

NOTE: Install the KC 225 into its rack with the extender for the attitude gyro calibration.

From the top-level menu in the configuration program, reference Figure 5-1, RTI Main Menu Screen, enter the installation menu by pressing "N". Now press "2" (Installation Offset) and <ENTER> to enter the installation offset page. From this page, numerous offsets can be compensated. For each parameter listed, after entering the associated number, zero the input to the flight computer and press <ENTER>. This can be done without engaging the autopilot (except where noted). The null values will be stored in the configuration module and will be used to compensate the input value. The following paragraphs detail this procedure.

A. Attitude Gyro Calibration

1. Apply power and return to the "SET INSTALLATION OFFSETS" page of the Remote Terminal Interface (RTI).
2. Ensure the attitude gyro indicates level in both roll and pitch axes (case will be 8° nose down).
3. Record the value for the PITCH and ROLL attitude that is displayed on the "SET INSTALLATION OFFSETS" page. For an example of this procedure, see Table 5-1.
4. Tilt the attitude gyro to 10° pitch up (indicated.)
5. Record the PITCH value shown on the "SET INSTALLATION OFFSETS" page.
6. Locate the adjustment pots on the left hand side of the unit (reference Figure 5-4, Pitch/Roll Demod Gain Adjustment Pots) and using a screwdriver adjust the PITCH attitude demod gain pot until [10°+ the PITCH offset that was recorded when the attitude gyro was level] $\pm 0.5^\circ$ is indicated.
7. Tilt the attitude gyro to level PITCH attitude indicated and a 20° right ROLL.
8. Record the ROLL value shown on the "INSTALLATION OFFSET" page.
9. Locate the adjustment pots on the left hand side of the unit (reference Figure 5-4, Pitch/Roll Demod Gain Adjustment Pots) and using a screwdriver, adjust the ROLL attitude demod gain pot until [20°+ the ROLL offset that was recorded when the attitude gyro was level] $\pm 0.5^\circ$ is indicated.
10. Tilt the attitude gyro to level PITCH attitude (indicated) and 20° left ROLL.
11. Record the ROLL value displayed on the "SET INSTALLATION OFFSETS" page. The difference between the two values displayed at 20° right ROLL and 20° left ROLL should be $40^\circ \pm 1^\circ$.
12. Return the attitude gyro to level attitude in both ROLL and PITCH axis.
13. Engage the autopilot in the default modes (PIT and ROL.)
14. Select "3. Pitch Attitude" and press <ENTER> to store the PITCH axis gyro null information.
15. With the autopilot still engaged in the default modes (PIT and ROL), adjust the ROLL attitude offset by turning "the Pot" in either direction as required to achieve 0° ROLL attitude indication on the "SET INSTALLATION OFFSETS" page

NOTE: The roll attitude offset adjustment may need to be readjusted during flight. Any in-flight FCC adjustments should be performed in smooth air. A laptop PC is not necessary for the roll attitude offset adjustment when performed during flight.

AXIS	GYRO TILT	DISPLAYED VALUE (EXAMPLE)	ADJUST TO TARGET VALUE (EXAMPLE)
PITCH	0°	0.67	N/A
ROLL	0°	-0.34	N/A
PITCH	10° up	15.86°	10.67° [10° + 0.67°] (± 0.5°)
ROLL	20° right	23.57°	19.66° [20° + (-0.34°)] (± 0.5°)
ROLL	20° right	19.66°	19.66° - (-20.34°) = 40.0° (± 1°)
ROLL	20° left	-20.34	

Table 5-1, Adjustment Example

NOTE: After making the adjustments for the roll attitude offset, disengage the autopilot and tilt the gyro to 20° roll right. The displayed value on the laptop (under the "SET INSTALLATION OFFSETS" page) should be 20° ± 0.5°. Now tilt the gyro to 20° roll left. The displayed value on the laptop (under the "SET INSTALLATION OFFSETS" page) should be -20° ± 0.5°. If the roll attitude error value is greater than 20°+0.5°, adjust the ROL demod gain pot to decrease the error by half its value, then check the gyro in the opposite direction. If the roll attitude error value is less than 20°-0.5°, adjust the ROL demod gain pot to increase the error by half its value, then check the gyro in the opposite tilt. Repeat as necessary until both values are within the 0.5° tolerance.

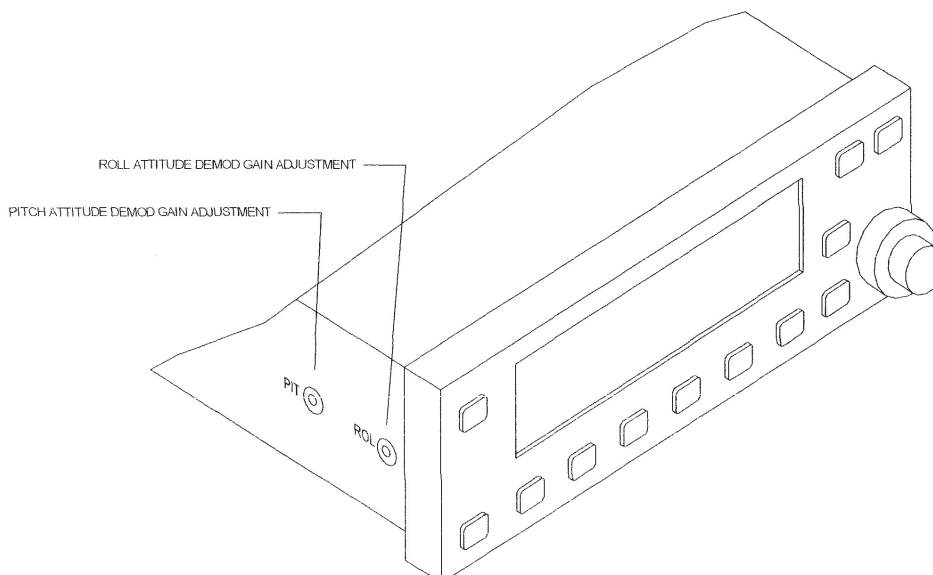


Figure 5-4, Pitch/Roll Demod Gain Adjustment Pots