

## **APPENDIX 3. AIRCRAFT RATINGS AND ENDORSEMENTS**

### **SECTION 3.1 CLASS RATINGS**

#### **Unit 3.1.1 MECR: multi-engine aeroplane class rating – all aircraft categories**

##### **1. Reserved**

##### **2. General operational knowledge**

###### **2.1 Principles of asymmetric flight**

- 2.1.1 Describe basic principles of asymmetric flight, changes in thrust and drag vectors and the effect on balanced flight.
- 2.1.2 State airspeed limitations necessary to ensure control of the aircraft.
- 2.1.3 Explain the effects on aircraft performance associated with engine failure.
- 2.1.4 Describe the effects of bank or sideslip on:
  - (a) vertical stabiliser (fin) and stall speed;
  - (b) rudder effectiveness;
  - (c) control load and aircraft trim.
- 2.1.5 Describe the factors effecting minimum control speeds or other speed specified to achieve optimum performance following the failure of an engine.
- 2.1.6 Describe the concept of 'commitment height' during approach and landing where applicable and the factors determining that height.
- 2.1.7 Knowledge of the aircraft certification performance requirements.

##### **3. Aircraft systems**

###### **3.1 Aeroplane and engine systems**

- 3.1.1 Describe the normal and non-normal operation of the following systems if installed in the aircraft:
  - (a) fuel;
  - (b) electrical;
  - (c) flight control (primary and secondary);
  - (d) hydraulic;
  - (e) flight instruments;
  - (f) avionics;
  - (g) braking;
  - (h) de-icing;
  - (i) oxygen;
  - (j) cabin airconditioning and pressurisation;
  - (k) other systems installed in the aircraft.
- 3.1.2 Describe the operation and limitations of following engine systems where installed:
  - (a) fuel;
  - (b) oil;
  - (c) starter (including air start for turbo-jets);
  - (d) ignition;
  - (e) propeller;
  - (f) mixture – piston engine only;
  - (g) turbochargers.
- 3.1.3 Knowledge of the aeroplane limitations specified in the aircraft flight manual.