



ELECTRIC WIRE ROPE HOIST



OPERATION MANUAL & PARTS LIST

SERIES:

- | | |
|---|--|
| ☐ SUBH-(D)-200DB | ☐ TUAH-(D)-100DB |
| ☐ SUCH-(D)-300DB | ☐ TUBH-(D)-200DB |
| ☐ SUDH-(D)-500DB | ☐ TUCH-(D)-300DB |
| ☐ SUEAH-(D)-750DB | ☐ TUDH-(D)-500DB |
| ☐ SUFAH-(D)-1000DB | ☐ TUEAH-(D)-750DB |
| ☐ SUIH-(D)-1500DB | ☐ TUF AH-(D)-1000DB |
| ☐ SUII-(D)-2000DB | ☐ TUIH-(D)-1500DB |
| | ☐ TUII-(D)-2000DB |

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,

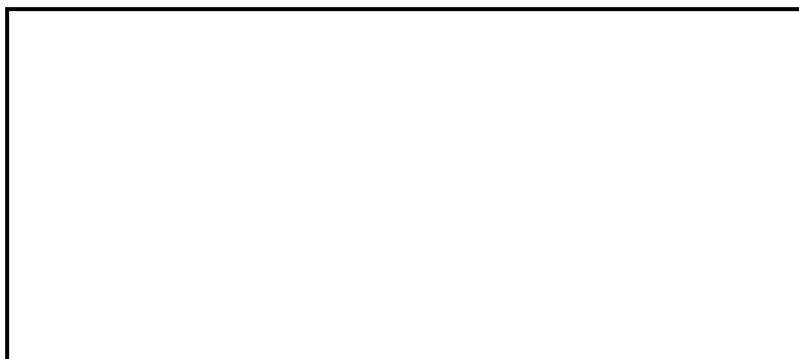
(1) Hoist model

(2) Serial number

(3) Part number, plus the description.

We trust that you will find this "Black Bear" 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 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, 200~600V, 50/60 Hz
Noise Level (dB)	Single speed hoist	81
	Dual Speed hoist	81
Wire Rope diameter	WLL (working load limit)(t)	Nominal diameter (mm)
	1T (2200lbs)	φ 6.3 19×7(195kg/mm ²)
	2T (4400 lbs)	φ 8 19×7(195kg/mm ²)
	3T (6600 lbs)	φ 10 19×7(195kg/mm ²)
	5T (11000 lbs)	φ 10 19×7(195kg/mm ²)
	7.5T (16500 lbs)	φ 12 19×7(195kg/mm ²)
	10T (22000 lbs)	φ 14 19×7(195kg/mm ²)
	15T (33000 lbs)	φ 18 19×7(195kg/mm ²)
	20T (44000 lbs)	φ 18 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.

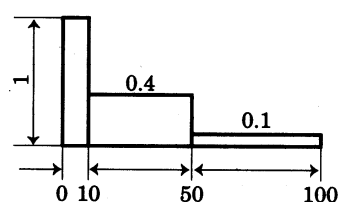
Black Bear electric wire rope hoists have been designed according to FEM regulations (FEM 9.511).

Details are provided in Table 2-2.

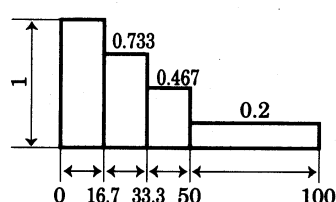
Average daily operating time and total operating time are determined by load distribution.

Table 2-2 Mechanical classification

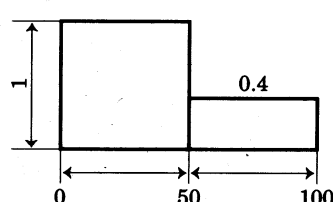
Load Spectrum (Load distribution)	Definitions	Cubic mean value	Average daily operating time (h)	Total operating time (h)
1 (light)	Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	$k \leq 0.50$	2-4	6300
2 (medium)	Mechanisms or parts thereof, usually subject to small loads but rather often to maximum loads.	$0.50 < k \leq 0.63$	1-2	3200
3 (heavy)	Mechanisms or parts thereof, usually subject to medium loads but frequently to maximum loads.	$0.63 < k \leq 0.80$	0.5-1	1600
4 (very heavy)	Mechanisms or parts thereof, usually subject to maximum or almost maximum loads.	$0.80 < k \leq 1.00$	0.25-0.5	800



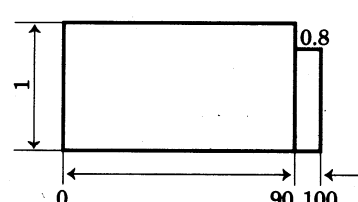
% operating time
Load spectrum 1



% 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) 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

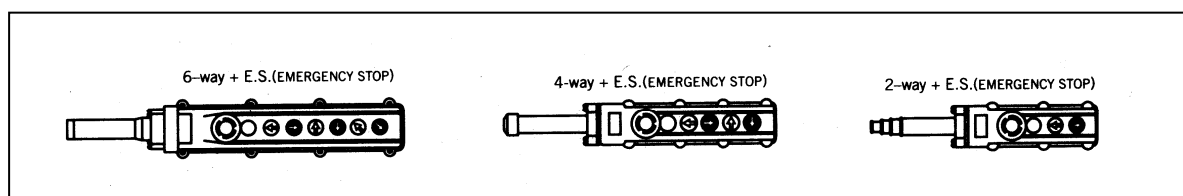
The hook is drop - forged from high tensile steel and heat treated for strength and toughness. The button hook is capable of 360°swivel and fitted with safety latch to ensure safe lifting.

(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)



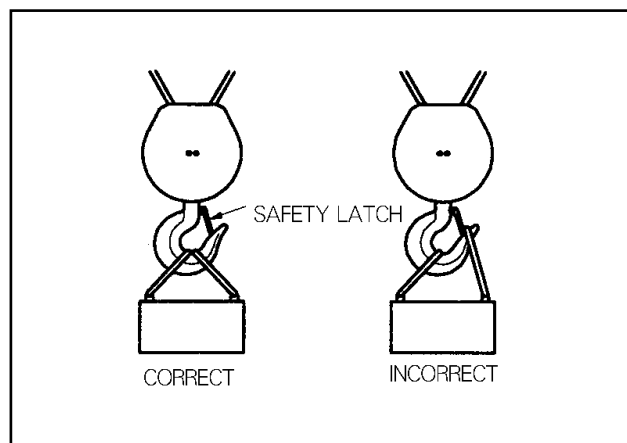
DANGER

Do not use the hoist in explosive atmosphere.

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

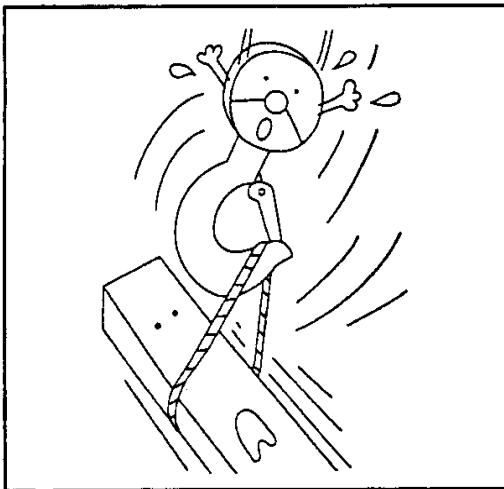
(a) the correct lifting sling is being used.

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

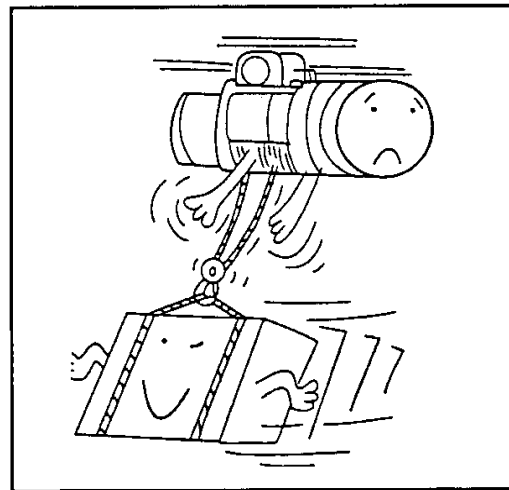


(c) the object to be hoisted is well secured for direct lifting (a proper lifting frame or apparatus is strongly recommended for direct lifting.)

- (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 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 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

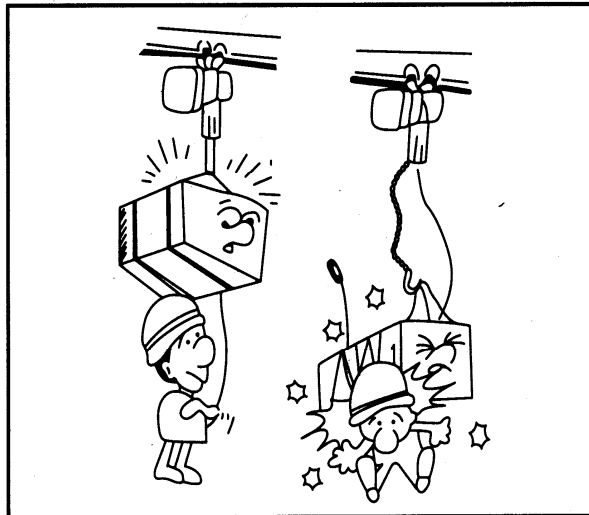
Do not use the Hoist's wire rope as a welding electrode.

(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 load wire rope. Do not operate with damaged wire rope.

4. INSTALLATION

4.1 Unpacking Information

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

4.2 Voltage



CAUTION

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

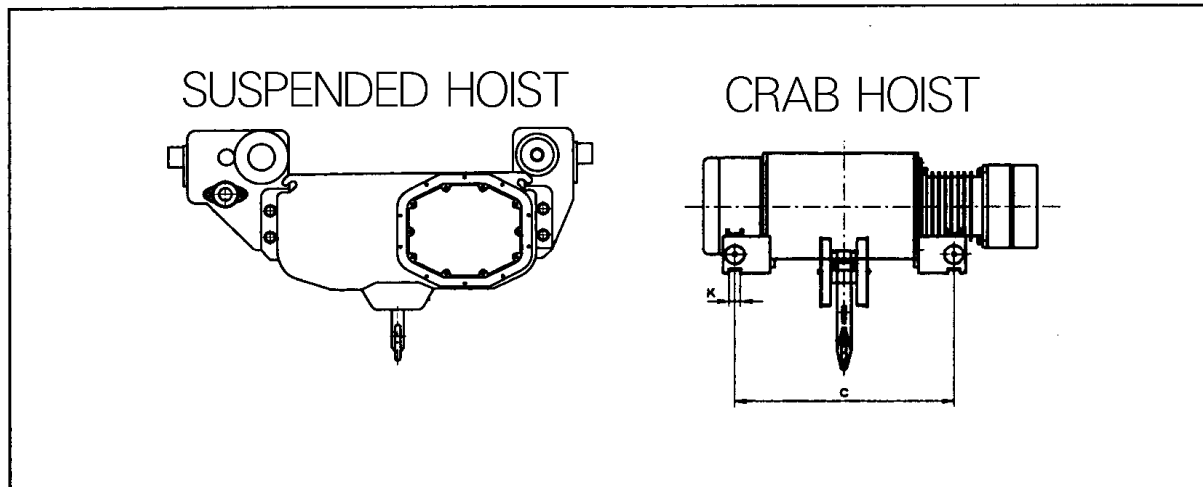
4.3 Installation



WARNING

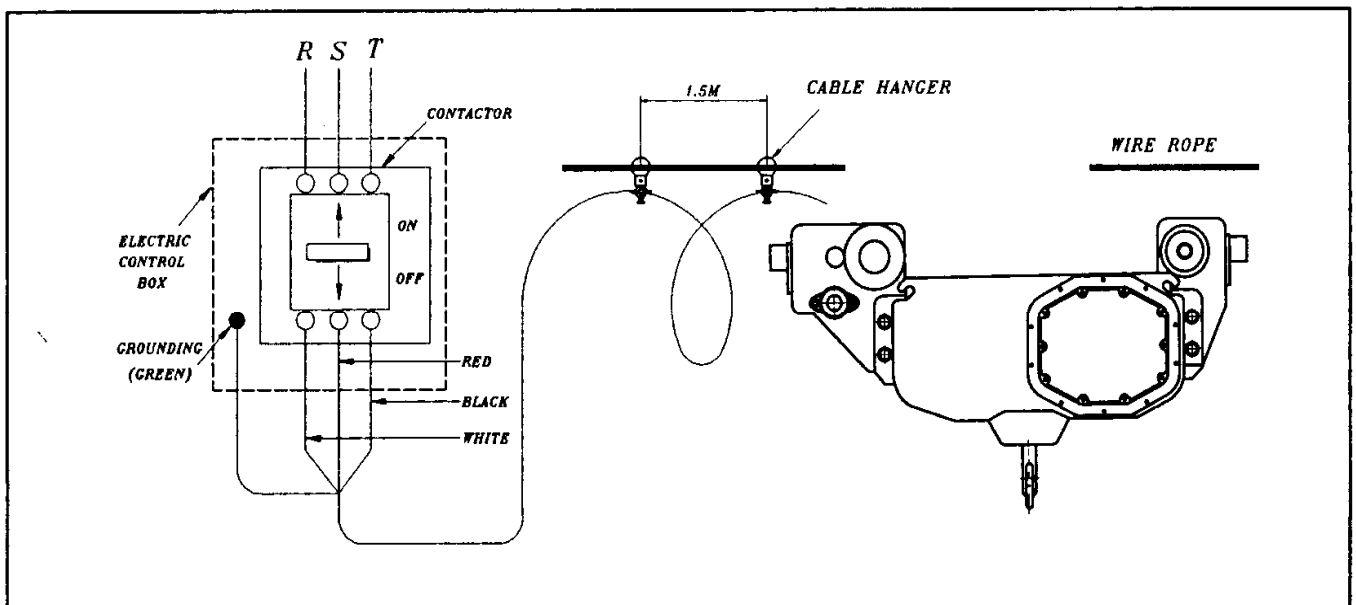
Connection to power supply before installation procedures having been completed is strictly prohibited.

- (1) Prior to installation , the crab hoist should check dimension “C” & “K” confirm to the rails span over the girder and rail specification, if hoist is suspended from an electric trolley, please check trolley’s span is confirm 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. Check that the hook stops when the emergency stop button is pushed. Also, check the hoist does not move in response to the push button switch. Finally, check that the emergency stop device pops out when turned to the right and that operation can be resumed thereafter. If the equipment fails to pass another above checks, check the wiring and automatic locking function of the emergency stop device.

5. OPERATION

After running test and checks have been completed, the hoist will be ready for normal operation.



WARNING

Since dealing with heavy loads may involve unexpected danger, all of the "SAFETY RULES" (Ref 3.) must be followed and the operator must be aware of the following points while using the hoist.

- (1) The operator must have a clear and unobstructed view of the entire working area before operating the hoist.
- (2) The operator must check that the entire working area is safe and secure before operating the hoist.
- (3) When using the hoist with a motorized trolley, the operator must take care to prevent excessive load swinging by sympathetic use of the trolley controls.

6. MAINTENANCE AND INSPECTION



DANGER

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



DANGER

Before performing maintenance do not forget to affix tags to the power source and the push button switch reading: “DANGER”, “EQUIPMENT BEING REPAIRED”.

6.1 Maintenance

- (1) Check the level of 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 out of the bottom block's wheel groove or not.

(2) Monthly inspection



WARNING

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

(a) Wire rope:

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

a-2: Any distorted, deform, itching and rusty of wire rope.

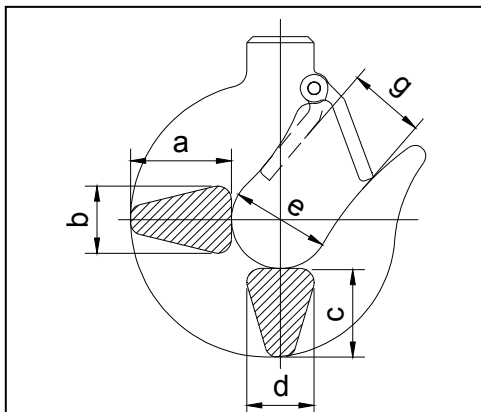
a-3: Wire rope fixing fasteners being deforming of losing.



Rope Dia. (m/m)d	Model Being Used	Construction	Specified Breaking Load(lb)
ϕ 6.3	TUAH(D)-100DB	19x7 (195kg/mm ²)	5474
ϕ 8	SUBH(D)-200DB TUBH(D)-200DB		8448
ϕ 10	SUCH(D)-300DB TUCH(D)-300DB SUDH(D)-500DB TUDH(D)-500DB		15580
ϕ 12	SUEAH(D)-750DB TUEAH(D)-750DB		22436
ϕ 14	SUFAH(D)-1000DB TUFAH(D)-1000DB		29700
ϕ 18	SUIH(D)-1500DB TUIH(D)-1500DB SUII(D)-2000DB TUII(D)-2000DB		50375

(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 (T)	a	b	c	d	e	g	Allowable Stress(lb)
1	39	27	39	27	39	27	7000
2	54	36	47	36	56	41	7000
3	57	38	52	38	60	45	7000
5	75	48	68	48	75	56	7000
7.5	85	60	77	60	85	62	7000
10	100	65	95	60	100	65	7000
15	120	87	110	85	120	82	7000
20	145	105	132	105	150	110	5800

(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

Ton	1	2	3	5	7.5	10	15-20
Gear Box NO.	UA	UB	UC	UD	UEA	UFA	UI
U.S. gal	1.98	1.98	2.64	2.64	6.6	6.6	9.24
Liter	7.5	7.5	10	10	25	25	35

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
VG460	251	Omala oil 460	Meropa 460	Mellana 460	Blasia 460

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

(d) Check operation of pawl spring.

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

7. TROUBLESHOOTING

7.1 Wiring Diagrams

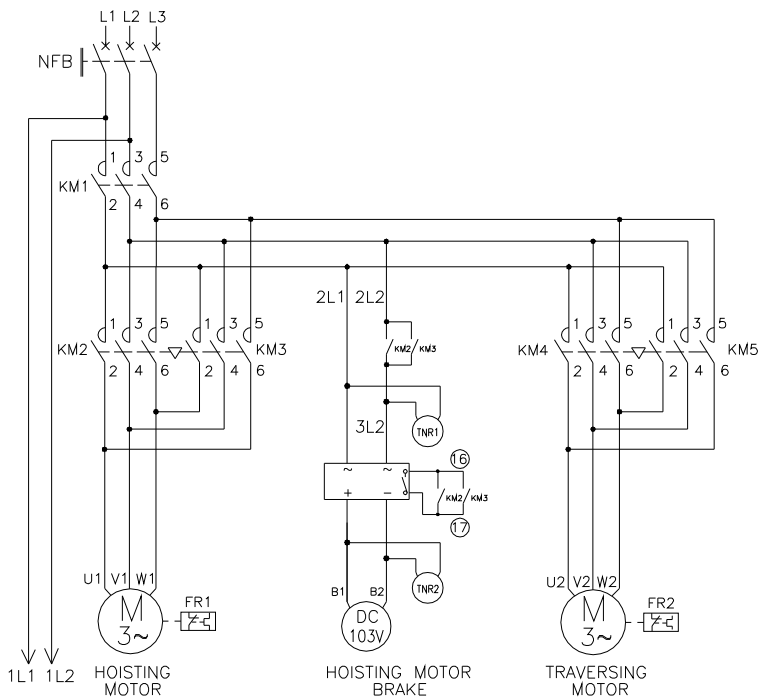
(1) Single Speed Wiring Diagram(230V).....	18
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(6) Dual Speed Wiring Diagram (460V 10T;15T;20T)	20
(7) Dual Speed Wiring Diagram (230V 15T;20T)	21

7.1.1 The above models are available in the following specification:

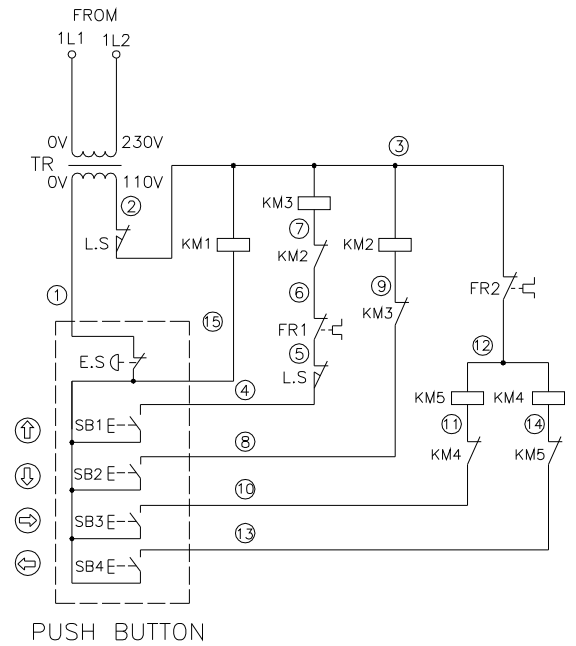
- (a) 3-Phase
- (b) 50 or 60 Hertz
- (c) Single voltage

Hertz	Voltage	Single Voltage
50 Hz		220
60 Hz		to 600

SINGLE SPEED WITH EMERGENCY STOP

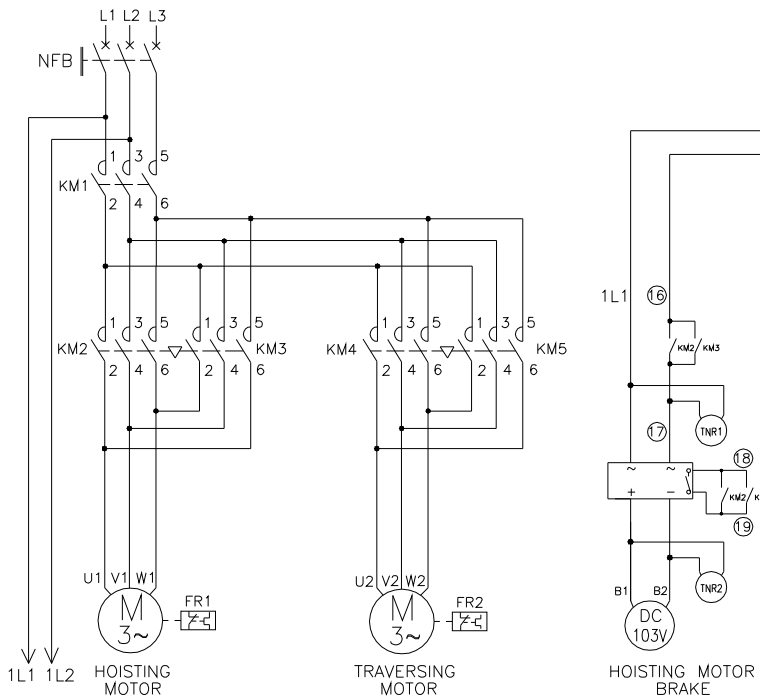


MAIN CIRCUIT WIRING DIAGRAM

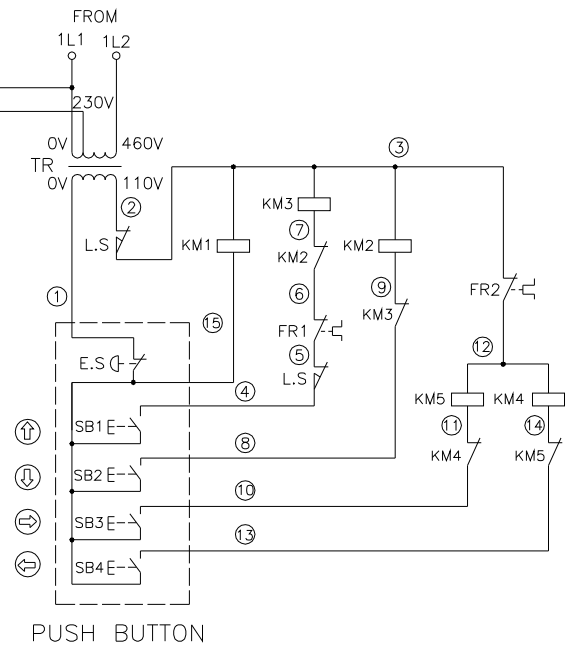


CONTROL CIRCUIT WIRING DIAGRAM

US-03-0006



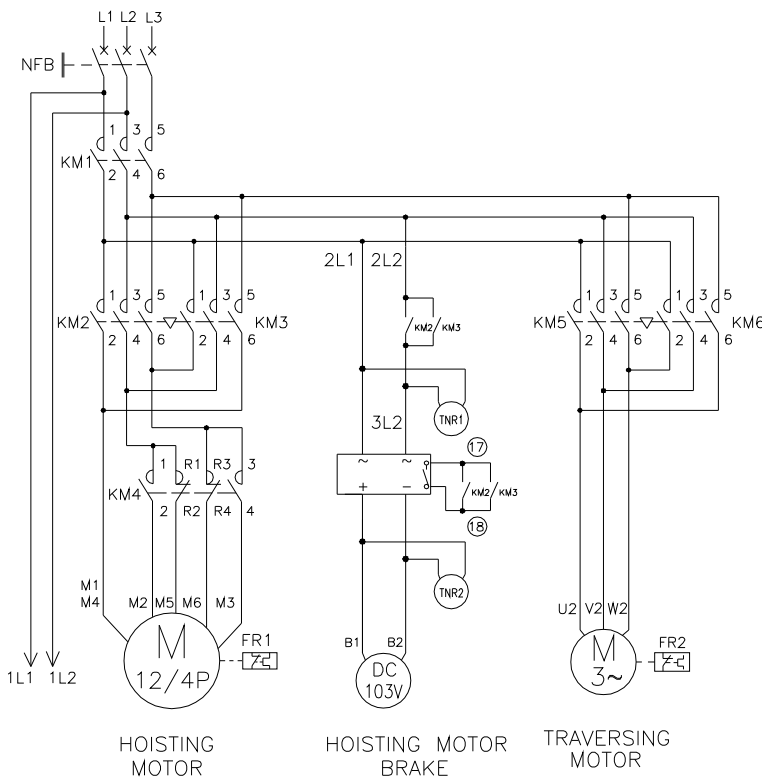
MAIN CIRCUIT WIRING DIAGRAM



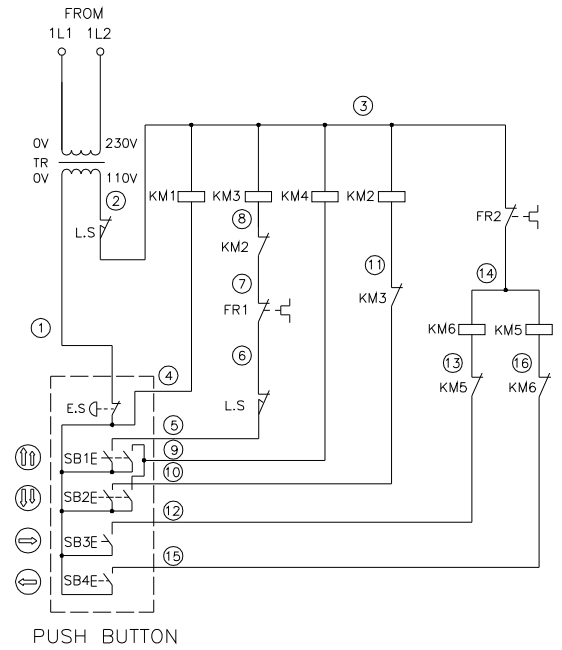
CONTROL CIRCUIT WIRING DIAGRAM

US-03-0002

DUAL SPEED WITH EMERGENCY STOP

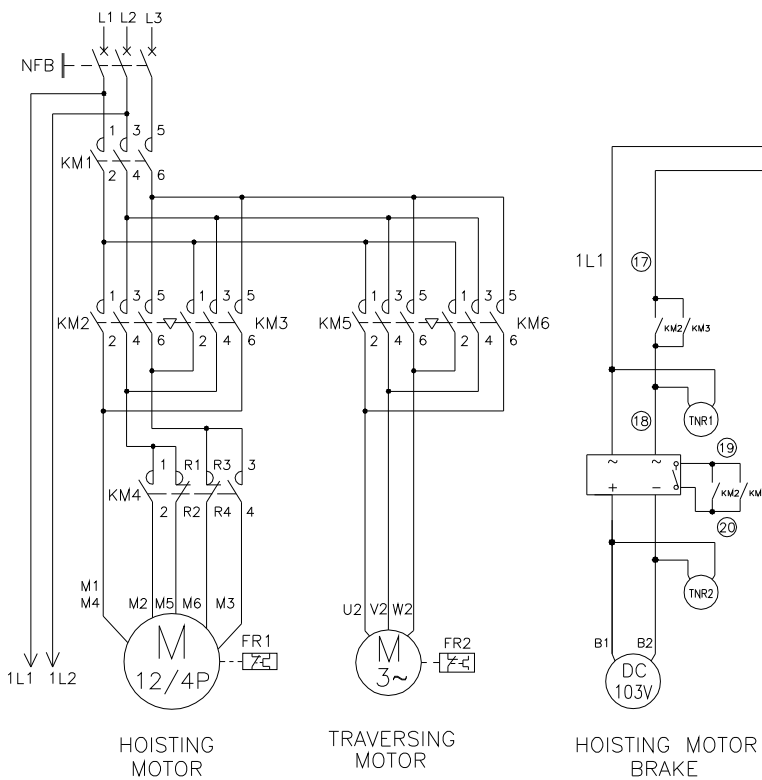


MAIN CIRCUIT WIRING DIAGRAM

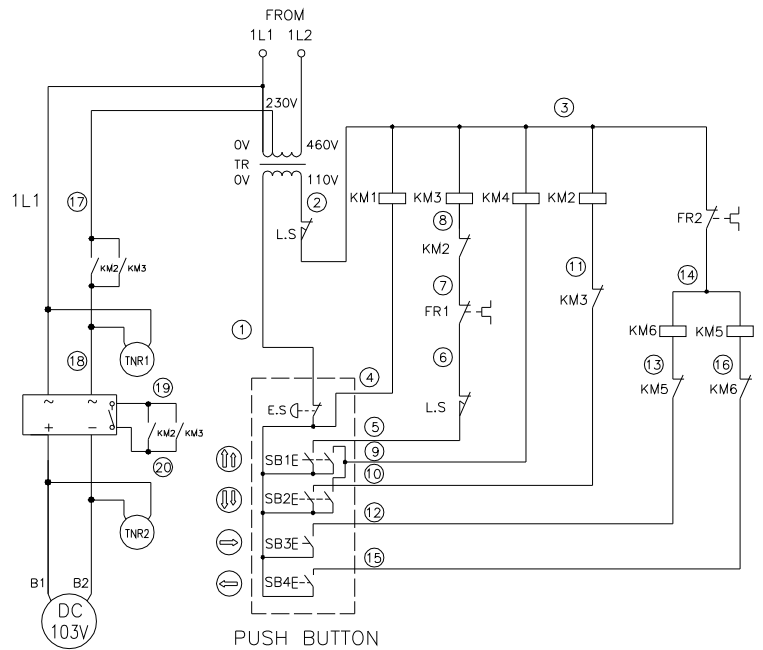


CONTROL CIRCUIT WIRING DIAGRAM

US-03-0009



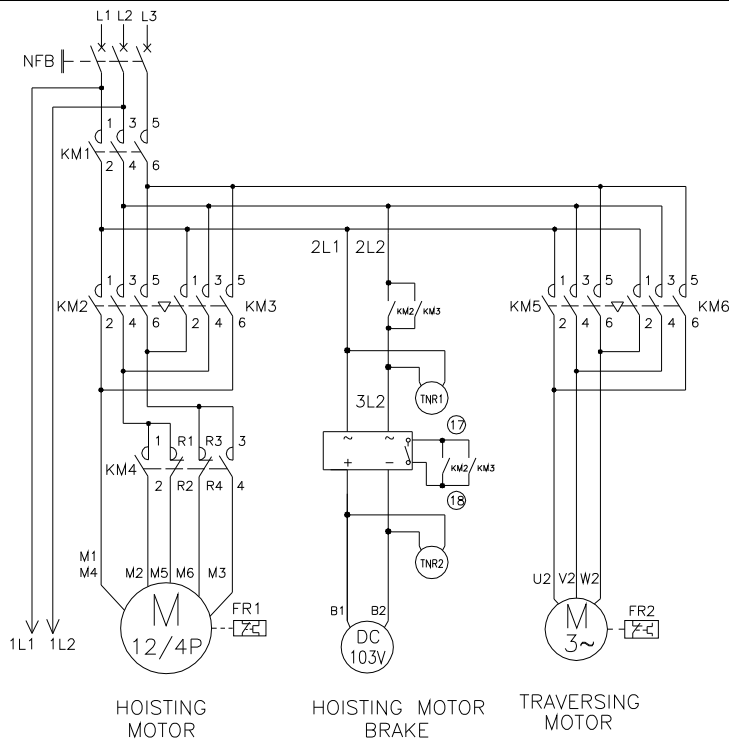
MAIN CIRCUIT WIRING DIAGRAM



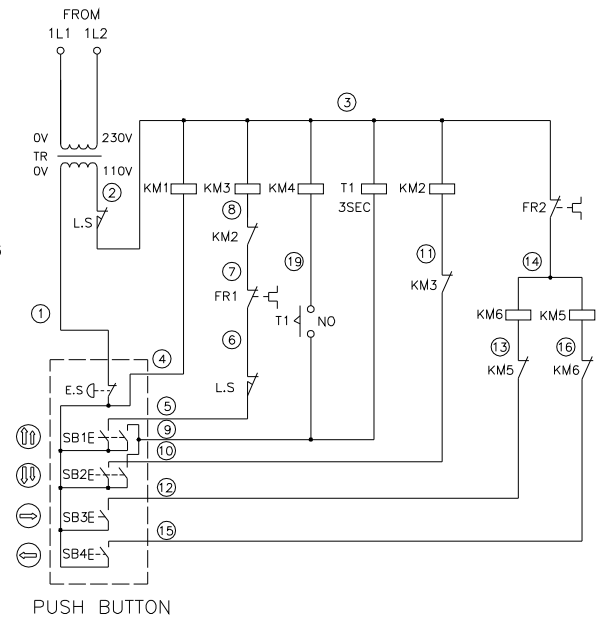
CONTROL CIRCUIT WIRING DIAGRAM

US-03-0010

DUAL SPEED WITH EMERGENCY STOP ADD TIMER

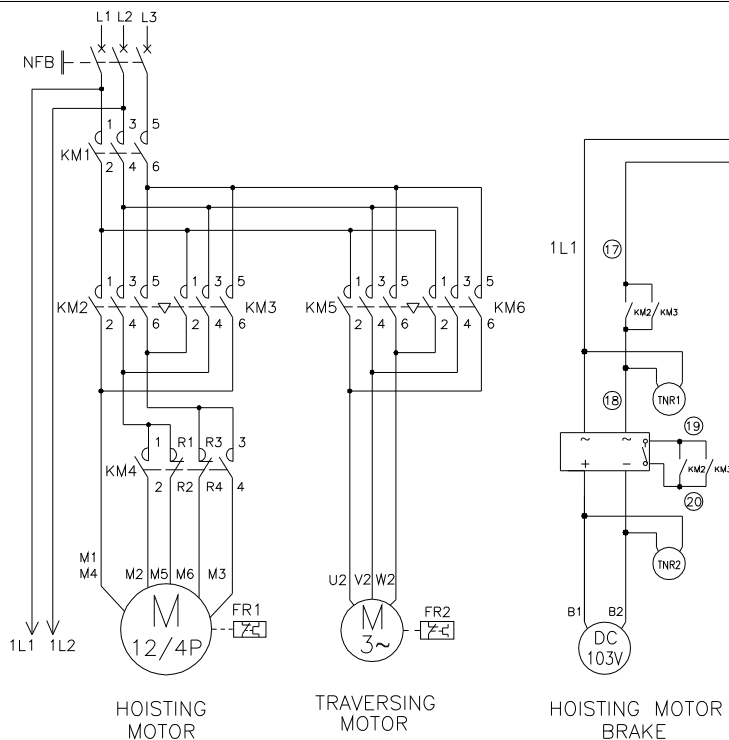


MAIN CIRCUIT WIRING DIAGRAM

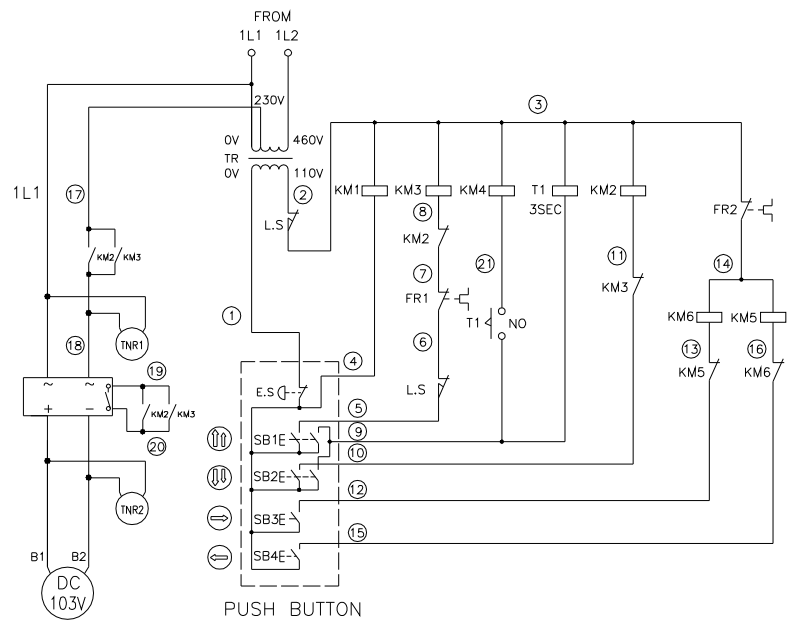


CONTROL CIRCUIT WIRING DIAGRAM

US-03-0007



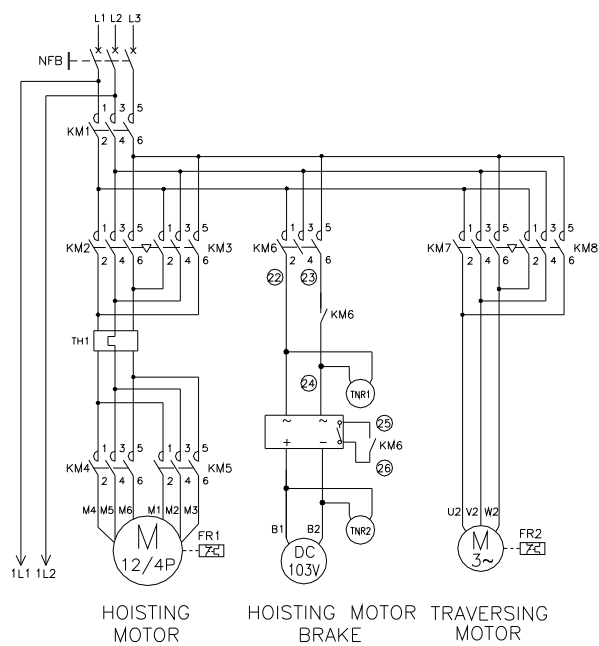
MAIN CIRCUIT WIRING DIAGRAM



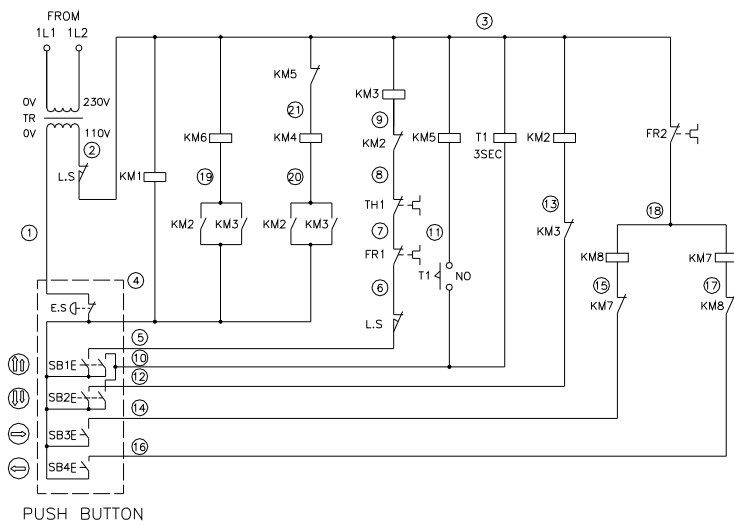
CONTROL CIRCUIT WIRING DIAGRAM

US-03-0008

DUAL SPEED WITH EMERGENCY STOP ADD TIMER



MAIN CIRCUIT WIRING DIAGRAM



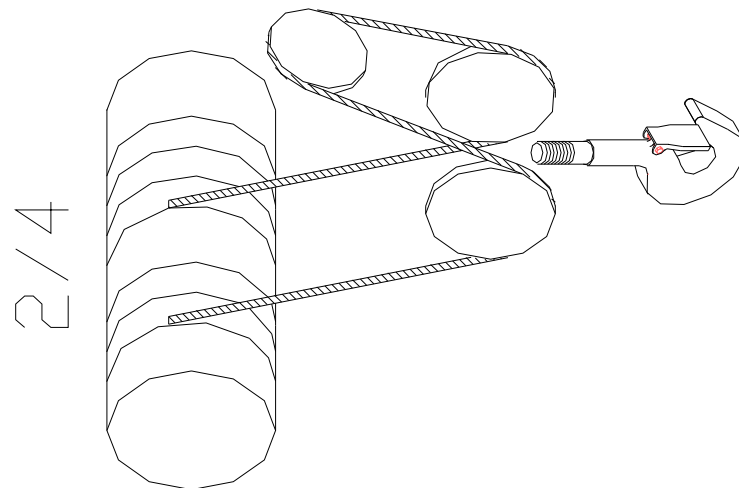
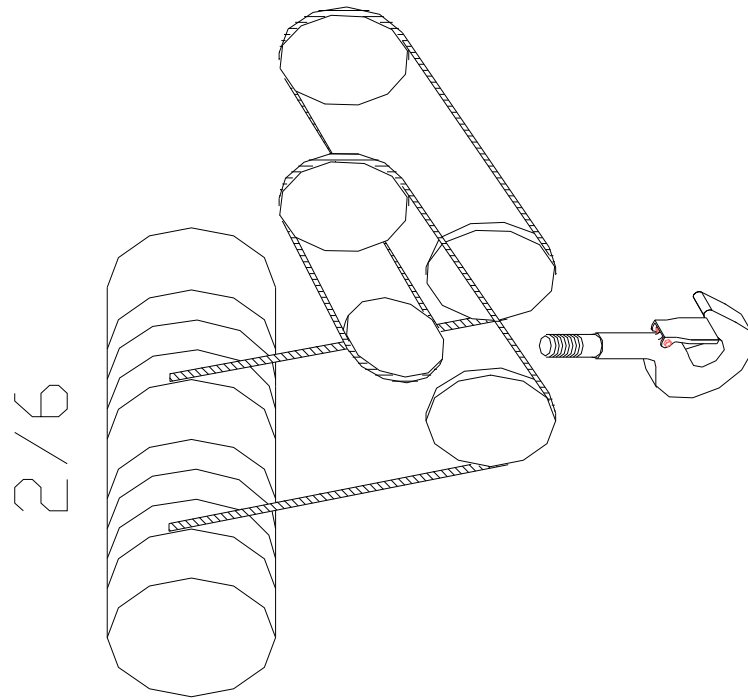
CONTROL CIRCUIT WIRING DIAGRAM

US-03-0011

7.2 Troubleshooting and Remedial action

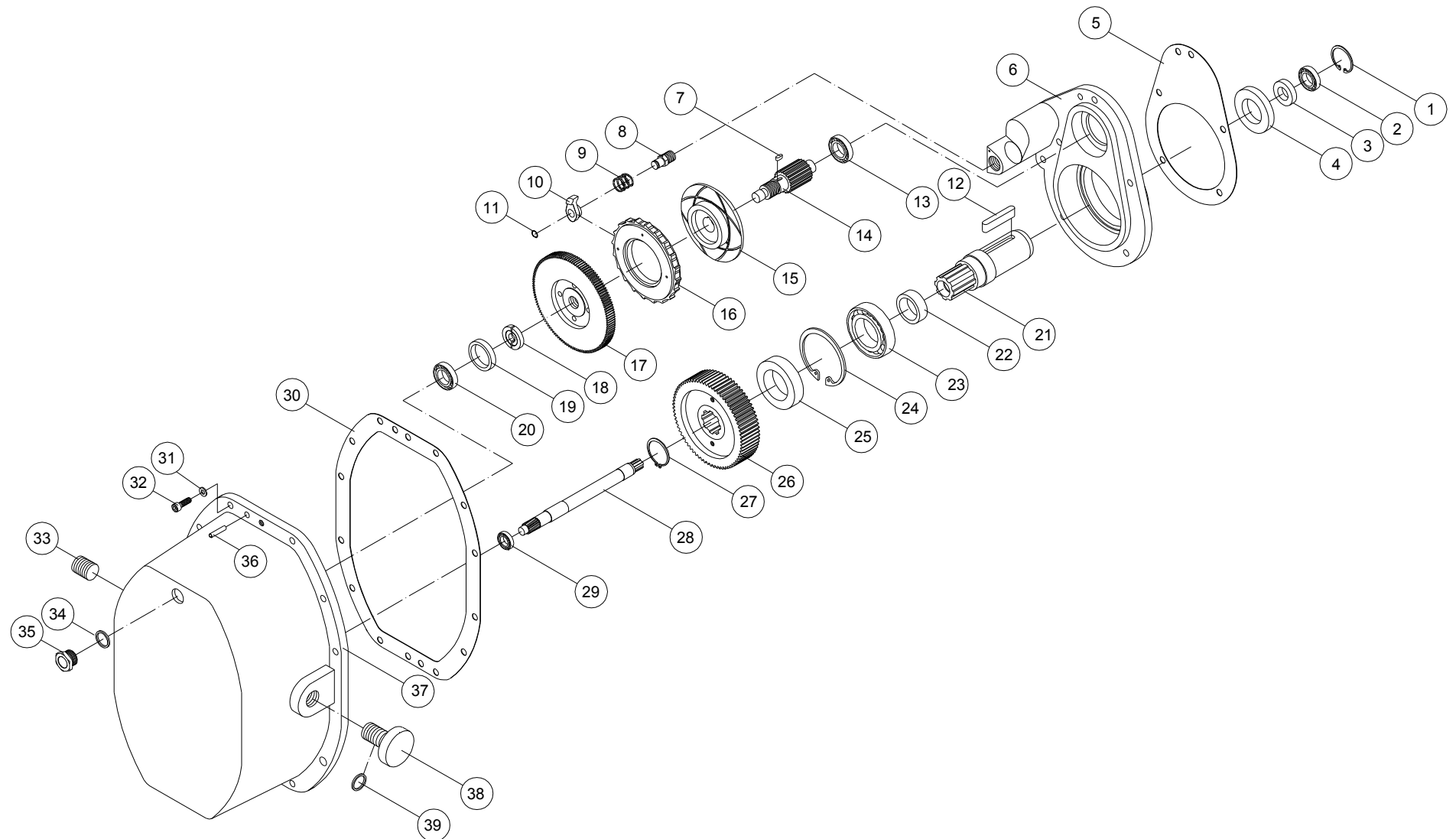
SITUATION	CAUSE	REMEDY
Hoist will not operate	(1) Blown power fuse or tripped power circuit breaker (2) Blown control circuit fuse (3) Broken/disconnected power or control circuit wire (4) Low supply voltage (5) Motor hums but does not rotate (6) Emergency stop button release pushed (if fitted) (7) Faulty 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

(1) “UA” ”UB” TYPE GEAR BOX EXPLOSION DRAWING	25
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(29) 20T LIMIT SWITCH EXPLOSION DRAWING	76
(30) 20T LIMIT SWITCH BILL OF MATERIAL	76
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(32) 1-20T ELECTRIC BILL OF MATERIAL	78



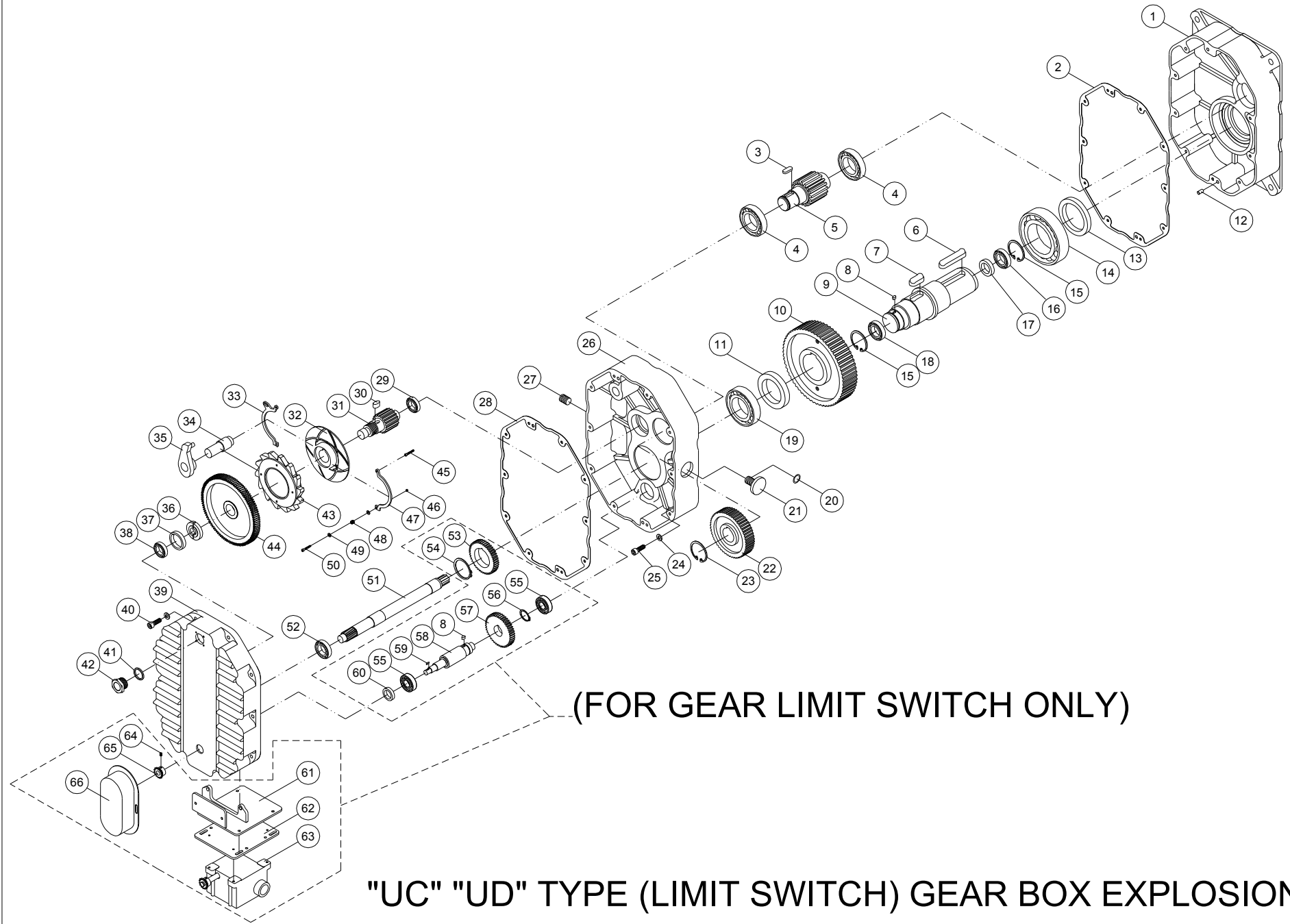
"UA" "UB" TYPE GEAR BOX EXPLOSION

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1T (2200lbs)	QTY 2T (4400lbs)
01	400198	Retaining Ring <R-47>	1	1
02	400787	Bearing <6005 Z>	1	1
03	400183	Oil Seal <ø25×ø40×8t>	1	1
04	400935	Oil Seal <ø65×ø90×13t>	1	1
05	402509	Gasket <t0.8×176×253.5L>	1	1
06	269452	Flange Frame	1	1
07	400963	Key <t6×6×15L>	1	1
08	200286	Pawl Pin	1	1
09	400241	Pawl Spring	1	1
10	200288	Pawl	1	1
11	400190	Retaining Ring <S-16>	1	1
12	400993	Key <t18×12×80L>	1	1
13	407748	Bearing <6305>	1	1
14	268101	Load Brake Gear Shaft <M2.0×20T>	1	
	268102	Load Brake Gear Shaft <M2.5×14T>		1
15	268901	Friction Plate	1	1
16	269101	Ratchet Lining Ass'y	1	1
17	268002	Intermediate Gear <M1.5×126T>	1	1
18	269301	End Spacer	2	2
19	269251	Intermediate Gear Spacer	1	1
20	407746	Bearing <6304>	1	1
21	268801	Drum Shaft	1	1
22	400170	Needle Bearing <NK25/16>	1	1
23	407740	Bearing <6212>	1	1
24	400916	Retaining Ring <R-110>	1	1
25	268501	Sleeve <ø70×ø50×15L>	1	1
26	268201	Load Brake Gear <M2.0×87T>	1	
	268202	Load Brake Gear <M2.5×72T>		1
27	400197	Retaining Ring <S-50>	1	1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1T (2200lbs)	QTY 2T (4400lbs)
28	267902	Motor Shaft Pinion <M1.5×11T>	1	1
29	400131	Bearing <6203>	1	1
30	402550	Gasket(A) <t0.8×279×389L>	1	1
31	400095	Spring Washer <M8>	12	12
32	400017	Hex. Recess Bolt <M8×1.25×35L>	12	12
33	400591	Drain Plug <3/8"PT>	1	1
34	404418	O Ring <ø28×ø35×3.5>	1	1
35	201337	Sight Glass < M30×1.5P >	1	1
36	400224	Pin <ø8×10L>	3	3
37	267602	Gear Case Cover <FC-25>	1	1
38	206856	Lubricant Filling Plug	1	1
39	404341	O Ring <ø20×ø26×3>	1	1



GEAR BOX ASSEMBLY B.O.M

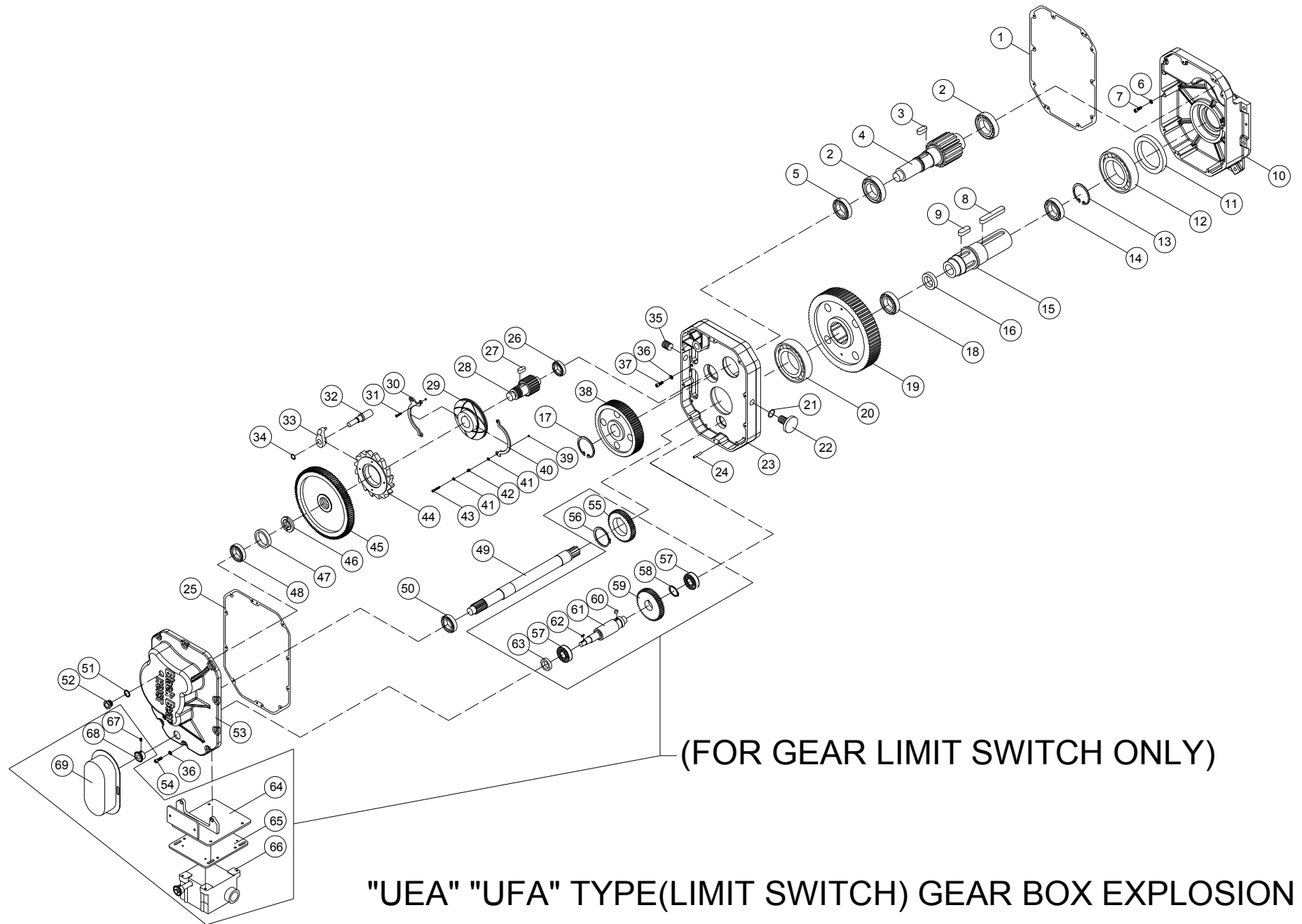
NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		QTY 5T (11000lbs)	
			STD	GEAR	STD	GEAR
01	269451	Gear Case Base	1	1	1	1
02	402551	Gasket (A) <t0.8×320×450L>	1	1	1	1
03	405908	Key <t12×8×30L>	1	1	1	1
04	407714	Bearing <6209>	2	2	2	2
05	268303	Drum Pinion Gear <M3.5×18T>	1	1		
	268304	Drum Pinion Gear <M3.5×17T>			1	1
06	405906	Key <t20×12×90L>	1	1	1	1
07	405907	Key <t20×12×45L>	1	1	1	1
08	400961	Key <t6×6×10L>		2		2
09	268802	Transmission Shaft	1		1	
	268812			1		1
10	268403	Drum Gear <M3.5×62T>	1	1		
	268404	Drum Gear <M3.5×63T>			1	1
11	268502	Sleeve <ø82×ø70×9L>	1	1	1	1
12	407454	Pin <ø8×15L>	4	4	4	4
13	400933	Oil Seal <ø80×ø105×12t>	1	1	1	1
14	407743	Bearing <6216>	1	1	1	1
15	400906	Retaining Ring <R-55>	2	2	2	2
16	407847	Bearing <6006 Z>	1	1	1	1
17	400939	Oil Seal <ø30×ø45×8t>	1	1	1	1
18	407769	Bearing <6006>	1		1	
	400838	Needle Bearing <30/20>		1		1
19	407731	Bearing <6014>	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	268203	Load Brake Gear <M2.5×51T>	1	1		
	268204	Load Brake Gear <M2.5×52T>			1	1
23	400195	Retaining Ring <S-40>	1	1	1	1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		QTY 5T (11000lbs)	
			STD	GEAR	STD	GEAR
24	400095	Spring Washer <M8>	20	20	20	20
25	400015	Hex. Recess Bolt <M8×1.25×40L>	10	10	10	10
26	267603	Gear Case B	1	1	1	1
27	400591	Drain Plug <3/8"PT>	1	1	1	1
28	402552	Gasket (B) <t0.8×328×458L>	1	1	1	1
29	407748	Bearing <6305>	1	1	1	1
30	405921	Key <t8×8×16L>	1	1	1	1
31	268103	Load Brake Gear Shaft <M2.5×18T>	1	1		
	268104	Load Brake Gear Shaft <M2.5×17T>			1	1
32	268902	Friction Plate	1	1	1	1
33	268982	Pawl Actuator(L)	1	1	1	1
34	269352	Pawl Pin <ø30×81L>	1	1	1	1
35	269402	Pawl	1	1	1	1
36	269302	Intermediate Gear Spacer	2	2	2	2
37	269252	End Spacer<ø50×ø60×9.5L>	1	1	1	1
38	407736	Bearing <6205>	1	1	1	1
39	269002	Gear Case Cover	1		1	
	269012			1		1
40	400014	Hex. Recess Bolt <M8×1.25×30L>	10	10	10	10
41	404418	O Ring <ø28×ø35×3.5>	1	1	1	1
42	201337	Sight Glass < M30×1.5P >	1	1	1	1
43	269102	Ratchet Lining Ass'y	1	1	1	1
44	268003	Intermediate Gear <M1.75×108T>	1	1	1	1
45	406802	Hexagon Headed Bolt <M6×1.0×15L>	1	1	1	1
46	400087	Lock Nut <M6×1.0>	2	2	2	2
47	268992	Pawl Actuator Ring(R)	1	1	1	1
48	400340	Compress Spring	1	1	1	1
49	400662	Flat Washer	2	2	2	2
50	400010	Hex. Recess Bolt <M6×1.0×55L>	1	1	1	1
51	267903	Motor Shaft Pinion <M1.75×12T>	1	1	1	1
52	400132	Bearing <6204>	1	1	1	1
53	274701	Motor Shaft Pinion <M2.0×45T>		1		1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		QTY 5T (11000lbs)	
			STD	GEAR	STD	GEAR
54	400909	Retaining Ring <S-55>		1		1
55	407734	Bearing <6204>		2		2
56	400193	Retaining Ring <S-30>		1		1
57	274801	Connecting Rod Gear <M2.0×45T>		1		1
58	274901	Connecting Rod <ø35×171>		1		1
59	405900	Key <t3×3×10L>		2		2
60	400186	Oil Seal <ø20×ø35×8t>		1		1
61	274951	Limit Pedestal Ass' y		1		1
62	274952	Limit Pedestal <t5×150×170L>		1		1
63		Limit Switch<Customer Supply>		1		1
64	400205	Screw <M5×0.8×8L>		2		2
65	273621	Chain Wheel <1/4"×15.7L>		2		2
66	271951	Limit Frame <t2×45×205L>		1		1
	408421	Chain Connection <1/4">		1		1
	400561	Chain <1/4"×300L>		0.3M		0.3M

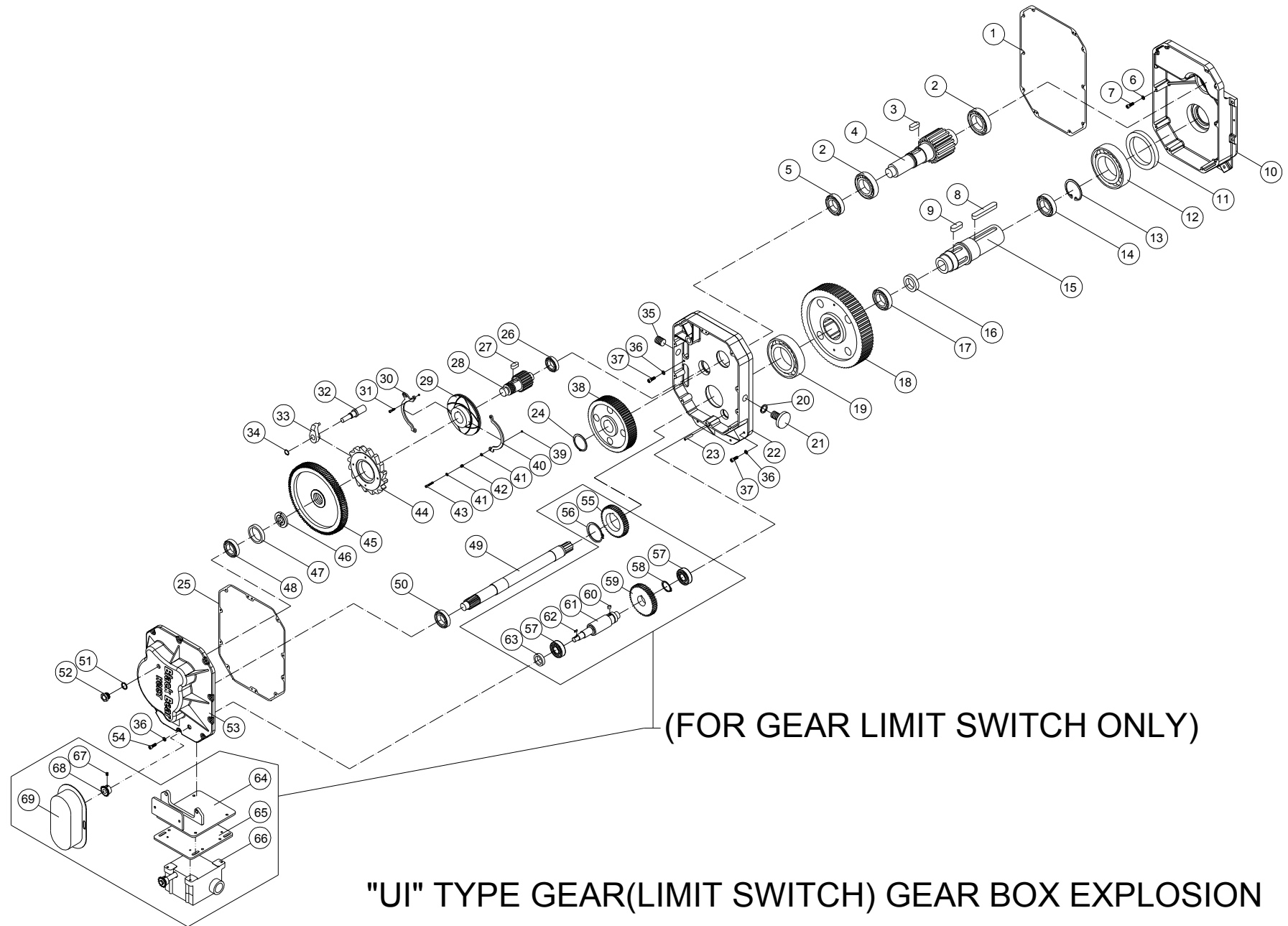


GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		QTY 10T (22000lbs)	
			STD	GEAR	STD	GEAR
01	402601	Gasket(A) <t0.8×430×587L>	1	1	1	1
02	407741	Bearing <6213>	2	2	2	2
03	405911	Key <t18×11×50L>	1	1	1	1
04	268016	Drum Pinion Gear <M4.5×19T>	1	1		
	268023	Drum Pinion Gear <M5×17T>			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	400966	Key <t25×14×150L>	1	1	1	1
09	405909	Key <t25×14×65L>	4	4	4	4
10	267613	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>	2	2	2	2
14	405564	Bearing <6007 2RS>	1	1	1	1
15	268018	Drum Shaft	1	1	1	1
16	400177	Oil Seal <ø35×ø55×11t>	1	1	1	1
17	400910	Retaining Ring <S-70>	1	1	1	1
18	407727	Bearing <6007>	1	1	1	1
19	268405	Drum Gear <M5.5×71T>	1	1		
	268024	Drum Gear <M5×74T>			1	1
20	407744	Bearing <6218>	1	1	1	1
21	404341	Oil Ring <ø20×ø26×3>	1	1	1	1
22	206856	Lubricant Filling Plug	1	1	1	1
23	267614	Gear Case B	1	1	1	1
24	205327	Pin <ø12×ø8.5×14L>	4	4	4	4
25	402602	Gasket (B) <t0.8×430×587L>	1	1	1	1
26	407750	Bearing <6308>	1	1	1	1
27	400996	Key <t16×10×30L>	1	1	1	1
28	268014	Load Brake Gear Shaft <M3×21T>	1	1		
	268021	Load Brake Gear Shaft <M3.25×19T>			1	1
29	268903	Friction Plate	1	1	1	1
30	268981	Pawl Actuator (L)	1	1	1	1
31	400009	Hexagon Headed Bolt<M6×1.0×35L>	1	1	1	1
32	269351	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	400097	Spring Washer <M10>	20	20	20	20
37	400432	Hex. Recess Bolt <M10×1.5×65L>	10	10	10	10

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		QTY 10T (22000lbs)	
			STD	GEAR	STD	GEAR
38	268015	Load Brake Gear <M3×87T>	1	1		
	268022	Load Brake Gear <M3.25×80T>			1	1
39	400087	Lock Nut <M6×1.0>	2	2	2	2
40	268991	Pawl Actuator(R)	1	1	1	1
41	400662	Flat Washer<M6>	2	2	2	2
42	400340	Compress Spring<ø1.0-ø10.5×ø8.5×25L>	1	1	1	1
43	400010	Hex. Recess Bolt <M6×1.0×55L>	1	1	1	1
44	269103	Ratchet Lining Ass'y	1	1	1	1
45	268020	Intermediate Gear <M2.25×107T>	1	1	1	1
46	269303	Intermediate Gear Spacer	2	2	2	2
47	269253	End Spacer<ø75×ø90×9.5L>	1	1	1	1
48	407759	Bearing <6208>	1	1	1	1
49	268012	Motor Shaft Pinion	1	1		
	268019				1	1
50	407748	Bearing <6305>	1	1	1	1
51	404418	O Ring <ø28×ø35×3.5>	1	1	1	1
52	201337	Sight Glass < M30×1.5P >	1	1	1	1
53	267615	Gear Case Cover	1	1	1	1
54	400450	Hex. Recess Bolt <M10×1.5×35L>	10	10	10	10
55	274702	Motor Shaft Pinion <M2.0×60T>		1		1
56	400919	Retaining Ring <S-60>		1		1
57	407748	Bearing <6305>		2		2
58	400910	Retaining Ring <S-35>		1		1
59	274802	Connecting Rod Gear <M2.0×60T>		1		1
60	400963	Key <t6×6×15L>		1		1
61	267955	Connecting Rod <ø35×115L>		1		1
62	405900	Key <t3×3×10L>		1		1
63	400183	Oil Seal <ø25×ø40×8t>		1		1
64	267958	Limit Pedestal Ass'y		1		1
65	267956	Limit Pedestal <t5×190×114L>		1		1
66		Limit Switch<Customer Supply>		1		1
67	400205	Screw <M5×0.8×8L>		2		2
68	273621	Chain Wheel <1/4"×15.7L>		1		1
69	267965	Limit Frame <t2×49×182L>		1		1
	408421	Chain Connection <1/4">		1		1
	400561	Chain <1/4"×300L>		0.4		0.4



GEAR BOX ASSEMBLY B.O.M

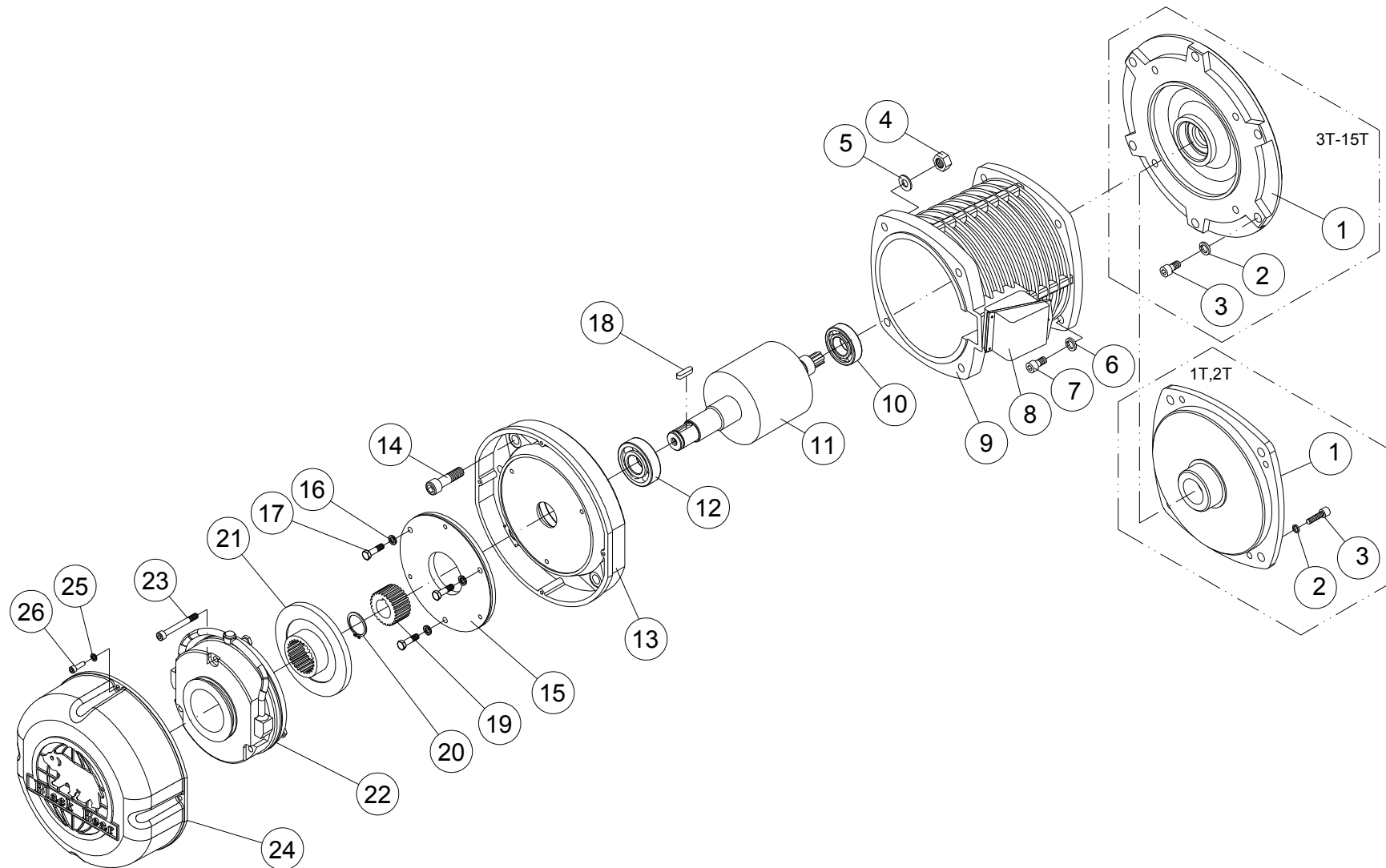
NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		QTY 20T (44000lbs)	
			STD	GEAR	STD	GEAR
01	402589	Gasket(A) <t0.8×540×770L>	1	1	1	1
02	407741	Bearing <6213>	2	2	2	2
03	405947	Key <t18×11×55L>	4	4	4	4
04	267910	Drum Pinion Gear <M5.5×23T>	1	1	1	1
05	407714	Bearing <6209>	1	1	1	1
06	400651	Spring Washer <M14>	7	7	7	7
07	400442	Hex. Recess Bolt <M14×2.0×50L>	7	7	7	7
08	405945	Key <t28×16×150L>	2	2	2	2
09	405946	Key <t32×18×95L>	2	2	2	2
10	267616	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	400177	Oil Seal <ø35×ø55×11t>	1	1	1	1
17	405568	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	267617	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	402599	Gasket (B) <t0.8×540×670L>	1	1	1	1
26	407750	Bearing <6308>	1	1	1	1
27	400996	Key <t16×10×30L>	1	1	1	1
28	267908	Load Brake Gear Shaft <M3.5×18T>	1	1	1	1
29	268815	Friction Plate	1	1	1	1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		QTY 20T (44000lbs)	
			STD	GEAR	STD	GEAR
30	268820	Pawl Actuator (L)	1	1	1	1
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>	20	20	20	20
37	400432	Hex. Recess Bolt <M10×1.5×65L>	6	6	6	6
38	267909	Load Brake Gear <M3.5×99T>	1	1	1	1
39	400087	Lock Nut <M6×1.0>	2	2	2	2
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	400010	Hex. Recess Bolt <M6×1.0×55L>	1	1	1	1
44	268816	Ratchet Lining Ass'y	1	1	1	1
45	267907	Intermediate Gear <M2.5×128T>	1	1	1	1
46	269303	Intermediate Gear Spacer	2	2	2	2
47	269253	End Spacer<ø75×ø90×9.5L>	1	1	1	1
48	407759	Bearing <6208>	1	1	1	1
49	267906	Motor Shaft Pinion	1	1	1	1
50	407748	Bearing <6305>	1	1	1	1
51	404418	O Ring <ø28×ø35×3.5>	1	1	1	1
52	201337	Sight Glass < M30×1.5P >	1	1	1	1
53	267618	Gear Case Cover	1		1	
	267965			1		1
54	400450	Hex. Recess Bolt <M10×1.5×35L>	10	10	10	10
55	274702	Motor Shaft Pinion <M2.0×60T>		1		1
56	400918	Retaining Ring <S-80>		1		1

GEAR BOX ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		QTY 20T (44000lbs)	
			STD	GEAR	STD	GEAR
57	407748	Bearing <6305>		2		2
58	400194	Retaining Ring <S-35>		1		1
59	274802	Connecting Rod Gear <M2.0×60T>		1		1
60	400963	Key <t6×6×15L>		1		1
61	268819	Connecting Rod		1		1
62	405900	Key <t3×3×10L>		1		1
63	400183	Oil Seal <ø25×ø40×8t>		1		1
64	267968	Limit Pedestal Ass'y		1		1
65	267956	Limit Pedestal <t5×190×114L>		1		1
66	300559	Limit Switch<Customer Supply>		1		1
67	400205	Screw <M5×0.8×8L>		2		2
68	273621	Chain Wheel <1/4"×15.7L>		1		1
69	267971	Limit Frame <t2×49×295L>		1		1
	408421	Chain Connection <1/4">		1		1
	400561	Chain <1/4"×300L>		0.4		0.4



1-10T SINGLE SPEED &
1-5T DUAL SPEED MOTOR <DC BRAKE> EXPLOSION

MOTOR ASSEMBLY B.O.M.

For 1~10T Single Speed & 1~5T Dual Speed

S: Single speed D: Dual speed

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			1T 2200lbs 3HP	2T 4400lbs 5HP	3T 6600lbs 7HP	5T 11000lbs 9HP	7.5T 16500lbs 11HP	10T 22000lbs 15HP
01	105694	Flange	1	1				
	105689				1			
	105623					1		
	105622						1	1
02	400095	Spring Washer	4	4				
	400651				6	6	6	6
03	400015	Hex. Recess Bolt	4	4				
	400441				6	6	6	6
04	400637	Nut <M14x2.0>	4	4	4			
	400083	Nut <M18x2.5>				4	4	4
05	400651	Spring Washer	4	4	4			
	400100					4	4	4
06	400097	Spring Washer			4	4	4	4
07	400451	Hex. Recess Bolt			4	4	4	4
08	120179	Motor Component	1	1	1			
	120170	<Cable Box>				1	1	1
09	Voltage : 230V/460V							
	108171(S)	Motor Stator Ass'y	1					
	108454(S)			1				
	108456(S)				1			
	108458(S)					1		
	108460(S)						1	
	108462(S)							1
	Voltage : 230V							
	133437 (D)	Motor Stator Ass'y	1					
	133420(D)			1				
	108424(D)				1			
	108426(D)					1		
	Voltage : 460V							
	133438(D)	Motor Stator Ass'y	1					
	133421(D)			1				
	108425(D)				1			
	108427(D)					1		

MOTOR ASSEMBLY B.O.M.

For 1~10T Single Speed & 1~5T Dual Speed

S: Single speed D: Dual speed

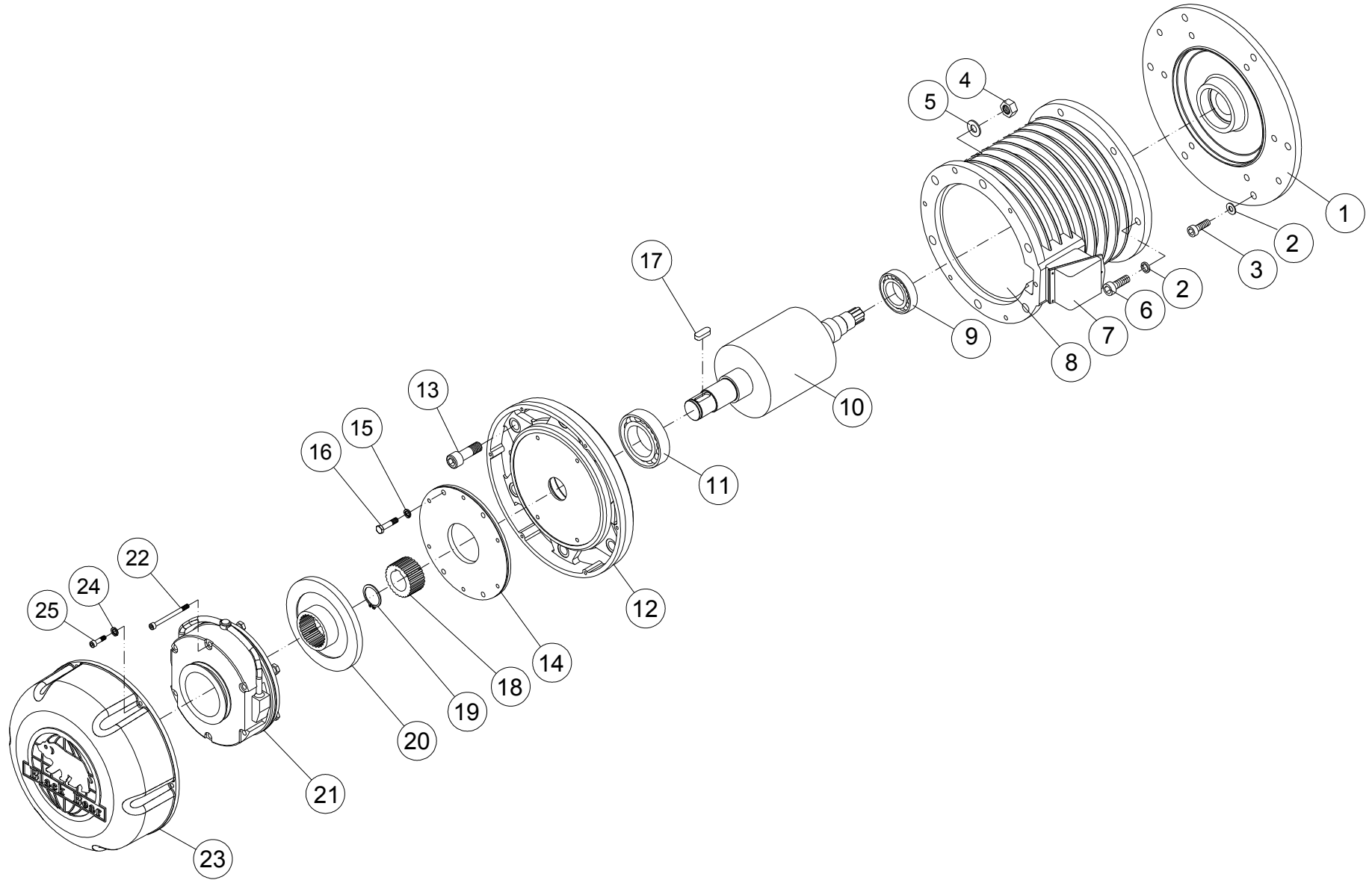
NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			1T 2200lbs 3HP	2T 4400lbs 5HP	3T 6600lbs 7HP	5T 11000lbs 9HP	7.5T 16500lbs 11HP	10T 22000lbs 15HP
10	400113	Bearing <6206>	1	1	1			
	400801	Bearing <6307>				1	1	1
11	105542(S)	Motor Rotor	1					
	105910(D)		1					
	105998(S)			1				
	105999(D)			1				
	105546(S)				1			
	105547(D)				1			
	106000(S)					1		
	105484(D)					1		1
	106001(S)						1	
12	400151	Bearing<6306>	1	1	1			
	400118	Bearing<6309>				1	1	1
13	100033	Rear Bracket	1					
	100040			1				
	100042(S)				1			
	100044(D)				1			
	100050					1	1	1
14	400454(S)	Hex. Recess Bolt	4	4	4			
	408386(D)				4	4	4	4
15	100122	Flange	1					
	100123			1				
	100124				1			
	100125					1	1	1
16	400094	Spring Washer	3					
	400095			3	3	4	4	4
17	400481	Hexagonal Bolt	3					
	404619			3	3	4	4	4
18	405939	Key<t8x7x25L>	1					
	405940	Key<t8x7x30L>		1				
	405941	Key<t10x8x30L>			1			
	405942	Key<t12x8x35L>				1	1	1
19	100128	Disk Hub	1					
	100129			1				

MOTOR ASSEMBLY B.O.M.

For 1~10T Single Speed & 1~5T Dual Speed

S: Single speed D: Dual speed

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT					
			1T 2200lbs 3HP	2T 4400lbs 5HP	3T 6600lbs 7HP	5T 11000lbs 9HP	7.5T 16500lbs 11HP	10T 22000lbs 15HP
19	100130	Disk Hub			1			
	100131					1	1	1
20	400192	Retaining Ring	1	1				
	400194				1			
	400195					1	1	1
21	100135	Brake Rotor	1					
	100136			1				
	100137				1			
	100138					1	1	1
22	Voltage : 230V							
	100150	Stator Complete (DC 103V)	1					
	100151			1				
	100152				1			
	100153					1	1	1
	Voltage : 460V							
	100144	Stator Complete (DC 103V)	1					
	100145			1				
	100146				1			
	100147					1	1	1
23	408382	Hex. Recess Bolt	3					
	408383			3				
	408384				3			
	408385					6	6	6
24	100034(S)	Brake End Cover	1	1	1			
	100045(D)				1	1	1	1
25	400094	Spring Washer	4	4	4	4	4	4
26	400007	Hex. Recess Bolt	4	4	4	4	4	4



7.5-20T DUAL SPEED MOTOR <DC BRAKE> EXPLOSION

MOTOR ASSEMBLY B.O.M.

For 15~20T Single Speed & 7.5~20T Dual Speed

S: Single speed

D: Dual speed

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			7.5T	10T	15T	20T
			16500lbs 11HP	22000lbs 15HP	33000lbs 17.5HP	44000lbs 17.5HP
01	105711	Flange	1	1	1	1
02	400651	Spring Washer	12	12	12	12
03	400442	Hex. Recess Bolt	6	6	6	6
04	400086	Nut <M20x2.0>	6	6	6	6
05	400099	Spring Washer	6	6	6	6
06	400442	Hex. Recess Bolt	6	6	6	6
07	120178(S)	Motor Component <Cable Box>			1	1
	120158(D)		1	1	1	1
08	Voltage : 230V/460V					
	135271(S)	Motor Stator Ass'y			1	1
	Voltage : 230V					
	133439(D)	Motor Stator Ass'y	1			
	133441(D)			1		
	108228(D)				1	1
	Voltage : 460V					
	133440(D)	Motor Stator Ass'y	1			
	133442(D)			1		
	108229(D)				1	1
09	400117	Bearing <6310>	1	1	1	1
10	106002	Motor Rotor	1			
	106003			1		
	105486(S)				1	1
	105487(D)				1	1
11	400116	Bearing <6308>	1	1	1	1
12	100052	Rear Bracket	1	1		
	100058				1	1
13	105549	Stay Bolt	6	6	6	6
14	100125	Flange	1	1		
	100126				1	1
15	400095	Spring Washer	4	4		
	400096				4	4
16	404619	Hexagonal Bolt	4	4		
	408350				4	4
17	405942	Key <t12x8x35L>	1	1		
	405943	Key <t14x9x40L>			1	1
18	100131	Disk Hub	1	1		
	100132				1	1

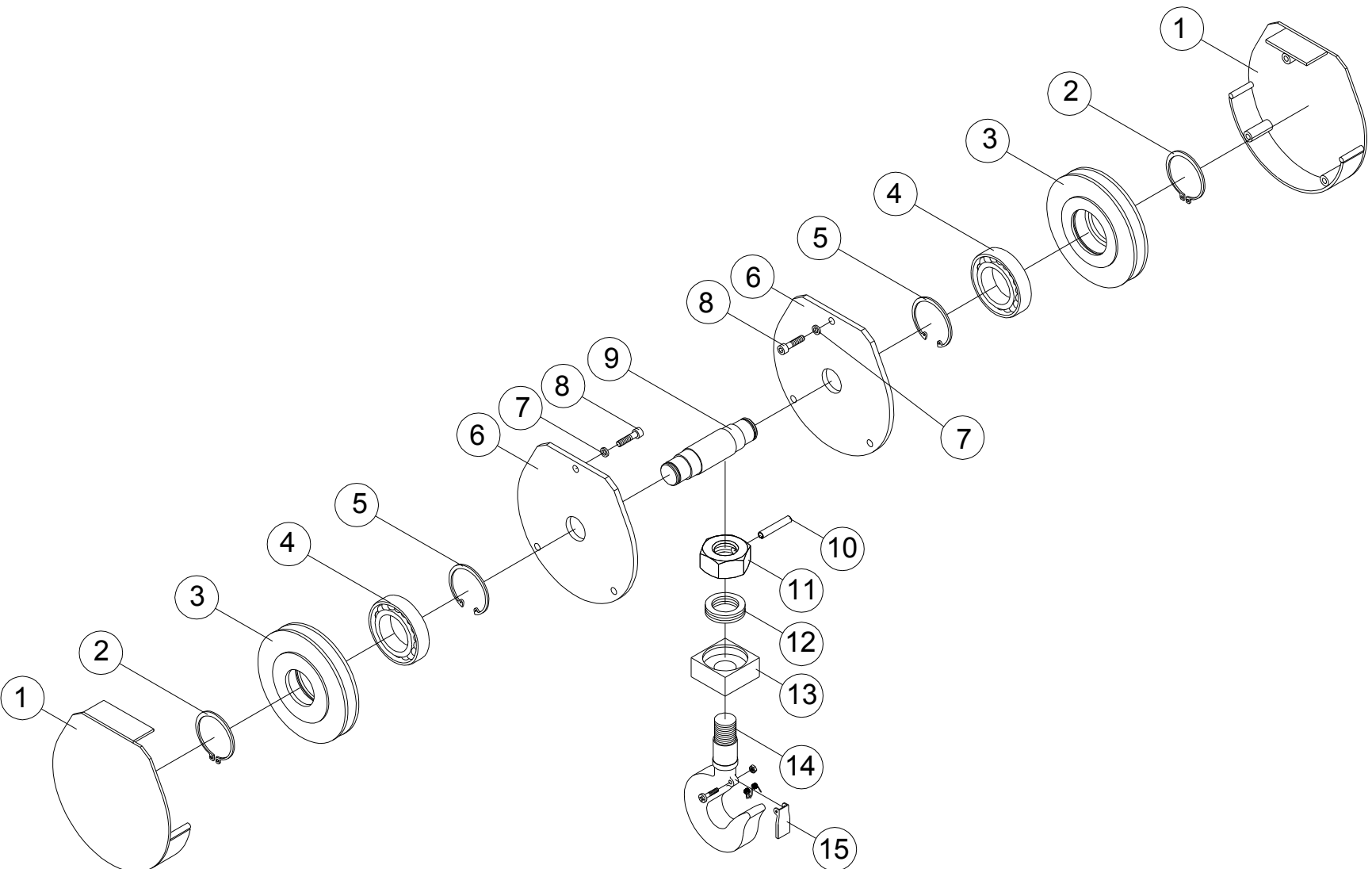
MOTOR ASSEMBLY B.O.M.

For 15~20T Single Speed & 7.5~20T Dual Speed

S: Single speed D: Dual speed

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			7.5T 16500lbs 11HP	10T 22000lbs 15HP	15T 33000lbs 17.5HP	20T 44000lbs 17.5HP
19	100195	Retaining Ring	1	1		
	400196				1	1
20	100138	Brake Rotor	1	1		
	100139				1	1
21	Voltage : 230V					
	100153	Stator Complete (DC 103V)	1	1		
	100154				1	1
	Voltage : 460V					
	100147	Stator Complete (DC 103V)	1	1		
	100148				1	1
22	408385	Hex. Recess Bolt	6	6		
	408380				6	6
23	100054	Brake End Cover	1	1	1	1
25	400095	Spring Washer	6	6	6	6
26	400013	Hex. Recess Bolt	6	6	6	6

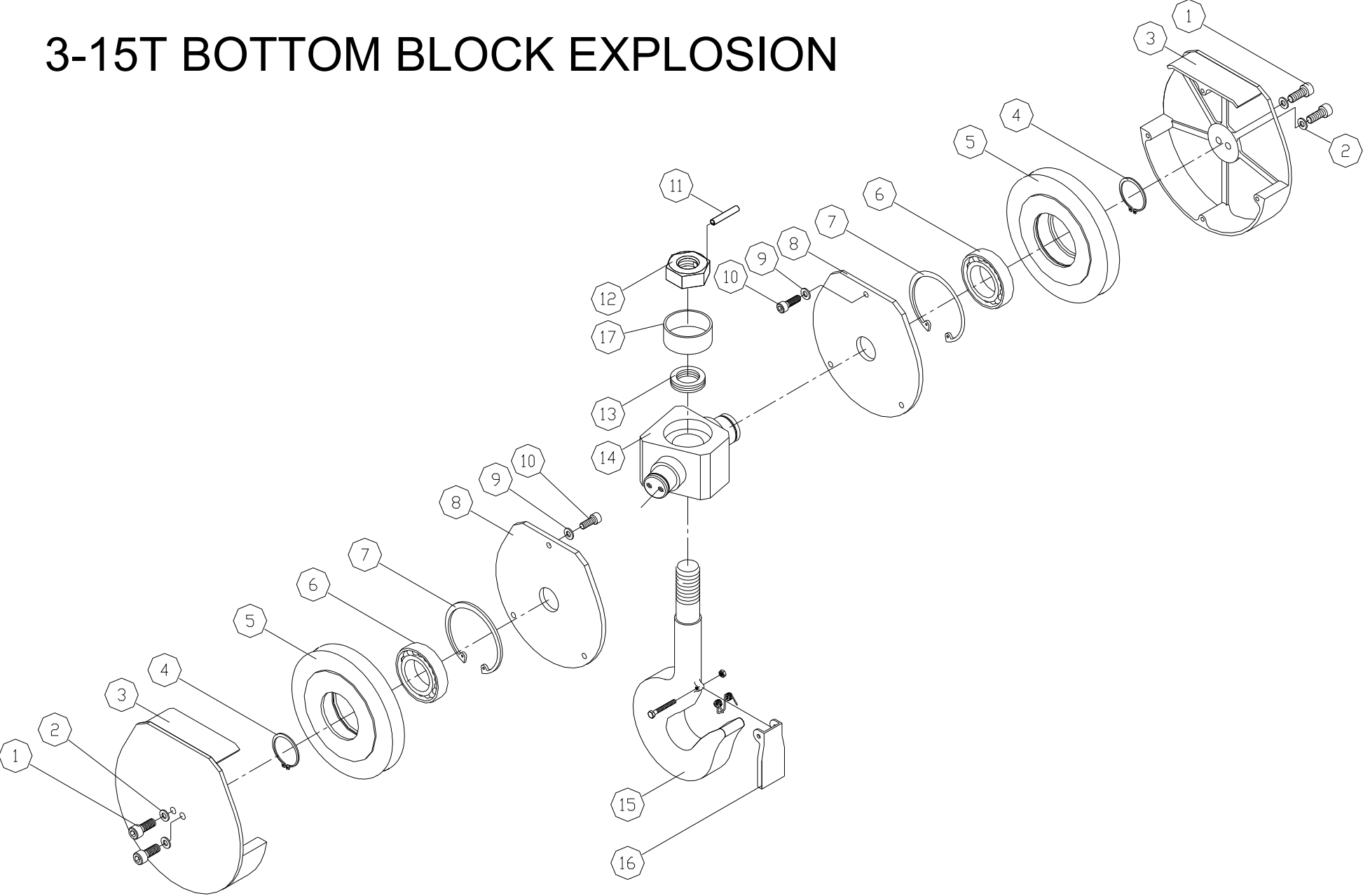
1T,2T BOTTOM BLOCK EXPLOSION



BOTTOM BLOCK B.O.M.

NO.	PART NUMBER	DESCRIPTION	QTY 1T(2200lbs)	QTY 2T(4400lbs)
01	272011	Bottom Hook Side Cover Ass'y	2	
	272001			2
02	400192	Retaining Ring <S-25>	2	
	400194	Retaining Ring <S-35>		2
03	263606	Sheave	2	
	263605			2
04	407807	Bearing <6205 ZZ>	2	
	407818	Bearing <6307 ZZ>		2
05	400199	Retaining Ring <S-52>	2	
	400202	Retaining Ring <R-80>		2
06	272211	Bottom Hook Side Cover <t6×170×170L ø28>	2	
	272201	Bottom Hook Side Cover <t8×225×225L ø40>		2
07	400094	Spring Washer <M6>	6	
	400095	Spring Washer <M8>		6
08	400008	Hex. Recess Bolt <M6×1.0×25L>	6	
	400014	Hex. Recess Bolt <M8×1.25×30L>		6
09	207554	Sheave Axle <ø30×118L>	1	
	207552	Sheave Axle <ø45×150L>		1
10	400209	Spring Pin <ø8×55L >	1	1
11	202016	Hex. Nut <7/8"×9UNC>	1	
	400075	Hex. Nut <1"×8UNC×28L>		1
12	400839	Thrust Bearing <51205>	1	
	400166	Thrust Bearing <51206>		1
13	273811	Bearing Housing <t25×50×50L>	1	
	273801	Bearing Housing <t35×60×65L>		1
14	274009	Bottom Hook	1	
	204987			1
15	400300	Safety Latch Ass'y	1	
	400301			1

3-15T BOTTOM BLOCK EXPLOSION



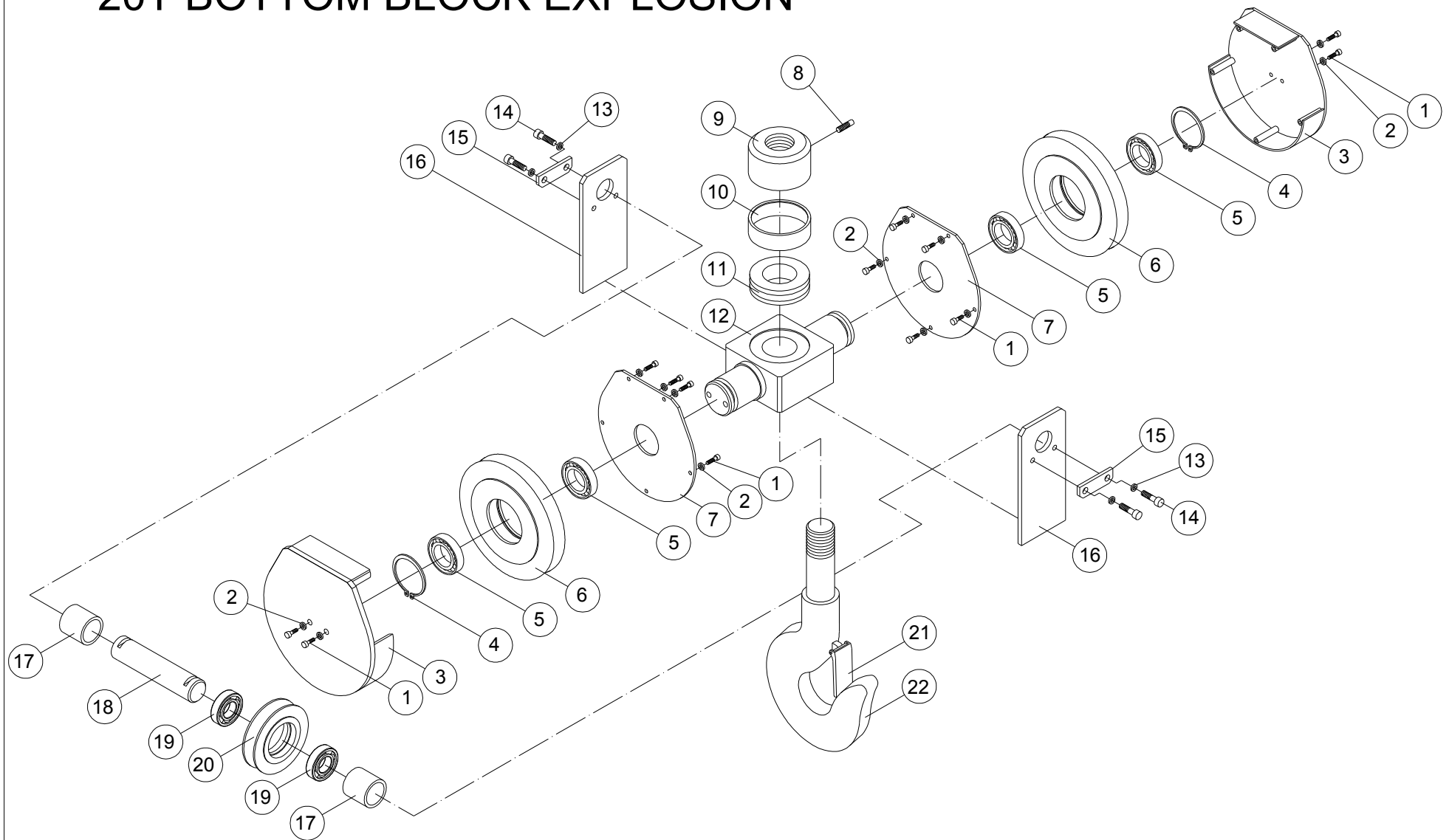
BOTTOM BLOCK B.O.M

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT				
			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

BOTTOM BLOCK B.O.M

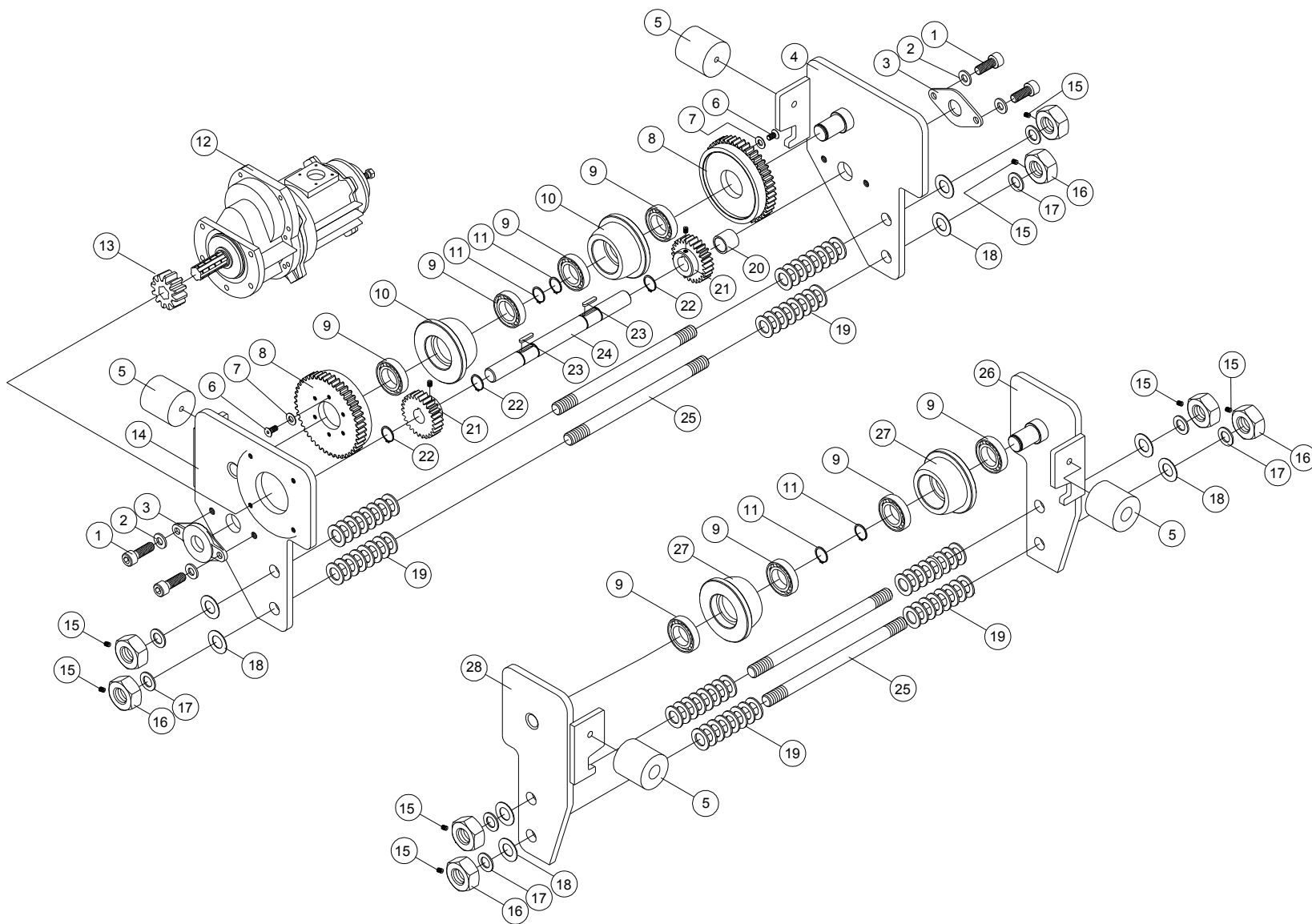
NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT				
			3T 6600lbs	5T 11000lbs	7.5T 16500lbs	10T 22000lbs	15T 33000lbs
09	400095	Spring Washer <M8>	8	8	8	8	
	400097	Spring Washer <M12>					12
10	400012	Hex. Recess Bolt <M8×1.25×20L>	8	8	8	8	
	400435	Hex. Recess Bolt <M12×1.75×25L>					12
11	400209	Spring 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 <51313>				1	
	400155	Thrust Bearing <51314>					1
14	273802	Bearing Housing <t62×100×191L>	1				
	273803	Bearing Housin <t82×122×205L>		1			
	273804	Bearing Housin <t82×110×228L>			1		
	273805	Bearing Housin <t92×159×240L>				1	
	207157	Bearing Housin <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

20T BOTTOM BLOCK EXPLOSION



BOTTOM BLOCK B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 20T 44000lbs
01	400435	Hex. Recess Bolt <M12×1.75×25L>	16
02	400097	Spring Washer <M12>	16
03	268867	Bottom Hook Side Cover Ass'y	2
04	404160	Retaining Ring <S-120>	2
05	407805	Bearing <6024Z>	4
06	268864	Sheave <ø408×70L>	2
07	268865	Bottom Hook Side Cover <t9×475×475L>	2
08	400584	Set Screw <M8×1.25×30L>	2
09	202047	Hex. Nut <M90×6.0 ø157×80L>	1
10	264001	Dust Proof Cover <ø165×ø155×40L>	1
11	400156	Thrust Bearing <51318>	1
12	268857	Bearing Housing <t140×175×409L>	1
13	400099	Spring Washer <M20>	4
14	400461	Hex. Recess Bolt <M20×2.5×35L>	4
15	264051	Key <t12×50×150L>	2
16	268855	Frame <t19×180×430L>	2
17	268863	Spacer Sleeve <ø100×ø80×59L >	2
18	268862	Mounting Axle <ø80×272L>	1
19	405576	Bearing <6016 Z>	2
20	263652	Sheave <ø243×56L>	1
21	400305	Safety Latch	1
22	207165	Bottom Hook	1



MOTORIZED TROLLEY EXPLOSION

MOTORIZED TROLLEY B.O.M

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			1T 2200lbs	2T 4400lbs	3T 6600lbs	5T 11000lbs
01	400450	Hex. Recess Bolt <M10×1.5×35L>	4	4		
	400440	Hex. Recess Bolt <M14×2.0×35L>			4	4
02	400096	Spring Washer <M10>	4	4		
	400651	Spring Washer <M14>			4	4
03	400759	Bearing Housing <UCFL 204>	2	2		
	400760	Bearing Housing <UCFL 206>			2	2
04	264420	Drive Frame Ass'y(Right) <t13>	1			
	264412	Drive Frame Ass'y(Right) <t13>		1		
	264416	Drive Frame Ass'y(Right) <t16>			1	1
05	400313	Bumper	4	4	4	4
06	400424	Hex. Recess Bolt <M8×1.25×16L>	12	12		
	400012	Hex. Recess Bolt <M8×1.25×20L>			12	12
07	400095	Spring Washer <M8>	12	12	12	12
08	202486	Gear(A) <M3.5×40T×21L>	2	2		
	202490	Gear(A) <M3.5×49T×21L>			2	2
09	407830	Bearing <6205 Z>	8	8		
	407808	Bearing <6207 Z>			8	8
10	202487	Wheel(B) <ø119×49L>	2	2		
	202491	Wheel(B) <ø143.5×59L>			2	2
11	400192	Retaining Ring <S-25>	4	4		
	400194	Retaining Ring <S-35>			4	4
12	101367	Motor	1			
	104953	Reducing Gear Motor		1	1	1
13	201767	Pinion <M3.5×12T 77L>	1			
	201756	Pinion <M3.5×18T 49L>		1	1	1
14	264419	Drive Frame Assembly Ass'y(Left) <t13>	1			
	264411	Drive Frame Assembly Ass'y(Left) <t13>		1		
	264415	Drive Frame Assembly Ass'y(Left) <t16>			1	1
15	404901	Bolt <M10×1.5×10L>	8	8	8	8
16	202011	Hex. Nut <1 1/4"×7UNC>	8	8		
	202012	Hex. Nut <1 1/2"×6UNC>			8	8
17	400105	Spring Washer <1 1/4">	8	8		
	400106	Spring Washer <1 1/2">			8	8
18	203223	Spacer <ø54×ø34×1/8">	48	48		
19	269911	Spacer Sleeve <ø50.8×ø34×1/4">	112	112		
	269912	Spacer Sleeve <ø60×ø40×1/4">			152	152

MOTORIZED TROLLEY B.O.M

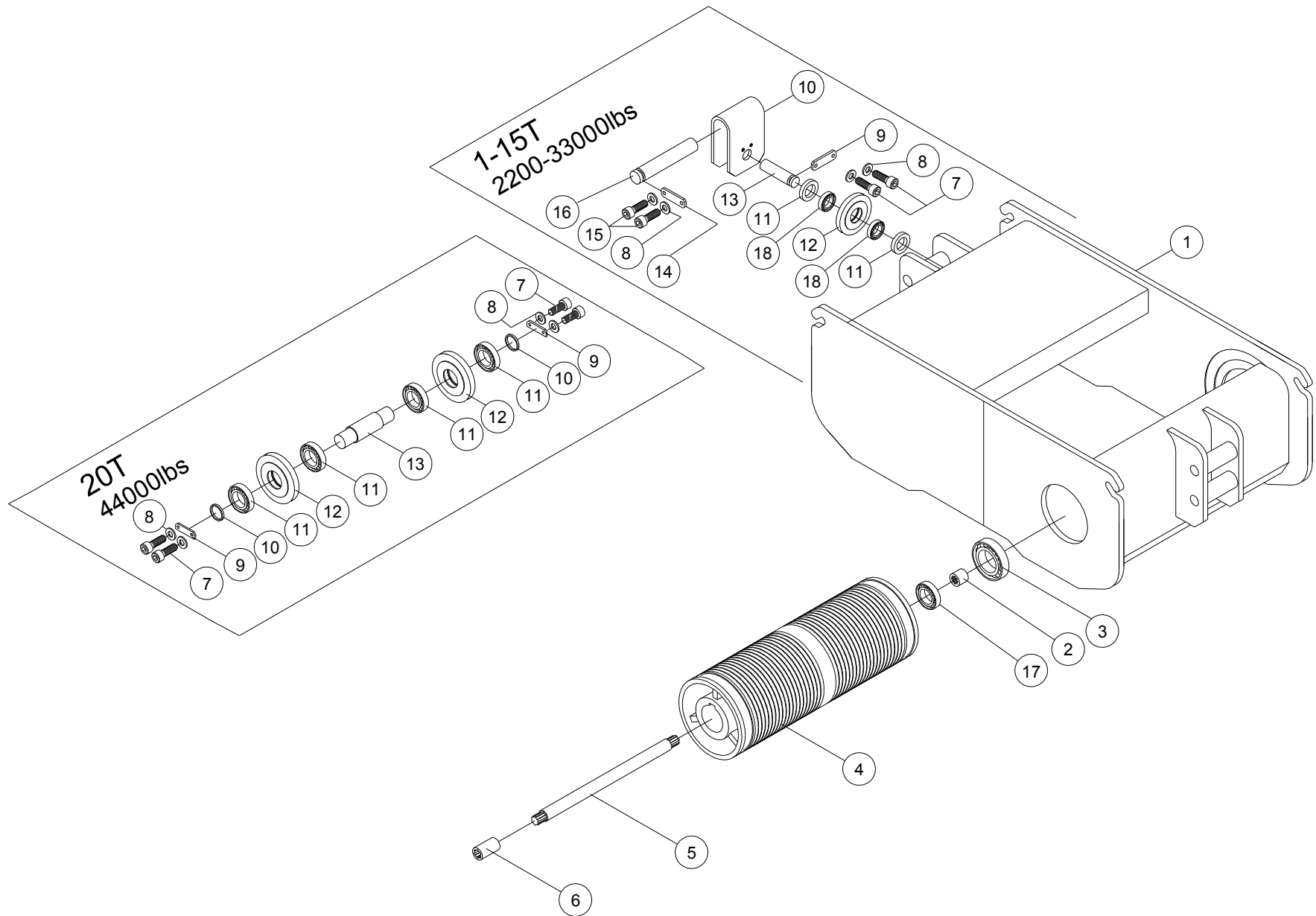
NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			1T 2200lbs	2T 4400lbs	3T 6600lbs	5T 11000lbs
20	264253	Pinion Shaft Tube <ø30×ø20×20L>	1	1		
	264251	Pinion Shaft Tube <ø42×ø30×21L>			1	1
21	202505	Motor Pinion <M3.5×21T×35L>	2	2		
	202506	Motor Pinion <M3.5×23T×38L>			2	2
22	400191	Retaining Ring <S-20>	3	3		
	400193	Retaining Ring <S-30>			3	3
23	405914	Key <t6×6×30L>	2	2		
	400967	Key <t8×8×30L>			2	2
24	269803	Pinion Shaft <ø20×470L>	1	1		
	269801	Pinion Shaft <ø30×550L>			1	1
25	408307	Mounting Bolts <1 1/4"×7UNC×480L>	4	4		
	408305	Mounting Bolts <1 1/2"×6UNC×560L>			4	4
26	264612	Plain Frame Ass'y (Right) <t13>	1	1		
	264616	Plain Frame Ass'y (Right) <t16>			1	1
27	203132	Plain Wheel <ø119×49L>	2	2		
	203134	Plain Wheel <ø143.5×59L>			2	2
28	264611	Plain Frame Ass'y(Left) <t13>	1	1		
	264615	Plain Frame Ass'y(Left) <t16>			1	1

MOTORIZED TROLLEY B.O.M

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			7.5T 16500lbs	10T 22000lbs	15T 33000lbs	20T 44000lbs
01	400441	Hex. Recess Bolt <M14×2.0×45L>	4	4	4	4
02	400651	Spring Washer <M14>	4	4	4	4
03	400761	Bearing Housing <UCFL 207>	2	2		
	400747	Bearing Housing <UCFL 208>			2	2
04	264414	Drive Frame Ass'y(Right) <t22>	1			
	264418	Drive Frame Ass'y(Right) <t25>		1		
	264422	Drive Frame Ass'y(Right) <t25>			1	
	268899	Drive Frame Ass'y(Right) <t28>				1
05	400313	Bumper	4	4	4	4
06	400013	Hex. Recess Bolt <M8×1.25×25L>	12	12		
	400431	Hex. Recess Bolt <M10×1.5×30L>			12	
	400450	Hex. Recess Bolt <M10×1.5×35L>				12
07	400095	Spring Washer <M8>	12	12		
	400096	Spring Washer <M10>			12	12
08	202492	Gear(A) <M3.5×57T×28L>	2			
	274301	Gear(A) <M3.5×64T×28L>		2		
	274302	Gear(A) <M3.5×71T×35L>			2	
	268911	Gear(A) <M3.5×78T×40L>				2
09	407817	Bearing <6307Z>	8			
	407825	Bearing <6308Z>		8		
	407810	Bearing <6211Z>			8	
	407832	Bearing <6213Z>				8
10	202493	Wheel(B) <ø178.5×60L>	2			
	274501	Wheel(B) <ø203×60L>		2		
	274502	Wheel(B) <ø217×60L>			2	
	268912	Wheel(B) <ø237×75L>				2
11	400195	Retaining Ring <S-40>	4	4		
	400909	Retaining Ring <S-55>			4	
	400913	Retaining Ring <S-65>				4
12	104939	Reducing Motor	1			
	104963			1	1	
	104973					1
13	201756	Pinion<M3.5×18T 49L>	1			
	201679	Pinion<M3.5×23T 63L>		1	1	
	201680	Pinion<M3.5×26T 63L>				1
14	264413	Drive Frame Ass'y(Left) <t22>	1			
	264417	Drive Frame Ass'y(Left) <t25>		1		
	264421	Drive Frame Ass'y(Left) <t25>			1	
	269010	Drive Frame Ass'y(Left) <t28>				1

MOTORIZED TROLLEY B.O.M

NO.	PART NUMBER	DESCRIPTION	Q'TY REQ'D EACH UNIT			
			7.5T 16500lbs	10T 22000lbs	15T 33000lbs	20T 44000lbs
15	404901	Set Screw <M10×1.5×10L>	8	8		8
	404903	Set Screw <M12×1.75×15L>			8	
16	202010	Hex. Nut<1 3/4"×5UNC>	8	8		
	202017	Hex. Nut<2 1/4"×4 1/2UNC>			8	
	202019	Hex. Nut<2 1/2"×4UNC>				8
17	400104	Spring Washer<1 3/4">	8	8		
	405303	Spring Washer<2 1/4">			8	
	400861	Spring Washer<2 1/2">				8
18	203223	Spacer<ø54×ø34×1/8">				
19	269913	Spacer Sleeve<ø70×ø47×1/4">	144	144		
	269908	Spacer Sleeve<ø82.5×ø62×12.7L>			144	
	268896	Spacer Sleeve<ø89×ø65×12.7L>				88
20	264252	Pinion Shaft Tube<ø48×ø35×31.5L>	1	1		
	264254	Pinion Shaft Tube<ø55×ø40×30L>			1	
	268898	Pinion Shaft Tube<ø55×ø40×42L>				1
21	202507	Motor Pinion <M3.5×33T×43L>	2	2		
	202485	Motor Pinion <M3.5×37T×50L>			2	2
22	400194	Retaining Ring <S-35>	3			
	400195	Retaining Ring <S-40>		3	3	3
23	400978	Key <t10×10×40L>	2	2	2	2
24	269802	Pinion Shaft <ø35×650 >	1	1		
	269804	Pinion Shaft <ø40×650>			1	
	268897	Pinion Shaft <ø40×655>				1
25	408306	Mounting Bolts<1 3/4" ×5UNC×680L>	4	4		
	408309	Mounting Bolts<2 1/4" ×4 1/2UNC×680L>			4	
	408329	Mounting Bolts<2 1/2" ×4UNC×690L>				4
26	264614	Plain Frame Ass'y(Right)<t22>	1			
	264618	Plain Frame Ass'y(Right)<t25>		1		
	264622	Plain Frame Ass'y(Right)<t25>			1	
	268913	Plain Frame Ass'y(Right)<t28>				1
27	203135	Plain Wheel<ø178.5×60L>	2			
	203136	Plain Wheel<ø203×60L>		2		
	276971	Plain Wheel<ø217×60L>			2	
	268920	Plain Wheel<ø237×75L>				2
28	264613	Plain Frame Ass'y(Left)<t22>	1			
	264617	Plain Frame Ass'y(Left)<t25>		1		
	264621	Plain Frame Ass'y(Left)<t25>			1	
	268916	Plain Frame Ass'y(Left)<t28>				1



1-20T TROLLEY FRAME ASSEMBLY

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 1T (2200lbs)		
			20ft	30ft	40ft
01	266001	Hoist Frame	1		
	266002			1	
	266003				1
02	205469	Coupling <ø34×ø16×51L>	1	1	1
03	407838	Bearing <6212ZZ>	1	1	1
04	266801	Drum <ø188×ø166×540L>	1		
	266802	Drum <ø188×ø166×700L>		1	
	266803	Drum <ø188×ø166×860L>			1
05	263011	Drum Shaft <ø25×364L>	1		
	263012	Drum Shaft <ø25×524L>		1	
	263013	Drum Shaft <ø25×669L>			1
06	205469	Coupling <ø34×ø16×51L>	1	1	1
07	405011	Hex. Recess Bolt <M8×1.25×15L>	2	2	2
08	400095	Spring Washer <M8>	4	4	4
09	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
10	270201	Link Equalizer <t6×100×127L>	1	1	1
11	205239	Washer <ø40×ø29×3L>	2	2	2
12	263551	Equalizer Sheave <ø105×ø28 t31>	1	1	1
13	207553	Sheave Axle <ø28×79L>	1	1	1
14	269551	Load Key Plate <t6.0×25×80L>	1	1	1
15	405011	Hex. Recess Bolt <M8×1.25×15L>	2	2	2
16	205470	Load Axle <ø28×165L>	1	1	1

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 2T (4400lbs)		
			20ft	30ft	40ft
01	266006	Hoist Frame	1		
	266007			1	
	266008				1
02	205466	Coupling(A) <ø34×ø21×61L>	1	1	1
03	407838	Bearing <6212ZZ>	1	1	1
04	266806	Drum <ø188×ø166×640L>	1		
	266807	Drum <ø188×ø166×850L>		1	
	266808	Drum <ø188×ø166×1060L>			1
05	263016	Drum Shaft <ø30×459L>	1		
	263017	Drum Shaft <ø30×669L>		1	
	263018	Drum Shaft <ø30×879L>			1
06	205469	Coupling <ø34×ø16×51L>	1	1	1
07	405011	Hex. Recess Bolt <M8×1.25×15L>	2	2	2
08	400095	Spring Washer <M8>	4	4	4
09	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
10	270201	Link Equalizer <t6×100×127L>	1	1	1
11	205239	Washer <ø40×ø29×3L>	2	2	2
12	263551	Equalizer Sheave <ø105×ø28 t31>	1	1	1
13	207553	Sheave Axle <ø28×79L>	1	1	1
14	269551	Load Key Plate <t6.0×25×80L>	1	1	1
15	405011	Hex. Recess Bolt <M8×1.25×15L>	2	2	2
16	205470	Load Axle <ø28×165L>	1	1	1

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		
			20ft	30ft	40ft
01	266011	Hoist Frame	1		
	266012			1	
	266013				1
02	205466	Coupling(A) < ø34×ø21×61L >	1	1	1
03	407838	Bearing <6212ZZ>	1	1	1
04	266811	Drum <ø218×ø194×655L>	1		
	266812	Drum <ø218×ø194×855L>		1	
	266813	Drum <ø218×ø194×1112L>			1
05	263021	Drum Shaft <ø30×497L>	1		
	263022	Drum Shaft <ø30×697L>		1	
	263023	Drum Shaft <ø30×849L>			1
06	205466	Coupling(A) <ø34×ø21×61L>	1	1	1
07	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
08	400095	Spring Washer <M8>	4	4	4
09	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
10	270202	Link Equalizer <t8×120×170>	1	1	1
11	205239	Washer <ø40×ø29×3L>	2	2	2
12	205212	Equalizer Sheave <ø152×ø28 t40>	1	1	1
13	205221	Sheave Axle <ø28×109L>	1	1	1
14	269551	Load Key Plate <t6.0×25×80>	1	1	1
15	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
16	270502	Load Axle <ø35×200L>	1	1	1

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 5T (11000lbs)		
			20ft	30ft	40ft
01	266016	Hoist Frame	1		
	266017			1	
	266018				1
02	205466	Drum Coupling(A) <ø34×ø21×61L>	1	1	1
03	407838	Bearing <6212ZZ>	1	1	1
04	266811	Drum <ø218×ø194×655L>	1		
	266812	Drum <ø218×ø194×855L>		1	
	266813	Drum <ø218×ø194×1007L>			1
05	263026	Drum Shaft <ø30×470L>	1		
	263027	Drum Shaft <ø30×670L>		1	
	263028	Drum Shaft <ø30×822L>			1
06	205467	Drum Coupling(B) <ø34×ø21×73L>	1	1	1
07	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
08	400095	Spring Washer <M8>	4	4	4
09	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
10	270202	Link Equalizer <t8×120×170L>	1	1	1
11	205239	Washer <ø40×ø29×3L>	2	2	2
12	205212	Equalizer Shave <ø152×ø28 t40>	1	1	1
13	205221	Sheave Axle <ø28×109L>	1	1	1
14	269551	Load Key Plate <t6.0×25×80L>	1	1	1
15	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
16	270502	Load Axle <ø35×200L>	1	1	1

TROLLEY FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		
			20ft	30ft	40ft
01	266026	Hoist Frame	1		
	266027			1	
	266028				1
02	205467	Coupling(B) <ø34×ø21×73L>	1	1	1
03	407814	Bearing <6220 ZZ>	1	1	1
04	266871	Drum <ø271×ø243×712L>	1		
	266872	Drum <ø271×ø243×912L>		1	
	266873	Drum <ø271×ø243×1112L>			1
05	263031	Drum Shaft <ø35×475L>	1		
	263032	Drum Shaft <ø35×675L>		1	
	263033	Drum Shaft <ø35×875L>			1
06	205468	Coupling <ø48×ø28×62L>	1	1	1
07	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
08	400095	Spring Washer <M8>	4	4	4
09	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
10	270203	Link Equalizer <t8×140×230L>	1	1	1
11	205238	Washer <ø45×ø36×3L>	2	2	2
12	205244	Equalizer Sheave <ø210×ø35 t50>	1	1	1
13	205222	Sheave Axle <ø35×119L>	1	1	1
14	269551	Load Key Plate <t6.0×25×80L>	1	1	1
15	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2
16	270503	Load Axle <ø35×220L>	1	1	1

TROLLEY FRAME ASSEMBLY B.O.M

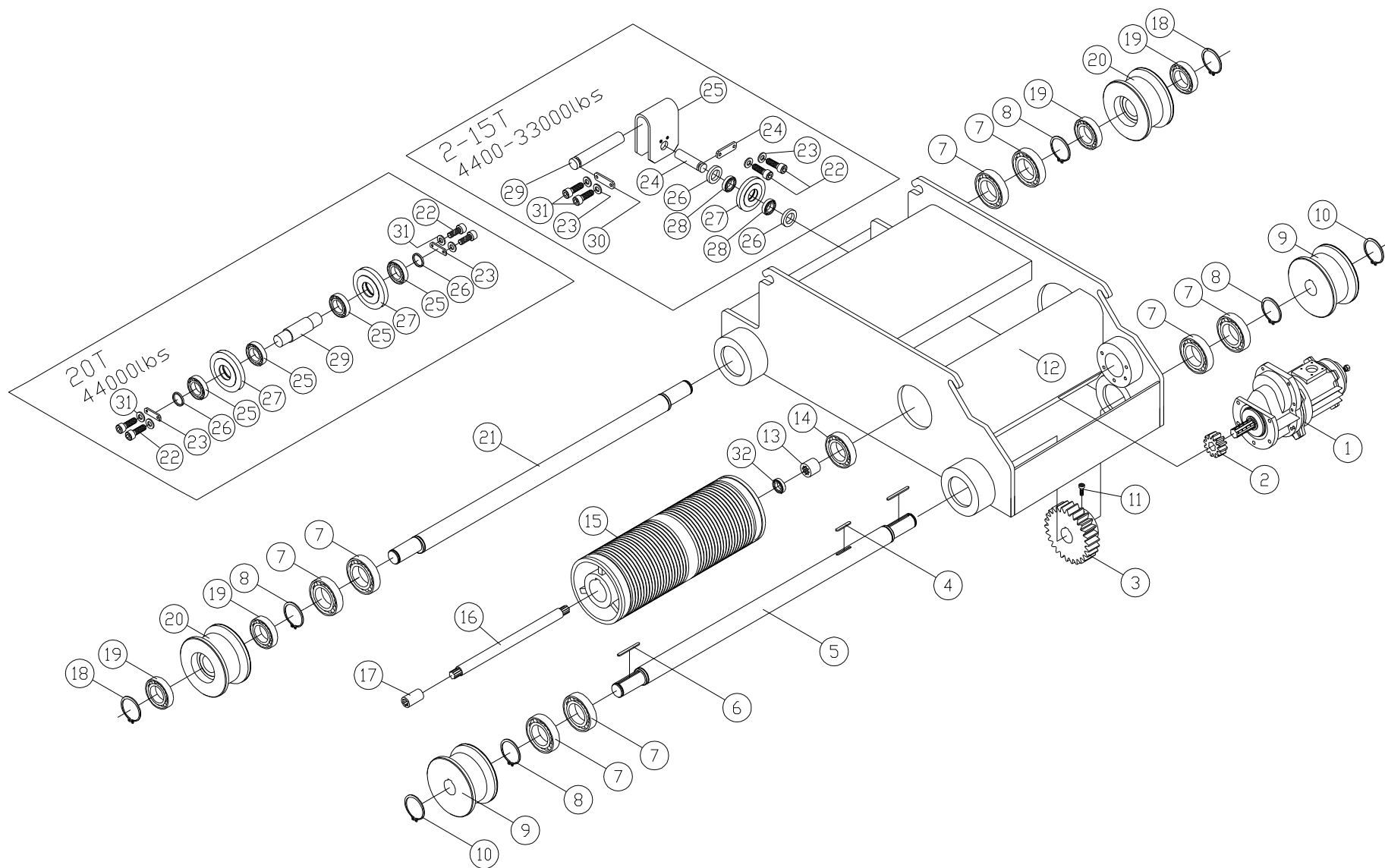
NO.	PART NUMBER	DESCRIPTION	QTY 10T (22000lbs)		
			20ft	30ft	40ft
01	266026	Hoist Frame	1		
	266027			1	
	266028				1
02	205467	Coupling(B) <ø34×ø21×73L>	1	1	1
03	407814	Bearing <6220 ZZ>	1	1	1
04	266876	Drum <ø296×ø261×712L>	1		
	266877	Drum <ø296×ø261×912L >		1	
	266878	Drum <ø296×ø261×1112L >			1
05	263031	Drum Shaft <ø35×475L>	1		
	263032	Drum Shaft <ø35×675L>		1	
	263033	Drum Shaft <ø35×875L>			1
06	205468	Coupling <ø48×ø28×62L>	1	1	1
07	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
08	400095	Spring Washer <M8>	4	4	4
09	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
10	270203	Link Equalizer <t8×140×230L>	1	1	1
11	205238	Washer <ø45×ø36×3L>	2	2	2
12	205244	Equalizer Sheave <ø210×ø35 t50>	1	1	1
13	205222	Sheave Axle <ø35×119L>	1	1	1
14	269551	Load Key Plate <t6.0×25×80L>	1	1	1
15	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2
16	270503	Load Axle <ø35×220L>	1	1	1

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×ø323×910L>	1		
	268843	Drum <ø356×ø323×1110L>		1	
	268845	Drum <ø356×ø323×1330L>			1
05	207151	Drum Shaft <ø40×634L>	1		
	207152	Drum Shaft <ø40×834L>		1	
	207153	Drum Shaft <ø40×1054L>			1
06	205468	Drum Coupling <ø48×ø28×62L>	1	1	1
07	405016	Hex. Recess Bolt <M20×2.5×30L>	4	4	4
08	400099	Spring Washer <M20>	4	4	4
09	264051	Keeper <ø22 P100 t12×50×150L>	2	2	2
10	207159	Link Equalizer	1	1	1
11	267976	Spacer Sleeve < ø100×ø80×12L>	2	2	2
12	263652	Equalizer Sheave <ø243×56L>	1	1	1
13	207160	Sheave Axle <ø80×163L>	1	1	1
14	207163	Load Key Plate <t12×40×120L>	1	1	1
15	408393	Hex. Recess Bolt < M16×2.0×35L>	2	2	2
16	400098	Spring Washer <M16>	4	4	4
17	407857	Bearing <6208Z>	1	1	1
18	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 <ø386×ø353×1065L>	1		
	266113	Drum <ø386×ø353×1355L>		1	
	266114	Drum <ø386×ø353×1655L>			1
05	268851	Drum Shaft <ø40×825L>	1		
	268852	Drum Shaft <ø40×1115L>		1	
	268853	Drum Shaft <ø40×1415L>			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 < ø136×ø120×5L>	2	2	2
11	407805	Bearing <6024Z>	4	4	4
12	268864	Sheave <ø408×70L>	2	2	2
13	268859	Load Axle <ø135×442L>	1	1	1
17	407857	Bearing <6208ZZ>	1	1	1



2-20T SADDLE FRAME EXPLOSION

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 2T (4400lbs)		
			20ft	30ft	40ft
01	104953	Reducing Motor	1	1	1
02	201757	Pinion <M3.5×23T 49L>	1	1	1
03	205187	Trolley Drive Gear <M3.5×49T×45L>	1	1	1
04	400969	Key <t8×8×60L>	1	1	1
05	265221	Transmission Shaft <ø45×924L>	1		
	265222	Transmission Shaft <ø45×1074L>		1	
	265223	Transmission Shaft <ø45×1274L>			1
06	400969	Key <t8×8×60L>	2	2	2
07	407820	Bearing <6309 ZZ>	4	4	4
08	400196	Retaining Ring <S-45>	4	4	4
09	205070	Transmission Wheel <ø147×60L>	2	2	2
10	400194	Retaining Ring <S-35>	2	2	2
11	400014	Hex. Recess Bolt <M8×1.25×30L>	1	1	1
12	266056	Hoist Frame	1		
	266057			1	
	266058				1
13	205466	Coupling (A) <ø34×ø21×61L>	1	1	1
14	407838	Bearing <6212 ZZ>	1	1	1
15	266806	Drum <ø188×ø166×640L>	1		
	266807	Drum <ø188×ø166×850L>		1	
	266808	Drum <ø188×ø166×1060L>			1
16	263016	Drum Shaft <ø30×459L>	1		
	263017	Drum Shaft <ø30×669L>		1	
	263018	Drum Shaft <ø30×879L>			1
17	205469	Coupling <ø34×ø16×51L>	1	1	1
18	400194	Retaining Ring <S-35>	2	2	2
19	407808	Bearing <6207 Z>	4	4	4
20	205170	Plain Wheel <ø147×60L>	2	2	2
21	265421	Plain Shaft <ø45×924L>	1		
	265422	Plain Shaft <ø45×1074L>		1	
	265423	Plain Shaft <ø45×1274L>			1
22	405011	Hex. Recess Bolt <M8×1.25×15L>	2	2	2
23	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
24	207553	Sheave Axle <ø28×79L>	1	1	1
25	270201	Link Equalizer <t6×100×127>	1	1	1
26	205239	Washer <ø40×ø29×3L>	2	2	2
27	263551	Equalizer Sheave <ø105×ø28 t31>	1	1	1
28	400095	Spring Washer <M8>	4	4	4
29	205470	Load Axle <ø28×165L>	1	1	1
30	269551	Load Key Plate <t6.0×25×80L>	1	1	1
31	405011	Hex. Recess Bolt <M8×1.25×15L>	2	2	2

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 3T (6600lbs)		
			20ft	30ft	40ft
01	104953	Reducing Motor	1	1	1
02	201756	Pinion <M3.5×18T 49L>	1	1	1
03	205186	Trolley Drive Gear <M3.5×58T×45L>	1	1	1
04	400969	Key <t8×8×60L>	1	1	1
05	205097	Transmission Shaft <ø55×929L>	1		
	265212	Transmission Shaft <ø55×1229L>		1	
	265228	Transmission Shaft <ø55×1229L>			1
06	400969	Key <t8×8×60L>	2	2	2
07	407810	Bearing <6211 Z>	8	8	8
08	400909	Retaining Ring <S-55>	4	4	4
09	205067	Transmission Wheel <ø178×65L>	2	2	2
10	400196	Retaining Ring <S-45>	2	2	2
11	400014	Hex. Recess Bolt <M8×1.25×30L>	1	1	1
12	266061	Hoist Frame	1		
	266062			1	
	266063				1
13	205466	Coupling (A) <ø34×ø21×61L>	2	2	1
14	407838	Bearing <6212 ZZ>	1	1	1
15	266811	Drum <ø218×ø194×655L>	1		
	266812	Drum <ø218×ø194×855L>		1	
	266813	Drum <ø218×ø194×1007L>			1
16	263021	Drum Shaft <ø30×497L>	1		
	263022	Drum Shaft <ø30×697L>		1	
	263023	Drum Shaft <ø30×849L>			1
17	205467	Coupling B <ø34×ø21×73L>			1
18	400195	Retaining Ring <S-40>	2	2	2
19	407831	Bearing <6208 Z>	4	4	4
20	205167	Plain Wheel <ø178×65L>	2	2	2
21	205137	Plain Shaft <ø55×929L>	1		
	265412	Plain Shaft <ø55×1229L>		1	
	265428	Plain Shaft <ø55×1229L>			1
22	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
23	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
24	205221	Sheave Axle <ø28×109L>	1	1	1
25	270202	Link Equalizer <t8×120×170L>	1	1	1
26	205239	Washer <ø40×ø29×3L>	2	2	2
27	205212	Equalizer Sheave <ø152×ø28 t40>	1	1	1
28	400095	Spring Washer <M8>	4	4	4
29	270502	Load Axle <ø35×200L>	1	1	1
30	269551	Load Key Plate <t6.0×25×80L>	1	1	1
31	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 5T (11000lbs)		
			20ft	30ft	40ft
01	104935	Reducing Motor	1	1	1
02	201757	Pinion <M3.5×23T 49L>	1	1	1
03	205186	Trolley Drive Gear <M3.5×58T×45L>	1	1	1
04	400969	Key <t8×8×60L>	1	1	1
05	205097	Transmission Shaft <ø55×929L>	1		
	265212	Transmission Shaft <ø55×1229L>		1	
	265228	Transmission Shaft <ø55×1229L>			1
06	400969	Key <t8×8×60L>	2	2	2
07	407810	Bearing <6211 Z>	8	8	8
08	400909	Retaining Ring <S-55>	4	4	4
09	205067	Transmission Wheel <ø178×65L>	2	2	2
10	400196	Retaining Ring <S-45>	2	2	2
11	400014	Hex. Recess Bolt <M8×1.25×30L>	1	1	1
12	266066	Hoist Frame	1		
	266067			1	
	266068				1
13	205466	Coupling (A) <ø34×ø21×61L>	1	1	1
14	407838	Bearing <6212 ZZ>	1	1	1
15	266811	Drum <ø218×ø194×655L>	1		
	266812	Drum <ø218×ø194×855L>		1	
	266813	Drum <ø218×ø194×1007L>			1
16	263026	Drum Shaft <ø30×470L>	1		
	263027	Drum Shaft <ø30×670L>		1	
	263028	Drum Shaft <ø30×822L>			1
17	205467	Coupling (B) <ø34×ø21×73L>	1	1	1
18	400195	Retaining Ring <S-40>	2	2	2
19	407831	Bearing <6208 Z>	4	4	4
20	205167	Plain Wheel <ø178×65L>	2	2	2
21	205137	Plain Shaft <ø55×929L>	1		
	265412	Plain Shaft <ø55×1229L>		1	
	265428	Plain Shaft <ø55×1229L>			1
22	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
23	200636	Keeper <ø8.5 P28 T6.0×25×50L>	1	1	1
24	205221	Sheave Axle <ø28×109L>	1	1	1
25	270202	Link Equalizer <t8×120×170L>	1	1	1
26	205239	Washer <ø40×ø29×3L>	2	2	2
27	205212	Equalizer Sheave <ø152×ø28 t40>	1	1	1
28	400095	Spring Washer <M8>	4	4	4
29	270502	Load Axle <ø35×200L>	1	1	1
30	269551	Load Key Plate <t6.0×25×80L>	1	1	1
31	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 7.5T (16500lbs)		
			20ft	30ft	40ft
01	104939	Reducing Motor	1	1	1
02	201678	Pinion <M3.5×20T 49L>	1	1	1
03	205186	Trolley Drive Gear <M3.5×58T×45L>	1	1	1
04	400969	Key <t8×8×60L>	1	1	1
05	265236	Transmission Shaft <ø55×1254L>	1		
	265214	Transmission Shaft <ø55×1254L>		1	
	265238	Transmission Shaft <ø55×1404L>			1
06	400969	Key <t8×8×60L>	2	2	2
07	407834	Bearing <6311Z>	8	8	8
08	400909	Retaining Ring <S-55>	4	4	4
09	205073	Transmission Wheel <ø196×90L>	2	2	2
10	400196	Retaining Ring <S-45>	2	2	2
11	400014	Hex. Recess Bolt <M8×1.25×30L>	1	1	1
12	266076	Hoist Frame	1		
	266077			1	
	266078				1
13	205467	Coupling (B) <ø34×ø21×73L>	1	1	1
14	407814	Bearing <6220 ZZ>	1	1	1
15	266871	Drum <ø271×ø243×712L>	1		
	266872	Drum <ø271×ø243×912L>		1	
	266873	Drum <ø271×ø243×1112L>			1
16	263031	Drum Shaft <ø35×475L>	1		
	263032	Drum Shaft <ø35×675L>		1	
	263033	Drum Shaft <ø35×875L>			1
17	205468	Coupling <ø48×ø28×62L>	1	1	1
18	400196	Retaining Ring <S-45>	2	2	2
19	407826	Bearing <6309Z>	4	4	4
20	205173	Plain Wheel <ø196×90L>	2	2	2
21	265436	Plain Shaft <ø55×1254L>	1		
	265414	Plain Shaft <ø55×1254L>		1	
	265438	Plain Shaft <ø55×1404L>			1
22	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
23	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
24	205222	Sheave Axle <ø35×119L>	1	1	1
25	270203	Link Equalizer <t8×140×230L>	1	1	1
26	205238	Washer <ø45×ø36×3L>	2	2	2
27	205244	Equalizer Sheave <ø210×35 t50>	1	1	1
28	400095	Spring Washer <M8>	4	4	4
29	270503	Load Axle <ø35×220L>	1	1	1
30	269551	Load Key Plate <t6.0×25×80L>	1	1	1
31	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2

SADDLE FRAME ASSEMBLY B.O.M

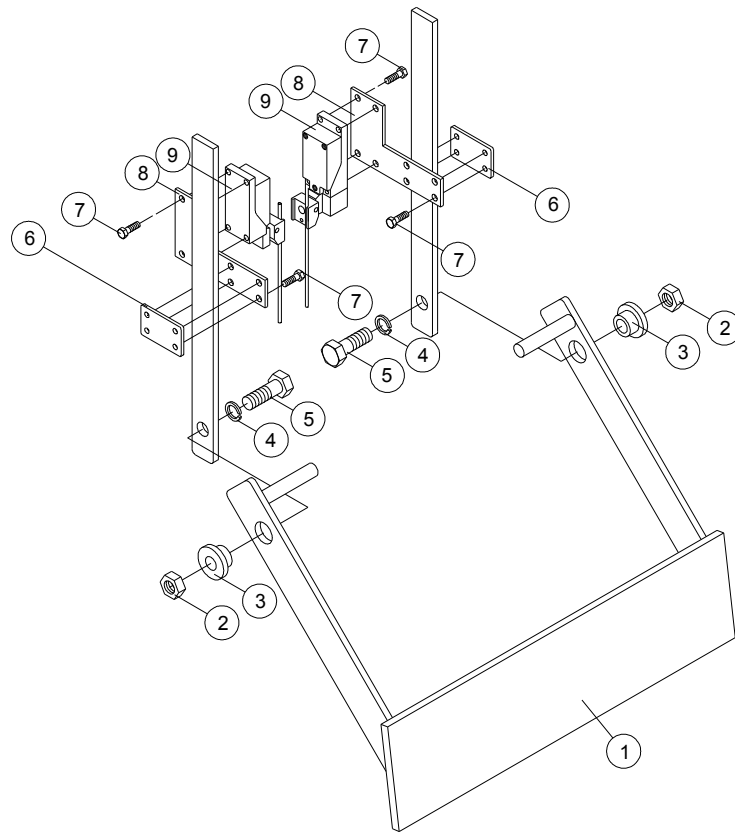
NO.	PART NUMBER	DESCRIPTION	QTY 10T (22000lbs)		
			20ft	30ft	40ft
01	104963	Reducing Motor	1	1	1
02	201679	Pinion <M3.5×23T 63L>	1	1	1
03	205181	Trolley Drive Gear <M3.5×65T×45L>	1	1	1
04	400969	Key <t8×8×60L>	1	1	1
05	265236	Transmission Shaft <ø55×1254L>	1		
	265214	Transmission Shaft <ø55×1254L>		1	
	265238	Transmission Shaft <ø55×1404L>			1
06	400969	Key <t8×8×60L>	2	2	2
07	407834	Bearing <6311 Z>	8	8	8
08	400909	Retaining Ring <S-55>	4	4	4
09	205073	Transmission Wheel <ø196×90L>	2	2	2
10	400196	Retaining Ring <S-45>	2	2	2
11	400014	Hex. Recess Bolt <M8×1.25×30L>	1	1	1
12	266076	Hoist Frame	1		
	266077			1	
	266078				1
13	205467	Coupling (B) <ø34×ø21×73L>	1	1	1
14	407814	Bearing <6220 ZZ>	1	1	1
15	266876	Drum <ø296×ø261×712L>	1		
	266877	Drum <ø296×ø261×912L>		1	
	266878	Drum <ø296×ø261×1112L>			1
16	263031	Drum Shaft <ø35×475L>	1		
	263032	Drum Shaft <ø35×675L>		1	
	263033	Drum Shaft <ø35×875L>			1
17	205468	Coupling <ø48×ø28×62L>	1	1	1
18	400196	Retaining Ring <S-45>	2	2	2
19	407826	Bearing <6309 Z>	4	4	4
20	205173	Plain Wheel <ø196×90L>	2	2	2
21	265436	Plain Shaft <ø55×1254L>	1		
	265414	Plain Shaft <ø55×1254L>		1	
	265438	Plain Shaft <ø55×1404L>			1
22	400012	Hex. Recess Bolt <M8×1.25×20L>	2	2	2
23	200636	Keeper <ø8.5 P28 t6.0×25×50L>	1	1	1
24	205222	Sheave Axle <ø35×119L>	1	1	1
25	270203	Link Equalizer <t8×140×230L>	1	1	1
26	205238	Washer <ø45×ø36×3L>	2	2	2
27	205244	Equalizer Sheave <ø210×ø35 t50>	1	1	1
28	400095	Spring Washer <M8>	4	4	4
29	270503	Load Axle <ø35×220L>	1	1	1
30	269551	Load Key Plate <t6.0×25×80L>	1	1	1
31	400013	Hex. Recess Bolt <M8×1.25×25L>	2	2	2

SADDLE FRAME ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 15T (33000lbs)		
			20ft	30ft	40ft
01	104963	Reducing Motor	1	1	1
02	201679	Pinion <M3.5×23T 63L>	1	1	1
03	205183	Trolley Drive Gear <M3.5×70T×50L>	1	1	1
04	400984	Key <t16×10×60L>	1	1	1
05	265245	Transmission Shaft <ø80×1254L>	1		
	265246	Transmission Shaft <ø80×1454L>		1	
	265244	Transmission Shaft <ø80×1854L>			1
06	400954	Key <t16×10×90L>	2	2	2
07	407811	Bearing <6216 Z>	8	8	8
08	400918	Retaining Ring <S-80>	4	4	4
09	205077	Transmission Wheel <ø226×90L>	2	2	2
10	400910	Retaining Ring <S-70>	2	2	2
11	400013	Hex. Recess Bolt <M8×1.25×25L>	1	1	1
12	268830	Hoist Frame	1		
	268831			1	
	268832				1
13	205468	Coupling <ø48×ø28×62L>	1	1	1
14	407814	Bearing <6220 ZZ>	1	1	1
15	268840	Drum <ø356×ø323×910L>	1		
	268843	Drum <ø356×ø323×1110L>		1	
	268845	Drum <ø356×ø323×1330L>			1
16	207151	Drum Shaft <ø40×634L>	1		
	207152	Drum Shaft <ø40×834L>		1	
	207153	Drum Shaft <ø40×1054L>			1
17	205468	Coupling <ø48×ø28×62L>	1	1	1
18	400910	Retaining Ring <S-70>	2	2	2
19	407833	Bearing <6214 Z>	4	4	4
20	205177	Plain Wheel <ø226×90L>	2	2	2
21	265248	Plain Shaft <ø80×1254L>	1		
	265249	Plain Shaft <ø80×1454L>		1	
	265247	Plain Shaft <ø80×1654L>			1
22	405016	Hex. Recess Bolt <M20×2.5×30L>	4	4	4
23	400099	Spring Washer <M20>	4	4	4
24	264051	Keeper <ø22 P100 t12×50×150L>	2	2	2
25	207159	Link Equalizer	1	1	1
26	267976	Spacer Sleeve < ø100×ø80×12L>	2	2	2
27	263652	Equalizer Sheave <ø243×56L>	1	1	1
28	407706	Bearing <6016Z>	2	2	2
29	400098	Spring Washer <M16>	4	4	4
30	207163	Load Key Plate <t12×40×120L>	1	1	1
31	408393	Hex. Recess Bolt < M16×2.0×35L>	2	2	2
32	407857	Bearing <6208Z>	1	1	1

SADDLE FRAME ASSEMBLY B.O.M

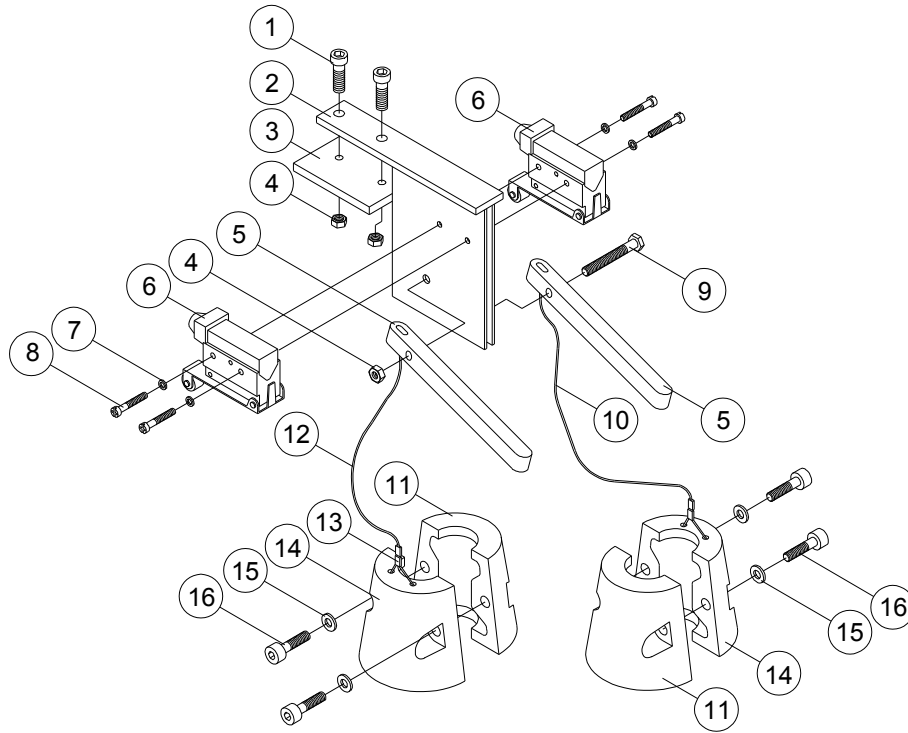
NO.	PART NUMBER	DESCRIPTION	QTY 20T (44000lbs)		
			20ft	30ft	40ft
01	104973	Reducing Motor	1	1	1
02	201679	Pinion <M3.5×23T 63L>	1	1	1
03	205183	Trolley Drive Gear <M3.5×70T×50L>	1	1	1
04	400984	Key <t16×10×60L>	1	1	1
05	268879	Transmission Shaft <ø80×1404L>	1		
	268880	Transmission Shaft <ø80×1704L>		1	
	268881	Transmission Shaft <ø80×2004L>			1
06	400954	Key <t16×10×90L>	2	2	2
07	407811	Bearing <6216 Z>	8	8	8
08	400918	Retaining Ring <S-80>	4	4	4
09	205077	Transmission Wheel <ø226×90L>	2	2	2
10	400910	Retaining Ring <S-70>	2	2	2
11	400013	Hex. Recess Bolt <M8×1.25×25L>	1	1	1
12	268872	Hoist Frame	1		
	268873			1	
	268874				1
13	205468	Coupling <ø48×ø28×62L>	1	1	1
14	407814	Bearing <6220 ZZ>	1	1	1
15	266112	Drum <ø386×ø353×1065L>	1		
	266113	Drum <ø386×ø353×1355L>		1	
	266114	Drum <ø386×ø353×1655L>			1
16	268851	Drum Shaft <ø40×825L>	1		
	268852	Drum Shaft <ø40×1115L>		1	
	268853	Drum Shaft <ø40×1415L>			1
17	205468	Coupling <ø48×ø28×62L>	1	1	1
18	400910	Retaining Ring <S-70>	2	2	2
19	407833	Bearing <6214 Z>	4	4	4
20	205177	Plain Wheel <ø226×90L>	2	2	2
21	268882	Plain Shaft <ø80×1404L>	1		
	268883	Plain Shaft <ø80×1704L>		1	
	268884	Plain Shaft <ø80×2004L>			1
22	400461	Hex. Recess Bolt <M20×2.5×35L>	4	4	4
23	268860	Keeper <ø22 P170 t12×50×220L>	2	2	2
25	407805	Bearing <6024Z>	4	4	4
26	205608	Spacer Sleeve < ø136×ø120×5L>	2	2	2
27	268864	Sheave <ø408×70L>	2	2	2
29	268859	Load Axle <ø135×442L>	1	1	1
31	400099	Spring Washer <M20>	4	4	4
32	407857	Bearing <6208Z>	1	1	1



1-15T LIMIT SWITCH EXPLOSION

LIMIT SWITCH ASSEMBLY B.O.M

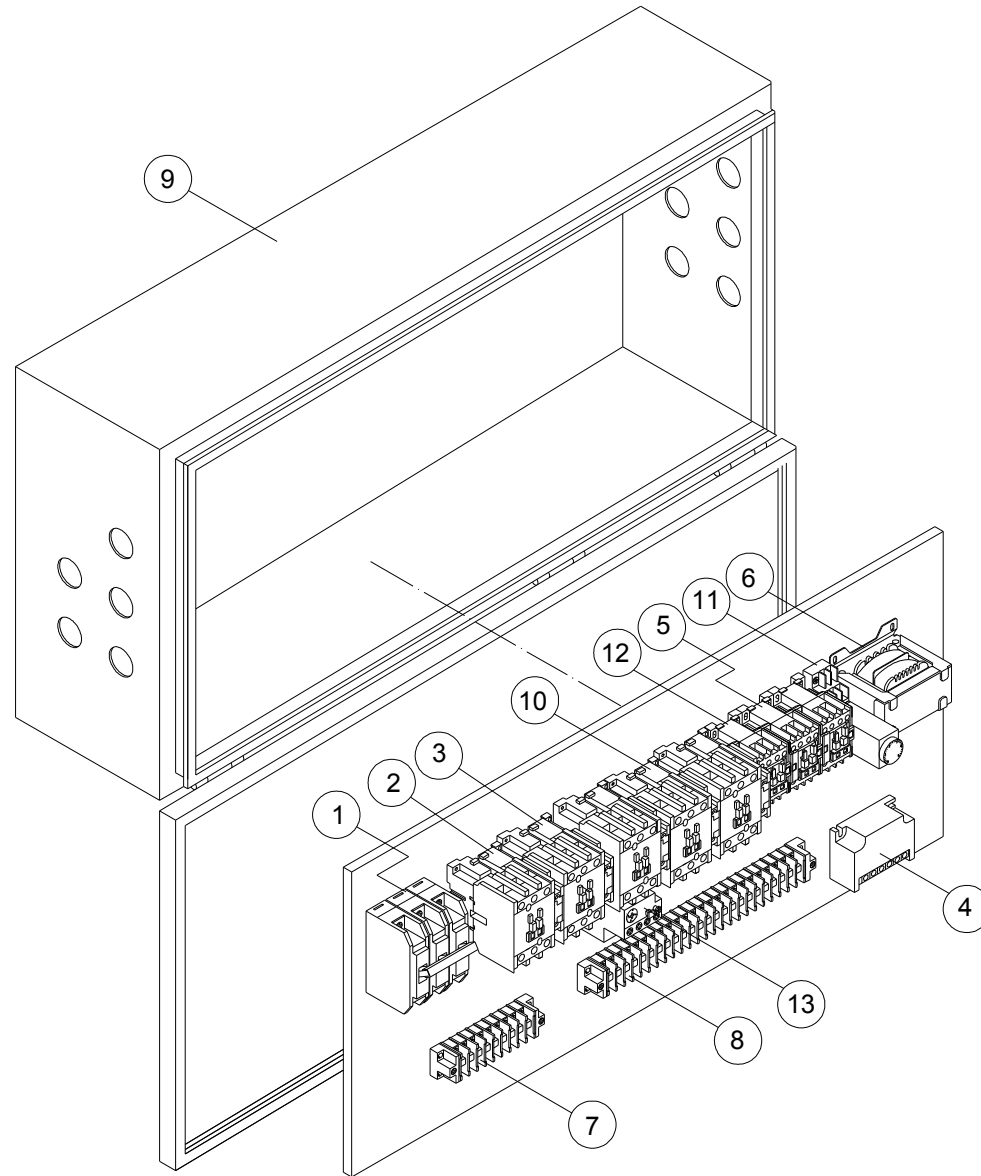
NO.	PART NUMBER	DESCRIPTION	QTY 1,2T 2200lbs 4400lbs	QTY 3,5T 6600lbs 11000lbs	QTY 7.5,10T 16500lbs 22000lbs	QTY 15T 33000lbs
01	204893	Lever Arm	1			
	204891			1		
	204892				1	
	207162					1
02	400084	Nut <M12×1.75>	2	2	2	2
03	205308	Tube <ø30×12.5×15L>	2	2	2	2
04	400097	Spring Washer <M12>	2	2	2	2
05	400023	Hex. Recess Bolt <M12×1.75×35L>	2	2	2	2
06	205314	Limit Frame <t3.0×30×47L>	2	2		
	273701	Limit Frame <t3.0×30×62L>			2	2
07	400003	Hex. Recess Bolt <M5×0.8×16L>	8	8	8	8
08	205313	Limit Plate <t3.0×40×55L>	2	2		
	273602	Limit Plate <t3.0×68×120L>			2	2
09	300540	Limit Switch	2	2	2	2



20T LIMIT SWITCH EXPLOSION

LIMIT SWITCH ASSEMBLY B.O.M

NO.	PART NUMBER	DESCRIPTION	QTY 20T (44000lbs)
01	400007	Hex. Recess Bolt <M6×1.0×20L>	2
02	205340	Limit Frame <t5.0×84×110>	1
03	205343	Stator <t6.0×38×64L>	1
04	400087	Lock Nut <M6×1.0>	3
05	205342	Limit Stick <t12×12×145L>	2
06	300534	Limit Switch <AZ-7121>	2
07	400092	Spring Washer <M4>	4
08	400617	Cross Headed Screw <M4×0.7×25L>	4
09	400027	Hex. Recess Bolt <M6×1.0×45L>	1
10	403001	Wire Rope ø2×1000L	1
11	205339	Counter Weight B	2
12	403001	Wire Rope ø2×850L	1
13	300294	AL. Setting Sleeve <3mm>	8
14	205338	Counter Weight A	2
15	400095	Spring Washer <M8>	4
16	400013	Hex. Recess Bolt <M8×1.25×25L>	4



1-20T 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	300593	Rectifier	1	1	1	1	1	1
05	301103	Reversing Contactor For "Traversing"	2	2	2	2	2	2
06	301056	Control Transformer	1		1			
	301076			1		1		1
	303752						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)		QTY 15T,20T (33000 lbs) (44000 lbs)	
			S		S		S	
			230 (V)	460 (V)	230 (V)	460 (V)	230 (V)	460 (V)
01	302216	No Fuse Breaker	1					1
	302214						1	
	300888			1		1		
	300887				1			
02	301132	Magnetic Contactor For "Emergency Stop"	1					1
	301140						1	
	301124					1		
	301120			1				
	301136				1			
03	301132	Magnetic Contactor For "Hoist"	2					2
	301140						2	
	301124					2		
	301120			2				
	301136				2			
04	300593	Rectifier	1	1	1	1	1	1
05	301108	Reversing Contactor For "Traversing"			2	2		2
	301112						2	
	301103		2	2				
06	301076	Control Transformer		1				
	303753						1	1
	303752		1		1	1		
07	300659	Terminal Blocks	1			1		1
	300658			1				
	300648				1			
	300666						1	
08	300663	Terminal Blocks	1	1	1	1	1	1
09	301424	Electric Control Panel(TU)	1		1	1		1
	301422			1				
	301429						1	
	301428	Electric Control Panel(SU)	1		1	1		1
	301427			1				
	301425						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	300593	Rectifier	1	1	1	1	1	1
05	301103	Reversing Contactor For “Traversing”	2	2	2	2	2	2
06	301056	Control Transformer	1					
	303752				1		1	
	301076			1		1		1
07	300656	Terminal Blocks					1	
	300647		1	1	1	1		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”(Hoisting)	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)		QTY 15T,20T (33000 lbs) (44000 lbs)	
			D		D		D	
			230(V)	460(V)	230(V)	460(V)	230(V)	460(V)
01	302216	No Fuse Breaker	1					1
	300888			1		1		
	300887				1		1	
02	301132	Magnetic Contactor For “Emergency Stop”	1					1
	301124					1		
	301120			1				
	301136				1			
	301140						1	
03	301132	Magnetic Contactor For “Hoist”	2					2
	301124					2		
	301120			2				
	301136				2			
	301140						2	
04	300593	Rectifier	1	1	1	1	1	1
05	301108	Reversing Contactor For “Traversing”			2	2		2
	301103		2	2				
	301112						2	
06	303753	Control Transformer		1		1	1	1
	303752		1		1			
07	300656	Terminal Blocks	1			1		1
	300647			1				
	300650				1		1	
08	300663	Terminal Blocks	1	1	1	1		1
	300664						1	
09	301424	Electric Control Panel(TU)	1	1		1		
	301429				1			1
	301439						1	
	301428	Electric Control Panel(SU)	1	1		1		
	301425				1			1
	301439						1	
10	300022	Magnetic Contactor For “Fast”(Hoisting)	1					1
	300047			1		1		
	301167				1			
	301140						2	
11	300271	Timer			1	1	1	1
12	301103	Magnetic Contactor For “Brake”					1	
13	300130	Thermal Overload Relay					1	

10. Adjust the air gap as follows:

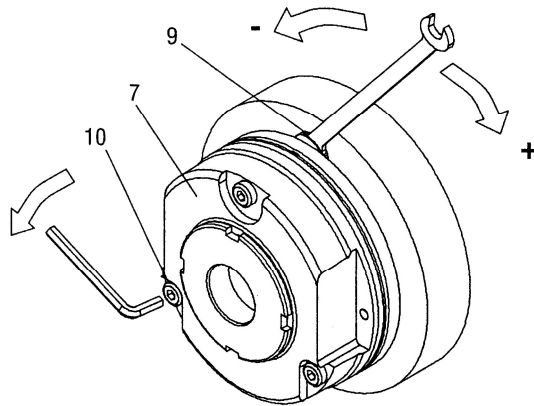
1. Unbolt screws (10) ◦
2. Slightly turn threaded sleeve (9) using a spanner ◦
 - If the air gap is too large , screw them into the stator (7) ◦
 - If the air gap is too small , screw them out of the stator (7) ◦
 - 1/6 turn change the width of the air gap by approx. 0.15mm ◦

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

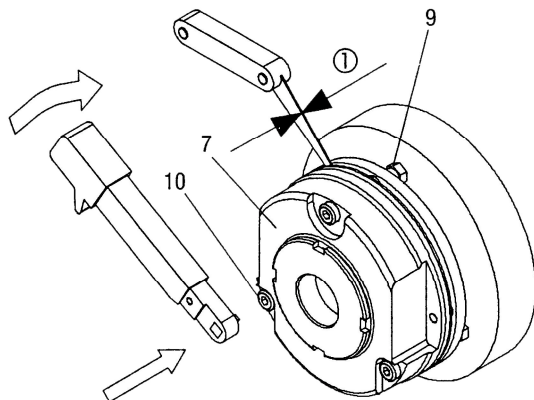


4. Check air gap again using thickness gauge and if necessary , repeat the adjustment ◦

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
3 ϕ 50/60Hz 220V	DC 205V
3 ϕ 50/60Hz 380V	DC 360V
3 ϕ 50/60Hz 415V	DC 360V
3 ϕ 50/60Hz 440V	DC 205V
3 ϕ 50/60Hz 460V	DC 205V