



ELECTRIC WIRE ROPE HOIST

OPERATION MANUAL & PARTS LIST

SERIES:

☐ TUAH(D)-100

☐ TUBH(D)-200

☐ TUCH(D)-300

☐ TUDH(D)-500

☐ TUEAH(D)-750

☐ TUF AH(D)-1000

☐ TUIH(D)-1500

☐ TUII(D)-2000

☐ SUBH(D)-200

☐ SUCH(D)-300

☐ SUDH(D)-500

☐ SUEAH(D)-750

☐ SUFAH(D)-1000

☐ SUIH(D)-1500

☐ SUII(D)-2000



CHENG DAY MACHINERY WORKS CO., LTD.

SAFETY-IMPORTANT

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

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



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH IF NOT FOLLOWED COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL AND ANY PROVIDED WITH THE EQUIPMENT BEFORE ATTEMPTING TO OPERATE YOUR "BLACK BEAR" ELECTRIC WIRE ROPE HOIST.



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1.FOREWORD

This manual contains important information to help you properly install, operate and maintain the Black Bear 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 Black Bear 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	IP 40
Electric power supply		Three Phase,230V-110V,60Hz Three Phase,460V-110V,60Hz
Noise Level (dB)	Single speed hoist	81
	Dual Speed hoist	81
Wire Rope diameter	WLL (working load limit)(t)	Nominal diameter (mm)
	1T (2200lbs)	Ø6 19×7(181kg/mm ²)
	2T (4400 lbs)	Ø8 19×7(195kg/mm ²)
	3T (6600 lbs)	Ø10 19×7(195kg/mm ²)
	5T (11000 lbs)	Ø10 19×7(195kg/mm ²)
	7.5T (16500 lbs)	Ø12 19×7(195kg/mm ²)
	10T (22000 lbs)	Ø14 19×7(195kg/mm ²)
	15T (33000 lbs)	Ø18 19×7(195kg/mm ²)
	20T (44000 lbs)	Ø18 19×7(195kg/mm ²)

Remarks:

- (1) Contact an authorized Black Bear dealer for information on using the hoist outside the working temperature or humidity range.
- (2) Intended use: This hoist has been designed for vertically lifting and lowering load under normal atmospheric conditions of work place.
- (3) Noise levels were measured at a distance of 1m horizontally from the hoists during normal operation.

2.2 Mechanical Classification (Grade) and Life

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

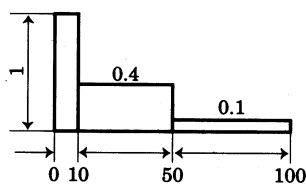
Black Bear electric wire rope hoists have been designed according to FEM-2m regulations (FEM 9.511).

Details are provided in Table 2-2.

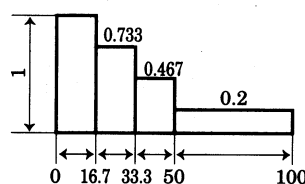
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classification

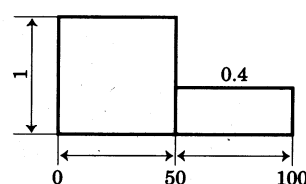
Load Spectrum (Load distribution)	Definitions	Cubic mean value	Average daily operating time (h)	Total operating time (h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	4 - 8	12500
2 (medium)	Mechanisms or parts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



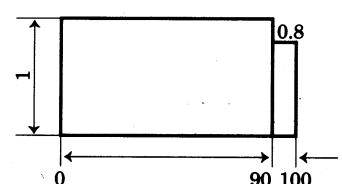
% operating time
Load spectrum 1



% operating time
Load spectrum 2



% operating time
Load spectrum 3



% operating time
Load spectrum 4

2.3 Safety Devices

(1) Motor brake

"AC Electro-Magnetic Brake" is of a unique design in its field. It features simultaneous motor braking upon removing power even under full load condition.

(2) Mechanical load brake

The mechanical load brake can hold a full capacity load independent of motor brake. This brake assures that load does not accelerate while being lowered.

(3) Hook and hook latch

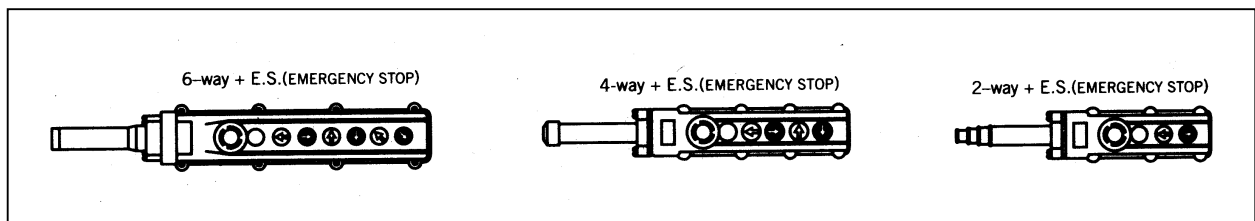
The hook is drop - forged from high tensile steel and heat treated for strength and toughness. The button hook is capable of 360°swivel and fitted with safety latch to ensure safe lifting.

(4) Limit Switches

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

(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 in the uppermost position on 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 to 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 , re-rate, or otherwise alter the hoist equipment must be authorized by either the original manufacturer or a qualified professional engineer.

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

(2)

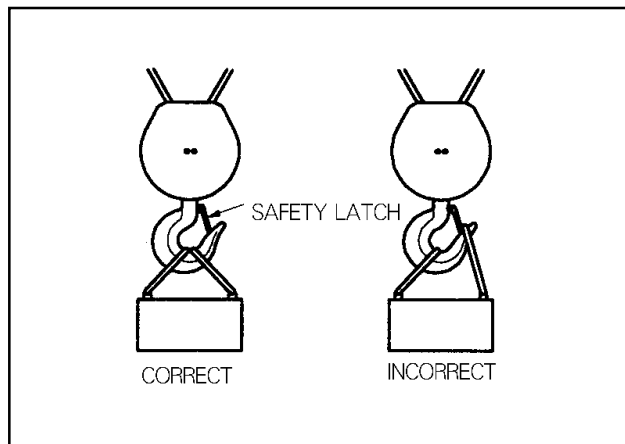
DANGER

Do not use the hoist in explosive atmosphere.

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

(a) The correct lifting sling is being used.

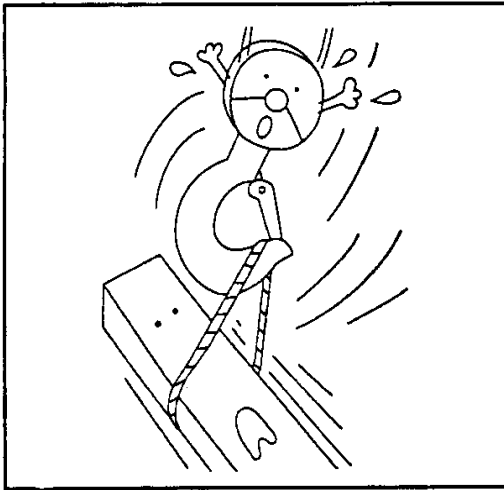
(b) The lifting sling is located in the hook as shown below (Illust. 2) and that a safety latch has been fitted.



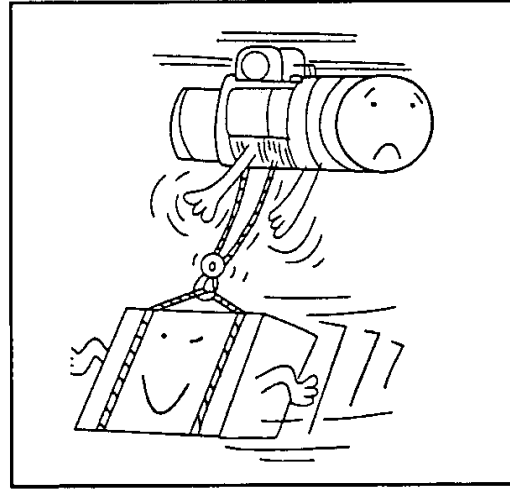
Illust. 2

(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, avoid jogging.
- (5) Avoid excessive inching operation.
- (6) Always make sure the hoist motor completely stops before reversing.
- (7) Always leave the pendant button switch cable and bottom hook vertically static after completion of operation, never leave them at any position, which may allow them 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 Side load, back load, or tip load a hook. (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)



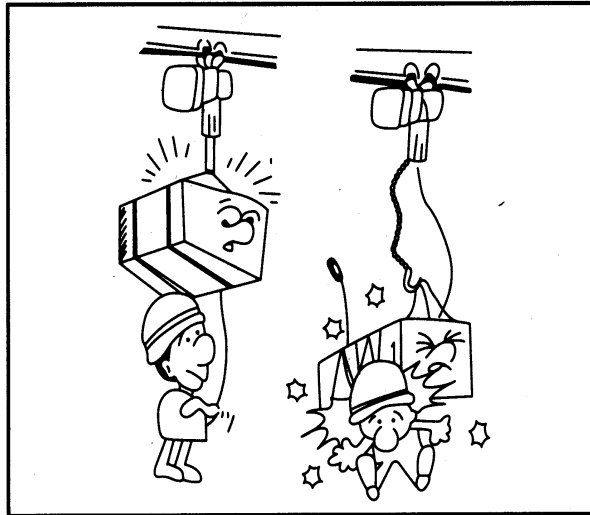
WARNING

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

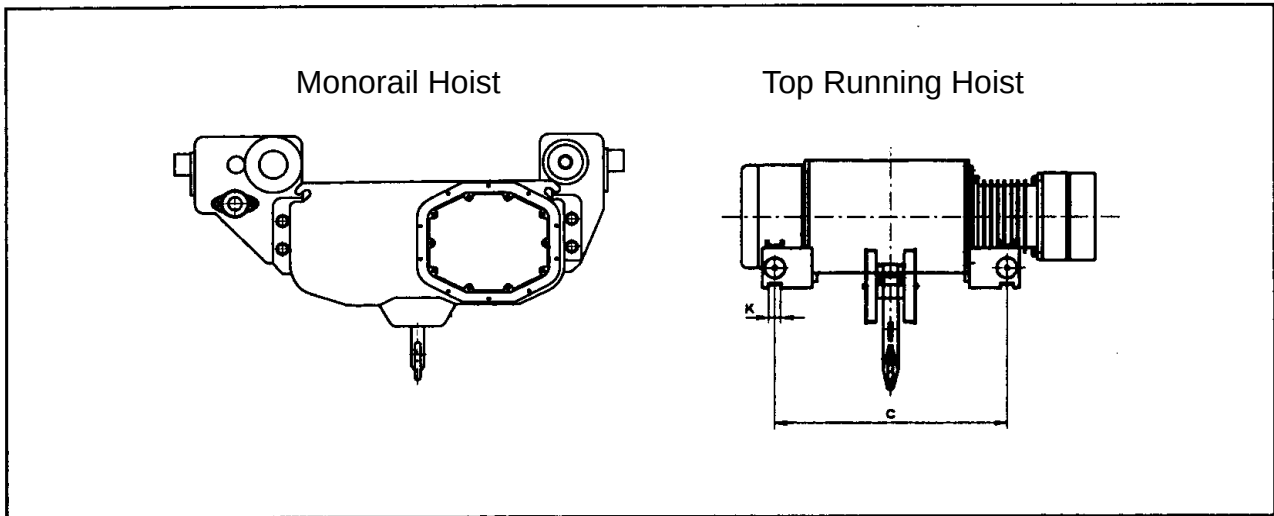
If power supply deviates from standard by more than $\pm 10\%$, abnormal operation or damage to the motor may result. It is imperative to ensure correct voltage supply before commencing operation.

4.3 Installation

WARNING

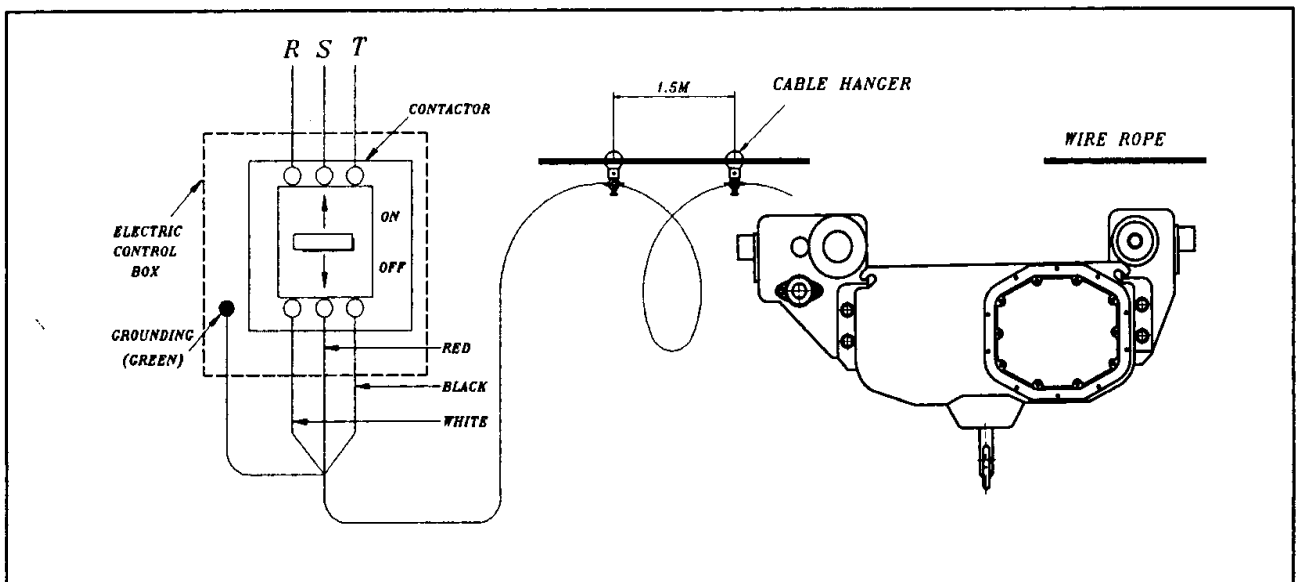
Connection to power supply before installation procedures having been completed is strictly prohibited.

- (1) Prior to installation ,for the Top Running hoist, check dimension “C” & “K” to insure dimension is compatible to the rail size or the gauge between the rails; for the monorail hoist-please insure trolley adjustment equal to beam’s width. (Please refer to illustration 6)



Illust. 6

- (2) Connect power supply to hoist and operate the up push button switch. If the hoist goes down, release the button, go to power source and change (switch) any two wires. Do not modify or change any wires in the push button station.



Illust. 7

(3) Operation Test

(A) push  switch button to lower bottom hook until the drum has only 3 wraps left on  the drum.

(B) push  switch button to check if the rope winds into the drum grooves.

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

While holding down either  or  button on the push button switch, push the emergency stop button. Check that the hook stops when the emergency stop button is pushed. Also, verify the hoist does not move in response to the push button switch.

Finally, check that the emergency stop device pops out when turned to the right and that operation can be resumed thereafter. If the equipment fails to pass either of the above checks, check the wiring and automatic locking function of the emergency stop device.

(D) Check to insure upper limit stop works properly by raising the lower block to a point just below engagement. Then carefully jog "UP" into engagement .

When engaged, the "UP" button should be inoperative.

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 careful 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 gearbox lubricant after first 500 hours of operation, thereafter every 3 months and lubricant 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 in of the bottom block's sheave.

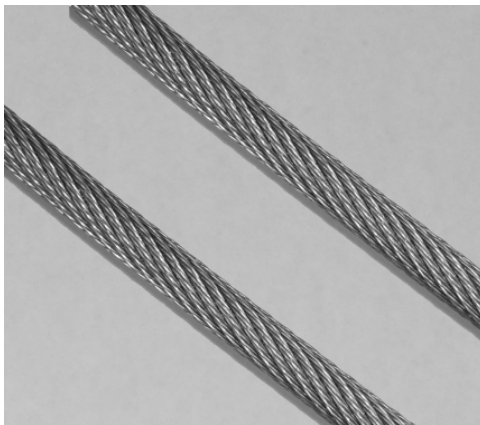
(2) Monthly inspection



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

(a) Wire rope:

- a-1: Any single strain of wire breaking. Breaking of strains more than 10% should replace new wire rope.
a-2: Any distorted, deform, itching and rusty of wire rope.
a-3: Wire rope fixing fasteners being deforming or loosening.

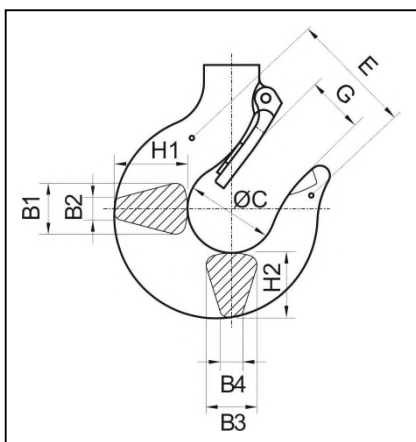


Rope Dia. (m/m) d	Model Being Used	Construction	Specified Breaking Load(kN)
Ø6	T,FUAH(D)-100	Steel Wire Rope 19×7 (181kg/mm ²)	23.8
Ø8	T,F,SUBH(D)-200	Steel Wire Rope 19×7 (195kg/mm ²)	45.9
Ø10	T,F,SUCH(D)-300 T,F,SUDH(D)-500		71.7
Ø12	T,F,SUEAH(D)-750		103
Ø14	T,F,SUFAH(D)-1000		140
Ø18	T, SUIH(D)-1500 T,SUII(D)-2000		231

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
7.5	85	61	22	77	61	22	85	62	140	70
10	100	68	27	95	64	27	100	70	150	70
15	120	85	32	110	83	32	120	82	165	70
20	138	98	36	128	93	36	140	105	220	70

Table 6-2-b

(c) Limit Switches



A qualified electrician should perform this inspection.

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



Your dealer should be asked to perform this inspection.

(3) Annual inspection

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

Oil volume of gearbox

Ton	1	2	3	5	7.5	10	15-20
Gear Box NO.	UA	UB	UC	UD	UEA	UFA	UI
U.S. gal	0.4~ 0.53	0.53~ 0.66	1.85~ 1.98	1.85~ 1.98	2.11~ 2.64	2.11~ 2.64	5.28~ 5.55
Liter	1.5~2.0	2.0~2.5	7.0~7.5	7.0~7.5	8.0~10	8.0~10	20~21

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

- (a) Check brake lining and ratchet pawl for emergency braking any wear or damage.
- (b) Check operation of pawl spring.
- (c) 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) Single Speed Wiring Diagram	17
(2) Dual Speed Wiring Diagram (Hoisting)	18
(3) Dual Speed Wiring Diagram (Hoisting with timer)	19
(4) Dual Speed Wiring Diagram (Hoisting, Traversing)	20
(5) Dual Speed Wiring Diagram (Hoisting with timer Traversing)	21

The above models are available in the following specification:

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

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

Warranty Details

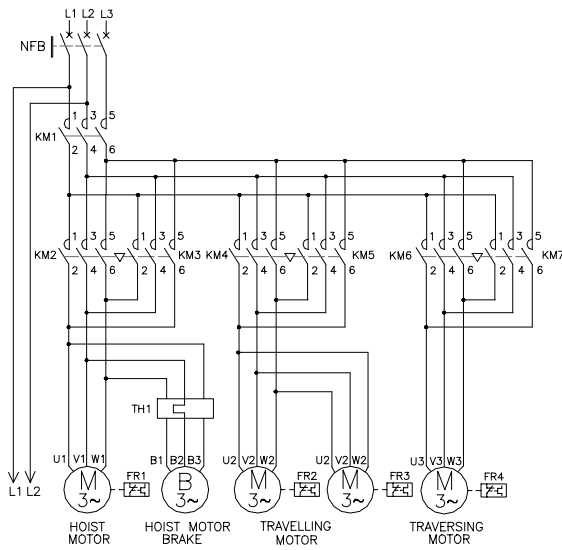
1.Warranty Period : One year for Mechanical Spare Parts after purchase the product.

2.Non-Warranty Scope:

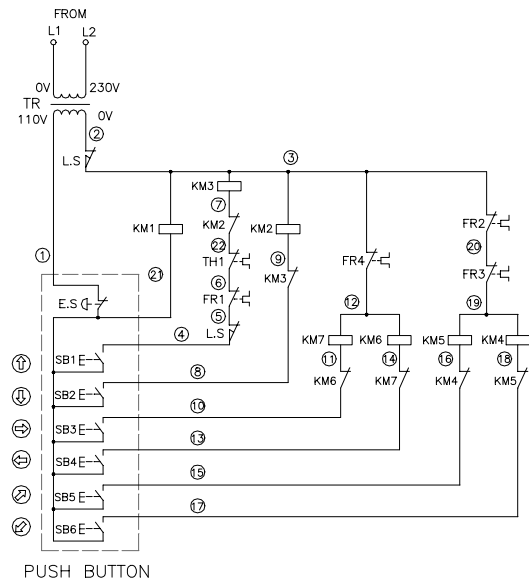
- a.Electrical Spare Parts (ex. Contactor, Pendant, Phase Error Relay, etc.)
- b.Expense Spare Parts (ex. Chain Bucket, Brake Lining, etc.)
- c.Damage caused by unsuitable operation.
(ex. Galvanize plant, Chemical Plant, Dye-work, etc.)
- d.Damage caused by operate on the wrong electric voltage.
- e.Damage 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.)

SINGLE SPEED WITH EMERGENCY STOP



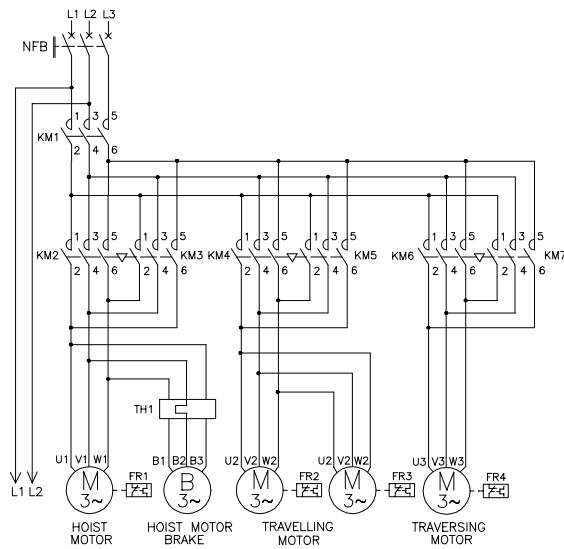
MAIN CIRCUIT WIRING DIAGRAM



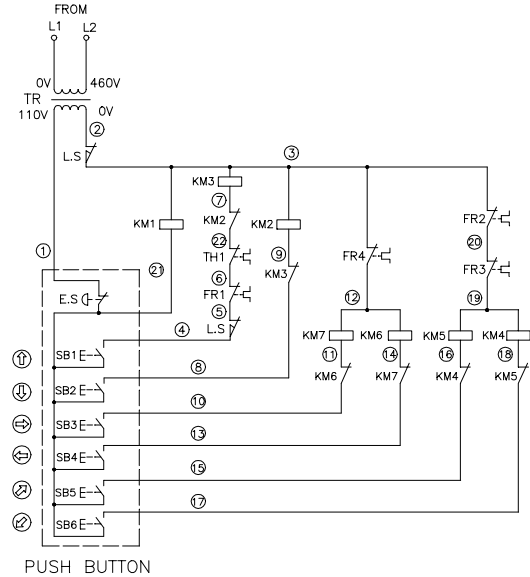
CONTROL CIRCUIT WIRING DIAGRAM

230V-110V
US-01-0001E

SINGLE SPEED WITH EMERGENCY STOP



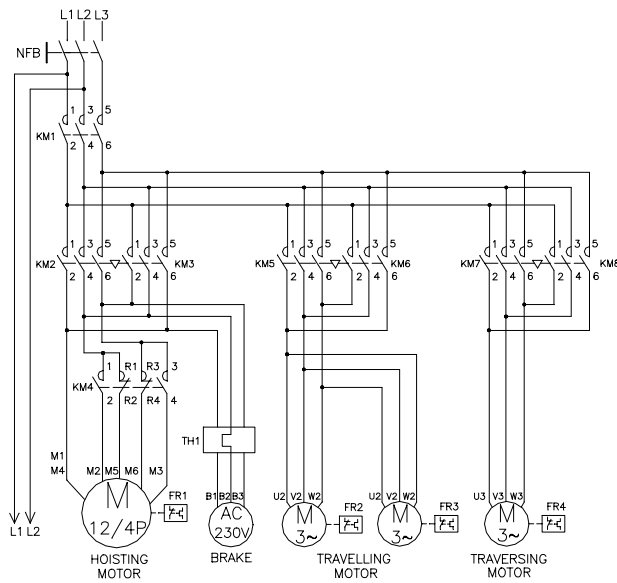
MAIN CIRCUIT WIRING DIAGRAM



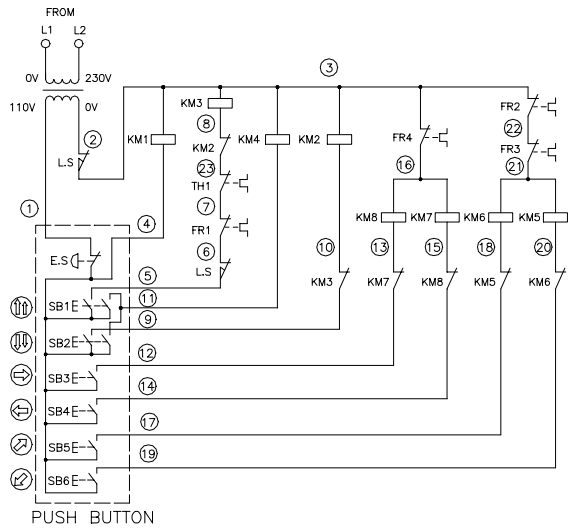
CONTROL CIRCUIT WIRING DIAGRAM

460V-110V
US-01-0001A

DUAL SPEED WITH EMERGENCY STOP(HOISTING)



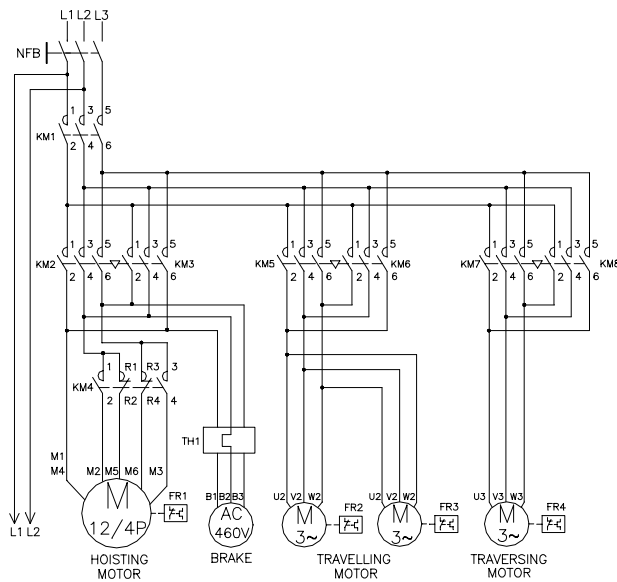
MAIN CIRCUIT WIRING DIAGRAM



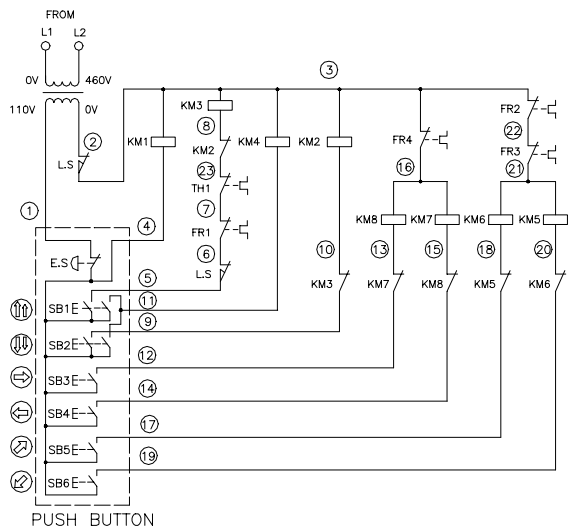
CONTROL CIRCUIT WIRING DIAGRAM

230V-110V
US-01-0004E

DUAL SPEED WITH EMERGENCY STOP(HOISTING)



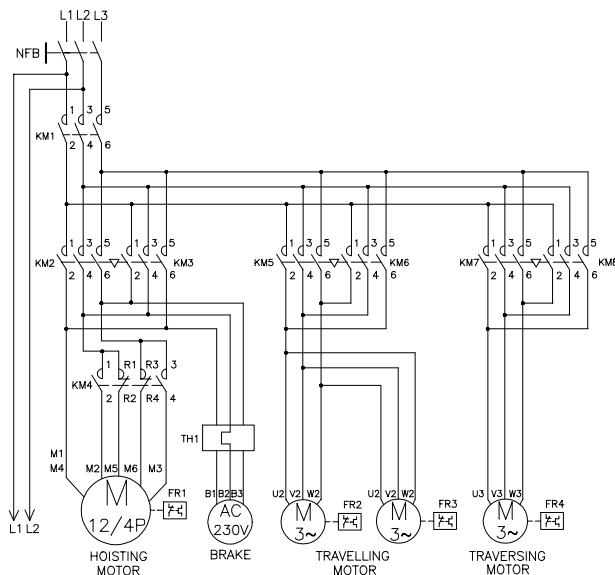
MAIN CIRCUIT WIRING DIAGRAM



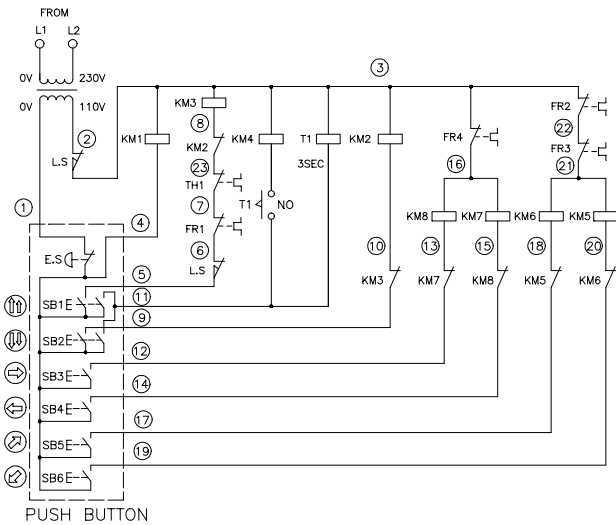
CONTROL CIRCUIT WIRING DIAGRAM

460V-110V
US-01-0004D

DUAL SPEED WITH EMERGENCY STOP(HOISTING WITH TIMER)



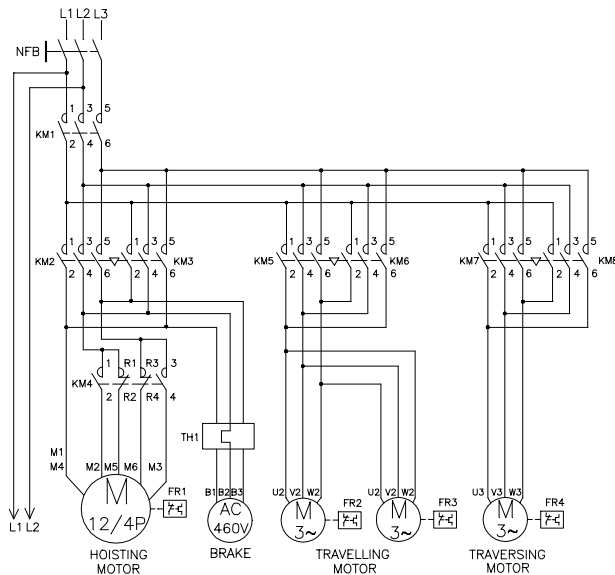
MAIN CIRCUIT WIRING DIAGRAM



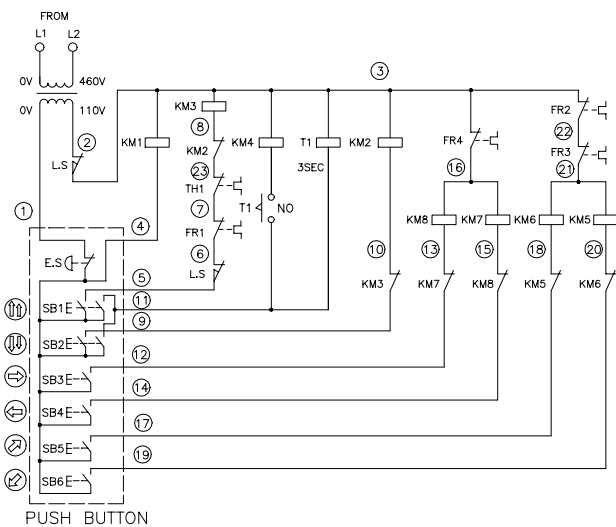
CONTROL CIRCUIT WIRING DIAGRAM

230V-110V
US-01-0041A

DUAL SPEED WITH EMERGENCY STOP(HOISTING WITH TIMER)



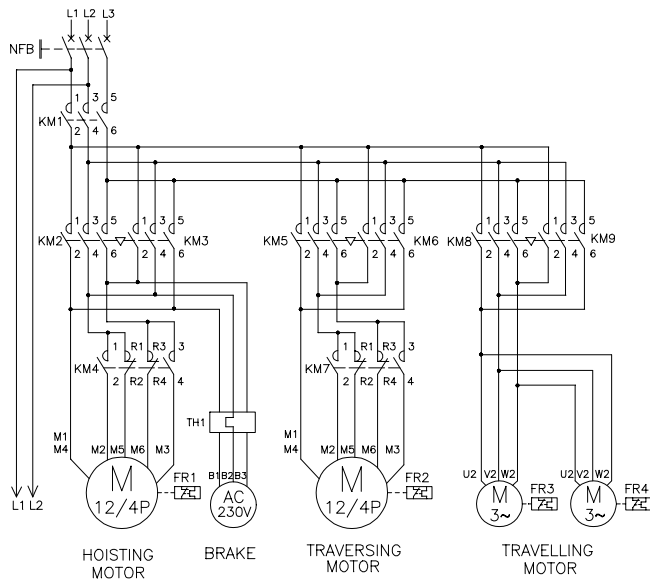
MAIN CIRCUIT WIRING DIAGRAM



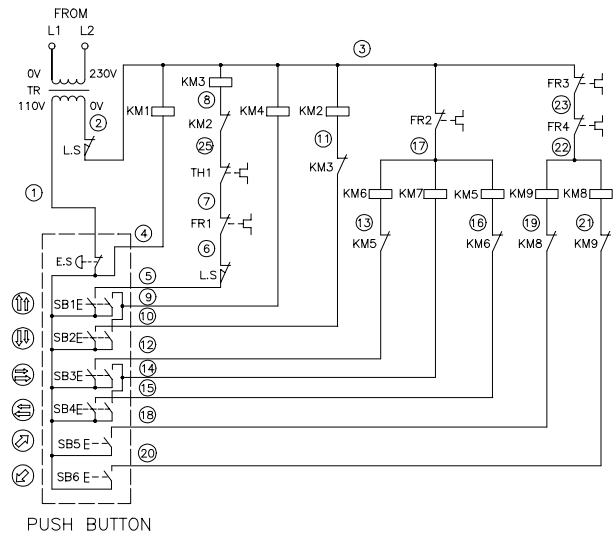
CONTROL CIRCUIT WIRING DIAGRAM

460V-110V
US-01-0041

DUAL SPEED WITH EMERGENCY STOP(HOISTING AND TRAVERSING)



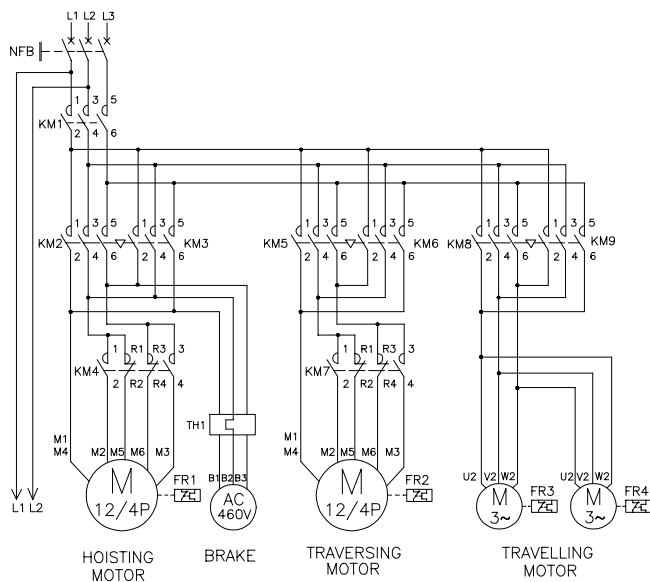
MAIN CIRCUIT WIRING DIAGRAM



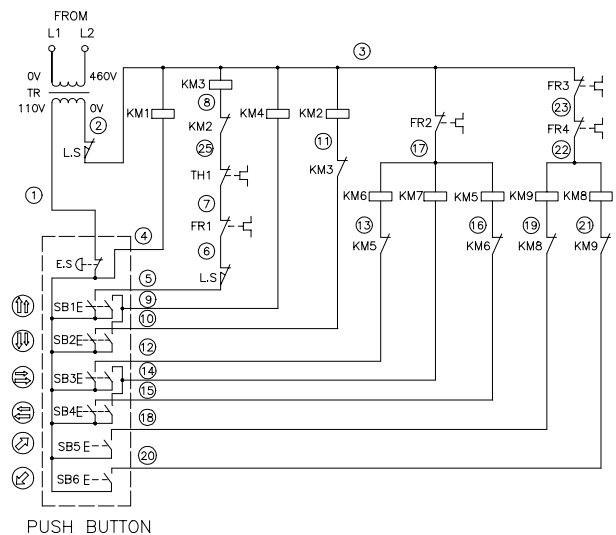
CONTROL CIRCUIT WIRING DIAGRAM

230V-110V
US-01-0010A

DUAL SPEED WITH EMERGENCY STOP(HOISTING AND TRAVERSING)



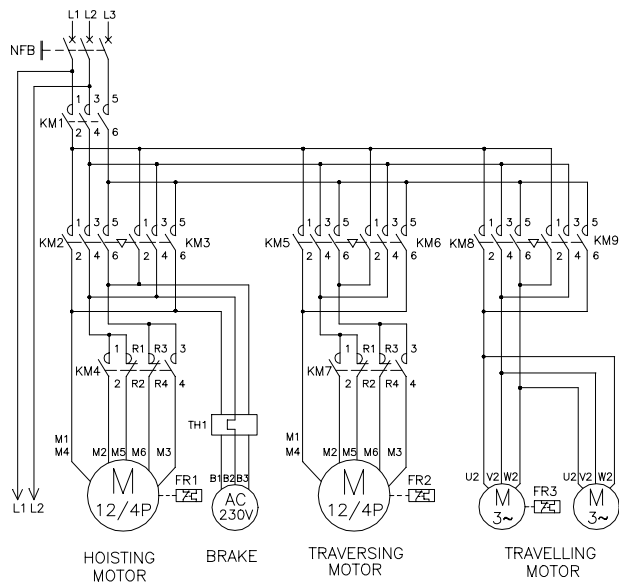
MAIN CIRCUIT WIRING DIAGRAM



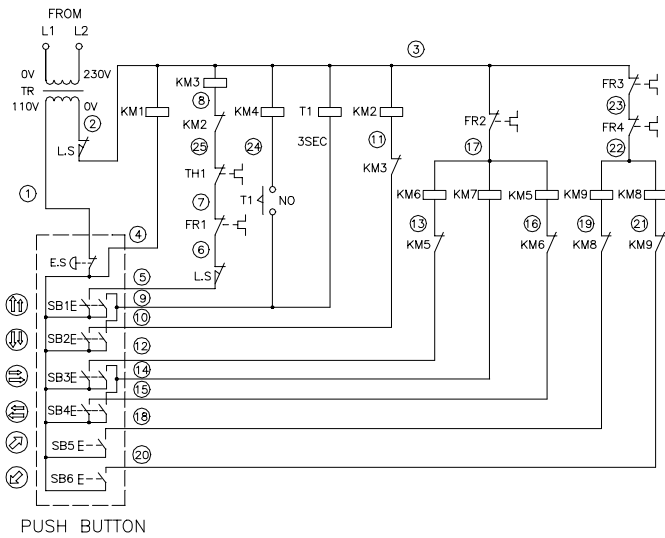
CONTROL CIRCUIT WIRING DIAGRAM

460V-110V
US-01-0010

DUAL SPEED WITH EMERGENCY STOP(HOISTING WITH TIMER AND TRAVERSING)



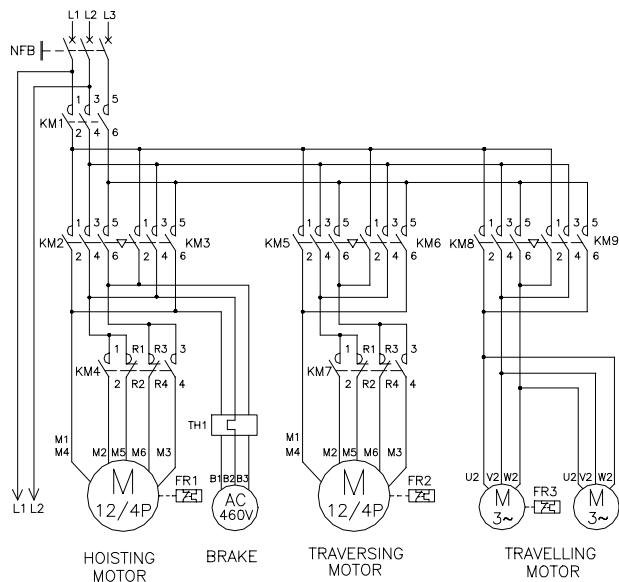
MAIN CIRCUIT WIRING DIAGRAM



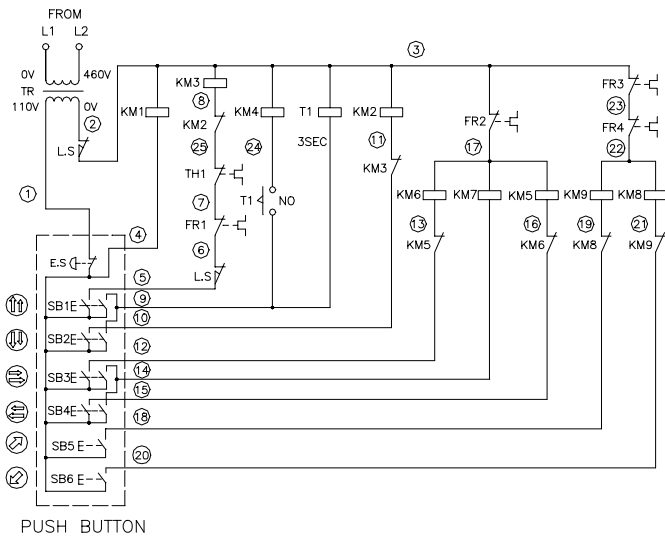
CONTROL CIRCUIT WIRING DIAGRAM

230V-110V
US-01-0009A

DUAL SPEED WITH EMERGENCY STOP(HOISTING WITH TIMER AND TRAVERSING)



MAIN CIRCUIT WIRING DIAGRAM



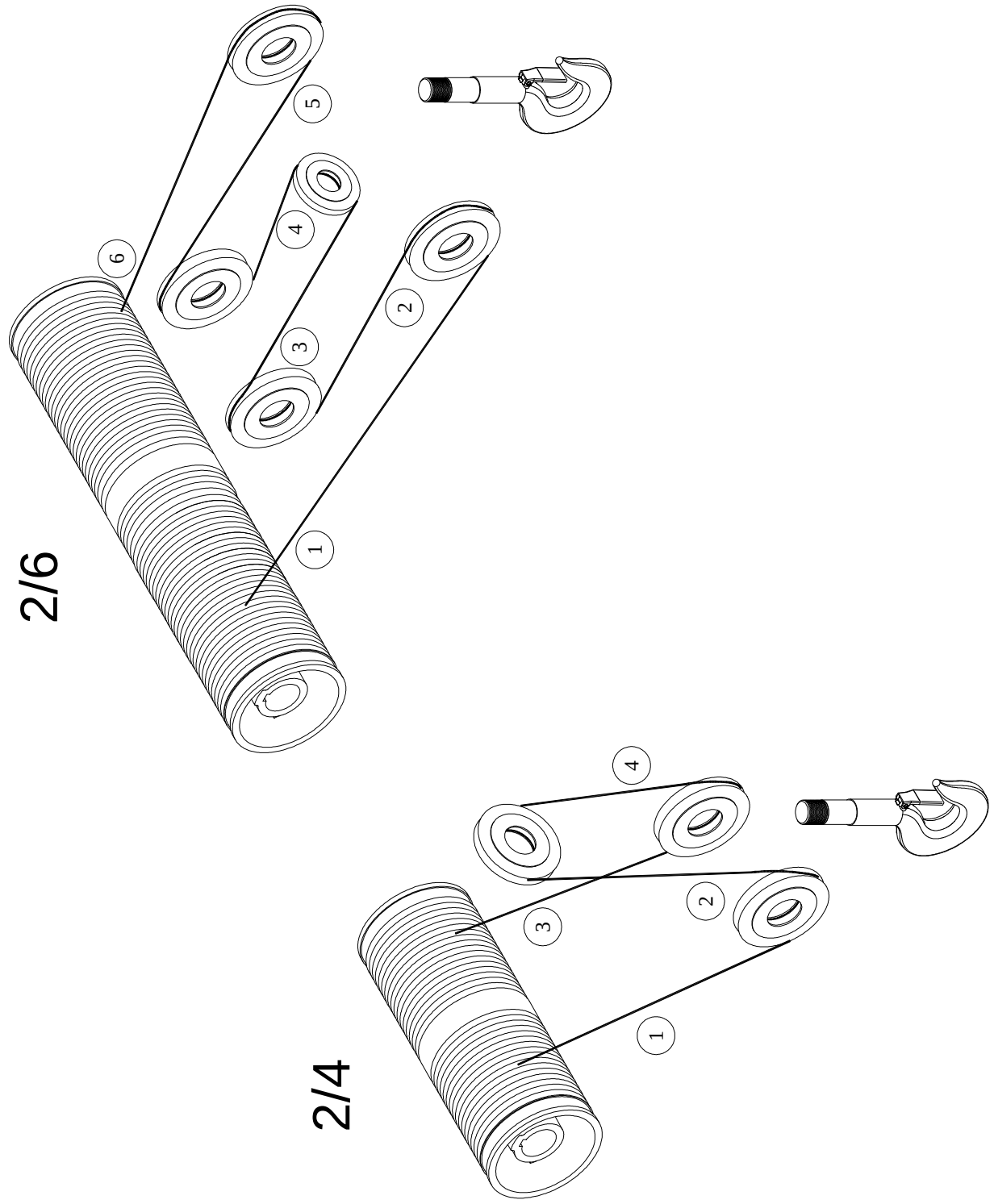
CONTROL CIRCUIT WIRING DIAGRAM

460V-110V
US-01-0009

7.2 Troubleshooting and Remedial action

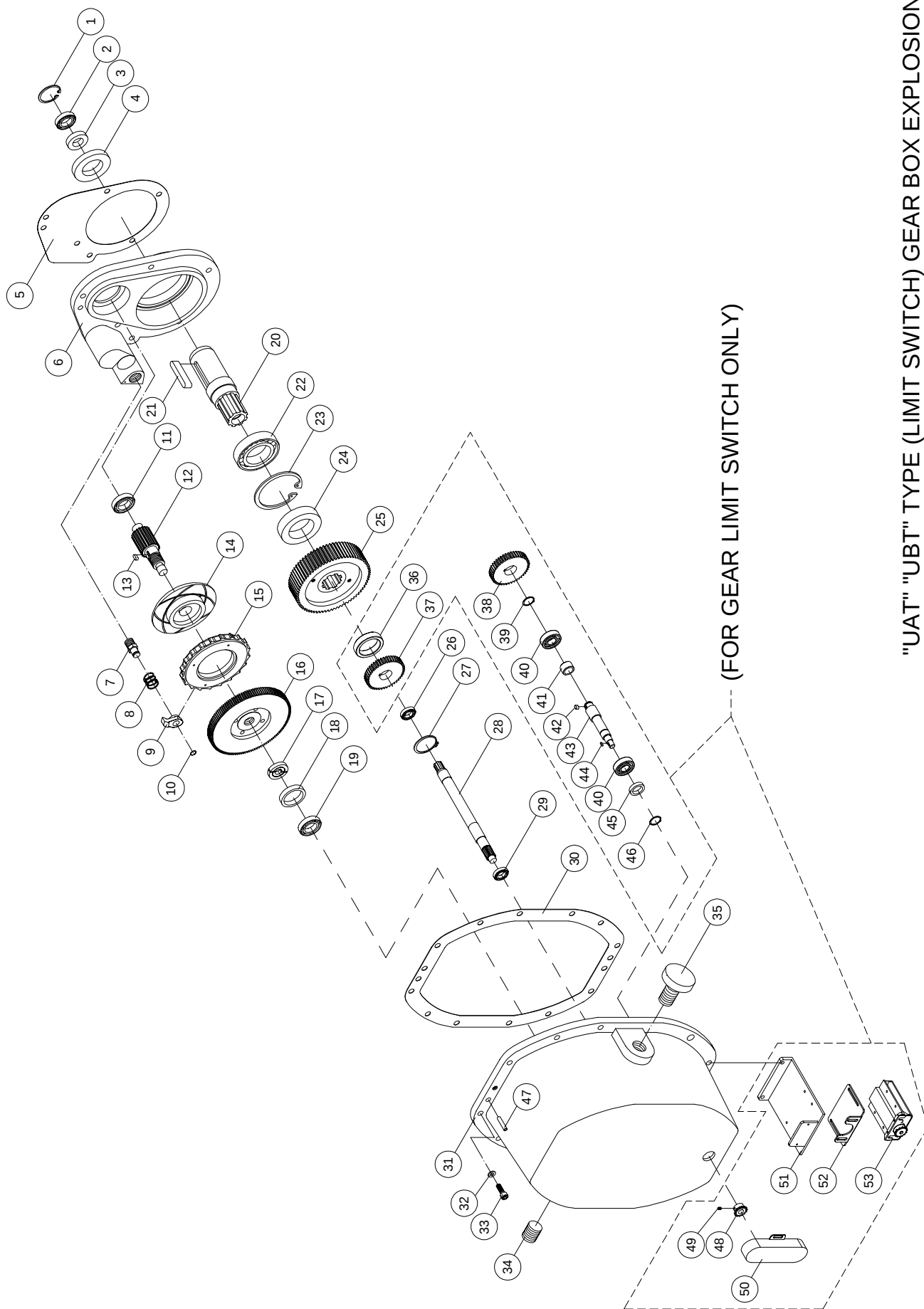
SITUATION	CAUSE	REMEDY
Hoist will not operate	(1) Blown power fuse or tripped power circuit breaker (2) Blown control circuit fuse (3) Broken/disconnected power or control circuit wire (4) Low supply voltage (5) Motor hums but does not rotate (6) Emergency stop button release pushed (if fitted) (7) Faulty contactor	Check supply requirements and refuse/reset breaker to meet requirements Check fuse for correct rating and replace Locate and repair/reconnect Check if 10% reduction in voltage, have mains supply checked Check phases to 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) Loose fitting of oil plug (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. Wire rope reeving



9. DRAWINGS AND PARTS LIST

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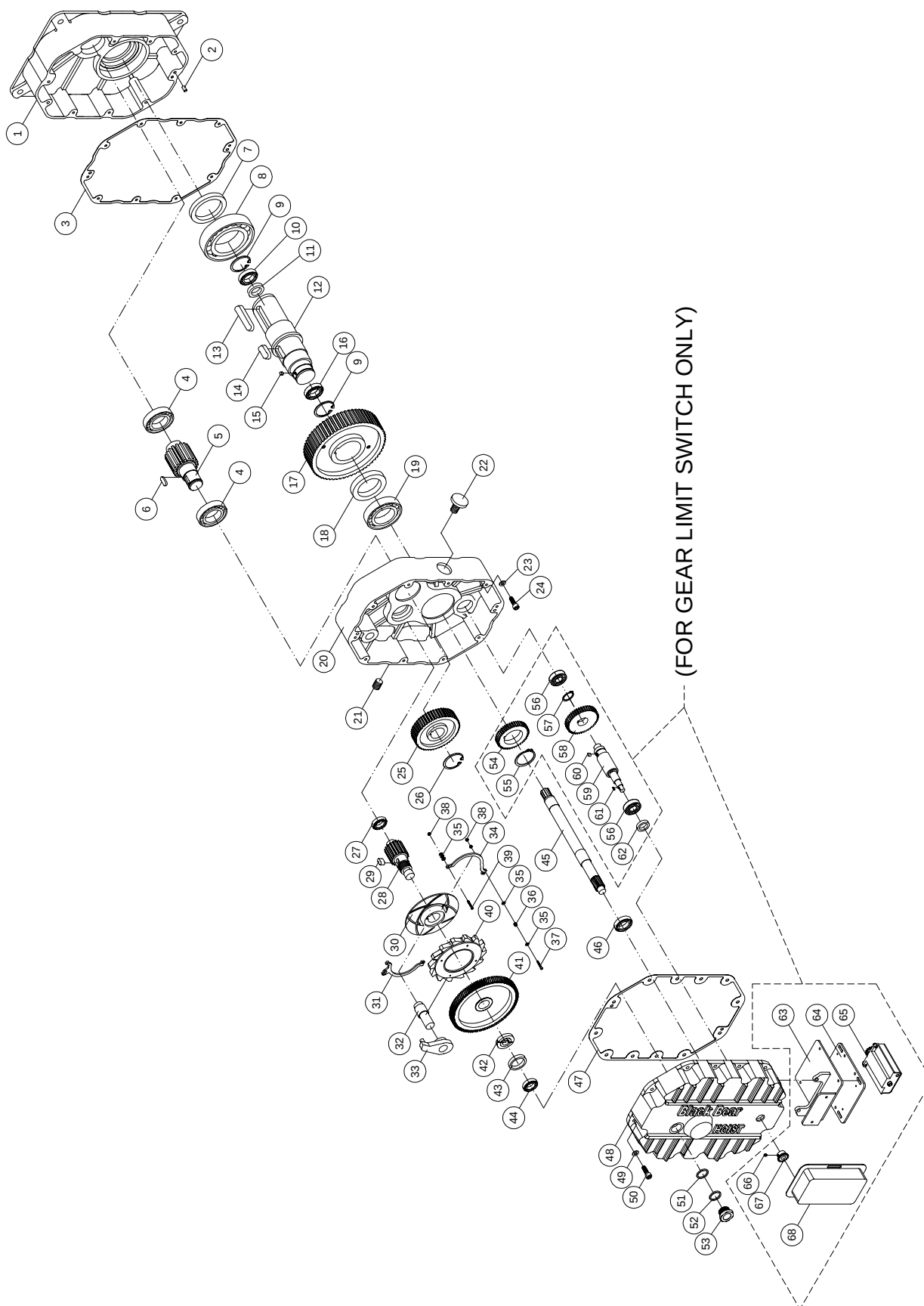
"UAT" "UBT" TYPE (LIMIT SWITCH) GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1T (2200lbs)		QTY 2T (4400lbs)	
			STD	GEAR	STD	GEAR
01	400198	Retaining Ring <R-47>	1		1	
02	405563	Bearing <6005 2RS>	1		1	
03	404488	Oil Seal <Ø25×Ø40×8t>	1		1	
04	400935	Oil Seal <Ø65×Ø90×13t>	1		1	
05	411072	Gasket	1		1	
06	269453	Flange Frame	1		1	
07	200286	Pawl Pin	1		1	
08	400241	Pawl Spring	1		1	
09	200288	Pawl	1		1	
10	400190	Retaining Ring <S-16>	1		1	
11	407748	Bearing <6305>	1		1	
12	268043	Load Brake Gear Shaft < 3 rd Gear >	1			
	268044				1	
13	405961	Key <12×8×20L>	1		1	
14	268062	Friction Plate	1		1	
15	268049	Ratchet Lining Ass'y	1		1	
16	268042	2 nd Gear	1		1	
17	268046	Load Brake Gear Spacer	2		2	
18	268045	End Spacer	1		1	
19	407748	Bearing <6305>	1		1	
20	268061	Drum Shaft	1		1	
21	400993	Key <18×12×80L>	1		1	
22	400826	Bearing <6212 Z>	1		1	
23	400916	Retaining Ring <R-110>	1		1	
24	268501	Sleeve < Ø70×Ø50×15L>	1		1	
25	268201	4 th Gear	1			
	268202				1	
26	400170	Needle Bearing <NK 25/16>	1		1	
27	400197	Retaining Ring <S- 50>	1		1	
28	268041	1 st Gear <M1.5×11T Ø24.5×333>	1		1	
29	400131	Bearing <6203>	1		1	
30	402550	Gasket(A)	1		1	

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1T (2200lbs)		QTY 2T (4400lbs)	
			STD	GEAR	STD	GEAR
31	268063	Gear Case Cover	1		1	
	268191			1		1
32	400095	Spring Washer <M8>	12		12	
33	400017	Hex. Recess Bolt <M8×1.25×35L>	12		12	
34	400591	Drain Plug	1		1	
35	206856	Lubricant Filling Plug <7/8" ×14UNF>	1		1	
	400594	Lubricant Filling Plug <7/8" ×14UNF>		1		1
36	268208	Sleeve <Ø66×Ø50×11>		1		1
37	268192	5 th Gear <M2×35T>		1		1
38	268193	6 th Gear <M2×35T>		1		1
39	400198	Retaining Ring <R- 47>		1		1
40	400132	Bearing <6204>		2		2
41	268195	Sleeve <Ø27×Ø20×16>		1		1
42	400961	Key <6×6×10L>		1		1
43	268194	Connecting Rod <Ø25×136>		1		1
44	405900	Key <3×3×10L>		1		1
45	400186	Oil Seal <Ø20×Ø35×8t>		1		1
46	400191	Retaining Ring <S-20>		2		2
47	400554	Pin <Ø8×15L>		2		2
48	273621	Chain Wheel		1		1
49	400205	Screw <M5×0.8× 8L>		2		2
50	202320	Limit Frame		1		1
51	202319	Limit Pedestal Ass' y		1		1
52	274957	Limit Pedestal		1		1
53	273623	Limit Switch		1		1
	408421	Chain Connection <1/4">		1		1
	400395	Chain <1/4"×304mm>		1		1



"UC" "UD" TYPE (LIMIT SWITCH) GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		QTY 5T (11000lbs)	
			STD	GEAR	STD	GEAR
01	269455	Gear Case Base	1	1	1	1
02	407454	Pin <Ø8×15L>	4	4	4	4
03	402669	Gasket (A)	1	1	1	1
04	407714	Bearing <6209>	2	2	2	2
05	201162	5 th Gear	1	1		
	201169				1	1
06	405908	Key <12×8×30L>	2	2	2	2
07	400933	Oil Seal <Ø80×Ø105×12t>	1	1	1	1
08	400790	Bearing <6216 Z>	1	1	1	1
09	400906	Retaining Ring <R-55>	2	2	2	2
10	405562	Bearing <6006 2RS>	1	1	1	1
11	404512	Oil Seal <Ø30×Ø45×8t>	1	1	1	1
12	268802	Drum Shaft	1		1	
	268812			1		1
13	405906	Key <20×12×90L>	1	1	1	1
14	405907	Key <20×12×45L>	1	1	1	1
15	400961	Key <6×6×10L>		1		1
16	407725	Bearing <6006>	1		1	
	400838	Needle Bearing <NK 30/20>		1		1
17	268403	6 th Gear	1	1		
	268404				1	1
18	268502	Sleeve <Ø82×Ø70×9L>	1	1	1	1
19	400484	Bearing <6014>	1	1	1	1
20	269456	Gear Case B	1	1	1	1
21	400591	Drain Plug <3/8"PT>	1	1	1	1
22	206856	Lubricant Filling Plug	1	1	1	1
23	400095	Spring Washer <M8>	10	10	10	10
24	400014	Hex. Recess Bolt <M8×1.25×30L>	10	10	10	10

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		QTY 5T (11000lbs)	
			STD	GEAR	STD	GEAR
25	201161	4 th Gear	1	1		
	201170				1	1
26	400195	Retaining Ring <S-40>	1	1	1	1
27	407748	Bearing <6305>	1	1	1	1
28	268036	Load Brake Gear Shaft <3 rd Gear>	1	1		
	268034				1	1
29	405921	Key <8×8×16L>	2	2	2	2
30	268035	Friction Plate	1	1	1	1
31	268986	Pawl Actuator(L)	1	1	1	1
32	269352	Pawl Pin	1	1	1	1
33	269402	Pawl	1	1	1	1
34	268992	Pawl Actuator Ring(R)	1	1	1	1
35	400662	Flat Washer <M6>	5	5	5	5
36	400340	Compress Spring <Ø1- Ø10.5×Ø8.5×25L>	1	1	1	1
37	405017	Hex. Recess Bolt <M6×1.0×60L>	1	1	1	1
38	406420	Nut System <M6×1.0>	3	3	3	3
39	400009	Hexagon Headed Bolt <M6×1.0×35L>	1	1	1	1
40	269102	Ratchet Lining Ass'y	1	1	1	1
41	268033	2 nd Gear	1	1	1	1
42	262479	Load Brake Gear Spacer <Ø50×12>	2	2	2	2
43	262478	End Spacer <Ø68×Ø50×11.5>	1	1	1	1
44	407736	Bearing <6205>	1	1	1	1
45	267903	1 st Gear	1	1	1	1
46	400132	Bearing <6204>	1	1	1	1
47	402670	Gasket (B)	1	1	1	1
48	269457	Gear Case Cover	1		1	
	269497			1		1
49	400095	Spring Washer <M8>	12	12	12	12

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		QTY 5T (11000lbs)	
			STD	GEAR	STD	GEAR
50	400015	Hex. Recess Bolt <M8×1.25×40L>	12	12	12	12
51	404459	O Ring <Ø28×Ø34×3t>	1	1	1	1
52	201147	O Ring <Ø40×Ø34×t2>	1	1	1	1
53	201337	Sight Glass <M30×1.5P>	1	1	1	1
54	274701	7 th Gear		1		1
55	400909	Retaining Ring <S-55>		1		1
56	407734	Bearing <6204>		2		2
57	400193	Retaining Ring <S-30>		1		1
58	274801	8 th Gear		1		1
59	274901	Connecting Rod <Ø35×171L >		1		1
60	400961	Key <6×6×10L>		1		1
61	405900	Key <3×3×10L>		1		1
62	400186	Oil Seal <Ø20×Ø35×8t>		1		1
63	274954	Limit Pedestal Ass' y		1		1
64	274955	Limit Pedestal		1		1
65	273623	Limit Switch		1		1
66	400205	Screw <M5×0.8×8L>		2		2
67	273621	Chain Wheel		1		1
68	271951	Limit Frame		1		1
	408421	Chain Connection <1/4">		1		1
	408713	Chain <1/4"×327mm>		1		1

GEAR BOX ASSEMBLY B.O.M

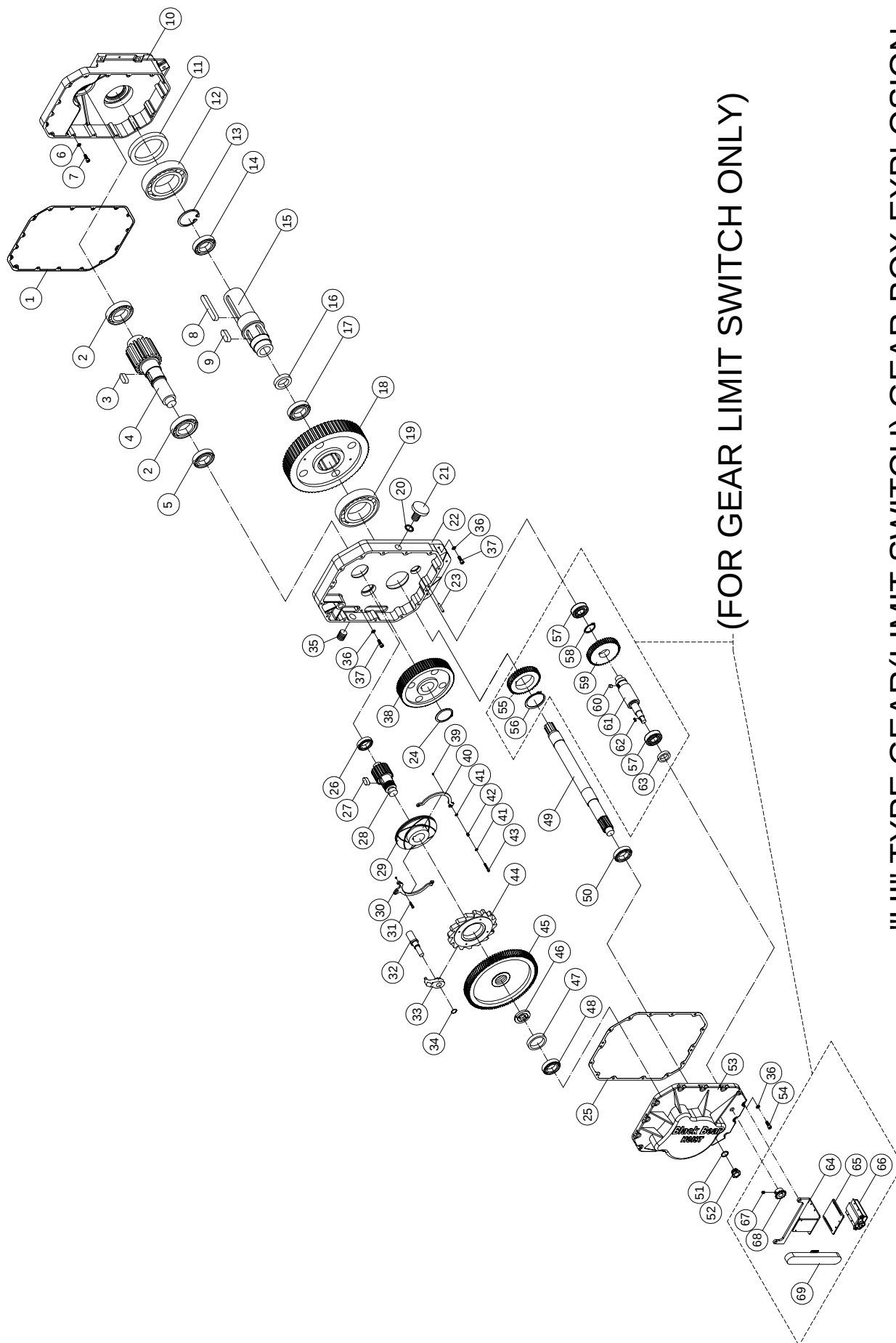
NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		QTY 10T (22000lbs)	
			STD	GEAR	STD	GEAR
01	402644	Gasket(A)	1	1	1	1
02	407741	Bearing <6213>	2	2	2	2
03	405910	Key <18×11×40L>	2	2	2	2
04	268016	5 th Gear	1	1		
	268023				1	1
05	407714	Bearing <6209>	1	1	1	1
06	400651	Spring Washer <M14>	10	10	10	10
07	400442	Hex. Recess Bolt <M14×2.0×50L>	10	10	10	10
08	400966	Key <25×14×150L>	1	1	1	1
09	405955	Key <25×14×70L>	4	4	4	4
10	267635	Gear Case Base	1	1	1	1
11	400929	Oil Seal <Ø100×Ø125×13t>	1	1	1	1
12	400792	Bearing <6220Z>	1	1	1	1
13	400200	Retaining Ring <R-62>	1	1	1	1
14	400711	Bearing <6007 Z>	1	1	1	1
15	268018	Drum Shaft <Ø118×370L>	1	1	1	1
16	404513	Oil Seal <Ø35×Ø55×11t>	1	1	1	1
17	400919	Retaining Ring <S-60>	1	1	1	1
18	405564	Bearing <6007 2RS>	1	1	1	1
19	268017	6 th Gear	1	1		
	268024				1	1
20	407744	Bearing <6218>	1	1	1	1
21	404341	O Ring <Ø20×Ø26×3>	1	1	1	1
22	206856	Lubricant Filling Plug	1	1	1	1
23	267636	Gear Case B	1	1	1	1
24	205327	Pin <Ø12×Ø8.5×14L>	4	4	4	4
25	402643	Gasket (B)	1	1	1	1
26	407750	Bearing <6308>	1	1	1	1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		QTY 10T (22000lbs)	
			STD	GEAR	STD	GEAR
27	405962	Key <16×10×25L>	2	2	2	2
28	268065	Load Brake Gear Shaft <3 rd Gear>	1	1		
	268067				1	1
29	268073	Friction Plate	1	1	1	1
30	268985	Pawl Actuator (L)	1	1	1	1
31	400009	Hexagon Headed Bolt <M6×1.0×35L>	1	1	1	1
32	269351	Pawl Pin	1	1	1	1
33	269401	Pawl	1	1	1	1
34	400192	Retaining Ring <S-25>	1	1	1	1
35	407203	Drain Plug	1	1	1	1
36	400096	Spring Washer <M10>	29	29	29	29
37	400432	Hex. Recess Bolt <M10×1.5×65L>	15	15	15	15
38	268015	4 th Gear	1	1		
	268022				1	1
39	406420	Nut System <M6×1.0>	3	3	3	3
40	268991	Pawl Actuator(R)	1	1	1	1
41	400662	Flat Washer <M6>	5	5	5	5
42	400340	Compress Spring <Ø1- Ø10.5×Ø8.5×25L>	1	1	1	1
43	405017	Hex. Recess Bolt <M6×1.0×60L>	1	1	1	1
44	268069	Ratchet Lining Ass'y	1	1	1	1
45	268064	2 nd Gear	1	1		
	268066				1	1
46	268072	Load Brake Gear Spacer <Ø68×12>	2	2	2	2
47	268071	End Spacer <Ø90×Ø68×11.5>	1	1	1	1
48	407759	Bearing <6208>	1	1	1	1
49	268012	1 st Gear	1	1		
	268019				1	1
50	407747	Bearing <6305>	1	1	1	1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		QTY 10T (22000lbs)	
			STD	GEAR	STD	GEAR
51	404459	O Ring <Ø28×Ø34×3t>	1	1	1	1
52	201147	O Ring	1	1	1	1
53	201337	Sight Glass	1	1	1	1
54	267634	Gear Case Cover	1		1	
	267638			1		1
55	400450	Hex. Recess Bolt <M10×1.5×35L>	14	14	14	14
56	274702	7 th Gear		1		1
57	400918	Retaining Ring <S-80>		1		1
58	407748	Bearing <6305>		2		2
59	400194	Retaining Ring <S-35>		1		1
60	274802	8 th Gear		1		1
61	400963	Key <6×6×15L>		1		1
62	267955	Connecting Rod		1		1
63	405900	Key <3×3×10L>		1		1
64	400183	Oil Seal <Ø25×Ø40×8t>		1		1
65	274958	Limit Pedestal Ass' y		1		1
66	274957	Limit Pedestal		1		1
67	273623	Limit Switch		1		1
68	400205	Screw		2		2
69	273621	Chain Wheel		1		1
70	271951	Limit Frame		1		1
71	408421	Chain Connection <1/4">		1		1
	408712	Chain <1/4"×365mm>		1		1



(FOR GEAR LIMIT SWITCH ONLY)

"UI" TYPE GEAR(LIMIT SWITCH) GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY B.O.M

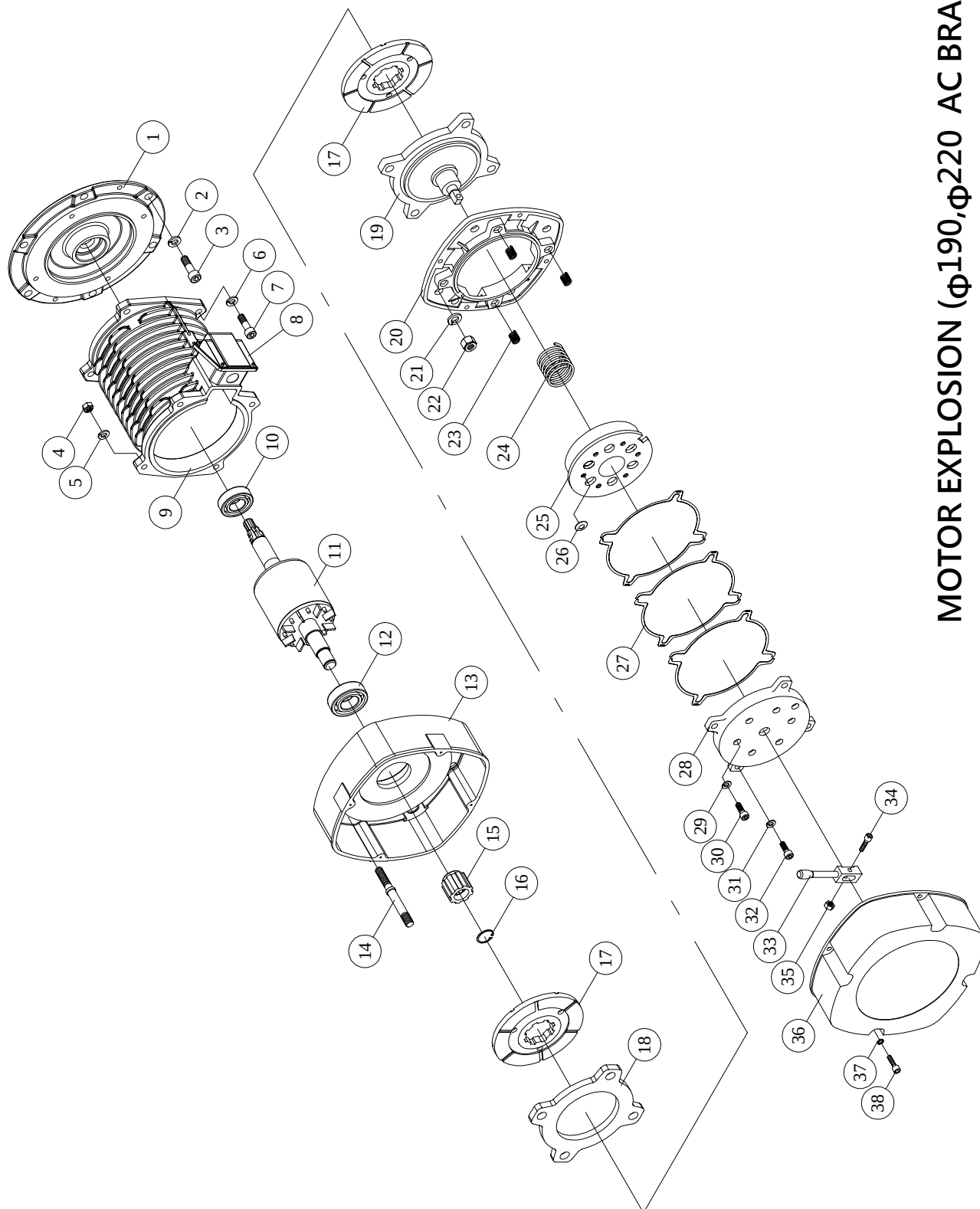
NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		QTY 20T (44000lbs)	
			STD	GEAR	STD	GEAR
01	402646	Gasket(A) <t0.8×540×770L>	1	1	1	1
02	407741	Bearing <6213>	2	2	2	2
03	405947	Key <18×11×55L>	4	4	4	4
04	267910	Drum Pinion Gear <M5.5×23T>	1	1	1	1
05	407714	Bearing <6209>	1	1	1	1
06	400651	Spring Washer <M14>	7	7	7	7
07	400442	Hex. Recess Bolt <M14×2.0×50L>	7	7	7	7
08	405945	Key <28×16×150L>	2	2	2	2
09	405946	Key <32×18×95L>	2	2	2	2
10	267621	Gear Case Base A	1	1	1	1
11	400929	Oil Seal <Ø100×Ø125×13t>	1	1	1	1
12	400792	Bearing <6220 Z>	1	1	1	1
13	404154	Retaining Ring <R-68>	1	1	1	1
14	407773	Bearing <6008 Z>	1	1	1	1
15	268814	Drum Shaft	1	1	1	1
16	404513	Oil Seal <Ø35×Ø55×11t>	1	1	1	1
17	405564	Bearing <6007 2RS>	1	1	1	1
18	267913	Drum Gear <M5.5×89T>	1	1	1	1
19	407744	Bearing <6218>	1	1	1	1
20	404341	O Ring <Ø20×Ø26×3>	1	1	1	1
21	206856	Lubricant Filling Plug	1	1	1	1
22	267622	Gear Case B	1	1	1	1
23	205327	Pin <Ø12×Ø8.5×14L>	4	4	4	4
24	400919	Retaining Ring <S-60>	1	1	1	1
25	402645	Gasket (B) <t0.8×540×670L>	1	1	1	1
26	405620	Bearing <6308>	1	1	1	1
27	405963	Key <10×8×20L>	4	4	4	4
28	268076	Load Brake Gear Shaft <M3.5×18T>	1	1	1	1
29	268183	Friction Plate	1	1	1	1
30	268997	Pawl Actuator (L)	1	1	1	1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		QTY 20T (44000lbs)	
			STD	GEAR	STD	GEAR
31	406802	Hexagon Headed Bolt <M6×1.0×15L>	1	1	1	1
32	268822	Pawl Pin <Ø35×140.5L>	1	1	1	1
33	269401	Pawl	1	1	1	1
34	400192	Retaining Ring <S-25>	1	1	1	1
35	407203	Drain Plug <PT 3/4">	1	1	1	1
36	400096	Spring Washer <M10>	30	30	30	30
37	400432	Hex. Recess Bolt <M10×1.5×65L>	16	16	16	16
38	267909	Load Brake Gear <M3.5×99T>	1	1	1	1
39	406420	Lock Nut <M6×1.0>	3	3	3	3
40	268821	Pawl Actuator(R)	1	1	1	1
41	400662	Flat Washer<M6>	5	5	5	5
42	400340	Compress Spring <Ø1.0- Ø10.5×Ø8.5×25L>	1	1	1	1
43	405017	Hex. Recess Bolt <M6×1.0×60L>	1	1	1	1
44	268079	Ratchet Lining Ass'y	1	1	1	1
45	268075	Intermediate Gear <M2.5×128T>	1	1	1	1
46	268072	Intermediate Gear Spacer	2	2	2	2
47	268071	End Spacer<Ø90×Ø68×11.5L>	1	1	1	1
48	407759	Bearing <6208>	1	1	1	1
49	267906	Motor Shaft Pinion	1	1	1	1
50	407747	Bearing <6305>	1	1	1	1
51	404459	O Ring <Ø28×Ø34×3t>	1	1	1	1
52	201337	Sight Glass < M30×1.5P >	1	1	1	1
53	267623	Gear Case Cover	1		1	
	267628			1		1
54	400450	Hex. Recess Bolt <M10×1.5×35L>	14	14	14	14
55	274702	Motor Shaft Pinion <M2.0×60T>		1		1
56	400918	Retaining Ring <S-80>		1		1
57	407748	Bearing <6305>		2		2
58	400194	Retaining Ring <S-35>		1		1
59	274802	Connecting Rod Gear <M2.0×60T>		1		1

GEAR BOX ASSEMBLY B.O.M

[illegible]



MOTOR EXPLOSION (φ190,φ220 AC BRAKE)

MOTOR ASSEMBLY B.O.M.

For 1~10T Single Speed

NO.	PART NUMBER	DESCRIPTION	QTY					
			1T 2200lbs 3HP	2T 4400lbs 4.7HP	3T 6600lbs 6.67HP	5T 11000lbs 8.7HP	7.5T 16500lbs 10.7HP	10T 22000lbs 15HP
1	105694	Flange	1					
	107788			1				
	105689				1			
	105623					1		
	105622						1	1
2	400095	Spring Washer <M8>	4	4				
	400651	Spring Washer<M14>			6	6	6	6
3	400015	Hex. Recess Bolt	4	4				
	400440	Hex. Recess Bolt			6	6	6	6
4	400637	Nut<M14×2.0>	4	4	4			
	406419	Lock Nut <M18×2.5>				4	4	4
5	400651	Spring Washer	4	4	4			
	400100	Spring Washer				4	4	4
6	400097	Spring Washer <M12>	4	4	4	4	4	4
7	400451	Hex. Recess Bolt	4	4	4	4		
	400022	Hex. Recess				4	4	4
8	120179	Motor Component (Cable Box)	1	1	1			
	120170					1	1	1
9	Voltage : 230V/460V							
	133401	Motor Stator Ass'y	1					
	133402			1				
	133403				1			
	108458					1		
	108177						1	
	108185							1
10	405622	Bearing <6206 2RU>	1	1	1			
	405625	Bearing <6307 2RU>				1	1	1
11	105509	Motor Rotor	1					
	105574			1				
	105654				1			
	105569					1		
	106369						1	
	106372							1

MOTOR ASSEMBLY B.O.M.

For 1~10T Single Speed

NO.	PART NUMBER	DESCRIPTION	QTY					
			1T 2200lbs 3HP	2T 4400lbs 4.7HP	3T 6600lbs 6.67HP	5T 11000lbs 8.7HP	7.5T 16500lbs 10.7HP	10T 22000lbs 15HP
12	405621	Bearing <6306 2RU>	1	1				
	405699	Bearing <6207 2RU>			1			
	405626	Bearing <6309 2RU>>				1	1	1
13	104240	Brake Housing	1					
	104383			1				
	104387				1			
	104388					1	1	1
14	206500	Brake Stud	4					
	215077			4	4			
	215078					4	4	4
15	105693	Disc Hub	1					
	105680			1				
	105685				1			
	105681					1	1	1
16	400193	Retaining Ring	1	1				
	400908				1			
	400195					1	1	1
17	105702	Friction Lining	1	2	2			
	105735					2	2	2
18	105692	Disc Plate	-	1	1			
	105741					1	1	1
19	115099	Armature & Spring Base	1	1	1			
	115100					1	1	1
20	103687	Brake Bracket	1	1	1			
	103688					1	1	1
21	400098	Spring Washer	4	4	4			
	400100					4	4	4
22	400634	Lock Nut <M16×2.0>	4	4	4			
	406419	Lock Nut<M18×2.5>				4	4	4
23	408551	Auxiliary Spring	4	4	-			
	408552				4	4	4	4
24	400325	Brake Spring	1	1	1			
	400319					1	1	1

MOTOR ASSEMBLY B.O.M.

For 1~10T Single Speed

NO.	PART NUMBER	DESCRIPTION	QTY					
			1T 2200lbs 3HP	2T 4400lbs 4.7HP	3T 6600lbs 6.67HP	5T 11000lbs 8.7HP	7.5T 16500lbs 10.7HP	10T 22000lbs 15HP
25	Voltage : 230V							
	105870	AC Solenoid	1	1	1			
	105875					1	1	1
	Voltage : 460V							
	105864	AC Solenoid	1	1	1			
	105874					1	1	1
26	207115	Disc Spring	6	6	6	6	6	6
27	105838	Brake Shim	8	8	8			
	105839					6	6	6
28	105826	Solenoid Cover	1	1	1			
	105827					1	1	1
29	400096	Spring Washer	6	6	6			
	400097	Spring Washer				6	6	6
30	400446	Hex. Recess Bolt	6	6	6			
	400435	Hex. Recess Bolt				6	6	6
31	400097	Spring Washer<M12>	4	4	4			
	400651	Spring Washer<M14>				4	4	4
32	400451	Hex. Recess Bolt<M12×1.75×40L>	4	4	4			
	400445	Hex. Recess Bolt<M14×2.0×40L>				4	4	4
33	207121	Release Bar	1	1	1	1	1	1
34	400025	Hex. Recess Bolt	1	1	1	1	1	1
35	400088	Lock Nut<M8×1.25>	1	1	1	1	1	1
36	115008	Brake End Cover	1	1	1			
	115007					1	1	1
37	400095	Spring Washer<M8>	4	4	4	4	4	4
38	400015	Hex. Recess Bolt<M8×1.25×40L>	4	4	4			
	400012	Hex. Recess Bolt<M8×1.25×20L>				4	4	4

MOTOR ASSEMBLY B.O.M.

For 1~5T Dual Speed

NO.	PART NUMBER	DESCRIPTION	QTY			
			1T 2200lbs 3HP	2T 4400lbs 4.7HP	3T 6600lbs 6.67HP	5T 11000lbs 8.7HP
1	107788	Flange	1	1		
	105623				1	1
2	400095	Spring Washer <M8>	4	4		
	400651	Spring Washer<M14>			6	6
3	400015	Hex. Recess Bolt	4	4		
	400440	Hex. Recess Bolt			6	6
4	400637	Nut<M14×2.0>	4	4		
	406419	Lock Nut <M18×2.5>			4	4
5	400651	Spring Washer	4	4		
	400100	Spring Washer			4	4
6	400097	Spring Washer <M12>	4	4	4	4
7	400451	Hex. Recess Bolt	4	4	4	4
8	120179	Motor Component (Cable Box)	1	1		
	120170				1	1
9	Voltage : 230V					
	133437	Motor Stator Ass'y	1			
	133420			1		
	108424				1	
	108426					1
	Voltage : 460V					
	133438	Motor Stator Ass'y	1			
	133421			1		
	108425				1	
	108427					1
10	405622	Bearing <6206 2RU>	1	1		
	405625	Bearing <6307 2RU>			1	1
11	105910	Motor Rotor	1			
	105541			1		
	106369				1	
	106372					1
12	405621	Bearing <6306 2RU>	1	1		
	405626	Bearing <6309 2RU>>			1	1

MOTOR ASSEMBLY B.O.M.

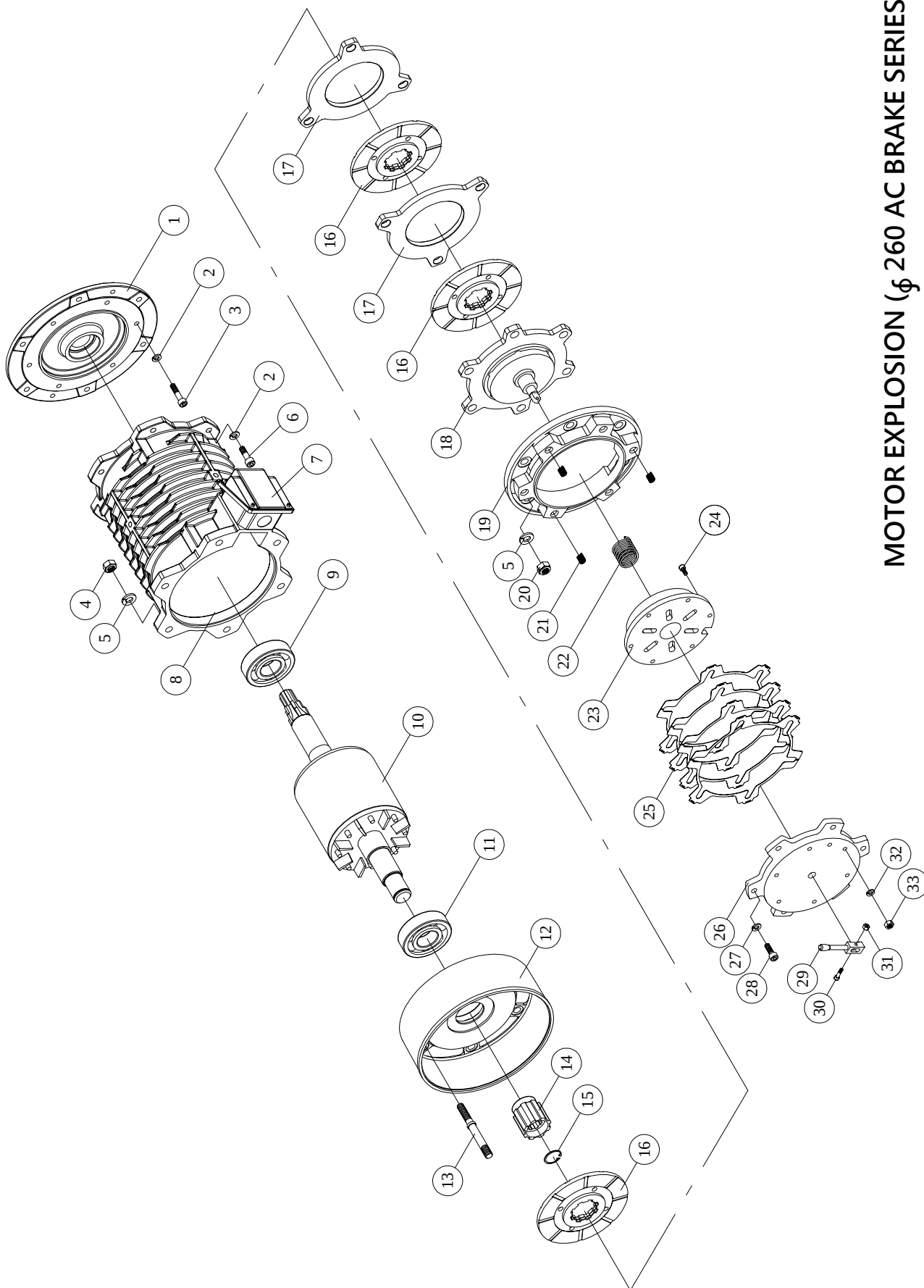
For 1~5T Dual Speed

NO.	PART NUMBER	DESCRIPTION	QTY			
			1T 2200lbs 3HP	2T 4400lbs 4.7HP	3T 6600lbs 6.67HP	5T 11000lbs 8.7HP
13	104240	Brake Housing	1			
	104387			1		
	104388				1	1
14	206500	Brake Stud	4			
	215077			4		
	215078				4	4
15	105693	Disc Hub	1			
	105680			1		
	105681				1	1
16	400193	Retaining Ring	1	1		
	400195				1	1
17	105702	Friction Lining	1	2		
	105735				2	2
18	105692	Disc Plate	-	1		
	105741				1	1
19	115099	Armature & Spring Base	1	1		
	115100				1	1
20	103687	Brake Bracket	1	1		
	103688				1	1
21	400098	Spring Washer	4	4		
	400100				4	4
22	400634	Lock Nut <M16×2.0>	4	4		
	406419	Lock Nut<M18×2.5>			4	4
23	408551	Auxiliary Spring	4	4	-	
	408552				4	4
24	400325	Brake Spring	1	1		
	400319				1	1
25	Voltage : 230V					
	105870	AC Solenoid	1	1		
	105875				1	1

MOTOR ASSEMBLY B.O.M.

For 1~5T Dual Speed

NO.	PART NUMBER	DESCRIPTION	QTY			
			1T 2200lbs 3HP	2T 4400lbs 4.7HP	3T 6600lbs 6.67HP	5T 11000lbs 8.7HP
25	Voltage : 460V					
	105864	AC Solenoid	1	1		
	105874				1	1
26	207115	Disc Spring	6	6	6	6
27	105838	Brake Shim	8	8		
	105839				6	6
28	105826	Solenoid Cover	1	1		
	105827				1	1
29	400096	Spring Washer	6	6		
	400097	Spring Washer			6	6
30	400446	Hex. Recess Bolt	6	6		
	400435	Hex. Recess Bolt			6	6
31	400097	Spring Washer<M12>	4	4		
	400651	Spring Washer<M14>			4	4
32	400451	Hex. Recess Bolt<M12×1.75×40L>	4	4		
	400445	Hex. Recess Bolt<M14×2.0×40L>			4	4
33	207121	Release Bar	1	1	1	1
34	400025	Hex. Recess Bolt	1	1	1	1
35	400088	Lock Nut<M8×1.25>	1	1	1	1
36	115008	Brake End Cover	1	1		
	115007				1	1
37	400095	Spring Washer<M8>	4	4	4	4
38	400015	Hex. Recess Bolt<M8×1.25×40L>	4	4		
	400012	Hex. Recess Bolt<M8×1.25×20L>			4	4



MOTOR EXPLOSION (φ 260 AC BRAKE SERIES)

MOTOR ASSEMBLY B.O.M.

Dual= Dual Speed

NO.	PART NUMBER	DESCRIPTION	QTY			
			Ø260			
			7.5T(D) 16500lbs 10.7HP	10T(D) 22000lbs 15HP	15T;20T(S) 33000lbs 44000lbs 17.4HP	15T;20T(D) 33000lbs 44000lbs 17.4HP
1	101179	Flange	1	1	1	1
2	400651	Spring Washer<M14>	12	12	12	12
3	400440	Hex. Recess Bolt<M14×2.0×35L>	6	6	6	6
4	400640	Nut<M20×2.5>	6	6	6	6
5	400099	Spring Washer<M20>	12	12	12	12
6	400442	Hex. Recess Bolt<M14×2.0×50L>	6	6	6	6
7	120233	Motor Component (Cable Box)	1	1		1
	120142				1	
8	Voltage : 230V					
	107875	Motor Stator Ass'y	1			
	133441			1		
	100101				1	
	100082					1
	Voltage : 460V					
	107876	Motor Stator Ass'y	1			
	133454			1		
	100101				1	
	100083					1
9	405628	Bearing<6308 2RU>	1	1	1	1
	405624	Bearing<6312 2RU>				
10	101124	Motor Rotor	1			1
	105917			1		
	101122				1	
	106373					1
11	405627	Bearing<6310 2RU>	1	1	1	1
12	104389	Brake Housing	1	1	1	1
13	215079	Stay Bolt	6	6	6	6
14	105519	Disc Hub	1	1	1	1
15	400197	Retaining Ring<S-50>	1	1	1	1
16	105520	Friction Disc	3	3	3	3

MOTOR ASSEMBLY B.O.M.

Dual= Dual Speed

[illegible]

BOTTOM BLOCK B.O.M.

NO.	PART NUMBER	DESCRIPTION	QTY 1T(2200lbs)	QTY 2T(4400lbs)
01	272011	Bottom Hook Side Cover Ass'y	2	
	227919			2
02	400192	Retaining Ring	2	
	400194			2
03	263606	Sheave	2	
	263605			2
04	407807	Bearing <6205 ZZ>	2	
	407818	Bearing <6307 ZZ>		2
05	400199	Retaining Ring	2	
	400202			2
06	272211	Bottom Hook Side Cover	2	
	272201			2
07	400094	Spring Washer	6	
	400095			6
08	400008	Hex. Recess Bolt	6	
	400014			6
09	207554	Sheave Axle	1	
	207552			1
10	202016	Hex. Nut	1	
	400075			1
11	400209	Spring Pin	1	1
12	400839	Thrust Bearing	1	
	400166			1
13	273811	Bearing Housing	1	
	273801			1
14	274009	Bottom Hook	1	
	204987			1
15	400300	Safety Latch Ass'y	1	
	400301			1

3-15T BOTTOM BLOCK EXPLOSION

This exploded view diagram illustrates the assembly of the 3-15T Bottom Block. The components are numbered 1 through 17. The assembly is symmetrical, with a central body (13) and two side flanges (14). The top flange (14) is secured by a cap (12) and a nut (11). The bottom flange (14) is secured by a cap (17) and a nut (10). The central body (13) is secured by a cap (12) and a nut (11). The side flanges (14) are secured by a cap (17) and a nut (10). The diagram shows the following components:

- 1. Bolt
- 2. Nut
- 3. Washer
- 4. Flange
- 5. Seal
- 6. Gasket
- 7. Cap
- 8. Bolt
- 9. Nut
- 10. Bolt
- 11. Nut
- 12. Cap
- 13. Body
- 14. Flange
- 15. Bolt
- 16. Nut
- 17. Cap

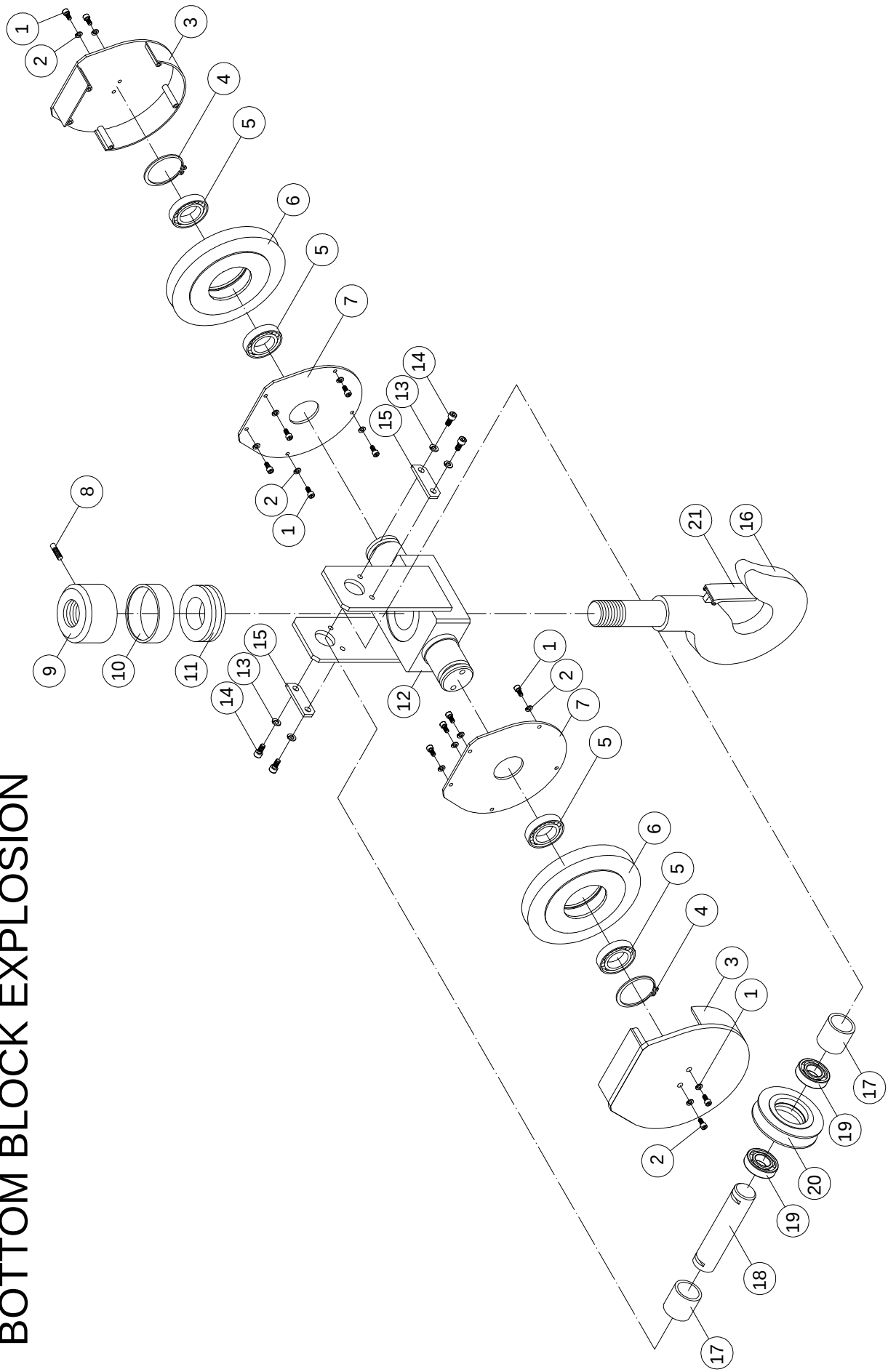
BOTTOM BLOCK B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY				
			3T 6600lbs	5T 11000lbs	7.5T 16500lbs	10T 22000lbs	15T 33000lbs
01	400446	Hex. Recess Bolt <M10×1.5×20L>	4	4	4	4	
	400435	Hex. Recess Bolt <M12×1.75×25L>					4
02	400096	Spring Washer <M10>	4	4	4	4	
	400097	Spring Washer <M12>					4
03	272002	Bottom Hook Side Cover Ass'y	2				
	272005			2			
	272003				2		
	272004					2	
	207155						2
04	400195	Retaining Ring <S-40>	2				
	400196	Retaining Ring <S-45>		2			
	400197	Retaining Ring <S-50>			2		
	400909	Retaining Ring <S-55>				2	
	404188	Retaining Ring <S-110>					2
05	210824	Sheave <ø210×ø80 t36>	2				
	263603	Sheave <ø210×ø100 t36>		2			
	263601	Sheave <ø242×ø100 t40>			2		
	263602	Sheave <ø282×44L>				2	
	268904	Sheave <ø408×70L>					2
06	407819	Bearing <6308ZZ>	2				
	407820	Bearing <6309ZZ>		2			
	407821	Bearing <6310ZZ>			2		
	407822	Bearing <6311ZZ>				2	
	405575	Bearing <6022Z>					4
07	400914	Retaining Ring <R-90>	2				
	404151	Retaining Ring <R-100>		2			
	400916	Retaining Ring <R-110>			2		
	404152	Retaining Ring <R-120>				2	
08	272202	Bottom Hook Side Cover	2				
	272205			2			
	272203				2		
	272204					2	
	207154						2
09	400095	Spring Washer <M8>	8	8	8	8	
	400097	Spring Washer <M12>					12

BOTTOM BLOCK B.O.M

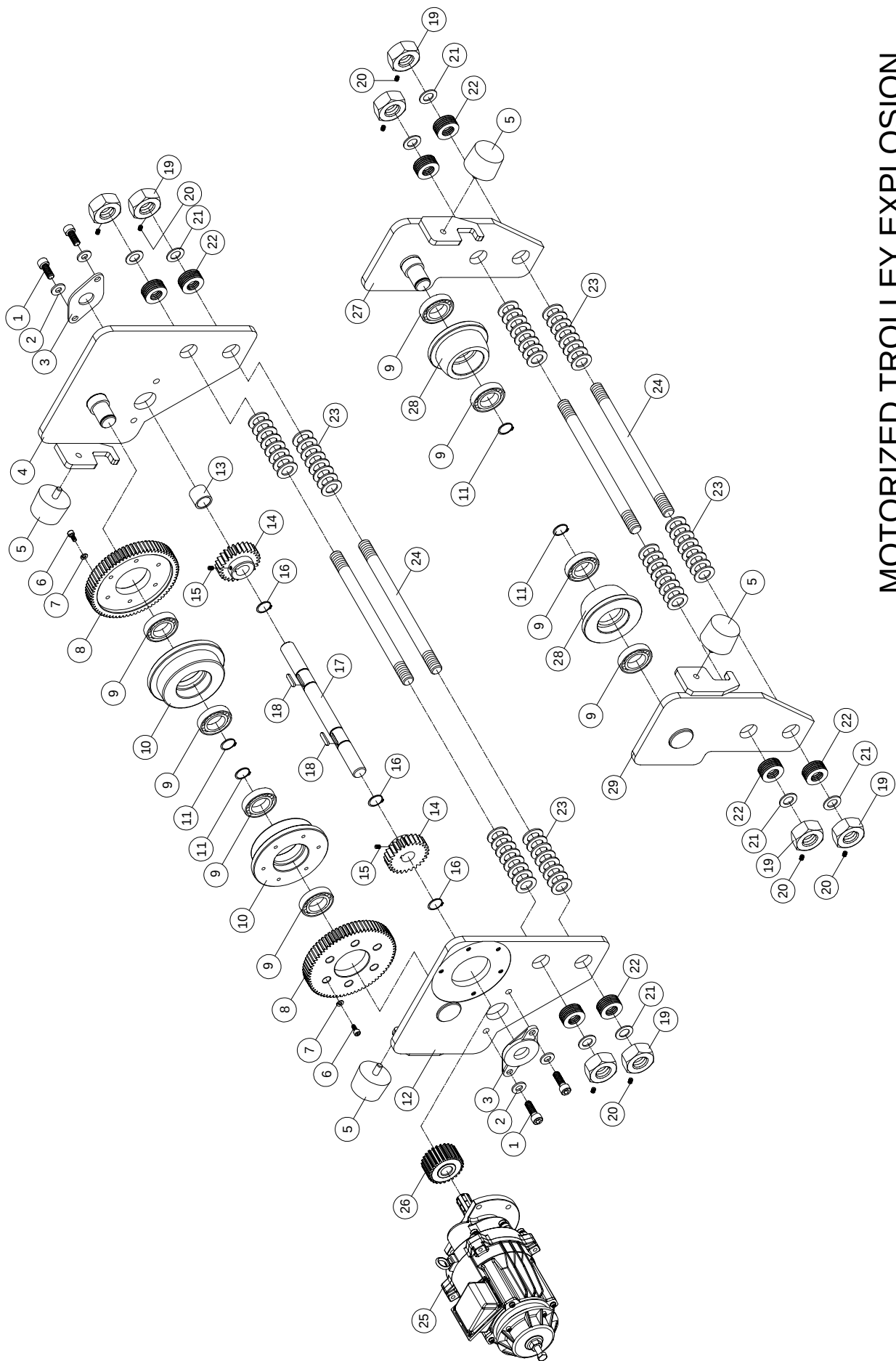
NO.	PART NUMBER	DESCRIPTION	QTY				
			3T 6600lbs	5T 11000lbs	7.5T 16500lbs	10T 22000lbs	15T 33000lbs
10	400012	Hex. Recess Bolt <M8×1.25×20L>	8	8	8	8	
	400435	Hex. Recess Bolt <M12×1.75×25L>					12
11	400209	Spring Pin <ø8×55L>	1			1	
	400214	Spring pin <ø8×70L>		1	1		
	400584	Set Screw < M8×1.25×30L>					2
12	400074	Nut <1 3/8" ×6UNC>	1				
	400644	Nut <1 3/4" ×5UNC t43mm>		1			
	400636	Nut <M52×5.0>			1		
	202049	Nut <M64×6.0 ø118×55L>				1	
	202046	Hex. Nut <M64×6.0 ø137×80L>					1
13	400160	Thrust Bearing <51207>	1				
	400162	Thrust Bearing <51209>		1			
	400161	Thrust Bearing <51211>			1		
	400164	Thrust Bearing <51211>				1	
	400155	Thrust Bearing <51314>					1
14	273802	Bearing Housing <t62×100×191L>	1				
	273803	Bearing Housing <t82×122×205L>		1			
	273804	Bearing Housing <t82×110×228L>			1		
	273805	Bearing Housing <t92×159×240L>				1	
	207157	Bearing Housing <t130×170×352L>					1
15	274004	Bottom Hook	1				
	274005			1			
	274001				1		
	274002					1	
	207158						1
16	400301	Safety Latch Ass'y	1				
	400302			1			
	400303				1	1	
	400304						1
17	200303	Dust Proof Cover<ø139.7×ø127×19L >					1

BOTTOM BLOCK EXPLOSION



BOTTOM BLOCK B.O.M

[illegible]



MOTORIZED TROLLEY EXPLOSION

MOTORIZED TROLLEY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY					
			1T 2200lbs	2T 4400lbs	3T 6600lbs	5T 11000lbs	7.5T 16500lbs	10T 22000lbs
01	400450	Hex. Recess Bolt	4	4				
	400440				4	4		
	400441						4	4
02	400096	Spring Washer	4	4				
	400651				4	4	4	4
03	400759	Bearing Housing	2	2				
	400760				2	2		
	400761						2	2
04	264420	Drive Frame Ass'y (Right)	1					
	264412			1				
	264416				1	1		
	268224						1	
	264418							1
05	400313	Bumper	4	4	4	4	4	4
06	400424	Hex. Recess Bolt	12	12				
	400012				12	12		
	400013						12	12
07	400095	Spring Washer	12	12	12	12	12	12
08	202486	Gear(A)	2	2				
	202490				2	2		
	202492						2	
	274301							2
09	407807	Bearing <6205 ZZ>	8	8				
	405578	Bearing <6207 ZZ>			8	8		
	407818	Bearing <6307 ZZ>					8	
	407819	Bearing <6308 ZZ>						8
10	203525	Wheel(B)	2	2				
	203531				2	2		
	203533						2	
	204805							2

MOTORIZED TROLLEY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY					
			1T 2200lbs	2T 4400lbs	3T 6600lbs	5T 11000lbs	7.5T 16500lbs	10T 22000lbs
11	400192	Retaining Ring	4	4				
	400194				4	4	4	
	400195							4
12	264419	Drive Frame Ass'y (Left)	1					
	264411			1				
	264415				1	1		
	268223						1	
	264417							1
13	264253	Pinion Shaft Tube	1	1				
	264251				1	1		
	268979						1	
	264252							1
14	202505	Motor Pinion	2	2				
	202506				2	2		
	202507						2	2
15	400588	Set Screw	4	4				
	400204				4	4	4	4
16	400191	Retaining Ring	3	3				
	400193				3	3		
	400194						3	3
17	269803	Pinion Shaft	1	1				
	269801				1	1		
	269802						1	1
18	405914	Key	2	2				
	400967				2	2		
	400978						2	2
19	202011	Hex. Nut	8	8				
	202012				8	8		
	202010						8	8
20	400586	Set Screw	8	8	8	8	8	8

MOTORIZED TROLLEY B.O.M

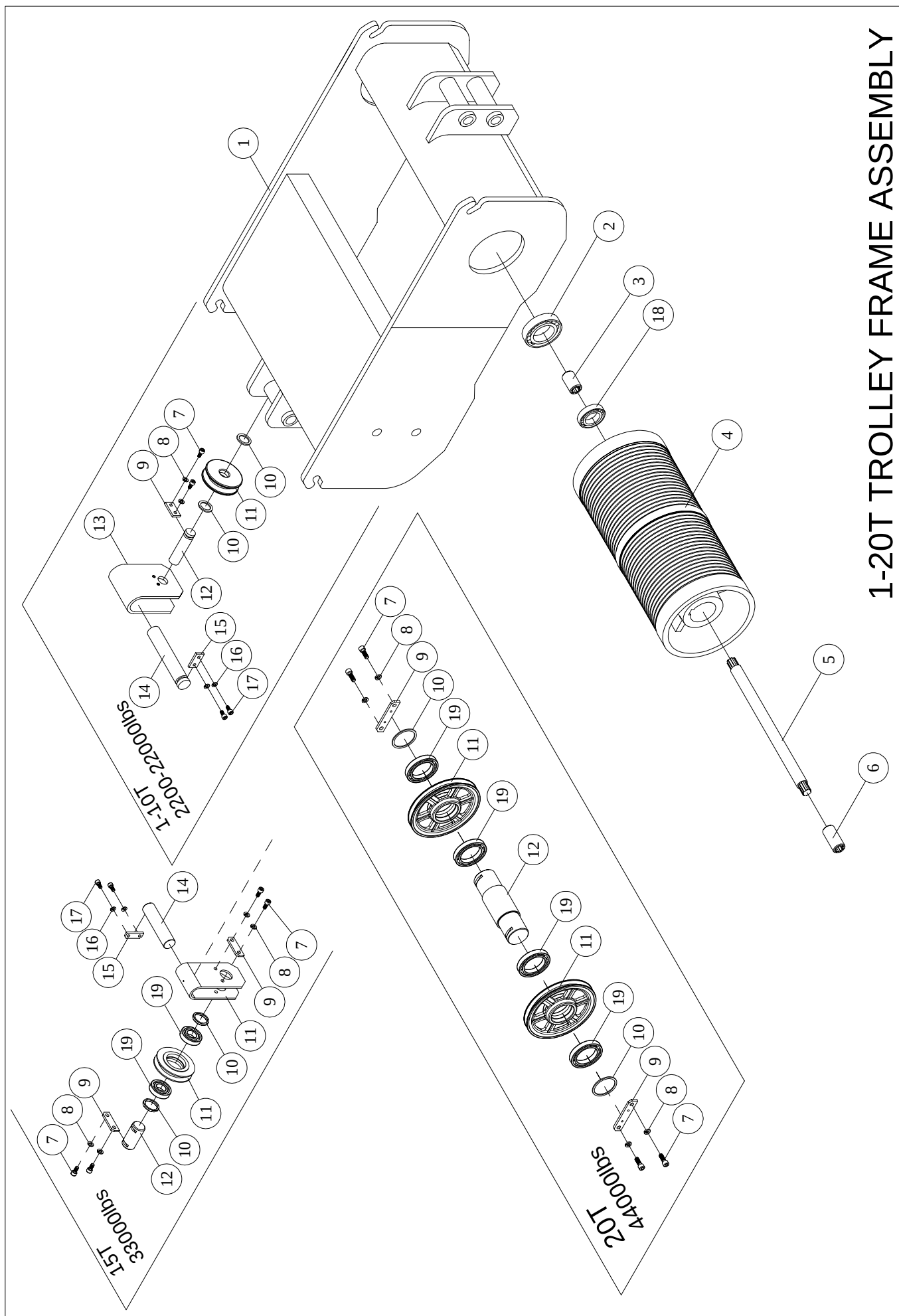
NO.	PART NUMBER	DESCRIPTION	QTY					
			1T 2200lbs	2T 4400lbs	3T 6600lbs	5T 11000lbs	7.5T 16500lbs	10T 22000lbs
21	400105	Spring Washer	8	8				
	400106				8	8		
	400104						8	8
22	203223	Spacer	48	48				
23	269911	Spacer Sleeve	112	112				
	269912				152	152		
	269913						168	168
24	408307	Mounting Bolts	4	4				
	408305				4	4		
	408306						4	4
25	101367	Motor	1					
	136403	Reducing Gear Motor		1	1			
	135770					1		
	135771						1	
	135772							1
26	201767	Pinion	1					
	201756			1	1	1		
	201680						1	
	201679							1
27	264612	Idler Frame Ass'y (Right)	1	1				
	264616				1	1		
	264614						1	
	264618							1
28	203510	Idler Wheel	2	2				
	203517				2	2		
	203519						2	
	204796							2
29	264611	Idler Frame Ass'y(Left)	1	1				
	264615				1	1		
	264613						1	
	264617							1

MOTORIZED TROLLEY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY	
			15T 33000lbs	20T 44000lbs
01	400441	Hex. Recess Bolt <M14×2.0×45L>	4	4
02	400651	Spring Washer <M14>	4	4
03	400747	Bearing Housing <UCFL 208>	2	2
04	264422	Drive Frame Ass'y(Right) <t25>	1	
	268899	Drive Frame Ass'y(Right) <t28>		1
05	400313	Bumper	4	4
06	400431	Hex. Recess Bolt <M10×1.5×30L>	12	
	400450	Hex. Recess Bolt <M10×1.5×35L>		12
07	400096	Spring Washer <M10>	12	12
08	268987	Gear(A) <M3.5×71T×35L>	2	
	268910	Gear(A) <M3.5×78T×40L>		2
09	407871	Bearing <6211 ZZ>	8	
	407873	Bearing <6213 ZZ>		8
10	268988	Wheel(B) <Ø217×60L>	2	
	268989	Wheel(B) <Ø237×75L>		2
11	400909	Retaining Ring <S-55>	4	
	400913	Retaining Ring <S-65>		4
12	264421	Drive Frame Ass'y(Left) <t25>	1	
	269010	Drive Frame Ass'y(Left) <t28>		1
13	264254	Pinion Shaft Tube<Ø55×Ø40×30L>	1	
	268898	Pinion Shaft Tube<Ø55×Ø40×42L>		1
14	202485	Motor Pinion <M3.5×37T×50L>	2	2
15	400204	Set Screw	4	4
16	400195	Retaining Ring <S-40>	3	3
17	269804	Pinion Shaft <Ø40×650>	1	
	268897	Pinion Shaft <Ø40×655>		1
18	400978	Key <10×10×40L>	2	2
19	202017	Hex. Nut<2 1/4"×4 1/2UNC>	8	
	202019	Hex. Nut<2 1/2"×4UNC>		8
20	404901	Set Screw <M10×1.5×10L>		8
	404903	Set Screw <M12×1.75×15L>	8	

MOTORIZED TROLLEY B.O.M

[illegible]



TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1T (2200lbs)		
			20ft	30ft	40ft
01	266001	Hoist Frame (TU)	1		
	266002			1	
	266003				1
	266201	Hoist Frame (FU)	1		
	266202			1	
	266203				1
02	407838	Bearing <6212ZZ>	1	1	1
03	205469	Coupling	1	1	1
04	266801	Drum	1		
	266802			1	
	266803				1
05	263011	Drum Shaft	1		
	263012			1	
	263013				1
06	205469	Coupling	1	1	1
07	405011	Hex. Recess Bolt	2	2	2
08	400095	Spring Washer	2	2	2
09	200636	Keeper	1	1	1
10	205239	Washer	2	2	2
11	263551	Equalizer Sheave	1	1	1
12	207553	Sheave Axle	1	1	1
13	270201	Link Equalizer	1	1	1
14	205470	Load Axle	1	1	1
15	269551	Load Key Plate	1	1	1
16	400095	Spring Washer	2	2	2
17	405011	Hex. Recess Bolt	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 2T (4400lbs)		
			20ft	30ft	40ft
01	266006	Hoist Frame (TU)	1		
	266007			1	
	266008				1
	266206	Hoist Frame (FU)	1		
	266207			1	
	266208				1
02	407838	Bearing <6212ZZ>	1	1	1
03	205466	Coupling	1	1	1
04	266806	Drum	1		
	266807			1	
	266808				1
05	263016	Drum Shaft	1		
	263017			1	
	263018				1
06	205469	Coupling	1	1	1
07	405011	Hex. Recess Bolt	2	2	2
08	400095	Spring Washer	2	2	2
09	200636	Keeper	1	1	1
10	205239	Washer	2	2	2
11	263551	Equalizer Sheave	1	1	1
12	207553	Sheave Axle	1	1	1
13	270201	Link Equalizer	1	1	1
14	205470	Load Axle	1	1	1
15	269551	Load Key Plate	1	1	1
16	400095	Spring Washer	2	2	2
17	405011	Hex. Recess Bolt	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		
			20ft	30ft	40ft
01	266011	Hoist Frame (TU)	1		
	266012			1	
	266013				1
	266211	Hoist Frame (FU)	1		
	266212			1	
	266213				1
02	407838	Bearing <6212ZZ>	1	1	1
03	205466	Coupling	1	1	1
04	266811	Drum	1		
	266812			1	
	266813				1
05	263021	Drum Shaft	1		
	263022			1	
	263023				1
06	205466	Coupling	1	1	1
07	400012	Hex. Recess Bolt	2	2	2
08	400095	Spring Washer	2	2	2
09	200636	Keeper	1	1	1
10	205239	Washer	2	2	2
11	202535	Equalizer Sheave	1	1	1
12	209289	Sheave Axle	1	1	1
13	270202	Link Equalizer	1	1	1
14	270502	Load Axle	1	1	1
15	200636	Keeper	1	1	1
16	400095	Spring Washer	2	2	2
17	400012	Hex. Recess Bolt	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 5T (11000lbs)		
			20ft	30ft	40ft
01	266016	Hoist Frame (TU)	1		
	266017			1	
	266018				1
	266216	Hoist Frame (FU)	1		
	266217			1	
	266218				1
02	407838	Bearing <6212ZZ>	1	1	1
03	205466	Drum Coupling	1	1	1
04	228332	Drum	1		
	228333			1	
	228334				1
05	263026	Drum Shaft	1		
	263027			1	
	263028				1
06	205467	Drum Coupling	1	1	1
07	400012	Hex. Recess Bolt	2	2	2
08	400095	Spring Washer	2	2	2
09	200636	Keeper	1	1	1
10	205239	Washer	2	2	2
11	202535	Equalizer Shave	1	1	1
12	209289	Sheave Axle	1	1	1
13	270202	Link Equalizer	1	1	1
14	270502	Load Axle	1	1	1
15	200636	Keeper	1	1	1
16	400095	Spring Washer	2	2	2
17	400012	Hex. Recess Bolt	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		
			20ft	30ft	40ft
01	266034	Hoist Frame (TU)	1		
	266035			1	
	266036				1
	266051	Hoist Frame (FU)	1		
	266052			1	
	266053				1
02	407814	Bearing <6220 ZZ>	1	1	1
03	205467	Coupling	1	1	1
04	266871	Drum	1		
	266872			1	
	266873				1
05	263053	Drum Shaft	1		
	263054			1	
	263055				1
06	205468	Coupling	1	1	1
07	400012	Hex. Recess Bolt	2	2	2
08	400095	Spring Washer	2	2	2
09	200636	Keeper	1	1	1
10	205238	Washer	2	2	2
11	202534	Equalizer Sheave	1	1	1
12	205222	Sheave Axle	1	1	1
13	270203	Link Equalizer	1	1	1
14	270503	Load Axle	1	1	1
15	200636	Keeper	1	1	1
16	400095	Spring Washer	2	2	2
17	400013	Hex. Recess Bolt	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

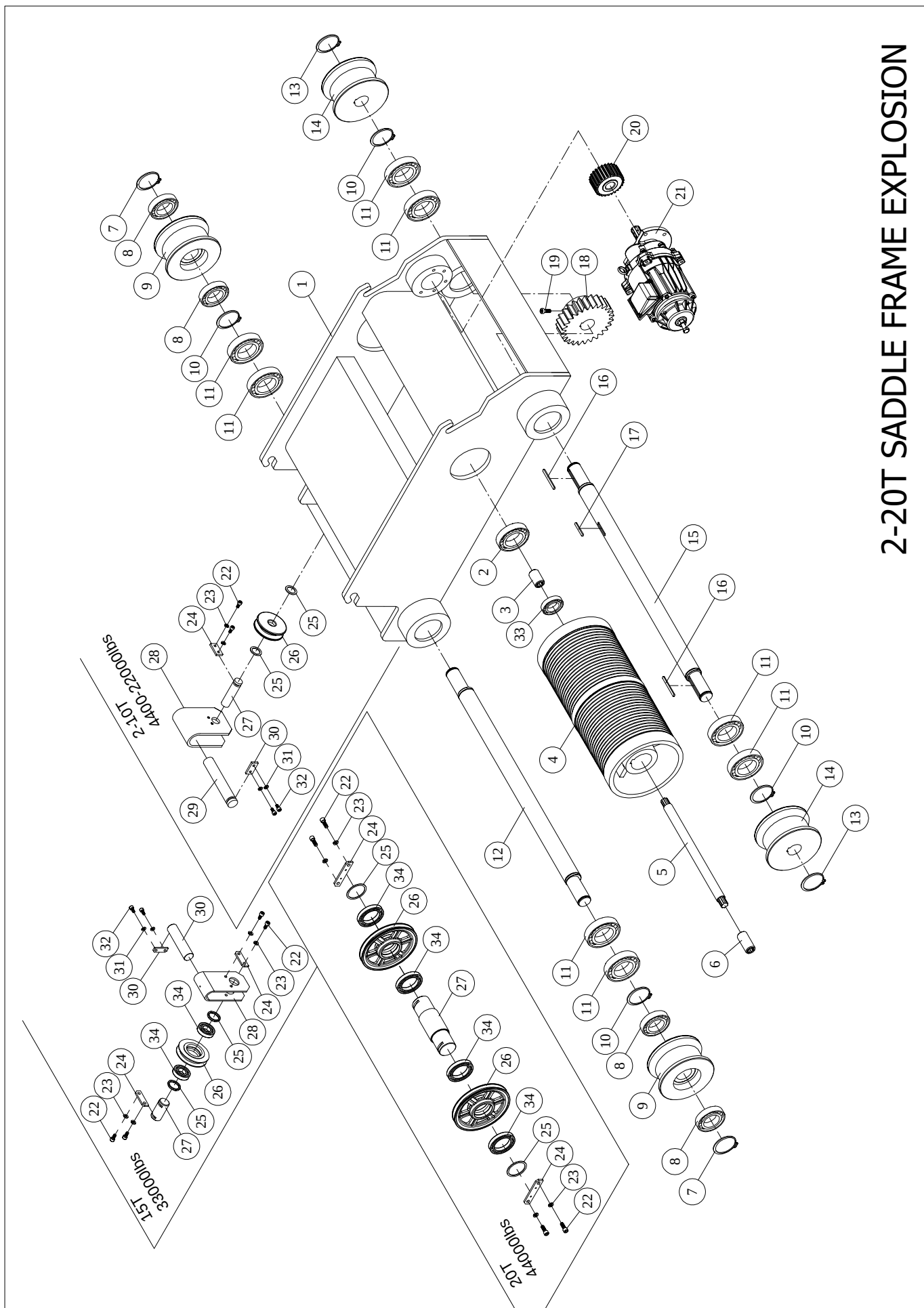
NO.	PART NUMBER	DESCRIPTION	QTY 10T (22000lbs)		
			20ft	30ft	40ft
01	266034	Hoist Frame (TU)	1		
	266035			1	
	266036				1
	266051	Hoist Frame (FU)	1		
	266052			1	
	266053				1
02	407814	Bearing <6220 ZZ>	1	1	1
03	205467	Coupling	1	1	1
04	266876	Drum	1		
	266877			1	
	266878				1
05	263053	Drum Shaft	1		
	263054			1	
	263055				1
06	205468	Coupling	1	1	1
07	400012	Hex. Recess Bolt	2	2	2
08	400095	Spring Washer	2	2	2
09	200636	Keeper	1	1	1
10	205238	Washer	2	2	2
11	202534	Equalizer Sheave	1	1	1
12	205222	Sheave Axle	1	1	1
13	270203	Link Equalizer	1	1	1
14	270503	Load Axle	1	1	1
15	200636	Keeper	1	1	1
16	400095	Spring Washer	2	2	2
17	400013	Hex. Recess Bolt	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		
			20ft	30ft	40ft
01	268837	Hoist Frame	1		
	268838			1	
	268839				1
02	205468	Drum Coupling <ø48×ø28×62L>	1	1	1
03	407814	Bearing <6220 ZZ>	1	1	1
04	268840	Drum <ø356×ø298×910L>	1		
	268843	Drum <ø356×ø298×1110L>		1	
	268845	Drum <ø356×ø298×1330L>			1
05	207151	Drum Shaft <ø40×963L>	1		
	207152	Drum Shaft <ø40×1163L>		1	
	207153	Drum Shaft <ø40×1383L>			1
06	205468	Drum Coupling <ø48×ø28×62L>	1	1	1
07	405016	Hex. Recess Bolt <M20×2.5×30L>	2	2	2
08	400099	Spring Washer <M20>	2	2	2
09	264051	Keeper <ø22 P100 t12×50×150L>	1	1	1
10	267976	Spacer Sleeve <ø100×ø80×12L>	2	2	2
11	263652	Equalizer Sheave <ø243×56L>	1	1	1
12	207160	Sheave Axle <ø80×163L>	1	1	1
13	207159	Link Equalizer	1	1	1
14	207161	Load Axle <ø75×306L>	1	1	1
15	207163	Load Key Plate <t12×40×120L>	1	1	1
16	400098	Spring Washer <M16>	2	2	2
17	408393	Hex. Recess Bolt < M16×2.0×35L>	2	2	2
18	407857	Bearing <6208Z>	1	1	1
19	407706	Bearing <6016Z>	2	2	2

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 20T (44000lbs)		
			20ft	30ft	40ft
01	268885	Hoist Frame	1		
	268886			1	
	268887				1
02	205468	Drum Coupling <ø48×ø28×62L>	1	1	1
03	407814	Bearing <6220 ZZ>	1	1	1
04	266112	Drum <ø396×ø353×1065L>	1		
	266113	Drum <ø396×ø353×1355L>		1	
	266114	Drum <ø396×ø353×1655L>			1
05	268851	Drum Shaft <ø42×1126L>	1		
	268852	Drum Shaft <ø42×1416L>		1	
	268853	Drum Shaft <ø45×1716L>			1
06	205468	Drum Coupling <ø48×ø28×62L>	1	1	1
07	400461	Hex. Recess Bolt <M20×2.5×35L>	4	4	4
08	400099	Spring Washer <M20>	4	4	4
09	268860	Keeper <ø22 P170 t12×50×220L>	2	2	2
10	205608	Spacer Sleeve < ø140×ø120×5L>	2	2	2
11	268864	Equalizer Sheave <ø408×t70>	2	2	2
12	268859	Sheave Axle <ø135×442L>	1	1	1
18	407857	Bearing <6208 ZZ>	1	1	1
19	407805	Bearing <6024Z>	4	4	4



2-20T SADDLE FRAME EXPLOSION

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 2T (4400lbs)		
			20ft	30ft	40ft
01	266056	Hoist Frame (SU)	1		
	266057			1	
	266058				1
02	407838	Bearing <6212 ZZ>	1	1	1
03	205466	Coupling	1	1	1
04	266806	Drum	1		
	266807			1	
	266808				1
05	263016	Drum Shaft	1		
	263017			1	
	263018				1
06	205469	Coupling	1	1	1
07	400194	Retaining Ring	2	2	2
08	405578	Bearing <6207 ZZ>	4	4	4
09	205170	Idler Wheel	2	2	2
10	400196	Retaining Ring	4	4	4
11	400119	Bearing <6309 ZZ>	4		4
	407820			4	
12	265421	Idler Shaft	1		
	265422			1	
	265423				1
13	400194	Retaining Ring	2	2	2
14	205070	Drive Wheel	2	2	2
15	265221	Drive Shaft	1		
	265222			1	
	265223				1
16	400969	Key	2	2	2
17	400969	Key	1	1	1

SADDLE FRAME ASSEMBLY B.O.M

[illegible]

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		
			20ft	30ft	40ft
01	266061	Hoist Frame (SU)	1		
	266062			1	
	266063				1
02	407838	Bearing <6212 ZZ>	1	1	1
03	205466	Coupling	1	1	1
04	266811	Drum	1		
	266812			1	
	266813				1
05	263021	Drum Shaft	1		
	263022			1	
	263023				1
06	205466	Coupling	1	1	
	205467				1
07	400195	Retaining Ring	2	2	2
08	407872	Bearing <6208 ZZ>	4	4	4
09	205167	Idler Wheel	2	2	2
10	400909	Retaining Ring	4	4	4
11	407871	Bearing <6211 ZZ>	8	8	8
12	205137	Idler Shaft	1		
	265412			1	
	265428				1
13	400196	Retaining Ring	2	2	2
14	205067	Drive Wheel	2	2	2
15	205097	Drive Shaft	1		
	265212			1	
	265228				1
16	400969	Key	2	2	2

SADDLE FRAME ASSEMBLY B.O.M

[illegible]

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 5T (11000lbs)		
			20ft	30ft	40ft
01	266066	Hoist Frame (SU)	1		
	266067			1	
	266068				1
02	407838	Bearing <6212 ZZ>	1	1	1
03	205466	Coupling	1	1	1
04	228332	Drum	1		
	228333			1	
	228334				1
05	263026	Drum Shaft	1		
	263027			1	
	263028				1
06	205467	Coupling	1	1	1
07	400195	Retaining Ring	2	2	2
08	407872	Bearing <6208 ZZ>	4	4	4
09	205167	Idler Wheel	2	2	2
10	400909	Retaining Ring	4	4	4
11	407871	Bearing <6211 ZZ>	8	8	8
12	205137	Idler Shaft	1		
	265412			1	
	265428				1
13	400196	Retaining Ring	2	2	2
14	205067	Drive Wheel	2	2	2
15	205097	Drive Shaft	1		
	265212			1	
	265228				1
16	400969	Key	2	2	2
17	405904	Key	1		
	400969			1	1

SADDLE FRAME ASSEMBLY B.O.M

[illegible]

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		
			20ft	30ft	40ft
01	266071	Hoist Frame (SU)	1		
	266072			1	
	266073				1
02	407814	Bearing <6220 ZZ>	1	1	1
03	205467	Coupling	1	1	1
04	266871	Drum	1		
	266872			1	
	266873				1
05	263053	Drum Shaft	1		
	263054			1	
	263055				1
06	205468	Coupling	1	1	1
07	400196	Retaining Ring	2	2	2
08	407820	Bearing <6309 ZZ>	4	4	4
09	205173	Idler Wheel	2	2	2
10	400909	Retaining Ring	4	4	4
11	407822	Bearing <6311ZZ>	8	8	8
12	265436	Idler Shaft	1	1	
	265438				1
13	400196	Retaining Ring	2	2	2
14	205073	Drive Wheel	2	2	2
15	265236	Drive	1	1	
	265238				1
16	400969	Key	2	2	2
17	400969	Key	1	1	1
18	205186	Trolley Drive Gear	1	1	1
19	400014	Hex. Recess Bolt	1	1	1
20	201680	Pinion	1	1	1

SADDLE FRAME ASSEMBLY B.O.M

[illegible]

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 10T (22000lbs)		
			20ft	30ft	40ft
01	266071	Hoist Frame (SU)	1		
	266072			1	
	266073				1
02	407814	Bearing <6220 ZZ>	1	1	1
03	205467	Coupling	1	1	1
04	266876	Drum	1		
	266877			1	
	266878				1
05	263053	Drum Shaft	1		
	263054			1	
	263055				1
06	205468	Coupling	1	1	1
07	400196	Retaining Ring	2	2	2
08	407820	Bearing <6309 ZZ>	4	4	4
09	205173	Idler Wheel	2	2	2
10	400909	Retaining Ring	4	4	4
11	407822	Bearing <6311 ZZ>	8	8	8
12	265436	Idler Shaft	1	1	
	265438				1
13	400196	Retaining Ring	2	2	2
14	205073	Drive Wheel	2	2	2
15	265236	Drive Shaft	1	1	
	265238				1
16	400969	Key	2	2	2
17	400969	Key	1	1	1
18	205181	Trolley Drive Gear	1	1	1
19	400014	Hex. Recess Bolt	1	1	1
20	201679	Pinion	1	1	1

SADDLE FRAME ASSEMBLY B.O.M

[illegible]

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		
			20ft	30ft	40ft
01	268830	Hoist Frame (SU)	1		
	268831			1	
	268832				1
02	407814	Bearing <6220 ZZ>	1	1	1
03	205468	Coupling	1	1	1
04	268840	Drum	1		
	268843			1	
	268845				1
05	207151	Drum Shaft	1		
	207152			1	
	207153				1
06	205468	Coupling	1	1	1
07	400910	Retaining Ring <S-70>	2	2	2
08	407874	Bearing <6214 ZZ>	4	4	4
09	205177	Idler Wheel	2	2	2
10	400918	Retaining Ring <S-80>	4	4	4
11	407875	Bearing <6216 ZZ>	8	8	8
12	265248	Idler Shaft	1		
	265249			1	
	265247				1
13	400910	Retaining Ring <S-70>	2	2	2
14	205077	Drive Wheel	2	2	2
15	265245	Drive Shaft	1		
	265246			1	
	265244				1
16	400954	Key	2	2	2
17	400984	Key	1	1	1
18	205183	Trolley Drive Gear	1	1	1
19	400013	Hex. Recess Bolt	1	1	1

SADDLE FRAME ASSEMBLY B.O.M

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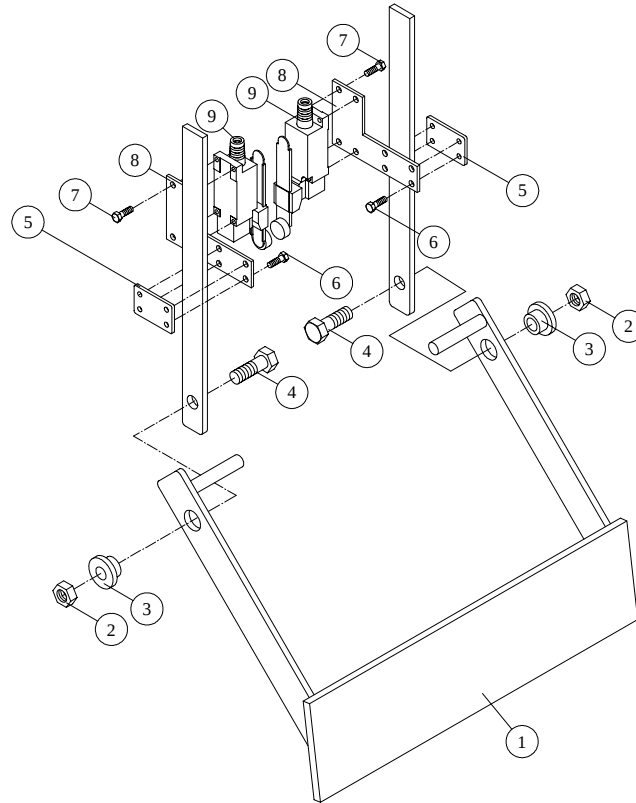
SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 20T (44000lbs)		
			20ft	30ft	40ft
01	268872	Hoist Frame (SU)	1		
	268873			1	
	268874				1
02	407814	Bearing <6220 ZZ>	1	1	1
03	205468	Coupling	1	1	1
04	266112	Drum	1		
	266113			1	
	266114				1
05	268851	Drum Shaft	1		
	268852			1	
	268853				1
06	205468	Coupling	1	1	1
07	400910	Retaining Ring <S-70>	2	2	2
08	407874	Bearing <6214 Z>	4	4	4
09	205177	Idler Wheel	2	2	2
10	400918	Retaining Ring <S-80>	4	4	4
11	407875	Bearing <6216 ZZ>	8	8	8
12	268882	Idler Shaft	1		
	268883			1	
	268884				1
13	400910	Retaining Ring <S-70>	2	2	2
14	205077	Drive Wheel	2	2	2
15	268879	Drive Shaft	1		
	268880			1	
	268881				1
16	400954	Key <16×10×90L>	2	2	2
17	400984	Key <16×10×60L>	1	1	1
18	205275	Trolley Drive Gear	1	1	1
19	400013	Hex. Recess Bolt	1	1	1

SADDLE FRAME ASSEMBLY B.O.M

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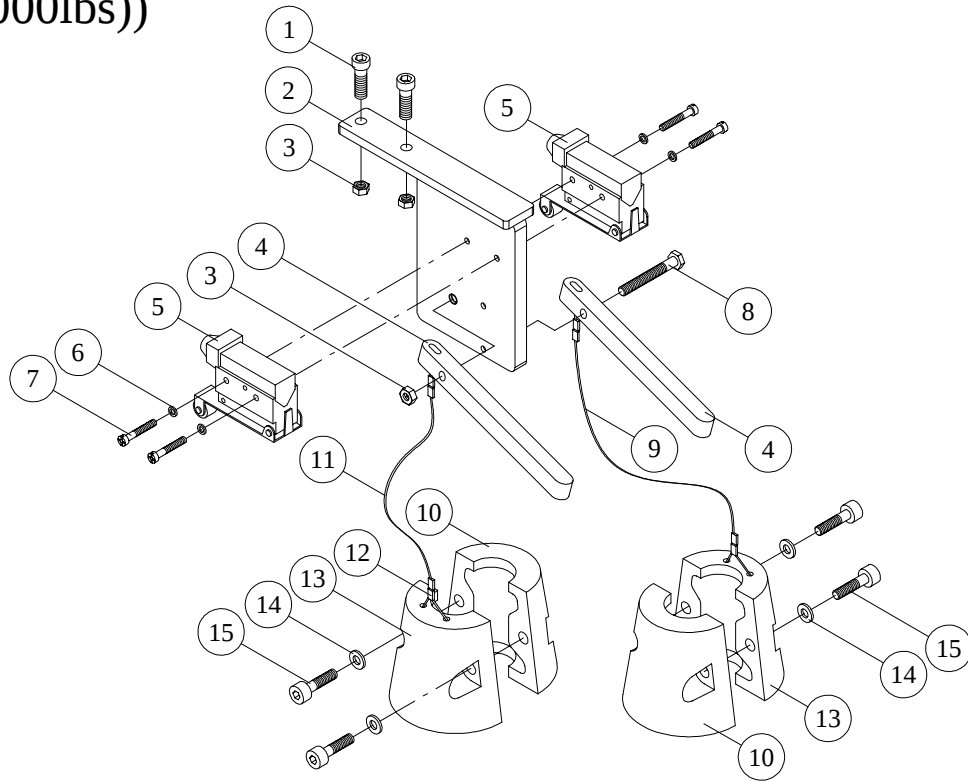
LIMIT SWITCH EXPLOSION



LIMIT SWITCH ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1,2T (2200lbs) (4400lbs)	QTY 3,5T (6600lbs) (11000lbs)	QTY 7.5,10T (16500lbs) (22000lbs)	QTY 15T (33000lbs)
01	204893	Lever Arm	1			
	204891			1		
	204892				1	
	207162					1
02	400084	Nut <M12×1.75>	2	2	2	2
03	205308	Tube <Ø30×12.5×15L>	2	2	2	2
04	400023	Hex. Recess Bolt	2	2	2	2
05	205314	Limit Frame	2	2		
	273701				2	2
06	400003	Hex. Recess Bolt	8	8	8	8
07	408396	Hex. Recess Bolt	8	8	8	8
08	205313	Limit Plate	2	2		
	273602				2	2
09	300560	Limit Switch	2	2	2	2

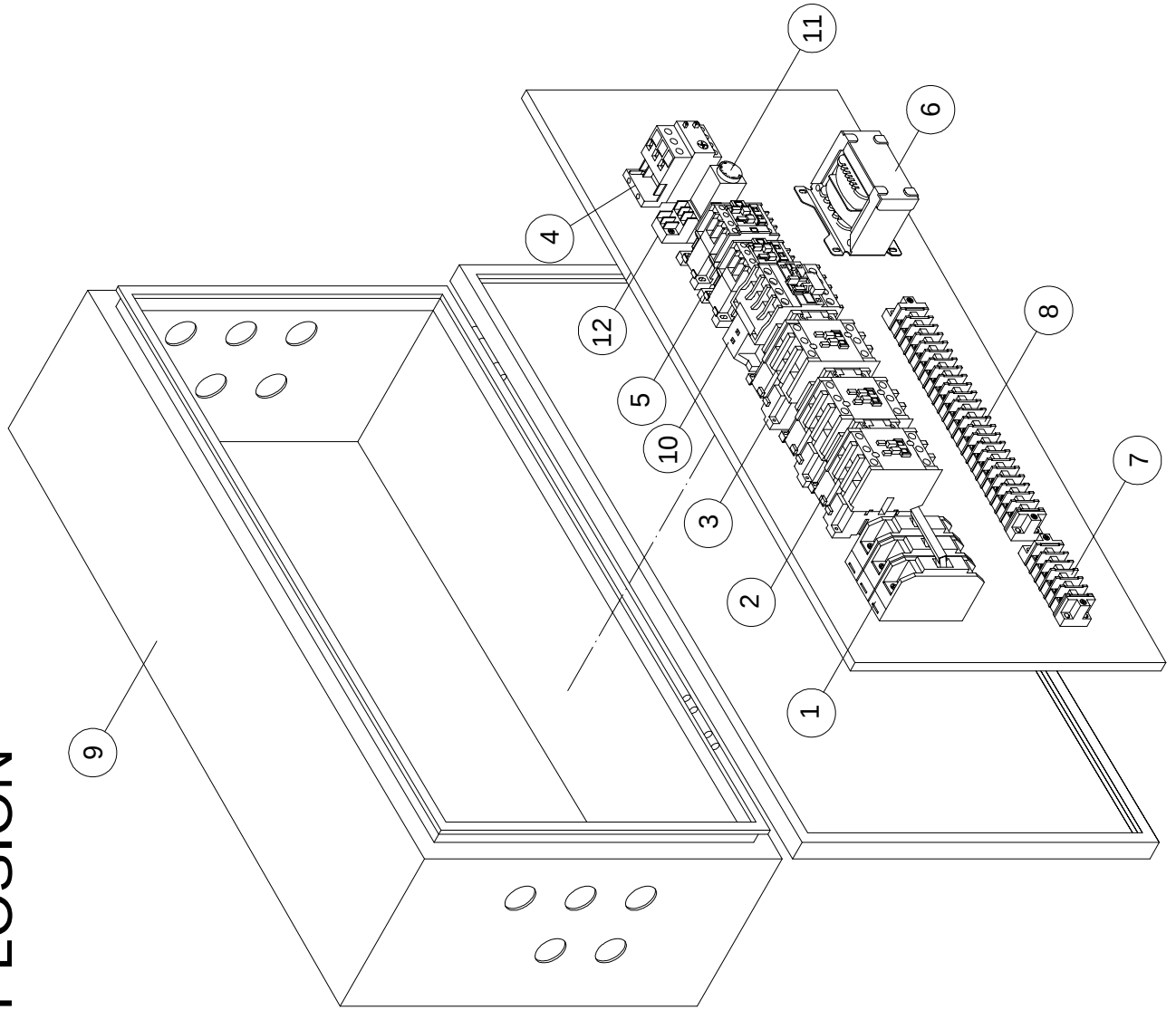
LIMIT SWITCH EXPLOSION (20T (44000lbs))



LIMIT SWITCH ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 20T (44000lbs)
1	400007	Hex. Recess Bolt<M6×1.0×20L>	2
2	205349	Limit Frame	1
3	400087	Lock Nut<M6×1.0>	3
4	205342	Limit Stick<t12×12×145L>	2
5	300534	Limit Switch	2
6	400092	Spring Washer<M4>	4
7	400617	Cross Headed Screw<M4×0.7×25L>	4
8	400027	Hex. Recess Bolt<M6×1.0×45L>	1
9	403001	Wire Rope<Ø2×1120L>	1
10	205339	Counter Weight B	2
11	403001	Wire Rope<Ø2×920L>	1
12	300290	Sleeve<5.5mm>	8
13	205338	Counter Weight A	2
14	400095	Spring Washer<M8>	4
15	400013	Hex. Recess Bolt<M8×1.25×25L>	4

ELECTRIC EXPLOSION



ELECTRIC ASSEMBLY B.O.M.

S =Single Speed

NO.	PART NUMBER	DESCRIPTION	Q'TY 1,2T (2200lbs) (4400lbs)		Q'TY 3T (6600lbs)		Q'TY 5T (11000lbs)	
			S		S		S	
			230 (V)	460 (V)	230 (V)	460 (V)	230 (V)	460 (V)
01	300888	No Fuse Breaker	1	1	1	1		1
	302216						1	
02	301116	Magnetic Contactor For "Emergency Stop"	1					1
	301112			1		1		
	301120				1			
	301132						1	
03	301116	Magnetic Contactor For "Hoist"	2					2
	301112			2		2		
	301120				2			
	301132						2	
04	300132	Thermal Overload Relay	1	1	1	1		1
	300133						1	
05	301103	Magnetic Contactor For "Trolley"	2	2	2	2	2	2
06	301056	Control Transformer	1	1	1	1		1
	301076						1	
07	300658	Terminal Blocks	1	1	1	1		1
	300659						1	
08	300663	Terminal Blocks	1	1	1	1	1	1
09	301422	Electric Control Panel(TU)	1	1	1	1		1
	301424						1	
	301427	Electric Control Panel(SU)	1	1	1	1		1
	301428						1	

ELECTRIC ASSEMBLY B.O.M.

S=Single Speed

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500 lbs)		QTY 10T (22000 lbs)	
			S		S	
			230 (V)	460 (V)	230 (V)	460 (V)
01	302216	No Fuse Breaker	1			
	300888			1		1
	300887				1	
02	301132	Magnetic Contactor For "Emergency Stop"	1			
	301120			1		1
	301136				1	
03	301132	Magnetic Contactor For "Hoist"	2			
	301120			2		
	301136				2	
	301124					2
04	300132	Thermal Overload Relay		1		1
	300133		1		1	
05	301103	Magnetic Contactor For "Trolley"	2	2		
	301108				2	2
06	301056	Control Transformer		1		
	301076					1
	303752		1		1	
07	300659	Terminal Blocks	1			1
	300658			1		
	300648				1	
08	300663	Terminal Blocks	1	1	1	1
09	301424	Electric Control Panel(TU)	1		1	1
	301422			1		
	301428	Electric Control Panel(SU)	1		1	1
	301427			1		

ELECTRIC ASSEMBLY B.O.M.

S=Single Speed

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000 lbs)		QTY 20T (44000 lbs)	
			S		S	
			230 (V)	460 (V)	230 (V)	460 (V)
01	300887	No Fuse Breaker	1		1	
	302216			1		1
02	301140	Magnetic Contactor For "Emergency Stop"	1		1	
	301132			1		1
03	301140	Magnetic Contactor For "Hoist"	2		2	
	301132			2		2
04	300134	Thermal Overload Relay	1		1	
	300133			1		1
05	301112	Magnetic Contactor For "Trolley"	2		2	
	301108			2		2
06	303753	Control Transformer	1		1	
	303752			1		1
07	300648	Terminal Blocks	1		1	
	300659			1		1
08	300663	Terminal Blocks	1	1	1	1
09	301429	Electric Control Panel(TU)	1		1	
	301424			1		1
	301425	Electric Control Panel(SU)	1		1	
	301428			1		1

ELECTRIC ASSEMBLY B.O.M.

D =Dual Speed

NO.	PART NUMBER	DESCRIPTION	Q'TY 1,2T (2200lbs) (4400lbs)		Q'TY 3T (6600lbs)		Q'TY 5T (11000lbs)	
			D		D		D	
			230 (V)	460 (V)	230 (V)	460 (V)	230 (V)	460 (V)
01	300888	No Fuse Breaker	1	1	1	1		1
	302216						1	
02	301116	Magnetic Contactor For "Emergency Stop"	1					1
	301112			1		1		
	301120				1			
	301132						1	
03	301116	Magnetic Contactor For "Hoist"	2					2
	301112			2		2		
	301120				2			
	301132						2	
04	300132	Thermal Overload Relay	1	1		1		1
	300133				1		1	
05	301103	Magnetic Contactor For "Trolley"	2	2	2	2	2	2
06	301056	Control Transformer	1	1		1		1
	301076				1		1	
07	300647	Terminal Blocks	1	1	1	1		1
	300656						1	
08	300663	Terminal Blocks	1	1	1	1	1	1
09	301422	Electric Control Panel(TU)	1	1		1		1
	301424				1		1	
	301427	Electric Control Panel(SU)	1	1		1		1
	301428				1		1	
10	300043	Magnetic Contactor For "Fast"(Hoist)	1	1		1		1
	300047				1			
	300022						1	

ELECTRIC ASSEMBLY B.O.M.

D=Dual Speed

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500 lbs)		QTY 10T (22000 lbs)	
			D		D	
			230 (V)	460 (V)	230 (V)	460 (V)
01	302216	No Fuse Breaker	1			
	300888			1		1
	300887				1	
02	301132	Magnetic Contactor For "Emergency Stop"	1			
	301120			1		1
	301136				1	
03	301132	Magnetic Contactor For "Hoist"	2			
	301120			2		
	301136				2	
	301124					2
04	300134	Thermal Overload Relay	1		1	
	300133			1		1
05	301103	Magnetic Contactor For "Trolley"	2	2		
	301108				2	2
06	303752	Control Transformer			1	
	301076		1	1		1
07	300656	Terminal Blocks	1	1		1
	300650				1	
08	300663	Terminal Blocks	1	1	1	1
09	301424	Electric Control Panel(TU)	1	1		1
	301429				1	
	301428	Electric Control Panel(SU)	1	1		1
	301425				1	
10	300047	Magnetic Contactor For "Fast"(Hoist)		1		1
	300022		1			
	301167				1	
11	301588	Timer			1	1
12	300439	Relay Base			1	1

ELECTRIC ASSEMBLY B.O.M.

D=Dual Speed

[illegible]

10. Adjust the air gap

#Routine Maintenance For Adjustable Brake:

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

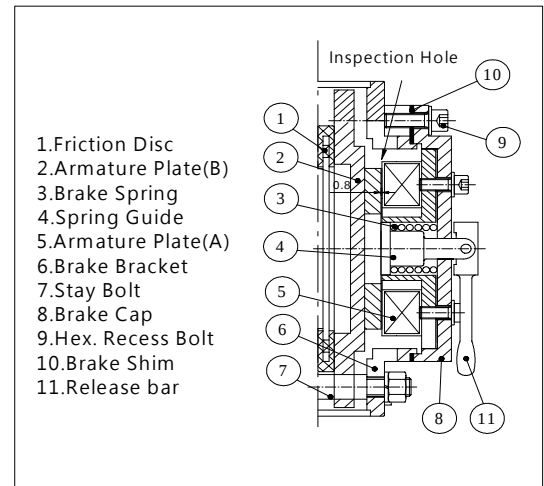


FIG-1.

#How To Adjust The Brake Shim:

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

#Operation for manual release bar:

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

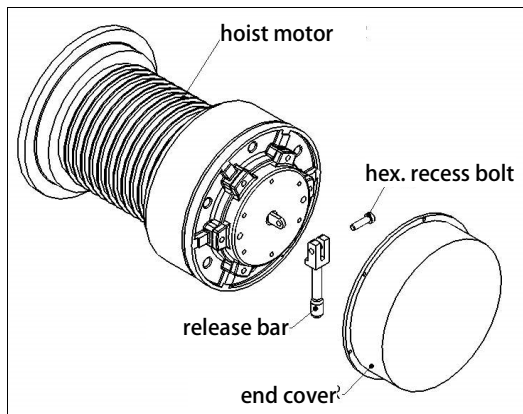


FIG-2

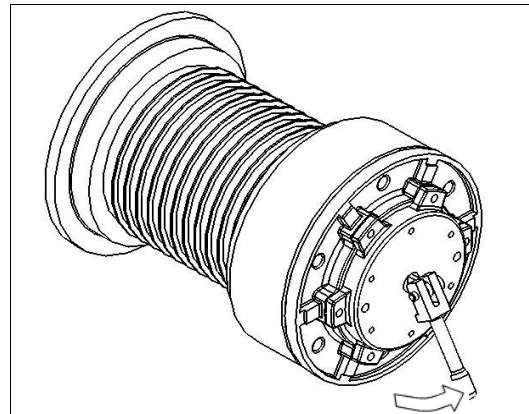


FIG-3.