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| Flight no: | CPL(H) 12.\_\_\_ | Trainee name & ARN: |  | | |
| Date: |  | Instructor: |  | | |
| Aircraft registration: |  | Aircraft type: |  | Flight time: |  |

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| Lesson Overview  * Land the helicopter following an engine failure during hover and hover taxi |

| PRE-FLIGHT KNOWLEDGE  Long Briefing: 0.6 hour Pre-flight Briefing: 0.3 hour  Underpinning knowledge: as required | |
| --- | --- |
| Content | |
| **Long briefing** –Engine failure in the hover and hover taxi   * Forces and torques acting on the helicopter. * Control technique associated with sudden engine failure near the ground. | |
| **Underpinning knowledge** (relevant to the stage of training):   * Review/expand previously introduced knowledge as required * Aerodynamics of hovering flight in ground effect. | |
| **HF & NTS**   * Hand over/take over technique ( Emphasis on student remaining highly receptive to instructor’s corrective inputs) * Control technique (Emphasis on rotor RPM, throttle management, collective control) * Careful assessment of ground conditions for run-on landings * No aft cyclic after ground contact | |
| **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] | | | |
| --- | --- | --- | --- |
| MOS Reference | Lesson Content (Elements & Performance Criteria) | Performance  Standard | |
| Required | Achieved\* |
| C3.1 | Operate radio equipment |  |  |
| (a) | confirm serviceability of radio equipment | 2 |  |
| (b) | conduct transmission and receipt of radio communications using appropriate procedures and phraseology | 2 |  |
| (c) | maintain a listening watch and respond appropriately to applicable transmissions | 2 |  |
| (d) | conduct appropriate emergency and urgency transmissions | 2 |  |
| H1.1 | Start engine and rotor |  |  |
| (b) | wind conditions are assessed for start | 2 |  |
| (c) | perform pre-start checklists actions | 2 |  |
| (d) | perform engine start and rotor engagement | 2 |  |
| (e) | rotor disc position is controlled during start | 2 |  |
| (f) | engine is operated within limits | 2 |  |
| (g) | emergencies are managed | 2 |  |
| 1. H1.2 | Stop engine and rotor |  |  |
|  | wind conditions are assessed and appropriate allowances made | 2 |  |
|  | helicopter is positioned with a view to safety and rotor clearance when stopping engine and rotors | 2 |  |
|  | perform engine shutdown and rotor stop | 2 |  |
|  | rotor disc position is controlled during shutdown | 2 |  |
|  | engine and transmission system indications are monitored and managed | 2 |  |
| 1. H1.3 | Control main rotor disc and anti-torque system |  |  |
|  | maintain the main rotor disc attitude during all RRPM operations | 2 |  |
|  | set anti-torque pedal position to compensate for main rotor torque | 2 |  |
|  | rotor disc attitude and RRPM are managed while performing other tasks or actions | 2 |  |
| 1. H4.1 | Carryout pre-take-off checks |  |  |
|  | pre-take-off checks and safety briefings are completed | 2 |  |
|  | select a safe take-off path | 2 |  |
|  | helicopter is lined up in the take-off direction and positioned at the optimum position within the helicopter landing site (HLS) | 2 |  |
|  | line-up checks are performed in accordance with approved checklist, when appropriate | 2 |  |
| 1. H4.2 | Take-off helicopter |  |  |
|  | air traffic control clearances are obtained and compliance is maintained with clearance conditions and requirements (within controlled airspace) | 2 |  |
|  | helicopter is transitioned from a stationary position in a specified direction passing through translational lift, remaining clear of obstructions and establishing and maintaining a recommended or nominated climb speed | 2 |  |
|  | helicopter flight path is controlled using appropriate control techniques including awareness of helicopter performance considerations, aircraft balance and flight control trim (if applicable) | 2 |  |
|  | power and attitude are managed for the flight path, departure profile and Indicated Airspeed (IAS) being flown | 2 |  |
|  | local and published noise abatement requirements and curfews are observed | 2 |  |
|  | situational awareness of circuit traffic is maintained and conflict is avoided | 2 |  |
| 1. H4.3 | Approach to hover |  |  |
|  | a suitable termination point is selected | 2 |  |
|  | pre-landing checks are completed in accordance with approved checklist | 2 |  |
|  | appropriate approach angle and track is intercepted and approach manoeuvres are conducted in accordance with air traffic control instructions (when in controlled airspace) | 2 |  |
|  | helicopter is descended to the hover at the selected termination point at a reducing rate of closure and along a specified track on an approach angle appropriate to the helicopter type and conditions | 2 |  |
|  | align the landing gear to the planned approach direction | 2 |  |
|  | recognise and control loss of translational lift | 2 |  |
|  | RPM is managed within normal operational limits | 2 |  |
|  | approach is terminated at the hover over the termination point | 2 |  |
| 1. H5.1 | Climb helicopter |  |  |
|  | from straight and level flight, adjust attitude and power to achieve a climb at normal, best rate (VY), best angle (VX) and cruise climb flight configurations | 2 |  |
|  | appropriate altimeter settings are set | 2 |  |
|  | helicopter is maintained in balanced flight during adjustment to power | 2 |  |
|  | power is maintained as altitude increases | 2 |  |
|  | helicopter is levelled off from climb at nominated altitude | 2 |  |
|  | lookout is maintained during climb using a systematic scan technique at a rate determined by traffic density, visibility and terrain | 2 |  |
|  | situational awareness is maintained | 2 |  |
| 1. H5.2 | Maintain straight and level flight |  |  |
|  | adjust attitude and power to achieve a constant height, heading and speed while remaining in balanced flight | 2 |  |
|  | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain | 2 |  |
|  | natural horizon is used as primary attitude reference | 2 |  |
|  | nominated altitude is maintained | 2 |  |
| 1. H5.3 | Descend helicopter |  |  |
|  | adjust attitude and power to enter and maintain a descent from straight and level | 2 |  |
|  | helicopter is levelled from a descent at a nominated altitude | 2 |  |
|  | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain | 2 |  |
|  | clearance ahead and below is maintained | 2 |  |
|  | air traffic control altitude restrictions are observed (as required) | 2 |  |
|  | helicopter does not exceed aircraft flight manual limits during descent | 2 |  |
|  | set appropriate altimeter settings | 2 |  |
|  | situational awareness is maintained at all times during helicopter descent | 2 |  |
| 1. H5.4 | Turn helicopter |  |  |
|  | attitude and power are adjusted to enter and maintain turns at varying rates from level, climbing and descending flight to achieve nominated tracks, during: |  |  |
|  | (i) level turns | 2 |  |
|  | (ii) climbing turns with 20° bank angle | 2 |  |
|  | (iii) powered descending turn with 30° bank angle | 2 |  |
|  | helicopter is rolled out from the turn to achieve a nominated heading or geographical feature | 2 |  |
|  | ensure helicopter is balanced and trimmed (if applicable) | 2 |  |
|  | lookout is maintained in direction of turn and above or below using a systematic scan technique at a rate determined by traffic density, visibility and terrain | 2 |  |
|  | engine operating limits are not exceeded | 2 |  |
| 1. H7.2 | Manage an engine failure at the hover or during taxi |  |  |
|  | hover heights and taxi surfaces are selected to maximise options in the event of an engine failure | 3 |  |
|  | emergency situation involving an engine failure is correctly identified | 3 |  |
|  | immediate actions are performed in accordance with the aircraft flight manual | 3 |  |
|  | perform a controlled touchdown | 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 | | |
| --- | --- | --- |
|  | | |
| **Proceed to next training session?** | **Yes** | **No** |

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