

# LAKE Groomer

## OPERATOR'S MANUAL



P/N 700110



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**CONSULT YOUR STATE AND LOCAL AUTHORITIES FOR WEED REMOVAL REGULATIONS.  
REGULATIONS VARY FROM STATE TO STATE.**

To prevent the risk of spreading aquatic invasive species, consult your state and local regulations before relocating or transporting the Lake Groomer between public bodies of water.

General Product Information:

**Lake Groomer**  
845 34th St N  
Fargo, ND 58102

Monday–Friday • 8:00 am–5:00 pm (CST)  
701-234-0476 • 701-232-6666 (Fax)

info@lakegroomer.com • www.lakegroomer.com

We welcome feedback on our product, accessories, and this manual. Feel free to contact us regarding any questions, comments, or suggestions!

**Lake Groomer is a division of Eastside Machine Company, Fargo, ND.**

## **REVISION LOG**

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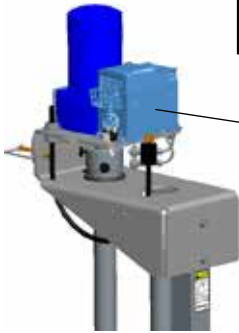
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**SERIAL NUMBER**

It is important to provide your serial number to an authorized dealer when requesting service, ordering parts, or requesting any other information. Locate the serial number using the figure below and document the number in the space provided.



<b>RECORD YOUR SERIAL NUMBER HERE</b>



**SERIAL NUMBER  
LOCATED HERE**

**GETTING TO KNOW YOUR LAKE GROOMER**

Congratulations on your Lake Groomer purchase! The Lake Groomer is designed, manufactured, and tested to be environmentally friendly. Since the Lake Groomer is chemical-free, it is the optimal choice for the health and enjoyment of your family, friends, and neighbors, as well as the plants and animals who depend on local water supplies.

Initially, you will want to run the Lake Groomer continuously, any time the lakefront is not in use. After the first three to seven days, once existing weed growth has been removed, it will only need to be cycled one to two hours per week.

Please read and understand this manual before operating the Lake Groomer. This document is intended to provide you with all the information necessary to set up and operate your Lake Groomer. Minimal tools are required for an efficient setup.

It is necessary to inspect, maintain, and monitor your Lake Groomer to ensure it is operating as intended. The following pages provide you with information to assist in the installation, operation, warranty, maintenance, and service of this equipment.

## LAKE GROOMER AND ECOSYSTEM HEALTH

Some states and localities have different regulations that may involve a permit process regarding if and where you can install a Lake Groomer. It is recommended that you check your state and local weed removal regulations before purchasing a Lake Groomer.

Additionally, some states and localities have special rules to govern the use of products like the Lake Groomer during spawning season. Work with your local Natural Resources or Fisheries and Wildlife authorities to determine when this occurs and what actions should be taken to be a good steward of your body of water.

To prevent the spread of aquatic invasive species, it is important to consult state and local regulations regarding transporting and installing the Lake Groomer between bodies of water.

Legal restrictions pertaining to the use of the Lake Groomer may be because of federal, state, county, or city governments or municipalities, lake associations, or private access lakes. Always comply with local requirements when using your Lake Groomer.

## TELL YOUR NEIGHBORS

Your neighbors may have questions about your Lake Groomer and whether it will negatively affect their property or lake front. We recommend that you talk with them before installing the Lake Groomer to explain how it works and to reassure them that it will not cause any harm to water quality or lake life.

In areas where muck exists, sediment will be stirred and may temporarily cloud the water. Normal wind and wave patterns will clear the area quickly.

Your neighbors may be interested in learning about the Lake Groomer's unique Power Share Program. Lake Groomer can be purchased without the upper drive assembly, which allows two to three neighbors to easily move one power unit to different roller installations, making the Lake Groomer an even better investment for all.

## DEALING WITH UPROOTED WEEDS

When you first begin using the Lake Groomer, uprooted vegetation will float to the surface. It is important that you gather these weeds and fragments and ensure their proper disposal. Failure to collect uprooted vegetation may cause the weeds to float away and re-root elsewhere. The cleanup and safe disposal of weeds is required by many natural resource departments.

After the first several days, once the area has been cleared, it is usually not necessary to continue gathering weeds. Keep in mind that this year's weeds decompose and become next year's muck, so removing these weeds will also improve muck issues.

**REMEMBER, DO NOT ENTER THE WATER WHILE THE LAKE GROOMER IS OPERATING!**

## TERMS

**Lower Drive Assembly:** Consists of the lower drive weldment, gearbox, communication tube, anchor tube, directional pucks, and base foot pad.

**Upper Drive Assembly:** Consists of the motor, drive, plug, and directional sensors.

**Rollers (Tube Extrusion Assembly):** Consists of the main roller tubes and fins to agitate the lake bed.

**Directional Sensors:** Consists of sensors with LED indicators. These sensors, along with the directional pucks (described below) are used to change the direction of the rollers.

**Directional Pucks:** Consists of an upper and lower puck. The upper puck controls the clockwise direction and the lower puck controls the counterclockwise direction. Thumb screws are used to lock the pucks and trigger the sensors at the desired angle to limit the path of travel.

**Toggle Switch:** Consists of a switch located on the upper drive assembly. Toggling the switch will engage the rollers to start traveling. Toggling the switch off and on again will cause the Lake Groomer to switch direction; this is useful when setting the limits of the roller tubes.

**Auger Tube Assembly:** Consists of an auger tube with a lakebed auger at one end and a tube drive at the other. Used to anchor the Lake Groomer into the ground. Use a 1/2-inch drive ratchet or speed wrench to drive the auger tube assembly into the ground.

**Gearbox:** Consists of gears that drive and reverse the rollers.

**Motor:** Drives the gearbox.

**Drive:** Regulates the motor and coordinates with the toggle switch to engage the Lake Groomer.

**Drive Coupler Weldment:** Connects the lower drive assembly to the rollers (tube assemblies).

**Connector Tubes:** Connect the rollers to one another and to the lower drive assembly.

**Communication Tube:** The round tube attached to the lower gearbox on the main drive. Communicates the position of the roller tubes to the sensors.

## PRODUCT REGISTRATION AND WARRANTY ACTIVATION

To properly activate your warranty and register your Lake Groomer, contact Lake Groomer at 701-234-0476 or visit [lakegroomer.com/product-registration](http://lakegroomer.com/product-registration).

**Note:** Complete your product registry within 30 days of purchase or your warranty will be void.

We recommend attaching your original purchase receipt to this manual. Record your original purchase date and product registration completion dates below.

PURCHASE DATE		
MONTH	DAY	YEAR

PRODUCT REGISTRATION DATE		
MONTH	DAY	YEAR

## LIMITED WARRANTY

Eastside Machine Company warrants to the original owner each new Lake Groomer product to be free from defects in material and workmanship, under normal use and service. The product is warranted to the original owner from the date of purchase, according to the completed warranty registration on file at Eastside Machine Company.

In the event of a failure, return the product (at your cost) along with proof of purchase to the selling Lake Groomer dealer. Eastside Machine Company will, at its discretion, repair or replace any parts found to be defective in material or workmanship. Warranty on any repairs will not extend beyond the product warranty.

Repair or attempted repair by anyone other than a Lake Groomer dealer, as well as subsequent failure or damage that may occur as a result of that work, will not be paid under this warranty. Eastside Machine Company does not warrant replacement components manufactured or sold by other vendors.

- Warranty length is for three years or 12,000 cycles, whichever comes first.
- Warranty applies only to parts or components that are defective in material or workmanship.
- Warranty does not cover normal wear items.
- Warranty covers a roller configuration of no more than four flex connections, excluding the connection to the lower drive, across a maximum length of 48 feet.
- Warranty does not cover depreciation or damage due to misuse, negligence, accident, or improper maintenance.
- Warranty does not cover normal maintenance, service, or adjustments.
- Warranty does not cover damage due to improper setup, installation, or adjustment.
- Warranty does not cover damage due to unauthorized modification.
- Warranty does not cover act of God damage or other environmental catastrophes.

### WARRANTY

Eastside Machine Company is not liable for any property damage, personal injury, or death resulting from the unauthorized modification or alteration to this product or the owner's failure to assemble, install, maintain, or operate this product in accordance with the provisions of the owner's manual.

Eastside Machine Company is not liable for indirect, incidental, or consequential damages or injuries including, but not limited to, loss of profits, rental or substitute equipment, or other personal or commercial loss.

Eastside Machine Company makes no warranties, representations or promised, expressed or implied as to the performance of this product other than those set forth in this warranty. Neither the dealer nor any other person has any authority to make any representations, warranties, or promises on behalf of Eastside Machine Company or to modify the terms or limitations of this warranty in any way. Eastside Machine Company, at its discretion, may periodically offer limited, written enhancement to this warranty.

**Eastside Machine Company reserves the right to change the design and/or specifications of the Lake Groomer at any time without obligation to previous purchasers.**



## ELECTRICAL SAFETY



**WATER AND ELECTRICITY CAN BE AN EXTREME ELECTRICAL HAZARD. TO PREVENT ELECTROCUTION, FOLLOW THESE RECOMMENDATIONS AND ALWAYS BE EXTRA CAUTIOUS WHEN WORKING AROUND WATER WITH POWER CORDS AND COMPONENTS.**

- Plug the Lake Groomer into a tested GFCI (Ground Fault Circuit Interrupter) outlet or use a GFCI adapter to reduce risk of electrocution.
- Only use an outdoor-rated 12-gauge power cord. Use of a power cord longer than 100 feet is not recommended.
- Always inspect your power cord before use. It is important that there are no cracks, breaks, or cuts in the insulation. Make sure grounding lug and connectors are intact.
- Use a designated 15-amp circuit; too many items plugged into the same circuit may cause the GFCI to false trip.
- Keep power cords out of the water. We recommend using zip ties to attach the cord to the underside of your dock so it doesn't fall into the water, cause a tripping hazard, or get stepped on.
- Disconnect power cord when not in use and before servicing, adding options, and entering the water.

## OPERATIONAL SAFETY

The Lake Groomer is capable of clearing a maximum radius of 22 feet and 9 inches with the standard setup. It is recommended that any known and visible obstructions be removed prior to operating. This will eliminate the need to deal with the obstructions after the Lake Groomer is operating.

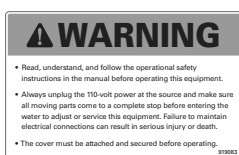
- Read and understand this manual. Be completely familiar with the controls and proper use of the Lake Groomer before installing.
- Do not allow children to operate this equipment.
- Do not enter the water or allow others to enter the water when the Lake Groomer is operating.
- Do not allow swimmers or pets to stand on, dive from, or swim near the Lake Groomer.
- When the Lake Groomer is not in use, park the rollers near the dock or lifts or in another position where it is not likely to come into contact with people.
- Do not reposition the Lake Groomer when it is operating. Unplug at the source and make sure all moving parts have come to a stop before repositioning.
- Avoid wearing loose-fitting clothing or clothing with ties or drawstrings while operating or servicing your Lake Groomer, as they may become entangled with the Lake Groomer unit.

**OPERATIONAL SAFETY (CONTINUED)**

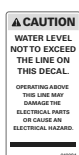
- Never run the Lake Groomer without the cover in place. To prevent damage to the electrical components, do not leave the cover off.
- Always disconnect the power cord before servicing the Lake Groomer or entering the water. There is a three-second delay after the power source has been removed. Make sure all moving parts have come to a complete stop when the unit has powered down.
- If the Lake Groomer has stalled, hit a foreign object, or is vibrating or making an unusual noise, disconnect the power. After confirming power has been disconnected and moving parts have stopped:
  - Check for any loose or damaged parts.
  - Remove any obstructions.
  - Replace and/or repair damaged parts.
- Periodically inspect the Lake Groomer to ensure it is operating as intended. Check the rollers and flex/rigid connections and tighten hardware as needed to prevent any damage from loose hardware.
- Do not operate the Lake Groomer in water depths greater than the recommended 4 1/2-foot depth. If your water depth is greater than 4 1/2 feet, extension kits are available to operate your Lake Groomer safely and prevent any damage to the unit.
- If the Lake Groomer fails to power up, unplug the power cord and inspect the cord for damage.
- Check to ensure the GFCI at the 110-volt source has not tripped. Check that the circuit is not overloaded; the Lake Groomer should have its own designated circuit, and plugging too many items into the 110-volt source may cause false trips.
- It is important to ensure that the electronics of the Lake Groomer are kept dry. It is a good idea to remove the upper drive assembly from your unit in the event of a big storm or if you do not plan to use your unit for any extended period of time.

**SAFETY DECALS**

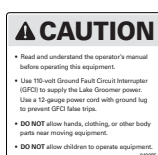
Read and understand the safety decals. The information on the decals will inform you of hazards to avoid and keep you safe around the Lake Groomer. Replace damaged or illegible decals and place them in the same location. Please contact Lake Groomer for replacement decals.



**919083**  
**WARNING DECAL**



**919084**  
**CAUTION DECAL**



**919085**  
**CAUTION DECAL**



**919082**  
**MOTION DECAL**

## BOX CONTENTS

TABLE 5.1 - Box Contents

The Lake Groomer comes partially assembled in four separate boxes.

BOX	P/N	DESCRIPTION	QTY
Box 1 (700208)	700105	Upper Drive Assembly	1
Box 2 (700209)	700104	Lower Drive Assembly	1
	702022	Dock Connector Bracket	1
	702023	Lake Groomer Connector Bracket	1
	702025	2 in. Square 5/16 in.-18 x 4 in. U-bolt	1
	702026	3 in. Round 5/16 in.-18 x 4 in. U-bolt	1
	702031	1/4 in. Allen Wrench	1
	910402	3/8 in. Zinc-plated Nylock Nut	2
	422937	5/16 in. x 1 in. Socket Head Cap Screw	36
	911401	3/8 in. x 1 in. Zinc-plated Grade 5 Hex Head Cap Screw	2
	913458	5/16 in. x 1 in. Zinc-plated Carriage Bolt	4
	914400	3/8 in. SAE Washer	2
	709001	Drive Coupler Weldment	1
Box 3 (700210)	708003	Roller Tube Extrusion	4
	709017	Tube Extrusion Coupler Weldment	6
	934061	1-3/4 in. x 3/4 in. Red Tapered Plug	9
	700103	Tube Connector	3
Box 4 (700211)	708003	Roller Tube Extrusion	5

## BEFORE OPERATING

Before beginning assembly, inspect the location where you plan to install the Lake Groomer. Clear any known obstacles or hazards like rocks, stumps, roots, branches, posts, litter, etc.

If applicable, start with an area with the least amount of muck and extend the path of travel as muck is cleared. For more information on dealing with mucky conditions, read "Dealing with Muck" on page 19 before continuing on; it may affect how you assemble your Lake Groomer.

A freestanding kit is available if you choose not to dock mount the Lake Groomer, and a mud paddle is available if your location has a mucky lake bottom. Contact your dealer or visit [www.lakegroomer.com](http://www.lakegroomer.com) for these add-ons.

Using the chart above, check to make sure that all items have been included with your shipment. If you find that any items are missing, contact Lake Groomer using the contact information on page 2.

## BECOMING FAMILIAR WITH LAKE GROOMER'S MOVEMENT AND CONTROLS

Before you begin assembling your Lake Groomer, we recommend that you familiarize yourself with the movement and controls. (refer to **Figure 5.1**)

1. Remove the upper drive assembly from box 1 (be sure to remove the cover and packaging paper) and plug it into a power cord that is plugged into a GFCI protected outlet.
2. Remove the lower drive assembly from box 2 and find a level area to set it upright. Place the upper drive assembly over the lower drive assembly, and line up the 5/8-inch hex 3/4-inch round coupler with the communication tube. Shake, rotate, or turn on the upper drive to seat the hex drive shaft into the coupler.
3. Preparing to set the limits of travel:
  - Locate the two directional pucks near the sensors on the lower drive assembly. The upper puck controls the clockwise direction and the lower puck controls the counterclockwise direction.
  - The directional pucks have thumb screws which activate the sensors. When the screw and sensor align, the indicator light on the sensor will turn on, signaling the Lake Groomer to change directions.
  - Thumb screws are used to lock the pucks at the desired angle to limit the path of travel.
  - See next section for information on testing and adjusting the sensors.
4. On the upper drive assembly, locate the toggle switch. Toggling the switch will trigger the rollers (once attached) to start traveling. Toggling the switch off and on again will cause the Lake Groomer to switch direction. Toggle the switch on and observe the movement of the drive weldment on the gearbox.

**Note:** Wait three to five seconds after toggling the switch off to allow the Lake Groomer to come to a complete stop before toggling the switch back on; failure to do so may result in the rollers not changing direction.
5. With the Lake Groomer on, grasp the communication tube attached to the lower gearbox on the main drive and help it rotate (**Note:** The communication tube will rotate on its own once the roller tubes are attached.). As the directional puck rotates and the thumb screw and sensor align, the sensor indicator light will turn on and the drive weldment will stop moving. After a short delay, the Lake Groomer will begin moving in the opposite direction.
6. Take note of the drive weldment angle. When setting the Lake Groomer in its final location, you'll want to ensure that the drive weldment and rollers do not contact the base foot pad or auger brackets; this may affect the angle at which you attach the Lake Groomer to your dock. The travel area covers approximately 280 degrees; beyond this will damage the rollers and base of the main drive unit.
7. Take note of the position of the set screw protruding from the position collar on the upper drive assembly. It is recommended that the rollers are aligned with this set screw when positioning the Lake Groomer in the water. This indicator will be useful in locating the position of the tube assemblies underwater.
8. Disconnect the power cord before moving on to the next steps.

## SENSOR CLEARANCE

In order for your Lake Groomer to work properly and to avoid damage to the drive unit, sensor clearance must be set between .06 inches and .08 inches, which is about the thickness of two credit cards. If the sensors are farther away than this distance, it could result in false reversals or even not being able to pick the direction the rollers should be traveling. Sensors may become out of adjustment during transport or installation and should be tested and corrected prior to operating the Lake Groomer.

Sensors can be tested by rotating the directional pucks to see if the LED indicator light is on when next to the thumb screw, and then turns off when the puck is rotated. Make sure that the thumb screws do not come into contact when the pucks rotate. If they do, move the sensors away from the thumb screws. It is necessary to remove the upper drive cover to observe the display on the controller. The display indicates the motor hertz and increases from 0 to 60; the value will be positive or negative and change each time a limit has been met. Another method is to observe the roller drive weldment located on the gearbox at the lower end of the unit to see the directional change when limits are met.

If your sensors need to be adjusted, locate the two nuts on each sensor bracket and use an 11/16-inch wrench to move the sensors closer or farther away from the thumb screw. Use two credit cards to check the measurement and re-test.

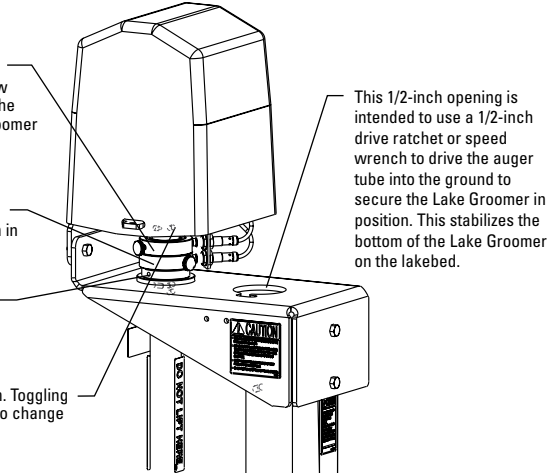
**FIGURE 5.1 - Upper Drive Assembly**

**UPPER DIRECTIONAL PUCK:** This puck controls the clockwise direction of the rollers. Line up the thumb screw with the sensor to set the limits of travel. This will cause the sensor to switch on and, after a short pause, the Lake Groomer will switch directions.

**LOWER DIRECTIONAL PUCK:** This puck controls the counterclockwise direction of the rollers. Set it in position in the same manner as the upper directional puck.

This **SET SCREW** indicates the position the rollers are extending from the drive unit. Use it to determine the position of the rollers when setting the limits of travel.

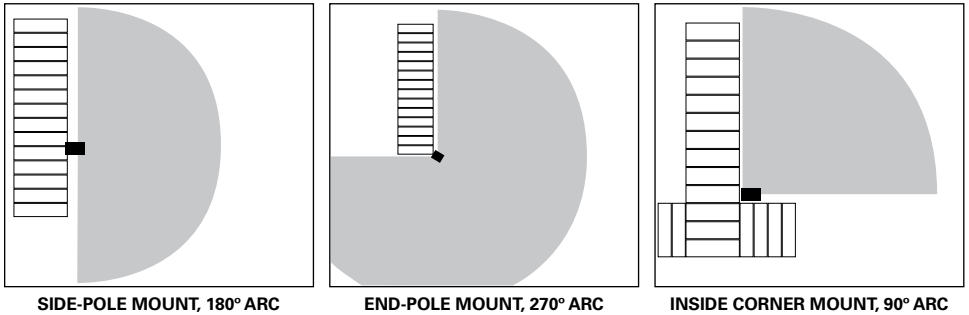
This **TOGGLE SWITCH** signals the Lake Groomer to run. Toggling the switch off and on again will cause the Lake Groomer to change direction.



**CHOOSING THE BEST DOCK MOUNT POSITION**

The Lake Groomer can be adjusted to operate with many different mountings and roller arc paths depending upon the bracket position on your dock and the directional puck positions. Below are some suggested configurations: (refer to **Figure 5.2**)

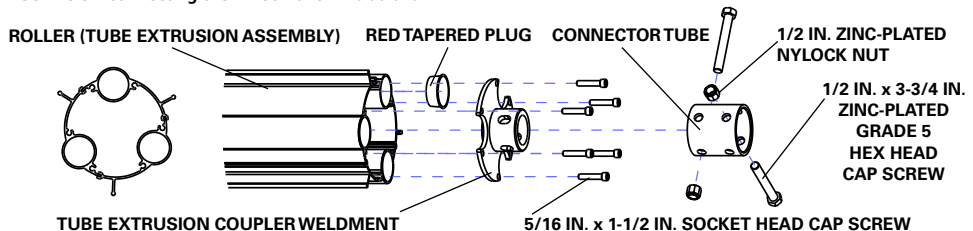
FIGURE 5.2 - Suggested Dock Mount Positions

**PREPARING THE ROLLERS**

1. Remove the roller tube extrusions and the tube extrusion couplers from boxes 3 and 4.
2. Remove the red tapered plugs from box 3.
3. Connect the three roller extrusions together. (refer to **Figure 5.3**)
4. Attach the tube extrusion couplers to the end of the roller tubes using the 5/16-inch hex head bolts and the 1/4-inch Allen wrench.
5. Each roller has three adjustable air tanks that hold air to provide buoyancy to the rollers. Add the red plugs to each side, if needed. The tubes do not require the plugs to operate; this is a bonus feature that helps in mucky situations by increasing buoyancy. Remove plugs as needed to decrease buoyancy and increase effect on the lake bottom. See more about this on page 19, "Dealing with Muck."

**Note:** Additional roller extensions can be added. The Lake Groomer's warranty covers a roller configuration of no more than four flex connections, excluding the connection to the lower drive, across a maximum length of 48 feet.

FIGURE 5.3 - Connecting the Three Roller Extrusions



## INSTALLING THE LAKE GROOMER

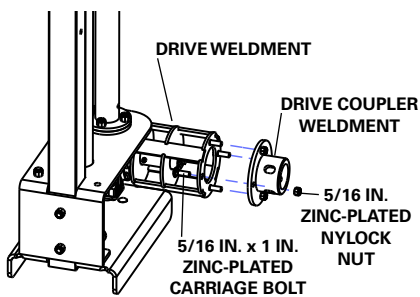
**STOP!** Ensure that you fully understand the Lake Groomer’s movement and controls from the section entitled “Becoming Familiar with Lake Groomer’s Movement and Controls” on page 12. After you understand how the Lake Groomer moves, choose an installation location that avoids any hazards and allows for safe roller-parking when not in use.

**Note:** If you are mounting the Lake Groomer using our freestanding kit, follow the special instructions included with that product, as appropriate.

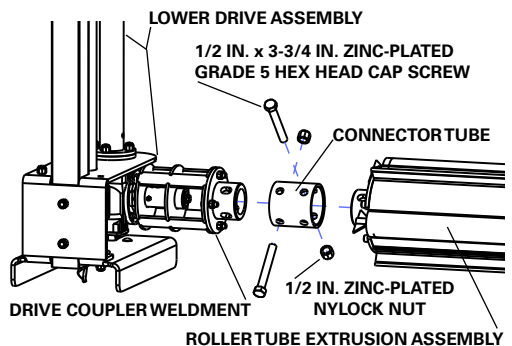
**Note:** It is recommended that at least two people complete this portion of assembly.

1. With the assistance of another person, bring your supplies—including the lower drive assembly, partially assembled rollers, and any needed tools or equipment—to the area where you plan to install the Lake Groomer. We recommend using a box or other container to hold any parts, hardware, or tools needed to ensure they don’t slip through your dock or get lost in sand. **Note:** Install without upper drive for easier assembly.
2. Attach the dock connector bracket to the desired dock pole (refer to **Figure 5.6** on page 17):
  - Choose either the round or square u-bolt, depending on the shape of the dock pole where you have chosen to place the Lake Groomer.
  - Position the dock bracket above the water line and secure with the nuts provided with the u-bolt.
  - Dry fit your lower drive assembly to the dock bracket to ensure correct positioning. If your water depth is greater than 4-1/2 feet, you will need a Deep Water Extension; contact your Lake Groomer dealer for this add-on.
  - Final adjustments may be necessary once the Lake Groomer has been placed into the water.
3. Attach the drive coupler weldment to the lower drive assembly. (refer to **Figures 5.4** and **5.5**)

**FIGURE 5.4 - Attaching Drive Coupler Weldment to Lower Drive Assembly**



**FIGURE 5.5 - Attaching Drive Coupler Weldment to Lower Drive Assembly**





## 5

## ASSEMBLY AND SETUP

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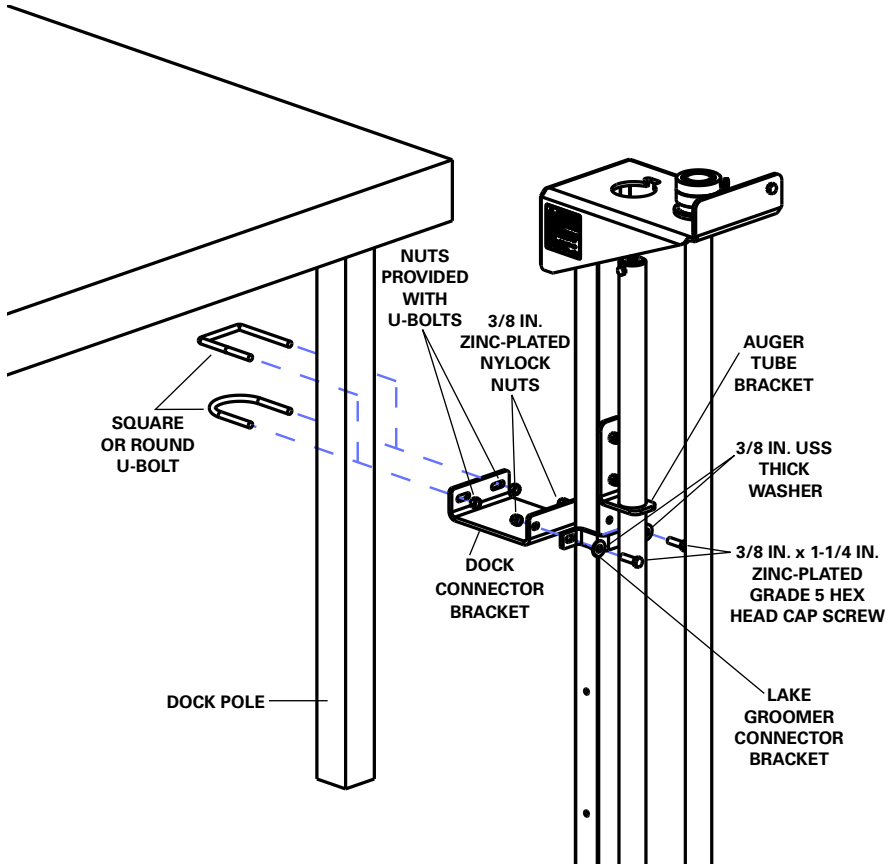
4. Attach the rollers to the lower drive assembly using the connector tubes. (refer to **Figure 5.5**)
  - Position the Lake Groomer next to the dock pole where you secured the dock connector bracket, making sure the 2-inch square tube on the lower drive assembly with the Lake Groomer dock connector bracket will be able to attach to the dock connector bracket when positioned in the water.
  - Lay the rollers out from end to end on your dock.
  - Locate the connector tubes from box 3 and couple the first roller to the lower drive assembly using the enclosed hardware. Then, attach the second and third rollers in the same manner.
  - Check all hardware to ensure it is tight.
5. The Lake Groomer is now ready to be placed in the water! Attach all buoyancy plugs and remove them one by one until the desired position is achieved. You will have a short time to position the Lake Groomer near the dock bracket while the tube assemblies fill with water and sink.

***Note:** Different methods can be used to place the Lake Groomer in the water depending on how your dock is configured.*

  - If poles **do** protrude above your dock surface, follow these instructions:
    - With the aid of another person, slide the complete Lake Groomer assembly to the edge of the dock.
    - Lift the lower drive assembly to the upright position.
    - With the help of two to three other people, lift the lower drive assembly and rollers up to clear your dock poles and place the rollers in the water as you position the Lake Groomer next to the dock connector bracket. Continue on to step 6.
  - If poles **do not** protrude above your dock surface, follow these instructions:
    - With the aid of another person, slide the complete Lake Groomer assembly to the edge of the dock.
    - Lift the lower drive assembly to the upright position.
    - Have your assistant push the rollers over the edge of the dock while you position the Lake Groomer next to the dock connector bracket.
6. As the Lake Groomer enters the water, position the assembly in the proper orientation (the upper drive assembly should not be attached yet at this point) to secure the Lake Groomer bracket to the dock connector bracket that you attached to your dock pole in step 2 on page 15.
7. Once the rollers have filled with water and sunk to the bottom, position the dock connector bracket so it is just under the auger tube bracket on the main frame upright. Use the two 3/8-inch nylock nuts, two 3/8-inch flat washers, and two 3/8-inch x 1-1/4-inch bolts to secure the dock connector bracket to the Lake Groomer connector bracket.



FIGURE 5.6 - Securing the Lake Groomer to your Dock



8. Use a 1/2-inch ratchet or speed wrench to drive the auger tube into the ground. It is recommended the auger tube be at least 12 inches into the ground.
9. The Lake Groomer is now ready to attach the upper drive assembly and the power cord. We recommend using zip ties to attach the cord to your dock. Approximately three seconds after the unit is plugged in, you should see the lights on the sensors illuminate.

**Note:** Connect the power cord to your Lake Groomer and become familiar with its operation to ensure it is working properly.

**Note:** The first time an area is cleared, it will take a significant number of warranty cycles. Maintenance cycles should only require one to two hours per week.

**SETTING THE LIMITS OF TRAVEL**

Care should be taken so the rollers do not make contact with the dock, lifts, or any other obstacles underwater. Repeated contact can cause the fins to wear prematurely and may damage the dock or other infrastructure.

Refer to **Figure 5.1** on page 13 for more information about the directional pucks.

**IMPORTANT: SENSOR CLEARANCE MUST BE SET BETWEEN .06 INCHES AND .08 INCHES. SEE BELOW FOR MORE INFORMATION ON THIS.**

**To set the counterclockwise limit:**

- Loosen the thumb screw located on the lower directional puck.
- When the roller is in the desired location (as far to the left side of the upper drive assembly as desired), position the thumb screw on the puck in front of the bottom sensor and tighten the thumb screw; this will turn the sensor light on and trigger the rollers to reverse direction.
- After a three-second delay, the rollers should begin moving in a clockwise direction.

**To set the clockwise limit:**

- Loosen the thumb screw located on the upper directional puck.
- When the roller is in the desired location (as far to the right side of the upper drive assembly as desired), position the thumb screw on the puck in front of the bottom sensor and tighten thumb screw; this will turn the sensor light on and trigger the rollers to reverse direction.
- After a three-second delay, the rollers should begin moving in a counterclockwise direction.

**Note:** *If your lakebed has mucky conditions or a lot of weed growth, limit the travel of the rollers to clear the area gradually. Read more in the “Dealing with Muck” section on page 19.*

**Note:** *Once the limits of travel are set, periodically check to ensure rollers are not making contact with your dock. Directional pucks may need to be reset after your area is cleared or after a weather event that causes abnormal wave action.*

**Note:** *After clearing the designated area, the Lake Groomer will only need to run periodically (one to two hours per week) to maintain a clean lake bottom.*

## DEALING WITH MUCK

Depending on the depth of muck on your lakebed, different removal options will need to be considered. The Lake Groomer's rollers are like the wheels of a vehicle in mud—if the rollers are spinning but unable to move, they will get stuck in the muck. The deeper the muck or the longer the rollers spin, the harder they will be to dislodge, and the unit may become damaged.

A mud paddle (part #700113) is available to help drive through muck, but is limited by the depth of the muck. The paddle will need to be removed once the muck is decreased. Running the unit with the mud paddle when little or no muck is present can damage the paddle and possibly the Lake Groomer. Contact your Lake Groomer dealer for this add-on.

Whether you choose to use our mud paddle or not, it is recommended to start close to shore and clear the muck slowly in segments. There are a couple options for doing this:

1. Rather than attaching all three of the rollers at once, start with just one roller. Once that area is clear, attach the next roller. And again, once that area is clear, attach the third roller.
2. Rather than setting the limits of travel to the maximum possible arc, start at only 25-50% of the desired arc and increase as the area is cleared.

If the rollers do not move freely, it may be necessary to try more than one method at once and attach the mud paddle if you are not already using it.

With either method, it is recommended to help the Lake Groomer deal with the depth of muck by pulling deeper muck into an already cleared area; a snow rake is a good tool for this job. It won't take long before you notice a firmer, more sandy lake bottom! Keep in mind that this year's weeds decompose and become next year's muck, so removing weeds will also improve muck issues. Contact Lake Groomer for more advice on dealing with extreme muck conditions.

In each roller there are three adjustable air tanks that hold air and provide buoyancy to the rollers. This is especially helpful in mucky situations to help prevent the rollers from getting stuck in the muck. Prior to putting the rollers in the water, ensure that each side of the air tanks has been sealed off with red tapered plugs. Remove plugs as needed to decrease buoyancy and increase effect on the lake bottom.

**Note:** *Never park the rollers in muck. Muck will find its way inside the tubes, making them very heavy and difficult to turn, which may cause parts to fail or break.*

The Lake Groomer has special features that can be accessed using the keypad. For more information, we encourage you to reference the Quick Start Guide for the Emerson drive, which was provided with your Lake Groomer.

## **AUTOMATIC REVERSAL TIMER**

In rare instances, the sensor will not register with the thumb screw, causing the Lake Groomer to not reverse. There is a built-in timer of 15 minutes that will cause the Lake Groomer to switch directions automatically if the rollers have been going the same direction for an extended period of time.

## **SETTING LAKE GROOMER TO CYCLE**

The Lake Groomer has a feature that allows the rollers to run a desired number of cycles, then stop by themselves. Once the cycles have completed, you will have to turn the Lake Groomer off manually. The system will save your cycle setting and be ready for the next time you turn it on. Typically, this would be used to maintain an area once it has been cleared of weeds and/or muck. A cycle is one complete travel from where the rollers begin rotating to the reversal point, then returning to the start position.

### **To enable this feature:**

1. Connect the power cord to power up the upper drive assembly, then remove the upper drive cover and locate the key pad.
2. Locate the **mode** button on the keypad and push it once. This should now allow visibility to the parameter mode.
3. Locate the **up arrow** button and push until you reach parameter #14, then push the **mode** button again. The #14 should now move to the right side of the display.
4. Push the **up** button to enable (the **down** button will disable the feature).
5. Once you have enabled the parameter, push the **mode** button again until you get back to #14. Push the **up arrow** to get to parameter #15.
6. Following the same sequence as step 3, above, push the **mode** button and access the right side of the display. Use the **up** and **down arrow** buttons to set the number of cycles you want the Lake Groomer to operate. This setting saves automatically.
7. Once set, push the **mode** button until you back out of the parameter setting functions.
8. Use the toggle switch to start the rollers. The cycles feature will now run automatically every time you start the Lake Groomer.

**Note:** To disable the feature, follow steps 1-4 to enter parameter #14, except push the **down** button to disable the feature, as explained in step 4. With the cycle disabled, the Lake Groomer will operate indefinitely when powered up; this is the factory setting.

## INCREASING/DECREASING THE LOAD PERCENTAGE FOR AUTOMATIC ROLLER REVERSALS

In some cases, where there is an extremely weedy or mucky area you want to clear (and you have already followed the recommendations in the “Dealing with Muck” section), it may be necessary to adjust the load percentages for the upper drive assembly.

Depending on the structure of your lake bottom, the upper drive assembly may need to be adjusted to handle conditions like rocks, muck, or extreme contour. The Lake Groomer is designed to take into account unknown obstructions when the rollers encounter an obstruction too large to roll over. This will cause the rollers to reverse, and therefore won't cover your entire intended area. The obstruction needs to be removed, the arc of travel needs to be adjusted, or the Lake Groomer needs to be repositioned so the obstruction is not in its path.

If you are experiencing unintended reversals, or if the rollers are not reversing when an obstruction is encountered, you may need to adjust the load percentage for reversals. Following the same procedure for setting the cycles to run (steps 1-3 on page 20) enter parameter #12 and adjust the percentage either up or down depending on if you want a higher or lower threshold for reversal; this setting saves automatically when you exit this parameter.

## REGULAR MAINTENANCE

- Remember to disconnect the power cord before servicing your Lake Groomer, and do not enter the water while it is in operation.
- Do not allow large amounts of material, muck, or algae to build up on the rollers, as this can cause the machine to stall and may damage the drive system.
- Periodically inspect the Lake Groomer to ensure it is operating as intended. Check the rollers and flex/rigid connections and tighten hardware as needed to prevent any damage from loose hardware.
- Inspect your power cord for cracks, breaks, or cuts in the insulation. Make sure the grounding lug and connectors are intact. Replace the power cord if any issues are found.
- At the end of the season, we recommend checking the oil in the lower drive assembly gearbox. Remove the plug on the side of the gearbox to check the oil level. If it is low or the gearbox is dry, drain any fluid in the gearbox and replace it with a quality marine grease.
- Monitor the motor and gearbox for oil leaks.
- Contact your Lake Groomer dealer for replacement parts or repairs.

## OFF-SEASON STORAGE

If you live in an area where the lake freezes over in the winter, it is necessary to remove the Lake Groomer. This is a good time to perform an inspection and complete any necessary maintenance. If your lake does not freeze over, it is not necessary to remove the Lake Groomer; however, an annual inspection and any necessary maintenance should still be performed.

For storage in the offseason, ensure the rollers are clean and dry.

- Disassemble the Lake Groomer, separating the upper drive, lower drive, and each of the rollers by removing the connector tubes.
- It may be necessary to hose off or power wash the rollers to remove any muck or algae buildup on the flex/rigid connections. Be careful to avoid spraying the upper drive assembly or any electrical components.
- Drain the tubes of water by standing them upright.
- Make sure the Lake Groomer is stored in a dry, moisture-free environment. Do not store the Lake Groomer outdoors where it may be subjected to repeated freeze and thaw. Consider storing the upper drive assembly inside your home or heated garage to prevent possible corrosion of the electrical components.
- Store any hardware you have removed in a baggie with your Lake Groomer so it is not misplaced.

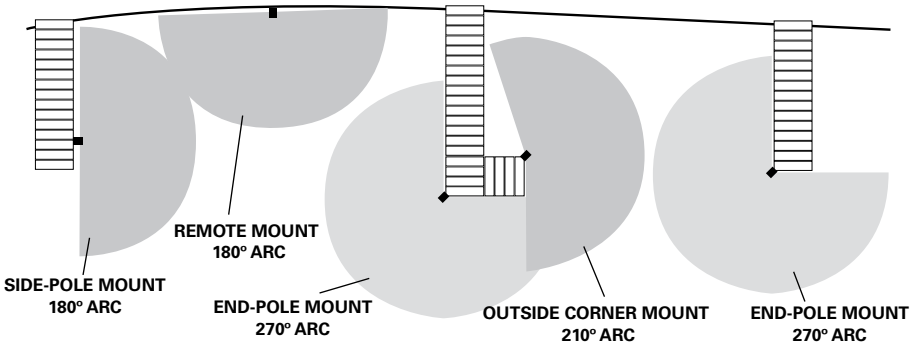
**Note:** To prevent the spread of aquatic invasive species, it is important to consult state and local regulations regarding transporting and installing the Lake Groomer between bodies of water.

**POWER SHARE PROGRAM**

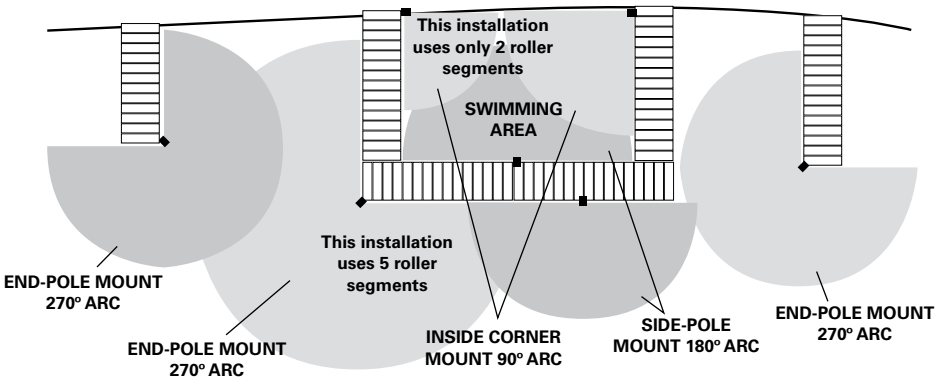
Lake Groomer's unique Power Share Program allows you to share the upper drive assembly among several roller assembly installations, making it an even more economical choice! Invest in Lake Groomer with your neighbors (refer to **Figure 8.1**) or cover a larger area of your own lake shore by installing one roller assembly at each location and sharing the easily detachable power unit between sites. Resort owners also love this program as it allows them to clear multiple areas without the expense of another complete grooming unit (refer to **Figure 8.2**).

The Lake Groomer can be purchased without the upper drive assembly for use on secondary installations (item #700204). This item includes the lower drive assembly, three 7-foot rollers with flex connectors, square and round u-bolts for connecting to dock, and all hardware necessary for assembly and installation. The upper drive assembly from one Lake Groomer unit can easily be detached in a matter of seconds by removing the quick connection pin. The removal of the upper drive assembly allows for easy transport to different locations.

**FIGURE 8.1 - Power Share Among 3 Neighbors With 5 Roller Installations**

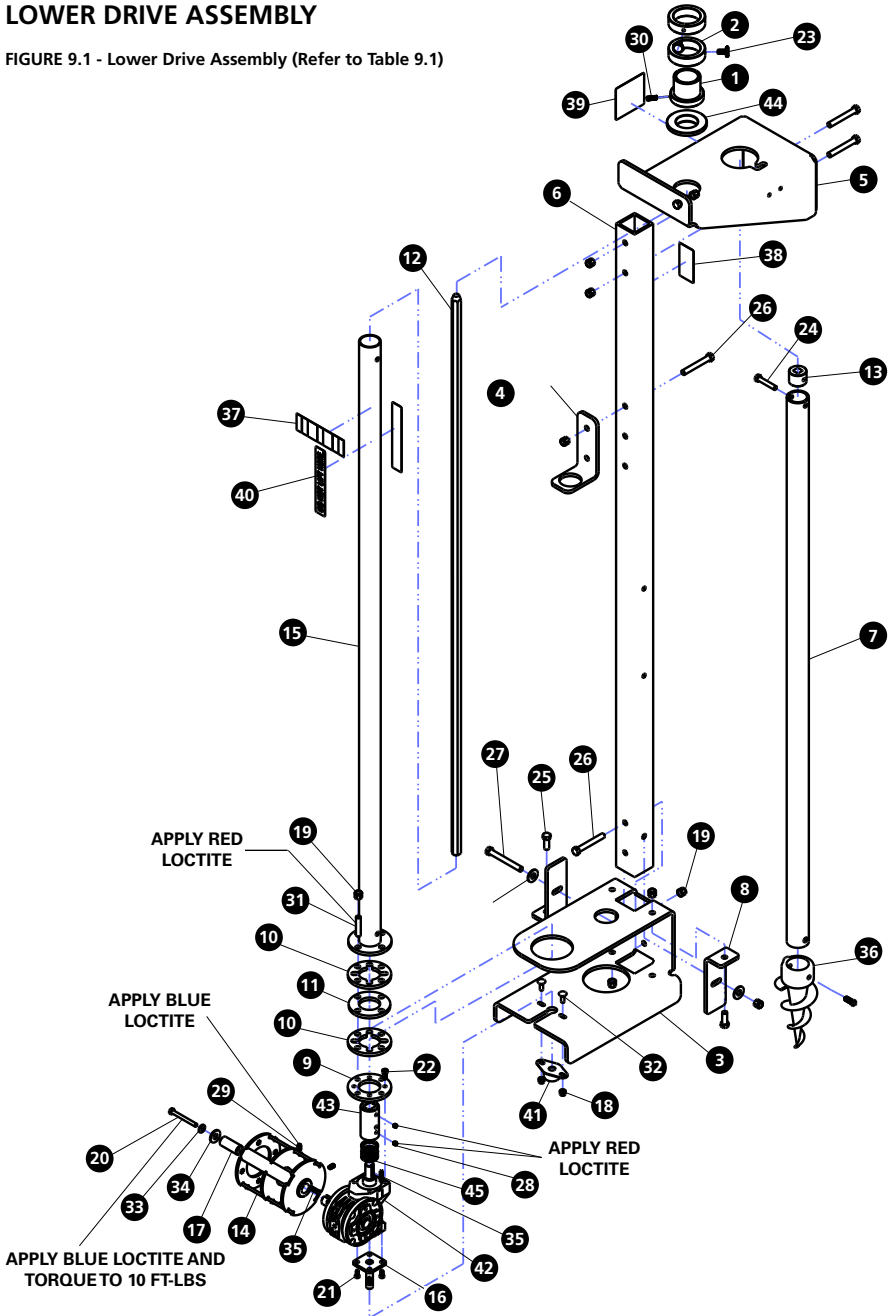


**FIGURE 8.2 - Power Share Resort Setup With 7 Roller Installations**



**LOWER DRIVE ASSEMBLY**

FIGURE 9.1 - Lower Drive Assembly (Refer to Table 9.1)





## LOWER DRIVE ASSEMBLY

TABLE 9.1 - Lower Drive Assembly (Refer to Figure 9.1)

#	P/N	DESCRIPTION	QTY
1	703000	Position Collar	1
2	703007	Directional Pucks	2
3	705000	Base Foot Pad	1
4	705001	Base Auger Bracket	1
5	705009	Communication Tube Support Plate	1
6	707000	Main Frame Upright	1
7	707001	Auger Tube	1
8	707002	Lower Brace	2
9	707003	Gearbox Mount Plate	1
10	707004	Gearbox Thrust Washer	2
11	707005	Gearbox Bushing	1
12	707006	5/8 in. Hex Driveshaft	1
13	707007	Tube Drive Plug	1
14	709000	Drive Weldment	1
15	709003	Communication Tube Weldment	1
16	709007	Centering Shaft Weldment	1
17	711001	3/4 in. (OD) x 1-3/4 in. Spacer	1
18	910207	1/4 in. UNC Zinc-plated Nylock Nut	2
19	910402	3/8 in. Zinc-plated Nylock Nut	14
20	911208	1/4 in. x 2-1/2 in. Zinc-plated Grade 5 Hex Head Cap Screw	1
21	911216	10-24-T25 Thread Forming Screw	4
22	911225	6 mm x 14 mm Socket Head Cap Screw	4
23	911229	1/4 in.-20 x 5/8 in. UNC Knurled Thumb Screw	2
24	911315	5/16 in. x 1-3/4 in. Zinc-plated Grade 8 Hex Head Cap Screw	1
25	911401	3/8 in. x 1 in. Zinc-plated Grade 5 Hex Head Cap Screw	3
26	911408	3/8 in. x 2-3/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	7
27	911410	3/8 in. x 3-1/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	1
28	912256	1/4 in.-20 x 1/4 in. Set Screw	2
29	912260	1/4 in.-20 x 1/2 in. Set Screw	2
30	912261	1/4 in. x 3/4 in. Socket Set Screw	1
31	912463	3/8 in. x 1-3/4 in. Socket Set Screw	4
32	913423	1/4 in. x 3/4 in. Carriage Bolt	2
33	914200	1/4 in. SAE Washer	1
34	914401	3/8 in. USS Thick Washer	3
35	915000	Square 3/16 in. x 1 in. Key	2
36	919021	Lakebed Auger	1
37	919082	Communication Tube Decal	1
38	919084	Water Level Decal	1
39	919085	Caution Decal	1
40	919087	Do Not Lift Here Decal	2
41	920025	1/2 in. Plastic Flange Bearing	1
42	926001	AL451 10/1 B Gearbox	1
43	926003	Drive Shaft Connection	1
44	935011	Nylon Tube Sleeve	1
45	935037	Square .984 in. (ID) x 1-1/4 in. (OD) Buna-N O-ring	3

**UPPER DRIVE ASSEMBLY**

FIGURE 9.2 - Upper Drive Assembly (Refer to Table 9.2)

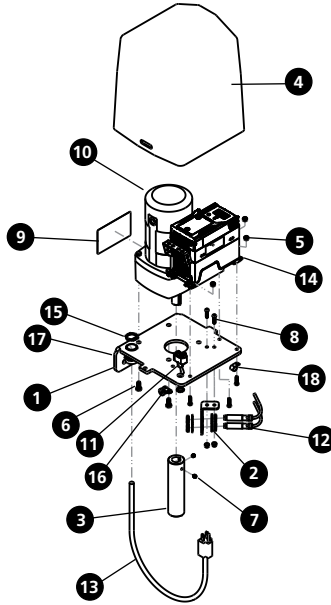
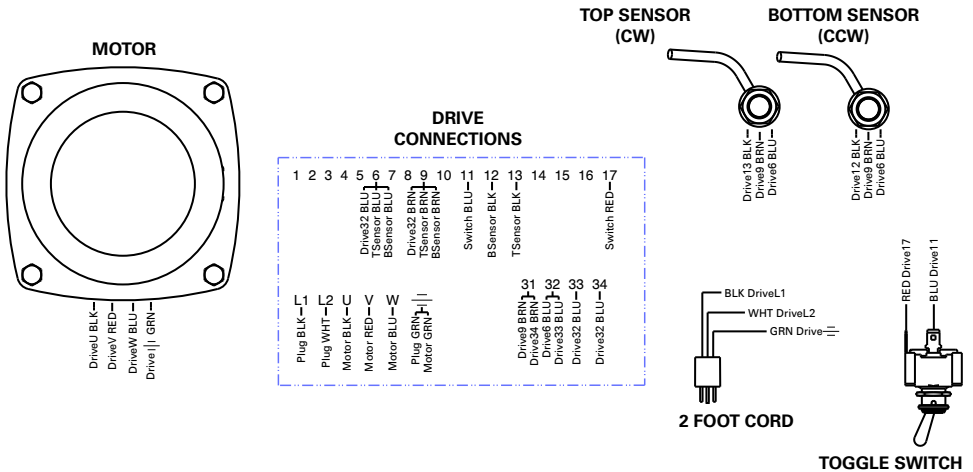


FIGURE 9.3 - Lake Groomer Electrical Schematic



## UPPER DRIVE ASSEMBLY

TABLE 9.2 - Upper Drive Assembly (Refer to Figure 9.2)

#	P/N	DESCRIPTION	QTY
1	705008	Motor Mount Base	1
2	705010	Sensor Bracket	1
3	709004	5/8 in. Hex 3/4 in. Round Coupler	1
4	713000	Cover with Weatherstrip Assembly	1
5	910211	10-24 Zinc-plated Nylock Nut	6
6	911226	1/4 in.-28 x 5/8 in. Stainless Steel Hex Head Cap Screw	4
7	912256	1/4 in.-20 x 1/4 in. Set Screw	2
8	919012	10-24 PHP Head Stainless Steel Screw	6
9	919083	Warning Decal	1
10	930000	1/6 in. HP 3 PH 230 V Motor	1
11	931019	Toggle Switch	1
12	931020	12 mm Proximity Sensor	2
13	932025	2 ft 12-3 Pig Tail Electric Cord	1
14	933008	Lake Groomer Emerson AC Drive	1
15	934028	1/2 in. Electrical Lock Nut	1
16	934038	Wire Clamp	1
17	934046	Cord Steel 3/8 in.-1/2 in. Connector	1
18	934053	3/8 in. Plastic Loop Clamp	1

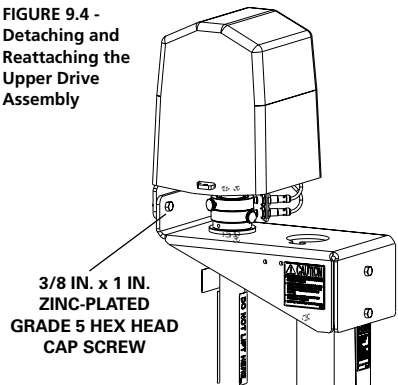
## DETACHING AND REATTACHING THE UPPER DRIVE ASSEMBLY

The upper drive assembly can be detached by removing the 3/8-inch x 1-inch zinc-plated grade 5 hex head cap screw, then lifting it off the lower drive assembly. The removal of the upper drive allows for easy transport to different locations and also the protection of the electronics in inclement weather.

To reattach the upper drive assembly, align the motor coupler and hex shaft, then reinsert the 3/8-inch x 1-inch zinc-plated grade 5 hex head cap screw.

**Note:** A quick connection pin was also provided for the option of quick removal of the upper drive. However, this option is not as rigid as the hex head cap screw connection and may affect the sensor clearance.

FIGURE 9.4 - Detaching and Reattaching the Upper Drive Assembly

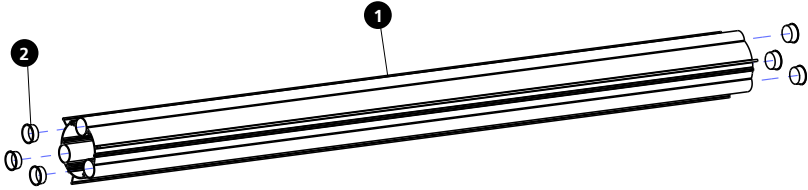


**7-FOOT ROLLER EXTENSION KIT - 700143**

TABLE 9.5 - 7-Foot Roller Extension Kit (Refer to Figure 9.5)

#	P/N	DESCRIPTION	QTY
1	708003	Roller Tube Extrusion with Threads	3
2	934061	1-3/4 in. x 3/4 in. Red Tapered Plug	6

FIGURE 9.5 - 7-Foot Roller Extension Kit (Refer to Table 9.5)

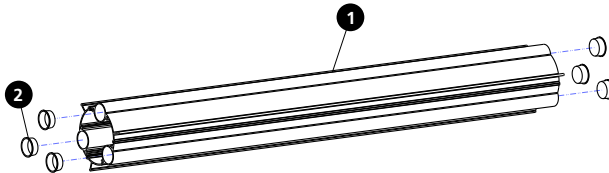


**4.5-FOOT ROLLER EXTENSION KIT - 700122**

TABLE 9.6 - 4.5-Foot Roller Extension Kit (Refer to Figure 9.6)

#	P/N	DESCRIPTION	QTY
1	708007	Short Roller Tube Extrusion with Threads	3
2	934061	1-3/4 in. x 3/4 in. Red Tapered Plug	6

FIGURE 9.6 - 4.5-Foot Roller Extension Kit (Refer to Table 9.6)

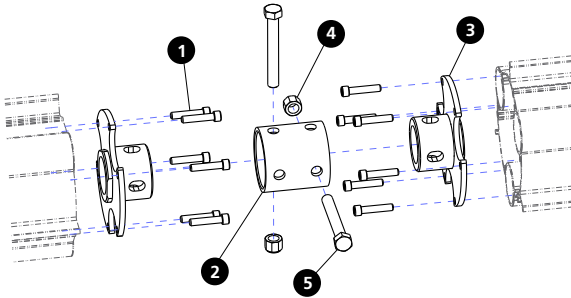


## FLEX CONNECTOR KIT - 700145

TABLE 9.7 - Flex Connector Kit (Refer to Figure 9.7)

#	P/N	DESCRIPTION	QTY
1	422899	5/16 in. x 1-1/2 in. Socket Head Cap Screw	12
2	700103	Connector Tube	1
3	709017	Tube Extrusion Coupler Weldment	2
4	910602	1/2 in. Zinc-plated Nylock Nut	2
5	911609	1/2 in. x 3-3/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	2

FIGURE 9.7 - Flex Connector Kit (Refer to Table 9.7)

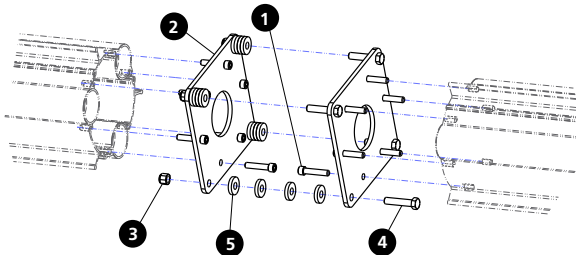


## RIGID CONNECTOR KIT - 700121

TABLE 9.8 - Rigid Connector Kit (Refer to Figure 9.8)

#	P/N	DESCRIPTION	QTY
1	422899	5/16 in. x 1-1/2 in. Socket Head Cap Screw	12
2	702030	Extrusion Connector Plate	2
3	910402	3/8 in. Zinc-plated Nylock Nut	4
4	911404	3/8 in. x 1-3/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	4
5	914403	3/8 in. USS Thick Washer	16

FIGURE 9.8 - Rigid Connector Kit (Refer to Table 9.8)

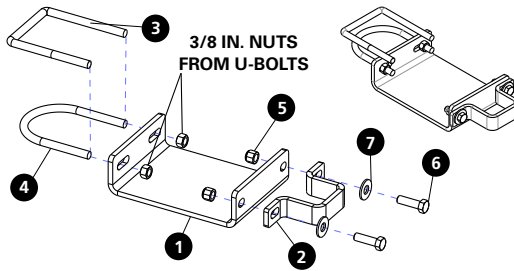


**DOCK MOUNTING KIT - 700125**

TABLE 9.9 - Dock Mounting Kit (Refer to Figure 9.9)

#	P/N	DESCRIPTION	QTY
1	702022	Dock Connector Bracket	1
2	702023	Lake Groomer Connector Bracket	1
3	702025	2 in. Square 5/16 in.-18 x 4 in. U-bolt	1
4	702026_A	3 in. Round 3/8 in.-16 x 4-1/8 in. U-bolt	1
5	910402	3/8 in. Zinc-plated Nylock Nut	2
6	911402	3/8 in. x 1-1/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	2
7	914401	3/8 in. USSThick Washer	2

FIGURE 9.9 - Dock Mounting Kit (Refer to Table 9.9)

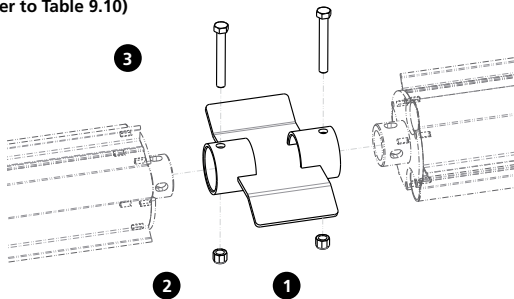


**MUD KIT - 700113**

TABLE 9.10 - Mud Kit (Refer to Figure 9.10)

#	P/N	DESCRIPTION	QTY
1	709009	Mud Paddle Weldment	1
2	910602	1/2 in. Zinc-plated Nylock Nut	2
3	911609	1/2 in. x 3-3/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	2

FIGURE 9.10 - Mud Kit (Refer to Table 9.10)

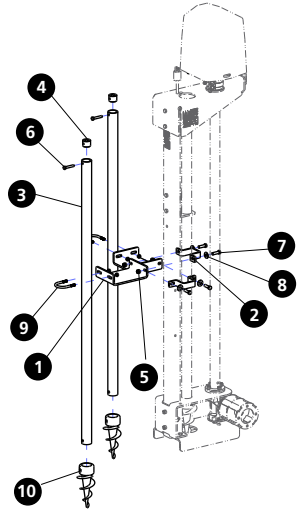


## FREESTANDING KIT - 700120

TABLE 9.11 - Freestanding Kit (Refer to Figure 9.11)

#	P/N	DESCRIPTION	QTY
1	702022	Dock Connector Bracket	2
2	702023	Lake Groomer Connector Bracket	2
3	707001	AugerTube	2
4	707007	Tube Drive Plug	2
5	910402	3/8 in. Zinc-plated Nylock Nut	4
6	911315	5/16 in. x 1-3/4 in. Zinc-plated Grade 8 Hex Head Cap Screw	2
7	911402	3/8 in. x 1-1/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	4
8	914401	3/8 in. USS Thick Washer	4
9	915223	5/16 in. x 2 in. x 3-1/4 in. U-bolt	2
10	919021	Lakebed Auger	2

FIGURE 9.11 - Freestanding Kit (Refer to Table 9.11)

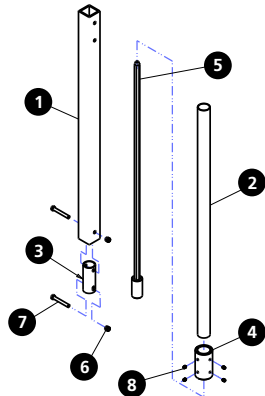


## DEEP WATER EXTENSION KIT - 700108

TABLE 9.12 - Deep Water Extension Kit (Refer to Figure 9.12)

#	P/N	DESCRIPTION	QTY
1	707008	Main Frame Extension	1
2	707009	Communication Tube Extension	1
3	707011	Main Frame Extension Union	1
4	707012	Communication Tube Union	1
5	709008	Extension Hex Shaft Weldment	1
6	910402	3/8 in. Zinc-plated Nylock Nut	2
7	911408	3/8 in. x 2-3/4 in. Zinc-plated Grade 5 Hex Head Cap Screw	2
8	912301	5/16 in. -18 x 3/8 in. Set Screw	4

FIGURE 9.12 - Deep Water Extension Kit (Refer to Table 9.12)

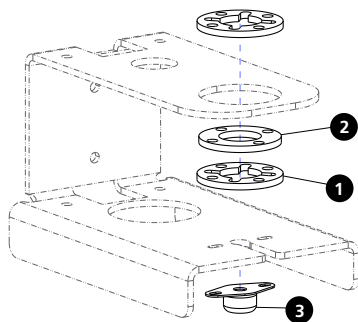


**NYLON REFRESHER SERVICE KIT - 700126**

TABLE 9.13 - Nylon Refresher Service Kit (Refer to Figure 9.13)

#	P/N	DESCRIPTION	QTY
1	707004	Gearbox Thrust Washer	2
2	707005	Gearbox Bushing	1
3	920025	1/2 in. Plastic Flange Bearing	1

FIGURE 9.13 - Nylon Refresher Service Kit (Refer to Table 9.13)

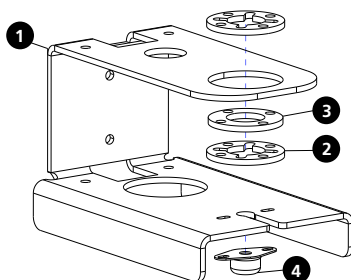


**LOWER REFRESHER SERVICE KIT - 700127**

TABLE 9.14 - Lower Refresher Service Kit (Refer to Figure 9.14)

#	P/N	DESCRIPTION	QTY
1	705000	Base Foot Pad	1
2	707004	Gearbox Thrust Washer	2
3	707005	Gearbox Bushing	1
4	920025	1/2 in. Plastic Flange Bearing	1

FIGURE 9.14 - Lower Refresher Service Kit (Refer to Table 9.14)



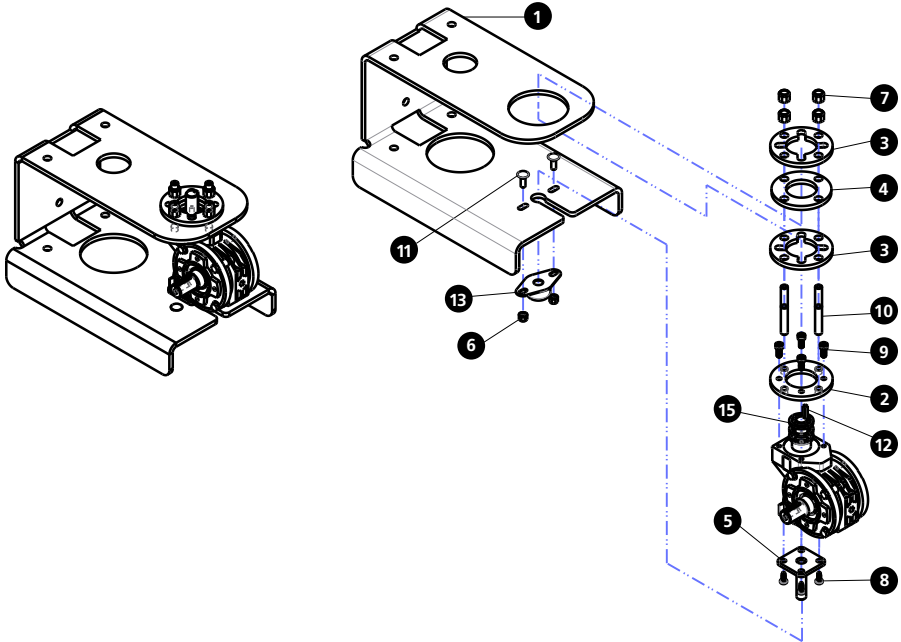


## LOWER REPLACEMENT SERVICE KIT - 700128

TABLE 9.15 - Lower Replacement Service Kit (Refer to Figure 9.15)

#	P/N	DESCRIPTION	QTY
1	705000	Base Foot Pad	1
2	707003	Gearbox Mount Plate	1
3	707004	Gearbox Thrust Washer	2
4	707005	Gearbox Bushing	1
5	709007	Centering Shaft Weldment	1
6	910207	1/4 in. UNC Zinc-plated Nylock Nut	2
7	910402	3/8 in. Zinc-plated Nylock Nut	4
8	911216	10-24-T25 Thread Forming Screw	4
9	911225	6 mm x 14 mm SHCS	4
10	912463	3/8 in. x 1-3/4 in. Socket Set Screw	4
11	913423	1/4 in. x 3/4 in. Zinc-plated Carriage Bolt	2
12	915000	Square 3/16 in. x 1 in. Key	1
113	920025	1/2 in. Plastic Flange Bearing	1
14	926001	AL451 10/1 B Gearbox	1
15	935037	Square .984 in. (ID) x 1-1/4 in. (OD) Buna-N O-ring	3

FIGURE 9.15 - Lower Replacement Service Kit (Refer to Table 9.15)









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