MAGNETIC COMPASS - INSPECTION/CHECK

1. General

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

TASK 34-21-00-720

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

END OF TASK