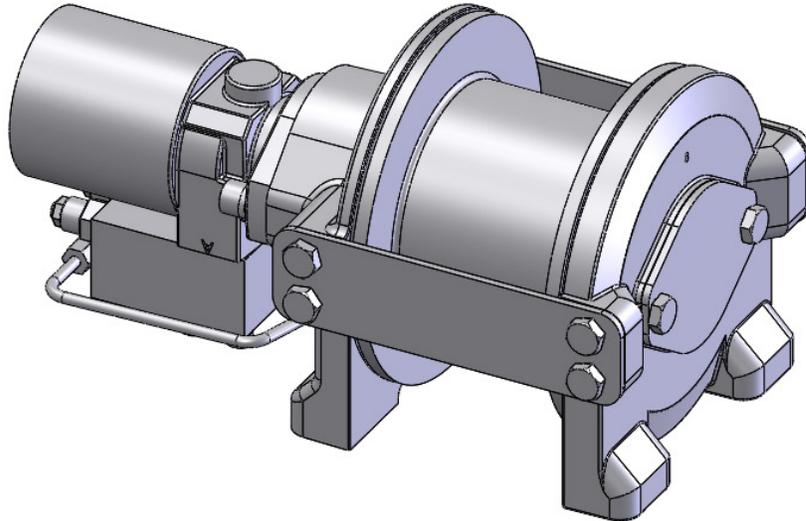


# RCH SERIES

BY



|                             |          |   |   |   |
|-----------------------------|----------|---|---|---|
| First Layer Line Pull ..... | 1,000 LB |   |   |   |
| Weight (without rope) ..... | 83 LB    |   |   |   |
|                             |          |   |   |   |
| LAYER OF ROPE               | 1        | 2 | 3 | 4 |

|                          |    |       |     |     |     |
|--------------------------|----|-------|-----|-----|-----|
| * Line Pull<br>Per Layer | lb | 1,000 | 919 | 850 | 790 |
|                          | kg | 453   | 416 | 385 | 358 |

|                               |    |     |      |      |     |
|-------------------------------|----|-----|------|------|-----|
| * Cable Capacity<br>Per Layer | ft | 22  | 47   | 73   | 102 |
|                               | m  | 6.7 | 14.3 | 22.2 | 31  |

|                              |     |     |     |     |     |
|------------------------------|-----|-----|-----|-----|-----|
| <b>* Line Speed at 4 GPM</b> |     |     |     |     |     |
| 11.9 cu.in<br>motor          | fpm | 102 | 111 | 121 | 130 |
|                              | mpm | 31  | 33  | 36  | 39  |
| 15.4 cu. In.<br>motor        | fpm | 76  | 83  | 90  | 97  |
|                              | mpm | 23  | 25  | 27  | 29  |

\* These specifications are based on recommended 1/4" EPS wire rope.

Note: The Rated Line Pull shown is for the Hoist only. Consult the wire rope manufacturer for wire rope ratings.

## RCH 1000 HOIST



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



# ***TABLE OF CONTENTS***

|   |       |           |
|---|-------|-----------|
| WARNINGS                                | ..... | 1         |
| MOTOR PERFORMANCE /<br>HYDRAULIC SYSTEM | ..... | 2         |
| CABLE INSTALLATION                      | ..... | 3         |
| OVERHAUL INSTRUCTIONS                   | ..... | 4-5       |
| HOIST OPERATION / MAINTENAN             | ..... | 6         |
| DIMENSIONAL DRAWING                     | ..... | 7         |
| EXPLODED VEIW                           | ..... | 8         |
| PARTS LIST                              | ..... | 9         |
| LIMITED WARRANTY                        | ..... | Last Page |



## **WARNING**

Do not operate this hoist until you have carefully read and understood the "**WARNINGS**" and "**OPERATION**" sections of this manual. Failure to follow the "**WARNINGS**" and "**OPERATION**" sections in this manual may result in serious injury or death.

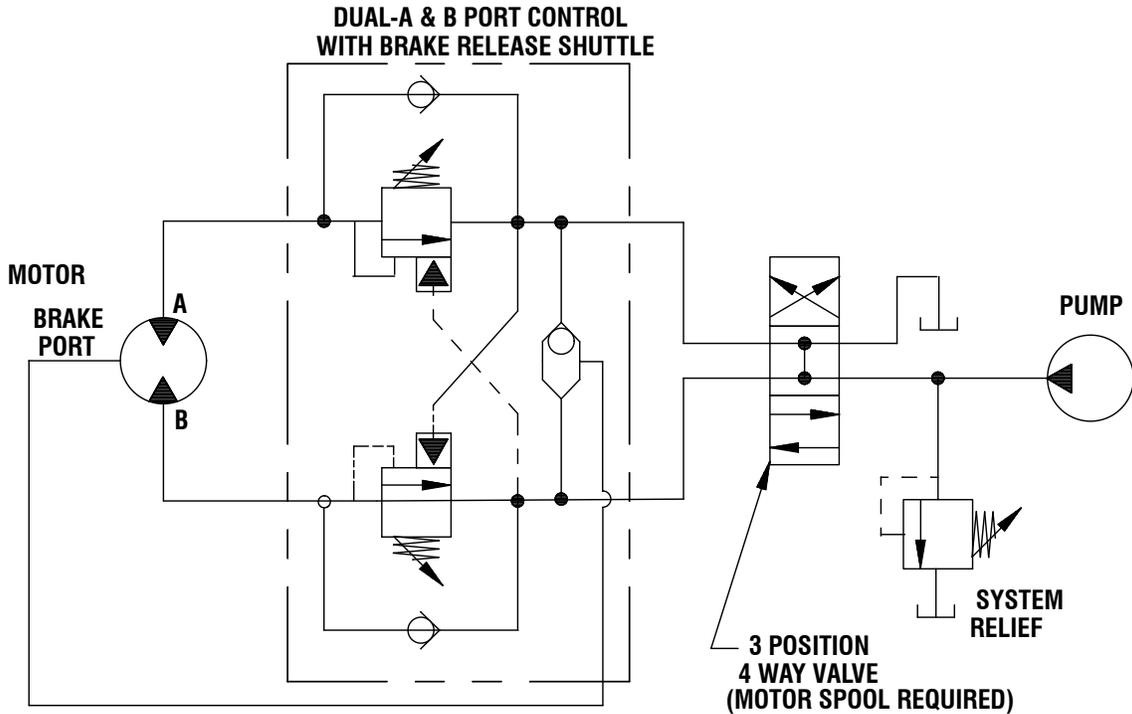
### **WARNINGS**

- **OPERATORS MUST BE TRAINED IN THE PROPER OPERATION OF THE HOIST.**
- **STAY OUT FROM UNDER AND AWAY FROM RAISED LOADS. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.**
- **STAY AWAY FROM CABLES IN TENSION. A BROKEN CABLE MAY RESULT IN SERIOUS INJURY OR DEATH.**
- **DO NOT EXCEED MAXIMUM LINE PULL RATINGS SHOWN IN SPECIFICATION TABLES.**
- **DO NOT USE HOIST TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PEOPLE.**
- **A MINIMUM OF 5 WRAPS OF CABLE AROUND THE DRUM BARREL IS NECESSARY TO HOLD THE LOAD. CABLE ANCHOR IS NOT DESIGNED TO HOLD LOAD.**
- **AVOID SHOCK LOADS. THIS TYPE OF LOAD PUTS A STRAIN ON THE HOIST MANY TIMES THE ACTUAL WEIGHT RATED FOR THE HOIST.**
- **HOIST MUST BE PROPERLY MAINTAINED.**

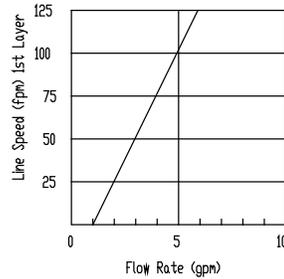
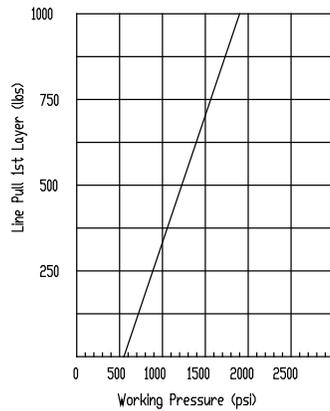
# SYSTEM REQUIREMENTS / PERFORMANCE

## HYDRAULIC SYSTEM REQUIREMENTS

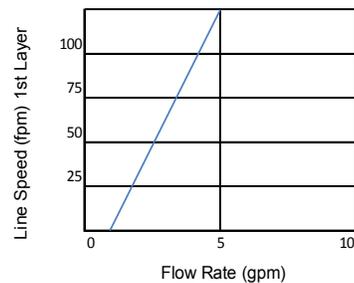
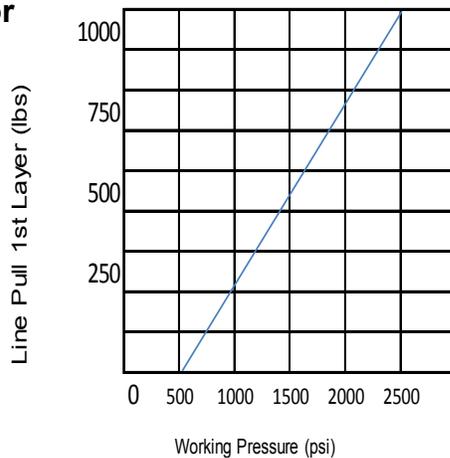
Refer to the performance charts, above, to properly match your hydraulic system to hoist performance



**With 15.9 cu. in. Motor**



**With 11.9 cu. in. Motor**



# ***HOIST OPERATION AND MAINTENANCE***

## **HOIST OPERATION**

The best way to get acquainted with how your hoist operates is to make test runs before you use it. Plan your test in advance. Remember, you hear your hoist, 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 hoist and its use will become second nature with you.

## **MAINTENANCE**

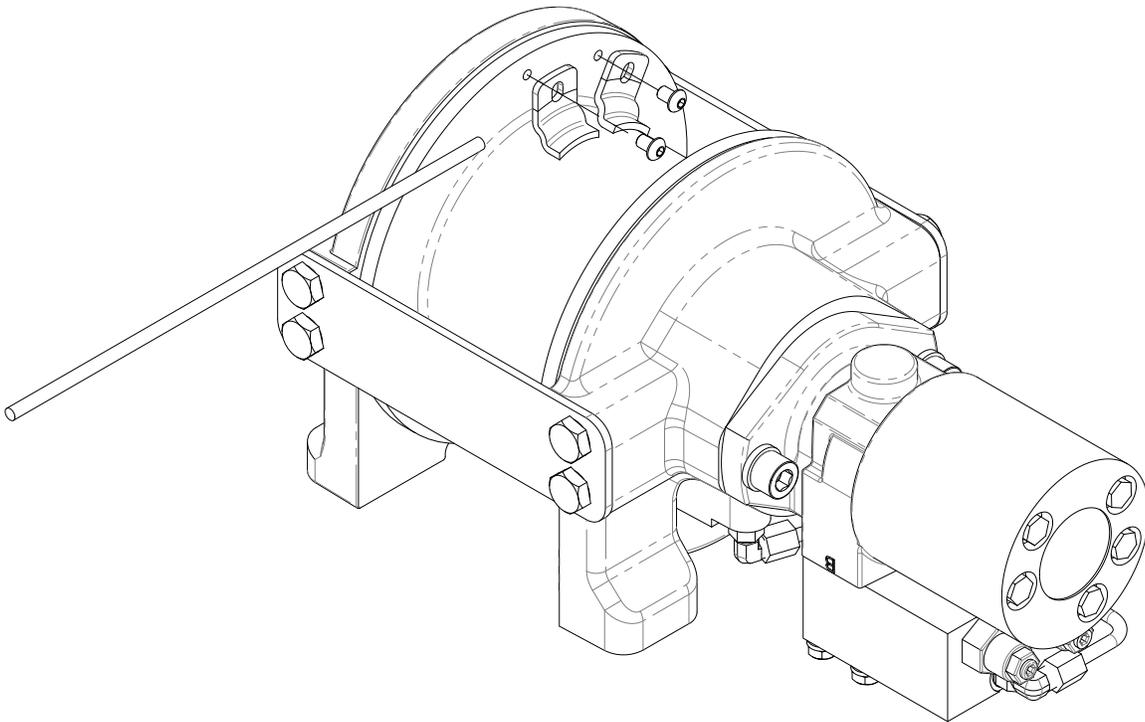
The owner is to ensure proper inspection intervals, in compliance with ANSI B30.5, 5-2.3, and will review hoist usage categories on a periodic basis. A Qualified Inspector should perform all maintenance and inspections.

- For hoist in occasional use less than 10 hours per month it is recommended a pre-use inspection and an annual 12 month inspection based on average use over a quarter.
- For hoist in moderate use, more than 10 but less than 50 hours per month, it is recommended a pre-use inspection, quarterly inspection, and an annual 12-month inspection based on average use over a quarter.
- For hoist in heavy use, more than 50 hours per month it is recommended a pre-use inspection, monthly inspection, quarterly inspection, and an annual 12 months inspection.

# ***CABLE INSTALLATION***

## **CABLE INSTALLATION**

1. 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.
2. Insert cable into both clamps and tighten.



# **TROUBLE SHOOTING GUIDE**

| <b>CONDITIONS</b>                                    | <b>POSSIBLE CAUSE</b>  | <b>CORRECTION/ACTION</b>   |
|--|--|--|
| DRUM WILL NOT ROTATE UNDER LOAD                      | Load greater than rated capacity of winch<br>Low hydraulic system pressure     | Refer to Specifications page 1 for line pull rating.<br>Check pressure. Refer to Hydraulic Systems performance charts. |
| WINCH RUNS TOO SLOW                                  | Low hydraulic system flow rate<br>Motor worn out                               | Check flow rate. Refer to System Requirements and Typical Layout.<br>Replace motor                                     |
| BRAKE WILL NOT HOLD                                  | Incorrect directional control valve (cylinder spool-closed center)             | Use only a motor spool (open center) control valve.  |
| LOAD DRIFTS  | Excessive Backpressure (100 PSI Max.)  | Check for restrictions in hydraulic system. Refer to System Requirements and Typical Layout                            |
| DRUM CHATTERS IN "REEL IN" DIRECTION                 | Low hydraulic system flow rate<br>Low hydraulic system relief pressure setting | Check flow rate. Refer to Typical<br>Check relief valve setting.   |
| OIL LEAKS FROM BREATHER VENT UNDER MOTOR END BEARING | Damaged brake o-rings, backup rings, or sealing surfaces                       | Disassemble brake and inspect. See Overhaul Instructions.  |

# OVERHAUL INSTRUCTIONS

## INSTRUCTIONS FOR OVERHAUL

**Take note of mounting configurations for proper mounting of parts during re-assembly. Replace all gaskets, o-rings, and seals during re-assembly.**

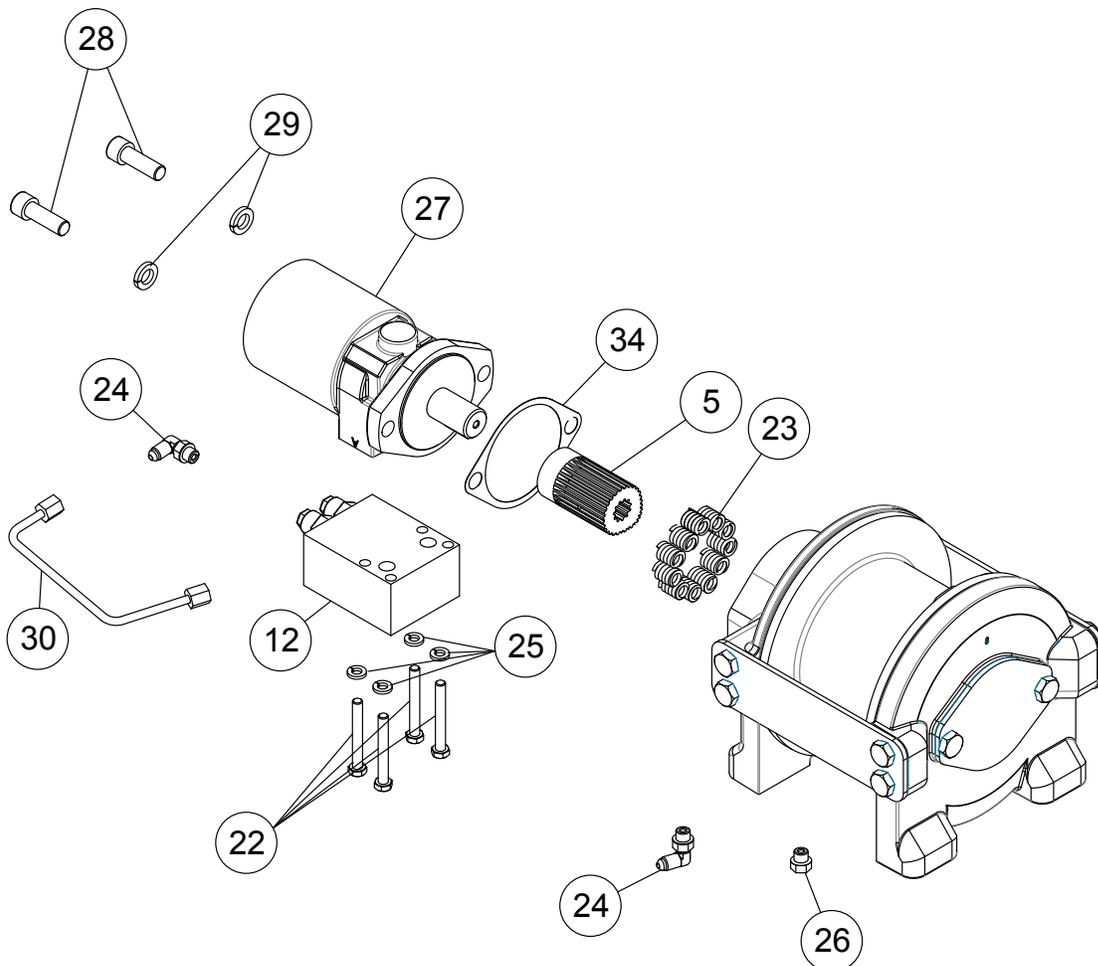
Disconnect tube (item #30) from elbow fittings (items #24) on bottom of end bearing and counterbalance valve (item #12). Remove motor (item #27) from end bearing by slowly unscrewing capscrews (items #28). **CAUTION: MOTOR IS UNDER SPRING PRESSURE.**

Check breather vent (item #26). Make sure it is not clogged. If oil is leaking from vent, check brake o-rings, backup rings, and sealing surfaces.

Remove springs (items #23) from pockets and inspect for damage.

Replace gasket (item #34).

Remove coupling (item #5) from end bearing. Examine coupling for signs of wear, replace if necessary. If necessary, remove counterbalance valve from motor by removing capscrews (items #22).

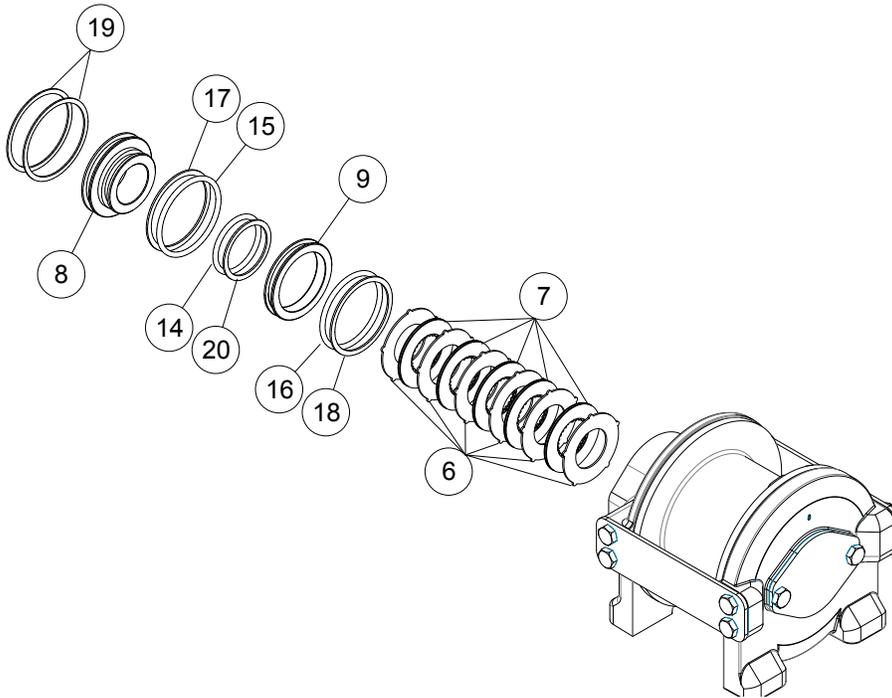


## OVERHAUL INSTRUCTIONS (Cont'd)

Remove retaining rings (items #19) with screwdriver.

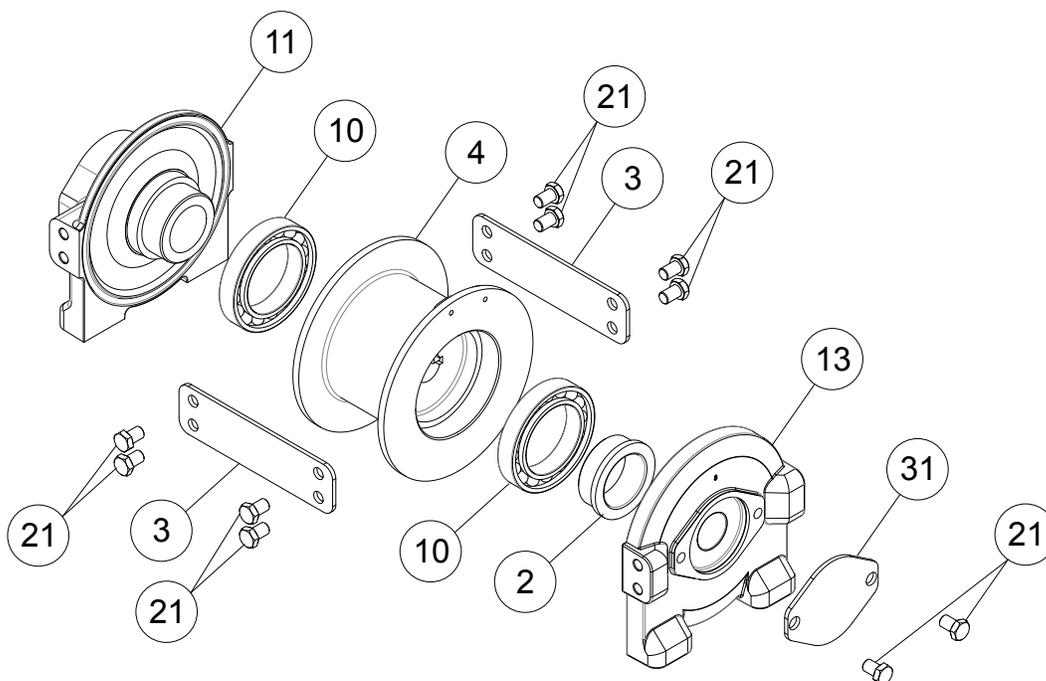
Remove brake parts from end bearing. NOTE POSITION OF O-RINGS AND BACKUP RINGS BEFORE REMOVAL. Examine brake discs (items #7) and stators (items #6) for signs of wear, and replace if necessary.

Examine o-rings (items #14 and 15) and backup rings (items #17 and 20) in brake piston (item #8), as well as o-ring (item #16) and backup ring (item #18) in backup brake piston (item #9) for signs of wear. Remove o-rings and backup rings from grooves in brake piston or backup brake piston and replace if necessary.

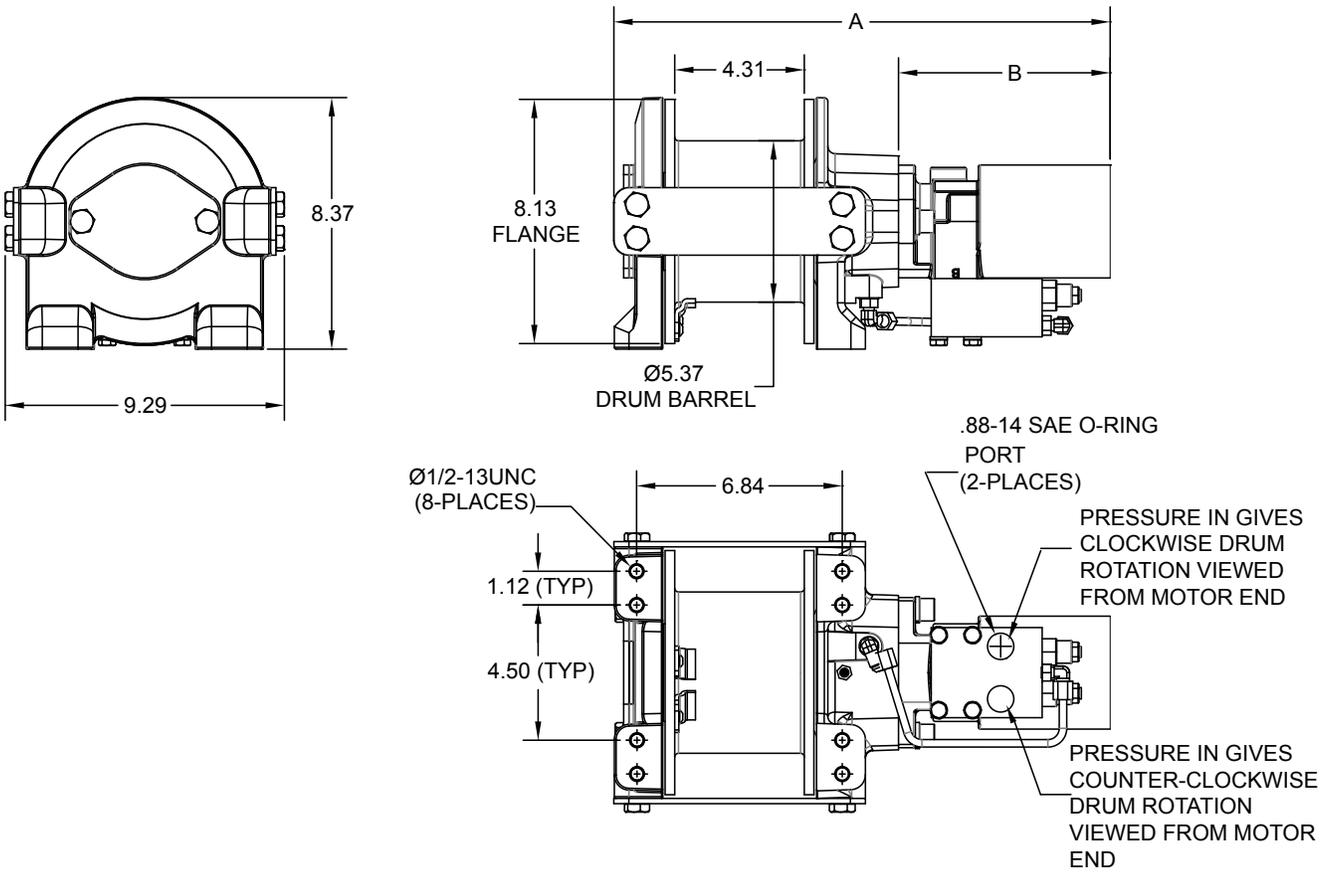


Remove tie plates (items #3) from end bearings by unscrewing capscrews (items #21). Slide motor end bearing (item #11) and drum (item #4) from gear housing end bearing.

Remove ball bearing (item #10) from both end bearings.

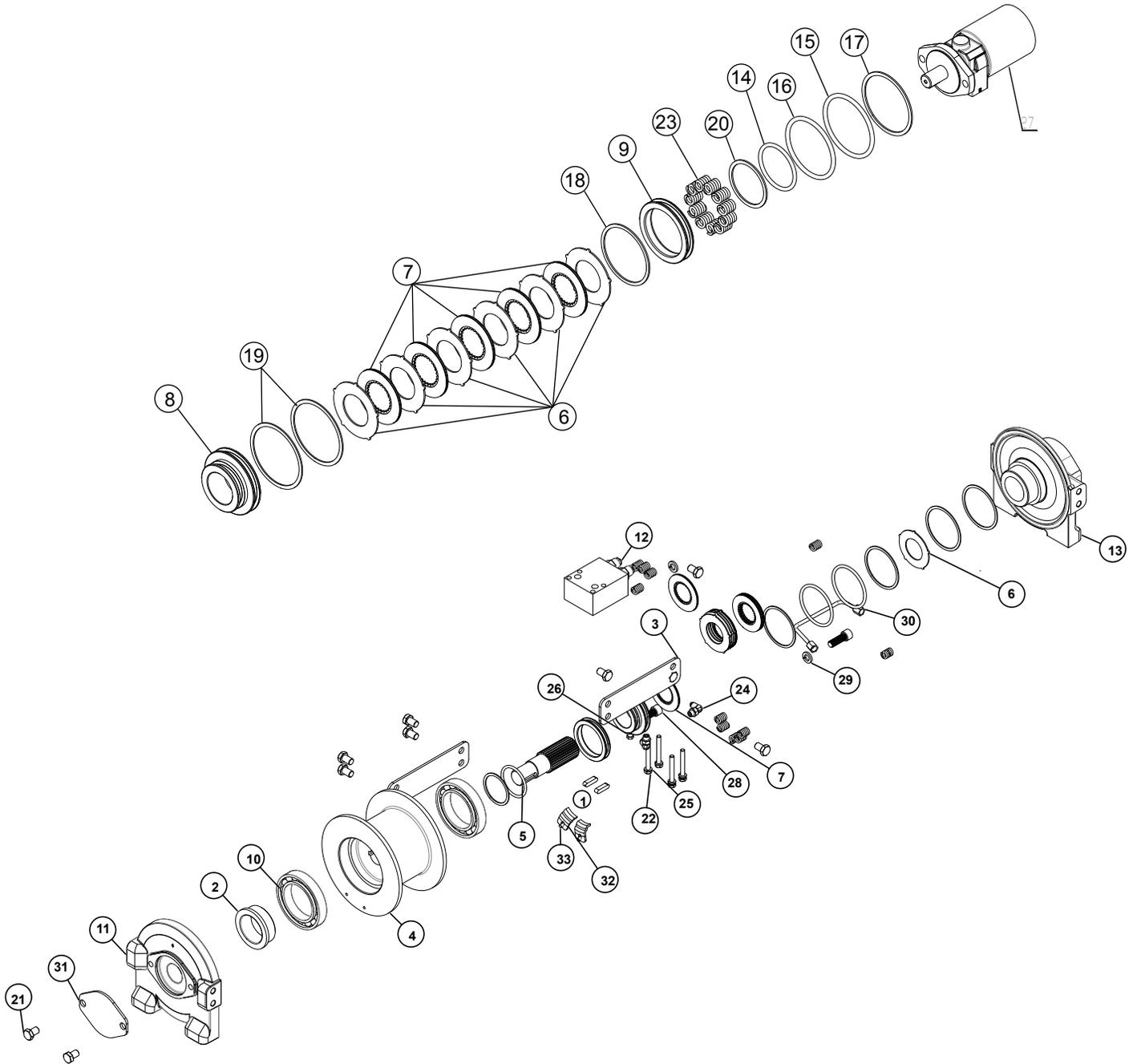


# DIMENSIONAL DRAWING



| MOTOR       | "A" LENGTH | "B" LENGTH |
|-------------|------------|------------|
| 11.9 CU.IN. | 15.97      | 6.54       |
| 15.9 CU.IN. | 16.51      | 7.04       |

# EXPLODED VIEW



# PARTS LIST

| ITEM NO. | PART NO. | QTY | DESCRIPTION   |
|----------|----------|-----|---|
| 1        | 342080   | 2   | KEY   |
| 2        | 308097   | 1   | BEARING SPACER  |
| 3        | 395437   | 2   | TIE-PLATE SCH1000                                     |
| 4        | 332262   | 1   | CABLE DRUM SCH1600                                    |
| 5        | 357540   | 1   | COUPLING INPUT  |
| 6        | 330011   | 6   | STATOR-BRAKE  |
| 7        | 330012   | 5   | DISC-BRAKE FRICTION                                   |
| 8        | 330013   | 1   | PISTON-BRAKE  |
| 9        | 330014   | 1   | PISTON-BACKUP BRAKE                                   |
| 10       | 402147   | 2   | BEARING, BALL 6015 W SEALS                            |
| 11       | 338326   | 1   | MOTOR END BEARING, RPH8000                            |
| 12       | 516013   | 1   | VALVE-MTR CONTROL,SUN#CBCA-LHN-YVN                    |
| 13       | 338426   | 1   | END BEARING, MOTOR, RCH1000                           |
| 14       | 462067   | 1   | O-RING-2.225 ID X .210 THK, 2-331                     |
| 15       | 462068   | 1   | O-RING-3.10 ID X .210 THK, 2-338                      |
| 16       | 462069   | 1   | O-RING-2.975 ID X .210 THK, 2-337                     |
| 17       | 462070   | 1   | RING-BACKUP, 3.143 ID X .076 THK,                     |
| 18       | 462071   | 1   | RING-BACKUP, 3.018 ID X .076 THK,                     |
| 19       | 490049   | 2   | RING-INTERNAL RETAINING,<br>SMALLEY #WH-350           |
| 20       | 462072   | 1   | RING-BACKUP, 2.268 ID X .076 THK,                     |
| 21       | 414581   | 10  | CAPSCREW-1/2-13NC X 3/4 LG HX                         |
| 22       | 414159   | 4   | CAPSCREW-5/16-18NC X 2.50 LG HX<br>HD Z/P NYLON PATCH |
| 23       | 494124   | 11  | SPRING-BRAKE  |
| 24       | 432018   | 2   | FITTING-90~ ELBOW,                                    |
| 25       | 418163   | 4   | LOCKWASHER-5/16 MED SECT Z/P                          |
| 26       | 456038   | 1   | BREATHER VENT   |
| 27       | 458188   | 1   | MOTOR-HYD, 11.9 CU IN                                 |
|          | 458211   | 1   | MOTOR-HYD, 15.9 CU IN                                 |
| 28       | 414952   | 2   | CAPSCREW  |
| 29       | 418218   | 2   | WASHER-LOCK, 1/2 MED SECT. Z/P                        |
| 30       | 509132   | 1   | TUBE-BRAKE RELEASE, BACK SIDE                         |
| 31       | 413119   | 1   | COVER PLATE RCH1000                                   |
| 32       | 448071   | 2   | CABLE ANCHOR-10 GA STL,Z/P,PRO5/6                     |
| 33       | 414830   | 2   | CAPSCREW-1/4-20NCX3/8,                                |
| 34       | 442223   | 1   | GASKET - MOTOR  |

## 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



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