### Lesson Plan and Training Record

### ME(A)CR2: General Handling and Circuits

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| --- | --- | --- | --- | --- | --- |
| Flight no: | ME(A)CR2 | Trainee name & ARN: |  | | |
| Date: |  | Instructor: |  | | |
| Aircraft registration: |  | Aircraft type: |  | Flight time: |  |

### Lesson Overview

* Refuelling
* Slow flight and stalling (clean, approach, landing configurations)
* Basic instrument flight, including simulated inadvertent entry into IMC
* Circuits
* Assess:
  + climbing
  + straight and level
  + descending
  + turning
  + slow flight
  + stalling
  + instrument flight.

### Pre-Flight Knowledge

* Long Briefing: 0.8 hour
* Pre-flight Briefing: 0.3 hour
* Underpinning knowledge: as required

| Content | |
| --- | --- |
| Long briefing – General handling and circuits   * Stalling * Basic instrument flight * Considerations and procedures for take-off, circuit, approach and landing (including missed landing, missed approach) | |
| * Underpinning knowledge * Location of refuelling places [C4 4(e)] * Limitations on using drum stock fuel [C4 4(f)] * Health and safety requirements applicable to fuelling operations [C4 4(g)] * Obtaining or calculating the crosswind and down or upwind components [A2 4(a)] * The factors affecting take-off and initial climb performance [A2 4(b)] * Interpreting windsock indications and determining wind direction and speed [A2 4(c)] * Take-off distance required calculation [A2 4(d)] * Aerodrome charts and an ability to interpret them [A2 4(e)] * Stall warning devices [A3 4(c)] * Dangers associated with mechanical and wake turbulence [A3 4(k)] * Causes of loss of control on landing [A4 4(f)] * Aerodynamic and aeroplane operational considerations relevant to stalling, steep turns and upset aeroplane states [A5 4(b)] * Scan technique appropriate to fitted flight instruments and phase of flight [IFF 4(a)] * Instrument failure and warning systems fitted to the aeroplane [IFF4(c)] * Normal and crosswind take-off and landing procedures: climb, cruise, descent procedures including – airspeeds, configurations, method of drift allowance, setting of flight instruments and non-normal and emergency procedures [AME 4(j)] | |
| HF & NTS   * Hand over/take over technique (e.g. ‘I have control – you have control’) * Use of checklists and standard operating procedures to prevent errors [NTS2 4(h)] * Control handling 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: |

|  |  |  |
| --- | --- | --- |
|  | 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 hours dual (0.1 IF)

| MOS Reference | Lesson Content (Elements & Performance Criteria) | Performance  Standard | |
| --- | --- | --- | --- |
| Required | Achieved\* |
| C2.2 | Perform pre-flight inspection |  |  |
|  | 1. complete an internal and external check of the aircraft | 2 |  |
|  | 1. identify all defects or damage to the aircraft | 2 |  |
|  | 1. complete and certify the daily inspection (if authorised to do so) | 2 |  |
| C4.3 | Refuel aircraft |  |  |
|  | 1. identify the correct type of fuel to be used | 2 |  |
|  | 1. ensure aircraft is earthed prior to refuelling and defueling operations | 2 |  |
|  | 1. correctly load and unload fuel | 2 |  |
|  | 1. ensure required fuel quantity is loaded | 2 |  |
|  | 1. ensure fuel caps are closed and secured after fuelling operations | 2 |  |
|  | 1. perform fuel quality checks | 2 |  |
| AME.1 | Operate multi-engine aeroplane |  |  |
|  | 1. use asymmetric thrust to assist with taxi manoeuvring | 2 |  |
|  | 1. check multi-engine specific systems and instrumentation | 2 |  |
| A2.1 | Carry out pre-take off procedures |  |  |
|  | 1. correctly identify critical airspeeds, configurations, and emergency and abnormal procedures for normal and crosswind take-offs | 2 |  |
|  | 1. work out a plan of action, in advance, to ensure the safest outcome in the event of abnormal operations | 3 |  |
|  | 1. verify and correctly apply correction for the existing wind component to the take-off performance | 2 |  |
|  | 1. perform all pre take-off and line-up checks required by the aircraft checklist | 2 |  |
|  | 1. ensure approach path is clear of conflicting traffic and other hazards before lining up for take-off | 2 |  |
|  | 1. align the aeroplane on the runway centreline | 2 |  |
| A2.2 | Take-off aeroplane |  |  |
|  | 1. apply the controls correctly to maintain longitudinal alignment on the centreline of the runway, if appropriate, prior to initiating and during the take-off | 3 |  |
|  | 1. adjust the power controls taking into account the existing conditions | 3 |  |
|  | 1. monitor power controls, settings, and instruments during take-off to ensure all predetermined parameters are achieved and maintained | 3 |  |
|  | 1. adjust the controls to attain the desired pitch attitude at the predetermined airspeed to attain the desired performance | 3 |  |
|  | 1. perform the take-off applying the required pitch, roll and yaw inputs as appropriate in a smooth, coordinated manner | 3 |  |
|  | 1. trim the aeroplane accurately | 3 |  |
|  | 1. perform gear and flap retractions, power adjustments (as applicable) and other required pilot-related activities | 3 |  |
|  | 1. maintain flight path along the runway extended centreline | 3 |  |
|  | 1. apply the applicable noise abatement and wake turbulence avoidance procedures | 3 |  |
|  | 1. recognise take-off abnormalities and take appropriate action to reject take-off (can be simulated) | 3 |  |
| A2.3 | Take-off aeroplane in a crosswind |  |  |
|  | 1. perform a take-off in an aeroplane making appropriate adjustments for the crosswind conditions | 3 |  |
|  | 1. maintain the runway centreline and extended centreline | 3 |  |
| A2.5 | Take-off aeroplane from ‘short field’ |  |  |
|  | 1. calculate take-off and landing performance in accordance with the aeroplane's performance charts | 3 |  |
|  | 1. perform take-off aeroplane to achieve the minimum length take-off performance | 3 |  |
|  | 1. perform take-off aeroplane to achieve the obstacle clearance parameters | 3 |  |
| A2.4 | Carry out after take-off procedures |  |  |
|  | 1. perform after take-off checklist | 2 |  |
|  | 1. maintain the appropriate climb segment at the nominated heading and airspeed | 2 |  |
|  | 1. manoeuvre according to local and standard procedures | 2 |  |
|  | 1. maintain traffic separation | 2 |  |
| A3.1 | Climb aeroplane |  |  |
|  | 1. operate and monitor all aircraft systems when commencing, during and completing a climbing flight manoeuvre | 1 |  |
|  | 1. adjust altimeter subscale according to applicable settings | 1 |  |
|  | 1. identify and avoid terrain and traffic | 1 |  |
|  | 1. for the following climbing manoeuvres 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 the required flight tolerances that apply to the manoeuvre: |  |  |
|  | 1. cruise climb | 1 |  |
|  | 1. best angle climb | 1 |  |
|  | 1. best rate climb | 1 |  |
|  | 1. anticipate level-off altitude and achieve straight and level flight | 1 |  |
| A3.2 | Maintain straight and level flight |  |  |
|  | 1. operate and monitor all aircraft systems during straight and level flight manoeuvres | 1 |  |
|  | 1. adjust altimeter subscale according to applicable settings | 1 |  |
|  | 1. identify and avoid terrain and traffic | 1 |  |
|  | 1. for the following straight and level manoeuvres 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 the required flight tolerances that apply to the manoeuvre: |  |  |
|  | 1. at slow speed | 1 |  |
|  | 1. at normal cruise | 1 |  |
|  | 1. at high-speed cruise | 1 |  |
|  | 1. during acceleration and deceleration | 1 |  |
|  | 1. at maximum range | 1 |  |
|  | 1. at maximum endurance | 1 |  |
|  | 1. with flaps selected | 1 |  |
| A3.4 | Turn aeroplane |  |  |
|  | 1. operate and monitor all aircraft systems during turning flight manoeuvres | 1 |  |
|  | 1. for the following turning manoeuvres 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 the required flight tolerances that apply to the manoeuvre: |  |  |
|  | 1. level turns | 1 |  |
|  | 1. climbing turn | 1 |  |
|  | 1. powered descending turn | 1 |  |
|  | 1. gliding descending turn | 1 |  |
|  | 1. complete turn manoeuvre on a nominated heading or geographical feature | 1 |  |
|  | 1. turn aeroplane at varying rates to achieve specified tracks | 1 |  |
|  | 1. manoeuvre aeroplane over specified tracks or geographical features | 1 |  |
| A5.3 | Turn aeroplane steeply |  |  |
|  | 1. perform pre-manoeuvre checks for steep turning | 1 |  |
|  | 1. steep level turn using a nominated bank angle, ending on a nominated heading or geographical feature, without altitude change | 1 |  |
|  | 1. steep descending turn using a nominated bank angle, ending on a nominated heading or geographical feature ending on a nominated altitude | 1 |  |
|  | 1. aeroplane operating limits are not exceeded | 1 |  |
| A3.5 | Control aeroplane at slow speeds |  |  |
|  | 1. complete pre-manoeuvre checks | 1 |  |
|  | 1. operate and monitor all aircraft systems when operating the aeroplane at slow speed in straight and level, climbing, descending and turning flight | 1 |  |
|  | 1. recognise and respond positively to reduced effectiveness of controls during slow flight manoeuvres | 1 |  |
|  | 1. recognise the need to increase power while manoeuvring in slow flight to maintain nominated altitude and a margin of speed above the stall | 1 |  |
|  | 1. transition from slow speed configuration using take-off power to achieve nominated speed in excess of 1.5 Vs without loss of height | 1 |  |
| A5.1 | Enter and recover from stall |  |  |
|  | 1. perform stalling pre-manoeuvre checks | 1 |  |
|  | 1. recognise symptoms of a stall | 1 |  |
|  | 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 | 1 |  |
|  | 1. stall, recovering without application of power | 1 |  |
|  | 1. stall under the following conditions: |  |  |
|  | (A) straight and level flight | 1 |  |
|  | (D) approach to land configuration | 1 |  |
|  | 1. perform stall recovery including the following: |  |  |
|  | 1. reduce angle of attack | 1 |  |
|  | 1. prevent yaw | 1 |  |
|  | 1. use available power and height to increase the aircraft energy state | 1 |  |
|  | 1. avoid secondary stall | 1 |  |
|  | 1. re-establish desired flight path and aircraft control with balanced control application | 1 |  |
|  | 1. perform stall recovery in simulated partial and complete engine failure conditions | 1 |  |
|  | 1. perform stall recovery at simulated low altitude | 1 |  |
| IFF.1 | Determine and monitor the serviceability of flight instruments and instrument power sources |  |  |
|  | 1. determine serviceability of flight and navigational instruments | 1 |  |
|  | 1. perform functional checks of flight and navigational instruments where applicable prior to take-off | 1 |  |
|  | 1. monitor flight instrument and instrument power sources and react to any warnings, unserviceability or erroneous indications | 1 |  |
| 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 | 1 |  |
|  | 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 | 1 |  |
|  | 1. nominated climb performance within the flight tolerances | 1 |  |
|  | 1. descent performance within the flight tolerances | 1 |  |
|  | 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 | 1 |  |
| A3.3 | Descend aeroplane |  |  |
|  | 1. operate and monitor all aircraft systems during descending flight manoeuvres | 1 |  |
|  | 1. for the following descending manoeuvres 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 the required flight tolerances that apply to the manoeuvre: |  |  |
|  | 1. glide | 1 |  |
|  | 1. powered | 1 |  |
|  | 1. approach configuration descent (flap and undercarriage) | 1 |  |
|  | 1. anticipate level-off altitude and achieve straight and level flight | 1 |  |
| A3.6 | Perform circuits and approaches |  |  |
|  | 1. operate and monitor all aircraft systems when operating the aeroplane in the circuit | 3 |  |
|  | 1. in accordance with specific local procedures, safely perform a full circuit pattern (5 legs) by balancing and trimming the aeroplane accurately while applying smooth, coordinated control inputs to achieve the required flight tolerances specified for the flight path flown during traffic pattern manoeuvres as follows: |  |  |
|  | 1. track upwind along extended centreline to 500 ft | 3 |  |
|  | 1. establish and maintain crosswind leg tracking 90° to the runway | 3 |  |
|  | 1. establish and maintain downwind leg tracking parallel to, and at a specified distance from, the runway at circuit height | 3 |  |
|  | 1. establish base leg tracking 90° to the runway at a specified distance from the runway threshold | 3 |  |
|  | 1. perform checks as required throughout circuit | 3 |  |
|  | 1. establish the approach and landing configuration appropriate for the runway and meteorological conditions, and adjust the power plant controls as required for the following: |  |  |
|  | 1. commence and control approach descent path | 3 |  |
|  | 1. adjust descent commencement point to take account of extended downwind leg or traffic adjustments | 3 |  |
|  | 1. align and maintain aircraft on final approach flight path with specified or appropriate runway | 3 |  |
|  | 1. set and maintain approach configuration not below 500 ft AGL | 3 |  |
|  | 1. identify and maintain the nominated aiming point | 3 |  |
|  | 1. maintain a stabilised approach angle at the nominated airspeed not less than 1.3Vs to the round-out height | 3 |  |
|  | 1. verify existing wind conditions, make proper correction for drift, and maintain a precise ground track | 3 |  |
|  | 1. apply speed allowances for wind gusts | 3 |  |
|  | 1. configure aeroplane for landing | 3 |  |
|  | 1. maintain aircraft separation and position in the circuit with reference to other aircraft traffic in the circuit area | 3 |  |
| A4.3 | Conduct a missed approach |  |  |
|  | 1. recognise the conditions when a missed approach should be executed | 3 |  |
|  | 1. make the decision to execute a missed approach when it is safe to do so | 3 |  |
|  | 1. make a smooth, positively-controlled transition from approach to missed approach, including the following: |  |  |
|  | 1. select power, attitude and configuration to safely control aeroplane | 3 |  |
|  | 1. manoeuvre aeroplane clear of the ground and conduct after take-off procedures | 3 |  |
|  | 1. make allowance for wind velocity during go-around | 3 |  |
|  | 1. avoid wake turbulence | 3 |  |
| A4.4 | Perform recovery from missed landing |  |  |
|  | 1. recognise when a missed landing is occurring and when it is appropriate to take recovery action | 3 |  |
|  | 1. make the decision to execute recovery from a missed landing only when it is safe to do so | 3 |  |
|  | 1. make a smooth, positively-controlled transition from missed landing to missed approach, including the following: |  |  |
|  | 1. select power, attitude and configuration to safely control aeroplane | 3 |  |
|  | 1. manoeuvre aeroplane clear of the ground and conduct after take-off procedures | 3 |  |
|  | 1. make allowance for wind velocity during go-around | 3 |  |
|  | 1. avoid wake turbulence | 3 |  |
| A4.1 | Land aeroplane |  |  |
|  | 1. maintain a constant landing position aim point | 3 |  |
|  | 1. achieve a smooth, positively-controlled transition from final approach to touchdown, including the following: |  |  |
|  | 1. control ballooning during flare | 3 |  |
|  | 1. touchdown at a controlled rate of descent, in the specified touchdown zone within tolerances | 3 |  |
|  | 1. control bouncing after touchdown | 3 |  |
|  | 1. touchdown aligned with the centreline within tolerances | 3 |  |
|  | 1. ensure separation is maintained | 3 |  |
|  | 1. maintain positive directional control and crosswind correction during the after landing roll | 3 |  |
|  | 1. use drag and braking devices, as applicable, in such a manner to bring the airplane to a safe stop | 3 |  |
|  | 1. complete the applicable after landing checklist items in a timely manner | 3 |  |
| A4.2 | Land aeroplane in a crosswind |  |  |
|  | 1. verify existing wind conditions, make proper correction for drift, and maintain a precise ground track | 3 |  |
|  | 1. configure the aeroplane for the crosswind conditions | 3 |  |
|  | 1. control the aeroplane during the transition from final approach to touchdown and during after landing roll to compensate for the crosswind conditions | 3 |  |
| A4.5 | Short landing |  |  |
|  | 1. land aeroplane at nominated touchdown point at minimum speed | 3 |  |
|  | 1. control ballooning during flare | 3 |  |
|  | 1. control bouncing after touchdown | 3 |  |
|  | 1. maintain direction after touchdown | 3 |  |
|  | 1. apply maximum braking without locking up wheels | 3 |  |
|  | 1. stops aircraft within landing distance available | 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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|  |  |  |  |
|  |  |  |  |
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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 |
| --- | --- |
|  |  |