



**OWNER'S MANUAL**  
**VSD6000, VSD7500 & VSD10000**  
**24 Volt DC / 120 Volt AC**  
**Boat Lift Systems**  
(patented Easy-Level leg system)



*Retain this manual for future reference.*



**ATTENTION**



**ATTENTION**



**ATTENTION**

**Read and follow all safety rules and operating instructions  
carefully before attempting to install or operate lift system.**

Dear Friend,

*Congratulations on the purchase of your new FLOE Boat Lift! Like you, I enjoy many kinds of waterfront activities, and I know that to have fun I need to keep my boat secure, protected, and accessible. Through my years of experience, I've learned how boat lifts should not only protect your watercraft investment, but also be convenient and easy to use - and I have developed them accordingly.*

*The fact that you purchased a FLOE boat lift tells me that you research a product thoroughly. You will find a FLOE boat lift has many innovative features that will ensure years of dependable service, satisfaction, and enjoyment.*

*Because your FLOE boat lift is engineered to lift and support a tremendous amount of weight, it is critical that you operate it safely. Anyone who operates this lift must read the entire owner's manual before operating the lift to make sure they are able to operate it properly and enjoy all of its features to the fullest. See you on the water!*

Wayne Floe , CEO - FLOE International



## CONTENTS

Important Safety Information.....	2	Vertical Guide-In Selection & Adjustment .....	18
Letter from Wayne Floe .....	2	Selecting Guides .....	18
Important Safeguards .....	4	Adjusting Guides .....	18
Boat Lift Capacities.....	5	Boat Placement/Motor Stop .....	19
Is your lift's capacity adequate for your boat? .....	6	Proper Canopy Frame Positioning .....	20-21
Boat Lift Dimensional Specifications.....	7	Canopy Fabric Installation .....	20-21
Drive Train & Ball Screw .....	8	Canopy Wind Precaution .....	21
Power System.....	8	Canopy Fabric Removal .....	21
Electrical Connection Panel .....	8	Canopy Fabric Folding Instructions .....	22
Batteries & Charging Options .....	9-10	Canopy Fabric Care & Cleaning .....	22
Wired Remote & Optional Wireless Remote .....	12	Optional Canopy Lighting Package .....	23
Lowering Lift Manually .....	13	Inspections & Maintenance.....	23-25
Leveling Boat Lift .....	13-14	VSD pre-installation check list .....	27
Boat Lift Installation & Removal Options .....	15	VSD-7500 Exploded View.....	28-29
Boat Lift Wheel Kits .....	15	VSD-7500 Parts List .....	30
Float & Roll.....	16	Warranty .....	31-33
Full Length Bunk Set Up.....	17		
Determining Proper Width .....	17		
Determining Proper Height.....	17		

It may also be beneficial to view the lift portion of FLOE's marine video, "A Look Into FLOE Dock & Lift Systems."

# IMPORTANT SAFETY INFORMATION

Your safety and the safety of others is very important. We have provided many important safety messages in this manual and on your lift system. Always read and obey all safety messages.

If you do not understand any of these instructions, please ask your dealer or call FLOE Customer Service at 218-426-3563 or toll free 800-336-6337.



This is the safety alert symbol. This symbol alerts you to hazards that can cause serious injury or potential death to you and others, plus damage to the lift system. All safety messages will be preceded by the safety alert symbol and the word "DANGER", "CAUTION" or "WARNING."

**All safety messages will identify the hazard and tell you how to reduce the chance of injury.**

## **DANGER**

You will be killed or seriously injured if you don't follow instructions.

## **CAUTION**

You can be killed or seriously injured if you don't follow instructions.

## **WARNING**




Failure to take appropriate action could result in mechanical failure, product damage and/or cause serious injury or potential death.

## **WARNING**






### IMPORTANT SAFEGUARDS

**Read and follow all safety rules and operating instructions carefully before attempting to install and operate lift system**

## **DANGER**

-  Never allow anyone on or under this lift system, especially while it is being operated, or it is supporting the weight of a watercraft.
-  Stay clear of boat lift when someone is entering or exiting the lift with a boat. Never try to assist the boat's direction while it is in motion (either from inside or outside the boat).
-  Never work on or make adjustments to boat, boat lift or boat lift accessories while the lift is supporting the weight of the boat.

## **CAUTION**

-  While operating the lift, keep all body parts, long hair, loose clothing and jewelry away from all moving parts, including (but not limited to) the drive-train mechanism, cables, pulleys and lift platform.
-  Be sure the lift cradle is completely lowered before any adjustments or repairs are made to the winch or drive-train mechanism.
-  Always keep all people clear of the boat lift support structure and lifting cradle. Never swim or play near a boat lift, even if it is not being operated.
-  Make sure the boat lift is completely clear of people or other obstructions prior to operating. Do not operate a boat lift with people inside the boat.
-  Never operate a boat lift with protective cover removed from drive train system.

**If the boat lift system is not assembled, installed, or operated properly, mechanical failure, as well as serious injury or death, could result. See to it that all users understand that this lift system is a piece of heavy equipment that requires the use of good judgement and the knowledge of its dangers and limitations.**

## **WARNING**

- ⚠ Lift must be assembled and installed properly or mechanical failure and possible injury may occur.
- ⚠ Never overload a boat lift. See capacities/specifications for important information regarding the boat's actual weight and boat lift capacity limitations.
- ⚠ If watercraft is open to the accumulation of rain water, be sure boat's drain plug is pulled. Additional water weight may cause the maximum lift capacity to be exceeded, resulting in potential lift damage or bodily injury.
- ⚠ Never operate a boat lift that is not level. Under normal conditions a boat lift operates under extreme force. When the lift is not level, these forces are greatly multiplied and bodily injury or damage to the lift can result.
- ⚠ Perform all inspections and maintenance on a regular basis. Replace any worn parts immediately to avoid potential lift failure. Ensure all pulleys are operating properly and that all cables and their attach points are secure and free of excessive wear and fraying. See Inspections & Maintenance section for all important details.
- ⚠ Never lift a tour boat with water filled ballast bags. This extra weight will overload the lift.
- ⚠ Bodily injury or damage to lift system may result if installation or removal of this lift is attempted without first reading and understanding the installation and removal section of this manual.
- ⚠ If this unit is equipped with a canopy, severe wind damage may occur if the lift is not securely held down to the lake bottom by screw anchors or by some other means.
- ⚠ FLOE lift systems have not been tested in brackish or salt water conditions. Lift failures due to installations in brackish or salt water locations will not be covered by FLOE's warranty. FLOE will not be responsible for incidental or consequential damages resulting from these installations.
- ⚠ Never install the lift system in a body of water whereas either the rising water or wave action will not always flow under the main lift beam. For example, do not install lift in bodies of water with significant water fluctuation or large water bodies that have excessive wave action.
- ⚠ The electrical system is not designed to be substantially saturated, immersed or submerged in water. FLOE will not be responsible for incidental or consequential damages resulting from electrical damages in these situations.

This manual is intended to serve as an owner's use and maintenance guide for a lift that has been properly assembled by a qualified, trained professional. Detailed assembly instructions are packaged with the lift systems.

**All dealers should have reviewed the checklist below with retail customers upon purchase of a boat lift. If they did not cover this, retail customers must review thoroughly and understand the statements below.**



## **Certificate of Boat Lift Pre-Delivery**

Date of Purchase \_\_\_\_/\_\_\_\_/\_\_\_\_ Boat Lift Model \_\_\_\_\_

Customer Delivery: Each item must be initialed by the selling dealer upon sale.

- \_\_\_\_\_ I understand that the boat lift must be properly assembled and must be tested prior to use with a boat.
- \_\_\_\_\_ I understand that a serious injury or death could occur if a boat lift is overloaded, not correctly assembled, installed, maintained or not used properly.
- \_\_\_\_\_ I was given an owner's manual and I promise to read and understand it before using the boat lift.
- \_\_\_\_\_ I understand that it is my responsibility to get clarification on anything in the owner's manual that I don't fully understand before using the lift system.
- \_\_\_\_\_ I understand that I must educate all persons who will be around or using my boat lift as to how to do so safely.
- \_\_\_\_\_ I understand that people must stay clear of the boat lift when it is supporting the weight of the boat. No one should ever swim under it, be on it, in the boat, or in any position that could cause harm to them if the lift were to suddenly drop.
- \_\_\_\_\_ I understand safe operation of the lift requires people to stay clear of moving parts and pinch points.
- \_\_\_\_\_ I understand that a boat lift should never be overloaded under any circumstance. A boats published dry weight is usually substantially lower than its actual loaded weight. Your boat should be weighed with fuel, water, batteries and contents in order to know its actual weight.
- \_\_\_\_\_ I understand the total capacity of the boat lift is equal to the combination load limit of the two main end lift beams. For instance, a lift with a 5,000 pound capacity has a load limit of 2,500 per lift end beam.
- \_\_\_\_\_ I understand that a 5,000 pound total boat weight could easily over-load one of the main lift beams on a 5,000 pound capacity lift. For instance, if the boat was positioned so that one main lift beam supported 3,000 pounds and the other only supported 2,000 pounds, the lift would be over-loaded. For this reason, FLOE recommends that your total loaded boat weight doesn't exceed 85% of the lifts rated capacity and that you locate and place the boat's center of gravity (balance point) in the center of the two lift beams.
- \_\_\_\_\_ I understand that the boat lift needs to be installed level and must be kept level while it is in use. A lift that isn't level will have a reduced lifting capacity of 5% per 1" of being out of level.
- \_\_\_\_\_ I understand that I need to pull the drain plug on my boat if it is subject to water accumulation as this could easily overload the boat lift.
- \_\_\_\_\_ I understand that I should never lift my boat if it has been swamped or has any significant additional water weight in it that will overload the boat lift's capacity.
- \_\_\_\_\_ I understand that if my lift is equipped with a canopy it must be properly secured or it could blow over and cause damage not covered under warranty.
- \_\_\_\_\_ I understand that I must discontinue using the lift immediately and contact my FLOE dealer if any unusual sounds or functionality are present.
- \_\_\_\_\_ I understand I must follow all inspection and maintenance procedures as outlined in my owner's manual.

Selling Dealership Name \_\_\_\_\_

Selling Dealership Signature \_\_\_\_\_

Print Name

Customer Signature \_\_\_\_\_

Print Name

# LIFT CAPACITIES

It's recommended that the total loaded weight of the water craft doesn't exceed 75 to 85% of the total lift capacity.

The total capacity of a lift is the combined capacity of each of the boat lifts two main lifting beams.



## WARNING

Never exceed the lift's rated capacity. Doing so could cause structural/mechanical failure and serious injury or death.

Never exceed the weight capacity of either main lift beam. For instance a 5,000 `lb capacity boat lift is limited to 2,500 lbs for each main lift beam. It is very easy for a 4,000 lb boat to exceed the capacity of a 5,000 lb boat by not parking on the lift in the correct position.

### BEFORE PUTTING A BOAT ON THE LIFT YOU NEED TO KNOW THREE VERY IMPORTANT THINGS:

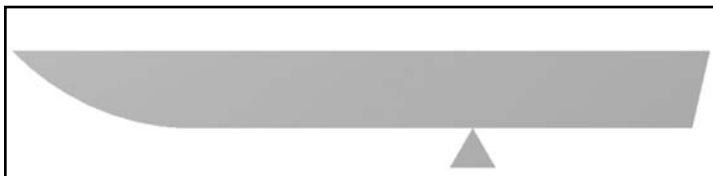
#### 1. Determine the total loaded boat weight?

Weigh your boat loaded with fuel, water and everything in that you could ever have in it when it is parked on the boat lift. Not all manufacturers published boat weights are accurate because they don't account for motors, gear, fuel, water, etc.

#### 2. Determine the boats center of gravity or CG?

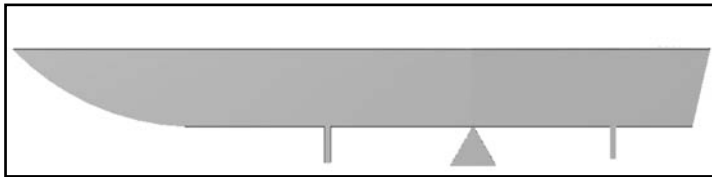
A boat's CG is the location under the boat hull which the boat will balance if sitting on a narrow object. Your dealer or the manufacturer of the boat should be able to help you locate the boat's CG. Be sure that the motor and gear weight have been taken into consideration.

See Illustration A.



**Illustration A:** above shows the boat's balance point of center of gravity (CG).

#### 3. The boat should be parked so that the boat's CG or balance point is centered between the two main lift beams. See Illustration B.

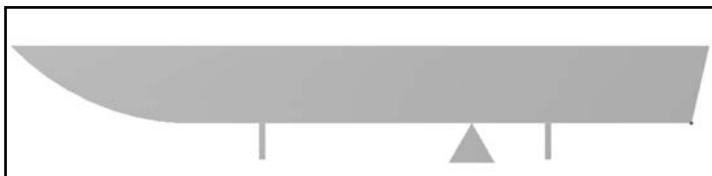


**Illustration B:** shows the boats center of gravity (CG) centered between the two main lift beams the fact that each of the lift beams is supporting the same amount of weight.

Once you know that your boat is well within the boat lifts rated capacity and the location of the boat's CG develop a positioning method that will ensure that all users of the boat lift will park with the Boat's CG in the center of the lift. Here are a couple of suggestions to do this consistently:

- Use a motor stop.
- Note the proper location of the boat on the lift and use some sort of marking system or labels.
- If equipped with canopy, center the canopy over the boat when the boat's CG is in the center of the lift, park with the boat centered under the canopy.
- You can even hang an object such as a tennis ball so it just touches the windshield when the boat is properly positioned.

If your boat is not positioned properly, you can extremely overload one of the main lifting beams. See Illustration C.



**Illustration C:** shows a boats center of gravity improperly positioned so that it extremely overloads one of the main lifting beams.

## HOW TO DETERMINE IF YOUR LIFT'S TOTAL CAPACITY IS ADEQUATE FOR YOUR BOAT

The best and most accurate way to determine whether the lift's capacity is adequate is to log onto FLOE's website, [www.floeintl.com](http://www.floeintl.com), and click on the *Boat Lift Selector program*. This program will calculate optimal boat positioning and guide you to the best lift selection for your boat. It even has a link that will help you determine the weight of your craft. Your dealer can also assist you in making the best choice.

**The following simple exercise is a second, but less accurate way, to manually determine the lift capacity needed for your boat:**

1. Obtain the boat's actual total weight including motor, fuel, water, equipment, accessories, etc.
2. Subtract the weight of the motor and fuel from this number.
3. Take the boat's weight, (the result of step 2), divide it in half and add the weight of the motor and fuel to that number. This number is the approximate weight that the rear lift beam will need to support.
4. Take this number and multiply by two. This will equal the approximate minimum rated lift capacity needed for the boat.

For instance: If the boat is an I/O that has a total loaded weight of 2900 lbs. and the fuel, motor and lower unit weigh approx. 800 lbs. it would be calculated as follows:

- $2900 - 800 =$  a boat only weight of 2100 lbs.
- $2100 / 2 = 1050$  lbs. This is the approximate boat weight that will be supported by each lift beam (not including motor and fuel).
- $1050 + 800 = 1850$ . This is the approximate actual weight that the rear beam will need to support.
- $1850 \times 2 = 3700$ . This is the minimum overall boat lift capacity needed.

This example does not include any additional hardware or accessories that would affect the capacity needed.

## WARNING

You must weigh your boat fully loaded, including fuel, gear, etc. to get its accurate weight. It is common for published dry weights to be considerably lower than actual loaded weights. Lift and/or boat damage due to overloading is not covered by your warranty.

**EACH LIFT BEAM IS RATED TO SUPPORT ONE-HALF OF THE LIFT'S TOTAL CAPACITY.**

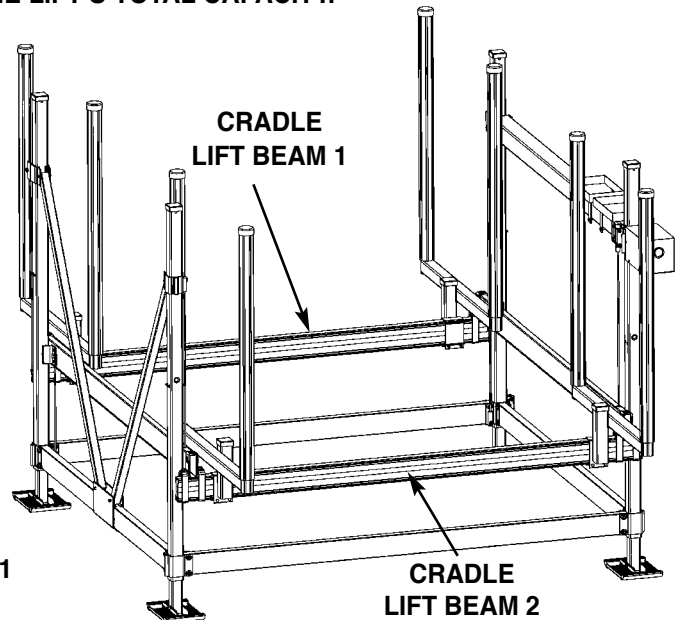


Fig. 1

**VSD-6000**

Each lift beam has a total capacity of 3000 lbs.

**VSD-7500**

Each lift beam has a total capacity of 3750 lbs.

**VSD-10000**

Each lift beam has a total capacity of 5000 lbs.

## WARNING

If watercraft is open to the accumulation of rain water, be sure boat's drain plug is pulled. Additional water weight may cause the maximum lift capacity to be exceeded, resulting in potential lift damage or bodily injury.

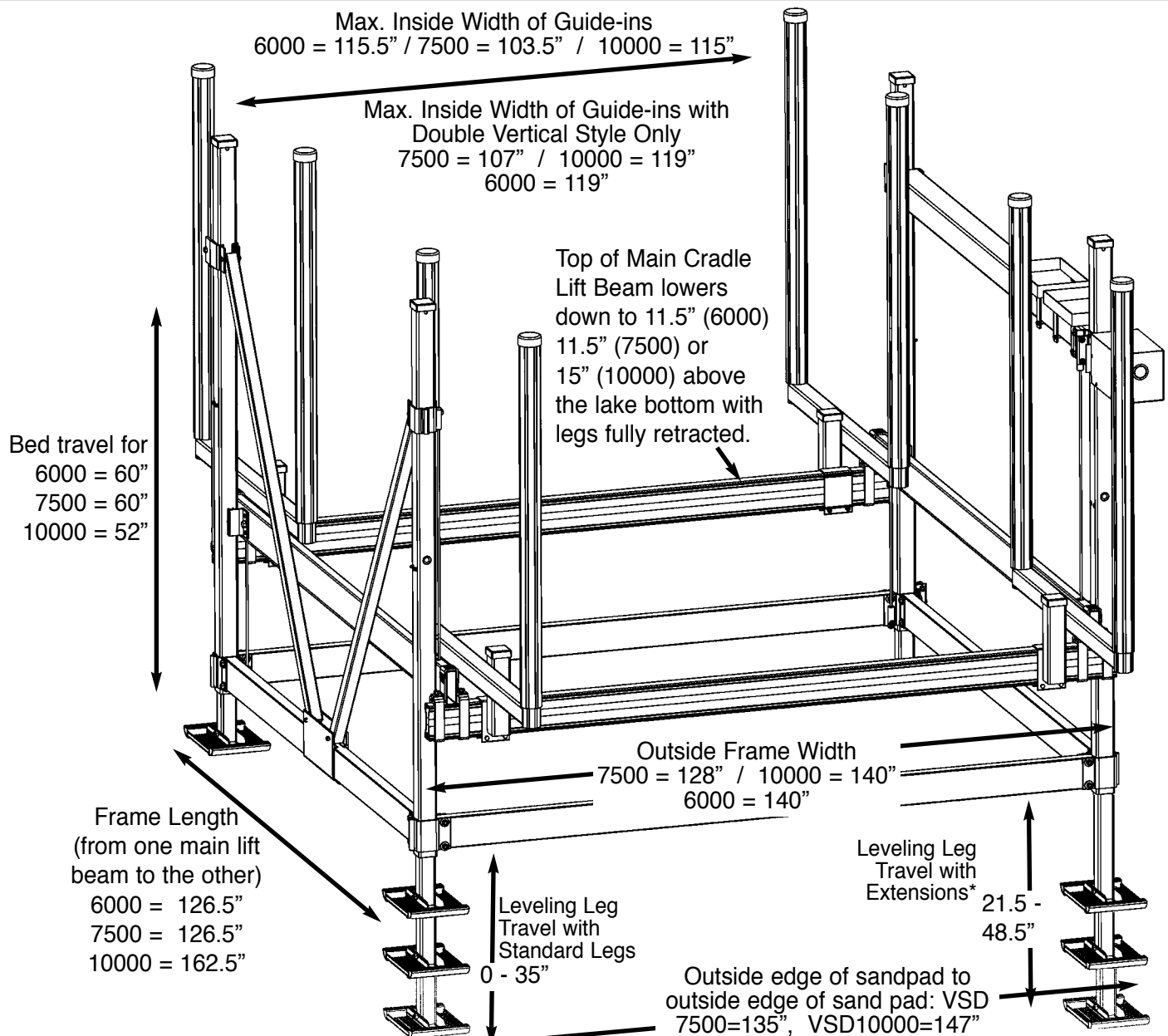
**This is a guideline only. It is the operator's responsibility to ensure capacities are not exceeded.**

# LIFT DIMENSIONAL SPECIFICATIONS

MODEL/ CAPACITY	DRIVE TRAIN	BUNKS	BED TRAVEL	INSIDE WIDTH	OUTSIDE WIDTH	FRAME LENGTH
VSD-6000	Screw-Drive	Cradle Pads	60"	132"	140"	126.5"
VSD-7500	Screw-Drive	Cradle Pads	60"	119"	128"	126.5"
VSD 10000	Screw-Drive	Cradle Pads	52"	132"	140"	162.5"

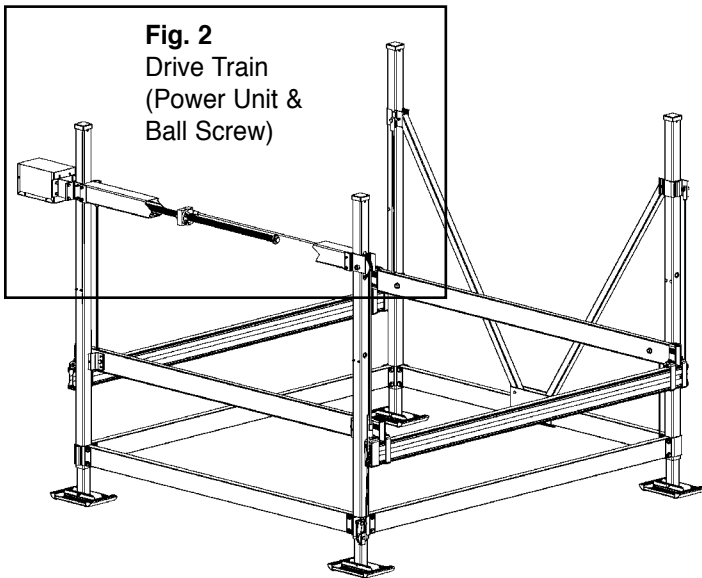
MODEL/ CAPACITY	LEVELING LEG TRAVEL	TRAVEL WITH EXTENSIONS*	CANOPY OPTION	GUIDE-IN OPTIONS	MAX INSIDE WIDTH WITH GUIDE-INS	WEIGHT**
VSD-6000	0 - 35"	21.5 - 48.5"	24', 26', 28', 30', 32'	<u>vertical</u> double vertical	115.5" 119"	747 lbs.
VSD-7500	0 - 35"	21.5 - 48.5"	24', 26', 28', 30', 32'	<u>vertical</u> double vertical	103.5" 107"	731 lbs.
VSD-10000	0 - 35"	21.5 - 48.5"	28', 30', 32', 36'	<u>vertical</u> double vertical	115.5" 119"	1,010 lbs.



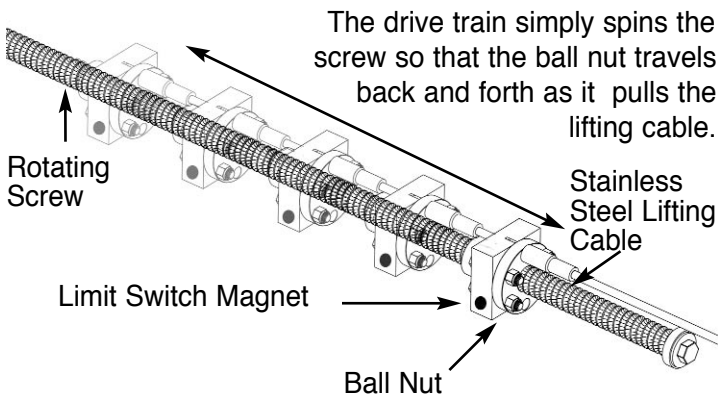
\* Deep water extensions available. \*\*Does not include the weight of the bunks, guides, or other accessories.

## DRIVE TRAIN & BALL SCREW

This boat lift is equipped with FLOE's exclusive Vertical Screw Drive (VSD) drive train technology. The VSD system replaces the common winch style drive-train common to most boat lifts. It uses DC or AC powered, high-torque electric motor along with a ball-screw and ball-nut mechanism. See **Fig 2**.



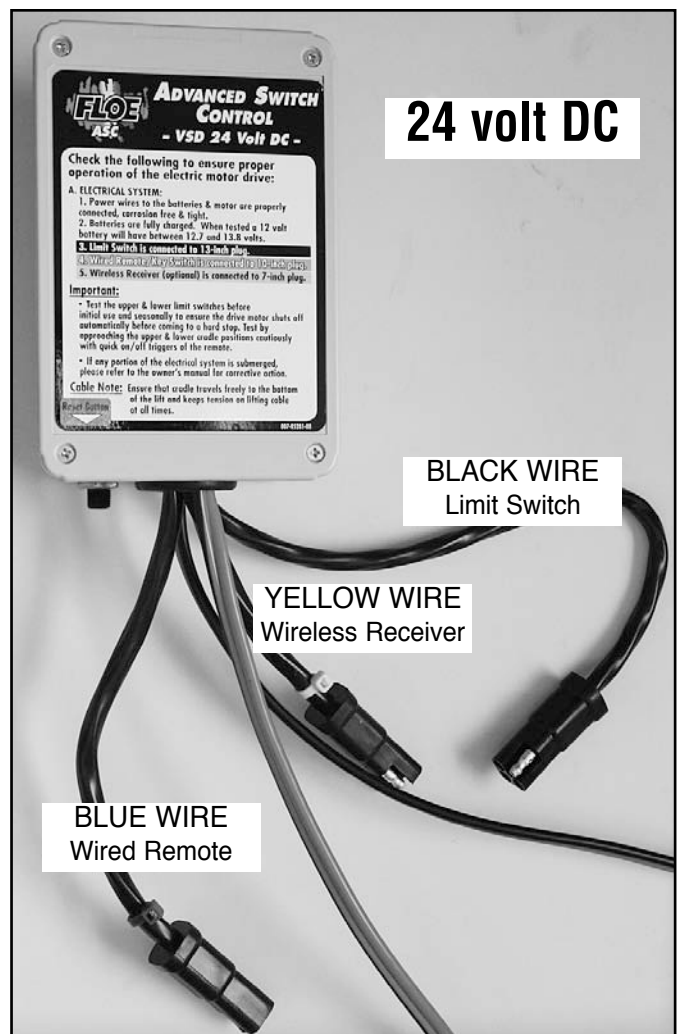
When operated, the motor turns the ball-screw, allowing the ball-nut to travel back and forth along the screw. This raises and lowers the lift, as shown in **Fig. 3**.



Maintenance and trouble-shooting tips for the exclusive drive-train system are addressed later in this manual.

This efficient drive train has enabled FLOE to design a lift for mid-sized boats that is easily powered by a 24-Volt battery system or a 120-Volt AC power system, and to develop a line of optional accessories to keep the batteries charged effortlessly.

To prepare your VSD lift for operation, you should first understand the basics for setting up the electrical features of the lift, and especially the importance of the limit switch safety feature.



**Fig. 4 Advanced Switch Control (ASC).** Top image is a 24 volt DC powered unit.

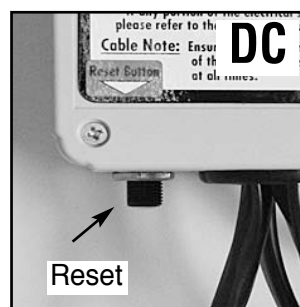
## ADVANCED SWITCH CONTROL (ASC)

The Advanced Switch Control (ASC) (**Fig. 4**) is located on a separate box. It is designed to allow for easy hook up of standard and optional components as well as the resetting of tripped circuits.

- The black wire is for the limit switch.
- The blue wire is for the wired remote/key switch.
- The yellow wire is for the wireless receiver.

The resetable circuit breakers are designed to trip if there is a short in the wires. The DC version has one reset for the radio remote receiver and the optional flood lights. The AC version has two resets, one for the radio remote receiver

and optional flood lights and the other reset is for the drive motor. If one trips you can reset it by pressing in the reset button. If it continuously trips refer to the trouble shooting section of this book. (**Fig. 5**)



**Fig. 5**

## CHECK THE FOLLOWING TO ENSURE PROPER OPERATION OF THE ELECTRIC MOTOR DRIVE...

### Electrical System:

1. Power wires to the batteries & motor are properly connected, corrosion free & tight.
  2. Batteries are fully charged. When tested a 12 volt battery will have between 12.7 and 13.8 volts.
  3. Limit Switch is connected to 13-in. plug.
  4. Wired Remote/Key Switch is connected to 10-in. plug.
  5. Wireless Receiver (optional) is connected to 7-in. plug.
- Important:** • Test the upper & lower limit switches before initial use and seasonally to ensure the drive motor shuts off automatically before coming to a hard stop. Test by approaching the upper & lower cradle positions cautiously with quick on/off triggers of the remote.
- If any portion of the electrical system is submerged, please refer to the owner's manual for corrective action.
- Cable Note:** Ensure that cradle travels freely to the bottom of the lift and keeps tension on lifting cable at all times.

# 120 VOLT AC WARNING

For the AC power connection please contact a licensed electrical contractor to ensure a safe connection.

You must have 120v/20amp service to the connection on VSD drive train.

**WARNING**

POWER CONNECTION TO THE FLOE 120 VOLT AC VSD DRIVE UNIT MUST BE MADE BY A QUALIFIED LICENSED ELECTRICAL CONTRACTOR USING THE APPROPRIATE 20 AMP G.F.I.C. (GROUND FAULT INTERRUPT CIRCUIT) PROTECTION DEVICE. THIS UNIT MUST BE LOCATED AT THE LEAD END OF THE POWER SUPPLY TO PREVENT ANY UNPROTECTED CURRENT FROM COMING IN CONTACT WITH WATER. FAILURE TO DO SO MAY RESULT IN SEVERE INJURY OR POSSIBLE DEATH AND WILL VOID THE WARRANTY.

101-11223-00

## SELECTING THE BATTERIES FOR 24-VOLT DC MODELS

Batteries are not included with the lift system. The recommended batteries (**Fig. 6**) are two 12-Volt, deep-cycle, Group 27 (case size), with 600 cold cranking amps and stud post terminals with wing nuts (lead top posts). An Interstate SRM-27 meets this criteria.



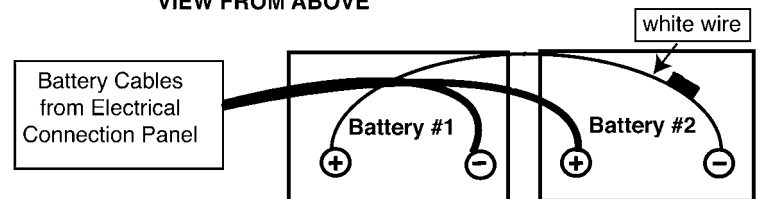
**Fig. 6 Recommended Battery**

## CONNECTING THE BATTERIES

The DC lift comes standard with two battery trays and plastic battery boxes as well as the wiring kit to connect them to the lift's control panel.

The two 12-Volt batteries connect together in series to create a 24-Volt system. It is important that the two deep-cycle batteries are connected to the cables leading from the electrical connection/circuit breaker panel **exactly** as shown in **Fig. 7** below. This 24-Volt system will reduce the amperage draw on the batteries, and maximize battery life.

**VIEW FROM ABOVE**



*Keep the cables from the connection panel inside the battery boxes by running them through the first box, and then into the second. The white battery interconnect wire should also be contained within the boxes.*

**Fig. 7 - 24 Volt System**

**Fig. 8 Battery Boxes & Trays**  
(Note how cabling from drive train control panel is neatly stowed and completely contained within the battery boxes.)



## WARNING

All battery and motor connections must be corrosion free and tight. If not maintained properly, excessive heat will be generated which can melt the connections.

## WARNING

Batteries that are improperly connected can cause damage to the lift system, the batteries, and a potential explosion.

## CHARGING THE BATTERIES

In order to achieve peak lift performance and maximum battery life, the batteries must be properly charged and maintained. If batteries are run down or faulty, the lift system will either move very slowly or not at all.



## WARNING

When charging batteries, it is important to follow the manufacturer's instructions for both the battery and charging systems to ensure that batteries are not damaged by improper or over charging.

### Charging Option #1

To charge the batteries with a 12-volt deep cycle charger, remove the battery box lids to access the battery posts and charge each battery individually, as you would normally. Connect the charger's positive (red) clamp to the positive terminal on Battery #1, then connect the negative (black) clamp to the negative terminal on Battery #1. Repeat these steps for Battery #2.

### Charging Option #2

To charge both batteries at once, use a 24-volt DC deep cycle charger. A charger that meets this criteria is a Schumacher SE-10MA 12/24 volt deep cycle charger, which can be found at [www.batteries.com](http://www.batteries.com). Follow these simple steps:

**Step 1:** Remove the battery box lids. Connect the charger's positive (red) clamp to the positive post on Battery #2. (See Fig. 7)

**Step 2:** Connect the negative (black) clamp to the negative terminal of Battery #1. Charge the batteries per manufacturers' instructions for both the battery and the charger.

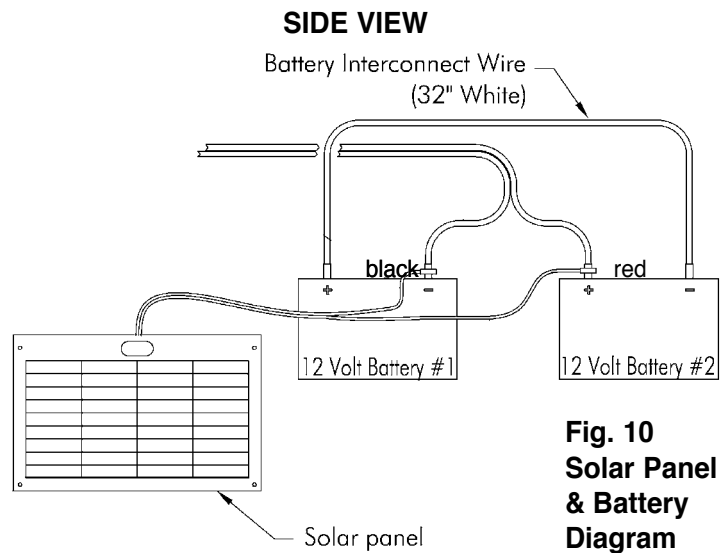
*Note: You will attach the charger's clamps to the same battery posts that the cables coming from the drive train box control panel use. The same applies to the solar panel hook-up shown in Fig. 10. **Never attach the connectors for the charger or solar panel to the same battery terminals used by the white interconnect-battery wire.***

**Charging Option #3** - To maintain battery charge with the optional FLOE 24-Volt solar panels, mount panels per included instructions and wire it to the batteries as shown in Fig. 10. Be sure the panels faces the sun during peak daylight hours. A solar panel provides continuous charging on sunny days. A 24V system is shown in Fig 11. A corner post mount is also available for lifts without canopy systems.

NOTE: Solar panels will only maintain a charge on batteries. Be sure batteries are fully charged before installing a solar panel.



**Fig. 11**  
24 volt Solar Panel



**Fig. 10**  
Solar Panel  
& Battery  
Diagram

## REPLACING BATTERIES

Always replace both batteries at the same time with the same size, brand, and preferably the same lot number. Unmatched batteries and from different lots will cause a constant drain on the batteries and shorten the life of the batteries.

## SEASONAL BATTERY STORAGE

Fully charge the battery according to the manufacturer's instructions.



Battery boxes include a built in battery condition indicator to let you know the level of your charge.

## LIMIT SWITCH CONNECTION AND IMPORTANT INFORMATION

The VSD system is equipped with automatic upper and lower magnetic safety limit switches. The magnets for these switches are mounted to the ball nut and travel with it along the rotating ball screw (see Fig. 3 on page 6). The limit switches are contained within an aluminum housing as shown in Fig. 12.



**Fig. 12** Limit Switch Housing

As the ball nut and its magnets pass over a limit switch, the magnetic force trips the switch. Once a limit switch is triggered, it prevents the drive-train system from going beyond its normal extended or retracted travel limits. Exceeding these limits will cause severe damage to the lift or drive-train system.

The 4 prong limit switch plugs into the electrical connection black 4 prong plug. **Fig. 13**



**Fig. 13 Limit Switch 4 prong plug**

## **! WARNING**

Never operate the lift if the limit switch housing is removed, loose, or in any way disconnected. Doing so can cause severe unwarranted damage to the lift and serious personal injury or death.

## **! CAUTION**

If the lift should raise or lower by itself without operating the remote control, disconnect the battery cable ring connectors from the battery posts immediately, **if you are able to do so without the risk of injury**. Contact your local dealer or FLOE International, Inc.

## **RAISING AND LOWERING THE MAIN CRADLE LIFT BEAMS**

Before raising or lowering the main cradle lift beams, it is important that you understand how to operate the remotes, what to do should the remotes fail, and how to ensure that the lift is both level and in adequate water depth. Please read the safety statements and information in this section carefully before connecting power to the lift and operating it for the first time.

If the lift is equipped with a canopy, it is important to stop raising the boat before it or any accessories make contact with the canopy frame or fabric. *NOTE: Many boats have plug-in style bow and stern lights that while plugged in are higher than the rest of the boat. Be sure these are removed when entering or exiting the lift or lowered prior to lifting the boat to its normal raised position.*

## **! DANGER**

Never allow anyone on or under this lift system, especially while it is being operated or supporting the weight of a watercraft.

## **! DANGER**

Stay clear of boat lift when someone is entering or exiting the lift with a boat. Never try to assist the boat's direction while it is in motion (either from inside or outside the boat).

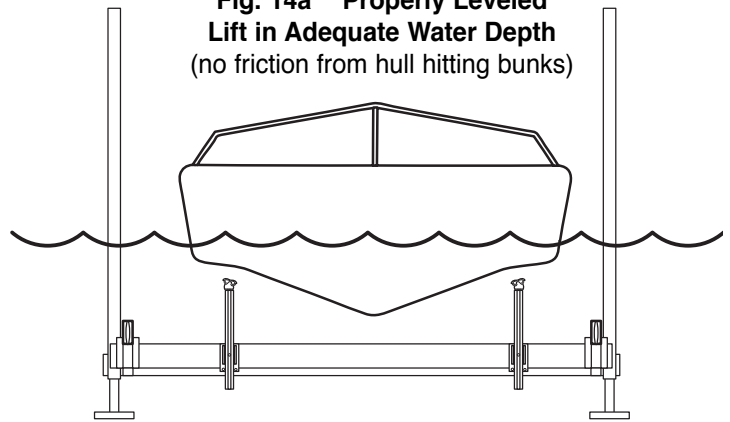
## **! WARNING**

Prior to entering or exiting the lift with your boat, you must first ensure that the lift's bunk system is lowered far enough so that no boat hull contact is made with the bunk system. Powering on or off the bunk system can cause severe damage not covered by the warranty. See **Fig. 14a**.

## **! DANGER**

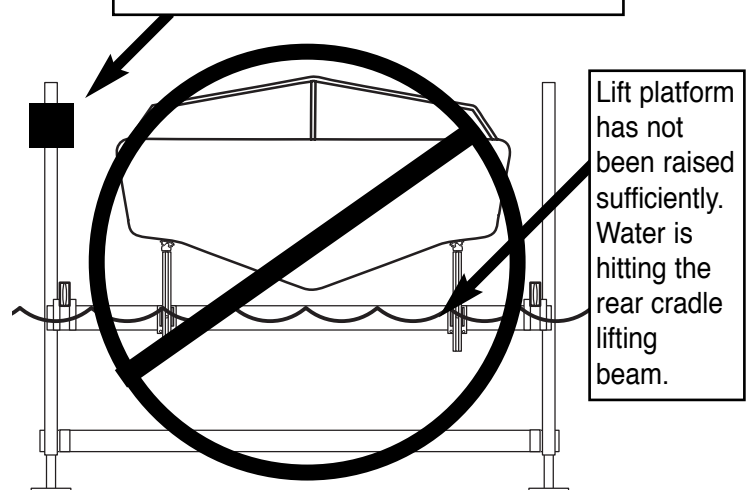
Never work on or make adjustments to boat, boat lift, or boat lift accessories while the lift is supporting the weight of the boat.

**Fig. 14a Properly Leveled Lift in Adequate Water Depth**  
(no friction from hull hitting bunks)



When the main cradle lift beams are in their lowered position on a properly leveled lift in adequate water depth, the boat floats free of the bunks as it enters or leaves the lift. (See **Fig. 14a**). When determining required water depth, take wavy conditions into consideration. There should be no chance of the boat hull lifting up on a wave and dropping down onto the bunks. Guidance on bunk placement is addressed in more detail on page 17. To maintain the optimum water level for proper lift operation, the minimum water depth is 31" and the maximum is 81" for the VSD 7500 & 10,000 models. And a minimum of 29.5" with the maximum of 69" for all other vertical and VSD lifts.

Waves or spray from waves should not hit motor. Warranty is void if motor is covered with water.



**Fig. 14b Do not let cradle lift beam act as a wave-break!**

## **WARNING**

• Submerging of the electronic components including the electric motor in water may cause lift failure that is not covered by warranty. • When properly installed the wave action will flow under the main lift beams and not break against them. This will ensure that the integrity of the lift frame and electrical system will not be compromised.

## **WARNING**

The main cradle lift beams should never act as a wave-break. Make sure that the cradle lift platform is always either raised high enough so that the waves pass under it, or lowered completely beneath the water. Waves breaking against the cradle lift beam will cause unnecessary wear on the lift's frame.

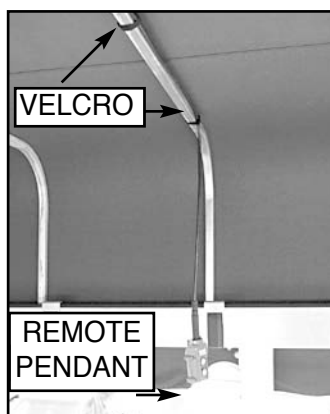
## **CONNECTING AND USING THE WIRED REMOTE**

VSD lifts come standard with a wired remote control. The remote plugs into the electrical connection panel. The wired remote plugs into the 10-in. blue plug on the ASC. To raise the lift, simply press the "UP" button, to lower the lift press the "DOWN" button. (**Fig. 16**). The lift will stop automatically when it reaches the end of its up or down travel limit or when the button is released.

The wired remote is weather resistant but not waterproof and should not be exposed to the elements. Installation under a canopy system is recommended. If the remote is not covered by a canopy, unplug and store indoors when not in use. Turn the wired remote to the off position while storing the lift to ensure power is not being drawn from the battery during the off season. *NOTE: If the remote is accidentally submerged in water, to avoid corrosion on the contacts, it should be taken apart and blown out until it is dry.*



**Fig. 16 Wired Remote**



**Fig. 17 Velcro One-Wrap**

If the lift is equipped with a canopy system, the cord on the remote should be attached with Velcro one-wrap to the canopy upright tube and the canopy hoop.

Then run the cord forward from the frame's midpoint, **or** completely across the hoop, so that the pendant can be located for easy access from either the boat or the dock. (**Fig. 17**). Refer to the assembly instructions packaged with the lift for details.

**NOTE: If lift is not equipped with an optional canopy system for routing the wires to the dock side and it does not have the wireless remote option, the lift system should be installed so that the electrical connection panel is next to the dock.**

## **CONNECTING AND USING OPTIONAL WIRELESS REMOTE**

An optional wireless remote control (**Fig. 18**) will allow operation of the lift from a distance. This remote includes a receiver, mounting post and two wireless transmitters. The wireless remote plugs into the 7-in. yellow plug on the ASC.



**Fig. 18 Optional Wireless Transmitter**

**For more details, see the assembly instructions.**

Should the remote fail to perform properly these brief steps will help to diagnose the problem.

**1. Lift moves without buttons pushed.** Unplug the wireless remote and remove the batteries from the transmitter. Plug the radio remote receiver back in, and if the lift still moves, it is possible that the wireless receiver unit is faulty. If the lift does not move, replace the batteries in the transmitter to determine if it was transmitting when it should not have been. Leave the battery out of any transmitter determined to be faulty and contact your dealer.

**2. Lift will not move when the transmitter button is pushed.** Check to ensure that the batteries in all transmitters are good. If a transmitter has been dropped in the water, dry it out or replace it. If the problem persists, it may be due to radio interference in your area. When there are two remotes and both are transmitting at the same time, one signal will cancel out the other, even if the second transmitter is for another lift.

The transmitter uses a CR2032 3-volt battery.

## **WARNING**

It is important that you never raise or lower the lift using the wireless remote until you are sure no one is on or near the lift.

## INSTALLING AND LEVELING LIFT

### EASY LEVEL™ LEVELING LEGS (patented)

FLOE vertical lifts come standard with FLOE's exclusive Easy-Level Leveling Leg. With the Easy-Level legs you can effortlessly raise, level, or lower the lift without getting in the water. Also, these legs allow for easy adjustment if the lift should settle or if the water level fluctuates measurably.

#### WARNING

Never adjust leveling legs (up or down) with a boat on the lift. The added weight of the boat will apply extreme pressure to the adjustment system causing potential mechanical failure and/or serious bodily injury.

#### WARNING

Drill will come to a sudden stop when leg is fully extended or retracted. When approaching the end of the leg's travel, reduce the speed of the drill. This will prevent you from twisting your wrist or accidentally dropping the drill. Do not use an impact wrench to adjust as this will cause damage to the lift.

When positioning the lift it is important that it is placed in adequate water depth (**Fig. 14a** on page 11). The cradle must be lowered far enough for the boat to easily float on and off without touching the lift bunks. If the boat hull rubs on the bunks when entering or exiting the lift, the horizontal forces can cause severe damage to the lift and will void the warranty on affected components.

As you prepare to install and level the lift, keep in mind how crucial it is to prevent a boat hull from rubbing or hitting the bunks or lifting beams and causing undue pressure on the lift frame. Read the warning below, and refer back to **Fig. 14a** on page 11, which diagrams a properly leveled lift in adequate water depth.

To raise or lower the lift frame, simply turn the nut inside the leg as shown in **Fig. 24**. Turning clockwise will raise the lift, counterclockwise will lower it. Use a 3/4" socket with a socket wrench or a 14 volt (or larger) cordless drill to adjust. Each of the four legs adjusts independently so the lift can be perfectly leveled. As the lift is raised or lowered, alternate among all four legs after 1-1/2" to 2" of adjustment - similar to tightening lug nuts on a tire rim. If the drill is working too hard, you are lifting too much on an individual leg and need to proceed to the other legs.

Leveling Nut Fig. 24



For leveling leg adjustment range, see boat lift specifications, page 7. The decal pictured in **Fig. 24** and **25** has a useful measuring tape so that you can see the water level on each corner post. It is important that the water level reads the same on all four corner posts. Once you determine what leg extension measurement works best for your boat and lift, you can use a waterproof marker to draw a line at that point on the tape of one corner post. This will be very helpful in following seasons, either for you or especially for a hired installer who may be unfamiliar with your boat, shoreline, and lift.



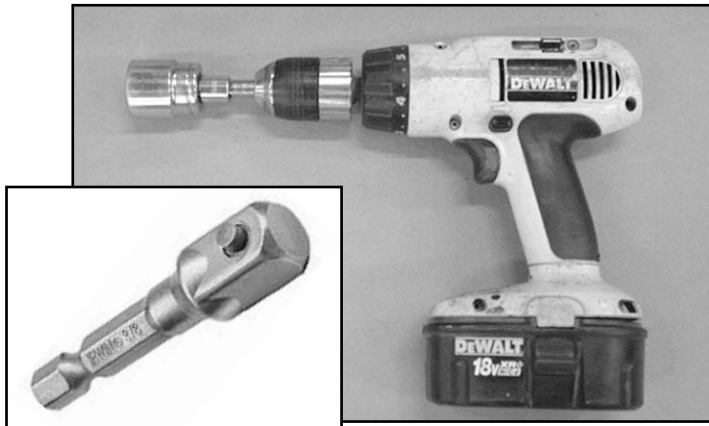
**Fig. 25**  
**Measuring Tape**  
(being permanently marked for next year's installation)

## **WARNING**

Never operate a boat lift that is not level. Under normal conditions a boat lift operates under extreme force. When the lift is not level, these forces are greatly multiplied and bodily injury or damage to the lift can result.

## **CAUTION**

Be sure people and objects are clear of the lift and the leveling leg during adjustment. As the lift is leveled, the entire lift frame will move, causing the potential creation of pinch points between the lift and dock system as well as the sand pad and lake bottom.



**Fig. 26 Cordless Drill with Socket Attachment**

The 3/8" drive socket adapter bit shown in inset photo, along with a 3/4" socket, will allow you to use a cordless drill on the leveling nuts to lower or raise the lift's legs.

## **FLOE TOOL KIT**

FLOE has provided a kit with four tools for use with your VSD boat lift.

**1. Flush Style Grease Gun Tip (Fig. 27)**

(for greasing the ball-screw mechanism)

**2. 3/8" Drive Socket Adapter Bit (Fig. 28)**

**3. Limit Switch Bypass Test Plug (Fig. 31)**

(See VSD Diagnostics on page 26 for instructions on how to use the bypass plug.)

The Velcro backed tool kit can be attached to the lift frame, so that these tools are readily available when needed. The kit is made from solution dyed polyester and has a fold-over flap to help protect these adapters from the elements.

**To attach the tool kit**

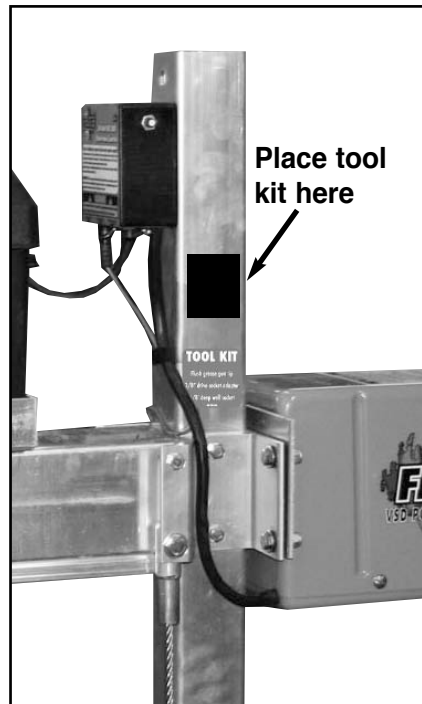
Remove the adhesive protective paper from the back of the vinyl pouch and place the tool kit on the corner post as shown, see **Fig. 30**. Now the tools will be easy for you or an installer to locate.



**Fig. 27**



**Fig. 28**



**Fig. 30**



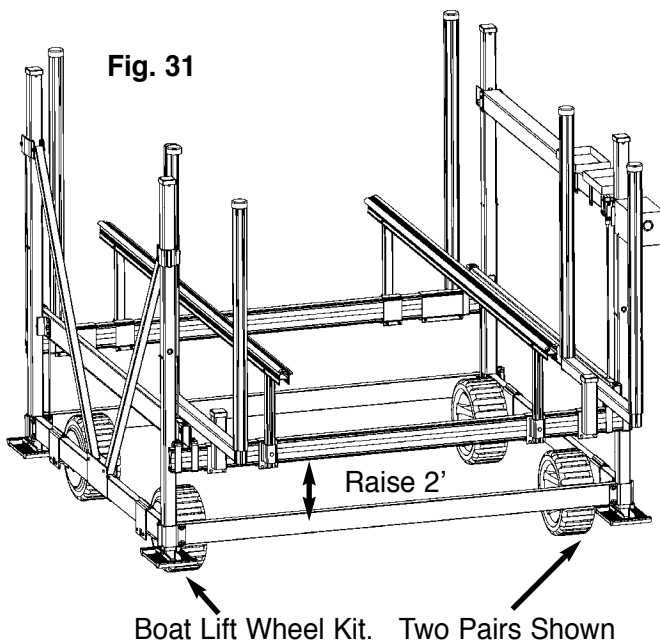
**Fig. 31**

# BOAT LIFT INSTALLATION & REMOVAL OPTIONS

If the lift is in a climate where the lakes freeze during the winter months, it may need to be installed and removed on a seasonal basis. FLOE has several accessory options designed to make this easier. With the exception of the boat lift wheel kit system, these options will be mentioned only briefly. Detailed assembly and use instructions will be packaged with the lift accessories.

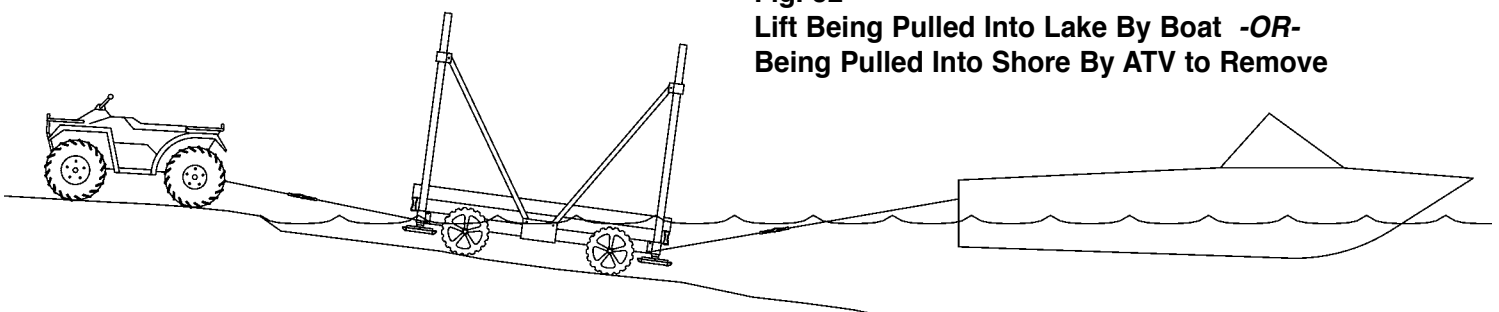
## BOAT LIFT WHEEL KITS

If the lift is in a location where it can be rolled straight in and out, we recommend using two pair of optional wheel kits as shown in **Fig. 31** below. Attach wheel kits to lift frame according to wheel kit assembly instructions included in your boat lift wheel kit.



To install the lift with the optional wheel kits in place:

1. Raise the leveling legs so they are fully retracted with a 14 volt (or larger) cordless drill or wrench and 3/4" socket.
2. Once the weight of the lift is supported by the wheels, roll the lift into position by hand, or pull it with a boat using a "Y" cable harness. (**Fig. 32 & 33**)
3. Once the lift is in place, use a drill or wrench to lower the leveling legs until the lift is level and the wheels are off the bottom.

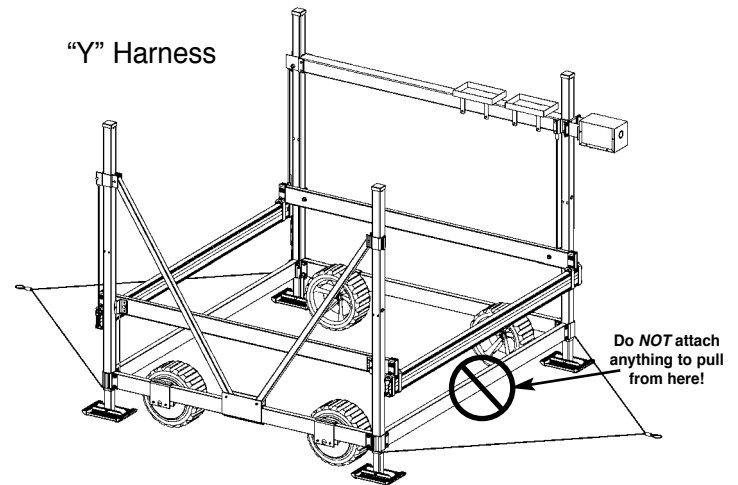


## ! WARNING

The wheels **must not** touch the lake bottom once the lift has been installed. The weight of the boat and lift **must** be supported by the sand pads only.

## CABLE & PULLEY SYSTEM

Boat lift wheel kits can be combined with the optional Cable & Pulley System to enable you to harness the power of a boat alone, or use in combination with an ATV, winch, or other similar means, to install and remove your lift. This system consists of "Y" harness cable assemblies, which can be added to each side of the lower lift frame (**Fig. 33**).



**Fig. 33** Proper Pressure Distribution on Lift Frame Using "Y" Cable Harness Set-Up

## ! WARNING

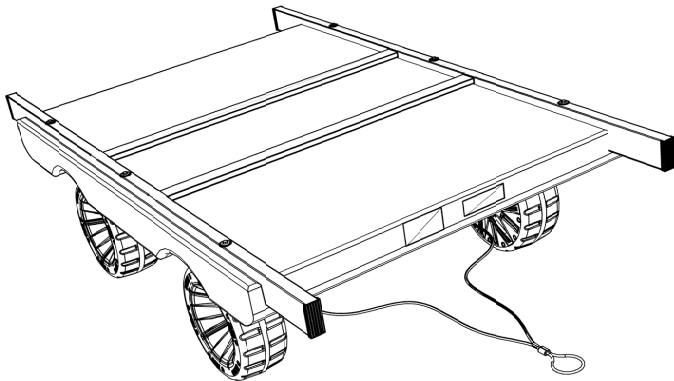
Never tie a rope, chain or cable to the **center** of a lift's frame beam. This can bend or break the beam. Always use a "Y" cable harness set-up to more equally distribute the pressure on the frame.

The "Y" harness will distribute the weight on the frame of the lift, so that you can then attach a cable, chain, or rope of appropriate length from the harness to your power source and pull the lift without damaging it.

**Fig. 32**  
Lift Being Pulled Into Lake By Boat -OR-  
Being Pulled Into Shore By ATV to Remove

## FLOAT & ROLL

The Float & Roll takes the concept behind the boat lift wheel kit system a step farther. This system uses floats and wheels to provide easy installation and removal of the boat lift. It is especially useful if the lift must be floated into a slip or cannot be simply rolled into position.



**Fig. 35 Float & Roll**

*The Float & Roll comes standard with four molded tires, and can either be used separately, or in conjunction with two pairs of Boat Lift Wheel Kits. Although the boat lift wheel kits are not required, the additional tires do not interfere with the operation of the Float & Roll and will add buoyancy when the lift is in the water.*

A detailed instruction manual accompanies the optional Float & Roll. Contact your dealer for additional information on the Float & Roll, or any of the lift accessories. To see a Float & Roll in use, view FLOE's free marine VHS or DVD video, "A Look Into FLOE Dock & Lift Systems."



### WARNING

When using any of the installation and removal accessories with a power source (such as a boat, winch, or ATV), if the lift does not move easily, **do not force it. Structural damage to the lift could result.**

## BUNK SELECTION & SET UP

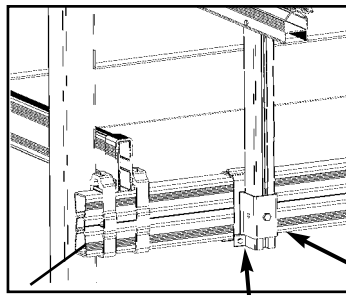
FLOE offers two different lift bunk styles to accommodate a wide variety of boat hulls. Regardless of the style you select, it is important that you follow two important rules when installing the bunk system. **1.** If the lift is in shallow water, make sure that the vertical support tubes are either set or cut short enough that they do not hit the lake bottom and prevent the main cradle lift beams from lowering completely. **2.** Always adjust the height of the cradle pads so that the boat's hull does not touch the main cradle lift beams.

## CRADLE PAD PIVOT BUNK SYSTEM

Cradle pad pivot bunks are excellent for stabilizing and providing superior support for most V-hull, Tri-hull, and tunnel-hull boats. Detailed instructions for setting up and adjusting the pivot bunks are included with the system. Ideal bunk placements are shown below in **Figs. 37**. In **Fig. 40** bunks for an inboard motor are shown. **Fig. 41** shows pads for an outboard motor.

## DETERMINING THE PROPER WIDTH

The proper width of the bunk system depends on the contour of the boat hull. As a rule of thumb, the bunks should be spread as wide as possible. If the boat is on a trailer, measure the width that will provide optimal support and hull fit. The setup of the trailer bunks may provide a helpful guide. See **Fig. 37**.



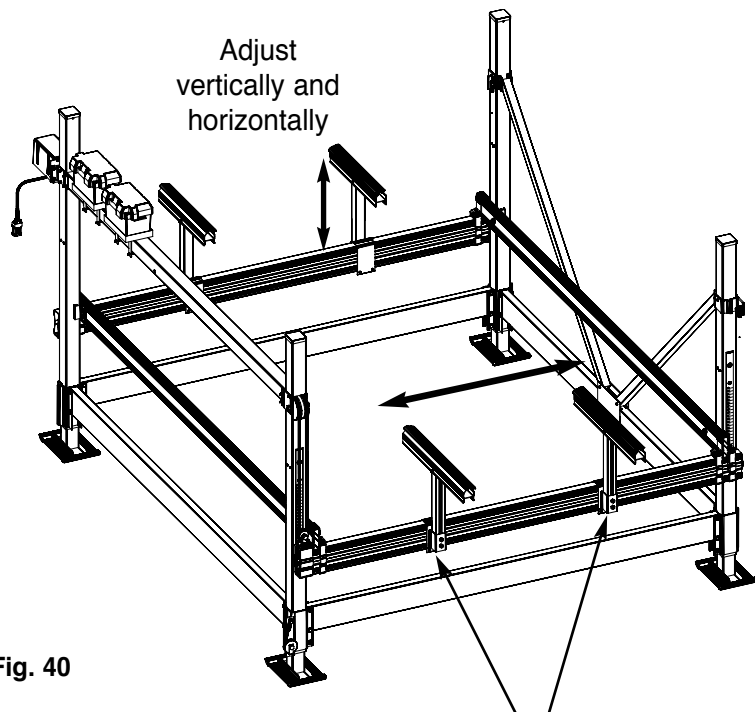
**Fig. 41**

**To adjust the width**, loosen the bolts on the lower part of the clamp and slide it into position. Torque to 35 ft. lbs.

**⚠ DANGER**

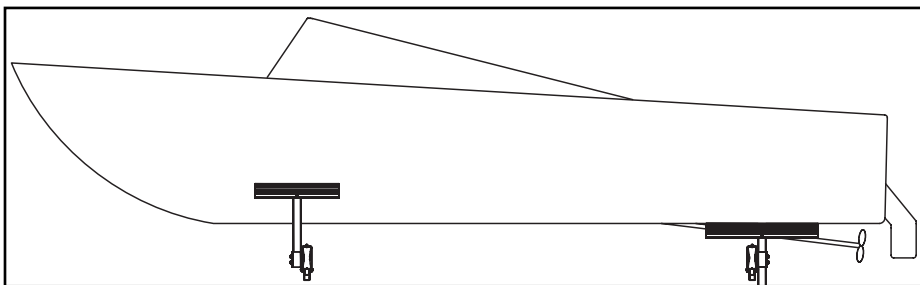
Never attempt to adjust the bunk system (or any boat lift component) with the weight of the boat on it. Doing so could kill or cause serious bodily injury due to a fast dropping boat.

**To adjust the height**, loosen the set bolt and raise the tube to the proper location. Torque to 70 ft. lbs.

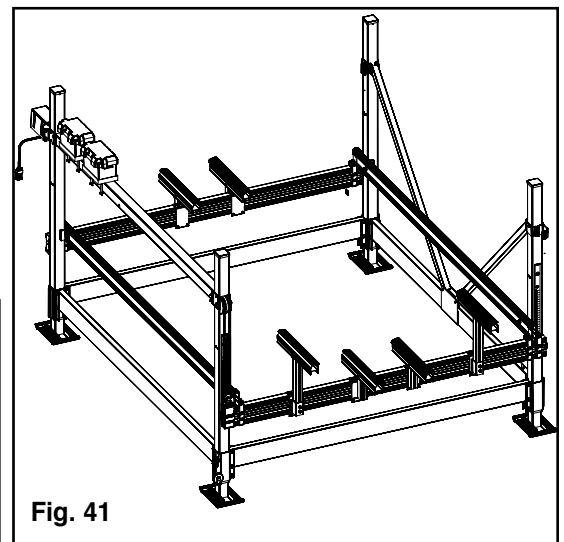
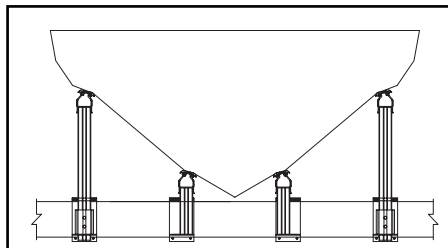


**Fig. 40**

If the lift is in shallow water and after final adjustment these tubes stick too far below the main lift beam, they may need to be cut off flush so that they do not hit the lake bottom and prevent the lift from lowering completely.



**Fig. 37 - Ideal bunk placement** - Note that the bunks are spread out to the widest position on the boat hull. They sit nicely into the contour of the hull and the keel has plenty of clearance above the main lift beam. If possible, this is the most ideal bunk placement for non-inboards.



**Fig. 41**

## PRO PARK™

### VERTICAL GUIDES

The FLOE vertical guide-in system is designed to guide the boat by its rub rail so it never touches or mars the hull. It has an infinite adjustment range limited only by the width of the lift, to allow for a perfect fit. These are available in pairs of double guides or pairs of single guides.

See **Figs. 42-43**.

### SELECTING YOUR VERTICAL PVC GUIDE-INS

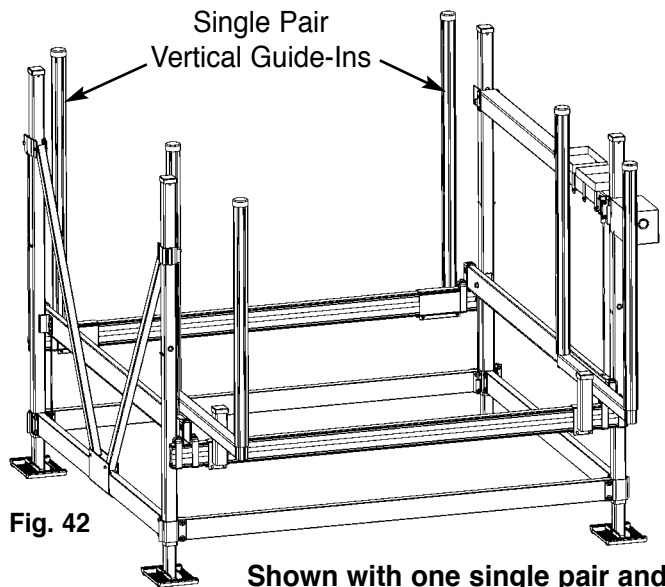
Technically, two pairs of single guides would help safely guide the boat into the lift. However, FLOE recommends at least one pair of double guides for the lift's entry because this style has two vertical guides mounted ahead of the lift structure. The boat's initial impact with these outset guides will slow it and start to guide the craft by its rub rail before it even enters the lift.



### WARNING

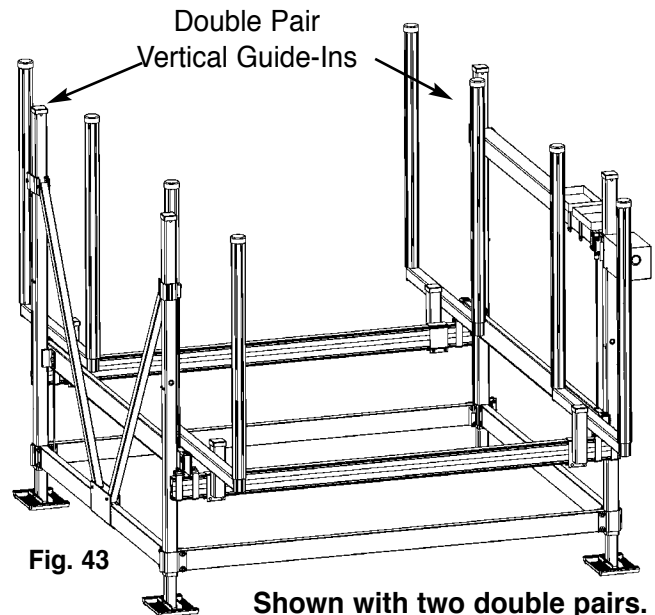
Always enter the lift slowly to avoid any severe impact. Severe impact could cause damage to the guide system, lift or boat.

**Adjust guides so that they are against your rub rail.**



**Fig. 42**

**Shown with one single pair and one double pair.**



**Fig. 43**

**Shown with two double pairs.**

### ADJUSTING THE GUIDES

1. With the guides on the lift, but not tightened, float the boat over the lift into its proper position.
2. Raise the lift platform until it holds the boat centered in place.
3. Slide the guides up to the boat's rub rail.
4. Remove the boat.
5. Raise the lift platform and tighten the guides to 35 ft. lbs.

## BOAT PLACEMENT & MOTOR STOP

In order to properly distribute the weight of the boat on the lift, it is important that the boat is parked in the correct location. **The best way to determine this location for your particular craft, is to log onto FLOE's website, [www.floeintl.com](http://www.floeintl.com), and click on the *Boat Lift Selector Program*.** Because the majority of a standard boat's weight is generally in the back, by parking as far forward as possible, more of this weight gets transferred to the front lift beam. See **Figs. 44 & 45**.

### How to Position a Pontoon Boat

If you have a longer craft such as a **pontoon boat** that proportionally does not have a lot of weight in the back, it can be parked, depending upon its length, with more rear overhang (up to 2 - 7 ft.) and still achieve proper weight distribution. See **Fig. 46**. For instance, the back of an average 21' pontoon boat should overhang 3' past the back end of the lift. For every additional foot of length, the stern can overhang 4" more beyond the rear of the lift. These are only general guidelines. Consult the Boat Lift Selector Program and your dealer for more information.

## PROPER CANOPY FRAME POSITIONING

The FLOE canopy system is adjustable vertically and horizontally. **Detailed instructions on how to make these adjustments are included with the canopy system.**

Once the boat's proper position is known, follow the simple steps below to ensure proper canopy placement as shown in **Figs. 45, 46, & 47**.

1. With the boat in place, determine how far the canopy needs to extend beyond the rear of the lift, **remove boat**, and position the frame accordingly. (Normally this distance will be between 3.5 - 5 ft. for standard boats, and 4 - 8 ft. for



**Fig. 44** - A motor stop can help achieve correct location every time and prevent your motor from hitting the rear main cradle lift beam.

## WARNING

Improper weight distribution on the main lift beams can cause the majority of the boat's weight to be supported by only one beam. This could cause an overload situation which could result in lift failure and potential bodily injury. If you do not know where your boat's balance point is, consult your dealer. When determining balance point, the *Boat Lift Selector* program on FLOE's website, [www.floeintl.com](http://www.floeintl.com), is a good starting point.



**Fig. 45** - Boat shown in proper position so that as much weight as possible is transferred to the front beam. The canopy is positioned so that it covers the entire boat.



**Fig. 46**

- longer pontoons.) **Do not tighten at this point.** *Note: It is recommended to allow at least 6" of extra coverage in both the front and rear of the boat and outdrive.* When adjusting the horizontal position of a canopy frame, the frame will extend further off the front of the lift than off the rear. This depends on the length of the canopy and the position needed to cover the rear of the boat. If this front overhang is more than 11-ft., or if the canopy is 26-ft. or larger, a canopy frame support system is needed as shown in **Fig. 48**. This will reduce flex and bowing in the canopy frame and give you an additional 2-ft. of overhang.
2. Raise the boat to its maximum height and determine how high the canopy framework needs to be in order to clear the tallest point of the boat.
  3. **Remove the boat before making adjustment.** Set the canopy frame height by adjusting the four vertical tubes and tightening each set bolt to 45 ft. lbs. See **Fig. 48**.
  4. Tighten the horizontal adjustment bolts to 45 ft. lbs.

## ⚠ WARNING

If the canopy frame extends more than 11 ft. from the end of the lift, a canopy frame support is needed. This will add rigidity to the frame for up to an additional 2' of overhang and reduce the potential for wind damage.



Fig. 47

As you can see in **Figs. 45, 46 & 47**, the watercraft are completely covered from front to back and the fabric hangs down vertically over the boat's side walls. This is the optimum canopy placement.

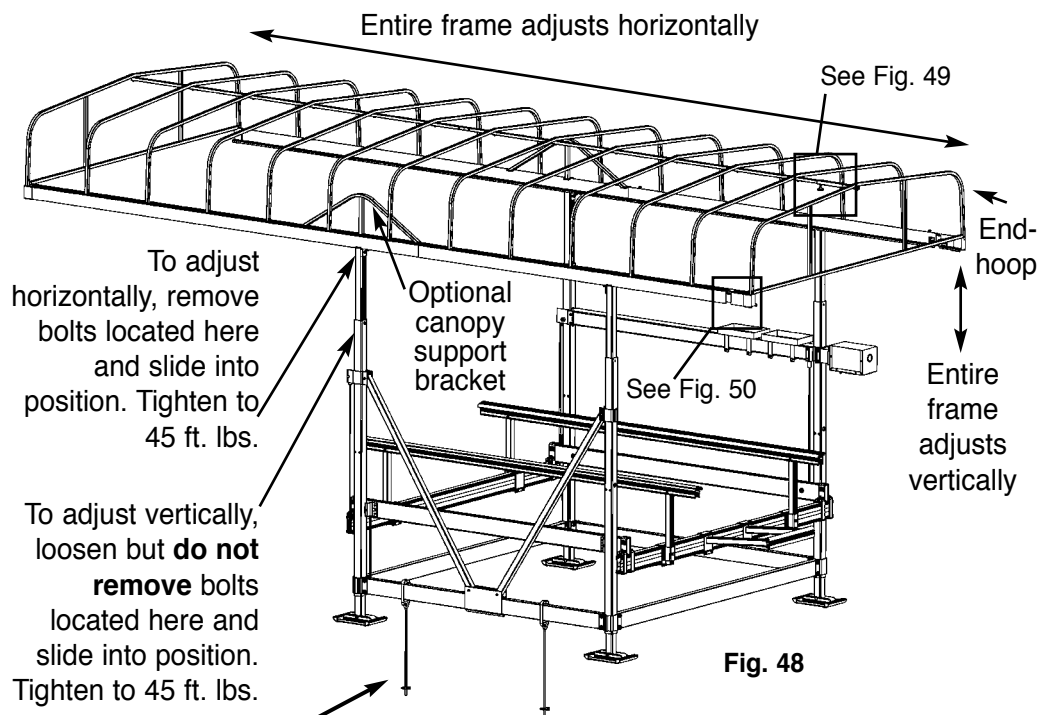


Fig. 48

Screw Auger with Tether

The 26', 28', and 30' canopy systems come standard with the canopy support system.

## ⚠ WARNING

Do not adjust canopy frame with fabric attached. When the bolts are loose or removed, a sudden wind could cause the entire frame structure to blow off the lift and damage it.

## ⚠ WARNING

Do not adjust canopy frame with boat on lift. If lift failure were to occur, there is potential for serious bodily injury or even death. Damage may also result from the loosened framework making contact with the boat.

## ⚠ WARNING

Do not attempt to install or remove canopy fabrics in windy conditions. Strong winds or wind gusts can make fabric handling extremely difficult and can cause a potentially dangerous situation.

## END FRAME ADJUSTMENT

All canopy frames are equipped with the adjustable end frame feature. This feature makes installation and removal easier and pulls the canopy fabric tight for a great looking fit.

To adjust prior to installing or removing fabric:

1. Loosen center rail adjustment knob by turning it counterclockwise (See **Fig. 49**). This will allow the center rail to retract.
2. Using a 9/16" socket with either a wrench or a cordless drill, spin main rail adjustment bolts clockwise to retract each side (See **Fig. 50**).
3. Follow canopy fabric installation instructions.

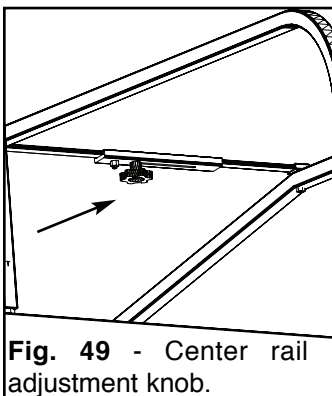


Fig. 49 - Center rail adjustment knob.

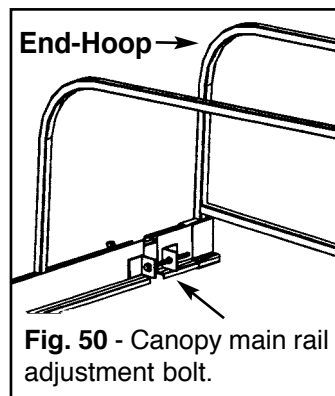


Fig. 50 - Canopy main rail adjustment bolt.

## CANOPY FABRIC INSTALLATION

1. Place fabric over the frame system and adjust where necessary for a uniform fit.
2. Attach canopy ends to frame by wrapping the Velcro around the bottom of the end hoops as shown in **Fig. 51**.
3. Use a 9/16" socket with either a wrench or a cordless drill, spin main rail adjustment bolts counterclockwise to extend each side until the

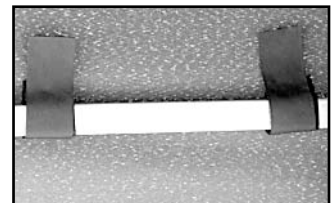


Fig. 51

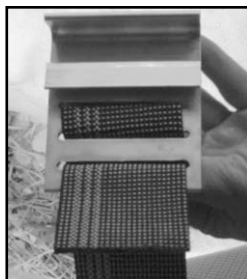
fabric is snug. **Do not over-extend as too much pressure on the fabric can tear the seams.**

4. Push the top center of the end-hoop outward until the fabric is snug and tighten the center rail adjustment knob.
5. Attach all elastic belts by placing the *Quick Clip™* onto frame rail as shown in **Figs. 52 & 53**.

## WARNING

When adjusting the main rail bolts, be especially careful when using a cordless drill. The drill has so much power that it would be easy to over-extend the rails, which could cause the canopy fabric to overstretch or tear.

Before attaching the quick clips to the frame, check each one to ensure that the elastic strap has been woven through the clip properly (see **Fig. 52**) and that a “tail” of at least one inch of strap material extends beyond the end of the clip.



**Fig. 52**

When attaching the quick clips, alternate from one side of the frame to the other, and follow the three simple steps shown in **Fig. 53**.

Once installed, the straps should be fairly taut, with an approximate tension of 20 lbs.

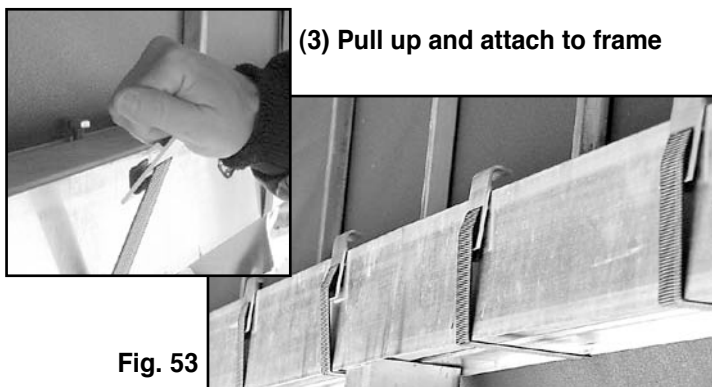
### **(1) Pull straight down.**



### **(2) Pull towards you.**



### **(3) Pull up and attach to frame**



**Fig. 53**

## WARNING

If the lift will be left without a boat on it for any extended amount of time, the canopy fabric should be removed to reduce the possibility of wind damage.

## CANOPY WIND PRECAUTION

If the lift has a canopy, it is possible for strong winds to move the lift system or blow it over. This is especially true if the lift does not have a boat on it. Even with a boat's weight, extreme winds can possibly move a boat lift causing potential damage. The possibility of wind damage to the lift or canopy may be reduced by anchoring the lift to the lake bottom with a screw-auger anchor system. See **Fig. 54**.

Screw-auger anchors are commonly used to secure mobile homes and can be purchased at most hardware stores. They can also be purchased from a FLOE boat lift dealer.



**Fig. 54**

**Optional Screw-Auger Anchor System**  
(two per set)

## WARNING

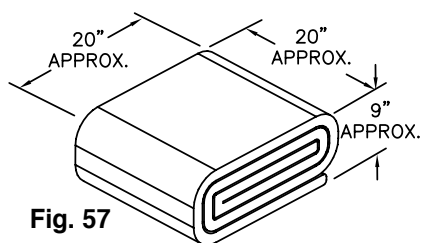
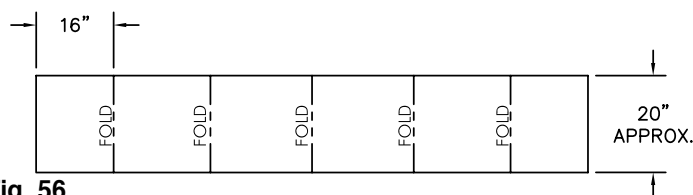
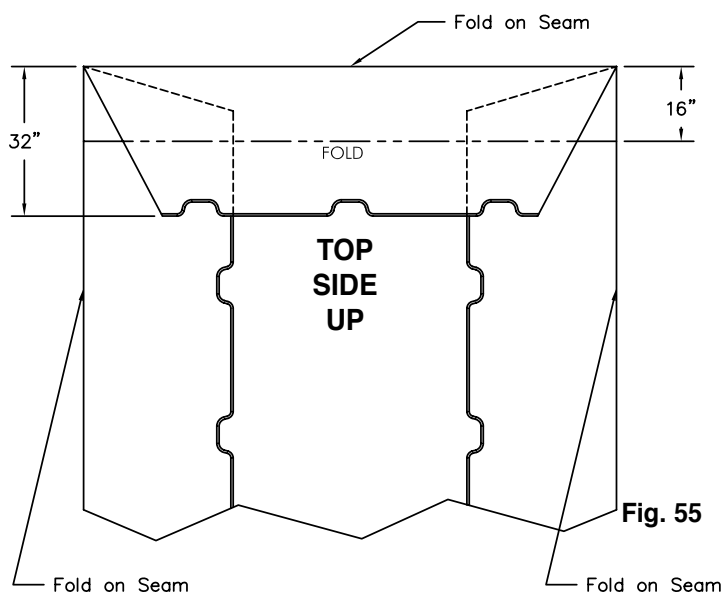
In winter climates where the potential for snow accumulation exists, the fabric must be removed or the weight of the snow may cause damage to the canopy frame and/or canopy fabric. Canopy fabric should be stored clean and dry. This will help prevent the growth of mildew and fungus.

## CANOPY FABRIC REMOVAL

1. Detach all elastic belts and Velcro end straps.
2. Loosen the center rail adjustment knob so the end-hoop can retract.
3. Using a 9/16" socket with either a wrench or a cordless drill, spin main rail adjustment bolts clockwise to fully retract each side.
4. Remove fabric from frame.

## CANOPY FOLDING INSTRUCTIONS

1. Lay canopy on a clean, flat surface **with the top facing up**.
2. Fold the sides of the canopy on the seam. Fold one end of the canopy to the seam. See **Fig. 55**.
3. Start at the end that is folded, measure in 16", fold the canopy toward opposite end and continue folding until you reach the other side. The canopy should now be approximately 20" wide and resemble **Fig. 56**.
4. At one side, measure in 16", fold the canopy until you reach the opposite end. The canopy should now resemble **Fig. 57**.



## CANOPY FABRIC CARE AND CLEANING

The canopy fabric is 100% solution dyed polyester (SDP) all-weather fabric.

## SOLUTION DYED POLYESTER (SDP)

SDP is a woven fabric and will not support the growth of mildew. Mold and mildew needs "food" to grow on and polyester isn't a desirable substance for mold. Dirt or dust on the fabric is a perfect "food" for mildew growth, which makes regular cleaning important. There is no set time for when a fabric should be cleaned. The local environment has a great deal to do with determining cleaning frequency. Cleaning is required less frequently in a dry environment than in a humid one with heavy foliage cover. SDP has a finish applied to the fabric to deter mold and mildew growth, but does not make it mold-proof. Keeping the fabric free of dirt is important to deter mold growth.

**Cleaning:** One of the best ways to keep SDP looking good and to delay the need for deep cleanings is to hose fabric off on a monthly basis with clean water. This practice will help prevent dirt from becoming deeply embedded in the fabric. In most environments, a thorough cleaning will be needed every two to three years.

To thoroughly clean SDP fabric, follow these simple steps:

1. Brush off loose dirt.
2. Hose down.
3. Prepare a cleaning mixture of water and mild natural soap (no detergents).
4. Use a soft bristle brush to clean.
5. Allow soap to soak in.
6. Rinse thoroughly.
7. Air dry completely before storage.

-or-

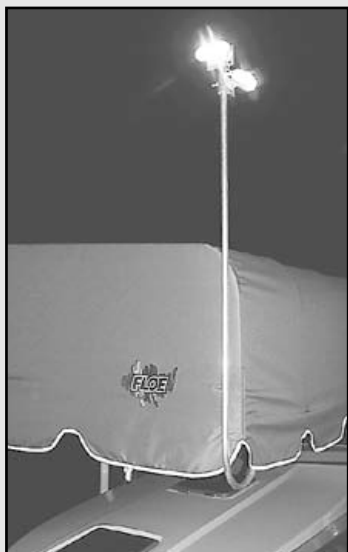
Size permitting, SDP fabric can be cleaned in a large commercial washing machine with mild natural soap and water.

**Re-Treating the Fabric:** SDP fabrics are treated with a fluorocarbon finish which enhances water repellency. This finish is designed to last for years but must be replenished after a thorough cleaning. The fabric manufacturer recommends 303 High Tech Fabric Guard™ as the preferred re-treatment product. Fabric should be re-treated after a thorough cleaning or after five years of use. 303 High Tech Fabric Guard™ can be purchased at most marine supply stores or online at [303-products.com](http://303-products.com).

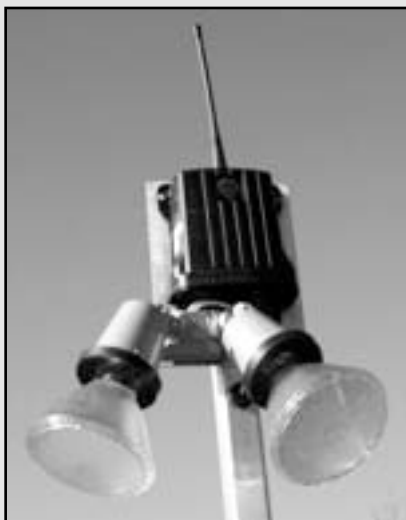
If a canopy fabric has any build-up of dust or dirt in the pores and it is in a moist environment where it cannot dry out regularly, it may cause mildew to grow on the fabric. Although this mildew can be removed, it can be very difficult or even impossible to remove the stain on the fabric left by the mildew. With darker colored fabrics, even if such a stain occurred it is much less visible to see.

## OPTIONAL LED FLOODLIGHT

An optional LED lighting package is available for the lift. The lighting package is mounted on the wireless receiver post and plugs into the receiver. The wireless remote receiver plugs into the “Radio Remote” socket on the lift’s Advance Control System. Installation instructions are included in the light kits. The 120 LED floodlight is about equivalent to a 75 watt incandescent. There are two bulbs per kit.



Exterior Lighting



Lift Light Kit



Wireless remote is an optional feature. The wireless remote control will operate both the lift and the lighting system. Sold separately.

## INSPECTIONS & MAINTENANCE

- Check all structural fasteners annually to ensure that they are tight.

### WARNING

Loose fasteners can cause instability in the lift frame resulting in premature wear to the lift structure and create a structurally unsafe boat lift. Damage due to loose fasteners or improper assembly and/or maintenance will void warranty .

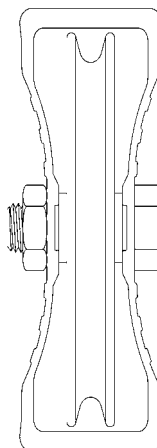
- Inspect all cables at least annually. Any frayed, deteriorating or visibly stressed cables **must** be replaced before the lift is used.
- Check all seven pulleys (sheaves) annually to make sure they are turning free and true. Ensure that the cables are running properly in the grooves or channels of the pulleys. Check the bushings for any signs of wear. If there is too much vertical play at the top and bottom of a pulley on its

### WARNING

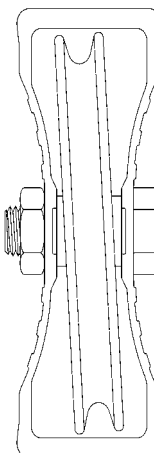
Do not use a boat lift with cables that show any abnormalities. If a cable breaks under pressure, the boat will drop suddenly causing potential damage to the boat, the boat lift, and can cause serious injury or death.

axis, (more than an 1/8”), replace the bushing, and if necessary, the sheave itself. See **Figs. 62 & 63**.

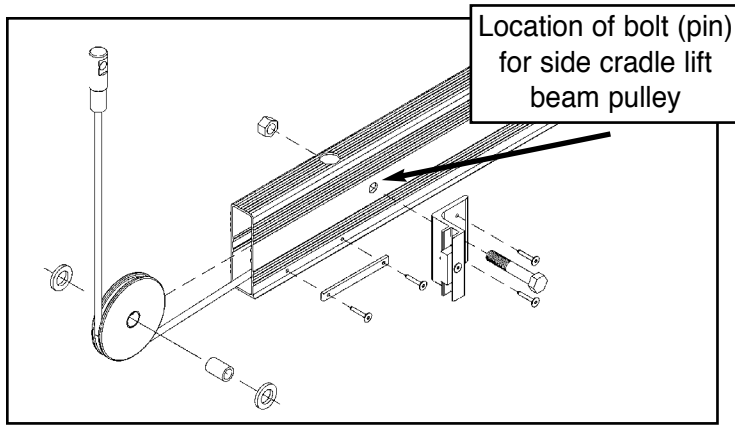
- Visually inspect lift frame annually for cracks or damage. Replace any cracked or damaged parts before using lift.
- If the lift receives wind damage or is moved or blown over by the wind, a full inspection (preferably by a trained FLOE dealer or other knowledgeable professional) must be completed before the lift is used.
- Grease lift as outlined in this manual. See **Fig. 65** on the following two pages.



**Fig. 62**  
Pulley with proper vertical orientation on its axis

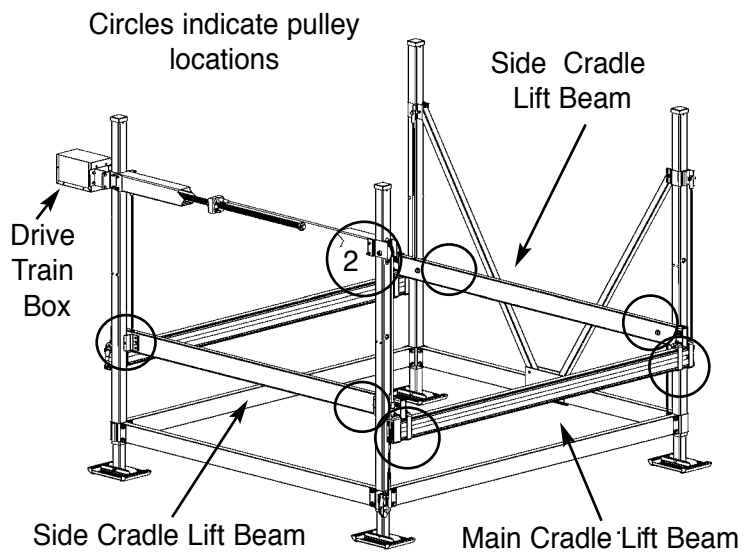


**Fig. 63** Pulley with too much side-to-side play (not vertically aligned)



**Fig. 64 Side Cradle Lift Beam Pulleys**

While **Fig. 65** shows the location of all eight pulleys, this figure (**64**) specifically identifies the location of the side cradle lift beam pulley, which is a little more difficult to access. It can still be checked from the open end of the beam by using a long pry bar or flat screwdriver and pushing against the side of the top and bottom of the pulley to test for excessive side-to-side play (see **Fig. 63**).



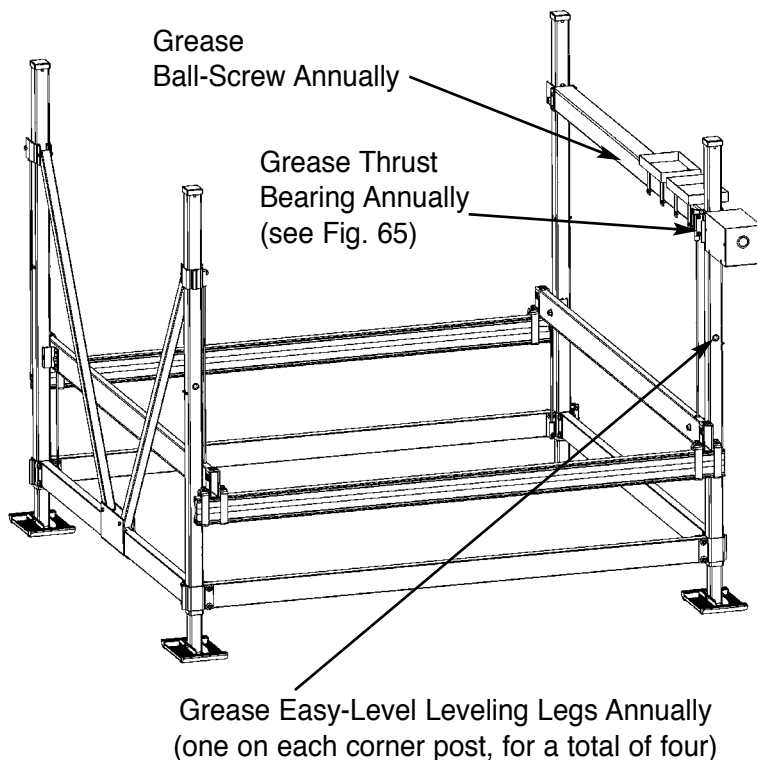
**Fig. 65 Location of Eight Sheaves**

There are two pulleys in the corner post opposite the drive train box, one at each end of the two side cradle lift beams, and one at each end of the front cradle lift beam.



## WARNING

Pulleys with worn bushings can cause damage to the beam where they are located and cause excessive friction while the lift is being operated. This can also severely damage other components such as the drive train and cables.

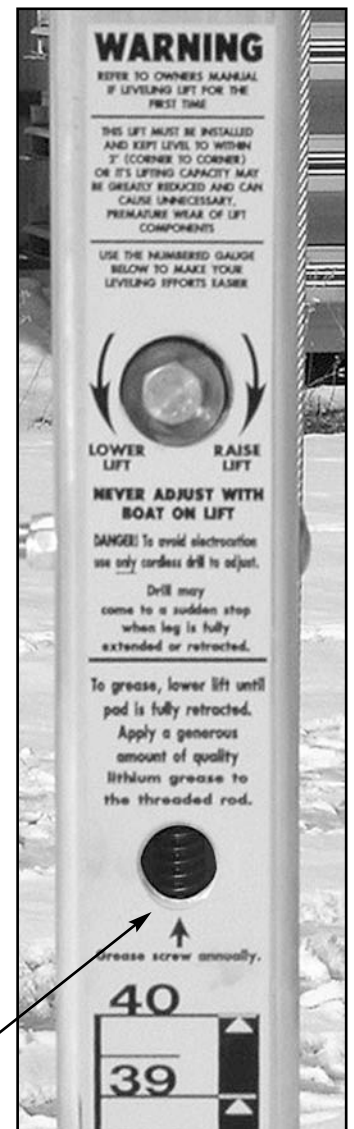


**Fig. 65**

## GREASING THE EASY-LEVEL LEVELING LEG

The Easy-Level leveling leg must be greased at least once annually. This should be done prior to winter storage if the lift is removed seasonally. To grease, lower lift until the pad is fully retracted and the access holes line up, with the threaded rod clearly visible inside the hole. Apply a generous amount of quality lithium grease to the threaded rod as shown in **Fig. 65**. Remember to grease all four legs and extend them to distribute the grease.

Refer to pages 11-12 for more information and tips on using the leveling legs.



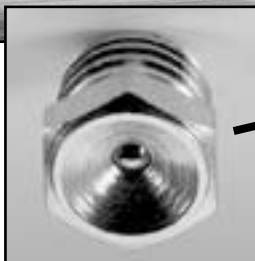
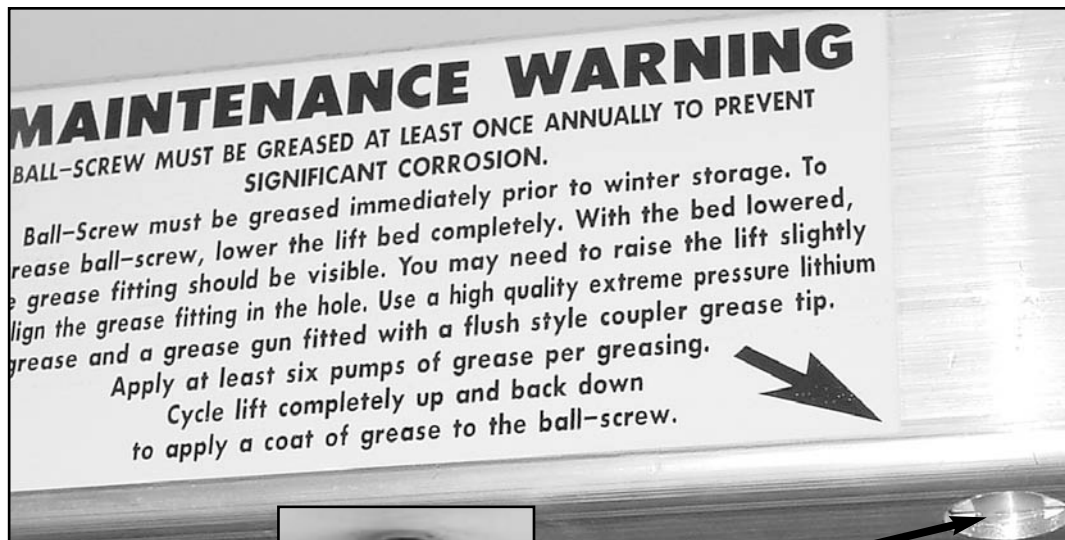
## GREASING THE BALL-SCREW

It is important to grease the ball-screw mechanism annually to prevent significant corrosion. The ball-screw must be greased immediately prior to winter storage. To grease the ball-screw, lower the lift bed completely. With the bed lowered, the grease fitting should be visible. It may be necessary to raise the lift slightly to align the grease fitting in the hole. Use a high quality extreme pressure lithium grease and a grease gun fitted with a flush style grease tip as shown in **Fig. 66** below. A lithium grease that meets these specifications is *Shell Alvania EP2*. Apply at least six pumps of grease per greasing. Cycle lift completely up and back down to apply a coat of grease to the ball-screw.



**Fig. 66 Flush-Style Grease Gun Tip**

Use a flush style coupler grease tip like the one included in your tool kit for your grease gun. Similar adapters are available through NAPA automotive parts stores. (NAPA part number 715 1215)

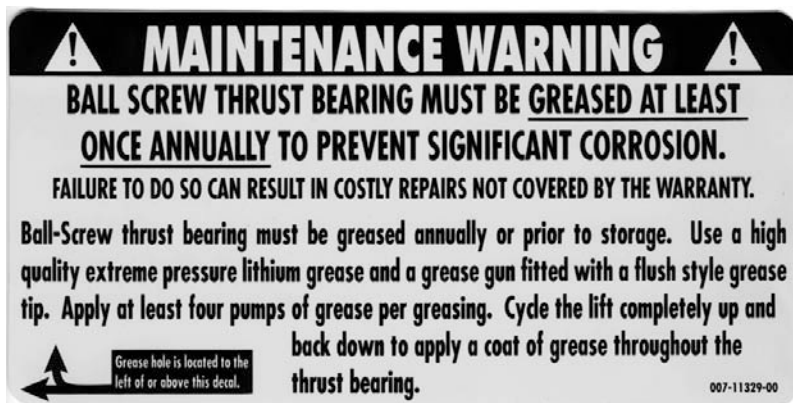


**Flush Style Fitting**

This fitting allows mess-free greasing access to the ball-screw mechanism.

## GREASING THE THRUST BEARING

It is important to grease the thrust bearing mechanism annually to prevent significant corrosion. See maintenance warning decal below and on your lift.





## WARNING

If the lift should raise or lower by itself without operating the remote control, disconnect the battery cable ring connectors from the battery posts immediately, **if you are able to do so without the risk of injury**. Contact your local dealer or FLOE International, Inc.



## CAUTION

Never attempt to remove the brake mechanism with the boat on the lift. If the brake was loosened, the boat's weight would cause the cradle of the lift to lower rapidly, causing potential serious injury or death.



## WARNING

Always remove the boat and lower the lift bed completely before attempting any work.



## DANGER

Before removing the power unit, the cradle lift beams must be completely lowered until there is slack in the main lifting cables. Failure to do so will cause the boat and lift cradle to suddenly crash downward.

# VSD TROUBLE SHOOTING GUIDE

## DIAGNOSTICS FOR 24 VOLT VSD POWER UNIT

If the lift loses power and will not raise and/or lower, begin the diagnostic process in the left column below. Follow the arrows as necessary.

### A. Lift won't go up or down

1. Check to see if the key on the wired remote is turned to the ON position.
2. Check battery(s) condition and that it is properly charged. Each battery should have between 12.7 and 13.8 volts.
3. Check to see that all battery connections are corrosion free, tight and wired properly. (See Fig. 7 on page 9)
4. Check plug connections from the Advanced Switch Control (ASC) going to limit switch and remote(s) to ensure they are plugged in properly and making positive contact.
5. Check the wire connections from the Advanced Switch Control (ASC) to the motor to ensure they are corrosion free and making positive contact. Connections are located under the motor cover.
6. Check auto reset circuit breaker or fuse. If the breaker has tripped it should reset after a couple of minutes when it cools down. If not sure it is working, you can bypass it.
  - If circuit breaker has tripped or fuse is blown chances are the motor is drawing too much current and it could blow the fuse or trip the breaker again. Check the following:
    - a. Is the lift overloaded or has it exceeded its max run/cycle on time
    - b. Is the brake improperly engaged

- With VSD drive units, if the brake is not releasing while in operation it will drag and cause the drive to draw excessive current. You should hear the brake "click" on the outside end of the VSD power unit box when raising or lowering the lift.

- c. Additionally there may be something causing friction in the system, such as a problem in the drive train, or the cable/pulley system has an issue.

### B. Lift will only work in one direction

If this occurs, you may have a problem with the end of travel limit switch(es).

1. Test the end of travel limit switch(es) by using the limit switch bypass plug located in the tool pouch.
2. To do this, un-plug the limit switch plug going into the ASC and replace it with the bypass plug.
3. If the cradle is up, press the down button and vice versa.
4. Use extreme CAUTION. When using the bypass plug the limit switches will no longer shut down the lift when it reaches the end of its travel. This means you must NOT run the lift either all of the way up or down.
5. When going up, stop short of the "Stop Here" decals located on the corner post.
6. When going down, stop as soon as the cradle stops moving.

## TROUBLE SHOOTING OPTIONAL LIGHT SYSTEM

The optional light system has a circuit breaker on the Advanced Switch Control (ASV) (**Fig. 5** on page 6)  
If the circuit breaker trips:

**Step 1:** Check to see if the light bulb(s) is good.

**Step 2:** Check to see if the wireless remote is working by trying to raise and lower the lift. If the wireless remote is not working, see the trouble-shooting steps on page 10.

**Step 3:** Check wiring to make sure coating has not rubbed away exposing the internal wires.

## MAINTENANCE-FREE MOTOR

Both the 120 Volt and the 24-Volt VSD-7500 lifts use a high-torque motor. This is an extremely efficient and durable internally geared motor that has the brake built into it. Its sealed oil-filled gear box keeps the internal gears permanently lubricated, making the motor virtually maintenance-free.

## VSD PRE-INSTALLATION CHECK LIST

Prior to installing your lift please follow this check list to confirm proper operation

1. Raise the lift up to confirm operation of upper limit switch. Approach the upper-limit cautiously by pressing the UP button in short bursts as you near the top of the lift travel. A properly working limit switch will stop the lift before the ball screw reaches its limit of travel. If the limit switch does not stop the lift and the ball-nut reaches the end of the ball-screw you will be able to see the drive unit twisting slightly, indicating that the motor is trying to run. Also, you probably would have heard the ball nut hitting the metal stop at the end of the screw. The brake will still click when stopped at the limits.

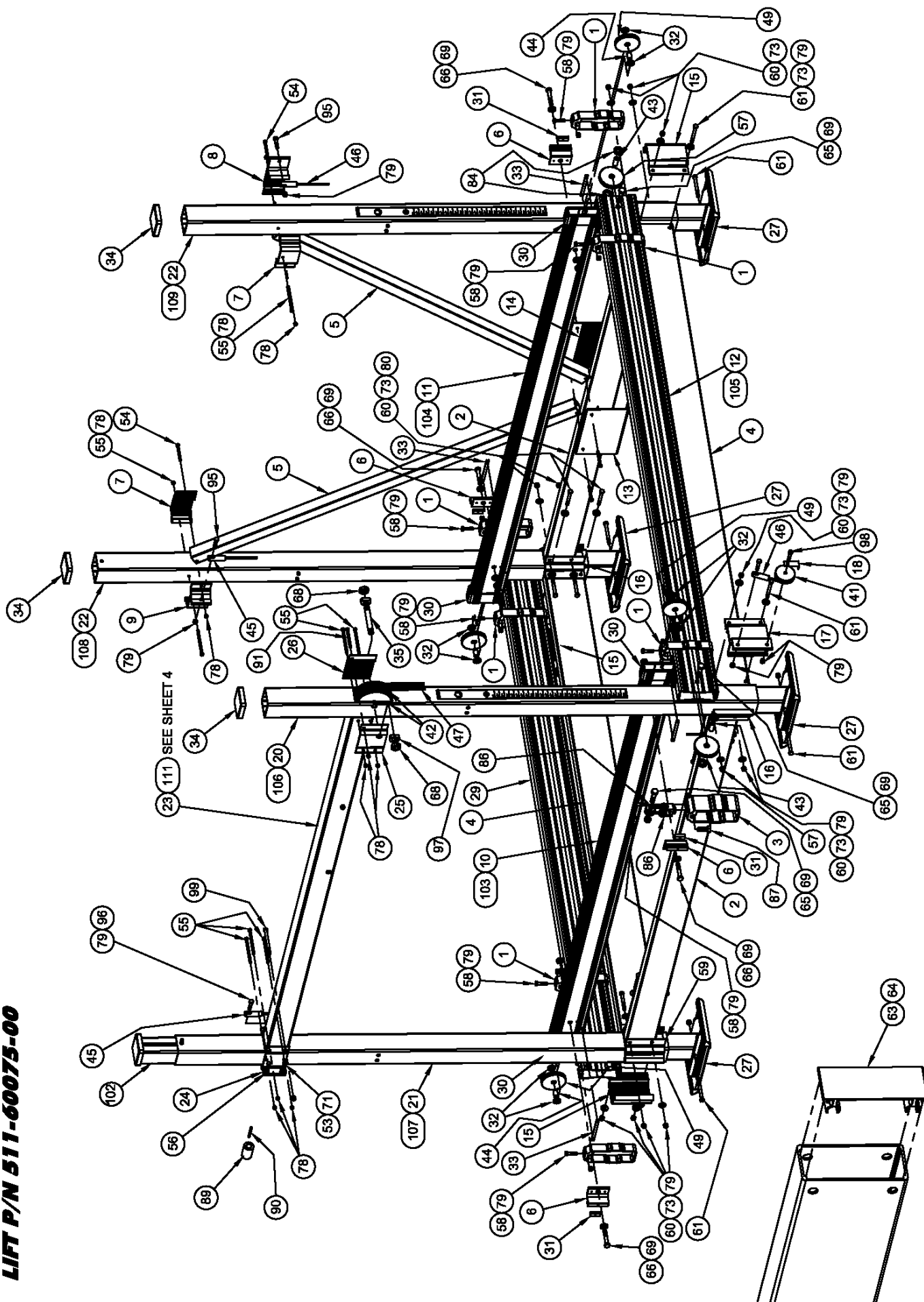
2. Lower the lift down to confirm operation of lower limit switch. Again, as you approach the bottom of the lift travel press the DOWN button in short bursts. The lift should stop with a small amount of slack in the lifting cable after the cradle contacts the lift frame. If the limit switch does not stop the lift and the ball-nut reaches the end of the ball-screw you will be able to see the drive unit twisting slightly indicating that the motor is trying to run. Also, you probably would have heard the ball nut hitting the metal stop at the end of the screw.

**If either limit switch does not stop the lift correctly, contact your FLOE dealer and do not use the lift until the problem is corrected.**

3. Listen for unusual noises during lift operation. Squeaking may indicate that the lift may not have been greased. The ball screw **MUST** be greased before using the lift. Please see owners' manual for details.

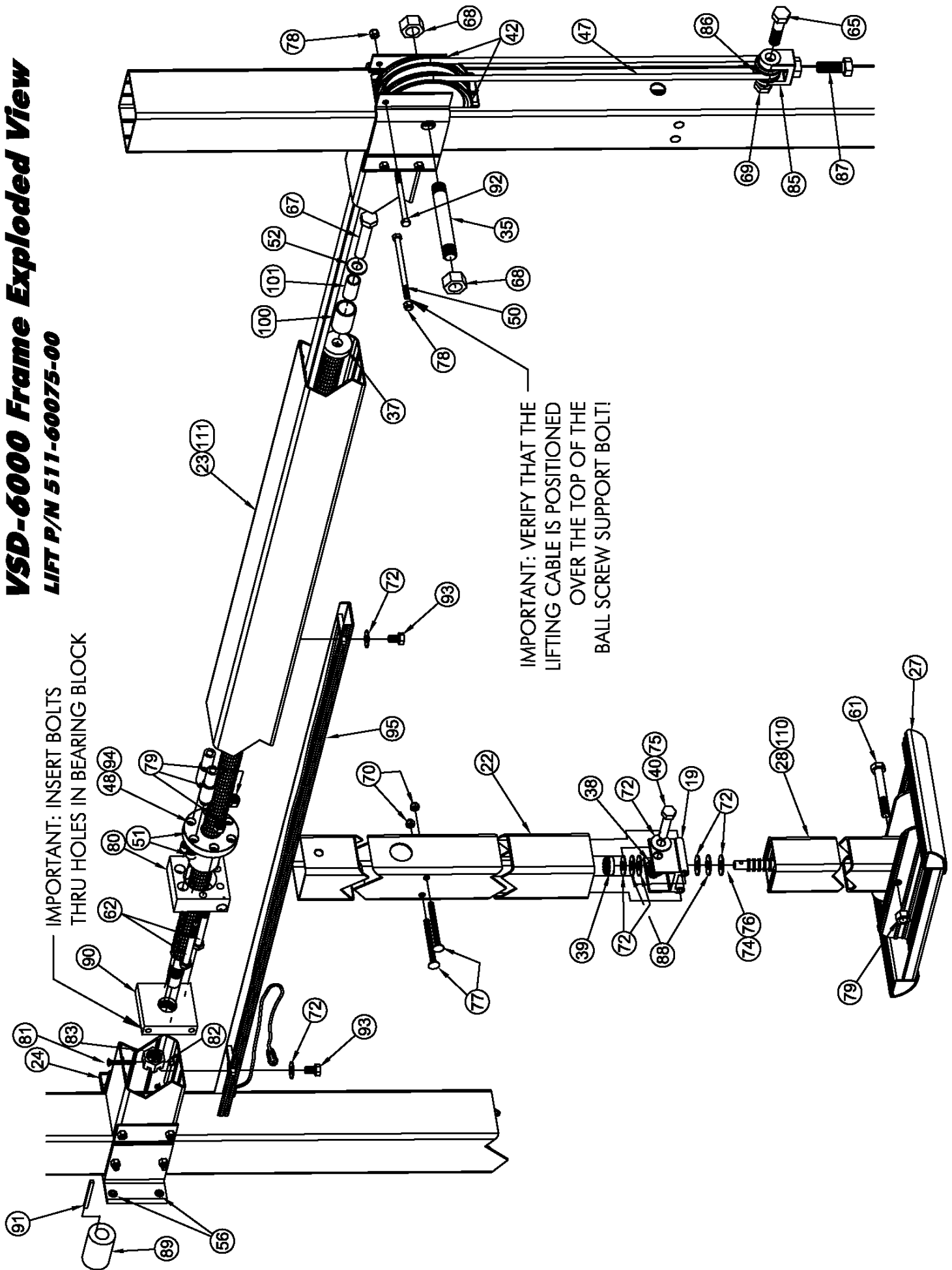
4. If you have a wireless remote it would be a good idea to test it at this time. There is no need to go all the way to the limit switches since those were tested above. Also check the mast light if you have one. The lights come on when their buttons are pressed and go off after about 15 minutes.

# **VSD-6000 Frame Exploded View** **LIFT P/N 511-60075-00**



# VSD-6000 Frame Exploded View

## LIFT P/N 511-60075-00



# VSD 6000 Exploded View

## LIFT P/N 511-60075-00

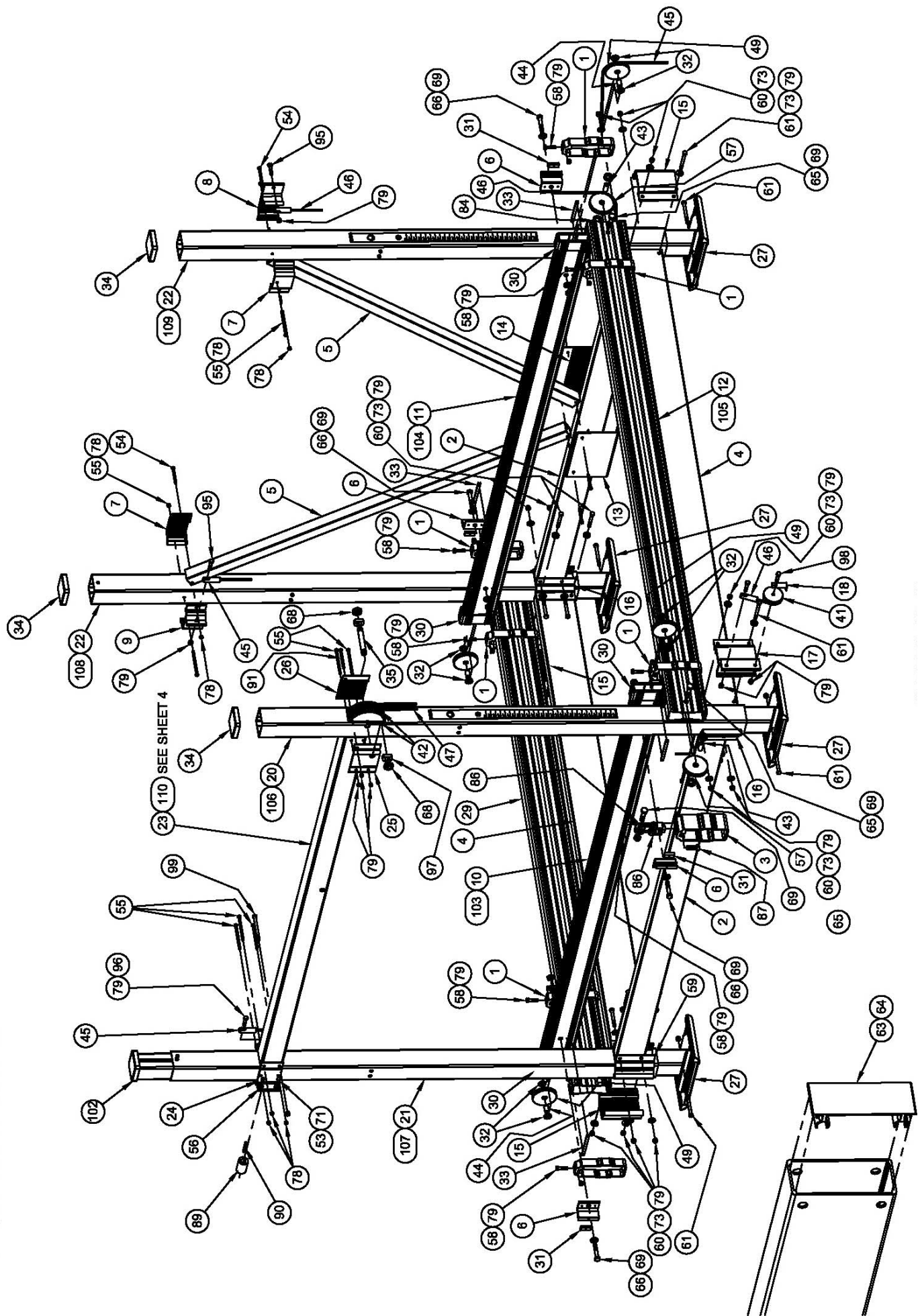
NO.	PART NO.	QTY.	DESCRIPTION
1	002-04204-00	7	CRADLE CLAMP 1.75"
2	002-04351-00	2	6" SIDE FRAME BEAM 108"
3	002-04205-00	1	CRADLE LIFT CLAMP 3.875"
4	002-04332-00	2	8"FR FRAME BEAM 130"
5	002-04291-00	2	V-BRACE 86.250"
6	002-04226-00	4	CRADLE GUIDE
7	002-04210-00	2	UPPER CLAMP (UNIVERSAL)
8	002-04211-00	1	UPPER CLAMP (FRONT)
9	002-04212-00	1	UPPER CLAMP (REAR)
10	002-04357-00	1	SIDE CRADLE (B) 126.5"
11	002-04358-00	1	SIDE CRADLE (A) 126.5"
12	002-04334-00	1	FRONT CRADLE BEAM 139"
13	002-04217-00	1	V-BRACE CLAMP (FEMALE)
14	002-04216-00	1	V-BRACE CLAMP (MALE)
15	002-04208-00	3	FRAME BEAM CLAMP (OUTER)
16	002-04209-00	2	FRAME BEAM CLAMP (RF LR) - (WELDED TO CORNER POST)
17	002-04207-00	1	FRAME BEAM LIFTING CLAMP
18	002-04241-00	1	CABLE HOLDER
19	002-04245-00	4	LEVEL LEG BRACKET
20	002-04200-00	1	CORNER POST 101" LIFTING (.188)
21	002-04229-00	1	CORNER POST 101" MOTOR (.125)
22	002-04201-00	2	CORNER POST 101" (.125)
23	111-00239-01	1	BALL SCREW TUBE WELDMENT - 109"
24	002-04223-01	1	4.5" BALL SCREW CLAMP
25	002-04224-00	1	5.5" PULLEY CLAMP (INNER)
26	002-04230-00	1	5.5" PULLEY CLAMP (OUTER)
27	111-00140-00	4	SAND PAD
28	111-00197-01	4	INNER SCREW LEG WELDMENT
29	911-08502-00	1	REAR CRADLE BEAM 139"
30	002-04032-00	4	CRADLE U-CLAMP 2.875"
31	006-10202-00	4	CRADLE GUIDE WEAR PAD
32	006-10207-00	8	SIDE CRADLE SHEAVE SPACER
33	006-11002-00	4	UHMW WEAR PAD - 1/4" x 1/2" x 6 1/2" LG.
34	006-15500-00	4	4.5" CORNER POST CAP
35	007-05500-00	1	1" SHEAVE PIN
36	007-05013-00	1	BALL SCREW END STOP PLATE
37	007-05023-00	4	TOP BEVEL GEAR - 1:1
38	007-05024-00	4	BOTTOM BEVEL GEAR - 1:1
39	007-05079-00	4	BEVEL GEAR ADJUSTMENT SCREW
40	007-07625-00	1	4" CLAMP SHEAVE
41	007-07625-00	1	7" LIFTING SHEAVE
42	111-00198-00	2	SPACER TUBE 1.938"- FRONT CRADLE
43	007-07705-00	4	SPACER TUBE 1.297"- SIDE CRADLE
44	007-07704-00	4	SIDE LEVELING CABLE - 190 1/2"
45	007-09105-00	2	FRONT LEVELING CABLE - 233.625"
46	007-09154-00	1	LIFTING CABLE 237"
47	007-09161-00	1	7.5" BALL SCREW 40-10mm W/NUT
48	011-15010-00	1	6" SHEAVE W/BUSHING
49	111-00199-00	4	HHCS, 3/8-16 X 5" ss 18-8
50	001-70123-00	1	SHCS, 1/2-20 X 1 1/4" BLACK
51	001-23876-00	2	FLAT WASHER, SAE 3/4" Zinc
52	001-33092-00	1	HHCS, 3/8-16 X 1 3/4" ss 18-8
53	001-70110-00	4	HHCS, 3/8-16 X 3 3/4" ss 18-8
54	001-70118-00	2	HHCS, 3/8-16 X 6" ss 18-8
55	001-70125-00	7	RUBBER BUSHING
56	003-40001-00	4	HHCS, 1/2-13 X 2" ss 18-8
57	111-00200-00	2	HHCS, 1/2-13 X 2" ss 18-8
58	001-70211-00	8	HHCS, 1/2-13 X 4" ss 18-8
59	002-04227-00	2	HHCS, 1/2-13 X 5" ss 18-8
60	001-70219-00	14	HHCS, 1/2-13 X 3" ss 18-8
61	001-70223-00	6	HHCS, 1/2-13 X 3" ss 18-8
62	001-70215-00	3	HHCS, 1/2-13 X 3" ss 18-8

### SUB-ASSEMBLIES

103	111-00198-02	SIDE CRADLE ASSEMBLY (RIGHT) INCLUDES ITEMS 6,10,31,32,33,44,45,49,66,69
104	111-00198-02	SIDE CRADLE ASSEMBLY (LEFT) INCLUDES ITEMS 6,11,31,32,33,44,45,49,66,69
105	111-00348-00	FRONT CRADLE ASSEMBLY INCLUDES ITEMS 12,43,46,57,65,69,84
106	111-00130-02	CORNER POST ASSY (A) INCLUDES ITEMS 16,20,25,26,34,35,42,68,70,77,110
107	111-00131-02	CORNER POST ASSY (B) INCLUDES ITEMS 21,34,59,110
108	111-00133-02	CORNER POST ASSY (C) INCLUDES ITEMS 16,22,34,110
109	111-00132-02	CORNER POST ASSY (D) INCLUDES ITEMS 22,34,59,110
110	111-00136-01	7500/6000# INNER SCREW LEG ASSEMBLY INCLUDES ITEMS 19,28,38,39,40,72,75,76,88
111	111-00141-02	BALL SCREW TUBE ASSEMBLY INCLUDES ITEMS 23,36,37,47,48,50,51,52,62,67,72, 78,79,80,83,89,90,91,93,94,95,100,101

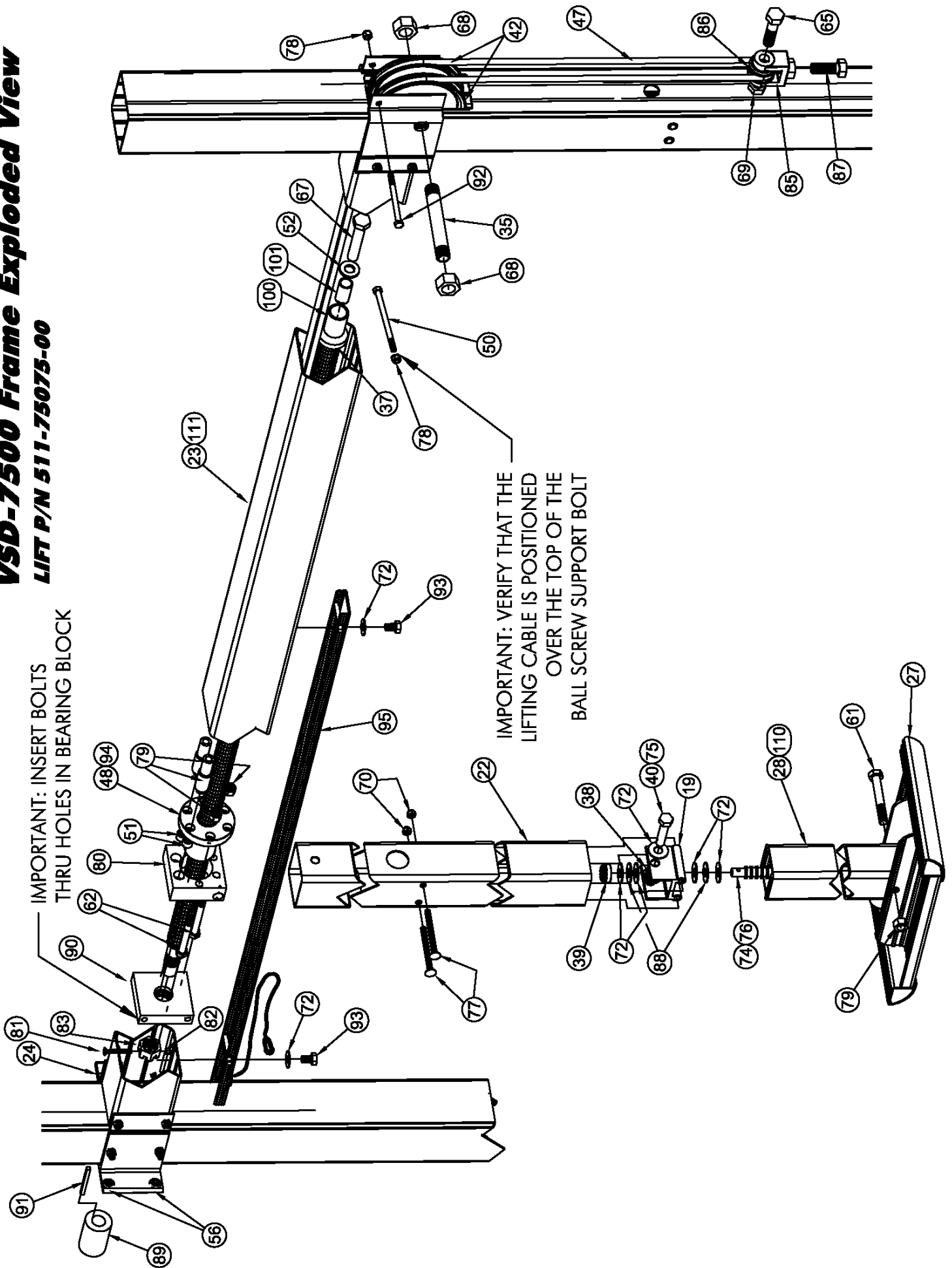


# **VSD-7500 Frame Exploded View** **LIFT P/N 511-75075-00**



# VSD-7500 Frame Exploded View

## LIFT P/N 511-75075-00



# VSD 7500 Exploded View

## LIFT P/N 511-75075-00

NO.	PART NO.	QTY.	DESCRIPTION
1	002-04204-00	7	CRADLE CLAMP 1.75"
2	002-04351-00	2	6" SIDE FRAME BEAM 108"
3	002-04205-00	1	CRADLE LIFT CLAMP 3.875"
4	002-04202-00	2	8"FR FRAME BEAM 118"
5	002-04291-00	2	V-BRACE 86.250"
6	002-04226-00	4	CRADLE GUIDE
7	002-04210-00	2	UPPER CLAMP (UNIVERSAL)
8	002-04211-00	1	UPPER CLAMP (FRONT)
9	002-04212-00	1	UPPER CLAMP (REAR)
10	002-04357-00	1	SIDE CRADLE (B) 126.5"
11	002-04356-00	1	SIDE CRADLE (A) 126.5"
12	002-04215-00	1	FRONT CRADLE BEAM 127"
13	002-04217-00	1	V-BRACE CLAMP (FEMALE)
14	002-04216-00	1	V-BRACE CLAMP (MALE)
15	002-04208-00	3	FRAME BEAM CLAMP (OUTER)
16	002-04209-00	2	FRAME BEAM CLAMP (RF LR) - (WELDED TO CORNER POST)
17	002-04207-00	1	FRAME BEAM LIFTING CLAMP
18	002-04241-00	1	CABLE HOLDER
19	002-04245-00	4	LEVEL LEG BRACKET
20	002-04200-00	1	CORNER POST 101" LIFTING (.188)
21	002-04229-00	1	CORNER POST 101" MOTOR (.125)
22	002-04201-00	2	CORNER POST 101" (.125)
23	111-00239-01	1	BALL SCREW TUBE WELDMENT - 109"
24	002-04223-01	1	4.5" BALL SCREW CLAMP
25	002-04224-00	1	5.5" PULLEY CLAMP (INNER)
26	002-04230-00	1	5.5" PULLEY CLAMP (OUTER)
27	111-00140-00	4	SAND PAD
28	111-00197-01	4	INNER SCREW LEG WELDMENT
29	911-08501-00	1	REAR CRADLE BEAM 127"
30	002-04032-00	4	CRADLE U-CLAMP 2.875"
31	006-10202-00	4	CRADLE GUIDE WEAR PAD
32	006-10207-00	8	SIDE CRADLE SHEAVE SPACER
33	006-11002-00	4	UHMW WEAR PAD - 1/4" x 1/2" x 6 1/2" LG.
34	006-15500-00	4	4.5" CORNER POST CAP
35	007-05500-00	1	1" SHEAVE PIN
36	007-70107-00	8	HHCS, 3/8-16 X 1-1/4" 18-8ss
37	007-05013-00	1	BALL SCREW END STOP PLATE
38	007-05023-00	4	TOP BEVEL GEAR - 1:1
39	007-15024-00	4	BOTTOM BEVEL GEAR (FAB)
40	007-05079-00	4	BEVEL GEAR ADJUSTMENT SCREW
41	007-07625-00	1	4" CLAMP SHEAVE
42	111-00198-00	2	7" LIFTING SHEAVE
43	007-07705-00	2	SPACER TUBE 1.938" FRONT CRADLE
44	007-07704-00	4	SPACER TUBE 1.297" SIDE CRADLE
45	007-09105-00	2	SIDE LEVELING CABLE - 190 1/2"
46	007-09110-00	1	FRONT LEVELING CABLE - 221.625"
47	007-09161-00	1	LIFTING CABLE 237"
48	011-15010-00	1	75" BALL SCREW 40-10mm w/NUT
49	111-00199-00	4	6" SHEAVE W/BUSHING
50	007-70123-00	1	HHCS, 3/8-16 X 5" ss 18-8
51	001-23876-00	2	HHCS, 1/2-20 X 1 1/4" BLACK
52	001-33092-00	1	FLAT WASHER, SAE 3/4" Zinc
53	001-70110-00	4	HHCS, 3/8-16 X 1 3/4" ss 18-8
54	001-70118-00	2	HHCS, 3/8-16 X 3 3/4" ss 18-8
55	001-70125-00	7	HHCS, 3/8-16 X 6" ss 18-8
56	003-40001-00	4	RUBBER BUSHING
57	111-00200-00	2	7 1/4" SHEAVE ASSY
58	001-70211-00	8	HHCS, 1/2-13 X 2" ss 18-8
59	002-04227-00	2	FRAME BEAM CLAMP (LF RR) - (WELDED TO CORNER POST)
60	001-70219-00	14	HHCS, 1/2-13 X 4" ss 18-8
61	001-70223-00	6	HHCS, 1/2-13 X 5" ss 18-8
62	001-70215-00	3	HHCS, 1/2-13 X 3" ss 18-8

NO.	PART NO.	QTY.	DESCRIPTION
63	911-10501-00	4	6" FRAME BEAM SPACER
64	002-04258-00	4	8" FRAME BEAM SPACER
65	001-70365-00	3	HHCS, 3/4-10 X 3" ss 18-8
66	001-70363-00	4	HHCS, 3/4-10 X 2 1/2" ss 18-8
67	001-16369-00	1	HHCS, 3/4"-16 X 4" GRADE 5 PLAIN
68	001-70819-00	2	NUT, JAM 1"-8 ss 18-8
69	001-70817-00	7	NUT, JAM 3/4"-10 ss 18-8
70	001-70861-00	8	NUT, 5/16-18 ALUMINUM NYLOCK
71	001-71017-00	8	3/8" SAE FLAT WASHER
72	001-71021-00	23	1/2" FLAT WASHER SAE ss 18-8
73	001-71022-00	32	1/2" FLAT WASHER USS ss 18-8
74	001-74165-00	4	3/16" x 1 3/4" ss SPRING PIN
75	001-26969-00	4	PIN, GROOVE 5/32" x 1 1/8" ZINC
76	001-26911-00	4	3/16" x 7/8" DOWEL PIN
77	001-74404-00	8	CARRIAGE BOLT, 5/16-18 x 5" ss 18-8
78	001-76071-00	25	NUT, 3/8-16 ALUMINUM NYLOCK
79	001-76072-00	35	NUT, 1/2-13 ALUMINUM NYLOCK
80	007-05000-00	1	BALL SCREW NUT BLOCK - UHMW
81	001-74423-00	1	CARRIAGE BOLT, 1/4-20 x 2" ss 18-8
82	001-75001-00	1	NUT, 1/4-20 ALUMINUM NYLOCK
83	007-05063-00	1	NUT, SLOTTED 1 1/8-12
84	006-10208-00	4	FRONT CRADLE SHEAVE SPACER
85	007-05068-00	1	LIFTING CABLE PULLEY CLEVIS
86	007-07626-00	1	2" CLEAVIS SHEAVE
87	001-70394-00	1	HHCS, 3/4-16 x 2" ss 18-8
88	001-76069-00	8	5/8" FLAT WASHER - NYLON
89	007-05224-00	1	1" ID RIGID COUPLER
90	111-00311-00	1	ASSY, BEARING BLOCK W/BEARING
91	007-05222-00	1	1/4" SQ. X 3" KEY
92	001-70121-00	1	HHCS, 3/8-16 X 4 1/2" ss 18-8
93	001-70203-00	2	HHCS, 1/2-13 X 3/4" ss 18-8
94	007-05126-00	2	M8 x 1 GREASE ZERK (FLUSH)
95	111-67501-00	1	60007500# LIMIT SWITCH ASSY
96	001-70212-00	3	HHCS, 1/2-13 X 2 1/4" 18-8 ss
97	007-07708-00	2	LIFTING SHEAVE SPACER
98	001-70213-00	2	HHCS, 1/2-13 X 2 1/2" 18-8 ss
99	001-70225-00	1	HHCS, 1/2-13 X 6" 18-8 ss
100	006-10021-00	1	UHMW BALLSCREW SUPT. SLEEVE
101	006-22202-00	1	STEEL SLEEVE 1" X 2.25" LG
102	111-00337-00	1	CANOPY INSERT ASSEMBLY

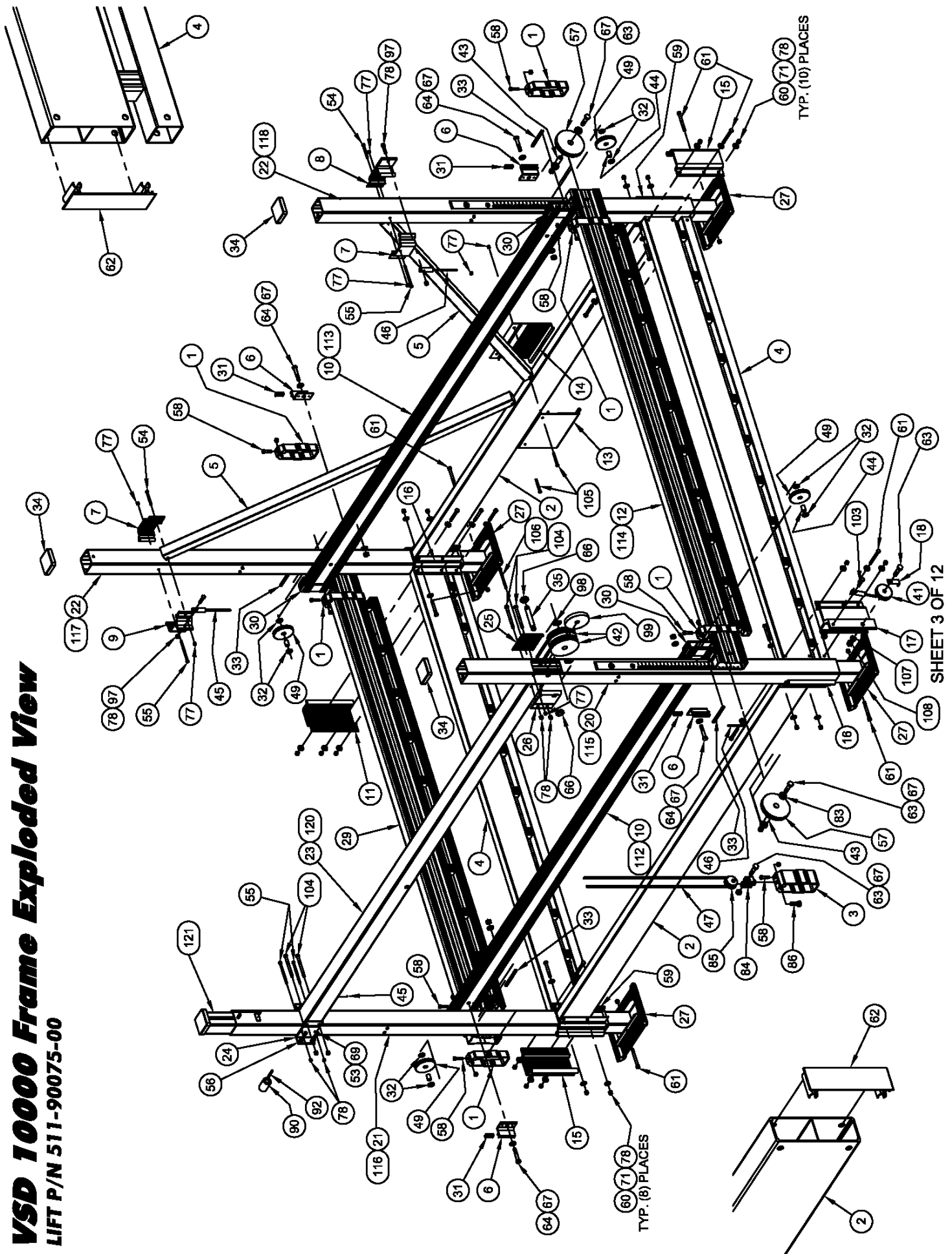
### SUB-ASSEMBLIES

103	111-00188-02	SIDE CRADLE ASSEMBLY (RIGHT)
		INCLUDES ITEMS 6,10,31,32,33,44,45,49,66,69
104	111-00189-02	SIDE CRADLE ASSEMBLY (LEFT)
		INCLUDES ITEMS 6,11,31,32,33,44,45,49,66,69
105	111-00139-00	FRONT CRADLE ASSEMBLY
		INCLUDES ITEMS 12,43,46,57,65,69,84
106	111-00130-02	CORNER POST ASSY (A)
		INCLUDES ITEMS 16,20,25,26,34,35,42,68,70,77,110
107	111-00131-02	CORNER POST ASSY (B)
		INCLUDES ITEMS 21,34,59,110
108	111-00133-02	CORNER POST ASSY (C)
		INCLUDES ITEMS 16,22,34,110
109	111-00132-02	CORNER POST ASSY (D)
		INCLUDES ITEMS 22,34,59,110
110	111-00136-01	7500/6000# INNER SCREW LEG ASSEMBLY
		INCLUDES ITEMS 19,28,38,39,40,72,75,76,88
111	111-00141-02	BALL SCREW TUBE ASSEMBLY
		INCLUDES ITEMS 23,36,37,47,48,50,51,52,62,67,72,76,79,80,83,89,90,91,93,94,95,100,101



# VSD 10000 Frame Exploded View

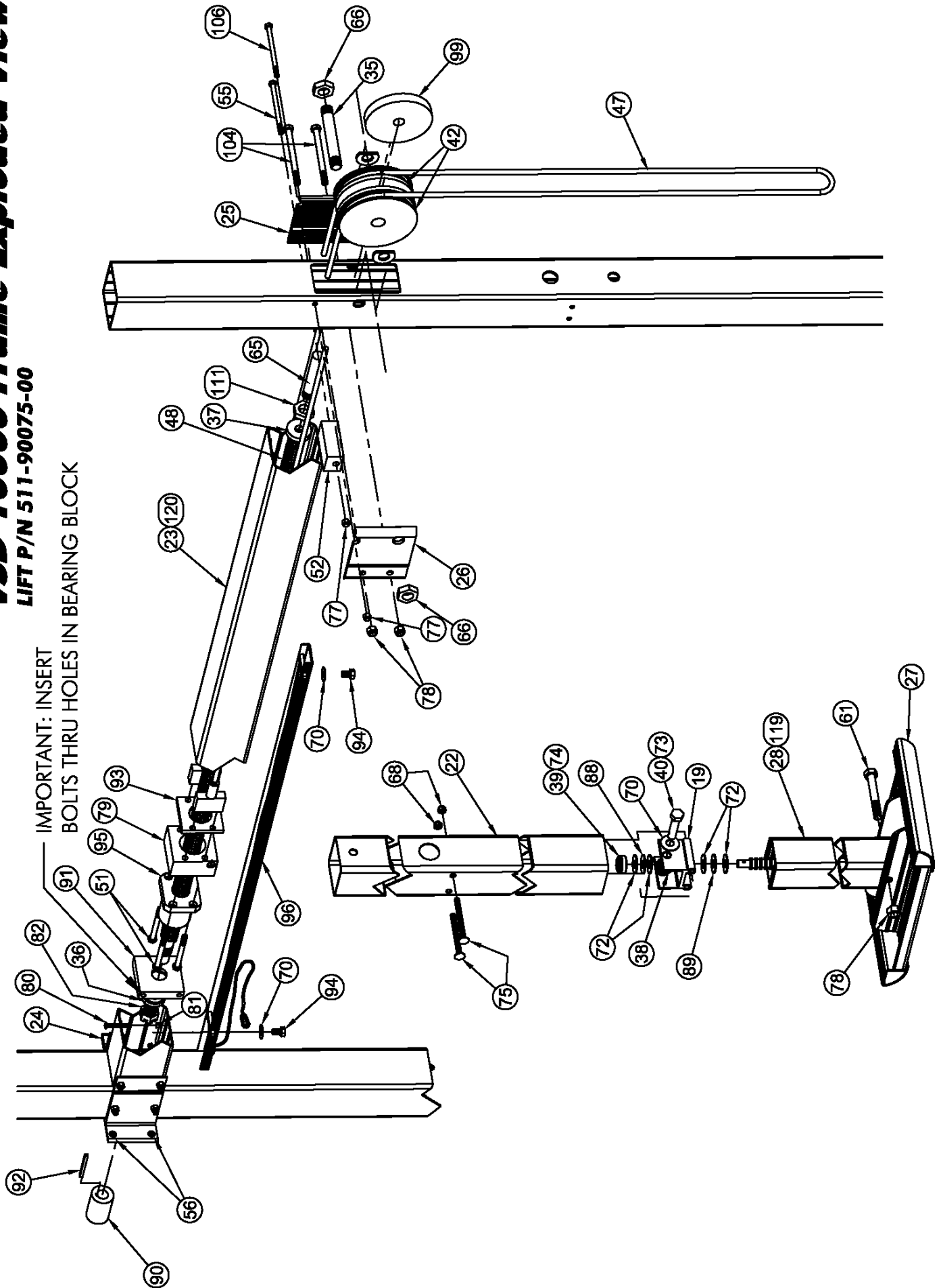
LIFT P/N 511-90075-00



# VSD 10000 Frame Exploded View

LIFT P/N 511-90075-00

IMPORTANT: INSERT  
BOLTS THRU HOLES IN BEARING BLOCK



# VSD 10000 Frame Exploded View

NO.	PART NO.	QTY.	DESCRIPTION	NO.	PART NO.	QTY.	DESCRIPTION
1	002-04204-00	7	CRADLE CLAMP 1.75"	65	001-93531-00	1	SHCS, M24 x 3 x 160MM
2	002-04333-00	2	8" SIDE FRAME BEAM 144"	66	001-70819-00	2	NUT, JAM 1"-8 ss 18-8
3	002-04205-00	1	CRADLE LIFT CLAMP 3.875"	67	001-70817-00	7	NUT, JAM 3/4-10 ss 18-8
4	111-00327-00	2	WELDMENT, 8" F/R FRAME BEAM 130"	68	001-70861-00	8	NUT, 5/16-18 ALUMINUM NYLOCK
5	002-04292-00	2	V-BRACE 94.38"	69	001-71017-00	8	3/8" SAE FLAT WASHER
6	002-04226-00	4	CRADLE GUIDE	70	001-71021-00	7	1/2" FLAT WASHER SAE ss 18-8
7	002-04210-00	2	UPPER CLAMP (UNIVERSAL)	71	001-71022-00	40	1/2" FLAT WASHER USS ss 18-8
8	002-04211-00	1	UPPER CLAMP (FRONT)	72	001-71024-00	16	FLATWASHER, 5/8 X 1.25" X .060 SS
9	002-04212-00	1	UPPER CLAMP (REAR)	73	001-26969-00	4	5/32" x 15/16" GROOVE PIN
10	002-04331-00	2	SIDE CRADLE 182.5"	74	001-26911-00	4	3/16" x 7/8" DOWEL PIN
11	002-04326-00	1	FRAME BEAM CLAMP (OUTER) LR	75	001-74404-00	8	CARRIAGE BOLT, 5/16-18 x 5" ss 18-8
12	111-00329-00	1	WELDMENT, FRONT CRADLE BEAM 139" (.188)	76	006-15016-00	1	CAP, VINYL-LG CANOPY INSERT
13	002-04336-00	1	V-BRACE CLAMP (FEMALE)	77	001-76071-00	25	NUT, 3/8-16 ALUMINUM NYLOCK
14	002-04335-00	1	V-BRACE CLAMP (MALE)	78	001-76072-00	41	NUT, 1/2-13 ALUMINUM NYLOCK
15	002-04327-00	2	FRAME BEAM CLAMP (OUTER) LF, RR	79	111-00332-00	1	BALL SCREW NUT BLOCK ASSY - UHMW
16	002-04330-00	2	FRAME BEAM CLAMP (RF LR) - (WELDED TO CORNER POST)	80	001-74423-00	1	CARRIAGE BOLT, 1/4-20 x 2" ss 18-8
17	002-04328-00	1	FRAME BEAM LIFTING CLAMP	81	001-75001-00	1	NUT, 1/4-20 ALUMINUM NYLOCK
18	002-04254-00	1	CABLE HOLDER	82	007-93530-00	1	NUT, SLOTTED M30 x 1.5
19	002-04245-00	4	LEVEL LEG BRACKET	83	006-10208-00	4	FRONT CRADLE SHEAVE SPACER
20	002-04325-00	1	CORNER POST 101" LIFTING (.188)	84	007-05068-00	1	LIFTING CABLE PULLEY CLEVIS
21	002-04323-00	1	CORNER POST 101" MOTOR (.188)	85	007-07627-00	1	3" CLEAVIS SHEAVE
22	002-04324-00	2	CORNER POST 101" (.188)	86	001-70394-00	1	HHCS, 3/4-16 x 2" ss 18-8
23	111-00331-00	1	BALL SCREW TUBE - 145"	87	001-09403-00	1	CANOPY LEG, 44" (10.5/11.5")
24	911-11401-00	1	4.5" BALL SCREW CLAMP	88	001-70107-00	8	HHCS, 3/8-16 x 1-1/4" 18-8ss
25	002-04337-00	1	5.5" PULLEY CLAMP (INNER)	89	001-76069-00	8	FLATWASHER, 5/8" (LIFT) NYLON
26	002-04338-00	1	5.5" PULLEY CLAMP (OUTER)	90	007-05224-00	1	1" ID RIGID COUPLER
27	111-00140-00	4	SAND PAD	91	002-04253-00	1	BEARING BLOCK
28	111-00197-00	4	INNER SCREW LEG WELDMENT	92	007-05222-00	1	1/4" SQ. X 3" KEY
29	111-00328-00	1	WELDMENT, REAR CRADLE BEAM 139"	93	007-05232-00	1	PLATE, STEEL BALL SCREW ASSY.
30	911-10301-00	4	CRADLE U-CLAMP 2.875"	94	001-70203-00	2	HHCS, 1/2-13 x 3/4" ss 18-8
31	006-10202-00	4	CRADLE GUIDE WEAR PAD	95	007-05126-00	1	M8 x 1 GREASE ZERK (FLUSH)
32	006-10207-00	8	SIDE CRADLE SHEAVE SPACER	96	111-00325-00	1	10000# LIMIT SWITCH ASSY
33	006-11002-00	4	UHMW WEAR PAD - 1/4" x 1/2" x 6 1/2" LG.	97	001-70212-00	3	HHCS, 1/2-13 X 2 1/4" 18-8 ss
34	006-15500-00	4	4.5" CORNER POST CAP	98	007-07709-00	2	SPACER, PULLEY, 312"
35	007-05550-00	1	1" SHEAVE PIN PLATED	99	007-07710-00	1	SPACER, PULLEY-ALUMINUM
36	007-05252-00	1	THRUST BEARING	100			
37	007-05231-00	1	BALL SCREW END STOP PLATE	101			
38	007-05023-00	4	TOP BEVEL GEAR - 1:1	102			
39	007-15024-00	4	BOTTOM BEVEL GEAR - 1:1(Fab)	103	001-70213-00	1	HHCS, 1/2-13 X 2 1/2" 18-8 ss
40	007-05079-00	4	BEVEL GEAR ADJUSTMENT SCREW	104	001-70225-00	4	HHCS, 1/2-13 X 6" 18-8 ss
41	007-07628-00	1	4" CLAMP SHEAVE	105	001-70117-00	2	HHCS, 1/2-13 X 3 1/2" 18-8 ss
42	111-00367-00	2	7" LIFTING SHEAVE ASSY	106	001-70123-00	1	HHCS, 3/8-16 X 5" 18-8 ss
43	007-07705-00	2	SPACER TUBE - FRONT CRADLE	107	001-71077-00	1	LOCK WASHER, 3/4" SPLIT SS
44	007-07704-00	4	SPACER TUBE - SIDE CRADLE	108	001-76354-00	1	NUT, 3/4-10 ALUMINUM
45	007-09151-00	2	SIDE LEVELING CABLE - 222 3/4"	109			
46	007-09152-00	1	FRONT LEVELING CABLE - 231 5/8"	110			
47	007-09162-00	1	LIFTING CABLE 286 1/2"	111	007-93532-00	1	NUT, M24 x 3
48	011-15020-00	1	85" BALL SCREW 50-10mm w/NUT				
49	111-00199-00	4	6" SHEAVE W/ BUSHING				
50	001-70207-00	1	HHCS, 1/2-13 x 1 1/4" ss 18-8				
51	001-23369-00	4	SHCS, 7/16-14 x 4"				
52	006-10209-00	1	BLOCK, UHMW SUPPORT-BALLSCREW				
53	001-70110-00	4	HHCS, 3/8-16 x 1 3/4" ss 18-8				
54	001-70118-00	2	HHCS, 3/8-16 x 3 3/4" ss 18-8				
55	001-70125-00	4	HHCS, 3/8-16 x 6" ss 18-8				
56	003-40001-00	4	RUBBER BUSHING				
57	111-00200-00	2	7 1/4" SHEAVE ASSY				
58	001-70211-00	8	HHCS, 1/2-13 x 2" ss 18-8				
59	002-04329-00	2	FRAME BEAM CLAMP (LF RR)				
60	001-70219-00	18	HHCS, 1/2-13 x 4" ss 18-8				
61	001-70223-00	6	HHCS, 1/2-13 x 5" ss 18-8				
62	002-04258-00	8	8" FRAME BEAM SPACER				
63	001-70365-00	3	HHCS, 3/4-10 x 3" ss 18-8				
64	001-70363-00	4	HHCS, 3/4-10 x 2 1/2" ss 18-8				

## SUB-ASSEMBLIES

112	111-00323-00	SIDE CRADLE ASSEMBLY (RIGHT)
113	111-00324-00	SIDE CRADLE ASSEMBLY (LEFT)
114	111-00330-00	FRONT CRADLE ASSEMBLY (.188)
115	111-00319-00	CORNER POST ASSY (A)
116	111-00321-00	CORNER POST ASSY (B)
117	111-00322-00	CORNER POST ASSY (C)
118	111-00321-00	CORNER POST ASSY (D)
119	111-00136-00	10000# INNER SCREW W/LEG ASSEMBLY
120	111-00326-00	BALL SCREW TUBE ASSEMBLY
121	111-00337-00	ASSY, LARGE LIFT CANOPY INSERT

# FLOE INTERNATIONAL, INC. BOAT LIFT SYSTEM 15 YEAR LIMITED WARRANTY

FLOE INTERNATIONAL, INC. warrants, to the original purchaser, the FLOE boat lift system to be free from original defects in materials and workmanship under conditions and loads for which designed as outlined in the owner's manual from date of purchase as follows:

## NEW WARRANTY GUIDELINES EFFECTIVE SEPTEMBER 1, 2004

### TWO-YEAR PARTS AND LABOR WARRANTY

FLOE International, Inc. will repair or replace, at their option, any portion of the lift system which fails as a result of a defect in material or workmanship during the first two years after the date of purchase. FLOE INTERNATIONAL, INC. reserves the right to inspect and perform repairs at its main facility (F.O.B.) McGregor, Minnesota. Any failure due to product assembly by a FLOE dealer or consumer is not covered by this warranty. This full two-year warranty includes parts and labor on the boat lift system and accessories including the following: (warranty does not cover paint, plated surfaces, or finish).

Aluminum structure, guide-ins, bunk systems, motor stops, crank wheels, canopy frames, canopy fabrics (excluding color fading or matching separate canopy fabrics), solar chargers, wheel kits, adjustable leveling legs, VSD drive train and electrical components, DC winches, corded and wireless remotes, cables, pulleys and installation and removal accessories.

Labor charges and mileage are covered within 40 miles from FLOE or the authorized FLOE dealership performing the repairs. Additional mileage/travel charges will apply if travel over 40 miles is required. If this charge applies, it is determined by the repairing dealer and must be paid by the customer to the dealer performing the repairs. Warranty does not cover damage, including broken welds, caused by improper installation or removal, or any damage of any sort caused by the use of power equipment.

### EXTENDED PARTS WARRANTY

In addition to this two-year parts and labor warranty, additional warranty coverage applies to specific parts of the lift and accessories. All warranty coverage beyond two years is for parts only. Labor costs for any warranty claim are not covered past two years.

### ALUMINUM STRUCTURE 15-YEAR LIMITED WARRANTY

Defects in material and workmanship of structural components of the lift frame are covered fully for 10 years from the date of purchase. FLOE will provide replacement parts, on a non pro-rated basis, for ten years for these items if they are found to be defective. The lift frame consists of the aluminum framework making up the boat lift structure, including the lift cradle which is the portion of the lift frame that moves up and down as the boat lift is operated. It does not include the bunks or other accessories that are listed below. After this 10-year parts warranty, an additional five-year pro-rated warranty covers these components as shown below.

Year After Purchase	Consumer Portion of Current Retail Price	Year After Purchase	Consumer Portion of Current Retail Price
11	40%	14	70%
12	50%	15	90%
13	60%		

### ACCESSORIES AND COMPONENTS 10-YEAR LIMITED WARRANTY

Defects in material and workmanship of certain accessories and components of FLOE lift systems are covered under a 10-year pro-rated warranty. This pro-rated parts warranty begins after the two year parts and labor warranty. Items covered in this 10-year pro-rated warranty include lift bunks (excluding vinyl covering), guide-ins, motor stops and the canopy frame.

The pro-rated schedule on these items is as follows:

Year After Purchase	Consumer Portion of Current Retail Price	Year After Purchase	Consumer Portion of Current Retail Price
3	20%	7	60%
4	30%	8	70%
5	40%	9	80%
6	50%	10	90%

## ACCESSORIES AND COMPONENTS FIVE-YEAR LIMITED WARRANTY

Defects in material and workmanship of certain accessories and components of FLOE lift systems are covered under a five-year pro-rated warranty. This pro-rated parts warranty begins after the two-year parts and labor warranty. Items covered in this five-year pro-rated warranty include canopy fabrics (excluding color fading or matching separate canopy fabrics), manual winches, cables, adjustable leveling legs, drive trains, DC winches, wheel kits, corded remotes, limit switches, wireless systems and solar panels.

The pro-rated schedule of these items is as follows:

Year After Purchase	Consumer Portion of Current Retail Price
3	50%
4	55%
5	60%

On these items, it is important to note the following exceptions:

- Warranty is void on all winches and drive-trains if they are submersed into water (including the initial two-year warranty).
- Warranty is void on ball-screws and ball nuts, winch gears, adjustable leveling legs, or any other item that failed due to improper maintenance or lubrication as noted in owner's manual.

Canopy fabric warranty does not cover valance or trim, as delamination may occur in high wind areas. If returning canopy for warranty repair, canopy must be cleaned prior to returning or a \$100 cleaning charge will be applied.

This warranty covers only the cost for replacement of materials due to defects in materials or workmanship, and represents the only warranty authorized by us. In order to receive performance under this warranty, all warranty repairs must be authorized in advance by FLOE INTERNATIONAL, INC.

## ADDITIONAL WARRANTY INFORMATION INCLUDING EXCLUSIONS AND OWNER'S RIGHTS

FLOE International, Inc. (manufacturer) will not be responsible for any costs incurred for, or as the result of, unauthorized repairs or improper assembly. Unauthorized repairs may void the warranty on the repaired part(s). This warranty does not cover damage, malfunction or faulty operation resulting from overload, misuse, wind, storms, ice, salt/brackish water applications, negligence, being hit by watercraft of any kind and any other 'Act of God'. Manufacturer's warranty coverage extends to private use only and is not applicable to commercial or rental use. Manufacturer is not responsible for damage or in-operability due to repairs made by unauthorized service personnel. Parts purchased by the manufacturer are warranted by the company that manufactured the part under the warranty schedule associated with the part in question. Manufacturer's warranty is extended to the original owner only and is non-transferable. Manufacturer reserves the right, at its own discretion, to inspect and perform repairs at its main facility in McGregor, MN. The customer is responsible for any and all freight charges incurred to transport the product to and from McGregor, MN, with the exception of claims covered by the manufacturer's two-year parts and labor warranty which has provisions for service work to be completed up to 40 (forty) miles away from a FLOE dealership. Manufacturer's warranty claim process, specifications and pro-rate scheduling may change without notice and/or obligation.

## COMPLETING AND SUBMITTING YOUR WARRANTY CLAIM

To receive performance under this warranty, contact your authorized FLOE dealer. Be prepared to provide the following information so that the dealer can complete a warranty claim form: receipt and date of purchase; your name, address and telephone numbers; the serial or vehicle identification numbers; and a detailed description of the problem.

## THERE ARE NO OTHER EXPRESSED OR IMPLIED WARRANTIES

Our obligations under this warranty are limited to repair or replacement at our discretion and  
FLOE SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

This Warranty gives you specific legal rights and you may have other rights which may vary from state to state.

Instantly register your FLOE products online!

[www.floeintl.com/registration](http://www.floeintl.com/registration)



## WARRANTY REGISTRATION

**NOTE:** FLOE products must be registered within 15 days of purchase to validate warranty. Please fill out the form below and place in an envelope with proper postage or quickly register online. See reverse side for mailing instructions. Please complete all information requested. FLOE INTERNATIONAL, INC. is not responsible for lost, stolen or misplaced warranty registrations.

NAME: \_\_\_\_\_ PHONE: \_\_\_\_\_/\_\_\_\_\_

ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

DATE PURCHASED: \_\_\_\_/\_\_\_\_/\_\_\_\_ DEALER PURCHASED FROM: \_\_\_\_\_

E-mail: \_\_\_\_\_

☐ Yes please ☐ No you cannot contact me via e-mail with great offers and special promotions from FLOE International and it's quality authorized dealers.

### PRODUCT PURCHASED *Please check all that apply*

☐ FLOE TRAILER .....Size: \_\_\_\_\_ Model: \_\_\_\_\_ VIN#: \_\_\_\_\_

☐ POLARIS TRAILER .....Size: \_\_\_\_\_ Model: \_\_\_\_\_ VIN#: \_\_\_\_\_

☐ TRAILER ENCLOSURE .....Size: \_\_\_\_\_ Model: \_\_\_\_\_

☐ BOAT LIFT SYSTEM ..... Model: \_\_\_\_\_

☐ ROLL-IN DOCK .....DECKING IS: ☐ Cedar - ☐ Carpeted - ☐ Aluminum - ☐ Aluma-Grain

☐ FLOATING DOCK .....DECKING IS: ☐ Cedar - ☐ Aluminum - ☐ Aluma-Grain

*NOTE: Please list Size for each Dock Component.*

Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_

Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_ Size: \_\_\_\_\_x\_\_\_\_\_

Accessory: \_\_\_\_\_

Accessory: \_\_\_\_\_

Accessory: \_\_\_\_\_

Accessory: \_\_\_\_\_

Accessory: \_\_\_\_\_

Accessory: \_\_\_\_\_

### TELL US ABOUT YOURSELF

How did you hear about FLOE: \_\_\_\_\_

Family Income: ☐ 25,000 - 50,000 ☐ 50,000 - 75,000 ☐ 75,000 - 100,000 ☐ 100,000 - 125,000 ☐ 125,000 - 150,000 ☐ over 150,000

Your Occupation: ☐ Professional/Technical ☐ Upper Management/Executive ☐ Middle Management ☐ Sales/Marketing  
☐ Clerical/Service Worker ☐ Tradesman/Machine Operator/ Laborer

Spouse's Occupation: ☐ Professional/Technical ☐ Upper Management/Executive ☐ Middle Management ☐ Sales/Marketing  
☐ Clerical/Service Worker ☐ Tradesman/Machine Operator/ Laborer

Age Range: ☐ 18 - 29 ☐ 30 - 45 ☐ 46 - 55 ☐ over 55

Education: ☐ High School ☐ 2 year college ☐ 4 year college ☐ Graduate school

What most influenced you to buy a FLOE product: (select one)

☐ Advertisement ☐ Quality ☐ Warranty ☐ Price ☐ Style/Appearance ☐ Features/Benefits



**Instantly register your FLOE products online!**  
**[www.floeintl.com/registration](http://www.floeintl.com/registration)**

If you do not have access to the internet you can still register your FLOE products by filling out the form on the reverse side of this sheet. Once the registration form is completely filled out fold in up and put it inside an envelope addressed to the address listed below. Be sure to affix proper postage to avoid registration delays.

**NOTE:** FLOE products must be registered within 15 days of purchase to validate warranty. Please fill out the form below and place in an envelope with proper postage or quickly register online. Please complete all information requested. FLOE INTERNATIONAL, INC. is not responsible for lost, stolen or misplaced warranty registrations.

Mail completed forms inside an envelope to:

**FLOE** International, Inc.  
Warranty Registration Department  
48473 State Highway 65  
McGregor, MN 55760-9514

Your authorized FLOE Dealer:

**Want the best? Go with the FLOE!**



FLOE INTERNATIONAL, INC.  
48473 STATE HIGHWAY 65 • MCGREGOR, MN 55760  
[www.floeintl.com](http://www.floeintl.com)

All material copyright © 2010 FLOE International, Inc. Unauthorized reproduction is strictly prohibited.