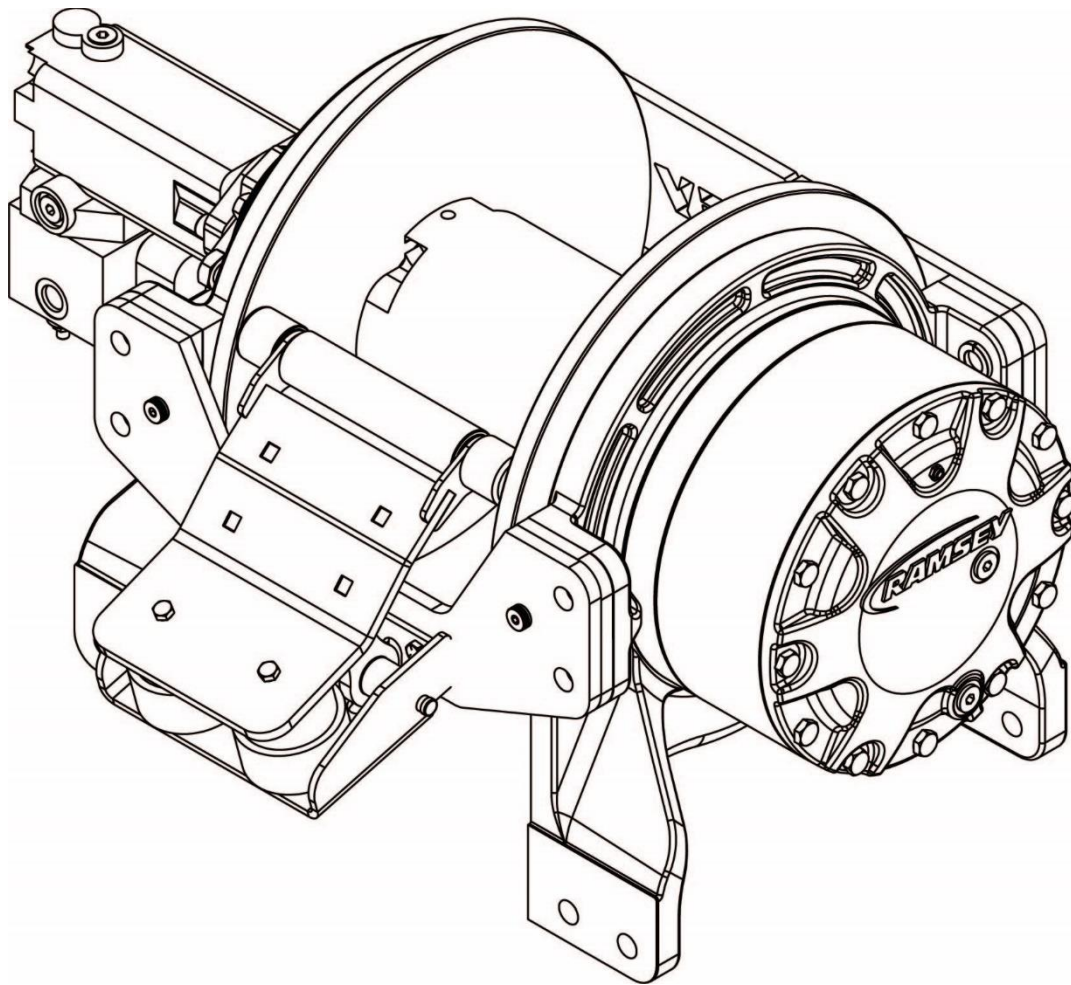




Operating/Maintenance Manual

Hercules 50K

OM 914286-0525-F



CAUTION

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

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Table of Contents

SECTION	PAGE
1	Introduction..... 2
2	Hydraulic System Requirements 3
3	Winch Operation 4
	Clutch Operation 4
	Cable Installation 4
4	Maintenance 5
5	Winch Mounting Configuration..... 6
6	L.H. Mount Dimensional View..... 7
7	R.H. Mount Dimensional View..... 8
8	Long Travel Tensioner Operating Parameters 9
9	Kits and Maintenance Parts 9

1 Introduction

PLEASE READ THIS MANUAL CAREFULLY

This manual contains useful ideas in 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 "WARNINGS" 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 our winch, please follow instructions for prompt service on all warranty claims. Refer to back page for limited warranty.

SPECIFICATIONS *(LOW SPEED)							
RELATED LINE PULL (LBS.).....		50,000					
(KGS.).....		2,670					
GEAR REDUCTION.....		51.35:1					
WEIGHT (WITHOUT CABLE).....		740 LBS. (336 KGS.)					
LAYER OF CABLE		1	2	3	4	5	6
RATED LINE PULL PER LAYER	LBS.	50,000	41,800	36,000	31,600	28,100	25,400
	KGS.	22,680	18,960	16,320	14,330	12,740	11,500
CABLE CAPACITY	FT.	25	60	100	145	190	250
	M.	7	18	30	44	57	76
LINE SPEED (AT 25GPM)	FPM	20	22	25	28	31	35
	MPM	5.6	6.6	7.6	8.6	9.5	10.5
* THESE SPECIFICATIONS ARE BASED ON RECOMMENDED WIRE ROPE OF .75" DIAMETER EIPS CABLE AND 11.9 CU. IN./REV. MOTOR AT 2900 PSI WORKING PRESSURE.							
* DIRECTIONAL CONTROL VALVE: 3-POSITION, 4 WAY MOTOR SPOOL.							
* WINCH MEETS SAE J706.							

WARNING

Clutch must be totally engaged before starting the winching operation.
Do not Start Winch motor before engaging clutch.
Do not disengage clutch under load.

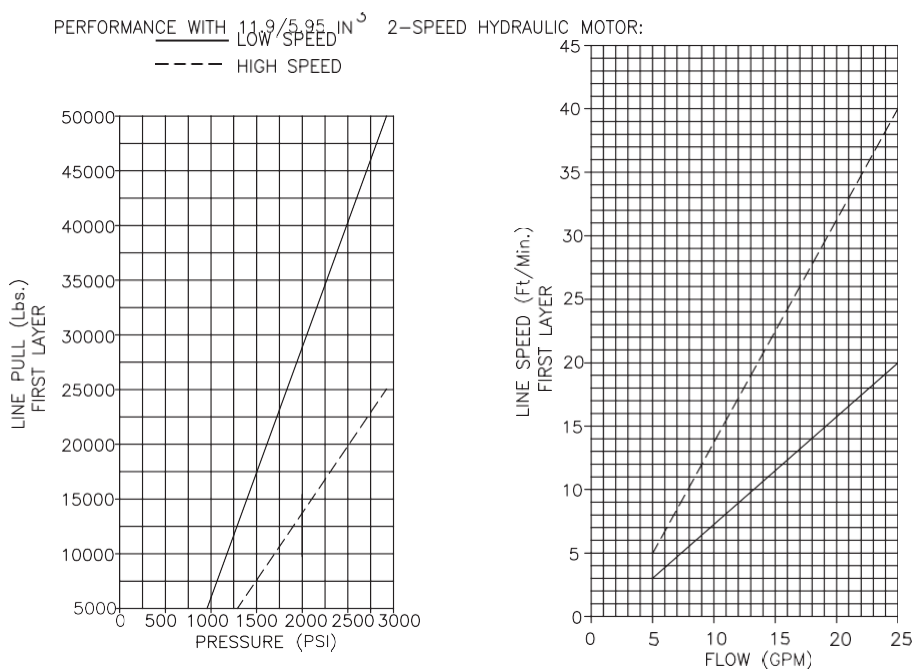
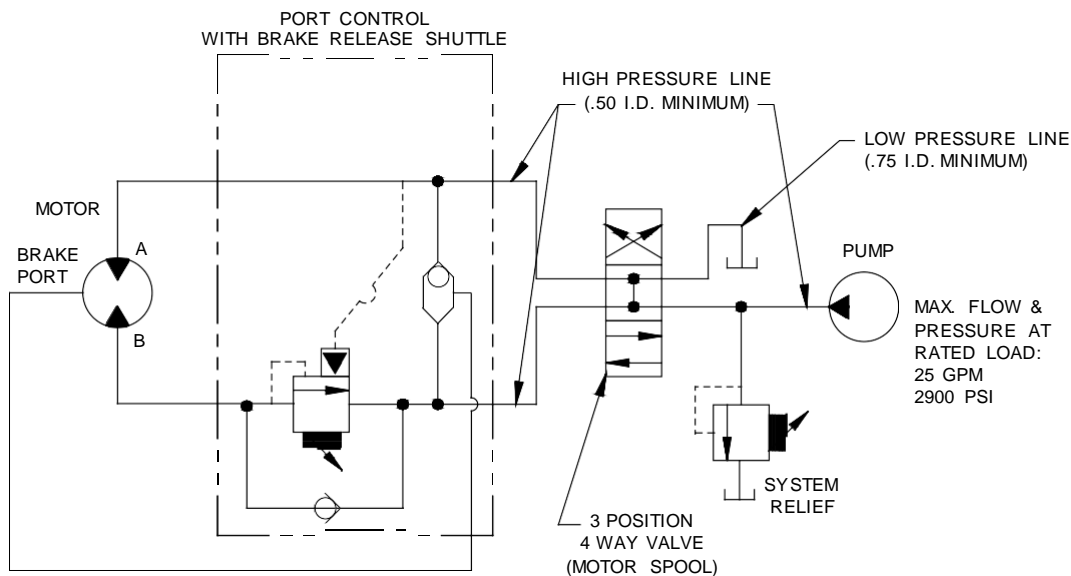
Stay out from under and away from raised loads.
Stand clear of cable while pulling. Do not try to guide cable.
Do not exceed maximum line pull ratings shown in table.
Do not use winch to lift, support, or otherwise transport people.
A minimum of 5 wraps of cable around drum barrel is necessary to hold the load.
Cable anchor is not designed to hold load.

Hydraulic System Requirements 2

Refer to the performance charts to properly match your hydraulic system to Hercules 50K winch performance.

(1) Line pull (lbs.) first layer vs. working pressure (PSI) and (2) line speed (FPM) first layer vs. flow (GPM). Performance is based on a motor displacement of 11.9 cubic inches with 25 GPM maximum flow rate. See page 10 for motor port size.

TYPICAL LAYOUT



3 Winch Operation

The best way to get acquainted with how your winch operates is to make test runs before you use it. Plan your test in advance. Remember, you hear your winch, as well as see it operate. Learn to recognize the sounds of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Gain confidence in operating your winch and its use will become second nature with you.

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 vehicle. After the job is done you can unspool and rewind for a neat lay of the cable.

CLUTCH OPERATION

To engage clutch:

1. Move the clutch control valve to the "clutch engaged" position.
2. Anytime the temperature is below freezing, run the motor in the "cable out" direction only until the drum starts to turn. In extreme cold temperatures (below 0° F/-18° C), pull out on the cable by hand only until the drum starts to turn.
3. Wait at least 3 seconds for the clutch to fully engage, after which the winch is ready to winch in the cable.

WARNING

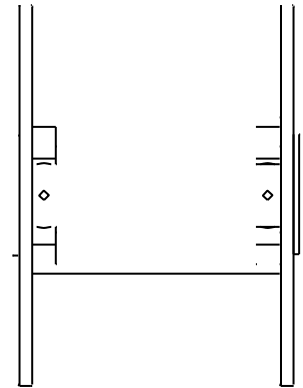
Do not attempt to engage the clutch by first running the winch motor and then moving the clutch control valve to the "clutch-engaged" position while the motor is running. Do not start picking up the load at the same time the clutch is being engaged.

To disengage clutch: Run the winch in the "cable out" direction until the load is off the cable.

4. Move the clutch control valve to the "clutch-disengaged" position.
5. The cable may now be pulled off by hand.

CABLE INSTALLATION

1. This winch has a cable anchor located at each end of the drum which allows cable installation on either end.
2. Unwind cable by rolling it out along the ground to prevent kinking. Securely wrap end of wire rope opposite hook, with plastic or similar tape to prevent fraying.
3. Insert the end of cable, opposite hook end, into the hole in drum barrel. Secure cable to drum barrel, using setscrew furnished with winch. **TIGHTEN SETSCREW SECURELY.**
4. Carefully run the 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.



Maintenance 4

Adhering to the following maintenance schedule will keep your winch in top condition and performing as it should with a minimum of repair.

Weekly

1. Check the oil level and maintain it to the oil level plug. If oil is leaking out, determine location and repair.
2. Check the pressure relief plug in the gear housing cover. Be sure that it is not plugged.
3. Lubricate cable with light oil.

Monthly

1. Check the winch mounting bolts. If any are missing, replace them and securely tighten any that are loose. Use grade 5 or better bolts.
2. Inspect the cable. If the cable has become frayed with broken strands, replace immediately.

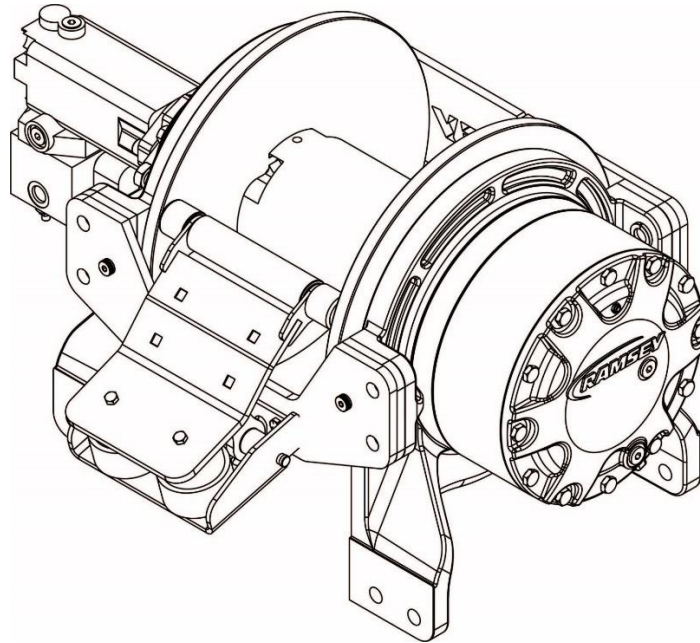
Annually

1. Drain the oil from the winch annually or more often if winch is used frequently.
2. Fill the winch to the oil level plug with clean kerosene. Run the winch a few seconds with no load in the reel in direction. Drain the kerosene from the winch.
3. Refill the winch to the oil level plug with all-purpose SAE 75W-90 synthetic gear oil.
4. Inspect frame and surrounding structure for cracks or deformation.

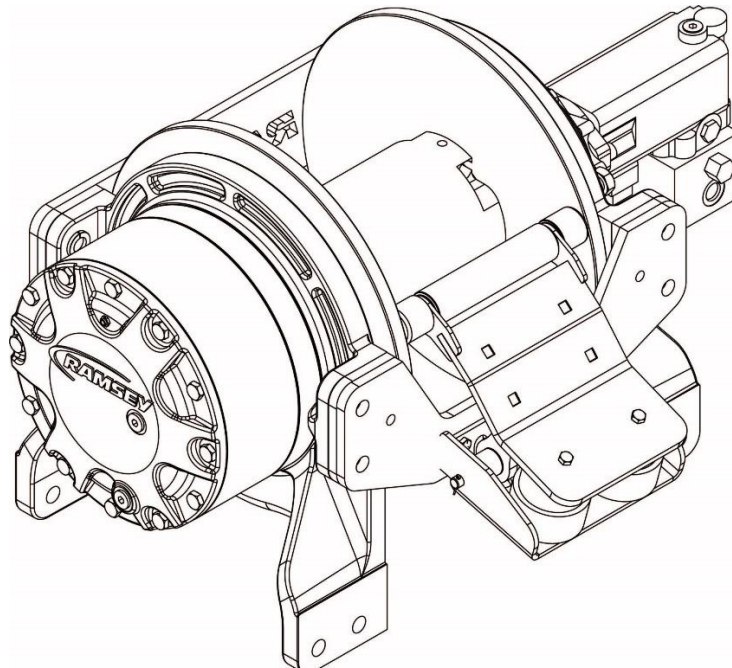
TROUBLESHOOTING GUIDE		
CONDITIONS	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM WINCH	1. SEALS DAMAGED OR WORN 2. TOO MUCH OIL 3. DAMAGED GASKETS	1. REPLACE SEAL 2. DRAIN EXCESS OIL. REFER TO OPERATION 3. REPLACE GASKETS
WINCH RUNS TOO SLOW	1. LOW FLOW RATE 2. HYDRAULIC MOTOR WORN OUT	1. CHECK FLOW RATE. REFER TO HYDRAULIC SYSTEMS PERFORMANCE CHART PAGE 2. 2. REPLACE MOTOR
CABLE DRUM WILL NOT FREE-SPOOL	1. CLUTCH NOT DISENGAGED	1. CHECK AIR PRESSURE TO CLUTCH CYLINDER: 100PSI MINIMUM REQUIRED. REFER TO PAGE 15 FOR PORT LOCATION.
BRAKE WILL NOT RELEASE	1. BRAKE LINE DISCONNECTED OR BLOCKED	1. CHECK BRAKE FUNCTION

Winch Mounting Configuration 5

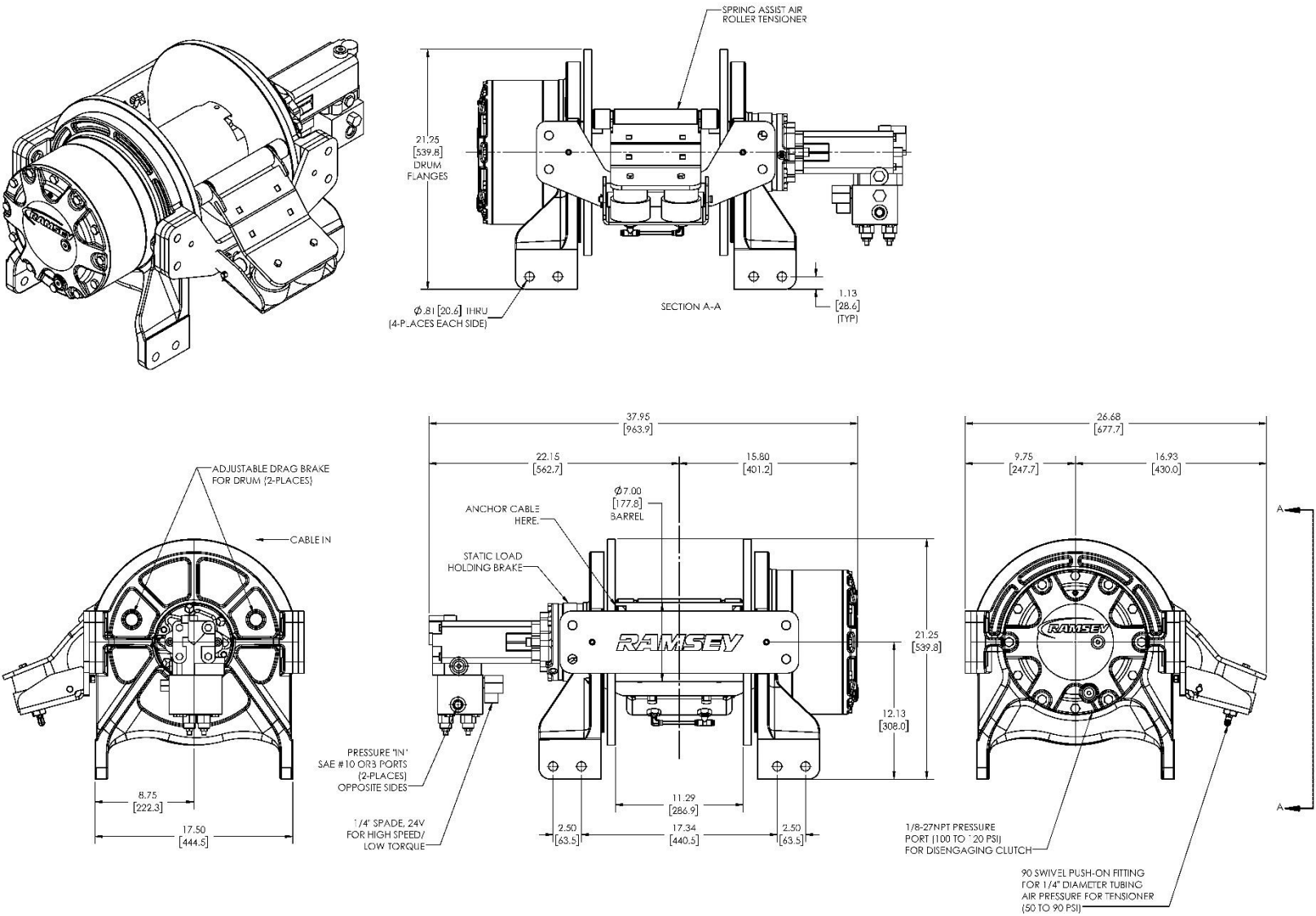
R.H. MOUNTING CONFIGURATION

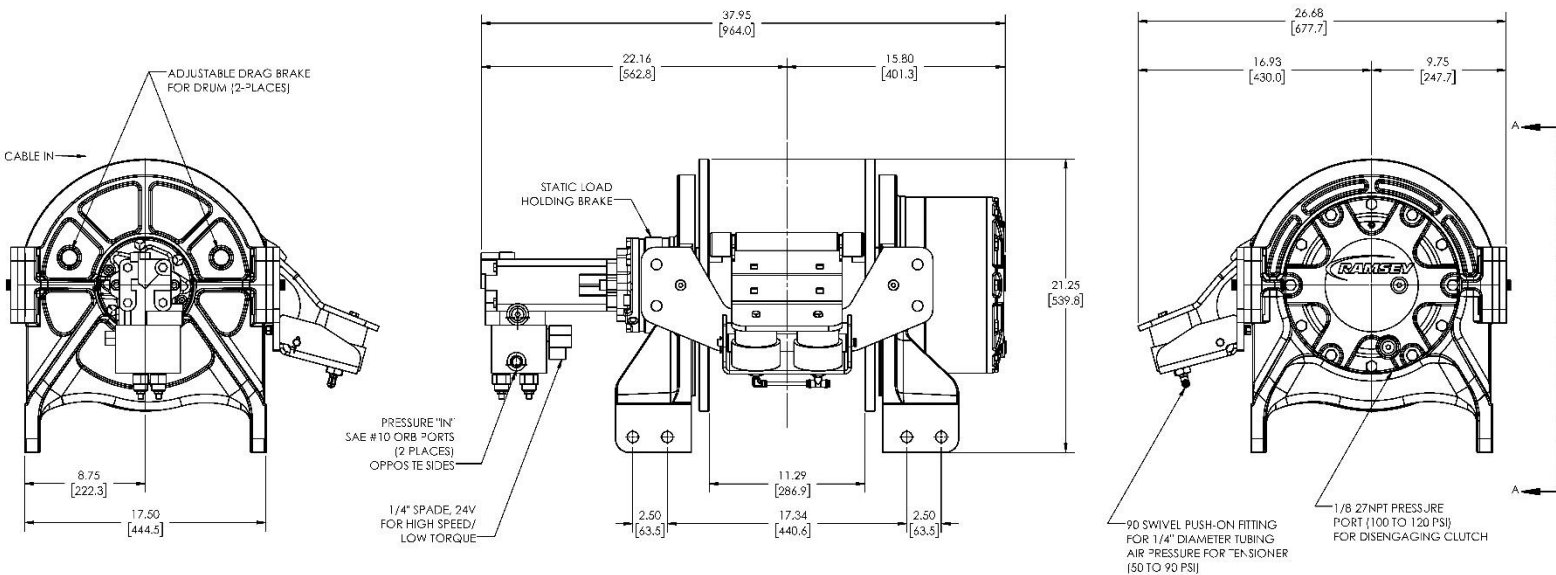
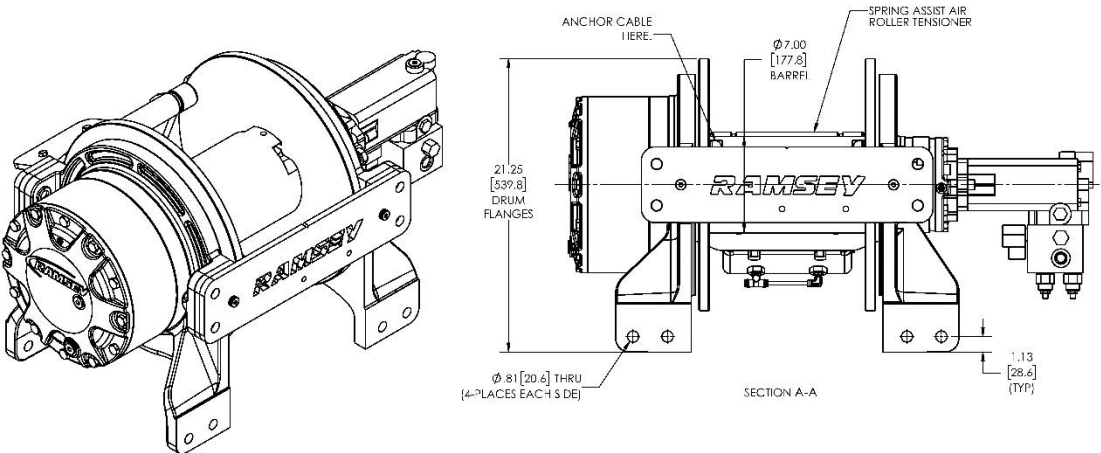


L.H. MOUNTING CONFIGURATION



6 L.H. Mount Dimensional View



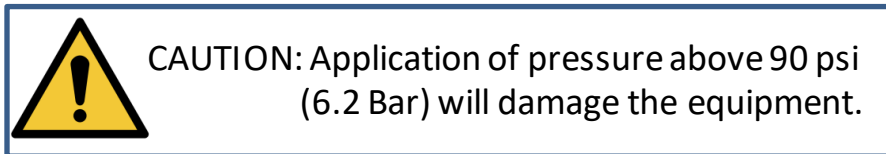


Long Travel Tensioner Operating Parameters 8

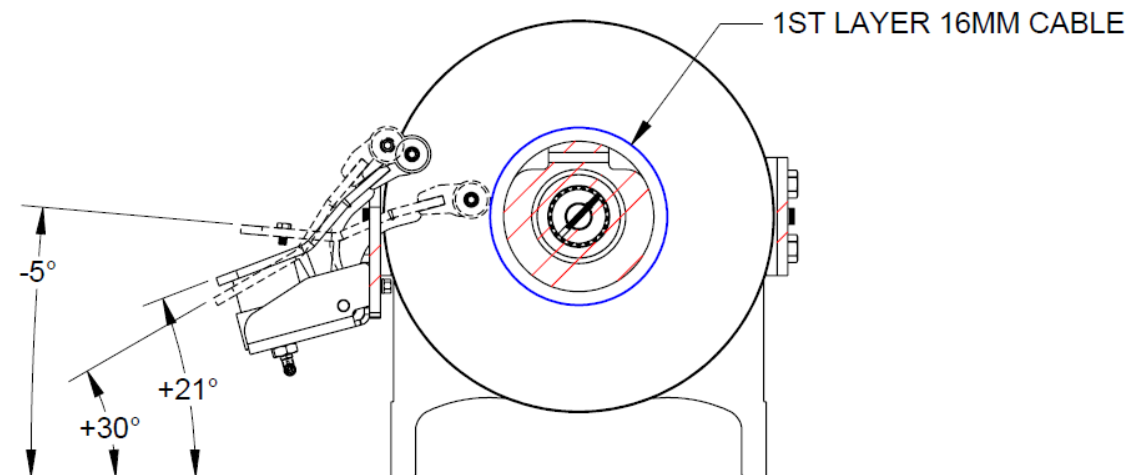
299810 Long Travel Tensioner Operating Parameters

The 299810 Tensioner is acceptable for use on the Hercules 50 127404 and 127405 within the operating parameters outlined below.

1. The 299810 Tensioner shall be operated within a pressure range of 60 -90 psi (4.1 – 6.2 Bar).



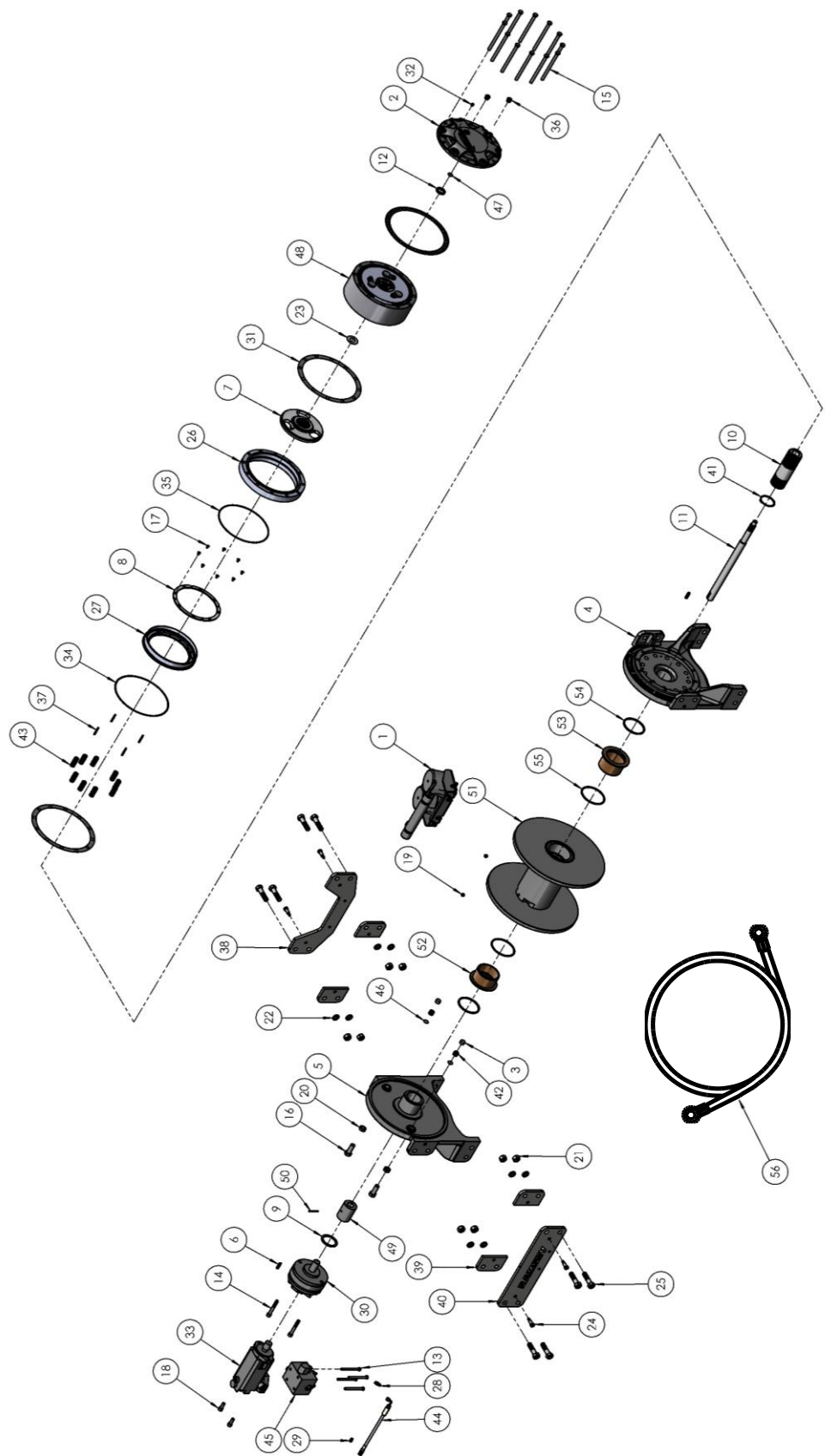
2. The 299810 Tensioner shall be operated only within the travel extents shown in Table 1 below:



Tensioner Angle (Rear of plate, with respect to base of winch)	Condition	Note:
-5°	1 st cable layer, lower limit of operation	1 st layer of cable must be wound under the roller tensioner before applying air pressure.
+21°	7 th cable layer	Normal operating condition
+30°	Maximum limit of operation	Exceeding this angle will damage the roller tensioner.

9 KITS AND MAINTENANCE PARTS

127404



KITS AND MAINTENANCE PARTS 9

127404

Item#	QTY.	PART NUMBER	DESCRIPTION	KITS						
				207022	207033	222079	246068	246084	248060	283087
1	1	299810	ASSEMBLY AIR ROLLER TENSIONER							
2	1	328211	COVER-GEARBOX							
3	2	330015	DRUM DRAG	X						
4	1	338459	GEAR END BEARING							
5	1	338460	MOTOR END BEARING							
6	2	342081	KEY-RD ENDS,5/16X5/16X1.5LG		X					X
7	1	342517	CLUTCH			X				
8	1	352035	RING-RETAINING			X				
9	1	352036	PLATE RETAINER							
10	1	357543	COUPLING-OUTPUT							
11	1	357546	SHAFT-INPUT							
12	1	362357	SPACER-COVER							
13	4	414400	CAPSCREW-3/8-24NF X4LG,HXHD,GR-5							
14	2	414595	CAPSCREW-1/2-13NC x 3-1/2 LONG, HX SOC HD, GR8		X					
15	12	414612	CAPSCREW-1/2-13NCX7 GR5							
16	2	414772	CAPSCREW-3/4-16NFX2LG HXHD GRADE 5	X						
17	8	414819	BOLT-1/4-20NCX1/2,FLAT SOCHD			X				
18	2	414948	CAPSCREW-1/2-13NCX1 1/4LG, SOCKET HD							
19	2	416074	SETSCREW-1/2-13UNC-3A X.5,HXSOC							
20	2	418098	NUT-3/4-16NF HEX JAM	X						
21	8	418099	NUT-3/4-10NC HEX REG							
22	8	418249	LOCKWASHER-3/4 ID							
23	1	418520	WASHER-THRUST ID-1.063,THK-.093						X	
24	4	418555	SHOULDER BOLT-1/2 X 1-1/4							
25	8	420030	CAPSCREW-3/4-10UNC X 3 LG, HX HD, GR-8							
26	1	426059	CYLINDER-CLUTCH							
27	1	426060	PISTON-CLUTCH			X				
28	1	432023	FITTING-7/16-20							
29	1	432066	FITTING-AIR							
30	1	438044	BRAKE-MODULAR		X					
31	3	442210	GASKET-GEAR BX			X		X		
32	1	456008	RELIEF FIT-1/8-27PFT							
33	1	458126	MOTOR-HYDRAULIC							
34	1	462103	O RING			X	X			
35	1	462104	O RING			X	X			
36	2	468041	PLUG-3/4-16							
37	4	470156	THREADED TAPER PIN			X				
38	1	474245	TIE PLATE							
39	4	474246	SPACER-TIE PLATE							
40	1	474256	TIE PLATE							

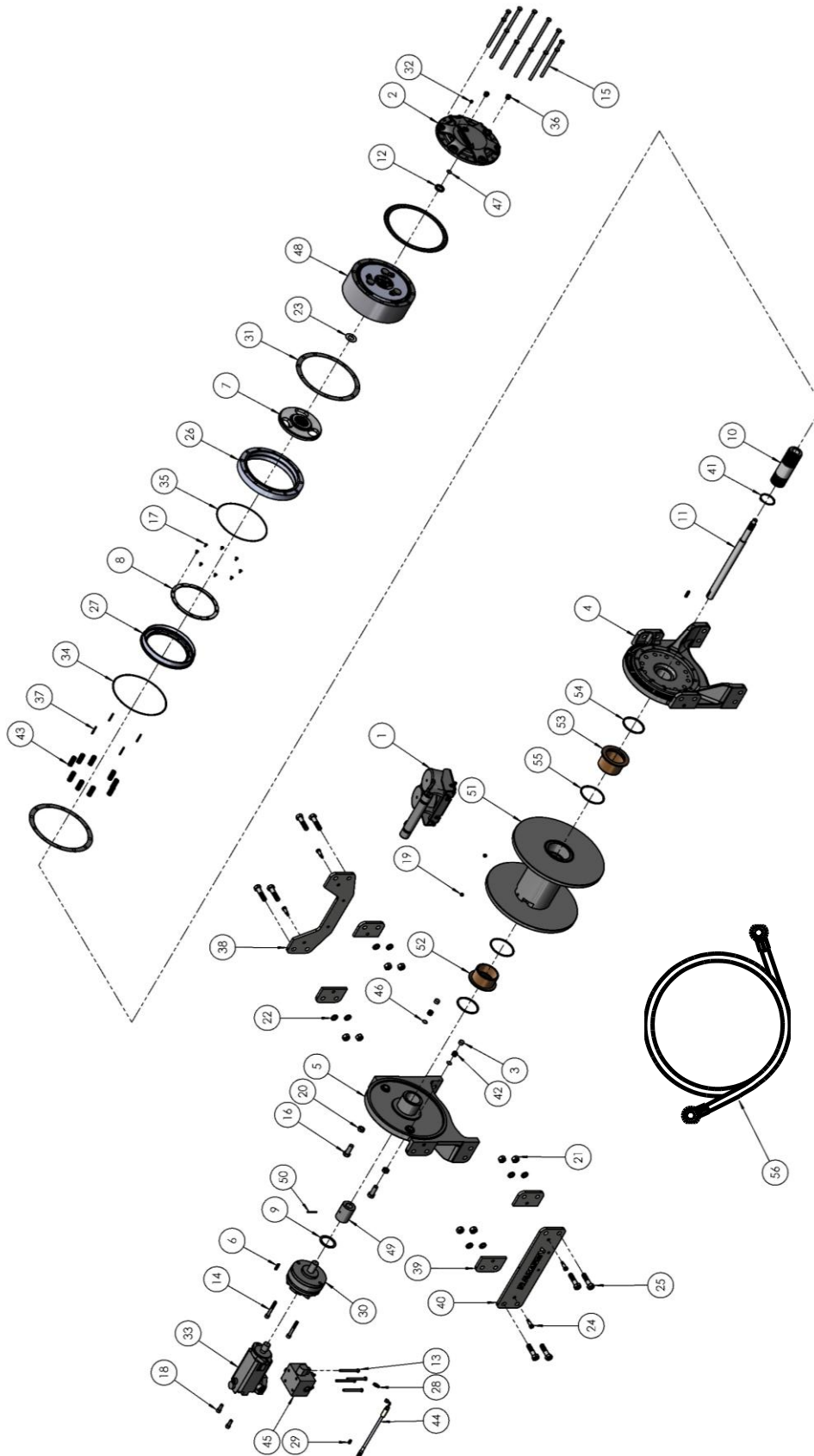
9 KITS AND MAINTENANCE PARTS

127404

				KITS						
Item#	QTY.	PART NUMBER	DESCRIPTION	207022	207033	222079	246068	246084	248060	283087
41	1	490072	RING-RETAINING							
42	2	494002	SPRING	X						
43	9	494140	SPRING			X				
44	1	509139	HOSE 13.39 INCH							
45	1	516024	VALVE-MTR.CNTRL							
46	2	518027	THRUST DISC-.035X.922DIA							
47	1	530094	SPACER-BRK DISC	X						
48	1	530173	GEARBOX ASSY							
49	1	324284	COUPLING-MOTOR							X
50	1	470075	PIN-1/4X 2							X
51	1	234282	DRUM							
52	1	412078	BUSHING-DRUM						X	
53	1	412079	BUSHING-DRUM 3/8IDX3LG						X	
54	2	462040	QUAD-RING-4 1/4ODX3 7/8IDX3/16				X			
55	2	462043	O-RING 3/16X4 3/4X4 3/8				X			
56	1	524193	ASSEMBLY-WIRE ROPE, 16mm X 100m							

KITS AND MAINTENANCE PARTS 9

127405



9 KITS AND MAINTENANCE PARTS

127405

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4	1	338459	GEAR END BEARING							
5	1	338460	MOTOR END BEARING							
6	2	342081	KEY-RD ENDS,5/16X5/16X1.5LG		X					X
7	1	342517	CLUTCH			X				
8	1	352035	RING-RETAINING			X				
9	1	352036	PLATE RETAINER							
10	1	357543	COUPLING-OUTPUT							
11	1	357546	SHAFT-INPUT							
12	1	362357	SPACER-COVER							
13	4	414400	CAPSCREW-3/8-24NF X4LG,HXHD,GR-5							
14	2	414595	CAPSCREW-1/2-13NC x 3-1/2 LONG, HX SOC HD, GR8		X					
15	12	414612	CAPSCREW-1/2-13NCX7 GR5							
16	2	414772	CAPSCREW-3/4-16NFX2LG HXHD GRADE 5	X						
17	8	414819	BOLT-1/4-20NCX1/2,FLAT SOCHD			X				
18	2	414948	CAPSCREW-1/2-13NCX1 1/4LG, SOCKET HD							
19	2	416074	SETSCREW-1/2-13UNC-3A X.5,HXSOC							
20	2	418098	NUT-3/4-16NF HEX JAM	X						
21	8	418099	NUT-3/4-10NC HEX REG							
22	8	418249	LOCKWASHER-3/4 ID							
23	1	418520	WASHER-THRUST ID-1.063,THK-.093						X	
24	4	418555	SHOULDER BOLT-1/2 X 1-1/4							
25	8	420030	CAPSCREW-3/4-10UNC X 3 LG, HX HD, GR-8							
26	1	426059	CYLINDER-CLUTCH							
27	1	426060	PISTON-CLUTCH			X				
28	1	432023	FITTING-7/16-20							
29	1	432066	FITTING-AIR							
30	1	438044	BRAKE-MODULAR		X					
31	3	442210	GASKET-GEAR BX			X		X		
32	1	456008	RELIEF FIT-1/8-27PFT							
33	1	458126	MOTOR-HYDRAULIC							
34	1	462103	O RING			X	X			
35	1	462104	O RING			X	X			
36	2	468041	PLUG-3/4-16							
37	4	470156	THREADED TAPER PIN			X				
38	1	474245	TIE PLATE							
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48	1	530173	GEARBOX ASSY							
49	1	324284	COUPLING-MOTOR							X
50	1	470075	PIN-1/4X 2							X
51	1	234282	DRUM							
52	1	412078	BUSHING-DRUM						X	
53	1	412079	BUSHING-DRUM 3/8IDX3LG						X	
54	2	462040	QUAD-RING-4 1/4ODX3 7/8IDX3/16				X			
55	2	462043	O-RING 3/16X4 3/4X4 3/8				X			
56	1	524193	ASSEMBLY-WIRE ROPE, 16mm X 100m							

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.

