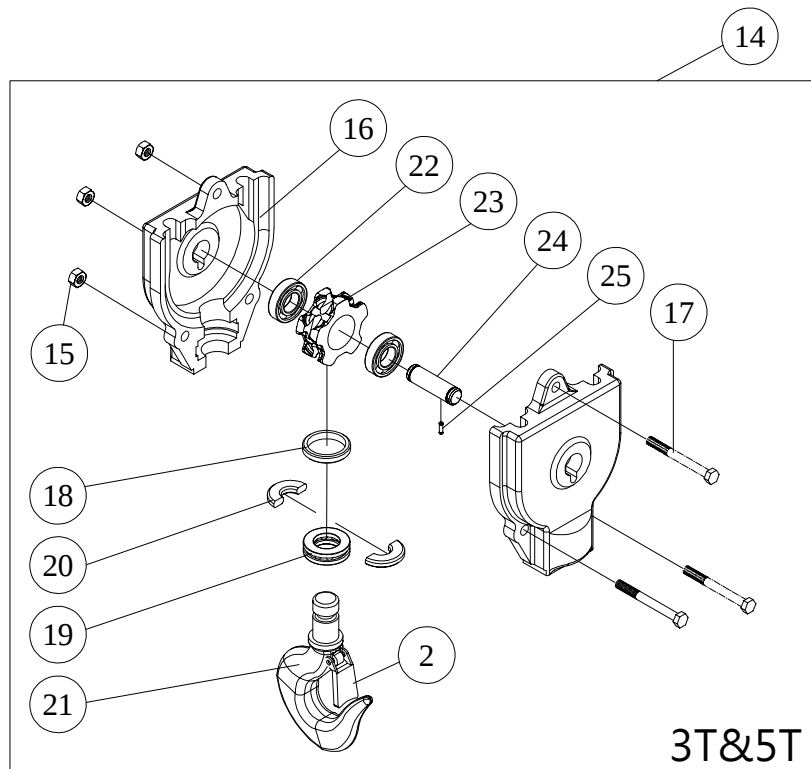
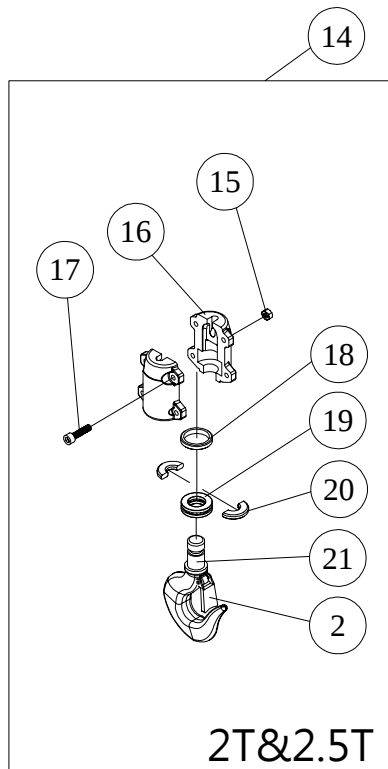
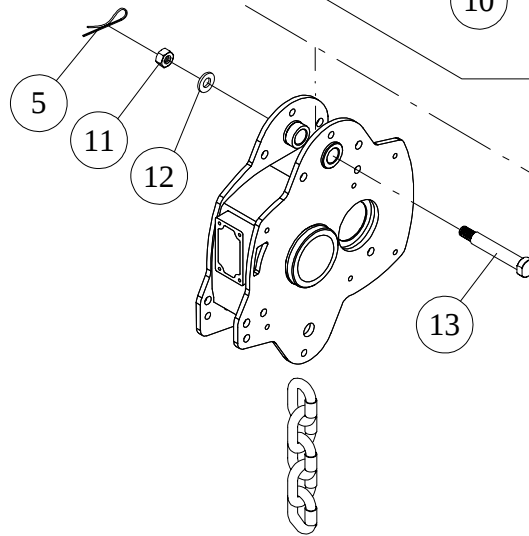
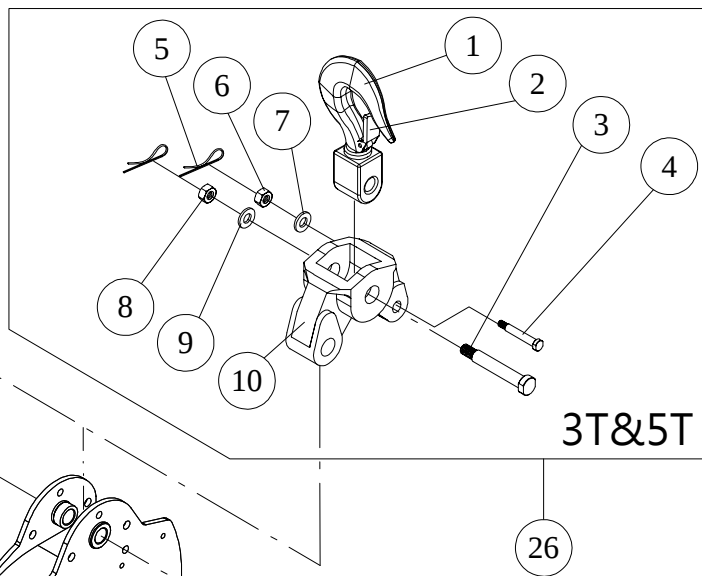
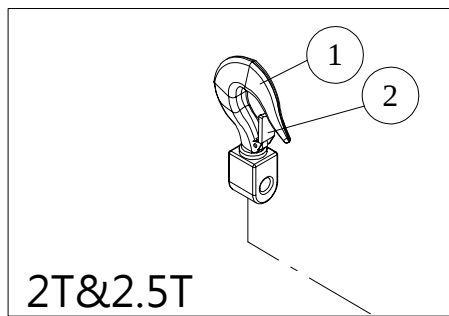
VIII – 1 MOTOR ASSEMBLY & HOUSING

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(2, 2.5, 3, 5T)

S : SINGLE SPEED D : DUAL SPEED

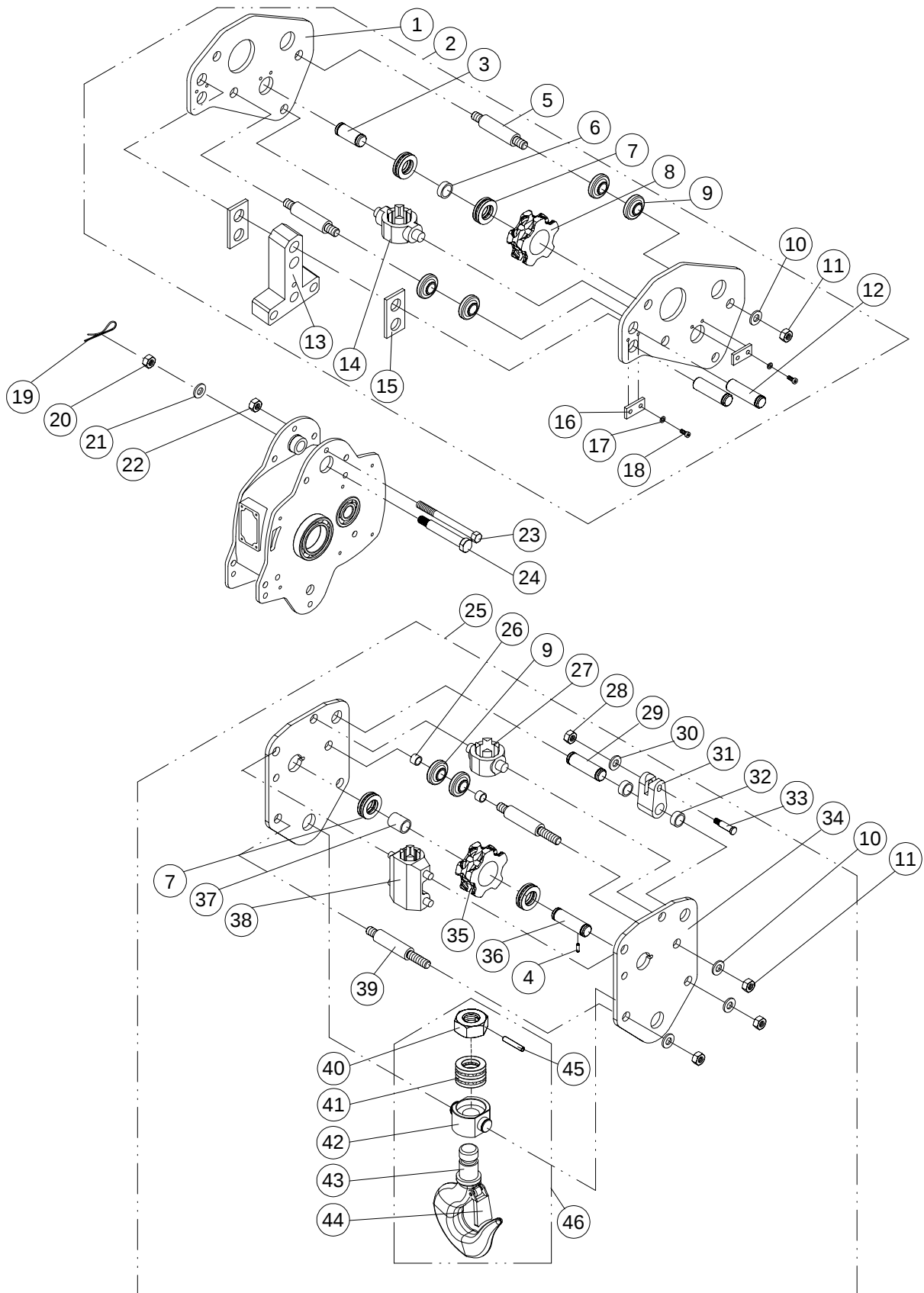
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT							
			2T		2.5T		3T		5T	
			S	D	S	D	S	D	S	D
1	209347B	Top Hook	1		1					
	209345B						1			
	209348B								1	
2	400489	Safety Latch Ass'y	2		2		2		2	
3	200094	Top Hook Pin <Ø25×107L>					1			
	200095	Top Hook Pin <Ø34×134L>							1	
4	200177	Chain 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	200155B	Hook Bracket					1			
	200156B								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	200759B	Bottom Hook Ass'y	1							
	200026B				1					
	200025B						1			
	200027B								1	
15	400088	Lock Nut <M8×1.25>	4							
	400089	Lock Nut <M10×1.5>			4		3		3	
16	200099B	Bottom Hook Housing	2							
	200126B				2					
	200100B						2			
	200101B								2	

VIII – 2A HOOK ASSEMBLY (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
17	400015	Hex. Recess Bolt<M8×1.25×40L>	4							
	400018	Hex. Recess Bolt<M10×1.5×40L>			4		3			
	400019	Hex. Recess Bolt<M10×1.5×45L>							3	
18	200133	Bottom Hook Retaining Ring	1		1		1			
	200134								1	
19	400159	Thrust Bearing <51106>	1		1		1			
	400160	Thrust Bearing <51207>							1	
20	200129	Bottom Hook Half Spacer	2		2		2			
	200130								2	
21	209357B	Bottom Hook	1		1					
	209355B						1			
	209358B								1	
22	408052	Needle Bearing <TA 3020 Z>					2			
	400174	Needle Bearing <TA 4025 Z>							2	
23	200170	Bottom Hook Idle Wheel <Ø40×42L>					1			
	200111	Bottom Hook Idle Wheel <Ø50×51L>							1	
24	200813	Bottom Hook Idle Wheel Axle <Ø30×71L>					1			
	200116	Bottom Hook Idle Wheel Axle <Ø40×78L>							1	
25	400212	Spring Pin <Ø5×16L>					1		1	
26	200053B	Suspended Frame Ass'y					1			
	200052B								1	

HOOK ASSEMBLY (7.5T)



VIII – 2B HOOK ASSEMBLY (7.5 T)

S : SINGLE SPEED D : DUAL SPEED

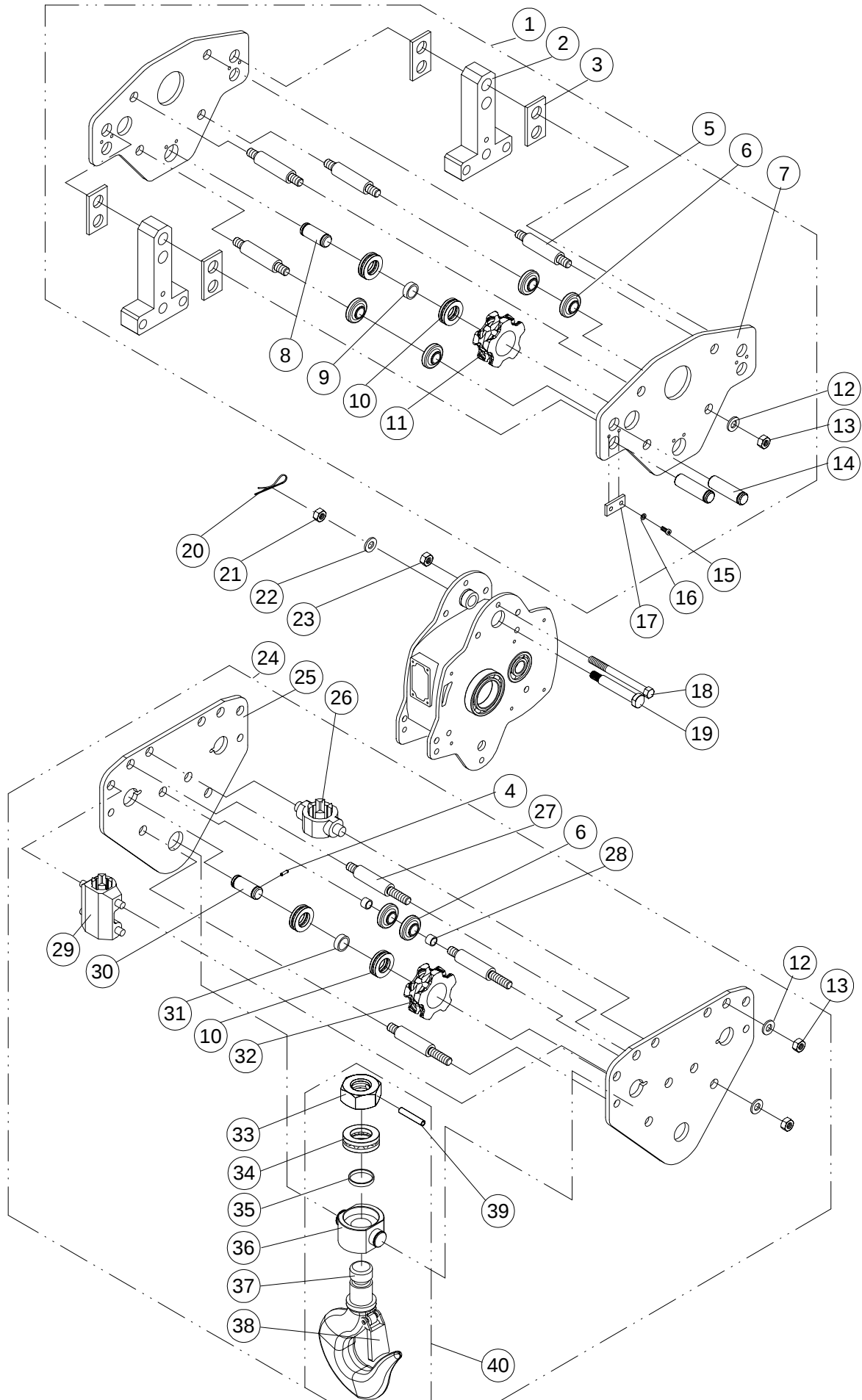
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			7.5T	
			S	D
1	200162B	Side Plate	2	
2	200754B	Suspended Frame Ass'y	1	
3	200119	Idle Wheel's Axle <Ø40×100L>	1	
4	400212	Spring Pin <Ø5×16L>	1	
5	200148	Stay Bolt <Ø25×124L>	3	
6	200125	Idle Wheel's Inner Sleeve <Ø49.5×Ø40.5×5.5L>	1	
7	400174	Needle 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	200762B	Bottom Hook Ass'y	1	

VIII – 2B HOOK ASSEMBLY (7.5 T)

S : SINGLE SPEED D : DUAL SPEED

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			7.5T	
			S	D
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	
31	200185	Chain's Limiter <t55×53×116 Ø32>	1	
32	200186	Chain's Limiter Sleeve <Ø40×Ø33×12L>	2	
33	200179	Chain's Connect Pin To Limiter <Ø19×82L>	1	
34	200105B	Bottom Hook Side Plate <Ø11.2>	2	
35	200112	Bottom Hook Idle Wheel <Ø50×82L>	1	
36	200117	Idle Wheel Axle <Ø40×108L>	1	
37	200122	Idle Wheel Inner Sleeve <Ø49.5×Ø40.5×31L>	1	
38	200314	Chain Guide(A)	1	
39	200143	Side Plate Stay Bolt <Ø25×149L >	3	
40	400644	Nut <1 3/4"×5UNC>	1	
41	400162	Thrust Bearing <51209>	2	
42	200135	Bearing Housing	1	
43	200078	Forged Hook	1	
44	400302	Safety Latch Ass'y	1	
45	400214	Spring Pin <Ø8×70L>	1	
46	200765B	Bottom Hook	1	

HOOK ASSEMBLY (10T)



VIII – 2C HOOK ASSEMBLY(10T)

S : SINGLE SPEED D : DUAL SPEED

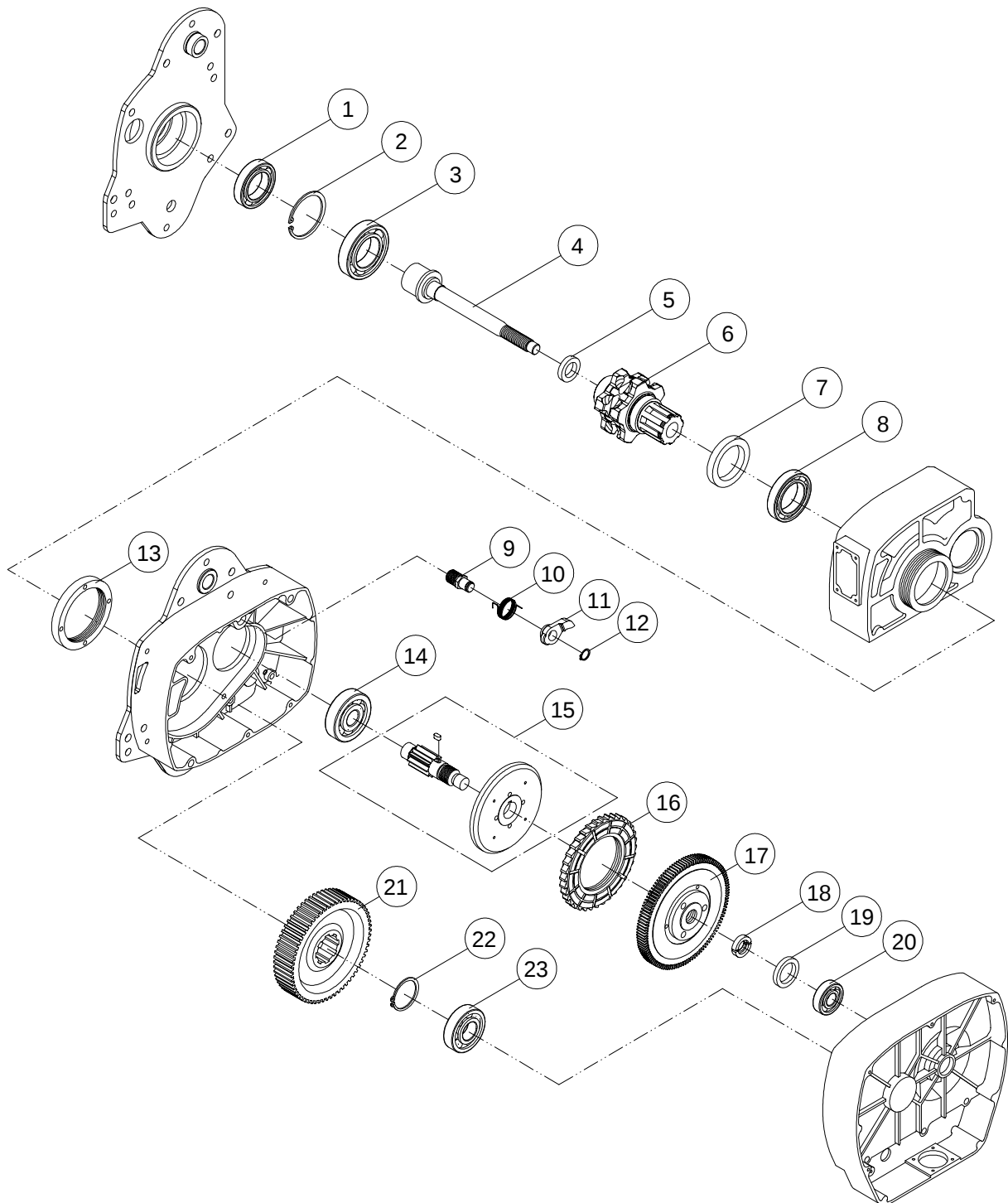
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			10T	
			S	D
1	200755B	Top Hook Ass'y	1	
2	200312	Side Plate Connector <t45×140×223L>	2	
3	200174	Side Plate Connector Spacer<Ø26.5 P44 t6×50×92L>	4	
4	400212	Spring Pin < Ø5×16L>	1	
5	200149	Side Plate Stay Bolt < Ø25×139L>	4	
6	400287	Rubber Chain Guide Wheel	8	
7	200163B	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	200106B	Bottom Hook Side Plate	2	
26	200316	Chain Guide(C)	2	

VIII – 2C HOOK ASSEMBLY(10T)

S : SINGLE SPEED D : DUAL SPEED

[illegible]

VIII-3 REDUCING GEAR BOX



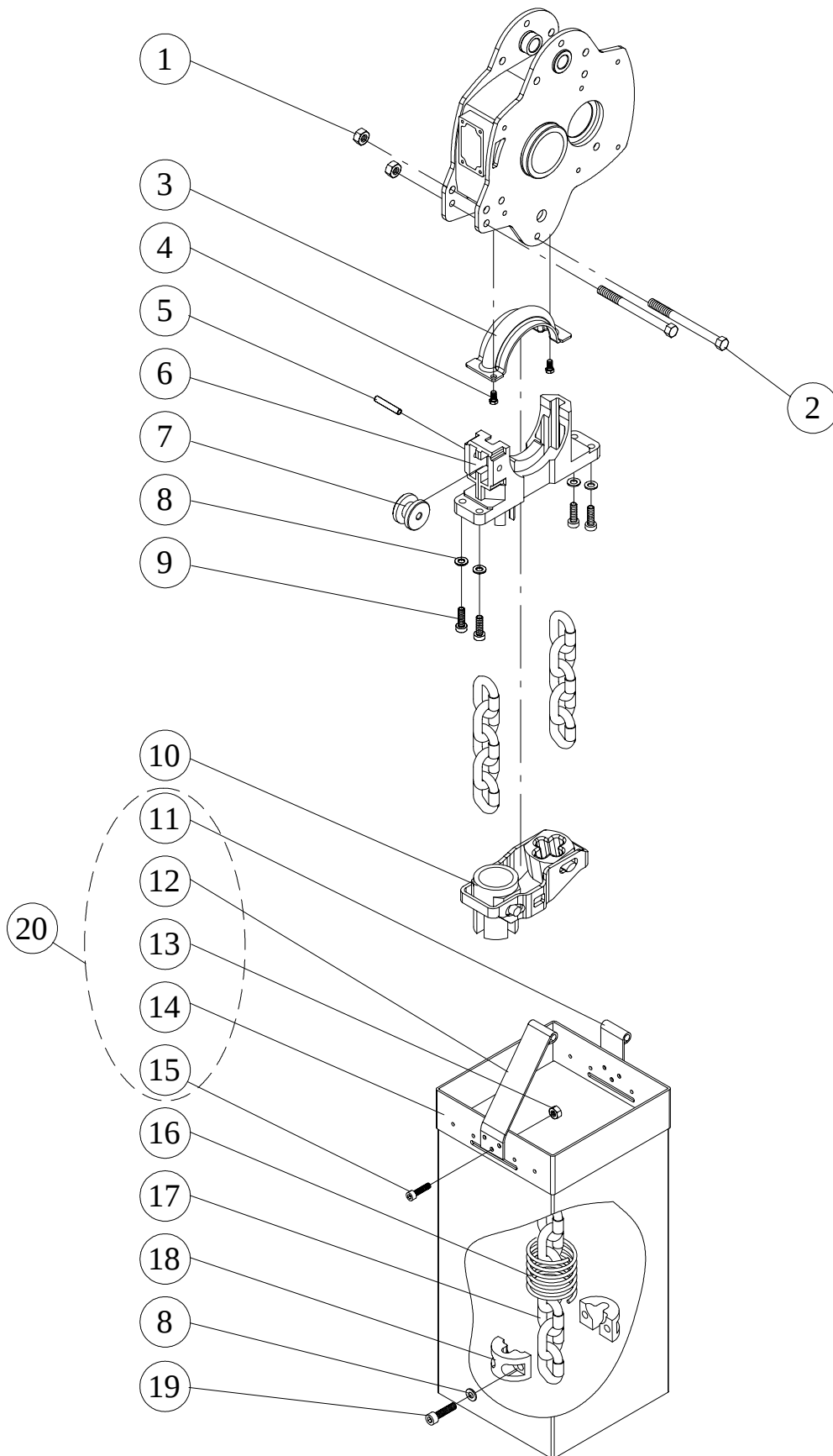
EX190E5

VIII – 3 REDUCING GEAR BOX ASSEMBLY

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



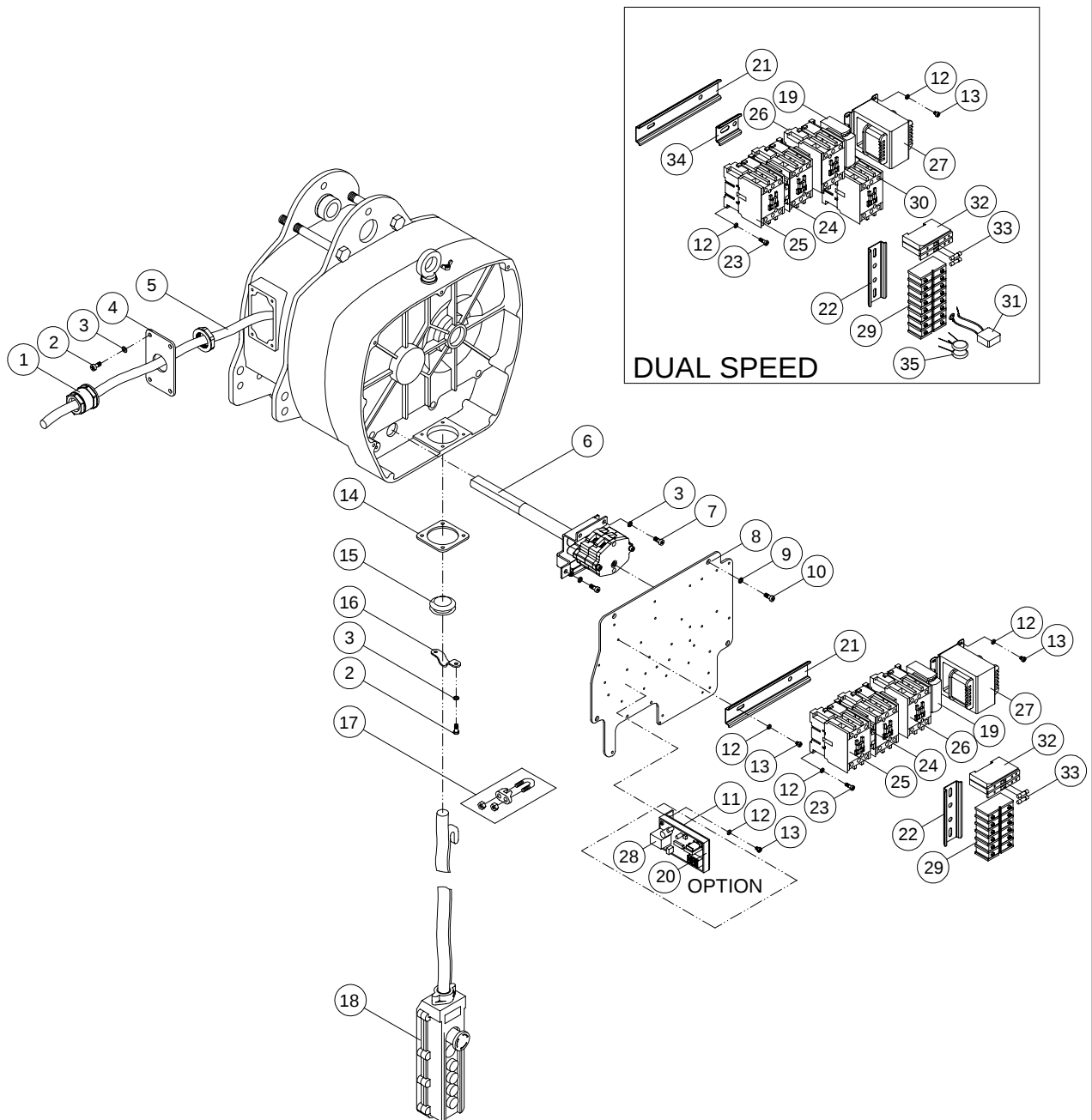
III – 4 LOAD CHAIN SECTION ASSEMBLY

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 <Ø11.2 Ø40×28L>					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) <t4.0×50×108L>	1		1		1		1		1		2	
12	200222	Bucket Arm(A) <t4.0×50×197L>	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 page19) .

VIII – 5 ELECTRIC PARTS (Stansard Pasts)



VIII – 5 ELECTRIC ASSEMBLY (Standard Parts)

S : SINGLE SPEED D : DUAL SPEED

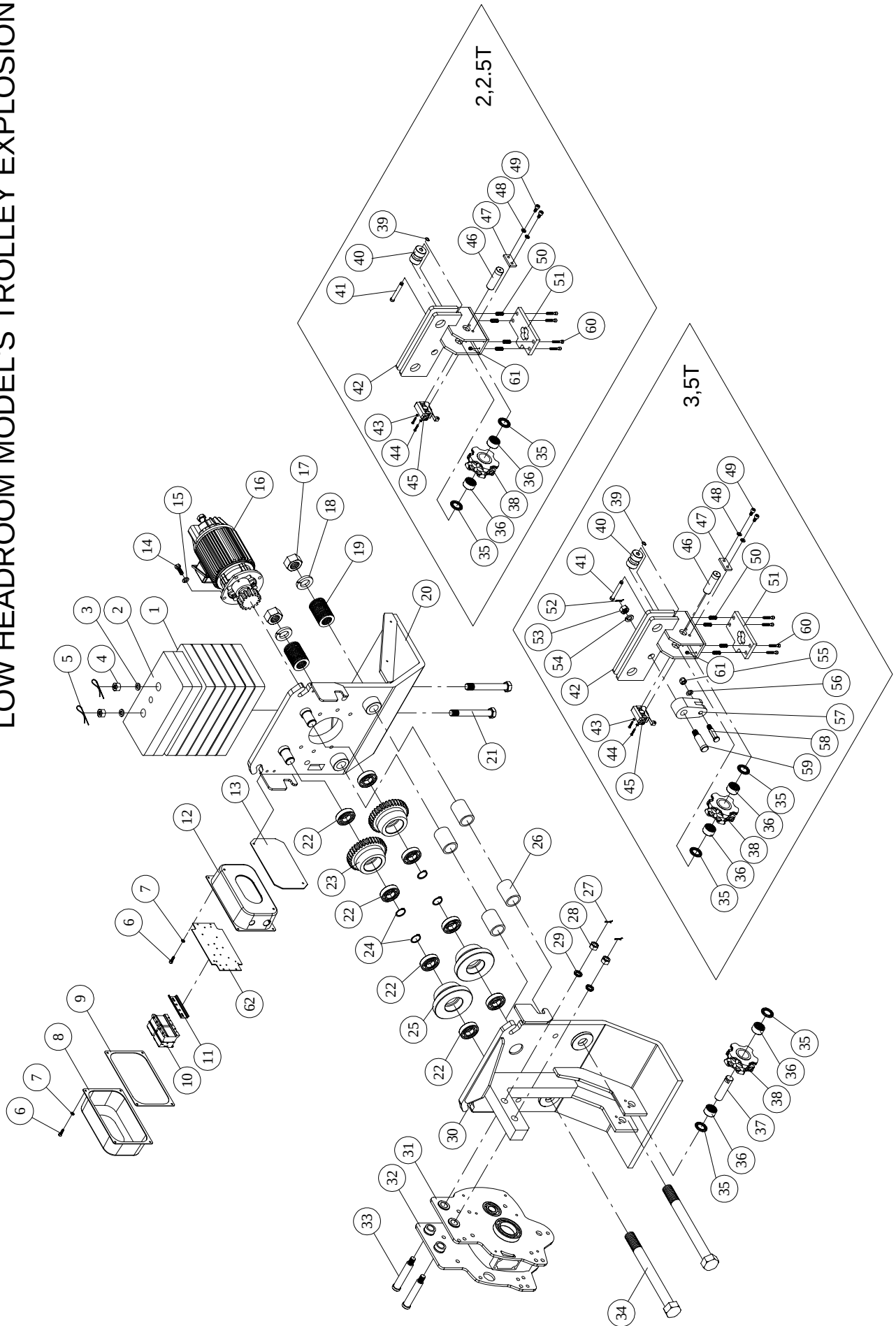
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT									
			2T		3T		2.5, 5T		7.5T		10T	
			S	D	S	D	S	D	S	D	S	D
1	400222	Cable Gland(M20)	1		1		1		1		1	
	400941	Cable Gland(M25)									1	
2	400053	Cross Headed Screw<M5×0.8×12L>	4		4		4		4		8	
3	400093	Spring Washer<M5>	7		7		7		7		14	
4	300343	Power Cable Holding Plate	1		1		1		1		2	
	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
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	300363	N.P.P/E.O Box	1		1		1		1		1	
21	300091	Contactor Rail	1		1		1		1		1	
22	300079	Contactor Rail	1		1		1		1		1	2
23	400052	Cross Headed Screw<M4×0.7×15L>	1		1		1		1		2	
24	300800	Contactor Interlock	1		1		1		1		2	
25		Magnetic Contactor	2		2		2		2		4	
26		Emergency Contactor	1		1		1		1		1	
27		Transformer	1		1		1		1		1	2

VIII – 5 ELECTRIC ASSEMBLY (Standard Parts)

S : SINGLE SPEED D : DUAL SPEED

[illegible]

LOW HEADROOM MODEL'S TROLLEY EXPLOSION



VIII – 6 LOW HEADROOM MODEL'S TROLLEY

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"x8UNC >	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	300782B	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	202752B	Trolley Motor End Side Plate Ass'y	1	1		
	202751B				1	
	202753B					1
21	207408	Hex. Recess Bolt<1"x8UNC×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

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	202760B	Hoist Mounting Side Plate Ass'y	1			
	202761B			1		
	202762B				1	
	202763B					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	202801B	Load Bracket Ass'y	1			
	202800B			1		
	202821B				1	
	202822B					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

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			

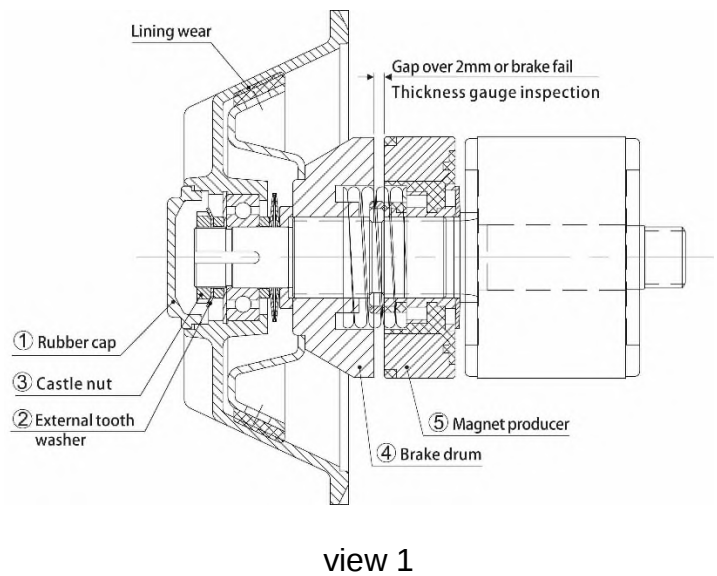
KEY NO.	PARTS CODE	DESCRIPTION	Ø - Hz - V	
16	101305	Motor<0.6KW×4P M3.5×16T	3Ø 60Hz	220V / 380V
	101306			220V / 440V
	101295			230V / 460V
	101309			600V
	101310		3Ø 50Hz	220 / 380V
	101307			400V
	101312			415V
	101321			440V
	101314			525V

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

9. Adjustment of conical type motor brake

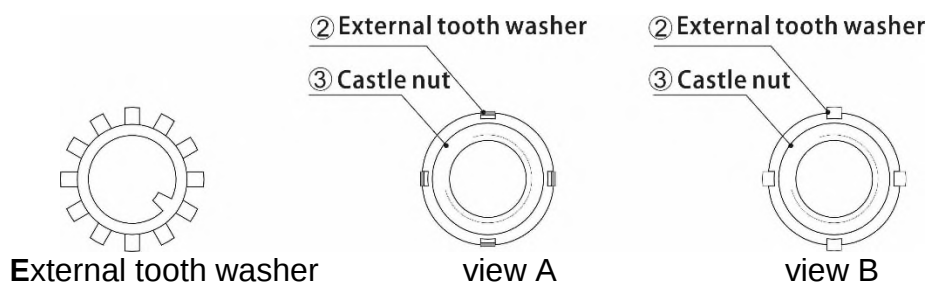
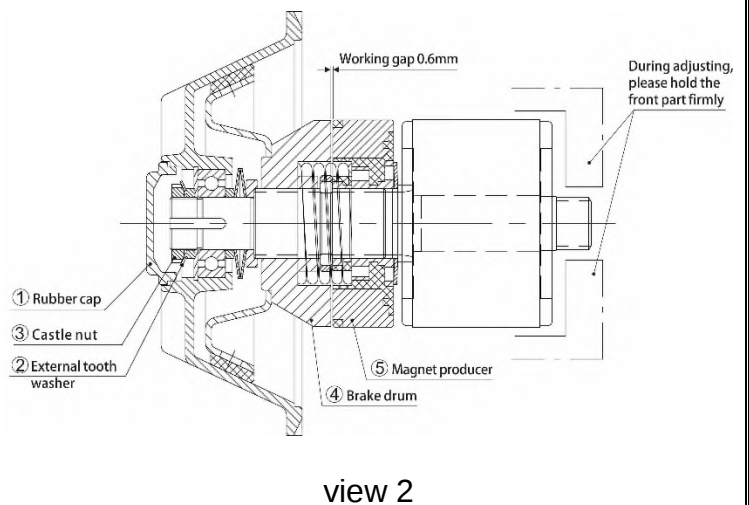
Large gap or brake fail

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.



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.





Product Service

Attestation of Conformity

No. M8A 004703 0018 Rev. 00

Model(s):

TWUH-520, TWUH-525, TWUH-528, TWUH-530, TWUH-550;
TWUHD-520, TWUHD-525, TWUHD-528,
TWUHD-530, TWUHD-550;
TWUHV-520, TWUHV-525, TWUHV-528,
TWUHV-530, TWUHV-550;
UT-310, UT-320, UT-330, UT-350, UT-375, UT-3100,
UT-3150, UT-3200, UT-3300;
UTD-310, UTD-320, UTD-330, UTD-350, UTD-375,
UTD-3100, UTD-3150, UTD-3300;
UTV-310, UTV-320, UTV-330, UTV-350, UTV-375,
UTV-3100, UTV-3150, UTV-3300;
UT-210, UT-220, UT-230;
UST-310, UST-320, UST-330, UST-350, UST-375,
UST-3100, UST-3150, UST-3200, UST-3300;
USTD-310, USTD-320, USTD-330, USTD-350,
USTD-375, USTD-3100, USTD-3150,
USTD-3200, USTD-3300;
USTV-310, USTV-320, USTV-330, USTV-350,
USTV-375, USTV-3100, USTV-3150,
USTV-3200, USTV-3300;
UST-210, UST-220, UST-230

Trade name:

U-MEGA



U-MEGA

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After preparation of the necessary technical documentation as well as the EC declaration of conformity the required CE marking can be affixed on the product. Other relevant directives have to be observed.

TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

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