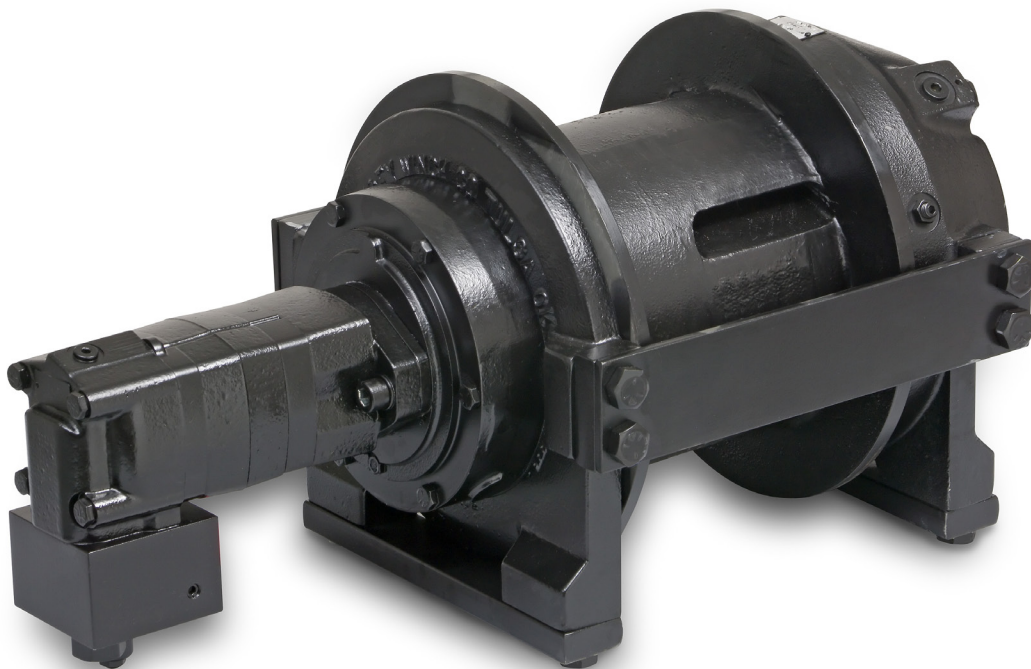




Operating/Service/Maintenance Manual

SCH 8500 Planetary Winch

OM 914187-0425-G



READ AND UNDERSTAND THIS MANUAL BEFORE INSTALLATION AND
OPERATION OF WINCH. SEE WARNINGS.

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PLEASE READ THIS MANUAL CAREFULLY

This manual contains useful ideas for obtaining the most efficient operation from your Ramsey Winch, and safety procedures one needs to know before operating a Ramsey Winch. Do not operate this winch until you have carefully read and understand the "WARNING" and "OPERATION" sections of this manual.

WARRANTY INFORMATION

Ramsey Winches are designed and built to exacting specifications. Great care and skill go into every winch we make. If the need should arise, warranty procedure is outlined on the back of your self-addressed postage paid warranty card. Please read and fill out the enclosed warranty card and send it to Ramsey Winch Company. If you have any problems with your winch, please follow instructions for prompt service on all warranty claims. Refer to back page for limited warranty.

SPECIFICATIONS*

SCH-8500 (18.7 cu.in. Motor)				
Rated Line Pull (lbs).....		8,500		
(kg).....		3,850		
Gear Reduction		7.7:1		
Weight (without cable)		257 lbs. (117 kg)		
LAYER OF CABLE		1	2	3
Rated Line Pull	lbs	8500	7600	6900
	kg	2720	3440	3120
Line Speed	fpm	49	54	59
	mpm	14	16	18
Cable Capacity	ft	30	65	100
	m	9	19	30

SCH-8500 (14.9 cu.in. Motor)				
Rated Line Pull (lbs).....		8,500		
(kg).....		3,850		
Gear Reduction		7.7:1		
Weight (without cable)		257 lbs. (117 kg)		
LAYER OF CABLE		1	2	3
Rated Line Pull	lbs	8500	7600	6900
	kg	2720	3440	3120
Line Speed	fpm	63	70	77
	mpm	19	21	23
Cable Capacity	ft	30	65	100
	m	9	19	30

* These specifications are based on recommended 1/2 in. (12 mm) EIPS wire rope.

NOTE: The rated line pulls shown are for the winch only. Consult the wire rope manufacturer for wire rope ratings.

WARNINGS:

STAY OUT FROM UNDER AND AWAY FROM RAISED LOADS.

STAND CLEAR OF CABLE WHILE PULLING. DO NOT TRY TO GUIDE CABLE.

DO NOT EXCEED MAXIMUM LINE PULL RATINGS SHOWN IN TABLE.

DO NOT USE WINCH TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.

A MINIMUM OF 5 WRAPS OF WIRE ROPE AROUND DRUM BARREL IS REQUIRED TO HOLD THE LOAD.

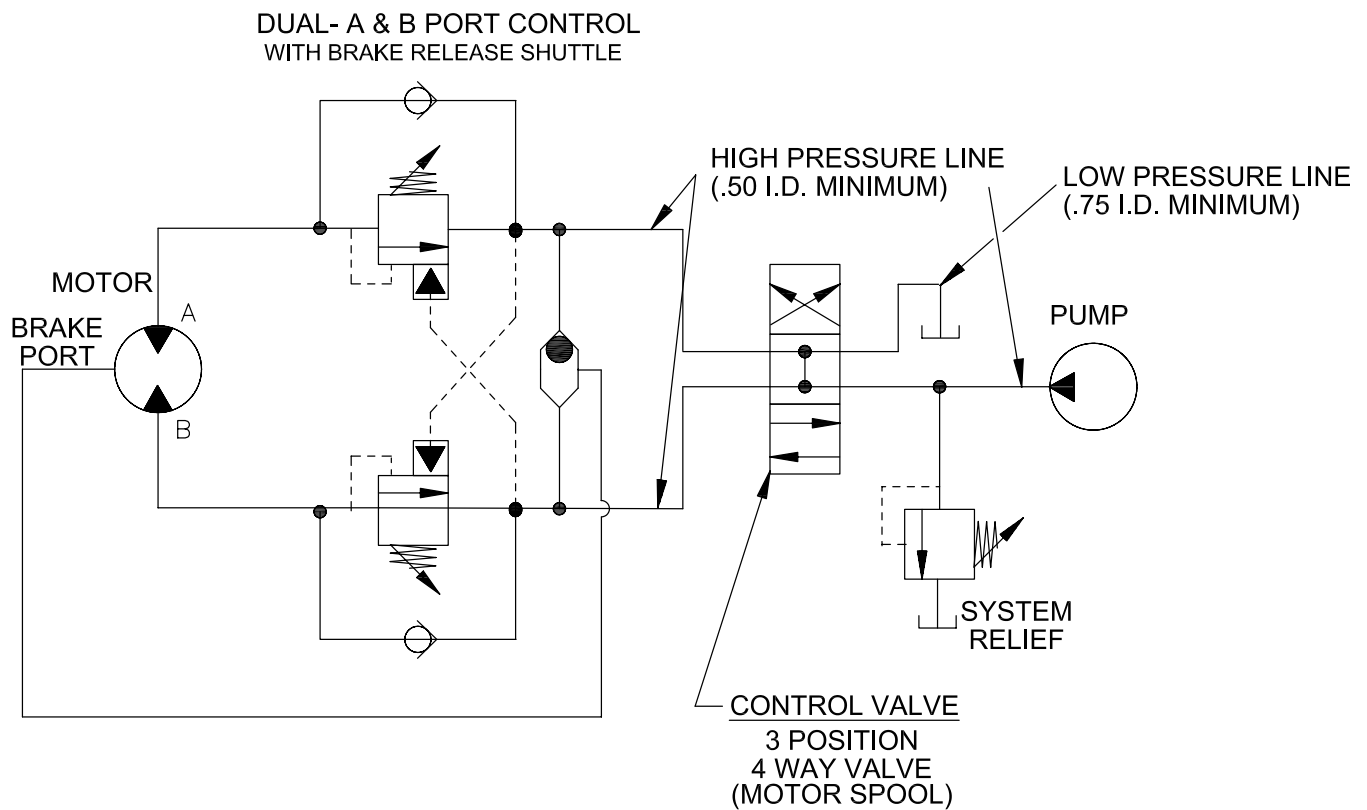
HYDRAULIC SYSTEM REQUIREMENTS

Refer to the performance charts on following page to properly match your hydraulic system to the winch performance. The charts consist of:

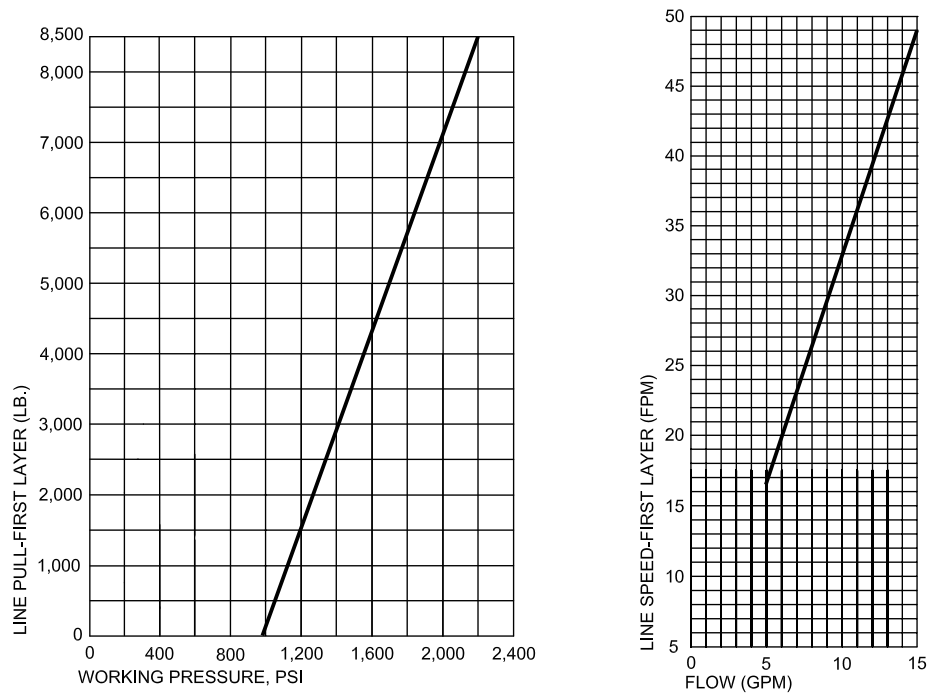
- (1) First layer Line Pull (LB) vs. Working Pressure (PSI) and
- (2) First layer Line Speed (FPM) vs. Flow (GPM).

A motor spool directional control valve is required.

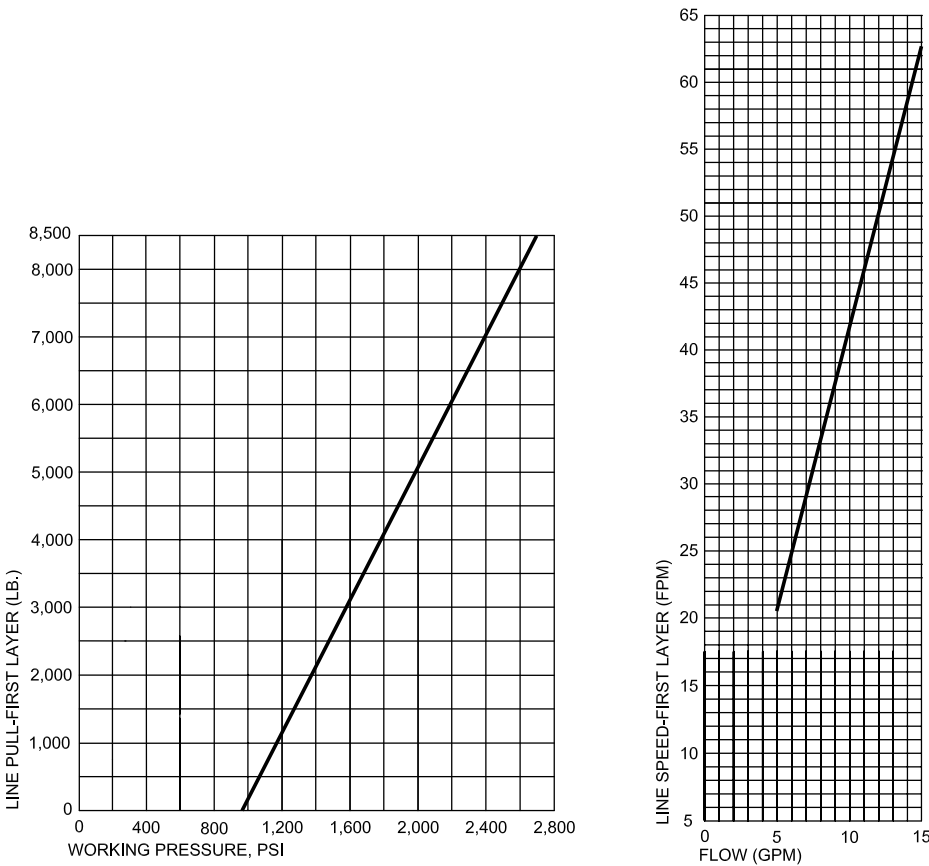
TYPICAL LAYOUT



PERFORMANCE CHARTS



SCH-8500 (18.7 cu.in. Motor)



WINCH MOUNTING

NOTE: The winch must be mounted so that it reels in in the required direction as noted on page 5.

NOTE: Remove and discard the (4) 5/8" capscrews from the foot mounting holes in the end bearings. These capscrews hold on the foot mount spacers during shipping and should not be used for mounting.

It is most important that this winch be mounted securely so that the three major sections (the motor end, the cable drum, and the gear-housing end) are properly aligned. Excessive bushing wear is a symptom of misalignment.

When installed mid-mounted, at least one tie plate should be attached to the mounting feet at the bottom of the winch to maintain alignment. When installed foot-mounted, at least one tie plate should remain mounted at mid point of winch to maintain alignment. It is always preferable to use both tie plates in the installed configuration.

When mounting the winch, the mounting hole patterns described on page 6 should be used. The mounting surface must be flat within 0.015 inch and sufficiently stiff to resist flexing. If a steel plate is used for foot mounting it should be .750 inch thick. For this mounting application eight (8) 5/8-11NC x 2" Lg. Gr. 5 capscrews with lockwashers will be needed to mount winch. Note that the supplied foot-mount spacers (.50" thick) must be installed between the winch and the mounting plate. Capscrews should be torqued to 173 ft-lb. (235 Nm).

CAUTION: IF LONGER BOLTS ARE SUBSTITUTED TO MOUNT WINCH OR TO MOUNT A ROLLER GUIDE AT THE SIDE MOUNT PADS, GRADE 5 OR BETTER BOLTS SHOULD ALWAYS BE USED, AND BOLT LENGTH SHOULD BE SUCH THAT A MAXIMUM OF .56 INCH THREAD LENGTH ENGAGEMENT IS ACHIEVED IN THE TAPPED HOLES IN THE SIDES OF EACH END BEARING.

OPERATION

The best way to get acquainted with how your winch operates is to make test runs before you actually use it. Plan your test in advance. Remember, you hear your winch, as well as see it operate. Get to recognize the sounds of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Avoid conditions where load shifts or jerks occur, as they may indicate a dangerous situation.

The uneven spooling of cable, while pulling a load, is not a problem, unless there is a cable pileup on one end of drum. If this happens, reverse the winch to relieve the load and move your anchor point further to the center of the load. After the job is done you can unspool and rewind for a neat lay of the cable.

MAINTENANCE

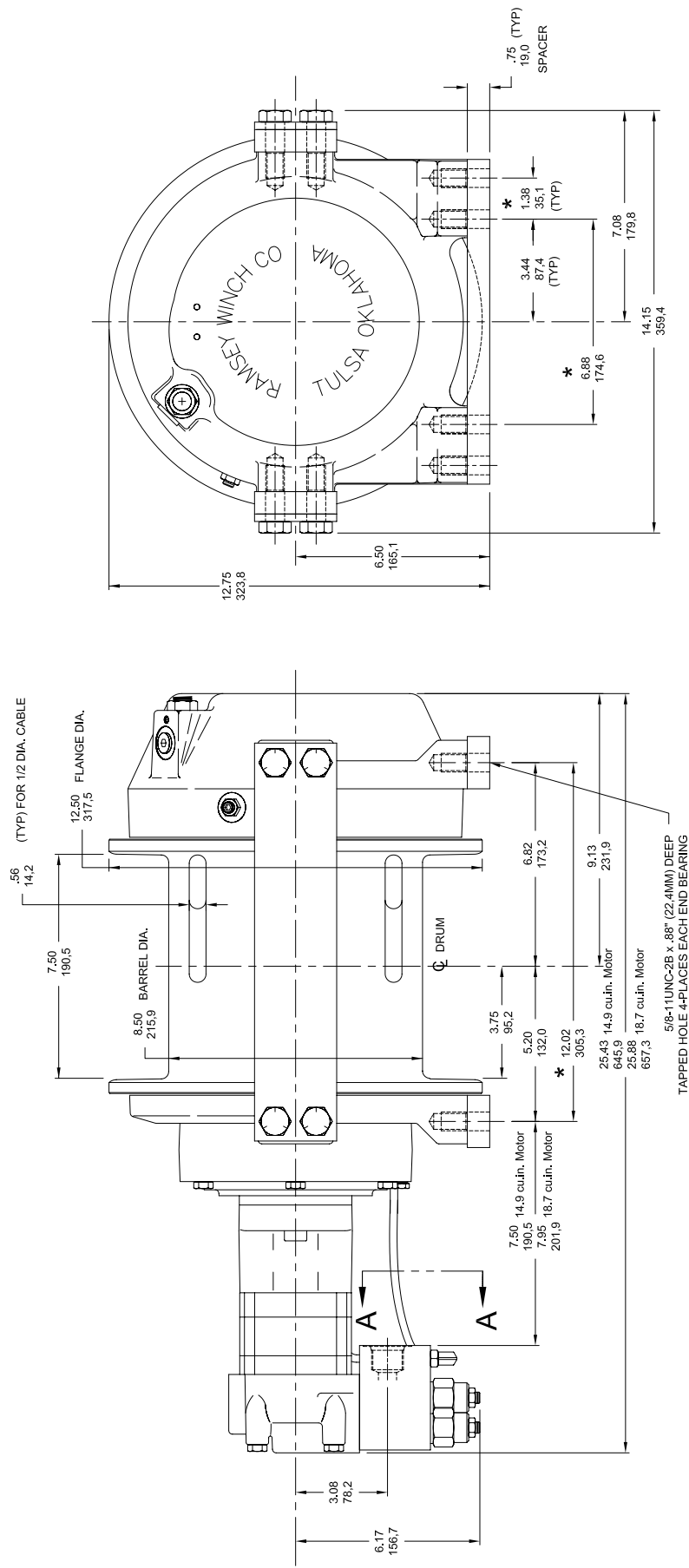
1. Inspect the cable for damage and lubricate frequently. If the cable becomes frayed with broken strands, replace immediately.
2. Replace drum bushings and seals when seals begin to seep grease. Add additional lubricant, Mobilith SHC 007, to gears if required.

CABLE INSTALLATION

1. Unwind cable by rolling it out along the ground to prevent kinking. Securely wrap end of cable, opposite hook, with plastic or similar tape to prevent fraying.
2. Place taped end of cable into narrow side of pocket on the cable drum. Wrap end of cable around cable anchor or puck and pull tight.
3. Carefully run winch in the "reel-in" direction. Keeping tension on end of cable, spool all the cable onto the cable drum, taking care to form neatly wrapped layers.

TROUBLESHOOTING GUIDE

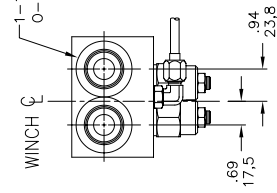
CONDITIONS	POSSIBLE CAUSE	CORRECTION/ACTION
DRUM WILL NOT ROTATE AT NO LOAD	Brake damaged	Inspect and replace brake
	Gears damaged	Inspect and replace damaged gears
	Brake not releasing	Brake damaged; inspect and replace.
DRUM WILL NOT ROTATE UNDER LOAD	Load greater than rated capacity of winch	Refer to Specifications page 1 for line pull rating
	Low hydraulic system pressure	Check pressure. Refer to Hydraulic Systems performance charts page 2
WINCH RUNS TOO SLOW	Low hydraulic system flow rate	Check flow rate. Refer to Typical Layout page 2
	Motor worn out	Replace motor
BRAKE WILL NOT RELEASE	Brake damaged	Inspect and replace
EXCESSIVE NOISE	Hydraulic system flow too high	Check flow rate. Refer to Typical Layout page 2
DRUM CHATTERS IN "REEL IN" DIRECTION	Low hydraulic system flow rate	Check flow rate. Refer to Typical Layout page 2
	Low hydraulic system relief pressure setting	Check relief valve setting.
OIL SEEPAGE FROM BREATHER VENT OF BRAKE HOUSING	Brake piston not sealing properly	Replace o-ring and backup o-rings on brake piston



NOTE:

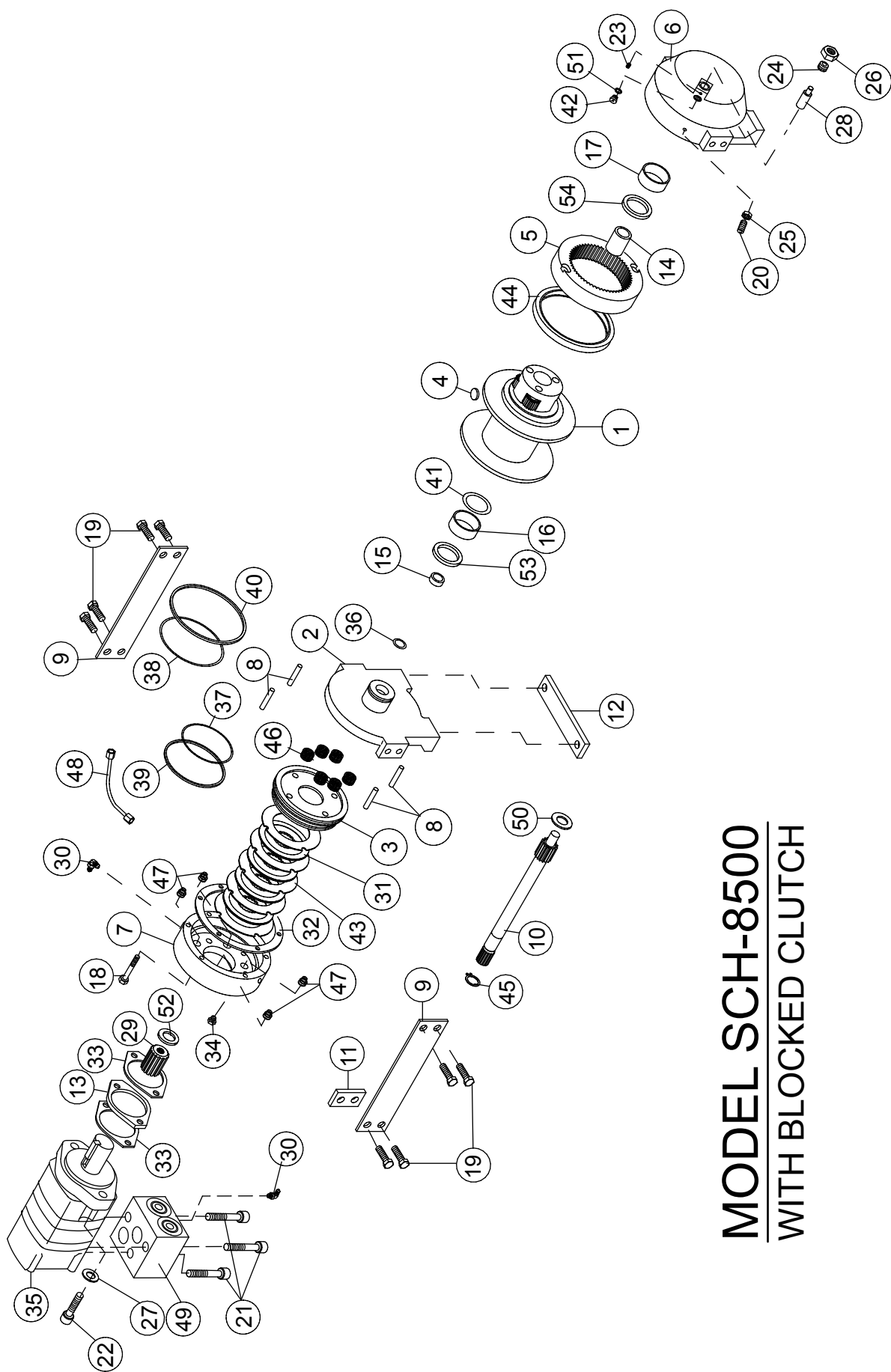
- * WINCH MOUNTING CAPSCREWS MUST MEET OR EXCEED SAE GRADE 5 SPECIFICATION
- NOTE: THESE HOLE LOCATIONS MUST BE HELD WITHIN $\pm 0.03"$ (0.8 MM) OF TRUE POSITION. RECOMMENDED MOUNTING HOLE DIAMETER IS .53" (13.5 MM).

DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS



VIEW A-A
MOTOR CONTROL VALVE DETAIL

SCH-8500



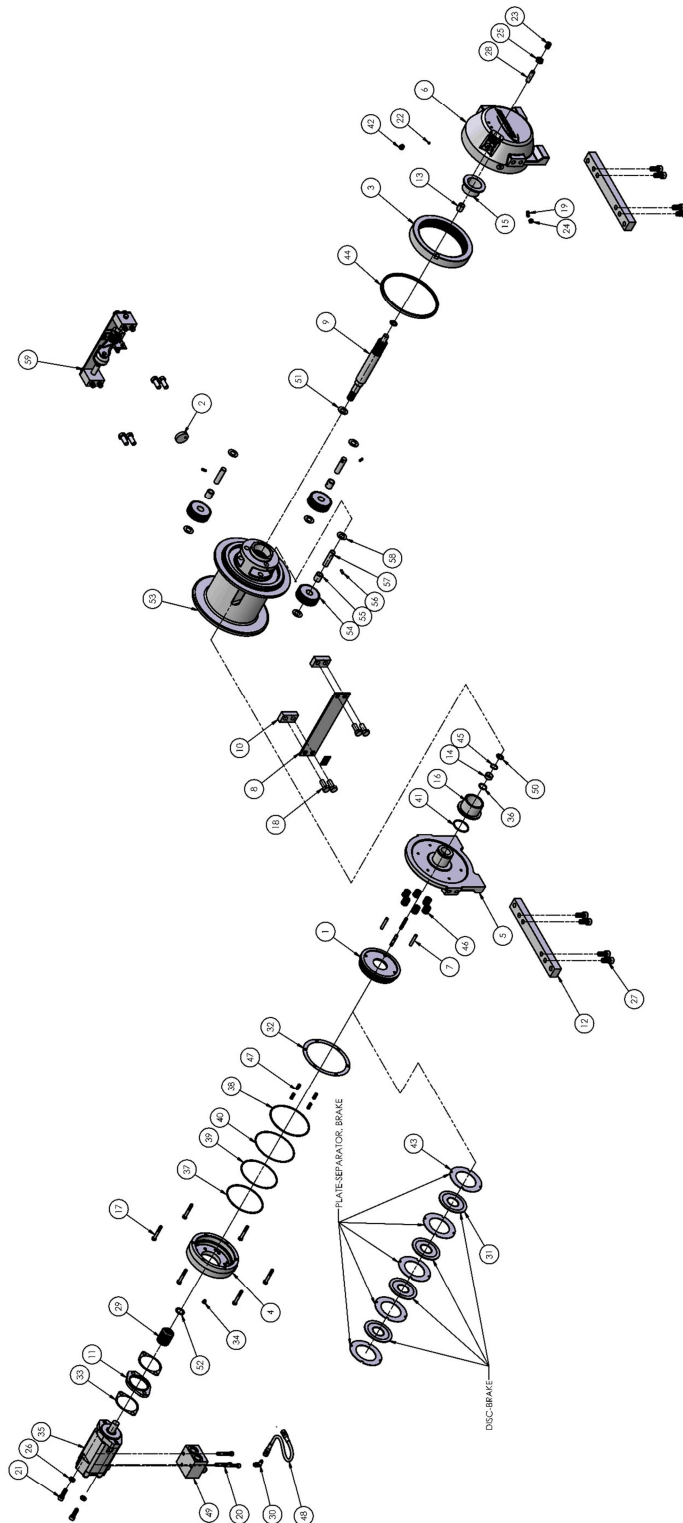
MODEL SCH-8500 --- **WITH BLOCKED CLUTCH**

PARTS LIST

Item No.	Quantity	Part No.	Description		Item No.	Quantity	Part No.	Description
1	1	234256	DRUM ASSEMBLY		28	1	426048	PLUNGER
2	1	338345	END BEARING-MOTOR		29	1	431015	MOTOR COUPLING
3	1	306042	BRAKE PISTON		30	2	432018	FITTING
4	1	315004	CABLE ANCHOR		31	4	438022	BRAKE DISC
5	1	334177	RING GEAR		32	1	442220	GASKET-BRAKE HOUSING
6	1	338297	END BEARING-GEAR HOUSING		33	2	442223	GASKET-MOTOR FLANGE
7	1	338302	BRAKE HOUSING		34	1	456038	FITTING-VENT, BREATHER
8	4	346045	PIN-BRAKE		35	1	458142	MOTOR-18.7 CU.IN.
9	2	350720	TIE PLATE				458144	MOTOR-14.9 CU.IN.
10	1	357179	INPUT SHAFT		36	1	462056	O-RING (SHAFT)
11	4	362296	SPACER-TIE PLATE		37	1	462057	O-RING
12	2	362297	SPACER-FOOT		38	1	462058	O-RING
13	1	362298	SPACER-MOTOR		39	1	462059	BACKUP RING
14	1	402120	BEARING		40	1	462060	BACKUP RING
15	1	402121	BEARING		41	1	462061	O-RING (DRUM)
16	1	412095	BUSHING-MOTOR END		42	1	472052	PLUG
17	1	412096	BUSHING-GEAR HOUSING		43	5	474111	PLATE-SEPARATOR
18	6	414303	BOLT-3/8-16NC X2 1/2,HXHD,GR-5, ZINC		44	1	486101	SEAL-GEAR HOUSING
19	8	414658	BOLT-5/8-11NCX1 1/2LG,HXHD,GR-5, ZINC		45	1	490037	SNAP RING
20	1	414926	SETSCREW-3/8-16NC X1, SOCKET, NYLON		46	6	494110	SPRING-BRAKE
21	3	414935	CAPSCREW-3/8-16NCX2 1/2,HXSOCHD		47	4	494112	SPRING
22	2	414952	CAPSCREW-1/2-13NCX1 1/2LG,SOCHD, ZINC		48	1	509130	BRAKE TUBE
23	1	416016	SETSCREW1/4-20NCX1/4 HX SOCK HD CUP		49	1	516011	VALVE-MOTOR CONTROL
24	1	416080	SETSCREW-5/8-18NF X1 LG,HXSOCHD,CUP		50	1	518037	THRUST WASHER
25	1	418036	NUT-3/8-16 NC,HEX JAM, ZINC		51	1	518047	THRUST WASHER
26	1	418088	NUT-JAM 5/8-18NF HEX HD, ZINC		52	1	518052	THRUST WASHER
27	2	418218	LOCKWASHER-1/2 ID MED SECT, ZINC		53	1	518053	THRUST WASHER
					54	1	518054	THRUST WASHER

KITS AND MAINTENANCE PARTS

123332



KITS AND MAINTENANCE PARTS

123332

Item#	QTY.	PART NUMBER	DESCRIPTION							
				207021	222076	207026	246062	248051	283084	293024
1	1	306042	PISTON-BRAKE	X						
2	1	315004	ANCHOR- CABLE							
3	1	334256	GEAR-RING							
4	1	338302	HSG-BRAKE							
5	1	338345	END BEARING-MOTOR							
6	1	338414	END BEARING-GEAR HOUSING							
7	4	346045	PIN-BRAKE,.375 DIA.X2.125 LG.	X						
8	1	350720	PLATE-TIE							
9	1	357179	SHAFT-INPUT							
10	2	362296	SPACER-TIE PLATE							
11	1	362298	SPACER-MOTOR							
12	2	362334	SPACER-FOOT, WRAP INDICATOR							
13	1	402120	BEARING-GARLOK BRG					X		
14	1	402121	BEARING-GARLOCK BRG					X		
15	1	412110	BUSHING-DRUM, GEAR END					X		
16	1	412111	BUSHING-DRUM, MOTOR END					X		
17	6	414303	BOLT-3/8-16NC X2 1/2,HXHD,GR-5							
18	8	414658	BOLT-5/8-11NCX1 1/2LG,HXHD, GR.5							
19	1	414926	SETSCREW-3/8-16NC X1,SOCKET							
20	3	414935	CAPSCREW-3/8-16NCX2 1/2,HXSOCHD							
21	2	414952	CAPSCREW-1/2-13NCX1 1/2LG,SOCHD							
22	1	416016	SETSCREW1/4-20NCX1/4 HX SOCK HD							
23	1	416080	SETSCREW-5/8-18NF X1 LG,HXSOCHD,CUP		X					
24	1	418036	NUT-3/8-16 NC,HEX JAM							
25	1	418088	NUT-JAM 5/8-18NF HEX HD		X					
26	2	418218	LOCKWASHER-1/2 ID MED SECT							
27	8	420013	CAPSCREW-5/8-11UNC X 1-1/4L, HEX SOC HD							
28	1	426048	PLUNGER-CLUTCH		X					
29	1	431015	COUPLING-MOTOR	X					X	
30	1	432018	FITTING C5OX-S T-LOK, 7/16-20 90 degree							
31	4	438022	DISC-BRAKE			X				
32	1	442220	GASKET-BRAKE HSG			X	X			
33	2	442223	GASKET-MOTOR FLANGE			X	X		X	
34	1	456038	FITTING-VENT,BREATHER							
35	1	458144	MOTOR-HYDRAULIC							
36	1	462056	O-RING, 1.26 OD				X			
37	1	462057	O-RING, 6.01 OD			X	X			
38	1	462058	O-RING, 6.51 OD			X	X			
39	1	462059	RING-BACK-UP, 5.59 OD			X	X			
40	1	462060	RING-BACK-UP, 6. 48 OD			X	X			

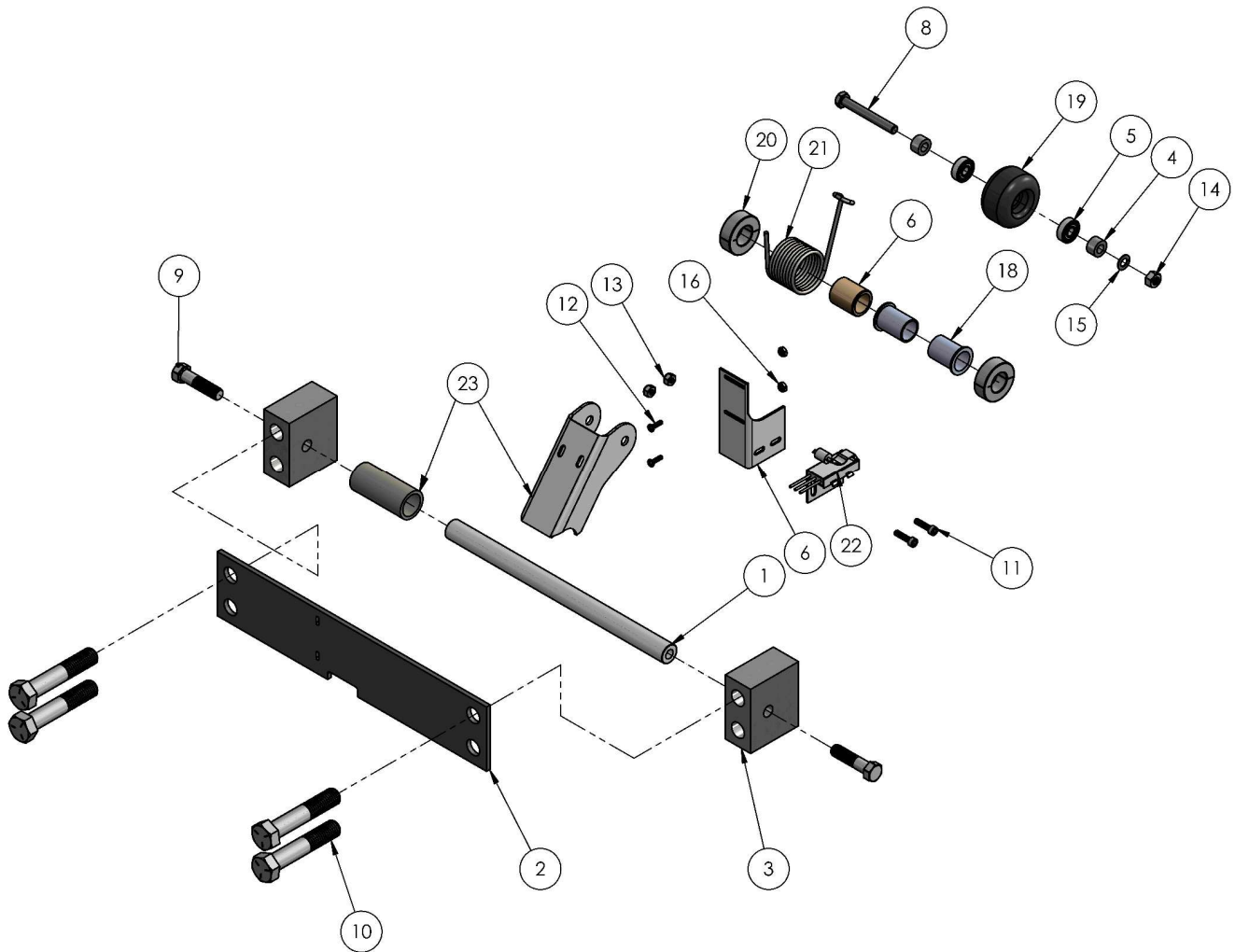
KITS AND MAINTENANCE PARTS

123332

Item#	QTY.	PART NUMBER	DESCRIPTION							
				207021	222076	207026	246062	248051	283084	293024
41	1	462061	O-RING, 2.50 O.D.				X			
42	1	472052	PLUG-SAE O-RING,.562-18NF							
43	5	474111	PLATE-SEPARATOR,BRAKE			X				
44	1	486101	SEAL-V RING				X			
45	1	490037	SNAP RING							
46	6	494110	SPRING-BRAKE			X				
47	4	494112	SPRING			X				
48	1	509130	HOSE ASSY-HYD BRAKE RELEASE							
49	1	516011	VALVE-MTR CONTROL							
50	2	518037	THRUST WASHER					X		
51	1	518047	WASHER-THRUST,.063 THK.X1.50 OD					X		
52	1	518052	WASHER-THRUST,1.37 O.D.			X		X		
53	1	332290	DRUM-CABLE							X
54	3	334178	GEAR-PLANET,OUTPUT							X
55	3	412089	BUSHING-PLANET,OUTPUT							X
56	3	470086	ROLL PIN-1/4 X 11/16LG							X
57	3	470090	PIN-PLANET							X
58	6	518047	WASHER-THRUST,.063 THK.X1.50 OD							X
59	1	299759	ASSEMBLY-3 WRAP INDICATOR							

KITS AND MAINTENANCE PARTS

THIRD WRAP INDICATOR 299759



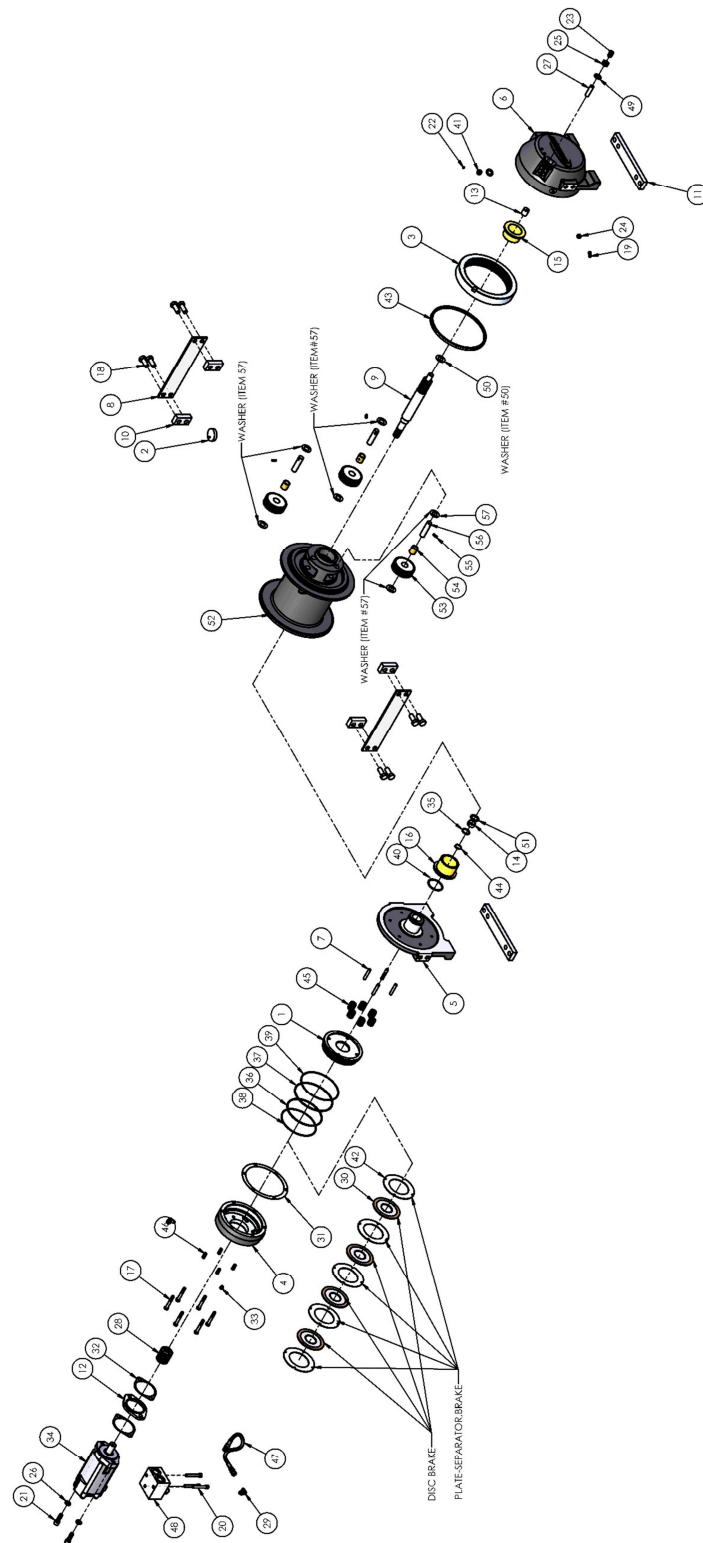
KITS AND MAINTENANCE PARTS

THIRD WRAP INDICATOR 299759

					KIT
Item#	QTY.	PARENT PART	PART NUMBER	DESCRIPTION	207020
1	1	299759	346054	BAR-PIVOT	
2	1	299759	350750	TIE PLATE-3 WRAP INDICATOR	
3	2	299759	362332	SPACER-TIE PLATE	
4	2	299759	362333	SPACER-WHEEL, 5/8OD X .344ID X 3/8LG	X
5	2	299759	402396	BEARING-BALL	X
6	1	299759	408432	BRACKET-MICRO SWITCH	X
7	1	299759	412083	BUSHING-PLANET,OUTPUT	X
8	1	299759	414159	CS-5/16-18UNCX2.50,HXHD,GR5	X
9	2	299759	414470	CAPSCREW-7/16-14NCX1 3/4LG,GR.5	
10	4	299759	414660	BOLT-5/8-11NCX3 1/4LG,HXHD,GR.5	X
11	2	299759	416262	SCREW-#10-32NF X3/4,HXSOC	X
12	2	299759	416284	SCREW-#6-32UNC X 1/2L	X
13	2	299759	418002	NUT-#10-32NF SELF-LOCKING	X
14	1	299759	418022	NUT-5/16-18NC HEX REG	X
15	1	299759	418163	LOCKWASHER-5/16 MED SECT	X
16	2	299759	418538	NUT-HEX, #6-32UNC	X
17	2	299759	418539	WASHER-LOCK	
18	2	299759	472091	BEARING-FLANGED. 3/4ID X 7/8OD X 1-1/4L	X
19	1	299759	472092	WHEEL-ARM, DURA ROLLER 52MM	X
20	2	299759	479017	COLLAR-SPLIT	X
21	1	299759	494141	SPRING-TORSION	X
22	1	299759	504029	SWITCH	X
22	1	299759	265116	WELDMENTIARM	

KITS AND MAINTENANCE PARTS

123419



KITS AND MAINTENANCE PARTS

123419

				KITS					
Item#	QTY.	PART NUMBER	DESCRIPTION	207021	207026	222076	246062	248051	293024
1	1	306042	PISTON-BRAKE	X					
2	1	315004	ANCHOR- CABLE						
3	1	334256	GEAR-RING						
4	1	338302	HSG-BRAKE						
5	1	338345	END BEARING-MOTOR						
6	1	338414	END BEARING-GEAR HOUSING						
7	4	346045	PIN-BRAKE,.375 DIA.X2.125 LG.	X					
8	2	350720	PLATE-TIE						
9	1	357179	SHAFT-INPUT						
10	4	362296	SPACER-TIE PLATE						
11	2	362297	SPACER-FOOT						
12	1	362298	SPACER-MOTOR						
13	1	402120	BEARING-GARLOK BRG					X	
14	1	402121	BEARING-GARLOCK BRG					X	
15	1	412110	BUSHING-DRUM, GEAR END					X	
16	1	412111	BUSHING-DRUM, MOTOR END					X	
17	6	414303	BOLT-3/8-16NC X2 1/2,HXHD,GR-5						
18	8	414658	BOLT-5/8-11NCX1 1/2LG,HXHD						
19	1	414926	SETSCREW-3/8-16NC X1,SOCKET						
20	3	414935	CAPSCREW-3/8-16NCX2 1/2,HXSOCHD						
21	2	414952	CAPSCREW-1/2-13NCX1 1/2LG,SOCHD						
22	1	416016	SETSCREW 1/4-20NCX1/4 HX SOCK HD CUP						
23	1	416080	SETSCREW-5/8-18NF X1 LG,HXSOCHD,CUP			X			
24	1	418036	NUT-3/8-16 NC,HEX JAM						
25	1	418088	NUT-JAM 5/8-18NF HEX HD			X			
26	2	418218	LOCKWASHER-1/2 ID MED SECT						
27	1	426048	PLUNGER-CLUTCH			X			
28	1	431015	COUPLING-MOTOR	X					
29	2	432018	FITTING C5OX-S T-LOK, 7/16-20 90 degree						
30	4	438022	DISC-BRAKE		X				
31	1	442220	GASKET-BRAKE HSG		X		X		
32	2	442223	GASKET-MOTOR FLANGE		X		X		
33	1	456038	FITTING-VENT,BREATHER						
34	1	458142	MOTOR-HYDRAULIC						
35	1	462056	O-RING, 1.26 OD				X		

KITS AND MAINTENANCE PARTS

123419

				KITS					
Item#	QTY.	PART NUMBER	DESCRIPTION	207021	207026	222076	246062	248051	293024
36	1	462057	O-RING, 6.01 OD		X		X		
37	1	462058	O-RING, 6.51 OD		X		X		
38	1	462059	RING-BACK-UP, 5.59 OD		X		X		
39	1	462060	RING-BACK-UP, 6. 48 OD		X		X		
40	1	462061	O-RING, 2.50 O.D.				X		
41	1	472052	PLUG-SAE O-RING,.562-18NF						
42	5	474111	PLATE-SEPARATOR,BRAKE		X				
43	1	486101	SEAL-V RING				X		
44	1	490037	SNAP RING						
45	6	494110	SPRING-BRAKE		X				
46	4	494112	SPRING		X				
47	1	509130	HOSE ASSY-HYD BRAKE RELEASE						
48	1	516011	VALVE-MTR CONTROL						
49	2	518037	THRUST WASHER, 1.15 OD					X	
50	1	518047	WASHER-THRUST,.063 THK.X1.50 OD					X	
51	1	518052	WASHER-THRUST,1.37 O.D.,RPH-12000		X			X	
52	1	332290	DRUM-CABLE						X
53	3	334178	GEAR-PLANET,OUTPUT						X
54	3	412089	BUSHING-PLANET,OUTPUT						X
55	3	470086	ROLL PIN-1/4 X 11/16LG						X
56	3	470090	PIN-PLANET						X
57	6	518047	WASHER-THRUST,.063 THK.X1.50 OD						X

Limited Warranty

RAMSEY WINCH warrants each new RAMSEY WINCH to be free from defects in material and workmanship for a period of one (1) year from date of purchase.

The obligation under this warranty, statutory or otherwise, is limited to the replacement or repair at the Manufacturer's factory, or at a point designated by the Manufacturer, of such part that shall appear to the Manufacturer, upon inspection on of such part, to have been defective in material or workmanship.

This warranty does not obligate RAMSEY WINCH to bear the cost of labor or transportation charges in connection on with the replacement or repair of defective parts, nor shall it apply to a product upon which repair or alterations have been made, unless authorized by Manufacturer, or for equipment misused, neglected or which has not been installed correctly.

RAMSEY WINCH shall in no event be liable for special or consequential damages. RAMSEY WINCH makes no warranty in respect to accessories such as being subject to the warranties of their respective manufacturers.

RAMSEY WINCH, whose policy is one of continuous improvement, reserves the right to improve its products through changes in design or materials as it may deem desirable without being obligated to incorporate such changes in products of prior manufacture. If field service at the request of the Buyer is rendered and the fault is found not to be with

RAMSEY WINCH's product, the Buyer shall pay the time and expense to the field representative. Bills for service, labor or other expenses that have been incurred by the Buyer without approval or authorization by RAMSEY WINCH will not be accepted.

See warranty card for details.



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