

AIRCRAFT PISTON ENGINE LAB

DETAILED SYLLABUS

OBJECTIVES

To enable students to locate, identify and demonstrate various piston engine aircraft components.

LIST OF GRADED PRACTICAL EXERCISES

The practical/Graded exercises should be properly designed and implemented with an attempt to develop different types of learning outcomes in affective domain and psychomotor domain, so that students are able to acquire the necessary skills. Following is the list of experiments to be carried out.

1. Demonstration of principle of operation of piston engine Study of General requirement of Aircraft power plants-Power and weight consideration, Durability, reliability, fuel economy, operating flexibility and Compactness-Importance of each of these factors.
2. Type of reciprocating engines used in aircraft application In line type, Opposed type, V - type and Radial type Discussion on each of the above type of engines, their Applicability, advantages/disadvantages, critical altitude of Operation for piston engine aircrafts.
3. Identification of major components of a simple piston engine, their functions and materials used.
4. Identification of various types of pistons and cylinders
5. Identification of various types of connecting rods
6. Identification of various types of Valves, Valve operating mechanism
7. Identification of various types of Propeller reduction gear, accessories case
8. Demonstration of piston engine ground run on light. Aircraft Purpose and occasions for giving ground run for an aircraft. Checking of all points of 'CHECK LIST' for aircraft ground run and safety. precautions to be followed before giving ground run and during ground run for an aircraft
9. Demonstration of piston engine ground run on light Aircraft. Starting of single engine piston engine for ground run as per procedure. Identification of engine performance monitoring instruments and monitoring the engine parameters during the ground run.

Diploma, Anna University-UG, PG., HSC & SSLC

Notes

Syllabus

Question Papers

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10. Demonstration of piston engine ground run on light Aircraft. Familiarization of fire protection system during ground run. Following of correct procedure of switching off of aircraft engine after ground run.