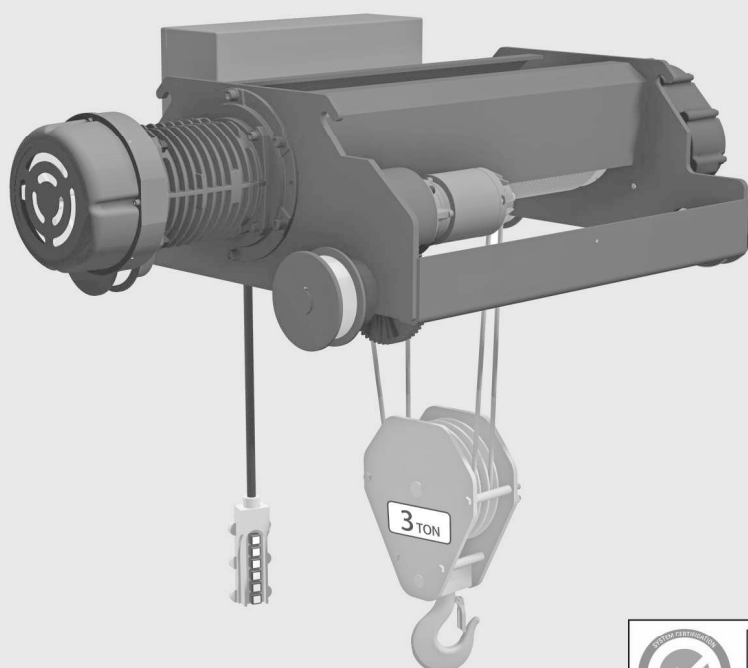




Electric Wire Rope Hoist

Operation Manual & Parts List



Series:

- | | |
|--|--|
| ☐ TPM(D)-100DB | ☐ SKM(D)-200DB |
| ☐ TKM(D)-200DB | ☐ SKH(D)-200DB |
| ☐ TKH(D)-200DB | ☐ SKL(D)-300DB |
| ☐ TKL(D)-300DB | ☐ SGM(D)-300DB |
| ☐ TGM(D)-300DB | ☐ SGH(D)-300DB |
| ☐ TGH(D)-300DB | ☐ SGL(D)-500DB |
| ☐ TGL(D)-500DB | ☐ SBH(D)-500DB |
| ☐ TBH(D)-500DB | ☐ SBAH(D)-500DB |
| ☐ TBAH(D)-500DB | |

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.



CONTENTS

Safety-Important	1
1.Foreword	3
2.Main Specification	4
2.1 Specification	4
2.2 Mechanical Classification (Grade) and Life	5
2.3 Safety Device	6
3.Safety Rules	7
4.Installation	10
4.1 Unpacking Information	10
4.2 Voltage	10
4.3 Installation	10
5.Operation	12
6.Maintenance and Inspection	13
6.1 Maintenance	13
6.2 Inspection	13
7.Troubleshooting	16
7.1 Wiring Diagrams	16
7.2 Troubleshooting and Remedial Action	21
8.Model Code Explanation	22
9.Drawings and Parts List	23
10. Adjust the air gap	84

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.

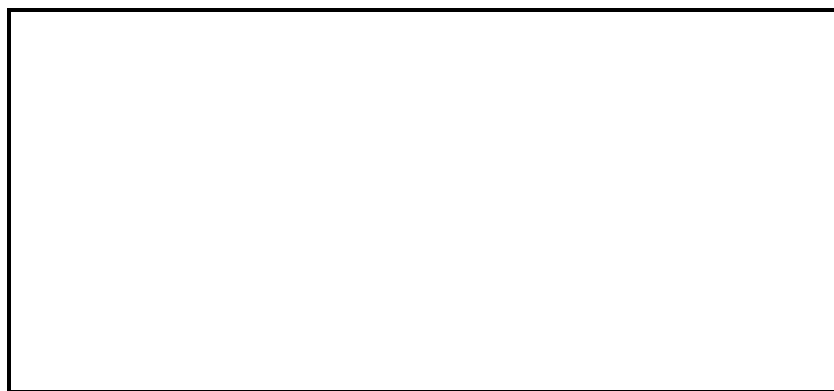
(1) Hoist model

(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
	Push button	IP 65
Electric power supply		Three Phase, 220V~600V, 50/60 Hz
Noise Level (dB)	Single speed hoist	81
	Dual speed hoist	
Wire Rope diameter	Wll (working load Limit) (t)	Nominal diameter (mm)
	TPM(D)-100DB T,SKH(D)-200DB	Ø8 6×37-A
	T,SKM(D)-200DB	Ø10 IWRC 6×Fi(29)-B
	T,SKL(D)-300DB T,SGH(D)-300DB	Ø10 6×37-A
	T,SGM(D)-300DB	Ø12 IWRC 6×Fi(29)-B
	T,SGL(D)-500DB T,SBH(D)-500DB T,SBAH(D)-500DB	Ø10 IWRC 6×P.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.

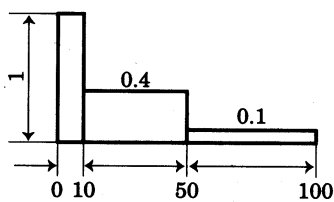
Electric wire rope hoists have been designed according to FEM 2m regulations (FEM 9.511).

Details are provided in Table 2-2.

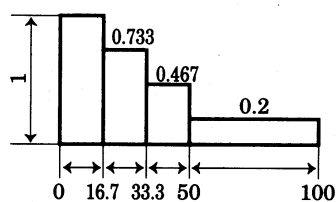
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classification

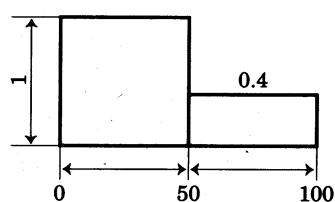
Load Spectrum (Load distribution)	Definitions	Cubic mean value	2m	2m
			Average daily Operation time(h)	Total operating time(h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	4 - 8	12500
2 (medium)	Mechanisms or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



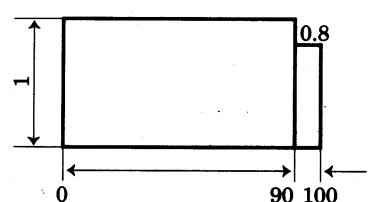
% operating time
Load spectrum 1



% operating time
Load spectrum 2



% operating time
Load spectrum 3



% operating time
Load spectrum 4

2.3 Safety Devices

(1) Motor brake

“DC 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.

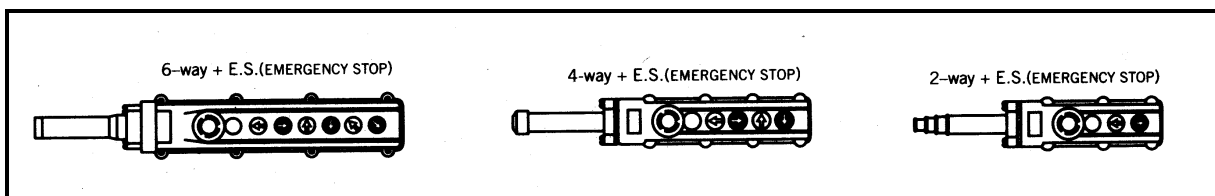
(4) Limit Switches

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)

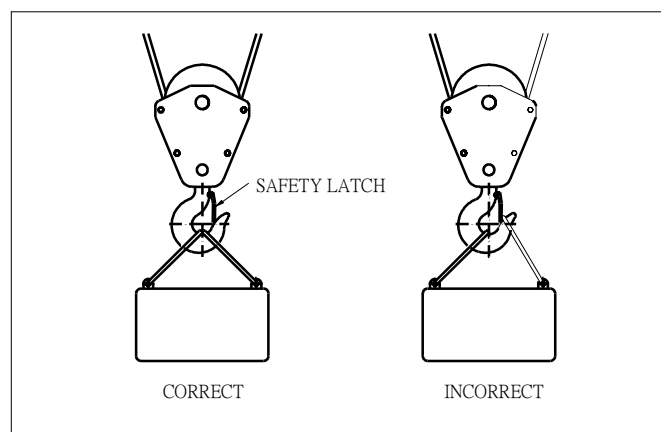
DANGER

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.

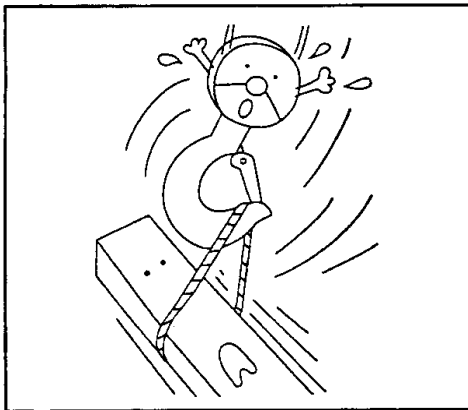
(b) The lifting sling is located in the hook as shown below (Illust. 2) and that a safety latch has been fitted.



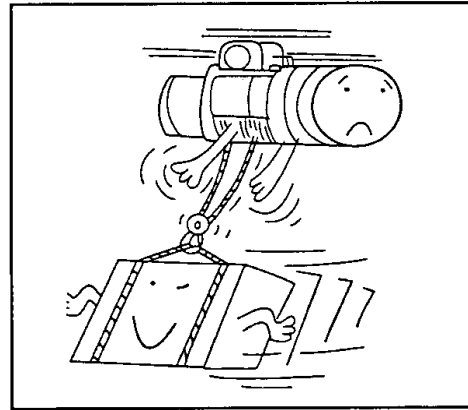
Illust. 2

(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)

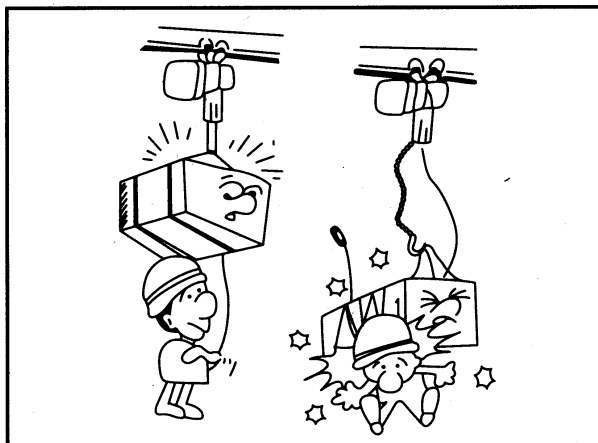
! WARNING

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.

(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.

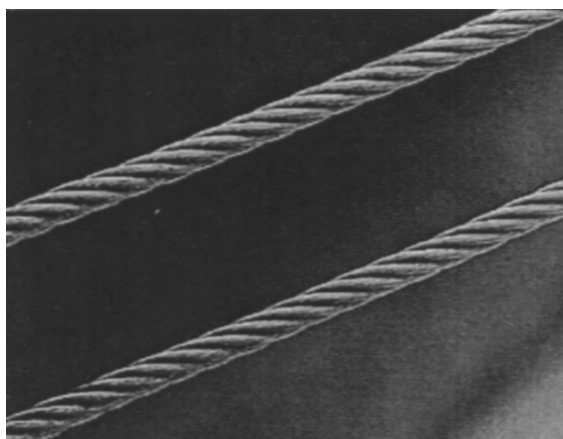
(2) Monthly inspection

! 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.

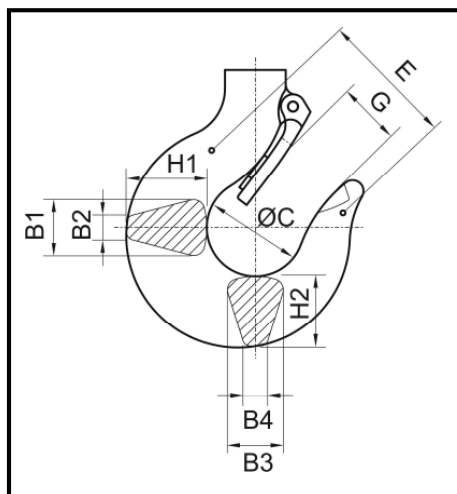


Rope Dia (mm) d	Model Being Used	Construction	Specified Breaking Load (kN)
Ø8	TPM-100DB T,SKH-200DB	Steel Wire Rope 6×37-A	34
Ø10	T,SKL-300DB T,SGH-300DB		53.1
	T,SKM-200DB	Steel Wire Rope IWRC 6×Fi(29)-B	67.7
	T,SGL-500DB T,SBH-500DB T,SBAH-500DB	Steel Wire Rope IWRC 6×P.Fi(29)-H	84
Ø12	T,SGM-300DB	Steel Wire Rope IWRC 6×Fi(29)-B	97.7

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)									Tensile Strength (kg/mm ²)
	H1	B1	B2	H2	B3	B4	C	G	E	
1	33	23	9	29	23	9	40	27	61	70
2	45	31	10	41	31	10	46	35	70	70
3	57	38	12	52	38	12	60	42	90	70
5	75	48	16	68	48	16	75	56	105	70

Table 6-2-b

(c) Limit Switches :



WARNING

A qualified electrician should perform this inspection.

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

(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.

Oil volume of gearbox

Gearbox	P	K	G	B	BA
Oil Volume(L)	1.5~2.0	1.5~2.0	2.0~2.5	4.0~4.5	4.0~4.5

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	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) B530001C : SINGLE SPEED WIRING DIAGRAM	17
(2) B530002C : SINGLE SPPED WITH EMERGENCY STOP WIRING DIAGRAM	18
(3) B630001B : DUAL SPEED WIRING DIAGRAM	19
(4) B630002C : DUAL SPEED WITH EMERGENCY STOP WIRING DIAGRAM	20

Our electric specifications can be done according to followings :

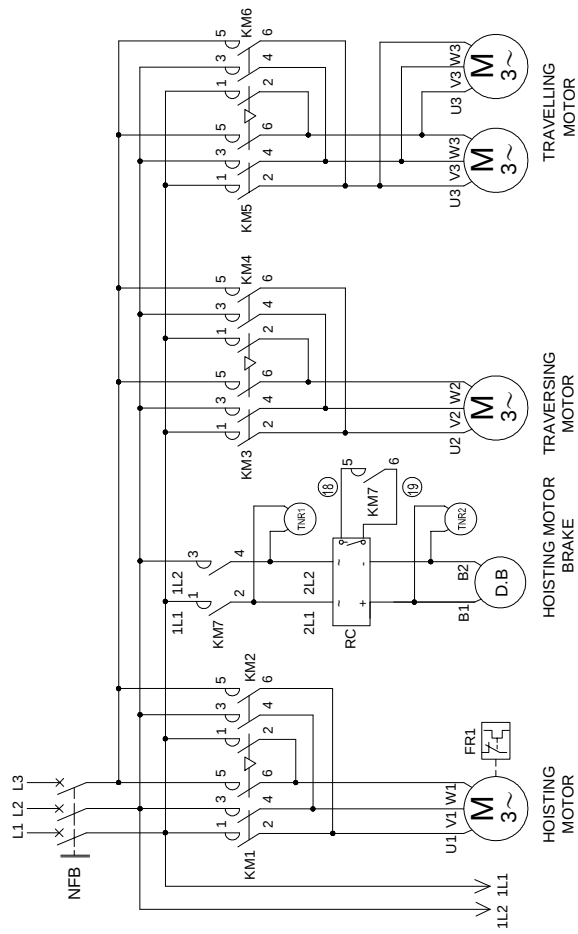
- (a) 3 - Phase
- (b) 50Hz or 60 Hz
- (c) Single voltage

Voltage Hertz	Single Voltage
50 Hz	220V
60 Hz	to 600V

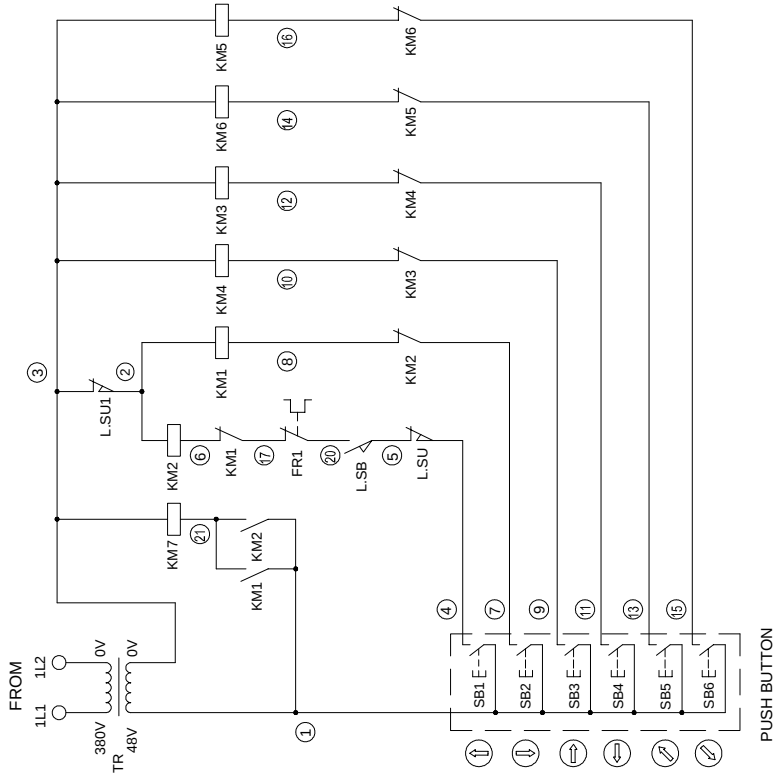
Table 7-1

Warranty Details

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



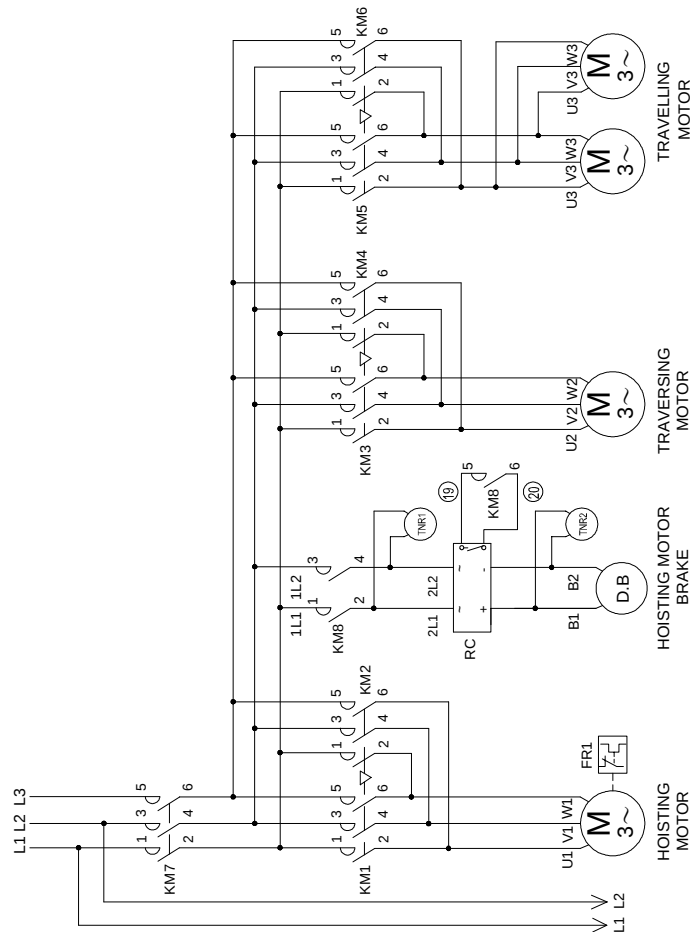
MAIN CIRCUIT WIRING DIAGRAM



CONTROL CIRCUIT WIRING DIAGRAM

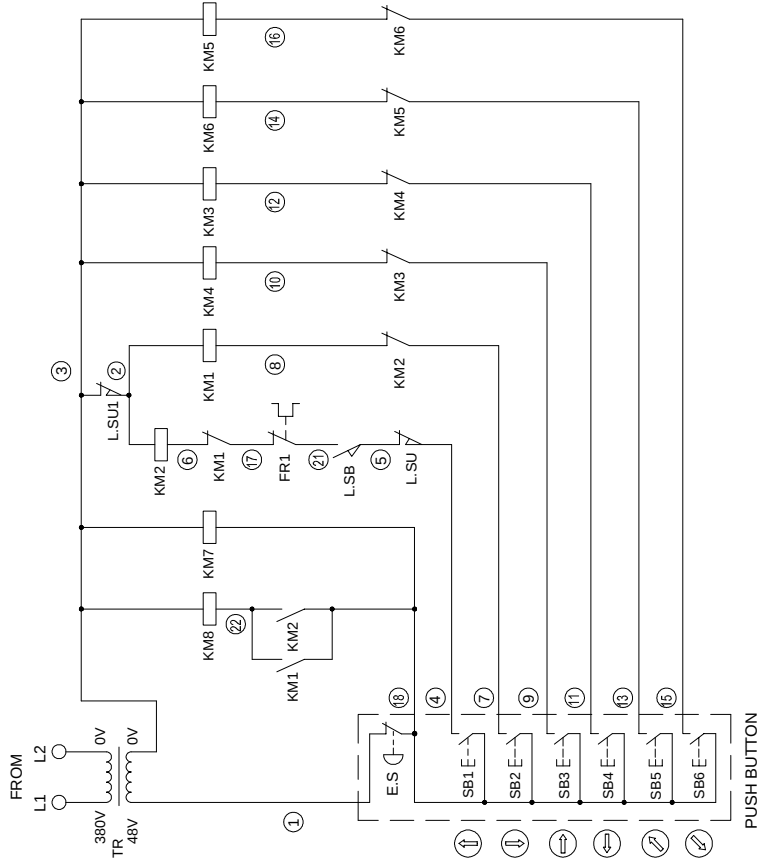
NOTE :
D.B : DC BRAKE
D.B COIL VOLTAGE DC180V : HOISTING MOTOR UNDER 5KW
D.B COIL VOLTAGE DC360V : HOISTING MOTOR ABOVE 6.5KW
L.SB : LIMIT SWITCH FOR "BRAKE"
L.SU : LIMIT SWITCH FOR "UP"
L.SU1 : LIMIT SWITCH FOR "UPPER"

B530001C



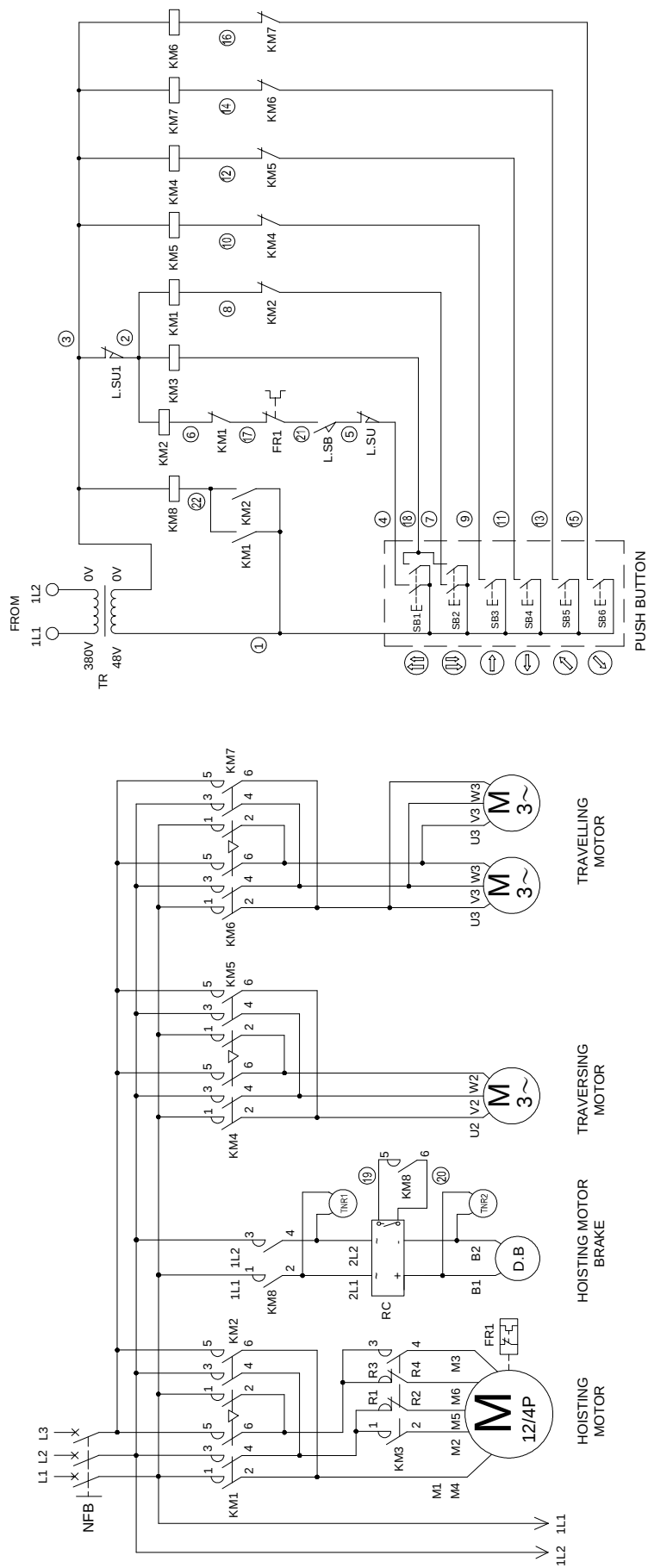
NOTE :
D.B : DC BRAKE
D.B COIL VOLTAGE DC180V : HOISTING MOTOR UNDER 5KW
D.B COIL VOLTAGE DC360V : HOISTING MOTOR ABOVE 6.5KW
L.SB : LIMIT SWITCH FOR "BRAKE"
L.SU : LIMIT SWITCH FOR "UP"
L.SU1 : LIMIT SWITCH FOR "UPPER"

MAIN CIRCUIT WIRING DIAGRAM



CONTROL CIRCUIT WIRING DIAGRAM

B530002C

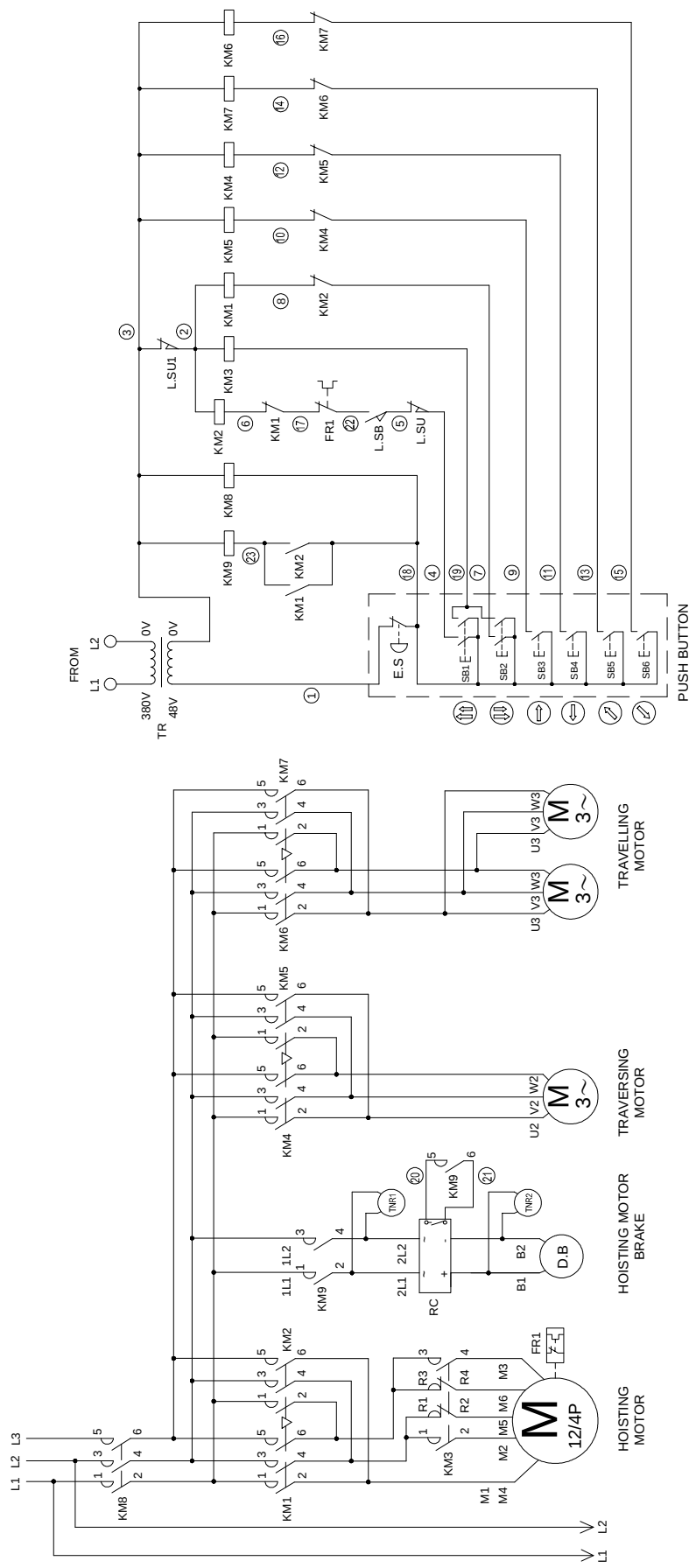


MAIN CIRCUIT WIRING DIAGRAM

NOTE :
 D.B : DC BRAKE
 D.B COIL VOLTAGE DC180V : HOISTING MOTOR UNDER 5KW
 D.B COIL VOLTAGE DC360V : HOISTING MOTOR ABOVE 6.5KW
 L.SB : LIMIT SWITCH FOR "BRAKE"
 L.SU : LIMIT SWITCH FOR "UP"
 L.SU1 : LIMIT SWITCH FOR "UPPER"

CONTROL CIRCUIT WIRING DIAGRAM

B630001B



NOTE :
D.B : DC BRAKE
D.B COIL VOLTAGE DC180V : HOISTING MOTOR UNDER 5KW
D.B COIL VOLTAGE DC360V : HOISTING MOTOR ABOVE 6.5KW
L.SB : LIMIT SWITCH FOR "BRAKE"
L.SU : LIMIT SWITCH FOR "UP"
L.SU1 : LIMIT SWITCH FOR "UPPER"

MAIN CIRCUIT WIRING DIAGRAM

CONTROL CIRCUIT WIRING DIAGRAM

B630002C

7.2 Troubleshooting and Remedial Action

SITUATION	CAUSE	REMEDY
Hoist will not operate.	(1) Blown power fuse or tripped power circuit breaker	Check supply requirements and replace the fuse/reset breaker to meet requirements
	(2) Blown control circuit fuse	Check fuse for correct rating and replace
	(3) Broken/disconnected power or control circuit wire	Locate and repair/reconnect
	(4) Low supply voltage	Check if 10% reduction of voltage, have mains supply checked
	(5) Motor hums but does not rotate	Check phases of motor - insulate and repair
	(6) Emergency stop button release pushed (if fitted)	Check the cause as necessary
	(7) Faulty contactor	Operate manually if hoist runs then control circuit/coil is faulty - locate fault and repair. If hoist does not run then check main supply. If input supply is correct but there is a faulty output supply then replace the contactor
Hoist will not stop	Welded contacts in contactor	Replace contactor
Brake slips	Abrasion of motor brake	Replace
Abnormal sound on 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 EXPLANATIO

Example :



- MODEL

T : MONORAIL TROLLEY
S : SADDLE TROLLEY

- GEAR BOX NO

P : 2.2kW × 4P
K : 3kW × 4P
G : 5kW × 4P
BA : 5kW × 4P
B : 7.5kW × 4P

- REEVING/FALLING NUMBERS

M : 1/2
L : 1/4
H : 2/4

- SPEED

BLANK : SINGLE SPEED ONLY
D : ONLY HOIST DUAL SPEED

- CAPACITY

100 : 1T
200 : 2T
300 : 3T
500 : 5T

- DC BRAKE

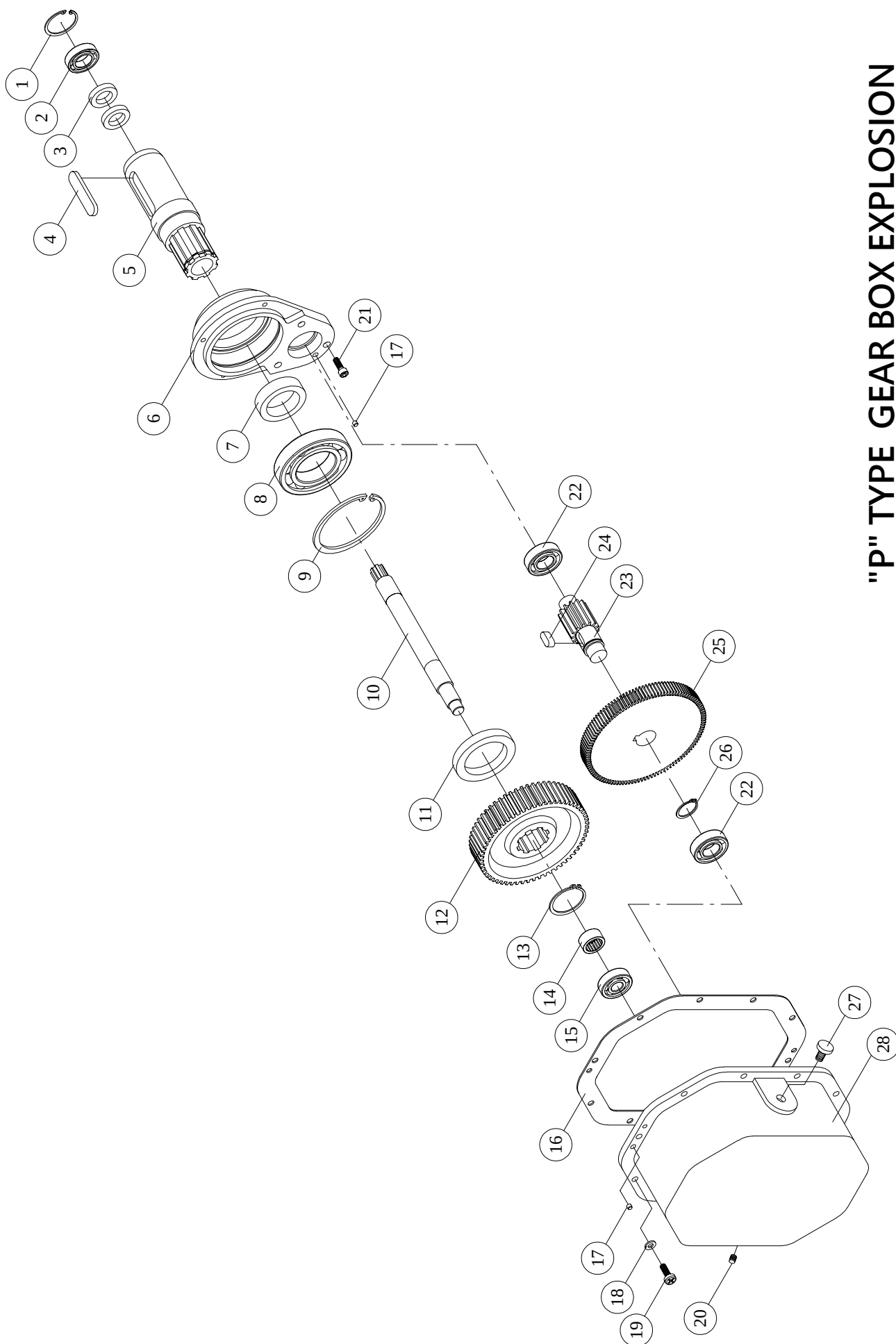
For special applications please contact the factory or your local distributor.

- ORDERING GUIDE

Capacity	Monorail	Crab	Monorail	Crab	Dual Speed
Ton	High Speed	High Speed	Low Speed	Low Speed	
1	TPM-100DB				TPMD-100DB
2	TKM-200DB	SKM-200DB			TKMD-200DB,SKMD-200DB
2	TKH-200DB	SKH-200DB			TKHD-200DB,SKHD-200DB
3	TGM-300DB	SGM-300DB	TKL-300DB	SKL-300DB	TGMD-300DB,SGMD-300DB TKLD-300DB,SKLD-300DB
3	TGH-300DB	SGH-300DB			TGHD-300DB,SGHD-300DB
5	TBAH-500DB	SBAH-500DB			TBAHD-500DB,SBAHD-500DB
5	TBH-500DB	SBH-500DB	TGL-500DB	SGL-500DB	TBHD-500DB,SBHD-500DB TGLD-500DB,SGLD-500DB

9. DRAWING AND PARTS LIST

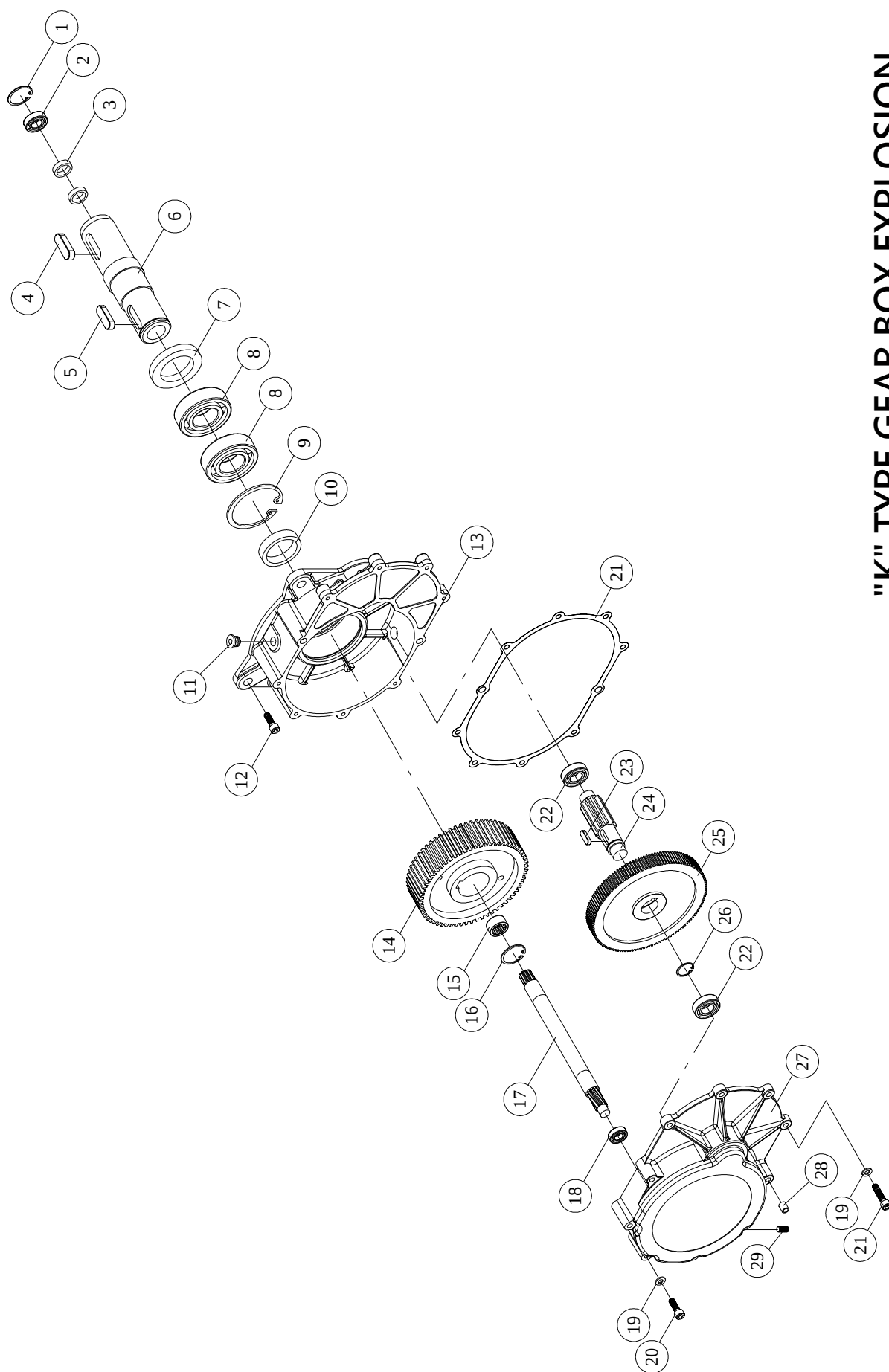
(1) "P" TYPE GEAR BOX EXPLOSION	24
(2) "P" TYPE GEAR BOX ASSEMBLY	25
(3) "K" TYPE GEAR BOX EXPLOSION	26
(4) "K" TYPE GEAR BOX ASSEMBLY	27
(5) "G" TYPE GEAR BOX EXPLOSION	28
(6) "G" TYPE GEAR BOX ASSEMBLY	29
(7) "B" "BA" TYPE GEAR BOX EXPLOSION	31
(8) "B" "BA" TYPE GEAR BOX ASSEMBLY	32
(9) MOTOR EXPLOSION (2.2kW)	34
(10) MOTOR ASSEMBLY (2.2kW)	35
(11) MOTOR EXPLOSION (Ø190, Ø220 SERIES)	37
(12) MOTOR ASSEMBLY (Ø190, Ø220 SERIES)	38
(13) MOTOR EXPLOSION (Ø260 SERIES)	42
(14) MOTOR ASSEMBLY (Ø260 SERIES)	43
(15) 2-5T BOTTOM HOOK HOUSING EXPLOSION	45
(16) 2-5T BOTTOM HOOK HOUSING ASSEMBLY	46
(17) 2-5T SADDLE FRAME EXPLOSION	51
(18) 2-5T SADDLE FRAME ASSEMBLY	52
(19) 1-5T HOIST FRAME EXPLOSION	62
(20) 1-5T HOIST FRAME ASSEMBLY	63
(21) TROLLEY FRAME EXPLOSION	70
(22) TROLLEY FRAME ASSEMBLY	71
(23) LIMIT SWITCH EXPLOSION	74
(24) LIMIT SWITCH ASSEMBLY	74
(25) ELECTRIC EXPLOSION	80
(26) ELECTRIC ASSEMBLY	81



GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			"P" TYPE
1	400198	Retaining Ring<R-47>	1
2	405563	Bearing<6005 2RS>	1
3	404488	Oil Seal<Ø25×Ø40×8t>	2
4	400993	Key<18×12×80L>	1
5	205320	Transmission Shaft	1
6	207041	Flange	1
7	400935	Oil Seal<Ø65×Ø90×13t>	1
8	400826	Bearing<6212 Z>	1
9	400916	Retaining Ring<R-110>	1
10	205391	Pinion For Motor Shaft<1 st Gear>	1
11	205420	Load Brake Gear Sleeve<Ø70×Ø50.5×18L>	1
12	200265	Load Brake Gear<4 th Gear>	1
13	400197	Retaining Ring<S-50>	1
14	400170	Needle Bearing<NK 25/16>	1
15	400135	Bearing<6303>	1
16	402591	Gear Box Gasket 48#	1
17	407454	Pin<Ø8×15L>	3
18	400095	Spring Washer<M8>	10
19	400013	Hex. Recess Bolt<M8×1.25×25L>	10
20	400591	Lubricant Drain Bolt<3/8"PT>	1
21	400008	Hex. Recess Bolt<M6×1.0×25L>	6
22	407736	Bearing<6205>	2
23	205394	Load Brake Gear Shaft<3 rd Gear>	1
24	400975	Key<10×10×25L>	1
25	205393	Intermediate Gear<2 nd Gear>	1
26	400193	Retaining Ring<S-30>	1
27	400594	Oil Plug<7/8"×14UNF>	1
28	205600	Gear Case Cover	1

"P" : TPM(D)-100DB



"K" TYPE GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			"K" TYPE
1	400198	Retaining Ring<R-47>	1
2	405563	Bearing<6005 2RS>	1
3	404488	Oil Seal<Ø25 × Ø40 × 8t>	2
4	400993	Key<18 × 12 × 80L>	1
5	400992	Key<16 × 10 × 50L>	1
6	205321	Transmission Shaft	1
7	400935	Oil Seal<Ø65 × Ø90 × 13t>	1
8	400826	Bearing<6212 Z>	2
9	400916	Retaining Ring<R-110>	1
10	205417	Sleeve<Ø70 × Ø55.5 × 15L >	1
11	400594	Oil Plug<7/8" × 14UNF>	1
12	400439	Hex. Recess Bolt<M14 × 2.0 × 30L>	4
13	202789	Gear Case Base	1
14	205404	Load Brake Gear<4 th Gear>	1
15	400170	Needle Bearing<NK 25/16>	1
16	400909	Retaining Ring<S-55>	1
17	205401	Pinion For Motor Shaft<1 st Gear>	1
18	400135	Bearing<6303>	1
19	400095	Spring Washer<M8>	10
20	400015	Hex. Recess Bolt<M8 × 1.25 × 40L>	4
21	400423	Hex. Recess Bolt<M8 × 1.25 × 70L>	6
21	400510	Gasket	1
22	407736	Bearing<6205>	2
23	400990	Key<10 × 10 × 30L>	1
24	205403	Load Brake Gear Shaft<3 rd Gear>	1
25	205402	Intermediate Gear<2 nd Gear>	1
26	400193	Retaining Ring<S-30>	1
27	202790	Gear Case Cover	1
28	205327	Pin<Ø12 × Ø8.5 × 14L>	2
29	400591	Lubricant Drain Bolt<3/8"PT>	1

"K" : T,SKM(D)-200DB ; T,SKH(D)-200DB ; T,SKL(D)-300DB

GEAR BOX ASSEMBLY

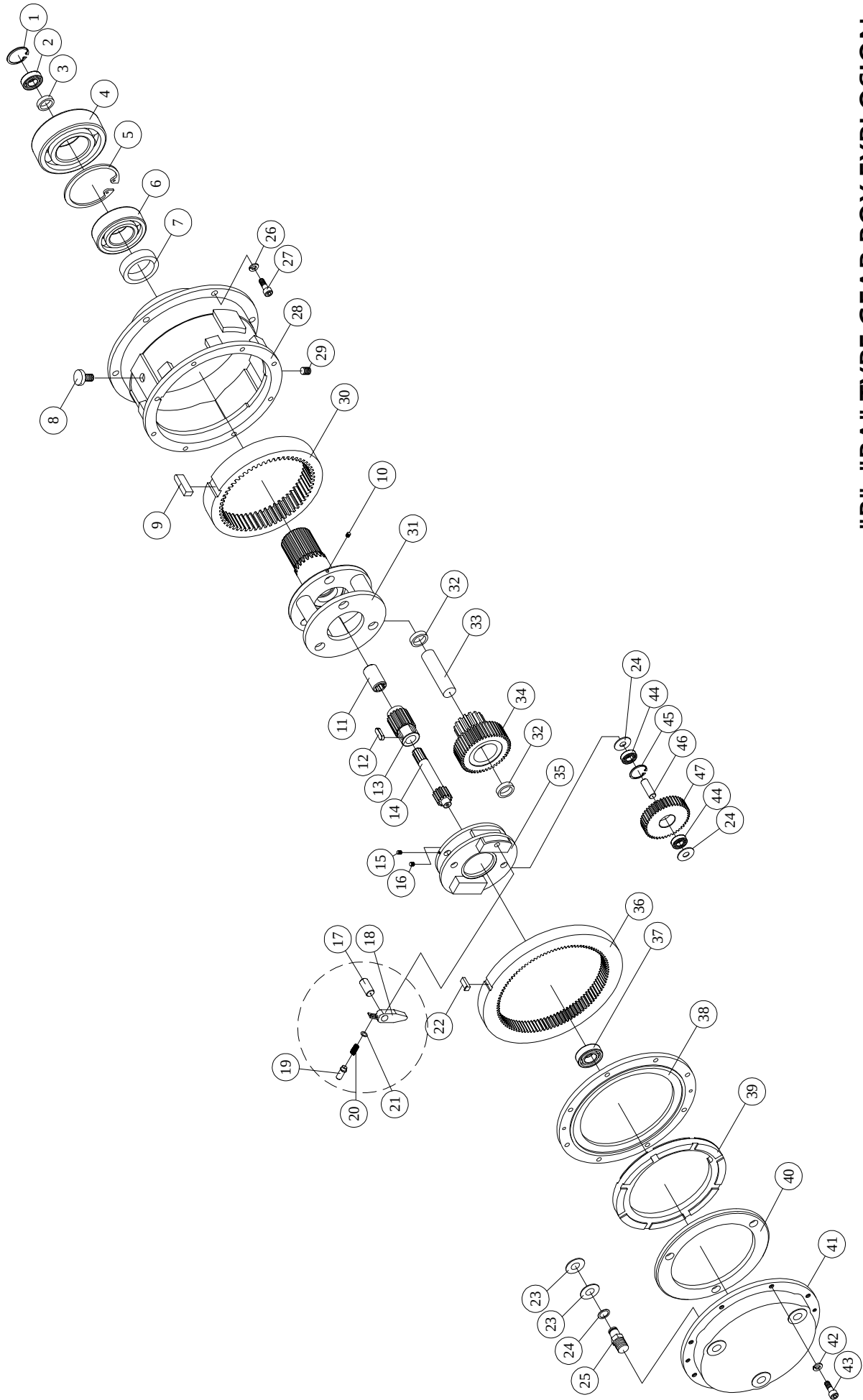
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			"G" TYPE
1	400906	Retaining Ring<R-55>	1
2	405562	Bearing<6006 2RS>	2
3	404512	Oil Seal<Ø30×Ø45×8t>	2
4	400591	Lubricant Drain Bolt<3/8"PT>	1
5	205850	Gear Case Base A	1
6	400651	Spring Washer<M14>	4
7	400440	Hex. Recess Bolt<M14×2.0×35L>	4
8	400594	Oil Plug<7/8"×14UNF>	1
9	400933	Oil Seal<Ø80×Ø105×12t>	1
10	400806	Bearing<6216 ZZ>	1
11	400995	Key<20×13×90L>	1
12	400994	Key<20×13×40L>	1
13	205322	Transmission Shaft	1
14	205413	Drum Gear<6 th Gear>	1
15	400709	Bearing<6215 Z>	1
16	402499	Gasket A 33#	1
17	205851	Gear Case Center B	1
18	400095	Spring Washer<M8>	17
19	400015	Hex. Recess Bolt<M8×1.25×40L>	5
20	400016	Hex. Recess Bolt<M8×1.25×60L>	12
21	205327	Pin<Ø12×Ø8.5×14L>	4
22	402498	Gasket B 34#	1
23	400810	Bearing<6206>	2
24	400991	Key<16×10×35L>	1
25	205412	Drum Pinion Gear Shaft<5 th Gear>	1
26	205411	Load Brake Gear<4 th Gear>	1
27	400196	Retaining Ring<S-45>	1

"G" : T,SGM(D)-300DB ; T,SGH(D)-300DB ; T,SGL(D)-500DB

GEAR BOX ASSEMBLY

[illegible]

"G" : T,SGM(D)-300DB ; T,SGH(D)-300DB ; T,SGL(D)-500DB



"B" "BA" TYPE GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY

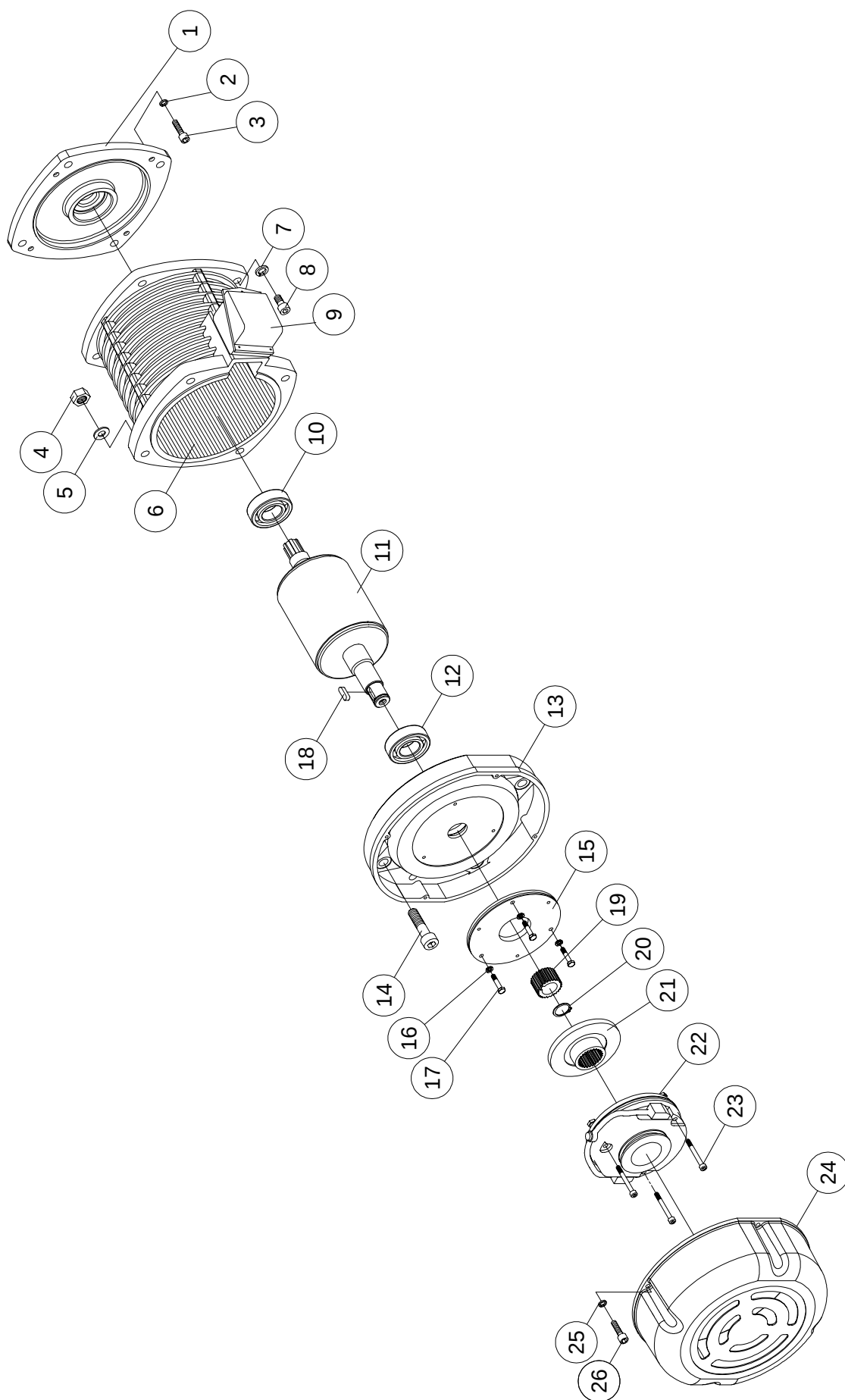
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			"B" TYPE	"BA" TYPE
1	400198	Retaining Ring<R-47>	1	
2	405563	Bearing<6005 2RS>	1	
3	404488	Oil Seal<Ø25 × Ø40 × 8t>	1	
4	407756	Bearing<6021 Z>	1	
5	400926	Retaining Ring<R-140>	1	
6	400790	Bearing<6216 Z>	1	
7	400937	Oil Seal<Ø85 × Ø110 × 13t>	1	
8	400594	Oil Plug<7/8" × 14UNF>	1	
9	278501	Key<20 × 20 × 60L>	1	
10	400204	Bolt<M8 × 1.25 × 12L>	3	
11	205466	Coupling	1	
12	400975	Key<10 × 10 × 25L>	4	
13	205453	Load Brake Gear Shaft<3 rd Gear>	1	
14	205451	Pinion For Motor Shaft<1 st Gear>	1	
	227813			1
15	400206	Bolt<M5 × 0.8 × 12L>	2	
16	400205	Bolt<M5 × 0.8 × 8L>	1	
17	205202	Ratchet Pawl Axle<Ø16 × 38L>	1	
18	205332	Pawl<t16 × 25 × 98L>	1	
19	205326	Dowel Pin<Ø13 × 45L>	1	
20	408511	Spring<Ø1-Ø12 × Ø10 × 45L>	1	
21	205225	Washer<t1 × Ø14 × Ø9>	1	
22	205043	Key<12 × 12 × 25L>	1	
23	400574	Cone Spring<Ø40 × Ø20.5 × 2.5mm>	6	
24	205205	Washer<t2 × Ø30 × Ø20.5>	7	
25	205196	Stay Axle<d26 × 38L>	3	
26	400651	Spring Washer<M14>	6	

"B" : T,SBH(D)-500DB ; "BA" : T,SBAH(D)-500DB

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			"B" TYPE	"BA" TYPE
27	400445	Hex. Recess Bolt<M14×2.0×40L>	6	
28	205547	Gear Case Base	1	
29	400591	Lubricant Drain Bolt<3/8"PT>	1	
30	205040	Internal Gear (B)	1	
31	228390	Big Reduction Gear Frame	1	
32	407733	Needle Bearing<KT 32/42/17>	6	
33	205197	Axle<Ø32×125L>	3	
34	205440	Gear Ass'y<4 th & 5 th Gear>	3	
35	205350	Reduction Gear Frame	1	
	227816			1
36	205042	Internal Gear (A)	1	
	227815			1
37	400136	Bearing<6304>	1	
38	205016	Flange	1	
39	205062	Friction Disc	1	
40	205061	Disc Hub<t12×Ø279×Ø207>	1	
41	205542	Gear Case Cover	1	
42	400096	Spring Washer<M10>	8	
43	400019	Hex. Recess Bolt<M10×1.5×45L>	8	
44	407732	Bearing<6203>	4	
45	400922	Retaining Ring<R-40>	2	
46	205199	Intermediate Axle	2	
47	205455	Intermediate Gear<2 nd Gear>	2	
	227814			2

"B" : T,SBH(D)-500DB ; "BA" : T,SBAH(D)-500DB



MOTOR EXPLOSION (2.2kW ϕ 190 DC BRAKE)

MOTOR ASSEMBLY

D=Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			Ø190
			2.2kW
1	105647	Flange	1
	101174		1D
2	400095	Spring Washer<M8>	8
3	400013	Hex. Recess Bolt<M8×1.25×25L>	8
4	400637	Nut<M14×2.0>	4
5	400651	Spring Washer<M14>	4
6	A	Motor Stator Ass'y	1
	B		1D
7	400097	Spring Washer<M12>	4
8	400451	Hex. Recess Bolt<M12×1.75×40L>	4
9	120135	Motor Component (Cable Box)	1
10	405622	Bearing<6206 2RU>	1
11	105542	Motor Rotor	1
	101173		1D
12	405621	Bearing<6306 2RU>	1
13	100033	Back Bracket	1
14	400454	Hex. Recess Bolt<M14×2.0×60L>	4
15	100122	Flange BFK458-12E	1
16	400094	Spring Washer<M6>	3
17	400481	Bolt<M6×1.0×25L>	3
18	405939	Key<8×7×25L>	1
19	108761	Disc Hub	1
20	400192	Retaining Ring<S-25>	1
21	100135	Friction Disc BFK458-12E	1
22	C	DC Solenoid	1
23	408382	Hex. Recess Bolt<M6×1.0×55L>	3
24	269243	Brake End Cover ø190	1
25	400094	Spring Washer<M6>	4
26	400007	Hex. Recess Bolt<M6×2.0×20L>	4

2.2kW : TPM(D)-100DB

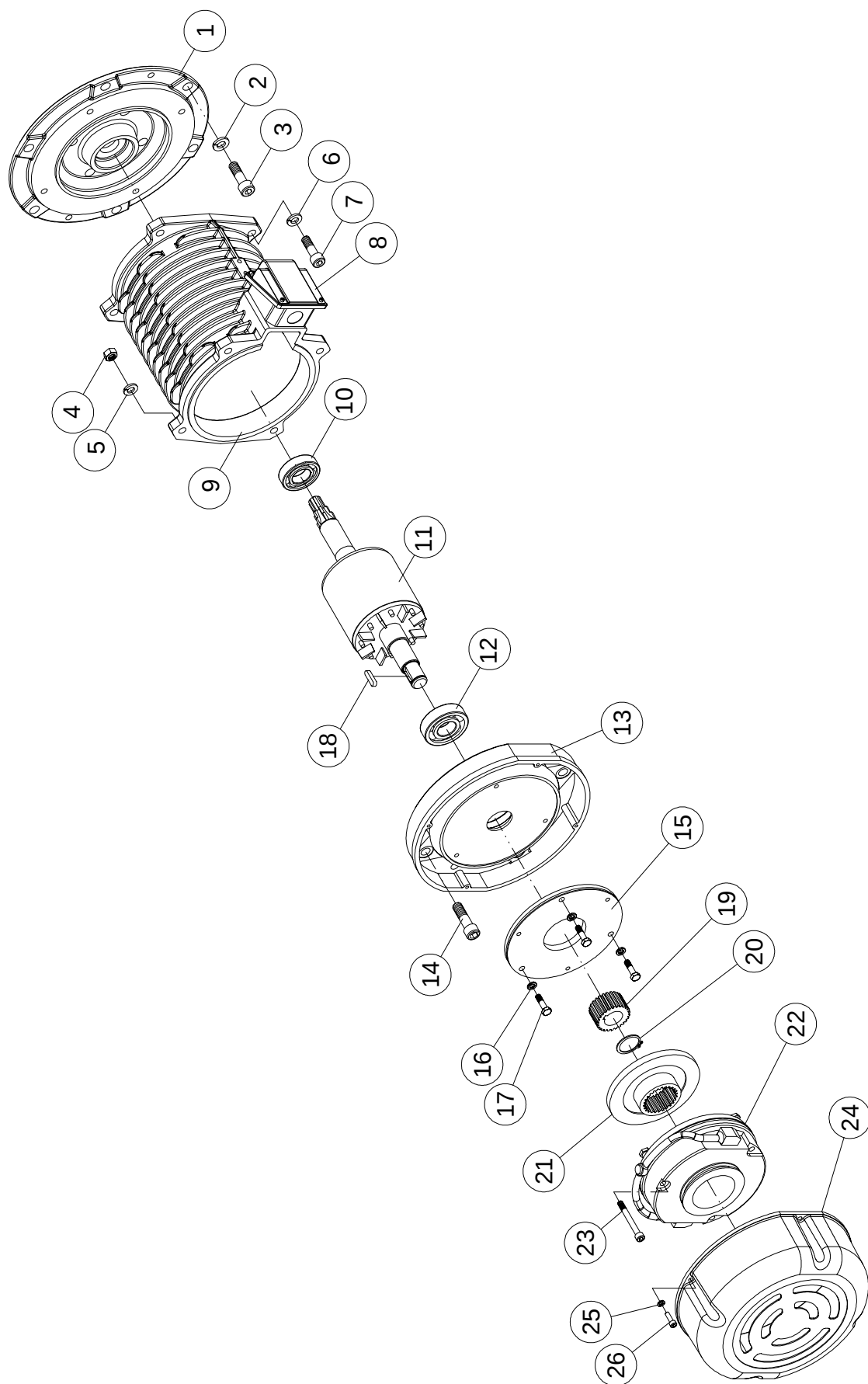
#6、#22 Ref. Page36

MOTOR ASSEMBLY

NO.	PARTS CODE		DESCRIPTION	Ø-Hz-V	
6	A	108464	Motor Stator Ass'y<2.2kW 4P>	3Ø 60Hz	220V/380V
		108512			440V
		108513		3Ø 50Hz	220V/380V
		108515			415V
		100102			525V
	B	108465	Motor Stator Ass'y<2.2kW 4/12P>	3Ø 60Hz	220V
		108536			380V
		108537			440V
		108538		3Ø 50Hz	220V
		108539			380V
		108540			415V
		135461			525V

DC Solenoid

NO.	PARTS CODE		DESCRIPTION	Ø-HZ-V	
22	C	107047	DC Solenoid BFK459-12E DC103V	3Ø 60/50Hz	220V
		107053	DC Solenoid BFK459-12E DC180V		380V
		107047	DC Solenoid BFK459-12E DC103V		415V
					440V



MOTOR EXPLOSION (Φ190 ; Φ220 DC BRAKE SERIES)

MOTOR ASSEMBLY

Dual =Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT				
			Ø190			Ø220	
			3kW	3kW (Dual)	5kW	5kW (Dual)	7.5kW
1	105646	Flange	1	1	1		
	105645					1	1
2	400651	Spring Washer<M14>	6	6	6	6	6
3	400440	Hex. Recess Bolt<M14×2.0×35L>	6	6	6	6	6
4	400637	Nut<M14×2.0>	4	4	4		
	400083	Nut<M18×2.5>				4	4
5	400651	Spring Washer<M14>	4	4	4		
	400100	Spring Washer<M18>				4	4
6	400097	Spring Washer<M12>	4	4	4	4	4
7	400451	Hex. Recess Bolt<M12×1.75×40L>	4	4	4		
	400022	Hex. Recess Bolt<M12×1.75×30L>				4	4
8	A	Motor Component (Cable Box)	1	1	1	1	1
9	B	Motor Stator Ass'y	1				
	C			1			
	D				1		
	E					1	
	F						1
10	405622	Bearing<6206 2RU>	1	1	1		
	405625	Bearing<6307 2RU>				1	1
11	105544	Motor Rotor	1				
	105545			1			
	105546				1		
	105547					1	
	106794						1
12	405621	Bearing<6306 2RU>	1	1			
	405698	Bearing<6208 2RU>			1		
	405626	Bearing<6309 2RU>				1	1
13	100040	Back Bracket<Ø190 BFK458-14>	1	1			
	100042	Back Bracket<Ø190 BFK458-16>			1		
	100044	Back Bracket<Ø220 BFK458-16>				1	
	100050	Back Bracket<Ø220 BFK458-18>					1

3.0kW : T, SKM(D)-200DB, T,SKH(D)-200DB,T,SKL(D)-300DB

5.0kW : T,SGM(D)-300DB,T,SGH(D)-300DB, T,SGL(D)-500DB

7.5kW : T,SBH-500DB, #8Ref. Page40, #9Ref. Page40,Page41.

MOTOR ASSEMBLY

Dual =Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT				
			Ø190			Ø220	
			3kW	3kW (Dual)	5kW	5kW (Dual)	7.5kW
14	400454	Hex. Recess Bolt<M14×2.0×60L>	4	4	4		
	408386	Hex. Recess Bolt<M18×2.5×60L>				4	4
15	100123	Flange BFK458-14E	1	1			
	100124	Flange BFK458-16E			1	1	
	108524	Flange BFK468-18E					1
16	400095	Spring Washer<M8>	3	3	3	3	4
17	404619	Bolt<M8×1.25×25L>	3	3	3	3	4
18	405940	Key<8×7×30L>	1	1			
	405941	Key<10×8×30L>			1	1	
	405942	Key<12×8×35L>					1
19	108762	Disc Hub Ø25 BFK458-14E	1	1			
	108763	Disc Hub Ø35 BFK458-16E			1	1	
	108764	Disc Hub Ø40 BFK458-18E					1
20	400192	Retaining Ring<S-25>	1	1			
	400194	Retaining Ring<S-35>			1	1	
	400195	Retaining Ring<S-40>					1
21	100136	Friction Disc BFK458-14E	1	1			
	100137	Friction Disc BFK458-16E			1	1	
	100138	Friction Disc BFK458-18E					1
22	G	DC Solenoid	1	1			
	H				1	1	
	I						1
23	408385	Hex. Recess Bolt<M8×1.25×80L>	3	3			
	408586	Hex. Recess Bolt<M8×1.25×90L>			3	3	
	408429	Hex. Recess Bolt<M8×1.25×105L>					6
24	269243	Brake End Cover<Ø190>	1	1	1		
	269244	Brake End Cover<Ø220>				1	1
25	400094	Spring Washer<M6>	4	4	4	4	4
26	400007	Hex. Recess Bolt<M6×1.0×20L>	4	4	4	4	4

3.0kW : T, SKM(D)-200DB, T,SKH(D)-200DB,T,SKL(D)-300DB

5.0kW : T,SGM(D)-300DB, T,SGH(D)-300DB, T,SGL(D)-500DB

7.5kW : T,SBH-500DB #22Ref. Page41

Motor Component (Cable Box)

KEY NO.	PARTS CODE		DESCRIPTION	Ø -Hz-V	
8	A	120135	Motor Component<3kW 4P>	3Ø 60/50Hz	220V-525V
		120135	Motor Component<3kW 4/12P>	3Ø 60/50Hz	220V-525V
		120135	Motor Component<5kW 4P>	3Ø 60/50Hz	220V-525V
		120140	Motor Component<5kW 4/12P>	3Ø 60Hz	220V-440V
		101129		3Ø 60Hz	230V ; 460V
		101129		3Ø 50Hz	220V-415V
		120138	Motor Component<7.5kW 4P>	3Ø 60Hz	220V-400V ; 480V
		120134			460V
		120138		3Ø 50Hz	220V
		120134			380V-415V

MOTOR ASSEMBLY

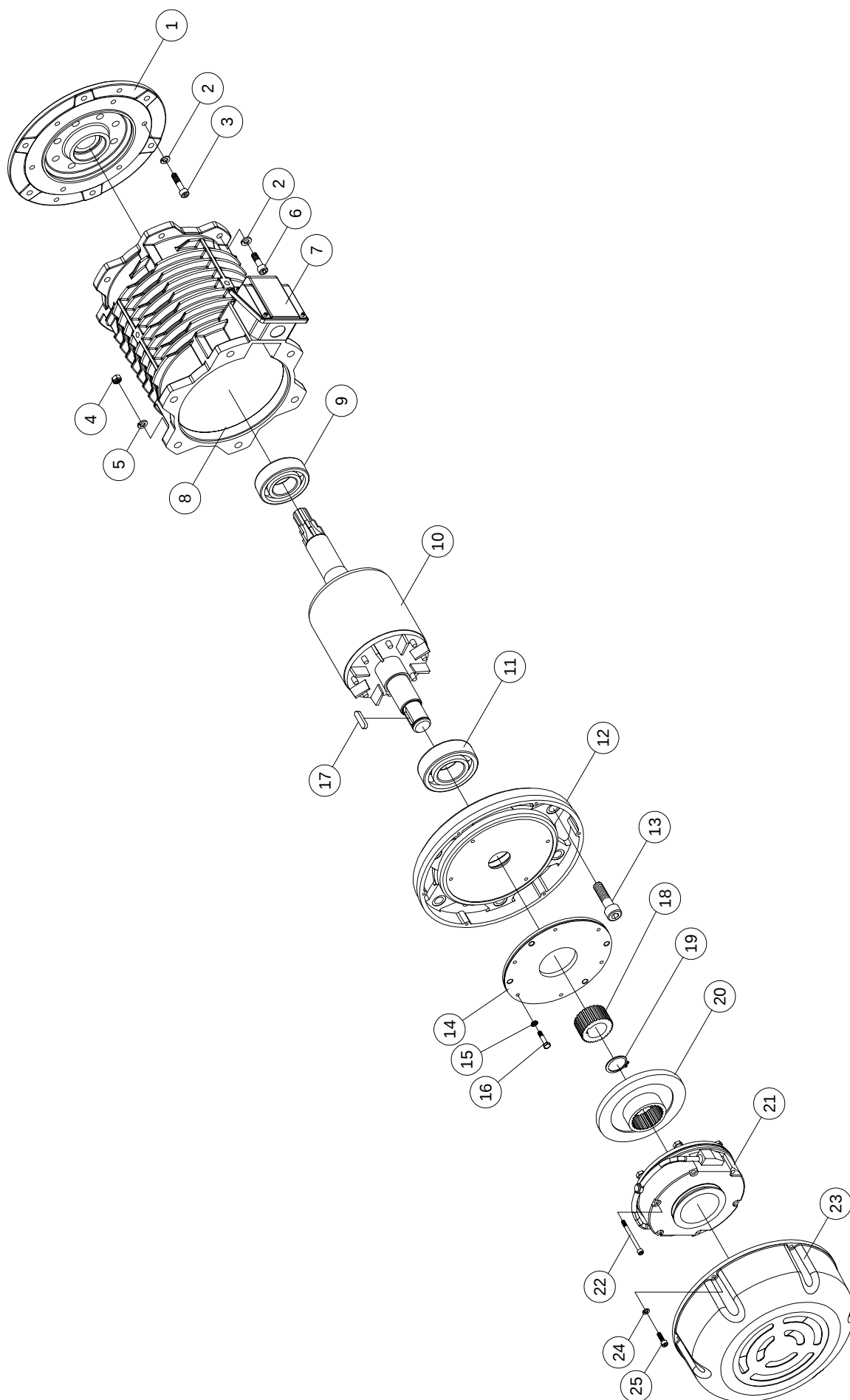
KEY NO.	PARTS CODE		DESCRIPTION	Ø -Hz-V	
9	B	107349	Motor Stator Ass'y<3kW 4P>	3Ø 60Hz	220V/380V
		108145			440V
		132756		3Ø 50Hz	220V/380V
		135581			415V
		104305			525V
	C	108467	Motor Stator Ass'y<3kW 4/12P>	3Ø 60Hz	220V
		108541			380V
		108542			440V
		108543		3Ø 50Hz	220V
		108544			380V
		108545			415V
		135587			525V
	D	108468	Motor Stator Ass'y<5kW 4P>	3Ø 60Hz	220V/380V
		108522			440V
		108523		3Ø 50Hz	220V/380V
		108525			415V
		109007			525V

MOTOR ASSEMBLY

KEY NO.	PARTS CODE		DESCRIPTION	Ø -Hz-V	
9	E	108469	Motor Stator Ass'y<5kW 4/12P>	3Ø 60Hz	220V
		108546			380V
		108547			440V
		108548		3Ø 50Hz	220V
		108549			380V
		108550			415V
		108975			525V
	F	100891	Motor Stator Ass'y<7.5kW 4P>	3Ø 60Hz	220V/380V
		100892			440V
		100895		3Ø 50Hz	220V/380V
		107797			415V
		108976			525V

DC Solenoid

KEY NO.	PARTS CODE		DESCRIPTION	Ø-Hz-V	
22	G	107048	DC Solenoid BFK459-14E DC103V	3Ø 60/50Hz	220V
		107054	DC Solenoid BFK459-14E DC180V		380V
		107048	DC Solenoid BFK459-14E DC103V		415V ; 440V
	H	107049	DC Solenoid BFK459-16E DC103V	3Ø 60/50Hz	220V
		107055	DC Solenoid BFK459-16E DC180V		380V
		107049	DC Solenoid BFK459-16E DC103V		415V ; 440V
	I	107065	DC Solenoid BFK468-18E DC205V	3Ø 60/50Hz	220V
		107066	DC Solenoid BFK468-18E DC360V		380V
		107065	DC Solenoid BFK468-18E DC205V		415V ; 440V



MOTOR EXPLOSION (Ø260 DC BRAKE SERIES)

MOTOR ASSEMBLY

D= Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			Ø260
			7.5kW (Dual)
1	101178	Flange	1
2	400651	Spring Washer<M14>	12
3	400440	Hex. Recess Bolt<M14×2.0×35L>	6
4	400640	Nut<M20×2.5>	6
5	400099	Spring Washer<M20>	6
6	400442	Hex. Recess Bolt<M14×2.0×50L>	6
7	120233	Motor Component (Cable Box) 50/60Hz 220V	1
	120142	Motor Component (Cable Box) 50/60Hz 380V-440V	1
8	A	Motor Stator Ass'y	1
9	405628	Bearing<6308 2RU>	1
10	101126	Motor Rotor	1
11	405627	Bearing<6310 2RU>	1
12	100052	Back Bracket<Ø260 BFK458-18>	1
13	408379	Hex. Recess Bolt<M20×2.0×60L >	6
14	108524	Flange BFK468-18E	1
15	400095	Spring Washer<M8>	4
16	404619	Bolt<M8×1.25×25L >	4
17	405942	Key<12×8×35L>	1
18	108764	Disc Hub<Ø40 BFK458-18E	1
19	108764	Retaining Ring<S-40>	1
20	100138	Friction Disc BFK458-18E	1
21	B	DC Solenoid	1
22	408429	Hex. Recess Bolt<M8×1.25×105L>	6
23	269245	Brake End Cover<Ø260>	1
24	400095	Spring Washer<M8>	6
25	400013	Hex. Recess Bolt<M8×1.25×25L>	6

7.5kW : T,SBHD-500DB

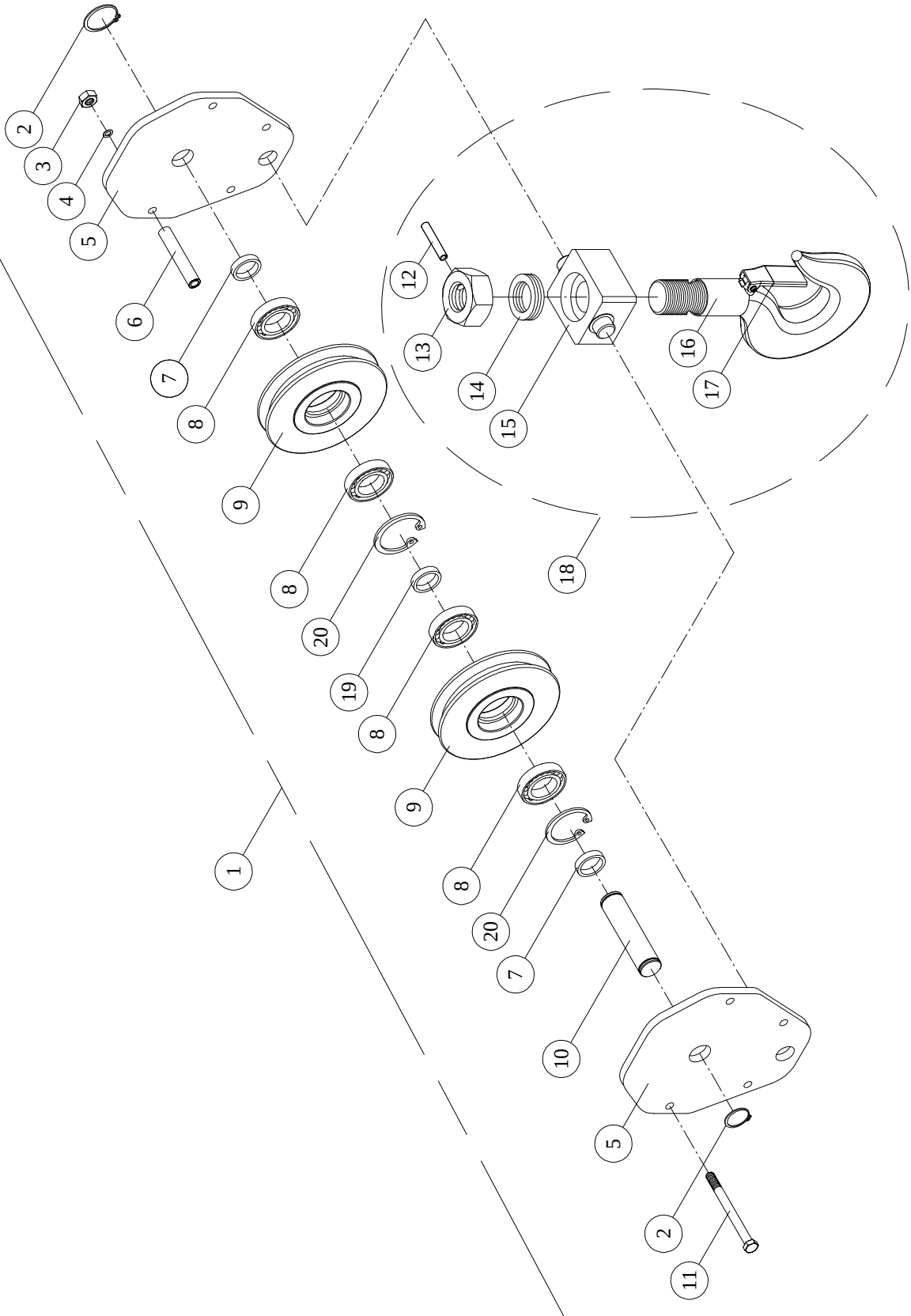
#8、#21Ref. Page44.

MOTOR ASSEMBLY

NO.	PARTS CODE		DESCRIPTION	Ø-Hz-V	
8	A	100831	Motor Stator Ass'y<7.5kW 4/12P>	3Ø 60Hz	220V
		100852			380V
		100853			440V
		107873		3Ø 50Hz	380V
		100854			415V
		100855			525V

DC Solenoid

NO.	PARTS CODE		DESCRIPTION	Ø-Hz-V	
21	B	107065	DC Solenoid BFK468-18E DC205V	3Ø 60/50Hz	220V
		107066	DC Solenoid BFK468-18E DC360V		380V
		107065	DC Solenoid BFK468-18E DC205V		440V ; 415V



2-5T BOTTOM BLOCK EXPLOSION

BOTTOM BLOCK ASSEMBLY

※TPM-100 Used Bottom Block Ass'y. Parts Code 204832

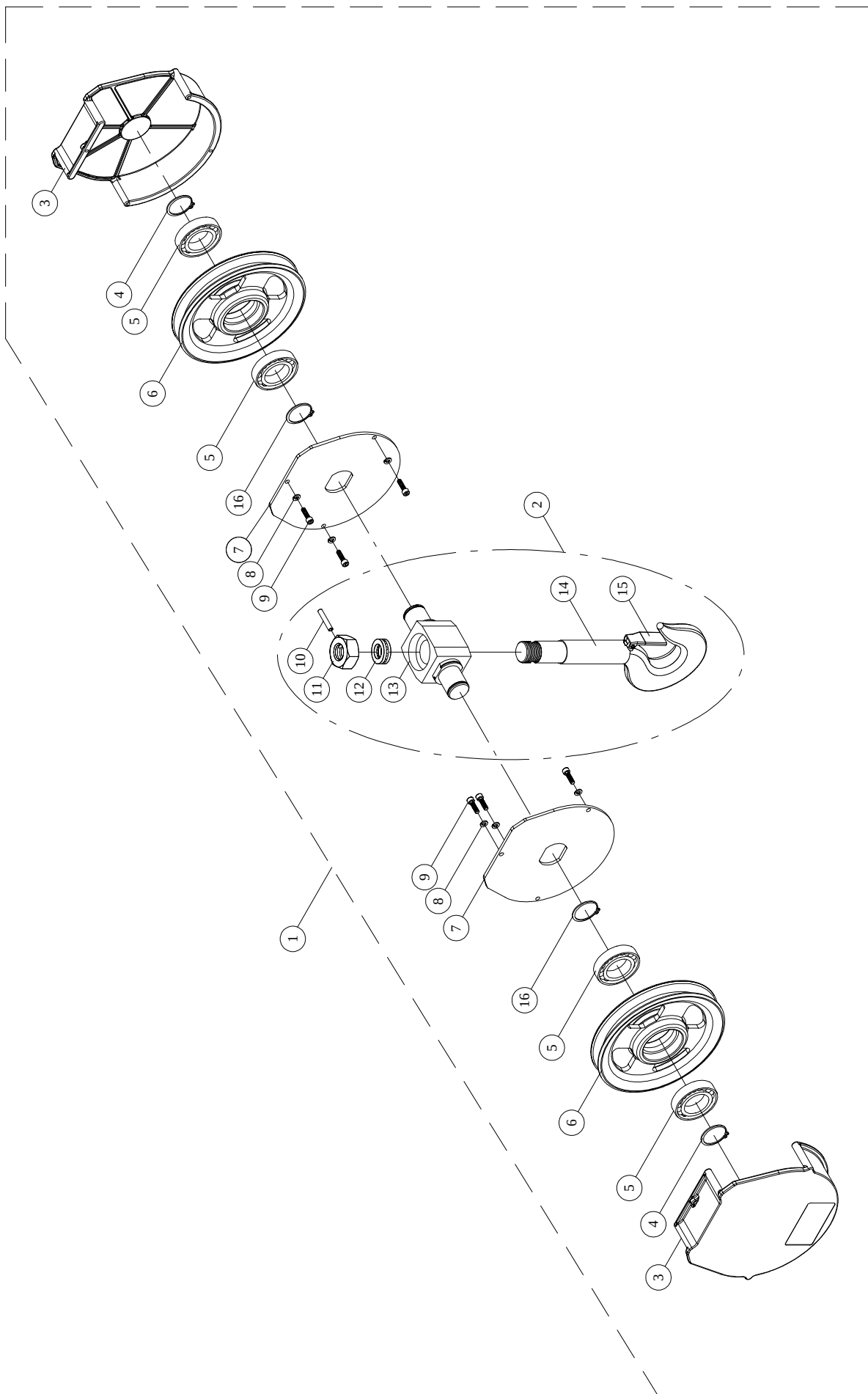
KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT				
			2T		3T		5T
			1/2	2/4	1/2	2/4	2/4
			(R/F)	(R/F)	(R/F)	(R/F)	(R/F)
1	216294	Bottom Block Ass'y	1				
	216295			1			
	204801				1		
	222240					1	
	222241						1
2	400194	Retaining Ring<S-35>	2	2	2		
	400195	Retaining Ring<S-40>				2	
	400196	Retaining Ring<S-45>					2
3	400084	Nut<M12×1.75>	4	4	4	4	4
4	400097	Spring Washer<M12>	4	4	4	4	4
5	216298	Bottom Block Cover	2				
	216299			2			
	205476				2		
	222242					2	
	222243						2
6	205568	Spacer Sleeve<Ø19×Ø13×60L>	4				
	207561	Spacer Sleeve<Ø19×Ø13×110L>		4			
	205549	Spacer Sleeve<Ø19×Ø13×70L>			4		
	205550	Spacer Sleeve<Ø19×Ø13×115L>				4	4
7	205231	Position Sleeve<Ø45×Ø36×5L>	4		4		
	208346	Position Sleeve<Ø45×Ø36×21.5L>		2			
	222245	Position Sleeve<Ø51×Ø41×8.5L>				2	
	222246	Position Sleeve<Ø55×Ø46×8.55L>					2
8	407808	Bearing<6207 Z>	2				
	405578	Bearing<6207 ZZ>		2			
	407817	Bearing<6307 Z>			2		
	407831	Bearing<6208 Z>				4	
	400147	Bearing<6209 Z>					4

BOTTOM BLOCK ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT				
			2T		3T		5T
			1/2	2/4	1/2	2/4	2/4
			(R/F)	(R/F)	(R/F)	(R/F)	(R/F)
9	216296	Sheave	1				
	216297			2			
	205213				1		
	208088					2	
	269668						2
10	205365	Sheave Axle	1				
	207551			1			
	205360				1		
	222244					1	
	205303						1
11	400040	Hex. Bolt<M12 × 1.75 × 110L>	4				
	400032	Hex. Bolt<M12 × 1.75 × 120L>			4		
	400466	Hex. Bolt<M12 × 1.75 × 160L>		4		4	
	408584	Hex. Bolt<M12 × 1.75 × 170L>					4
12	400209	Spring Pin<Ø8 × 55L>	1	1	1	1	
	400214	Spring Pin<Ø8 × 70L>					1
13	400075	Nut<1" × 8UNC × 28L>	1	1			
	400074	Nut<1 3/8" × 6UNC>			1	1	
	400644	Nut<1 3/4" × 5UNC>					1
14	400166	Needle Bearing<51206>	1	1			
	400160	Needle Bearing<51207>			1	1	
	400162	Needle Bearing<51209>					1
15	205008	Bearing Housing	1				
	207401			1			
	205009				1		
	205010					1	
	205011						1

BOTTOM BLOCK ASSEMBLY

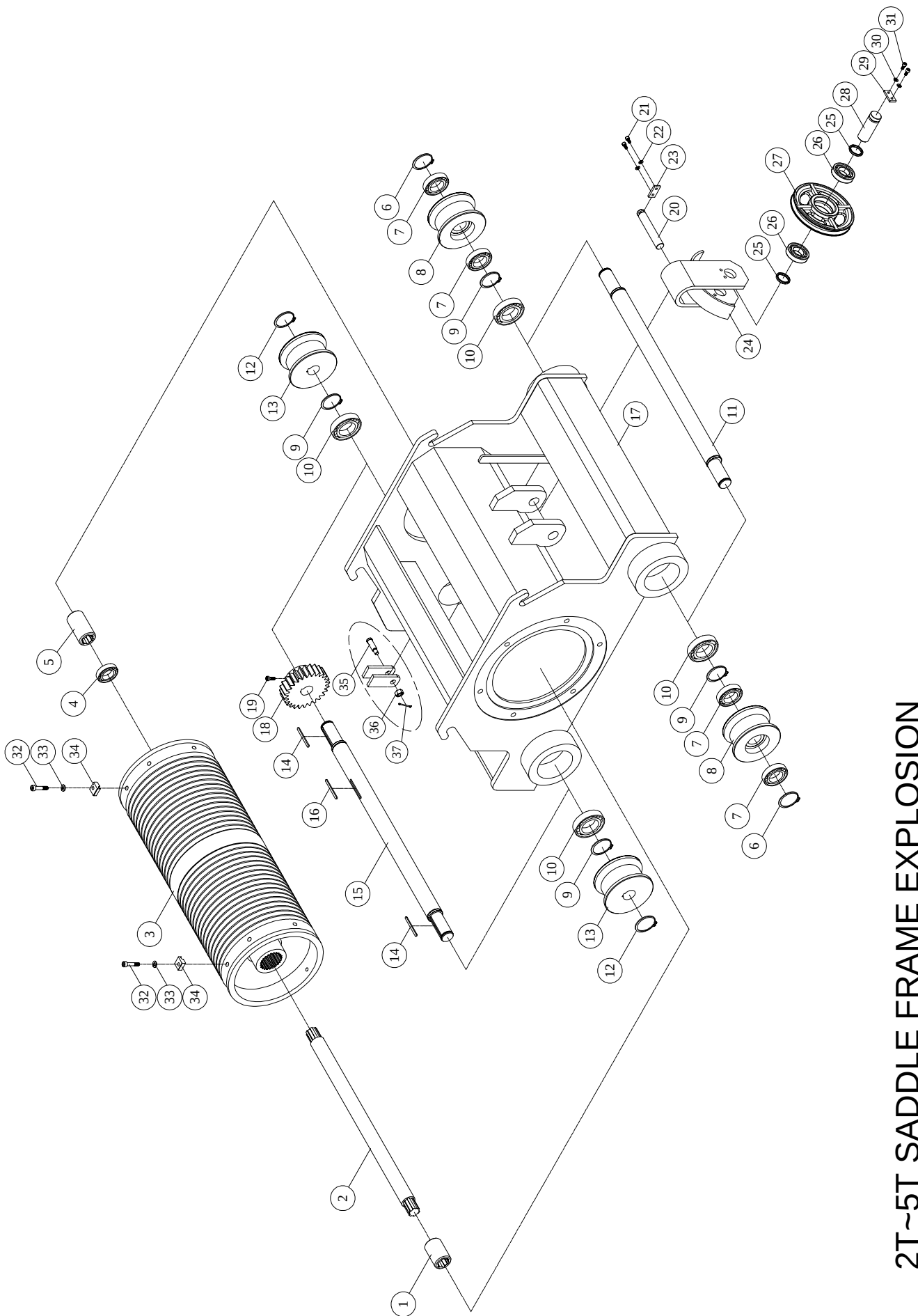
[illegible]



3T & 5T 1/4 (R/F) BOTTOM BLOCK EXPLOSION

BOTTOM BLOCK ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT	
			3T	5T
			1/4 (R/F)	
1	215685	Bottom Block Ass'y	1	
	227922			1
2	218009	Bottom Hook Ass'y	1	
	227926			1
3	227924	Bottom Block Cover Ass'y	2	2
4	400196	Retaining Ring<S-45>	2	2
5	407831	Bearing<6208 Z>	4	
	407809	Bearing<6209 Z>		4
6	208088	Sheave<Ø226 × t43>	2	
	269668	Sheave<Ø226 × t43>		2
7	227925	Bottom Block Cover	2	2
8	400095	Spring Washer<M8>	6	6
9	400012	Hex. Recess Bolt<M8 × 1.25 × 20L>	6	6
10	400209	Spring Pin<Ø8 × 55>	1	
	400214	Spring Pin<Ø8 × 70>		1
11	400074	Nut<1 3/8" × 6UNC >	1	
	400644	Nut<1 3/4" × 5UNC >		1
12	400160	Thrust Bearing<51207>	1	
	400162	Thrust Bearing<51209>		1
13	218010	Bearing Housing	1	
	227927			1
14	200548	Bottom Hook	1	
	228668			1
15	400301	Safety Latch	1	
	400302			1
16	400919	Retaining Ring<S-60>	2	2



2T~5T SADDLE FRAME EXPLOSION

1R / 2F (M) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			SKM(D)-200DB			SGM(D)-300DB		
			6m	9m	12m	6m	9m	12m
1	205469	Coupling	1	1	1			
	205466					1	1	1
2	204902	Drum Shaft	1	1				
	204903				1			
	204908					1	1	
	204909							1
	263132					1D	1D	
	263133							1D
3	206302	Drum	1	1				
	206303				1			
	206332					1	1	
	206333							1
	206322					1D	1D	
	206323							1D
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1
5	205469	Coupling	1	1	1			
	205466					1	1	1
	205467					1D	1D	1D
6	400194	Retaining Ring<S-35>	2	2	2			
	400195	Retaining Ring<S-40>				2	2	2
7	407808	Bearing<6207 Z>	4	4	4			
	407831	Bearing<6208 Z>				4	4	4
8	205170	Idler Wheel	2	2	2			
	205167					2	2	2
9	400196	Retaining Ring<S-45>	4	4	4			
	400909	Retaining Ring<S-55>				4	4	4
10	407877	Bearing<6209 ZZ>	4	4	4			
	407871	Bearing<6211 ZZ>				4	4	4
11	205124	Idler Wheel Axle	1	1				
	205135				1			

1R / 2F (M) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			SKM(D)-200DB			SGM(D)-300DB		
			6m	9m	12m	6m	9m	12m
11	205127	Idler Wheel Axle				1	1	
	262117							1
12	400194	Retaining Ring<S-35>	2	2	2			
	400196	Retaining Ring<S-45>				2	2	2
13	205070	Drive Wheel	2	2	2			
	205067					2	2	2
14	400968	Key<8×8×55L>	2	2				
	400969	Key<8×8×60L>			2	2	2	2
15	205082	Drive Wheel Axle	1	1				
	205084				1			
	205095					1	1	
	262115							1
16	400969	Key<8×8×60L>	1	1				
	405904	Key<8×8×85L>			1	1	1	1
17	269084	Hoist Frame	1	1				
	269085				1			
	261951					1	1	
	261952							1
	261959					1D	1D	
	261960							1D
18	205187	Pinion	1	1	1			
	205186					1	1	1
19	400014	Hex. Recess Bolt<M8×1.25×30L>	1	1	1	1	1	1
32	400017	Hex. Recess Bolt<M8×1.25×35L>	4	4	4	4	4	4
33	400095	Spring Washer<M8>	4	4	4	4	4	4
34	267712	Wire Rope Clips<t12.5×25×25>	4	4	4			
	267715	Wire Rope Clips<t12.5×30×32>				4	4	4
35	205497	Lock Pin<Ø25×83L>	1	1	1	1	1	1
36	400085	Nut<M16×1.5>	1	1	1	1	1	1
37	400603	Cotter Pin<Ø3/32"×1"L>	1	1	1	1	1	1

2R / 4F (H) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			SKH(D)-200DB			SGH(D)-300DB		
			6m	9m	12m	6m	9m	12m
1	205469	Coupling	1	1	1			
	205466					1	1	1
2	204941	Drum Shaft	1					
	204943			1				
	204942				1			
	204910					1		
	204911						1	
	204912							1
	263141					1D		
	263142						1D	
	263143							1D
3	206561	Drum	1					
	206565			1				
	206562				1			
	206341					1		
	206342						1	
	206343							1
	267101					1D		
	267102						1D	
	267103							1D
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1
5	205469	Coupling	1	1	1			
	205466					1	1	1
	205467					1D	1D	1D
6	400194	Retaining Ring<S-35>	2	2	2			
	400195	Retaining Ring<S-40>				2	2	2
7	407808	Bearing<6207 Z>	4	4	4			
	407831	Bearing<6208 Z>				4	4	4
8	205170	Idler Wheel	2	2	2			
	205167					2	2	2

2R / 4F (H) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			SKH(D)-200DB			SGH(D)-300DB		
			6m	9m	12m	6m	9m	12m
9	400196	Retaining Ring<S-45>	4	4	4			
	400909	Retaining Ring<S-55>				4	4	4
10	407877	Bearing<6209 ZZ>	4	4	4			
	407871	Bearing<6211 ZZ>				4	4	4
11	205135	Idler Wheel Axle	1					
	269112			1				
	265242				1			
	205127					1		
	205137						1	
	269046							1
12	400194	Retaining Ring<S-35>	2	2	2			
	400196	Retaining Ring<S-45>				2	2	2
13	205070	Drive Wheel	2	2	2			
	205067					2	2	2
14	400969	Key<8×8×60L>	2			2	2	2
	400968	Key<8×8×55L>		2	2			
15	205084	Drive Wheel Axle	1					
	269115			1				
	265241				1			
	205087					1		
	205097						1	
	269043							1
16	405904	Key<8×8×85L>	1			1	1	1
	400969	Key<8×8×60L>		1	1			
17	269127	Hoist Frame	1					
	269128			1				
	269129				1			
	261967					1		
	261968						1	
	261969							1

2R / 4F (H) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			SKH(D)-200DB			SGH(D)-300DB		
			6m	9m	12m	6m	9m	12m
17	261977	Hoist Frame				1D		
	261978						1D	
	261979							1D
18	205187	Pinion	1	1	1			
	205186					1	1	1
19	400014	Hex. Recess Bolt<M8 × 1.25 × 30L>	1	1	1	1	1	1
20	205470	Load Axle<Ø28 × 165L>	1	1	1	1	1	1
21	400012	Hex. Recess Bolt<M8 × 1.25 × 20L>	2	2	2	2	2	2
22	400095	Spring Washer<M8>	2	2	2	2	2	2
23	200636	Keeper<t6.0 × 25 × 50L>	1	1	1	1	1	1
24	206465	Link Equalizer	1	1	1	1	1	1
25	205239	Washer<Ø40 × Ø29 × 3L>	2	2	2	2	2	2
27	202535	Equalizer Sheave<Ø148 × t40>	1	1	1	1	1	1
28	209289	Sheave Axle<Ø28 × 109L>	1	1	1	1	1	1
29	200636	Keeper<t6.0 × 25 × 50L>	1	1	1	1	1	1
30	400095	Spring Washer<M8>	2	2	2	2	2	2
31	400012	Hex. Recess Bolt<M8 × 1.25 × 20L>	2	2	2	2	2	2
32	400017	Hex. Recess Bolt<M8 × 1.25 × 35L>	8	8	8	8	8	8
33	400095	Spring Washer<M8>	8	8	8	8	8	8
34	267714	Wire Rope Clips<t9.5 × 22 × 25>	8	8	8			
	267712	Wire Rope Clips<t12.5 × 25 × 25>				8	8	8

2R / 4F (H) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT					
			SBH(D)-500DB			SBAH(D)-500DB		
			6m	9m	12m	6m	9m	12m
1	205467	Coupling	1	1	1	1	1	1
	205468		1D	1D	1D			
2	205021	Drum Shaft	1			1D		
	205022			1			1D	
	205023				1			1D
	205020					1		
	205296						1	
	205297							1
	263151		1D					
	263152			1D				
	263153				1D			
3	269487	Drum	1			1		
	269488			1			1	
	269489				1			1
	269514		1D					
	269515			1D				
	269516				1D			
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1
	407814	Bearing<6220 ZZ>	1D	1D	1D			
6	400195	Retaining Ring<S-40>	2	2	2	2	2	2
7	407831	Bearing<6208 Z>	4	4	4	4	4	4
8	205167	Idler Wheel	2	2	2	2	2	2
9	400909	Retaining Ring<S-55>	4	4	4	4	4	4
10	407822	Bearing<6311 ZZ>	4	4	4	4	4	4
11	205127	Idler Wheel Axle	1			1		
	262326			1			1	
	262123				1			1
12	400196	Retaining Ring<S-45>	2	2	2	2	2	2
13	205067	Drive Wheel	2	2	2	2	2	2
14	400969	Key<8×8×60L>	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					
			SBH(D)-500DB			SBAH(D)-500DB		
			6m	9m	12m	6m	9m	12m
15	205087	Drive Wheel Axle	1			1		
	262322			1			1	
	262121				1			1
16	405904	Key<8×8×85L>	1	1	1	1	1	1
17	262073	Hoist Frame	1			1D		
	262074			1			1D	
	262075				1			1D
	262943					1		
	262944						1	
	262945							1
	262082		1D					
	262083			1D				
	262084				1D			
18	205186	Pinion	1	1	1	1	1	1
19	400014	Hex. Recess Bolt<M8×1.25×30L>	1	1	1	1	1	1
20	205470	Load Axle<Ø28×165L>	1	1	1	1	1	1
21	400012	Hex. Recess Bolt<M8×1.25×20L>	2	2	2	2	2	2
22	400095	Spring Washer<M8>	2	2	2	2	2	2
23	200636	Keeper<t6.0×25×50L>	1	1	1	1	1	1
24	206465	Link Equalizer	1	1	1	1	1	1
25	205239	Washer<Ø40×Ø29×3L>	2	2	2	2	2	2
27	202535	Equalizer Sheave<Ø148×t40>	1	1	1	1	1	1
28	209289	Sheave Axle<Ø28×109L>	1	1	1	1	1	1
29	200636	Keeper<t6.0×25×50L>	1	1	1	1	1	1
30	400095	Spring Washer<M8>	2	2	2	2	2	2
31	400012	Hex. Recess Bolt<M8×1.25×20L>	2	2	2	2	2	2
32	400017	Hex. Recess Bolt<M8×1.25×35L>	8	8	8	8	8	8
33	400095	Spring Washer<M8>	8	8	8	8	8	8
34	267712	Wire Rope Clips<t12.5×25×25>	8	8	8	8	8	8

1R / 4F (L) SADDLE FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			SKL(D)-300DB			SGL(D)-500DB		
			6m	9m	12m	6m	9m	12m
1	205469	Coupling	1	1	1			
	205466					1	1	1
2	204904	Drum Shaft	1					
	204905			1				
	208274				1			
	204910					1		
	204911						1	
	262634							1
	263141					1D		
	263142						1D	
	208311							1D
3	206336	Drum	1					
	206337			1				
	208279				1			
	206381					1		
	206382						1	
	262635							1
	267111					1D		
	267112						1D	
	208312							1D
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1
5	205469	Coupling	1	1	1			
	205466					1	1	1
	205467					1D	1D	1D
6	400195	Retaining Ring<S-40>	2	2	2	2	2	2
7	407831	Bearing<6208 Z>	4	4	4	4	4	4
8	205167	Idler Wheel	2	2	2	2	2	2
9	400909	Retaining Ring<S-55>	4	4	4	4	4	4
10	407871	Bearing<6211 ZZ>	4	4	4			
	407822	Bearing<6311 ZZ>				4	4	4

1R / 4F (L) SADDLE FRAME ASSEMBLY

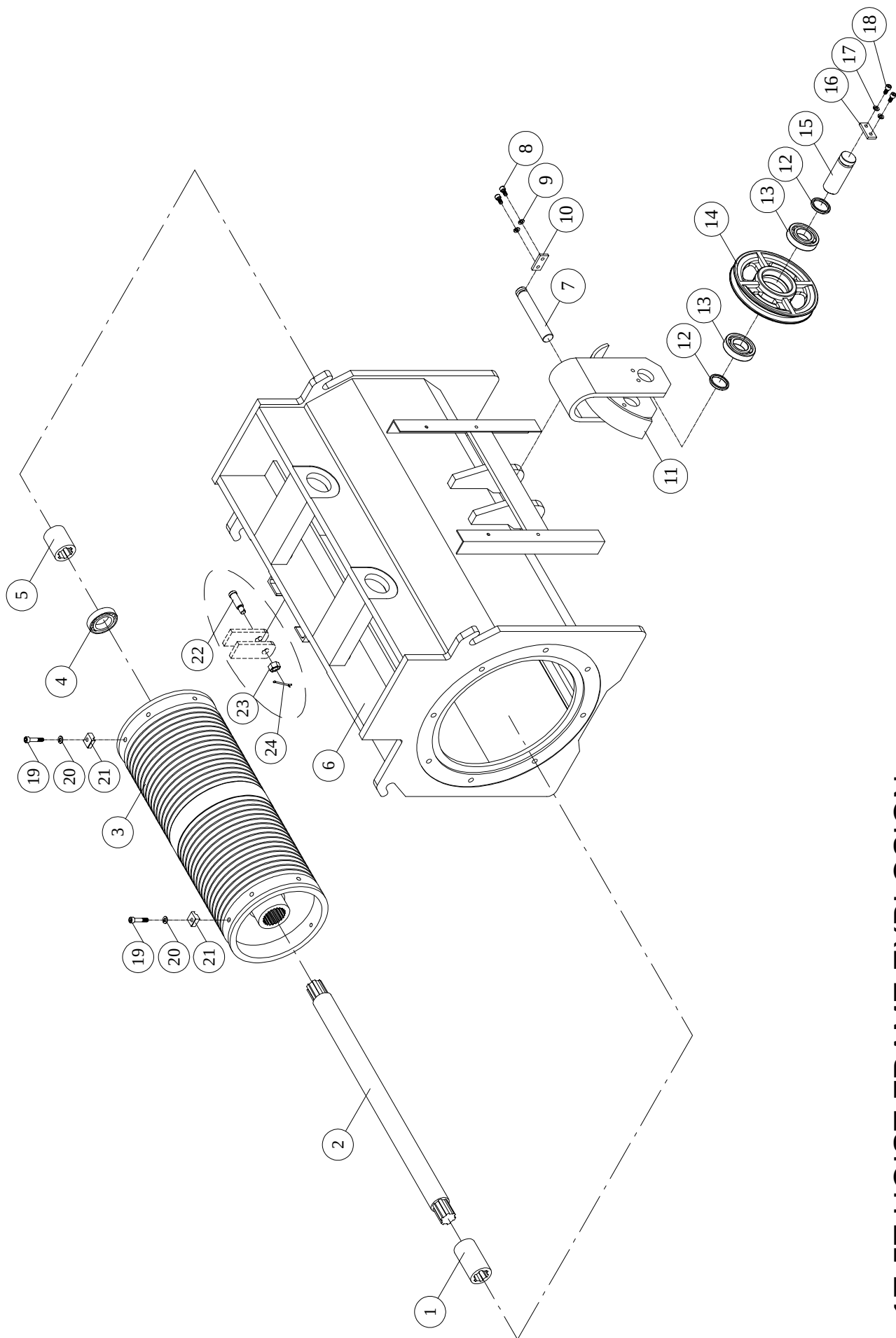
D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT					
			SKL(D)-300DB			SGL(D)-500DB		
			6m	9m	12m	6m	9m	12m
11	205127	Idler Wheel Axle	1			1		
	205137			1			1	
	208314				1			1
12	400196	Retaining Ring<S-45>	2	2	2	2	2	2
13	205067	Drive Wheel	2	2	2	2	2	2
14	400969	Key<8×8×60L>	2	2	2	2	2	2
15	205087	Drive Wheel Axle	1			1		
	205097			1			1	
	208313				1			1
16	405904	Key<8×8×85L>	1	1	1	1	1	1
17	269256	Hoist Frame	1					
	269257			1				
	208782				1			
	278475					1		
	278476						1	
	208786							1
	278478					1D		
	278479						1D	
	208787							1D
18	205186	Pinion	1	1	1	1	1	1
19	400014	Hex. Recess Bolt<M8×1.25×30L>	1	1	1	1	1	1
20	205470	Load Axle<Ø28×165L>	1	1	1	1	1	1
21	400012	Hex. Recess Bolt<M8×1.25×20L>	2	2	2	2	2	2
22	400095	Spring Washer<M8>	2	2	2	2	2	2
23	200636	Keeper<t6×25×50L>	1	1	1	1	1	1
24	242095	Link Equalizer	1	1	1	1	1	1
25	242100	Spacer<Ø50.8×Ø40.5×6.5L>	2	2	2	2	2	2
26	407831	Bearing<6208 Z>	2	2	2	2	2	2
27	208088	Equalizer Sheave<Ø226×43L >	1	1	1	1	1	1
28	242099	Sheave Axle<Ø40×110L >	1	1	1	1	1	1

1R / 4F (L) SADDLE FRAME ASSEMBLY

D = Dual Speed

[illegible]



1T-5T HOIST FRAME EXPLOSION

1R / 2F (M) HOIST FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT								
			TPM(D)-100DB			TKM(D)-200DB			TGM(D)-300DB		
			6m	9m	12m	6m	9m	12m	6m	9m	12m
1	205469	Coupling	1	1	1	1	1	1			
	205466								1	1	1
2	204900	Drum Shaft	1								
	204902			1			1				
	204899				1						
	204901					1					
	204903							1			
	204907								1		
	204908									1	
	204909										1
	263131								1D		
	263132									1D	
	263133										1D
3	206293	Drum	1								
	206292			1							
	206294				1						
	206301					1					
	206302						1				
	206303							1			
	206331								1		
	206332									1	
	206333										1
	206321								1D		
	206322									1D	
	206323										1D
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1	1	1	1
5	205469	Coupling	1	1	1	1	1	1			
	205466								1	1	1
	205467								1D	1D	1D

1R / 2F (M) HOIST FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT								
			TPM(D)-100DB			TKM(D)-200DB			TGM(D)-300DB		
			6m	9m	12m	6m	9m	12m	6m	9m	12m
6	206246	Hoist Frame	1								
	206247			1							
	206248				1						
	206225					1					
	206232						1				
	206233							1			
	227952								1		
	227953									1	
	227954										1
	227872								1D		
	227873									1D	
	227874										1D
19	400017	Hex. Recess Bolt<M8 × 1.25 × 35>	4	4	4	4	4	4	4	4	4
20	400095	Spring Washer<M8>	4	4	4	4	4	4	4	4	4
21	267714	Wire Rope Clips<t9.5 × 22 × 25>	4	4	4						
	267712	Wire Rope Clips<t12.5 × 25 × 25>				4	4	4			
	267715	Wire Rope Clips<t12.5 × 30 × 32>							4	4	4
22	205497	Lock Pin<Ø25 × 83L>	1	1	1	1	1	1	1	1	1
23	400085	Nut<M16 × 1.5>	1	1	1	1	1	1	1	1	1
24	400603	Cotter Pin<Ø3/32" × 1"L>	1	1	1	1	1	1	1	1	1

2R / 4F (H) HOIST FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT											
			TKH(D)-200DB			TGH(D)-300DB			TBH(D)-500DB			TBAH(D)-500DB		
			6m	9m	12m	6m	9m	12m	6m	9m	12m	6m	9m	12m
1	205469	Coupling	1	1	1									
	205466					1	1	1						
	205467								1	1	1	1	1	1
	205468								1D	1D	1D			
2	204941	Drum Shaft	1											
	204943			1										
	204942				1									
	204910					1								
	204911						1							
	204912							1						
	205021								1			1D		
	205022									1			1D	
	205023										1			1D
	205020											1		
	205296												1	
	205297													1
	263141					1D								
	263142						1D							
	263143							1D						
	263151								1D					
	263152									1D				
	263153										1D			
3	206561	Drum	1											
	206565			1										
	206562				1									
	206341					1								
	206342						1							
	206343							1						

2R / 4F (H) HOIST FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT											
			TKH(D)-200DB			TGH(D)-300DB			TBH(D)-500DB			TBAH(D)-500DB		
			6m	9m	12m	6m	9m	12m	6m	9m	12m	6m	9m	12m
3	269487	Drum							1			1		
	269488									1			1	
	269489										1			1
	267101					1D								
	267102						1D							
	267103							1D						
	269514								1D					
	269515									1D				
	269516										1D			
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1	1	1	1	1	1	1
	407814	Bearing<6220 ZZ>							1D	1D	1D			
5	205469	Coupling	1	1	1									
	205466					1	1	1						
	205467					1D	1D	1D						
6	209268	Hoist Frame	1											
	209230			1										
	209229				1									
	227956					1								
	227957						1							
	227958							1						
	209241								1			1D		
	209242									1			1D	
	209243										1			1D
	262946											1		
	262947												1	
	262948													1

2R / 4F (H) HOIST FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT											
			TKH(D)-200DB			TGH(D)-300DB			TBH(D)-500DB			TBAH(D)-500DB		
			6m	9m	12m	6m	9m	12m	6m	9m	12m	6m	9m	12m
6	227880	Hoist Frame				1D								
	227881						1D							
	227882							1D						
	209244								1D					
	209245									1D				
	209246										1D			
7	205470	Load Axle<Ø28×165L>	1	1	1	1	1	1	1	1	1	1	1	1
8	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2	2	2	2	2	2	2	2	2	2
9	400095	Spring Washer<M8>	2	2	2	2	2	2	2	2	2	2	2	2
10	200636	Keeper<t6.0×25×50L>	1	1	1	1	1	1	1	1	1	1	1	1
11	206465	Link Equalizer	1	1	1	1	1	1	1	1	1	1	1	1
12	205239	Washer<Ø40×Ø29×3L>	2	2	2	2	2	2	2	2	2	2	2	2
14	202535	Equalizer Sheave <Ø148×t40>	1	1	1	1	1	1	1	1	1	1	1	1
15	209289	Sheave Axle<Ø28×109L>	1	1	1	1	1	1	1	1	1	1	1	1
16	200636	Keeper<t6.0×25×50L>	1	1	1	1	1	1	1	1	1	1	1	1
17	400095	Spring Washer<M8>	2	2	2	2	2	2	2	2	2	2	2	2
18	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2	2	2	2	2	2	2	2	2	2
19	400017	Hex. Recess Bolt <M8×1.25×35L>	8	8	8	8	8	8	8	8	8	8	8	8
20	400095	Spring Washer<M8>	8	8	8	8	8	8	8	8	8	8	8	8
21	267714	Wire Rope Clips <t9.5×22×25>	8	8	8									
	267712	Wire Rope Clips <t12.5×25×25>				8	8	8	8	8	8	8	8	8

1R / 4F (L) HOIST FRAME ASSEMBLY

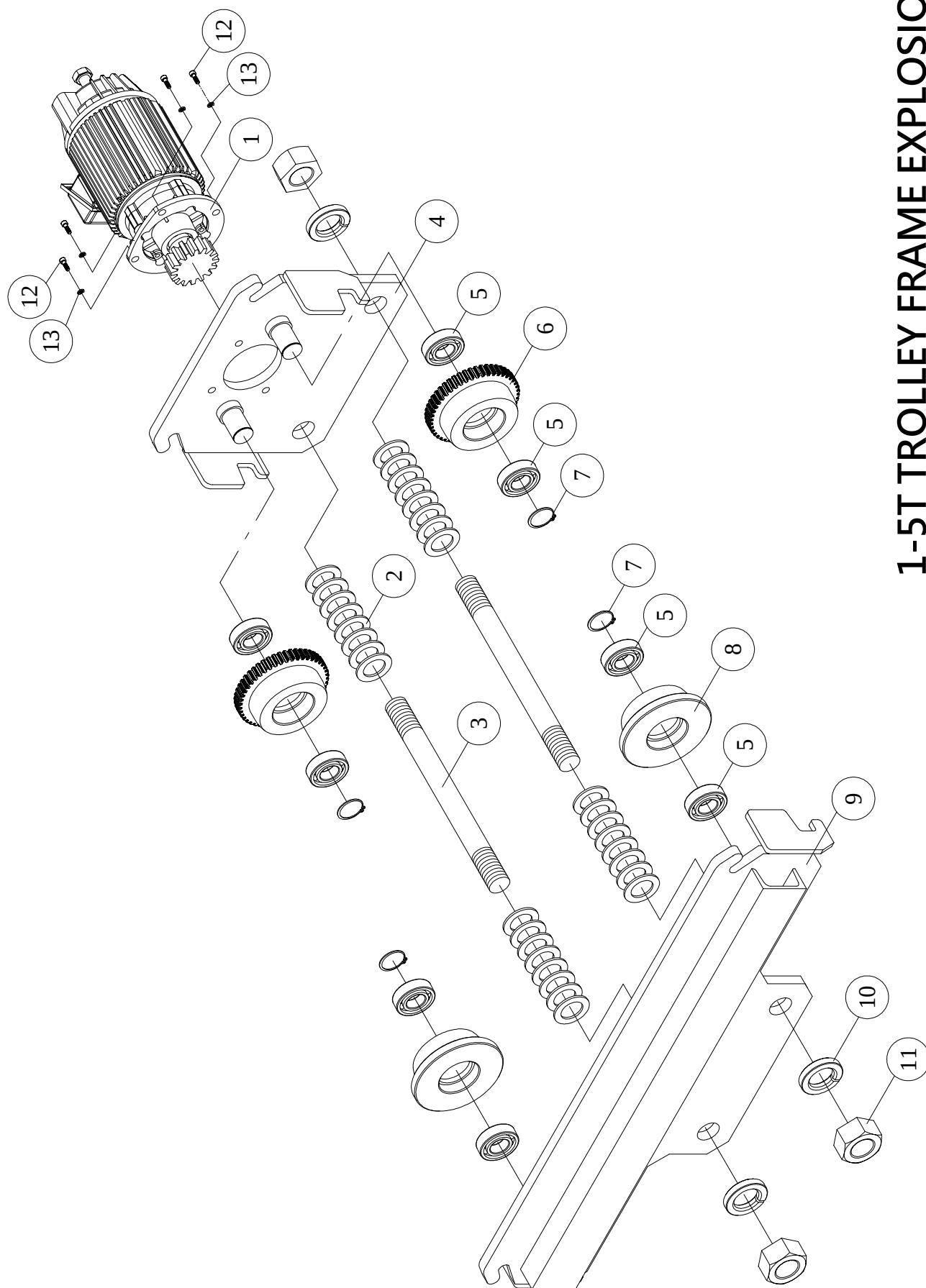
D = Dual Speed

KEY NO	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			TKL(D)-300DB			TGL(D)-500DB		
			6m	9m	12m	6m	9m	12m
1	205469	Coupling	1	1	1			
	205466					1	1	1
2	204904	Drum Shaft	1					
	204905			1				
	208274				1			
	204910					1		
	204911						1	
	262634							1
	263141					1D		
	263142						1D	
	208311							1D
3	206336	Drum	1					
	206337			1				
	208279				1			
	206381					1		
	206382						1	
	262635							1
	267111					1D		
	267112						1D	
	208312							1D
4	407838	Bearing<6212 ZZ>	1	1	1	1	1	1
5	205469	Coupling	1	1	1			
	205466					1	1	1
	205467					1D	1D	1D
6	269271	Hoist Frame	1					
	269272			1				
	208783				1			

1R / 4F (L) HOIST FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			TKL(D)-300DB			TGL(D)-500DB		
			6m	9m	12m	6m	9m	12m
6	227849	Hoist Frame				1		
	227850						1	
	227851							1
	227853					1D		
	227854						1D	
	227855							1D
7	205470	Load Axle<Ø28×165L>	1	1	1	1	1	1
8	400012	Hex. Recess Bolt<M8×1.25×20L>	2	2	2	2	2	2
9	400095	Spring Washer<M8>	2	2	2	2	2	2
10	200636	Keeper<t6.0×25×50L>	1	1	1	1	1	1
11	242095	Link Equalizer	1	1	1	1	1	1
12	242100	Spacer<Ø50.8×Ø40.5×6.5L>	2	2	2	2	2	2
13	407831	Bearing<6208 Z>	2	2	2	2	2	2
14	208088	Equalizer Sheave<Ø226×43L>	1	1	1	1	1	1
15	242099	Sheave Axle<Ø40×110L>	1	1	1	1	1	1
16	271916	Keeper<t5×22×60L>	1	1	1	1	1	1
17	400095	Spring Washer<M8>	2	2	2	2	2	2
18	405011	Hex. Recess Bolt<M8×1.25×15L>	2	2	2	2	2	2
19	400017	Hex. Recess Bolt<M8×1.25×35L>	4	4	4	4	4	4
20	400095	Spring Washer<M8>	4	4	4	4	4	4
21	267712	Wire Rope Clips<t12.5×25×25>	4	4	4	4	4	4
22	205497	Lock Pin<Ø25×83L>	1	1	1	1	1	1
23	400085	Nut<M16×1.5>	1	1	1	1	1	1
24	400603	Cotter Pin<Ø3/32"×1"L>	1	1	1	1	1	1



1-5T TROLLEY FRAME EXPLOSION

TROLLEY FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT					
			TPM(D)-100DB			TKM(D)-200DB TKH(D)-200DB		
			6m	9m	12m	6m	9m	12m
1	A	Motor<0.25KW M3.5 × 16T>	1	1	1	1	1	1
2	203221	Spacer<Ø40 × Ø24 × 1/8"t>	52	52	52			
	203222	Spacer<Ø46 × Ø27 × 1/8"t>TKM(D)				64	64	64
	203222	Spacer<Ø46 × Ø27 × 1/8"t>TKH(D)				60	60	60
3	400401	Stay Bolt<7/8" × 9UNC × 280L>	2	2	2			
	400060	Stay Bolt<1" × 8UNC × 310L>				2	2	2
4	264403	Motor Frame Ass'y	1	1	1			
	205617					1	1	1
5	407835	Bearing<6204 Z>	8	8	8			
	407830	Bearing<6205 Z>				8	8	8
6	203101	Drive Wheel	2	2	2			
	203102					2	2	2
7	400191	Retaining Ring<S-20>	4	4	4			
	400192	Retaining Ring<S-25>				4	4	4
8	203121	Idler Wheel	2	2	2			
	203122					2	2	2
9	264871	Plain Frame Ass'y	1	1	1			
	205962					1	1	1
10	400102	Spring Washer<7/8">	4	4	4			
	400103	Spring Washer<1">				4	4	4
11	400070	Nut<7/8" × 9UNC>	4	4	4			
	202009	Nut<1" × 8UNC>				4	4	4
12	400046	Hex. Recess Bolt<M10 × 1.5 × 25L>	4	4	4	4	4	4
13	400096	Spring Washer<M10>	4	4	4	4	4	4

MOTOR ASSEMBLY

KEY NO.	PARTS CODE		DESCRIPTION	Ø -Hz-V	
1	A	101245	Motor<0.25kW M3.5 × 16T>	3Ø 60Hz	220V/380V
		101246			440V
		101250		3Ø 50Hz	220V/380V
		101252			415V

TROLLEY FRAME ASSEMBLY

D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT								
			TKL(D)-300DB			TGM(D)-300DB			TGH(D)-300DB		
			6m	9m	12m	6m	9m	12m	6m	9m	12m
1	A	Motor<0.6kW M3.5 × 12T>	1	1	1	1	1	1	1	1	1
2	203223	Spacer<Ø54 × Ø34 × 1/8"t>	80	80	48	56	56	56	56	56	56
	203223	Spacer<Ø54 × Ø34 × 1/8"t>				44D	44D	44D			
3	400064	Stay Bolt<1 1/4" × 7UNC × 385L>	2	2	2	2	2	2	2	2	2
4	205618	Motor Frame Ass'y	1	1		1	1	1	1	1	1
	264805				1						
5	407824	Bearing<6206 Z>	8	8		8	8	8	8	8	8
	407830	Bearing<6205 Z>			16						
6	203103	Drive Wheel	2	2		2	2	2	2	2	2
	203102				2						
7	400193	Retaining Ring<S-30>	4	4		4	4	4	4	4	4
	400192	Retaining Ring<S-25>			8						
8	203123	Idler Wheel	2	2		2	2	2	2	2	2
	203122				6						
9	205963	Plain Frame Ass'y				1	1				
	264807				3						
	203461					1D	1D		1D	1D	
	203462							1D			1D
	205964		1	1				1	1	1	1
10	400105	Spring Washer<1 1/4">	4	4	4	4	4	4	4	4	4
11	202011	Nut<1 1/4" × 7UNC>	4	4	4	4	4	4	4	4	4
12	400046	Hex. Recess Bolt<M10 × 1.5 × 25L>	4	4	4	4	4	4	4	4	4
13	400096	Spring Washer<M10>	4	4	4	4	4	4	4	4	4

MOTOR ASSEMBLY

KEY NO.	PARTS CODE		DESCRIPTION	Ø -Hz-V	
1	A	101265	Motor<0.6kW M3.5 × 12T>	3Ø 60Hz	220V/380V
		101266			220V/440V
		101268		3Ø 50Hz	220V/380V
		101267			415V

TROLLEY FRAME ASSEMBLY

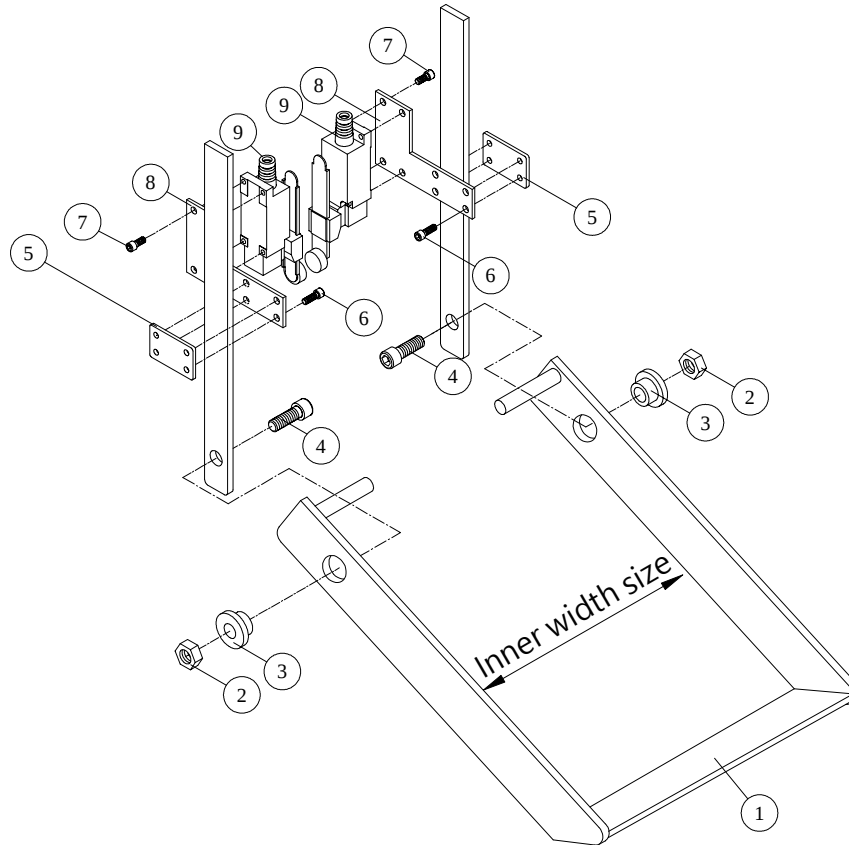
D = Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			TGL(D)-500DB			TBH(D)-500DB TBAH(D)-500DB		
			6m	9m	12m	6m	9m	12m
1	A	Motor	1	1	1	1	1	1
2	203224	Spacer<Ø60×Ø40×1/8"t>	72	72	52	60	60	60
3	400067	Stay Bolt<1 1/2"×6UNC×390L>	2	2	2	2	2	2
4	205619	Motor Frame Ass'y	1	1		1	1	1
	264809				1			
5	407808	Bearing<6207 Z>	8	8		8	8	8
	407824	Bearing<6206 Z>			16			
6	203104	Drive Wheel	2	2		2	2	2
	203103				2			
7	400194	Retaining Ring<S-35>	4	4		4	4	4
	400193	Retaining Ring<S-30>			8			
8	203124	Idler Wheel	2	2		2	2	2
	203123				6			
9	205966	Plain Frame Ass'y	1	1		1	1	1
	264605		1D	1D				
	264810				3			
10	400106	Spring Washer<1 1/2">	4	4	4	4	4	4
11	202012	Nut<1 1/2"×6UNC>	4	4	4	4	4	4
12	400047	Hex. Recess Bolt<M10×1.5×30L>	4	4	4	4	4	4
13	400096	Spring Washer<M10>	4	4	4	4	4	4

MOTOR ASSEMBLY

KEY NO.	PARTS CODE		DESCRIPTION	Ø -Hz-V	
1	A	101265	Motor<0.6kW M3.5×12T>	3Ø 60Hz	220V/380V
		101266			220V/440V
		101268		3Ø 50Hz	220V/380V
		101267			415V

LIMIT SWITCH EXPLOSION



LIMIT SWITCH ASSEMBLY (For Saddle Frame)

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
1	A	Lever Arm	1
2	400084	Nut<M12 × 1.75>	2
3	205308	Tube<Ø30 × 12.5 × 15L>	2
4	400023	Hex. Recess Bolt<M12 × 1.75 × 35L>	2
5	205314	Limit Frame<t3.0 × 30 × 47L>	2
6	400003	Hex. Recess Bolt<M5 × 0.8 × 16L>	8
7	408396	Hex. Recess Bolt<M5 × 0.8 × 10L>	8
8	205313	Limit Plate<t3.0 × 40 × 55L>	2
9	300535	Limit Switch	2

#1 Ref. Page75.

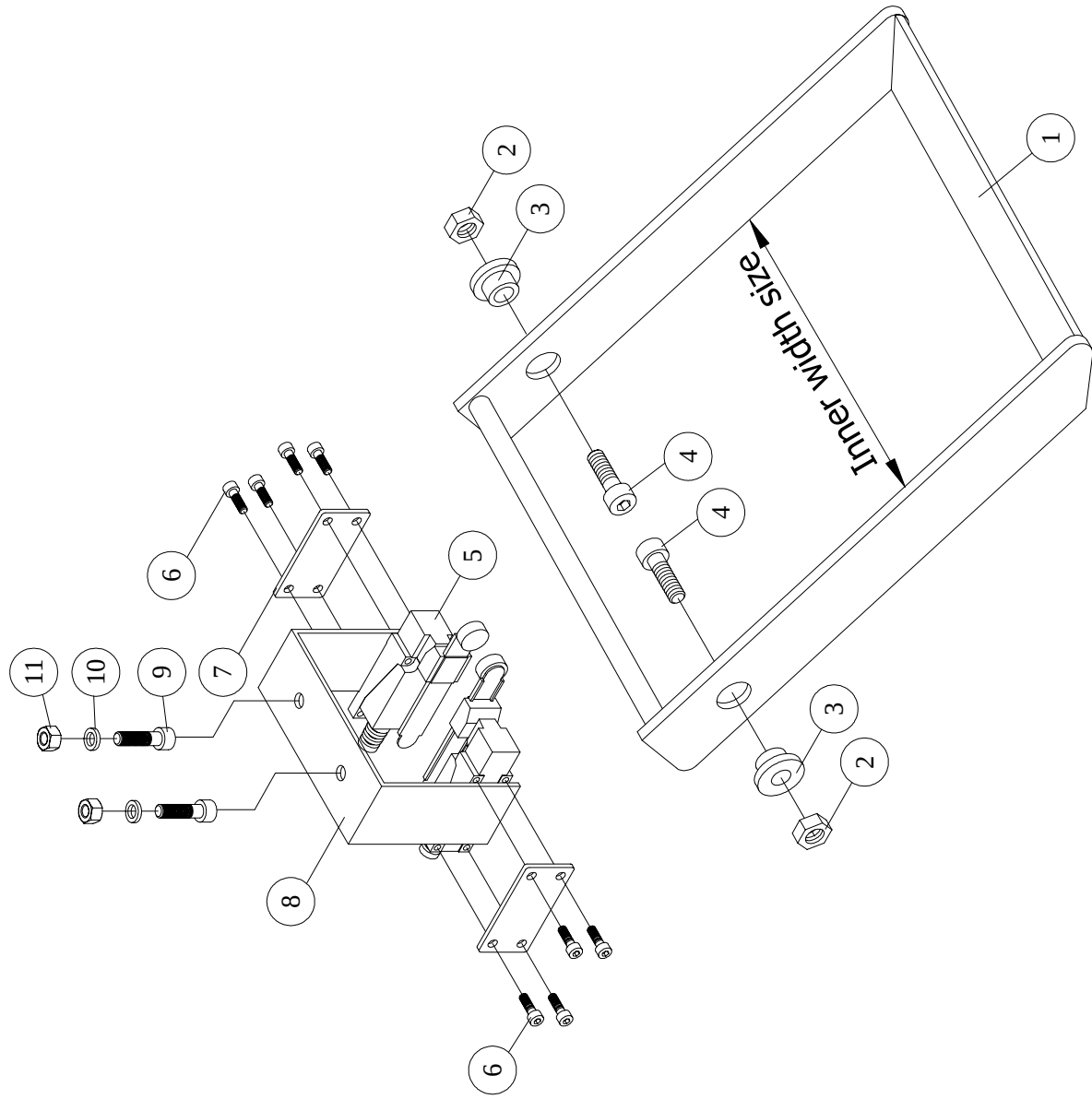
Repair need to provide the inner width size.

LIMIT SWITCH ASSEMBLY (For Saddle Frame)

KEY NO.	PARTS CODE		DESCRIPTION	Tonnage	Lift	Eel Cable Number (R/F)
1	A	204883	Lever Arm	2T	6M	M(1/2)
		204883				H(2/4)
		204883			9M	M(1/2)
		204883				H(2/4)
		204880			12M	M(1/2)
		204883				H(2/4)
		204880		3T	6M	L(1/4)
		204883				M(1/2)
		204880				H(2/4)
		204885			9M	L(1/4)
		204883				M(1/2)
		204880				H(2/4)
		204880			12M	M(1/2)
		204880				H(2/4)
		204880		5T	6M	L(1/4)
		204880				H(2/4)
		204885			9M	L(1/4)
		204880				H(2/4)
		204880			12M	H(2/4)
		204880				H(2/4)

Repair need to provide the inner width size.

LIMIT SWITCH EXPLOSION



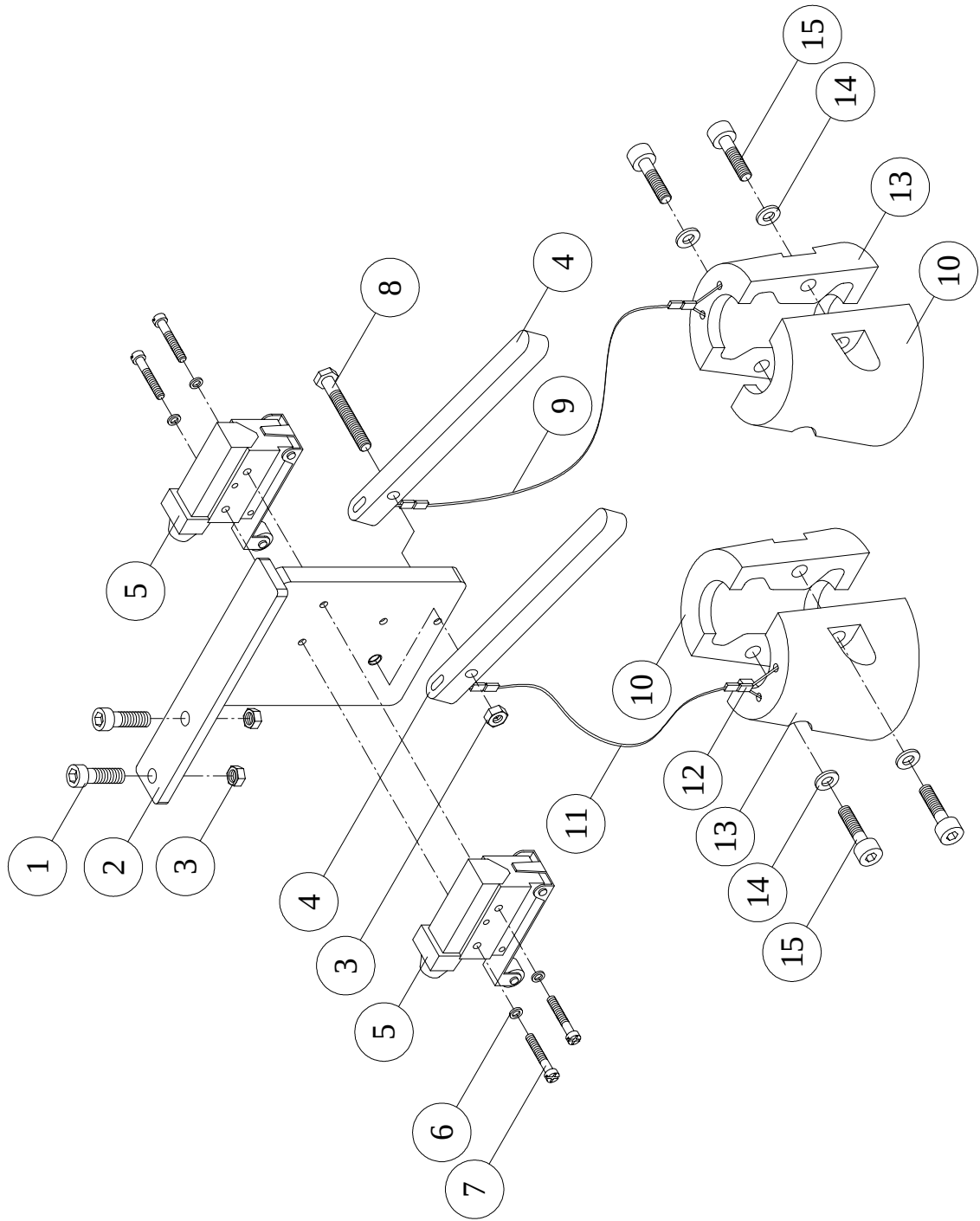
LIMIT SWITCH ASSEMBLY (For Trolley Frame)

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
1	A	Lever Arm	1
2	400084	Nut<M12×1.75>	2
3	205308	Tube<Ø30×12.5×15L>	2
4	400023	Hex. Recess Bolt<M12×1.75×35L>	2
5	300535	Limit Switch	2
6	400003	Hex. Recess Bolt<M5×0.8×16L>	8
7	205309	Limit Plate<t3.0×35×70L>	2
8	205311	Limit Frame<t3.0×100×130L>	1
9	400014	Hex. Recess Bolt<M8×1.25×30L>	2
10	400095	Spring Washer<M8>	2
11	400081	Nut<M8×1.25>	2

KEY NO.	PARTS CODE		DESCRIPTION	Tonnage	Lift	Eel Cable Number (R/F)
1	A	204873	Lever Arm	2T	6M	M (1/2)
		204874				H(2/4)
		204874			9M	M (1/2)
		204874			12M	M (1/2)
		204873		3T	6M	M (1/2)
		204875				L(1/4)
		204875			9M	M (1/2)
		204875				L(1/4)
		204874				H(2/4)
		204875			12M	M (1/2)
		204874				H(2/4)
		204875		5T	6M	L(1/4)
		204875			9M	L(1/4)
		204874			12M	H(2/4)

Repair need to provide the inner width size.

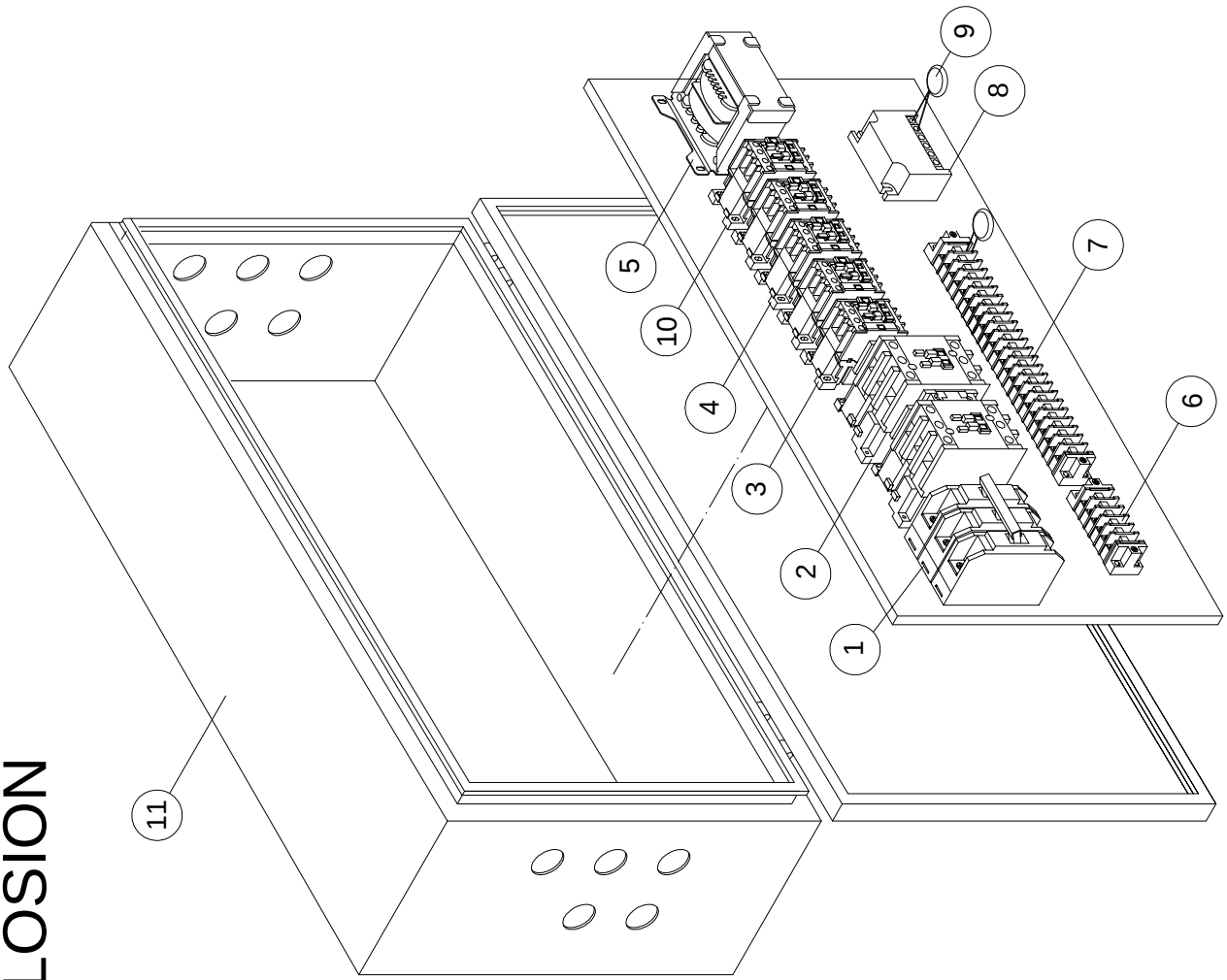
LIMIT SWITCH EXPLOSION



LIMIT SWITCH ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	QTY REQ'D EACH UNIT			
			TPM-100DB	SKL(D)-300DB	TKL(D)-300DB TGL(D)-500DB	SGL(D)-500DB
			6 - 12M	12M	12M	12M
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 × 640L>	1			
	403001	Wire Rope<Ø2 × 780L>		1		
	403001	Wire Rope<Ø2 × 690L>			1	
	403001	Wire Rope<Ø2 × 740L>				1
10	205337	Counter Weight B	2			
	205339			2	2	2
11	403001	Wire Rope<Ø2 × 490L>	1			
	403001	Wire Rope<Ø2 × 560L>		1		
	403001	Wire Rope<Ø2 × 470L>			1	
	403001	Wire Rope<Ø2 × 520L>				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

ELECTRIC EXPLOSION

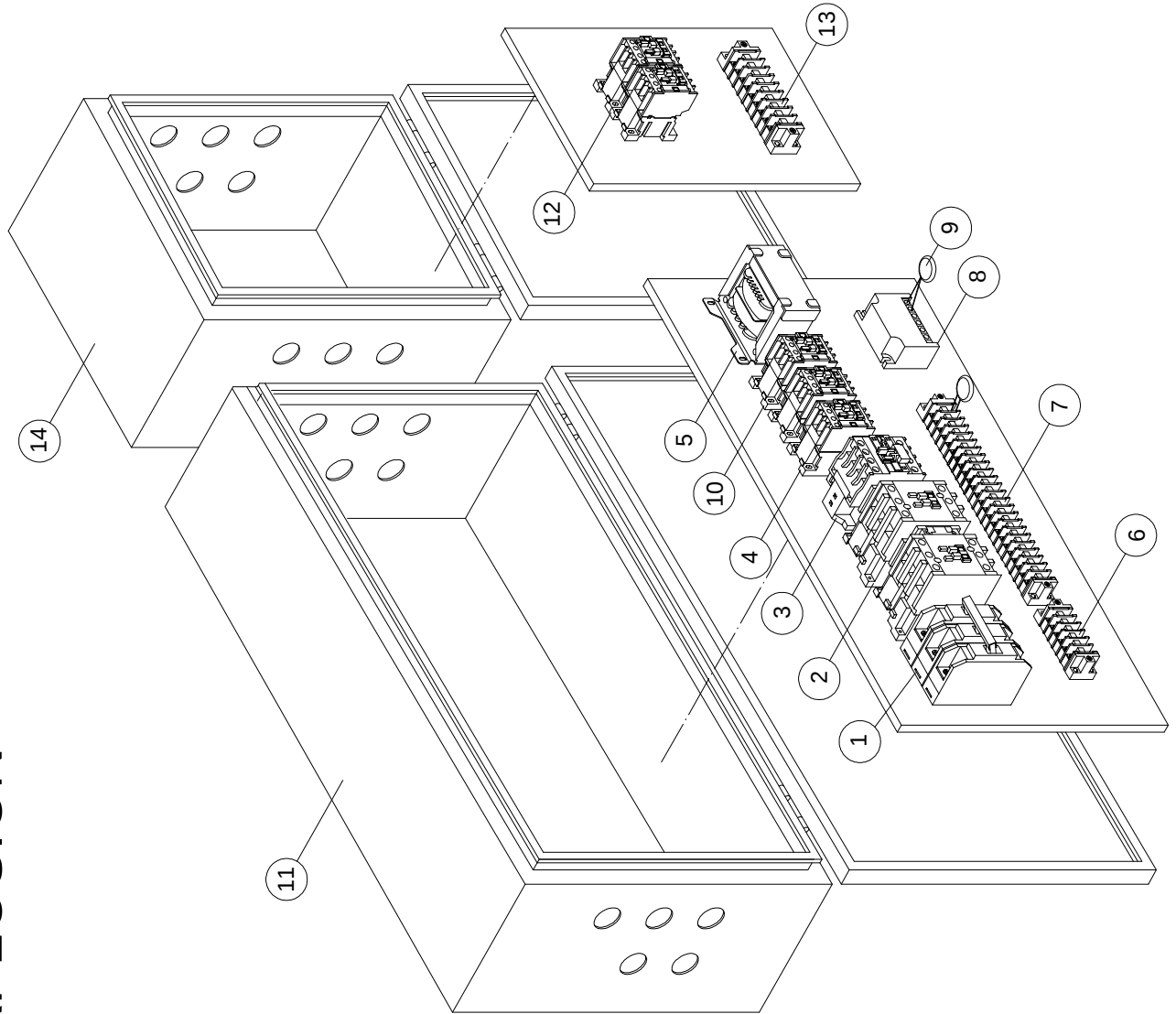


ELECTRIC ASSEMBLY

Single Speed

[illegible]

ELECTRIC EXPLOSION



ELECTRIC ASSEMBLY

Dual Speed

KEY NO.	PARTS CODE	DESCRIPTION		Q'TY REQ'D EACH UNIT			
				1T	2T ; 3T	3T ; 5T	5T
				2.2kW	3kW	5kW	7.5kW
				380V-48V			
1	300888	No Fuse Breaker		1	1	1	1
2	301111	Magnetic Contactor For "Hoisting"	3A1a1b LC1-D18-E7	2	2		
	301115		3A1a1b LC1-D25-E7			2	
	301119		3A1a1b LC1-D32-E7				2
3	300041	Magnetic Contactor For "Fast" "Hoisting"	2A2B LC1-D258-E7	1	1	1	
	300025		2A2B LC1-D40008-E7				1
4	301102	Magnetic Contactor For "Traversing" <3A1a1b LC1-D09-E7>		2	2	2	2
5	301596	Control Transformer<PS-92>		1	1	1	
	301597	Control Transformer<PS-93>					1
6	300647	Terminal Blocks<9P 30A>		1	1	1	1
7	300662	Terminal Blocks<TF 20P 20A>		1	1	1	
	300663	Terminal Blocks<TF 24P 20A>					1
8	300618	Rectifier<BEG-561-440-030-01 >		1	1	1	1
9	300165	Varistor<23G681>		2	2	2	2
10	301102	Contactor<3A1a1b LC1-D09-E7>		1	1	1	1
11	301342	Control Box		1	1	1	
	301343						1
12	301107	Magnetic Contactor For "Travelling" <3A1a1b LC1-D12-E7>		2	2	2	2
13	300660	Terminal Blocks<TF 10P 20A>		1	1	1	1
14	301426	Control Box		1	1	1	1

10. Adjust the air gap as follows :



To prevent hazards and risks, all crane operators must be certified or qualified.

1. Unbolt screws (10) ◦ (FIG-1)
2. Slightly turn threaded sleeve (9) using a spanner ◦ (FIG-1)
 - If the air gap is too large , screw them into the stator (7) ◦
 - If the air gap is too small , screw them out of the stator (7) ◦
 - 1/6 turn change the width of the air gap by approx. 0.15mm ◦

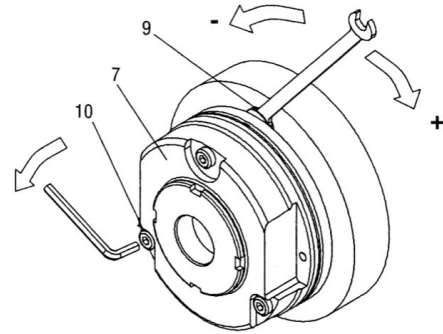


FIG-1

3. Tighten the screws (10) ◦ (FIG-1)
 - BFK459-12E torques is 9 Nm
 - BFK459-14E~16E torques is 24.6 Nm
 - BFK468-18E torques is 24.6 Nm
 - BFK468-20E ~25E torques is 48 Nm
4. Check air gap again using thickness gauge and if necessary , repeat the adjustment ◦ (FIG-2)
 - BFK459-12E~16E air gap is 0.3mm
 - BFK468-18E~20E air gap is 0.4mm
 - BFK468-25E air gap is 0.5mm

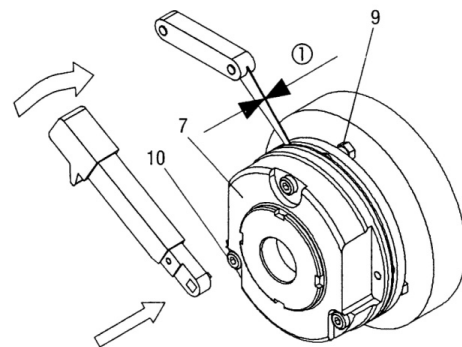


FIG-2

5. Operation for manual release bar ◦ (FIG-3)
 - Ensure main power is off.
 - Remove hoisting motor end cover.
 - Install release bar.
 - Turning direction of the lever.



FIG-3

6. Recover the brake cover , and using the hoist continue ◦

Supply voltage selection table

AC voltage	50/60HZ 220V	50/60HZ 380V 50/60HZ 400V	50/60HZ 415V 50/60HZ 440V	50/60HZ 230V 50/60HZ 460V
Coil rated voltage				
2.2kW - BFK-459-12	DC103V	DC180V	DC103V	DC103V
3/3.5kW - BFK-459-14	DC103V	DC180V	DC103V	DC103V
5kW - BFK-459-16	DC103V	DC180V	DC103V	DC103V
6.5/7.5/8/11kW - BFK-468-18	DC205V	DC360V	DC205V	DC205V
13/18.5kW - BFK-468-20	DC205V	DC360V	DC205V	DC205V

Remark : Before replace brake gear set, please preheat to 200°C then proceed assembly.