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| --- | --- | --- | --- | --- | --- |
| Flight no: | CPL(H)16.\_\_\_ | Trainee name & ARN: |  | | |
| Date: |  | Instructor: |  | | |
| Aircraft registration: |  | Aircraft type: |  | Flight time: |  |

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| Lesson Overview  * Conduct and /or simulate flight system failures * Conduct and/or simulate warning light actions * Conduct and/or simulate radio failure procedures |

| PRE-FLIGHT KNOWLEDGE  Long Briefing: 1.0 hour Pre-flight Briefing: 0.3 hour  Underpinning knowledge: as required | |
| --- | --- |
| Content | |
| **Long briefing** –Advanced Emergencies   * Warning light panel actions * Hydraulic failure (if applicable) * Clutch actuator failure (if applicable) * Governor failure * Electrical systems failure * Response to fire in flight * Radio failure * Transponder settings (7500, 7600, 7700) | |
| **Underpinning knowledge** (relevant to the stage of training):   * Review/expand previously introduced knowledge as required * Undesired aircraft states, including prevention, identifying and controlling [NTS2(e)] * How an undesired aircraft state can develop from an unmanaged threat or error [NTS2(f)] | |
| **HF & NTS**   * Look out/ listen out * Carry out recurring scan of local environment for traffic prior to beginning each new exercise * Hand over / take over 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] | | | |
| --- | --- | --- | --- |
| MOS Reference | Lesson Content (Elements & Performance Criteria) | Performance  Standard | |
| Required | Achieved\* |
| 1. C2.1 | Pre-flight actions and procedures |  |  |
| (c) | identify special aerodrome procedures | 2 |  |
| (e) | determine the suitability of the current and forecast weather conditions for the proposed flight | 2 |  |
| (g) | determine whether the aircraft is serviceable for the proposed flight | 2 |  |
| 1. C2.2 | Perform pre-flight inspection |  |  |
|  | identify and secure equipment and documentation that is required for the flight | 2 |  |
|  | complete an internal and external check of the aircraft | 2 |  |
|  | identify all defects or damage to the aircraft | 2 |  |
| (e) | ensure all aircraft locking and securing devices, covers and bungs are removed and stowed securely | 2 |  |
| 1. C3.2 | Manage R/T equipment malfunctions |  |  |
|  | perform radio failure procedures | 3 |  |
|  | use fault finding procedures and perform corrective actions | 3 |  |
| 1. C3.3 | Operate Transponder |  |  |
|  | operate a transponder during normal, abnormal and emergency operations | 3 |  |
|  | recall transponder emergency codes | 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. 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 |  |
| (d) | 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 |  |
| 1. H1.1 | Start engine and rotor |  |  |
|  | helicopter is positioned with a view to safety and rotor clearance when starting engine and rotors | 1 |  |
|  | wind conditions are assessed for start | 1 |  |
|  | perform pre-start checklists actions | 1 |  |
|  | perform engine start and rotor engagement | 1 |  |
|  | rotor disc position is controlled during start | 1 |  |
|  | engine is operated within limits | 1 |  |
|  | emergencies are managed | 1 |  |
| 1. H1.2 | Stop engine and rotor |  |  |
|  | wind conditions are assessed and appropriate allowances made | 1 |  |
|  | helicopter is positioned with a view to safety and rotor clearance when stopping engine and rotors | 1 |  |
|  | perform engine shutdown and rotor stop | 1 |  |
|  | rotor disc position is controlled during shutdown | 1 |  |
|  | engine and transmission system indications are monitored and managed | 1 |  |
| 1. H1.3 | Control main rotor disc and anti-torque system |  |  |
|  | maintain the main rotor disc attitude during all RRPM operations | 1 |  |
|  | set anti-torque pedal position to compensate for main rotor torque | 1 |  |
|  | rotor disc attitude and RRPM are managed while performing other tasks or actions | 1 |  |
| 1. H2.1 | Lift off to hover and perform hover checks |  |  |
|  | aircraft performance is calculated for the flight | 2 |  |
|  | pre-take-off checks are performed | 2 |  |
|  | flight controls are set to prepare for lift-off to the hover | 2 |  |
|  | flight and power controls are used to lift helicopter off the surface to a stable hover at the appropriate height for the helicopter while controlling heading | 2 |  |
|  | wind effect is anticipated and accounted for with appropriate control inputs to maintain position over nominated hover point | 2 |  |
|  | awareness of adverse effects of rotor downwash on surrounding aircraft, people, objects and environment is demonstrated | 2 |  |
|  | perform hover checks | 2 |  |
|  | flight control functions, centre of gravity and hover power requirements are checked | 2 |  |
|  | at a constant and safe hover height, commence, maintain and stop a hover taxi manoeuvre while maintaining power and RRPM within the limits | 2 |  |
|  | coordinated corrective action is used to counter the effects of wind | 2 |  |
|  | implications of environmental conditions are assessed and appropriate compensation is made | 2 |  |
|  | helicopter is maintained clear of obstructions | 2 |  |
|  | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain | 2 |  |
| 1. H2.2 | Hover helicopter in crosswind and tailwind |  |  |
|  | helicopter is maintained in hovering flight remaining over a nominated hover point at a nominated height and heading in cross and tail winds | 2 |  |
|  | coordinated corrective action is used to maintain a constant rate of turn and counter the effects of wind | 2 |  |
| 1. H2.3 | Perform turns around the mast |  |  |
|  | helicopter is turned around the mast while maintaining a constant height at a specified rate of turn | 2 |  |
|  | turn is completed on a nominated heading | 2 |  |
|  | controlled corrective action is used to control the effects of wind | 2 |  |
|  | helicopter is maintained clear of obstructions | 2 |  |
|  | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain | 2 |  |
|  | RPM is managed within limits during the turn | 2 |  |
| 1. H2.4 | Perform turns around nose and tail |  |  |
|  | helicopter is turned around a nominated point on or forward of the nose while maintaining a constant height and specified rate of movement around that point | 2 |  |
|  | helicopter is turned around a nominated point on or aft of the tail while maintaining a constant height and specified rate of movement around that point | 2 |  |
|  | controlled corrective action is taken to counter the effects of wind | 2 |  |
|  | helicopter is maintained clear of obstructions during turning manoeuvres | 2 |  |
|  | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain | 2 |  |
|  | turns in a specified direction are commenced and stopped at a specified heading | 2 |  |
|  | RPM is managed within limits during the turn | 2 |  |
|  | maintain ground track at a constant distance from the nominated point | 2 |  |
|  | anti-torque pedals are used to ensure helicopter nose or tail is pointed at the nominated turning point | 2 |  |
| 1. H2.5 | Perform sideways and backwards flight |  |  |
|  | helicopter is transitioned from static hover to sideways and rearward flight | 2 |  |
|  | lookout is maintained in direction of flight using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain | 2 |  |
|  | rearward movement is only conducted after visually checking behind helicopter, and height is adjusted as required | 2 |  |
|  | helicopter directional control is maintained and manoeuvred clear of obstructions during sidewards and backwards flight manoeuvres | 2 |  |
|  | RPM is managed within limits during the turn | 2 |  |
|  | maintain rate of movement of helicopter at a safe speed | 2 |  |
|  | sideways and rearward flight is terminated over a nominated hover point | 2 |  |
| 1. H2.6 | Land from the hover |  |  |
|  | complete pre-landing checks (if applicable) | 2 |  |
|  | helicopter is lowered on to a nominated point from hovering flight using a controlled rate of descent, without adverse longitudinal, lateral, yawing or rolling movements | 2 |  |
|  | ensure helicopter is stable on its landing gear prior to fully lowering collective | 2 |  |
|  | after-landing checks are performed | 2 |  |
| 1. H2.7 | Manage a mishandled landing |  |  |
|  | identify when an adverse landing situation is developing | 2 |  |
|  | appropriate action is taken to discontinue the landing and return to a safe hover | 2 |  |
| 1. H2.8 | Manage a mishandled lift off |  |  |
|  | identify when an adverse lift off situation is developing | 2 |  |
|  | appropriate action is taken to discontinue the lift off and return to the ground safely | 2 |  |
| 1. H3.2 | Perform air taxiing manoeuvres |  |  |
| (a) | helicopter is manoeuvred over the ground on a prescribed track at constant height associated with ground effect and speed adjusted to suit helicopter type, surface conditions, congestion, maintenance of control and to avoid collision with obstacles or other aircraft | 2 |  |
| (b) | as far as operational limitations allow, the landing gear is aligned with the direction of travel | 2 |  |
| (c) | awareness of adverse effects of rotor downwash on surrounding aircraft, people, objects and environment is demonstrated | 2 |  |
| (d) | RPM is managed within normal operating limits | 2 |  |
| 1. H4.4 | Perform go-around procedure |  |  |
|  | critical situations are recognised and timely decisions are made to go-around in circumstances that require discontinuing a circuit or approach | 2 |  |
|  | initiate the go-around | 2 |  |
|  | set power and attitude to initiate safe climb at appropriate IAS from any position in the circuit | 2 |  |
|  | obstructions and traffic are appropriately avoided during the climb following a decision to go-around | 2 |  |
|  | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain | 2 |  |
|  | situational awareness of circuit traffic is maintained throughout go-round procedure | 2 |  |
|  | after take-off checks are completed in accordance with approved checklist (as required) | 2 |  |
|  | local and published noise abatement requirements and curfews are observed | 2 |  |
| 1. H5.6 | Perform circuits and approaches |  |  |
| (a) | circuits are joined and conducted in accordance with AIP and or local procedures at normal and low altitude appropriate to the helicopter type | 2 |  |
| (b) | due allowance is made for the wind | 2 |  |
| (c) | all appropriate checklist items are completed when performing circuits and approaches | 2 |  |
| (d) | radiotelephone procedures are followed during circuit operations | 2 |  |
| (e) | the approach path applicable to the helicopter type is intercepted and maintained whilst remaining clear of other traffic | 2 |  |
| (f) | helicopter approach is conducted to establish hover or conduct a landing at the nominated termination point | 2 |  |
| (g) | lookout is maintained during circuits and approaches using a systematic scan technique at a rate determined by traffic density, visibility and terrain | 2 |  |
| (h) | conflicting traffic is recognised and appropriate responses are made | 2 |  |
| (i) | right of way rules are applied and compliance with the rules is maintained | 2 |  |
| (j) | weather conditions are monitored and appropriate responses are made | 2 |  |
| (k) | fuel status is monitored and appropriate responses are made | 2 |  |
| 1. H5.7 | Comply with airspace requirements |  |  |
|  | suitable aeronautical charts are interpreted and used to maintain airspace compliance requirements | 2 |  |
|  | circuit departure is performed | 2 |  |
|  | helicopter is maintained within a specified area and/or track while complying with air traffic requirements, controlled or restricted airspace conditions or limitations and reacting to factors that affect the safe progress of a flight | 2 |  |
|  | orientation is maintained to geographical features with the aid of suitable charts and maps | 2 |  |
|  | circuit join is conducted | 2 |  |
| 1. H6.2 | Perform autorotative flight |  |  |
|  | an appropriate action plan including task priorities is formulated that ensures the safe completion of autorotative manoeuvres | 2 |  |
|  | autorotative flight is entered and maintained at a nominated speed and heading in balanced flight | 2 |  |
|  | autorotative flight is performed at the optimum range and minimum descent rate speeds | 2 |  |
|  | heading is altered through 180° and 360° with the helicopter in balanced flight at a nominated speed | 2 |  |
|  | helicopter is recovered to normal flight from autorotative flight using power to a climb at nominated heading and speed | 2 |  |
|  | helicopter is recovered to a power termination into wind, using appropriate control inputs, the helicopter is flared at the appropriate height to reduce groundspeed and reduce rate of descent, control RRPM in limits, the helicopter is levelled and power is used to reduce rate of descent and establish a hover or hover taxi, control yaw throughout | 2 |  |
| (h) | lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain | 2 |  |
| (i) | situational awareness is maintained at all times during autorotative flight | 2 |  |
| 1. H7.1 | Manage a forced landing from level flight, after take-off and on approach |  |  |
| (a) | emergency situation requiring a forced landing is correctly identified | 2 |  |
| (b) | autorotative flight is entered and established at nominated speed and heading in balanced flight | 2 |  |
| (c) | immediate actions are performed | 2 |  |
| (d) | control RRPM within limitations | 2 |  |
| (e) | a landing area within autorotative distance is selected and an appropriate action plan is formulated to ensure safety of the helicopter | 2 |  |
| (f) | emergency procedures are implemented and task priorities are allocated to all actions to ensure aircraft, flight crew and passenger safety | 2 |  |
| (g) | emergency radio message of intentions are transmitted | 2 |  |
| (h) | helicopter is aligned with prevailing wind direction when possible with as slow as practical ground speed while maintaining control of the helicopter; situational awareness is maintained at all times during forced landing manoeuvres | 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 | 2 |  |
|  | emergency situation involving an engine failure is correctly identified | 2 |  |
|  | immediate actions are performed in accordance with the aircraft flight manual | 2 |  |
|  | perform a controlled touchdown | 2 |  |
| **H7.6** | **Manage upset recovery (this element is included to cover situations where the pilot has to recover the aircraft to a safe and stable flight condition in visual conditions)** |  |  |
| (a) | apply correct techniques for upset recovery in various configurations as follows: |  |  |
|  | (i) recognise upset condition | 3 |  |
|  | (ii) maintain references by visual cues | 3 |  |
|  | (iii) recover to level flight condition; configure aircraft appropriately | 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 |
| --- |
| 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 |
| --- | --- |
|  |  |