

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

*2nd page
is the same
as the one in
the new 85 edition*

COURSE OUTLINE

Course Title: ENGINES AND AIRFRAMES
Code No.: AVT 230-4
Program: AVIATION TECHNOLOGY (FLIGHT)
Semester: 3
Date: JUNE 13, 1983
Author: G. MacLEAN

New: _____ Revision: X

APPROVED: _____
Chairperson Date

*Circle
12 Detail
pls.*

TOPIC NUMBER

TOPIC DESCRIPTION

AIRFRAME - Structures and Materials

- 1 Nomenclature
- 2 Aircraft Materials
 - a) types, properties, & specifications of non-ferrous, and non-metallic aircraft materials.
 - b) standard material thickness and shapes.
- 3 Strength of Materials
 - limit and ultimate load, stress, strain, elasticity, stress concentrations, beams columns, margin of safety, creep, endurance limit, fatigue strength, eccentrically loaded fastener groups, repair schemes, pressure vessels.
- 4 Corrosion
 - a) electrolytic and oxidation types
 - b) resistance to corrosion by various A/C materials
 - c) corrosion resisting and high temperature alloys
 - d) paints and coatings
- 5 Standard Parts
- 6 Testing
 - a) destructive
 - b) non-destructive
- 7 Landing Gear shock absorbing methods

ENGINES */ can be reached at 942-1800 Ext. 44.*

- 1 Engine Classification and construction
 - a) Piston Engines
 - review of ignition system and timing diagram
 - cylinder arrangement (advantages and disadvantages)
 - function and construction of engine parts
 - b) Fuels
 - chemistry of fuels
 - combustion of fuels (knocks, preignition, detonation)
 - fuel system components
 - c) Turboprop
 - engine description
 - d) Turbojet
 - engine description

*Review of 1st yr.
2 Hrs.*

I teach The PT6A-27 Turbo Prop engine. It is used in greater than 60% of all light Twin engine A/c. My course also teaches them the relationship b/w the engine and Airframe engine controls.

My material is DeHavilland Aircraft of Canada. Twin Otter Pilot Training Course.

*Consists of:
T.O. Cockpit Layout.
01 Head transparencies.
P+W PT6A-27 School Notes.*

Audio/Visual of T.O. Engine Start and Shut-down