

# ADC - 1

## Automatic Depth Control Installation Instructions

**Description** - The ADC - 1 Automatic Depth Control is a digital electronic device which senses water pressure and proportionally controls the position of the dive planes to maintain a pre-set depth. As the pressure increases (the boat goes deeper) or decreases (the boat rises), the planes are moved in the appropriate direction to maintain a constant depth. This depth is set by a rotary switch inside the ADC - 1 and can also be varied by moving the transmitter stick. ADC - 1 also has the ability to be turned on/off from the transmitter with the use of a separate switch. ADC - 1 only controls depth, so it is mandatory that APC - 3 (or any other automatic leveling device) be used to maintain a level attitude. Maximum automatically controlled depth is approximately 48".

**Adjustment** - Since ADC - 1 requires only a ruler and a screwdriver for adjustment, this operation should be performed before installation.

Step 1. Measure the vertical distance from a point approximately 1/2" to 3/4" down from the tip of the periscope to the level at which ADC - 1 will be mounted within the hull (see Diagram A).

Step 2. Referring to the chart below, determine which number corresponds to the distance determined in Step 1 and adjust the rotary switch so that the arrow points to the corresponding number.

### General Installation -(All boats) -

For proper operation, ADC - 1 MUST be mounted as far forward as possible. If your boat only has an aft pressure hull, it will be necessary to build a small container to mount ADC - 1 in the bow. This is very important.

Drill a 1/8" diameter hole in the pressure hull. Cut a piece of 1/8" diameter brass tube (approximately 1" long) and glue it in this hole using gap-filling CA. Make sure that at least half of this tube extends into the pressure hull. Connect this tube to the nipple on ADC - 1 with a piece of fuel line or silicone hose. The length of the hose should be approximately 3 to 4 times the distance between tube and the sensor. This will allow ADC - 1 to sense the water pressure but not allow water to reach the sensor itself. Do not allow the hose to kink. Connect the Manual/Automatic Control wires to a SPST switch in your boat (see Diagram). When the switch is open, the ADC - 1 will automatically maintain the set depth (determined by the rotary switch). When the switch is closed, ADC - 1 is turned off to allow full manual control from the transmitter. As with all submerged operations, make sure that the boat is properly trimmed.

### Boats with both bow and stern planes -

Connect the ADC - 1 to your radio system on the channel used for the forward diving planes. See Diagram B.

### Boats with stern planes only -

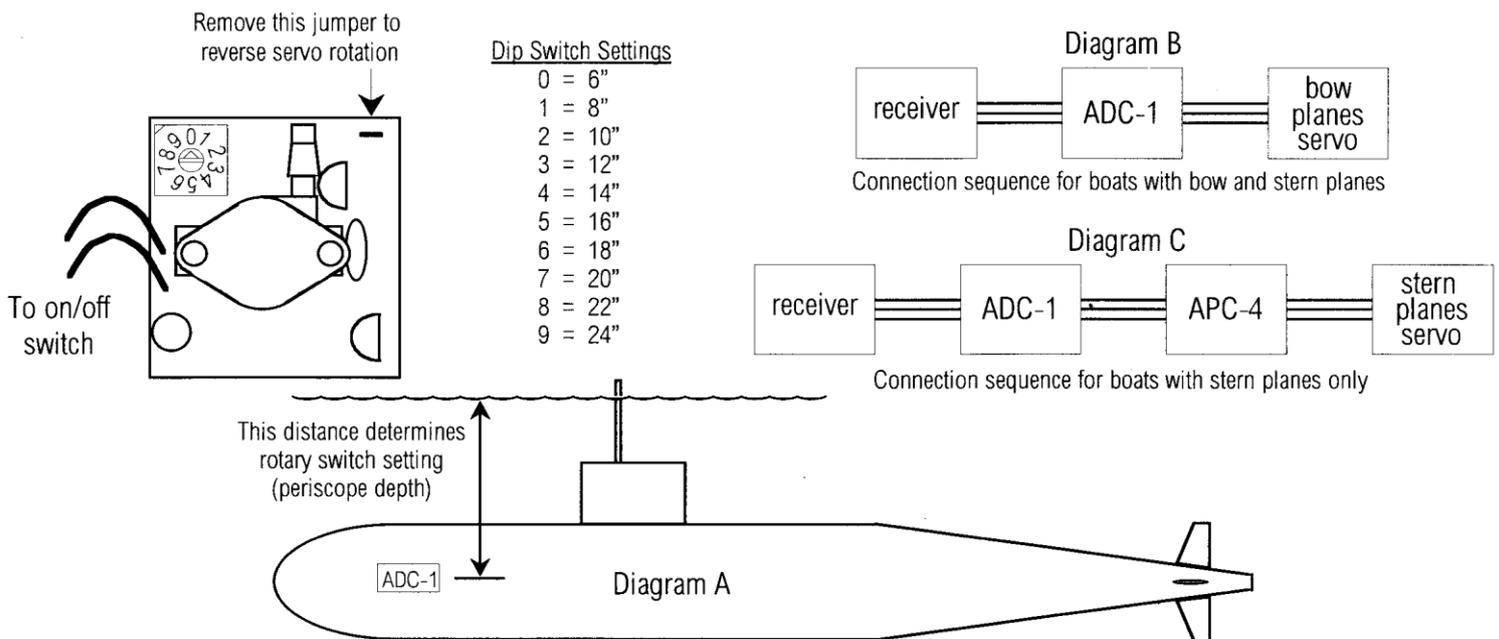
Connect the ADC - 1 to your radio system on the channel used for the stern diving planes. Plug the ADC - 1 into the receiver, plug APC - 3 (or any other automatic leveling device) into the servo output lead from ADC - 1, and the diving plane servo into the servo output lead from APC - 3. See Diagram C.

Note: APC - 3 (or any other automatic leveling device) MUST be properly installed and adjusted BEFORE installing ADC - 1.

**Normal Use** - Turn your transmitter on. Turn your receiver on. The ADC - 1 will set the dive planes to neutral (horizontal) for about 15 seconds while the depth sensor is warming up. At the end of the warmup period, the planes will move to the full dive position. If the planes do not move to full dive, check to make sure that your transmitter is on! Note: If servo rotation is not correct (planes move to rise instead of dive), remove the wire jumper located in the corner of the printed circuit board (see diagram below).

**DO NOT PUT THE BOAT IN THE WATER UNTIL THE PLANES MOVE TO FULL DIVE!**

Once the boat is submerged, ADC - 1 will control the servo to maintain the pre set depth. The trim lever can be used to 'fine tune' this depth. If you want to go deeper, push the stick forward. Pulling the stick back will cause the boat to come up, but it will not surface fully. Unless ADC - 1 is turned off, the planes will always be in a dive position when the boat is surfaced.



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