APPENDIX C TO CAAP 5.23-1(1)

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Course Duration

	Training Hours	Equipment Type
Ground School	16.5 (Lesson Briefings)	N/A
Synthetic Trainer	1.0	Appropriate STD or aeroplane on the ground
Flight Training	9.5	Multi-engine aeroplane <5700 kg

Course Aim:

The aim of this course is to train the holder of a flight instructor rating to be proficient in multi-engine operations and to gain the skills, knowledge and behaviour to conduct multi-engine flight training.

Prior to the commencement of this course candidates must hold an appropriate grade of instructor rating.

Phase Objectives:

1. To refresh and confirm the candidates multi-engine aircraft systems and asymmetric principles knowledge.
2. To become proficient in the delivery of instructional lesson briefings applicable to an initial multi-engine type rating training course.
3. To ensure proficiency in multi-engine aircraft handling.
4. To develop and refine multi-engine instructional techniques.

Instructional Aids Required:

- Briefing Room
- Over-head Projector (OHP)
- Whiteboard
- Multi-Engine Aeroplane <5700 kg
- Aircraft and/or Synthetic Training Device (STD)

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground School

There is no pre-set ground school for this course. Ground instruction in the form of long (tutorial) and short (pre-flight) briefings are included in the flight training details. The contents of the long briefings are explained from pages 96 to 116 of this CAAP.

Ground Training (GT)

Exercise		Brief Time	Progressive
GT l	Aircraft Systems	1.0	1.0
GT 2	Aircraft Systems	1.0	2.0
GT 3	Aircraft Systems	1.0	3.0
GT 4	Asymmetric Refresher	1.0	4.0
GT 5	Demonstration Briefing- Differences	1.5	5.5
GT 6	Demonstration Briefing- Asymmetric. Principles	1.5	7.0
GT 7	Demonstration Briefing- Asymmetric Flight Procedures	1.5	8.5
GT 8	Demonstration Briefing- Introductory Flight	1.5	10.0
GT 9	Student Brief - Differences	1.5	11.5
GT 10	Student Brief - Asymmetric Principles	1.5	13.0
GT 11	Student Brief - Asymmetric Flight Procedures	1.5	14.5
GT 12	Student Brief - Short Notice	1.0	15.5
GT 13	Simulator Practice - Mutual	1.0	16.5
GT 14	The Twin Instructor- Instructional Technique	1.0	17.5

Total Briefing **17.5 Hours**

Flight Training

Flight training involves multi-engine familiarisation and practical demonstrations and assessment of instructional technique. The flight simulator time may be conducted in an aircraft on the ground when a synthetic training device is not available.

The flight training course is comprised of five sorties which are explained in the six tables starting on page 90 of this CAAP. Each sortie is made up of a pre-flight briefing and the airborne exercise. The first sortie is a familiarisation and consolidation flight involving general and asymmetric flying. On the second sortie the flight instructor demonstrates or ‘gives’ the instructional techniques for stalling, asymmetric flight and circuits. The third sortie requires the trainee flight instructor to ‘give back’ or repeat the previous sortie acting as a flight instructor. The fourth sortie is a consolidation flight where the trainee instructor refines and reinforces his or her instructional techniques. The final sortie involves a flight test with an approved training officer (ATO) or other approved person.

Trainee multi-engine flight instructor assessment

In the tables which start on page 90 of this CAAP, there are columns used to record assessments, titled 'student preparation' and 'student technique'. These tables are generic and each flying training organisation may use its own system of recording a student's competence. On the example form in this appendix a scale of one to five is used, but this could be adapted to 'C' for competent or 'NYC' for not yet competent. Flying training organisations should use a system of recording assessment that suits their individual needs.

The sorties and flying hours breakdown for the multi-engine instructor course are specified in the table that follows.

Exercise		Flight Time	Progressive
ME 1	Multi-engine (ME) Rating or re-familiarisation	1.5	1.5
ME 2	Right-hand Seat Familiarisation -Airborne Sequences Demonstrated	2.0	3.5
ME 3	Right-hand Seat Instruction	2.0	5.5
ME 4	Consolidation	2.0	7.5
ME 5	Test	2.0	9.5

Total Flight **9.5 Hours**

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING SEQUENCES

ME 1 (Page 1)	**Instructor:**						**Student:**				
Date:	**Duration**	**Student Preparation**					**Student Technique**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Pre-Flight Brief											
Stalling - clean and approach configuration											
V_{MC} - entry and recovery											
Medium level turns 45/60^{o} angle of bank											
Emergency undercarriage lowering											
High speed handling characteristics											
Normal Circuits - standard circuit/power settings											
Flapless and asymmetric circuits											
Pre-brief on simulated and real emergencies - action and responsibilities											
Use of touch drills, for simulated emergencies											
Management of engine and flight controls during normal											
At the Aircraft											
Aircraft familiarisation											
Cockpit familiarisation											
Systems familiarisation - normal operation and											
Protection of systems where provided											
Pre-start checks and precautions											
Start up - pre-taxi checks and ground manoeuvreing											
Run- up - Normal take off and climb											
Comments:											
Instructors Signature:											

ME 1 (Page 2)	**Instructor:**						**Student:**				
Date:	**Duration**	**Student Preparation**					**Student Technique**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Flight - Refamiliarisation											
Medium level steep turns - note performance detriment Effect of controls - flaps, landing gear, etc											
Stalls in clean, approach and landing configuration											
V_{MC} demonstration and recovery											
Engine failure with touch drills											
Single-engine handling and demonstration of go-around											
Circuits - normal, flapless and asymmetric approaches											
Comments:											
Instructors Signature:											

ME 2	**Instructor:**						**Student:**					
Date:	**Duration**	**Student Preparation**					**Student Technique**					
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Pre-Flight Brief												
Engine feather and unfeathering drills												
Flight - Give												
Patter stalling and recovery												
Patter initial asymmetric (emphasis on control)												
Patter engine failures in various configurations (emphasis on accuracy of drills)												
Patter V_{MC} demonstration and recovery												
Patter engine failure drills with full feathering												
Patter unfeathering drills												
Patter single engine go-around at altitude												
Patter normal, flapless and asymmetric circuits												
Comments:												
Instructors Signature:												

ME 3	**Instructor:**						**Student:**					
Date:	**Duration**	**Student Preparation**					**Student Technique**					
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Pre-Flight Brief												
Discuss the importance of passing on the essential information only												
Emphasise that the patter should not be rushed and has a logical flow												
Flight - Give Back												
Give back stalling and recovery												
Give back initial asymmetric (emphasis on control)												
Give back engine failures in various configurations (emphasis on accuracy of drills)												
Give back V_{MC} demonstration and recovery												
Give back engine failure drills with full feathering												
Give back unfeathering drills												
Give back single engine go-around at altitude												
Give back normal, flapless and asymmetric circuits												
Comments:												
Instructors Signature:												

ME 4	**Instructor:**						**Student:**				
Date:	**Duration**	**Student Preparation**					**Student Technique**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Pre-Flight Brief											
Discuss sequences to revise											
Flight may start with an hour of mutual if there are two trainees											
Flight - Consolidation											
Revise sequences as discussed											
Ensure all flight sequences a have logical flow											
Trainee is aware of all safety aspects											
Comments:											
Instructors Signature:											

ME 5	**Instructor:**						**Student:**				
Date: **Sim 1 or 2**	**Duration**	**Student Preparation**					**Student Technique**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Pre-Flight Brief											
Quiz based on questions listed on CASA Instructor Rating Test Form											
Discuss profile of test											
Instructor Brief											
Briefing as requested by ATO											
As per CASA Test Form											
Flight											
Sequences as requested by ATO											
Comments:											
Instructors Signature:											

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 1 - Aeroplanes and Engine Systems

Duration: 1.0 hour

Aim: To ensure a thorough understanding of all systems relevant to the aeroplane type.

Briefing Content:

- Airframe:
  - Construction;
  - Aerodynamic features;
  - Flight controls (primary and secondary);
  - Flaps- type, operation, selection, limitations and common problems;
  - Hatches/Harnesses; and
  - Pre-flight checks.
- Engine:
  - Type;
  - Power ratings;
  - Fuel types;
  - Oil type, cooling and quantities;
  - Starter operation and limitations;
  - Priming;
  - Ground starting;
  - In-flight restart; and
  - Pre-flight checks.
- Propeller:
  - Type and Dimensions;
  - General Variable Pitch Propeller/Constant Speed Unit Principles;
  - General Feathering Principles and Mechanisms;
  - Construction;
  - Operation- fine, coarse, constant speeding, feathering and un-feathering;
  - Ground and in-flight un-feathering;
  - Normal handling and synchronising; and
  - Pre-flight checks.
- Electrics:
  - Alternator types, voltage and capacities;
  - Alternator control system. Activation, indication, over/under voltage control and resetting;
  - Buses;
  - Battery - Type, capacity, physical location and drainage details;
  - Aircraft electrical systems;
  - Starting procedures when using external power sources; and
  - Pre-flight checks

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground Training 2 - Aeroplanes and Engine Systems (Continued)

Duration: 1.0 hour

Aim: To give the candidate a thorough understanding of all systems relevant to the aeroplane type.

Briefing Content:

- Hydraulic:
  - Systems/Operation; and
  - Location and top up details.
- Undercarriage:
  - Type;
  - Normal operation and operating limits (speeds/times);
  - Up-locks;
  - Down-locks;
  - Indications;
  - Abnormal operation;
  - Emergency selection; and
  - Struts.
- Brakes:
  - Type, operation and refill details.
- Fuel:
  - Type;
  - Tank locations and types;
  - Capacity, measurement and indication;
  - Boost pumps and locations;
  - Tank Selection and consumption requirements;
  - Fuel cross-feeding;
  - Fuel drain location;
  - Cabin heater use;
  - Minimum required fuel for flight;
  - Slipping or abnormal flight limitations; and
  - Flight planning.
- Instrumentation:
  - Power sources; and
- Electric Trim/Auto-pilot:
  - Type and power source;
  - Operation; and
  - Pre-flight checks.

- Cabin air Conditioning:
  - Venting;
  - Heater type, operation and selection; and
  - Abnormal operation.
- De-icing/Anti-Icing:
  - Pitot Heat; and
  - Pre-flight check (Amps/temperature).
- Avionics:
  - System provided/system operation:
    - Intercom and radio telephone/transmission (RT) and reception (Tx/Rx);
    - automatic direction finder (ADF);
    - Very high frequency omni-directional range (VOR);
    - Instrument landing system (ILS);
    - Markers (MKRS);
    - Distance measuring equipment (DME);
    - Global navigation satellite system (GNSS); and
    - Other.
  - Aerials and locations;
  - Pre-flight checks.
- Aircraft Weight and Balance:
  - Limitations;
  - System and load sheet;
  - Movement of centre of gravity (CG) with fuel burn-off; and
  - Instrument flight rules (IFR) and asymmetric restrictions (take-off, cruise, approach and landing).
- Flight Planning:
  - Fuel (normal, asymmetric, holding, approaches, alternates; endurance and range);
  - Speeds;
  - Climb, Cruise, instrument flight (IF) manoeuvring, normal descent, IF descent;
  - Take-off, accelerate/stop, climb, cruise, approach and landing;
  - Performance for normal and asymmetric; and
  - Max endurance, holding and maximum range configurations.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 3 - Aeroplanes and engine systems

Duration: 1.0 hour

Aim: To give the candidate a thorough understanding of all systems relevant to the aeroplane type.

Briefing Content:

- Limitations:
  - Airframe;
  - Load factors;
  - Airspeeds; and
  - Engine/propeller:
    - Full power/revolutions per minute (RPM);
    - Max Continuous power/RPM;
    - Temperatures and pressures; and
    - Minimum fuel and oil quantities.
- Emergencies:
  - Engine;
  - Propeller- over/under speeding and feather on shutdown;
  - Undercarriage- lights, micro's, electrical, hydraulic, mechanical and partial;
  - Flap;
  - Flight controls (elevator, aileron, rudder and trims);
  - Electrical/Lighting;
  - Electric Trim/Auto-pilot;
  - Radio/Navigation-aid;
  - Fuel – leaks, fuel cap off, cross feeding and asymmetric;
  - Brakes;
  - Tyres;
  - Door open in-flight;
  - Fire - engine/wing, electrical, heater and cabin;
  - In-flight structural; and
  - Passengers.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 4 - Asymmetric refresher part a

Duration: 1.5 hours

Aim: To refresh the candidates knowledge of piston engine asymmetric operations

Briefing Content:

Multi-engine problems:

- Engine failure situation, leading to asymmetric flight symptoms:
  - VFR;
  - Feel;
  - Yaw/Roll/Nose Drop - leading to spiral dive;
  - IFR;
  - Flight Instruments no yaw on AI, mainly see roll but yaw is what needs to be countered first;
  - Engine instruments – probably use EGT only;
  - Control capability reduction rudder;
  - Aileron – can often over power yaw;
  - Elevator; and
  - Minimum control airspeed ($V_{MCA)}$.
- Aerodynamics of asymmetry:
  - Thrust (Yaw);
  - Offset thrust line;
  - Asymmetric blade effect (P factor – good/bad); and
  - Asymmetric torque (good/bad).
- Drag (Yaw):
  - Offset drag line;
  - Failed engine drag; and
  - Total drag.
- Lift (Roll):
  - Asymmetry;
  - Slipstream effect;
  - Vertical stabiliser/rudder (good/bad); and
  - Flaps.
- Unbalanced flight:
  - Effect of yaw;
  - Side-slip/side-forces; and
  - Drag increase.

- Thrust/drag/side-force couples – aircraft cannot fly straight (side-slip) lift/weight force couple – nose drop;
- Controllability in asymmetric flight;
- Identification dead leg – dead engine (rudder force - not instruments – ball always shows rudder required);
- IAS/thrust relationship;
- Rudder, aileron and elevator:
  - Effectiveness;
  - Limitations;
  - Balanced/unbalanced flight;
  - Effect of bank/side-slip;
  - Fin: size; strength, and stall;
  - Residual unbalance-effect on controls;
  - Out of balance control loads;
  - Trimming- using rudder trim reduces rudder control effectiveness and can reduce your ability to correctly identify the failed engine; and
  - BUT YOU NEED TO USE RUDDER TRIM AFTER FEATHERING TO STAY ON HEADING.
- Controllability Methods:
  - Rudder only and aileron for wings level (side-slipping and less rudder available);
  - Aileron only and no rudder (full rudder available but less vertical lift and more drag); and
  - Combination 5° angle of bank and ½ rudder ball to live engine (least drag and reasonable rudder control available).
- Minimum air control Speed (V_{MCA}):
  - Definition;
  - Derivation;
  - Factors affecting V_{MCA};
  - Weight/centre of gravity (CG);
  - Drag (e.g. undercarriage, flaps and wind-milling propeller);
  - Turbulence;
  - Condition of airframe;
  - Critical engine (if applicable);
  - P Factor;
  - Slipstream; and
  - Torque.
- Power;
- Altitude;
- Pilot Handling;

- Reaction time:
  - Minimal reaction time for test pilot expecting engine failure means lower V_{MCA} for him/her; and
  - Pilot currency – ability degrades with lack of practice.
- Skill/strength:
  - Greater skill of test pilot means lower V_{MCA} for him/her;
  - Some pilots not strong enough (use some rudder trim); and
  - Optimisation - not used initially due uncertainty of which engine has failed.
- Pilot seat position:
  - Must be seated so as to be able to command full control movement; and
  - Lap seatbelt tight to avoid slipping up in the seat due to Newton's third law reducing control deflection.
- Relationship of V_{MCA} to V_S:
  - Recovery from flight below $V_{MCA;}$
  - Power; and
  - Airspeed.
- Take-off Safety Speed (V_{TOSS}) (V_2):
  - Definition;
  - Derivation; and
  - V_{MC}, V_{SSE}, V_2 and other V coded (type related).

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 5 - Asymmetric refresher Part B

Duration: 1.5 hours

Aim: To refresh the candidates knowledge of piston engine asymmetric operations

Briefing Content:

Below 5700 kg aircraft design requirements compared to >5700 kg regular public transport (RPT) requirements:

- Instrument flight rules (IFR) requirements;
- Aircraft Performance:
  - Loss of horse power (HP);
  - Due loss of engine;
  - Due temperature above International Standard Atmosphere (ISA);
  - Due Altitude;
  - Due lack of going to full power;
  - Increase in HP required due increased drag (propeller and form [due side-slip] drag);
  - Rough handling in the recovery and climb increases control/trim drag;
  - Any turbulence increases drag (summer);
  - Leaving gear and flaps down;
  - Not feathering wind-milling propeller;
  - Reduction of excess horse-power (HP);
  - Climb performance reduction - 80% or more loss;
  - The aircraft's ability to out-climb obstacles after take-off is in no way guaranteed but continued climb may be possible under optimal conditions; and
  - As a product of excess HP - rate of climb will be optimum at one airspeed – $V_{YSE.}$
- V_{YSE} – Definition:
  - Blue line on air speed indicator (ASI).
- Single-engine ceiling:
  - Drift down;
  - If terrain is above single-engine ceiling or even if just close then only a controlled forced landing is available; and
  - V_{XSE} may be required to avoid close in obstacles but drag is increasing and the control margin is reducing. With passengers – do not take off unless obstacles can be out-climbed at V_{YSE}.
- Visual asymmetric committal height (decision height);
- Asymmetric instrument approach considerations;
- Asymmetric instrument meteorological conditions (IMC) committal height – missed approach considerations;
- Factors affecting single-engine performance:

- Aircraft design requirements – minimal performance;
- Airframe/engine condition;
- Density altitude;
- Turbulence;
- Aircraft weight;
- Engine power used;
- Drag;
- Pilot handling technique;
- Reaction time;
- Quick and accurate control and cleanup;
- Accurate V_{YSE} maintenance and climb optimisation; and
- Smooth handling.

- Introduction to asymmetric handling and engine failure checks:
  - Recognition;
  - Yaw primary - instruments secondary;
  - Aborting - immediate actions;
  - Throttles to idle;
  - Control - yaw/turn back to runway centreline/lower nose;
  - Gear down;
  - Full flap;
  - Land
  - Full optimal braking;
  - Continuing - immediate actions;
  - Control - yaw/wings level/pitch/$V_{YSE;}$
  - Power - mixture/pitch/throttle;
  - Drag reduction - gear/flap;
  - Identify (dead leg dead engine;
  - Confirm with throttle (remember partial power case);
  - After take-off - feather dead engine/trim to hands off/cowls flaps open live – closed dead/check dead engine for visual signs of fire;
  - At a safe airspeed and height – trim to hands off/cowl flaps open on live – closed on dead/check dead engine for visual signs of fire;
  - Trouble checks, (remember to try throttle) if not fixed;
  - Feather dead engine;
  - Monitor climb-out path – Climb at V_{YSE}/lowest terrain/forced landing required;
  - Effect of bank;
  - Optimise performance by 5° to live engine/rudder ball ½ out to live;
  - If at a safe height/airspeed then fly ball middle and wings level for ease unless in drift-down situation;
  - Importance of balance;
  - Use of flight controls and trim - trim to hands off;
  - PLAN - then action it;
  - Radio - PAN call (to obtain priority and assistance);

  - Secondary actions if time permits (securing engine); and
  - Mixture idle cut-off, fuel cock off/boost pump off/magneto off/alternator off (reduces fire risk).

- Asymmetric Approach Considerations:
  - Live engine temps and pressure – Reduce to climb power if possible;
  - Fuel cross-feeding – on own tank for landing;
  - Delay gear and flap extension ; and
  - Possible increase to minimum descent altitude (MDA) for manifold air pressure (MAP) terrain clearance.
- Effects of engine failure on systems and performance:
  - Electrics;
  - Hydraulic;
  - Fuel;
  - Air-conditioning;
  - Other systems;
  - Excess power;
  - Optimum speeds;
  - Range;
  - Endurance;
  - Acceleration/Deceleration;
  - Overheating – live engine working harder – open cowl flap;
  - Ensure dead engine cowl flap closed in training particularly;
  - May have to slowly warm 'dead' engine before using high power; and
  - Use higher than zero thrust generally to reduce cooling.
- Zero thrust settings:
  - Definition;
  - Purpose; and
  - Determination.
- Discuss performance consideration:
  - Accelerate stop/go distances;
  - Take-off runway available and take-off distance available; accelerate stop distance available, clear-way and stop-way available;
  - Continued take-off climb gradient;
  - Decision point on take-off;
  - Why;
  - Determination;
  - Wind;
  - Aircraft weight;
  - Density Alt;
  - Runway surface condition;
  - Take-off path obstacles;
  - Turns towards failed engine unless terrain requirements;

- Touch drills for simulation after confirming;
- Climb out flight paths;
- En-route single engine ceiling/lowest safe altitude;
- Single-engine range/endurance;
- Asymmetric consideration during non-precision approach outside/inside final approach fix;
- Asymmetric consideration during precision approaches outside/inside FAF;
- Asymmetric landing considerations;
- Asymmetric taxiing considerations;
- Missed approach climb gradients; and
- Standard departure climb gradients.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 6 - Demonstration briefing – differences

Duration: 1.0 hour

Aim: To give the candidate a demonstration briefing on multi-engine aircraft differences compared to single engine aircraft.

Briefing Content:

- As per Ground Training (GT) 4

This briefing should address all the items listed in GT4. However, trainee instructor may vary the order of delivery, style or teaching techniques to achieve the best learning outcome for the student.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 7 - Demonstration briefing – asymmetric principles

Duration: 1.0 hour

Aim: To give the candidate a demonstration briefing on multi-engine aircraft asymmetric operation principles.

Briefing Content:

- As per Ground Training (GT) 4 and 5.

This briefing should address all the items listed in GT4 and 5. However, trainee instructor may vary the order of delivery, style or teaching techniques to achieve the best learning outcome for the student.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 8 - Demonstration briefing – asymmetric flight procedures

Duration: 1.0 hour

Aim: To give the candidate a demonstration briefing on multi-engine aircraft asymmetric flight procedures.

Briefing Content:

- As per Ground Training (GT) 4 and 5.

This briefing should address all the items listed in GT 4 and 5. However, trainee instructor may vary the order of delivery, style or teaching techniques to achieve the best learning outcome for the student.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 9 - Demonstration briefing – multi engine aircraft introduction flightt

Duration: 1.0 hour

Aim: To give the candidate a demonstration briefing on a multi-engine aircraft introduction flight

Briefing Content:

- Recap on effect of controls.
- Engine feather and un-feathering drills.
- Stalling - Clean and approach configuration.
- V_{MCA} - entry and recovery
- Medium level turns 45°/60° angle of bank.
- Emergency under carriage lowering.
- High Speed handling characteristics.
- Normal circuits - standard circuit/power settings.
- Pre-brief on simulated and real emergencies -action and responsibilities.
- Use of touch drills, for simulated emergencies.
- Management of engine and flight controls during normal two engine operations.

At the aircraft:

- Aircraft familiarisation – Pre-flight inspection.
- Cockpit familiarisation.
- Systems familiarisation - normal operation and remedial actions in case of malfunctions.
- Protection of systems where provided.
- Pre start checks and precautions.
- Start Up - Pre-taxi checks - ground manoeuvring.
- Run up - Normal take-off and climb.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 10 - Student brief – differences

Duration: 1.5 hours

Aim: For the candidate to practice a briefing on the differences of multi-engine aircraft flight to single engine aircraft flight.

Briefing Content:

- As per Ground Training (GT) 6.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 11 - Student brief – principles of asymmetric flight

Duration: 1.5 hours

Aim: For the candidate to practice a briefing on the principles of multi-engine aircraft flight.

Briefing Content:

- As per Ground Training (GT) 7

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 12 - Student brief – asymmetric flight procedures

Duration: 1.5 hours

Aim: For the candidate to practice a briefing on asymmetric flight procedures

Briefing Content:

- As per Ground Training (GT) 8.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 13 - Student brief – subject as required

Duration: 1.0 hour

Aim: For the candidate to give a briefing on a particular topic with short notice

Briefing Content:

- As required.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 14 - Simulator practice – asymmetric flight procedures

Duration: 1.0 hour

Aim: For the candidate to practice his /her asymmetric flight procedures and then practice failing and restoring engines while a "student" is flying the aircraft.

Simulator practice or utilising an aircraft on the ground to practice the engine failure and power restoration procedures:

- Engine failures:
  - on take- off – abort/continue; and
  - In-flight –climbing/level/turning/descending/instrument approach.
- Change seats for a repeat of above.

MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING

Ground training 15 - The twin instructor

Duration: 1.0 hour

Aim: To give the candidate an appreciation of the factors involved in maintaining aircraft safety in-flight and particularly while close to the ground. To give the candidate guidelines for maintaining engine and system integrity in the short and long term.

Briefing Content:

- Instructional Technique with emphasis on instructor situation awareness.