X.A. Checking Instruments and Equipment

References: AFM

Objectives  The student should develop knowledge of the elements related to ensuring proper operation of instruments and equipment and reasons for making a written record of improper operation.

Key Elements  1. Always check PRIOR to flight
               2. Don’t leave problems for the next pilot
               3. Altimeters within 75’ of airport elevation

Elements  1. General
             2. Check
             3. Written Records of Improper Operation/calibration

Schedule  1. Discuss Objectives
             2. Review material
             3. Development
             4. Conclusion

Equipment  1. White board and markers
             2. References

IP’s Actions  1. Discuss lesson objectives
               2. Present Lecture
               3. Ask and Answer Questions
               4. Assign homework

SP’s Actions  1. Participate in discussion
               2. Take notes
               3. Ask and respond to questions

Completion Standards  The student understands how to check the instruments and equipment for proper functionality and when to make a written record of improper operation.
Instructors Notes:

Introduction:
   Attention
   Interesting fact or attention grabbing story

   Overview
   Review Objectives and Elements/Key ideas

What
The instrument preflight is a structured check of the instruments prior to flight in order to ascertain their proper function.

Why
Everyone would much rather find a problem with their instruments on the ground, prior to flight, rather than in the air, which would compound the problem.

How:
1. General
   A. Extremely important to check the instruments before any flight involving control by instruments only
      i. Check all instruments and their sources of power for proper operation
2. Check
   A. As the aircraft turns to the Right, the ball (turn coordinator) should move to the Left
   B. In a right turn numbers should increase on the heading indicator and magnetic compass
   C. Horizons level and steady (Primary and backup attitude indicator)
   D. Airspeed Indicators (primary and backup) not indicating
   E. Altimeters within 75’ of airport elevation
   F. Turn needle should indicate direction of the turn
3. Written Records of Improper Operation/Calibration
   A. Alerts other pilots/personnel to make changes before flying again
      i. Ensure any operational problems are taken care of before flying the airplane again
   B. Much safer
   C. Someone else doesn’t get caught in the air with faulty instrument readings

Conclusion:
Brief review of the main points

PTS Requirements:
To determine that the applicant exhibits instructional knowledge of the elements related to checking instruments and equipment by describing:
   1. Importance of noting instruments and navigation equipment for improper operation.
   2. Reasons for making a written record of improper operation or failure and/or calibration of instruments prior to next IFR flight.