

3. Magnetic Compass

The magnetic compass itself is behind the gunner's compartment and relays its reading electrically to the pilot. This is a magnesyn type compass. Turn the plane to some known direction, parallel to a runway or on a compass rose. The needle should turn while the airplane turns and finally indicate the runway heading.

If there is a difference between runway heading, or compass rose, and needle indication, check when compass was last swung.

If the needle does not turn at all, have the gunner check the circuit protector on the relay box in the gunner's compartment.

Be sure your compass is accurate. Your navigation can be no better than your compass.

4. Vacuum Selector Valve

Turn the vacuum selector valve, directly behind the pilot's head, to each engine and see that both pumps are operating properly.

Check the suction gage for a reading on each engine of between 3.7" and 4.7" Hg. The vacuum pumps should deliver normal pressure with the engines at idling speed.

5. Rate-of-climb Indicator

Check the rate-of-climb indicator to see that the needle is at zero. If it isn't, tap the instrument casing and check to see if the needle returns to zero. If not, have the instrument replaced.

6. Artificial Horizon

See that the artificial horizon is uncaged before you start the engines.

Adjust the miniature aircraft to neutral as indicated by the horizon bar. Allow sufficient time for the rotor to gain speed (5 minutes at approximately 4" Hg.). If the horizon bar descends quickly to the horizontal and remains

at the correct position for the attitude of the aircraft, the instrument is operating normally.

In the A-26 the horizon bar may remain in a tilt even after the engines have been running for some time. If this happens, slowly cage the gyro and then uncage it. It should then remain in the correct position. If the horizon bar even temporarily departs from the horizontal after the rotor speed is obtained, the instrument is not operating properly.

Check to see if the horizon bar tips while making taxiing turns. Tipping indicates that the instrument is not operating properly. If it tips, have it replaced.

7. Turn Indicator

After the engines are started, cage the instrument and then twist the caging knob, and at the same time pull it out sharply. If the card spins after the knob is pulled out, the instrument is unreliable.

Set gyro to the magnetic compass reading before taxiing out. Re-check the relationship between the two immediately before takeoff. If there is any great difference, the instrument is not operating properly.

In flight, re-set your gyro with your magnetic compass heading frequently.

8. Bank-and-turn Indicator

Ground Check

While taxiing, turn the plane to the right and left. Note the reaction of the turn needle. If its indications are not positive, or if the needle is sluggish and does not return to zero promptly when the turn is stopped, the instrument is not operating properly.

Flight Check

Establish straight and level flight at 200 mph. Make coordinated single needle-width turns, left and right. Check the degree of bank on the artificial horizon. If the degree of bank is approximately 25° at 200 mph, the turn indicator is operating properly.

If your indicator is out of adjustment, write it up in Form IA.

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