



PM WIRE ROPE HOIST



OPERATION MANUAL

&

PARTS LIST

SERIES: A500-S-30

ACE WORLD COMPANIES

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 trust that you will find this " ACE " electric wire rope hoist will give you many years of satisfactory service.

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, 460V-110V, 60 Hz
Lift		30FT(9.1M)
Noise Level (dB)	Single speed hoist	81
Wire Rope diameter	Wll (working load Limit) (t)	Nominal diameter (mm)
	5T(11000 lbs)	Φ10×50M S.IWRC8×P.WS(26)-2160N/mm ²

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

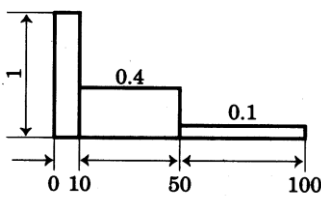
Safety and life for electric wire rope hoists are guaranteed only when the said equipment is operated in accordance with the prescribed grade.

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

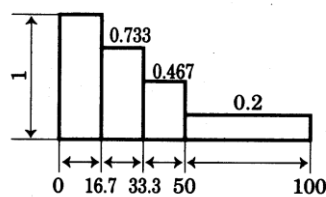
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classification

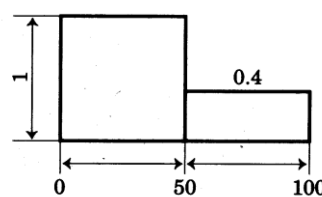
Load Spectrum (Load distribution)	Definitions	Cubic mean value	2m	2m
			Average daily Operation time(h)	Total operating time (h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	4-8	12500
2 (medium)	Mechanisms or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



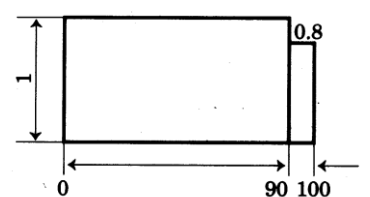
% operating time
Load spectrum 1



% 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) 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.

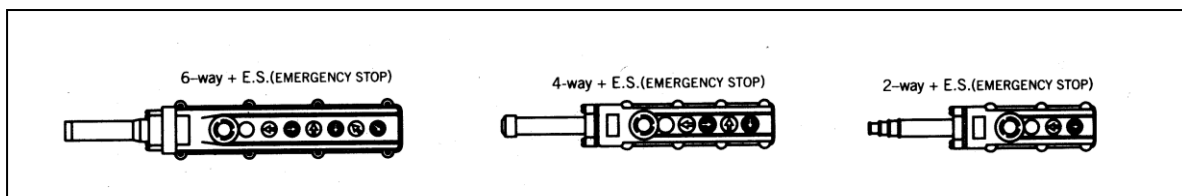
(3) Planetary Geared Limit Switches Assembly

- 1). Up & down are with auto stop limit switch device. Prevent rope over-roll.
- 2). Able to setup / stop location according to working environment.

(4) 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.

⚠ DANGER

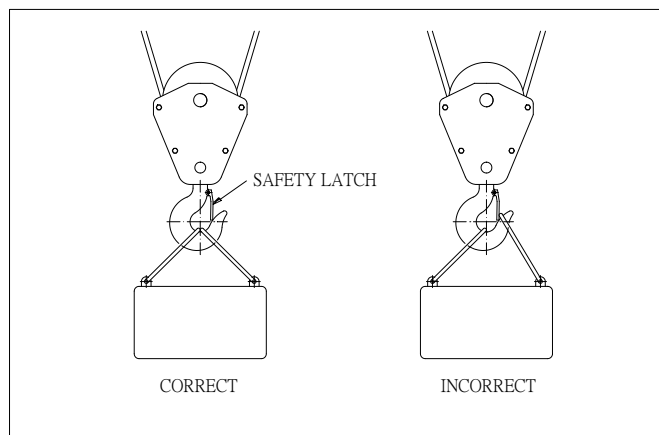
(2)

Do not use the hoist in explosive atmosphere.

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

(a) the correct lifting sling is being used.

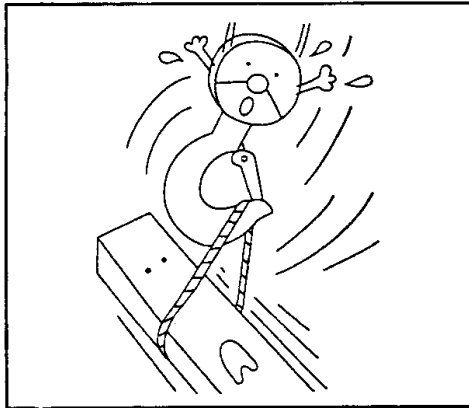
(b) the lifting sling is located in the hook as shown below (Illust. 2) and that a safety latch has been fitted.



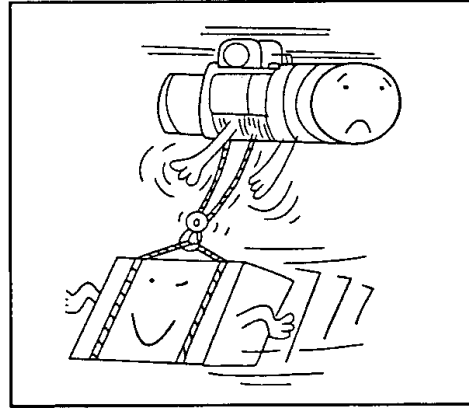
Illust. 2

(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)

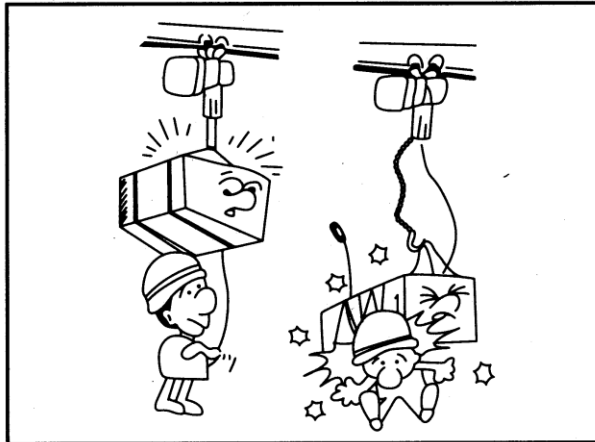
⚠ WARNING

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

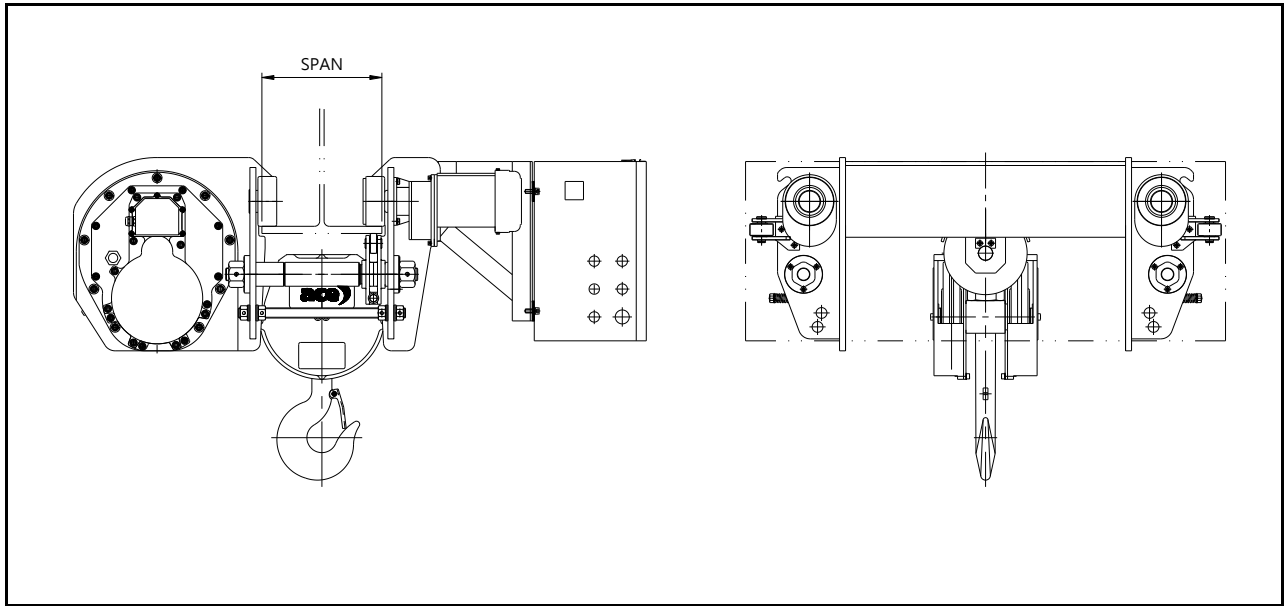
If power supply deviates from standard by more than $\pm 10\%$, abnormal operation or damage to the motor may result. It is imperative to ensure correct voltage supply before commencing operation.

4.3 Installation

WARNING

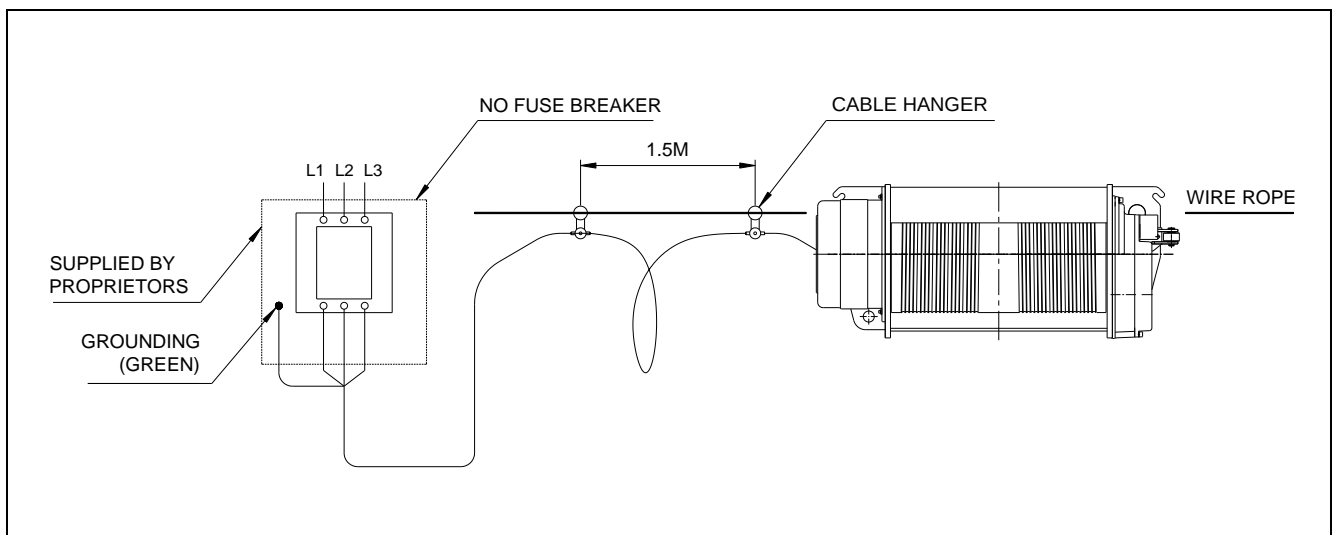
Connection to power supply before installation procedures having been completed is strictly prohibited.

- (1) Prior to installation, the crab hoist should check dimension 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



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



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

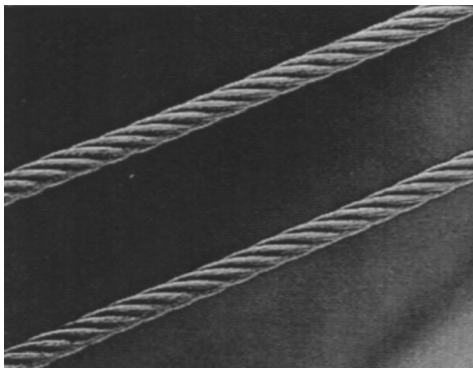


WARNING

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

(a) Wire rope

- a-1: Any single strand 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 losing.

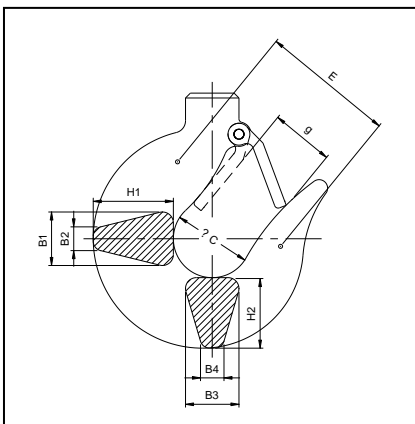


Rope Dia (mm) d	Model Being Used	Construction	Specified Breaking Load (KN)
φ 10	A500-S-30	Steel Wire Rope S.IWRC8×P.WS(26) -2160N/mm ²	103

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	
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	EB
U.S. gal	0.79
Liter	3

Table 6-3-a

Gear Oil No : COSMO #W460

NOTE: 1 (U.S. gal) = 3.78537 Liter

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.

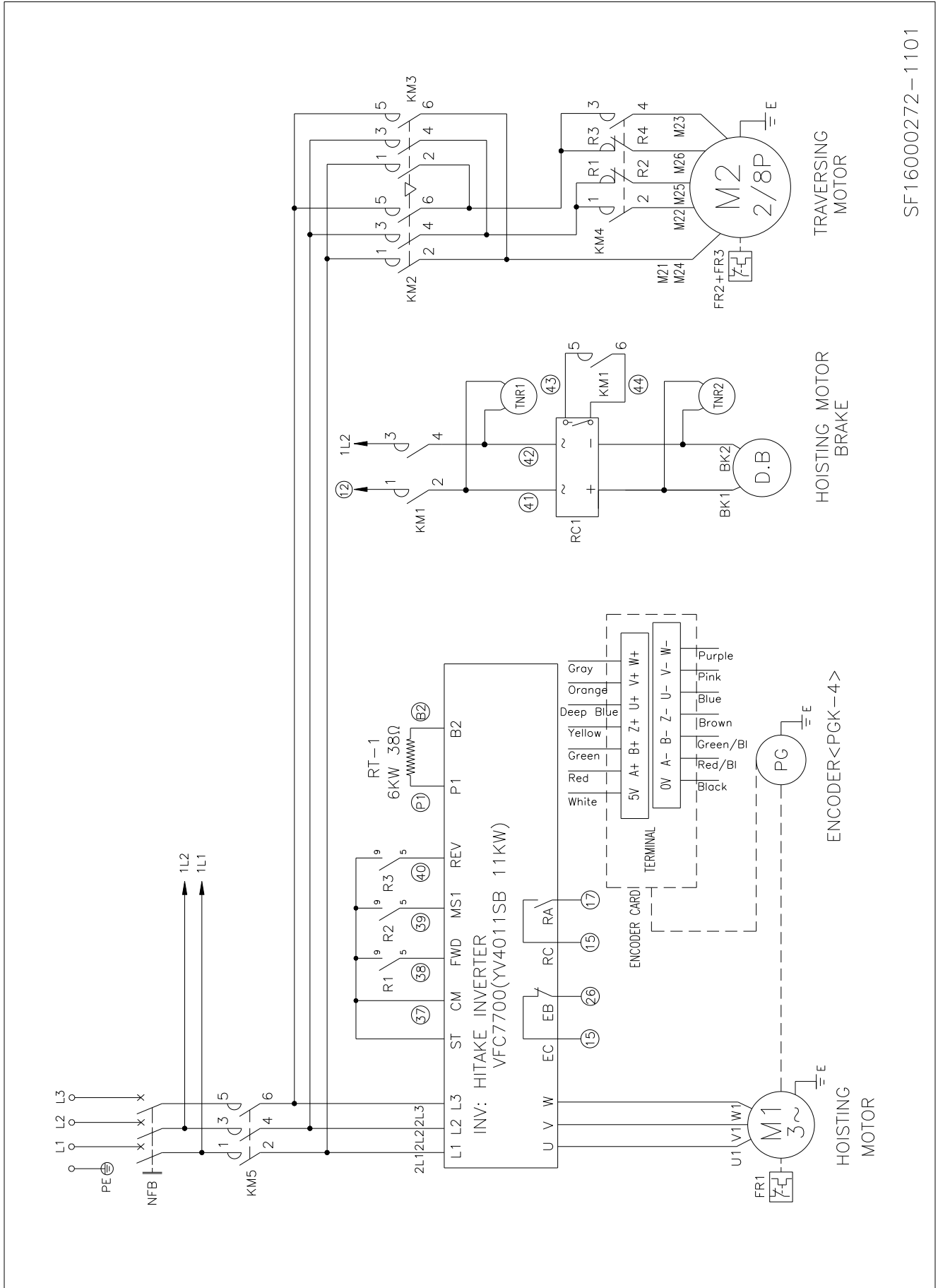
(d) Check operation of pawl spring.

(e) Check AC electromagnetic generator in good condition.

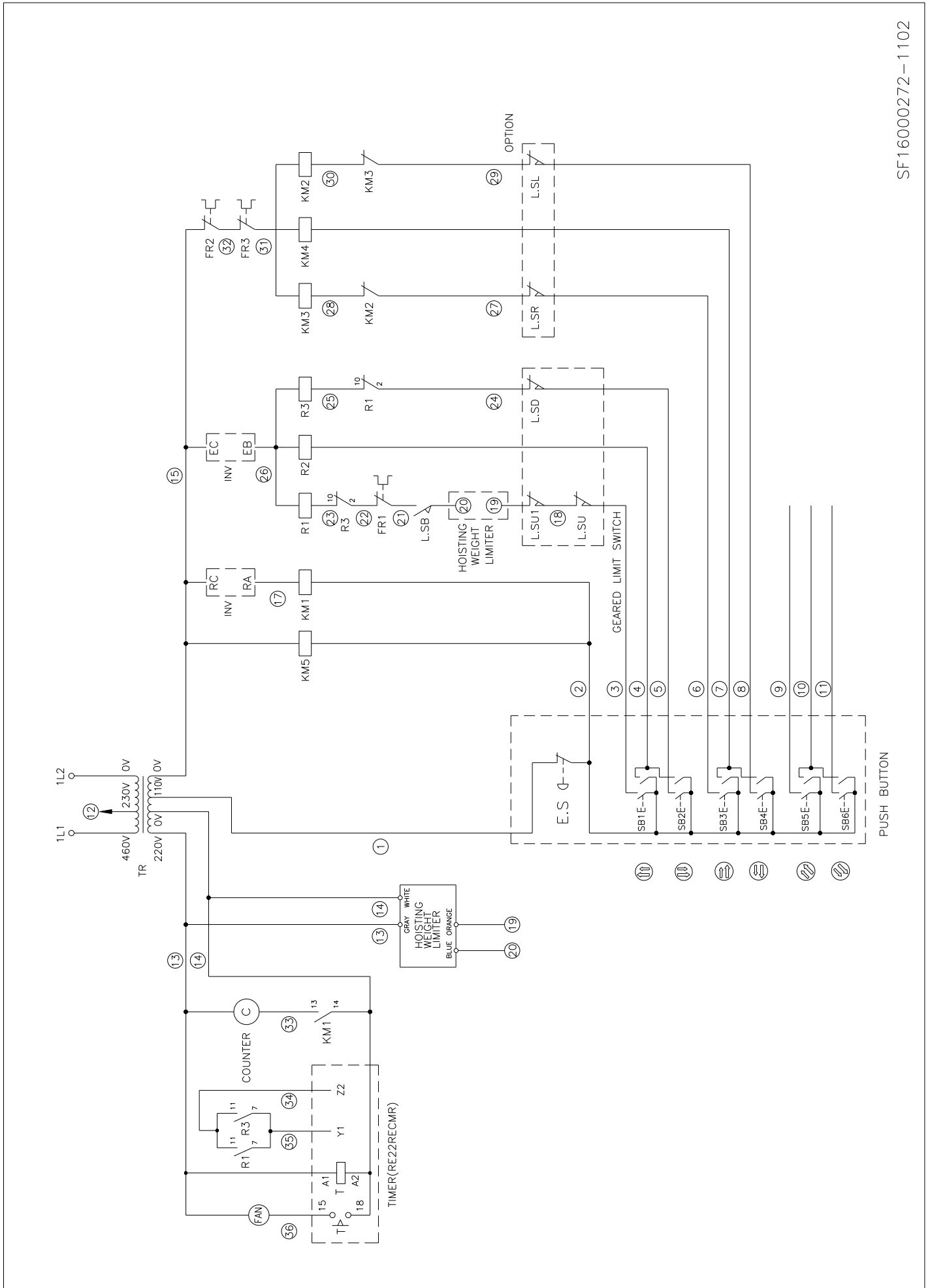
(f) After reassembly of above check, lifting a load several times to ensure good performance of the hoist before starting duty operation.

7. TROUBLESHOOTING

7.1 Wiring Diagrams



SF16000272-1101



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

7.3 Parameter Setting and Auto-Adjust Step (HITAKE VFC-7700)

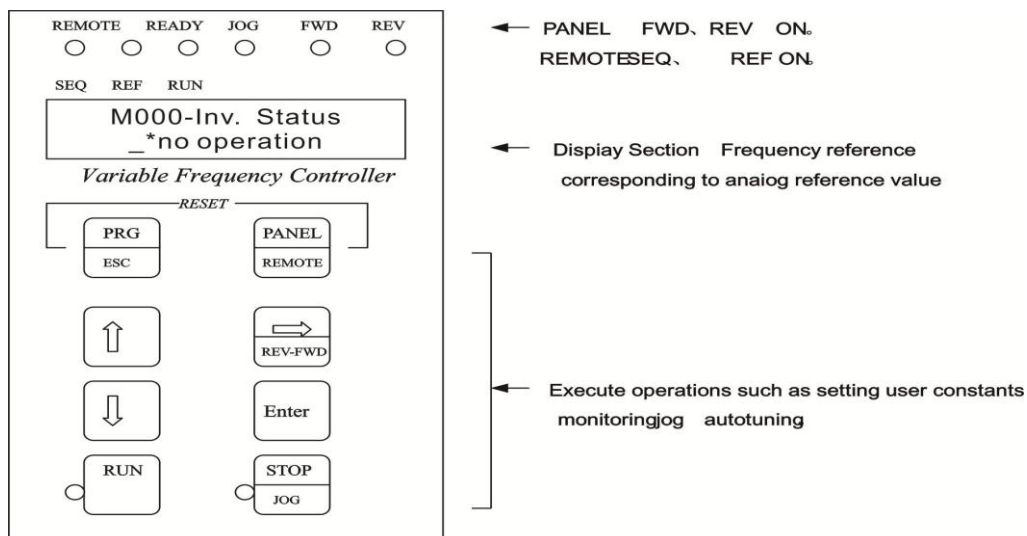
1. Set parameter 12.01 value be 1.
2. Set motor tech. parameter.

Item No.	Parameter	Function	Initial Value	Set Value	Remark
1	0623	SM rated current (A)	--	17.3	Set acc. to the motor tech. parameter
2	0624	SM rated speed (rpm)	--	1200	Set acc. to the motor tech. parameter
3	0625	SM rated frequency (Hz)	--	80	Set acc. to the motor tech. parameter
4	0627	SM rated torque (Nm)	--	71.7	Set acc. to the motor tech. parameter
5	0628	SM current for zero speed(A)	--	17.3	Set acc. to the motor tech. parameter(same as 0623)
6	0632	SM rated power (kW)	--	9	Chang acc. to 0627 adjustment

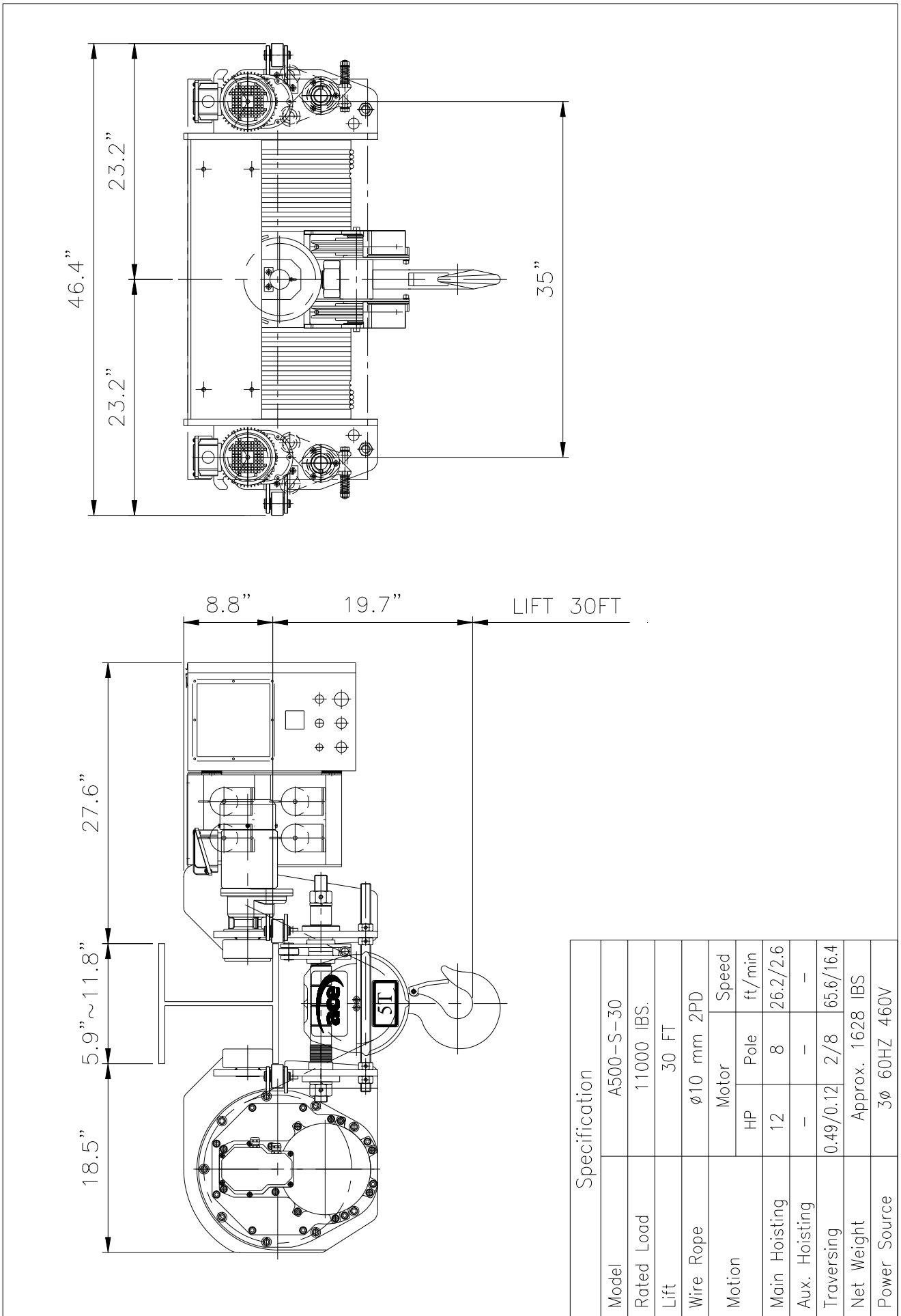
- 3.If the motor parameter revised before, then set parameter 1010 value be 1; if not skip this step.
- 4.Set motor initial identification parameter.

Item No.	Parameter	Function	Initial Value	Set Value	Remark
1	0802	Absolute position encoder 1	57057	2	2 : initial identification

- 5.Set parameter 12.01 value be 0 and displayed "cal. Drive dat".
- 6.During the identification process if displayed "Encoder 1" etc. Errors, which may refer encoder scan direction not correct or motor phase sequence inverse , please set parameter 08.06 value be 1 and make encorder revrsrse and back to step 4.
- 7.After displayed "AutoTuneOK" means motor identification finished, reset parameter 12.01 value be 1.
- 8.Back to step 4 and restart motor identification process.(Suggest motor identification for 3 times, check if parameters 08.02 value similar or not, if all similar then in normal condition.)
9. After motor identification finished, please set 12.01 value be 1.
- 10.Digital operator key description.

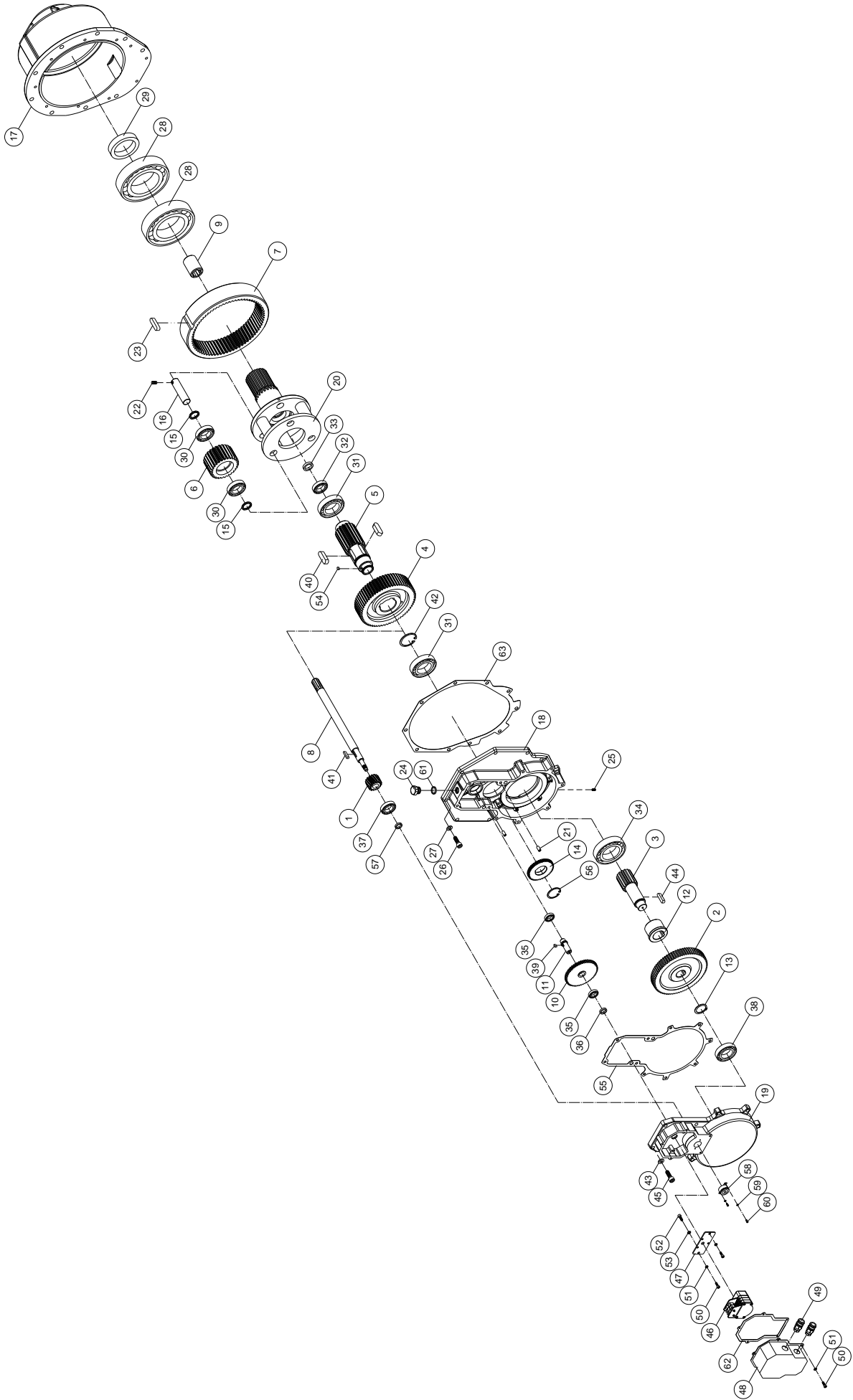


8. MAIN SPECIFICATION AND DIMENSIONS



9. DRAWING AND PARTS LIST

(1) "EB" TYPE GEAR BOX EXPLOSION	22
(2) "EB" TYPE GEAR BOX ASSEMBLY	23
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(6) BOTTOM BLOCK ASSEMBLY	28
(7) SADDLE FRAME EXPLOSION	29
(8) SADDLE FRAME ASSEMBLY	30
(9) TRAVERSING MOTOR EXPLOSION	32
(10) TRAVERSING MOTOR ASSEMBLY	33
(11) ELECTRIC EXPLOSION	34
(12) ELECTRIC ASSEMBLY	34



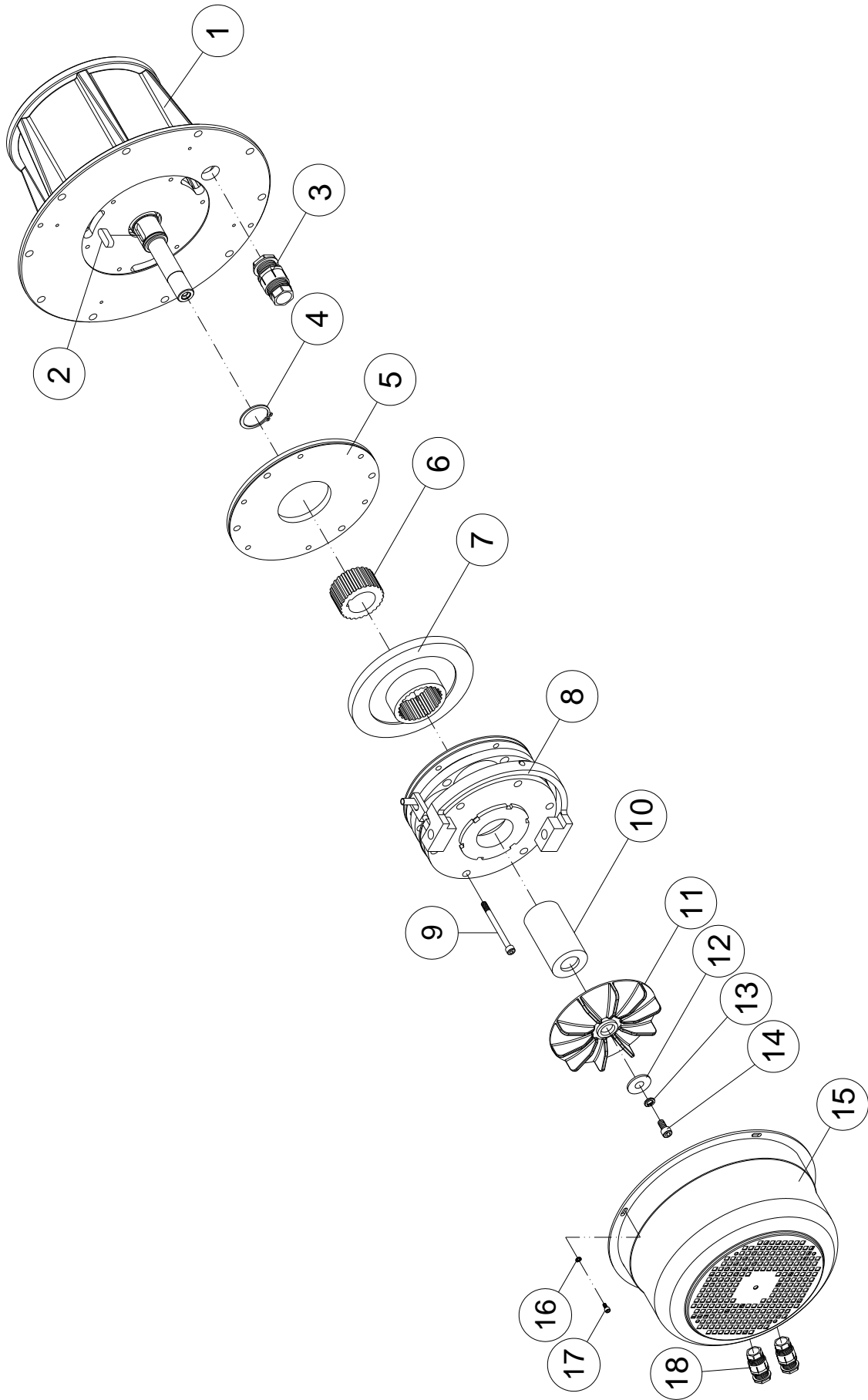
EB TYPE GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			"EB" TYPE
1	265983	1 st Gear <M2.5×18T>	1
2	265984	2 nd Gear <M2.5×73T>	1
3	209189	3 rd Gear <M3.0×15T>	1
4	265985	4 th Gear <M3.0×64T>	1
5	265997	5 th Gear <M3.5×18T>	1
6	265998	Pinion <M3.5×27T>	3
7	265999	Internal Gear <M3.5×72T>	1
8	205399	Drum Shaft < ø33×369>	1
9	271927	Coupling < ø44×62L>	1
10	266000	8 th Gear <M2.0×31T>	1
11	275056	Connecting Rod < ø25×70>	1
12	209188	Bushing < ø 65× ø 38×44>	1
13	404161	Retaining Ring <S-38>	1
14	265939	7 th Gear <M2.0×44T>	1
15	228585	Spacer < ø35×ø26×5t>	6
16	209190	Gear Shaft < ø25×97>	3
17	268057	Gear Case A	1
18	268058	Gear Case B	1
19	F16000272119	Gear Case Cover	1
20	200573	Big Reduction Gear Frame	1
21	205327	Spring Pin < ø12×ø8.5×14t>	2
22	400204	Set Screw <M8×1.25×12>	3
23	400952	Key <t20×13×60>	1
24	206856	Oil Plug <7/8"×14UNF>	1
25	400591	Drain Plug <3/8"PT>	1
26	400097	Spring Washer <M12>	9
27	400023	Hex. Recess Bolt <M12×1.75×35>	9
28	400790	Bearing <6216 Z>	2
29	400933	Oil Seal <ø80×ø105×12t>	1
30	400148	Bearing <6305 Z>	6
31	400797	Bearing <6210 Z>	2
32	400716	Bearing <6206 Z>	1

GEAR BOX ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			"EB" TYPE
33	404512	Oil Seal <ø30×ø45×8t>	1
34	405689	Cylindrical Roller Bearing<MJ 312>	1
35	400694	Bearing <6203 Z>	2
36	400181	Oil Seal <ø17×ø28×6t>	1
37	400820	Bearing <6304 Z>	1
38	400150	Bearing <6306 Z>	1
39	400958	Key <t5×5×10>	1
40	400992	Key <t16×10×50>	2
41	405914	Key <t6×6×30>	1
42	400909	Retaining Ring <S-55>	1
43	400431	Hex. Recess Bolt <M10×1.5×30>	20
44	400978	Key <t10×10×40>	1
45	400096	Spring Washer <M10>	20
46	268511	Planetary Geared Limit Switch Ass'y	1
47	210587	Limit Plate <t3×43×100>	1
48	210588	Limit Switch Cover	1
49	400222	Rubber Cap <M20-13>	2
50	400005	Hex. Recess Bolt <M6×1.0×12>	8
51	400094	Spring Washer <M6>	8
52	400002	Hex. Recess Bolt <M5×0.8×12>	3
53	400093	Spring Washer <M5>	3
54	400961	Key <t6×6×10>	1
55	402673	Gear Case Gasket B	1
56	400195	Retaining Ring <S-40>	1
57	404446	Oil Seal < ø20×ø40×7L>	1
58	107069	Resolver < OIH48-2500P8-L6-5V >	1
59	405301	Spring Washer <M3>	2
60	400623	Cross Headed Screw <M3×0.5×5>	2
61	404341	O Ring < ø20×ø26×3>	1
62	402674	Limit Switch Cover Gasket	1
63	402675	Gear Case Gasket A	1

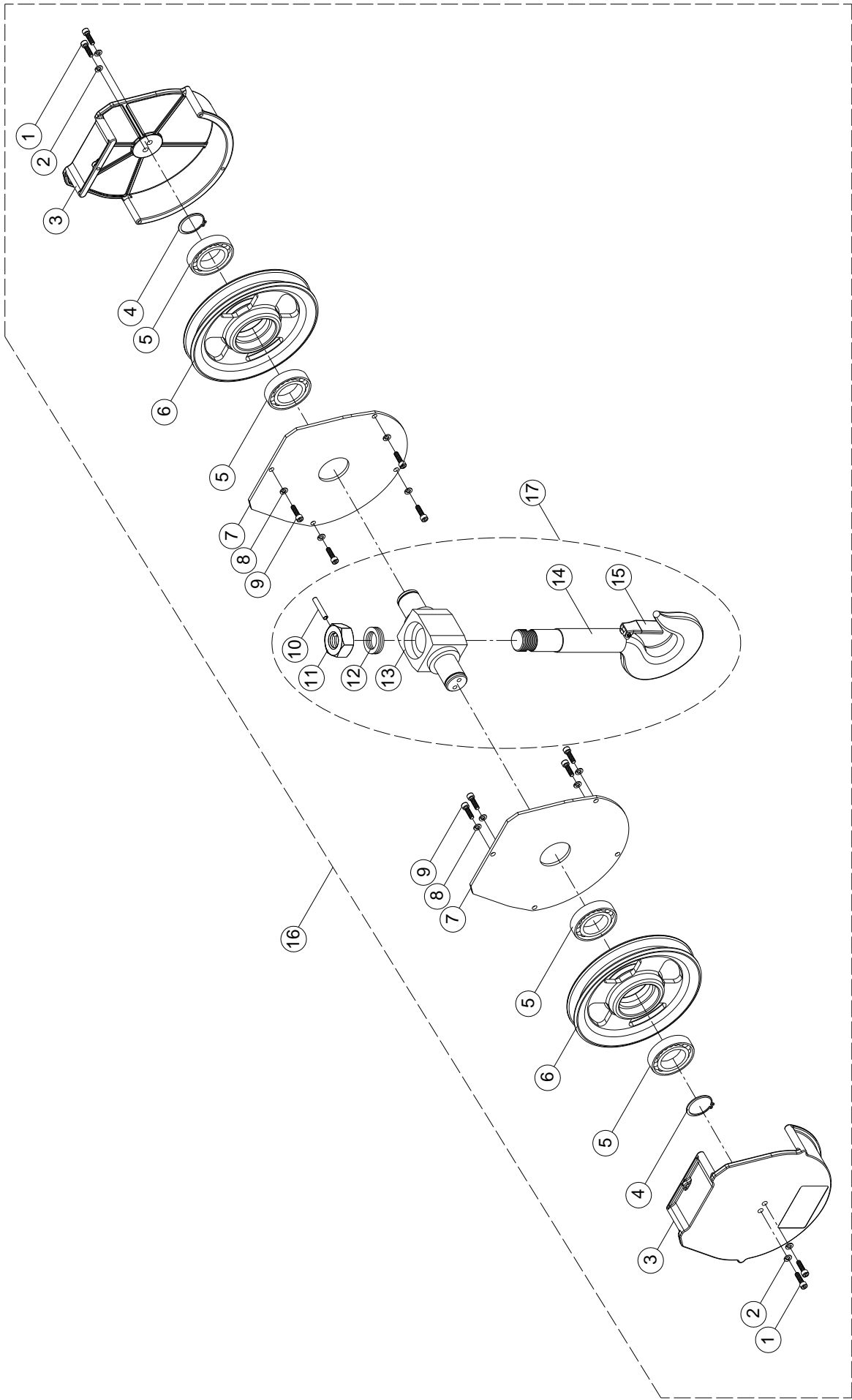


MOTOR EXPLOSION

MOTOR ASSEMBLY

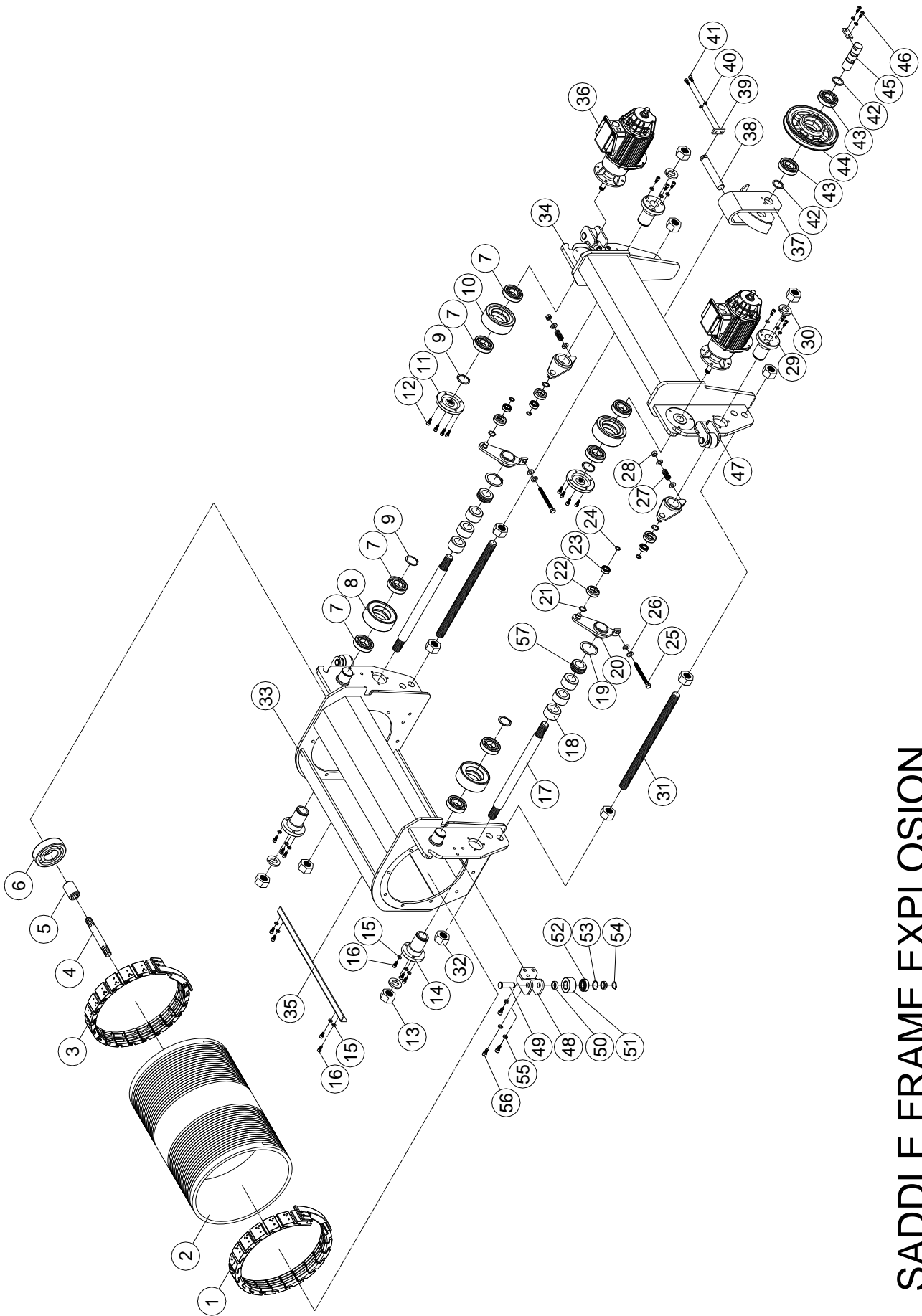
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			9KW 8P
1	F16000272120	Motor Stator Ass'y	1
2	405942	Key <t12×8×35L>	1
3	400222	Cable Gland <M20-13>	1
4	400195	Retaining Ring <S-40>	1
5	108524	Flange BFK468-18E	1
6	100131	Disc Hub ø40 BFK458-18E	1
7	100138	Friction Disc BFK458-18E	1
8	108511	DC Solenoid BFK468-18E	1
9	408429	Hex. Recess Bolt <M8×1.25×105L>	6
10	243958	Sleeve <ø34×ø28×80>	1
11	404064	Fan	1
12	243959	Washer <ø50×ø9×6t>	1
13	400095	Spring Washer <M8>	1
14	400013	Hex. Recess Bolt <M8×1.25×25>	1
15	105480	Cover	1
16	400094	Spring Washer <M6>	4
17	400004	Hex. Recess Bolt <M6×1.0×8>	4
18	400941	Cable Gland <M25-18>	2

BOTTOM BLOCK EXPLOSION



BOTTOM BLOCK ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			A500-S-30
1	400449	Hex. Recess Bolt <M10×1.5×25>	4
2	400096	Spring Washer <M10>	4
3	F16000272113	Bottom Block Cover Ass'y	2
4	400196	Retaining Ring <S-45>	2
5	400147	Bearing <6209 Z>	4
6	F16000272112	Sheave <ø226×ø85 t43>	2
7	F16000272114	Bottom Block Cover	2
8	400095	Spring Washer <M8>	8
9	400012	Hex. Recess Bolt <M8×1.25×20>	8
10	400214	Spring Pin <ø8×70>	1
11	400644	Nut <1 3/4" ×5UNC >	1
12	400162	Thrust Bearing <51209>	1
13	F16000272116	Bearing Housing	1
14	F16000272115	Bottom Hook	1
15	400302	Safety Latch	1
16	F16000272110	Bottom Block Ass'y	1
17	F16000272111	Bottom Hook Ass'y	1



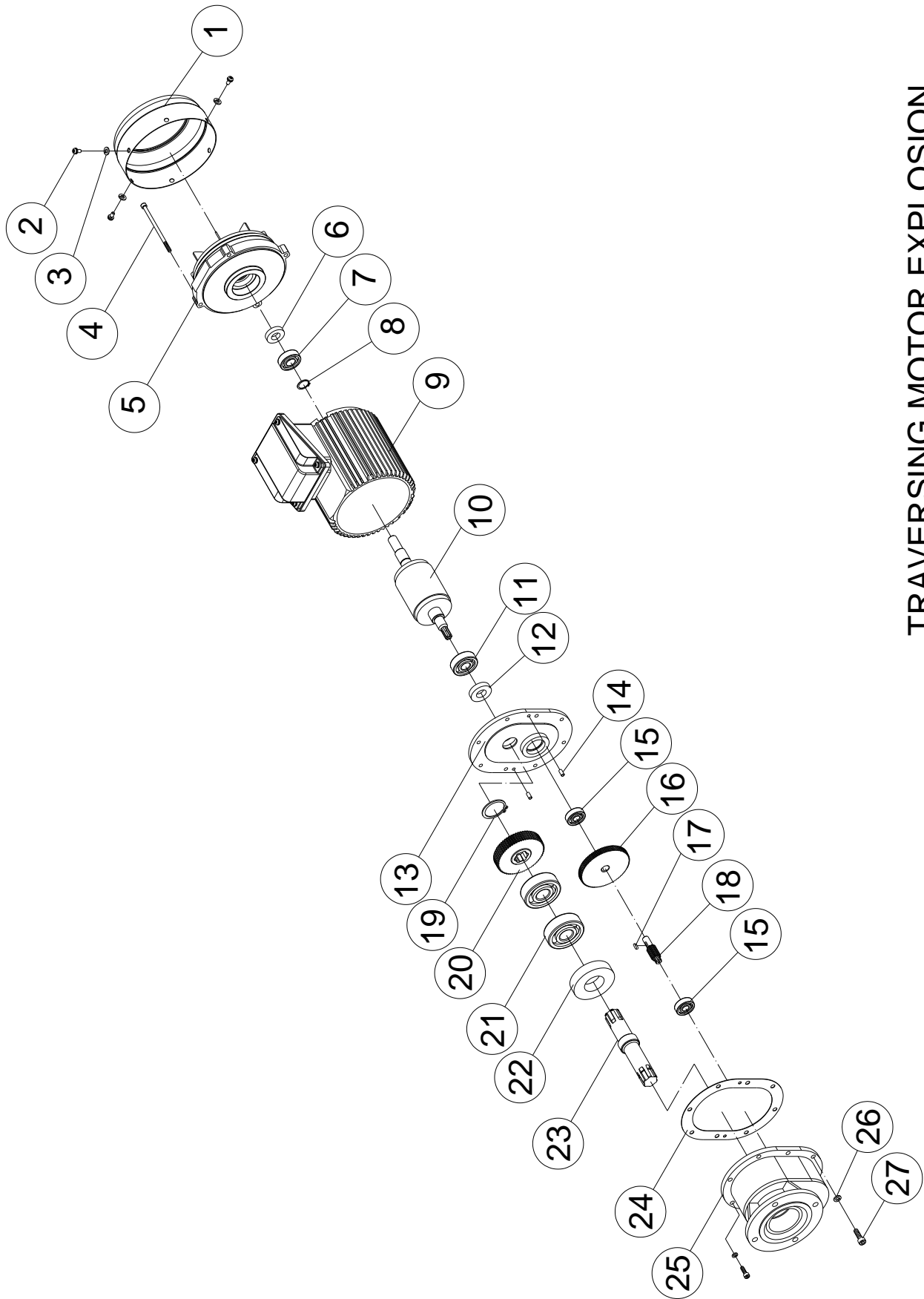
SADDLE FRAME EXPLOSION

SADDLE FRAME ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			A500-S-30
1	272876	Wire rope guide <Left Thread>	1
2	267995	Drum	1
3	272875	Wire rope guide <Right Thread >	1
4	263164	Drum Shaft	1
5	271927	Coupling	1
6	405686	Bearing <6217 ZZ>	1
7	407855	Bearing <6009 ZZ>	8
8	F16000272122	Plain Wheel	2
9	400196	Retaining Ring <S-45>	4
10	F16000272121	Transmission Wheel	2
11	201056	Transmission Wheel Cover	2
12	400424	Hex. Recess Bolt <M8×1.25×16>	8
13	202011	Nut <1 1/4" × 7UNC>	4
14	268379	Bracket (Plain)	2
15	400095	Spring Washer < M8>	14
16	400012	Hex. Recess Bolt <M8×1.25×20>	12
17	207378	Support Shaft << 1 1/4"×7UNC×565>	2
18	271316	Sleeve <ø53×ø35×50>	10
19	400197	Retaining Ring <S-50>	2
20	205664	Equalizer Support Ass'y	4
21	404181	Retaining Ring <R-35>	4
22	F16000272124	Support Wheel	4
23	405635	Bearing <6003 ZZ>	4
24	404184	Retaining Ring <S-17>	4
25	408617	Hex. Bolt <M10×1.5×130>	2
26	400865	Flat Washer <M10>	8
27	408656	Heavy Load Spring TH25-50	2
28	400089	Lock Nut <M10×1.5>	2
29	268350	Bracket (Drive)	2
30	400105	Spring Washer <1 1/4">	4
31	408450	Stay Bolt <1"×8UNC×520>	2
32	202009	Nut <1"×8UNC>	8

SADDLE FRAME ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			A500-S-30
33	F16000272101	Plain Frame Ass'y	1
34	F16000272103	Drive Frame Ass'y	1
35	228370	Wire Rope Guide Baffle	1
36	F16000130001	Traversing Motor Ass'y <0.37KW 2/8P>	2
37	271913	Link Equalizer	1
38	205470	Load Axle <ø28×165L>	1
39	200636	Keeper <ø8.5 t6.0×25×50L>	2
40	400095	Spring Washer <M8>	4
41	400013	Hex. Recess Bolt <M8×1.25×25L>	2
42	203224	Washer <ø60×ø40×1/8">	2
43	407831	Bearing <6208 Z>	2
44	271915	Equalizer Sheave <ø206×50>	1
45	271912	Load cell	1
46	400011	Hex. Recess Bolt <M8×1.25×15L>	2
47	228558	Guide Wheel Frame A	2
48	228559	Guide Wheel Frame B	2
49	228584	Guide Wheel Axle < ø25×65 >	4
50	228583	Spacer < ø30×ø21×10 >	8
51	F16000272123	Guide Wheel < ø58×30 >	4
52	407843	Bearing <6204 ZZ>	4
53	400198	Retaining Ring <R-47>	4
54	400191	Retaining Ring <S-20>	4
55	400096	Spring Washer <M10>	12
56	400449	Hex. Recess Bolt <M10×1.5×25>	12
57	203223	Sleeve <ø54×ø 34×1/8">	24

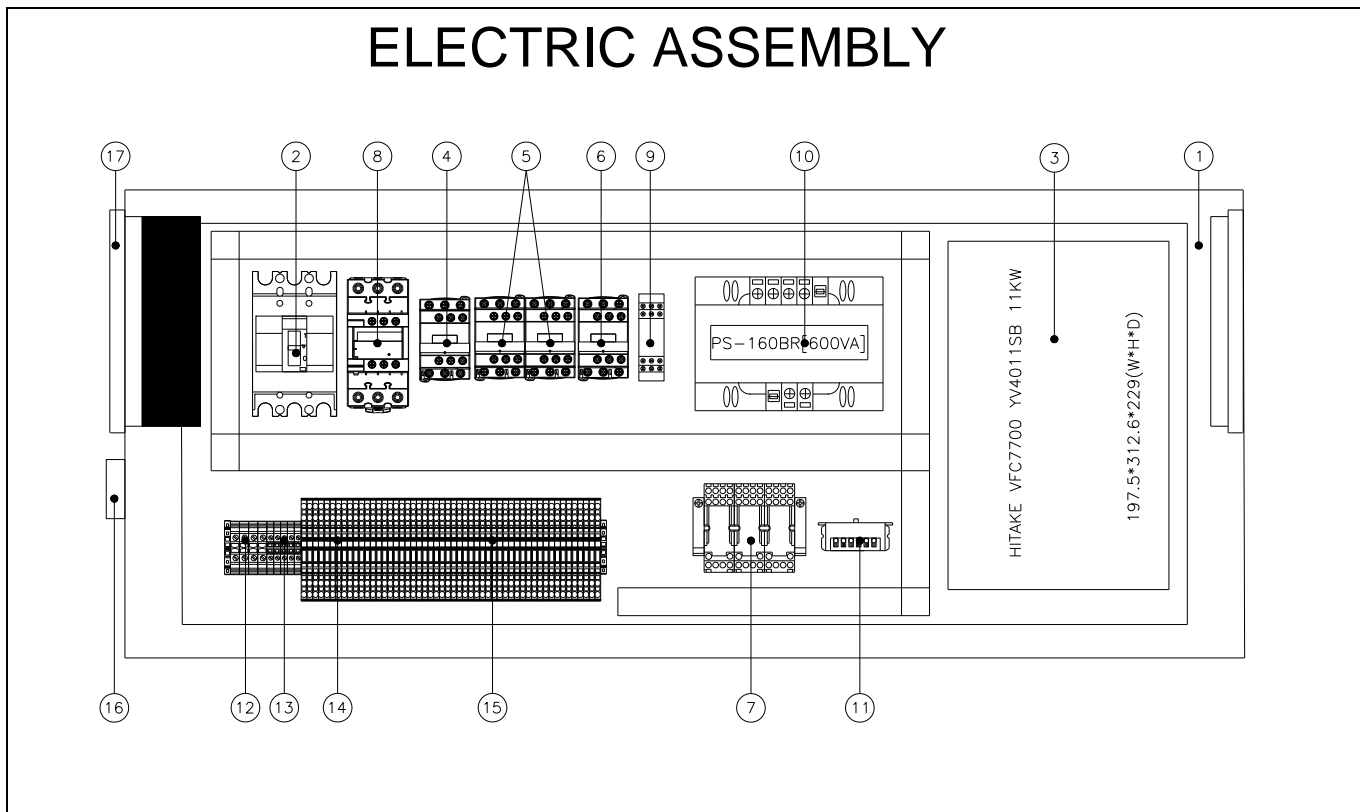


TRAVERSING MOTOR EXPLOSION

TRAVERSING MOTOR ASSEMBLY

KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			0.37KW
1	108098	Brake End Cover	1
2	400620	Cross Headed Screw < M5×0.8×8L>	4
3	400093	Spring Washer <M5>	4
4	408636	Hex. Bolt <M5×0.8×160>	4
5	108096	Brake Ass'y (SBV-YSO71)	1
6	400932	Oil Seal <ø15×ø30×7t>	1
7	400111	Bearing <6202 ZZ >	1
8	404184	Retaining Ring <S-17>	1
9	F16000272120	Motor Stator Ass'y	1
10	108714	Motor Rotor < ø125×ø65× ø70>	1
11	400732	Bearing <6203 ZZ >	1
12	404413	Oil Seal <ø17×ø35×8t>	1
13	108648	Flange	1
14	400212	Spring Pin <ø5×16L>	2
15	405570	Bearing <6200 ZZ >	2
16	265946	2nd Gear <M0.8x100T>	1
17	405985	Key <t4x4x12>	1
18	265947	3rd Gear <M1.25x9T>	1
19	400192	Retaining Ring <S-25>	1
20	265948	4th Gear <M1.25x62T>	1
21	407807	Bearing <6205 ZZ >	2
22	404493	Oil Seal < ø52× ø32×11t >	1
23	265949	Transmission Shaft With Pinion	1
24	402672	Gearbox Gasket	1
25	269670	Gearbox	1
26	400094	Spring Washer <M6>	8
27	400007	Hex. Recess Bolt < M6x1.0x20>	8

ELECTRIC ASSEMBLY

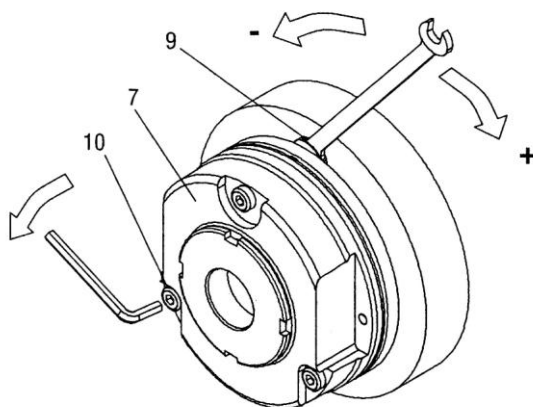


ELECTRIC ASSEMBLY

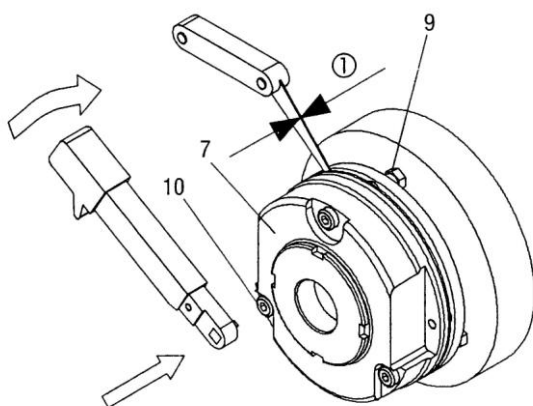
KEY NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D EACH UNIT
			A500-S-30
1		Control Box	1
2	301328	No Fuse Beraker	1
3	302371	Inverter Hitake VFC7700 YV4011SB 11KW	1
4	301103	Contactora LC1-D09-F7	1
5	301108	Contactora LC1-D12-F7	2
6	300037	Contactora LC1-D128-E7	1
7	300443	Relay RXM4AB2E7 120V	3
8	301124	Contactora LC1-D40A-F7	1
9		Timer RE22R1CMR AC220V	1
10	300885	Transformer PS-160BR [600VA]+FUSE	1
11	300593	Rectifier BEG-561-255-030	1
12	302354	Terminal Blocks UT 6	3
	302355	Terminal Blocks UT 6-PE	1
13	302348	Terminal Blocks PT 2,5	5
14	302342	Terminal Blocks PT 2,5	8
15	302342	Terminal Blocks PT 2,5	43
	302343	Terminal Blocks PT 2,5	1
16	302318	Counter	1
17	302284	Fan 6"	1

10. Adjust the air gap as follows:

1. Unbolt screws (10) ◦
2. Slightly turn threaded sleeve (9) using a spanner ◦
 - 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 ◦
3. Tighten the screws (10) ◦
BFK458-12 torques is 9.5 Nm
BFK458-14~18 torques is 23 Nm
BFK458-20 torques is 46 Nm



4. Check air gap again using thickness gauge and if necessary ◦ repeat the adjustment ◦
BFK458-12~16 air gap is 0.3mm
BFK458-18~20 air gap is 0.4mm
5. Recover the brake cover ◦ and using the hoist continue ◦



Supply voltage selection table

AC voltage	Coil rated voltage
3φ 50/60Hz 460V	DC 205V

Remark : Before replace brake gear set, please preheat to 20°C then proceed assembly.