

**J.K. FABRICATION, Inc.**

**HYDRAULIC MARINE EQUIPMENT**

Exclusive Manufacturer of NORDIC Products

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## **GENERAL**

**40-30 C 3000**

**36-30 C 1500**

**32-24 C 750**

## **ANCHOR WINCH INSTRUCTIONS**

### **A. General Description**

The **J.K. Fabrication** Clutched Reduction Drive Anchor Winch is constructed to provide many years of reliable service, being built with the finest Marine Grade Materials and utilizing the proven hydraulic motors from White Hydraulics. The Winch is designed to haul (or pay-out) rope (or cable) by the rotation of the hydraulic powered drum. It is important that the Anchor Winch be mounted “in-line” with the vessel Bow Roller, so that the incoming rope (or cable) spools onto the winch drum as evenly as possible.

Contact **J.K. Fabrication** for recommendations and circuit diagrams before adding an Anchor Winch to your hydraulic system.

### **CAUTION**

**AS WITH ANY WINCH OR HOIST, EXTREME CARE MUST BE FOLLOWED TO PREVENT INJURY WHILE IN USE. DO NOT OPERATE THE J.K. FABRICATION ANCHOR WINCH IN AN UNSAFE MANNER AT ANY TIME.**

### **WARNING**

**J.K. FABRICATION WINCHES ARE NOT INTENDED NOR DESIGNED TO LIFT ANY PERSON IN ANY MANNER FOR ANY REASON! DO NOT USE THIS EQUIPMENT TO MOVE PERSONEL AT ANY TIME.**

## B. Anchor Winch Installation

The **J.K. Fabrication** Anchor Winch must be securely mounted to a rigid surface or foundation, which will not flex when the winch is in use. The winch should be mounted with the centerline of the drum in a horizontal position. Also consider the strength of the deck the winch will be installed onto, along with any needed winch foundation, which may be necessary to strengthen (and/or to secure) the winch to the deck, along with the location of the hydraulic hose connections.

In determining the Anchor Winch hauling location, you should consider that the **J.K. Fabrication** Anchor Winch will spool the rope (or cable) onto the drum more evenly if the winch is mounted farther from the bow roller. The closer the winch is to the roller, the more un-even the rope (or cable) will spool onto the drum, as the fleet angle is greater.

Secure the winch to your deck using best practice. Remember, you may not have to anchor very often, but when you do, you'll want the anchor winch to hold, and not fail. If you have any doubt, consult your naval architect. Note: Large holes are provided in the winch housing to aid in mounting. Use Bolts of adequate Size and Strength to mount the Anchor Winch keeping in mind the intended load on the winch. (See Fig. 1 below for Typical Winch Installation Foundation and Optional Angles).

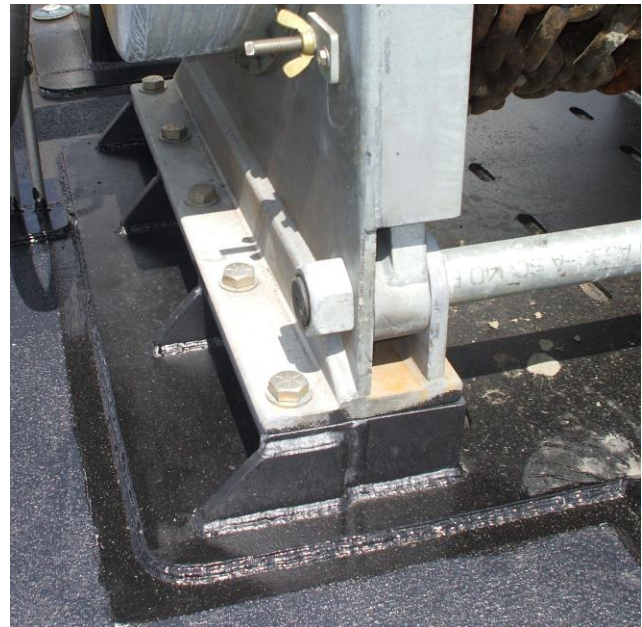
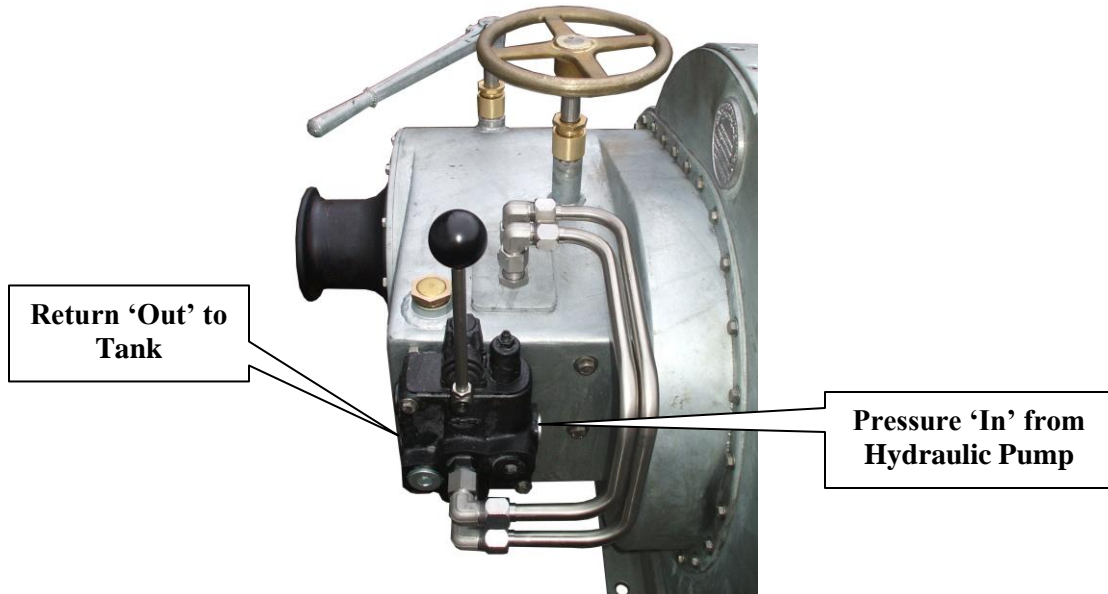


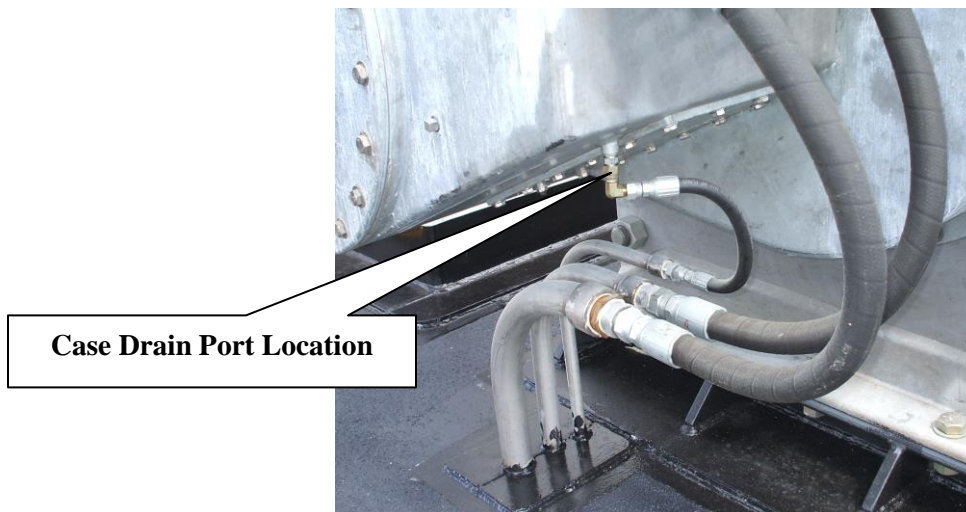
Figure 1- Typical Winch Installation

The **J.K. Fabrication** Anchor Winch is Pre-plumbed with a Directional Control Valve for easy installation (See Fig. 2 and Fig. 3 below for Typical Connection of High-Pressure Hydraulic and **Case Drain Lines (40-30 only)** to Winch Control Valve and Winch Case).



**Figure 2- Control Valve High Pressure Hose Connections**

As mentioned above, the **J.K. Fabrication** 40-30 C 3000 Anchor Winch also needs a Low Pressure Case drain Connection. This Case Drain Port must be plumbed 'Free and Open to Tank', to allow proper winch operation. (See Fig. 3 below for Typical Connection of Low-Pressure Case Drain Port Location).

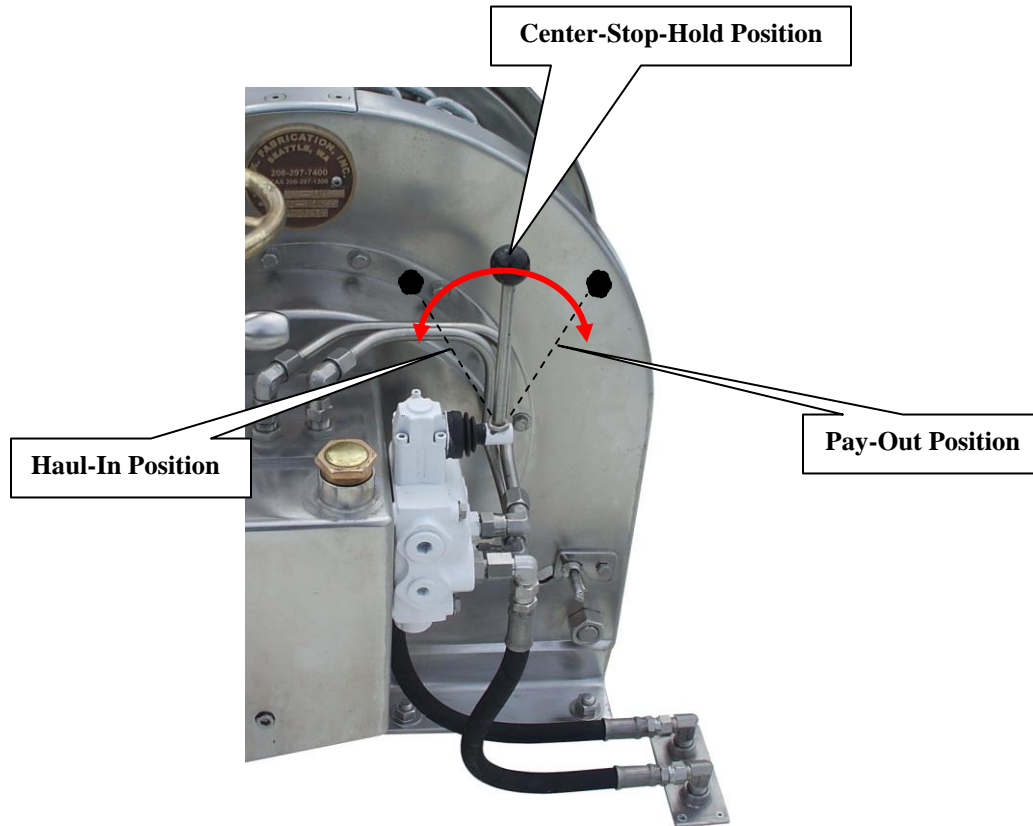


**Figure 3- Typical High Pressure Hose Connections and Case Drain Port Location (40-30 only)**

### C. Anchor Winch Operation and Wire Cable Installation

As the **J.K. Fabrication** Anchor Winch is equipped with a Push-Pull operated Valve Spool having three positions, moving the valve control handle will cause the winch to:

- 1) Haul-in
- 2) Center or neutral (Hold Position)
- 3) Pay-out



**Figure 4- Control Valve Handle Positions**

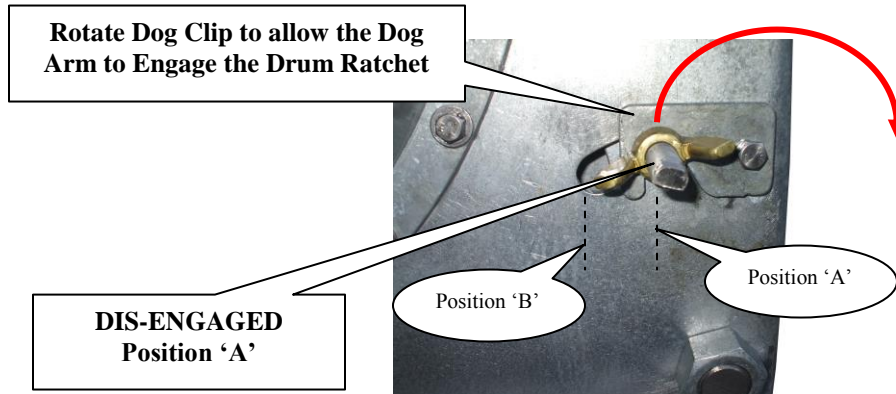
- **NOTE:** The **J.K. Fabrication** Anchor Winch Directional Control Valve is equipped with a Relief Valve 'Factory-Set to 1800 PSI.' Adjustment of this valve is possible should customer desire to change. Please see Figure 1 above for Relief Valve Location and consult **J.K. Fabrication** for instructions prior to adjusting.
- **NOTE:** Even though the Directional Control Handle is designed to be re-positional, **NEVER** re-position the handle while the Hydraulic Power is on, as loss of winch control could be the result!

→ **NOTE:** Spool Cable onto the Drum in **Overwound** direction, and always have AT LEAST TWO LAYERS of Cable on the Drum UNUSED during payout.

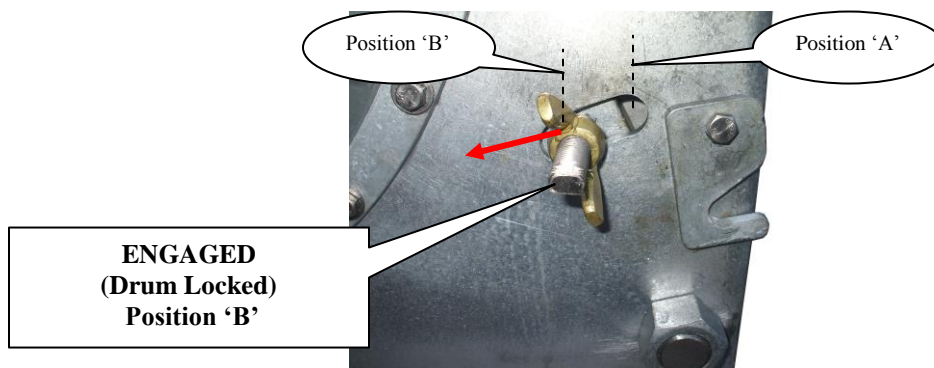
The **J.K. Fabrication** Anchor Winch is equipped with a locking Dog to firmly lock the drum while anchored. **NOTE:** Wire Cable must be spooled **‘Overwound’** onto the Drum for the Dog to work properly.

Drum Dog Operation: Upon completion of Pay-out of Anchor and Cable, Loosen Dog Wing Nut, Rotate Dog Clip towards the Anchor allowing the dog arm (pawl) to engage the drum ratchet. (See Fig. 5 and Fig. 6)

→ **NOTE:** Always have the Drum Dog **‘ENGAGED’** while anchored, AND while hauling in your Cable and Anchor!



**Figure 5- Locking Dog Position "A"**  
Allows Drum to Rotate Freely



**Figure 6- Locking Dog Position "B"**  
Engages Drum-Dog to Drum, Locking Drum While Anchored

**NOTE!**

→ **DO NOT Engage ‘Locking Dog’ while Anchor Winch Drum is turning!**



The **J.K. Fabrication** Anchor Winch is equipped with an Internal Brake Band on a Brake Drum operated by the provided Bronze Brake Handle. By using the Brake during Pay-out of the Anchor, drum speed may be controlled preventing running away of the cable and anchor. (See Fig. 7 and Fig. 8 below for Typical Brake Handle Control and operation).

**Turn the Brake Handle Counter-Clockwise to Release the Brake**

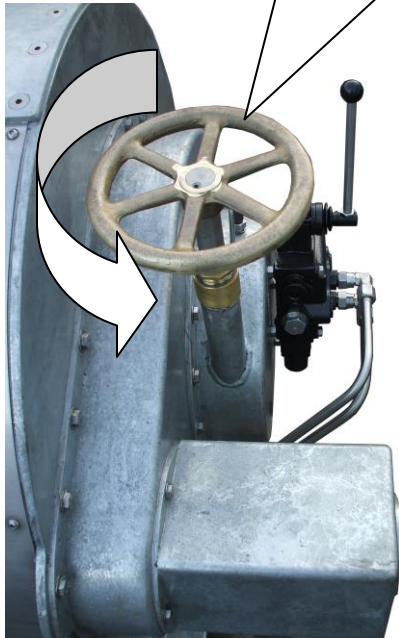


Figure 7- Brake Handle-Release

**Turn the Brake Handle Clockwise to Tighten the Brake**

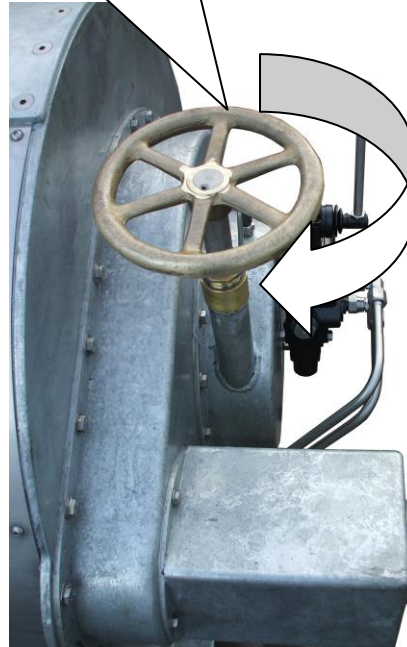


Figure 8- Brake handle-Set

### Wire Cable Installation

All **J.K. Fabrication** Reduction Drive Anchor Winches are designed to **'Over-Spool'**: that is, the cable or line must be led onto the drum above the Drum Core. This orientation allows the Drum Dog Pawl to work properly.

Located on the Drum Core is the Cable Hold Tube. This Tube is welded securely to the Drum Core internal structures, and is fitted with setscrews. When spooling onto the drum, the cable is held fast by this tube and the tightened set screws. The Sole purpose of this arrangement is to allow the initial spooling of the cable onto the drum.

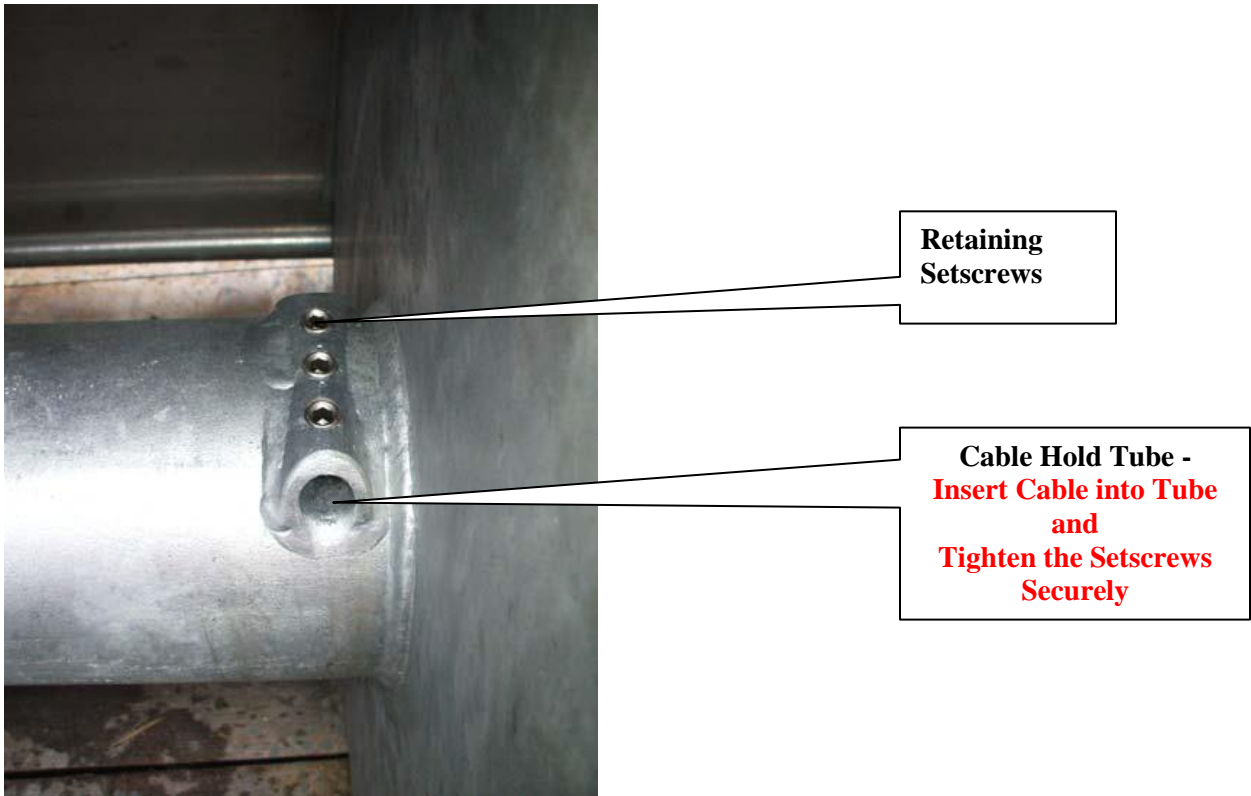


Figure 9-Cable Hold Tube and Setscrews Location

- **NOTE: THE CABLE HOLD TUBE AND SET SCREWS ARE NOT DESIGNED TO WITHSTAND ANY LOADS GENERATED DURING THE USE OF THE WINCH**
- **J.K. Fabrication strongly recommends a minimum wire capacity of Two Layer's Deep on all J.K. Fabrication Winches during operation. This means that the 1<sup>st</sup> and 2<sup>nd</sup> layers of wire in direct contact with the Drum Core must never be wound or unwound when the winch is under loaded conditions. This condition insures secure handling of the intended loads, along with safe operation of the winch.**
- **ALL WINCH OPERATORS MUST BE NOTIFIED AND AWARE OF THE ABOVE RECOMMENDATION!**

#### D. Maintenance

The **J.K. Fabrication** Reduction Drive Anchor Winch utilizes an Oil Bath Lubrication System, which requires the oil reservoir (on the Hydraulic Motor side of the winch) to be filled to the proper oil level with 40W Oil. The reservoir lubricates the Chain Reduction Drive and the Innermost drum Bearing.

See Fig. 10 below, for Oil Level Fill and Vent Locations.

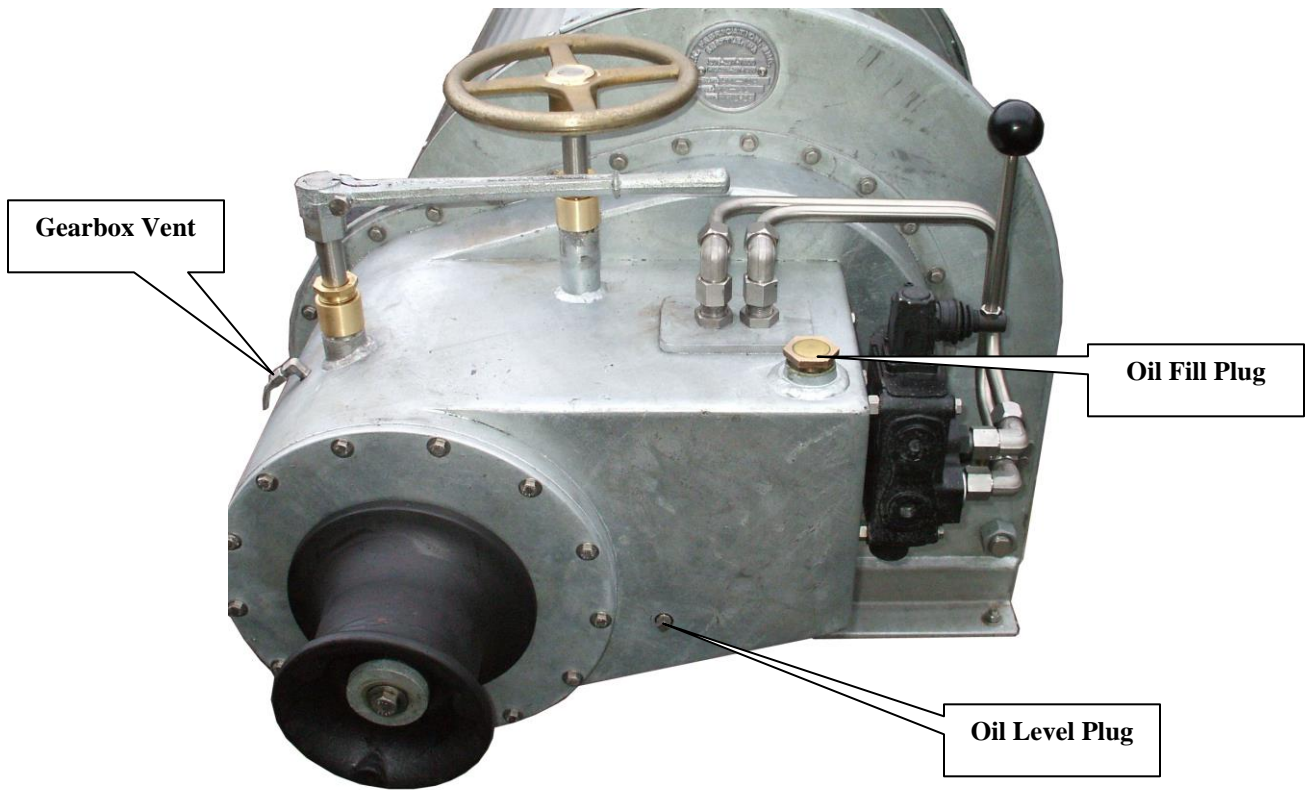


Figure 10- Motor Side- Oil Fill, Oil Level Plug Locations

The **J.K. Fabrication** Reduction Drive Anchor Winch is also equipped with One Grease Fitting to Lubricate the Outermost Drum Bearing with Multi-purpose Grease. See Fig. 11 for Grease Fitting Location.

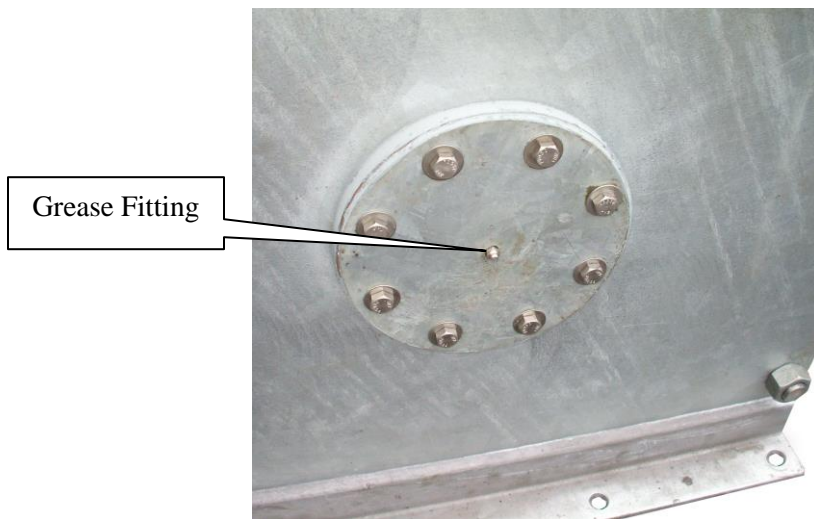


Figure 11 Outermost Drum Bearing Grease Fitting Location



See Fig. 12 for Upper Brass Hex Location.

From time to time check to make sure that the upper brass hex nut is tightened snug but not too tight. This keeps the packing material inside tight to keep water and moisture from entering the chain case

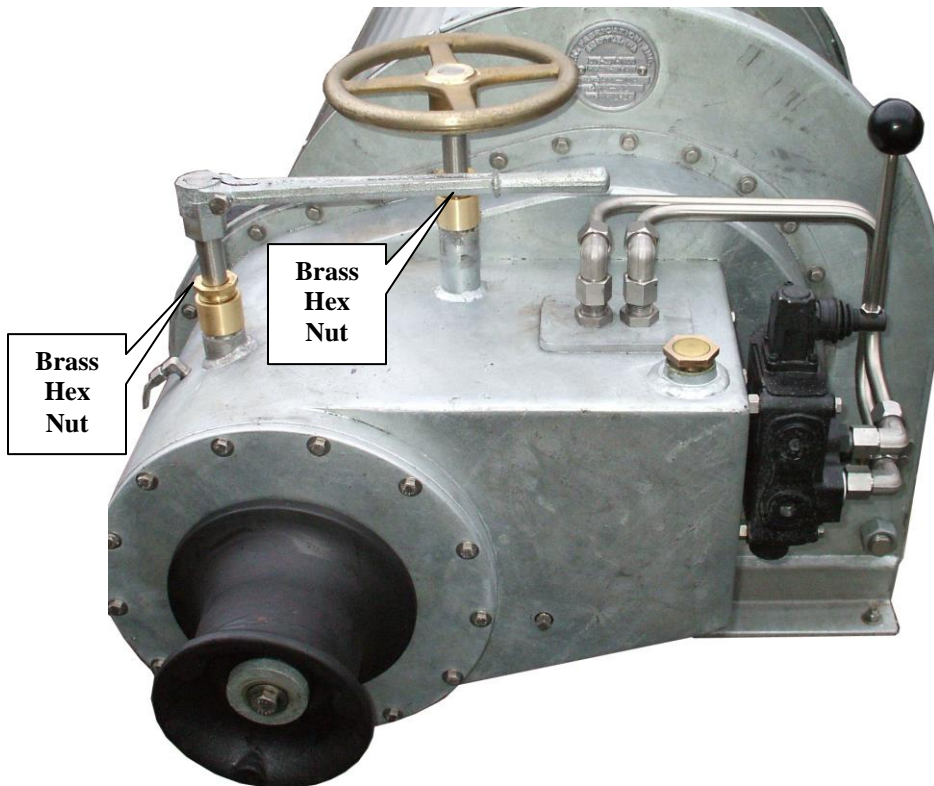


Figure 12- (2) brass hex nuts

→ **NOTE:** The **J.K. Fabrication** Reduction Drive Anchor Winch is designed to develop very high (and potentially dangerous) line pull torque. Consult with **J.K. Fabrication** or a licensed Hydraulic Company to ensure proper Hydraulic Connections, Hydraulic Line Sizes, Hydraulic Flows and Hydraulic Pressures.

# Winch Specifications

## 32-24 Clutched

Valve # Walvoil SD-18/1-P(KG3)/18L/AET 1 Spool

Motor # White Hydraulics 500300A3120AAAAA

Primary drive chain 60-Double x 51.875"

Secondary drive chain 120 Heavy x 61.625"

Maximum continuous pressure and flow 3000 PSI @ 22 GPM

Recommended hydraulic oil ISO 46, Viscosity 100-200 SUS, Max operating temp 180 degrees F

## 36-30-1500 Clutched

Valve # Walvoil SD-18/1-P(KG3)/18L/AET 1 Spool

Motor # White Hydraulics 500540A3120AAAAA

Primary drive chain 60-Double x 51.875"

Secondary drive chain 140 Heavy X 89.187"

Maximum continuous pressure and flow 2000 PSI @ 20 GPM

Recommended hydraulic oil ISO 46, Viscosity 100-200 SUS, Max operating temp 180 degrees F

Chain case oil 9 gallons -40WT.

## 40-30-3000 Clutched

Valve # Walvoil SD-18/1-P(KG3)/18L/AET 1 Spool

Motor # White Hydraulics DT series 64 C.I. #7011K1W8630ZAAAA

Primary drive chain 80 Double x 71"

Secondary drive chain 140 Double x 89.187

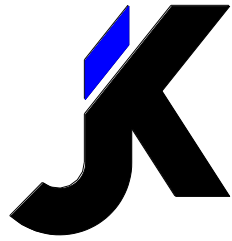
Maximum continuous Pressure and flow 2000 PSI @ 25 GPM

Recommended Hydraulic oil ISO 46, Viscosity 100-200 SUS, Max operating temperature 180 degrees

Pressure and return line size -16 SAE, case drain required 3/8" NPT

Maximum anchor weight 3000 Lbs.

Total Chain case reduction ratio 17.72-1



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## LIMITED WARRANTY

**J. K. Fabrication, Inc. warrants each new Product to be free from defects in Material and Workmanship for a period of one (1) Year from date of shipment by J. K. Fabrication, Inc.'s factory when properly installed and maintained in an application consistent with its intended normal use.**

**No product will be eligible for warranty due to lack of lubrication in the assemblies, or from neglect from maintaining proper lubrication in the assemblies. Otherwise, should any product be found under normal use and service during the warranty period to be defective, J. K. Fabrication, Inc. will, at its option, repair or replace such product F.O.B. Seattle, Washington, USA, provided such product is returned to the location designated by J. K. Fabrication, Inc., Freight Prepaid, and inspection by J. K. Fabrication, Inc. establishes the defect to the satisfaction of J. K. Fabrication, Inc. Any replacement provided under this warranty will be warranted for the remainder of the warranty period applicable to the product in which it is installed or which it replaces.**

**This warranty shall not apply to a product upon which repairs or alterations have been made, unless authorized by J. K. Fabrication, Inc., or to a product which has been misused, neglected, improperly maintained, improperly lubricated, incorrectly installed or used beyond the limits of the product rating; nor shall this warranty apply to any product manufactured in accordance with specifications of the buyer, and J. K. Fabrication, Inc. shall have no responsibility or liability for such product.**

**Buyer's remedy under this warranty is exclusive and is limited to repair or replacement as provided herein. J. K. Fabrication, Inc. shall not in any event be liable for consequential or incidental damages, regardless of whether such damages arise from contract or tort, including negligence, nor shall J. K. Fabrication, Inc. be held liable for any expenses, lost incomes, attorneys' fees or delay caused by defective material or workmanship. No allowance will be made for repairs, replacements or alterations unless made with the written consent of J. K. Fabrication, Inc.**

**This warranty is expressly in lieu of any other warranties, whether written or oral, express or implied, including any warranty of merchantability or fitness for a particular purpose.**

**→ WARNING ←**

**J.K. Fabrication, Inc. Winches and Products are not designed, nor are they to be used, for operations involving the lifting or moving of personnel. J.K. Fabrication, Inc. will not be held liable nor responsible for any accident resulting from such use.**

Make sure to hook up the case drain (40-30 only) that returns to tank under low pressure. We recommend changing the 40 wt. motor oil in the chain case once a year as condensation will build up and dilute the lubricating oil in the chain case. On top of the chain case are two 1" diameter vertical stainless steel shafts. One operates the hand brake wheel and the other operates the jaw clutch for engage and disengage. You will see a brass hex nut on each of these two shafts at the base. From time to time check to make sure that the upper brass hex nut is tightened snug but not too tight. This keeps the packing material inside tight to keep water and moisture from entering the chain case. The only grease fitting is located on the center bearing plate on the opposite side of the winches chain case. Grease on a regular schedule depending on usage. Please make sure all your crew and different marine vessels have a copy of this information, [www.jkfabrication.com](http://www.jkfabrication.com)