



# MODEL 55 & 135

## OUTBOARD MOTOR TRIM AND TILT



**Model 55**

Rated for motors up to 55 horsepower and 250 lbs.



**Model 135**

Rated for motors up to 135 horsepower and 350 lbs.

**CUSTOMER MUST RECEIVE THIS MANUAL  
AT TIME OF SALE OR AFTER INSTALLATION**

Rev 1/16  
PN 99-55321

# **INTRODUCTION**

Congratulations you have just purchased one of the finest outboard motor lifts available today. With proper installation and care, this motor lift will provide you with years of trouble free use and performance.

Please take a few moments to review the information contained in this booklet to familiarize yourself with the installation procedures suggested to successfully mount your new motor lift. Installation is easy particularly when you know each step ahead of time.

**BEFORE USING YOUR MOTOR LIFT READ THE OPERATING TIPS (PG. 12) FOR PRECAUTIONS WHEN USING YOUR MOTOR LIFT ON THE WATER AND WHEN TRAILERING YOUR BOAT.**

## **GETTING STARTED**

Here is a list of the tools and hardware that you will need:

### **Tools and Equipment:**

1. Electric drill with 1/8, 3/16, and 1/2 inch drill bits
2. Two 3/4 inch wrenches
3. A Phillips head screw driver
4. For heavier motors, a hoist to lift the motor while installing the bracket

### **Hardware and Supplies: (not included)**

- 4 – ½ inch diameter stainless steel Hex Cap Screws of the appropriate length\*
- 4- ½ inch stainless steel Nylon insert nuts
- 8 – ½ inch stainless steel flat washers
- 1 – Tube of clear RTV silicon for sealing the transom mounting holes (recommended)
- 1 – Tube of dielectric grease for the electrical connections (recommended)
- 2 – Security bolts that match the clamp bracket on your motor (recommended)

For proper bolt length selection see the information on the following page.

# **BEFORE STARTING**

Because each installation is different, you will have to determine what mounting hardware is required for your particular situation. In all cases make sure you use high quality 1/2 inch stainless steel bolts.

For **bolt-on** motors you will need two sets of bolts, nut and washers—one set to mount the bracket to the boat and one setup to mount the motor to the bracket.

On existing installations, you may be able to reuse the bolts that have been used for you motor to mount the trim and tilt bracket to the boat. However, make sure that the bolts are high quality stainless steel and are in good condition.

For **clamp-on** motors, you will need one set of 1/2 inch bolts, nuts and washers to mount the bracket to the boat, plus the appropriate security bolts.

## **How to measure for Transom Mounting Bolts**

Because each transom is different, you will need to determine the right length of mounting bolts. For installations where mounting holes will be drilled, you can take this measurement after the holes have been drilled. Simply measure the thickness of the transom and **Add 2 inches**.

## **How to measure Bolts for Mounting the Motor to the Trim & Tilt Bracket:**

To determine the length for bolt-on motors, measure the thickness of the mounting bracket on your motor, and **add 1 inch** for the thickness of the trim and tilt bracket.

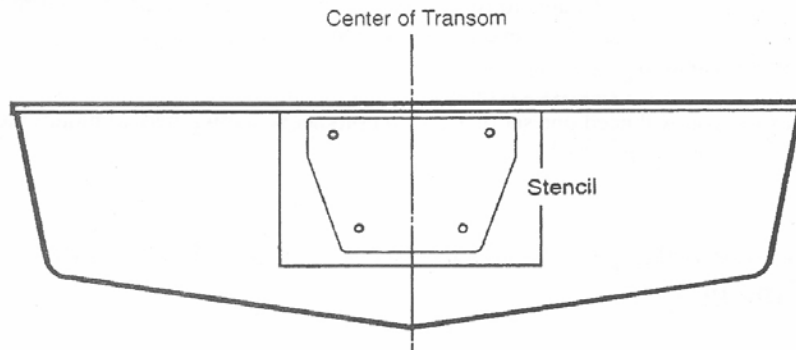
## **Make sure motor hoses and cables are long enough for set back**

This motor lift bracket places your outboard 7 inches farther away from the controls, battery and gas tank. Check to make sure that each of these cables and hoses has the required amount of slack. An easy way to check this is to unclamp the outboard from the boat while it is secured to an engine hoist. Then simply move the motor back 7 inches with all of the hoses and cables still connected.

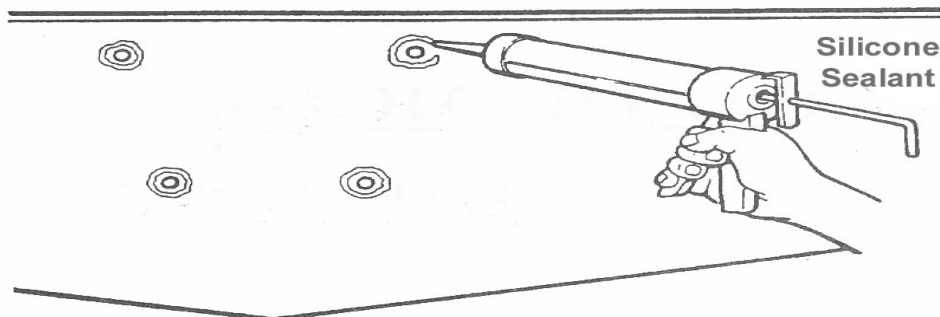
**NOTE: Because of this set-back feature, you will generally notice an improvement in your boat's performance. The set-back will place your prop further from the transom where there is less water turbulence which means your prop can perform better.**

# MOUNTING THE TRIM & TILT BRACKET

The trim and tilt bracket is pre-drilled with the marine industry standard BIA bolt hole pattern. If your boat already has the correct bolt hole pattern drilled, you may proceed to Step 4. If new holes need to be made, follow these steps:



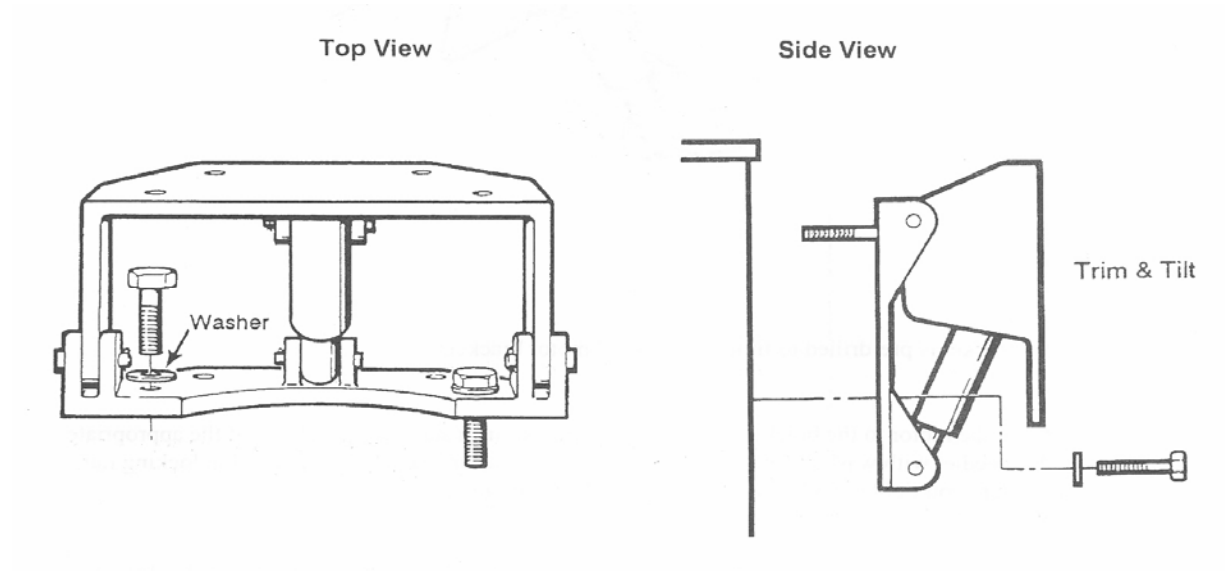
1. Position the transom plate in the center of the transom. Check to make sure that the hole placement will not interfere with any moldings, rivets, etc.
2. Once positioned, use a punch to mark the hole location.
3. Using a 3/16 bit, drill a pilot hole in each location to make sure the holes are properly aligned and that there will be no interference with the mounting bolts. Then finish drilling the holes with a 1/2 inch drill bit.
4. Before mounting the unit, apply a bead of RTV silicone sealant around the edge of each hole to insure a watertight seal.



5. To mount the trim & tilt bracket to the transom, use four 1/2 inch diameter stainless steel bolts with washers and nylon locking nuts. Start by placing a bolt with a washer into each of the upper mounting holes. Stick a piece of tape over the head of each bolt to hold them in place, then lift the unit up to the transom, align the bolts and slide the unit into place. Install the washers and the nuts inside the boat. Do not tighten the nuts completely until the lower bolts have been installed.

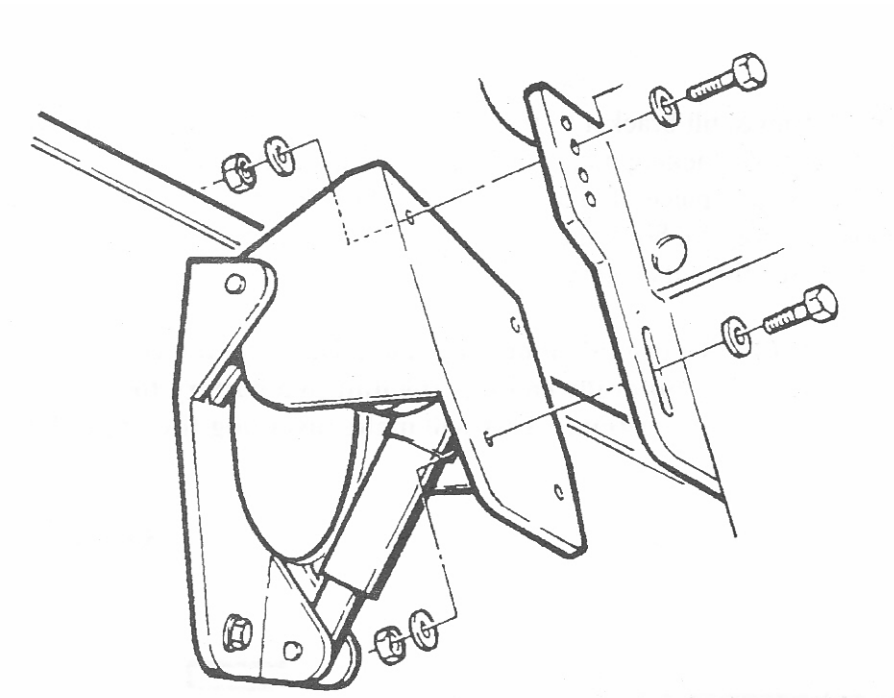
**NOTE: To provide more clearance for installing the mounting bolts, you may have to temporarily connect the unit to a battery to run the bracket to an open position. This will make installing the upper bolts easier.**

6. Complete the installation by inserting the two lower mounting bolts, together with washer and the nylon locking nuts. Tighten each bolt evenly, taking care not to over torque the nut to the point where the transom or the bracket could be damaged.



# MOUNTING THE MOTOR

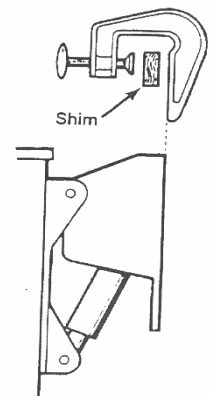
## Bolt-on Outboard



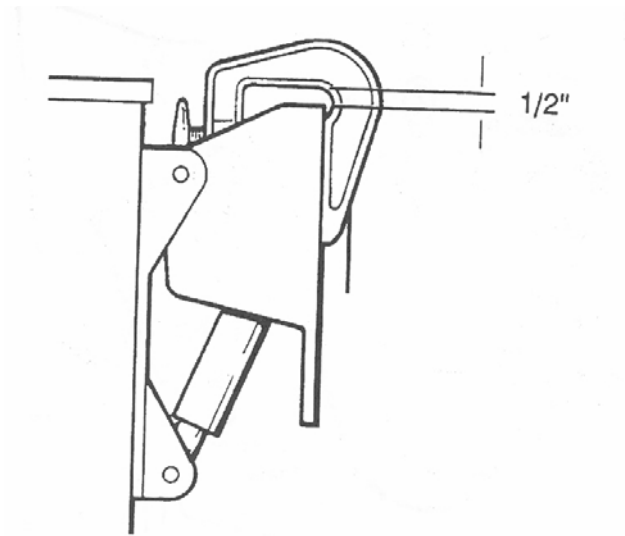
1. The bracket is pre-drilled to fit **most** outboard motor brackets.
2. Mount the motor to the bracket using 4 1/2 inch stainless steel bolts of the appropriate length, together with washers on bolt sides as shown. Secure each bolt with a nylon locking nut, making sure you tighten each nut evenly over torquing.
3. If your motor bracket does not match the standard BIA bolt hole pattern, **you may drill additional holes** into the bracket to match the mounting holes of your motor bracket.

## Clamp-On Outboards

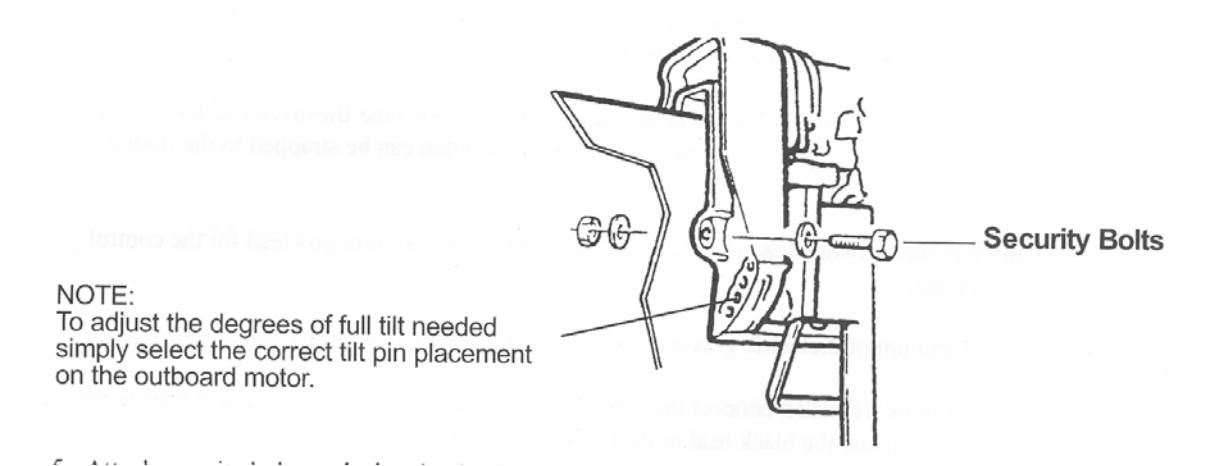
1. Using a treated wood 2 x 4, cut a wood shim to approximately 11 inches long.
2. Place the shim on the inside of the mounting plate and hold it in place while placing the motor over the top edge of the bracket.



3. Leaving approximately a 1/2 inch space, tighten the clamps securely.



4. Before final installation, slowly run the bracket up to a full tilt to check for interference with the clamp bracket or the clamp handles. Reposition the motor as necessary.

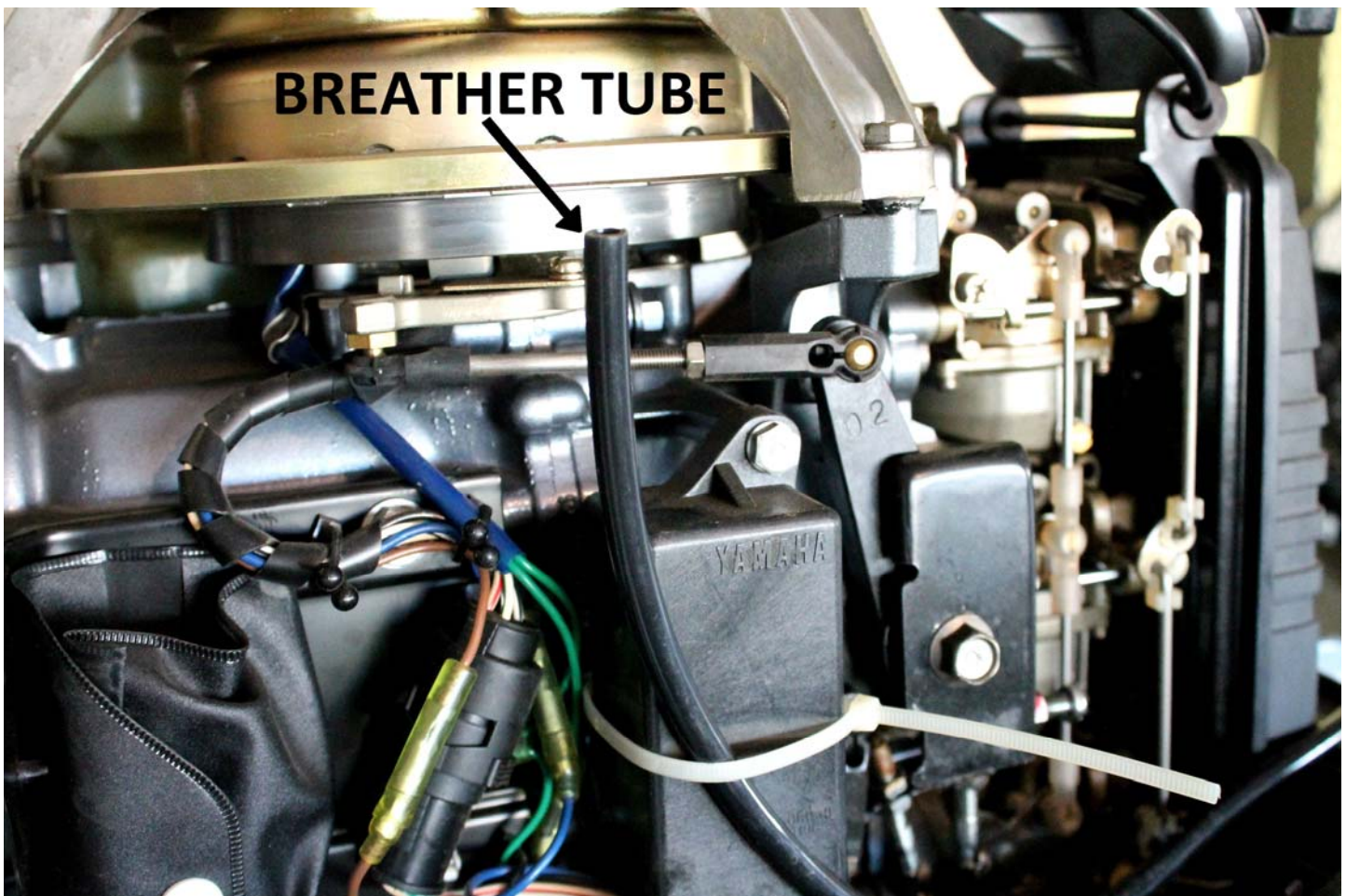


5. Attach security bolts to the bracket by drilling mounting holes into the bracket that match the size and location of the security bolt holes on the outboard bracket. Also use cable ties or other means to secure the clamp handles to prevent accidental loosening during operation.

## THE BREATHER TUBE

The actuator to your motor lift is designed for safe boating use. However, because of its precision design, it is equipped with a “breather tube” to allow the actuator to have full up and down function. The breather tube **MUST** be mounted in a way to prevent water intake. The best location for this is under the hood of the motor.

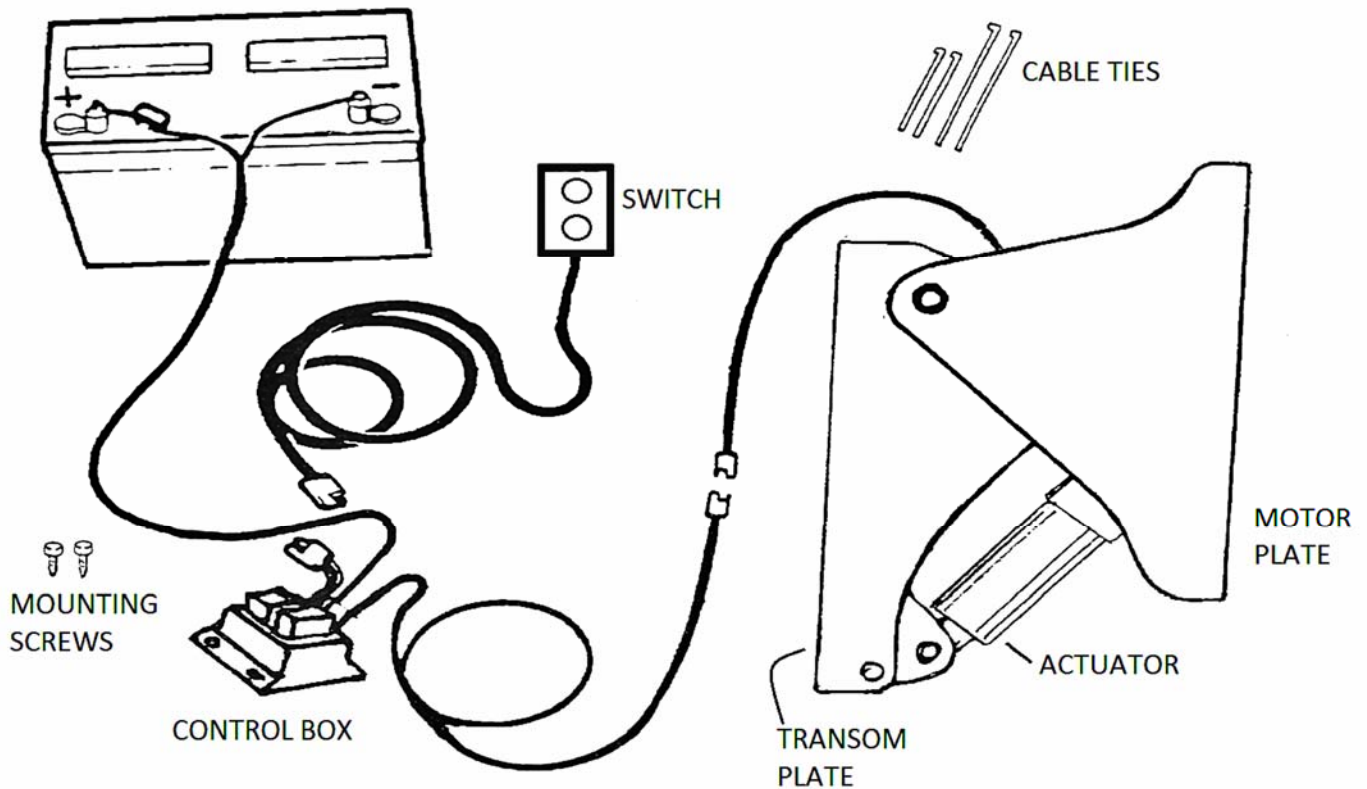
1. Remove the cover from the outboard motor
2. Insert the breather tube through an existing opening in the base of the motor, or if necessary, drill a 3/8 inch hole for access.
3. Making sure there is plenty of slack in the tube to allow for full movement of the motor, attach the breather tube inside the motor compartment in a location that will not be affected by moving engine parts. Use cable ties to insure that the end of the tube stays high up in the compartment to prevent accidental water intake. The tube **MUST** be installed so that no water can get inside the breather tube.





# ELECTRICAL CONNECTIONS

This unit is designed to operate off of a standard 12 volt battery and is generally connected to the boats main starting battery. Follow the illustration and instructions below:



1. Mount the electrical control box inside the boat using the two ½ inch screws provided
2. The push button switch can be mounted in any convenient location near the driver's seat. For tiller operated motors, the switch can be strapped to the tiller arm with cable ties.
3. Run the three pronged switch lead to the control relay box and the two pronged lead from the control box to the bracket.
4. Apply a small amount of dielectric grease to each of the connectors and plug them together. (It is also recommended that these connections be wrapped with a waterproof tape or shrink tube applied
5. After all connections are made, connect the ring terminal leads to the battery. Connect the red lead to the positive (+) terminal and the black lead to the negative (-) terminal.
6. Test the unit by running it up and down to make sure that there is adequate slack in the leads. Then using the cable ties supplied, secure all of the wiring to make sure it does not get pinched during operation.

# OPERATING TIPS

With proper care and usage, your Motor Lift unit will provide you with years of trouble-free use. There are two main causes of failure where precaution is required.

## 1. Trailering

The actuator used in your motor lift is a precision engineered electro-mechanical device that can deliver up to 5,000 lbs of force for high speed trimming. Through a unique linear ball screw gear mechanism, the actuator is designed to “park” where you put it and it should never settle.

However, as with original equipment trim and tilts, the unit is not designed to support your motor when trailering. Trailering can exert significant forces on your outboard that can cause damage to the motor lift mechanism and to the outboard itself. Therefore when trailering, **always trailer with the motor in the fully lowered position** or use a transom support bracket. (Panther offers the 55-1900 or the 55-2100 shown here)



## 2. While fishing...

Be sure to keep your motor in “tilt” mode so it can pop up if you hit an obstruction

## 3. Other great items from MarineTech...

If you use your auxiliary motor for trolling, consider adding a Panther Electrosteer and/or a TrollMaster for “hands off” direction and speed control.

## NOTICE

**DAMAGE CAUSED BY IMPROPER TRAILERING OR WATER INTRUSION THROUGH THE BREATHER TUBE IS NOT COVERED BY THE PRODUCT WARRANTY. IT IS THE USER’S RESPONSIBILITY TO INSURE THAT THE NECESSARY PROCEDURES ARE FOLLOWED.**

# MAINTENANCE

## NOTICE

**DAMAGE CAUSED BY IMPROPER TRAILERING OR WATER INTRUSION THROUGH THE BREATHER TUBE IS NOT COVERED BY THE PRODUCT WARRANTY. IT IS THE USER'S RESPONSIBILITY TO INSURE THAT THE NECESSARY PROCEDURES ARE FOLLOWED.**

### 1. Electrical Connections

Periodically, and at least once per season, be sure to check the electrical connection. As necessary, clean off all connections and reapply dielectric grease to protect the connection from corrosion

### 2. Use in Salt Water Area

This motor lift bracket is constructed of high quality marine grade aluminum alloys and stainless steel hardware making the unit suitable for use in many marine environments. However, if this unit is to be used in salt water area, it is necessary to attach a zinc anode to reduce corrosive effects. (Panther 55-9000) Anodes may be purchased through the dealer or by calling the number toward the back of this booklet. To prevent premature discoloration and corrosion, particularly in salt water and brackish water areas, it is a good practice to periodically wash down the Motor Lift unit with fresh water.

55-1900 Saltwater Anode



### 3. Adding Grease

The actuator gear case is filled with grease at the factory. It may occasionally be necessary to add more grease through the zerk. You can add grease with the unit in any position. If your Trim and Tilt receives heavy use, perhaps once a year give it a supplemental pump or two of grease. Do not over do it, and it probably isn't necessary at all unless the actuator starts to become noisy. Putting in too much grease may cause more damage than good.

# **TROUBLESHOOTING**

The following are some procedures to follow before calling in for service or warranty work:

## **UNIT DOES NOT RUN**

1. Check Battery & Connections.
2. Check Electric Motor.  
Use a double lead jumper and connect the motor's two prong plug directly to a battery.
3. If the motor still does not work, disconnect the motor from the actuator (held on by two small nuts) and plug directly to the battery.
4. If the motor works when it is disconnected from the actuator, the actuator/motor assembly needs replaced.
5. If the motor does not work when disconnected from the actuator, the motor needs replaced.
6. Check Relay Control & Push Button Switch.  
Unplug the three prong connector at the relay control and run a jumper wire between the red and the green wires to go down and between the red and blue wires to go up.  
If the unit does not run the problem is the Relay Control.  
If it does work then the problem is the Push Button Switch.

## **UNIT RUNS IN ONE DIRECTION ONLY**

### **Check Relay Control & Push Button Switch**

Unplug the three prong connector at the relay control and run a jumper wire between the Red and the Green wires to go down and between the Red and Blue wires to go up.  
If the unit does not run the problem is the Relay Control.  
If it does work then the problem is the Push Button Switch.

## **UNIT RUNS BUT MAKES A GRINDING NOISE AND HAS LOW POWER**

Gear case low on grease. Add a couple of pumps of marine grade grease.

## **UNIT RUNS BUT DOES NOT MOVE**

Replace Actuator.

## **UNIT RUNS BUT MAKES CLICKING NOISE OR JUMPS**

Replace actuator.

## **UNIT STARTS AND RUNS ON ITS OWN**

Replace relay control.

## **DETERMINE IF WATER IS IN ELECTRIC MOTOR**

Remove through bolt that is closest to the wires and look for an indication of rust on the bolt. Rust indicates water inside of the motor housing. Motor and actuator should be replaced.

**For Service:**

**send an email to  
info@marinetechproducts.com  
or call 651.486.2010**

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