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| Flight no: | NVFR(A)1.\_\_\_\_ | Trainee name & ARN: |  | | |
| Date: |  | Instructor: |  | | |
| Aircraft registration: |  | Aircraft type: |  | Flight time: |  |

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| Lesson Overview  * Day VFR flight * Introduction to NVFR aircraft and instrument requirements * Basic instrument flight (manoeuvres using full and limited panel, upset situation and unusual attitude recoveries) * Limited instrument panel is to be simulated in each of the following non-normal situations:   + without reference to the primary attitude indicator or display   + without reference to the primary heading indicator or display   + without reference to reliable airspeed indications. |

| PRE-FLIGHT KNOWLEDGE  Long Briefing: 0.8 hour Pre-flight Briefing: 0.3 hour  Underpinning knowledge: as required | |
| --- | --- |
| Content | |
| **Long briefing** – Basic Instrument Flight   * Instrument flight - revision using full instrument panel and introduction to limited panel * Instrument serviceability checks * Sensory illusions * Scan technique * Control and performance instruments * Instrument lag * Compass errors * Calculation of rate 1 turns * Importance of proper planning & preparation to avoid inadvertent entry into IMC * Actions upon inadvertent entry into IMC * Unusual attitudes – instrument indications, recovery techniques (both full and limited panel situations) * Introduction to flight and navigation instrumentation and minimum electrical lighting required for NVFR flight | |
| **Underpinning knowledge**   * Scan technique appropriate to fitted flight instruments and phase of flight [IFF 4(a)] * Attitude and power requirements to achieve specified flight profiles [IFF 4(b)] * Instrument failure and warning systems fitted to the aeroplane [IFF 4(c)] * Scan technique appropriate to fitted flight instruments and phase of flight (without attitude or stabilised heading indicators) [IFL 4(a)] * Performance instrument indications and power requirements to achieve specified flight profiles [IFL 4(b)] * Anti-icing and de-icing controls and switches fitted to the aircraft type, and when these systems should be operated [IFL 4(c)] * Instrument failure and warning systems fitted to the aircraft [IFL 4 (d)] * The safety risks associated with application of large or rapid control inputs in more than 1 axis simultaneously [IFL 4(e)] * Pre and post flight administration | |
| **HF & NTS**   * Vestibular systems, namely the semicircular canals and otoliths, in helping the pilot to maintain orientation [NVFR1 4(i)] * Circumstances which aggravate vestibular disorientation, and how to overcome this problem [NVFR1 4(j)] * Causes that may aggravate vestibular disorientation, such as somatogravic illusions, somatogyral illusions and ‘graveyard spiral’, coriolis effect, and ‘leans’ [NVFR1 4(k)] * Effective communication under normal and non-normal circumstances [NTS1 & NTS2 4(a)] * Task management [NTS1 4(b)] * Threat and error management detailing processes that can be used to identify and mitigate or control threats and errors [NTS2 4(b)] * The application of situational awareness to identifying real or potential environmental or operational threats to flight safety [NTS2 4(c)] * Developing and implementing plans of action for the following: * removing and mitigating threats * removing and mitigating errors [NTS2 4(d)] * 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)] * Hand over/take over technique (e.g. ‘I have control – you have control’) * Control technique | |
| **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, and is deemed safe to conduct solo practice under direct supervision | Achieves competency to the standard required for qualification issue |

| FLIGHT TRAINING  Suggested flight time: 1.0 hour dual (0.7 IF) | | | |
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| MOS Reference | Lesson Content (Elements & Performance Criteria) | Performance  Standard | |
| Required | Achieved\* |
| 1. NVR2.1 | Determine aircraft meets requirements for NVFR flight |  |  |
|  | aircraft requirements for NVFR flight are determined | 3 |  |
|  | flight and navigation instruments, minimum electrical lighting and navigation equipment and any other requirements which are fitted to the aircraft are checked to ensure they are suitable and serviceable for NVFR flight | 3 |  |
| 1. IFF.1 | Determine and monitor the serviceability of flight instruments and instrument power sources |  |  |
|  | determine serviceability of flight and navigational instruments | **2** |  |
|  | perform functional checks of flight and navigational instruments where applicable prior to take-off | **2** |  |
|  | monitor flight instrument and instrument power sources and react to any warnings, unserviceability or erroneous indications | **2** |  |
| 1. IFF.2 | Perform manoeuvres using full instrument panel |  |  |
|  | interpret flight instrument indications and apply procedures and techniques to achieve and maintain a specified flight path using the aircraft’s full instrument panel | **2** |  |
|  | set and maintain power and attitude by reference to the full instrument panel to achieve the following: |  |  |
|  | * + 1. straight and level performance during normal cruise within the flight tolerances | **2** |  |
|  | * + 1. nominated climb performance within the flight tolerances | **2** |  |
|  | * + 1. descent performance within the flight tolerances | **2** |  |
|  | set and maintain power and attitude by reference to the full instrument panel to establish a rate 1 turn onto a nominated heading within the flight tolerances | **2** |  |
| 1. IFF.3 | Recover from upset situations and unusual attitudes |  |  |
|  | correctly identify upset situations and unusual attitudes under simulated IMC | **2** |  |
|  | recover to controlled flight from upset situations and unusual attitudes under simulated IMC from any combination of the following aircraft states: |  |  |
|  | * + 1. high and low-nose attitudes | **2** |  |
|  | * + 1. varying angles of bank | **2** |  |
|  | * + 1. various power settings | **2** |  |
|  | * + 1. various aircraft configurations | **2** |  |
|  | * + 1. unbalanced flight | **2** |  |
| 1. IFL.1 | Recognise failure of attitude indicator and stabilised heading indicator |  |  |
|  | monitor flight instruments and instrument power sources and recognise warning indicators or erroneous instrument indications | **2** |  |
|  | transition from a full instrument panel to a limited instrument panel | 3 |  |
| 1. IFL.2 | Perform manoeuvres – limited panel |  |  |
|  | interpret and respond appropriately to instrument indications | 3 |  |
|  | apply power and attitude settings to achieve straight and level performance during: |  |  |
|  | * + 1. normal cruise | 3 |  |
|  | * + 1. approach configuration with flaps (when fitted) and undercarriage down | 3 |  |
|  | apply power and attitude settings to achieve: |  |  |
|  | * + 1. nominated climb performance | 3 |  |
|  | * + 1. nominated descent performance | 3 |  |
|  | * + 1. during climb, descent and straight and level flight, rate 1 turns onto a nominated heading | 3 |  |
|  | trim (as applicable) and balance aircraft | 3 |  |
|  | establish level flight at a nominated altitude, from a climb or descent during straight or turning flight | 3 |  |
| 1. IFL.3 | Recover from upset situations and unusual attitudes – limited panel |  |  |
|  | correctly identify upset situations and unusual attitudes under simulated IMC | 3 |  |
|  | recover to stabilised straight and level flight using approved techniques from upset situations and unusual attitudes under simulated IMC from any combination of the following aircraft states: |  |  |
|  | * + 1. high and low-nose attitudes | 3 |  |
|  | * + 1. varying angles of bank | 3 |  |
|  | * + 1. various power settings | 3 |  |
|  | * + 1. various aircraft configurations | 3 |  |
|  | * + 1. unbalanced flight | 3 |  |
| 1. IFL.4 | Re-establish visual flight |  |  |
|  | transition from visual flight conditions to instrument flight conditions while maintaining control of the aircraft | 3 |  |
|  | perform a manoeuvre to re-establish visual flight | 3 |  |
|  | implement a plan that ensures the flight continues in VMC | 3 |  |
| 1. NTS1.2 | Maintain situational awareness |  |  |
|  | monitor all aircraft systems using a systematic scan technique | **2** |  |
|  | collect information to facilitate ongoing system management | **2** |  |
|  | monitor flight environment for deviations from planned operations | **2** |  |
|  | collect flight environment information to update planned operations | **2** |  |
| 1. NTS1.3 | Assess situations and make decisions |  |  |
|  | identify problems | **2** |  |
|  | analyse problems | **2** |  |
|  | identify solutions | **2** |  |
|  | assess solutions and risks | **2** |  |
|  | decide on a course of action | **2** |  |
|  | communicate plans of action (if appropriate) | **2** |  |
|  | allocate tasks for action (if appropriate) | **2** |  |
|  | take actions to achieve optimum outcomes for the operation | **2** |  |
|  | monitor progress against plan | **2** |  |
|  | re-evaluate plan to achieve optimum outcomes | **2** |  |
| 1. NTS1.4 | Set priorities and manage tasks |  |  |
|  | organise workload and priorities to ensure optimum outcome of the flight | **2** |  |
|  | plan events and tasks to occur sequentially | **2** |  |
|  | anticipate events and tasks to ensure sufficient opportunity for completion | **2** |  |
|  | use technology to reduce workload and improve cognitive and manipulative activities | **2** |  |
| 1. NTS1.5 | Maintain effective communications and interpersonal relationships |  |  |
|  | establish and maintain effective and efficient communications and interpersonal relationships with all stakeholders to ensure the optimum outcome of the flight | **2** |  |
|  | define and explain objectives to stakeholders | **2** |  |
|  | demonstrate a level of assertiveness that ensures the optimum completion of the flight | **2** |  |
| 1. NTS2.1 | Recognise and manage threats |  |  |
|  | identify relevant environmental or operational threats that are likely to affect the safety of the flight | **2** |  |
|  | identify when competing priorities and demands may represent a threat to the safety of the flight | **2** |  |
|  | develop and implement countermeasures to manage threats | **2** |  |
|  | monitor and assess flight progress to ensure a safe outcome, or modify actions when a safe outcome is not assured | **2** |  |
| 1. NTS2.2 | Recognise and manage errors |  |  |
|  | apply checklists and standard operating procedures to prevent aircraft handling, procedural or communication errors | **2** |  |
|  | identify committed errors before safety is affected or the aircraft enters an undesired state | **2** |  |
|  | monitor the following to collect and analyse information to identify potential or actual errors: |  |  |
|  | * + 1. aircraft systems using a systematic scan technique | **2** |  |
|  | * + 1. the flight environment | **2** |  |
|  | * + 1. other crew | **2** |  |
|  | implement countermeasures to prevent errors or take action in the time available to correct errors before the aircraft enters an undesired state | **2** |  |
| 1. NTS2.3 | Recognise and manage undesired aircraft state |  |  |
|  | recognise an undesired aircraft state | **2** |  |
|  | prioritise tasks to ensure an undesired aircraft state is managed effectively | **2** |  |
|  | apply corrective actions to recover an undesired aircraft state in a safe and timely manner | **2** |  |

\*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.

| 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 | | |
| --- | --- | --- |
|  | | |
| **Proceed to next training session?** | **Yes** | **No** |

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