AUTO TAB CONTROL (ATC) system

Installation Instructions
Read Instructions Completely Before Beginning Installation
(Please read the Auto Tab Control Operator's Manual before beginning installation)

Step 1.   Before Operating Your Auto Tab Control, <u>You Must Check Your Trim Tab Installation:</u>

The ATC system interfaces with your trim tab system, and instantly operates your trim tab Hydraulic Power Unit (HPU). <u>Therefore, before you operate the Bennett ATC system, it is critical you confirm the HPU wiring and hydraulic tubing is connected EXACTLY as described in items 1 and 2 below:</u>

1. Hydraulic Tubing:
• Port tubing must be connected to the Port trim tab fitting on one end and the HPU fitting marked "P" on the HPU end.
• The Starboard tubing must be connected to the Starboard trim tab fitting on one end and the HPU fitting marked "S" on the HPU end.
    THE TUBING MUST NOT BE REVERSED.

2. Helm Control Wiring:
Inspect the four color wire harness leading to the back of the trim tab helm control.
Notice the indented letters on the back of the trim tab helm control and connect as follows:
• The Red wire must be connected to the terminal marked "R"
• The Green wire must be connected the terminal marked "G"
• The Blue wire must be connected the terminal marked "B"
• The Yellow wire must be connected the terminal marked "Y".
    THE WIRING CONNECTIONS MUST NOT BE REVERSED.

Racing Type Control: Facing the control, with the word BOW at the top, turn the control over to the right (or left) and inspect the back of the control to insure the wiring is connected as follows:
• The blue wire is connected to the two top terminals
• The red wire is connected to the two left terminals
• The yellow wire is connected to the two bottom terminals
• The green wire is connected to the two right terminals
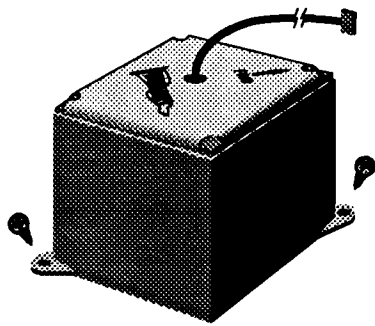
THE WIRING CONNECTIONS MUST NOT BE REVERSED

FAILURE TO COMPLY WITH POINTS 1 <u>AND</u> 2 WILL CAUSE THE AUTO TAB CONTROL TO FUNCTION IMPROPERLY.

Boat Leveler Insta-Trim conversion: The Auto Tab Control Installation instructions are based on Bennett Trim Tab wire colors. If you are installing the Auto Tab control on a Boat Leveler system, the wire color conversion is as follows:

    Bennett **RED** wire = Boat Leveler **GREEN** wire
    Bennett **GREEN** wire = Boat Leveler **WHITE** wire
    Bennett **BLUE** wire = Boat Leveler **RED** wire
    Bennett **YELLOW** wire = Boat Leveler **YELLOW** wire

If you require further clarification regarding points 1 and 2, refer to your trim tab installation instructions, trim tab owners manual, or call Bennett Marine, Customer Service at (305) 427-1400, (8am-5pm Eastern time, Monday - Friday.)

Step 2. <u>Mounting the Attitude Sensor</u>

Notes: The Attitude Sensor has a 20' Cable (extension cables available). This cable must reach from the installation point of the Attitude Sensor to the area under the instrument panel where the Central Processing Unit (CPU) and ATC Module will be installed.

<u>Sensor location</u>- The sensor provides accurate reading regardless of mounting location. It is not generally recommended the sensor be mounted as high as a bridge or tower. It is not necessary to mount the sensor on a completely level surface as setting the zero point will account for any off-level mounting. However, do not mount the Attitude Sensor at a severe angle or upside down.

The Attitude Sensor should not be mounted directly on top of a metal surface. If you must mount the sensor on a metal surface, make sure you place a piece of wood (at least 1/2" thick) between the sensor and the metal surface.
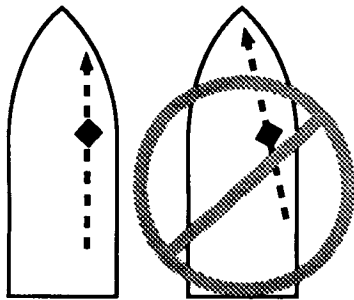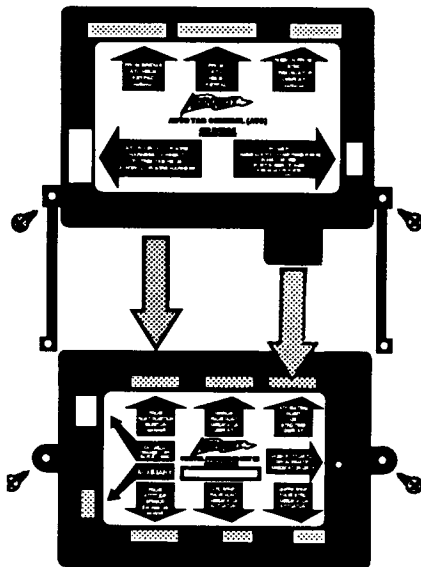
Installation: Using the (2) #10 x 1" stainless steel mounting screws, secure the Attitude Sensor to a horizontal surface. The arrow on top of the Attitude Sensor must be pointed forward, not angled towards the bow of the boat (see figure 1).
• Run the Attitude Sensor cable to the area underneath the helm station where the CPU and ATC Module will be mounted.

Figure 1

Step 3. <u>Mounting the CPU and ATC Module</u>

Notes: Mount the CPU and ATC module to a flat surface under the helm station. This surface can be either horizontal or vertical but must be flat to assure proper connection at the "ATC MATING POINT." (NOTE: If you have Bennett Trimdicators, plug your starboard display ribbon cable into the ATC module connector marked "ribbon from STBD Trimdicator Display".)

Installation: • Plug the mating connecter of the ATC Module into the CPU connection marked "ATC MATING POINT..."
• Make sure the mounting holes in the ATC module side connecting brackets line up over the holes in the CPU mounting brackets.
• Mount the CPU and ATC Module to a flat surface under the instrument panel using the enclosed (4) #8 x 3/4" stainless steel mounting screws.
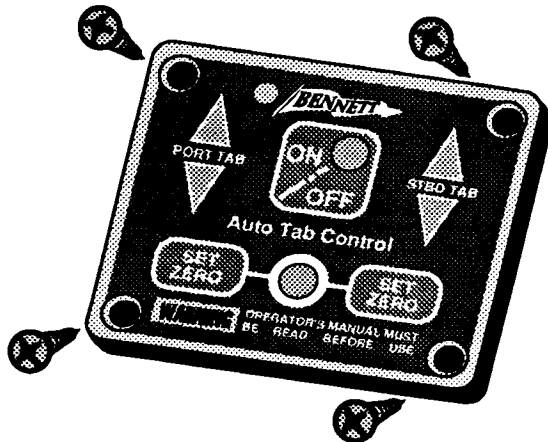
Step 4. Running Electrical Connections

Installation:

- Plug the connector from the Attitude Sensor cable into the CPU connection marked "FROM ATTITUDE SENSOR"
- Plug the two pronged power plug (with 22 gauge orange and black wire) into the CPU connection marked "POWER". Attach the black wire to a convenient ground. DO NOT CONNECT THE ORANGE POWER WIRE NOW.
- Plug the three pronged (only 2 terminals) power plug (with 14 gauge orange and black wire) into the ATC Module connection marked "POWER". Attach the black wire to a convenient ground. DO NOT CONNECT THE ORANGE POWER WIRE NOW.
- Plug the Four Color Wire Harness connector into the ATC Module connection marked "FROM ATC FOUR COLOR WIRE HARNESS...".
- The ATC Four Color Wire Harness should now be connected to the trim tab system. The method of connection is determined by which trim tab helm control is installed on the boat. The choices are as follows:
  - Rocker Switch Control- Attach ring terminals (not included) to the ATC Four Color Wire Harness and connect to the Rocker Switch control using the remaining unused screw holes on the back of the Rocker Switch control. Note: missing screws on brass strips impair ATC operation
  - Single lever or Racing type (four button) control- Run the ATC Four Color Wire Harness to a convenient point in the trim tab four color wire harness and splice the harness wires in four separate connections matching color for color (red to red, green to green, etc.)

Step 5. Mounting the Helm Keypad

Notes:

Find a desirable location for the ATC Helm keypad on the helm station. The keypad mounting location must be within a 6 foot proximity to the ATC Module for the standard cable to reach (longer cables available).

Installation: Using the enclosed template #1, drill 3/32" pilot holes for the Helm Keypad's corner mounting screws.

- Using a hole saw, drill a 1-1/4" hole or slot for the cable and connecter of the Helm Keypad to feed through to the ATC Module.
- Plug Helm Keypad connector into ATC Module connection marked "FROM ATC HELM KEYPAD".
- Apply a small bead of silicone sealant around the perimeter of the keypad back and mount with the enclosed (4) #6 x 3/4" oval head screws. Do not overtighten!

SECOND STATION KEYPAD- Follow the above instructions for mounting the keypad and run cable to ATC Module under lower station and plug into connector marked "FROM BRIDGE ATC HELM KEYPAD."

Step 6.   Running Power Wires

Notes: DO NOT CONNECT BOTH ORANGE POWER WIRES TO THE SAME POWER SOURCE

Installation:
- Connect the 22 gauge orange wire from the CPU to a convenient 12 volt source switched-on with the ignition.
- Connect the 14 gauge orange wire from the ATC Module to a convenient 12 volt, 20 amp fused source (probably the same source as the trim tab helm control)
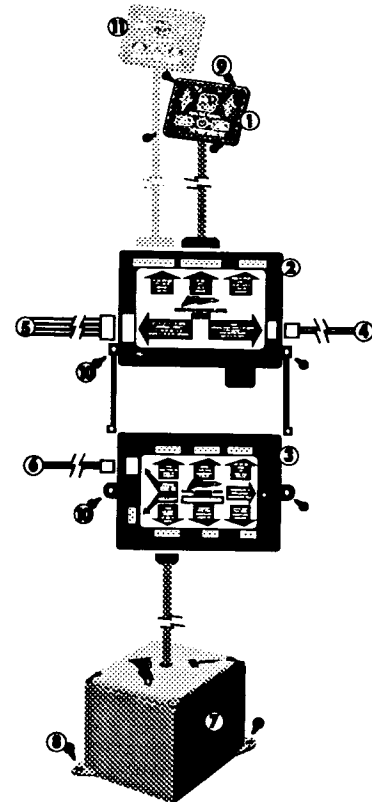
Step 7.   How to Set the Zero Point

Notes: The ON/OFF Helm Keypad button will not activate the ATC system until the initial zero point is set. (If the zero point is not set, the SET ZERO light slowly blinks ON and OFF.)

Installation: Refer to Section #3 in the Auto Tab Control system Operator's Manual for instructions on how to set the Zero point

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System Schematic and Parts List:

#	Description	Part Number
1.	Helm Keypad	AC250
2.	ATC Module	AC400
3.	Central Processing Unit (CPU	IC2110
4.	ATC Power Pigtail	PT800
5.	ATC Four Color Wire Harness (4')	WH2004
6.	CPU Power Pigtail	PT500
7.	Attitude Sensor with 20' cable	BP350
8.	#10 x 1" Stainless steel mounting screws	H1180
9.	#6 x 3/4" Oval head screws	H1182
10.	#8 x 3/4" Stainless steel mounting screws	H1183
11.	Bridge Helm Keypad (OPTIONAL)	AC250A

If you have any questions regarding the installation of your Bennett Auto Tab Control, please give us a call

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