



R & J Machine

4000 AND 6000 HYDRAULIC SERIES OPERATION AND MAINTENANCE MANUAL

Rev-8-23-18

TABLE OF CONTENTS

FIGURE	DESCRIPTION	PAGE
1	SAFETY	3-5
1.1	Introduction	3
1.2	Equipment Labels	3
1.3	Equipment & Personal Safety	3
1.4	Operating Safety	3
1.4.1	General Operating Safety	3
1.4.2	Safety When Raising the Boat	4
1.4.3	Safety When Lowering the Boat	4
1.5	Maintenance and Storage Safety	5
1.6	Pre-Lifting Checklist	5
2	SPECIFICATIONS	6
2.1	Technical Data	6
2.2	Information Plate	6
3	OPERATION	9-10
3.1	Before Operating the Lift	9
3.2	Testing the Hydraulic Operation	9
3.3	Raising & Lowering the Platform	9
3.4	Securing the Lift When Not In Use	10
4	INSPECTION & MAINTENANCE	11-12
4.1	General Maintenance Rules	11
4.2	Hydraulic Line Inspection Procedure	11
4.3	Annual Inspection	12
4.4	Annual Motor and Pump Maintenance	12
4.5	Storage Procedure	12
5	TROUBLE SHOOTING	13
6	REPLACEMENTS & ADJUSTMENTS	14-15
6.1	Leg Adjustment	14
6.2	Bunk Adjustment	14-15
7	WARRANTY	16

1. SAFETY

1.1 INTRODUCTION

Your R & J Machine Hydraulic Boat Lift has been engineered to provide lifting performance, long term economic and safety advantages that no other type can match. However, even a well-designed and well-built lift can malfunction or become hazardous in the hands of an inexperienced and/or untrained user. Therefore, please read this manual and the related equipment manuals thoroughly before operating your lift to provide maximum safety for all operating personnel and to get the maximum benefit from your equipment.



WARNING: Do not operate this lift without studying the entire contents of this document. Failure to do so could lead to equipment misuse resulting in serious personal injury and/or damage. Contact R & J Machine if you have any questions.

1.2 EQUIPMENT SAFETY LABELS

These labels warn you of potential hazards that could cause injury. If a label comes off or becomes illegible, contact R & J Machine for a free replacement.

1.3 EQUIPMENT & PERSONAL SAFETY

1. Do not use the lift if it shows any sign of damage.
2. Do not exceed the rated maximum lifting capacity of this equipment.
3. Understand the use of all the controls and connections in the hydraulic system.



WARNING: All electrical power sources must be installed and inspected by a certified electrician in accordance with local electrical codes.

4. Never try lifting anything other than a boat with this equipment.
5. Never allow people in the boat any time it is suspended above the water on the platform.



WARNING: Do not stand or walk on the platform while it is in the raised position.

6. Do not allow anyone to swim or play under, near or on the lift at any time.
7. Wear rubber gloves when handling hydraulic lines, hydraulic fittings, and/or hydraulic oil.



WARNING: Insufficient hand protection when handling hydraulic lines, hydraulic fittings or hydraulic fluid can cause spread of fluid and/or increase slipperiness of lift components.

1.4 OPERATING SAFETY

1.4.1 General Operating Safety

1. Never use this equipment beyond its rated capacity. This can damage the lift and/or boat with resulting personal injury.
2. Before allowing anyone to operate the lift, be certain that they have fully understood the proper operating procedure.
3. Follow the Pre-Lifting Checklist (Section 1.6) before operating the lift.
4. Do not try lifting or launching your boat in rough water conditions. This can damage your boat and/or lift.

5. The boat must be secured on the lift before raising or lowering. Failure to do this could cause equipment damage and/or serious personal injury.
6. Keep people and pets clear during operation of the lift.
7. Keep fingers and clothing clear of all moving parts.
8. Check the lift periodically for any leaks in the hydraulic lines and/or hydraulic fittings.
9. Do not attempt to make any adjustments to the lift whilst it is being operated.
10. Never tamper with the hydraulic motor.
11. Do not operate the lift under the influence of recreational drugs or alcohol.
12. Never use the lift to hang or store any auxiliary equipment, such as boating hardware.

1.4.2 Safety When Raising Boat

1. The hydraulic cylinders must extend when raising the platform. The up button will cause the hydraulic cylinder to extend, raising the platform.
2. Do not try to raise the boat beyond the maximum lifting height.



WARNING: Ensure that all hydraulic lines are clear of platform and lifting legs while operating the lift.

1.4.3 Safety When Lowering Boat

1. The hydraulic cylinders must retract when lowering the platform. The down button will cause the hydraulic cylinder to retract, lowering the platform.



WARNING: Ensure that all hydraulic lines are clear of platform and lifting legs while operating the lift.

2. Do not continue lowering the platform after the boat floats freely.



WARNING: Never attempt to work on the lines while the lift is in use.

1.5 MAINTENANCE AND STORAGE SAFETY

1. At least once a year the lift must be thoroughly inspected as described in the Inspection and Maintenance section.
2. Completely lower the platform before performing any type of maintenance/repair.



WARNING: Take extra precaution when working inside the power pack and around the battery. Spark or accidental shorting of the terminals can lead to explosion or fire.



WARNING: Never allow anybody to work in or on the boat when it is suspended above the water on the lift.

3. Immediately replace any components found to be defective, as described in the Inspection and Maintenance sections.

An experienced R&J Machine technician can perform this service for you. An appointment can be arranged by calling 705-652-6731.

1.6 PRE-LIFTING CHECKLIST– Initial Installation/Start-up and Annual Inspection

The lift and related equipment must be thoroughly inspected prior to each use. Only those who have read and understood this entire manual and related equipment manuals are qualified to do this inspection. This checklist is to be used as a guideline in conjunction with the maintenance and inspection procedures outlined in this manual. It is recommended that the inspection be maintained as a permanent record. It is also recommended that the initial inspection be carried out by a qualified technician.

- Ensure the lift installation will clear all power lines and obstructions.
- Ensure all structural members of the lift are free of defects and damage that may affect the integrity.
- Ensure that any power receptacle has been inspected and installed by a certified electrician in accordance with local electrical codes. Use receptacle checking device or electrical meter.
- Ensure that any user or manufacturer installed locking devices have been removed before operating the lift.
- Operate the lift first without, and then with, your boat on the platform to test the operation of both the lift and the winch.
- Ensure the boat is properly positioned on the lift before doing any raising or lowering.
- Ensure the lift is not being used beyond its rated capacity.
- Ensure any drain plug is in place in the boat before launching.
- Inspect the hydraulic lines to ensure they are not leaking, and are mounted properly so they will not interfere with, or be damaged by the lift movement.
- Ensure the leg height has been properly adjusted according to the water depth.
- Ensure the frame and platform fastenings are tight.
- Ensure the frame is level and square.
- Ensure the bunks are adjusted properly to fit the hull of your boat.

1.6 PRE-LIFTING CHECKLIST– Before Every Use

The lift and related equipment must be thoroughly inspected prior to each use. Only those who have read and understood this entire manual and related equipment manuals are qualified to do this inspection. This checklist is to be used as a guideline in conjunction with the maintenance and inspection procedures outlined in this manual. It is recommended that the inspection be maintained as a permanent record.

- Ensure the lift and boat are clear of any obstructions.
- Ensure the frame of lift appears to be straight and square and level and securely fastened together.
- Ensure that you have power to the lift (i.e. batteries are charged and controls are working).
- Ensure that any user installed locking or securing devices have been removed before operating the lift.
- Inspect the condition of the bunks and ensure they are securely fastened and won't damage your boat.
- Ensure the lift is not being used beyond its rated capacity.
- Ensure the lift still appears to be at the proper height for the water level.
- Ensure the boat is properly positioned on the lift before doing any raising or lowering.
- Ensure no one is swimming or playing in the area of the lift.
- Stop using the lift if you notice loud unusual noise when operating. Get inspected before further use.
- Stop using the lift if you notice jerky movement or shaking when operating. Get inspected before further use.
- Stop using the lift if you notice any change in height or level. Get inspected before further use.
- Avoid use of the lift in stormy (high wind, high wave) conditions to prevent risk of damage or injury.

2. SPECIFICATIONS

2.1 TECHNICAL DATA

MODEL	4000 lb.*	6000 lb.*	8000 lb.
Weight Capacity	4000 lb.	6000 lb.	8000 lb.
Maximum Beam**	9' 3 1/2"	9' 3 1/2"	10' 5 1/2"
Lifting Height	4'6"	4'6"	4'6"
Overall Width	9' 8 3/4"	9' 8 3/4"	9' 8 3/4"
Overall Length	11' 4 1/2"	12' 4 1/2"	15' 7 3/4"
Bunk Length	10'	10'	12'
Adjustable Legs 24"	2	2	2
Adjustable Legs 36"	2	2	2
# of hydraulic cylinders	2	2	4
Hydraulic oil capacity	9.8 liters	9.8 liters	9.8 liters
# of batteries	1	1	1
Battery voltage	12	12	12

*Available sizes for Wakeboard/Ski Boat lifts.

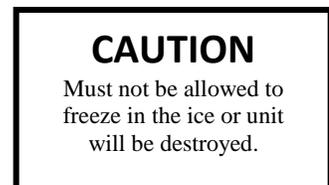
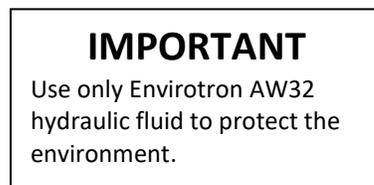
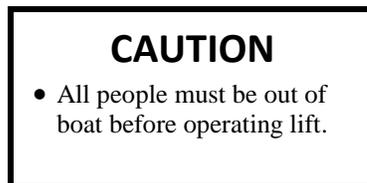
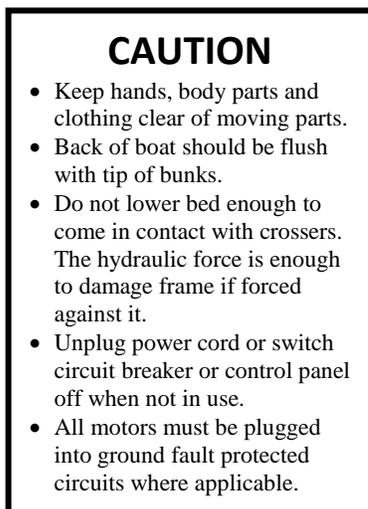
** Width with adjustable side guides.

2.2 INFORMATION PLATES

It is important to identify your lift completely and accurately. The lift has a plate which shows it's capacity rating, an example of which is shown below.



Other CAUTION labels are attached to your lift for reference and safety purposes, examples of which are shown below.



HYDRAULIC LIFT DIAGRAM



3. OPERATION

3.1 BEFORE OPERATING THE LIFT

1. Read and know the instructions and ensure that everyone understands the proper operating procedure.
2. Understand the use of all the controls and connections provided with the hydraulic system.
3. Follow the Pre-Lifting Checklist before operating.
4. Do not use the lift if it shows any signs of damage.
5. Ensure that all bolts and nuts are fastened securely prior to operation.
6. Check that the hydraulic lines are clear from all moving components in the frame.
7. Never lift anything other than a boat with this lift.
8. Adjust bunks to properly fit the hull of boat. Check for ideal positioning with boat manufacturer.



WARNING: The boat must be properly positioned on the lift before doing any raising or lowering. Failure to do this could result in personal injury and/or equipment damage.

3.2 TESTING THE HYDRAULIC OPERATION

1. Raise the empty platform about one fourth of the way up and lower it back down. The platform should not lower once the “up” button is released before pressing the “down” button to lower the platform.



WARNING: If there is an issue with the counter balance valve that is mounted on the cylinder crosser, then the bed will lower. If the bed lowers, press the “down” button until the platform is fully in the down position.

2. Repeat step 1 in the half, three-quarters, and full lift positioning.
3. Lower empty platform and perform steps 1 & 2 with your boat on the lift. When loaded, the counter balance valve should stop the platform from lowering as soon as the operator releases the “up” button.



WARNING: If the platform starts to lower itself from any test position, do not try to stop it. Do not use a lift in this condition unless it is being lowered to a safe position.

4. Contact R & J Machine if the hydraulic motor fails to perform as described in this section. Do NOT tamper with the hydraulic motor.

3.3 RAISING AND LOWERING THE PLATFORM



WARNING: Never allow anybody to walk on platform or be in boat when in the raised position.

1. The platform will stop moving at the top when the hydraulic cylinders are fully extended. You may hear a whistle sound when the hydraulic cylinders are fully extended.
2. Raise the platform by pressing the “up” button. The hydraulic cylinders and counter balance valve will hold the platform at any position.
3. The platform/boat should be raised to a lifted position where there is a minimum of 1 foot clearance between the bottom of the boat and the highest potential water table height for your area.
4. Lower the platform by pressing the “down” button. Do not continue lowering the platform after the boat floats freely from the platform.
5. Ensure that all fingers and clothing are kept clear of moving parts.
6. Check the lift periodically for leaks in the hydraulic lines and hydraulic fittings.

3.4 SECURING THE LIFT WHEN NOT IN USE

At the end of any operation, secure the lift to prevent unauthorized use. Proceed as follows:

1. Raise the platform to the desired height.
2. Padlock the hydraulic motor box and/or bring the hydraulic motor remote to a safe location.
3. Never assume you will find the lift in the same condition that you left it. Do a quick visual inspection and follow the Pre-Lifting Checklist

4. INSPECTION AND MAINTENANCE

4.1 GENERAL MAINTENANCE RULES

1. Do not allow persons other than authorized service personnel to repair this equipment.
2. Do not weld or otherwise modify the lift. Such alterations may weaken the structural integrity of the lift and invalidate your warranty.
3. Completely lower the lift before performing any type of maintenance or repair.
4. Most hydraulic lifts are equipped with a solar panel charging system. It is important to locate these solar panels in a location that gets lots of unobstructed exposure to sunlight. Ensure solar panels are also kept clean and free of dust and debris that might reduce their effectiveness.

4.2 HYDRAULIC LINE INSPECTION PROCEDURE

Inspect the hydraulic lines seasonally for signs of wear, damage or pinching. Inspect the entire working length of the hydraulic lines. Thoroughly inspect the hydraulic line sections and counter balance valve that is near the lower frame and the moving components of the lift. While inspecting, examine all fitting, hoses, and any other surfaces contacting the hydraulic lines during operation. Correct any condition harming the hydraulic lines at this time.



WARNING: Wear protective rubber gloves when handling hydraulic components. Insufficient hand protection when handling hydraulic components can increase slipperiness of metal and in turn can cause injury.

Clean and patch, or immediately replace hydraulic lines with one or more of the following defects:

1. Corrosion.
2. Broken hoses:
 - a. With clear fractures in the hose.
 - b. When there are small cracks.
3. Abrasion: scrubbing, flattening or peening causing either leaking of fluid or compromised hoses.
4. Kinking: severe kinking, crushing, or other damage causing distortion of the hydraulic lines.
5. Heat damage: evidence of any heat damage caused by a torch or by contact with electrical wires.

4.3 ANNUAL INSPECTION PROCEDURE

At least once a year, the lift must be thoroughly inspected using the following procedure:



WARNING: Do not allow anybody to use the lift until this maintenance is complete.

1. Check/Tighten all bolts.
2. Grease the fittings located at both ends of the hydraulic cylinders using a marine type waterproof grease
3. Check the hydraulic lines and hydraulic fittings thoroughly for defects.
4. Check the frame thoroughly for defects.
5. Check hydraulic fluid level to ensure it is still adequate and none lost to leaking.
6. Check for water contamination in the hydraulic oil.
7. Perform the motor maintenance as described in section 5.4.

4.4 ANNUAL MOTOR & PUMP MAINTENANCE

NOTE: There is no specific motor or pump maintenance schedule as they are manufactured with permanently lubricated sealed bearings. However, annual inspection for proper function is advised. Checking for vibration or noise or excessive amperage draw may lead to a planned off-season replacement before an unwanted unexpected failure and emergency repair.



WARNING: After lift maintenance has been performed, test the lift before letting anyone use the lift in regular service.

4.5 STORAGE PROCEDURE

1. Protect your lift as far as possible from damage caused by environmental factors such as airborne fallout, chemicals, tree sap and diverse weather hazards.
2. We recommend having the lift removed from the water if it is located in a region that experiences Winter freeze-up. If stored unsheltered, it should be placed on runners to elevate off of the ground enough that snow melt will not get inside the structure and freeze. Any water freezing within the lift structure will damage the lift beyond repair.
3. Never use the lift to hang or store any other items.
4. For locations that experience the freezing conditions of Winter, we recommend storing the battery inside in a cool (not freezing) dry place. Re-charge your battery in Spring, before 1st use. If you have room indoors, you can also choose to store the entire power pack indoors and out of freezing conditions although it is not necessary.

5. TROUBLE SHOOTING

SYMPTOM	CAUSE AND CORRECTIVE ACTION
Hydraulics won't raise the platform.	<ul style="list-style-type: none"> • Massive leak preventing the hydraulic cylinder from holding pressure – call R&J Machine. • Bolt axles are binding – grease joints. • Insufficient hydraulic fluid levels in the motor – fill the reservoir to the full indication.
Hydraulics raise the platform but fail to hold the platform in a given position as described in the test procedure.	<ul style="list-style-type: none"> • Contact R & J Machine – potential damage or small leak in hydraulic system.
Motor is operating properly, but platform raising is difficult, noisy or impossible.	<ul style="list-style-type: none"> • Platform is binding because frame is either not square or not set level in the water – leg adjustment required. • Burr on a bolt axle – replace bolt. • Bolt axle is binding – inspect/grease/replace. • Load exceeds rated capacity - reduce load weight as needed. • Auxiliary equipment i.e. boating hardware improperly hung on lift - remove this equipment permanently. • Pump or valve has failed. Seek qualified help.
Boat is not lifting level—stern is lifting higher or lower than the bow.	<ul style="list-style-type: none"> • Frame not level in the water - readjust height of extension legs. • Bunks are not adjusted correctly resulting in the boat not sitting level in the bunks. See section 7.2. • Boat not properly located in the lift.
Boat shifts position when operating the lift.	<ul style="list-style-type: none"> • Boat is not properly positioned on the lift - failure to properly position boat can cause equipment damage and/or serious personal injury. • Bunks are not adjusted correctly resulting in the boat not sitting level in the bunks. See section 7.2.
Lowest platform position is too high or low relative to the water.	<ul style="list-style-type: none"> • Connections between the vertical and adjustable legs need readjusting.
Platform is not lowering completely.	<ul style="list-style-type: none"> • Cylinders mounted improperly – contact R&J Machine. • Foreign object underneath the platform. Secure the platform and check for debris. Failure to properly secure boat prior to inspection can cause equipment damage and/or serious personal injury.

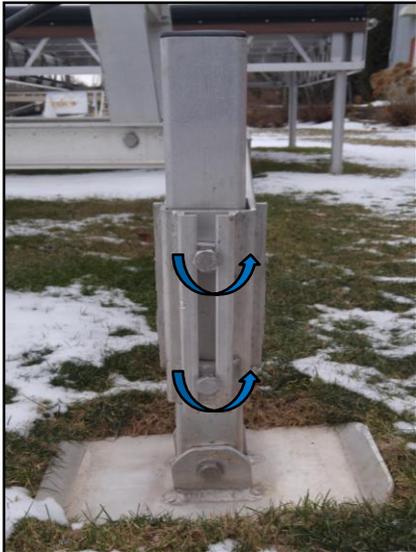
6. REPLACEMENTS & ADJUSTMENTS

6.1 LEG ADJUSTMENT

It is critical that each foot plate has a solid, flat base to rest on. It may be necessary to place a concrete slab (or similar) under each plate in order to maintain stability. Minor adjustments may be required after the boat has been placed on the lift (due to settling) to ensure that the desired level is maintained.



WARNING: Before performing any adjustments, remove the boat from the lift and place the bunk in the fully raised position.



Step 1. Place a four foot level across the front of the bunks, parallel with the front outrigger.

Step 2. Loosen the two bolts on the leg holder on the front outrigger (shown in the picture to the left) using a $\frac{3}{4}$ " or 19 mm wrench (or ratchet).

Step 3. Adjust the post height until the base plate is has a solid footing. Tighten the bolts that were loosened in step 2. Check to see if the front end of the lift is level.

Step 4. If necessary, adjust the other post using steps 2 and 3 for the front lower crosser to ensure it has solid footing, or to finish levelling the front of the lift.

Step 5. Place the four foot level across the rear end of the bunks. Repeat steps 2 to 4 to level the rear end of the lift. The hydraulic lift should have a slight rearward tilt on the bunks.

6.2 BUNK ADJUSTMENT

Our bunks are pre-set to properly fit the most common boat hull configurations. However, if you need to replace the bunks or change your boat, adjustments may be required. **Note:** if you change from a traditional 'V' style hull to a ski boat with fins and shaft, the bunks must be replaced with a set of raised bunks to allow for additional clearance.

On a standard 'V' hull configuration, your boat should be positioned so that it is centered in the lift and forward just enough so that the rear taper on the bunk is visible just past the stern of the boats left and right side chines.

For boats with I/O or an outboard motor, the boat should be positioned so that so that the rear taper on the bunk is visible just past the stern of the boat and not the extended swim platform.

For ski boats or boats with fins and/or shaft drives, your boat should be positioned far enough forward so the propeller and rudder are behind the bed frame.



WARNING: Before making any adjustments, remove the boat from the lift and place the bunk in the raised position.

Step 1. Loosen both bolts on the base of the bunk post (as shown in the two pictures below) using a $\frac{3}{4}$ " (or 19 mm) wrench. Do not fully remove the bolts.

Step 2. Slide the bunk post along the track to reposition the bunk post to the desired location.

Step 3. Tighten the two bolts using the $\frac{3}{4}$ " (or 19 mm) wrench.

Step 4. Repeat steps 1 to 3 for each bunk post. Ensure that the posts are symmetrically positioned from the center of the lift on both the front and back of the bed.



7. WARRANTY

R & J Machine warrants all hydraulic built equipment purchased new by the original owner to be free from defect in the material and workmanship under normal use for a period of 24 months from the original date of purchase (excluding components and options which carry their own manufacturer's warranty, wherein that warranty will apply).

R & J Machine is not liable for indirect, incidental or consequential losses, damages or injuries of any kind due to installation, removal, use, misuse, misapplication or improper selection of one of our purchased or displayed products. R & J Machine agrees to repair or replace only defective parts returned to the factory (prepaid) and deemed defective by R & J Machine. Any repairs performed shall not extend the 24 month duration of this warranty.

Our warranty is void in any of the following circumstances:

- Equipment has been used beyond its rated capacity.
- Damage or defect has occurred due to repairs/services being completed by persons other than authorized service personnel.
- Damage has been caused by environmental factors which include (but are not limited to) airborne fallout, tree sap, fire, floods, storms, lightning & ice.
- Damage caused by accident, abuse or negligence, misuse, incorrect operation or improper adjustment.
- The product has been modified in any way by the customer once ownership has occurred.