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Installation Instructions

Tilt & Trim Unit

Action Model

Important: Do not operate the tilt & trim unit until installed!!

Remove the outboard motor from the transom:

1. Always check your outboard motor owner's manual for the proper motor lifting procedures. You will need to lift the motor using a lifting device rated at the proper lifting capacity, such as an engine crane or hoist.
2. If the motor is not equipped with lift points, attach a motor lifting device (such as a lifting eye or chain) to the motor making sure the motor is supported safely.
3. Remove any mounting hardware that holds the motor to the boat's transom.
4. Carefully position the motor away from the transom of the boat taking care not to damage any wires or cables.

Installing the tilt & trim unit to the transom:

Note: The tilt & trim unit will offset the motor 5.5" away from the transom. This allows the motor to be mounted higher than it was mounted directly to the transom. This is because the water that passes under the transom loses its compression and comes up toward the propeller when the motor is setback further, in this case 5.5". When mounting the motor on the tilt & trim unit, the cavitation plate of your motor should be between 1 to 3 inches above the bottom of the boat for optimum performance.

1. Drill four mounting holes into the boats transom using the four predrilled holes that are on the transom side of the tilt and trim unit as a template. When drilling the mounting holes, assure that the top horizontal cross section of the transom side mounting plate of the tilt & trim unit is flush

with the top of the transom (the transom side mounting plate's vertical cross section will extend approximately 1 5/8" above the transom) and that the tilt and trim unit is properly centered on the transom.

NOTE: If previous mounting holes exist on the transom that do not line up to the hole pattern on the transom side of the tilt and trim unit they will need to be closed up using either epoxy putty or fiberglass filler.

2. Use 0.5" diameter stainless steel bolts to mount the tilt & trim unit to the transom. To ensure proper clearance, insert the mounting bolts from the inside of the tilt & trim unit out (the bolt head on the inside of the tilt & trim unit and the nut and washers on the inside of the boat). Fasten the unit to the boats transom, making sure to use flat washer and lock washer before the nut. Regularly check all mounting hardware to assure tightness and nothing has come loose from normal vibrations of the outboard.

Mounting the outboard with transom clamps to the tilt & trim unit:

1. Set the motor onto the tilt & trim unit and center it. (If the motor is mounted with four bolts through the transom and does not have transom clamps, skip to the instructions on how to mount the outboard with out transom clamps). Tighten the clamps down.

2. If the motor has two mounting bolts at the bottom of the mounting bracket, use the mounting holes as a template. Drill the lower mounting holes through the tilt & trim.

WARNING: Assure that you do not accidentally drill into the hydraulic unit.

3. Use the engine manufactures recommended diameter stainless steel bolts to mount the motor to the tilt & trim unit. To ensure proper clearance, insert the motor mounting bolts from the inside out (the bolt head on the inside of the tilt & trim unit and the flat washer, lock washer and the nut on the outside). Tighten the bolts. Regularly check all mounting hardware to assure tightness and nothing has come loose from normal vibrations of the outboard.

Mounting an outboard that does not have transom clamps:

Note: Motors that have the standard BIA bolt pattern will not fit the BMS Tilt & Trim unit.

1. Place the motor onto the tilt & trim unit and center it. Using the motor as a template, mark the location of the required top two mounting holes to be drilled. Drill the holes at the top first and mount the motor use the engine manufacturers recommended diameter stainless steel bolts. To ensure proper clearance, insert the mounting bolts from the inside of the tilt & trim unit out (the bolt head on the

inside of the tilt & trim unit and the nut and washers on the outside). Tighten the bolts; use the factory recommended mounting torque specifications. When drilling the lower mounting holes assure that there is adequate clearance and the hydraulic unit is not accidentally drilled. Regularly check all mounting hardware to assure tightness and nothing has come loose from normal vibrations of the outboard.

2. Drill the lower mounting holes using the motor as a template. When drilling the lower mounting holes, assure that there is adequate clearance and the hydraulic unit is not accidentally drilled. Tighten the bolts; use the factory recommended mounting torque specifications. Always check all mounting hardware to assure tightness and nothing has come loose from normal vibrations of the outboard.

WARNING: When you run your boat for the first time after you have installed the tilt & trim unit, make sure that the outboard has adequate water pressure, consult the owners manual for the proper water pressure rating for that model outboard.

If the motors factory recommended water pressure is not being achieved with the tilt & trim unit installed, the motor requires to sit lower on the tilt & trim unit.

NOTE: The tilt & trim unit has a total of 75 degrees of tilt and trim. Certain motors will not be able to tilt the full 75 degrees without the cowling or motor clamps interfering with the transom of the boat. USE EXTREME CAUTION when tilting to see if there are any limitations. Always assure that your outboard can steer from starboard to port and all tilt and trim angles can function in a full range of motion with out interference. There is a possibility that longer steering cables will be required in order to use this tilt & trim unit properly.

Wiring harness Installation: Mount the relay box in as dry a location as possible but within 4' of the battery using stainless steel hardware or wire ties (not provided).

1. Run the green and blue coming off the pump to the mounted relay box and plug the connectors together. This connects the hydraulic unit to the relay box.
2. The control switch is provided and may be mounted on the control handle for the outboard or on the console; locate the desired location for the control switch. Mount the control switch.
3. Run the red/blue/green ribbon wire to the control switch location.
4. Plug in the connector on the switch wire to the connector on the relay box.
5. Connect the switch. The wiring is red-to-red, blue-to-blue, and green-to-green. You may use marine grade butt connectors to attach the control switch to the ribbon wire.

6. Hook up the power wires of battery, red to positive and black to negative. If overload occurs, the wiring harness has ambient breaker, which will reset itself automatically.

Testing: When you depress the control switch up button, the tilt & trim unit should tilt up. When you depress the down button, the tilt & trim unit should trim down.

NOTE: The BMS Tilt & Trim is a self-contained system. No need for any bleeding of the hydraulic lines.

Always follow the manufacturer of the hydraulic steering recommendations for mounting a tilt & trim unit (if hydraulic steering is being utilized). Always check full range and clearance for your tilt and trim to ensure no interference with steering components.

Warning: Tilt & Trim unit is rated to 40 horsepower 2 stroke motors. Failure to abide by the horsepower ratings will void manufacturer's warranty. All warranties are void if unit is used for commercial boats, competition boats, and improper installations.

SERVICING:

1. Frequently check all mounting hardware for tightness.