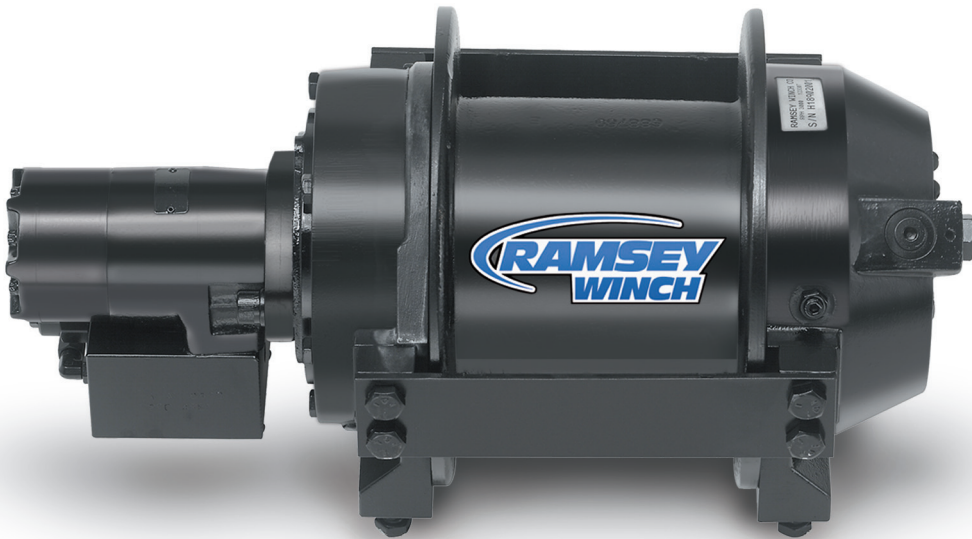




# OPERATING, SERVICE AND MAINTENANCE MANUAL

**MODEL SCH 2900**  
**MODEL SCH 3600**  
**MODEL SCH 4900**



**CAUTION: READ AND UNDERSTAND THIS MANUAL BEFORE INSTALLATION AND  
OPERATION OF WINCH. SEE WARNINGS!**

## TABLE OF CONTENTS

INTRODUCTIONS .....	1
WARRANTY INFORMATION.....	1
SPECIFICATIONS .....	1
WARNINGS.....	2
WINCH MOUNTING .....	2
HYDRAULIC SYSTEM REQUIREMENTS .....	2
PERFORMANCE CHARTS.....	3
OPERATIONS .....	4
MAINTENANCE .....	4
CABLE INSTALLATION .....	4
TROUBLE SHOOTING GUIDE.....	5
DIMENSIONAL DRAWINGS .....	6
PARTS LIST AND PARTS DRAWINGS .....	8-9
LIMITED WARRANTY .....	BACK COVER

**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 2900**

Rated Line Pull	(lbs)	2,900				
	(kg)	1,310				
Gear Reduction	.....	5.1:1				
Weight (without cable)	.....	139 lbs. (54 kg)				
LAYER OF CABLE		1	2	3	4	5
Rated Line Pull per Layer	lbs	2900	2600	2400	2200	2100
	kg	1310	1170	1080	990	950
Line Speed at 8 GPM	fpm	59	63	68	73	78
	mpm	17.9	19.1	20.6	22.1	23.7
Cable Capacity	ft	30	65	100	140	185
	m	9	19	30	42	56

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

\* These specifications are based on recommended 5/16 in. (8 mm) EIPS wire rope.

**SCH 3600**

Rated Line Pull	(lbs)	3,600			
	(kg).....	1,630			
Gear Reduction	.....	5.1:1			
Weight (without cable)	.....	140 lbs. (55 kg)			
LAYER OF CABLE		1	2	3	4
Rated Line Pull per Layer	lbs	3600	3200	2900	2700
	kg	1630	1450	1310	1220
Line Speed at 13 GPM	fpm	48	52	56	60
	mpm	14	15.8	17	18.2
Cable Capacity	ft	25	55	85	120
	m	7	16	25	36

\* These specifications are based on recommended 3/8 in. (9.5 mm) EIPS wire rope.

**SCH 4900**

Rated Line Pull	(lbs)	4,900			
	(kg).....	2,220			
Gear Reduction	.....	5.1:1			
Weight (without cable)	.....	142 lbs. (57 kg)			
LAYER OF CABLE		1	2	3	4
Rated Line Pull per Layer	lbs	4900	4400	4000	3600
	kg	2220	1990	1810	1630
Line Speed at 8 GPM	fpm	51	55	59	64
	mpm	15.5	16.7	17.9	19.5
Cable Capacity	ft	25	55	85	120
	m	7	16	25	36

\* These specifications are based on recommended 3/8 in. (9.5 mm) EIPS wire rope.

**NOTE:** These service crane hoists meet or exceed all applicable ASME B30.5 standards.

## **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.**

---

## **WINCH MOUNTING**

**NOTE: Remove and discard the (4) 1/2" 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.

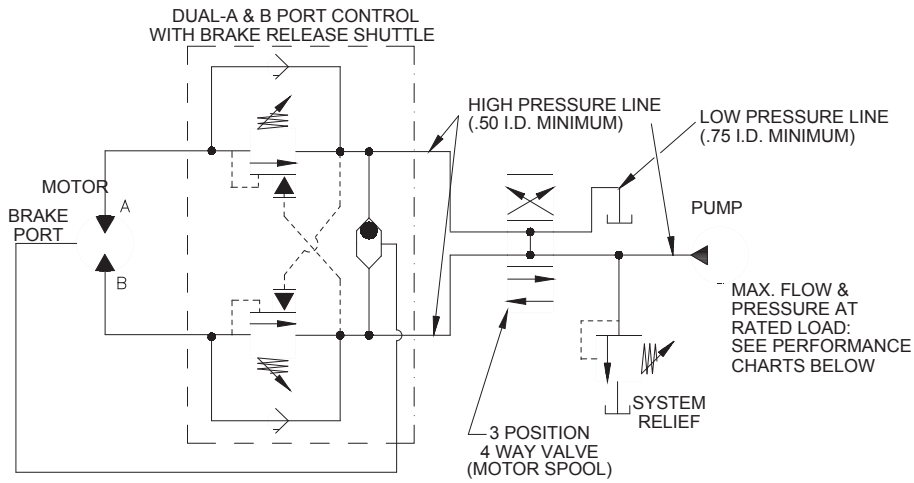
When mounting the winch, the mounting hole patterns described on page 6 should be used. The mounting surface must be flat within 0.015 inch and sufficiently stiff to resist flexing. If a steel plate is used for foot mounting it should be .750 inch thick. For this mounting application eight (8) 1/2-13NC x 2-1/4" Lg. Gr. 5 capscrews with lockwashers will be needed to mount winch. Note that the supplied foot-mount spacers (.88" thick) **must** be installed between the winch and the mounting plate. Capscrews should be torqued to 85 ft-lb. (115 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.

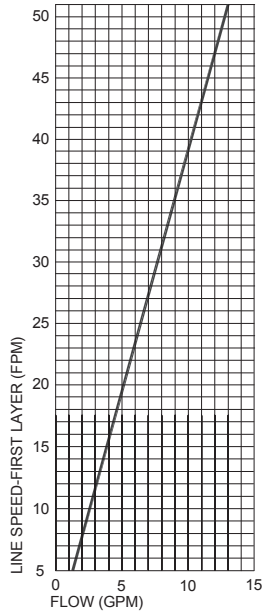
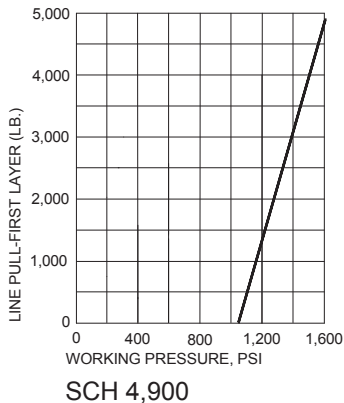
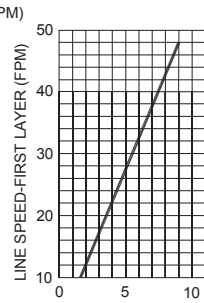
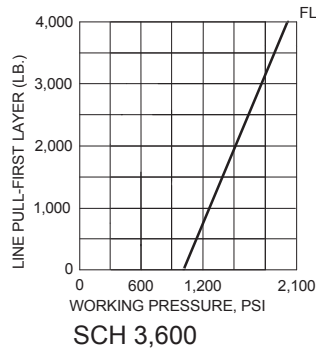
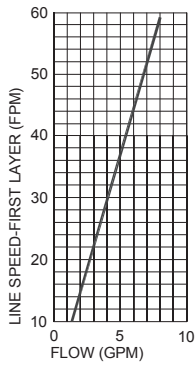
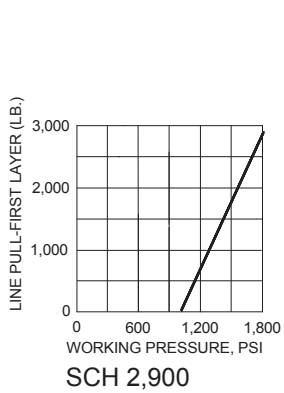
# HYDRAULIC SYSTEM REQUIREMENTS

Refer to the performance charts below 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



## **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.

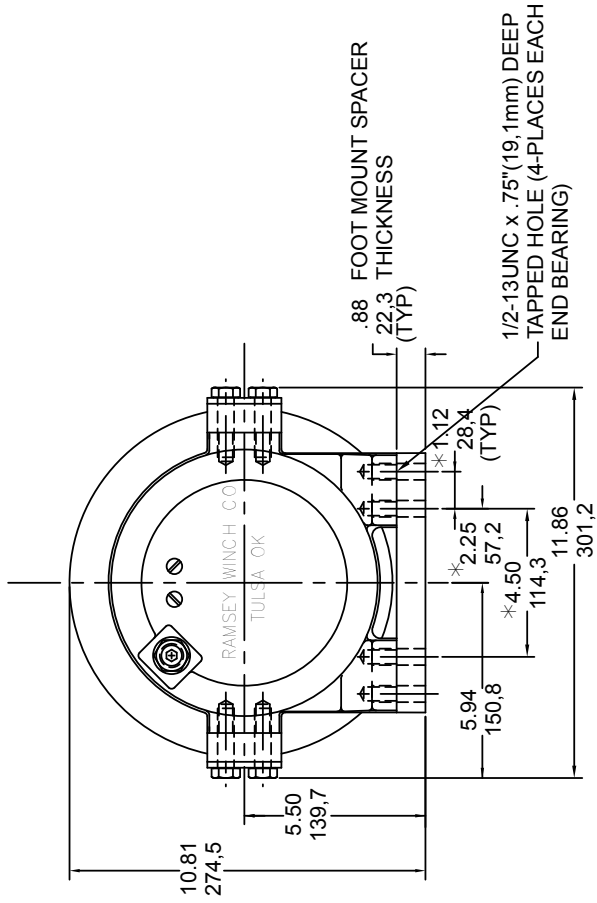
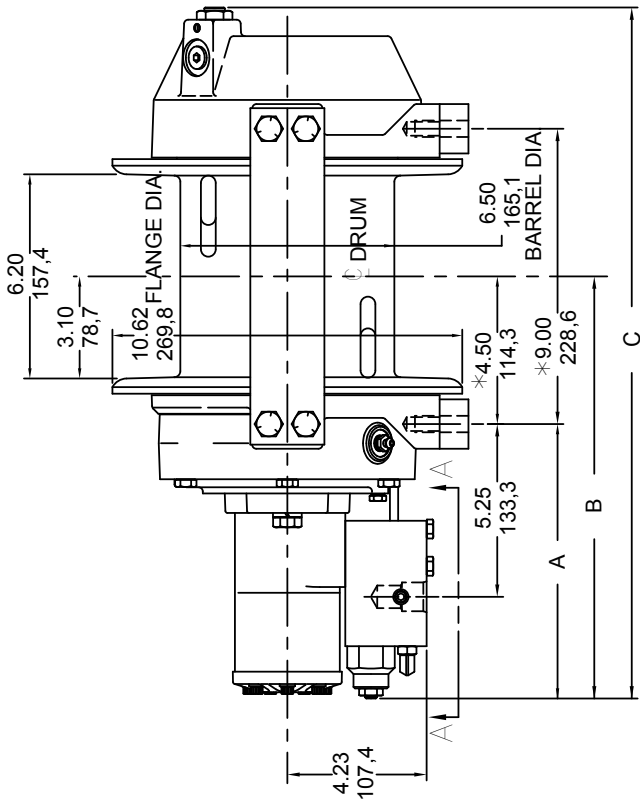
See ASME B30.5 for general maintenance procedures.

## **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

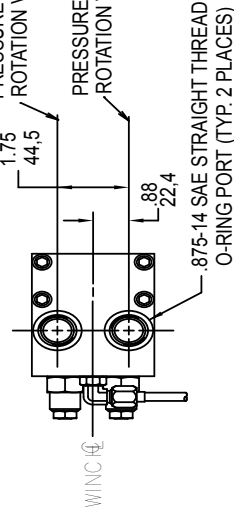
<b>CONDITIONS</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTION/ACTION</b>
DRUM WILL NOT ROTATE AT NO LOAD	Brake damaged	Inspect and replace brake
	Gears damaged	Inspect and replace damaged gears
	Brake not releasing	Brake damaged; inspect and replace.
DRUM WILL NOT ROTATE UNDER LOAD	Load greater than rated capacity of winch	Refer to Specifications page 1 for line pull rating
	Low hydraulic system pressure	Check pressure. Refer to Hydraulic Systems performance charts page 3
WINCH RUNS TOO SLOW	Low hydraulic system flow rate	Check flow rate. Refer to Typical Layout page 3
	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 3
DRUM CHATTERS IN "REEL IN" DIRECTION	Low hydraulic system flow rate	Check flow rate. Refer to Typical Layout page 3
	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



6

PRESSURE IN GIVES COUNTER-CLOCKWISE DRUM  
ROTATION VIEWED FROM MOTOR END

PRESSURE IN GIVES CLOCKWISE DRUM  
ROTATION VIEWED FROM MOTOR END



VIEW A-A  
MOTOR CONTROL VALVE DETAIL

\*WINCH MOUNTING CAPSCREWS MUST MEET OR EXCEED SAE GRADE 5 SPECIFICATION  
NOTE: THESE HOLE LOCATIONS MUST BE HELD WITHIN ±.03" (0,8 MM) OF TRUE POSITION. RECOMMENDED MOUNTING HOLE DIAMETER IS .53" (13,5 MM).

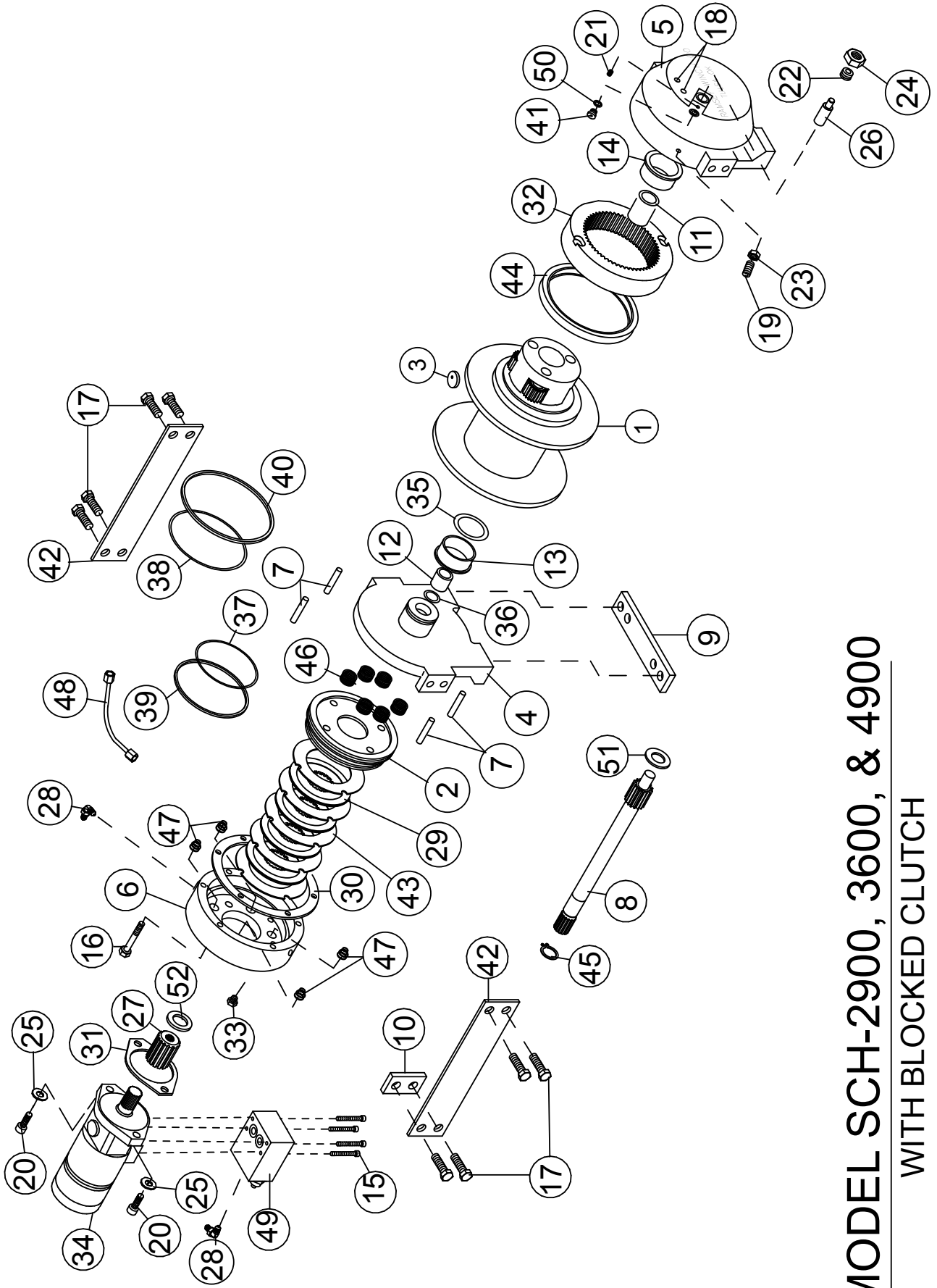
DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS

DIMENSION	SCH-2900	SCH-3600	SCH-4900
A	8.34/211,7	8.46/214,8	9.27/235,4
B	12.82/325,6	12.94/328,6	13.75/349,3
C	20.99/533,1	21.11/536,1	21.92/556,8

# SCH 2900, 3600, & 4900



## NOTES



**MODEL SCH-2900, 3600, & 4900**  
**WITH BLOCKED CLUTCH**

# PARTS LIST

Item	Quantity	Part No.	Description	Item	Quantity	Part No.	Description
1	1	234189	DRUM ASSEMBLY	28	2	432018	FITTING
2	1	306042	PISTON-BRAKE	29	4	438022	DISC-BRAKE
3	1	315004	ANCHOR- CABLE	30	1	442220	GASKET-BRAKE HSG.
4	1	338300	END BRG-MOTOR END	31	1	442223	GASKET-MOTOR FLANGE
5	1	338301	END BRG-GEAR HSG.	32	1	444085	GEAR-RING,P/M
6	1	338302	HSG-BRAKE	33	1	456038	FITTING-VENT,BREATHER
7	4	346045	PIN-BRAKE	34	1	458119	MOTOR-HYDRAULIC (SCH-2900)
8	1	357513	SHAFT- INPUT			458121	MOTOR-HYDRAULIC (SCH-3600)
9	2	362291	SPACER - FOOT MOUNTING			458124	MOTOR-HYDRAULIC (SCH-4900)
10	4	362284	SPACER - TIE PLATE	35	1	462046	O-RING
11	1	402120	BEARING	36	1	462056	O-RING
12	1	402121	BEARING	37	1	462057	O-RING
13	1	412084	BUSHING-DRUM,MOTOR END	38	1	462058	O-RING
14	1	412085	BUSHING-DRUM,GEAR END	39	1	462059	O-RING-BACK-UP
15	4	414129	CAPSCREW 5/16-18NCX3 LG HX HD GR-5	40	1	462060	O-RING-BACK-UP
16	6	414303	BOLT-3/8-16NC X2 1/2.HXHD,GR-5, Z/P	41	1	472052	PLUG
17	8	414548	CAPSCREW-1/2-13NCX1 1/2,HXHD,Z/P,G5	42	2	474065	TIE PLATE
18	2	414854	SCREW-1/4-20NCX1/2LG,RDHD,SLOT,Z/PL	43	5	474111	PLATE-SEPARATOR, BRAKE
19	1	414926	SETSCREW-3/8-16NC X1,SOCKET,NYLON	44	1	486080	SEAL
20	2	414948	CAPSCREW-1/2-13NCX1 1/4LG,SOCKET HD	45	1	490037	SNAP RING
21	1	416016	SETSCREW1/4-20NCX1/4 HX SOCK HD CUP	46	6	494110	SPRING-BRAKE
22	1	416080	SETSCREW-5/8-18NF X1 LG,HXSOCHD,CUP	47	4	494112	SPRING
23	1	418036	NUT-3/8-16 NC,HEX JAM,Z/P	48	1	509009	TUBE ASSY
24	1	418088	NUT-JAM 5/8-18NF HEX HD,ZINC PLT	49	1	516013	VALVE-MOTOR CONTROL
25	2	418218	LOCKWASHER-1/2 ID MED SECT,ZINC PLT	50	1	518037	THRUST WASHER
26	1	426048	PLUNGER-CLUTCH,BLOCKED	51	1	518047	THRUST WASHER
27	1	431015	COUPLING-MOTOR	52	1	518052	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**

PO BOX 581510 Tulsa OK 74158-1510  
Telephone: (918) 438-2760 FAX: (918) 438-6688  
<http://www.ramsey.com>

914168-0816-E