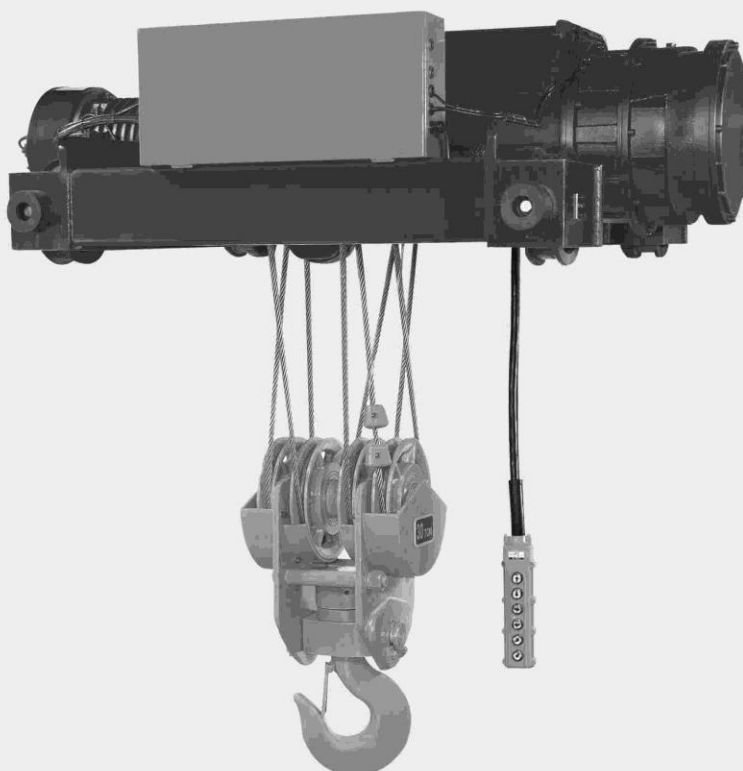




ELECTRIC WIRE ROPE HOIST OPERATION MANUAL & PARTS LIST



SERIES:

- | | |
|---------------------------------------|---------------------------------------|
| ☐ SBH(D)-750 | ☐ TBH(D)-750 |
| ☐ SBL(D)-1000 | ☐ TBL(D)-1000 |
| ☐ SCAH(D)-1000 | ☐ TCAH(D)-1000 |
| ☐ SDAH(D)-1500 | |
| ☐ SEAL(D)-1500 | |
| ☐ SFAH(D)-1500 | |
| ☐ SCAL(D)-2000 | |
| ☐ SFAJ(D)-3000 | |



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 WIRE ROPE HOIST.



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1. FOREWORD

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

Please study its contents thoroughly before putting the electric wire rope 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 SPECIFICATIONS

2.1 Specifications

The following specifications are common to all electric wire rope hoists.

Table 2-1 Specifications

Item		Detail	
Working temperature range (°C)		-5 to +40	
Working humidity range (%)		85 or less	
Protection	Hoist (Normal)	IP 40	
Electric power supply		Three Phase, 220~600V, 50/60 Hz	
Noise Level (dB)		Single speed hoist	81
		Dual speed hoist	81
Wire Rope diameter		Wll (working load Limit) (t)	Nominal diameter (mm)
	TBH(D)-750 SBH (D)-750	7.5T	Ø14 6×37-H
	TBL(D)-1000 TCAH(D)-1000 SBL (D)-1000 SCAH (D)-1000	10T	Ø16 6×37-H
	SCAL (D)-2000	20T	Ø20 IWRC 6×P.Fi(29)-H
	SEAL (D)-1500	15T	Ø20 IWRC 6×Fi(29)-H
	SDAH(D)-1500 SFAH (D)-1500 SFAJ (D)-3000	15,30T	Ø18 IWRC 6×Fi(29)-H

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 Lift

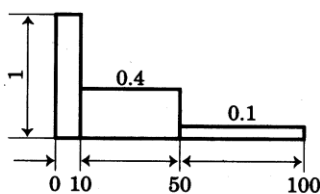
Safety and life for electric wire rope hoists are guaranteed only when the said Equipment is operated in accordance with the prescribed grade.

Electric wire rope hoists have been designed according to FEM 2m regulations (FEM 9.511). Details are provided in Table 2-2.

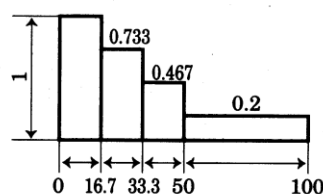
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classification

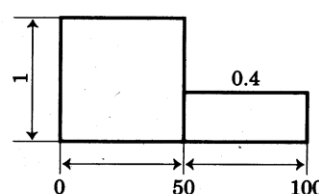
Load Spectrum (Load distribution)	Definitions	Cubic mean value	FEM 2m	FEM 2m
			Average daily Operation time(h)	Total operating time (h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	4 - 8	12500
2 (medium)	Mechanisms 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



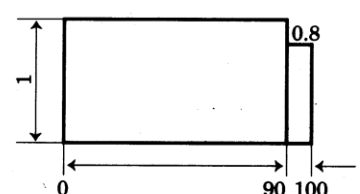
% operating time
Load spectrum 1



% operating time
Load spectrum 2



% operating time
Load spectrum 3



% operating time
Load spectrum 4

2.3 Safety Devices

(1) Motor brake

"AC 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) Emergency brake system (B-type hoist available only)

In case of main braking system failure, the lost speed happened, the emergency brake system will automatically stock the transmission mechanism to prevent hooked load from falling down.

(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.

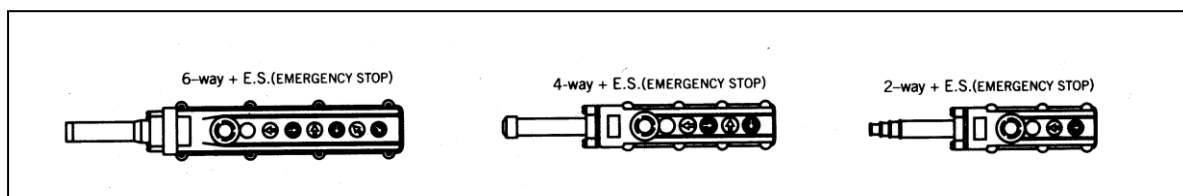
(4) Limit Switches

Upper limit switches are fitted for switching off power automatically in case of Over lifting.

(5) 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

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, rerate, 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.

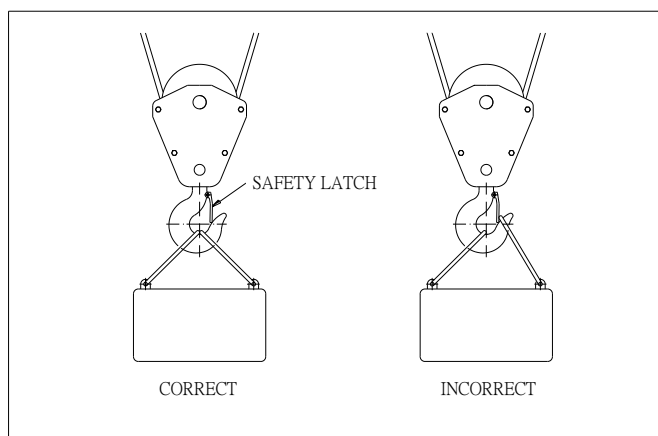
(2)

DANGER

Do not use the hoist in explosive atmosphere.

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

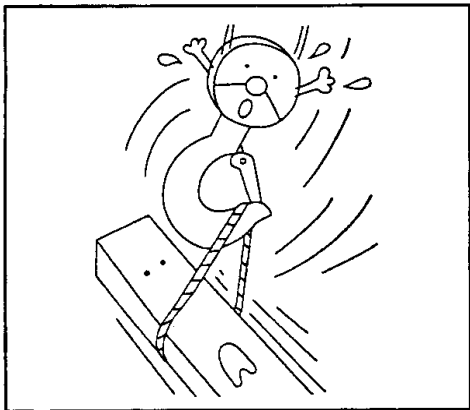
- (a) the correct lifting sling is being used.
- (b) the lifting sling is located in the hook as shown below (Illust. 2) and that a safety latch has been fitted.



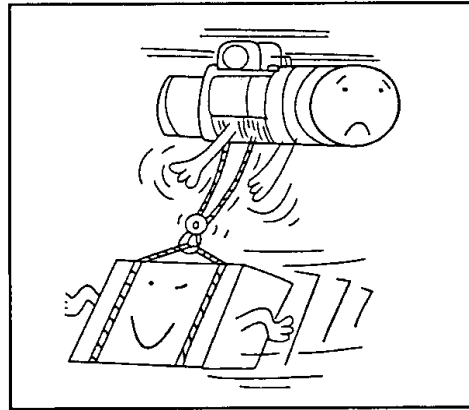
Illust. 2

- (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. (Illust. 3)
- (10) Never wrap around and hook back the wire rope as a sling to lift a load. (Illust. 4)



Illust. 3



Illust. 4

(11)

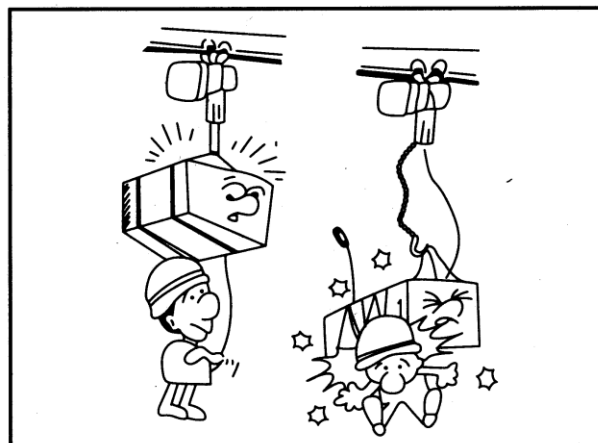
! WARNING

Do not use the hoist's wire rope as a welding electrode.

(12)

! DANGER

Never stand under a raised load (Illust. 5)



Illust. 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 wire rope is twisted.
- (16) Regularly inspect and check the condition of wire rope. Do not operate with damaged wire rope.

4. INSTALLATION

4.1 Unpacking Information

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

4.2 Voltage

CAUTION

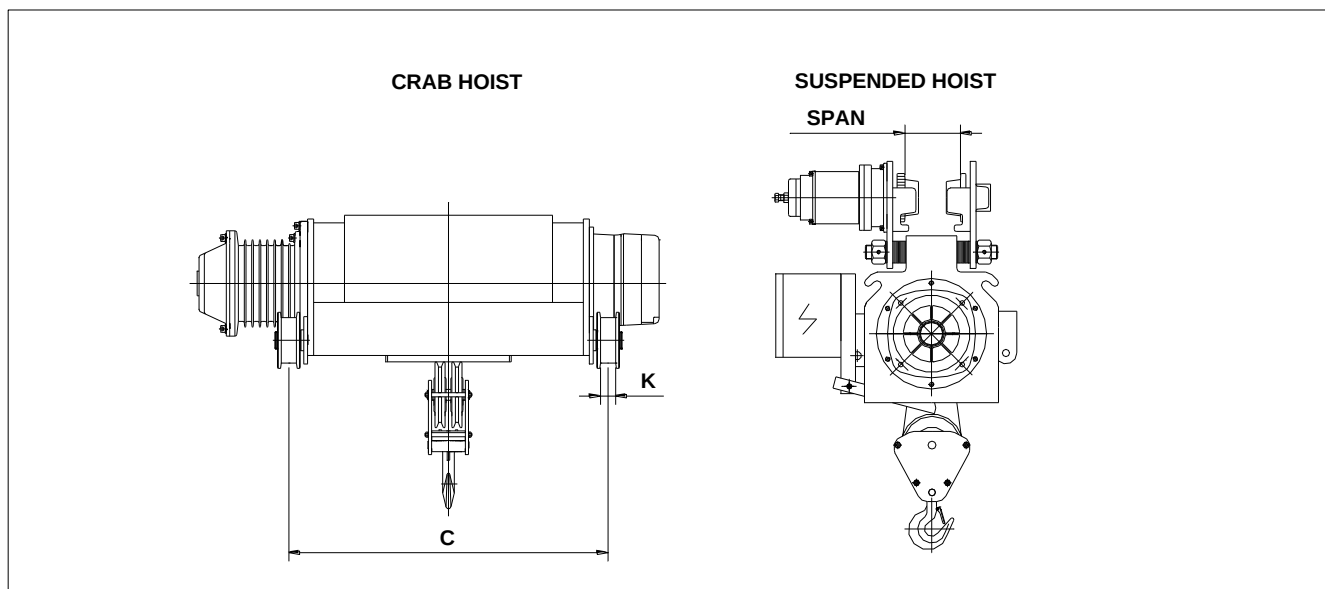
If power supply deviates from standard by more than $\pm 10\%$, abnormal operation or damage to the motor may result. It is imperative to ensure correct voltage supply before commencing operation.

4.3 Installation

WARNING

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

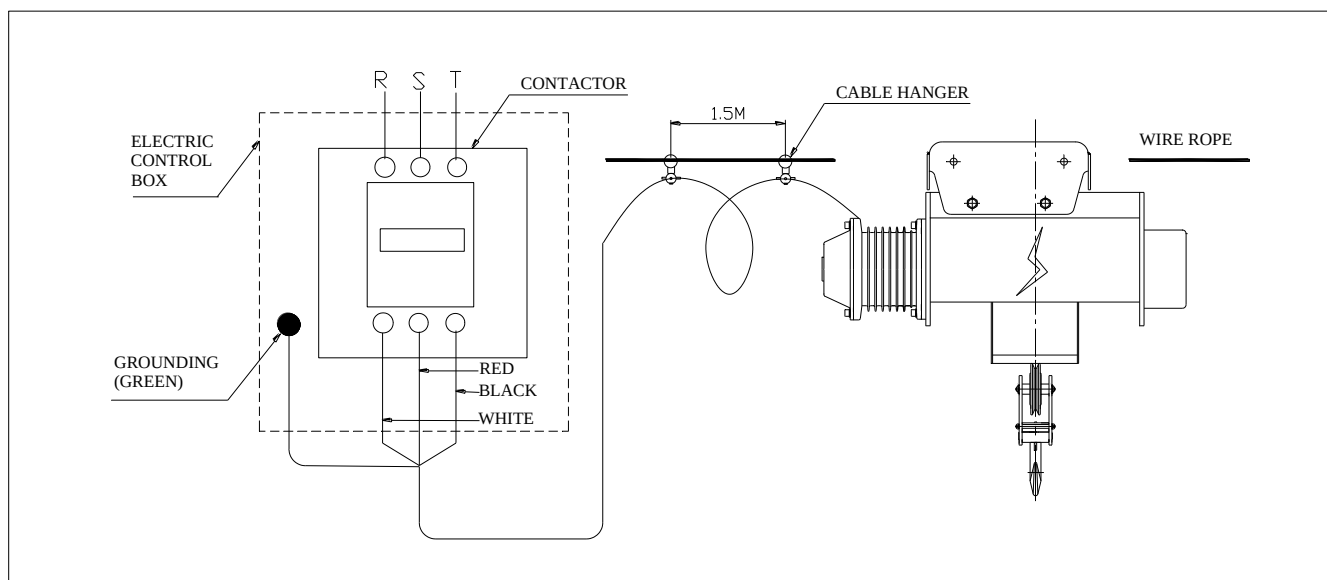
(1) Prior to installation, the crab hoist should check dimension "C" & "K" adapt to the rails span over the girder and rail specification, if hoist is suspended from an electric trolley, please check trolley's span is adapt to beam's width. (please refer to Illust.6)



Illust.6

(2) Connect power supply to hoist and operate the push button switch.

This operation must be carried out by a trained person, if hoist won't run after power connection, might due to phase error relay in function, just change any two of power cable connection in switch box then will run normally.



Illust.7

(3) Operation Test

- (a) Firmly push  switch button to lower bottom hook until the wire rope still have at least 3 round over the drum.
- (b) Firmly push  switch button to check the winding of wire rope to drum evenly spread over the groove.
- (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.
- (d) 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 the above function, check the wiring and automatic locking function of the emergency stop device.

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 lubricant oil equivalent to ISO VG460 as table of following annual inspection.
- (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) The condition of wire rope and winding evenly over the drum.
 - (h) Wire rope out of the bottom hook's wheel groove or not.

(2) Monthly inspection



WARNING

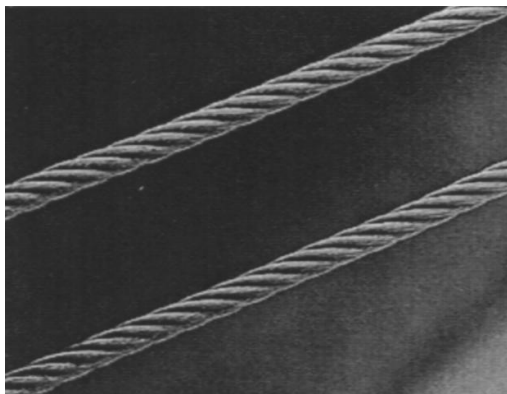
Always use the hoist manufacture's recommended parts when repairing a hoist.

(a) Wire rope:

a-1: Any single strain of wire rope breaking. Breaking of strains more than 10% should replace new wire rope.

a-2: Any distort, deform, itching and rust of wire rope.

a-3: Wire rope fixing fasteners be deforming or loosing.

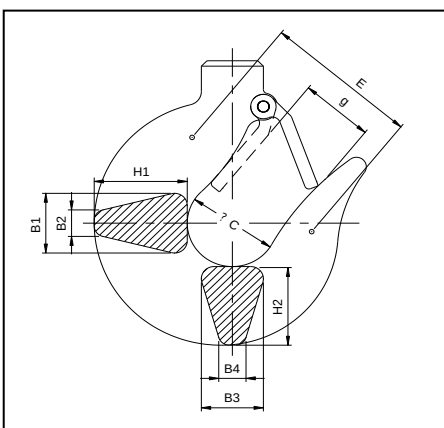


Rope Dia (mm) d	Model Being Used	Construction	Specified Breaking Load (kN)
Ø14	TBH(D)-750	Steel Wire Rope 6x37-H	123
	SBH(D)-750		
Ø16	TBL(D)-1000	Steel Wire Rope 6x37-H	161
	SBL(D)-1000 SCAH(D)-1000		
Ø18	SDAH(D)-1500 SFAH(D)-1500 SFAJ(D)-3000	Steel Wire Rope IWRC 6 × Fi(29)-H	234
Ø20	SEAL(D)-1500	Steel Wire Rope IWRC 6 × Fi(29)-H	289
	SCAL(D)-2000	Steel Wire Rope IWRC 6 × P.Fi(29)-H	331

Table 6-2-a

(b) Load hook:

Check hook with care. If hook shows crack, deformation or wear in excess of 10% of its original size, it should be replaced. (Ref. following table)



Capacity (ton)	Dimensions (mm)									Allowable Stress(kg/mm ²)
	H1	B1	B2	H2	B3	B4	C	g	E	
7.5	85	61	22	77	61	22	85	62	140	70
10	100	68	27	95	63	27	100	70	152	70
15	120	85	32	110	83	32	120	82	165	70
20	140	100	38	130	95	38	140	105	220	70
30	140	98	38	130	94	38	140	105	220	100

Table 6-2-b

(c) Limit Switches:



A qualified electrician should perform this inspection.

Check correct operation of the limit switches, to prevent the drum from over winding.

(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.

Oil volume of gearbox

Gearbox	B	CA	DA	EA	FA
Oil Volume(L)	4.0~4.5	6.5~7.0	6.5~7.0	6.5~7.0	7.5~8.5

Table 6-3-a

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 6-3-b

(c) Check brake lining and ratchet pawl for emergency braking any wear or damage.

(d) Check operation of pawl spring.

(e) Check AC electromagnetic generator in good condition.

(f) After reassembly of above check, lifting a load several times to ensure good performance of the hoist before starting duty operation.

7. TROUBLESHOOTING

7.1 Wiring Diagrams

(1) B730005: Single Speed Wiring Diagram	16
(2) B730012: Single Speed With Emergency Stop Wiring Diagram	17
(3) B830011: Dual Speed Wiring Diagram	18
(4) B830012: Dual Speed With Emergency Stop Wiring Diagram	19

Our electric specifications can be done according to followings:

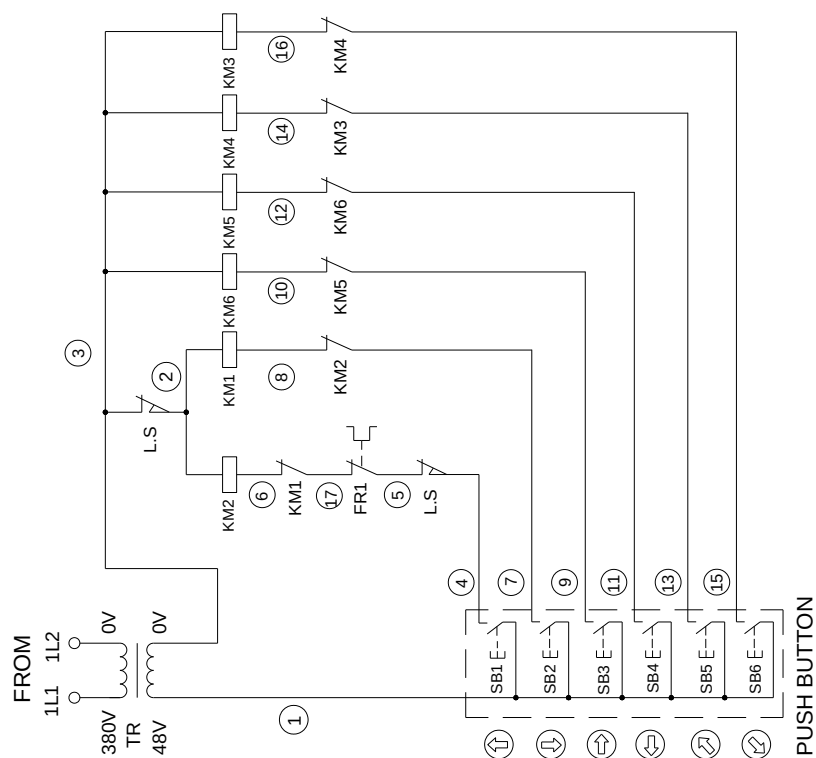
- (a) 3-Phase
- (b) 50Hz or 60 Hz
- (c) Single voltage

Hertz	Voltage	Single Voltage
50 Hz		220
60 Hz		to 600

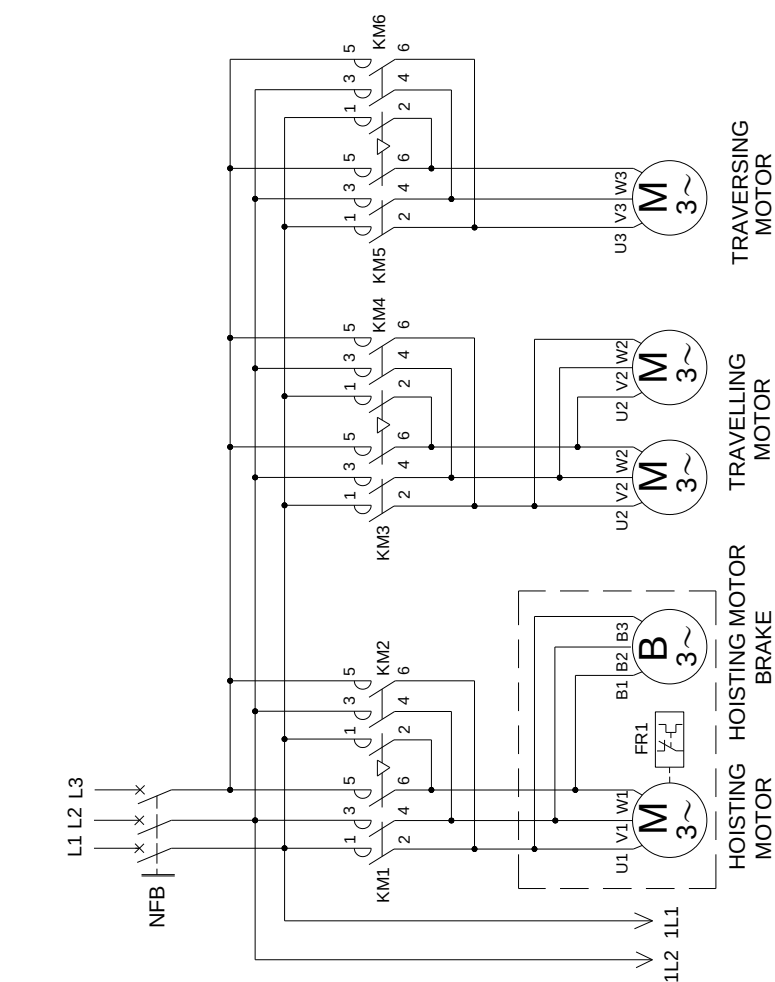
Table 7-1

Warranty Details

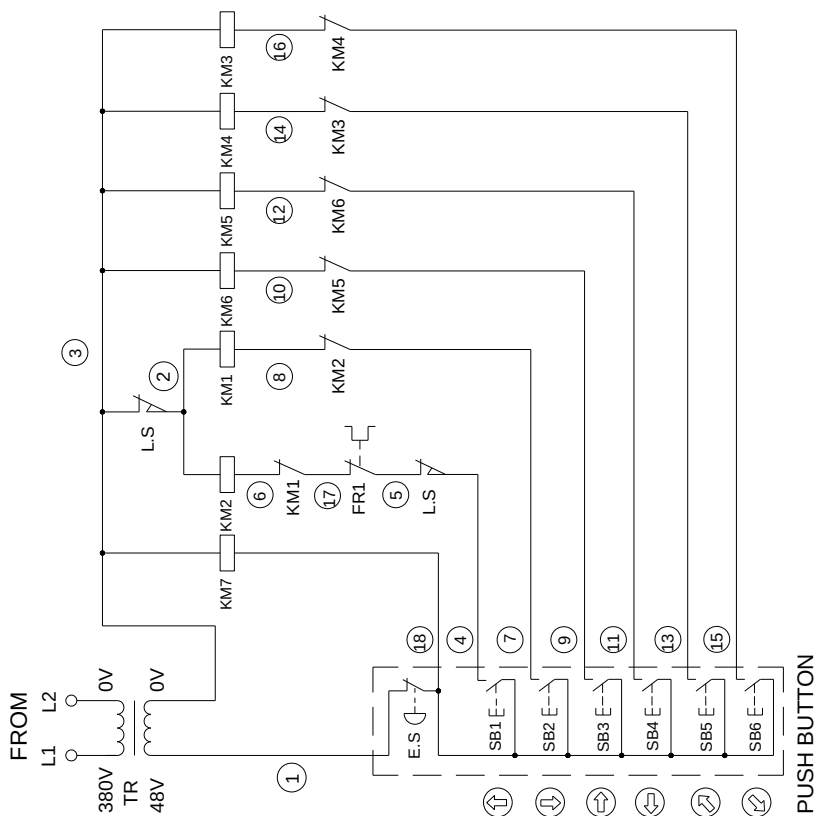
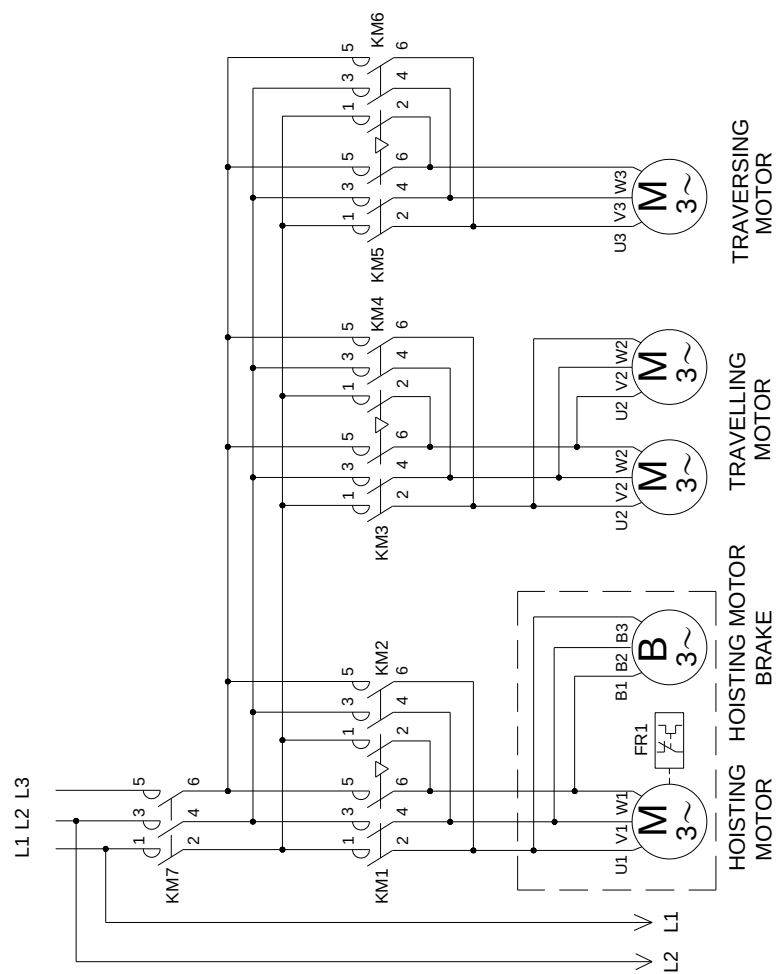
1. Warranty Period : One year for Mechanical Spare Parts after purchase the product.
2. Non-Warranty Scope:
 - a. Electrical Spare Parts (ex. Contactor, Pendant, Phase Error Relay, etc.)
 - b. Expense Spare Parts (ex. Chain Bucket, Brake Lining, etc.)
 - c. Damage caused by unsuitable operation.
(ex. 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.)

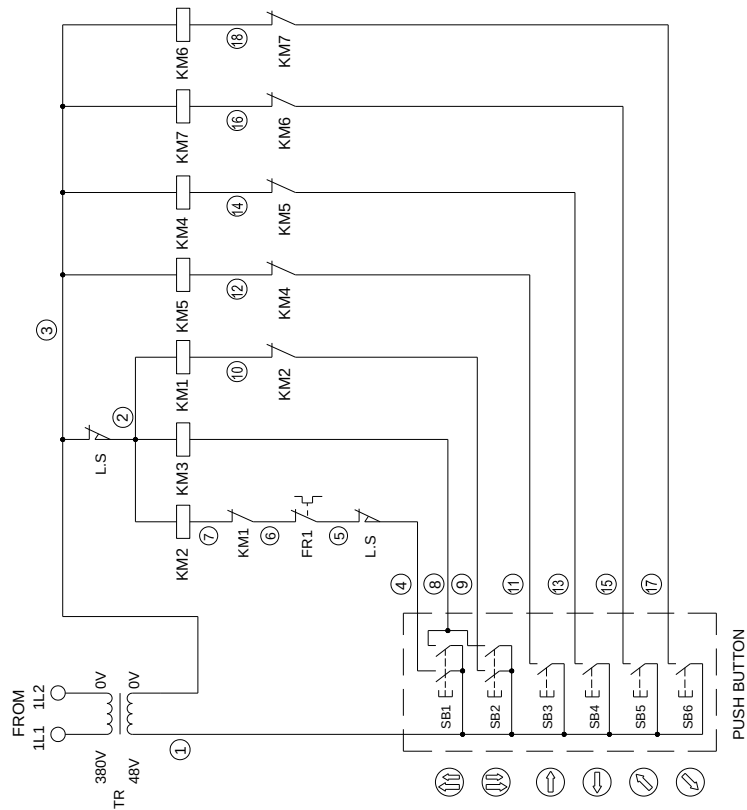


MAIN CIRCUIT WIRING DIAGRAM

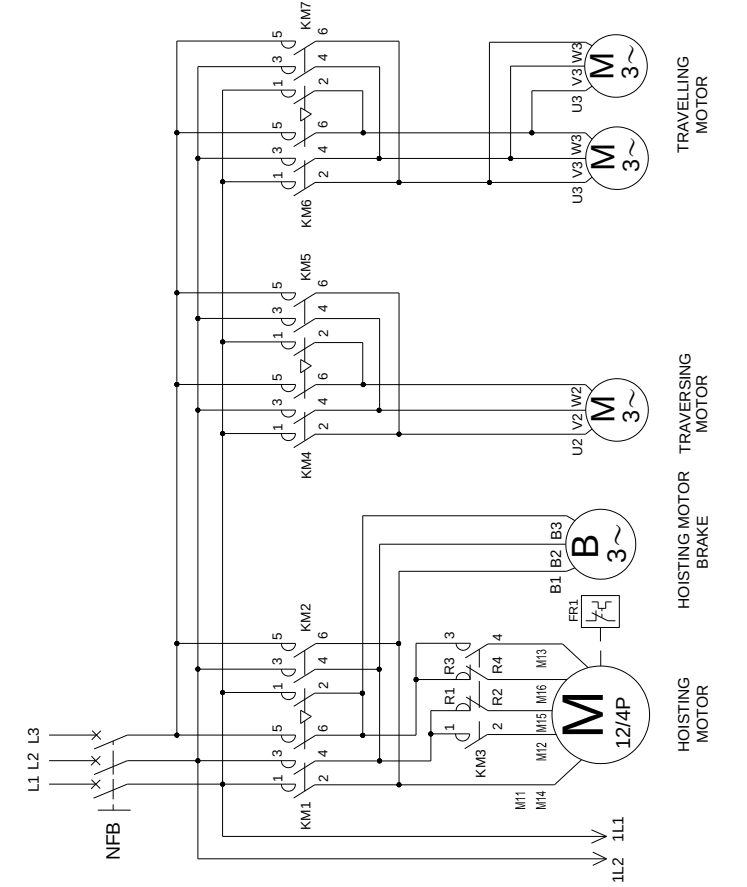


CONTROL CIRCUIT WIRING DIAGRAM

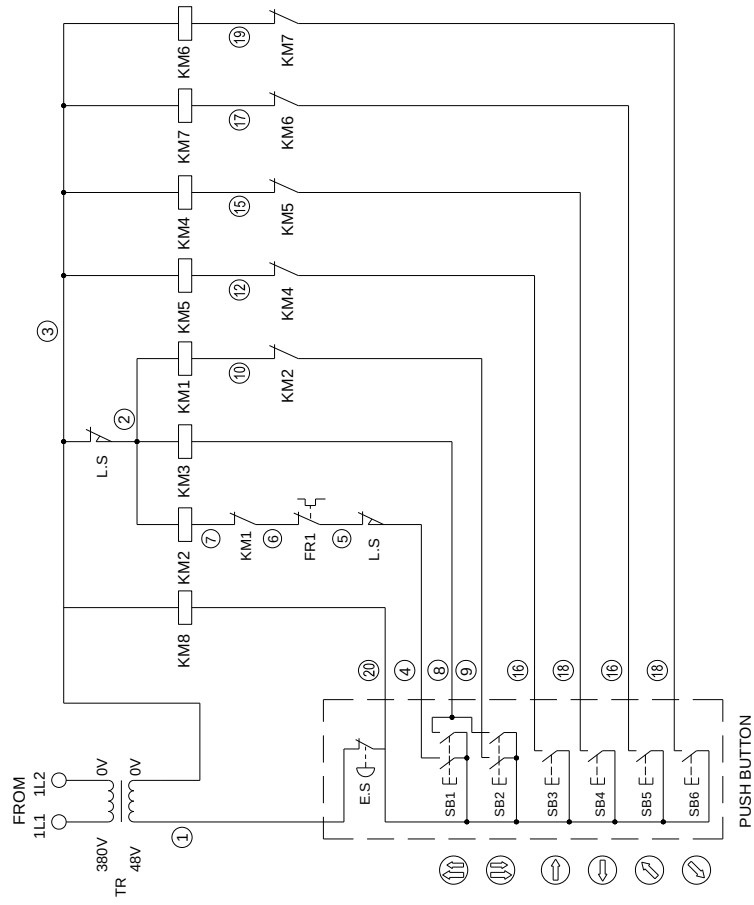
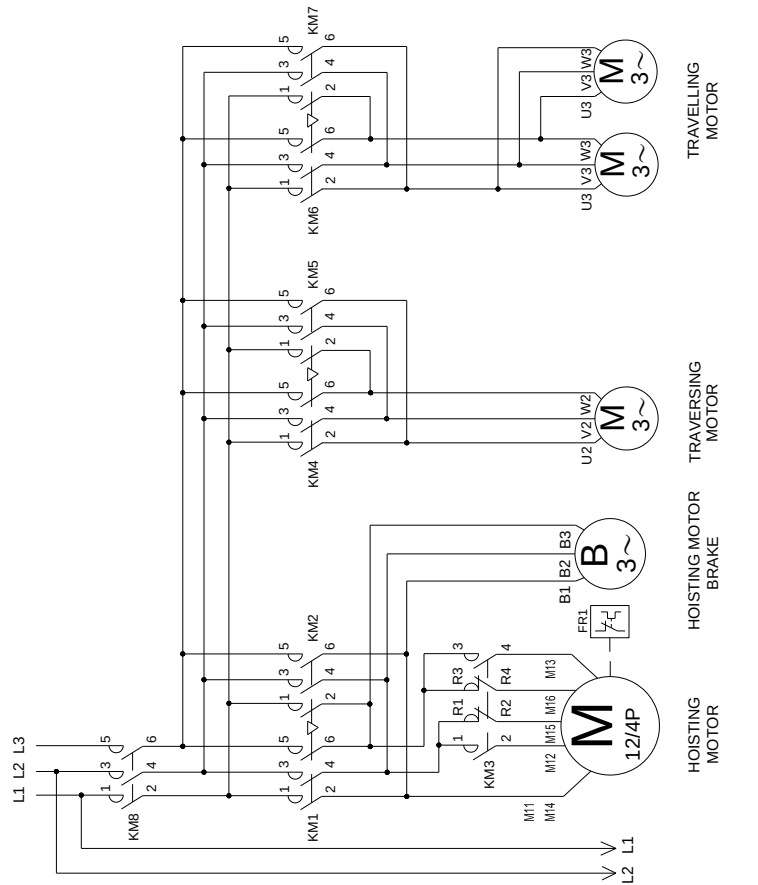




MAIN CIRCUIT WIRING DIAGRAM



CONTROL CIRCUIT WIRING DIAGRAM



7.2 Troubleshooting and Remedial Action

SITUATION	CAUSE	REMEDY
Hoist will not operate.	(1) Blown power fuse or tripped power circuit breaker (2) Blown control circuit fuse (3) Broken/disconnected power or control circuit wire (4) Low supply voltage (5) Motor hums but does not rotate (6) Emergency stop button release pushed (if fitted) (7) Faulty contactor	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 the hoist operation.	(1) Wire rope dry (2) Twisting & bending of wire rope due to frequently side pull. (3) Worn or deteriorated oil packing	Lubricate Replace new wire rope. Replace new wire rope.
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. MODEL CODE EXPLANATION

T
B
L
D
—
1000

Example:

● MODEL

T: MONORAIL TROLLEY

S: SADDLE TROLLEY

● GEAR BOX NO.

B: 11KW × 4P FA: 18.5KW × 4P

CA: 13KW × 4P

EA: 13KW × 4P

● REEVING/FALLING NUMBERS

H: 2/4

L: 1/4

J: 2/8

● SPEED

BLANK: SINGLE SPEED ONLY

D: ONLY HOIST DUAL SPEED

● CAPACITY

750 : 7.5T 1000 : 10T

1500 : 15T 2000 : 20T

3000 : 30T

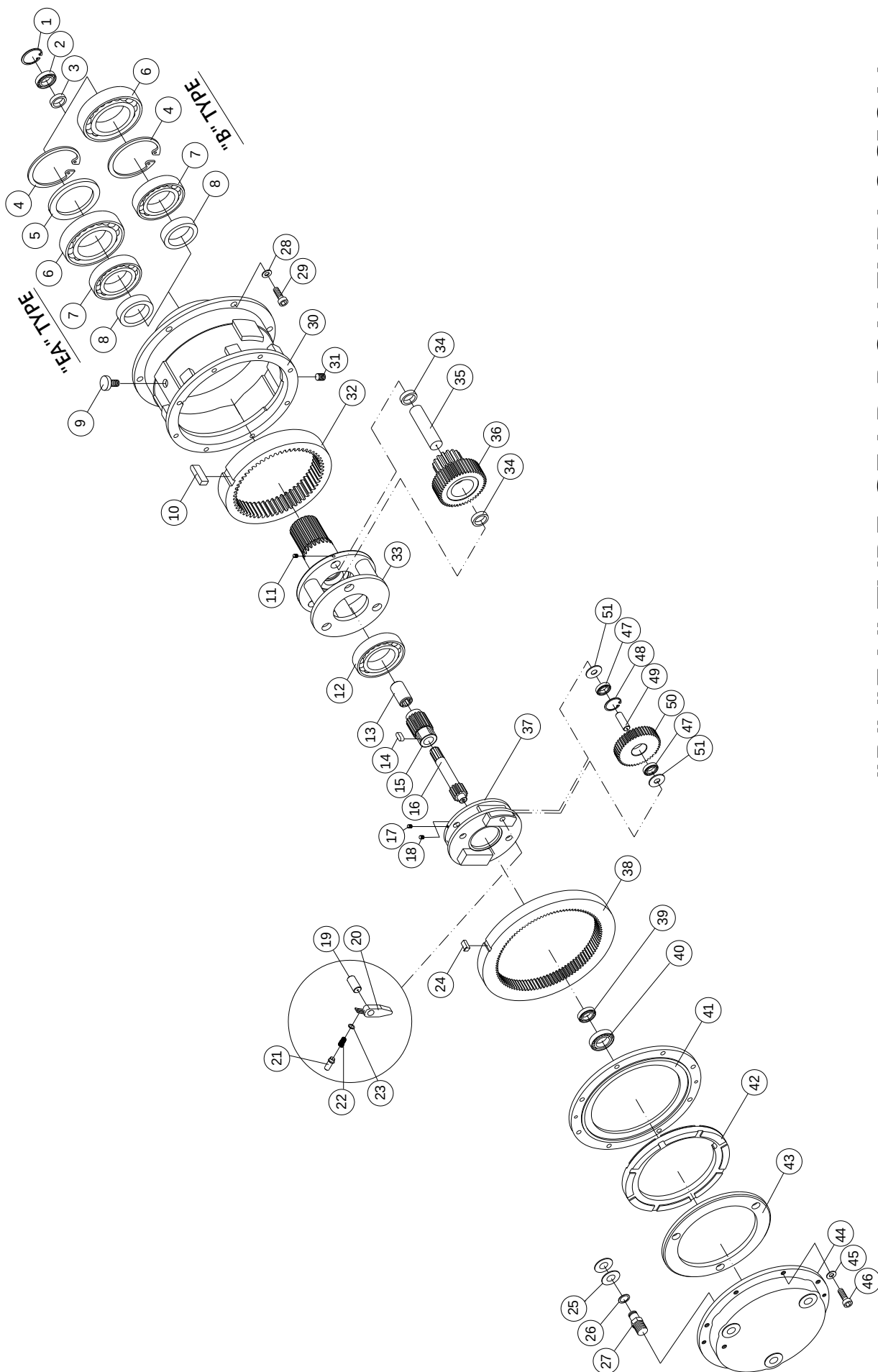
For special applications please contact the factory or your local "Black Bear" distributor.

● ORDERING GUIDE

Capacity Ton	Monorail High Speed	Crab High Speed	Monorail Low Speed	Crab Low Speed	Dual Speed
7.5	TBH-750	SBH-750			SBHD-750 TBHD-750
10		SCAH-1000	TBL-1000	SBL-1000	SCAHD-1000 SBLD-1000 TBLD-1000
15		SFAH-1500 SDAH-1500		SEAL-1500	SEALD-1500 SFAHD-1500 SDAHD-1500
20				SCAL-2000	SCALD-2000
30				SFAJ-3000	SFAJD-3000

9. Drawings and Parts List

(1) "B" "EA" TYPE GEAR BOX EXPLOSION	23
(2) "B" "EA" TYPE GEAR BOX ASSEMBLY	24
(3) "CA" "DA" "FA" TYPE GEAR BOX EXPLOSION.....	27
(4) "CA" "DA" "FA" TYPE GEAR BOX ASSEMBLY	28
(5) MOTOR ASSEMBLY EXPLOSION (Ø220 SERIES)	32
(6) MOTOR ASSEMBLY (Ø220 SERIES)	33
(7) MOTOR ASSEMBLY EXPLOSION (Ø260, Ø310 SERIES)	35
(8) MOTOR ASSEMBLY (Ø260, Ø310 SERIES)	36
(9) 7.5-10T BOTTOM BLOCK EXPLOSION.....	39
(10) 7.5-10T BOTTOM BLOCK ASSEMBLY	40
(11) 15,20T BOTTOM BLOCK EXPLOSION.....	43
(12) 15,20T BOTTOM BLOCK ASSEMBLY	44
(13) 30T BOTTOM BLOCK EXPLOSION.....	46
(14) 30T BOTTOM BLOCK ASSEMBLY.....	47
(15) 7.5-20T SADDLE FRAME EXPLOSION.....	48
(16) 7.5-20T SADDLE FRAME ASSEMBLY.....	49
(17) 30T SADDLE FRAME EXPLOSION.....	59
(18) 30T SADDLE FRAME ASSEMBLY	60
(19) 7.5-10T HOIST FRAME EXPLOSION.....	62
(20) 7.5-10T HOIST FRAME ASSEMBLY.....	63
(21) 7.5-10T TROLLEY FRAME EXPLOSION.....	66
(22) 7.5-10T TROLLEY FRAME ASSEMBLY	67
(23) ELECTRIC EXPLOSION	69
(24) ELECTRIC ASSEMBLY	70
(25) LIMIT SWITCH EXPLOSION.....	72
(26) LIMIT SWITCH ASSEMBLY.....	73



"B" "EA" TYPE GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT	
			"B" TYPE	"EA" TYPE
1	400198	Retaining Ring <R-47>	1	
	400200	Retaining Ring <R-62>		1
2	405563	Bearing <6005 2RS>	1	
	405564	Bearing <6007 2RS>		1
3	404488	Oil Seal < Ø25 × Ø40 × 8t>	1	
	404513	Oil Seal < Ø35 × Ø55 × 11t>		1
4	400926	Retaining Ring <R-140>	1	
	400925	Retaining Ring <R-180>		1
5	205193	Bearing Washer <t5 × Ø180 × Ø160>		1
6	407756	Bearing <6021 Z>	1	
	400802	Bearing <6220 ZZ>		1
7	400790	Bearing <6216 Z>	1	
	400728	Bearing <6220>		1
8	400937	Oil Seal < Ø85 × Ø110 × 13t>	1	
	404414	Oil Seal < Ø120 × Ø150 × 14t >		1
9	400594	Oil Seal <7/8" × 14UNF>	1	1
10	278501	Key <t20 × 20 × 56L>	1	
	278502	Key <t20 × 20 × 60L>		1
11	400204	Set Screw <M8 × 1.25 × 12L>	3	3
12	407754	Bearing <6010>		1
13	205466	Coupling	1	
	205468			1
14	400975	Key <t10 × 10 × 25L>	4	4
15	205453	Load Brake Gear Shaft <3 rd Gear>	1	
	205424			1
16	205451	Pinion For Motor Shaft <1 st Gear>	1	
	205422			1
17	400206	Set Screw <M5 × 0.8 × 12L>	2	
	400204	Set Screw <M8 × 1.25 × 12L>		2

"B" : T,SBH(D)-750 ; T,SBL(D)-1000

"EA" : SEAL(D)-1500

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT	
			"B" TYPE	"EA" TYPE
18	400205	Set Screw <M5 × 0.8 × 8L>	1	1
19	205202	Ratchet Pawl Axle < Ø16 × 38L>	1	1
20	205332	Ratchet Pawl <t16 × 25 × 98L>	1	1
21	205326	Dowel Pin < Ø13 × 45L>	1	1
22	408511	Spring < Ø1 × Ø12 × Ø10 × 45L>	1	
	408503	Spring < Ø1.2 × Ø12.4 × Ø10 × 42.7L>		1
23	205225	Washer <t1 × Ø14 × Ø9>	1	1
24	205043	Key <t12 × 12 × 25>	1	1
25	400574	Cone Spring < Ø40 × Ø20.5 × 2.5mm>	6	6
26	205205	Washer <t2 × Ø30 × Ø20.5>	3	3
27	205196	Stay Shaft < Ø26 × 38L>	3	3
28	400651	Spring Washer <M14>	6	6
29	400445	Hex. Recess Bolt <M14 × 2.0 × 40L>	6	6
30	205547	Gear Case Base	1	
	267631			1
31	400591	Lubricant Drain Bolt <3/8" PT>	1	1
32	205040	Internal Gear B	1	
	268118			1
33	228390	Big Reduction Gear Frame	1	
	228276			1
34	400175	Needle Bearing <KT 32/42/15>	6	6
35	205197	Axle	3	
	205192			3
36	205440	Gear Ass'y	3	
	268115			3
37	205350	Reduction Gear Frame	1	
	269020			1
38	205042	Internal Gear A	1	
	268117			1
39	407757	Bearing <6206>		1

"B" : T,SBH(D)-750 ; T,SBL(D)-1000

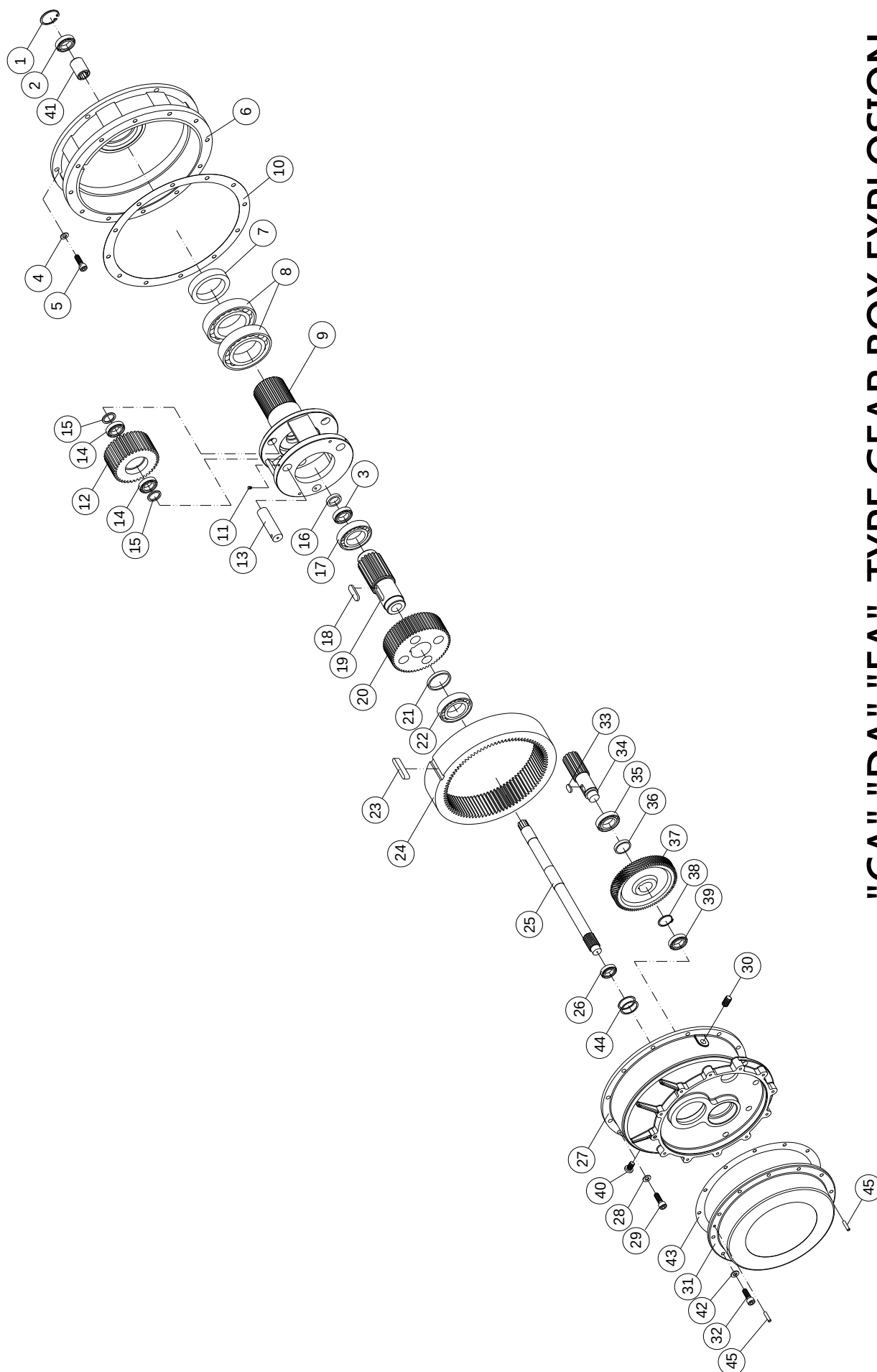
"EA" : SEAL(D)-1500

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			"B" TYPE	"EA" TYPE
40	407746	Bearing <6304>	1	
	407758	Bearing <6207>		1
41	205016	Flange	1	
	267633			1
42	205062	Friction Disc	1	
	205063			1
43	205061	Disc Hub <t12×Ø279×Ø207>	1	
	205064	Disc Hub <t12×Ø343×Ø270>		1
44	205542	Gear Case Cover	1	
	267632			1
45	400096	Spring Washer <M10>	8	8
46	400019	Hex. Recess Bolt <M10×1.5×45L>	8	12
47	407732	Bearing <6203>	4	
	407753	Bearing <6005>		4
48	400922	Retaining Ring <R-40>	2	
	400198	Retaining Ring <R-47>		2
49	205199	Intermediate Axle	2	
	205191			2
50	205455	Intermediate Gear <2 nd Gear>	2	
	268114			2
51	205205	Washer <t2×Ø30×Ø20.5>	4	
	200633	Sprocket Spacer <Ø40×Ø26×4L>		4

"B" : T,SBH(D)-750 ; T,SBL(D)-1000

"EA" : SEAL(D)-1500



"CA" "DA" "FA" TYPE GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT			
			"CA" TPYE		"DA" TPYE	"FA" TPYE
			10T	20T		
1	400200	Retaining Ring <R-62>	1			
	400924	Retaining Ring <R-85>			1	
	400914	Retaining Ring <R-90>				1
2	407727	Bearing <6007 >	1			
	407709	Bearing <6209 ZZ >			1	
	407854	Bearing <6210 ZZ>				1
3	405564	Bearing <6007 2RS>	1			
	405721	Bearing <6009 2RS>			1	
	405565	Bearing <6011 2RS>				1
4	400651	Spring Washer <M14>	6		8	
	400098	Spring Washer <M16>				10
5	400442	Hex. Recess Bolt <M14×2.0×50L>	6			
	400441	Hex. Recess Bolt <M14×2.0×45L>			8	
	400457	Hex. Recess Bolt <M16×2.0×50L>				10
6	206230	Gear Box Bracket	1			
	205790			1		
	228619	Gear Case A			1	
	268234					1
7	400929	Oil Seal <Ø100×Ø125×13t >	1			
	404414	Oil Seal <Ø120×Ø150×14t >		1	1	
	400931	Oil Seal <Ø140×Ø170×14t>				1
8	400792	Bearing <6220 Z>	2			
	400729	Bearing <6224 Z>		2	2	
	400683	Bearing <6228 Z>				2
9	228320	Big Reduction Frame	1			
	205869			1		
	228609				1	
	228259					1
10	402665	Gasket A	1			
	402667				1	
	402616					1
11	400585	Set Screw <M8×1.25×16L>	3			
	400586	Set Screw <M10×1.5×16L>			3	3

"CA" : T,SCAH(D)-1000 ; SCAL(D)-2000

"DA" : SDAH(D)-1500

"FA" : SFAH(D)-1500 ; SFAJ(D)-3000

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT			
			"CA" TPYE		"DA" TPYE	"FA" TPYE
			10T	20T		
12	268112	Drum Gear <6 th Gear>	3			
	228607				3	
	205433					3
13	205190	Drum Gear Shaft	3			
	228615				3	
	205194					3
14	407767	Bearing <6307>	6			
	407750	Bearing <6308>			6	6
15	205685	Sleeve A	6			
	205460				6	6
16	404513	Oil Seal < Ø35 × Ø55 × 11t>	1			
	404402	Oil Seal < Ø45 × Ø68 × 12t>			1	
	404514	Oil Seal < Ø55 × Ø78 × 12t>				1
17	407741	Bearing <6213>	1			
	405686	Bearing <6217 ZZ>			1	
	400728	Bearing <6220>				1
18	400957	Key <t20 × 13 × 65L>	1			
	405917	Key <t28 × 16 × 70L>			1	
	400988	Key <t32 × 20 × 80L>				1
19	205438	Drum Pinion Gear <5 th Gear>	1			
	228606				1	
	205432					1
20	205437	Load Brake Gear <4 th Gear>	1			
	228605				1	
	201313					1
21	205686	Sleeve B	1			
	228616				1	
	205461					1
22	407741	Bearing <6213>	1			
	405686	Bearing <6217 ZZ>			1	
	400762	Bearing <6222 ZZ>				1
23	400995	Key <t20 × 13 × 90L>	1			
	400955	Key <t20 × 13 × 120L>			1	1

"CA" : T,SCAH(D)-1000 ; SCAL(D)-2000

"DA" : SDAH(D)-1500

"FA" : SFAH(D)-1500 ; SFAJ(D)-3000

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT			
			"CA" TPYE		"DA" TPYE	"FA" TPYE
			10T	20T		
24	268113	Internal Gear	1			
	228608				1	
	205045					1
25	201312	Pinion For Motor Shaft <1 st Gear>	1			
	228602				1	
	201311					1
26	407844	Bearing <6306>	1			
	400121	Bearing <6306 ZZ >			1	
	400721	Bearing <6307 ZZ >				1
27	205780	Gear Case	1			
	228618	Gear Case B			1	
	268235					1
28	400097	Spring Washer <M12>	12		12	
	400651	Spring Washer <M14>				12
29	400451	Hex. Recess Bolt <M12 × 1.75 × 40L>	12		12	
	400441	Hex. Recess Bolt <M14 × 2.0 × 45L>				12
30	400591	Lubricant Drain Bolt <3/8" PT>	1			
	407204	Oil Plug <PT 1">			1	1
31	204967	Gear Case Cover	1			
	228617				1	
	268233					1
32	400450	Hex. Recess Bolt <M10 × 1.5 × 35L>	12			
	400451	Hex. Recess Bolt <M12 × 1.75 × 40L>			12	
	400441	Hex. Recess Bolt <M14 × 2.0 × 45L>				12
33	400996	Key <t16 × 10 × 30L>	1			
	405910	Key <t18 × 11 × 40L>			1	
	400987	Key <t20 × 13 × 55L>				1
34	209117	Load Brake Gear Shaft <3 rd Gear>	1			
	228604				1	
	205430					1

"CA" : T,SCAH(D)-1000 ; SCAL(D)-2000

"DA" : SDAH(D)-1500

"FA" : SFAH(D)-1500 ; SFAJ(D)-3000

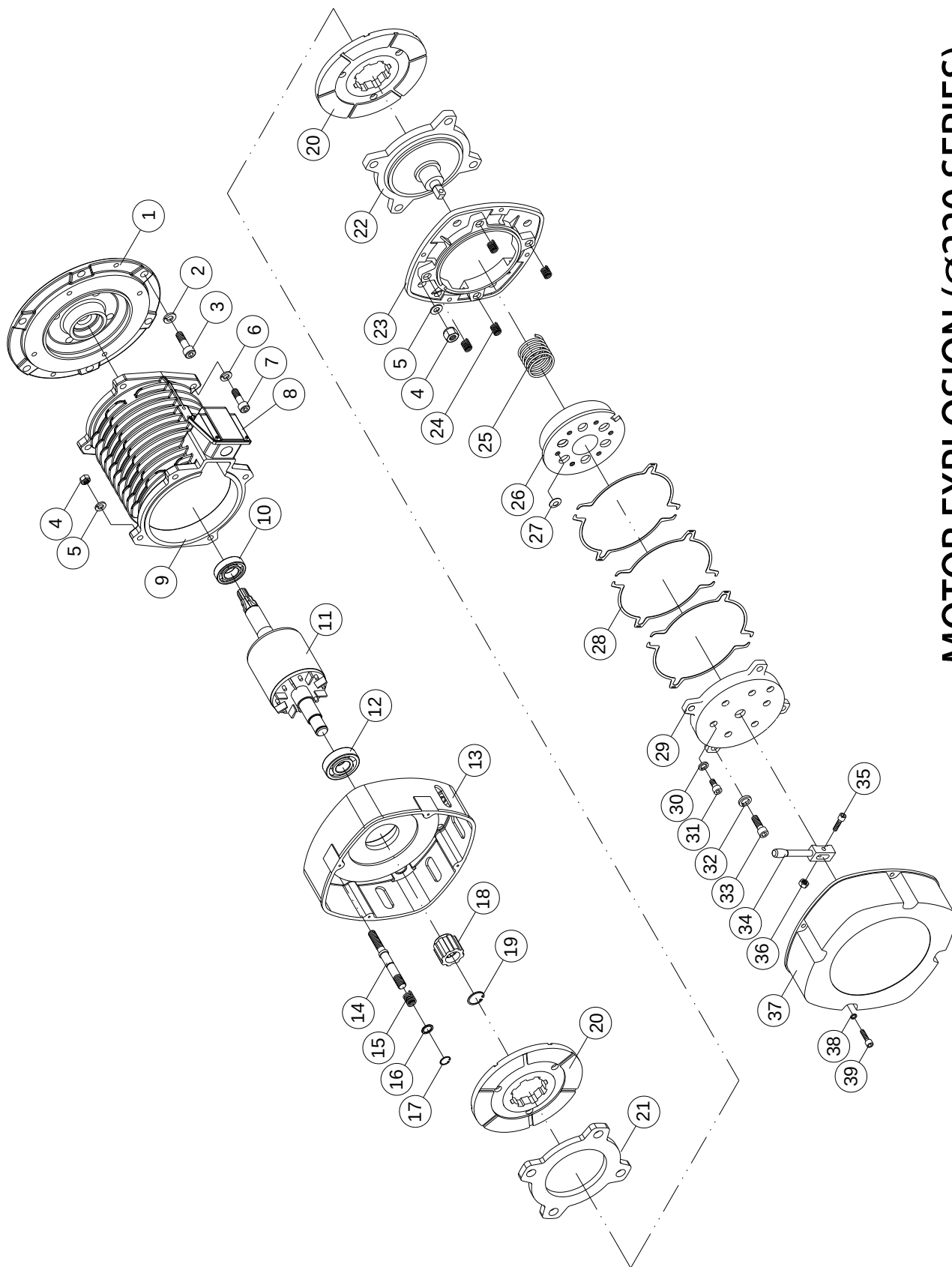
GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			"CA" TPYE		"DA" TPYE	"FA" TPYE
			10T	20T		
35	405650	Bearing <NJ 2309>	1			
	405688	Bearing <NF 312E>			1	
	400781	Bearing <NF 314>				1
36	205687	Sleeve C	1			
	205562				1	
	205462					1
37	205435	Intermediate Gear <2 nd Gear>	1			
	228603				1	
	201314					1
38	400196	Retaining Ring <S-45>	1			
	400919	Retaining Ring <S-60>			1	
	400910	Retaining Ring <S-70>				1
39	405649	Bearing < NF 307>	1			
	405687	Bearing < NF 210 >			1	
	405681	Bearing < NF 212 >				1
40	400594	Oil Plug <7/8" × 14UNF>	1			
	206856	Oil Plug <7/8" × 14UNF>			1	1
41	205463	Coupling	1			
	267977				1	
	205465					1
42	400096	Spring Washer <M10>	12			
	400097	Spring Washer <M12>			12	
	400651	Spring Washer <M14>				12
43	402666	Gasket B	1			
	402668				1	
	402615					1
44	400864	Corrugated Washer <W61630>	-		-	2
45	200346	Axle < Ø12 × 52L>	-		2	2

"CA" : T,SCAH(D)-1000 ; SCAL(D)-2000

"DA" : SDAH(D)-1500

"FA" : SFAH(D)-1500 ; SFAJ(D)-3000



MOTOR EXPLOSION (Ø220 SERIES)

MOTOR ASSEMBLY

Dual= Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			Ø220
			11Kw
1	105645	Flange	1
2	400651	Spring Washer <M14>	6
3	400440	Hex. Recess Bolt <M14 × 2.0 × 35L>	6
4	406419	Lock Nut <M18 × 2.5>	8
5	400100	Spring Washer <M18>	8
6	400097	Spring Washer <M12>	4
7	400022	Hex. Recess Bolt <M12 × 1.75 × 30L>	4
8	120138	Motor Component (Cable Box)	1
9	A	Motor Stator Ass'y	1
10	405625	Bearing <6307 2RU>	1
11	106372	Motor Rotor	1
12	405626	Bearing <6309 2RU>	1
13	105742	Brake Housing	1
14	207193	Stay Bolt	4
15	408532	Brake Spring <Ø1.5 × Ø27.6 × 30>	4
16	207197	Spacer < Ø30 × Ø25 × 2t>	4
17	404183	Retaining Ring <S-24>	4
18	105681	Disc Hub	1
19	400195	Retaining Ring <S-40>	1
20	105735	Friction Disc	2
21	105741	Disc Plate	1
22	115320	Armature & Spring Base	1
23	105824	Brake Bracket	1
24	408552	Auxiliary Spring	4
25	400319	Brake Spring	1
26	B	AC Solenoid	1
27	207115	Disc Spring <t1.5 × Ø12.2 × Ø25>	6
28	105839	Brake Shim	6
29	105827	Brake Drum	1
30	400097	Spring Washer <M12>	6

11 KW: T,SBH-750;T,SBL-1000;T,SCAH-1000

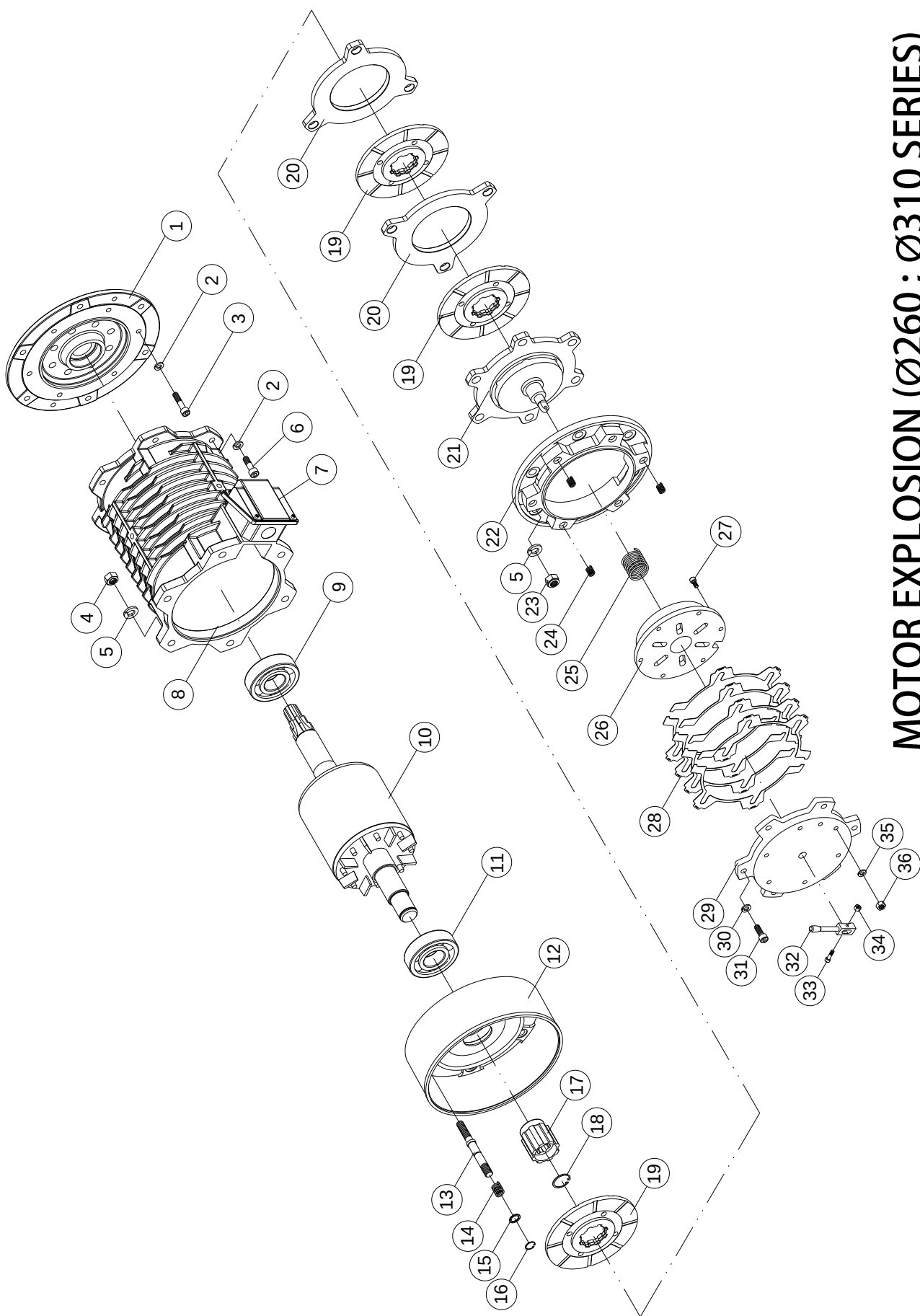
MOTOR ASSEMBLY

Dual= Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT
			Ø220
			11Kw
31	400435	Hex. Recess Bolt <M12 × 1.75 × 25L>	6
32	400651	Spring Washer <M14>	4
33	400439	Hex. Recess Bolt <M14 × 2.0 × 30L>	4
34	207121	Release Bar	1
35	400017	Hex. Recess Bolt <M8 × 1.25 × 35L>	1
36	400088	Lock Nut <M8 × 1.25>	1
37	115007	Brake End Cover	1
38	400095	Spring Washer <M8>	4
39	400012	Hex. Recess Bolt <M8 × 1.25 × 20L>	4

11 KW: T,SBH-750;T,SBL-1000;T,SCAH-1000

NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
9	A	108491	Motor Stator Ass'y	3Ø 60HZ	220V
		108491			380V
		108532			440V
		108533		3Ø 50HZ	380V
		108535			415V
26	B	105871	AC Solenoid	3Ø 60HZ	220V
		105872			380V
		105873			440V
		105877		3Ø 50HZ	380V
		105878			415V



MOTOR EXPLOSION (Ø260 ; Ø310 SERIES)

MOTOR ASSEMBLY

Dual= Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT				
			Ø260				Ø310
			11Kw (Dual)	13Kw	13Kw (Dual)	18.5Kw	18.5Kw (Dual)
1	101178	Flange	1	1	1	1	
	105648						1
2	400651	Spring Washer <M14>	12	12	12	12	14
3	400440	Hex. Recess Bolt <M14 × 2.0 × 35L>	6	6	6	6	
	400441	Hex. Recess Bolt <M14 × 2.0 × 45L>					8
4	400640	Nut <M20 × 2.5>	6	6	6	6	
	400076	Nut <M24 × 3.0>					6
5	400099	Spring Washer <M20>	12	12	12	12	
	400101	Spring Washer <M24>					12
6	400442	Hex. Recess Bolt <M14 × 2.0 × 50L>	6	6	6	6	6
7	120233	Motor Component (Cable Box)	1		1		1
	120142			1		1	
8	C	Motor Stator Ass'y	1				
	D			1			
	E				1		
	F					1	
	G						1
9	405628	Bearing <6308 2RU>	1	1	1	1	
	405624	Bearing <6312 2RU>					1
10	106373	Motor Rotor	1		1		
	101122			1			
	108529					1	
	100372						1
11	405627	Bearing <6310 2RU>	1	1	1	1	
	405623	Bearing <6217 2RU>					1
12	105801	Brake Housing	1	1	1	1	
	105798						1
13	207192	Stay Bolt	6	6	6	6	
	207191						6
14	408531	Brake Spring <Ø2 × Ø28.6 × 80>	3	3	3	3	
	408530	Brake Spring <Ø2.5 × Ø33.5 × 55>					3
15	207196	Spacer <Ø35 × Ø25 × 3t>	3	3	3	3	
	207195	Spacer <Ø40 × Ø28.6 × 3t>					3

11KW: T,SBHD-750;T,SBLD-1000; T,SCAHD-1000

13KW: SDAH(D)-1500,SEAL(D)-1500,SCAL(D)-2000

18.5KW: SFAH(D)-1500 ; SFAJ(D)-3000

MOTOR ASSEMBLY

Dual= Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT				
			Ø260				Ø310
			11Kw (Dual)	13Kw	13Kw (Dual)	18.5Kw	18.5Kw (Dual)
16	404183	Retaining Ring <S-24>	3	3	3	3	
	400912	Retaining Ring <S-28>					3
17	105519	Disc Hub	1	1	1	1	
18	400197	Retaining Ring <S-50>	1	1	1	1	1
19	105520	Friction Disc	3	3	3	3	
	105525						3
20	105894	Disc Plate	2	2	2	2	
	105893						2
21	115323	Armature & Spring Base	1	1	1	1	
	115324						1
22	105816	Brake Bracket	1	1	1	1	
	105825						1
23	406418	Lock Nut <M20×2.5>	6	6	6	6	
	406417	Lock Nut <M24×3.0>					6
24	408553	Auxiliary Spring	3	3	3	6	6
25	408471	Brake Spring	1	1	1	1	1
26	H	AC Solenoid	1	1	1	1	1
27	400451	Hex. Recess Bolt <M12×1.75×40L>	6	6	6	6	6
28	105840	Brake Shim	8	8	8	8	8
29	105829	Brake Drum	1	1	1	1	1
30	400651	Spring Washer <M14>	6	6	6	6	6
31	400441	Hex. Recess Bolt <M14×2.0×45L>	6	6	6	6	6
32	207121	Release Bar	1	1	1	1	1
33	400017	Hex. Recess Bolt <M8×1.25×35L>	1	1	1	1	1
34	400088	Lock Nut <M8×1.25>	1	1	1	1	1
35	400097	Spring Washer <M12>	6	6	6	6	6
36	400091	Lock Nut <M12×1.75>	6	6	6	6	6

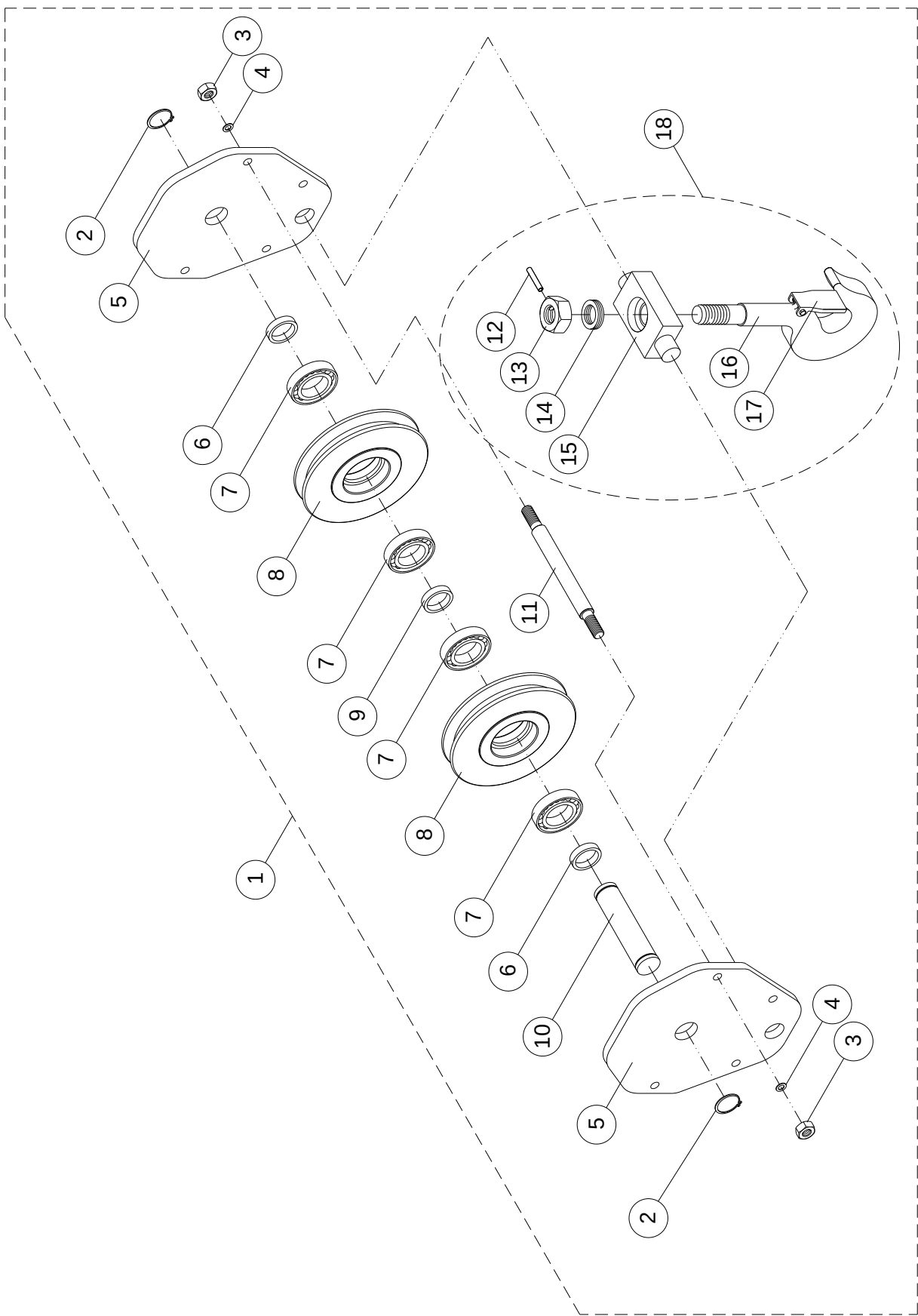
11KW: T,SBHD-750,T,SBLD-1000,T,SCAHD-1000

13KW: SDAH(D)-1500,SEAL(D)-1500,SCAL(D)-2000

18.5KW: SFAH(D)-1500 ; SFAJ(D)-3000

MOTOR ASSEMBLY

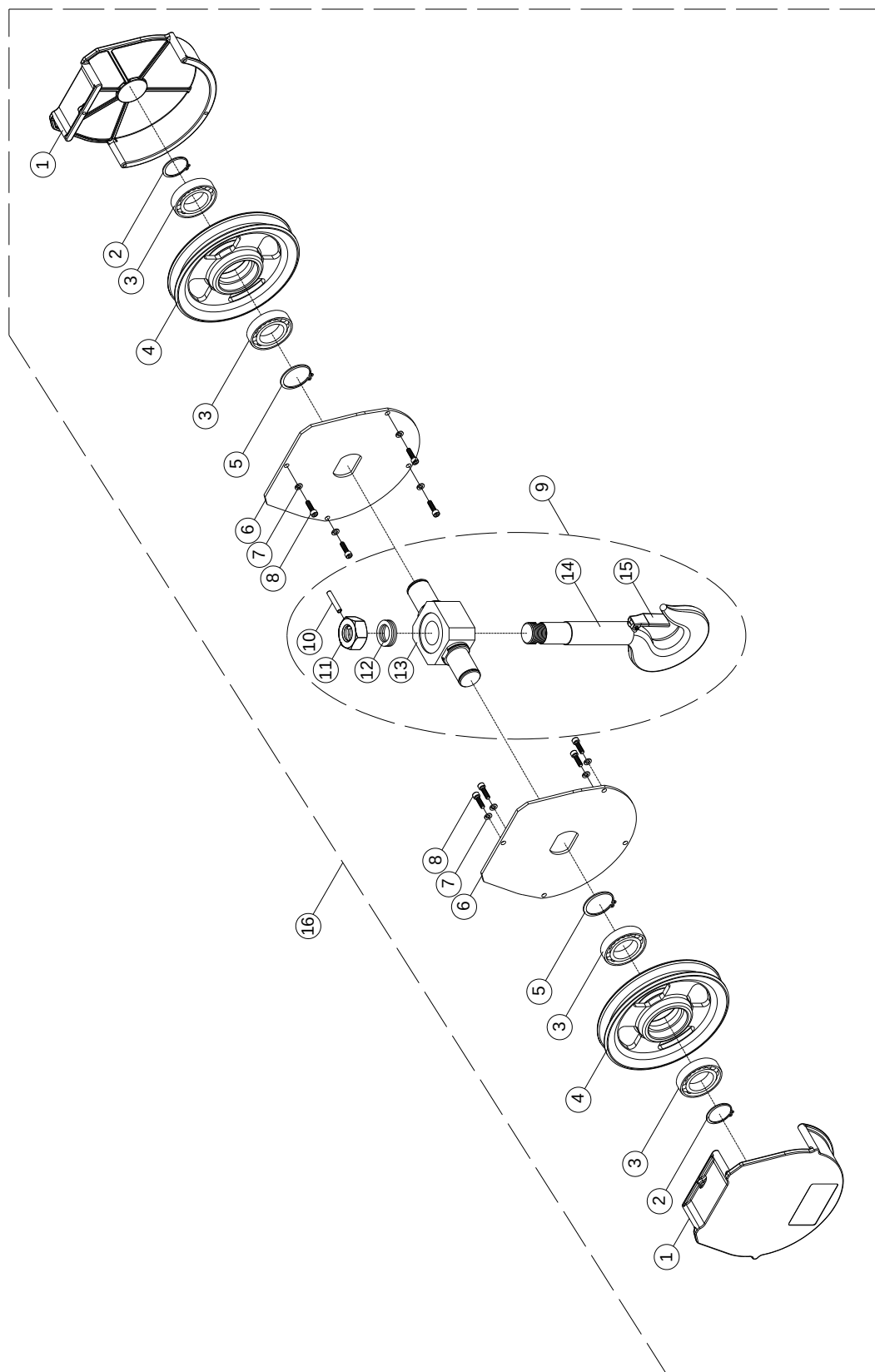
KEY NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
8	C	107701	Motor Stator Ass'y (11KW 4/12P)	3Ø 60HZ	220V
		107702			380V
		107703			440V
		107707		3Ø 50HZ	380V
		107708			415V
	D	100096	Motor Stator Ass'y (13KW 4P)	3Ø 60HZ	220V/380V
		100097			440V
		100098		3Ø 50HZ	220V/380V
		100099			415V
	E	100078	Motor Stator Ass'y (13KW 4/12P)	3Ø 60HZ	220V
		135491			380V
		135492			440V
		135494		3Ø 50HZ	380V
		135495			415V
	F	108576	Motor Stator Ass'y (18.5KW 4P)	3Ø 60HZ	220V/380V
		135211			440V
		135212		3Ø 50HZ	220V/380V
		135213			415V
	G	100080	Motor Stator Ass'y (18.5KW 4/12P)	3Ø 60HZ	220V
		135496			380V
		135497			440V
		135499		3Ø 50HZ	380V
		135530			415V
26	H	105921	AC Solenoid	3Ø 60HZ	220V
		105922			380V
		105923			440V
		105927		3Ø 50HZ	380V
		105928			415V



7.5 - 10T BOTTOM BLOCK EXPLOSION

BOTTOM BLOCK ASSEMBLY

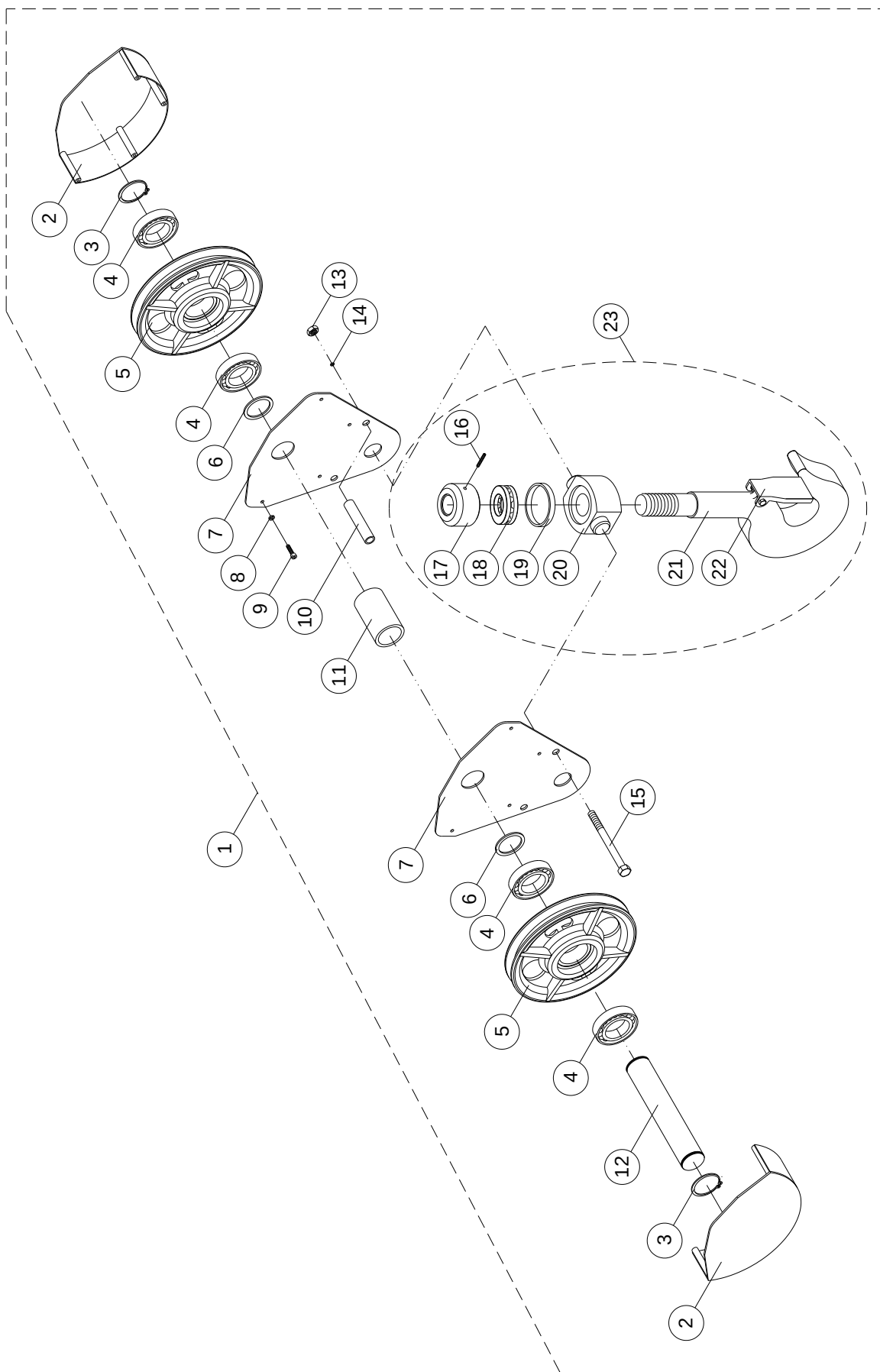
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			7.5T	10T
			1/4,2/4 (R/F)	2/4 (R/F)
1	205876	Bottom Block Ass'y	1	
	204815			1
2	400909	Retaining Ring <S-55>	2	
	400919	Retaining Ring <S-60>		2
3	400637	Nut <M14×2.0>	8	
	400634	Nut <M16×2.0>		8
4	400651	Spring Washer <M14>	8	
	400098	Spring Washer <M16>		8
5	205478	Bottom Block Cover	2	
	205474			2
6	205872	Position Sleeve	2	
	205562			2
7	400821	Bearing <6211 Z>	4	
	407823	Bearing <6312 Z>		4
8	205847	Sheave	2	
	205215			2
9	205873	Position Sleeve	1	
	205562			1
10	205366	Sheave Axle	1	
	205362			1
11	205226	Stay Bolt <Ø20×220L>	4	
	205229	Stay Bolt <Ø22×256L>		4
12	400214	Spring Pin <Ø8×70L>	1	
	400209	Spring Pin <Ø8×55L>		2
13	400636	Nut <M52×5.0>	1	
	202049	Nut <M64×6.0>		1
14	400161	Thrust Bearing <51211>	1	
	400164	Thrust Bearing <51313>		1
15	205013	Bearing Housing	1	
	205012			1
16	204989	Bottom Hook	1	
	200091			1
17	400303	Safety Latch	1	1
18	205002	Bottom Hook Ass'y	1	
	204993			1



10T 1/4 (R/F) BOTTOM BLOCK EXPLOSION

BOTTOM BLOCK ASSEMBLY

[illegible]



15 , 20T BOTTOM BLOCK EXPLOSION

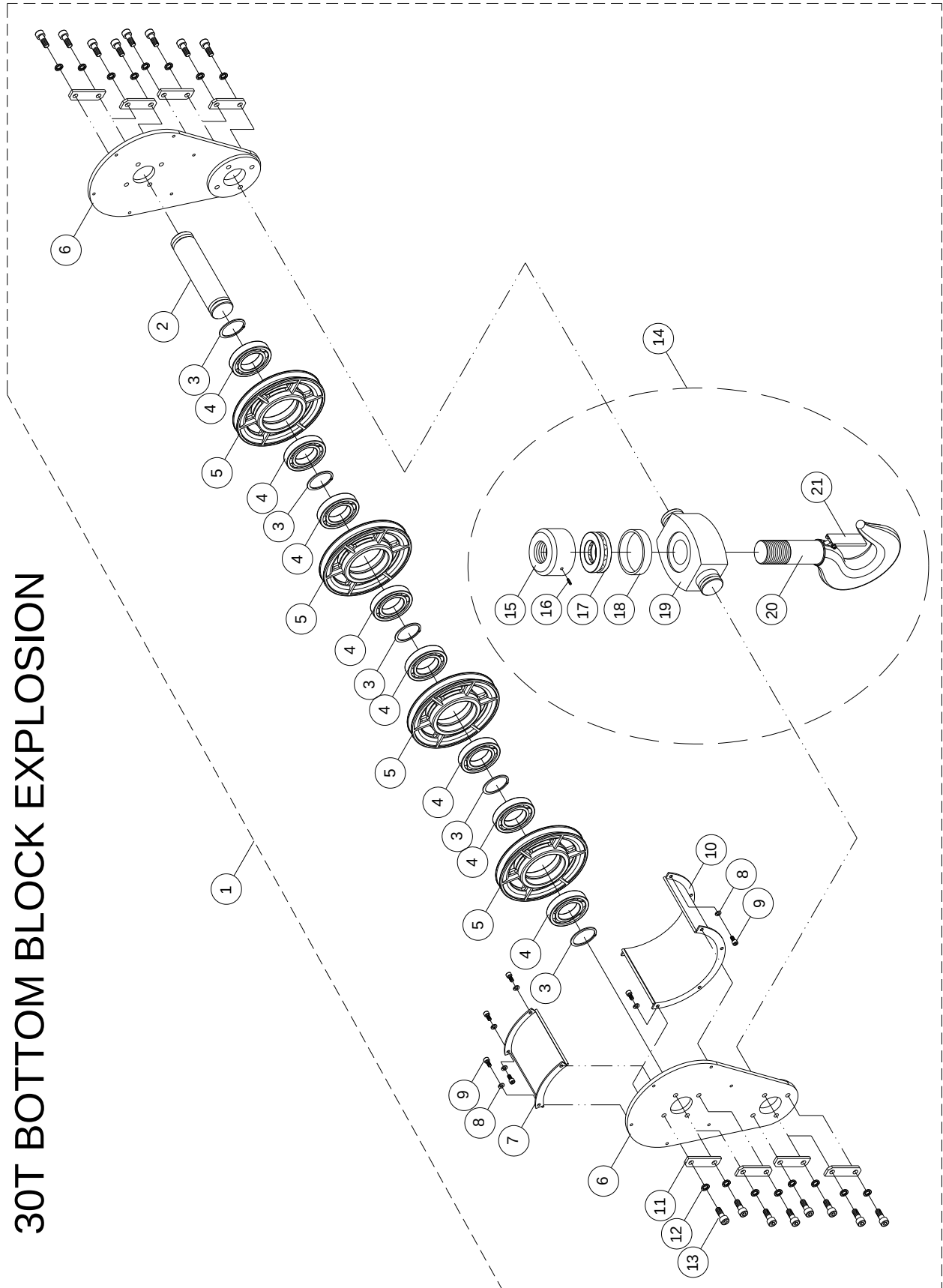
BOTTOM BLOCK ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT	
			15T	20T
			1/4,2/4 (R/F)	1/4 (R/F)
1	204812	Bottom Block Ass'y	1	
	205877			1
2	205386	Bottom Block Cover Ass'y	2	
	205765			2
3	400918	Retaining Ring <S-80>	2	
	400920	Retaining Ring <S-85>		2
4	407811	Bearing <6216 Z>	4	
	400791	Bearing <6217 Z>		4
5	205208	Sheave	2	
	205845			2
6	205578	Spacer Sleeve B	2	
	205762			2
7	205479	Bottom Block Cover	2	
	205480			2
8	400096	Spring Washer <M10>	8	
	400097	Spring Washer <M12>		8
9	400018	Hex. Recess Bolt <M10 × 1.5 × 40L>	8	
	400451	Hex. Recess Bolt <M12 × 1.75 × 40L>		8
10	205570	Spacer Sleeve	2	
	205571			2
11	205576	Spacer Sleeve A	1	
	205577			1
12	205370	Sheave Axle	1	
	205763			1
13	400070	Nut <7/8" × 9UNC>	2	2
14	400102	Spring Washer <7/8">	2	2
15	400491	Hex. Blot <7/8" × 9UNC × 254L>	2	2
16	400584	Set Screw <M8 × 1.25 × 30L>	2	2
17	202046	Nut <M68 × 6.0>	1	
	202047	Nut <M90 × 6.0>		1
18	400155	Thrust Bearing <51314>	1	
	400156	Thrust Bearing <51318>		1
19	200303	Thrust Cover	1	
	200304			1

BOTTOM BLOCK ASSEMBLY

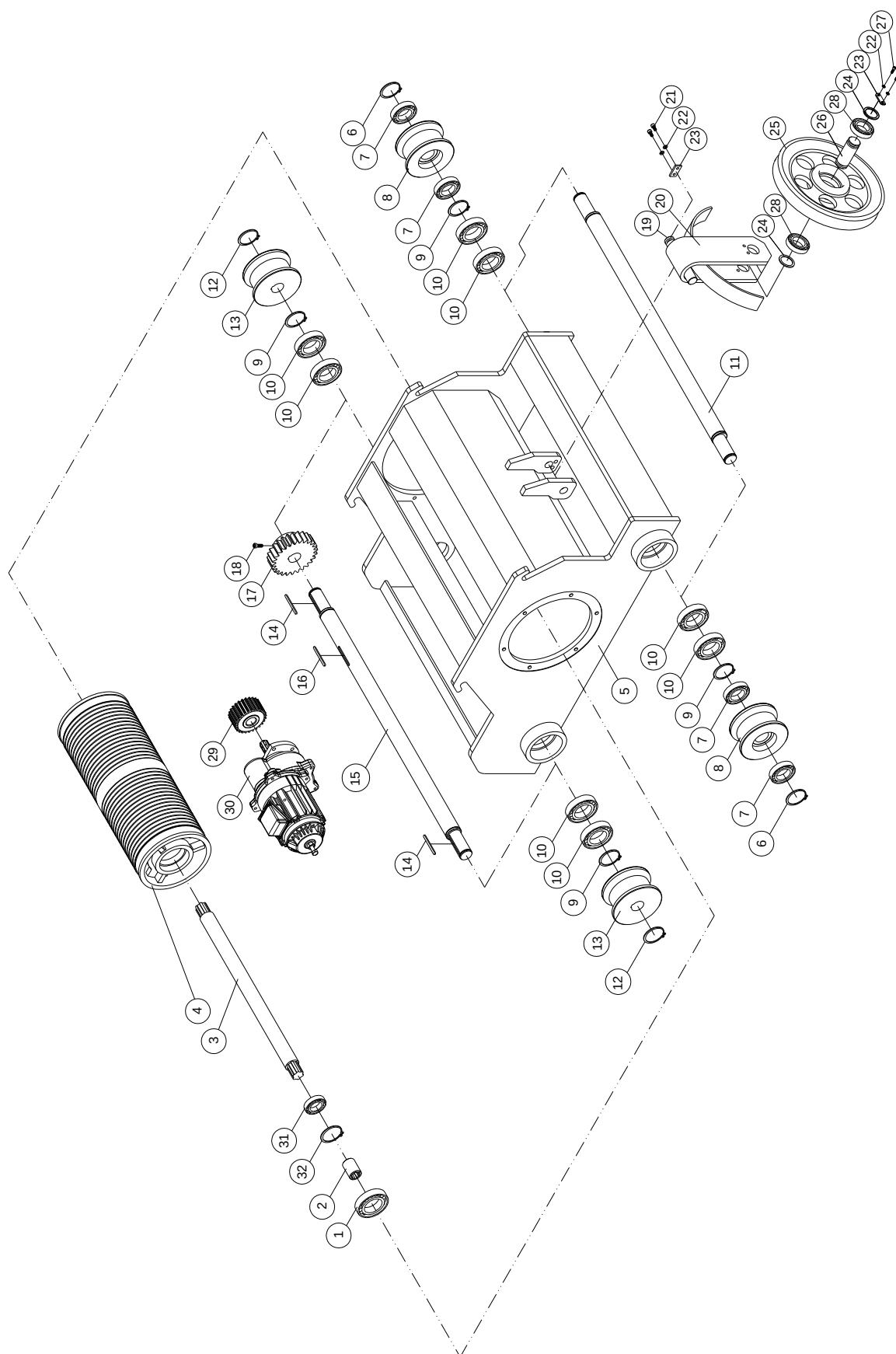
[illegible]

30T BOTTOM BLOCK EXPLOSION



BOTTOM BLOCK ASSEMBLY

[illegible]



7.5 - 20T SADDLE FRAME EXPLOSION

2R / 4F (H) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT		
			SBH(D)-750		
			6m	9m	12m
1	407838	Bearing <6212 ZZ>	1	1	1
	407814	Bearing <6220 ZZ>	1D	1D	1D
2	205467	Coupling	1	1	1
	205468		1D	1D	1D
3	204958	Drum Shaft	1		
	205023			1	
	204954				1
	263007		1D		
	263008			1D	
	261947				1D
4	269466	Drum	1		
	269467			1	
	269468				1
	269473		1D		
	269474			1D	
	269475				1D
5	262124	Hoist Frame	1		
	262125			1	
	262126				1
	262148		1D		
	262149			1D	
	262150				1D
6	400196	Retaining Ring <S-45>	2	2	2
7	407826	Bearing <6309 Z>	4	4	4
8	205173	Plain Wheel	2	2	2
9	400909	Retaining Ring <S-55>	4	4	4
10	407834	Bearing <6311 Z>	8	8	8
11	207755	Plain Wheel Axle	1		
	207754			1	
	205998				1
12	400196	Retaining Ring <S-45>	2	2	2
13	205073	Transmission Wheel	2	2	2
14	400969	Key <t8 × 8 × 60L>	2	2	2

2R / 4F (H) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT		
			SBH(D)-750		
			6m	9m	12m
15	206419	Transmission Wheel Axle	1		
	206418			1	
	206417				1
16	405904	Key <t8 × 8 × 85L>	1	1	1
17	205186	Pinion	1	1	1
18	400014	Hex. Recess Bolt<M8 × 1.25 × 30L>	1	1	1
19	205470	Load Axle <Ø28 × 165L>	1	1	1
20	206466	Link Equalizer	1	1	1
21	400013	Hex. Recess Bolt <M8 × 1.25 × 25L>	2	2	2
22	400095	Spring Washer <M8>	4	4	4
23	200636	Keeper <t6.0 × 25 × 50L>	2	2	2
24	205238	Washer <Ø45 × Ø36 × 3L>	2	2	2
25	400012	Hex. Recess Bolt <M8 × 1.25 × 20L>	2	2	2
26	205244	Equalizer Sheave < Ø210 × Ø35 t50>	1	1	1
27	209288	Sheave Axle < Ø35 × 119L>	1	1	1
28	407817	Bearing <6307 Z>	-	-	-
39	201680	Drive Pinion <M3.5 × 26T>	1	1	1
30	I	Reduction Motor	1	1	1
	J		1	1	1

KEY NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
31	I	134023	Reduction Motor <1.1KW 4P>	3Ø 60HZ	220V/380V
		134024			220V/440V
		134025		3Ø 50HZ	220V/380V
		134031			415V
	J	134026	Reduction Motor <1.1KW 4/12P>	3Ø 60HZ	220V
		134032			380V
		134036			440V
		134027		3Ø 50HZ	220V
		134028			380V
		134035			415V

2R / 4F (H) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT								
			SCAH(D)-1000			SDAH(D)-1500			SFAH(D)-1500		
			6m	9m	12m	8m	10m	12m	8m	10m	12m
1	407838	Bearing <6212 ZZ>	1	1	1						
	407814	Bearing <6220 ZZ>	1D	1D	1D	1	1	1	1	1	1
	407842	Bearing <6224 ZZ>							1D	1D	1D
2	205467	Coupling	1	1	1						
	205468		1D	1D	1D	1	1	1			
	267977								1	1	1
	205464								1D	1D	1D
3	262628	Drum Shaft	1								
	262629			1							
	262630				1						
	262590					1					
	262538						1				
	204949							1			
	262631		1D								
	262632			1D							
	262633				1D						
	262233								1		
	262232									1	
	262231										1
	262240								1D		
	262239									1D	
	262238										1D
4	262615	Drum	1								
	262616			1							
	262617				1						
	262604					1					
	262698						1				
	262699							1			
	262622		1D								
	262623			1D							
	262624				1D						
	228544								1		
	228545									1	
	228546										1
	228547								1D		
	228548									1D	
	228549										1D

2R / 4F (H) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT								
			SCAH(D)-1000			SDAH(D)-1500			SFAH(D)-1500		
			6m	9m	12m	8m	10m	12m	8m	10m	12m
5	263056	Hoist Frame	1								
	263057			1							
	263058				1						
	206313					1					
	206314						1				
	206315							1			
	269061		1D								
	269062			1D							
	269063				1D						
	262198								1		
	262197									1	
	262196										1
	262201								1D		
	262200									1D	
	262199										1D
6	400913	Retaining Ring <S-65>	2	2	2						
	400918	Retaining Ring <S-80>				2	2	2	2	2	2
7	407810	Bearing <6211 Z>	4	4	4						
	407833	Bearing <6214 Z>				4	4	4	4	4	4
8	205179	Plain Wheel	2	2	2						
	205177					2	2	2	2	2	2
9	400909	Retaining Ring <S-55>	4	4	4						
	400910	Retaining Ring <S-70>				4	4	4	4	4	4
10	407832	Bearing <6213 Z>	8	8	8						
	407811	Bearing <6216 Z>				8	8	8	8	8	8
11	205139	Plain Wheel Axle	1								
	205148			1							
	205158				1						
	201868					1	1				
	201869							1			
	262252								1		
	262259									1	
	262212										1
12	400913	Retaining Ring <S-65>	2	2	2						
	400918	Retaining Ring <S-80>				2	2	2	2	2	2

2R / 4F (H) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT								
			SCAH(D)-1000			SDAH(D)-1500			SFAH(D)-1500		
			6m	9m	12m	8m	10m	12m	8m	10m	12m
13	205079	Transmission Wheel	2	2	2						
	205077					2	2	2	2	2	2
14	400982	Key <t10×10×60L>	2	2	2						
	400954	Key <t16×10×90L>				2	2	2	2	2	2
15	205099	Transmission Wheel Axle	1								
	205108			1							
	205118				1						
	205153					1	1				
	205157							1			
	262251								1		
	262258									1	
	262211										1
16	400982	Key <t10×10×60L>	1	1	1						
	400984	Key <t16×10×60L>				1	1	1	1	1	1
17	205184	Pinion	1	1	1						
	205183					1	1	1	1	1	1
18	400014	Hex. Recess Bolt <M8×1.25×30>	1	1	1						
	400013	Hex. Recess Bolt <M8×1.25×25>							1	1	1
19	205470	Load Axle <Ø28×165L>	1	1	1						
	205471	Load Axle <Ø50×285L>				1	1	1			
	270507	Load Axle <Ø60×290L>							1	1	1
20	206466	Link Equalizer	1	1	1						
	206468					1	1	1	1	1	1
21	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2				2	2	2
	400014	Hex. Recess Bolt <M8×1.25×30L>				2	2	2			
22	400095	Spring Washer <M8>	4	4	4	4	4	4	4	4	4
23	200636	Keeper <t6.0×25×50L>	2	2	2						
	200635	Keeper <t6.0×38×70L>				2	2	2	2	2	2
24	205238	Washer <Ø45×Ø36×3L>	2	2	2						
	205240	Washer <Ø76×Ø61×5L>				2	2	2	2	2	2
25	205244	Equalizer Sheave <Ø210×Ø35 t50>	1	1	1						
	205207	Equalizer Sheave <Ø406×Ø130 t70>				1	1	1	1	1	1
26	209288	Sheave Axle <Ø35×119L>	1	1	1						
	205223	Sheave Axle <Ø60×150L>				1	1	1	1	1	1

2R / 4F (H) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT								
			SCAH(D)-1000			SDAH(D)-1500			SFAH(D)-1500		
			6m	9m	12m	6m	9m	12m	6m	9m	12m
27	400012	Hex. Recess Bolt <M8 × 1.25 × 20L>	2	2	2						
28	407823	Bearing <6312 Z>				2	2	2	2	2	2
29	201679	Drive Pinion <M3.5 × 23T>	1	1	1	1	1	1	1	1	1
30	C	Reduction Motor	1	1	1						
	D					1	1	1	1	1	1
31	407709	Bearing <6209 ZZ>				1	1	1	1	1	1
	407854	Bearing <6210 ZZ>							1D	1D	1D
32	400924	Retaining Ring <R-85>,(Single Speed)				1	1	1	1	1	1

KEY NO.	PARTS CODE		DESCRIPTION	Ø -HZ-V	
30	C	134023	Reduction Motor <1.1Kw 4P>	3Ø 60HZ	220V/380V
		134024			220V/440V
		134025		3Ø 50HZ	220V/380V
		134031			415V
		134026	Reduction Motor <1.1Kw 4/12P>	3Ø 60HZ	220V
		134032			380V
		134036			440V
		134027		3Ø 50HZ	220V
		134028			380V
		134035			415V
	D	136314	Reduction Motor <1.5Kw 4P>	3Ø 60HZ	220V/380V
		136315			220V/440V
		136312		3Ø 50HZ	220V/380V
		136313			415V
		136319	Reduction Motor <1.5Kw 4/12P>	3Ø 60HZ	220V
		136324			380V
		136325			440V
		136316		3Ø 50HZ	220V
		136317			380V
		136318			415V

1R / 4F (L) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT								
			SBL(D)-1000			SEAL(D)-1500			SCAL(D)-2000		
			6m	9m	12m	8m	10m	12m	8m	10m	12m
1	407838	Bearing <6212 ZZ>	1	1	1						
	407814	Bearing <6220 ZZ>	1D	1D	1D	1	1	1	1	1	1
2	205467	Coupling	1	1	1						
	205468		1D	1D	1D	1	1	1	1	1	1
3	205024	Drum Shaft	1								
	205025			1							
	205026				1						
	262594					1					
	262595						1				
	262596							1			
	262591								1		
	262592									1	
	262593										1
	205050		1D								
	205051			1D							
	205053				1D						
4	269535	Drum	1								
	269536			1							
	269537				1						
	262597					1					
	262598						1				
	262599							1			
	228763								1		
	228764									1	
	228765										1
	269541		1D								
	269542			1D							
	269543				1D						
5	272941	Hoist Frame	1								
	272942			1							
	272943				1						
	262017					1			1		
	262018						1			1	
	262019							1			1

1R / 4F (L) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

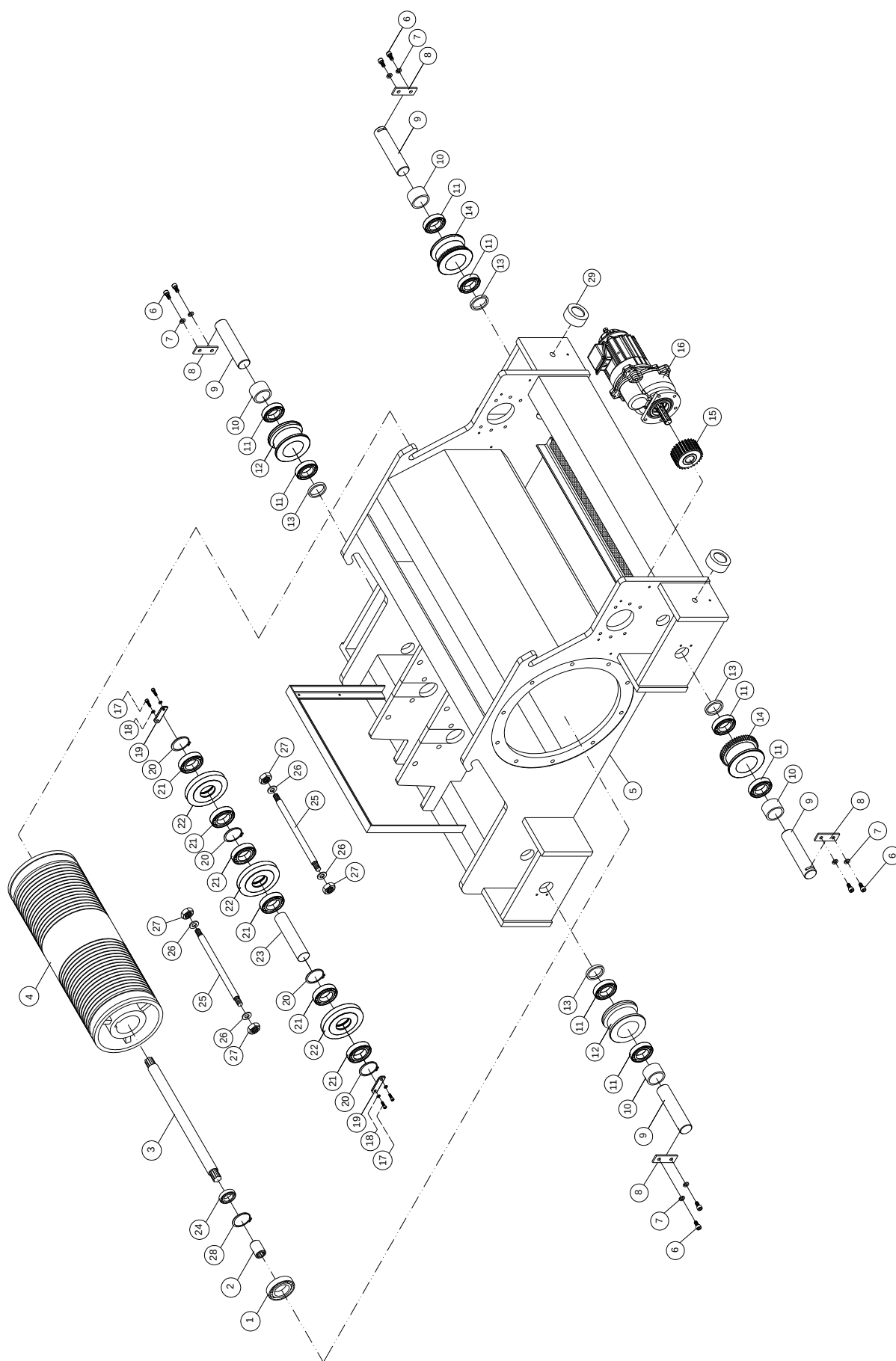
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT								
			SBL(D)-1000			SEAL(D)-1500			SCAL(D)-2000		
			6m	9m	12m	8m	10m	12m	8m	10m	12m
5	272944	Hoist Frame	1D								
	272945			1D							
	272946				1D						
6	400909	Retaining Ring <S-55>	2	2	2						
	400910	Retaining Ring <S-70>				2	2	2	2	2	2
7	407810	Bearing <6211 Z>	4	4	4						
	407833	Bearing <6214 Z>				4	4	4	4	4	4
8	205179	Plain Wheel	2	2	2						
	205177					2	2	2	2	2	2
9	400913	Retaining Ring <S-65>	4	4	4						
	400918	Retaining Ring <S-80>				4	4	4	4	4	4
10	407832	Bearing <6213 Z>	8	8	8						
	407811	Bearing <6216 Z>				8	8	8	8	8	8
11	205139	Plain Wheel Axle	1								
	205148			1	1						
	205151					1	1		1	1	
	205155							1			1
12	400909	Retaining Ring <S-55>	2	2	2						
	400910	Retaining Ring <S-70>				2	2	2	2	2	2
13	205079	Transmission Wheel	2	2	2						
	205077					2	2	2	2	2	2
14	400982	Key <t10×10×60L>	2	2	2						
	400954	Key <t16×10×90L>				2	2	2	2	2	2
15	205099	Transmission Wheel Axle	1								
	205306			1	1						
	205111					1	1		1	1	
	205115							1			1
16	400982	Key <t10×10×60L>	1	1	1						
	400984	Key <t16×10×60L>				1	1	1	1	1	1
17	205184	Pinion	1	1	1						
	205183					1	1	1	1	1	1
18	400014	Hex. Recess Bolt <M8×1.25×30L>	1	1	1						
	400013	Hex. Recess Bolt <M8×1.25×25L>				1	1	1	1	1	

1R / 4F (L) SADDLE FRAME ASSEMBLY

(D)=Dual Speed

[illegible]

KEY NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
30	E	134023	Reduction Motor <1.1Kw 4P>	3Ø 60HZ	220V/380V
		134024			220V/440V
		134025		3Ø 50HZ	220V/380V
		134031			415V
		134026	Reduction Motor <1.1Kw 4/12P>	3Ø 60HZ	220V
		134032			380V
		134036			440V
		134027		3Ø 50HZ	220V
		134028			380V
		134035			415V
	F	136314	Reduction Motor <1.5Kw 4P>	3Ø 60HZ	220V/380V
		136315			220V/440V
		136312		3Ø 50HZ	220V/380V
		136313			415V
		136319	Reduction Motor <1.5Kw 4/12P>	3Ø 60HZ	220V
		136324			380V
		136325			440V
		136316		3Ø 50HZ	220V
		136317			380V
		136318			415V



30T SADDLE FRAME EXPLOSION

30T SADDLE FRAME ASSEMBLY

(D)=Dual Speed

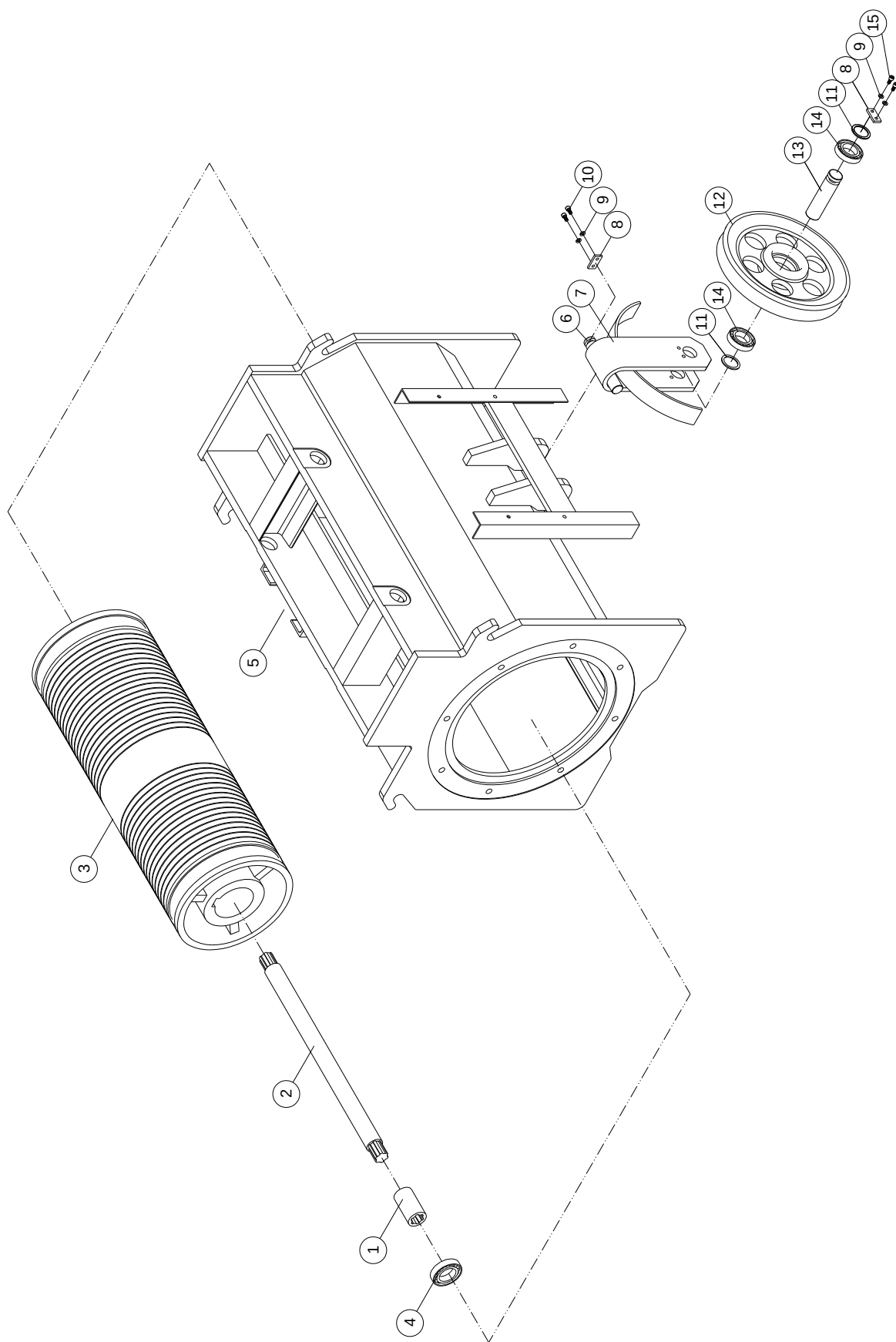
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT		
			SFAJ(D)-3000		
			8m	10m	12m
1	407814	Bearing <6220 ZZ>	1	1	1
	407842	Bearing <6224 ZZ>	1D	1D	1D
2	267977	Coupling	1	1	1
	205464	Coupling	1D	1D	1D
3	262435	Drum Shaft	1		
	262436			1	
	262437				1
	263062		1D		
	263063			1D	
	263064				1D
4	228550	Drum	1		
	228551			1	
	228552				1
	228553		1D		
	228554			1D	
	228555				1D
5	206085	Hoist Frame	1		
	206010			1	
	206075				1
	206515		1D		
	206520			1D	
	206540				1D
6	400012	Hex. Recess Bolt <M8 × 1.25 × 20L>	8	8	8
7	400095	Spring Washer <M8>	8	8	8
8	200635	Keeper <t6 × 38 × 70L>	4	4	4
9	201278	Axle	4	4	4
10	207562	Spacer Sleeve B < Ø76 × Ø62 × 48L>	4	4	4
11	407823	Bearing <6312 Z>	8	8	8
12	201249	Plain Wheel	2	2	2
13	201878	Spacer Sleeve A < Ø76 × Ø62 × 10L>	4	4	4
14	201224	Transmission Wheel	2	2	2
15	201679	Drive Pinion <M3.5 × 23T >	2	2	2
16	G	Reduction Motor	2	2	2

30T SADDLE FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT		
			SFAJ(D)-3000		
			8m	10m	12m
17	400461	Hex. Recess Bolt <M20 × 2.5 × 35L>	4	4	4
18	400099	Spring Washer <M20>	4	4	4
19	205734	Keeper <t12 × 50 × 170>	2	2	2
20	400920	Retaining Ring <S-85>	4	4	4
21	407811	Bearing <6216 Z>	6	6	6
22	202988	Equalizer Sheave < Ø406 × Ø175 t76>	3	3	3
23	204965	Sheave Axle < Ø80 × 342L>	1	1	1
24	407709	Bearing <6209 ZZ>	1	1	1
	407854	Bearing <6210 ZZ>	1D	1D	1D
25	273644	Wire Guide Shaft	2	2	2
26	400098	Spring Washer <M16>	4	4	4
27	400634	Nut <M16 × 2.0>	4	4	4
28	400924	Retaining Ring <R-85>,(Single Speed)	1	1	1
29	202582	Bumper	4	4	4

KEY NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
16	G	136314	Reduction Motor <1.5Kw 4P>	3Ø 60HZ	220V/380V
		136315			220V/440V
		136312		3Ø 50HZ	220V/380V
		136313			415V
		136319	Reduction Motor <1.5Kw 4/12P>	3Ø 60HZ	220V
		136324			380V
		136325			440V
		136316		3Ø 50HZ	220V
		136317			380V
		136318			415V



7.5T-10T HOIST FRAME EXPLOSION

2R / 4F (H) HOIST FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT		
			TBH(D)-750		
			6m	9m	12m
1	205467	Coupling	1	1	1
	205468		1D	1D	1D
2	204958	Drum Shaft	1		
	205023			1	
	204954				1
	263007		1D		
	263008			1D	
	261947				1D
3	269466	Drum	1		
	269467			1	
	269468				1
	269473		1D		
	269474			1D	
	269475				1D
4	407838	Bearing <6212 ZZ>	1	1	1
	407814	Bearing <6220 ZZ>	1D	1D	1D
5	206148	Hoist Frame	1		
	206149			1	
	206178				1
	206542		1D		
	206543			1D	
	206544				1D
6	205470	Load Axle < Ø28 × 165L >	1	1	1
7	206466	Link Equalizer <t12 × 100 × 239L>	1	1	1
8	200636	Keeper <t6.0 × 25 × 50L>	2	2	2
9	400095	Spring Washer <M8>	4	4	4
10	400013	Hex. Recess Bolt <M8 × 1.25 × 25L>	2	2	2
11	205238	Washer < Ø45 × Ø36 × 3L >	2	2	2
12	205244	Equalizer Sheave < Ø210 × Ø35 t50 >	1	1	1
13	209288	Equalizer Sheave Axle < Ø35 × 119L >	1	1	1
14	407817	Bearing <6307 Z>	-	-	-
15	400012	Hex. Recess Bolt <M8 × 1.25 × 20L>	2	2	2

1R / 4F (H) HOIST FRAME ASSEMBLY

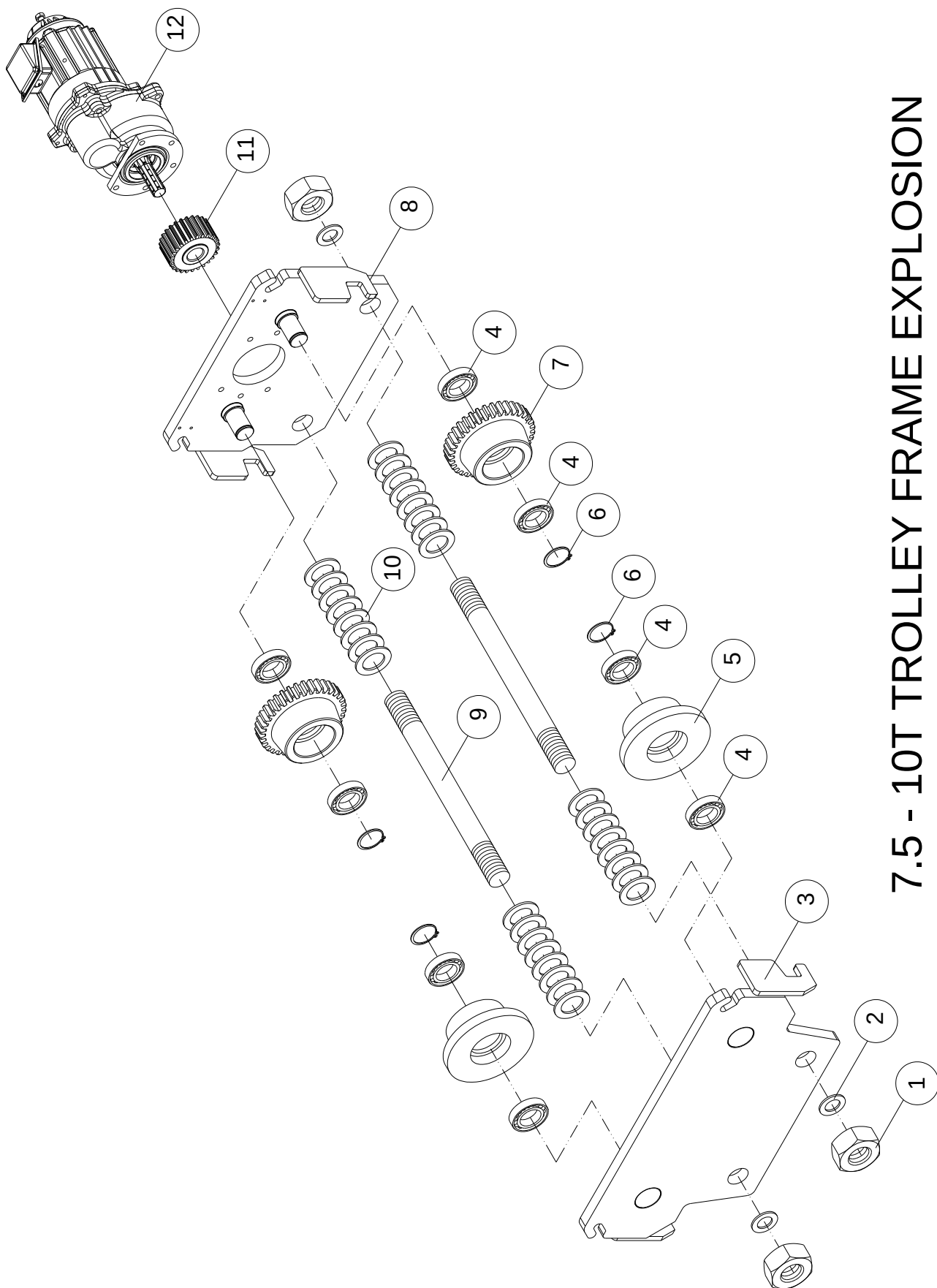
(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT		
			TBL(D)-1000		
			6m	9m	12m
1	205467	Coupling	1	1	1
	205468		1D	1D	1D
2	205024	Drum Shaft	1		
	205025			1	
	205026				1
	205050		1D		
	205051			1D	
	205053				1D
3	269535	Drum	1		
	269536			1	
	269537				1
	269541		1D		
	269542			1D	
	269543				1D
4	407838	Bearing <6212 ZZ>	1	1	1
	407814	Bearing <6220 ZZ>	1D	1D	1D
5	206591	Hoist Frame	1		
	206592			1	
	206593				1
	206594		1D		
	206595			1D	
	206596				1D
6	205470	Load Axle < Ø28 × 165L >	1	1	1
7	206467	Link Equalizer	1	1	1
8	200636	Keeper <t6.0 × 25 × 50L >	2	2	2
9	400095	Spring Washer <M8>	4	4	4
10	400013	Hex. Recess Bolt <M8 × 1.25 × 25L >	2	2	2
11	205238	Washer < Ø45 × Ø36 × 3L >	2	2	2
12	205743	Equalizer Sheave < Ø328 × Ø70 t50 >	1	1	1
13	209288	Sheave Axle < Ø35 × 119L >	1	1	1
14	407817	Bearing <6307 Z>	2	2	2
15	400012	Hex. Recess Bolt <M8 × 1.25 × 20L >	2	2	2

2R / 4F (H) HOIST FRAME ASSEMBLY

(D)=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT		
			TCAH(D)-1000		
			6m	9m	12m
1	205467	Coupling	1	1	1
	205468		1D	1D	1D
2	200536	Drum Shaft	1		
	200539			1	
	200538				1
	262631		1D		
	200539			1D	
	262633				1D
3	207178	Drum	1		
	207182			1	
	207184				1
	262622		1D		
	207182			1D	
	262624				1D
4	407838	Bearing <6212 ZZ>	1	1	1
	407814	Bearing <6220 ZZ>	1D	1D	1D
5	228311	Hoist Frame	1		
	228312			1	
	228313				1
	228314		1D		
	228315			1D	
	228316				1D
6	205470	Load Axle < Ø28 × 165L>	1	1	1
7	206466	Link Equalizer	1	1	1
8	200636	Keeper <t6.0 × 25 × 50L>	2	2	2
9	400095	Spring Washer <M8>	4	4	4
10	400013	Hex. Recess Bolt <M8 × 1.25 × 25L>	2	2	2
11	205238	Washer < Ø45 × Ø36 × 3L>	2	2	2
12	205244	Equalizer Sheave < Ø210 × Ø35 t50>	1	1	1
13	209288	Sheave Axle < Ø35 × 119L>	1	1	1
14	407817	Bearing <6307 Z>	-	-	-
15	400012	Hex. Recess Bolt <M8 × 1.25 × 20L>	2	2	2



7.5 - 10T TROLLEY FRAME EXPLOSION

TROLLEY FRAME ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT					
			7.5T			10T		
			6m	9m	12m	6m	9m	12m
1	202010	Nut <1 3/4"×5UNC>	4	4	4	4	4	4
2	400104	Spring Washer <1 3/4">	4	4	4	4	4	4
3	202971	Plain Frame Ass'y	1					
	202975			1				
	216718				3			
	264601					1	1	
	264836							2
4	407817	Bearing <6307 Z>	8	8				
	407808	Bearing <6207 Z>			16			16
	407825	Bearing <6308 Z>				8	8	
5	203519	Plain Wheel	2	2				
	203134				6			4
	204796					2	2	
6	400194	Retaining Ring <S-35>	4	4	8			8
	400195	Retaining Ring <S-40>				4	4	
7	203501	Transmission Wheel	2	2				
	203114				2			4
	204795					2	2	
8	202940	Motor Frame Ass'y	1	1				
	262145				1			
	264401					1	1	
	264835							2
9	400411	Stay Bolt <1 3/4"×5UNC×460L>	2	2	2			2
	400069	Stay Bolt <1 3/4"×5UNC×490L>				2	2	
10	269913	Spacer Sleeve <Ø70×Ø47×1/4">	36	36	36	36	36	36
11	201680	Drive Pinion	1	1	1			
	201679					1	1	
	201756							2
12	H	Reduction Motor	1	1	1	1	1	
	I							2

KEY NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
12	H	135989	Reduction Motor <0.75Kw 4P>	3Ø 60HZ	220V/380V
		135990			220V/440V
		135994		3Ø 50HZ	220V/380V
		136284			415V
		134004	Reduction Motor <0.75Kw 4/12P>	3Ø 60HZ	220V
		136297			380V
		136298			440V
		134005		3Ø 50HZ	220V
		136299			380V
		136300			415V
	I	134023	Reduction Motor <1.1Kw 4P>	3Ø 60HZ	220V/380V
		134024			220V/440V
		134025		3Ø 50HZ	220V/380V
		134031			415V
		134026	Reduction Motor <1.1Kw 4/12P>	3Ø 60HZ	220V
		134032			380V
		134036			440V
		134027		3Ø 50HZ	220V
		134028			380V
		134035			415V

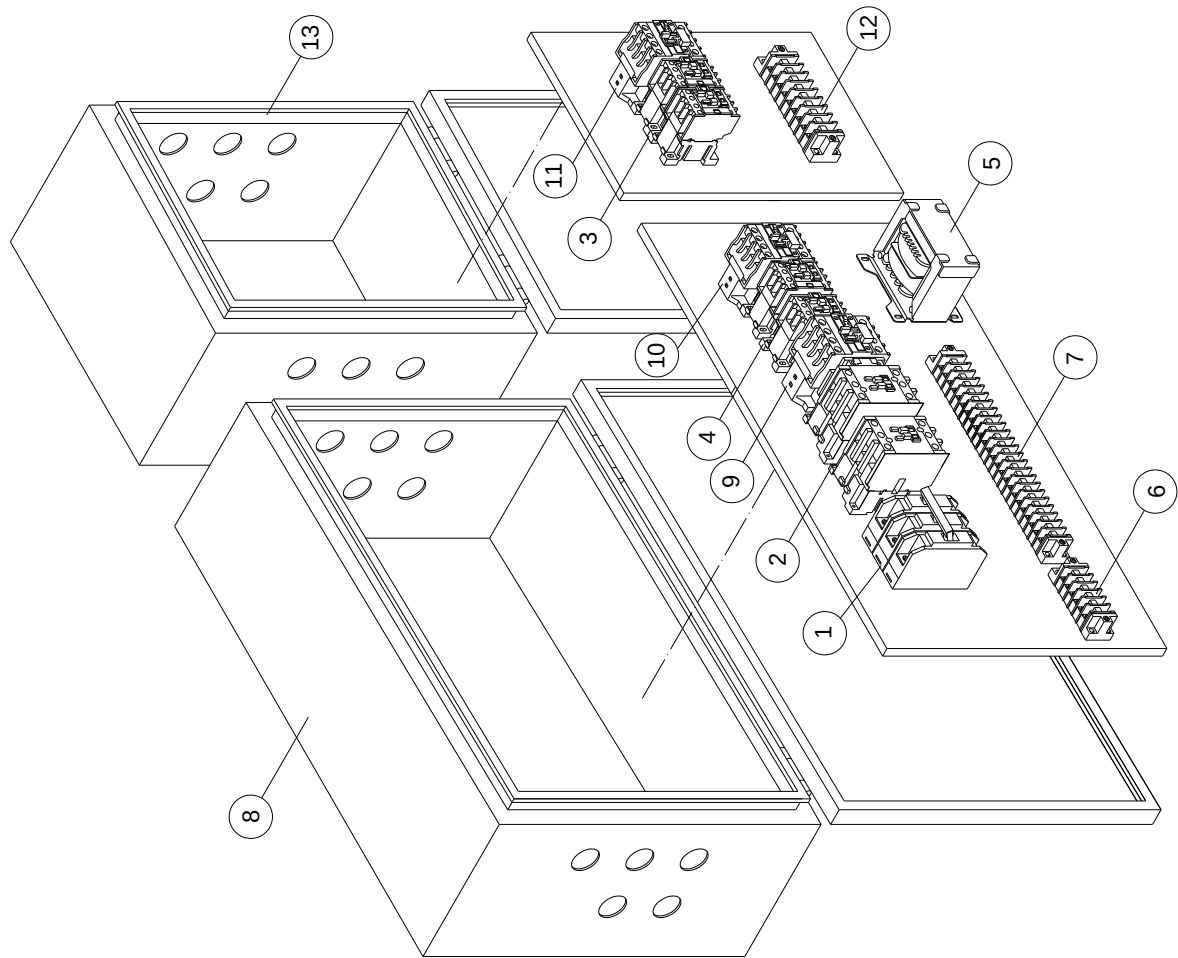
ELECTRIC EXPLOSION

	Single Speed	Dual Speed	Control Box
Hoisting	☐		☐ (8)
Traversing	☐		☐ (8)
Travelling	☐		☐ (13)

	Single Speed	Dual Speed	Control Box
Hoisting		☐	☐ (8)
Traversing	☐		☐ (8)
Travelling	☐		☐ (13)

	Single Speed	Dual Speed	Control Box
Hoisting		☐	☐ (8)
Traversing		☐	☐ (8)
Travelling	☐		☐ (13)

	Single Speed	Dual Speed	Control Box
Hoisting		☐	☐ (8)
Traversing		☐	☐ (8)
Travelling		☐	☐ (13)



ELECTRIC ASSEMBLY

(S)=Single Speed; (D)=Dual Speed

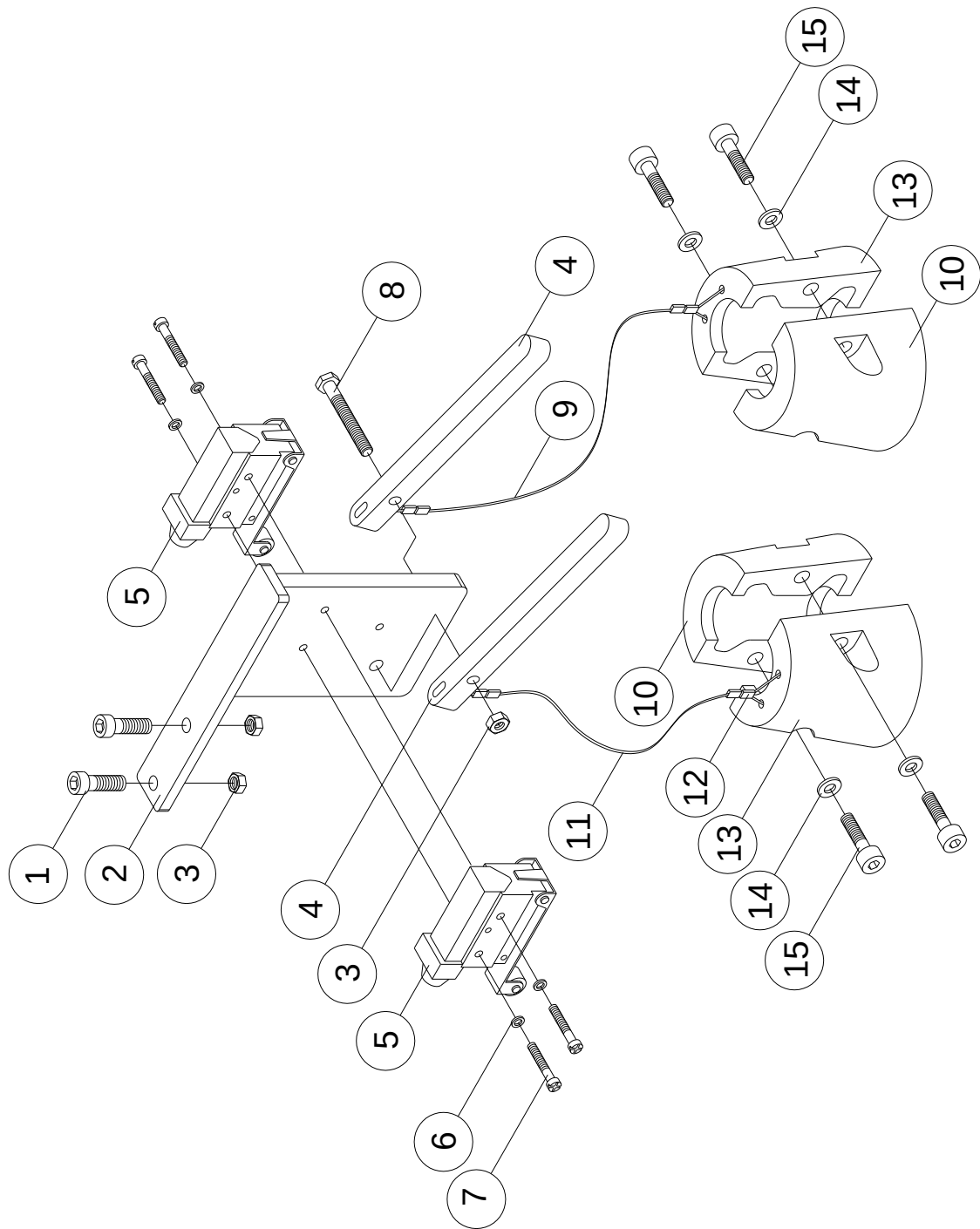
KEY NO.	PARTS CODE	DESCRIPTION	7.5T;10T		15T;20T	
			11kw		13kw	
			S	D	S	D
			380V-48V	380V-48V	380V-48V	380V-48V
1	300888	No Fuse Breaker	1			
	302216			1	1	1
2	301123	Magnetic Contactor For "Hoist "	2			
	301131			2	2	2
3	301111	Reversing Contactor For "Traveling"	2	2		
	301115				2	2
4	301107	Reversing Contactor For "Traversing"	2	2	2	2
5	301597	Control Transformer	1	1		
	303754				1	1
6	300659	Terminal Blocks	1		1	
	300656			1		1
7	300663	Terminal Blocks	1	1	1	1
8	301344	Electric Control Box	1	1	1	1
9	300021	Magnetic Contactor For "Fast"(Hoisting)		1		1
10	300041	Magnetic Contactor For "Fast" (Traveling)		1		1
11	300036	Magnetic Contactor For "Fast" (Traversing)		1		1
12	300657	Terminal Blocks	1	1	1	1
13	301336	Electric Control Box	1	1	1	1

ELECTRIC ASSEMBLY

(S)=Single Speed; (D)=Dual Speed

[illegible]

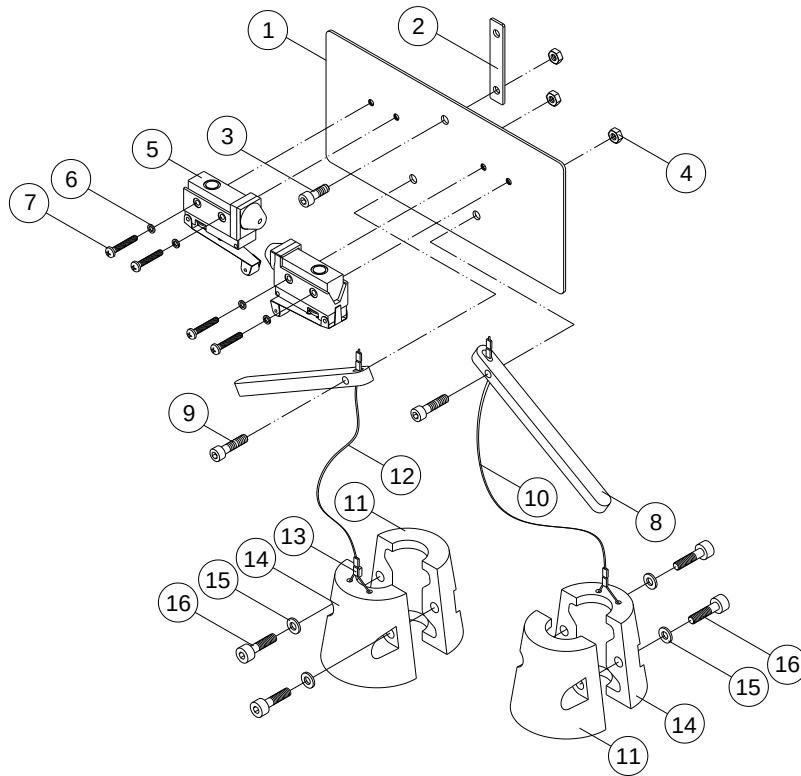
LIMIT SWITCH EXPLOSION



LIMIT SWITCH ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT			
			7.5T	10T	15T	30T
1	400007	Hex. Recess Bolt <M6 × 1.0 × 20L>	2	2	2	2
2	205349	Limit Frame	1	1	1	1
3	400087	Lock Nut <M6 × 1.0>	3	3	3	3
4	205342	Limit Stick <t12 × 12 × 145L>	2	2	2	2
5	300534	Limit Switch	2	2	2	2
6	400092	Spring Washer <M4>	4	4	4	4
7	400617	Cross Headed Screw <M4 × 0.7 × 25L>	4	4	4	4
8	400027	Hex. Recess Bolt <M6 × 1.0 × 45L>	1	1	1	1
9	403001	Wire Rope <Ø2 × 880L>	1			
	403001	Wire Rope <Ø2 × 1000L>		1	1	1
10	205337	Counter Weight B	2			
	205339			2	2	2
11	403001	Wire Rope < Ø2 × 620L>	1			
	403001	Wire Rope < Ø2 × 780L>		1	1	1
12	300290	Sleeve <5.5mm>	8	8	8	8
13	205336	Counter Weight A	2			
	205338			2	2	2
14	400094	Spring Washer <M6>	4			
	400095	Spring Washer <M8>		4	4	4
15	400008	Hex. Recess Bolt <M6 × 1.0 × 25L>	4			
	400013	Hex. Recess Bolt <M8 × 1.25 × 25L>		4	4	4

LIMIT SWITCH EXPLOSION



LIMIT SWITCH ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT
			15T;20T
1	205341	Limit Frame <t5.0×110×168>	1
2	200226	Limit Steady	1
3	400005	Hex. Recess Bolt <M6×1.0×12>	1
4	400087	Lock Nut <M6×1.0>	3
5	300534	Limit Switch	2
6	400092	Spring Washer <M4>	4
7	400617	Cross Headed Screw <M4×0.7×25>	4
8	205342	Limit Stick <t12×12×145L>	2
9	400008	Hex. Recess Bolt <M6×1.0×25>	2
10	403001	Wire Rope <Ø2×1000L>	1
11	205338	Counter Weight A	2
12	403001	Wire Rope <Ø2×780L>	1
13	300290	Sleeve	8
14	205339	Counter Weight B	2
15	400095	Spring Washer <M8>	4
16	400013	Hex. Recess Bolt <M8×1.25×25L>	4

10. Adjust the air gap

#Routine Maintenance For Adjustable Brake:

1. Inspect every 3 months (for more frequently use, recommend to inspect monthly.)
2. Firstly, follow the arrow direction (the inspection hole) to install the 2mm thickness gauge to inspect the condition of wear out on the friction disc.
3. If the gap is smaller than 2mm, it's in the normal condition and can be use continuously.
4. If greater than 2mm, must take out (10) and adjust the brake shim FIG-1.

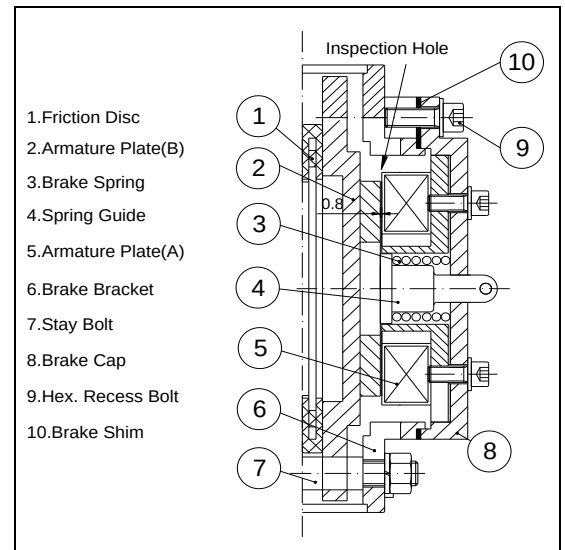


FIG-1.

#How To Adjust The Brake Shim:

1. Loosen 4pcs of hex. recess bolt (9) for 2 circles, take out 1pc of brake shim from each side left and right. And tighten 4pcs of hex. recess bolt (9) afterward.
2. Repeat the procedure until the gap is smaller than 2mm, then it can be applied continuously.
3. Manual release bar is located inside of control box. Purpose : for gap or release the brake.

#Operation for manual release bar:

1. Ensure main power is off.
2. Remove hoisting motor end cover.
3. Fix the release bar with the hex. recess bolt as FIG-2.
4. Pull the release bar as FIG-3.

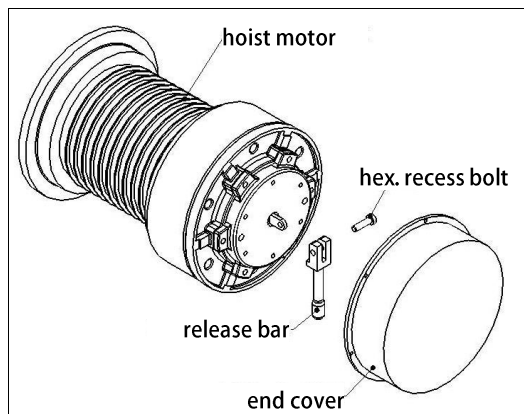


FIG-2

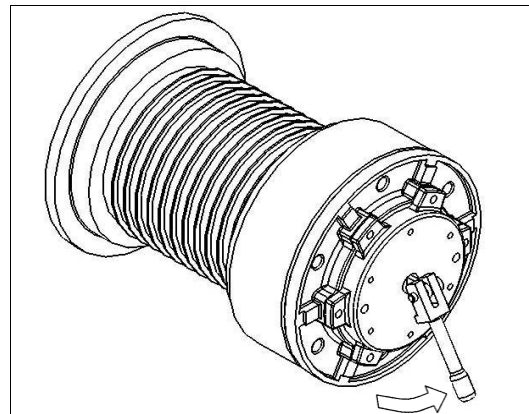


FIG-3.