



TL7000 Hydraulic Boat Lift Owner's Manual

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INTRODUCTION

Owner Information

Thank you for your decision to purchase a Tonka Lift Boat Lift. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator's Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

The purpose of this manual is to familiarize and instruct.

Safety is of primary importance to the owner/operator and to the manufacturer. The first section of this manual includes a list of Safety Messages, that, if followed, will help protect the operator and bystanders from injury or death. Many of the Safety Messages will be repeated throughout the manual. The owner/operator/dealer should know these Safety Messages before assembly and be aware of the hazards of operating this boat lift during assembly, use, and maintenance. Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and / or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator's Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Tonka Lift is continually working to improve its products. Tonka Lift reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously

Although great care has been taken to ensure the accuracy of this publication, Tonka Lift makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Tonka Lift assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Tonka Lift Dealer for assistance, information, or additional copies of the manual. See our website www.tonkalift.com or call (952) 592-8001 for a complete list of dealers in your area.

INTRODUCTION

Serial Number and Lift Capacity Location

Please record hydraulic boat lift information in the space provided for future reference.

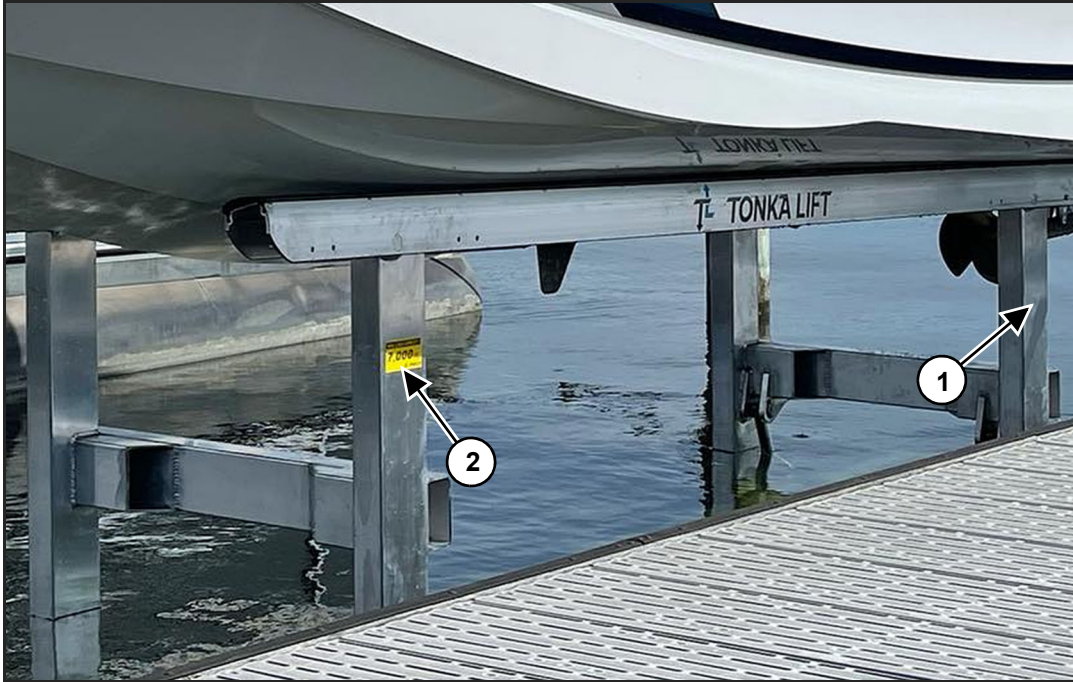


Figure 1

Model Number: _____

Serial Number: _____

Dealer Name: _____

Lift Capacity: _____

Date of Purchase: _____

The serial number (Item 1) [Figure 1] is located on the rear lift arm.

The lift capacity (Item 2) [Figure 1] is located on both sides of the forward lift arm.

Always use the model number and serial number when requesting information or when ordering parts.

INTRODUCTION

QR Code Location

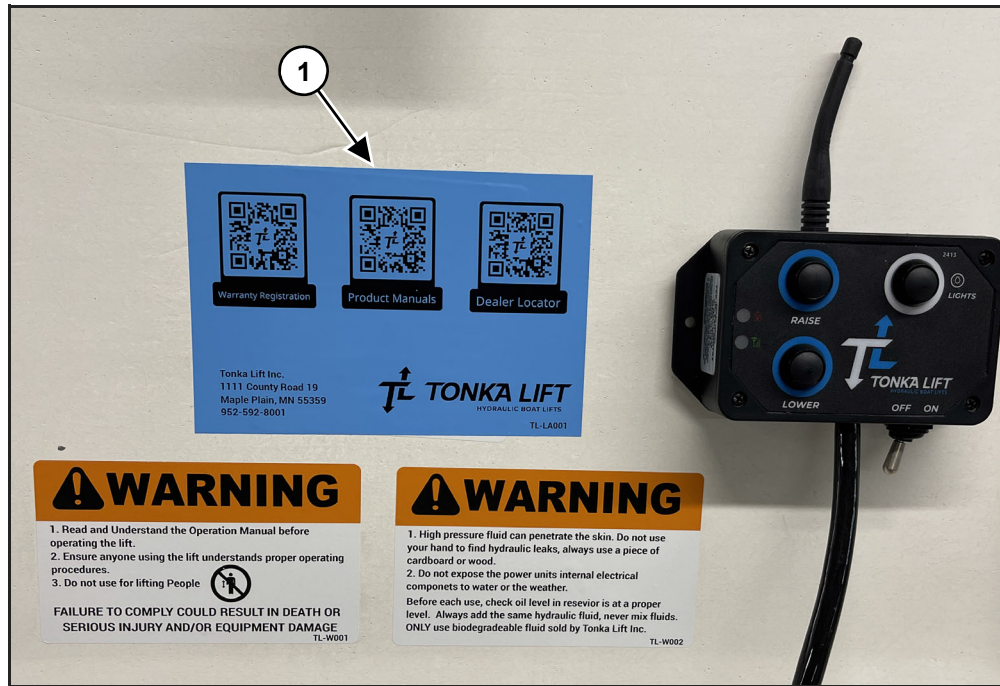


Figure 2

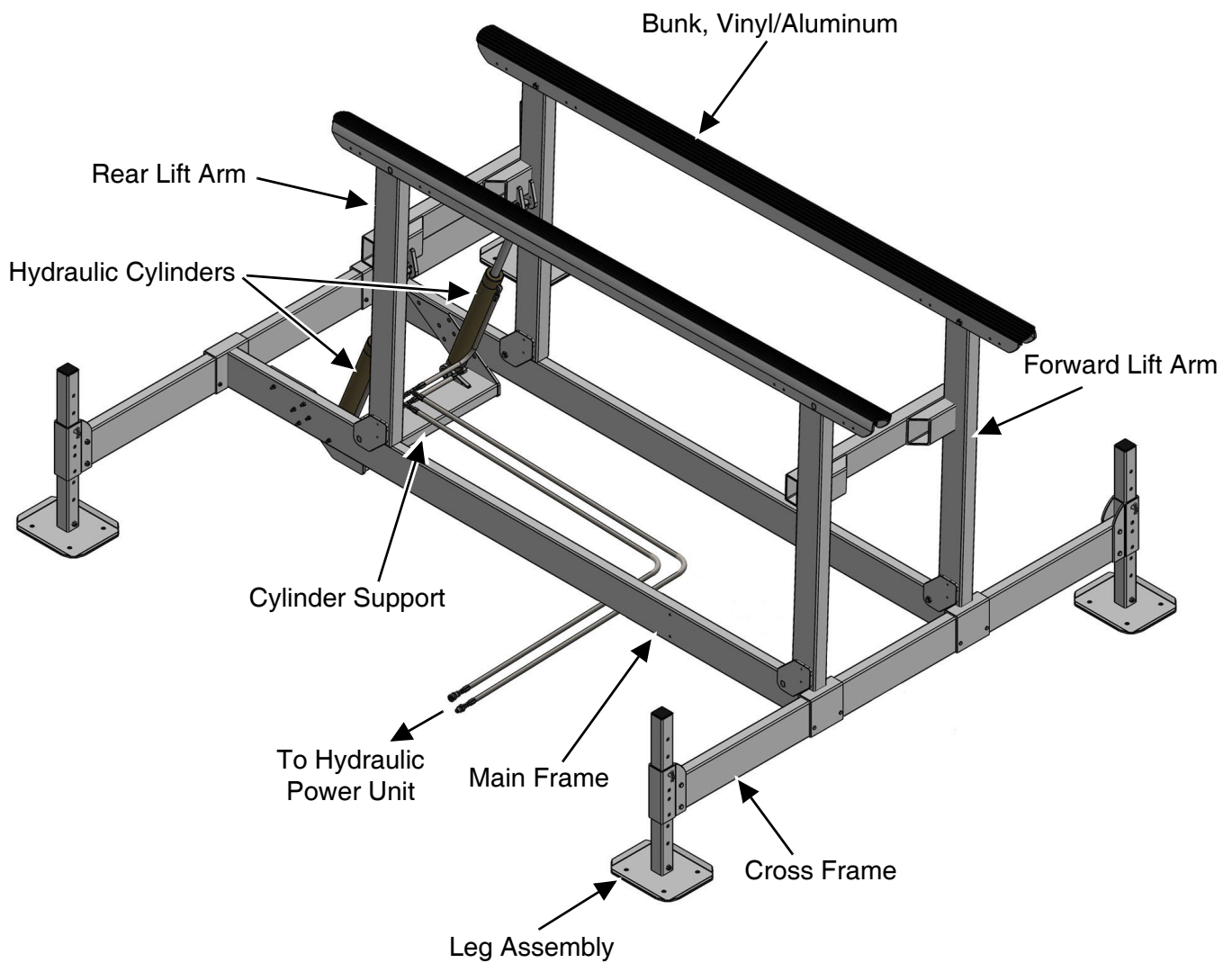
The QR Code label (Item 1) [Figure 2] is located in the hydraulic control box. Use your mobile device to scan the code. The mobile device will then navigate to the Tonka Lift website.

Product Registration

Register your hydraulic boat lift online by scanning the QR Code or by going to the website www.tonkalift.com.

INTRODUCTION

Hydraulic Boat Lift Identification



SAFETY

Safety Messages

The words DANGER, WARNING, CAUTION are used throughout the safety messages and decals in the manual or on the boat lift. Statements with one of these words indicates a safety risk is involved. Be sure to observe the precautions indicated whenever a Safety Alert Symbol is present.



Safety Alert Symbol

This symbol is used to call attention to instructions concerning personal safety. Be sure to observe and follow these instructions. Take time to be careful!



DANGER

The signal word DANGER on the equipment and in the manual identifies a hazardous situation which, if not avoided, WILL result in death or serious injury.



WARNING

The signal word WARNING on the equipment and in the manual indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.



CAUTION

The signal word CAUTION on the equipment and in the manual indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.

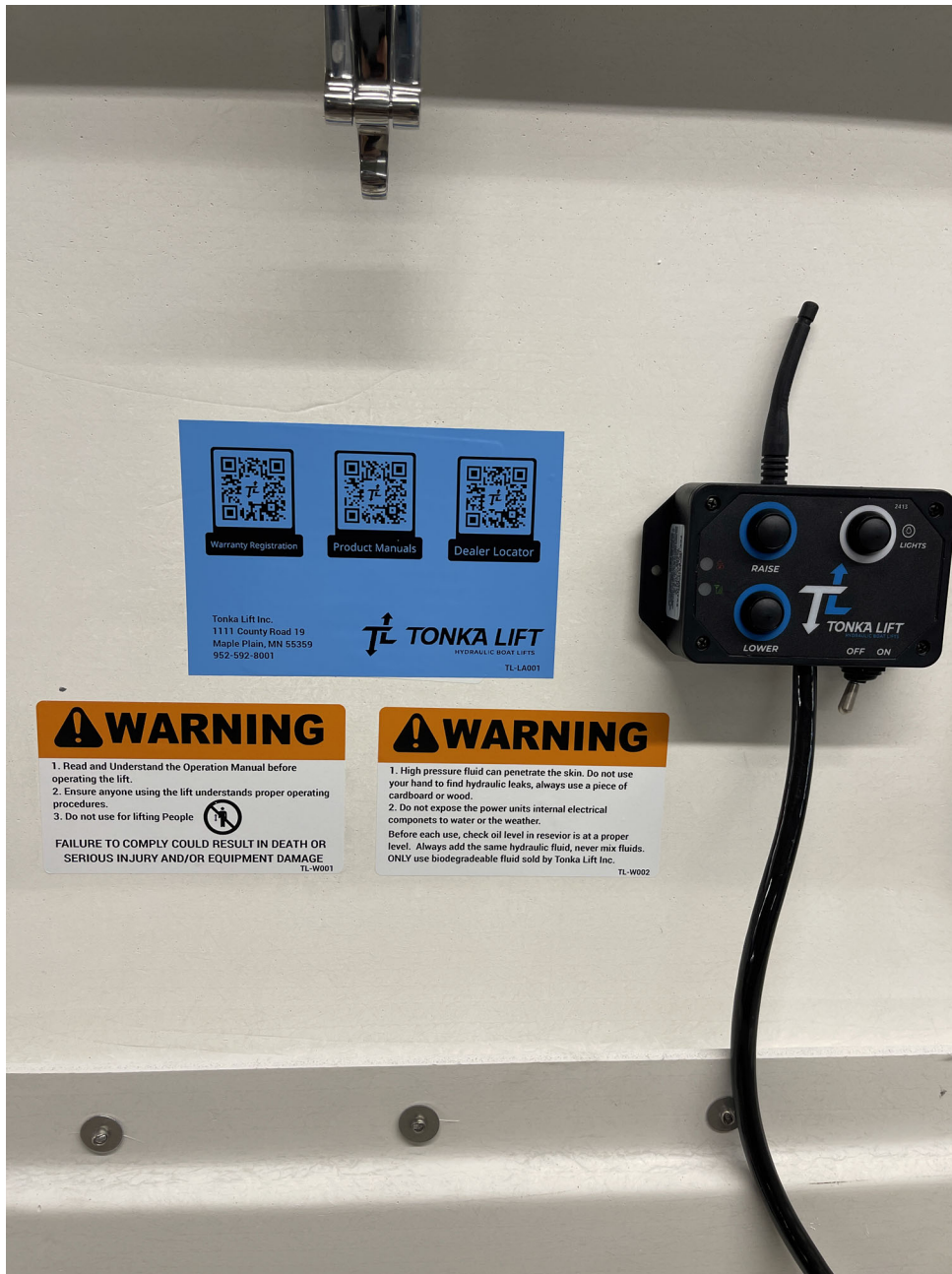
IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the equipment.

SAFETY

Safety Decals

Decals are placed on the equipment to protect anyone working on or around this equipment, as well as the components of the equipment. All personnel operating or maintaining this equipment must familiarize themselves with the decals.



SAFETY

General

Read and understand the operator's manual before operating the boat lift.

Do not use the boat lift if the boat lift, control box or any components show signs of damage.

Do not expose the internal components of the control box to water or submerge the remote control in water.

Do not store any additional items in the control box. This can damage the hydraulic pump or electrical system.

Do not substitute any components for those made by other manufacturers. The components may look the same, but can have subtle differences which will not allow for proper operation.

Do not exceed the lift capacity of the boat lift.

Do not allow people in the boat while on the boat lift or while operating the boat lift.

Only allow authorized service personnel to service or repair the boat lift.

Do not use the boat lift to hang or store additional boating accessories.

Do not use the boat lift during an electrical storm.

Do not allow people to swim, dive or play near, on or under the boat lift.

When no boat is being stored on the boat lift, fully raise the lift arms to make the bunks visible above the water surface. This will make the boat lift visible to swimmers and other watercraft.

Installation

Do not drill, weld or modify the boat lift components. Any modifications may weaken the boat lift structure and will void the warranty.

All the boat lift components and optional accessories must be properly installed and maintained.

Check that the boat lift frame is level and square.

SAFETY

Operating

Read and understand the operator's manual before operating the boat lift. Be sure to fully understand the operating procedures.

Do not use the boat lift in rough water conditions. Using the boat lift in rough water conditions can damage your boat and / or boat lift.

Always store boat on boat lift with lift arms in the over center position.

Keep all people and pets away from the boat lift during operation.

Do not service or adjust the boat lift while operating. Fully lower the boat lift and disconnect the battery or hydraulic hoses before servicing or adjusting the boat lift.

Do not adjust hydraulic components in the control box. Hydraulic components adjustments should only be made by trained service personnel.

Fully lower the boat lift before making any adjustments or repairs.

Do not allow people to work on or in the boat while being lifted or any time it is suspended above the water.

When you are done using the boat lift, turn the battery disconnect to the OFF position, close and secure the control box cover.

Do not operate the hydraulic power unit when connecting or disconnecting the hydraulic hoses.

Do not exceed the lift capacity of the boat lift. Exceeding the lift capacity may cause mechanical failure.

Do not use the engine(s) to power the boat onto the boat lift. Powering the boat onto the boat lift may damage the boat lift and / or damage the boat.

When positioning the boat on the boat lift, make sure the boat's center of gravity is centered in between the forward and rear lift arms.

SPECIFICATIONS

Dimensions

| MODEL | TL7000 |
|--|--|
| Weight Capacity | 7,000 lbs. |
| Lifting Height (from lowered to raised position) | 60" |
| Min. Water Depth (with standard legs) | 9" + Hull Draft |
| Overall Width | 138.5" |
| Overall Length | 144" (Lift Raised) - 216" (Lift Lowered) |
| Bunk Length | 144" |
| Hardware | Stainless Steel |
| Power Unit | Battery Powered Hydraulic Power Unit with Transmitter and Receiver |
| Power Unit Changing System | Solar Panel or AC Charger |
| Shipping Weight (Complete Unit) | 920 lbs. (includes 36" Legs, Foot Plates, and Control Box) |

Accessories (Optional Items)

The following items are available as options for the boat lift. Contact your dealer for additional details.

1. **Canopy** - Protects the boats interior from the elements. Various colors and sizes available.
2. **Legs** - Additional leg lengths available.
3. **Leg Bracing Kits** - Reinforces longer legs and adds stability to the lift.
4. **Guide-Ons** - Helps to center the boat on the lift.
5. **Hydraulic Hose Extensions** - Increases the distance between the power unit and lift cylinders if needed.
6. **Battery Changing Kit** - AC Charger or Solar Panel, see dealer for availability.
7. **MUD Foot Plate** - Heavy duty 15" wide x 36" long foot plate for softer lake bottoms.

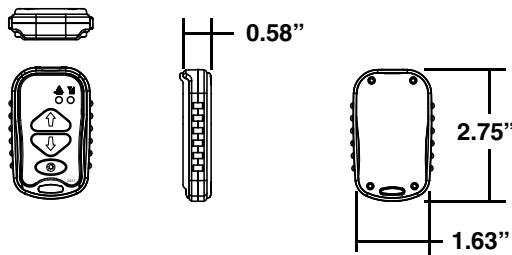
SPECIFICATIONS

Transmitter and Receiver

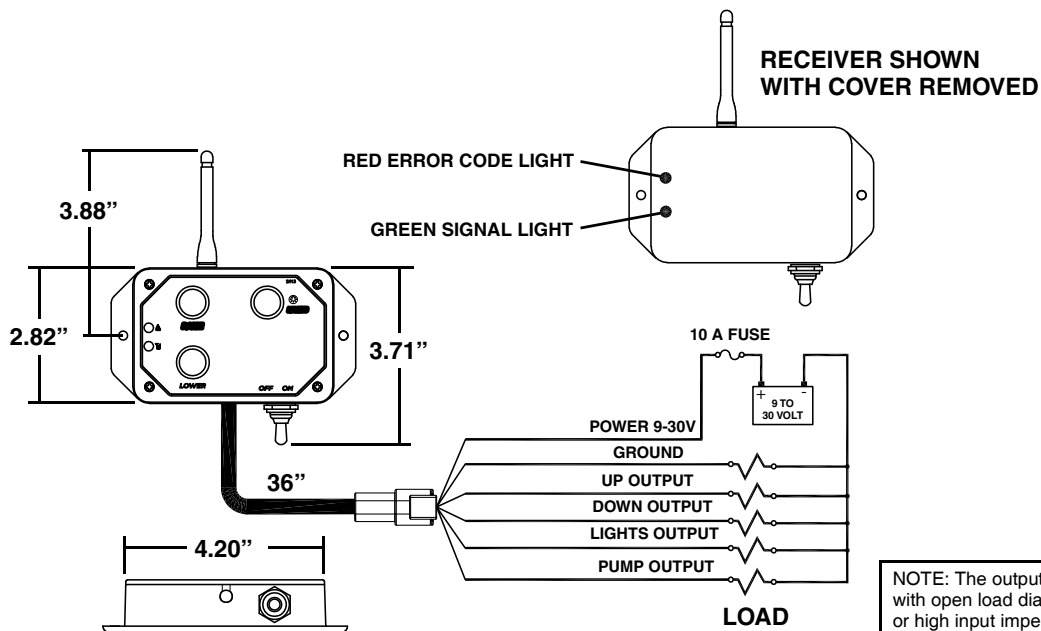
Specifications

- RF: 902-928MHz FHSS 6mW
- Temperature: Receiver: -40 to 185° F (-40 to +85° C) Transmitter: -4 to 140° F (-20 to 60° C)
- Output Rating: 5A each (sourcing) 10A system maximum
- Encapsulated electronics inside receiver
- Power transmitter: CR2032 3V Lithium
- Battery life: 15 hours

Schematics



TRANSMITTER, NANO, 3 BUTTON



RECEIVER, 4 OUTPUTS

NOTE: The output control circuit is designed with open load diagnostics. For unused outputs or high input impedance applications like a PLC, add a 1K resistor to ground for each. This will eliminate the error code and leakage voltage.

ASSEMBLY & SET-UP

Prior To Assembly

1. Read and understand the Operator's Manual and assembly instructions.
2. Inspect the parts for any damage. If any parts are damaged, contact your dealer.
3. The assembly instructions refer to the rear of the lift as viewed from the rear of the boat. The hydraulic cylinders will be located at the rear of the boat lift.
4. Consider final placement of the boat lift when choosing where to assemble the boat lift. The boat lift is able to be placed on either side of the dock and the boat must enter from the rear of the boat lift.
5. The hardware used on the boat lift is stainless steel, to help protect against corrosion. Stainless steel hardware has a tendency to "gall, bind or seize up" during assembly. To prevent this from happening, apply the supplied anti-seize on all stainless steel hardware mating surfaces before assembly.
6. The boat lift may need to be fully assembled or partially assembled. See "Boat Lift Complete Assembly Instructions" on page 16 or "Boat Lift Partial Assembly Instructions" on page 22.



CAUTION

Do not drill, weld or modify the boat lift components. Any modifications may weaken the boat lift structure and will void the warranty.

ASSEMBLY & SET-UP

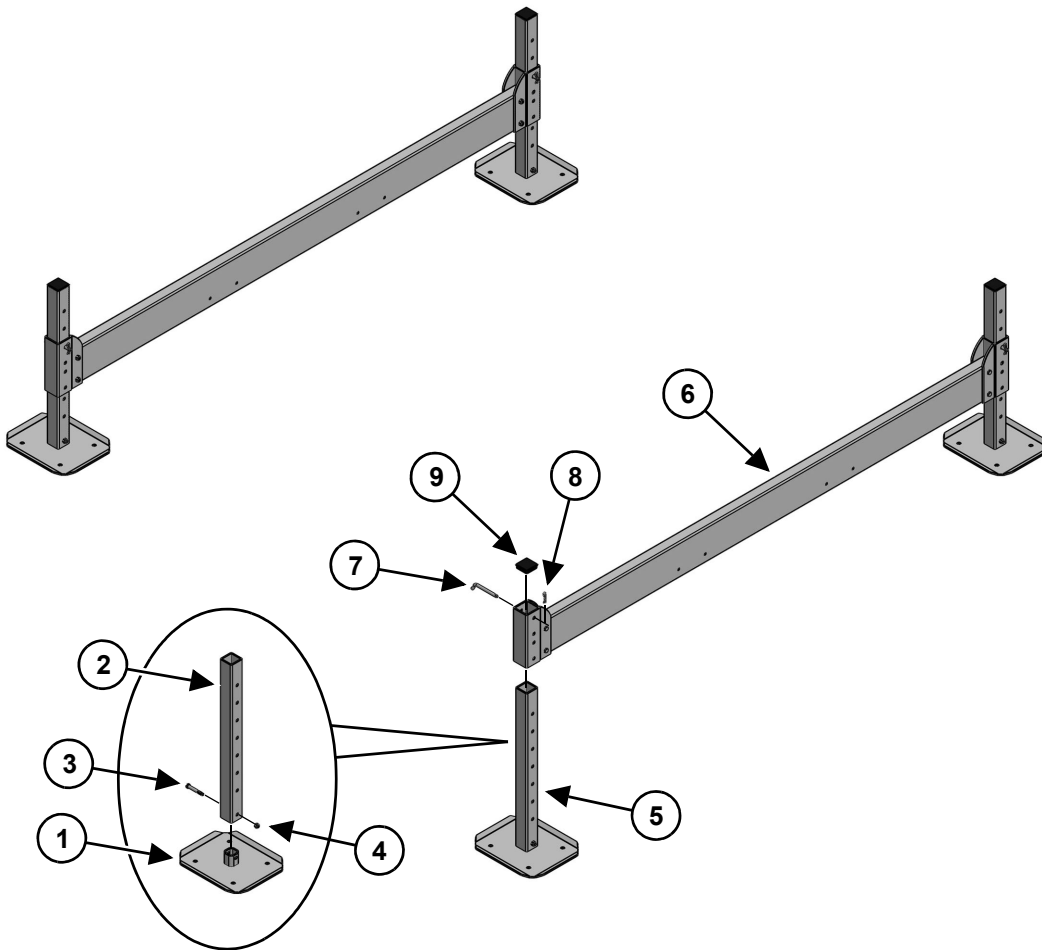
Boat Lift Complete Assembly Instructions

IMPORTANT

Failure to apply the supplied anti-seize to the mating surfaces of stainless steel hardware may cause the hardware to “gall, bind or seize up” during assembly.

Cross Frame and Leg Assembly

Figure 3

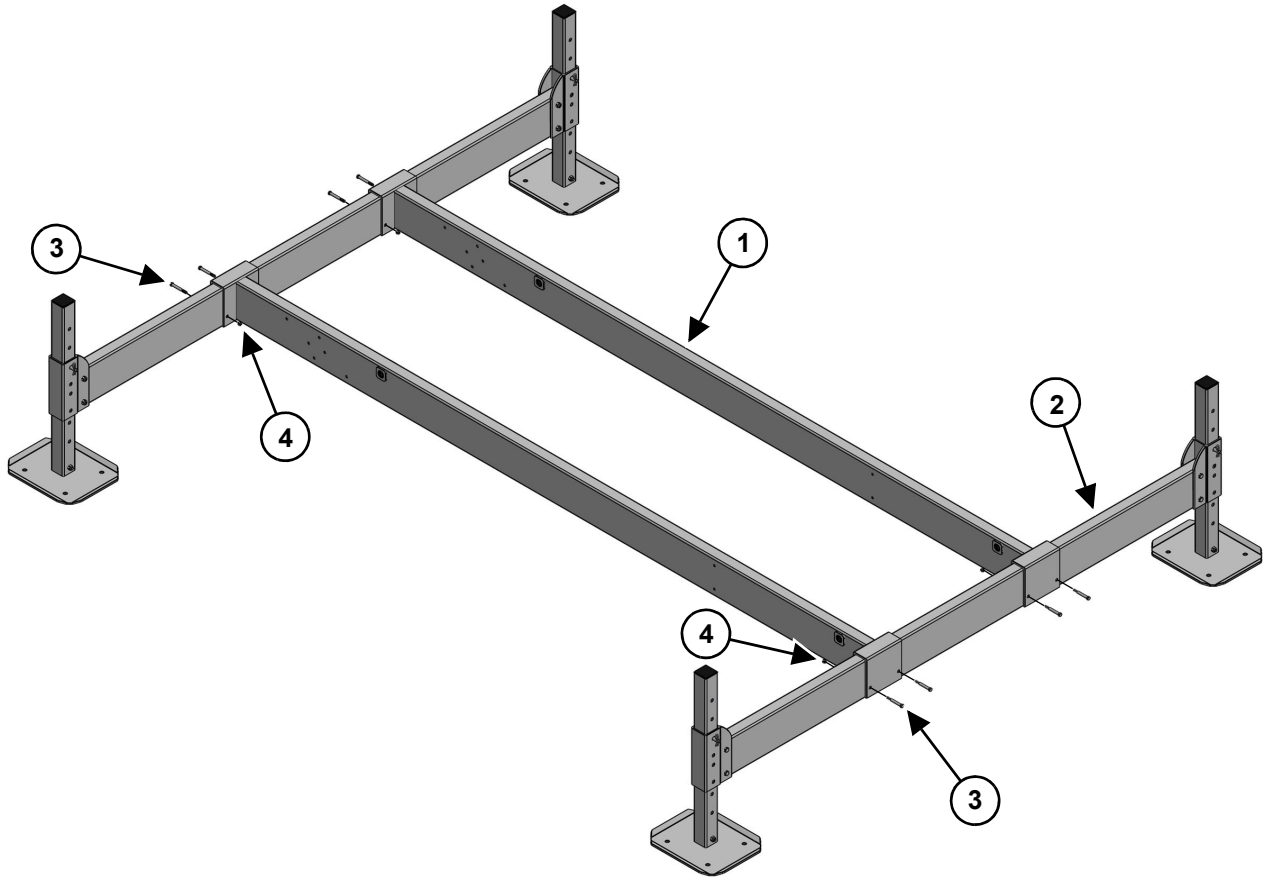


1. Fasten the foot plate (Item 1) to the leg (Item 2) using a 1/2 x 3 3/4 bolt (Item 3) and nut (Item 4) [Figure 3]. Repeat for the remaining leg assemblies.
2. Insert the leg assemblies (Item 5) into the cross frames (Item 6). Insert leg pin (Item 7) and leg pin clip (Item 8) [Figure 3].
3. Install the four plastic cap plugs (Item 9) [Figure 3] onto the top end of the extension legs.

ASSEMBLY & SET-UP

Main Frame Assembly

Figure 4

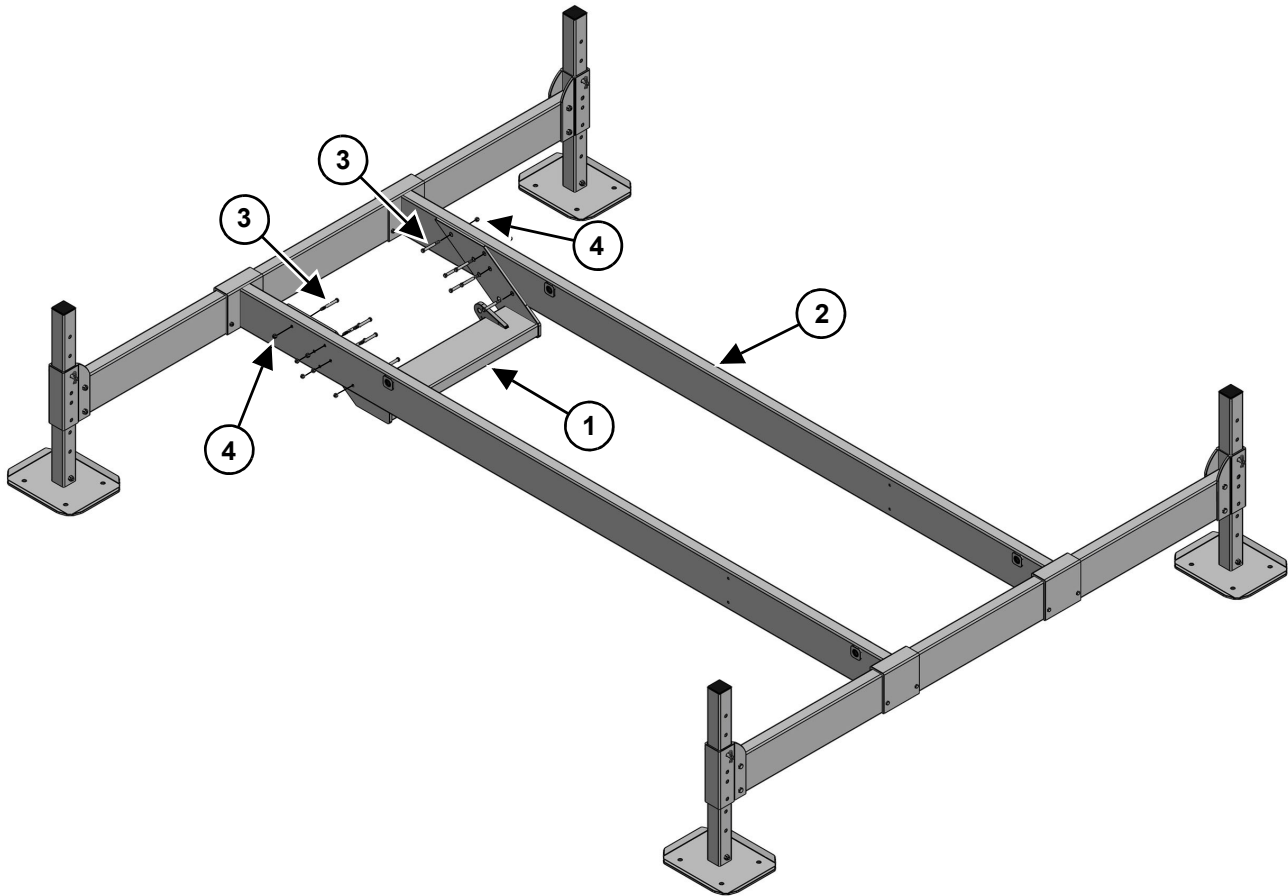


4. Place the main frame weldments (Item 1) on the cross frame assemblies (Item 2) [Figure 4] aligning the mounting holes.
5. Install the 3/8 x 3 3/4 bolts (Item 3) and nuts (Item 4) [Figure 4]. Do not tighten hardware at this time.

ASSEMBLY & SET-UP

Cylinder Support Assembly

Figure 5

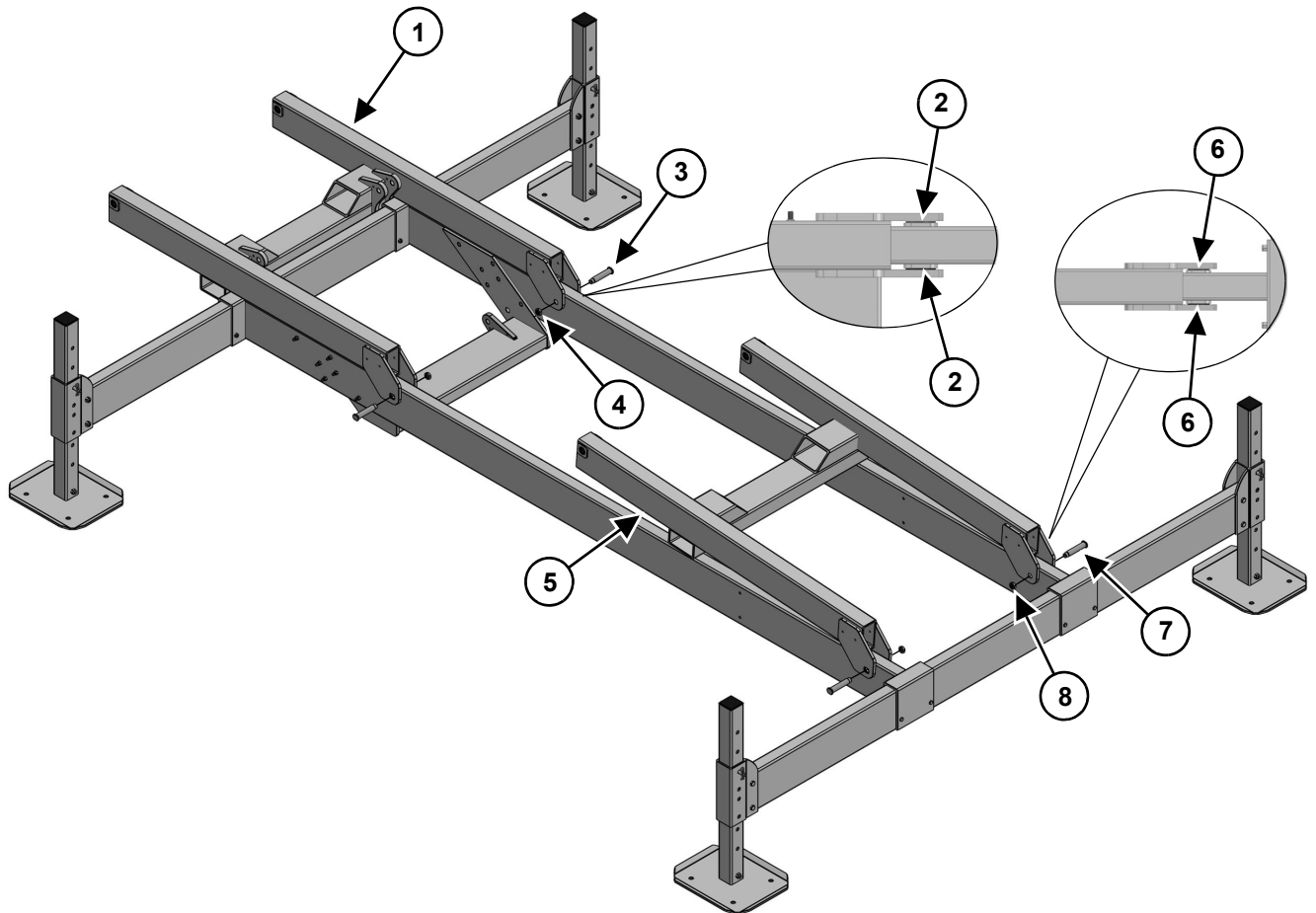


6. Position the cylinder support (Item 1) between the main frames weldments (Item 2) [Figure 5] aligning the mounting holes.
7. Install the 3/8 x 3 1/2 bolts (Item 3) and nuts (Item 4) [Figure 5]. Do not tighten hardware at this time.

ASSEMBLY & SET-UP

Rear Lift Arm Assembly

Figure 6

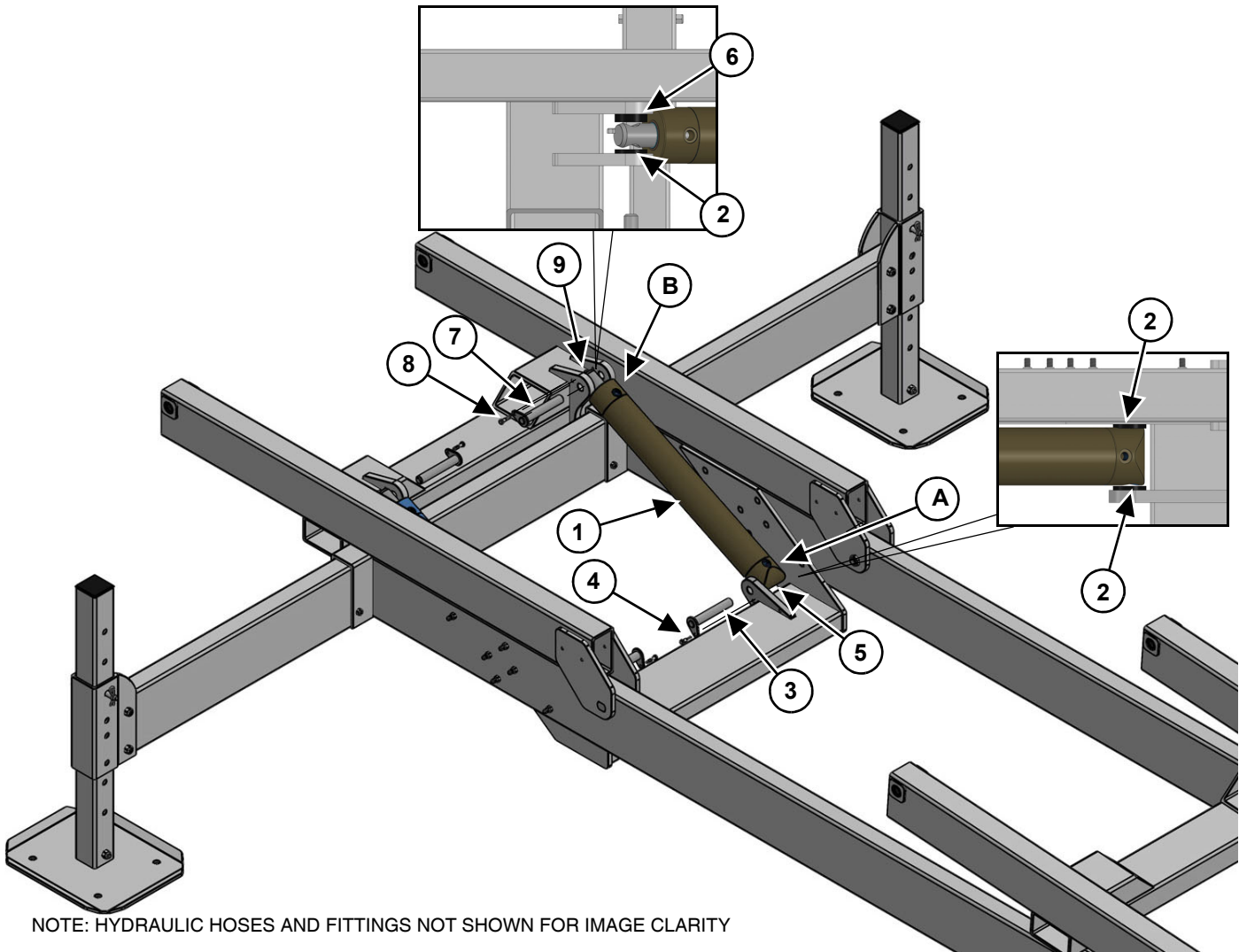


8. Position the rear lift arm (Item 1) on the main frames as shown. Insert a plastic thrust washer (Item 2) between the main frame and lift arm pivot plates (both sides) before installing lower pivot pin (Item 3) and nut (Item 4) [Figure 6]. Do not tighten hardware at this time. Repeat for opposite side of rear lift arm.
9. Position the forward lift arm (Item 5) on the main frames as shown. Insert a plastic thrust washer (Item 6) between the main frame and lift arm pivot plates before installing lower pivot pin (Item 7) and nut (Item 8) [Figure 6]. Do not tighten hardware at this time. Repeat for opposite side of forward lift arm.

ASSEMBLY & SET-UP

Hydraulic Cylinder Installation

Figure 7



NOTE: HYDRAULIC HOSES AND FITTINGS NOT SHOWN FOR IMAGE CLARITY

CAUTION

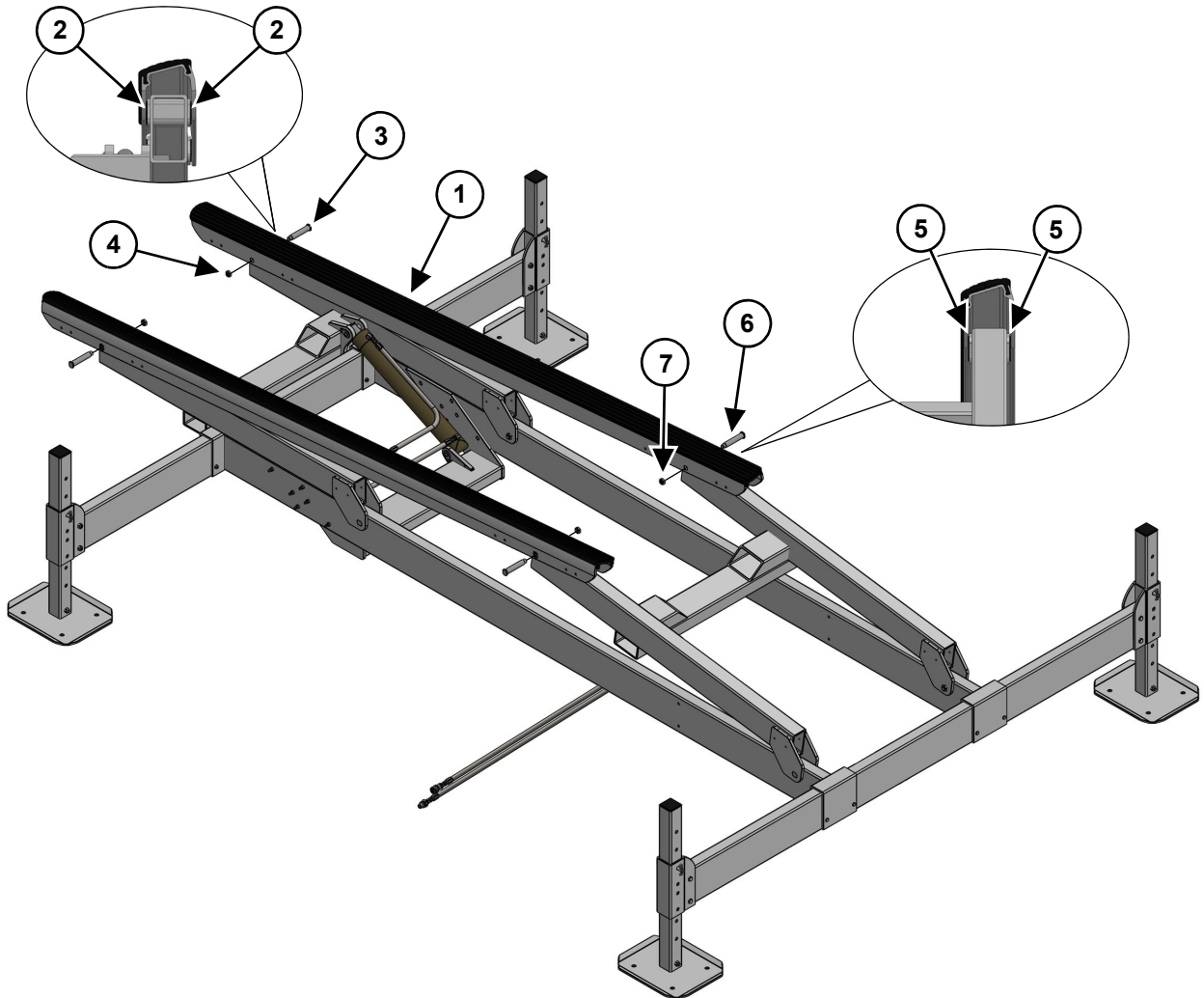
Hydraulic cylinder ports must face the boat lift forward end to avoid damage during operation. Damage to the boat lift could result from a sudden loss of hydraulic fluid.

10. Place the base end (A) of cylinder (Item 1) in between the cylinder support tab and main frame. Ensure the cylinder ports are facing the boat lift forward end. Align mounting holes and insert a 1/4" spacer (Item 2) on both sides of the cylinder before installing cylinder pivot pin (Item 3), 1/4 x 1 1/4 bolt (Item 4) and nut (Item 5) [Figure 7]. Do not tighten hardware at this time. Repeat this step for the other cylinder.
11. Position the rod end (B) of cylinder (Item 1) in between the rear lift arm cylinder mount plates. Align mounting holes and insert a 1/2" spacer (Item 6) on the outside and insert a 1/4" spacer (Item 2) on the inside before install cylinder pivot pin (Item 7), 1/4 x 1 1/4 bolt (Item 8) and nut (Item 9) [Figure 7]. Do not tighten hardware at this time. Repeat this step for the other cylinder.

ASSEMBLY & SET-UP

Bunk Assembly

Figure 8



12. Place the bunks (Item 1) [Figure 8] on top of the rear lift arm and forward lift arm. The bunks have a high side and low side, make sure the high sides are to the outside of the lift.
13. Align the rear bunk mounting hole with the rear lift arm mounting hole by adjusting the bunk. Insert a plastic thrust washer (Item 2) between the bunk and rear lift arm (both sides) before installing upper pivot pin (Item 3) and nut (Item 4) [Figure 8]. Do not tighten hardware at this time. Repeat for opposite side of rear lift arm.
14. Align the forward bunk mounting hole with the forward lift arm mounting hole by adjusting the forward lift arm. Insert a plastic thrust washer (Item 5) between the bunk and forward lift arm (both sides) before installing upper pivot pin (Item 6) and nut (Item 7) [Figure 8]. Do not tighten hardware at this time. Repeat for opposite side of forward lift arm.
15. The boat lift is assembled, all the hardware can now be properly tightened.

ASSEMBLY & SET-UP

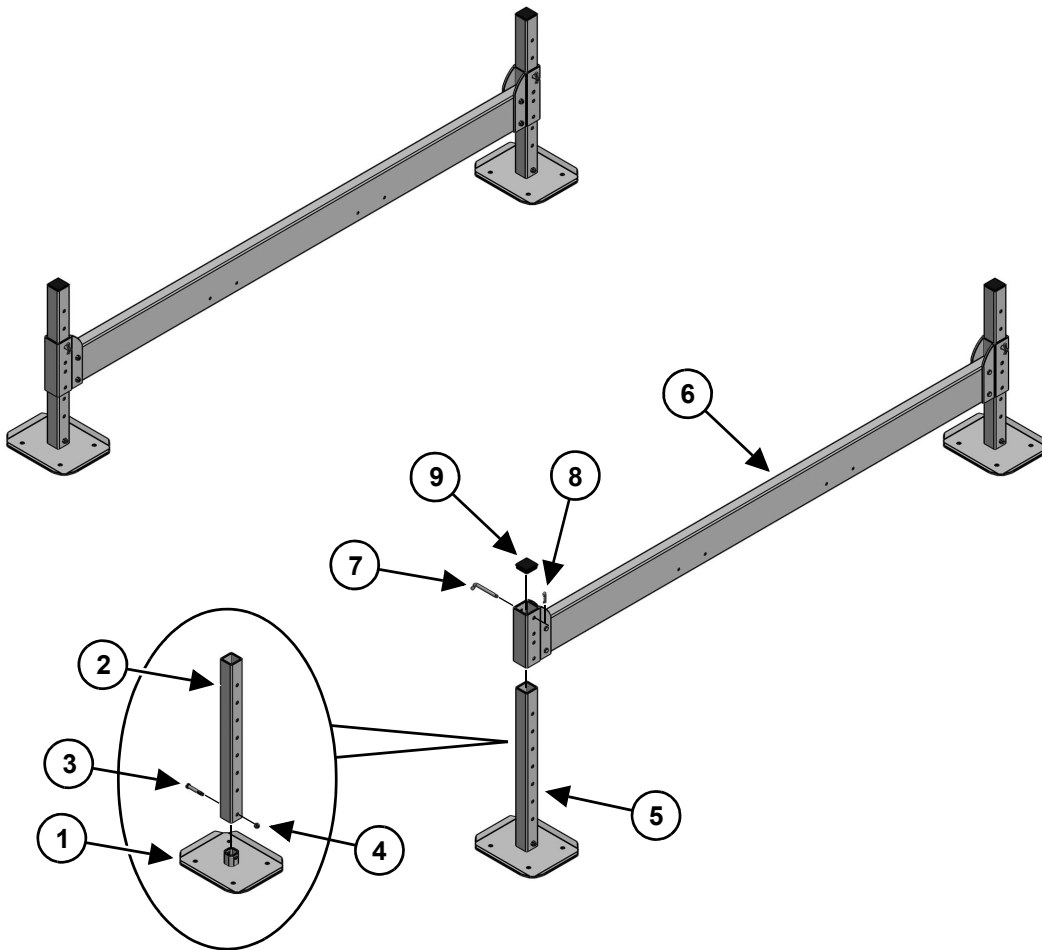
Boat Lift Partial Assembly Instructions

IMPORTANT

Failure to apply the supplied anti-seize to the mating surfaces of stainless steel hardware may cause the hardware to “gall, bind or seize up” during assembly.

Cross Frame and Leg Assembly

Figure 9

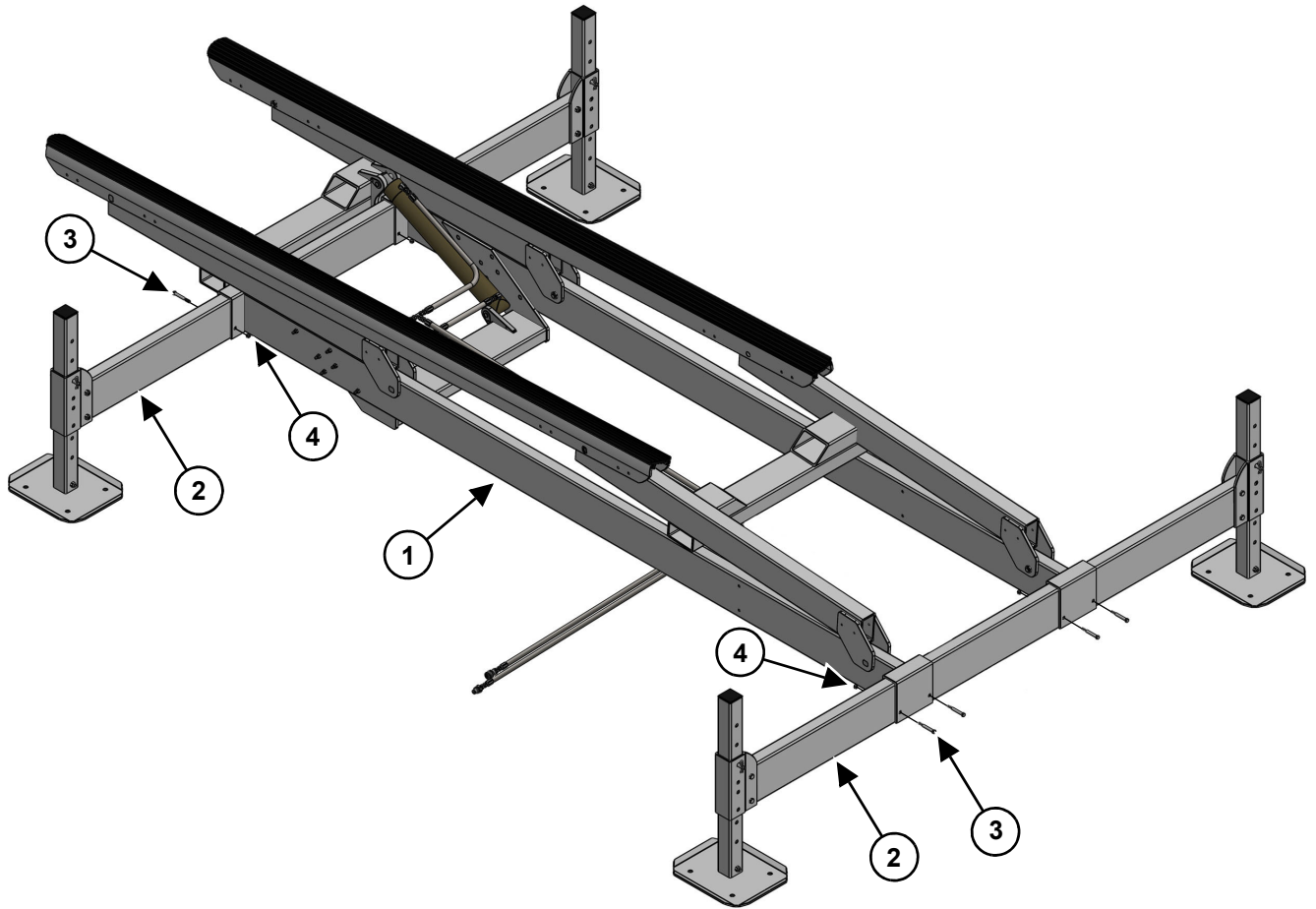


1. Fasten the foot plate (Item 1) to the leg (Item 2) using a 1/2 x 3 3/4 bolt (Item 3) and nut (Item 4) [Figure 9]. Repeat for the remaining leg assemblies.
2. Insert the leg assemblies (Item 5) into the cross frames (Item 6). Insert leg pin (Item 7) and leg pin clip (Item 8) [Figure 9].
3. Install the four plastic cap plugs (Item 9) [Figure 9] onto the top end of the extension legs.

ASSEMBLY & SET-UP

Cross Frame and Frame Assembly

Figure 10

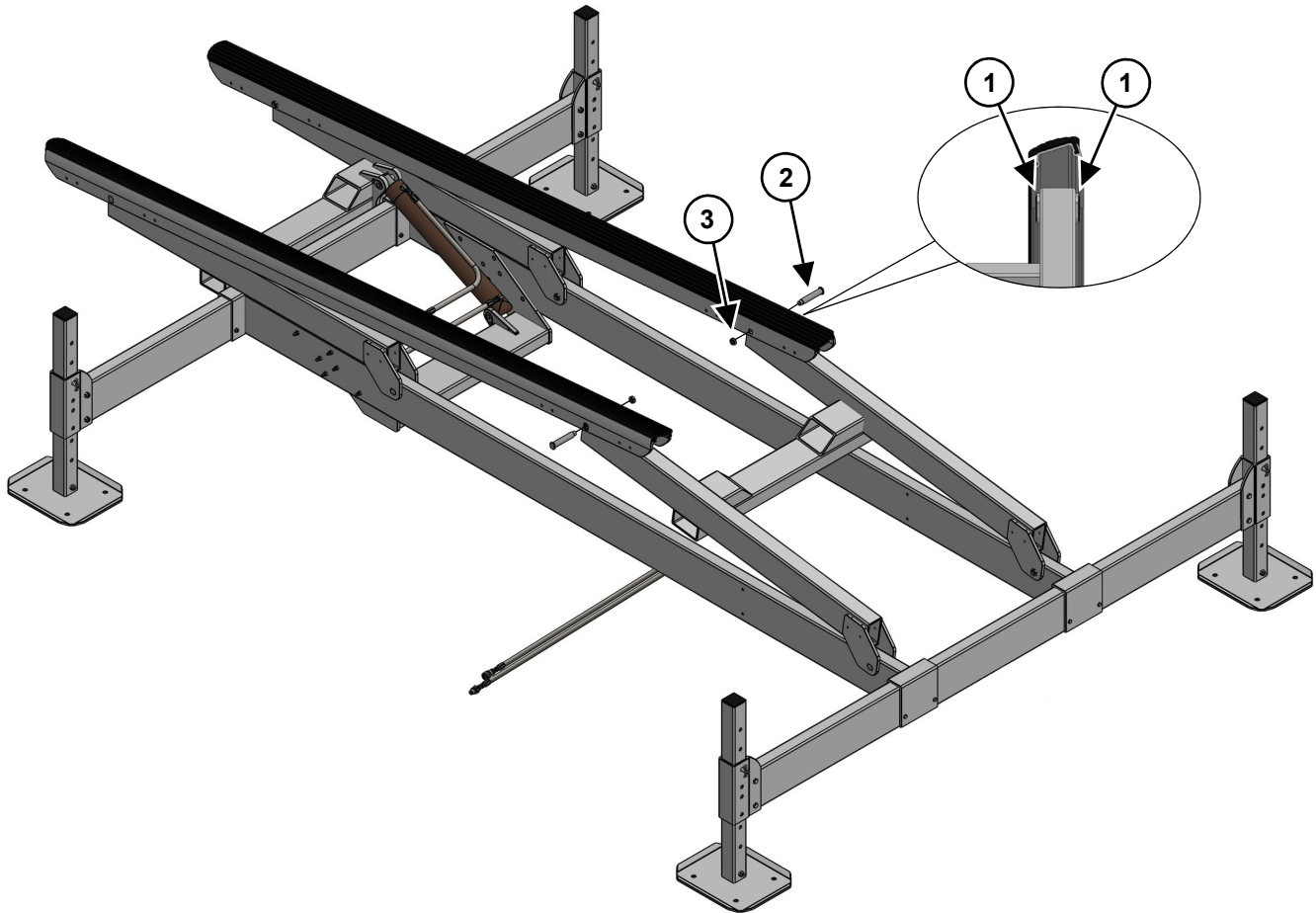


4. Place the frame assembly (Item 1) onto the cross frames (Item 2) [Figure 10] aligning the mounting holes.
5. Install the 3/8 x 3 3/4 bolts (Item 3) and nuts (Item 4) [Figure 10]. After all the bolts and nuts are installed, they can be properly tightened.

ASSEMBLY & SET-UP

Bunk Assembly

Figure 11



6. Align the forward bunk mounting hole with the forward lift arm mounting hole by adjusting the forward lift arm. Insert a plastic thrust washer (Item 1) between the bunk and forward lift arm (both sides) before installing upper pivot pin (Item 2) and nut (Item 3) [Figure 11]. Do not tighten hardware at this time. Repeat for opposite side of forward lift arm.
7. After both pins and nuts have been installed, they can be properly tightened.

ASSEMBLY & SET-UP

Connecting The Hydraulic Power Unit



DANGER

Hydraulic power units use fluid under high pressure. Fluid leaks under high pressure will pierce skin. Never use your hands to detect leaks, always use a piece of wood or cardboard. Fluid injected into skin must be surgically removed by a trained doctor immediately. Fluid injected into skin will cause serious injury or death.

1. Inspect all hydraulic hoses and fittings before making any hydraulic connections. Inspect the hydraulic hoses and fittings for the following:
 - Inspect all hydraulic hoses and fittings for cracks, signs of wear or any other damage. Never use your hands or any other body part to detect or stop a hydraulic leak. Replace any worn or damaged hydraulic hoses or fittings. Do not try to repair.
 - All hydraulic connections are tight. Do not over-tighten the hydraulic connections.
2. Route the hydraulic hoses under the main frame to avoid being pinched when operating the boat lift.
3. Insert the hydraulic hoses into the control box.



WARNING

Clean up and dispose of any spilled hydraulic fluid in an environmentally safe manner. Do not mix hydraulic oils, only use hydraulic oil that has been approved for use by Tonka Lift.

4. Use a clean rag to wipe the coupling ends on the hydraulic hoses and power unit before connecting. Check that the couplings are properly connected.
5. Check that the hydraulic power unit reservoir is filled to the correct level.



WARNING

When working inside the control box and / or around the battery, be careful just as you would when working around your car or boat battery. A battery can explode causing damage to boat lift components and / or serious injury.

6. Make sure the battery disconnect is in the OFF position.
7. Connect the hydraulic power unit battery cables to the battery. Attach the red battery cable to the positive (+) battery terminal and the black battery cable to the negative (-) battery terminal. Apply a corrosion protective coating to the battery cable terminals.

ASSEMBLY & SET-UP

Testing The Boat Lift



DANGER

The hydraulic power unit uses fluid under high pressure. Fluid leaks under high pressure will pierce skin. Do not use hands to detect hydraulic leaks, use a piece of wood or cardboard. Fluid injected into skin must be surgically removed by a trained doctor immediately. High pressure fluid injected into skin will cause serious injury or death.

1. Test the boat lift for proper operation before placing in position in the water.
2. Level the boat lift and check that it is square by measuring diagonally between corners. Adjust the boat lift as needed until the measurements are within 1" of each other.
3. Open the control box cover, turn battery disconnect to the ON position.



DANGER

Keep all people away from the boat lift while operating. Do not allow people to ride on, reach through or adjust while operating the boat lift. Boat lift pinch points will cause serious injury or death.

4. Use the UP / DOWN switches inside the control box to cycle the boat lift up and down. Pay attention to the hydraulic hoses to make sure they are not getting pinched. Route the hydraulic hoses as needed to keep them from getting pinched.
5. The lift should operate smoothly, without any binding or loud squeaking.
6. After cycling the boat lift a couple times, check the following items:
 - All hardware is secure, properly tighten any loose hardware.
 - Hydraulic fittings and hoses for signs of leaks or damage. Tighten any leaking connections and replace any damaged hydraulic fittings or hoses.
 - Hydraulic power unit reservoir fluid level.
7. If equipped, operate the boat lift using the remote control to verify it works properly.
8. After testing the boat lift, ensure the bunks are fully lowered. Turn the battery disconnect to the OFF position. Disconnect the hydraulic hoses from the hydraulic power unit and close the control box cover. Connect the hydraulic couplings together to protect and keep them clean during installation.

ASSEMBLY & SET-UP

Installing The Boat Lift



DANGER

Do not exceed the lift capacity of the boat lift. If the lift capacity of the boat lift is exceeded, it may cause the boat lift to become unstable and / or tip over, possibly causing property damage and / or severe injury or death to nearby individuals.



DANGER

Installation or use of the boat lift in rough water conditions may cause the boat lift to become unstable and / or tip over, possibly causing property damage and / or severe injury or death to nearby individuals.

Positioning

1. Lift and position the boat lift in desired location in the water.
2. Remove the leg retaining bolts and lower the legs to the bottom. Bolt into position using the nearest hole.

Leveling and Squaring

3. Lift and position the boat lift in desired location in the water.
4. Remove the leg retaining bolts and lower the legs to the bottom. Bolt into position using the nearest hole.
5. Level the boat lift by measuring the distance from the top of the cross frame to the surface of the water next to each of the legs. The distance at the four measured locations should be within 1" of each other. If not, adjust the legs accordingly.
6. Square the boat lift by measuring diagonally between corners. Adjust the boat lift as needed until the measurements are within 1" of each other.
7. Depending on the length of the legs used, leg braces will need to be installed.
8. For areas with rough weather conditions or moderate to steep slopes, the feet will need to be secured using rebar (not included). Contact your boat lift dealer for recommended rebar size.

Connecting Hydraulics

9. Position and mount the control box.
10. Route boat lift hydraulic hoses to the control box.
11. Open the control box cover.
12. Disconnect the hydraulic hose couplers and route into the control box.
13. Wipe the hydraulic couplers with a clean dry rag and connect to the hydraulic power unit.

ASSEMBLY & SET-UP

Lifting Boat The First Time



DANGER

Caution should be used when using the boat lift the first few times after being installed. The weight of the boat on the lift for the first time may cause it to settle. This may cause the boat lift to become unstable and / or tip over, possibly causing property damage and / or severe injury or death to nearby individuals.



WARNING

Do not allow people to ride in the boat while being lifted or enter the boat any time it is suspended above the water. This may cause the boat lift to shift, become unstable and / or tip over and could result in serious injury or death.

14. Position the boat on the boat lift bunks by hand, so the boat's center of gravity is between the forward and rear lift arms.
15. Raise the lift until the bunks cradle the boat, make sure the boat is centered between the cradles. If not, lower the lift and recenter the boat in between the bunks.
16. After the boat is centered, raise the boat until it is about one foot above the water surface. Check the stability of the lift and that the boat lift is remaining fairly level.
17. Continue to lift the boat until the lift arms are upright and in the over-center position.
18. Remove the boat by fully lowering the lift arms. Verify the boat lift is still level. If not, the legs will need to be adjusted accordingly.

Periodically check that the boat lift is level, adjust the legs as needed.

OPERATION

Pre-Operation Inspection

1. Make sure anyone that will be using the boat lift has read and understands the Operator's Manual before operating the boat lift.
2. Do not use if the boat lift shows any signs of damage.
3. Check that all hardware is secure prior to operation.
4. Check the boat lift frame is square and the boat lift is level.



WARNING

If the boat lift frame is not square or the boat lift is not level, binding of moving parts may occur. This can cause the boat lift to become damaged and / or serious injury or death.

5. Do not lift anything other than a boat with the boat lift. Do not exceed the lift capacity of the boat lift.



WARNING

Do not exceed the lift capacity of the boat lift. This can cause the boat lift to become damaged and / or serious injury or death.

6. Do not use the boat lift if there are heavy waves. This can damage your boat and / or boat lift.

OPERATION

Lift Operation with Boat



Do not allow people in the boat while being lifted or any time it is suspended above the water. This may cause the boat lift to become unstable and / or tip over and could result in serious injury or death.



Do not allow people to swim or drive near or around the boat lift. They could become caught, trapped or strike the boat lift, resulting in serious injury or death.

Lowering the Boat

1. Open the control box cover, turn battery disconnect to the ON position.
2. Use the DOWN switch inside the control box or on the remote control to fully lower the lift arms.

IMPORTANT

After the boat is off the boat lift, raise the boat lift using either the switch in the control box or remote control to allow people swimming to see the boat lift's location.

Raising the Boat

1. Position the boat on the boat lift bunks by hand, so the boat's center of gravity is between the forward and rear lift arms.
2. Open the control box cover and use the UP switch inside the control box or on the remote control to raise the lift arms.
3. Raise the lift until the boat lift's bunks cradle the boat, make sure the boat is centered between the cradles. If not, lower the lift and recenter the boat in between the bunks.
4. After the boat is centered, raise the boat until the lift arms are upright and in the over-center position.
5. Turn battery disconnect to the OFF position when not in use, close the control box cover.

Securing Boat Lift When Not In Use

1. When no boat is being stored on the boat lift, fully raise the lift arms to make the bunks visible above the water surface. This will make the boat lift visible to swimmers and other watercraft.
2. Make sure the battery disconnect switch is in the OFF position, the control box cover is closed and secured. This should prevent any unauthorized use when left unattended.
3. When storing the boat on the boat lift, always do the following:
 - Raise the boat until the lift arms are upright and in the over-center position. This will keep the boat lift from lowering if there is a hydraulic leak.
 - Make sure the boat's center of gravity is centered between the rear and forward lift arms.
 - Make sure the boat's drain plug is removed while being stored on the boat lift. Make sure to install the boat's drain plug prior to using the boat.

OPERATION

Transmitter and Receiver

Operation

To turn the transmitter ON, press and hold any button for at least 2 seconds until both of the green LED flashes, then release.

The transmitter is designed with a power saving feature which turns the transmitter OFF after 15 minutes if no buttons are pressed irrespective of receiver status.

There are red and green LEDs both on the keypad of the transmitter and inside the receiver case. The green LED will blink 2 times per second when the transmitter and receiver are communicating. It will blink 1 time per second if there is no communication (i.e. - no power to the receiver).

The transmitter's red LED blinks 1 time per second if the battery is low and needs to be changed

Synchronizing Transmitter and Receiver

Each transmitter and receiver pair is synchronized together at the factory. If a new transmitter is needed, synchronizing is required. Use the following procedure:

1. Turn both transmitter and receiver OFF.
2. With the transmitter OFF, press and hold UP and LIGHTS buttons for more than 5 seconds. LEDs start blinking.
3. Turn the receiver ON.
4. Wait for a few seconds until just the green LED begins to blink rapidly on the transmitter.
5. Synchronizing complete.

OPERATION

Cloning Transmitter



WARNING

ONLY ONE TRANSMITTER CAN BE ON AT A TIME, THEY CANNOT BE USED SIMULTANEOUSLY - use with CAUTION!

Occasionally, it is desirable to have more than one transmitter work with a single receiver. This is accomplished by a process called cloning. Cloning allows an additional transmitter (B) to have the same ID code as the original transmitter (A). If this feature is desired, use the following procedure:

1. Make sure both transmitters and the receiver are OFF.
2. On Transmitter A, press and hold the UP and LIGHTS buttons for 5 seconds until the LEDs blink, then release. The green and red LEDs will blink together at this point.
3. On Transmitter B, press and hold the UP and DOWN buttons simultaneously until both the LEDs start to blink.
4. Wait for few seconds until the green LED starts to blink on transmitter A and transmitter B.
5. Turn both of the transmitters OFF.
6. Synchronize one of the transmitters to the receiver using SYNCHRONIZING TRANSMITTER AND RECEIVER instructions procedure.

If the cloning feature has been invoked and is no longer desired, the ID code of one of the transmitters needs to be changed. This will unclone the transmitters. If this is desired, use the following procedure:

1. Make sure the receiver and transmitter are OFF.
2. Press and hold the UP, DOWN, and LIGHTS buttons simultaneously until both LEDs start toggling, then release.
3. Press any button again to select a new ID.
4. Uncloning process is now complete. Follow the SYNCHRONIZING TRANSMITTER AND RECEIVER procedure to link the uncloned transmitter to a new receiver.

MAINTENANCE

Maintenance Safety



WARNING

Instructions are necessary before operating or servicing the boat lift. Read and understand the Operation & Maintenance Manual. Follow warnings and instructions in the manual when making repairs, adjustments or servicing. Check for proper operation after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

Read and understand the Operator's Manual.

Only allow authorized service personnel to repair or service the boat lift.

Before starting any maintenance or repair on the boat lift, fully lower the lift arms, disconnect and lock out the power supply before servicing.



WARNING

Before starting any maintenance or repairs on the boat lift, fully lower the boat lift, disconnect and lock out the power supply. Accidental operation of the boat lift could result in severe injury or death.

Replace any components that are worn or damaged.



WARNING

Improper maintenance can cause damage or failure of the boat lift. Possibly causing property damage and / or severe injury or death to nearby individuals.

Do not drill, weld or modify the boat lift components.



CAUTION

Do not drill, weld or modify the boat lift components. Any modifications may weaken the boat lift structure and will void the warranty.

MAINTENANCE

Inspection and Maintenance Items

Boat Lift Components

Check boat lift components for any that are worn or damaged. Contact your dealer for replacement parts and / or to schedule a service appointment.

Hardware

Check that all hardware is properly tightened. Replace any damaged or missing hardware. Contact your dealer for replacement parts and / or to schedule a service appointment.

Battery

Use a 12-Volt, group 27 marine deep-cycle battery with a minimum of 600 CCA, or a reserve capacity of 88 amp hours or more. Contact your dealer for replacement parts and / or to schedule a service appointment.

A new marine deep-cycle battery has the energy capacity for about 20 full cycles. Avoid going below 50% battery capacity, a solar panel charging system may have problems recovering from that deep of draw.

If the solar panel is unable to keep the battery charged, try the following:

- Move the solar panel to an area with less obstructed sunlight.
- Add a second solar panel.
- Add an AC charger.
- Charge the battery using a 10A charger as needed.

Check the battery water level every three months. If the battery water level is low, use distilled water to refill the battery. Charge the battery using a 10A charger.

Hydraulic Power Unit

Check that the hydraulic power unit reservoir is filled to the correct fluid level. Depending on how often the reservoir needs to be filled, there may be a leak in the hydraulic system. Only use hydraulic oil that has been approved by Tonka Lift. Contact your dealer for replacement parts and / or to schedule a service appointment.

Transmitter Battery Replacement

To replace the internal disposable battery (CR2032):

1. Remove the four (4) allen screws from the back cover, using a 5/64" allen wrench.
2. Use the groove to lift and remove the back cover.
3. Replace the internal disposable battery.
4. Reinstall the back cover, install and tighten the four (4) screws. DO NOT over tighten the screws.

MAINTENANCE

Annual Inspection



WARNING

Do not use the boat lift until the annual inspection has been completed. Failure to inspect the boat lift could result in damage to personal property and / or serious injury or death.

Once a year, the boat lift must be thoroughly inspected. This should be completed by a properly trained service technician. Below is a list of items that will need to be checked over:

1. All hardware is properly tightened or fastened.
2. Clean hydraulic cylinder rods.
3. Check boat lift components for any that are worn or damaged.



DANGER

Hydraulic power units use fluid under high pressure. Fluid leaks under high pressure will pierce skin. Never use your hands or any other body part to detect leaks, always use a piece of wood or cardboard. Fluid injected into skin must be surgically removed by a trained doctor immediately. Fluid injected into skin will cause serious injury or death.

4. Check all hydraulic fittings and hydraulic hoses for leaks.
 - Inspect all hydraulic hoses and fittings for cracks, signs of wear or any other damage. Never use your hands or any other body part to detect or stop a hydraulic leak.
 - Replace any worn or damaged hydraulic hoses or fittings. Do not try to repair.
5. Flush the hydraulic system. See “Hydraulic System Flush” on page 36.

Storage



CAUTION

Do not store the boat lift in the water in freezing conditions. Freezing conditions will cause damage to the boat lift.

1. Open the control box cover, turn battery disconnect to the OFF position.
2. Disconnect the hydraulic power unit battery cables from the battery.
3. Disconnect the hydraulic hoses from the hydraulic power unit and remove from the control box. Connect the hydraulic couplers together to keep the couplers clean.
4. Close the control box cover.
5. Remove the boat lift from the water and place on shore where it can be stored during off-season.
6. Clean the boat lift to remove any aquatic residue.
7. Remove the hydraulic cylinders, hydraulic hoses, and control box so they can be stored inside if the expected temperatures or wind chill factors fall below -20° F (-29° C).

MAINTENANCE

Hydraulic System Flush

Flushing the hydraulic system should be completed during the annual inspection. Only use hydraulic oil that has been approved by Tonka Lift.

1. Lower the boat lift until the hydraulic cylinders are fully retracted.



WARNING

When working inside the control box and / or around the battery, be careful just as you would when working around your car or boat battery. A battery can explode causing damage to boat lift components and / or serious injury.

2. Disconnect the hydraulic hoses from the hydraulic power unit.
3. Remove the hydraulic power unit oil reservoir fill cap.
4. Siphon the old oil from the reservoir tank using a hand siphon or a pump. If neither are available, disconnect the hydraulic power unit battery cables and remove the battery from the control box. Lift the control box and carefully rotate to drain oil from the reservoir into an approved container / bucket.
5. Inspect the oil filter screen by removing the reservoir from the hydraulic pump, be careful not to damage the reservoir's O-ring seal. Clean or replace the filter screen as required.
6. Reassemble the reservoir and hydraulic pump. Fill the reservoir with a Tonka Lift approved hydraulic oil.



DANGER

Hydraulic power units use fluid under high pressure. Fluid leaks under high pressure will pierce skin. Never use your hands or any other body part to detect leaks, always use a piece of wood or cardboard. Fluid injected into skin must be surgically removed by a trained doctor immediately. Fluid injected into skin will cause serious injury or death.

7. Depressurize the hydraulic hoses:
 - Depressurize the hydraulic hose with male coupling by wrapping a rag around the coupling (to prevent spray) and carefully pressing the coupling end against a hard flat surface. Be careful to avoid damaging the coupling end.
 - Depressurize the hydraulic hose with female coupling by wrapping a rag around coupling (to prevent spray) and carefully press the internal button using a 3/8" bolt. Be careful not to damage the internal O-rings. Be sure that both couplings are kept clean at all times.
8. Connect the cylinder base end hydraulic hose coupling to the hydraulic power unit.
9. Install a spare coupling or remove the coupling from the cylinder rod end hydraulic hose.
10. Hold the cylinder rod end hydraulic hose in an approved container / bucket, press the UP switch until the cylinders are fully extended. Be sure to keep the reservoir filled with new / fresh hydraulic oil.
11. Remove the coupling or install the removed coupling back on the cylinder rod end hydraulic hose. Disconnect the cylinder base end hydraulic hose and install a spare coupling or remove the coupling.
12. Hold the cylinder base end hydraulic hose in an approved container / bucket, press the DOWN switch until the cylinders are fully retracted. Be sure to keep the reservoir filled with new / fresh hydraulic oil.
13. Repeat steps 9 - 12 until oil from hydraulic hoses is clean. Then remove the coupling or install the removed coupling and reconnect the hydraulic hoses to the control box. Check there are no leaks at the connections.

TROUBLESHOOTING



WARNING

Instructions are necessary before operating or servicing the boat lift. Read and understand the Operation & Maintenance Manual and decals on the boat lift. Follow warnings and instructions in the manual when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

Use the following chart to assist with troubleshooting the hydraulic boat lift. The chart shows the most common problems and possible solutions.

Troubleshooting Chart

| PROBLEM | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|---|--|---|
| Hydraulic couplers hard to connect. | Hydraulic system is pressurized. | Depressurize the hydraulic system. |
| | Couplers are corroded or damaged. | Replace the couplers. See your dealer for replacement parts. |
| Battery does not keep a charge. | Charging system not working or connected improperly. | Check that the charging system connections match the battery. |
| | | Check solar panel (if equipped) voltage output. See the solar panel manual for correct voltage output. |
| | | Verify solar panel (if equipped) is getting adequate light and lift usage is within seasonal limits. |
| | Battery unable to maintain a charge. | Check battery fluid levels, age of battery and time from last time battery was fully charged using a 10A charger. |
| | | Replace the battery. See your dealer for replacement parts. |
| Battery terminal becomes hot. | Loose or corroded battery connection. | Clean battery connections and tighten. |
| Remote control not functioning. | Low battery voltage. | Charge the battery using a 10A charger. |
| Limited / reduced range for remote control. | Battery charge in remote control is low. | Check battery in remote control. Replace battery as needed. See your dealer for replacement parts. |

TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|---|--|---|
| Hydraulic power unit reservoir overflowing. | Air in hydraulic hoses and cylinders. | This is normal the first few times the lift is fully cycled. After use, verify correct fluid level in hydraulic power unit reservoir. |
| | Hydraulic power unit reservoir overfilled. | Only fill hydraulic power unit reservoir to correct fluid level. |
| Lift stops during operation. | Battery is low. | Charge battery using a 10A charger. |
| Lift fails to raise properly. | Lift components are binding. | Check that lift frame is square and is sitting level. Contact your dealer for service. |
| | Lift capacity is exceeded. | Reduce the weight being lifted. |
| | Hydraulic cylinder leaking. | Hydraulic cylinder leaking or seals failed. Replace hydraulic cylinder. See your dealer for replacement parts. |
| | Hydraulic hose leaking or damaged. | Verify that hydraulic connections are properly tightened. Replace damaged hydraulic hoses. See your dealer for replacement parts. |
| | Hydraulic fittings leaking or damaged. | Verify that hydraulic fittings are properly tightened. Replace damaged hydraulic fittings. See your dealer for replacement parts. |
| | Hydraulic power unit malfunctioning. | Contact your dealer for service. |
| Lift fails to lower properly. | Lift components are binding. | Check that lift frame is square and is sitting level. Contact your dealer for service. |
| | Hydraulic cylinder leaking or damaged. | Hydraulic cylinder leaking or seals failed. Replace hydraulic cylinder. See your dealer for replacement parts. |
| | Hydraulic hose leaking or damaged. | Verify that hydraulic connections are properly tightened. Replace damaged hydraulic hoses. See your dealer for replacement parts. |
| | Hydraulic fittings leaking or damaged. | Verify that hydraulic fittings are properly tightened. Replace damaged hydraulic fittings. See your dealer for replacement parts. |
| | Hydraulic power unit malfunctioning. | Contact your dealer for service. |

TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|---|--|--|
| Cylinders fail to hold bunks in given position. | Hydraulic components issue. | Check that all hydraulic fittings and hose connections are properly tightened. |
| | Hydraulic cylinder leaking or damaged. | Hydraulic cylinder leaking or seals failed. Replace hydraulic cylinder. See your dealer for replacement parts. |
| | Hydraulic power unit malfunctioning. | Contact your dealer for service. |
| Lowest bunk position is too high or low to water level. | Adjustable legs set at wrong height. | Adjust the adjustable legs to proper height for water level. Contact your dealer for service. |
| Boat is not lifting level. | Lift frame is not level. | Adjust the adjustable legs to level the lift frame. Contact your dealer for service. |

Error Code Charts

Error Code Number is the number of times the red light blinks in between pauses.

Receiver Error Code Chart

| ERROR CODE NUMBER | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|-------------------|---------------------------|---|
| 1 | RF communication problem. | Decrease distance between transmitter and receiver and try again. |
| | | Re-synchronize transmitter to receiver. |
| | | Contact your dealer for service. |

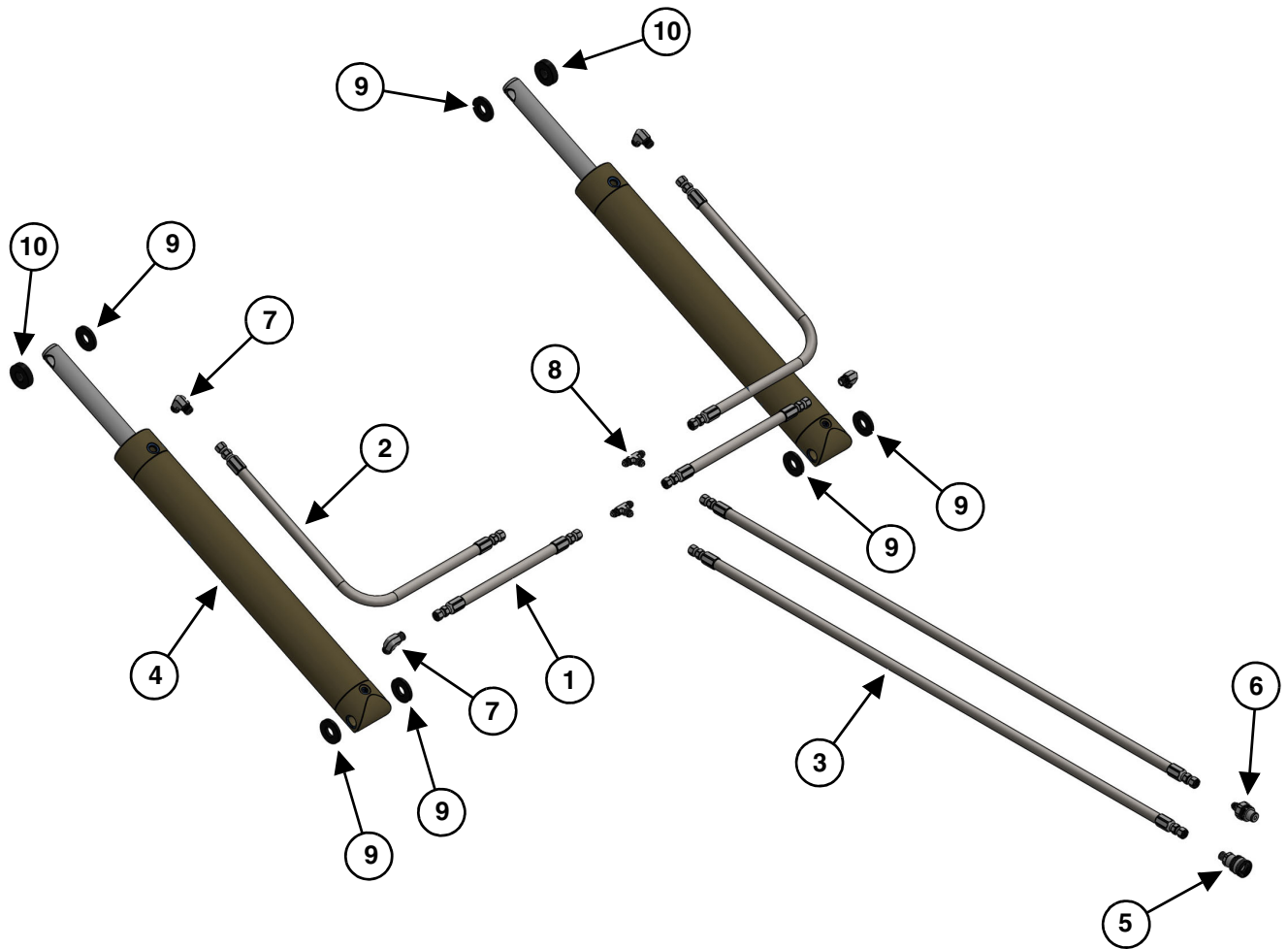
Transmitter Error Code Chart

| ERROR CODE NUMBER | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|-------------------|----------------|----------------------------------|
| 1 | Low battery. | Replace the transmitter battery. |



PARTS

Hydraulic Cylinders and Hose Assembly

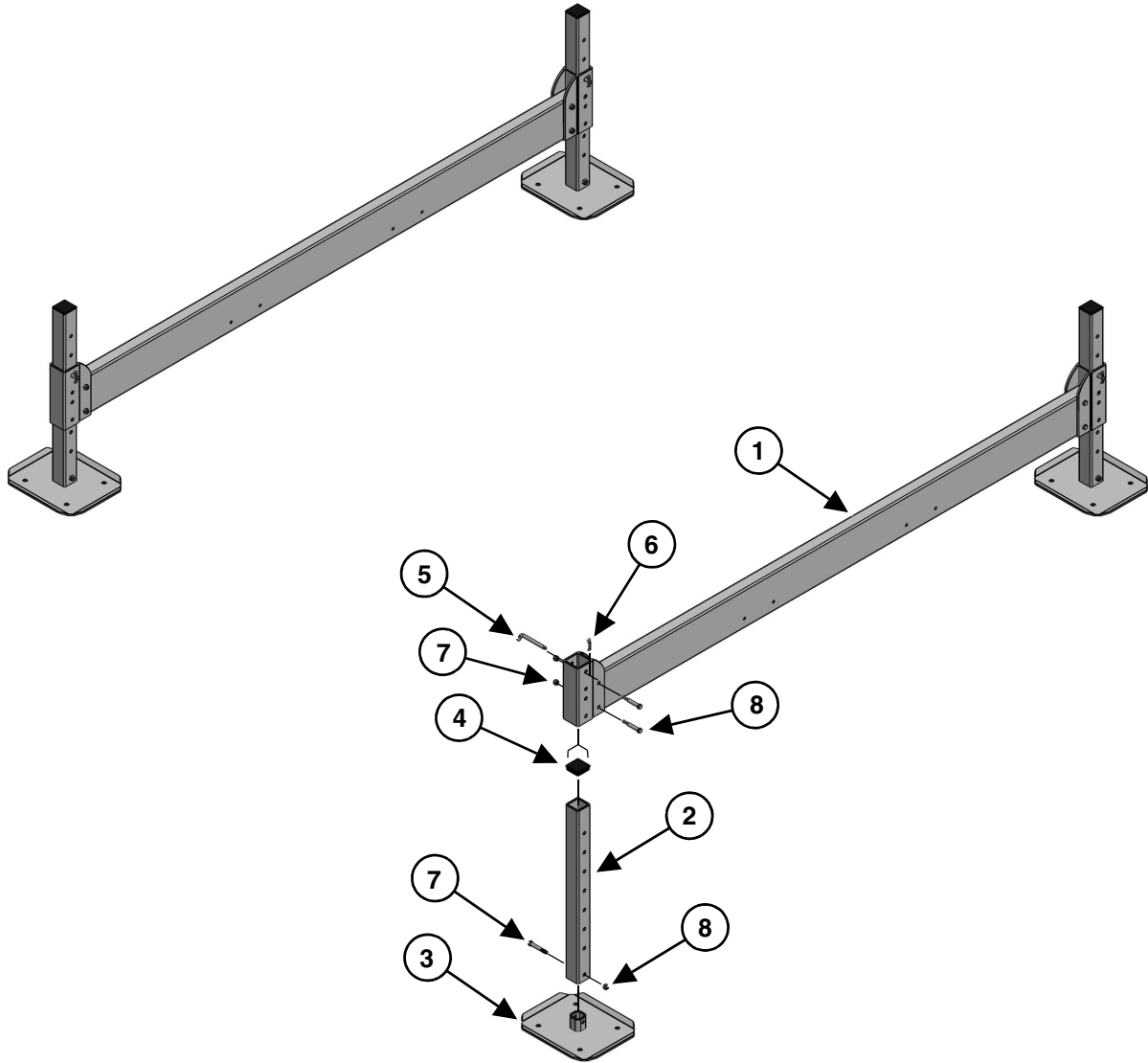


| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------------|---|------|
| 1* | HY-04-22 | Hose Assembly XTR Plated, 22" x 1/4" | 2 |
| 2* | HY-04-36 | Hose Assembly XTR Plated, 36" x 1/4" | 2 |
| 3* | HY-04-240 | Hose Assembly XTR Plated, 240" x 1/4" | 2 |
| 4* | HY-CYL-3.5 | Cylinder, Anodized AL, 3.5" Bore, 20" Stroke | 2 |
| 5* | HY-HQD-F | QD, Stainless with Brass Nut Female | 1 |
| 6* | HY-HQD-M | QD, Stainless Male | 1 |
| 7* | HA-ADP-90-XTR | Adapter, XTR Plated 90° Connector -04 MJIC x -06 MORB | 4 |
| 8* | HA-ADP-TEE-XTR | Adapter, XTR Plated -04MJ x -04MJ x -04MJ Tee | 2 |
| 9* | HW-CSP-1/4 | Spacer, Delrin 2"OD x .88ID x .25" | 6 |
| 10* | HW-CSP-1/2 | Spacer, Delrin 2"OD x .88ID x .50" | 2 |

* - Included in hydraulic assembly kit (P/N HY-AS-7K)

PARTS

Legs and Cross Frames

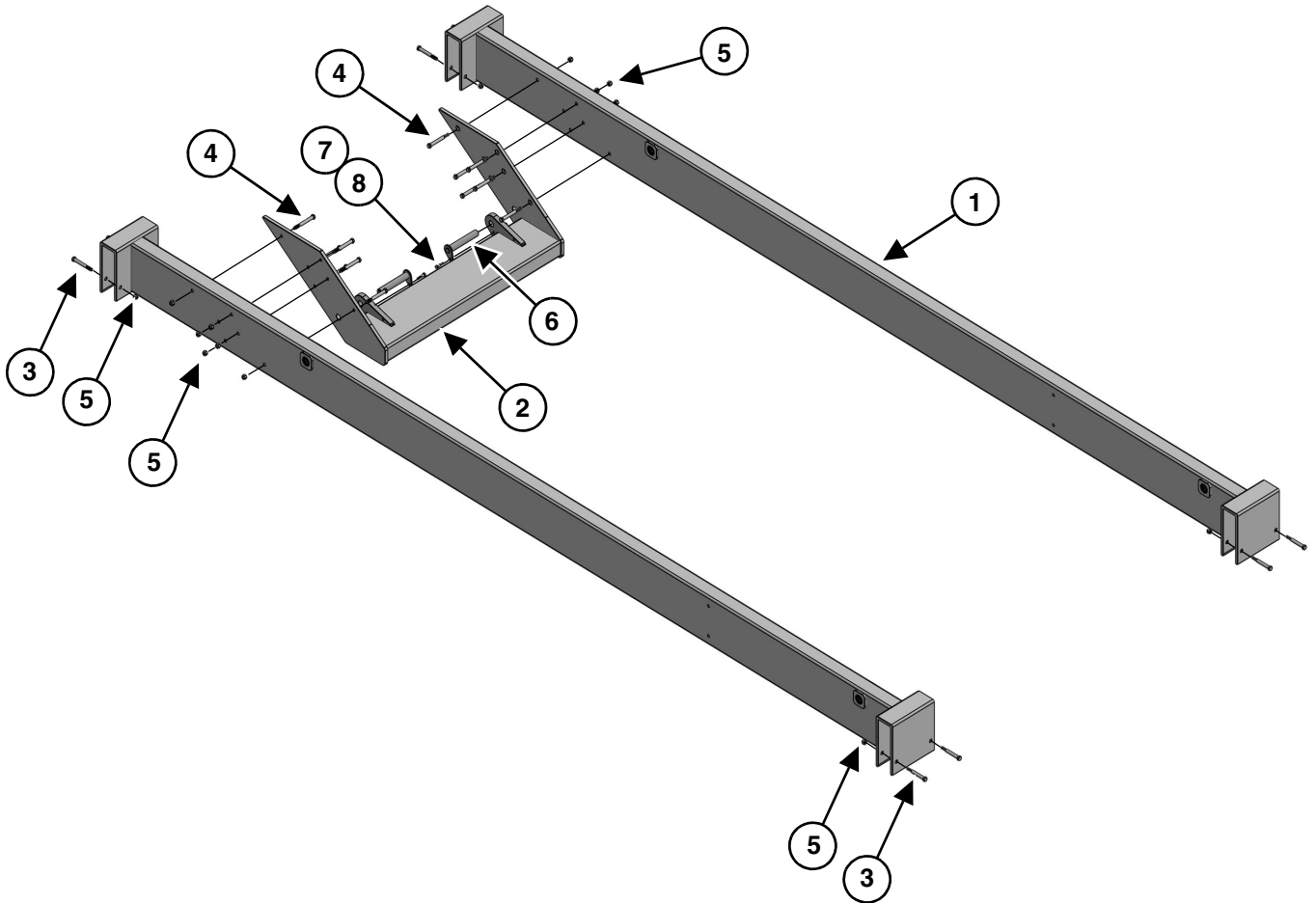


| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|------------|-----------------------------------|------|
| 1 | CP-CF-120 | Weldment, Cross Frame 120" 7k-9k | 2 |
| 2 | TL-LEG-03 | TL Leg 3' 2k - 15k | 4 |
| 3 | CP-FP-REG | Foot Plate, 15" x 18" 7k-9k | 4 |
| 4** | HW-SQ-CAP | Square Cap, 3" Black Plastic | 4 |
| 5** | HW-PIN-LEG | Pin, SS Leg Pin 1/2" x 5" | 4 |
| 6** | HW-CLP-LEG | Clip, SS Leg Pin Clip .093 x 2.5" | 4 |
| 7** | HW-BLT-04 | Bolt, SS Hex Head 1/2-13 x 3.75" | 12 |
| 8** | HW-NUT-02 | Nut, 1/2-13 | 12 |

** - Included in hardware kit (P/N HK-KIT-7K)

PARTS

Main Frame

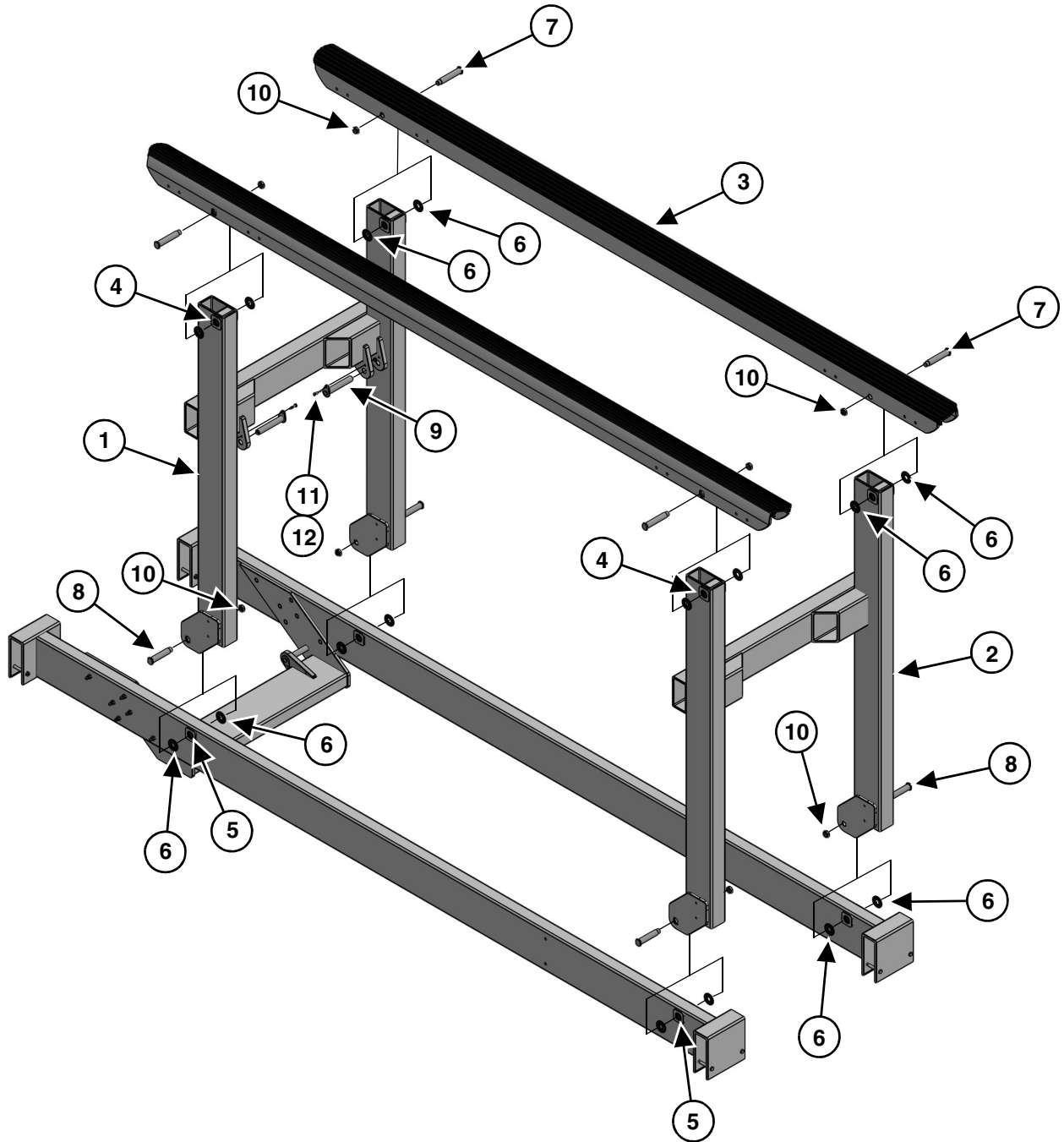


| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|------------|--------------------------------------|------|
| 1 | CP-MF-7K | Weldment, Main Frame 7k-9k | 2 |
| 2 | CP-CSF-7K | Weldment, Cylinder Support 7k | 1 |
| 3** | HW-BLT-02 | Bolt, SS Hex Head 3/8-16 x 3.75" | 12 |
| 4** | HW-BLT-01 | Bolt, SS Hex Head 3/8-16 x 3.5" | 8 |
| 5** | HW-NUT-01 | Nut, 3/8-16 | 20 |
| 6** | HW-PIN-003 | Pin, SS Cylinder Pivot Pin 7/8" x 6" | 2 |
| 7** | HW-BLT-05 | Bolt, SS Hex Head 1/4-20 x 1.25" | 2 |
| 8** | HW-NUT-05 | Nut, 1/4-20 | 2 |

** - Included in hardware kit (P/N HK-KIT-7K)

PARTS

Lifts Arms and Bunks



PARTS

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|------------|---|------|
| 1 | CP-LA7K-RR | Weldment, Rear Lift Arm 7k | 1 |
| 2 | CP-LA7K-F | Weldment. Fwd Lift Arm 7k | 1 |
| 3 | CP-BNK-144 | Bunk, Vinyl/Aluminum 144" 7k-9k | 2 |
| 4** | HW-BSH-001 | Bushing, Bunk Pivot Bushing .875"ID x 3.75" | 4 |
| 5** | HW-BSH-002 | Bushing, Lower Pivot Bushing .875"ID x 3.00" | 4 |
| 6** | HW-WSH-001 | Washer, Pivot Thrust Washer .878 x 2.00 x .062" (thk) | 16 |
| 7** | HW-PIN-001 | Pin, SS Upper Pivot Pin 7/8" x 5.25" | 4 |
| 8** | HW-PIN-002 | Pin, SS Lower Pivot Pin 7/8" x 5.25" | 4 |
| 9** | HW-PIN-003 | Pin, SS Cylinder Pivot Pin 7/8" x 6" | 2 |
| 10** | HW-NUT-04 | Nut, Nylock, 3/4-10 THIN | 8 |
| 11** | HW-BLT-05 | Bolt, SS Hex Head 1/4-20 x 1.25" | 2 |
| 12** | HW-NUT-05 | Nut, 1/4-20 | 2 |

** - Included in hardware kit (P/N HK-KIT-7K)



TONKA LIFT WARRANTY

This Warranty Covers:

For boat lifts purchased or used for personal, family, or household purposes, Tonka Lift Inc. (the "company"), warrants the structural integrity of the aluminum cradle beams and top beams for a period of 15 years from date of delivery by seller to the original purchaser of the property where the lift was installed as listed on the order form. The 12V and 24V hydraulic power unit and all hydraulic components have a 3 year warranty from date of purchase.

The company further expressly warrants lifts purchased for personal, family, or household purposes shall be free from any manufacturer's defects in material or workmanship for a period of 3 years, provided Annual Service is performed and records are kept by a trained Tonka Lift service technician. Our underwater components and hardware are warranted for 3 years from defects in material and / or workmanship. An electrical disconnect, including neutral and ground should be installed and disconnected when the boat lift is not in use. Optionally, a galvanic isolator properly connected between the electric source and boat lift on the grounding wire should be installed. If not, the warranty will be null and void. Under no circumstances will the warranty coverage extend to damage caused by electrolysis.

This Warranty Does NOT Cover:

The company makes no implied warranties with respect to lifts purchased for commercial purposes.

All repairs after the applicable warranty period are the Owner's responsibility.

Damage that is not the company's fault such as but not limited to: damage caused by accidents, collisions, improper loading, fire, storms, winds, high water, ice, any acts of God, misuse, overloading, negligence, alteration, modification or abusive operation, is NOT covered by this warranty.

Damage which is caused by animals gnawing or chewing on components, including all hydraulic components and all electrical components.

Damage which is caused by improper product selection or installation, failure to follow installation and maintenance recommendations, or failure to follow applicable instructions or warnings is not covered by this warranty.

The product may require periodic maintenance. While the seller may be equipped to handle your service needs, periodic maintenance may be performed by anyone qualified to do so. All routine maintenance and periodic service is the Owner's responsibility and is not covered by this warranty.

Boat lifts that were overloaded or weight was not centered, causing structural failure, are not covered by this Warranty.

Warranty Disclaimers/Limitations:

With respect to product purchased or used for commercial purposes, the company makes no express warranties or implied warranty of merchantability or fitness for any particular purpose.

Any applicable warranty is limited in duration to 3 years from the date of delivery from the dealer.

This warranty is void if the Product has been modified without the permission of the Company or if any Company serial number has been removed or defaced.

The company makes no express warranties regarding its products except as stated herein. No agent, employee, or representative of the company has authority to bind the company to an affirmation, representation, or warranty concerning the company's products except as stated herein.

If the Purchaser discovers a defect, the Company, or its authorized dealer, will, at the Company's option: (1) repair the Product, (2) replace the defective part, or (3) refund the purchase price of the Product upon confirmation by Company that the Product is defective.

The Company shall not be responsible for incidental or consequential damages, included but not limited to, damages to property, loss of use, lost profits, or expenses for inconvenience.





Tonka Lift Inc.
1111 County Road 19
Maple Plain, MN 55359
Phone: (952) 592-8001
Website: www.tonkalift.com