

CPL CHEAT SHEET – by Christopher Creighton

GROUND COMPONENT –

Privileges and limitations of the licence with category rating – the holder of a valid CPL may act as PIC in any aircraft in any operation other than a multi-crew aircraft in charter/RPT operation, an aeroplane certified for single-pilot operation that has an MTOW of more than 5700kg in RPT, and a turbojet aeroplane with an MTOW of more than 3500kg in RPT. Can act as co-pilot in any aircraft in any operation (CASR 61.570). Limitations include they must be more than 18 years of age, a current medical certificate and a current flight review not more than 2 years in date (CASR Part 61.580). When flying must have your pilot licence, current medical certificate (CASR 61.415) and photo identification (CASR 61.420). Can not exercise privileges of your licence unless the pilot also has a category rating for that aircraft (fixed/heli/balloon/gyro etc), a class rating for that aircraft (multi-engine etc), hold design feature endorsements for that aircraft (csu/rg etc), hold a type rating for the aircraft if required by CASR 61.755, a current flight review on the category and class of aircraft (past 24 months review/proficiency check as per CASR 61.400). Recency requirements state pilot can not carry passengers unless in the last 90 days have carried out a flight that included at least 3 take-offs and 3 landings in aircraft of that category, or successfully completed a flight check or flight review in aircraft of that category, or passed a flight test that included at least one landing for a licence/rating, or participating in your operator's approved training and checking system (CASR 61.395).

Requirements for an AOC – An Operations Manual (CAR215), Chief Pilot employed, Dangerous goods manual, drug and alcohol plan (CAO82 Table A), CASA may require a check (proving) flight. AOC under the act – CASA can issue an AOC for its own purposes, an operator can't operate an aircraft in Australia without an Australian AOC, AOC is issued to a natural person or body of people, must not operate aircraft unless prescribed on the AOC (REG 206).

Classification of Operations (CAR 206) –

Airwork – aerial spotting, aerial surveying, agricultural operations, aerial photography, advertising, ambulance function, Carriage for the purpose of trade – not in accordance with fixed terminals and fixed schedules.

Charter – carriage of passengers and cargo for hire or reward other than in accordance with fixed terminals and fixed schedules and availability to the public generally.

Regular Public Transport (RPT) – Transport of passengers and cargo on fixed schedules at fixed terminals, available to the public generally.

Private – CAR 2 (d) – (i) Personal transportation of the aircraft owner, (ii) Aerial spotting, no remuneration received by the pilot, owner of aircraft or any other person or organisation on whose behalf the spotting is conducted, (iii) Ag ops on land owned and occupied by the owner of the aircraft, (iv) Aerial photography, no remuneration received by the pilot, owner of aircraft or any other person or organisation on whose behalf the photography is being conducted, (v) Carriage of persons or goods without charge, the goods being property of the owner, the pilot or hirer of the aircraft, not including items for purposes of trade, (vi) The carriage is in accordance with (7A) an aircraft carries persons on a flight, other than in accordance with fixed schedules and terminals is employed in private op's if; No public notice or advertised or announced, not more than 6 people

including the pilot, no payment for the service of the crew, all passengers and crew share the cost of flight, no other payment is made except cost sharing, (vii) Carriage of goods other than purpose of trade, (viii) Flight training other than prescribed in CASR 141.015, 142.015, CAR 5.01(1)

Type of Information Contained In Operations Manual –

CAR 215 – Contains information, procedures and instructions for flight operations in types of operations for the organisation. Operations manual is legal document, must be read and signed by all pilots. Doesn't need to contain information that is in other documents that are required onboard the aircraft. I.e Aircraft Manual. Things included in the Op's Manual are Flight and Duty Times, students need to read the Operations Manual.

Flight and Duty Time Limits – CAO 48.1 – 1 day (8hrs flight time, 11hrs duty time), 7 days (30hrs flight time), 14 days (90hrs duty time), 30 days (100hrs flight time), 365 days (900hrs flight time)

Applicability of Drug and Alcohol Regulations - as per CAR 256, no intoxicated person to enter the aircraft, any crew must not be under the influence of alcohol or be impaired due to the consumption or absorption of drugs or alcohol, last drink to be had not less than 8hours prior to departure time, operating crew shall not consume alcohol on a flight, no illicit drugs and any prescription medicine is to be cleared by DAME.

Day VFR Commercial Instrument Requirements - as per CAO 20.18 Appendix I, Airspeed indicating system, Altimeter with Subscale, Direct reading magnetic compass or remote indicating compass and standby direct reading magnetic compass, an accurate time piece indicating hours, minutes and seconds, this can be carried on the pilot or navigator. Turn and slip indicator (AG aircraft may use slip only) and OAT indicator when operating from an aerodrome which ambient air temperature is not available from ground-based instruments.

Emergency Equipment Requirements - as per CAO 20.11, All passengers are to be orally briefed by crew on the location and use of emergency equipment on board. 1 life jacket per person on board aircraft travelling over water and at a distance from land that in the event of an engine failure (single or multi-engine aircraft more than 50miles from land) would not be able to make it back to land. Life raft to be carried if distance equal to 120mins at cruising speed or 400 miles (whichever is less) or in any other case 30 mins at normal cruising speed or 100 miles (whichever is less). ELT required for flights over water out of communication range, more than 50NM from departure point, in remote areas. Survival equipment when carrying life rafts, in remote areas or when directed by CASA.

Requirements for Landing Area's and Aerodromes - Physical requirements IAW CAAP 92-1 minimum width of 15m but aircraft below 2000kg can have 10m width providing no or light crosswind (ag operations also), length equal to or greater than aircrafts flight manual for prevailing conditions (additional 15% recommended when using unfactored data), slope between ends not greater than 2%, traverse slope between extreme edges not more than 2.5%, both ends clear of objects for 5% slope. Lighting for night operations lights should be 90m apart, 15m from runway centre line either side down the runway.

GNSS and its Use in VFR Navigation - GNSS is not a positive fix for separation purposes however for VFR Navigation is a positive fix providing the GNSS equipment meets the equipment requirements of AIP GEN 1.5 Section 2.

Fuel Planning & Oil Requirements For Flight – CAR 234 states the PIC must not commence a flight unless they have taken reasonable steps to ensure sufficient fuel and oil for the flight to be conducted safely. Sufficient meaning the distance travelled in the aircraft to reach the destination, the meteorological conditions (extra fuel for forced diversion, a delay, ATC re-routing the flight, loss of pressurisation in the aircraft or where in a multi-engine there is a loss of an engine). CAAP's 234 being recommendations for sufficient fuel but if something happens you will have to prove you had sufficient fuel for the flight, PRIVATE and AIRWORK does not have a variable reserve but a fixed reserve for VFR of 30 mins holding fuel, for RPT and CHARTER a requirement of 10% variable reserve and 30 mins holding fuel.

Loading and Unloading Fuel – CAO 20.9 states that fuelling aircraft vents shall not be closer than 5m from a sealed building, 6m from other stationary aircraft, 15m from exposed public area and 9 m from an unsealed building unless aircraft is less than 5700kg. No fuelling with passengers onboard, entering or leaving the aircraft is permitted if using AVGAS. CAO 20.2 states that fuel system inspections for the presence of contaminants in fuel should be made before the start of each days flying and after every refuelling. This is to be done via an approved method for checking water contamination – filling a jar with known fuel, take a sample from each tank. The presence of water will be indicated by demarcation between the two fluids. When re-fuelling from a drum use a torch to see water in the bottom of the drum, store drums on their side and advisable to pump some fuel out on the ground before pumping fuel into the tanks. Can not hot refuel with AVGAS.

Managing Cargo and Passengers - CAR 20.16.2 states that all cargo needs to be restrained in flight, can be carried on a seat if it doesn't exceed 77kg, and can be carried on a control seat providing the aircraft does not exceed 5700kg. Passengers may be carried in a control seat, 2 children not exceeding 77kg may be carried on a single seat restrained sitting side by side, all crew members and passengers shall occupy a seat during – take off/landing, instrument approach, flying less than 1000ft AGL and in turbulence. The exception is infants being carried in the arms of another seated person, stretcher cases, package dispatchers and parachutists.

Aircraft Performance and Landing Calculations – C182T Fuselage length 348"/8.8m, Wingspan 432"/10.97m, Elevator Span 140"/3.556m, Tail Height 112"/2.8m, Minimum turn radius pivot point to outbound wing tip 8.3m, Total Fuel 92gal/348.258lts 100(GREEN)/100LL AVGAS(BLUE) with 46gal in each tank and total usable of 87gal/329.331lts, OIL total 9 QTS(8QTS in sump) MIL-L22851 or SAE J1899 Ashless Dispersant Oil after first 50hrs, MTOW 3100LBS/1406KG, RAMP 3112/1411.58kg, LANDING WEIGHT 2950/ 1340.9kg, Engine is Textron Lycoming Normally Aspirated, direct drive, air cooled, horizontally opposed, fuel injected, six cylinder engine operating 230BHP @ 2400RPM, Prop is CSU and hydraulically actuated low pitch 14.9deg/high pitch 31.7deg - 79" max McCauley prop, wing loading of 17.8 lbs/sq.ft.

CPL Maintenance Authorisations – Schedule 8 of Reg 422C. PIC must ensure the MR is valid for the entire flight.

Aircraft Speed Limitations- VNE never exceed and window open 175KIAS, VNO max structural/ only in smooth air with caution 140KIAS, VA no full/abrupt control inputs 3100lbs/110kias – 2600lbs/101kias – 2100lbs/91kias, VFE flaps extended 0-10deg is 140kias – 10-20deg is 120kias – 20deg-full is 100kias, VG 3100LBS/76KIAS – 2600LBS/70KIAS – 2100LBS/58KIAS. EFAT 75KIAS flaps

up/70kias flaps down. Max crosswind 15kts, VX 65/68kias, VY 80/74, VB 3100/110KIAS –
2600/101KIAS, 2100/91KIAS

C182T – EMERGENCY PROCEDURES

<p>ENGINE FAILURE DURING TAKEOFF RUN</p> <ol style="list-style-type: none"> 1. Throttle – IDLE 2. Brakes – APPLY 3. Wing Flaps – RETRACT 4. Mixture – IDLE CUT OFF 5. Ignition Switch – OFF 6. Standby Battery - OFF 7. Master Switch – OFF <p>ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF</p> <ol style="list-style-type: none"> 1. Airspeed – 75KIAS (FLAPS UP)/70KIAS (FLAPS DOWN) 2. Mixture – IDLE CUT-OFF 3. Fuel Selector – OFF 4. Ignition – OFF 5. Wing Flaps – AS REQUIRED (40DEG RECOMMENDED) 6. Standby Battery - OFF 7. Master – OFF 8. Cabin Door – Unlatch 9. Land – Straight Ahead <p>ENGINE FAILURE DURING FLIGHT</p> <ol style="list-style-type: none"> 1. Airspeed – 76KIAS (VG) 2. Fuel Selector – BOTH 3. Fuel Pump - ON 4. Mixture – RICH 5. Ignition – BOTH (or START if prop is stopped) 6. Fuel Pump – OFF (if fuel flow drops immediately signals engine driven pump failure so turn fuel pump back on) <p>EMERGENCY LANDING WITHOUT ENGINE POWER</p> <ol style="list-style-type: none"> 1. Pilot/Passenger seatbacks – UPRIGHT 2. Seats and Seat Belts - SECURE 3. Airspeed – 75KIAS (FLAPS UP)/ 70KIAS (FLAPS DOWN) 4. Mixture – IDLE CUT-OFF 5. Fuel Selector – OFF 6. Ignition – OFF 7. Wing Flaps – AS REQUIRED (full recommended) 8. Standby Battery - OFF 9. Master – OFF when landing assured 10. Doors – UNLATCH PRIOR TO TOUCHDOWN 11. Touchdown – SLIGHTLY TAIL LOW 12. Brakes – APPLY HEAVILY <p>PRECAUTIONARY LANDING WITH ENGINE POWER</p> <ol style="list-style-type: none"> 1. Pilot/Passenger seatbacks – UPRIGHT 2. Seats/Seatbelts - SECURE 3. Airspeed – 75 KIAS 	<ol style="list-style-type: none"> 7. Airspeed – 70 KIAS 8. Standby Battery - OFF 9. MASTER – OFF when landing assured 10. Doors – UNLATCH PRIOR TO TOUCHDOWN 11. Touchdown – SLIGHTLY TAIL LOW 12. Mixture - IDLE 13. Ignition - OFF <p>Brakes – APPLY HEAVILY</p> <p>DITCHING</p> <ol style="list-style-type: none"> 1. Radio – TRANSMIT MAYDAY on 121.5MHz, giving location and intentions and SQUAWK 7700 2. Heavy Objects (in baggage area) – SECURE OR JETTISON 3. Pilot/Passengers – SEATBACKS UPRIGHT 4. Seats/Seatbelts - SECURE 5. Flaps – 20deg-full 6. Power – ESTABLISH 300FT/MIN DESCENT at 65KIAS 7. Approach – High Winds, Heavy Seas INTO THE WIND – Light Winds, Heavy Swells PARALLEL TO SWELLS. NOTE – If no power is available approach at 70KIAS with flaps up or at 65KIAS with 10deg flaps 8. Cabin Doors – UNLATCH 9. Touchdown – LEVEL ATTITUDE AT ESTABLISHED DESCENT 10. Face – CUSHION at touchdown with folded coat 11. ELT - ACTIVATE 12. Airplane – EVACUATE through cabin doors. If necessary, open windows and flood cabin to equalise pressure so doors can be opened 13. Life Vests and Raft – INFLATE when clear <p>FIRE DURING START UP ON THE GROUND</p> <ol style="list-style-type: none"> 1. MAGNETOS Switch – START (continue cranking to start the engine) <p>If engine starts;</p> <ol style="list-style-type: none"> 2. Power- 1800RPM for a few minutes 3. Engine – SHUTDOWN and inspect for damage <p>If engine fails to start;</p> <ol style="list-style-type: none"> 4. Throttle – FULL OPEN 5. Mixture –IDLE 6. Cranking – CONTINUE 7. Fuel Selector – OFF 8. Fuel Pump – OFF 9. Ignition – OFF 10. Standby Battery – OFF 11. Master - OFF
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<ul style="list-style-type: none"> 4. Wing Flaps – 20 deg 5. Select Field – FLY OVER, noting terrain and obstructions 6. Wing Flaps – FULL (on final approach) 	<ul style="list-style-type: none"> 12. Engine – SECURE 13. Park Brake - RELEASE 14. Fire Extinguisher – OBTAIN
<ul style="list-style-type: none"> 15. Aircraft - Evacuate 16. Fire – EXTINGUISH using extinguisher/ blanket or dirt 17. Fire Damage - Inspect <p>ENGINE FIRE IN FLIGHT</p> <ul style="list-style-type: none"> 1. Mixture – IDLE 2. Fuel Selector – OFF 3. Fuel Pump - OFF 4. Master - OFF 5. Cabin heat and Air – OFF except overhead vents 6. Airspeed – 100KIAS (if fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture) 7. Forced Landing – EXECUTE (as described in Emergency Landing Without Engine Power) <p>ELECTRICAL FIRE IN FLIGHT</p> <ul style="list-style-type: none"> 1. Standby Battery - OFF 2. Master – OFF 3. Vents/Cabin Air/Heat - CLOSED 4. Fire Extinguisher – ACTIVATE (if available) 5. Avionics - OFF 6. All Other Switches (except ignition) – OFF 7. Vents/Cabin Air/Heat – OPEN when sure fire is completely extinguished <p>If fire appears out and electrical power is necessary for continuance of flight:</p> <ul style="list-style-type: none"> 8. Circuit Breakers – CHECK for OPEN circuit(s), do not reset 9. Master – ON 10. Standby Battery - ON 11. Avionics Switch (BUS 1) – ON 12. Avionics Switch (BUS 2) - ON <p>CABIN FIRE</p> <ul style="list-style-type: none"> 1. Standby Battery - OFF 2. Master – OFF 3. Vents/Cabin Air/Heat – CLOSED (to avoid drafts) 4. Fire Extinguisher – ACTIVATE (if available) <p>After discharging extinguisher with a closed cabin, ventilate cabin</p> <ul style="list-style-type: none"> 5. Vents/Cabin Air/Heat – OPEN (when sure fire is completely extinguished) 6. Land the airplane ASAP to inspect for damage. <p>WING FIRE</p> <ul style="list-style-type: none"> 1. LAND and TAXI Light Switches - OFF 2. Navigation Light Switch – OFF 3. Strobe Light Switch – OFF 4. Pitot Heat Switch – OFF <p>Perform a sideslip to keep the flames away from the fuel tank and cabin, and land ASAP using flaps only</p>	<ul style="list-style-type: none"> 1. Turn pitot heat ON 2. Turn back or change altitude to obtain an OAT that is less conducive to icing 3. Pull cabin heat control full out and rotate defroster control clock-wise to obtain maximum defroster airflow 4. Increase engine speed to minimise ice build-up on propeller blades. If excessive vibration is noted, momentarily reduce engine speed to 2200RPM with the propeller control, and then rapidly move the control forward. NOTE – Cycling the RPM flexes the propeller blades and high RPM increases centrifugal force, causing ice to shed more rapidly. 5. Watch for signs of induction air filter icing. A loss of manifold pressure could be caused by ice blocking the air intake filter. Adjust the throttle as necessary to hold manifold pressure. Adjust mixture, as necessary, for any change in power settings. 6. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select a suitable “off airport” landing site 7. With an ice accumulation of ¼ inch or more on the wing leading edge, be prepared for significantly higher stall speed 8. Leave wing flaps retracted. With a severe ice build-up on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness 9. Open the window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach 10. Perform a landing approach using a forward slip, if necessary, for improved visibility 11. Approach at 80-90kias, depending upon the amount of ice accumulation 12. Perform a landing in level attitude 13. Missed approaches should be avoided whenever possible because of severely reduced climb capability. <p>STATIC SOURCE BLOCKAGE</p> <ul style="list-style-type: none"> 1. Alternate Static Source Valve – PULL ON 2. Cabin Heat/Air – PULL ON 3. Vents - CLOSED 4. Airspeed – Consult an appropriate table in Section 5 POH. 5. Altitude – Consult an appropriate table in Section 5 POH. <p>EXCESSIVE FUEL VAPOR</p> <ul style="list-style-type: none"> 1. Fuel Pump – ON

<p>as required for final approach and touchdown.</p> <p>INADVERTENT ICING ENCOUNTER</p>	<ol style="list-style-type: none"> 2. Mixture – ADJUST (As necessary for smooth engine operation) 3. Fuel Selector – OPPOSITE TANK if symptoms
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<ol style="list-style-type: none"> 4. FUEL PUMP – OFF (After fuel flow has stabilised) <p>LANDING WITH A FLAT MAIN TYRE</p> <ol style="list-style-type: none"> 1. Approach – NORMAL 2. Wing Flaps - FULL 3. Touchdown – GOOD TYRE FIRST, hold airplane off flat tyre as long as possible with aileron control 4. Directional Control – MAINTAIN using brake on good wheel as required <p>LANDING WITH A FLAT NOSE TYRE</p> <ol style="list-style-type: none"> 1. Approach – NORMAL 2. Wing Flaps – AS REQUIRED (120-140kias 0-10deg, 100-120kias 10-20deg, below 100kias full flap) 3. Touchdown – ON MAINS (hold nosewheel off the ground as long as possible) 4. When nosewheel touches down, maintain full up elevator as aircraft slows to a stop <p>HIGH VOLTS ANNUNCIATOR COMES ON OR M BAT AMPS MORE THEN 40</p> <ol style="list-style-type: none"> 1. Master – (alt only) OFF 2. Reduce Electrical load in this order – Avionics BUS1, PITOT HEAT, BEACON, LANDING LIGHT, TAXI LIGHT, NAV LIGHTS, STROBE LIGHTS, CABIN PWR 12V, AND THEN - COM1/NAV1 Tune to active frequency, COM1 MIC/NAV1 select, THEN turn off Avionics Bus 2 which disables everything else 3. Land as soon as practical <p>LOW VOLTS ANNUNCIATOR COMES ON BELOW 1000RPM</p> <ol style="list-style-type: none"> 1. Throttle – 1000RPM 2. Low Voltage Annunciator – CHECK OFF 3. Authorised maintenance pers must do an electrical system inspection prior to next flight <p>LOW VOLTS ANNUNCIATOR COMES ON OR DOES NOT GO OFF AT HIGHER RPM</p> <ol style="list-style-type: none"> 1. Master (Alt only) – OFF 2. Alternator Circuit Breaker – CHECK IN 3. Master- both back ON 4. Low Voltage Annunciator – CHECK OFF 5. M BUS VOLTS – CHECK 27.5V Minimum 6. M BAT AMPS – CHECK CHARGING <p>IF LOW VOLTS ANNUNCIATOR REMAINS ON</p> <ol style="list-style-type: none"> 7. Master (Alt only) – OFF 	<p>IF LOW VOLTS ANNUNCIATOR REMAINS ON</p> <p>NOTE – the main battery supplies electrical power to the main and essential buses until M BUS VOLTS decreases below 20 volts, when M BUS VOLTS falls below 20 volts, the Standby Battery System will automatically supply electrical power to the essential bus for at least 30 minutes. Select COM 1 MIC and NAV1 on the audio panel and tune to the active frequency before setting AVIONICS BUS2 to OFF. If COM2 MIC and NAV2 are selected when AVIONICS BUS 2 IS SET TO OFF, the COM and NAV radios can not be tuned. So – COM1 AND NAV1 tune to the active frequency, select COM1 MIC and NAV 1, then turn off AVIONICS BUS 2 and everything else on the avionics will be off.</p> <p>IF LOW VOLTS ANNUNCIATOR REMAINS ON</p> <ol style="list-style-type: none"> 9. Land as soon as practical <p>RED X – PFD ASI</p> <ol style="list-style-type: none"> 1. ADC/AHRS Circuit Breakers – CHECK IN, can reset (close) once but if they pop back out, leave them there 2. Standby ASI – USE FOR AIRSPEED INFORMATION <p>RED X – PFD ALTITUDE INDICATOR</p> <ol style="list-style-type: none"> 1. ADC/AHRS Circuit Breakers – CHECK IN, can reset (close) once but if they pop back out, leave them there 2. Standby Altimeter – CHECK current QNH is SET and USE FOR ALTITUDE INFORMATION <p>RED X – PFD ATTITUDE INDICATOR</p> <ol style="list-style-type: none"> 1. ADC/AHRS Circuit Breakers - CHECK IN, can reset (close) once but if they pop back out, leave them there 2. Standby Attitude Indicator – USE FOR ATTITUDE INFORMATION <p>RED X – HORIZONTAL SITUATION INDICATOR</p> <ol style="list-style-type: none"> 1. ADC/AHRS Circuit Breakers - CHECK IN, can reset (close) once but if they pop back out, leave them there 2. Non-Stabilised Magnetic Compass – USE FOR HEADING INFORMATION <p>PFD1 COOLING/MFD1 COOLING ANNUNCIATORS</p> <ol style="list-style-type: none"> 1. Cabin Heat – REDUCE to minimum preferred 2. Forward Avionics Fan – CHECK <p>IF FORWARD AVIONICS FAN HAS FAILED</p> <ol style="list-style-type: none"> 3. Standby Battery – OFF unless needed for emergency power
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<p>8. Electrical load – REDUCE IMMEDIATELY IN THIS ORDER – AVIONICS BUS 1, PITOT HEAT, BEACON, LANDING LIGHT, TAXI LIGHT, NAV LIGHT, STROBE, CABIN PWE 12V.</p>	<p>IF PFD1 COOLING OR MFD1 COOLING ANNUNCIATOR DOES NOT GO OFF WITHIN 3 MINUTES OR IF BOTH ANNUNCIATORS COME ON</p>
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<p>4. STANDBY BATTERY – OFF and land as soon as practical LOW VACUUM ANNUNCIATOR COMES ON 1. Vacuum Indicator – CHECK EIS System page to make sure vacuum pointer is in green arc limits. IF VACUUM POINTER IS OUT OF THE GREEN ARC DURING FLIGHT OR THE GYRO FLAG IS SHOWN ON THE STANDBY ATTITUDE INDICATOR, THE STANDBY ATTITUDE INDICATOR MUST NOT BE USED FOR ATTITUDE INFORMATION</p>	<p>HIGH CO2 LEVEL ANNUNCIATOR 1. Cabin heat – OFF push full in 2. Cabin Air – ON pull full out 3. Cabin Vents – OPEN 4. Cabin Windows – OPEN (175KIAS maximum windows open speed IF ANNUNCIATOR REMAINS ON 5. Land as soon as practical</p>
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PASSENGER BRIEF – no smoking is permitted airside or inside aircraft, the use and adjustments of seats and seatbelts is as follows, emergency exit is straight out the normal doors, oxygen use is not applicable due to height of flight, floatation devices is not applicable, stowage of hand luggage in rear compartment or secure under the seats. If sitting in a control seat not to touch the controls at any time and have positive communication at all times, if I raise my finger up like this when you try and talk there is something else demanding my attention. Today we are flying to ____, expecting taking off on runway ____ with a turn to ____ and tracking _____. Flying conditions are expected to be ____ and our arrival/return time is expected to be _____. Are there any questions?

TAKE OFF SAFETY BRIEF – for our take off remain seated with seatbelts on, if I have an engine failure prior to rotation I will close the throttle and apply the brakes with caution stopping on the runway, if I have an engine failure after rotation I will assess the situation and depending on the height I will pick a clearing to land in to the left or right of track, or return to the runway all as smoothly and safely as possible. In all scenarios await my final instruction but we would be disembarking the aircraft as quickly and safely as possible. Are there any questions?

En Route Cruise –

CLEAROFF Checks – Compass, Log, Engine, Altitude, Radios, Orientation, Fuel, Forced Landing. To be conducted early in each leg once on the right track and altitude etc. Map to ground, GS check/revised ETA and 1 in 60's around mid leg, followed by another CLEAROFF. Approaching another leg, bug new heading, revise new altitude, check time and update log once positive fix and arrival for way point is achieved. For holding/slow cruise 1900 RPM, 1 stage flaps and re-trim. Positive fix is 3 features, continuously reading the map ahead of the aircraft. Can add TS onto CLEAROFF checks, T for Transponder mode/code and S for Sartime management.

Low level navigation – field of vision is not as great, it is important to navigate continuously and always be aware of your position. Vertical features tend to be easier to identify from low levels other than flat ones and may not be seen until you are very close to them. Permitting weather it is much better to climb to a higher position, especially when not so sure of your position. It is important to mark your map with time intervals/distance markers to permit accurate maintenance of track/time.

Lost Procedure – remain calm, assess situation, climb to safe height, continue to fly track/maintain accurate log, assess circle of uncertainty (line from last waypoint 15 degrees left and right of track and a circle between these with your current airspeed/time to a likely position), read ground to map to identify ground features. Inform someone if necessary and gain assistance from ATC if needed, fly to a prominent feature and try to further identify position and as a last resort fly back to last known way point. *Check compass/DI alignment is correct, variation and drift correctly applied on plan, track direction and flight plan are the same, no metallic objects near compass.*

Diversion – identify current position with positive fix, determine new track and draw the lines on your map, review the plan, measure distances and calculate new distances and times/revised eta's, advise flight service if necessary of any changes, fly the diversion as per normal procedures.

Test Specific Activities and Manoeuvres –

Stall – HASEL Checks Height, Airframe, Security, Engine, Lookout. Bug heading, reduce RPM to idle/left rudder to maintain heading/pull back as needed for VSI, approaching stall with sluggish controls and low airspeed and stall warning, as it stalls lower nose and full RPM right rudder to counter yaw **NO AILERON USE WHILE PLANE STALLED**, climb back to height and APT level off. Recover from spin – throttle to idle, ailerons neutral, full opposite rudder, forward elevator then climb back up.

Forced Landing – Adopt best glide 76KIAS. Follow emergency procedure as per previous pages. Visual on landing area and high point, WOSSET Wind/Obstacles/Size & Slope/Surface & Civilisation/Elevation/Terrain. Mayday Call, ELT on, SQWK 7700, brief passengers. BUMFISH Breaks, Undercarriage, Mixture, Fuel, Instruments, Switches, Harness/hatches on downwind, on final FIMM Fuel selector off, Ignition is off, Mixture idle cut off, Master switch off after flaps set. Conduct short field landing. *warm engine every 1000ft

Steep Turns – Stall speed increase of 19% (45 deg AoB). ___"MP/___RPM, Bug heading, reference altitude, lookout. Bank, balance, back pressure, passing through 30 deg AoB more backpressure, maintain 45 deg AoB. Attitude, Lookout, Attitude, Performance. Exit – anticipate bank, balance, back pressure reduce, power for straight and level.

Prec Landing – Trust instruments and increase scan rate. Approach config – 2 stages of flaps @ 80KIAS. WOSSET Wind/Obstacles/Size & Slope/Surface & Civilisation/Elevation/Terrain. Passenger brief. Join circuit upwind noting cardinal points on DG. Check undershoot, strip condition, time strip (GS/2 x time in seconds = distance in metres), overshoot. Back up to circuit level to conduct last circuit. BUMFISH every downwind, do After final pass do final passenger brief and then Pan Pan Call on final downwind. ELT and transponder as required CODE 7700. Fly remainder of circuit as per normal circuit and don't descend below 500ft AGL until on final. On final reduce power and increase flaps as required, conduct short field landing (speed 70KIAS). Can go around if approach is not stable.

Instrument Flying – selective scans for Straight and Level is AI-DI-AI-ALT-AI, climbs and descents is AI-DI-AI-ASI/VSI-AI, turns is AI-TC-AI-DI-AI-ALT.