



## Steering System Installation Instructions

### Mounting Transom Brackets

1. Determine the mounting location of the transom bracket(s). This location was determined at the time that the system was ordered, and is indicated on the drill fixture mounting illustration provided with the system. Normally, this location is 6 5/8 inches or 7 3/4 inches from edge of gimble to the outside of the transom bracket, measured along the crankshaft centerline (see layout picture). On a single drive, single ram application, the transom bracket should be mounted on the starboard side of the drive. On a twin drive application, the transom bracket should be mounted between the drives or outside the drives. The (2) larger holes in each bracket should always be away from the drive that the cylinder will attach to in order to keep the through hull hydraulic fittings away from the cylinder.
2. Measure from edge of gimble out to desired ML (mounting location) horizontally along crankshaft centerline and mark the transom with pencil. This mark will be the outside edge of the transom bracket. A horizontal crankshaft centerline drawn horizontally on the transom out to this mark will help keep everything in line. Repeat if using 2<sup>nd</sup> bracket.
3. If a drill fixture was purchased, mount it to the transom with the outside edge lined up with the ML mark on the transom. This can be mounted using wood screws and keeping the (2) countersunk wood screw holes on the horizontal line drawn on the transom. If no drill fixture was purchased, use the transom bracket as a template to “spot” holes on transom to be drilled through. A 1/2 inch drill should be used to drill through transom for the (2) 1/2 inch bolts. A 37/64 inch drill should be used for the through hull fittings/mounting bolts as these are 9/16 diameter. Repeat if using 2<sup>nd</sup> bracket.
4. After drilling all 4 holes, blow debris out of holes and make sure holes are clean. Make sure bolts and fittings will go through holes. At this time, check to see that backing plate will go over all bolts on the inside of the transom before final installation. Make any adjustments to the holes now, if needed. Check 2<sup>nd</sup> bracket holes also, if applicable.
5. Clean transom, and back of transom bracket. Apply some silicone sealer around holes in transom bracket (on back) and under the bolt heads. Put (1) 1/2

inch bolt through bracket and push bolt through corresponding hole in transom. Follow the same procedure with the 2<sup>nd</sup> ½ inch bolt, and then the (2) through hull fittings.

6. After making sure that the transom bracket will seat against transom, thoroughly clean the threads of all of the bolts (inside transom). If any dirt or dust from drilling is on the threads, the stainless nylon inserted locknuts will seize on the threads of the bolts. The nuts must be clean also. After cleaning, install the proper washers and nylon inserted locknuts on the (4) bolts. (2) nuts are ½ inch and (2) are 9/16 inch. Be sure to use plenty of a nickel based anti-seize compound or equivalent on these bolts to prevent galling. If the nuts gall on the threads, it is a very difficult process to get them off, so take precautions first. Tighten all nuts securely with someone holding bolts from outside to prevent turning while tightening nuts on inside of boat. **DO NOT USE AN AIR RATCHET WRENCH.** Repeat for 2<sup>nd</sup> bracket, if applicable.

### Installing Drive Cap

1. Drain the drive oil from the outdrive(s).
2. Remove the stock cover off of the back of the Bravo outdrive.
3. Clean the (3) 3/8 threaded holes in the outdrive to make sure each hole is free from debris and oil. An air gun should be used to blow out holes. Be sure to cover shift mechanism and keep debris from entering into outdrive.
4. Clean drive face and o-ring groove to remove dirt, oil, and debris. This is important so that a good seal will be made, preventing water from leaking into drive, or oil leaking out into the water.
5. Install the (3) studs provided for each drive cap. The coarse thread end goes into the outdrive casting. Use a thread locking compound on the threads before screwing into the outdrive. Tighten the stud until no threads are showing, and the stud body is bottomed out on the drive threads.
6. Put the drive seal (enclosed in kit) into the o-ring groove in the new drive cap. This seal must remain in place while installing the new drive cap. A light gasket adhesive like high tack may be sprayed on the seal to help hold it in place during installation. Slide the new drive cap over the studs and up against the drive face, making sure the seal is still in the groove. Secure the drive cap using the (3) nylon inserted locknuts provided (per drive cap). Use an anti-seize compound to prevent galling. Repeat for 2<sup>nd</sup> drive cap if applicable.

\* We recommend installing the (2) additional 5/16 bolts to the drive cap for extra strength. Please refer to the instruction sheet for drilling and tapping the additional holes. A kit is available for this procedure.