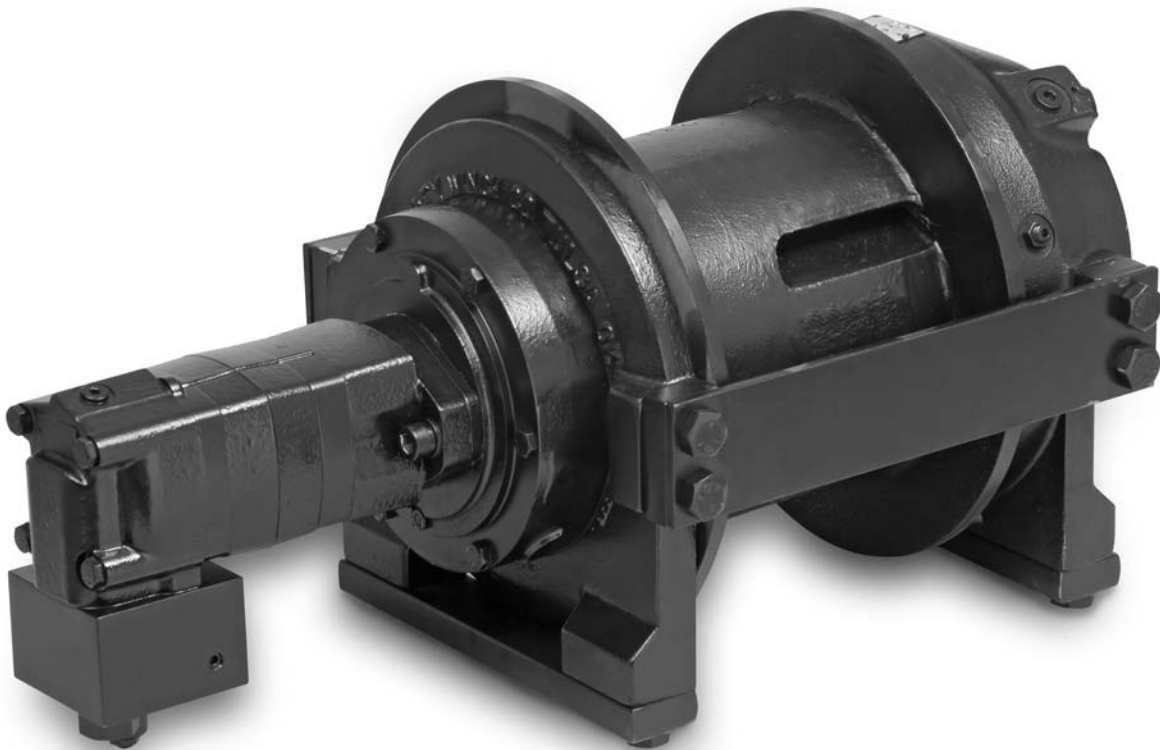




# OPERATING, SERVICE AND MAINTENANCE MANUAL

## MODEL SCH 8500 PLANETARY WINCH



**CAUTION: 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\***

<b>SCH-8500 (18.7 cu.in. Motor)</b>				
Rated Line Pull	(lbs)	.....8,500		
	(kg)	.....3,850		
Gear Reduction		.....7.7:1		
Weight (without cable)		.....295 lbs. (134 kg)		
LAYER OF CABLE		1	2	3
Rated Line Pull	lbs	8500	7600	6900
per Layer	kg	2720	3440	3120
Line Speed	fpm	49	54	59
at 15 GPM	mpm	14	16	18
Cable Capacity	ft	30	65	100
	m	9	19	30

<b>SCH-8500 (14.9 cu.in. Motor)</b>				
Rated Line Pull	(lbs)	.....8,500		
	(kg)	.....3,850		
Gear Reduction		.....7.7:1		
Weight (without cable)		.....295 lbs. (134 kg)		
LAYER OF CABLE		1	2	3
Rated Line Pull	lbs	8500	7600	6900
per Layer	kg	2720	3440	3120
Line Speed	fpm	63	70	77
at 15 GPM	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.

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**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.**

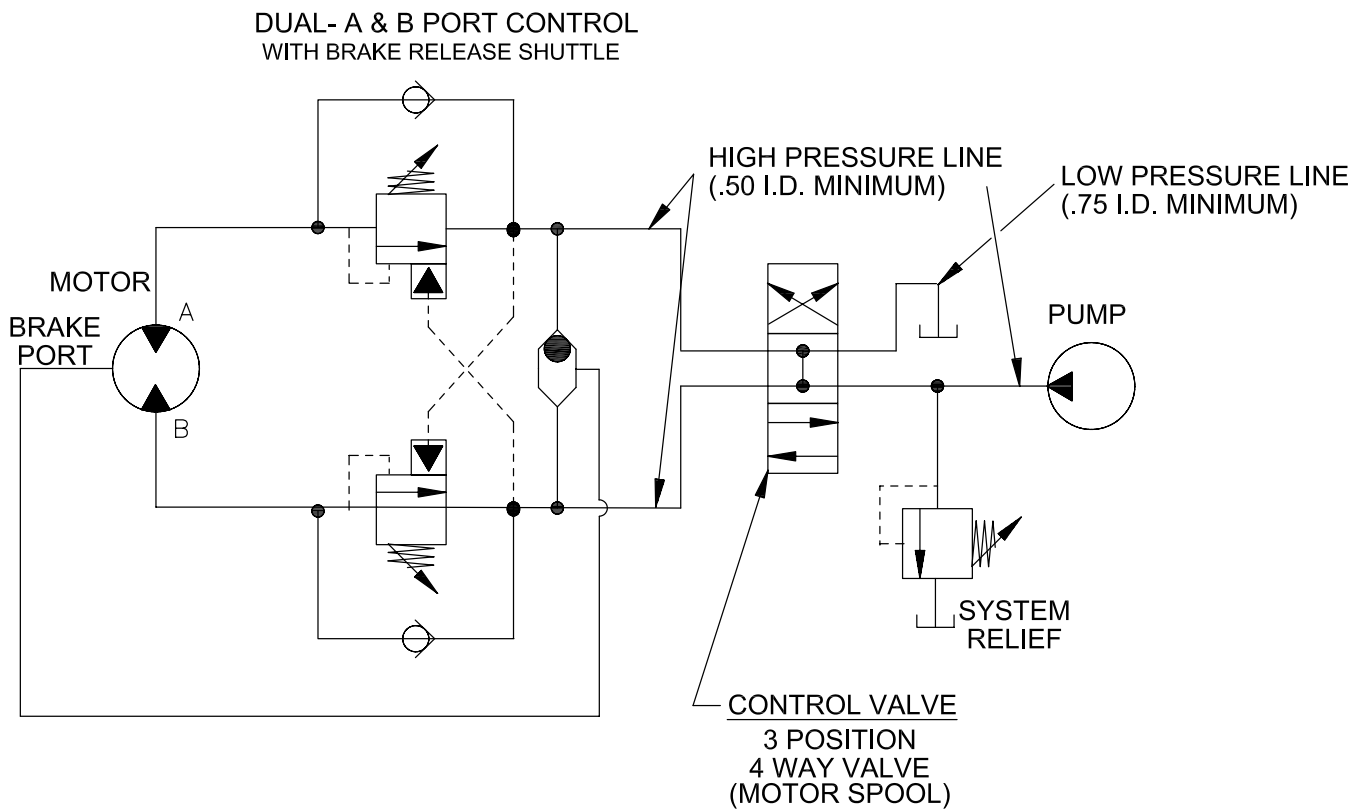
## HYDRAULIC SYSTEM REQUIREMENTS

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

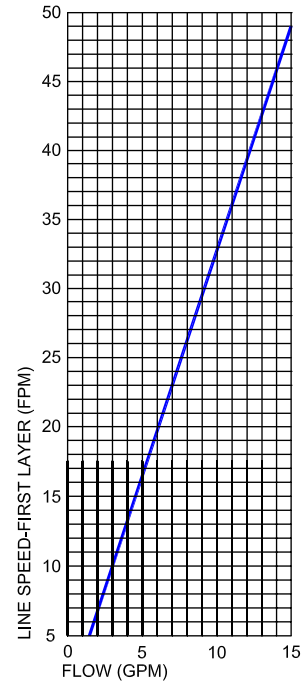
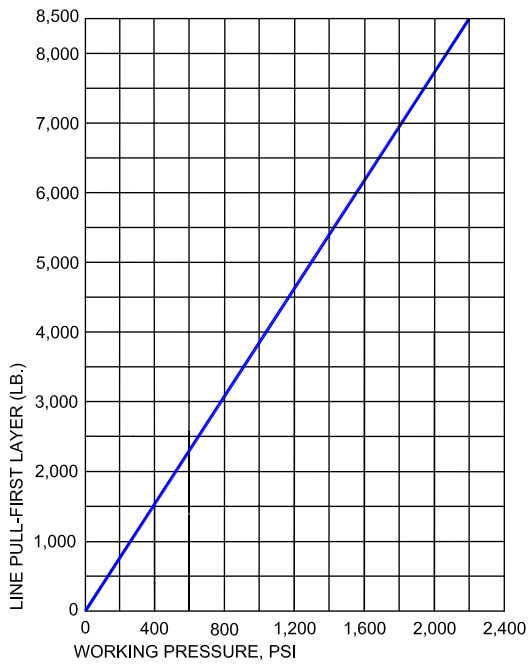
- (1) First layer Line Pull (LB) vs. Working Pressure (PSI) and
- (2) First layer Line Speed (FPM) vs. Flow (GPM).

A motor spool directional control valve is required.

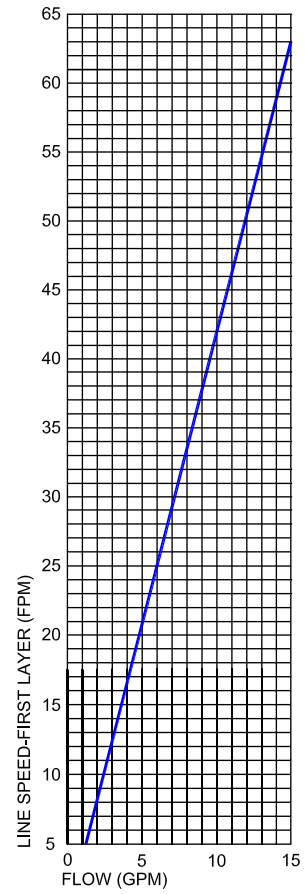
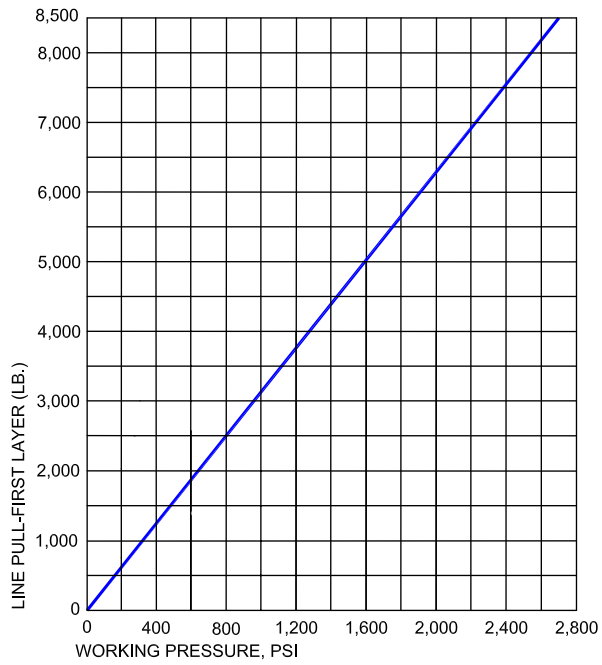
## TYPICAL LAYOUT



# PERFORMANCE CHARTS



SCH-8500 (18.7 cu.in. Motor)



SCH-8500 (14.9 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

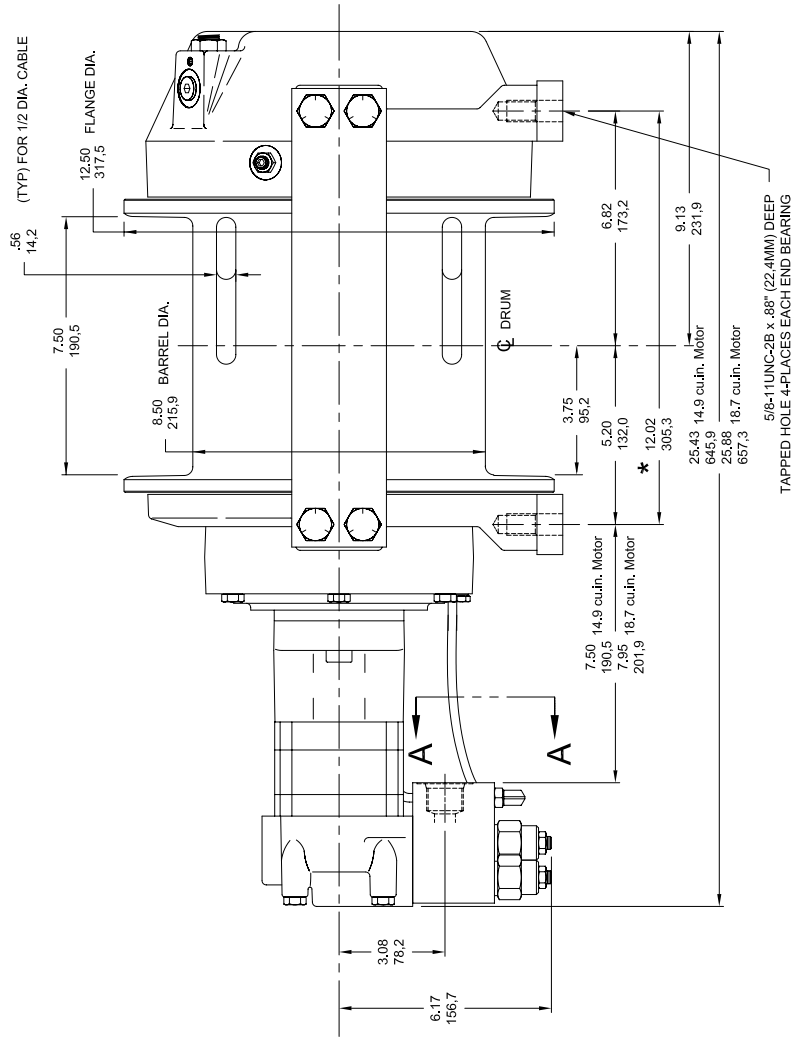
1. Inspect the cable for damage and lubricate frequently. If the cable becomes frayed with broken strands, replace immediately.
2. Replace drum bushings and seals when seals begin to seep grease. Add additional lubricant, Mobilith SHC 007, to gears if required.

## 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

<b>CONDITIONS</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTION/ACTION</b>
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



.56 (TYP) FOR 1/2 DIA. CABLE  
14.2

12.50 FLANGE DIA.  
317.5

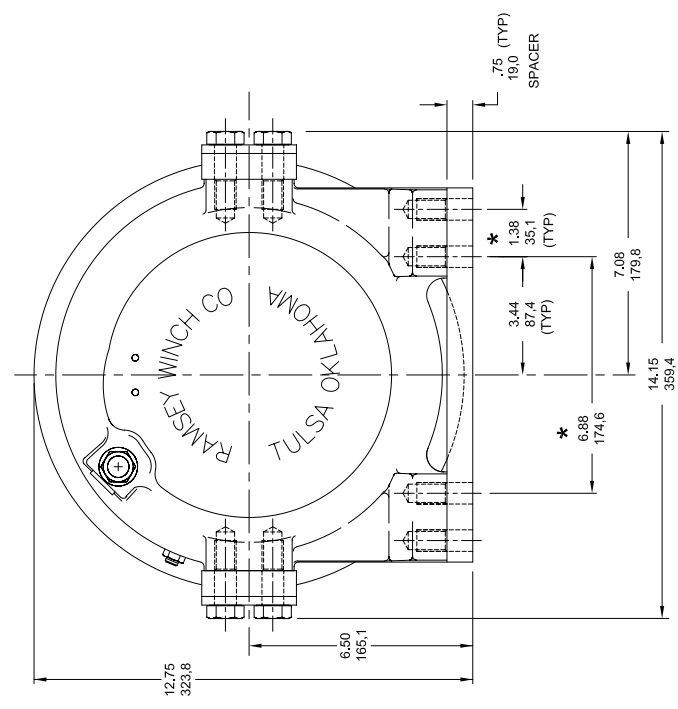
8.50 BARREL DIA.  
215.9

DRUM

5/8-11UNC-2B x .88" (22.4MM) DEEP  
TAPPED HOLE 4-PLACES EACH END BEARING

WINCH  $\varnothing$  1-1/16-12 SAE STRAIGHT THREAD  
O-RING PORT (2-PLACES)

VIEW A-A  
MOTOR CONTROL VALVE DETAIL



RAMSEY WINCH CO  
OKLAHOMA

.75 (TYP)  
19.0  
SPACER

3.44 (TYP)  
87.4

6.88  
174.6

7.08  
179.8

14.15  
359.4

NOTE:

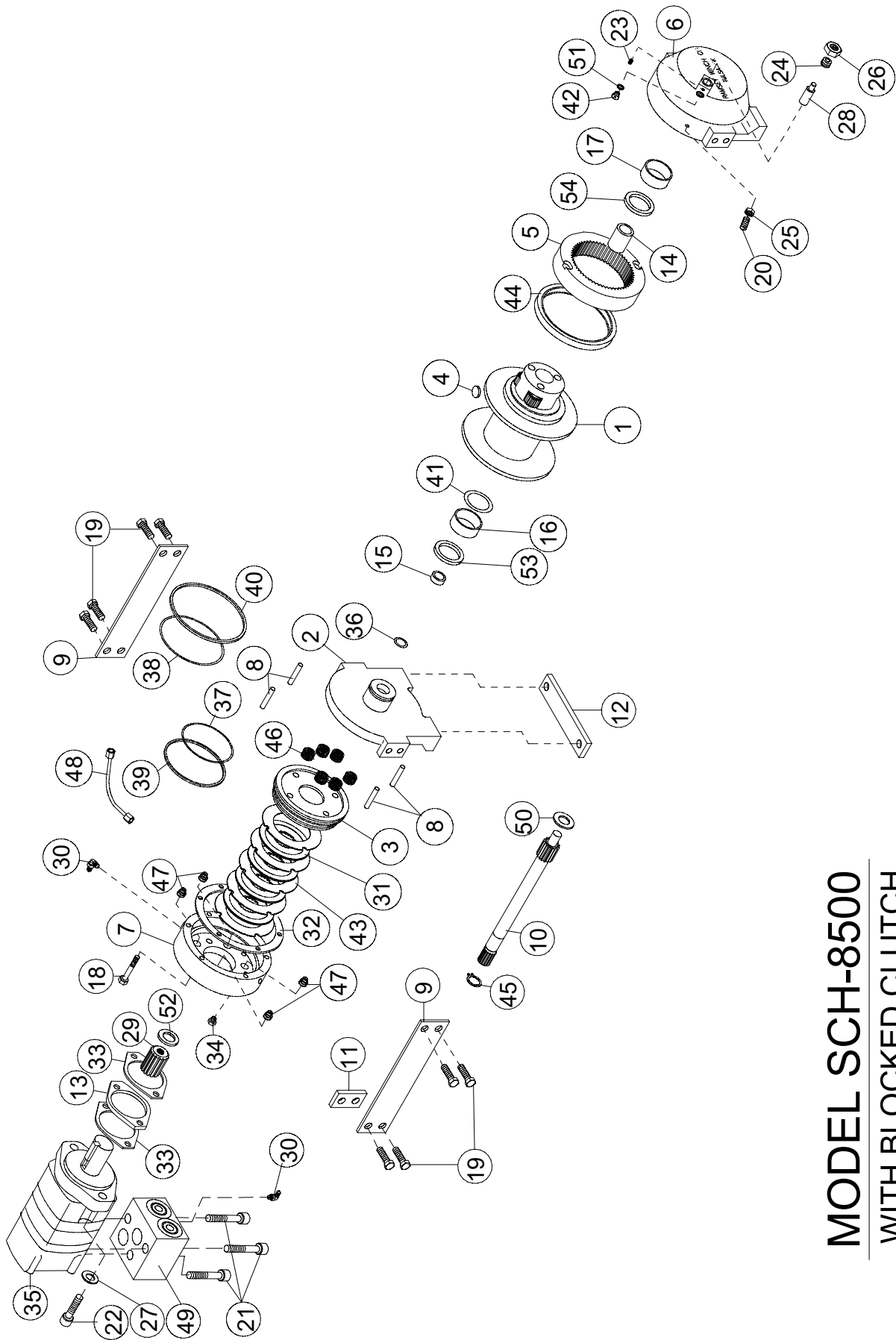
- \* WINCH MOUNTING CAPSCREWS MUST MEET OR EXCEED SAE GRADE 5 SPECIFICATION
- NOTE: THESE HOLE LOCATIONS MUST BE HELD WITHIN  $\pm 0.03"$  (0.8 MM) OF TRUE POSITION. RECOMMENDED MOUNTING HOLE DIAMETER IS .53" (13.5 MM).

DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS

# SCH-8500



## NOTES



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

# PARTS LIST

Item No.	Quantity	Part No.	Description	Item No.	Quantity	Part No.	Description
1	1	234206	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	486081	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

## 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 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 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.*



### RAMSEY WINCH COMPANY

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