

## SECTION 2 – FLYING TRAINING

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### SUBSECTION 1 – INTRODUCTION

#### 1.1. Syllabus Structure

The Day VFR Flying Training Syllabus is divided into four sub sections:

- **Introduction** (This subsection)  
Provides an overview of the concept of competency and its application to flying training. Outlines the general structure and requirements of the flying training syllabus.
- **Achievement Record**  
Details the Units and elements of competency required at each phase of training and the achievement standard for each element. It includes the student's record of achievement.
- **Flight Test Forms**  
Specify the elements that must be tested and are used to record the results of the flight test. See pages [2-47](#) and [2-48](#).

#### 1.2. Flying Training Phases

The Flying Training Syllabus is divided into five phases. They are:

- Pre-solo
- Pre-area solo
- GFPT (General Flying Progress Test)
- PPLA (Private Pilot Licence Aeroplanes)
- CPLA (Commercial Pilot Licence Aeroplanes)

Flight tests are conducted for:

- GFPT
- PPLA
- CPLA.

The units and element of competency that are required to be completed in each phase are specified in [Subsection 2](#). This subsection constitutes the record of achievement for each phase of training.

#### 1.3. Competency

Competency itself is defined as the combination of knowledge, skills and behaviour required to perform a task to the standard required by industry. The competency standards specify all those skills that must be demonstrated by pilots in order to obtain a PPLA or a CPLA.

#### 1.4. Units and Elements of Competency

The Unit of competency is a discrete job or function that is written as a measurable outcome eg Navigate Aircraft.

An Element of Competency describes what must actually be done eg Prepare chart and flight plan.

The Performance Criteria is an evaluative statement that specifies what is to be assessed and the required level of performance eg Selects and prepares appropriate visual navigation charts suitable for the intended flight.

Units specify all the competencies required for private and commercial pilots to fly a helicopter under the VFR by day.

## 1.5. Changes to the Units of Competency

Two major changes have been made to the units of competency in the Day VFR Syllabus (Aeroplanes). The first change is the addition of three units of competency recommended by the International Civil Aviation Organisation (ICAO). Those standards are:

- Unit C1 English Communication in the Aviation Environment
- Unit C6 Manage Flight
- Unit C7 Threat and Error Management.

The second change is to the style of CASA competency standards. The standards have been reformatted and are comprised of:

- Units
- Elements
- Performance Criteria
- Range of Variables (ROV)
- Underpinning Knowledge.

Units and elements are the same as described in paragraph 1.4. However, the performance criteria are the markers that are used to assess a person's performance. In previous Day VFR Syllabus (Aeroplanes) the performance criteria were contained in the Assessment Guides. The standards in this version, although briefer than the Assessment Guides, do reflect much the same information, but any techniques have been removed. The performance criteria are the primary means of assessment and specify the level of performance that must be achieved. The Range of Variables (ROV) add definition to the performance criteria by elaborating critical or significant aspects of the unit of competency and detail conditions and contexts that should be applied during assessment. The Underpinning Knowledge is knowledge specific to a unit that may not be covered by a CASA licence or rating examination.

A Generic Range of Variables table appears before the common and category units of competency. This Generic ROVs should be applied to every unit of competency and was designed to avoid repetition in each of the units.

## 1.6. Flight Tests

Flight Tests are required for the GFPT, PPLA and CPLA. Flight tests must be conducted by either an ATO or an FOI. Applicants for a flight test must have met the requirements set down in CARs that are summarised in Section 1 [Subsection 2](#) of this Syllabus.

A flight test must be conducted in accordance with the items listed on the flight test pro-forma. A flight test pro-forma for each type of flight test is found in this Section at [Subsection 4](#). The standards required to obtain a pass in the sequences conducted in the flight test are those specified in the assessment guide in this syllabus.

The flight test must be conducted in a suitable aeroplane as specified in CARs.

**Note:** The flight test for a CPLA must be conducted in an aeroplane fitted with a constant speed propeller (or no propeller) and which has a cruise speed of at least 120 knots at the manufacturer's recommended cruise power setting.

## 1.7. Aeronautical Experience

Persons using this syllabus should note that the aeronautical experience and other requirements applying to the issue of a SPL, PPLA and CPLA are contained in CARs and are summarised in Section 1 [Subsection 2](#) of this syllabus. The aeronautical experience is the minimum required for the issue of the particular licence whereas the standards specified in this syllabus are the minimum that must be met to achieve a pass in the flight test. Applicants for a licence must meet both requirements.

## 1.8. Determination of Pilot Standards

The competency standards contained in the national standard and in this syllabus are organised into units of competency which represent the areas of skill and knowledge required to perform the task of piloting an aeroplane, for example **Unit 5** of the PPLA Syllabus is **Control aeroplane in normal flight**.

The units of competency are further subdivided into the elements of skill that go to make up the unit. For example the elements listed for **Unit 5** are:

- Climb aeroplane
- Maintain straight and level flight
- Descend aeroplane
- Turn aeroplane
- Control aeroplane at slow speeds
- Performs circuits and approaches
- Comply with airspace requirements.

The units and elements that must be achieved at each stage of training are specified in the Achievement Records in this Section at [Subsection 2](#).

Achievement records are included for each of the following phases of training:

- First Solo
- First Area Solo
- GFPT
- PPLA
- CPLA.

### Definition of Achievement Standards

For first solo flights and the GFPT, the standards that must be met may not necessarily be as high as those required for the issue of the licence. Therefore the achievement record for first solo, first area solo and GFPT lists the standard at which each element must be achieved as a number from 1 to 4. The numbers used to denote standard in the achievement record have the following significance:

- 1 Achieved standard required for Commercial Pilot as detailed in the Day VFR Syllabus (Aeroplanes).
- 2 Achieved standard required for Private Pilot as detailed in the Day VFR Syllabus (Aeroplanes).
- 3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.
- 4 Has received training in the element but not able to consistently achieve the PPL standard.

**Note:** The word "safe" used in standard 3 means that the pilot may achieve the required standard on the majority, but not necessarily on all occasions. However the student should be able to recognise a situation where the desired outcome of a manoeuvre may be in doubt and take appropriate corrective action to recover.

## 1.9. Achievement Record

Each phase of training incorporates an Achievement Record listing the units and elements of competency relating to that phase. Before being recommended for first solo, first area solo or any flight test, a student must have been assessed as competent in each element listed in the appropriate Achievement Record at the standard specified for that phase. The instructor making the assessment at the time that the student achieves competency in the element should certify the Achievement Record to this effect.

To avoid a requirement for duplicate certifications in successive phases, any elements that have been listed at the same standard in a previous phase are not repeated in subsequent phases.

The standard specified in each achievement record is the minimum required for the particular phase but, if a student can consistently achieve a higher standard, then the element may also be certified in the achievement records for any or all higher levels up to the PPLA. However it should be noted that certification for elements at the CPLA level must not be made until all PPLA elements in the PPLA phase have been completed and certified.

The Achievement Record is to be retained by the student and must be checked by the person authorising a first solo flight or conducting a flight test as having been completed for all items. A copy of the relevant record must be appended to a flight test form. The Achievement Record is additional to, and does not replace, the flying training records that are required to be maintained by the flying school.

## 1.10. Technique and Judgement

Assessment should be based on the technique used by the candidate and not just the ability to perform the task within specified numerical tolerances. Technique involves smooth and accurate control application in adjusting power, attitude, trim and balance in a timely and coordinated fashion whilst following correct procedures. Additionally, sound judgement and decision-making should be displayed. It may be that on some occasions flight conditions (eg, turbulence) are such that even though the pilot's technique is sound the aeroplane may deviate outside specified tolerances for short periods. In such cases the assessment of technique should be the determining factor.

## 1.11. Airmanship

Simply defined, airmanship is the ability to fly safely. However, the standards in this version of the syllabus do not include a section titled 'Airmanship'. Instead, the application of human factors elements detailed in Unit C6, Manage Flight, should be used to assess airmanship. This method has been adopted so that clear evidence is available to demonstrate competence, rather than the ill defined and subjective use of airmanship. The concept is further explained in paragraph 1.14.

## 1.12. English Language Assessment

With effect from 5 March 2008, all pilot licences may only be issued if the applicant has demonstrated at least a Level four (Operational) English language proficiency in accordance with the standard of the ICAO Standards and Recommended Practices (SARP). The licence will include the language endorsement detailing the level of proficiency of the holder's English language. Only a minimum Level four (Operational) would be accepted by CASA for the issue of a flight crew licence.

Approved Testing Officers may only conduct the assessment if a candidate is recommended by the CFI as capable of achieving a Level six (Expert) proficiency. Such a candidate is usually (but not automatically) an English native or expert speaker without any speech impediment or strong regional accent that makes comprehension difficult for others. The ATO may only assess the candidate as either proficient at Level six or not proficient at Level six, and must not recommend any other level of proficiency.

For a candidate whom the CFI assesses as unlikely to attain a Level six (Expert) proficiency, the candidate shall be directed to a language specialist centre approved by CASA. The ATO may only conduct the flight test when the candidate produces evidence of being assessed with at least a Level four (Operational) proficiency.

However, flight instructors will be required to make a judgment on a student pilot's English language proficiency to decide if additional language training is required and when the student pilot may fly on solo navigation. The English standard should be used as a tool to make this judgment. A special training package for CASA language proficiency implementation may also be used as a guide.

## 1.13. Threat and Error Management (TEM) and Single Pilot Human Factors (Manage Flight)

ICAO has recommended that TEM should be introduced into flight training at all licence levels. For TEM to be effective, human factors skills must be practiced. The human factors skills that are required to achieve this are listed at paragraph 1.14.

TEM is an operational concept applied to the conduct of a flight that includes the traditional roles of human factors and airmanship, but provides for a structured and pro-active approach for pilots to use in identifying and managing threats and errors (hazards) that may affect the safety of the flight. The key to successful TEM is the effective use of the human factors elements detailed in paragraph 1.14. Therefore, flight instructors and assessors must teach and measure these items of competency. A Civil Aviation Advisory Publication (CAAP) will be produced to explain methods of teaching and assessing TEM and human factors. Assessment of single pilot human factors and threat and error management will commence on 1 July 2009.

## 1.14. Airmanship and Human Factors

As explained in paragraph 1.11, airmanship is the ability to fly safely. The same outcome applies to the results of good human factors practices—safe flight. The flight standards in the Day VFR Syllabus have linked airmanship and human factors. The unit of competency titled 'Manage Flight' is comprised of five elements that, when properly applied, can be a measure of the effects of airmanship. These elements are:

- Maintain effective lookout
- Maintain situation awareness
- Assess situations and make decisions
- Set priorities and manage tasks

- Maintain effective communications and interpersonal relationships.

As a practical example, appropriately positioning an aircraft in the circuit area to avoid conflict with preceding traffic is considered good airmanship. Alternatively, the result could be seen as a function of good human factors practice. 'Effective lookout' locates the other aircraft in the circuit, good 'situation awareness' could be used to predict the possibility of future conflict, and timely 'decision making' could also be used by the pilot to adjust the position or performance of his or her aircraft to ensure a trouble free final approach. Therefore, although the term 'airmanship' does not appear in the competency standards, the effect of good airmanship can be measured by applying competent human factors practices.

## 1.15. Terminology Used During Assessment

The following terms are used in the standards to assess competency. The terms used are specifically related to flight activities.

The checks and actions detailed in these definitions are advisory. Approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Some definitions and terms that appear in competency standards are underlined; to alert assessors that clarification is available from this table.

Definition or Term	Meaning
Aiming point	The 'aiming point' related to a visual approach and landing of an aircraft, is that point at which a pilot looks, to achieve a predetermined touchdown/termination point.
Aircraft is balanced	The skid ball in the balance indicator is less than a quarter of the ball diameter from the centre.
Aircraft is trimmed/trims aircraft	The aircraft is trimmed within 10 seconds of achieving stabilised and balanced flight, after an attitude, power or configuration change, so that no control input is required in the relevant axis from the pilot to maintain this state.
Airspace cleared	Collision avoidance must always be practiced and a procedure followed to ensure a collision does not occur. This procedure is performed before all turns and manoeuvres. A commonly used technique for this procedure is: <ul style="list-style-type: none"> <li>• When turning left, "Clear right, clear ahead, clear left-turning left" or</li> <li>• When turning right, "Clear left, clear ahead, clear right-turning right".</li> </ul> If an object is closing and remains on a line of constant bearing (stays at the same point on the windscreen), a collision will occur if avoiding action is not taken.
Approach to hover	The process of maintaining a specified track and glide slope at reducing ground speed to a nominated termination point at the hover.
Approved checklist	A checklist derived from information set out in the Flight Manual/POH, placards or other documents provided with the aircraft, necessary to ensure the <u>safe</u> operation of the aircraft
Avoid area	The area delineated on the height-velocity envelope chart in a helicopter or gyroplane flight manual/ POH which shows the parameters within which operations should be avoided.
Closure rate	The apparent speed at which a helicopter or gyroplane moves towards a specified point or object.
Competency standards	The defined competencies required for effective performance in the workplace expressed in outcome terms
Configures aircraft for bad visibility	The aircraft speed and configuration are adjusted to achieve best manoeuvring speed, forward visibility and <u>safety</u> margin above stall speed.
Controlled corrective action	Timely and coordinated use of controls, without abrupt manoeuvring is made to achieve specified performance.
Controlled rate of descent	'Controlled rate of descent' associated with a landing means that the touchdown is without harshness and the successful outcome of the landing is not in doubt.
Controlling ballooning during roundout and bouncing after touchdown	This is achieved if control of the aircraft is maintained by adjusting the attitude of an aircraft without the application of power.

Effect of turbulence	The effect of turbulence must be considered when measuring standards of flying competency. Assessors must evaluate each situation and then apply considered judgement to compensate for variations to the published standards.
Errors	Action or inaction that result in deviation from appropriate intentions.
Evaluation	The process of measuring competency to meet specified outcomes and to provide feedback that ensures achievement of the required competency.
Final approach checklist	The checklist in accordance with the flight manual or company operations manual that is completed on final approach before landing.
Flight environment	The environments internal and external to the aircraft that may affect the outcome of the flight. The aircraft's internal environment may include but is not limited to aircraft attitude and performance, instruments, observations, flight controls, equipment, warning and alerting devices, crewmembers, aircraft position, procedures, publications, checklists and automation. The external environment may include but is not limited to airspace, meteorology, <u>stakeholders</u> and operating culture.
Flight manoeuvre envelope	The area contained within the V-n diagram (speed-load factor) applicable to the aircraft type.
Full panel	Flight instrument array of at least an artificial horizon (AH), stabilised heading indicator, air speed indicator (ASI), vertical speed indicator (VSI), altimeter, turn and balance indicator/turn coordinator and an engine power indicator.
Hand-over/take- over procedure	The process of a pilot in command positively giving control of the aircraft to another pilot or positively assuming control from another pilot and the acknowledgement of this action by the pilot or co-pilot.
Hover helicopter	Means to maintain the helicopter over the hover point at nominated height and heading.
Hover point	Means that point on the surface of the earth over which a nominated part of the helicopter is maintained.
Human factors	Optimising the relationships within systems between people, activities and equipment
Immediate actions	These actions are performed immediately after an engine failure, while maintaining control of the aeroplane, as detailed in the Flight Manual/POH, operations manual or approved checklist. The purpose of these actions is to re-establish engine power.
In ground effect (IGE)	Hovering the helicopter less than 2/3 rotor diameter above a surface that restricts the induced flow.
Judgement	An opinion formed after analysis of relevant information
Leadership*	The ability of the pilot in command to induce the crewmember(s) to use their skills and knowledge to pursue a defined objective.
Lift off	Is the process of lifting the helicopter vertically from the surface to a stabilised hover.
Light on the skids or wheels	Means that with collective pitch (power) applied, and the helicopter still in contact with the ground, any application of cyclic pitch or anti torque pedal will produce a discernible movement by the helicopter
Limited panel	Flight instrument array of at least a magnetic compass, air speed indicator (ASI), vertical speed indicator (VSI), altimeter, turn and balance indicator/turn coordinator and an engine power indicator.
Line up checks	Line up checks are performed before take-off when lined up in the runway or take-off direction. The checks should include: Compass checked and aligned with take-off direction; Engine instruments indicate engine within operating limits.
Manage-(ment)*	To plan, direct and control an operation or situation.
Minimum power speed	Means the speed at which level flight can be maintained with minimum power required.
Mishandled landing	Means to recognise an abnormal landing and recover the aircraft to controlled flight. Often associated with a 'go around'.

Operational requirements	The effect that weather forecasts, availability and serviceability of radio navigation aids and aerodrome lighting status have on the determination of fuel, holding and alternate aerodrome requirements.
Orientation	To be aware of the position of the aircraft relative to navigation aid or feature, based on the direction and estimated distance of the aircraft from the navigation aid or feature.
Pedal/spot turn	Turning a hovering helicopter about a vertical axis, which passes through a nominated part (normally the mast) of the aircraft.
Pre-descent or navigation turning point checks	These checks are completed as detailed in the Flight Manual/POH, operations manual or approved checklist before descending for approach and landing or operations at low level.
Pre-manoeuvre checks	These checks are completed before performing manoeuvres which involve rapid changes of altitude, attitude or heading. The mnemonic "HASELL" may be used as a reminder for this check: H Height is sufficient to safely complete all manoeuvres. A Airframe configuration is appropriate for manoeuvres. S Security of harnesses and loose objects is ensured. E Engine instruments are checked, RPM, mixture, boost pumps and carburettor heat are set as required. Fuel remaining is adequate. L Location is correct, clear of built up areas, controlled airspace and restricted areas. L Maintain lookout before and during manoeuvres.
Pre-stall buffet	The aerodynamic vibration felt in an aircraft when manoeuvring at $C_{LMAX}$ .
Recall items	An item specified in an <u>approved checklist</u> that must be stated and actioned from memory.
Safe-(ly)	Means that a manoeuvre or flight is completed without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the flight standards specified by the regulator.
Safest outcome	Means that the manoeuvre or flight is completed with minimum damage or injury under the prevailing circumstances.
Shut down checks	These checks are completed as detailed in the Flight Manual/POH, operations manual or approved checklist when committed to a forced landing after an engine failure. The purpose is to isolate fuel and electrical sources that could lead to a fire.
Situation awareness	Monitor and evaluate the <u>flight environment</u> to identify all threats relevant to the <u>safe</u> progress of a flight.
Stake holder	Any person involved with, or affected by the flying operation to be performed.
Standard operating procedures	Any procedure included in the operations manual of an AOC or OC holder.
Stress-(ors)	A disturbing physiological or psychological influence on human performance that may impact adversely on the <u>safe</u> conduct of a flight or situation.
Student pilot area limit	In relation to a flight undertaken by a student pilot, means: a traffic pattern; or the area within 10 miles from the aerodrome reference point of the aerodrome from which the flight commenced; or a flight training area associated with the aerodrome from which the flight commenced; the most direct route between the aerodrome from which the flight commenced and a flight training area associated with the aerodrome.
Termination point	The 'termination point' associated with a landing, is the point at which the helicopter terminates the approach to the hover.
Terminate with power (and recover to the hover)	When associated with autorotative flight this term means that the application of collective pitch with engine and rotor RPM coordinated (needles joined) brings the helicopter to a stabilised hover (auto to powered flight).
Threats	Events or hazards whose occurrence is outside the control of the pilot(s) and which may threaten the safety of the flight.
Touchdown point	The 'touchdown point' associated with a landing, is the point at which the aircraft landing gear first contacts the runway or landing area.

Trouble checks	The checks detailed in the Flight Manual/POH, operations manual or approved checklist that are performed to prepare the engine for a restart after an engine failure.
True horizon/earth's horizon	The reference that is used to measure the pitch and bank attitude of an aircraft.
Undesired aircraft state	Undesired aircraft states are flight crew-induced aircraft position or speed deviations, misapplication of flight controls, or incorrect systems configuration, associated with a reduction in margins of safety.
Upset Aircraft State	Upset aircraft state occurs when an aircraft unintentionally exceeds: <ul style="list-style-type: none"> <li>• A pitch angle of 25 degrees nose up</li> <li>• A pitch angle of 10 degrees nose down</li> <li>• A bank angle of more than 45 degrees; or</li> <li>• Flight within these parameters at airspeeds inappropriate for the conditions.</li> </ul>
Violations	Intentional deviations from rules or standards.
Visual cues – Helicopter and Gyroplane	Any visual features or references that are used to determine the position or movement relative to the aiming point, touchdown point, obstacles and, for helicopters, the hover point.
Visual references	'Visual references' associated with hovering means the features within the visual range of the pilot that are used as visual cues to maintain the helicopter over a hover point.
Wings level	Means that a line joining the wing tips is kept parallel to the earth's horizon.
Workplace environment	Any physical environment in which aviation related work is conducted by an aircrew member.

**\*Note 1 Leadership**

One of the most important qualities that the pilot in command of a multi crew aircraft must possess is leadership.

In this document leadership is defined as 'the ability of the pilot in command to induce the crewmember(s) to use their skills and knowledge to pursue a defined objective'. To ensure standardisation and objectivity, assessors must keep this definition in mind when determining the leadership qualities of a pilot in command or a crewmember.

The Macquarie Dictionary defines the word 'induce' as:

'to lead or move by persuasion or influence, as to some action, state of mind and to bring about, produce or cause etc.'

The term 'pursue a defined objective' is used because the role of a pilot in command is to pursue a defined objective but not necessarily achieve that objective, as changing circumstances may dictate alternative actions and revised objectives to ensure the safe progress of a flight.

A 'defined objective' could be a flight, manoeuvre, procedure or action that is clearly identified and required to be achieved to ensure a safe outcome.

Therefore, in the aviation context, a pilot in command would be deemed competent as a leader when able to consistently cause the crewmember(s) to use their skills, knowledge and behaviour to successfully try to achieve a flight, manoeuvre, procedure or action in an ever-changing environment.

Of course, leadership is not limited to interaction with crewmembers only, but may involve any stakeholder.

**\*Note 2 Management**

Throughout the Day VFR Syllabus the term 'manage' or 'management' is used. The definition in the syllabus for manage is 'plan, direct and control an operation or situation'. When assessing competency standards that involve management, evidence should be sought to ensure that a plan is developed, implemented (direction) and re evaluated (control), throughout the activity.

The application of this skill when managing an abnormal situation may involve a plan of maintaining control of the aircraft, identifying the problem and determining the action to be taken to reduce or eliminate any threat. Direction may, in the case of a single place aircraft, require self-direction to ensure actions are conducted in accordance with checklist procedures, Approved Flight Manual/POH, SOPs or other acceptable means, or in a multi crew environment, directing other crewmembers as well as participating in those actions. Control would involve monitoring the progress of events to ensure a safe outcome. The last step may require modification of plans and actions.

**SUBSECTION 2 – ACHIEVEMENT RECORD**

NAME:.....ARN:.....

**DAY VFR SYLLABUS – FIRST SOLO ACHIEVEMENT RECORD**

Units and elements of competency that must be achieved prior to the first solo flight. Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

Unit	Element	Standard	Instructor/ ARN/ Date
C1 English communication in the aviation environment	<ul style="list-style-type: none"> <li>• Communicate effectively face to face using clear and precise English</li> <li>• Communicate effectively in voice-only R/T communications using standard aviation phraseology.</li> </ul>	3 3	
C2 Manage Pre and Post Flight Actions	<ul style="list-style-type: none"> <li>• Complete pre and post flight actions Excluding:               <ul style="list-style-type: none"> <li>◦ Weight and balance</li> <li>◦ TO and landing performance</li> <li>◦ Access Met and NOTAM data</li> </ul> </li> <li>• Perform pre-flight inspection</li> <li>• Completes and certifies daily inspection.</li> </ul>	3 3 4	
C3 Operate Radio	<ul style="list-style-type: none"> <li>• Use R/T equipment (As applicable to circuit airspace)</li> <li>• Maintain R/T equipment</li> <li>• Operate transponder.</li> </ul>	3 4 3	
C4 Manage Fuel	<ul style="list-style-type: none"> <li>• Plan fuel requirements (Applicable to circuit area)</li> <li>• Manage fuel system (Excluding range and endurance and refuelling requirements)</li> <li>• Refuel aeroplane.</li> </ul>	3 3 4	
C6* Manage Flight	<ul style="list-style-type: none"> <li>• Maintain effective lookout</li> <li>• Maintain situation awareness</li> <li>• Assess situations and make decisions</li> <li>• Set priorities and manage tasks</li> <li>• Maintain effective communications and interpersonal relationships.</li> </ul>	2 3 3 3	
C7* Threat and Error Management	<ul style="list-style-type: none"> <li>• Recognise and manage threats</li> <li>• Recognise and manage errors</li> <li>• Recognise and manage undesired aircraft state.</li> </ul>	3 3 3	

NAME:.....ARN:.....

**DAY VFR SYLLABUS – FIRST SOLO ACHIEVEMENT RECORD (CONT)**

Unit	Element	Standard	Instructor/ ARN/ Date
A1 Control Aeroplane on the Ground	<ul style="list-style-type: none"> <li>Start and stop engine</li> <li>Taxi aeroplane.</li> </ul>	3 3	
A2 Take-off Aeroplane	<ul style="list-style-type: none"> <li>Carry out pre-take-off procedures</li> <li>Take-off aeroplane</li> <li>Excluding crosswind</li> <li>Carry out after take-off procedures.</li> </ul>	2 3 2	
A3 Control Aeroplane in Normal flight	<ul style="list-style-type: none"> <li>Climb Aeroplane (excluding maximum rate and angle)</li> <li>Maintain straight and level flight</li> <li>Descend aeroplane</li> <li>Turn aeroplane</li> <li>Control aeroplane at slow speed</li> <li>Perform circuits and approaches (excluding flapless)</li> <li>Comply with airspace requirements (As applicable to airspace).</li> </ul>	3 3 3 3 3 3 3	
A4 Land Aeroplane	<ul style="list-style-type: none"> <li>Land aeroplane (excluding crosswind)</li> <li>Perform mishandled landing procedures.</li> </ul>	3 3	
A5 Execute Advanced Manoeuvres and Procedures	<ul style="list-style-type: none"> <li>Enter and recover from stall</li> <li>Recover from incipient spin.</li> </ul>	3 4	
A6 Manage Abnormal Situations	<ul style="list-style-type: none"> <li>Manage engine failure after take-off</li> <li>Manage engine failure elsewhere in circuit.</li> </ul>	3 3	

\* These elements will not be assessed on flight tests until 1 July 2009.

I have completed the training specified in the elements, which have been certified on this Achievement Record.

..... (Signature)

**Achievement Standard**

- 3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.
- 4 Has received training in the element but not able to consistently achieve the PPL standard.

NAME:.....ARN:.....

**DAY VFR SYLLABUS – FIRST AREA SOLO ACHIEVEMENT RECORD**

Units and elements of competency that must be achieved prior to the first area solo flight. Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

All first solo competencies must have been completed. Elements already completed to the required standard are not repeated in this record.

Unit	Element	Standard	Instructor/ ARN/ Date
C3 Operate Radio	• Use R/T equipment (As applicable to area airspace)	3	
	• Maintain R/T equipment.	3	
A2 Take-off Aeroplane	• Take-off aeroplane (including crosswind)	3	
A3 Control Aeroplane in Normal Flight	• Comply with airspace requirements (Applicable to area).	3	
C4 Manage Fuel	• Plan fuel requirements (For flight to area).	3	
C8 Navigate Aircraft	• Comply with airspace procedures (For route and area)	3	
	• Conduct departure procedures	3	
	• Navigate aircraft enroute	3	
	• Execute arrival procedures.	3	
A4 Land Aeroplane	• Land aeroplane (Including crosswind).	3	
A5 Execute Advanced Manoeuvres and Procedures	• Recover from incipient spin	3	
	• Turn aeroplane steeply	4	
	• Sideslip aeroplane.	4	
A6 Manage Abnormal Situations	• Perform forced landing.	3	

I have completed the training specified in the elements, which have been certified on this Achievement Record.

..... (Signature)

**Achievement Standard**

- 3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.
- 4 Has received training in the element but not able to consistently achieve the PPL standard.

NAME:.....ARN:.....

**DAY VFR SYLLABUS – GFPT ACHIEVEMENT RECORD**

Units and elements of competency that must be achieved prior to the GFPT. Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

All first solo and first area solo competencies must have been completed. Elements already completed to the required standard are not repeated in this record.

Unit	Element	Standard	Instructor/ ARN/ Date
C1 English Communication in the Aviation Environment	• Communicate effectively face to face using clear and precise English	2	
	• Communicate effectively in voice-only R/T communications using standard aviation phraseology.	2	
C2 Manage Pre and Post Flight Actions	• Complete pre and post flight actions	2	
	• Perform pre-flight inspection	3	
C3 Operate Radio	• Use R/T equipment	2	
	• Maintain R/T equipment	2	
	• Operate transponder.	2	
C4 Manage Fuel	• Plan fuel requirements	2	
	• Manage fuel system	2	
	• Refuel aeroplane.	3	
C5 Manage Passengers and Cargo	• Brief passengers	2	
	• Aid and assist passengers	2	
	• Manage cargo.	2	
C6* Manage Flight	• Maintain effective lookout	2	
	• Maintain situation awareness	2	
	• Assess situations and make decisions	2	
	• Set priorities and manage tasks	2	
	• Maintain effective communications and interpersonal relationships.	2	
C7* Threat and Error Management	• Recognise and manage threats	2	
	• Recognise and manage errors	2	
	• Recognise and manage undesired aircraft state.	2	

NAME:.....ARN:.....

**DAY VFR SYLLABUS – GFPT ACHIEVEMENT RECORD (CONT)**

Unit	Element	Standard	Instructor/ ARN/ Date
A1	Control Aeroplane on the Ground	<ul style="list-style-type: none"> <li>Start and stop engine</li> <li>Taxi aeroplane.</li> </ul>	2 2
A2	Take-off Aeroplane	<ul style="list-style-type: none"> <li>Carry out pre-take-off procedures</li> <li>Take-off aeroplane</li> <li>Take-off aeroplane in a crosswind</li> <li>Carry out after take-off procedures.</li> </ul>	2 2 2 2
A3	Control Aeroplane in Normal flight	<ul style="list-style-type: none"> <li>Climb aeroplane</li> <li>Maintain straight and level flight</li> <li>Descend aeroplane</li> <li>Turn aeroplane</li> <li>Control aeroplane at slow speeds</li> <li>Perform circuits and approaches</li> <li>Comply with airspace requirements.</li> </ul>	2 2 2 2 2 2 2
A4	Land Aeroplane	<ul style="list-style-type: none"> <li>Land aeroplane</li> <li>Land aeroplane in a crosswind</li> <li>Perform mishandled landing procedures.</li> </ul>	2 2 2
A5	Execute Advanced Manoeuvres and Procedures	<ul style="list-style-type: none"> <li>Enter and recover from stall</li> <li>Recover from incipient spin</li> <li>Turn aeroplane steeply</li> <li>Sideslip aeroplane</li> <li>Execute short take-off and landing.</li> </ul>	2 2 2 2 2
A6	Manage Abnormal Situations	<ul style="list-style-type: none"> <li>Manage engine failure after take-off</li> <li>Manage engine failure elsewhere in circuit</li> <li>Perform forced landing</li> <li>Conduct precautionary search and landing</li> <li>Manage other abnormal situations.</li> </ul>	2 2 2 2 2
A7	Perform Full Instrument Panel Manoeuvres	<ul style="list-style-type: none"> <li>Determine and monitor serviceability of flight instruments and instrument power sources</li> <li>Perform manoeuvres using full instrument panel to re-establish VFR.</li> </ul>	3 3
	Recover from Spin (Optional)	<ul style="list-style-type: none"> <li>Recover from spin.</li> </ul>	

\* These elements will not be assessed on flight tests until 1 July 2009.

I have completed the training specified in the elements, which have been certified on this Achievement Record.

..... (Signature)

**Achievement Standard**

- 3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.

NAME:.....ARN:.....

**DAY VFR SYLLABUS – PRIVATE PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD**

Units and elements of competency that must be achieved prior to the Private Pilot Licence (Aeroplane) flight test. All items must be demonstrated to standard 2 (PPLA standard). Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

Unit	Element	Instructor/ ARN/ Date
C1 English Communication in the Aviation Environment	<ul style="list-style-type: none"> <li>Communicate effectively face to face using clear and precise English</li> <li>Communicate effectively in voice-only R/T communications using standard aviation phraseology.</li> </ul>	
C2 Manage Pre and Post Flight Actions	<ul style="list-style-type: none"> <li>Complete pre and post flight actions</li> <li>Perform pre-flight inspection</li> </ul>	
C3 Operate Radio	<ul style="list-style-type: none"> <li>Use R/T equipment</li> <li>Maintain R/T equipment</li> <li>Operate transponder.</li> </ul>	
C4 Manage Fuel	<ul style="list-style-type: none"> <li>Plan fuel requirements</li> <li>Manage fuel system</li> <li>Refuel aeroplane.</li> </ul>	
C5 Manage Passengers and Cargo	<ul style="list-style-type: none"> <li>Brief passengers</li> <li>Aid and assist passengers</li> <li>Manage cargo.</li> </ul>	
C6* Manage Flight	<ul style="list-style-type: none"> <li>Maintain effective lookout</li> <li>Maintain situation awareness</li> <li>Assess situations and make decisions</li> <li>Set priorities and manage tasks</li> <li>Maintain effective communications and interpersonal relationships.</li> </ul>	
C7* Threat and Error Management	<ul style="list-style-type: none"> <li>Recognise and manage threats</li> <li>Recognise and manage errors</li> <li>Recognise and manage undesired aircraft state.</li> </ul>	
C8 Navigate Aircraft	<ul style="list-style-type: none"> <li>Prepare chart and flight plan</li> <li>Comply with airspace procedures</li> <li>Conduct departure procedures</li> <li>Navigate aircraft enroute</li> <li>Navigate at low level and in reduced visibility</li> <li>Perform lost procedure</li> <li>Perform diversion procedure</li> <li>Use radio navigation aids</li> <li>Execute arrival procedures.</li> </ul>	

NAME:.....ARN:.....

**DAY VFR SYLLABUS – PRIVATE PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD (CONT)**

Unit	Element	Instructor/ ARN/ Date
A1 Control Aeroplane on the Ground	<ul style="list-style-type: none"> <li>Start and stop engine</li> <li>Taxi aeroplane.</li> </ul>	
A2 Take-off Aeroplane	<ul style="list-style-type: none"> <li>Carry out pre-take-off procedures</li> <li>Take-off aeroplane</li> <li>Take-off aeroplane in a crosswind</li> <li>Carry out after take-off procedures.</li> </ul>	
A3 Control Aeroplane in Normal flight	<ul style="list-style-type: none"> <li>Climb aeroplane</li> <li>Maintain straight and level flight</li> <li>Descend aeroplane</li> <li>Turn aeroplane</li> <li>Control aeroplane at slow speeds</li> <li>Perform circuits and approaches</li> <li>Comply with airspace requirements.</li> </ul>	
A4 Land Aeroplane	<ul style="list-style-type: none"> <li>Land aeroplane</li> <li>Land aeroplane in a crosswind</li> <li>Perform mishandled landing procedures.</li> </ul>	
A5 Execute Advanced Manoeuvres and Procedures	<ul style="list-style-type: none"> <li>Enter and recover from stall</li> <li>Recover from incipient spin</li> <li>Turn aeroplane steeply</li> <li>Sideslip aeroplane</li> <li>Execute short take-off and landing.</li> </ul>	
A6. Manage Abnormal Situations	<ul style="list-style-type: none"> <li>Manage engine failure after take-off</li> <li>Manage engine failure elsewhere in circuit</li> <li>Perform forced landing</li> <li>Conduct precautionary search and landing</li> <li>Manage other abnormal situations.</li> </ul>	
A7 Perform Full Instrument Panel Manoeuvres	<ul style="list-style-type: none"> <li>Determine and monitor serviceability of flight instruments and instrument power sources</li> <li>Perform manoeuvres using full instrument panel to re-establish VFR.</li> </ul>	
A13 Recover from Spin (optional)	<ul style="list-style-type: none"> <li>Recover from spin.</li> </ul>	

\* These elements will not be assessed on flight tests until 1 July 2009.

I have completed the training specified in the elements, which have been certified on this Achievement Record.

.....(Signature)

NAME:.....ARN:.....

**DAY VFR SYLLABUS – COMMERCIAL PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD**

Units and elements of competency that must be achieved prior to the Commercial Pilot Licence (Aeroplanes) flight test. All items must be demonstrated to standard 1 (CPLA standard). Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment. The assessment for CPLA elements may not be made until all the elements in the PPLA phase have been completed.

Unit	Element	Instructor/ ARN/ Date
C1 English communication in the aviation environment	<ul style="list-style-type: none"> <li>Communicate effectively face to face using clear and precise English</li> <li>Communicate effectively in voice-only R/T communications using standard aviation phraseology.</li> </ul>	
C2 Manage Pre and Post Flight Actions	<ul style="list-style-type: none"> <li>Complete pre and post flight actions</li> <li>Perform pre-flight inspection.</li> </ul>	
C3 Operate Radio	<ul style="list-style-type: none"> <li>Use R/T equipment</li> <li>Maintain R/T equipment</li> <li>Operate transponder.</li> </ul>	
C4 Manage Fuel	<ul style="list-style-type: none"> <li>Plan fuel requirements</li> <li>Manage fuel system</li> <li>Refuel aeroplane.</li> </ul>	
C5 Manage Passengers and Cargo	<ul style="list-style-type: none"> <li>Brief passengers</li> <li>Aid and assist passengers</li> <li>Manage cargo.</li> </ul>	
C6* Manage Flight	<ul style="list-style-type: none"> <li>Maintain effective lookout</li> <li>Maintain situation awareness</li> <li>Assess situations and make decisions</li> <li>Set priorities and manage tasks</li> <li>Maintain effective communications and interpersonal relationships.</li> </ul>	
C7* Threat and Error Management	<ul style="list-style-type: none"> <li>Recognise and manage threats</li> <li>Recognise and manage errors</li> <li>Recognise and manage undesired aircraft state.</li> </ul>	
C8 Navigate Aircraft	<ul style="list-style-type: none"> <li>Prepare chart and flight plan</li> <li>Comply with airspace procedures</li> <li>Conduct departure procedures</li> <li>Navigate aircraft enroute</li> <li>Navigate at low level and in reduced visibility</li> <li>Perform lost procedure</li> <li>Perform diversion procedure</li> <li>Use radio navigation aids</li> <li>Execute arrival procedures.</li> </ul>	

NAME:.....ARN:.....

**DAY VFR SYLLABUS – COMMERCIAL PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD (CONT)**

Unit	Element	Instructor/ ARN/ Date
A1 Control Aeroplane on the Ground	<ul style="list-style-type: none"> <li>Start and stop engine</li> <li>Taxi aeroplane.</li> </ul>	
A 2 Take-off Aeroplane	<ul style="list-style-type: none"> <li>Carry out pre-take-off procedures</li> <li>Take-off aeroplane</li> <li>Take-off aeroplane in a crosswind</li> <li>Carry out after take-off procedures.</li> </ul>	
A3 Control Aeroplane in Normal flight	<ul style="list-style-type: none"> <li>Climb aeroplane</li> <li>Maintain straight and level flight</li> <li>Descend aeroplane</li> <li>Turn aeroplane</li> <li>Control aeroplane at slow speeds</li> <li>Perform circuits and approaches</li> <li>Comply with airspace requirements.</li> </ul>	
A4 Land Aeroplane	<ul style="list-style-type: none"> <li>Land aeroplane</li> <li>Land aeroplane in a crosswind</li> <li>Perform mishandled landing procedures.</li> </ul>	
A5 Execute Advanced Manoeuvres and Procedures	<ul style="list-style-type: none"> <li>Enter and recover from stall</li> <li>Recover from incipient spin</li> <li>Turn aeroplane steeply</li> <li>Sideslip aeroplane</li> <li>Execute short take-off and landing.</li> </ul>	
A6. Manage Abnormal Situations	<ul style="list-style-type: none"> <li>Manage engine failure after take-off</li> <li>Manage engine failure elsewhere in circuit</li> <li>Perform forced landing</li> <li>Conduct precautionary search and landing</li> <li>Manage other abnormal situations.</li> </ul>	
A7 Perform Full Instrument Panel Manoeuvres	<ul style="list-style-type: none"> <li>Determine and monitor serviceability of flight instruments and instrument power sources</li> <li>Perform manoeuvres using full instrument panel to re-establish VFR.</li> </ul>	
A8 Perform Limited Instrument Panel Manoeuvres (CPL only)	<ul style="list-style-type: none"> <li>Recognise failure of attitude indicator and/or stabilised heading indicator</li> <li>Perform manoeuvres using limited instrument panel</li> <li>Recover from unusual attitudes using limited flight instrument panel</li> <li>Re-establish visual flight following inadvertent entry into IMC.</li> </ul>	
A13 Recover from Spin (optional)	<ul style="list-style-type: none"> <li>Recover from spin.</li> </ul>	

\* These elements will not be assessed on flight tests until 1 July 2009.

I have completed the training specified in the elements, which have been certified on this Achievement Record.

.....(Signature)

### SUBSECTION 3

## FLIGHT STANDARDS FOR PRIVATE AND COMMERCIAL PILOT LICENCE AEROPLANES

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## 1.1. Table 1: Generic Range of Variables

Range of Variables
<ul style="list-style-type: none"> <li>• Performance standards are to be demonstrated in flight in an aircraft of the appropriate category equipped with dual flight controls and electronic intercommunication between the trainee and the instructor or examiner.</li> <li>• Consistency of performance is achieved when competency is demonstrated on more than one flight.</li> <li>• Flight accuracy tolerances specified in the standards apply under flight conditions from smooth air up to, and including light turbulence.</li> <li>• Where flight conditions exceed light turbulence appropriate allowances as determined by the assessor may be applied to the tolerances specified.</li> <li>• When minimum descent altitudes (MDA) and not below or above heights are specified, the tolerance for straight and level height must be adjusted to (+100 –0 ft) or (+0 –100 ft) as applicable.</li> <li>• Infrequent temporary divergence from specified tolerances is acceptable if the pilot applies <u>controlled corrective action</u><sup>1</sup>.</li> <li>• Units and elements may be assessed separately or in combination with other units and elements that form part of the job function.</li> <li>• Assessment of an aircraft operating standard also includes assessment of the threat and error management and human factors standards applicable to the unit or element.</li> <li>• Standards are to be demonstrated while complying with approved checklists, placards, aircraft flight manuals, operations manuals, standard operating procedures and applicable aviation regulations.</li> <li>• Performance of emergency procedures is demonstrated in flight following simulation of the emergency by the instructor or examiner, except where simulation of the emergency cannot be conducted safely or is impractical.</li> <li>• Assessment should not involve simulation of more than one emergency at a time.</li> <li>• <b>Private pilots</b> should demonstrate that control of the aircraft or procedure is maintained at all times but if the successful outcome is in doubt, corrective action is taken promptly to recover to <u>safe</u><sup>2</sup> flight.</li> <li>• <b>Commercial and air transport pilots</b> should demonstrate that control of the aircraft or procedure is maintained at all times so that the successful outcome is assured.</li> <li>• The following evidence is used to make the assessment: <ul style="list-style-type: none"> <li>◦ The trainee's licence and medical certificate as evidence of identity and authorisation to pilot the aircraft.</li> <li>◦ For all standards, the essential evidence for assessment of a standard is direct observation by an instructor or examiner of the trainee's performance in the specified units and elements, including aircraft operation and threat and error management.</li> <li>◦ Oral and written questioning of underpinning knowledge standards.</li> <li>◦ Completed flight plan, aircraft airworthiness documentation, appropriate maps and charts and aeronautical information.</li> <li>◦ Aircraft operator's completed flight records to support records of direct observation.</li> <li>◦ Completed achievement records for evidence of consistent achievement of all specified units and elements of competency.</li> <li>◦ The trainee's flight training records, including details of training flights and instructors comments, to support assessment of consistent achievement.</li> <li>◦ The trainee's log book for evidence of flight training completed.</li> </ul> </li> <li>• For licence and rating issue: <ul style="list-style-type: none"> <li>◦ Completed application form, including, licence or rating sought, aeronautical experience, CFI recommendation and the result of the flight test.</li> <li>◦ Completed flight test report indicating units and elements completed.</li> <li>◦ Examination results and completed knowledge deficiency reports.</li> </ul> </li> </ul>

<sup>1</sup> Timely and coordinated use of controls, without abrupt manoeuvring is made to achieve specified performance.

<sup>2</sup> Means that a manoeuvre or flight is completed without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the requirements of the Manual of Standards Part 61

## 1.2. Unit C1: English Communication in the Aviation Environment – Flight Standard

**Unit Description:** Skills and knowledge required to communicate effectively with all stakeholders within a flight operations environment and to ensure messages are clearly understood and responded to appropriately.

Element	Performance Criteria
C1.1 Communicate effectively face to face using clear and precise English	<ul style="list-style-type: none"> <li>• Pronounces words clearly, using an accent that does not cause difficulties in understanding.</li> <li>• Conveys information in clearly structured sentences without confusion or ambiguity.</li> <li>• Uses an extensive vocabulary to accurately communicate on general and technical topics, without excessive use of jargon, slang or colloquial language.</li> <li>• Speaks fluently without long pauses, repetition or excessive false starts.</li> <li>• Responds to communications with actions that demonstrate that the information has been received and understood.</li> <li>• Exchanges information clearly in a variety of situations with both expert and non-expert English speakers while giving and receiving timely and appropriate responses.</li> <li>• Recognises and manages communication errors and/or misunderstandings effectively.</li> <li>• Maintains effective communication with crew members and other personnel in flight and on the ground on operational matters.</li> <li>• Communicates effectively in unfamiliar, stressful or non-standard situations.</li> </ul>
C1.2 Communicate effectively in voice-only R/T communications using standard aviation phraseology	<ul style="list-style-type: none"> <li>• Makes appropriate transmissions using standard aviation phraseology.</li> <li>• Uses plain English effectively when standard phraseology is inadequate.</li> <li>• Receives appropriate responses to transmissions.</li> <li>• Responds to transmissions and takes appropriate action.</li> <li>• Identifies and manages communication errors and/or misunderstandings promptly and effectively.</li> <li>• Seeks clarification in the time available if message is unclear or uncertainty exists.</li> <li>• Reacts appropriately to a variety of regional accents.</li> <li>• Communicates effectively in unexpected, stressful or non standard situations using standard phraseology or plain English.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Includes oral and written communication in English.</li> <li>• Communication standards are demonstrated in flight and related activities on the ground while acting as a pilot in any capacity during communications with crewmembers, ATS and other aircraft.</li> <li>• Situations include disruptions to communication normally encountered in the flight environment including background noise levels, equipment malfunctions and distractions.</li> <li>• In flight communication is conducted in a timely manner consistent with operational <u>safety</u>.</li> <li>• Assessment at an expert level (ICAO Level 6) requires all the criteria of elements C1.1 and C1.2 to be demonstrated consistently in the operational environment and in a range of non-operational situations with only rare occurrences of errors or misunderstandings.</li> <li>• Assessment at an operationally competent level (ICAO Level 4) requires all criteria of element C1.2 to be demonstrated in the operational environment, but occasional loss of fluency, errors and/or misunderstandings are permissible in demonstrating the criteria of element C1.1 providing effective communication is maintained.</li> </ul>	
<b>Underpinning Knowledge</b>	
<ul style="list-style-type: none"> <li>• Demonstrate oral and written English vocabulary sufficient to converse on a wide range of common and technical topics.</li> <li>• Apply English grammatical construction.</li> <li>• Apply aviation terminology.</li> <li>• Use standard aviation R/T phraseology.</li> </ul>	

### 1.3. Unit C2 Manage Pre and Post Flight Actions– Flight Standard (PPL and CPL)

**Unit Description:** Knowledge and skills to obtain required information and authority, ensure maintenance requirements are met and perform required functions before and after flight and to ensure that the aeroplane meets maintenance and safety requirements prior to flight.

Element	Performance Criteria
C2.1 Complete pre and post flight administration	<p><b>Pre flight</b></p> <ul style="list-style-type: none"> <li>Obtains, interprets and applies meteorological and NOTAM information</li> <li>Completes pre-flight planning and documentation in accordance with regulations and/or operations manual</li> <li>Calculates aeroplane take-off and landing performance in accordance with performance and weight and balance charts</li> <li>Selects optimum cruise altitude determined by operational, <u>safety</u><sup>3</sup> or efficiency requirements</li> <li>Interprets maintenance release (Flight Technical Log) and Minimum Equipment List (MEL) and determines aircraft serviceability for proposed flight.</li> </ul> <p><b>Post flight</b></p> <ul style="list-style-type: none"> <li>Completes flight maintenance release (Flight Technical Log) and flight administration and enters identified unserviceabilities in accordance with regulations and/or operations manual.</li> </ul>
C2.2 Perform pre-flight inspection	<ul style="list-style-type: none"> <li>Identifies and secures equipment and documentation as required by regulation in the aircraft</li> <li>Completes internal and external checks in accordance with <u>approved checklist</u></li> <li>Ensures removal of all aircraft locking devices</li> <li>Identifies defects or damage to the aircraft that could compromise safety</li> <li>Certifies Flight Technical Log entering any defects or endorsements to Permissible Unserviceabilities (PUS)</li> <li>Completes and certifies daily inspection.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>Single or multi engine aircraft</li> <li>Day Visual Flight Rules</li> </ul>	
<b>Underpinning Knowledge</b>	
N/A	

<sup>3</sup> Means that a manoeuvre or flight is completed without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the requirements of the Manual of Standards Part 61.

## 1.4. Unit C3 Operate Radio – Flight Standard (PPL and CPL)

**Unit Description:** Knowledge and skills to operate and manage radiotelephone and intercom equipment under normal and emergency flight conditions.

Element	Performance Criteria
C3.1 Use R/T equipment	<ul style="list-style-type: none"> <li>• Ensures serviceability of radiotelephone equipment.</li> <li>• Conducts transmission and receipt of R/T messages in accordance with procedures and phraseology detailed in the FROL syllabus and Aeronautical Information Publications (AIP).</li> <li>• Maintains a listening watch and responds appropriately to applicable transmissions.</li> <li>• Performs loss of radio transmitter or receiver procedures in accordance with AIP, ERS(A), VFR Flight Guide.</li> <li>• Conducts emergency and urgency transmissions and procedures in accordance with Enroute Supplement Australia (ERS(A) current edition) and AIP and all messages are reacted to appropriately.</li> </ul>
C3.2 Maintain R/T equipment	<ul style="list-style-type: none"> <li>• Performs R/T equipment failure procedures in accordance with Flight Manual/POH</li> <li>• Employs fault finding procedures and corrective actions not involving special tools or instruments</li> </ul>
C3.3 Operate transponder	<ul style="list-style-type: none"> <li>• Operates and monitors transponder in accordance with AIP during normal, abnormal and emergency operations.</li> </ul>
<b>Range of variables</b>	
<ul style="list-style-type: none"> <li>• Single or multi engine aircraft</li> <li>• VFR,IFR or simulated IMC</li> <li>• Propeller/rotor wash and jet blast noise</li> <li>• Up to and including light turbulence</li> </ul>	
<b>Underpinning knowledge</b>	
<ul style="list-style-type: none"> <li>• English language</li> <li>• To recognise, interpret and react appropriately to light signals</li> </ul>	

## 1.5. Unit C4 Manage Fuel – Flight Standard (PPL and CPL)

**Unit Description:** Knowledge and skills to determine aircraft fuel requirements and perform the necessary calculations, to refuel the aeroplane and to ensure the fuel system is configured and operated for maximum safety and efficiency in the prevailing flight conditions, and to calculate requirements, configure and make adjustments to achieve best range and best endurance.

Element	Performance Criteria
C4.1 Plan fuel requirements	<ul style="list-style-type: none"> <li>• Determines fuel reserve requirement in accordance with CASRs</li> <li>• Ensures fuel allowance is sufficient for operational requirements and applicable abnormal or emergency situations</li> <li>• Calculates total fuel requirement in accordance with CASRs.</li> </ul>
C4.2 Manage fuel system	<ul style="list-style-type: none"> <li>• Verifies fuel quantity by visual inspection when possible or other methods appropriate to the aircraft type</li> <li>• Ensures fuel is the correct grade and is free from contamination</li> <li>• Ensures fuel drain cocks closed</li> <li>• Operates fuel system in accordance with Flight Manual/POH</li> <li>• Operates fuel cross feed in accordance with Flight Manual/POH to ensure aircraft balance</li> <li>• Operates fuel pumps and engine controls in accordance with Flight Manual/POH</li> <li>• Configures aircraft to achieve best range and calculates revised range</li> <li>• Configures aircraft to achieve best endurance and calculates revised endurance.</li> </ul>
C4.3 Refuel aircraft	<ul style="list-style-type: none"> <li>• Refuels aircraft in accordance with CASRs, Flight Manual/POH, workplace health and safety and local procedures</li> <li>• Ensures all fuel caps are closed and secured</li> <li>• Ensures aircraft is earthed before refuelling.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Day Visual Flight Rules in variable weather conditions</li> <li>• Fuel sources</li> <li>• Fire extinguishers</li> <li>• Locations.</li> </ul>	
<b>Underpinning knowledge</b>	
<ul style="list-style-type: none"> <li>• Health &amp; safety requirements during refuelling</li> <li>• Local procedures for refuelling.</li> </ul>	

## 1.6. Unit C5 Manage Passengers and Cargo - Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to ensure that passengers are informed, controlled, and that provision has been made for their comfort and well being, and that cargo is managed in accordance with regulations.

Elements	Performance Criteria
C5.1 Brief passengers	<ul style="list-style-type: none"> <li>Briefs passengers before flight and in emergencies in accordance with CASRs, and company operations man</li> <li>Explains and confirms conduct and procedures to avoid contact of personnel or articles with propellers, rotor blades or jet blast</li> <li>Explains procedures to avoid interference with flight controls when applicable</li> <li>Explains and demonstrates the use of seat belts/safety harness</li> <li>Explains and demonstrates use of escape hatches, exits and emergency equipment.</li> </ul>
C5.2 Aid and assist passengers	<ul style="list-style-type: none"> <li>Establishes and maintains clear communications with passengers</li> <li>Provides passenger comfort and well-being within the limits of aircraft <u>safety</u> controls passengers on the ground and in the air in accordance with CASRs, occupational health and safety requirements and operations manual.</li> </ul>
C5.3 Manage cargo	<ul style="list-style-type: none"> <li>Manages loading, unloading and security of cargo throughout flight operations</li> <li>Identifies dangerous goods and applies procedures to ensure <u>safety</u> and security.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>Single or multi engine aircraft</li> <li>Propeller/rotor wash and jet blast</li> <li>Simulated abnormal or emergency situations</li> <li>Real or simulated passengers and cargo.</li> </ul>	
<b>Underpinning Knowledge</b>	
<ul style="list-style-type: none"> <li>Explain your actions in relation to managing passengers during an abnormal or emergency situation</li> <li>Health &amp; safety regulations</li> <li>Local procedures for movement of passengers</li> <li>Security requirements.</li> </ul>	

## 1.7. Unit C6 Manage Flight – Flight Standard

**Unit Description:** Skills, knowledge and behaviour to plan, direct and control all aspects of a flight.

Element	Performance Criteria
C6.1 Maintain effective lookout	<ul style="list-style-type: none"> <li>• Maintains lookout and traffic separation using a systematic scan technique at a rate determined by traffic density, visibility and terrain</li> <li>• Maintains radio listening watch and interprets transmissions to determine traffic location and intentions of traffic</li> <li>• Performs <u>airspace-cleared</u> procedure before commencing any manoeuvres.</li> </ul>
C6.2 Maintain situation awareness	<ul style="list-style-type: none"> <li>• Monitors all aircraft systems using a systematic scan technique</li> <li>• Collects information to facilitate ongoing system management</li> <li>• Monitors flight environment for deviations from planned operations</li> <li>• Collects flight environment information to update planned operations.</li> </ul>
C6.3 Assess situations and make decisions	<ul style="list-style-type: none"> <li>• Identifies problems</li> <li>• Analyses problems</li> <li>• Identifies solutions</li> <li>• Assesses solutions and risks</li> <li>• Decides on a course of action</li> <li>• Communicates plans of action - if appropriate</li> <li>• Allocates tasks for action – if appropriate</li> <li>• Takes actions to achieve optimum outcomes for the operation</li> <li>• Monitors progress against plan</li> <li>• Re evaluates plan to achieve optimum outcomes.</li> </ul>
C6.4 Set priorities and manage tasks	<ul style="list-style-type: none"> <li>• Organises workload and priorities to ensure completion of all tasks relevant to the safety of the flight</li> <li>• Puts the safe and effective operation of the aircraft ahead of competing priorities and demands</li> <li>• Plans events and tasks to occur sequentially</li> <li>• Anticipates critical events and tasks to ensure completion</li> <li>• Uses technology to reduce workload and improve cognitive and manipulative activities</li> <li>• Avoids fixation on single actions, tasks or functions.</li> </ul>
C 6.5 Maintain effective communications and interpersonal relationships	<ul style="list-style-type: none"> <li>• Establishes and maintains effective and efficient communications and interpersonal relationships with all <u>stakeholders</u> to ensure the <u>safe</u> outcome of the flight</li> <li>• Defines and explains objectives to applicable/involved <u>stakeholders</u></li> <li>• Demonstrates a level of assertiveness that ensures the <u>safe</u> completion of the flight</li> <li>• Encourages passengers to participate in and contribute to the <u>safe</u> outcome of the flight.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• All flight and ground operations</li> <li>• Interactivity with stakeholders</li> <li>• Single or multi engine aircraft.</li> </ul>	
<b>Underpinning Knowledge</b>	
N/A	

## 1.8. Unit C7 Threat and Error Management – Flight Standard

**Unit Description:** Skills, knowledge and behaviour to recognise and plan, direct and control threats and errors.

Element	Performance Criteria
C7.1 Recognise and manage threats	<ul style="list-style-type: none"> <li>Identifies relevant environmental or operational <u>threats</u> that are likely to affect the <u>safety</u> of the flight</li> <li>Develops and implements countermeasures to manage <u>threats</u></li> <li>Monitors and assesses flight progress to ensure a <u>safe</u> outcome; or modifies actions when a <u>safe</u> outcome is not assured.</li> </ul>
C7.2 Recognise and manage <u>errors</u>	<ul style="list-style-type: none"> <li>Applies <u>checklists</u> and <u>standard operating procedures</u> to prevent aircraft handling, procedural or communication <u>errors</u> and identifies committed <u>errors</u> before <u>safety</u> is affected or aircraft enters an <u>undesired aircraft state</u></li> <li>Monitor aircraft systems, flight environment and crewmembers, collects and analyses information to identify potential or actual <u>errors</u></li> <li>Implements countermeasures to prevent <u>errors</u> or takes action in the time available to correct <u>errors</u> before the aircraft enters an <u>undesired aircraft state</u>.</li> </ul>
C7.3 Recognise and manage undesired aircraft state	<ul style="list-style-type: none"> <li>Recognises <u>undesired aircraft state</u></li> <li>Prioritises tasks to ensure management of <u>undesired aircraft state</u></li> <li>Manipulates aircraft controls or systems, or modifies actions or procedures to maintain control of the aircraft and return to normal flight operations, in the time available.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>All flight and ground operations.</li> </ul>	
<b>Underpinning Knowledge</b>	
<ul style="list-style-type: none"> <li>Explain the principles of threat and error management detailing a process to follow to identify and mitigate or control threats and errors during multi crew operations</li> <li>Give an example of how an undesired aircraft state can develop from an unmanaged threat or error</li> <li>What aspects of multi crew operations can prevent an undesired aircraft state</li> <li>Explain how the use of checklists and standard procedures prevents errors</li> <li>Give an example of a committed error and how action could be taken to ensure safety of flight</li> <li>Explain how prioritising and managing workload can reduce the commission of errors</li> <li>Explain how establishing and maintaining interpersonal relationships can ensure safe flight</li> <li>Explain how checklists and standard operating procedures can help to recognise, prevent and/or correct errors.</li> </ul>	

## 1.9. Unit C8: Navigate Aircraft – Flight Standard

**Unit Description:** To develop the knowledge and skills to plan and conduct a flight to a destination aerodrome, or alternate aerodrome, navigating the aircraft under the VFR. This will include pre-flight planning, compliance with airspace procedures and departure and arrival procedures, and navigation under normal and abnormal conditions.

Element	Performance Criteria
C8.1 Prepare chart and flight plan	<ul style="list-style-type: none"> <li>• Selects and prepares appropriate visual navigation charts suitable for the intended flight</li> <li>• Determines and allows for beginning and end of daylight</li> <li>• Obtains and interprets meteorological forecasts and NOTAMs</li> <li>• Selects a suitable route and altitude considering weather, terrain, airspace, NOTAMs and alternate landing areas</li> <li>• Obtains and analyses operational information that is valid for the intended flight</li> <li>• Determines whether the intended flight can be conducted under the VFR</li> <li>• Completes flight plan to destination and any planned alternates</li> <li>• Provides flight notification for SAR purposes</li> <li>• Calculates fuel requirements in accordance with CASRs.</li> </ul>
C8.2 Comply with airspace procedures	<ul style="list-style-type: none"> <li>• Obtains and complies with air traffic clearances</li> <li>• Complies with procedures applicable to airspace classification.</li> </ul>
C8.3 Conduct departure procedures	<ul style="list-style-type: none"> <li>• Performs pre-flight planning and cockpit organisation to ensure charts, documentation and navigational calculator are accessible from the control seat</li> <li>• Intercepts track within five nautical miles of airfield</li> <li>• Calculates ETA for first waypoint</li> <li>• Complies with all departure clearances and instructions</li> <li>• Observes local and published noise abatement requirements and curfews.</li> </ul>
C8.4 Navigate aircraft en route	<ul style="list-style-type: none"> <li>• Maintains a navigation cycle that ensures accurate tracking and applies track correctional technique to re-establish track prior to waypoint or destination</li> <li>• Maintains heading (<math>\pm 10^\circ</math> directional indicator aligned with compass)</li> <li>• Maintains and revises ETAs <math>\pm 2</math> minutes for waypoint or destination</li> <li>• Maintains track <math>\pm 1</math> nm in controlled airspace</li> <li>• Maintains navigation log to monitor tracking, ETAs and fuel status</li> <li>• Monitors fuel consumption and revises fuel reserves</li> <li>• Recognises deteriorating situations and initiates early corrective action</li> <li>• Positively identifies ground fixes by two or more features</li> <li>• Obtains a positive fix at intervals not greater than 30 minutes</li> <li>• Performs pre-descent and turning point checks</li> <li>• Maintains awareness of route and destination weather conditions and reacts appropriately to adverse weather changes</li> <li>• Maintains radio communications and listening watch with ATS/ATC</li> <li>• Maintains lookout using a systematic scan technique at a rate determined by traffic density, visibility and terrain</li> <li>• Monitors aircraft systems and engine handling to ensure that the aircraft is operated in accordance with the Flight Manual/POH.</li> </ul>
C8.5 Navigate at low level and in reduced visibility	<ul style="list-style-type: none"> <li>• Maintains aircraft in visual meteorological conditions</li> <li>• Maintains separation from terrain and obstacles, allowing for wind and turbulence (minimum height 500 ft AGL)</li> <li>• <u>Configures aircraft for bad visibility</u></li> <li>• Advises ATS and establishes a SARTIME, if applicable</li> </ul>

Element	Performance Criteria
	<ul style="list-style-type: none"> <li>• Fixes position at least once every 30 minutes</li> <li>• Avoids noise-sensitive areas, if applicable.</li> </ul>
C8.6 Perform lost procedure	<ul style="list-style-type: none"> <li>• Configures aircraft to achieve best endurance speed at present or most efficient altitude</li> <li>• Fixes position</li> <li>• Revises plan to either destination or alternate considering weather, terrain and fuel available whilst maintaining reserve (ETA <math>\pm 2</math> minutes)</li> <li>• Maintains minimum height of 500 ft AGL</li> <li>• Uses radio and transponder to request assistance, if applicable</li> <li>• Plans a timely precautionary search and landing if still lost/minimum fuel/darkness.</li> </ul>
C8.7 Perform diversion procedure	<ul style="list-style-type: none"> <li>• Diverts around weather or to an acceptable aerodrome</li> <li>• Revises plan to either destination or alternate considering weather, terrain and fuel available whilst maintaining reserves (ETA <math>\pm 2</math> minutes)</li> <li>• Identifies and plans for CTA, CTR and Prohibited, Restricted and Danger Areas</li> <li>• Selects most suitable cruising altitude/level (<math>\pm 150</math> ft)</li> <li>• Amends SARWATCH if required</li> <li>• Advises of intention to divert for traffic separation.</li> </ul>
C8.8 Use radio navigation aids	<ul style="list-style-type: none"> <li>• Tunes, identifies and tests all navigation aids before use.</li> <li>• Determines aircraft is within rated coverage of applicable radio navigation aids</li> <li>• Fixes aircraft position and solves aircraft orientation problems using radio navigation aids</li> <li>• Tracks/homes to the ground station</li> <li>• Verifies integrity of GPS signal</li> <li>• Enters and checks waypoint entry into GPS system</li> <li>• Confirms waypoints and fixes from all radio navigation aids with flight plan and identified ground fixes during en route navigation at least once every 60 minutes.</li> </ul>
C8.9 Execute arrival procedures	<ul style="list-style-type: none"> <li>• Obtains aerodrome information from ERS(A), ATIS/ATS and NOTAMs for applicable aerodrome</li> <li>• Obtains and complies with airways clearance requirements or makes broadcasts applicable to the airspace by nominated distance or position in accordance with AIPs</li> <li>• Identifies and avoids all air traffic</li> <li>• Establishes landing direction and airfield serviceability</li> <li>• Enters a circuit at circuit height via published approach points and flies a minimum of three legs of the circuit, except in circumstances when a straight-in approach is acceptable in accordance with AIPs.</li> <li>• Performs a circuit and landing</li> <li>• Cancels SARWATCH</li> <li>• Observes local and published noise abatement requirements and curfews.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Day VFR</li> <li>• Terrain</li> <li>• Airspace</li> <li>• Simulated weather conditions</li> <li>• Simulated abnormal and emergency situations.</li> </ul>	
<b>Underpinning Knowledge</b>	
N/A.	

## 1.10. Unit A1 Control Aeroplane on the Ground– Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to start and stop an aeroplane engine, perform all safety requirements, perform pre-taxi functions and manoeuvre an aeroplane on the ground without incident.

Element	Performance Criteria
A1.1 Start and stop engine	<ul style="list-style-type: none"> <li>• Clears aircraft from obstructions, buildings and other aircraft</li> <li>• Clears propeller before start</li> <li>• Starts engine in accordance with Flight Manual/POH including hot and cold starts</li> <li>• Performs after-start checks from memory in accordance with <u>approved checklist</u><sup>4</sup></li> <li>• Manages start and after-start emergencies from memory in accordance with Flight Manual/POH</li> <li>• Shuts down engine in accordance with Flight Manual/POH</li> <li>• Performs after-shutdown checks in accordance with <u>approved checklist</u><sup>5</sup></li> <li>• Exercises propeller care and manages adverse effects of propeller wash</li> <li>• Complies with manufacturer's limitations and reports deviations when appropriate.</li> </ul>
A1.2 Taxi aeroplane	<ul style="list-style-type: none"> <li>• Requests applicable ATC clearances or MBZ/CTAF broadcasts in accordance with AIPs</li> <li>• Confirms serviceability of brakes after park brake release and before taxiing</li> <li>• Interprets and complies with taxiway and other aerodrome markings. <b>Note:</b> In the absence of markings, the aircraft is maintained in the centre of the taxiway and at a <u>safe</u><sup>6</sup> distance from obstacles</li> <li>• Maintains lookout and right-of-way rules and complies with ATC or marshalling instructions when applicable</li> <li>• Adjusts taxi speed to suit aeroplane type, surface conditions, level of congestion, and maintenance of control and to avoid collision with obstacles or other aircraft</li> <li>• Applies flying controls, power and brakes to maintain the aircraft on the taxiway centreline (<math>\pm 1.5</math> metres of centreline) while compensating for wind and surface conditions</li> <li>• Performs instrument checks in a suitable area clear of traffic and other hazards</li> <li>• Ensures final approach path is clear of conflicting traffic on specified or appropriate runway.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Single- or multi-engine aircraft</li> <li>• Day VFR</li> <li>• Sealed, gravel or grass runways and taxiways</li> <li>• Aircraft fitted with electrical or mechanical starters</li> <li>• Hand-start aircraft not fitted with electrical or mechanical starters</li> <li>• Propeller/rotor wash and jet blast</li> <li>• Windsocks</li> <li>• Simulated abnormal or emergency situations</li> <li>• Limitations, such as those imposed by local noise abatement procedures and curfews.</li> </ul>	

<sup>4</sup> A checklist derived from information set out in the Flight Manual/POH, placards or other documents provided with the aircraft, necessary to ensure the safe operation of the aircraft

<sup>5</sup> A checklist derived from information set out in the Flight Manual/POH, placards or other documents provided with the aircraft, necessary to ensure the safe operation of the aircraft

<sup>6</sup> Means that a manoeuvre or flight is completed without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the requirements of the Manual of Standards Part 61.

**Underpinning Knowledge**

- Describe starter motor limitations
- Explain the cause and effect of fuel vaporisation on start
- React appropriately to light and marshalling signals
- Explain how to exercise propeller care
- Interpret and react appropriately to aerodrome markings, signals and local procedures
- Explain actions in the event of brake or tyre failure.

## 1.11. Unit A2 Take-Off Aeroplane – Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to complete pre-take-off checks, take-off aeroplane into wind and crosswind, and perform after-take-off checks.

Element	Performance Criteria
A2.1 Carry out pre-take-off procedures	<ul style="list-style-type: none"> <li>• Performs approved pre-take-off checklist</li> <li>• Performs take-off safety brief prior to runway entry</li> <li>• Requests and complies with ATC clearance or broadcast intentions as applicable</li> <li>• Ensures final approach path is clear of conflicting traffic on specified or appropriate runway</li> <li>• Configures aircraft for take-off and lines up on the centreline at appropriate intersection or full length of runway</li> <li>• Aligns aircraft on the centreline of the specified or appropriate runway</li> <li>• Performs approved <u>line-up checks</u>.</li> </ul>
A2.2 Take-off aeroplane	<ul style="list-style-type: none"> <li>• Sets take-off power and confirms engine is operating within limits</li> <li>• Accelerates aircraft along the centreline to the take-off safety speed, allowing for wind</li> <li>• Rotates aircraft to the target climb attitude at approximately 3° per second</li> <li>• <u>Balances aircraft</u><sup>7</sup></li> <li>• Maintains extended centreline of runway or obstacle clearance flight path (<math>\pm 10^\circ</math>)</li> <li>• Maintains nominated climb speed (+5, -0 kts) until clear of obstacles</li> <li>• Retracts undercarriage at a <u>safe</u><sup>8</sup> altitude if applicable</li> <li>• Retracts flap at a <u>safe</u> altitude if applicable</li> <li>• Sets climb power and speed (<math>\pm 5</math> kts) in accordance with manufacturer's time limits or at a <u>safe</u> height</li> <li>• Rejects take-off for abnormalities prior to reaching take-off safety speed.</li> </ul>
A2.3 Take-off aeroplane in a crosswind	<ul style="list-style-type: none"> <li>• Sets take-off power and confirms engine is operating within limits</li> <li>• Accelerates aircraft along the centreline to the take-off safety speed, allowing for wind</li> <li>• Maintains wings level</li> <li>• Rotates aircraft to the target climb attitude at approximately 3° per second</li> <li>• <u>Balances aircraft</u></li> <li>• Maintains extended centreline of runway or obstacle clearance flight path (<math>\pm 10^\circ</math>)</li> <li>• Maintains nominated climb speed (+5, -0 kts) until clear of obstacles</li> <li>• Retracts undercarriage at a safe altitude if applicable</li> <li>• Retracts flap at a safe altitude if applicable</li> <li>• Sets climb power and speed (<math>\pm 5</math> kts) in accordance with manufacturer's time limits or at a <u>safe</u> height</li> <li>• Rejects take-off for abnormalities prior reaching to take-off safety speed.</li> </ul>
A2.4 Carry out after-take-off procedures	<ul style="list-style-type: none"> <li>• Performs after-take-off checks in accordance with approved checklist at a <u>safe</u> height</li> <li>• Complies with ATC instructions if applicable</li> <li>• Maintains separation from other aircraft.</li> </ul>

<sup>7</sup> The skid ball in the balance indicator is less than a quarter of the ball diameter from the centre.

<sup>8</sup> Means that a manoeuvre or flight is completed without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the requirements of the Manual of Standards Part 61.

<b>Range of Variables</b>
<ul style="list-style-type: none"><li>• Single- or multi-engine aircraft</li><li>• Day VFR</li><li>• Sealed, gravel or grass runways and taxiways</li><li>• Propeller/rotor wash and jet blast</li><li>• Windsocks</li><li>• Aircraft operated to crosswind limits, minimum assessment to 70% of maximum crosswind component.</li><li>• Simulated abnormal or emergency situations</li><li>• Simulated hazardous weather</li><li>• Limitations, such as those imposed by local noise abatement procedures and curfews.</li></ul>
<b>Underpinning Knowledge</b>
<ul style="list-style-type: none"><li>• Calculate crosswind components</li><li>• Explain factors affecting take-off and initial climb performance</li><li>• Interpret windssock indications, stating wind direction and speed.</li></ul>

## 1.12. Unit A3 Control Aeroplane in Normal Flight – Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to control an aeroplane while climbing, descending and turning, in straight and level flight at slow speeds, and to perform circuits and approaches, while complying with airspace requirements.

Element	Performance Criteria
A3.1 Climb aeroplane	<ul style="list-style-type: none"> <li>• Sets and maintains climb power and attitude to achieve specified climb performance for the following profiles:               <ul style="list-style-type: none"> <li>◦ Maintains IAS for best angle of climb (<math>V_X</math>) (+5, -0 kts)</li> <li>◦ Maintains IAS for best rate of climb (<math>V_Y</math>) (+5, -0 kts)</li> <li>◦ Maintains IAS for cruise climb (<math>\pm 5</math> kts)</li> </ul> </li> <li>• Sets altimeter subscale in accordance with procedures specified in AIPs</li> <li>• Identifies and avoids terrain and traffic <u>threats</u></li> <li>• Anticipates and levels aircraft at nominated altitude (<math>\pm 150</math> ft for PPL, <math>\pm 100</math> ft for CPL)</li> <li>• Maintains heading (<math>\pm 10^\circ</math>)</li> <li>• <u>Trims aircraft</u></li> <li>• <u>Balances aircraft</u></li> <li>• Monitors and reacts appropriately to engine indications and performance</li> <li>• Configures aircraft if applicable.</li> </ul>
A3.2 Maintain straight and level flight	<ul style="list-style-type: none"> <li>• Sets and maintains power and attitude to achieve specified straight and level performance for the following profiles:               <ul style="list-style-type: none"> <li>◦ Straight and level flight at normal cruise</li> <li>◦ Straight and level flight at high-speed cruise</li> <li>◦ Straight and level flight with flap selected</li> </ul> </li> <li>• Maintains heading (<math>\pm 10^\circ</math>)</li> <li>• Maintains altitude (<math>\pm 150</math> ft for PPL, <math>\pm 100</math> ft for CPL)</li> <li>• Maintains IAS (<math>\pm 10</math> kts)</li> <li>• Sets altimeter subscale in accordance with procedures specified in AIPs</li> <li>• Identifies and avoids terrain and traffic <u>threats</u></li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft</u>.</li> </ul>
A3.3 Descend aeroplane	<ul style="list-style-type: none"> <li>• Sets and maintains power and attitude to achieve specified descent performance during straight flight for the following profiles:               <ul style="list-style-type: none"> <li>◦ Idle power at glide IAS (<math>\pm 10</math> kts)</li> <li>◦ Powered descent at nominated IAS (<math>\pm 10</math> kts) and rate of descent (<math>\pm 150</math> ft/minute)</li> <li>◦ Approach configuration descent at nominated IAS (<math>\pm 10</math> kts) with flap selected and undercarriage down</li> </ul> </li> <li>• Sets altimeter subscale in accordance with procedures specified in AIPs</li> <li>• Identifies and avoids terrain and traffic <u>threats</u></li> <li>• Anticipates specified altitude and levels aircraft at that altitude (<math>\pm 150</math> ft for PPL, <math>\pm 100</math> ft for CPL)</li> <li>• Maintains heading (<math>\pm 10^\circ</math>)</li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft</u></li> <li>• Monitors and controls engine temperature</li> <li>• Applies carburettor heat in accordance with Flight Manual/POH when applicable</li> <li>• Maintains traffic clearance ahead and below.</li> </ul>

Element	Performance Criteria
A3.4 Turn aeroplane	<ul style="list-style-type: none"> <li>• Performs <u>airspace cleared</u> procedure</li> <li>• Sets and maintains power, attitude and angle of bank to achieve specified turn performance to the left and right for the following profiles: <ul style="list-style-type: none"> <li>◦ Level turns (<math>\pm 150</math> ft for PPL, <math>\pm 100</math> ft for CPL)</li> <li>◦ Climbing turn (<math>\pm 5</math> kts, rate one or <math>20^\circ</math> bank <math>\pm 5^\circ</math>)</li> <li>◦ Powered descent turn (<math>\pm 10</math> kts, <math>30^\circ</math> bank <math>\pm 5^\circ</math>)</li> <li>◦ Gliding turn through <math>180^\circ</math> observing height loss (<math>\pm 10</math> kts, <math>30^\circ</math> bank <math>\pm 5^\circ</math>)</li> </ul> </li> <li>• Turns aircraft at varying rates to achieve specified tracks</li> <li>• Manoeuvres aircraft over specified tracks or geographical feature (<math>\pm 10^\circ</math> on exit)</li> <li>• Turns aircraft onto nominated headings using magnetic compass only (<math>\pm 10^\circ</math> on exit)</li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft</u> for climbing and descending turns</li> <li>• Applies <u>controlled corrective action</u></li> <li>• Monitors and controls engine temperature.</li> </ul>
A3.5 Control aeroplane at slow speeds	<ul style="list-style-type: none"> <li>• Completes <u>pre-manoeuve checks</u> from memory</li> <li>• Manoeuvres aircraft at minimum clean approach speed (+10, -0 kts).</li> <li>• Manoeuvres aircraft at flapped approach configuration speed (+10, -0 kts)</li> <li>• Observes audible and visual stall warnings and recovers aircraft to controlled flight</li> <li>• Manages the reduced effectiveness of controls</li> <li>• Recovers from slow speed configuration using take-off power to achieve nominated speed in excess of <math>1.5V_s</math> without loss of height (<math>\pm 10</math> kts, <math>\pm 150</math> ft for PPL, <math>\pm 100</math> ft for CPL)</li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft</u>.</li> </ul>
A3.6 Perform circuits and approaches	<ul style="list-style-type: none"> <li>• Maintains lookout and traffic separation using a systematic scan technique at a rate determined by traffic density</li> <li>• Monitors and reacts appropriately to engine performance and indications</li> <li>• Tracks upwind along extended runway centreline to 500 ft</li> <li>• Establishes aircraft on crosswind tracking <math>90^\circ</math> to the runway</li> <li>• Establishes aircraft on downwind at circuit height (<math>\pm 100</math> ft) tracking parallel to the runway at a specified distance from the runway</li> <li>• Performs pre-landing checklist</li> <li>• Establishes aircraft on base leg a specified distance from threshold of runway</li> <li>• Commences and controls rate of descent to maintain approach path</li> <li>• Ensures aircraft is aligned with specified or appropriate runway</li> <li>• Establishes aircraft on final approach in approach configuration not below 500 ft AGL</li> <li>• Identifies and selects <u>aiming point</u></li> <li>• Maintains aircraft on extended centreline and coordinates power and attitude to maintain approach slope and speed not less than <math>1.3V_s</math> to a height of 50 ft</li> <li>• Applies speed allowances for wind gusts when applicable</li> <li>• Maintains speed not below threshold speed +10 kts until commencing flare</li> <li>• Configures aircraft for landing</li> <li>• Performs final approach checklist</li> </ul>

Element	Performance Criteria
	<ul style="list-style-type: none"> <li>• Anticipates and allows for wind on all legs of the circuit</li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft.</u></li> </ul>
A3.7 Comply with airspace requirements	<ul style="list-style-type: none"> <li>• Explains, using a chart, geographical limits of the designated area</li> <li>• Identifies prominent geographical features using a chart</li> <li>• Identifies the limits of the designated area on the ground</li> <li>• Determines the position of controlled airspace using a chart and geographical features</li> <li>• Identifies and avoids restricted areas and controlled airspace using a chart and geographical features</li> <li>• Completes departure from the circuit area and transits to the designated area without incident</li> <li>• Completes departure from the designated area and transits to the circuit area without incident</li> <li>• Maintains <u>orientation</u><sup>9</sup> by geographical features.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Single- or multi-engine aircraft</li> <li>• Day VFR</li> <li>• Sealed, gravel or grass runways and taxiways</li> <li>• Windsocks</li> <li>• Aircraft operated to crosswind limits, minimum assessment to 70% of maximum crosswind component.</li> <li>• Simulated abnormal or emergency situations</li> <li>• Simulated hazardous weather</li> <li>• Limitations, such as those imposed by local noise abatement procedures and curfews.</li> </ul>	
<b>Underpinning Knowledge</b>	
<ul style="list-style-type: none"> <li>• Explain the function of and primary and secondary effects of controls</li> <li>• Explain the stall warning devices fitted to aircraft</li> <li>• Explain the theory and application of best rate and angle of climb</li> <li>• Explain the effects of excessive cooling on engine performance during descent and methods to counter these effects</li> <li>• Explain the use of carburettor heat</li> <li>• Explain the hazards during maximum rate descents</li> <li>• Explain the effects of turn on magnetic compass performance</li> <li>• Explain the effects of angle of bank on load factor and stall speed</li> <li>• Explain how induced drag can adversely affect an aircraft at slow speed</li> <li>• Explain the dangers of turbulence and wake turbulence when flying at slow speed.</li> </ul>	

<sup>9</sup> To be aware of the position of the aircraft relative to navigation aid or feature, based on the direction and estimated distance of the aircraft from the navigation aid or feature.

### 1.13. Unit A4 Land Aeroplane – Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to land an aeroplane into wind and crosswind and to perform a mishandled landing when required.

Element	Performance Criteria
A4.1 Land aeroplane	<ul style="list-style-type: none"> <li>• Identifies and selects <u>aiming point</u><sup>10</sup></li> <li>• Selects power to idle prior to touchdown</li> <li>• Flares aircraft at an appropriate height</li> <li>• Controls ballooning during flare and bouncing after touchdown by adjustment of attitude without the application of power</li> <li>• Touches down at a <u>controlled rate of descent</u><sup>11</sup>, aligned with runway centreline</li> <li>• Touches down within 400 ft/120 metres for PPL or 200ft/60 metres for CPL beyond a nominated <u>touchdown point</u></li> <li>• Touches down <math>\pm 2</math> metres of centreline</li> <li>• Touches down on the main wheels, and the nose is lowered onto the runway without harshness</li> <li>• Maintains directional control along the centreline</li> <li>• Applies braking to stop the aircraft within landing distance available.</li> <li>• Performs after-landing checklist</li> <li>• Maintains separation from other traffic.</li> </ul>
A4.2 Land aeroplane in a crosswind	<ul style="list-style-type: none"> <li>• Configures aircraft for crosswind landing</li> <li>• Tracks aircraft above runway centreline</li> <li>• Selects power to idle prior to touchdown</li> <li>• Flares aircraft at an appropriate height</li> <li>• Controls ballooning during flare and bouncing after touchdown by adjustment of attitude without the application of power</li> <li>• Touches down at a <u>controlled rate of descent</u><sup>12</sup>, aligned with runway centreline.</li> <li>• Touches down within 400 ft/120 metres for PPL or 200ft/60 metres for CPL beyond a nominated <u>touchdown point</u></li> <li>• Touches down <math>\pm 2</math> metres of centreline</li> <li>• Prevents wing rise after touchdown</li> <li>• Maintains directional control along the centreline</li> <li>• Applies braking to stop the aircraft within landing distance available without wheel lockup</li> <li>• Performs after-landing checklist.</li> </ul>
A4.3 Perform mishandled landing procedures	<ul style="list-style-type: none"> <li>• Recognises when the landing standard cannot be achieved and implements a decision to perform <u>mishandled landing</u><sup>13</sup></li> <li>• Controls aeroplane</li> <li>• Applies take-off power</li> <li>• Controls aircraft direction while airborne and on the ground</li> <li>• Lifts off at take-off safety speed or establishes climb attitude if airborne</li> <li>• Retracts undercarriage and flap when applicable</li> <li>• Performs after-take-off checks.</li> </ul>

<sup>10</sup> The 'aiming point' related to a visual approach and landing of an aircraft, is that point at which a pilot looks, to achieve a predetermined touchdown point.

<sup>11</sup> 'Controlled rate of descent' associated with a landing means that the touchdown is without harshness and the successful outcome of the landing is not in doubt.

<sup>12</sup> 'Controlled rate of descent' associated with a landing means that the touchdown is without harshness and the successful outcome of the landing is not in doubt.

<sup>13</sup> 'means to recognise an abnormal landing and recover the aircraft to controlled flight. Often associated with a 'go around''

<b>Range of Variables</b>
<ul style="list-style-type: none"><li>• Single- or multi-engine aircraft</li><li>• Day VFR</li><li>• Aircraft with nose wheel or tail wheel</li><li>• Aircraft with or without flaps</li><li>• Aircraft with fixed or retractable undercarriage</li><li>• Sealed, gravel or grass runways and taxiways</li><li>• Propeller/rotor wash and jet blast</li><li>• Windsocks</li><li>• Aircraft operated to crosswind limits, minimum assessment to 70% of maximum crosswind component</li><li>• Limitations, such as those imposed by local noise abatement procedures and curfews.</li></ul>
<b>Underpinning Knowledge</b>
<ul style="list-style-type: none"><li>• Recognise and respond to conditions leading to a mishandled landing</li><li>• Calculate landing performance</li><li>• Recall the crosswind limits for the aircraft type flown</li><li>• Calculate crosswind components</li><li>• Interpret windsock indications</li><li>• Explain causes of loss of control of an aircraft on landing.</li></ul>

## 1.14. Unit A5 Execute Advanced Manoeuvres and Procedures – Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to control an aeroplane by applying advanced manoeuvres and procedures.

Element	Performance Criteria
A5.1 Enter and recover from stall	<p><b>Recognise approach to stall</b></p> <ul style="list-style-type: none"> <li>• Performs <u>pre-manoevre checks</u></li> <li>• Recognises airframe buffet and control ineffectiveness symptoms and visual and aural stall warning devices while approaching the stall.</li> </ul> <p><b>Stall aircraft</b></p> <ul style="list-style-type: none"> <li>• Stalls aircraft while maintaining <u>balanced flight</u></li> <li>• Observes IAS and control wheel/stick position at point of departure from intended flight path (stall)</li> <li>• Recovers from stall with minimum loss of height</li> <li>• Adjusts aeroplane attitude and power setting to resume normal <u>balanced flight</u> on advent of stall</li> <li>• Recovers from stall using full power</li> <li>• Recovers from stall without power</li> <li>• Recovers from stall during straight and level, climbing, descending and approach configuration flight</li> <li>• Recovers from stall during a turn</li> <li>• Achieves height loss consistent with aircraft type.</li> </ul>
A5.2 Recover from incipient spin	<ul style="list-style-type: none"> <li>• Performs pre-manoevre checks</li> <li>• Terminates yaw</li> <li>• Adjusts aeroplane attitude and power setting following incipient spin entry (stall with wing drop) and resumes normal <u>balanced flight</u></li> <li>• Recovers at incipient spin stage during a turn and resumes controlled flight</li> <li>• Achieves height loss consistent with aircraft type.</li> </ul>
A5.3 Turn aeroplane steeply	<ul style="list-style-type: none"> <li>• Completes <u>airspace cleared procedure</u></li> <li>• Performs level steep turn of nominated bank angle (45°–60°) without altitude change (<math>\pm 150</math> ft for PPL, <math>\pm 100</math> ft for CPL)</li> <li>• Performs descending steep turn of nominated bank angle (45°–60°) to a nominated heading or geographical feature through a minimum of 500 ft height loss</li> <li>• Exits on specified heading or geographical feature (<math>\pm 10^\circ</math>)</li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft</u> for descending steep turn.</li> </ul>
A5.4 Sideslip aeroplane	<p><b>Straight sideslip</b></p> <ul style="list-style-type: none"> <li>• Induces slip to achieve increased rate of descent while maintaining track and airspeed</li> <li>• Adjusts rate of descent by coordinating angle of bank and applied rudder.</li> </ul> <p><b>Sideslipping turn</b></p> <ul style="list-style-type: none"> <li>• Adjusts bank angle to turn through minimum heading change of 90° at constant airspeed using sideslip</li> <li>• Exits on specified heading or geographical feature (<math>\pm 10^\circ</math>)</li> <li>• Recovers from sideslip and returns aeroplane to <u>balanced flight</u>.</li> </ul>

<p>A5.5 Execute short take-off and landing</p>	<p><b>Short take-off</b></p> <ul style="list-style-type: none"> <li>• Calculates take-off and landing performance in accordance with performance chart</li> <li>• Performs pre-take-off checks in accordance with approved checklist</li> <li>• Lines up aeroplane to enable maximum use of runway length</li> <li>• Performs <u>line-up checks</u> in accordance with approved checklist</li> <li>• Applies take-off power before brakes (where fitted) are released</li> <li>• Rotates aeroplane at recommended speed</li> <li>• Sets nominated climb speed appropriate to obstacle clearance requirements</li> <li>• Performs after-take-off checks from memory in accordance with <u>approved checklist</u>.</li> </ul> <p><b>Short landing</b></p> <ul style="list-style-type: none"> <li>• Lands aeroplane at nominated touchdown point (+200 ft/60 metres for PPL, +100 ft/30 metres for CPL) at minimum speed</li> <li>• Controls ballooning during flare and bouncing after touchdown by adjustment of attitude without the application of power</li> <li>• Maintains direction after touchdown</li> <li>• Applies maximum braking without locking up wheels</li> <li>• Stops aircraft within landing distance available</li> <li>• Performs after-landing checks in accordance with <u>approved checklist</u>.</li> </ul>
<p><b>Range of Variables</b></p>	
<ul style="list-style-type: none"> <li>• Single- or multi-engine aircraft</li> <li>• Day VFR</li> <li>• Aircraft with nose wheel or tail wheel</li> <li>• Aircraft with or without flaps</li> <li>• Aircraft with fixed or retractable undercarriage</li> <li>• Sealed, gravel or grass runways and taxiways</li> <li>• Propeller/rotor wash and jet blast</li> <li>• Windsocks</li> <li>• Aircraft operated to crosswind limits, minimum assessment to 70% of maximum crosswind component</li> <li>• Limitations, such as those imposed by local noise abatement procedures and curfews.</li> </ul>	
<p><b>Underpinning Knowledge</b></p>	
<ul style="list-style-type: none"> <li>• Explain symptoms of the approach to the stall and the stall in the aircraft type flown</li> <li>• Explain the relationship between angle of attack and the stall</li> <li>• Explain the effects of weight, 'g-force' and angle of bank on the stall speed</li> <li>• Explain the potential dangers of unbalanced flight at slow speed</li> <li>• Explain the principles associated with the position of the stick/control column and the point of stall</li> <li>• State the symmetrical and rolling 'g-force' limitations of the aircraft being operated</li> <li>• Explain the effects of a sideslip on aeroplane performance</li> <li>• Explain the effects of sideslipping an aeroplane on fuel, pitot and flap systems</li> <li>• Explain take-off and landing performance chart calculations</li> <li>• Provide an example of when a maximum rate turn should be performed</li> <li>• Provide an example of when a minimum radius turn should be performed.</li> </ul>	

## 1.15. Unit A6 Manage Abnormal Situations – Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to accurately assess an abnormal situation and perform immediate actions, configure an aeroplane, select a landing area and land with no injury to personnel or damage to the aeroplane or property, perform a precautionary search and manage other abnormal situations.

Element	Performance Criteria
A6.1 Manage engine failure after take-off	<ul style="list-style-type: none"> <li>• Controls aircraft</li> <li>• Lowers nose to achieve best gliding speed</li> <li>• Selects a landing area within gliding distance</li> <li>• Performs immediate actions in accordance with Flight Manual/POH</li> <li>• Performs emergency procedures in accordance with Flight Manual/POH</li> <li>• Advises ATS or another agency capable of providing assistance of situation and intentions</li> <li>• Briefs passengers about flight situation, brace position and harness security</li> <li>• Lands aeroplane ensuring <u>safest outcome</u>.</li> </ul>
A6.2 Manage engine failure elsewhere in the circuit	<ul style="list-style-type: none"> <li>• Controls aircraft</li> <li>• Performs immediate actions in accordance with Flight Manual/POH</li> <li>• Selects a landing area within gliding distance, on the aerodrome or elsewhere</li> <li>• Performs emergency procedures in accordance with Flight Manual/POH and lands the aeroplane if the engine cannot be restarted</li> <li>• Advises ATS or other agencies capable of providing assistance of situation and intentions</li> <li>• Briefs passengers about flight situation, brace position and harness security</li> <li>• Lands aircraft ensuring <u>safest outcome</u> if an engine restart is not achieved.</li> </ul>
A6.3 Perform forced landing	<ul style="list-style-type: none"> <li>• Controls aircraft</li> <li>• Performs immediate actions in accordance with Flight Manual/POH</li> <li>• Selects landing area within gliding distance</li> <li>• Formulates a plan</li> <li>• Performs all emergency checks in accordance with Flight Manual/POH</li> <li>• Briefs passengers about flight situation, brace position and harness security</li> <li>• Advises ATS or other agencies capable of providing assistance of situation and intentions</li> <li>• Manoeuvres aircraft to selected landing area</li> <li>• Lands aircraft ensuring <u>safest outcome</u> if an engine restart is not achieved</li> <li>• <u>Trims aircraft</u></li> <li>• <u>Balances aircraft</u>.</li> </ul>

<p>A6.4 Conduct precautionary search and landing</p>	<ul style="list-style-type: none"> <li>• Assesses flight circumstances and decides to perform precautionary landing in the time available</li> <li>• Communicates intentions when appropriate</li> <li>• Configures aircraft for reduced visibility manoeuvring if applicable.</li> <li>• Selects landing area and inspects its suitability for landing, ensuring:             <ul style="list-style-type: none"> <li>◦ unobstructed approach and overshoot paths</li> <li>◦ landing area length adequate for landing</li> <li>◦ landing area surface suitable for aircraft type and clear of hazards</li> </ul> </li> <li>• Maintains <u>orientation</u> and contact with the landing area.</li> <li>• Lands aircraft.</li> </ul>
<p>A6.5 Manage other abnormal situations</p>	<ul style="list-style-type: none"> <li>• Controls aircraft</li> <li>• Identifies abnormal or emergency situation</li> <li>• Manages or rectifies abnormal or emergency situation in accordance with Flight Manual/POH, standard operating procedures or Company Operations Manual</li> <li>• Performs abnormal and emergency actions in accordance with AIP procedures when applicable</li> <li>• Advises ATS or other agencies capable of providing assistance of situation and intentions.</li> </ul>
<p><b>Range of Variables</b></p>	
<ul style="list-style-type: none"> <li>• Single- engine aircraft</li> <li>• Day VFR</li> <li>• Limitations, such as those imposed by local noise abatement procedures and curfews</li> <li>• Simulated manoeuvres that would be terminated by forced landing or ditching may be discontinued when the assessor is satisfied that the landing standard could be achieved</li> <li>• At least one precautionary search to be conducted at an unfamiliar landing area</li> <li>• Decision to land is taken immediately after the need becomes apparent.</li> </ul>	
<p><b>Underpinning Knowledge</b></p>	
<ul style="list-style-type: none"> <li>• Explain methods of determining the suitability of emergency landing areas</li> <li>• Explain the advantages of pre briefing actions in the event of an engine failure after take-off when departing from an airfield</li> <li>• Describe a practical action plans for use in the event of an engine failure after take-off from the aerodrome of operation</li> <li>• Explain engine failure emergency procedures</li> <li>• Detail a plan of action to be used in the event of an engine failure in the circuit, other than after take-off</li> <li>• Recall the height loss during a 180° gliding turn in the aircraft being operated</li> <li>• Explain the link between autorotation and manoeuvring an aircraft at low airspeeds</li> <li>• Explain actions to be conducted following a forced landing.</li> </ul> <p><b>Partial engine failure</b></p> <ul style="list-style-type: none"> <li>• Explain the effects of a partial engine failure on aircraft performance with respect to:             <ul style="list-style-type: none"> <li>◦ straight and level flight</li> <li>◦ turning while maintaining level flight</li> </ul> </li> <li>• Describe the hazards associated with turning an aircraft at slow speed, using large angles of bank while maintaining level flight following a partial engine failure after take-off</li> <li>• Explain what factors should be considered when deciding whether to land immediately or proceed to a more suitable landing area after a partial engine failure</li> <li>• Precautionary search</li> <li>• Explain scenarios that may require a precautionary landing</li> <li>• Detail the bad visibility configuration</li> <li>• Explain the hazards associated with flying at low level.</li> </ul>	

## 1.16. Unit A7 Full Instrument Panel Manoeuvres – Flight Standard (PPL and CPL)

**Unit Description:** Skills and knowledge to perform all normal flight manoeuvres using the full instrument panel to re-establish VFR conditions.

Elements	Performance Criteria
A7.1 Determine and monitor serviceability of flight instruments and instrument power sources	<ul style="list-style-type: none"> <li>• Determines serviceability of flight instrument, pitot/static system and instrument power sources in accordance with Flight Manual/POH, before flight</li> <li>• Performs functional checks of turn, heading and attitude indicators while taxiing</li> <li>• Monitors flight instrument and instrument power sources and reacts appropriately to any warnings, unserviceabilities or erroneous indications.</li> </ul>
A7.2 Perform manoeuvres using full instrument panel to re-establish VFR	<ul style="list-style-type: none"> <li>• Interprets and reacts appropriately to flight instrument indications to achieve and maintain specified flight profiles using full instrument panel</li> <li>• Sets and maintains power and attitude by reference to full instrument panel to achieve straight and level performance during normal cruise (<math>\pm 200</math> ft <math>\pm 10^\circ</math> <math>\pm 10</math> kts)</li> <li>• Sets and maintains power and attitude by reference to full instrument panel to achieve nominated climb performance (<math>\pm 10^\circ</math> <math>\pm 5</math> kts)</li> <li>• Sets and maintains power and attitude by reference to full instrument panel to achieve descent performance (<math>\pm 10^\circ</math> <math>\pm 10</math> kts <math>\pm 200</math> ft/min)</li> <li>• Sets and maintains power, attitude and bank during climb, descent and level flight by reference to full instrument panel to achieve rate one turns onto a nominated heading (<math>\pm 10^\circ</math> on exit)</li> <li>• <u>Balances aeroplane</u></li> <li>• <u>Trims aeroplane</u></li> </ul> <p><i>Recover from unusual attitudes</i></p> <ul style="list-style-type: none"> <li>• Identifies uncontrolled flight involving high and low nose attitudes, varying angles of bank and power settings and unbalanced flight and resumes controlled flight</li> </ul> <p><i>Re-establish flight by visual reference</i></p> <ul style="list-style-type: none"> <li>• Performs or simulates involuntary transition from visual flight conditions to instrument meteorological conditions (IMC), identifies loss of visual reference and manoeuvres aeroplane to re-establish VMC (Visual Meteorological Conditions)</li> <li>• Develops a plan that ensures re-establishment of VMC.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Day Visual Flight Rules in variable weather conditions</li> <li>• IMC or VMC with simulated IMC</li> <li>• Fitted flight instruments suitable for full panel instrument flight</li> <li>• Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.</li> </ul>	
<b>Underpinning Knowledge</b>	
<ul style="list-style-type: none"> <li>• Explain a scan technique appropriate to fitted flight instruments and phase of flight</li> <li>• State the attitude and power requirements to achieve specified flight profiles</li> <li>• State the Instrument failure and warning systems fitted to the aeroplane.</li> </ul>	

## 1.17. Unit A8 Limited Instrument Panel Manoeuvres (CPL Only) – Flight Standard

**Unit Description:** Skills and knowledge to perform all normal flight manoeuvres, recover from unusual attitudes and re-establish visual flight using the limited instrument panel.

Elements	Performance Criteria
A 8.1. Recognise failure of attitude indicator and/or stabilised heading indicator	<ul style="list-style-type: none"> <li>• Monitors flight instruments and instrument power sources, recognises warning indicators or erroneous instrument indications and transitions to instrument flight by reference to limited panel flight instruments.</li> </ul>
A 8.2. Perform manoeuvres using limited instrument panel	<ul style="list-style-type: none"> <li>• Interprets and reacts appropriately in the time available to flight instrument indications to achieve and maintain specified flight profiles using limited instrument panel</li> <li>• Sets and maintains power and attitude by reference to limited instrument panel to achieve straight and level performance during:               <ul style="list-style-type: none"> <li>◦ normal cruise (<math>\pm 200</math> ft <math>\pm 15^\circ</math> <math>\pm 10</math> kts or <math>\pm M.02</math>)</li> <li>◦ in an aeroplane-approach configuration with flap (when fitted) and undercarriage down (<math>\pm 200</math> ft <math>\pm 15^\circ</math> <math>\pm 10</math> kts nominated speed but not below minimum approach speed)</li> <li>◦ in a helicopter-at minimum power for level flight speed (<math>\pm 10</math> kts)</li> </ul> </li> <li>• Sets and maintains power and attitude by reference to limited instrument panel to achieve nominated climb performance (<math>\pm 5^\circ</math> <math>\pm 5</math> kts M.01)</li> <li>• Sets and maintains power and attitude by reference to limited instrument panel to achieve nominated descent performance (<math>\pm 15^\circ</math> <math>\pm 10</math> kts or <math>\pm M.02</math> <math>\pm 200</math> ft per minute)</li> <li>• Sets and maintains power, attitude and bank during climb, descent and straight and level flight by reference to limited instrument panel to achieve rate one turns onto a nominated heading (<math>\pm 20^\circ</math> on exit then <math>\pm 15^\circ</math>)</li> <li>• <u>Balances aircraft</u></li> <li>• <u>Trims aircraft</u> during straight and level, descending and climbing flight</li> <li>• Level aircraft at a nominated altitude (<math>\pm 200</math> ft), from a climb or descent during straight or turning flight.</li> </ul>
A 8.3. Recover from unusual attitudes using limited flight instrument panel	<ul style="list-style-type: none"> <li>• Identifies uncontrolled flight involving high and low nose attitudes, varying angles of bank and power settings and unbalanced flight and resumes controlled flight by reference to flight instruments using a limited instrument panel</li> <li>• Achieves straight and level attitude without excessive oscillations at the horizon (<math>\pm 300</math> ft of height at which aircraft nose first passed through horizon then <math>\pm 200</math> ft of nominated altitude).</li> </ul>
A 8.4. Re-establish Visual flight following inadvertent entry into IMC	<ul style="list-style-type: none"> <li>• Performs or simulates involuntary transition from visual flight conditions to instrument meteorological conditions (IMC), identifies loss of visual reference and manoeuvre aircraft to re-establish VMC by reference to flight instruments using a limited instrument panel</li> <li>• Develops a plan that ensures re-establishment of VMC.</li> </ul>

<b>Range of Variables</b>
<ul style="list-style-type: none"><li>• Single engine or multi engine aircraft or approved flight simulators</li><li>• Manually flown in single pilot or multi crew operations</li><li>• IMC or VMC with simulated IMC conditions</li><li>• Fitted flight instruments suitable for limited panel instrument flight</li><li>• Up to and including light turbulence</li><li>• During unusual attitude recovery, straight and level flight is achieved when there are no excessive oscillations at the horizon.</li></ul>
<b>Underpinning Knowledge</b>
<ul style="list-style-type: none"><li>• Explain a scan technique appropriate to fitted flight instruments and phase of flight (without attitude or stabilised heading indicators)</li><li>• Recall the performance instrument indications and power requirements to achieve specified flight profiles</li><li>• State the anti icing and de icing controls/switches fitted to the aircraft type, and when these systems should be operated</li><li>• Recall the instrument failure and warning systems fitted to the aircraft.</li></ul>

## 1.18. Unit A13 – Recover from Spin– Flight Standard (Optional for PPL or CPL)

**Unit Description:** Skills and knowledge to recover from an upright spin.

Element	Performance Criteria
Recover from spin	<ul style="list-style-type: none"> <li>• Performs pre-manoeuve checks</li> <li>• Enters and establishes an upright spin</li> <li>• Identifies upright spin and direction of yaw</li> <li>• Closes throttle</li> <li>• Stops yaw</li> <li>• Unstalls wing (aircraft)</li> <li>• Recovers to controlled flight</li> <li>• Recovers within the number of turns normally required for upright spin recovery in the aircraft type, within the aircraft and height limitations.</li> </ul>
<b>Range of Variables</b>	
<ul style="list-style-type: none"> <li>• Day VFR flight in VMC</li> <li>• Within the lateral and vertical limitations of the planned manoeuvring airspace using an approved aerobatic aeroplane.</li> </ul>	
<b>Underpinning Knowledge</b>	
<ul style="list-style-type: none"> <li>• Detail actions required to recover from an incipient spin (wing drop at point of stall)</li> <li>• Explain what actions, by a pilot, with an aeroplane in any attitude, at the point of stall, that is likely to cause a spin</li> <li>• Explain the blanketing effects the elevator can have on the rudder during spin recovery</li> <li>• Discuss the significance of stick/control wheel position with respect to spin recovery</li> <li>• Explain the aerodynamic causes of a spin</li> <li>• Explain what aerodynamic factor determines the direction of a spin</li> <li>• Explain how to recognise a stable spin</li> <li>• Explain the difference between a stable spin and an unstable spin</li> <li>• Explain the difference between a spin and spiral dive</li> <li>• State factors which may lead to a flat spin</li> <li>• Explain the difference between an upright and an inverted spin</li> <li>• Explain what visual indications are used to determine the direction of a spin</li> <li>• Explain which instrument indications confirm the direction of a spin</li> <li>• State standard spin entry and recovery techniques for the aircraft being flown</li> <li>• State the number of turns normally required for spin recovery in the aeroplane type</li> <li>• State the height normally required to enter and recover from a stable spin</li> <li>• Explain the 'Mueller-Beggs spin recovery action and limitations on its application</li> <li>• State the 'g' and any other limitations applicable to spinning for the aeroplane type.</li> </ul>	

## SUBSECTION 4 – FLIGHT TEST FORMS

### 1.1. Flight Tests

There are three flight tests relating to this syllabus. They are:

- 1 General Flying Progress Test (GFPT).
- 2 PPLA flight test.
- 3 CPLA flight test.

Flight test forms are available via the CASA website (see para 1.3 below). The appropriate forms must be completed for every test conducted, whatever the result.

### 1.2. Application

Each form consists of an application form and a record of the flight test on the reverse.

A candidate for a flight test must ensure that the application form section is completed, including the Chief Flying Instructor's recommendation, prior to commencement of the test. The completed form should be provided to the testing officer.

### 1.3. Flight Test Forms

The flight test forms are divided into four sections:

- 1 General requirements.
- 2 Ground.
- 3 Flying.
- 4 Airmanship.

The forms are numbered for identification as detailed below. (To access the forms, click the link.)

- GFPT Test (Aeroplane) Application – [Form 640](#)
- Private Pilot (Aeroplane) Licence Application – [Form 077](#)
- Commercial Pilot (Aeroplane) Licence Application – [Form 090](#).

### 1.4. General requirements

This section outlines the general requirements applicable to the conduct of the test including those relating to planning of the flight.

### 1.5. Ground

The ground section consists of items that must be tested orally before flight and includes satisfactory knowledge of all the items listed on the candidate's Knowledge Deficiency Report. The Ground section of the test must be passed before the flying section may be attempted.

### 1.6. Flying

This section lists the units and elements of the Day VFR Flying Training Syllabus that must be examined in the flight test. In the CPLA test form flying is subdivided into general and operational flying. The flight test form uses the same units, elements and numbering as the Day VFR Syllabus to enable candidates and testing officers to easily refer back to the syllabus. The standard required to achieve a pass in an element in the flight test is the standard specified in the assessment guide in the syllabus.

Candidates should understand that perfection of performance is not the essential requirement to achieve a pass in the flight test. The aim of the test is to demonstrate the candidate's ability to operate the aeroplane safely and to make all the operational decisions necessary for the conduct of the flight. To achieve a Pass in the flight test a candidate should demonstrate the following standard

- Correct techniques and procedures, as specified in the assessment guide, were used
- Errors in height, airspeed, heading and balance were not sustained
- The aeroplane was operated within published limitations
- All operations complied with regulatory and airspace requirements
- Sound airmanship was displayed throughout the flight.

Some latitude is allowed to GFPT and PPLA candidates in the performance of a manoeuvre. Where an error is made in a particular element, provided that it is recognised and appropriate corrective action taken, a second attempt at the unsuccessful manoeuvre may be permitted. At the CPLA level the successful outcome of any manoeuvre should not be in doubt.

Failure in any item listed on the flight test forms will result in an overall fail assessment for the flight test, however at the discretion of the testing officer a candidate may be credited with passes in those items successfully completed and those items will not have to be repeated in a subsequent test.

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