

Senior and staff cadet training

ACP 33
Flight
Volume 3

Propulsion



| Course | Flight, Propulsion, ACP 33 volume 3 | | |
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| 2 | | | <ol style="list-style-type: none"> 1. Other essentials <ol style="list-style-type: none"> a) The Carburetor b) The ignition system c) The lubrication system d) The cooling system 2. The multi-Cylinder engine 3. Self assessment questions |
| 3 | 2 | Carburation | <ol style="list-style-type: none"> 1. Introduction 2. A simple carburettor 3. Carburettor refinements 4. Air to fuel ratio |
| 4 | | | <ol style="list-style-type: none"> 5. Accelerator pump 6. Direct fuel injection 7. Special features of piston aero engines 8. Supercharging 9. Self assessment questions |
| 5 | 3 | Ignition – piston engine | <ol style="list-style-type: none"> 1. Introduction 2. The magneto 3. The distributor 4. Sparking plugs 5. Self assessment questions |
| 6 | 4 | Lubrication and cooling – piston engines | <ol style="list-style-type: none"> 1. Introduction 2. Lubrication 3. Properties of a lubricant 4. An engine lubrication system 5. Oil pump |
| 7 | | | <ol style="list-style-type: none"> 6. Air cooling 7. Liquid cooling 8. Comparison 9. Self assessment questions |
| 8 | 5 | Propellers | <ol style="list-style-type: none"> 1. Introduction 2. Blade angle 3. Blade twist 4. Constant speed unit 5. |
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| 10 | 6 | The jet engine | <ol style="list-style-type: none"> 2. Introduction 3. How does a jet engine work? 4. Layout of a jet engine <ol style="list-style-type: none"> a) The compressor b) The combustion chamber c) The turbine |
| 11 | | | <ol style="list-style-type: none"> 1. Main types of gas turbines <ol style="list-style-type: none"> a) Turbojet b) Turbofan c) Turboprop d) Turbo shaft |

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| 12 | | | <ol style="list-style-type: none"> 1. Variations <ol style="list-style-type: none"> a) Vectored thrust b) Geared and variable pitch fans c) Lift jets d) Ramjets e) Afterburning f) Reverse thrust 2. Pressures, temperatures and velocities 3. Self assessment questions |
| 13 | 7 | Rockets | <ol style="list-style-type: none"> 1. Rocket propulsion 2. Rocket theory 3. The rocket motor 4. Solid propellant rocket 5. Efficiency and specific impulse 6. Typical fuels 7. Multi-Stage rockets 8. Re-usable vehicles 9. The space shuttle 10. The soviet shuttle 11. Self assessment questions |
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