## Lesson Plan and Training Record

## CPL(A) 2: General Handling and Basic Instrument Flight

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| --- | --- | --- | --- | --- | --- |
| Flight no: | CPL(A) | Trainee name & ARN: |  | | |
| Date: |  | Instructor: |  | | |
| Aircraft Registration: |  | Aircraft Type: |  | Flight time: |  |

### **Lesson Overview**

* General handling – control at slow speeds, stalling under various conditions and configurations including wing drop at the stall, nose-high unusual attitude recognition and recovery, practice forced landing (simulated partial engine failure), precautionary search and landing
* Basic instrument flight –full instrument panel manoeuvres, introduction to limited panel manoeuvres
* Local area airspace
* Non–technical skills – monitor.

### **Pre-Flight Knowledge**

* Long Briefing: 1.0 hour
* Pre-flight Briefing: as required
* Underpinning knowledge: as required.

| Content | |
| --- | --- |
| Long briefing   * Basic instrument flight –full and limited panel * Precautionary search and landing * Underpinning knowledge discussions | |
| **Underpinning** knowledge   * The stall warning devices, turning using a magnetic compass, relationship between AOB, LF and stall speed, relationship between induced drag and operating at slow speed [A3 4(c),(h),(i),(j)] * Aerodynamic and operational considerations relating to slow flight, stalling, spinning, upset aeroplane states (see A5 4(b)(i)-(xii)), hazards of unbalanced flight [A5 4(a)-(g)] * Engine failure scenarios and procedures for partial power loss, causes leading to precautionary landings, suitable fields for precautionary landings, ditching, effects of partial engine power on performance, flight profile, range and landing options [A6 4(a),(c),(f),(k)] * Scan technique appropriate to fitted flight instruments and phase of flight, attitude and power requirements to achieve specified flight profiles, instrument failure and warning systems fitted to the aeroplane [IFF 4(a)-(c)] * Scan technique appropriate to fitted flight instruments and phase of flight (without attitude or stabilised heading indicators), performance instrument indications and power requirements to achieve specified flight profiles, anti-icing and de-icing controls and switches fitted to the aircraft type, and when these systems should be operated, instrument failure and warning systems fitted to the aircraft, the safety risks associated with application of large or rapid control inputs in more than one axis simultaneously [IFL 4 (a)-(e)] | |
| **HF &** NTS   * Effective communication under normal and non-normal circumstances, task management [NTS1 & NTS2 4(a), NTS1 4(b), NTS2 4(i)] * Threat and error management detailing processes that can be used to identify and mitigate or control threats and errors, the application of situation awareness to identifying real or potential environmental or operational threats to flight safety, developing and implementing plans of action for removing and mitigating threats, and removing and mitigating errors, undesired aircraft states, including prevention, identifying and controlling, how an undesired aircraft state can develop from an unmanaged threat or error, use of checklists and standard operating procedures to prevent errors [NTS2 4(b)-(f),(g)] | |
| **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** |
|  |  |

|  |  |  |
| --- | --- | --- |
| 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: 2.0 hours dual (1.0 IF)**

| MOS Reference | Lesson Content (Elements & Performance Criteria) | **Performance**  **Standard** | |
| --- | --- | --- | --- |
| Required | Achieved\* |
| IFF.1 | Determine and monitor the serviceability of flight instruments and instrument power sources |  |  |
|  | 1. determine serviceability of flight and navigational instruments | 2 |  |
|  | 1. perform functional checks of flight and navigational instruments where applicable prior to take-off | 2 |  |
| A3.5 | Control aeroplane at slow speeds |  |  |
|  | 1. complete pre-manoeuvre checks | 2 |  |
|  | 1. operate and monitor all aircraft systems when operating the aeroplane at slow speed in straight and level, climbing, descending and turning flight | 2 |  |
|  | 1. except for multi-engine aeroplane operations, select power, attitude and configuration as required for the flight path, balance and trim the aeroplane accurately, and apply smooth, coordinated control inputs to achieve stable flight at the required flight tolerances that apply to the following: |  |  |
|  | 1. minimum approach speed with flaps retracted | 2 |  |
|  | 1. minimum approach speed in approach configuration | 2 |  |
|  | 1. flight at speeds just above stall warning activation or at the initial symptoms of stall | 2 |  |
|  | 1. except for multi-engine aeroplane operations, observe audible and visible stall warnings and recover aeroplane to controlled flight | 2 |  |
|  | 1. recognise and respond positively to reduced effectiveness of controls during slow flight manoeuvres | 2 |  |
|  | 1. recognise the need to increase power while manoeuvring in slow flight to maintain nominated altitude and a margin of speed above the stall | 2 |  |
|  | 1. transition from slow speed configuration, using take off power to achieve nominated speed in excess of 1.5 Vs without loss of height | 2 |  |
| A5.1 | Enter and recover from stall |  |  |
|  | 1. perform stalling pre-manoeuvre checks | 2 |  |
|  | 1. recognise symptoms of a stall | 2 |  |
|  | 1. control the aeroplane by trimming and balancing accurately for slow flight and then applying the required pitch, roll and yaw inputs to enter and recover from the following: |  |  |
|  | 1. slow flight where initial symptoms of a stall become evident | 2 |  |
|  | 1. stall, recovering without application of power | 2 |  |
|  | 1. stall, recovering with full power applied (not required for multi-engine aeroplanes) | 2 |  |
|  | 1. stall under the following conditions: |  |  |
|  | A. straight and level flight | 2 |  |
|  | B. climbing flight (not required for multi-engine aeroplanes) | 2 |  |
|  | C. descending flight (not required for multi-engine aeroplanes) | 2 |  |
|  | D. approach to land configuration | 2 |  |
|  | E. turning flight (not required for multi-engine aeroplanes) | 2 |  |
|  | 1. perform stall recovery including the following: |  |  |
|  | 1. reduce angle of attack | 2 |  |
|  | 1. prevent yaw | 2 |  |
|  | 1. use available power and height to increase the aircraft energy state | 2 |  |
|  | 1. avoid secondary stall | 2 |  |
|  | 1. re-establish desired flight path and aircraft control with balanced control application | 2 |  |
|  | 1. perform stall recovery in simulated partial and complete engine failure conditions | 2 |  |
|  | 1. perform stall recovery at simulated low altitude | 2 |  |
| A5.2 | Avoid spin (This element only applies to a single-engine aeroplane) |  |  |
|  | 1. perform stalling pre-manoeuvre checks | 2 |  |
|  | 1. recognise wing drop at the stall | 2 |  |
|  | 1. from balanced flight, recover from stall in the attitudes and configurations most likely to cause a wing drop | 2 |  |
|  | 1. perform recovery where the aeroplane exhibits a tendency to drop a wing at the stall, in accordance with 5.1(d) | 2 |  |
|  | 1. perform stall recovery at simulated low altitude | 2 |  |
| A6.6 | Recover from unusual flight attitudes  Nose-high unusual attitudes |  |  |
|  | 1. identify nose-high unusual attitude flight condition | 2 |  |
|  | 1. recover from nose-high unusual attitudes by adjusting pitch, bank and power to resume controlled and balanced flight | 2 |  |
|  | 1. apply controlled corrective action while maintaining aircraft performance within limits | 2 |  |
| A6.3 | Perform forced landing (simulated) |  |  |
|  | 1. after a simulated partial engine failure has occurred, without prior indications, carry out the following: |  |  |
|  | 1. identify partial power failure condition | 2 |  |
|  | 1. perform recall actions | 2 |  |
|  | 1. adjust flight controls to re-establish flight path that maximises performance for partial power condition and maintain a safe airspeed margin above stall speed | 2 |  |
|  | 1. establish radio communications where possible | 2 |  |
|  | 1. perform partial engine failure actions | 2 |  |
|  | 1. formulate a plan to recover aeroplane to a safe landing area or aerodrome, taking into account that partial failure might lead to a full power failure at any time | 2 |  |
|  | 1. manoeuvre the aeroplane to a selected landing area or aerodrome using the remaining power to establish an optimal aircraft position for a safe landing | 2 |  |
|  | 1. advise ATS or other agencies capable of providing assistance of situation and intentions | 2 |  |
|  | 1. re-brief passengers about flight situation, brace position and harness security | 2 |  |
|  | 1. maintain a contingency plan for coping with a full power failure throughout the manoeuvre | 2 |  |
|  | 1. when a safe landing position is established, shut down and secure engine and aeroplane | 2 |  |
| A6.4 | Conduct precautionary search and landing (simulated condition) |  |  |
|  | 1. assess flight circumstances and make an appropriate decision when to perform precautionary landing | 2 |  |
|  | 1. configure aeroplane for conditions | 2 |  |
|  | 1. perform precautionary search procedure | 2 |  |
|  | 1. select landing area, carry out an inspection and assess its suitability for landing, taking into account: |  |  |
|  | 1. unobstructed approach and overshoot paths | 2 |  |
|  | 1. landing area length adequate for landing | 2 |  |
|  | 1. landing area surface is suitable for aeroplane type and clear of hazards | 2 |  |
|  | 1. maintain orientation and visual contact with the landing area | 2 |  |
|  | 1. advise ATS or other agencies capable of providing assistance of situation and intentions | 2 |  |
|  | 1. re-brief passengers about flight situation, brace position and harness security | 2 |  |
|  | 1. land and secure aircraft and manage passengers | 2 |  |
| IFF.1 | Determine and monitor the serviceability of flight instruments and instrument power sources |  |  |
|  | 1. monitor flight instrument and instrument power sources and react to any warnings, unserviceability or erroneous indications | 2 |  |
| IFF.2 | Perform manoeuvres using full instrument panel |  |  |
|  | 1. 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 |  |
|  | 1. 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 |  |
|  | 1. 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 |  |
| IFF.3 | Recover from upset situations and unusual attitudes |  |  |
|  | 1. correctly identify upset situations and unusual attitudes under simulated IMC | 2 |  |
|  | 1. 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 |  |
| IFL.1 | Recognise failure of attitude indicator and stabilised heading indicator |  |  |
|  | 1. monitor flight instruments and instrument power sources and recognise warning indicators or erroneous instrument indications | 3 |  |
|  | 1. transition from a full instrument panel to a limited instrument panel | 3 |  |
| IFL.2 | Perform manoeuvres – limited panel |  |  |
|  | 1. interpret and respond appropriately to instrument indications | 3 |  |
|  | 1. 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 |  |
|  | 1. 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 |  |
|  | 1. trim (as applicable) and balance aircraft | 3 |  |
|  | 1. establish level flight at a nominated altitude, from a climb or descent during straight or turning flight | 3 |  |
| IFL.3 | Recover from upset situations and unusual attitudes – limited panel |  |  |
|  | 1. correctly identify upset situations and unusual attitudes under simulated IMC | 3 |  |
|  | 1. 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 |  |
| IFL.4 | Re-establish visual flight |  |  |
|  | 1. transition from visual flight conditions to instrument flight conditions while maintaining control of the aircraft | 3 |  |
|  | 1. perform a manoeuvre to re-establish visual flight | 3 |  |
|  | 1. implement a plan that ensures the flight continues in VMC | 3 |  |
| A3.7 | Local area airspace |  |  |
|  | 1. using an appropriate chart, for the local area and circuit area: |  |  |
|  | 1. identify geographical features | 2 |  |
|  | 1. identify geographical limits | 2 |  |
|  | 1. identify restricted, controlled and uncontrolled airspace areas | 2 |  |
|  | 1. state local airspace limits | 2 |  |
|  | 1. identify the transit route between the departure aerodrome and training area | 2 |  |
|  | 1. identify the geographical limits of the training area | 2 |  |
|  | 1. identify aerodromes and landing areas within the local area | 2 |  |
|  | 1. maintain orientation and pinpoint location by using geographical features and a local area chart | 2 |  |
|  | 1. transit from the circuit area and transit to the designated training area | 2 |  |
|  | 1. operate safely within a transit lane (if applicable) | 2 |  |
|  | 1. remain clear of restricted, controlled and other appropriately designated airspace | 2 |  |
|  | 1. operate safely in the vicinity of local aerodromes and landing areas | 2 |  |
|  | 1. transit from the designated training area to the circuit area | 2 |  |
|  | 1. set QNH appropriately | 2 |  |
|  | 1. correctly determine which runway is to be used for landing | 2 |  |
|  | 1. ensure runway is serviceable and available | 2 |  |
|  | 1. position aircraft for arrival into the circuit | 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.

### **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 and date |
| --- | --- |
|  |  |