MAGNETIC COMPASS - INSPECTION/CHECK

1. General

A. This section has the inspections and checks necessary to keep the magnetic compass in a serviceable condition.

2. Magnetic Compass Functional Check

- A. General
 - (1) This section gives the information needed to do a functional check of the magnetic compass.
- B. Special Tools
 - (1) Non Ferrous Screw Driver
- C. Access
 - (1) None
- D. Do a Functional Check (Alignment) of the Magnetic Compass.

NOTE: The following procedures are to be done on a calibrated compass rose.

- (1) Start and taxi the airplane to an approved calibrated compass rose. Refer to the Model 208 FAA Approved Airplane Flight Manual.
- (2) Put the airplane on a north heading line, 0/360 degrees +0.5 or -0.5 degree.
- (3) Put the airplane in a test configuration with the engine running and the power lever in idle position, all circuit breakers engaged, and the following turn on: all lights except landing lights and reading lights, all avionics systems, and all electrical systems except pitot heat and stall warning heat.

NOTE: This configuration is used to record the compass errors at the different headings on compass rose.

(4) Record the compass error in degrees.

NOTE: High readings are positive errors, low readings are negative errors.

- (5) Put the airplane in the test configuration and record the compass errors with the airplane in the headings that follow:
 - (a) 90 degree heading
 - (b) 180 degree heading
 - (c) 270 degree heading
 - (d) 0/360 degree heading.
- (6) Add the errors for the north and south heading, then divide by 2.
 - (a) If the number is negative, adjust the magnetic compass in a positive direction.
 - (b) If the number is positive, adjust the magnetic compass in a negative direction.

NOTE: Example: -7 error +4 error = -3 error. -3 divided by 2 = -1.5 error correction factor. The magnetic compass would be adjusted in a positive direction 1.5 degrees.

- (c) Do the steps again for the east and west errors.
- E. Do a Functional Check (Calibration) of the Magnetic Compass.

NOTE: The recorded error adjustments from the functional check (calibration) of the magnetic compass are used to find the necessary amount and degree of calibration for the compass.

- (1) At one cardinal heading, adjust applicable calibration screw the necessary amount calculated in the compass alignment procedure.
- (2) Turn the airplane 90 degrees and adjust the applicable calibration screw and amount calculated.
- (3) Turn the airplane to the next two cardinal headings and make sure that there are not errors more than 5 degrees.
- (4) With normal electrical power on the airplane, and all of electrical systems on, turn the airplane to the different 30 degree headings (including cardinals).
 - (a) Stop at each heading for a sufficient amount of time to let the compass to stabilize.
- (5) Record the headings shown on the compass at each of the 30-degree positions.
 - (a) Errors that are more than +5 or -5 degrees are not permitted.
- (6) Taxi the airplane back to the necessary area.

- (7) Stop the engine. Refer to the Model 208 FAA Approved Airplane Flight Manual.
- (8) Remove electrical power from the airplane.
- F. Restore Access
 - (1) None