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| --- | --- | --- | --- | --- | --- |
| Flight no: | ME(A)CR3.\_\_\_\_ | Trainee name & ARN: |  | | |
| Date: |  | Instructor: |  | | |
| Aircraft registration: |  | Aircraft type: |  | Flight time: |  |

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| Lesson Overview  * Simulated engine start and shutdown malfunctions * Introduction to asymmetric flight, including the effect of asymmetric thrust on handling characteristics and performance (simulated engine failures) * Asymmetric flight – from straight & level:   + recognition (visual indications, instrument indications)   + maintaining control (yaw, roll and pitch) * Asymmetric flight – during turns   + recognition   + control * Engine failure procedures:   + recognition   + control   + identification of failed engine (‘dead leg, dead engine’, instrument indications)   + ‘fix or feather’ - checklist procedures   + effect on performance, achieving best performance * One engine inoperative manoeuvres:   + power required   + trim position   + flight control positions * Fuel cross-feed * Re-planning and diversion * Airspeed/power relationship:   + effect on control of varying speed at constant power   + varying power at constant speed * Practise handling during asymmetric flight |

| PRE-FLIGHT KNOWLEDGE  Long Briefing: 0.8 hour Pre-flight Briefing: 0.3 hour  Underpinning knowledge: as required | |
| --- | --- |
| Content | |
| **Long briefing** – Asymmetric Flight   * Review asymmetric flight- the basic problem   + recognition   + control   + performance * Factors affecting control, VMCA * Factors affecting performance, VYSE * Engine failure checklist procedures * Diversion, radio communications, passenger management considerations * Method to be used for simulation of engine failure * Pre take-off safety briefing | |
| **Underpinning knowledge**   * Fire extinguishers that can be used for fuel-related fires, including requirements and how to use them in the event of a fire [C4 4(d)] * Local topographical charts to identify safe areas for engine failure purposes and noise-abatement considerations[A2 4(f)] * Airspeed limitations including: VNO, VA, VX, VY, VNE, VFE, VLO, VLE, VLO2, maximum crosswind, turbulence penetration speed and maximum load factor [AME 4(a)] * Emergency airspeeds including: VMCA, VSSE, engine inoperative climb, approach and final speed, emergency descent and best glide range speeds * Emergency procedure for engine fire on the ground [AME 4(c)] * Markings on an airspeed indicator that apply to failed engine operations [AME 4(i)] * Abnormal or emergency items as contained in the flight manual or pilot operating handbook [AME 4(n)] | |
| **HF & NTS**   * Effective communication under normal and non-normal circumstances [NTS2 4(a)] * Threat and error management detailing processes that can be used to identify and mitigate or control threats and errors [NTS2 4(b)] * Undesired aircraft states including prevention, identifying and controlling [NTS2 4(e)] * How an undesired aircraft state can develop from an unmanaged threat or error [NTS2 4(f)] * Use of checklists and standard operating procedures to prevent errors [NTS2 4(h)] * Task management including [NTS2 4(i)]:   + workload organisation and priority setting to ensure optimum safe outcome of the flight   + event planning to occur in a logical and sequential manner   + anticipating events to ensure sufficient opportunity is available for completion   + using technology to reduce workload and improve cognitive and manipulative activities   + task prioritisation and protection whilst filtering and managing real time information | |
| **Pre-flight briefing**   * Review flight sequences, what to expect, see & do * Check essential knowledge * Reinforce threat & error management * Reinforce significant airmanship points | |
| **Pre-flight knowledge components complete:** | **Instructor’s signature & date** |

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| Performance Standard | | |
| **3** | **2** | **1** |
| Has received training in the element, however is not able to consistently demonstrate competency to the standard required for qualification issue | Demonstrates a developing level of proficiency | Achieves competency to the standard required for qualification issue |

| FLIGHT TRAINING  Suggested flight time: 1.0 hour dual | | | |
| --- | --- | --- | --- |
| MOS Reference | Lesson Content (Elements & Performance Criteria) | Performance  Standard | |
| Required | Achieved\* |
| 1. A1.1 | Start and stop engine |  |  |
|  | manage engine start and shutdown malfunctions and emergencies  (example: flooded start, live magneto on shutdown) | **2** |  |
| 1. AME.2 | Manage failures and malfunctions - general |  |  |
|  | operate and manage aircraft systems | 3 |  |
|  | asymmetric operations for all phases of flight are anticipated and contingencies are planned | 3 |  |
|  | a plan of action is self-briefed or briefed that will ensure the safest outcome in the event of asymmetric operations | 3 |  |
| 1. AME.4 | Manage engine failure and malfunction enroute (simulated) |  |  |
|  | maintain or regain control of the aeroplane flight path within specified tolerances | 3 |  |
|  | manage failed or malfunctioning engine effectively | 3 |  |
|  | replan flight and take action to continue or divert to alternate | 3 |  |

\*Enter the performance standard achieved if it is different to that required

Where it has not been possible to introduce performance criteria or the trainee has not achieved the required standard, the performance criteria must be covered during the next lesson. Enter these performance criteria in the lesson record for the subsequent lesson.

| CONSOLIDATION AND/OR REMEDIAL TRAINING | | | |
| --- | --- | --- | --- |
| MOS Reference | Lesson Content (Elements & Performance Criteria) | Performance  Standard | |
| Required | Achieved |
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| DEBRIEFING |
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| Content |
| * Training review and outcomes achieved against lesson objectives and the Part 61 MOS competency standards * Recommendations for next lesson (including any carryover/remedial training) * Trainee preparation for next lesson * Training record completion and sign off |

| COMMENTS AND OUTCOME | | |
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|  | | |
| **Proceed to next training session?** | **Yes** | **No** |

| Instructor’s signature & date | Trainee’s signature & date |
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