APPLICANT NAME:		Licence #							

FSS PEL 61-32

Commercial Pilot-Aeroplane Flight Test Guide

Throughout this FTG a reference to an Examiner is taken to be a reference to NCAA Part 61 Designated Flight Examiners, designated pilots and NCAA inspectors.

FOREWORD

The flight test guide book has been published by the NAMIBIA CIVIL AVIATION AUTHORITY (NCAA) to establish the standards for a pilot and aircraft rating practical tests for Aeroplanes. NCAA inspectors, designated Flight Examiners, and designated pilots (referred to as Examiners throughout the remaining practical test standards) shall conduct practical tests in compliance with these standards. Flight instructors and applicants should find these standards helpful in practical test preparation.

Commercial Pilot licence – aeroplane

The aim of this flight test is for the applicant to demonstrate competency in the knowledge, skills and attitudes as required in Part 61 Civil Aviation Regulations for the grant of the aeroplane category rating CPL (A).

1.1 Examiner requirements

The following examiner requirements are applicable to the conduct of the CPL (A) flight test:

1. The examiner must conduct the CPL (A) flight test in accordance with the Flight Examiner Manual

2. The examiner must ensure that the ground component of the flight test is successfully completed before conducting the pre-flight briefing and flight component of the flight test.

3. The examiner must not introduce simultaneous, multiple or unrelated simulated emergencies or abnormal events during the flight.

4. After a simulated failure, the examiner must ensure the aircraft is configured back to a normal operating mode before another simulated failure may be introduced, except where the simulated failures are linked. The safety of the aircraft should never be in doubt when simulating emergencies or failures.

5. The following Examiner Designations are authorized to test:

   NCAA Safety Inspector, FE, CIRE (A), OFE

1.2.1 Testing methodology

The examiner should apply the flight test methodology described in Flight Examiner Manual, Assessment of human factors and non- technical skills of the Flight Examiner Manual.

The flight test should be designed such that all required components can be

assessed in a logical sequence. Where one or more mandatory units or elements are unable to be assessed for any reason, the flight test cannot be completed.

The examiner must ensure the applicant is given adequate notice of the intended navigation task to allow for unhurried preparation and planning (simulating a private passenger/cargo carrying operation). The applicant should be given the test route at least 24 hours and not more than 48 hours before the start of the flight test.

It is recommended that the examiner plans an **airborne** time of approximately:

- 1.5 hours for the Flight component task (this should not include time delays which may be
  experienced at a busy airport)

- The examiner may choose to conduct the general handling and instrument components in two separate flights.

Flight tolerances

Table 1: Aeroplane general flight tolerances – CPL (A)

1. Applicability

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

(a) Commercial Pilot licence

Flight tolerances

Flight path or manoeuvre		Flight tolerances
Taxing aircraft		±1.5 metres of centreline
Nominated heading		±5°
Climb airspeed		-0 / +5 kts
Level off from climb and descent		±150 ft
Straight and level	Altitude	±150 ft
	IAS	±5 kts
Power descent airspeed		±5 kts
Glide		-5 / +5 kts
Turns		Angle of Bank ±5°
Turns onto nominated headings		Heading ±5°
Steep Turn		Heading ±5°
		Height ±150 ft

Flight path or manoeuvre		Flight tolerances
Final approach airspeed		-0 / +5 kts
Landing	Touchdown	±120 m
	Centreline tracking	±2 m
Asymmetric flight	Heading – initial	±20°
	Heading - sustained	±5°
	IAS	-0 +5 kts
Limited panel instrument flying	Heading	±15°
	IAS	±10 kts or ±M0.02
	Height	±200 ft

1.2.2 CPL (A) assessment scope and conditions

The CPL (A) flight test must be conducted by day and night under the VFR/IFR and in an aeroplane or NCAA approved SFTD. The night proficiency part will not be necessary for renewals but however mandatory for initial licence issue.

The Unit numbers, listed in the requirements column of Table 1 below, reference the CPL (A) test form.

The activities and manoeuvres of the Part 61 CATS and the CPL (A) flight test form must be assessed against an appropriate sample of the performance criteria for the relevant competency standards prescribed.

CPL (A) flight tolerances and ground reference tolerances are specified on the applicable flight test guide. Sustained deviation outside the applicable flight tolerance is not permitted.

The applicant 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 safe flight.

Where the aircraft is fitted with an autopilot system, the applicant must demonstrate competency in the system on at least one leg.

1.3 Conduct (ground component)

1.3.1 Initial brief to applicant

In accordance with Flight Examiner Manual, the examiner must begin the flight test with a brief to the applicant on the following items:

Flight test context, purpose and content;

- Assessment procedure;
- Function of the examiner;
- Standards against which competency will be assessed;
- Actions in the event of a failure assessment.

The applicant should be encouraged to ask for clarification should they become uncertain on any of the flight test elements.

1.3.2 Document review

The examiner must confirm that an applicant for the CPL (A) satisfies the eligibility requirements to undertake the flight test for the grant of the NCAA Part 61 licence. To achieve this, the achievement record or training records, logbook, licence and medical certificate must be checked.

Minimum age - The examiner must see one of the following documents to verify that the applicant is at least 18:

- Namibian driver licence
- Namibian ID
- Passport (Any nationality)

Aeronautical knowledge examinations – the examiner must review the applicant's theory examination pass records.

Flight training requirements – the examiner must review the applicant's pilot training records to ensure that the training requirements have been met. Normal evidence should at least be a course completion certificate.

Aeronautical experience – the examiner must review the applicant's pilot

logbook to ensure that the minimum aeronautical experience requirements have been met.

English language proficiency – the examiner must ensure that the applicant holds a current ELP assessment.

Eligibility certification – the examiner must ensure that an appropriate person of the training provider has certified in writing that the applicant is eligible to take the flight test in the form of an ARN certification

Medical certificate – the examiner must check that the applicant holds either a class 1 medical certificate, or a medical exemption allowing them to exercise the privileges of the CPL A.

If the flight test is a retest following a fail assessment – the examiner must review the applicant's training records for evidence that appropriate remedial training has been successfully carried out with the applicant.

1.3.3 Assessment of knowledge requirements

Questions for the oral knowledge assessment must be in accordance with the knowledge requirements listed of the Part 61 NAMCATS.

1.3.4 Assessment of flight planning

As part of the flight test, the applicant must complete a:

- Flight plan;
- Fuel plan;
- Flight notification;
- Weight and balance calculation;
- Take-off and landing distance/performance calculation.

When reviewing the applicant's flight preparation documents, the examiner must be satisfied that the applicant is able to validate the data on which the planning decisions and calculations have been made (including: forecast weather, NOTAMs, aircraft data, chart validity).

The examiner must ensure, through considered questioning, that the preparation is solely the work of the applicant and meets the knowledge standards as applicable.

1.4 Conduct (flight component)

1.4.1 Assessment of the applicant's performance

The applicant's performance is assessed for technique, judgement, knowledge, smoothness, accuracy, procedures and flight management. The following explanations are provided to assist the examiner in assessing the flight component:

- **Technique** – the method by which a task is performed. There may be more than one acceptable technique and the examiner should be flexible in their assessment.

- **Judgement** – is applicable to all tasks but is of particular importance in respect of environmental conditions and effects such as cloud, wind and turbulence.

- **Knowledge** – during the course of the flight test the applicant's knowledge may be further tested.

- **Smoothness** – the applicant should demonstrate smooth flying in all sequences. Anything less is unacceptable and should result in a fail assessment.

- **Accuracy** – accuracy in the control of height, airspeed, direction, balance and trim are all-important. Persistent errors in any of these aspects should result in a fail assessment.

- **Procedures** – the applicant should demonstrate awareness and practical application of nominated standard operating procedures throughout the flight test.

Flight management – the applicant should demonstrate satisfactory proficiency in

aircraft systems, situational awareness, threat and error management and decision-making during the flight.

Assessment should be based on the technique used by the applicant 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.

It may be that on some occasions the flight conditions are such that even though the applicant's technique is sound, the aircraft may deviate outside specified tolerances for short periods. In such cases the assessment of technique and judgment should be the determining factors.

Applicants should not be given a second opportunity to demonstrate a manoeuvre unless, in the opinion of the examiner, the circumstances causing failure of the first attempt were outside the control of the applicant in the test environment or the applicant recognised the error and self-managed corrective actions. This should be considered in relation to safety critical items where the applicant is demonstrating TEM appropriately.

1.4.2 Pre-flight briefing

In accordance with Flight Examiner Manual, and evidence based assessment; the examiner must brief the applicant on:

- Simulating emergencies, methods and calls;
- Actual emergencies;
- Pilot in command;
- Transfer of flight control;
- Flight tolerances and ground references;
- The scenario applied to the test environment (e.g. passenger carrying commercial operation / simulation of passengers);
- Multiple flights and the assessment of competencies (if applicable);

1.4.3 Assessment of activities and manoeuvres

An examiner must comply with the evidence based Units/elements and take into account the recommendations described below when planning and conducting the **Commercial Pilot licence - aeroplane** flight test. Where there are no specific recommendations, a blank space is listed in the table against the unit/element.

2.2 CPL (A) Skills Test Criteria

2.2.1 Common Criteria
2.2.1.1 The following common skills test criteria are applicable to CPL (A):
2.2.2 Unit E1: English Communication in the Aviation Environment
2.2.2.1 A flight instructor must assess the trainee using the objective criteria detailed in this manual. The assessment should be made both during activities on the ground and in flight.
2.2.2.2 The purpose of the English communication unit is to ensure that licence holders are able to communicate and comprehend English to safely exercise the privileges of the relevant licence, ratings and endorsements held.
2.2.2.3 Failure to achieve the standard should be rectified by further training in the use of written and spoken English.
2.2.2.4 Unit Description: Skills and knowledge to communicate with all stakeholders in the aviation environment using English language.

Elements		Performance Criteria
E1.1	Communicate with all stakeholders using English aviation vocabulary and terminology	• Consistently responds appropriately at any stage of a flight, to phrases and instructions from any stakeholder, using standard English aviation terminology and vocabulary that apply to the task being undertaken. • Communicates during any stage of a flight using standard aviation vocabulary and terminology in the English language, and causes consistent appropriate reactions from the person(s) receiving the communication. • Composes sentences that convey information clearly to all stakeholders without confusion or ambiguity.
E1.2	Communicate fluently using English speech	• Speech is conducted without long pauses, repetition or excessive reformulation of words or phrases.
E1.3	React appropriately to verbal communication (listening comprehension)	• Received applicable verbal communication is reacted to appropriately in the time available to complete the task or action. • In the event of uncertainty or doubt, clarification is sought from appropriate stakeholder.

E1.4	Grammar usage	• Grammar used during standard and non-standard radio transmissions enable all applicable stakeholders to react appropriately to communication received.
E1.5	Pronunciation and accent	• Neither pronunciation nor accent causes confusion, doubt or misinterpretation to recipients who are proficient in aviation terminology.
E1.6	React appropriately to unexpected or non-standard (unfamiliar) communication	• Unexpected or unforseen radio transmissions at any stage of the flight are managed and reacted to appropriately.

2.2.3 Unit E1: English Communication – Assessment Guide

2.2.3.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing Criteria.

2.2.3.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
E1.1	Communicate with all stakeholders using English aviation vocabulary and terminology	• Uses and responds appropriately to standard English aviation language in the time available to complete the required task(s) or action(s). • Reacts appropriately to familiar aviation English language. • Identifies nominated aircraft controls, switches and equipment when directed to do so. • Uses specified English aviation vocabulary and terminology appropriate to the task. • Responds verbally and appropriately to all communications in familiar and standard situations in the time available to complete the required task(s) or action(s). • Initiates exchanges and requests information in all standard situations at any stage of flight. • Recognizes when communication is not interpreted as intended and is able to take action to ensure accurate interpretation is achieved. • Demonstrates ability to communicate effectively in unfamiliar or non-standard English aviation language situations.
E1.2	Communicate fluently using English speech	• Speaks fluently without long pauses, repetition or excessive false starts. • Produces appropriate English language at a rate that facilitates understanding, but never exceeds 100 words per minute.

Elements		Evidence
		• Produces language that is close to natural speaker fluency, in familiar situations. • Maintains effective communication despite lapses in fluency in unfamiliar or non-standard situations. • Maintains effective communication and rhythm of speech despite use of some fillers. • Displays an ability to vary rate of speech as a communication aid but never exceeds 100 words per minute. • Standard terminology is used to communicate with recourse to colloquial language if unsure of standard phraseology for a particular situation.
E1.3	React appropriately to verbal communication (listening comprehension)	• Reacts appropriately to communications in a range of different accents or pronunciations that conform to criteria for the international aviation environment. • Performs appropriately when requested, and completes tasks and actions in the time available. • Employs appropriate strategies to seek clarification in unfamiliar or non-standard situations and responds appropriately in the time available to complete tasks or actions. • Employs strategies to clarify and resolve instructions or transmissions when confronted with accents that deviate from standard English.
E1.4	Grammar usage	• Uses a wide range of basic grammatical structures appropriately in all standard situations. • Self-corrects speech when attempting complex grammatical structures where meaning may be compromised. • Communicates effectively despite minor grammatical errors in stressful or non-standard situations (e.g. omission of plurals, articles or problems with subject-verb agreement). • Attempts complex grammatical structures in both familiar and non-familiar situations that may be inaccurate, but do not interfere with meaning or cause confusion.
E1.5	Pronunciation and accent	• Conveys meaning without undue stress to listener despite first language interference (accent). • Demonstrates ability to use appropriate English language intonation and syllabus stress to communicate effectively.

Elements		Evidence
E1.6	React appropriately to unexpected or non-standard (unfamiliar) communication	• If unsure, seeks clarification or verification without delay, using standard radiotelephony phrases when confronted with non-standard situations. • Communicates effectively without causing confusion or delay despite deviations from standard radiotelephony phrases, in stressful or non-standard situations.

2.2.4 Unit C1: Manage Pre- and Post-flight Actions

2.2.4.1 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 and complete and certify a daily inspection.

Elements		Performance Criteria
C1.1	Complete pre- and post-flight administration	• Pre-flight planning and documentation is completed in accordance with regulations and/or operations manual. • Aeroplane take-off and landing performance is calculated in accordance with performance and weight and balance charts. • Pre- and post-flight maintenance release (Flight Technical Log) and flight administration is completed in accordance with regulations and/or operations manual. • Aeroplane serviceability is determined by daily inspection, and certification of daily inspection in maintenance release (Flight and Technical Log) is completed in accordance with regulations.
C1.2	Perform pre-flight inspection	• Equipment and documentation as required by regulation is identified and secured in the aeroplane, and internal and external checks are completed in accordance with approved checklist.
C1.3	Perform and certify daily inspection	• A daily inspection of aeroplanes is performed in accordance with aeroplane system of maintenance approved by NCAA and certified in accordance with regulations.

2.2.5 Unit C1: Assessment Guide

2.2.5.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.5.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
C1.1	Complete pre- and post-flight administration	• Flight briefing is completed in accordance with operations manual. • Pre-flight authorisation is confirmed. • Conditions of authorisation are complied with. • Prescribed flight details are recorded. • Aeroplane serviceability is determined. • Number of flying hours before next service is determined. • Total hours flown are recorded. • Aeroplane unserviceabilities are recorded. • Maintenance release (Flight Technical Log) is checked to ensure aeroplane serviceability and currency of daily inspection. • Flight authorisation encompasses requirements of flight. • NOTAM, MET, ATC, aerodrome and airspace information is accessed and applied. • Area and terminal meteorology forecasts are interpreted and applied. • Aeroplane weight and balance is calculated. • Take-off and landing performance is calculated. • Flight activities are modified to comply with applicable information issued.
C1.2	Perform pre-flight inspection	• Equipment carried is suitable for aeroplane type and flight circumstances. • Serviceability of aeroplane equipment is ensured. • Safety and accessibility of aeroplane position is determined. • Tie downs are removed and secured. • Covers are removed and secured. • External checks are completed in accordance with approved checklist. • Internal checks are completed in accordance with approved checklist. • Adjustments are made to harness, seat or rudder pedals. • Equipment is secured. • Elements of airmanship: Ability is demonstrated to consistently perform pre-flight administration and a pre-flight inspection, overlooking no condition or detail which may compromise safety flight inspection, overlooking no condition or detail which may compromise safety.

Elements		Evidence
C1.3	Perform and certify daily inspection	• Daily inspection is carried out in accordance with maintenance schedule or system of maintenance procedures before the first flight of each day, using applicable data. • Daily inspection ensures that no defect or damage to the aeroplane could compromise safety of the operation. • Maintenance release (Flight Technical Log) remains valid for period of intended flight. • Serviceability of aeroplane is determined. • Any endorsements, conditions or limitations on maintenance release can be complied with. • Maintenance release (Flight Technical Log) is applicable to category of intended flight. • Endorsements related to any Permissible Unserviceability (PUS) are entered into the maintenance release. • No maintenance will fall due during proposed flight. • Time in service is recorded in maintenance release in accordance with the relevant NAMCARs. • Maintenance release (Flight Technical Log) is endorsed and certified after completion of daily inspection or approved maintenance in accordance with regulations. • Elements of Airmanship: Attention to detail and thoroughness is evident in all actions.

2.2.6 Unit C2: Operate Radio

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

Elements		Performance Criteria
C2.1	Use R/T equipment	• Transmission and receipt of R/T messages is carried out using English language in accordance with procedures and phraseology detailed in the Aeronautical Information Publications (AIP), and emergency and urgency transmissions and procedures are made in accordance with Enroute Supplement of the AIP and all messages are reacted to appropriately.
C2.2	Maintain R/T equipment	• R/T equipment failure procedures are performed in accordance with Flight Manual/POH. • Fault finding procedures and corrective actions not involving special tools or instruments are employed.

Elements		Performance Criteria
C2.3	Operate transponder	• Operate and monitor transponder in accordance with AIP during normal and • Emergency operations.

2.2.7 Unit C2: Assessment Guide

2.2.7.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.
2.2.7.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
C2.1	Use R/T equipment	• Pre-flight checks are completed in accordance with Flight Manual/POH. • Serviceability of all required R/T equipment is checked. • All radio control switches are used. • The responsibilities of a radiotelephone operator are carried out. • Standard air traffic radio transmissions are performed. • Received instructions are complied with. • Pilot transmitted information and phraseology is applicable to the flight phase. • Traffic and alerting transmissions are recorded. • Transmission “in the blind” is demonstrated. • Over transmissions and clipped transmissions are avoided. • Listening watch is maintained. • Simulated transmission of urgency and distress messages is demonstrated. • HF radio is tuned if applicable. • Awareness of international distress frequencies is demonstrated. • Radio silence is maintained when required. • Ability is demonstrated to recognise “carrier wave only” transmissions as a transmitting or receiving pilot and react to rectify the abnormal situation. • Loss of radio transmission/reception procedures are performed. • Comprehension of and reaction to light signals is demonstrated. • The ability to communicate with Air Traffic Services and other aircraft, using the RT is demonstrated. • Elements of airmanship. • Standard phraseology is used to communicate, with recourse to colloquial language if unsure of standard phraseology for a particular situation.

Elements		Evidence
C2.2	Maintain R/T equipment	• Fault finding procedures not involving special tools or instruments are employed. • Minor faults are rectified. • Meters and other means are used to indicate normal operation of equipment equipped with monitoring devices. • Aeroplane R/T antenna systems are identified. • Aeroplane battery positions and charging methods are described. • Trailing aerial is tuned. • Emergency communications equipment is operated. • Knowledge of fuse positions, circuit breakers and emergency power switches is demonstrated. • Procedure for conducting of routine pre-flight test of aeroplane R/T installation is followed.
C2.3	Operate transponder	• Standby mode is selected for taxiing. • SSR codes for VFR flight is selected and set as specified in AIP. • Code selection is accomplished in standby mode. • Transponder mode 3A and 3C is selected entering the runway. • Identification function (SIF) is only activated when requested by ATS/ATC. • Code setting instructions are acknowledged by read back of codes to be set. • Transponder 3A and 3C and appropriate code is selected in airspace as specified in AIP. • Select appropriate code for in-flight emergency, loss of two-way communications or unlawful interference when required. • Recognise loss of radio communication when under Radar vectors as specified in AIP. • Standby mode is selected as soon as possible after landing. • Elements of Airmanship: • Monitor inflight serviceability of transponder and react appropriately to failure.

2.2.8 Unit C3: Manage Fuel

2.2.8.1 Unit Description: Knowledge and skills to determine aeroplane 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.

Elements		Performance Criteria
C3.1	Plan fuel requirements	• Duration of flight is determined. • Fuel reserve requirement is determined according to regulation. • Total fuel requirement is determined according to regulation.
C3.2	Manage fuel system	• Fuel system is operated in accordance with Flight Manual/POH. • Fuel requirements are revised as circumstances change. • Aeroplane is configured to achieve best range. • Aeroplane is configured to achieve best endurance.
C3.3	Refuel aeroplane	• Aeroplane is refueled in accordance with Flight Manual/POH, workplace health & safety and local procedures.

2.2.9 Unit C3: Assessment Guide

2.2.9.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.9.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
C3.1	Plan fuel requirements	• Fuel required for duration of flight is calculated (+5 /-0 minutes). • Mandatory fuel reserve is calculated. • Fuel allowance is made for icing conditions. • Fuel allowance is made for diversion to an alternate aerodrome when forecast meteorological conditions are below alternate minima. • Fuel allowance is made for holding or diversions during periods of 'intermittent' (INTER) or 'temporary' (TEMPO) deterioration of weather conditions below alternate minima. • Fuel allowance is made for ATS routing, departure and arrival procedures, which are anticipated. • Fuel allowance is made for pressurization failure if applicable. • Fuel log is prepared for navigation. • Any necessary additional fuel reserves are calculated. • Total fuel required for flight and all reserves is calculated. • Fuel planning is revised as flight circumstances change before or during flight.

Elements		Evidence

		• Elements of Airmanship:
		  • Contingencies are anticipated.
		  • Correct grade of fuel is used.
		  • Situation awareness is maintained.

C3.2	Manage fuel system	• Fuel system configuration is identified and controlled according to Flight.
		• Manual/POH.
		• Fuel tank selection is applicable to the phase of flight.
		• Fuel selector switch is positioned to ensure delivery of fuel to engine.
		• Fuel boost/auxiliary pumps are used on take-off, landing and as required in Flight.
		• Manual/POH.
		• Mixture control is used for economic and efficient flight.
		• Carburettor heat is used only when required.
		• Fuel cross feed is used to balance aeroplane if applicable.
		• Fuel contents and flow are monitored.
		• Fuel usage is recorded.
		• Fuel caps are securely fastened after refueling.
		• Fuel drain cocks are confirmed closed.
		• Aeroplane is configured to achieve best range.
		• Total fuel remaining is recorded.
		• Revised range is calculated.
		• Most appropriate altitude is selected to achieve best range.
		• Power setting to achieve best range is
		• Best range speed is established.
		• Mixture is leaned to optimum setting.
		• Carburettor heat set to prevent icing.
		
		• Aeroplane is configured to achieve best endurance:
		  • Total fuel remaining is recorded.
		  • Revised endurance is calculated.
		  • Most appropriate altitude is selected to achieve best endurance.
		  • Power setting to achieve best endurance is established.
		  • Best endurance speed is achieved (+5 -0 knots) and control of aeroplane maintained.
		  • Mixture is leaned to optimum setting.
		  • Carburettor heat set to prevent icing.
		• Elements of Airmanship:
		  • Fuel contents are visually inspected and quantities confirmed before flight.

Elements		Evidence
		• Fire hazard precautions are observed. • Occupational Health & Safety (OH&S) procedures are followed. • Potential hazards are anticipated and minimized. • Actions are performed to ensure personnel and property safety.
C3.3	Refuel aeroplane	• Refueling procedures and safety precautions are identified. • Minimum safety distance requirements between aeroplane and buildings, refueling and electrical equipment are complied with. • Fire hazards are removed. • Fire extinguisher is available. • Fuel contamination and water checks are completed. • Correct grade of fuel is used. • Grounding procedures are followed. • Fuel caps are securely fastened after refueling. • Fuel drain cocks are confirmed closed. • Elements of Airmanship: • Aeroplane is refueled in accordance with Flight Manual/POH, workplace health & safety and local procedures.

2.2.10 Unit C11: Manage Passengers and Cargo

2.2.10.1 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
C11.1	Brief passengers	• Passengers are briefed before flight and in emergencies in accordance with regulations, orders and operations manual. • Passengers are briefed about propeller and rotor awareness and avoidance procedures.
C11.2	Aid and assist passengers	• Passenger comfort and well-being is provided for within the limits of helicopter safety. • Passengers are controlled on the ground and in the air in accordance with regulations, orders and operations manual.
C11.3	Manage cargo	• Cargo is identified approved and managed.

2.2.11 Unit C11: Assessment Guide

2.2.11.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.11.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, Pilot Operating Handbooks or Operations Manuals have precedence and must be complied with.

Elements		Evidence
C11.1	Brief passengers	• Operation of doors and escape hatches is demonstrated. • Securing and release of safety harness is demonstrated. • Use and location of fire extinguishers is explained if applicable. • Use of oxygen equipment is demonstrated if applicable. • Use of safety equipment is demonstrated. • Passengers are briefed on emergency procedures on the ground and in the air.

C11.2	Aid and assist passengers	• Use of fresh air vents is demonstrated.
		• Position of airsickness bags is explained.
		• Control of passengers is exercised on the ground and in the aircraft.
		• Passengers are managed in an emergency.
		• Cabin temperature is controlled.
		• Elements of Airmanship:
		  ◦ Clear communication is established and maintained with passengers.
		  ◦ Passenger safety and well-being is ensured.
		  ◦ Situation awareness is maintained.

C11.3	Manage cargo	• Cargo is identified, dangerous goods procedures applied and safety and security determined. • Calculates weight and balance and loading options. • Ensures that cargo is loaded within deck load and tie down ring bolt limits. • Ensures that approved tie down straps are used i.a.w. manufacturer specifications. • Manages the loading, unloading and security of the cargo throughout the operation. • Implements decisions for carriage or non-carriage and management of load.

2.2.12 Unit C12: Navigation Flight Standard

2.2.12.1 Unit Description: Knowledge and skills to complete pre-flight planning, obtain, act on and comply with air traffic information and clearances, depart from and arrive at an aerodrome, navigate under normal and abnormal conditions, and carry out emergency procedures.

Elements		Performance Criteria
C12.1	Prepare chart and flight plan	• Charts suitable for the intended flight are selected and prepared. • Applicable information is obtained, analyzed and applied to produce a flight plan which details tracks, distances, times and fuel requirements to reach a destination.
C12.2	Comply with airspace procedures	• Air traffic clearances are obtained and complied with. • Airspace procedures are complied with.
C12.3	Conduct departure procedures	• Pre-flight planning and cockpit organisation is used to ensure charts, documentation and navigational calculator are accessible from the control seat. • Track is intercepted within 5 nautical miles of airfield and departure time is recorded.
C12.4	Navigate aeroplane en route	• Planned route is maintained, In flight documentation is completed in accordance with regulations, ETAs are checked and revised as required and, Pre-descent or navigation turning point checks are executed.
C12.5	Navigate at low level and in reduced visibility	• Pre-descent or navigation turning point checks are executed and VFR is maintained, planned route is maintained, In flight documentation is completed in accordance with regulations, ETAs are checked and revised as required and a safe alternate plan is formulated and applied if required.
C12.6	Perform lost procedure	• Position is fixed, new track to destination attainable within limits of fuel and daylight is determined, track to destination is maintained, ETAs are calculated, radio, navigation aids and transponder are used for assistance where fitted. • A timely precautionary search and landing is planned if lost/no fuel/no light.
C12.7	Perform diversion procedure	• New route is determined and maintained, ETAs are calculated ± 2 minutes, fuel requirements are recalculated and airspace procedures are complied with. • ATC is advised if possible.
C12.8	Use radio navigation aids	• Radio navigation aids as fitted to the aircraft are tuned and tested, beacons identified and used for their respective navigational functions in compliance with regulations.
C12.9	Execute arrival procedures	• Applicable information is obtained and applied, radio communications established and arrivals

Elements		Performance Criteria
		are executed at aerodromes in accordance with airspace requirements.

2.2.13 Unit C12: Assessment Guide

2.2.13.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.13.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, Pilot Operating Handbooks or Operations Manuals have precedence and must be complied with.

Elements		Evidence
C12.1	Prepare chart and flight plan	• A topographical World Aeronautical Chart (WAC) suitable for the flight and any diversions is selected. • Planning Chart; En-Route Chart (ERC); Visual Navigation Chart (VNC); and Visual Terminal Chart (VTC) for pre-flight planning and airspace assessment are used. • Control, Prohibited, Restricted and Danger areas that conflict with the flight track are identified. • All tracks required for the flight are drawn on the chart. • Controlled airspace is identified and avoided if applicable. • Plan applicable altitudes/flight levels and tracking tolerances to avoid controlled airspace when required. • Distance markers are constructed along track if applicable. • Track error/drift error lines are constructed if applicable. • Any additional information required for the flight is included on the chart. • Charts for use in flight are folded secured and accessible. • Track, distance and Lowest Safe Altitude are transferred from chart to flight plan. • Suitability of En-Route destination and diversion aerodromes is determined. • An aviation meteorological forecast is obtained and interpreted. • All NOTAMs applicable to the flight are obtained and interpreted. • Most suitable VFR cruising altitude or flight level is selected and entered. • Wind velocity obtained from a meteorological forecast is entered on flight plan.

Elements		Evidence

		• TAS, heading, ground speed and time intervals are calculated ± 5 kts, ± 2 min ± 3°.
		• Fuel requirements for flight and reserves are calculated ± 5 minutes.
		• Search and Rescue Time (SARTIME) is calculated.
		• Beginning and end of daylight is allowed for.
		• Calculated flight planning information is transferred to Flight Notification Form.
		• Flight Notification Form is submitted to ATS 30. minutes before ETD if applicable.
		• Elements of Airmanship:
		  • Pre-flight planning is used to minimize in flight navigational work load.
		  • A decision to proceed with the cross country flight is made after analysis of meteorological and ATC conditions.
		  • Power lines are marked on a chart – as applicable.

C12.2	Comply with airspace procedures	• Traffic clearance requirements are anticipated and planned for. • Automatic broadcasting services are used to obtain information. • Applicable aviation documents are consulted. • Air traffic and airways clearances are requested using standard radiotelephone procedures. • Clearances into controlled airspace are requested and obtained before entering controlled airspace. • All clearances are complied with unless aeroplane safety is compromised. • Amendments to clearances are recorded and complied with unless aeroplane safety is compromised. • Clearance limits imposed by Air Traffic Services are not exceeded unless aeroplane safety is compromised. • Elements of Airmanship: Awareness of the air traffic situation is maintained. • Controlled airspace is not entered without a clearance. • Local and published noise abatement requirements and curfews are observed.
C12.3	Conduct departure procedures	• All navigation equipment and charts are secured in a safe and accessible place. • All departure clearances and instructions are obtained and complied with.

Elements		Evidence

		• QNH is set.
		• First heading is accurately set from overhead the aerodrome or after intercepting outbound track (± 5° within 5 nautical miles of aerodrome).
		• Heading indicators are accurately synchronized.
		• Changes to planned headings are recorded.
		• Departure time is recorded allowing for an overhead the airfield or en route departure procedure.
		• ETA is calculated for first turning/reporting point (±2 minutes).
		
		• Elements of Airmanship:
		  • Comprehensive pre-flight planning is utilized to reduce the workload airborne.
		  • Orientation is always maintained.
		  • Emphasis is placed on controlling the aeroplane before conducting navigation administration or communication.
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.
		  • Local and published noise abatement requirements and curfews are observed.

C12.4	Navigate aeroplane en route	• Navigation log is maintained. • Fuel log is maintained. • Revised ground speeds are calculated ± 10 knots. • Proportional navigation is used to calculate time intervals. • Revised ETAs are calculated ± 2 minutes. • Revised fuel endurance is calculated when required. • Deduced/dead reckoning (DR) technique is used to establish estimated position. • Visual Flight Rules (VFR) are complied with. • Area QNH is set. • Height is maintained ± 150 feet. • External visual features that assist maintenance of heading (± 5°) are selected. • A time based ‘Map to ground’ chart reading technique is used. • Chart is oriented in direction of track. • Lead in features are used to identify fixes. • Ground features are identified by shape, dimensions, contrast and colour and uniqueness. • Fixes are identified by two or more features. • Position is fixed at least once every 30 minutes.

Elements		Evidence

		• Calculate track error and headings to re-establish on track navigation.
		• Pre-descent and turning point checks are performed.
		• Visual lines of bearing are used to establish position.
		• Awareness of route and destination weather conditions is maintained and changes reacted to.
		• Distance between ground features is accurately compared to distance on charts.
		• Demonstrate ability to maintain heading using magnetic compass only (± 10°).
		• Radio communications are maintained with ATS/ATC.
		• An early decision is made to turn back if weather conditions or darkness preclude completion of flight.
		• Elements of Airmanship:
		  • Comprehensive pre-flight planning is utilized to reduce the workload airborne.
		  • A navigation cycle that ensures accurate navigation is used.
		  • Awareness of air traffic is maintained.
		  • Emphasis is placed on controlling the aeroplane before conducting navigation administration.
		  • Deteriorating situations are recognised and early corrective action is taken.
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.

C12.5	Navigate at low level and in reduced visibility	• Pre-descent checks are completed from memory. • Fuel tank selection is confirmed and mixture is adjusted. • Heading indicators are synchronized. • ATS is advised. • QNH is set. • Position is fixed and recorded before descent. • VFR are maintained. • Wind and turbulence are allowed for. • Heading is maintained ± 5°. • Height is maintained to a minimum 500 feet AGL (+150 -0 ft). • ETAs are revised ± 2 minutes. • Position is fixed at least once every 30 minutes. • Suitable features are selected to assist navigation.

Elements		Evidence

		• Bad visibility configuration is adopted if weather conditions and visibility are unfavourable.
		• Changed visual aspects of ground features at low level is allowed for.
		• Noise sensitive stock and areas are avoided.
		• Refraction and diffusion caused by heavy precipitation is allowed for.
		• Bad weather circuit is completed at destination if required.
		• Elements of Airmanship:
		  • Collision with terrain is avoided.
		  • Awareness of changing weather conditions is maintained.
		  • A safe alternative plan of action is formulated and applied if required.
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.
		  • Before flight, power lines are marked on a chart. Power lines avoided.

C12.6	Perform lost procedure	• Pilot remains calm. • A prominent ‘anchor point’ is selected and visual contact is maintained. • Aeroplane is configured to achieve best endurance speed at present or most efficient altitude. • Flight details and flight plan are examined and any likely error is determined. • The heading flown is checked. • DR position is determined using heading and ground speed since last fix. • At DR position a Most Probable Position (MPP) is constructed using radius based on 10% of DR distance flown since last positive fix. • Significant features are looked for, working from prominent to lesser features. • A time based ‘ground to map’ chart reading technique is used. • Position located and recorded. • A new track and distance are planned. • Revised ETA is calculated. • Radio navigation aids are used to assist. • Radio is used for assistance. • Transponder is used for assistance. • A timely precautionary search and landing is planned if still lost/minimum fuel/darkness occurs.

Elements		Evidence

		• Elements of Airmanship:
		  • Chart features are not made to 'fit' what is seen on the ground.
		  • Early plan is made for a precautionary landing if required.
		  • Emotional stability is maintained.

C12.7	Perform diversion procedure	• Most suitable diversion is selected.
		• Present position is fixed and recorded.
		• Track and distance from present position to destination is calculated.
		• Lowest safe altitude is calculated.
		• CTA, CTR, Prohibited, Restricted and Danger areas are identified and allowed for.
		• Most suitable cruising altitude/level is selected.
		• Heading and ground speed is calculated.
		• ETAs are calculated (± 2 minutes).
		• Position is fixed at least once every 30 minutes.
		• SARWATCH is amended if required.
		• Fuel requirement is calculated (± 5 minutes).
		• ATS is advised of intention to divert.
		• Revised airways/air traffic clearance is obtained.
		• Destination and En-Route weather is confirmed.
		• VFR are maintained.
		• Navigation aids are used.
		• Elements of Airmanship:
		  • All required airways clearances are obtained.
		  • SARWATCH is cancelled after arrival.

C12.8	Use radio navigation aids	• ADF: The Automatic Direction Finder (ADF) is correctly tuned and tested, and the NDB identified. • The aeroplane is within the published range of the NDB. • Bearings from the NDB are used to fix aeroplane position. • The NDB is used as a homing aid. • The indications are observed, interpreted and reacted to after passing overhead the NDB. • VHF Omni-Directional Radio Range (VOR): The VOR receiver is tuned and tested and the VOR beacon identified. • The aeroplane is within the published operating range of the VOR. • Off flag is observed and reacted to. • Omni Bearing Selector is used to select the course required.

Elements		Evidence

		• TO – FROM indicators are interpreted without error.
		• Bearings from the VOR are used to fix aeroplane position.
		• The VOR is used as a homing aid.
		• The indications are observed, interpreted and reacted to after passing overhead the VOR.
		• Distance Measuring Equipment (DME): The DME receiver is tuned and tested and the DME station identified.
		• The DME is used to indicate distance from the DME beacon.
		• Use En-Route and terminal RADAR: en route and terminal and radar facilities are used to assist navigation.
		• Global Positioning Systems (GPS): Flight plan waypoints are entered into GPS.
		• Diversion aerodromes way points are entered if applicable.
		• Tracks and distances reading on GPS is checked to correspond with flight plan.
		• Portable GPS is positioned to allow minimum antenna shielding.
		• Power source is connected and serviceable.
		• Waypoints are confirmed with identified ground fixes during En-Route navigation at least once every 60 minutes.
		• Elements of Airmanship:
		  • All radio navigation aids are tuned, identified and tested before use.
		  • Potential problems are identified and avoided.

C12.9	Execute arrival procedures	• Aerodrome information is obtained from ERSA, ATIS or ATS and applied.
		• Applicable NOTAMs are analyzed and applied.
		• Radio communications are established.
		• Landing direction is established.
		• Execute arrival at an uncontrolled aerodrome:
		  • Aerodrome is overflown at 1500 feet AGL and windsock, signal square and unserviceability markers are observed and reacted to.
		  • Circuit is joined from the dead side.

Elements		Evidence
		• Alternatively, the circuit is entered at 1000 feet AGL and a minimum of three legs of the circuit are flown. • A circuit and landing is completed. • ATS is advised of arrival. • SARWATCH is cancelled. • Execute arrival at Common Traffic Advisory Frequency (CTAF) or a Mandatory Broadcast Zone (MBZ) aerodromes: • ATIS is obtained if available. • Inbound call is made by nominated distance or position. • Circuit is entered by flying three legs of the circuit or by a straight in approach in accordance with MBZ procedures. • All air traffic is identified and avoided. • SARWATCH is cancelled. • Execute arrival at a General Aviation Advisory Procedure (GAAP) aerodrome: • ATIS is obtained if available. • Inbound radio call is made by GAAP approach points. • Landing instructions are complied with. • SARWATCH is cancelled. • Execute arrival at a Control Zone (CTR): • ATIS is obtained if available. • Airways clearances are complied with. • Landing instructions are complied with. • SARWATCH is cancelled. • Elements of Airmanship: • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. • Awareness of air traffic is maintained. • Situation awareness is maintained. • Local and published noise abatement requirements and curfews are observed.

2.2.14 Unit C14: Manage Flight

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

Elements		Performance Criteria
C14.1	Maintain situation awareness	• Constantly monitor the flight environment and identify all critical factors relevant to the safe progress of a flight.
C14.2	Assess situations and make decisions	• Assess the implications of all critical factors relevant to the safe progress of a flight and implement decisions in the time available, which ensures a safe outcome of the flight.
C14.3	Set priorities and manage tasks	• Organize flight, navigation, communication and passenger management tasks and set priorities to ensure that the workload at any phase of flight allows, in the time available, the pilot to safely manage the flight. • Puts the safe and effective completion of every task or operation of an aircraft ahead of competing priorities and demands.
C14.4	Manage stress	• Recognise disturbing physiological and psychological influences that impact adversely on flight, and implement a coping plan, which ensures management of stress to achieve safe and effective decision-making and task completion.
C14.5	Recognise errors and manage corrective action	• Recognise the potential for errors during a flight and implement preventative actions. • Recognise errors and implement corrective action that ensures the safe outcome of a flight.

2.2.15 Unit C14: Assessment Guide

2.2.15.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.15.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
C14.1	Maintain situation awareness	• Continually monitors the flight environment and identifies all critical factors relevant to the safe progress of a flight. • All relevant critical factors that indicate a trend to an unsafe situation are recognised and a corrective action is employed to ensure the safe progress of a flight.

Elements		Evidence
		• Inaccurate situation awareness is recognised by unexplained discrepancies or events, timing errors, unexpected results, communications mismatches or disturbing intuitive feelings. • Situation awareness is re-established by maintaining control of the aircraft or situation, identifying and achieving a goal that will ensure immediate safety, gathering information to analyze present situation and implement a new plan that results in ongoing safety and maintenance of situation awareness.
C14.2	Assess situations and make decisions	• Identify those factors that will adversely affect the safe outcome of a flight or manoeuvre. • Analyze all relevant critical information and formulates decisions in the time available that will ensure safe flight. • Implements applicable decisions in the time available. • Factors that affect a decision are identified and analyzed to determine risks, and actions are managed to ensure safe flight. (weigh up the risk). • Use established standard procedures to assist decision planning. • Monitor and evaluate the progress of the flight or manoeuvre, to reassess decisions. • Amend decisions when there are changes to the factors that adversely affect the original decision. • Manage changing circumstances to ensure a safe outcome to a flight or manoeuvre. • A safe alternative plan of action is formulated and implemented when required, to ensure the safe outcome of a flight. (always have a ‘way out’). • Peer pressure that adversely affects appropriate decision-making is identified and ignored.
C14.3	Set priorities and manage tasks	• Maintains control of aircraft and flight situation. (Aviate) • Navigational requirements are achieved. (Navigate) • Communication functions are performed to ensure the safe conduct of the flight. (Communicate) • Priorities are set and workload is organized to ensure completion of all tasks relevant to the safety of the flight.

Elements		Evidence
		• Puts the safe and effective completion of every task or operation of an aircraft ahead of competing priorities and demands. • Uses relevant information to ensure the safe outcome of a task. • Completes all tasks essential for the safety of flight without distraction by less important activities (load shedding/set priorities). • Uses technology to reduce workload and improve mental and manipulative activities. • Maintain situation awareness and effective performance of mental and manipulative skills throughout a flight (stay 'on the ball'). • Completes all tasks essential for the safety of flight. • Avoids fixation on single actions/functions. • Recognizes symptoms of fatigue and takes action to reduce effects of fatigue. • Critical events and tasks are anticipated and completed in the time available.
C14.4	Manage stress	• Personal symptoms of stress are identified and their potential impact upon the safety of the flight are recognised. • Pre-flight preparation is used to reduce airborne workload and reduce stress. • Exhibits knowledge, skills, altitudes and confidence appropriate to the task requirements. • Application of skills and knowledge are used to reduce the impact of stressors on performance. • Factors affecting stress are identified and a plan is formulated to achieve a safe outcome. • Intentions are communicated to relevant personnel when required. • External pressures imposed by other persons, situations or events are identified and their potential impact upon the safety of flight is assessed and managed (avoid press-on-itis). • Information is sought to clarify any uncomfortable intuitive feeling (do not ignore a 'gut feeling'). • External stress factors are identified and their potential impact reduced to ensure the safe outcome of the flight.

Elements		Evidence
C14.5	Recognise errors and manage corrective action	• Identifies errors and determines their potential adverse effects on the safety of the flight. • Initiates and completes applicable corrective action in the time available. • Uses approved checklists and standard operating procedures to ensure safe actions. • Identifies and analyses errors and manages actions to rectify adverse effects (of errors). • Adequate time is allocated for the safe performance of tasks (does not rush). • Recognizes the effect of fatigue on personal performance. • Acknowledges and accepts personal responsibility for the commission of an error (does not make excuses).
C14.6	Establish effective communications and interpersonal relationships	• Applies standard phraseology to radio communications. • Communicates critical relevant information that will ensure the safe outcome of a flight or manoeuvre. • Analyses and responds to incoming R/T and oral transmissions as required. (listens) • Communicates with relevant personnel in an effective and efficient manner to achieve all requirements for safe flight. • Encourages passengers and crew members to participate in and contribute to the safe outcome of a flight. • Demonstrates a level of assertiveness that ensures the safe completion of a flight.
C14.7	Demonstrates safe behaviour	• Makes timely and appropriate decisions. • Identifies, analyses, assesses and manages any risks associated with a flight or manoeuvre. • Achieves or improves upon the skills and knowledge detailed in Document NAMCATS-FCL 61.05 for the Commercial Pilot (Aeroplane). • Demonstrates a level of confidence that ensures safe flight (not over confident or under confident). • Recognizes personal limitations and implements strategies to ensure the safe outcome of a flight. • Complies with prescribed safety and operational procedures. • Complies with the alcohol and drug limitations specified in Civil Aviation Regulations.

Elements		Evidence
		• Maintains a level of self-discipline that ensures the safe outcome of a flight or manoeuvre. • Adheres to regulations, prescribed procedures or instrument approach minima.

2.2.16 Unit S3: Control the Aeroplane on the Ground

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

Elements		Performance Criteria
S3.1	Start and stop engine	• Pre-start and after start checks are completed in accordance with Flight Manual/POH. • Engine is started and shut down in accordance with Flight Manual/POH. • Emergencies are managed in accordance with Flight Manual/POH. • Pre- and after shutdown checks are completed in accordance with Flight Manual/POH.
S3.2	Taxi aeroplane	• Taxi clearance is obtained and aeroplane is taxied in accordance with prevailing aerodrome conditions. • Effects of prevailing conditions are anticipated and allowed for. • Engine handling on the ground is in accordance with Flight Manual/POH and propeller care is exercised. • Approved marshalling signals are utilized.

2.2.17 Unit S3: Assessment Guide

2.2.17.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.17.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, Pilot Operating Handbooks or Operations Manuals have precedence and must be complied with.

Elements		Evidence
S3.1	Start and stop engine	• Clearance is obtained according to local air traffic procedures. • Air Traffic Control (ATC) instructions are complied with. • Brake checks are performed in accordance with approved checklist. Flight instrument checks are performed while taxiing.

Elements		Evidence
		• Turns in confined spaces are executed without incident. • Nose wheel is held within 1.5 metres of centre line. • Aeroplane nose is yawed to maintain forward visibility (tail wheel aeroplane). Tail wheel aeroplane is maintained within the taxiway limits. • Tail skid and ailerons are used to turn aeroplane when applicable. Slipstream effect on rudder is used to assist turns when applicable. Aeroplane is steered using differential braking when applicable. • Brakes and power are used to maintain taxi speed and are not used in opposition. • Carburettor heat or ram air are not used in dusty conditions. • Wind direction and speed is compensated for. • Taxi speed is adjusted to suit aeroplane type, surface conditions, congestion, and maintenance of control to avoid collision with obstacles or other aircraft. Effect of ground slope is anticipated and countered. • Ailerons are used to prevent wings from rising under crosswind conditions. Elevator is used to compensate for head or tail wind. • Up elevator is used at high power (tail wheel aeroplane).

Elements		Evidence
S3.2	Taxi aeroplane	• Minimum power is used to maintain taxi speed. • Engine instruments are monitored and reacted to. • Carburettor heat is used to control icing. • Potentially damaging objects are avoided. • Minimum power is used to avoid propeller damage. • Correct marshalling signals are complied with. • Incorrect marshalling signals are recognised and ignored. • Aeroplane speed and distance from obstacles enables avoidance of collision in the event of brake failure. • Steering failure is managed by use of speed, distance, brakes or reverse thrust. • Elements of Airmanship: • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. • Surface traffic conditions are recognised and accommodated. • Different aeroplane types are recognised. • Adverse effect of propeller slipstream on other aeroplanes, aerodrome facilities and personnel is avoided. • Inspection of taxi path is carried out when surface conditions are obscured. • Right of way procedures are complied with. • Local and published noise abatement requirements and curfews are observed.

2.2.18 Unit S4: Take-Off Aeroplane

2.2.18.1 Unit Description: Skills and knowledge to complete pre- take-off checks, take-off aeroplane and perform after take-off checks.

Elements		Performance Criteria
S4.1	Carry out pre- take-off procedures	• Pre- take-off checks are completed in accordance with approved checklist. • Aeroplane is lined up in the centre of the runway in take-off direction and line-up checks are carried out in accordance with approved checklist.
S4.2	Take-off aeroplane	• Take-off power is applied; aeroplane is maintained aligned with centre of runway with wings maintained level and rotated at manufacturers recommended speed to achieve planned climb performance.

		• Aeroplane is configured for nominated climb profile and tracking on centreline of runway is maintained.
S4.3	Carry out after take-off procedures	• After take-off checks are performed from memory in accordance with approved checklist.

2.2.19 Unit S4: Assessment Guide

2.2.19.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.19.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/Pilot Operating Handbooks have precedence and must be complied with.

Elements		Evidence
S4.1	Carry out pre- take-off procedures	• Safety briefing is performed. • Pre-take-off checks are completed in accordance with approved checklist. • ATC instructions are complied with. • Aeroplane is aligned with centre line in take-off direction. • Aeroplane is positioned as close to the start of the runway as possible. • Line-up checks are performed in accordance with approved checklist.

Elements		Evidence
S4.2	Take-off aeroplane	• Brakes are released. • Take-off power is smoothly and fully applied. • Aeroplane direction is maintained on runway. • Excessive pressure on nose wheel is avoided. • Yaw is controlled. • Flight and engine instruments are checked and reacted to during take-off roll. • Aeroplane is rotated at recommended speed (+ 5 -0 kts). • At a safe height undercarriage is retracted (if applicable). • Aeroplane is accelerated to nominated climb speed appropriate to obstacle clearance requirements. • Flaps are retracted at safe height if applicable. • Climb is established at nominated speed (± 5 knots). • Climb power is set (± 50 RPM, ± 1.0" MAP). • Heading is adjusted to maintain track along extended runway centre line. • Perform crosswind take-off: • Applicable checks are performed in accordance with aeroplane checklist. • Aeroplane is lined up on centre line of runway. • Aeroplane is positioned as close to the start of the runway as possible. • Into wind aileron is raised. • Line-up checks are performed. • Brakes are released. • Take-off power is smoothly applied. • Aeroplane direction is maintained on runway. • Light pressure is maintained on nose wheel. • Wings are maintained level with aileron as speed increases. • Yaw is controlled. • Flight and engine instruments are checked and reacted to on take-off roll. • Aeroplane is positively rotated at recommended speed (+5 -0 kts). • Drift is countered by adjusting heading and aeroplane is tracked along runway centre line. • Aeroplane is balanced. • Undercarriage and flaps are retracted at a safe height if applicable. • Aeroplane is accelerated to nominated climb speed (± 5 kts) appropriate to obstacle clearance requirements. • Climb power is set (± 50 RPM ± 1.0" MAP). • After take-off checks are performed. • Elements of Airmanship: Local and published noise abatement requirements and curfews are observed.

Elements		Evidence
S4.3	Carry out after take-off procedures	• After take-off checks are completed at a safe altitude from memory in accordance with approved checklist. • Elements of Airmanship: • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. • Awareness of all circuit traffic is maintained. • Different aeroplane types are recognised. • R/T listening watch is maintained and instructions complied with. • Local and published noise abatement requirements and curfews are observed.

2.2.20 Unit S5: Control Aeroplane in Normal Flight

2.2.20.1 Unit Description: Knowledge and skills to control the aeroplane while climbing, descending, turning, in straight and level flight at slow speeds and to perform circuits and approaches.

Elements		Performance Criteria
S5.1	Climb aeroplane	• Altitude and power are adjusted to achieve an increase of altitude at normal, maximum rate (Vy), maximum angle (Vx) and cruise conditions of flight during straight and turning manoeuvres whilst maintaining the aeroplane in balanced flight. • Aeroplane is levelled off from climb at nominated altitude.
S5.2	Climb aeroplane	• Altitude and power are adjusted to achieve a constant height, heading and speed whilst in balanced flight and at nominated speeds and aeroplane configurations.
S5.3	Descend aeroplane	• Altitude and power are adjusted to achieve a decrease in altitude during glide, and power assisted flight at a nominated speed or rate of descent during straight and turning flight manoeuvres whilst in different aeroplane configurations and maintaining balanced flight. • Aeroplane is levelled from a descent at a nominated altitude.
S5.4	Turn aeroplane	• Airspace cleared procedure is carried out. • Heading is altered in balanced flight during level, climbing, descending and gliding

Elements		Performance Criteria
		manoeuvres and turns are performed at varying rates to achieve specified tracks. • Turn on to nominated heading or geographical feature is achieved.
S5.5	Control aeroplane at slow speed	• Pre-manoeuvre checks are completed. • Aeroplane is flown at minimum clean approach speed and at minimum landing configuration approach speed as specified in Flight Manual/POH in balanced flight. • Full power is applied and altitude and balance adjusted to achieve nominated speed in excess of 1.5 Vs, whilst maintaining height.
S5.6	Perform circuits and approaches	• Traffic patterns are conducted in accordance with AIP procedures appropriate to the aeroplane type with allowance for wind velocity on all legs of the circuit, completing all checklists and radiotelephone procedures and intercepting and maintaining the approach path applicable to the aeroplane type, whilst remaining clear of other traffic. • When traffic conflict or adverse flight conditions arise, these conditions are recognised and a go around is performed from any position in the traffic pattern.
S5.7	Comply with airspace requirements	• Aeroplane is maintained within a specified area, whilst complying with air traffic requirements, controlled or restricted airspace conditions or limitations and reacting to factors which affect the safe progress of the flight.

2.2.21 Unit S5: Assessment Guide

2.2.21.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.21.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
S5.1	Climb aeroplane	• Climb power is set (± 50 RPM, ± 1.0” MAP). • Climb nose altitude is selected. • Wings are parallel to the horizon. • Aeroplane is balanced. • Aeroplane is trimmed when IAS is stabilized. • Direction is maintained (± 5°). • Instruments are used to confirm performance.

Elements		Evidence

		• Manifold pressure is maintained as altitude is increased.
		• IAS for maximum rate of climb is maintained (+5 -0 knots).
		• IAS for maximum angle of climb is maintained (+5 /-0 knots).
		• IAS for cruise climb is maintained (± 5 knots).
		• Forward visibility is maintained.
		• Engine temperature is monitored and reacted to.
		• Level off altitude is anticipated.
		• Nose altitude is adjusted to terminate climb.
		• Aeroplane is accelerated to cruise speed while maintaining altitude (CPL ± 50 feet).
		• Straight and level nose altitude is selected when IAS stabilizes.
		• Direction is maintained (± 5°).
		• Cruise power is set (± 50 RPM ± 1.0" MAP).
		• Aeroplane is balanced.
		• Aeroplane is trimmed.
		• Elements of Airmanship:
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.
		  • Nose of aeroplane is cleared to ensure forward visibility.
		  • Situation awareness is maintained.
		  • Local and published noise abatement requirements and curfews are observed.

S5.2	Climb aeroplane	• Straight and level nose altitude is established at nominated power at determined altitude. • Wings are parallel to the horizon. • Aeroplane is trimmed. • Aeroplane is balanced. • Straight and level nose altitude is maintained at cruise power (CPL ± 50feet, ± 5 knots of nominated speed) (± 50 RPM ± 1.0" MAP). • Wings are kept parallel to the horizon to maintain direction (± 10°). • Aeroplane is trimmed. • Performance is confirmed by use of instruments. • Aeroplane natural stability is demonstrated. • Aeroplane is balanced by use of rudder. • Rudder is trimmed if applicable to aeroplane type.

Elements		Evidence

		• Straight and level flight is maintained at various power settings.
		• Aeroplane is balanced at varying power and speed.
		• Aeroplane is re-trimmed for varying power and speed.
		• Performance is confirmed by use of instruments.
		• Straight and level flight is maintained with flap selected.
		• Straight and level flight is maintained with undercarriage selected down.
		• Aeroplane is trimmed for each configuration.
		• Performance is confirmed by use of instruments.
		• Aeroplane is balanced when power is altered.
		• Pitch is controlled when power is changed.
		• Elements of Airmanship:
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain.
		  • Natural horizon is used as primary altitude reference.
		  • Height is maintained within allocated height band.
		  • Local and published noise abatement requirements and curfews are observed.

S5.3	Descend aeroplane	• Glide descent:
		  • Carburettor heat is applied as required.
		  • Idle power is selected for glide descent.
		  • Aeroplane is balanced.
		  • Nose altitude is selected to maintain descent IAS (± 5 knots).
		  • Aeroplane is trimmed.
		  • Direction is maintained (± 5°).
		  • Instruments are used for precision.
		  • Engine temperature is monitored and controlled.
		  • Engine is operated to minimize spark plug fouling.
		  • Sparking plugs are defouled as required.
		  • Carburettor heat is used as required.
		• Cruise descent:
		  • Cruise descent power is selected (± 50 RPM, ± 1.0” MAP).
		  • Aeroplane is balanced.

Elements		Evidence
		• Nose altitude and power is selected to maintain cruise descent IAS (± 10 knots). • min CPL ± 50 ft/min of nominated rate of descent • Aeroplane is trimmed. • Direction is maintained. • Instruments are used for precision. • Level of altitude is anticipated and achieved (CPL ± 50 ft). • Glide and powered descents are performed with flap and/or undercarriage selected down. • Elements of Airmanship: • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. • Clearance ahead and below is maintained. • ATC altitude restrictions are observed. • Aeroplane does not exceed design limits during maximum rate descent. • Situation awareness is maintained. • Effects of undercarriage, flaps are managed.
S5.4	Turn aeroplane	• Airspace cleared procedure is carried out before all turns. • Bank angle is increased to 30° for level turn. • Nose altitude is adjusted to maintain altitude. • Aeroplane is balanced. • Altitude is maintained ± 50 feet). • Constant angle of bank is maintained (± 5°). • Climbing turn is performed: • Angle of bank does not exceed 20° in climbing turn (± 5°). • Climbing turn IAS is maintained (± 5 knots). • Descending turn is performed: • Descending turn IAS is maintained (± 5 knots). • 30 degree angle of bank is maintained. • Aeroplane is balanced. • Rudder is used to counter yaw. • Gliding turn through 180 degree heading change is performed and height loss is observed. • Roll out from turn on to a specified direction or heading is performed (± 5°). • Wings are rolled level.

Elements		Evidence

		• Nose altitude is adjusted to maintain IAS.
		• Aeroplane is balanced.
		• Elements of Airmanship:
		  • Situation awareness is maintained.
		  • Lookout is maintained in direction of turn and above or below.
		  • Airspeed is maintained within airframe limitations.
		  • Engine operating limits are not exceeded.
		  • Carburettor icing is avoided.

S5.5	Control aeroplane at slow speed	• Pre-manoeuvre checks are completed without memory aids.
		• Aeroplane is flown at minimum clean approach speed.
		• The reduced effectiveness of controls is demonstrated.
		• Aeroplane is flown at minimum flap configuration approach speed.
		• The airspeed indicator is monitored and reacted to.
		• Audible and visual stall warnings are observed and reacted to.
		• The reduced effectiveness of controls is managed.
		• The effects of induced drag are managed.
		• The slow speed configuration is recovered from using take-off power to achieve nominated speed without loss of height (±± 100 feet).
		• Aeroplane is balanced.
		• Elements of Airmanship:
		  • Situation awareness is maintained.
		  • Height awareness is maintained.
		  • IAS awareness is maintained.

S5.6	Perform circuits and approaches	• Drift is controlled by adjusting heading and aeroplane is tracked along extended runway centre line. • Climb is established. • Climbing turn onto cross wind leg is performed (15° bank, ± 5° PPL and CPL). • Aeroplane is established on cross wind leg. • Allowance is made for drift. • Aeroplane is levelled off at circuit height (± 50 feet CPL). • Applied judgment is used to turn aeroplane onto downwind leg (± 5° CPL).

Elements		Evidence
		• Adjustment is made to circuit to ensure safe spacing with preceding traffic. • Correct distance from runway centre line maintained. • Altitude on downwind leg is maintained (± 100 feet CPL). • Pre-landing checks are performed in accordance with checklist. • Radio used to report position and intentions. • Applied judgment is used to turn on to base leg to intercept acceptable approach path. • Allowance is made for drift. • Acceptable approach path is established. • Approach speed is maintained (+5-0 knots CPL). • Acceptable approach path on base leg is maintained. • Applied judgment is used to turn onto final approach leg. • Aeroplane is aligned with and tracking runway centre line. • Aiming point is identified and selected. • Applicable approach path angle is established. • Designated approach air speed is maintained (CPL +5 -0 kt). • Track along extended runway centre line is maintained. • Co-ordinated use of power and nose altitude are applied to control approach path angle and speed. • Allowance is made for wind gusts and turbulence. • Normal approach is performed. • Glide approach is performed. • Flapless approach is managed and performed. • Final approach checks are completed in accordance with approved checklist. • Go around from base leg is initiated. • Take-off power is applied. • Climb is established. • Flaps and undercarriage are retracted if selected down, in the correct sequence. • Radio is used to advise ATC. • After take-off checks are performed. • Aeroplane is turned on to final leg and another circuit completed. • Go around from final approach leg is initiated.

Elements		Evidence

		• Take-off power is applied.
		• Climb is established.
		• Flaps and undercarriage are retracted in the correct sequence, if selected down.
		• Radio is used to advise ATC.
		• After take-off checks are performed.
		• Additional circuit is completed.
		• Elements of Airmanship:
		  • Situation awareness is maintained.
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.
		  • Right of way rules are applied and complied with.
		  • Radio listening watch is maintained.
		  • Weather conditions are monitored.
		  • Fuel status is monitored.
		  □ Local and published noise abatement requirements and curfews are observed.

S5.7	Comply with airspace requirements	• Geographical limits of the designated area are demonstrated on a chart.
		• Prominent geographical features are identified using a chart.
		• The limits of the designated area are identified on the ground.
		• The position of controlled airspace is determined using a chart and geographical features.
		• Restricted areas are identified using a chart and geographical features.
		• Departure from the circuit area and transition to the designated area is completed without incident.
		• Departure from the designated area and transition to the circuit area is completed without incident.
		• Elements of Airmanship:
		  • Awareness of aeroplane position is maintained using charts and geographical features.
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain.
		  • Radio listening watch is maintained and information received is acted upon.
		  • Weather conditions are monitored and reacted to.

Elements		Evidence
		• Fuel status is monitored and reacted to. • Orientation by geographical features is maintained. • Local and published noise abatement requirements and curfews are observed.

2.2.22 Unit S6: Land Aeroplane

2.2.22.1 Unit Description: Knowledge and skills to land the aeroplane.

Elements		Performance Criteria
S6.1	Land aeroplane	• Aeroplane is landed at a controlled rate of descent, aligned with and above the runway centreline, within a specified area, without drift, maintaining directional control, and stopping within the available runway length. • Ballooning and bouncing are minimized and controlled. • After landing checks are performed in accordance with approved checklist.
S6.2	Perform mislanding procedure	• Decision to perform mislanding is made when landing criteria cannot be achieved. • Control of aeroplane is maintained. • Circuit is performed.

2.2.23 Unit S6: Assessment Guide

2.2.23.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.23.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
S6.1	Land aeroplane	• Aiming point is selected and identified. • Rate of descent is reduced at a height above runway suitable for the aeroplane type. • Power is reduced to idle prior to touchdown. • Directional control is maintained during roundout with use of rudder. Lateral control is maintained during roundout using ailerons. • Ballooning is recognised and controlled prior to touchdown.

Elements		Evidence
		• CPL within 200 feet (60 metres) beyond nominated touchdown point. • Aeroplane is landed on main wheels with nose wheel clear of ground (nose wheel aeroplane). • Aeroplane is landed simultaneously on main wheels and tail wheel (tail wheel aeroplane). • Controlled rate of descent at touchdown is achieved. • Bouncing is recognised and controlled after touch down. • Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline). • Aeroplane direction on ground is controlled. • Nose wheel contact with runway is controlled. • Aeroplane brakes are used to slow aeroplane. • Aeroplane is stopped within runway length. • Wheel landing in tail wheel aeroplane is performed. • After landing checklist is completed. • Land in a cross wind. • Applicable flap is selected for crosswind conditions. • Aeroplane is tracked along runway centre line. • Rate of descent is arrested at the height above runway applicable to aeroplane type. • Power is reduced to idle. • Direction is controlled using rudder. • Lateral control is maintained using ailerons. • Ballooning is recognised and controlled prior to touchdown. • Crabbing approach technique – nose is aligned with centre line before touchdown on main wheels, ensuring aeroplane is not drifting. • Wing down technique – aeroplane is landed on the into wind main wheel, ensuring aeroplane is not drifting. • Touchdown is achieved PPL within 400 feet (120 metres), CPL within 200 feet (60 metres) beyond nominated touchdown point.

Elements		Evidence

		• Controlled rate of descent on touchdown is achieved.
		• Bouncing is recognised and controlled after touch down.
		• Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline).
		• Ailerons are used to prevent wing rise.
		• Aeroplane direction on ground is controlled.
		• Nose wheel contact with runway is controlled.
		• Brakes are used without lockup to slow aeroplane.
		• Aeroplane is stopped within runway length.
		• After landing checklist is completed.
		• Ability is demonstrated to land aeroplane in crosswind conditions or conduct a mislanding and complete an alternative plan.
		• Elements of Airmanship:
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain.
		  • Awareness of conflicting air traffic is maintained.
		  • Conflict is avoided with aeroplanes using into wind runway.
		  • Runway is vacated when practicable.
		  • Situation awareness is maintained.
		  • Local and published noise abatement requirements and curfews are observed.

S6.2	Perform mislanding procedures	• Adverse landing situation is recognised. Decision to conduct mislanding is applied. Aeroplane is controlled. • Take-off power is applied. • Aeroplane direction is controlled on ground. • Aeroplane lift-off from runway is at lift-off IAS (PPL +10 -0 kts CPL +5 -0 kts). Runway direction is maintained. • Climb is established. • Flaps and undercarriage are retracted in the correct sequence, if selected down. • Radio is used to advise ATC of pilot's intentions. • After take-off checks are performed.

Elements		Evidence

		• Elements of Airmanship:
		  • Windsock and other indicators are used to determine wind velocity.
		  • Allowance for wind velocity is made during landing.
		  • Runway is unobstructed.
		  • Go-around is initiated on mislanding. Radio listening watch is maintained. Weather conditions are monitored. Wake turbulence is avoided.
		  • Situation awareness is maintained.
		  • Local and published noise abatement requirements and curfews are observed.

2.2.24 Unit S7: Execute Advanced Manoeuvres and Procedures

2.2.24.1 Unit Description: Skills and knowledge to control the aeroplane in normal and abnormal situations by the application of advanced manoeuvres and procedures.

Elements		Performance Criteria
S7.1	Recover from stall	• Pre-manoeuvre checks are completed. • Aeroplane altitude and power settings are adjusted to resume normal balanced flight on advent of stall. • Height loss is consistent with aeroplane type.
S7.2	Recover from incipient spin	• Pre-manoeuvre checks are completed. Recovery at incipient spin stage (stall with wing drop) is performed and controlled flight is resumed. • Recovery at incipient spin stage during a turn is performed and controlled flight is resumed.
S7.3	Turn aeroplane steeply	• Air space cleared procedure is carried out. • Level turn of nominated bank angle is achieved without altitude change. • Descending turn of nominated bank angle is achieved to a nominated heading or geographical feature through a minimum of 500 feet height loss. • Recovery is made from spiral dive.
S7.4	Sideslip aeroplane	• Pre-manoeuvre checks are performed. Slip is induced to achieve increased rate of descent while maintaining track and airspeed. • Turn through minimum track change of 90° at constant airspeed using sideslip.

Elements		Performance Criteria
		• Recovery from sideslip is achieved and aeroplane is returned to balanced flight.
S7.5	Execute short take-off and landing	• Take-off performance is calculated in accordance with performance chart. • Pre-take-off checks are performed in accordance with approved checklist. • Aeroplane is lined up to enable use of maximum runway length. • Line-up checks are performed in accordance with approved checklist. • Take-off power is achieved before brakes (where fitted) are released and aeroplane is rotated at recommended speed, and nominated climb speed appropriate to obstacle clearance requirements is achieved. • After-take-off checks are performed from memory in accordance with approved checklist. • Landing performance is calculated in accordance with performance chart.
S7.6	Elements Performance Criteria	• Aeroplane is landed at nominated touch down point +200 ft (60 metres) at minimum speed and maximum braking is applied. • Ballooning and bouncing are controlled. • After-landing checks are performed in accordance with approved checklist.

2.2.25 Unit S7: Assessment Guide

2.2.25.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.25.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
S7.1	Recover from stall	• Pre-manoeuvre checks are completed from memory. • Airspace is cleared. • Height is maintained above the minimum safe altitude to perform stalls. • Awareness of minimum height requirement is demonstrated. • RPM is set full fine. • Mixture set rich. • Carburettor heat set hot. • Power is reduced to idle.

Elements		Evidence
		• Aeroplane is balanced. • Altitude is maintained as IAS decreases. • Control column is moved rearwards. • Increasing nose altitude is observed. • Effect of airframe buffet is observed and felt through control column. • Instrument indications are monitored. • Decreased effectiveness of controls is observed. • The ineffectiveness or reversal effect of ailerons is demonstrated. • Visual or aural stall warning indicators are observed. • At the stall, speed is noted and stick/control column position is observed. • At the point of stall departure from intended flight path is observed. • Stall with power applied is achieved. • Stall with flaps selected is achieved. • Stall with undercarriage extended is achieved (if applicable). • Stall while aeroplane is climbing is achieved. • Stall while aeroplane is descending is achieved. • Stall while aeroplane is turning is achieved. • Stall while aeroplane is in approach configuration is achieved. • Recovery is made from stall using power. • Wing drop is prevented by using rudders to control yaw. • Recovery is achieved by unstalling the wings using the elevators, and simultaneously applying full power. • Wings are maintained parallel to horizon using ailerons. • Height loss is observed. • Recovery is made from stall without using power. • Recovery is achieved by unstalling the wings using the elevators. • Nose altitude is adjusted to achieve best gliding speed. • Height loss is observed. • Recovery is made from stall during a turn. • Stall is recognised when aeroplane departs from intended flight path.

Elements		Evidence
		• Recovery from stall during turn is achieved by unstalling the wings using the elevators and simultaneously applying full power.

S7.2	Recover from incipient spin	• Aeroplane is balanced.
		• When unstalled, ailerons are used to control angle of bank.
		• Elements of Airmanship:
		  • Awareness of height loss is maintained.
		  • Lookout above and below is maintained during all manoeuvres.
		  • Minimum height limit is observed.
		  • Local and published noise abatement requirements and curfews are observed.

S7.3	Turn aeroplane steeply	• Incipient spin entry.
		• Pre-manoeuvre checks are completed from memory.
		• A safe altitude is selected.
		• Airspace is cleared.
		• Power is reduced.
		• Height is maintained as airspeed decreases.
		• Wing drop is induced by use of rudder prior to or at point of stall.
		• Incipient spin is entered.
		• Recover from incipient spin.
		• Opposite rudder is applied to prevent further yaw.
		• Wings are unstalled by using elevators.
		• Ailerons are used to parallel wings to horizon.
		• Aeroplane is recovered from dive.
		• Full power is applied as nose approaches horizon.
		• Recover from a stall during a turn.
		• Speed is allowed to reduce in a level, climbing or descending turn.
		• The effect of a stall during a turn is demonstrated.
		• Recovery is made from a stall in a turn.
		• Elements of Airmanship:
		  • Situation awareness is maintained. Pre-manoeuvre checks are completed without aid to memory.
		  • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain.

Elements		Evidence
		• Operations are performed above the legal minimum altitude. • Aeroplane and engine limitations are observed.

S7.4	Sideslip aeroplane	• Entry and control of a level steep turn:
		  • Airspace cleared procedure is followed.
		  • Angle of bank is increased to 45 or 60 degrees (± 10°).
		  • Nose altitude is adjusted to maintain altitude (PPL ± 150 feet CPL ± 100 feet).
		  • Slip and skid are balanced with rudder.
		  • Power is increased to maintain nominated IAS (± 10 knots).
		  • Angle of bank and nose altitude are coordinated to maintain altitude.
		  • Awareness of increased stalling speed is demonstrated.
		• Enter and maintain a descending steep turn:
		  • Airspace ahead and below is cleared.
		  • From a descent, angle of bank is increased to 45 or 60 degrees.
		  • Nose altitude is adjusted to maintain descent IAS (± 5 knots).
		  • Slip and skid are balanced with rudder.
		  • Angle of bank and nose altitude are coordinated to maintain descent IAS.
		  • Engine and carburettor temperature are monitored and managed.
		  • Awareness of increased stalling speed is demonstrated.
		• Recover from level steep turn:
		  • Heading or geographical roll out feature is anticipated.
		  • Wings are rolled parallel to horizon.
		  • Nose altitude is adjusted to maintain altitude.
		  • Slip and skid are balanced with rudder.
		  • Power is reduced to maintain IAS.

S7.5	Execute short take-off and landing	• Recover from descending steep turn:
		  • Heading or geographical roll out feature is anticipated.
		  • Wings are rolled parallel to horizon.
		  • Nose altitude is adjusted to maintain descent IAS.
		  • Slip and skid are balanced with rudder.

Elements		Evidence
		• Engine temperature is monitored and managed. • Recover from a spiral dive • Throttle is closed. • Wings are rolled parallel to horizon. • Nose of aeroplane is smoothly and positively raised to horizon. • Power is set as required. • Recover from a stall during a steep turn: • Stall during steep turn is recognised when aeroplane departs from intended flight path. • Back pressure is released from control column to unstall wing. • Take-off power is applied. • Wings are rolled parallel to horizon using ailerons. • Aeroplane is balanced. • Elements of Airmanship: • Lookout is maintained using a systematic scan technique in direction of turn and below. • Awareness of higher stall speed in turns is demonstrated. • Collision with terrain is avoided. • Aeroplane 'g' limits are not exceeded.
S7.6	Elements Performance Criteria	• Airspace is cleared ahead and below. • Wing is lowered during a glide. • Opposite rudder is applied to prevent turn. • Elevators are used to adjust nose altitude to maintain glide IAS (+5 -5 knots). • Ailerons are used to maintain bank angle. • Rate of descent is adjusted by coordinating angle of bank and applied rudder. • Flight instruments are monitored. • Carburettor air and engine temperatures are monitored. • Recover from sideslip: Recovery height is anticipated. • Wings are rolled parallel to horizon using ailerons. • Yaw is controlled with rudder. • Control column is moved to maintain glide IAS. • Perform sideslipping turn and recover: • Airspace is cleared around and below.

Elements		Evidence
		• Whilst in a gliding turn opposite rudder is applied to cause the aeroplane to sideslip. • Turn and descent rates are controlled by coordinating angle of bank and use of rudder. • IAS is controlled with elevator. • Engine temperature is monitored. • Roll out feature or heading, and height is anticipated. • Wings are rolled parallel to horizon. • Yaw is controlled with rudder. • Nose altitude is adjusted with control column to maintain glide speed (+5 - 5 kts). • Elements of Airmanship: • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. • Glide speed is maintained. • Functions of fuel system are monitored. • Situation awareness is maintained. • Aeroplane limitations are known and not exceeded. • Local and published noise abatement requirements and curfews are observed.
S7.1	Recover from stall	• Take-off and landing performance is calculated using authorised charts. • Pre take-off checks are performed in accordance with approved checklist. • Flap setting required for minimum ground roll take-off is selected. • Aeroplane is lined up utilizing maximum runway length available. • Line up checks are performed in accordance with approved checklist. • Perform short take-off: • Brakes are applied. • Stick is held full back (tail wheel aeroplane). • Take-off power is applied. • Brakes are released.

Elements		Evidence
		• Direction on runway is maintained. • Aeroplane is rotated at recommended speed and nominated climb speed appropriate to obstacle clearance requirements is achieved. • Normal circuit is completed. • Perform short take-off from soft surface: • Brakes are applied. • Control column is held fully back. • Take-off power is applied. • Brakes are released. • Direction on runway is maintained. • Aeroplane is lifted off at minimum possible IAS. (+5 - 0 knots). • Aeroplane is allowed to accelerate. • Aeroplane is climbed at best angle or rate of climb as appropriate for obstacle clearance requirements. • After take-off checks are performed by memory in accordance with checklist. • Short landing: • Aiming point is selected. • Approach speed is maintained (+5 -0 kts) (calculated from take-off and landing chart). • Approach path is maintained. • Rate of descent is reduced at height above runway suitable for aeroplane type. • Power is reduced to idle. • Touchdown is achieved at minimum speed

Elements		Evidence
		without drift, ballooning or bouncing PPL within 200 feet (60 metres), CPL within 100 feet (30 metres) beyond a nominated touchdown point. • Touchdown is achieved on main wheels (tricycle undercarriage). • Touchdown is achieved on main wheels and tail wheel (tail wheel aeroplane). • Aeroplane is landed on and aligned within 2 metres of runway centre line. • Aeroplane direction on ground is controlled. • Maximum rate braking is applied. • Aeroplane is stopped within calculated runway length. Elements of Airmanship: • Windsock and other indicators are used to determine wind velocity. • Allowance for wind velocity and turbulence is made during approach and landing. • Situation awareness is maintained. • Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. • Surface conditions are allowed for. • Runway is vacated as soon as practicable. • Local and published noise abatement requirements and curfews are observed.

2.2.26 Unit S8: Manage Abnormal Situations

2.2.26.1 Unit Description: Knowledge and skills to accurately assess an abnormal situation and perform immediate actions, configure the aeroplane, select a landing area and land with no injury to personnel or damage to the aeroplane or property.

Elements		Performance Criteria
S8.1	Manage engine failure after take-off	• Immediate actions are performed in accordance with Flight Manual/POH. • A landing area within gliding distance is selected, emergency procedures are performed in accordance with Flight Manual/POH and the aeroplane is landed.
S8.2	Manage engine failure elsewhere in circuit	• Immediate actions are performed in accordance with Flight Manual/POH. • A landing area within gliding distance, on the aerodrome or elsewhere, is selected. • Emergency procedures are performed in accordance with Flight Manual/POH and the aeroplane is landed if the engine cannot be restarted.
S8.3	Perform forced landing	• Immediate actions are performed in accordance with Flight Manual/POH. • Landing area within gliding distance is selected, all emergency checks are performed in accordance with the Flight Manual/POH, and if an engine restart is not achieved a controlled landing is performed.
S8.4	Conduct precautionary search and landing	• Air Traffic Services are advised of intentions if possible. • Landing area is selected and inspected for approach, landing distance and surface, and overshoot clearance and aeroplane is landed.
S8.5	Manage abnormal situations	• Abnormal situation involving fuel, electrical, airframe, flight instrument, flight control, engine or radio/navigation aid systems, fire, smoke, fumes and ditching are identified. • Appropriate emergency procedures are conducted in accordance with Flight Manual/POH and published procedures while maintaining control of the aeroplane.

2.2.27 Unit S8: Assessment Guide

2.2.27.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.27.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, or Operations Manuals have precedence and must be complied with.

Elements		Evidence

S8.1	Manage engine failure after take-off	• Nose is immediately lowered to maintain best gliding speed (+10 -0 Kts).
		• Aeroplane is balanced.
		• Suitable landing area is selected.
		• Turns are minimized.
		• Undercarriage and flaps are lowered as required.
		• Emergency procedures are conducted in accordance with approved checklist.
		• Radio is used to advise of emergency.
		• Passengers are briefed about situation, bracing position and harness security.
		• Engine shutdown checks are completed in accordance with approved checklist.
		• Aeroplane is landed.
		• Elements of Airmanship:
		  • Action plan is determined for an engine failure after take-off.
		  • Action plan includes not turning back towards airfield after engine failure unless above a safe altitude.

S8.2	Manage engine failure elsewhere in circuit	• Glide altitude is immediately selected (+5 - 0 knots). • Aeroplane is balanced. • Aeroplane is trimmed. • Suitable landing area is selected. • Wind strength is considered when selecting landing area. • A landing area is selected on the aerodrome from any leg of the circuit if height is sufficient. • Immediate actions are completed. • Radio is used to advise of emergency and pilot's intentions. • Passengers are briefed about flight situation and bracing position and harness secured. • Trouble checks are conducted in accordance with approved checklist procedures. • Engine restart is attempted if height is sufficient. • Undercarriage and flaps are lowered when landing is assured. • Shutdown checks are performed in accordance with approved checklist procedures. • Aeroplane is landed without injury to pilot or passengers.

Elements		Evidence
		• Elements of Airmanship: Awareness of potential forced landing areas in aerodrome vicinity is demonstrated. • Awareness of height loss requirement to complete 180 degree gliding turn is maintained. • Action plan complies with established procedures.
S8.3	Perform forced landing	• Excess speed is used to maintain height. • Perform immediate actions. • Glide altitude is selected. • Aeroplane is balanced. • Aeroplane is trimmed. • Surface wind direction and strength is established. • Suitable landing area is selected. • Plan is formulated. • Approach path is controlled to ensure a safe landing is achieved in the nominated landing area. • Forced landing pattern is executed and modified as required. • Trouble checks are performed in accordance with aeroplane check list. • Emergency is declared to ATC/ATS/other aeroplanes detailing position and intentions and emergency transponder code is selected. • Engine restart is attempted if the possibility of a successful start is evident. • If engine will not start, shutdown checks are performed in accordance with approved checklist. • Passengers are briefed about the situation, brace position and harness is secure. • Plan is modified to adapt to changed conditions. • Flaps and undercarriage are lowered as required. • Aeroplane is vacated expeditiously after landing. • ATC/other aircraft are advised of situation. • Elements of Airmanship: • Plan is made and modified as circumstances change.

Elements		Evidence
		• Any unavoidable obstructions are contacted when the aeroplane is on the ground (rather than while airborne). • Passengers are briefed and managed.

S8.4	Conduct precautionary search and landing	• Decision to conduct precautionary landing is made before conditions deteriorate to an unsafe stage.
		• Pre-descent checks are performed.
		• ATC is advised using an 'URGENCY' call (PAN).
		• Aeroplane is set up in bad visibility configuration if applicable.
		• Suitable landing area is selected.
		• Wind direction and strength is observed.
		• Length of landing area is confirmed by visual assessment or timing.
		• Circuit is conducted at 500 feet or 100 feet below cloud.
		• Turning points for circuit are selected in bad visibility.
		• Landing strip is flown over at 100 feet and to the right or directly over the landing strip depending on forward visibility from the aircraft type.
		• Any obstacles on the approach and overshoot are observed and avoided.
		• Landing surface is checked for any hazards.
		• Overshoot and climb to circuit height is conducted.
		• Second circuit is conducted keeping the field in sight.
		• Dummy approach is completed rechecking surface and drift.
		• Final circuit is completed and aeroplane is landed according to prevailing conditions with a short landing if applicable.
		• ATC/other aeroplanes are advised of present situation and intentions.
		• Aeroplane is secured.
		• Elements of Airmanship:
		  • Decision to perform precautionary landing is made within time, light, weather or fuel constraints.
		  • Lookout is maintained using a systematic scan technique at a rate

Elements		Evidence
		determined by traffic density, visibility or terrain. • Collision with terrain is avoided. • Situation awareness is maintained.
S8.5	Manage abnormal situations	• Abnormal situations are identified and confirmed. • Control of aeroplane is maintained. • Emergency procedures are conducted in accordance with Flight Manual or POH. • Any applicable published emergency procedures are conducted. • ATC/other stations are advised of present situation, intentions and assistance required. • Elements of Airmanship: • Approved Flight Manual/POH and published procedures are consistently applied. • Situational awareness is maintained. • Standard procedures are always used.

2.2.28 Unit S10: Aeroplane Full Instrument Panel Manoeuvres

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

Elements		Performance Criteria
S10.1	Perform manoeuvres	• Maintain straight and level flight, climb, descend, perform rate one turn, recover from unusual altitudes and resume controlled flight solely by reference to full instrument panel.

2.2.29 Unit S10: Assessment Guide

2.2.29.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.29.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
S10.1	Perform manoeuvres	• Before instrument flight: • Pitot/static systems are checked for serviceability and condition. • Flight instruments are checked for condition and serviceability. • Instrument power sources are checked.

Elements		Evidence

		• The altitude indicator pitch datum is set to the inflight straight and level altitude appropriate for the aircraft type.
		• Turn, heading and altitude indicators are functionally checked while taxiing.
		• During instrument flight:
		  • Altitude indicator is used as primary control instrument for pitch and roll.
		  • Performance instruments are used with selective radial scan to confirm altitude.
		  • Other instruments and indicators are interrogated and reacted to appropriately.
		  • Applicable scan technique for straight and level stage of flight is used.
		  • Lag in performance instruments is anticipated and allowed for.
		  • Aeroplane is balanced.
		  • Timely instrument interrogation rate is practised.
		  • Engine instruments are monitored and reacted to.
		  • Power and altitude are used to achieve performance (± 50 RPM ± 1.0” MAP).
		  • Straight and level flight is achieved at changing airspeed (± 10 knots ± 10° ± 200 ft).
		  • Straight and level flight is achieved in different flight configurations.
		  • The change-check-hold-adjust-trim technique of instrument flying is utilized.
		  • Additional evidence while climbing and descending during instrument flight:
		  • Descent is performed at 500 feet per minute (± 200 ft/min).
		  • Level off altitudes are anticipated.
		  • Additional evidence while performing turns during instrument flight:
		  • Applicable selective radial scan technique for turns during straight and level, climbing and descending stages of flight is used.
		  • Rate one turns onto specific headings are completed (± 10° ± 200 ft).

Elements		Evidence
		• Turning and acceleration errors are compensated for when using magnetic compass. • Additional evidence while simulating unintentional entry into cloud: • Straight and level flight is maintained on full instrument panel. • Present heading is observed and reciprocal heading calculated. • Rate one turn onto reciprocal heading is performed. • When on reciprocal heading, time is allowed to exit cloud. • VFR are established. • Additional evidence while recovering from unusual altitudes: • Low or decreasing airspeed altitudes are compensated for by application of power and lowering of nose to horizon. • High or increasing airspeed is corrected by reducing power, levelling wings parallel to horizon and raising nose to horizon. • Altitude indicator is used as primary control instrument. • Straight and level altitude is achieved without excessive oscillations at the horizon (± 250 ft of height at which aircraft nose first passed through horizon). • Bank angle is corrected by paralleling wings to horizon using altitude indicator. • Performance instruments are used to confirm altitudes. • Elements of Airmanship: • Adverse physiological sensations are accepted but ignored. • All corrective control movements are smooth and excessive muscular force is avoided. • Instrument power sources are checked for serviceability and monitored during flight.

2.2.30 Unit S26: Control Aeroplane Solely by Reference to Limited Instrument Panel

2.2.30.1 Unit Description: Skills and knowledge to perform all normal flight using the limited instrument panel to re-establish VFR conditions, without the availability of an artificial horizon, altitude indicator or gyro compass.

Elements		Performance Criteria
S26.1	Perform manoeuvres	• Maintain straight and level flight, climb, descend, perform rate one turn, recover from unusual altitudes and resume controlled flight solely by reference to limited instrument panel.

2.2.31 Unit S26: Assessment Guide

2.2.31.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.31.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

S26.1	Perform manoeuvres	• During instrument flight.
		• Suction gauge and instrument power source indications are checked and reacted to.
		• Failure of the altitude indicator and gyro compass or directional gyro (DG) is recognised by warning indicators or conflict between altitude indicator and performance instruments.
		• After a primary altitude and compass or DG instrument failure the requirement to use limited panel instrument technique is accepted.
		• Altitude changes are smooth, positive and appropriate to requirements. Appropriate pitch altitudes are maintained and adjusted consistent with performance indications. Lateral altitude is maintained consistent with flight regime (± 10°bank).
		• Aeroplane is balanced.
		• Aircraft is accurately trimmed.
		• Level flight is maintained (± 200 feet ± 10 kts).
		• Heading is maintained (± 20°).
		• Climb/descent power is set (± 0.5" MAP ± 50 RPM).
		• Airspeed is maintained during climb and descent (± 10 knots). Rate one turns are to a heading (± 20°).
		• Level turns at greater than rate 1, angle of bank (± 20°), altitude (± 300 feet). Additional evidence while simulating establishment of VFR after unintentional entry into cloud: Straight and level flight is maintained using limited panel.
		• Present heading is observed and reciprocal heading calculated.
		• A rate one turn is made onto reciprocal heading: During the turn, ‘g’ load is maintained as close to plus one as possible.
		• When established on reciprocal heading time is allowed to exit cloud.
		• VFR are established.
		• Additional evidence while recovering from unusual altitudes: Nose high or low situation is recognised.
		• Power is promptly adjusted consistent with pitch altitude. Lateral level is achieved.
		• Straight and level altitude is achieved without excessive oscillations at the horizon (± 250 ft of height at which aircraft nose first passed through horizon).
		• Elements of Airmanship:
		  ◦ Adverse physiological sensations are recognised but ignored.
		  ◦ Corrective control movements are smooth and relaxed and excessive muscular force avoided.
		  ◦ Aircraft altitude is used as primary control reference.

2.2.32 Unit S13: Recovery from Spin (Optional)

2.2.32.1 Unit Description: Skills and knowledge to recover from a spin.

Elements	Performance Criteria

S13.1	Recover from spin	• Pre-manoeuvre checks are performed. • Direction of spin is identified, yaw is eliminated, aeroplane is unstalled and balanced flight resumed.

2.2.33 Unit S13: Assessment Guide

2.2.33.1 During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing criteria.

2.2.33.2 The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual, or Operations Manuals have precedence and must be complied with.

Elements		Evidence
S13.1	Recover from spin	• Aeroplane is prepared for spin manoeuvre. • Pre-manoeuvre checks are carried out from memory. • Airspace is cleared. • Lookout above and below is maintained. • Power is reduced. • As IAS decreases, altitude is maintained. • Control column is moved rearwards. • Control column is moved fully back and full rudder is applied in the direction of intended spin prior to or at point of stall and opposite aileron is applied if needed. Stable spin is entered. • Direction of spin is confirmed. • Turn indicator/coordinator is observed. • IAS is observed. • Recover from spin. • Throttle is closed. Ailerons are centralized. • Full opposite rudder to direction of spin is applied. • After a short pause, control column is moved forward until rotation ceases and wings unstall. • When rotation stops rudder is centralized. • Wings are paralleled to horizon using ailerons. • Aeroplane is recovered from dive. • Power is applied as nose reaches horizon. • Enter spiral dive. • Throttle is closed. Height is maintained. • Control column is moved rearwards. • Before point of stall rudder is applied to yaw aeroplane. • Aileron is used to assist roll. • Nose is manoeuvred well below the horizon. • Increasing IAS is recognised. • Increasing bank angle is recognised as control column is moved backwards. ASI, altimeter, and turn coordinator/indicator readings are observed.

Elements		Evidence

		• Increasing 'g' forces are observed.
		• Recover from spiral dive.
		• Throttle is closed.
		• Wings are paralleled to horizon using ailerons.
		• Rolling 'g' limit is not exceeded.
		• Recovery from dive is positive and smooth.
		• Elements of Airmanship:
		  ◦ Lookout is maintained above and below aeroplane.
		  ◦ Height loss awareness is maintained.
		  ◦ The 'g' and manoeuvre limits of the aeroplane are not exceeded.
		  ◦ Local and published noise abatement requirements and curfews are observed.

Section 2.3: Achievement Record

2.3.1 Commercial Pilot (Aeroplane) Achievement Recording

2.3.1.1 The units and elements of competency that must be achieved prior to the Commercial Pilot Licence with aeroplane category rating flight test are listed in the achievement record. All items must be demonstrated to the CPL standard.

2.3.1.2 Each element must be signed by the instructor responsible for the assessment when the standard is achieved and also by the student pilot.

2.3.1.3 The assessment for CPL elements may not be made until all the elements for PPL aeroplanes have been completed.

2.3.2 Commercial Pilot Licence (Aeroplane) Achievement Record

NAME: ARN:

COMMERCIAL PILOT LICENCE (CATEGORY AEROPLANE) ACHIEVEMENT RECORD

Unit No:	Unit	Element	Instructor/ ARN/Date	Student
E1	English Communication Standard	• Communicate with all stakeholders using English aviation vocabulary and terminology. • Communicate fluently using English speech. • React appropriately to verbal communications (listening skills). • Grammar usage. • Pronunciation and accent.		

Unit No:	Unit	Element	Instructor/ ARN/Date	Student
		• React appropriately to unexpected or non-standard communications.		
C1	Manage Pre- and Post-flight Actions	• Complete pre- and post-flight actions. • Perform pre-flight inspection. • Perform and certify daily inspection.		
C2	Operate Radio	• Use R/T equipment. • Maintain R/T equipment. • Operate transponder.		
S3	Control Aeroplane on the Ground	• Start and stop engine. • Taxi aeroplane.		
S4	Take-off Aeroplane	• Take-off aeroplane.		
S5	Control Aeroplane in Normal Flight	• Climb aeroplane. • Maintain straight and level flight. • Descend aeroplane. • Turn aeroplane. • Control aeroplane at slow speeds. • Perform circuits and approaches.		
S6	Land Aeroplane	• Land aeroplane. • Perform balked landing procedures.		
S7	Execute Advanced Manoeuvres and Procedures	• Enter and recover from stall. • Recover from incipient spin. • Turn aeroplane steeply. • Sideslip aeroplane. • Execute short take-off and landing.		
S8	Manage Abnormal Situations	• Manage engine failure after take-off. • Manage engine failure elsewhere in circuit. • Perform forced landing. • Conduct precautionary search and landing.		
C3	Manage Fuel	• Plan fuel requirements. • Manage fuel system. • Refuel aeroplane.		

Unit No:	Unit	Element	Instructor/ ARN/Date	Student
S10& S26	Control Aeroplane solely by Ref to Full Instrument Panel	• Perform manoeuvres.		
C11	Manage Passengers	• Brief passengers. • Aid and assist passengers.		
C12	Navigate Aeroplane	• Prepare chart and flight plan. • Comply with airspace procedures. • Conduct departure procedures. • Navigate aeroplane En-Route. • Navigate at low level and in reduced visibility. • Perform lost procedure. • Perform diversion procedure. • Use radio navigation aids. • Execute arrival procedures.		
S13	Recover from a spin (Optional)	• Recover from a spin.		
C14	Manage Flight	• Maintain situation awareness. • Assess situations and make decisions. • Set priorities and manage tasks. • Manage stress. • Recognise errors and manage corrective actions. • Maintain effective communications and interpersonal relationships. • Demonstrate safe behaviour.		

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

Trainee's Signature: _____

Section 2.4: CPL (A) Skills Test Process

2.4.1.1 Each of the TKR, the pre-flight oral and the flight planning phases of the flight test must be completed satisfactorily before the flight test itself may take place. In the event that the TKR and the pre-flight oral test phases have been completed to a satisfactory standard but the flight test itself is failed or does not take place, then the TKR and oral test can be taken as passed and do not have to be repeated in a subsequent flight test.

2.4.2 Aircraft and Equipment Criteria for CPL Flight Test

2.4.2.1 The skills test must be conducted with the following minimum equipment –

(a) Dual controls
(b) VHF communications
(c) Electronic intercommunications and headsets
(d) For aeroplanes:
(i) A normal cruise TAS of 120 knots or more;
(ii) Flight instruments suitable for flight by reference to instruments
(e) Means to simulate IF.

2.4.3 Elements to be Tested

2.4.3.1 The examiner will normally be pilot in command for the skills test but the applicant must carry out all actions and decisions relating to the conduct of the flight as if he or she were pilot in command, without any assistance from the examiner.

2.4.3.2 The examiner should simulate the role of a passenger but may give instructions or make requests during the flight in relation to the conduct of the test.

2.4.3.3 All elements specified on the flight test form applicable to the CPL flight test for the aircraft category must be demonstrated.

2.4.3.4 The aircraft handling elements applicable to a specific aircraft category may be tested on a subsequent flight provided this flight takes place within 14 days of the initial skills test.

2.4.3.5 The elements to be included in a skills test are specified in the CPL skills test form.

2.4.4 Assessment

2.4.4.1 The examiner must assess the applicant's competency in accordance with the criteria specified in this manual.

2.4.4.2 Failure to achieve the standard specified in any one or more elements of the skills test constitutes a failure in the skills test as a whole.

2.4.4.3 The skills test may be terminated by the examiner at any point following the failure of an element.

2.4.4.4 At the option of the examiner and with the agreement of the applicant, the skills test may be continued following the failure of an element and the applicant credited with a pass in the elements satisfactorily completed.

2.4.5 Retesting after Failure

2.4.5.1 In the case of a failure in more than three elements of the skills test, a new skills test, including all specified elements, must be undertaken. However, if the TKR examination and the pre-flight oral examination were passed they need not be retested.

2.4.5.2 If no more than three elements of the skills test were failed, then these elements may be retested, on another flight, but as part of the initial skills test, if completed within 14 days.

2.4.6 Debriefing

2.4.6.1 The examiner must verbally brief the applicant and the Chief Flight Instructor who recommended the applicant, on the results of the skills test.

2.4.6.2 The debriefing must include the following items:

(a) Whether the applicant has passed or failed the skills test
(b) An assessment of the applicant's preparation and performance in the skills test as a whole
(c) The elements failed by the applicant
(d) The reasons for the failure of each element
(e) The suggested remedial training that the applicant should undertake before being retested on any failed element.

Section 2.5: Skills Test Recommendation and Advice

Name of applicant:	ARN:
Flight Training Operator:	ARN:
Examiner:	ARN:
Type of test:	Date of test:
Place of test:	Time of test:

I have personally checked that the applicant meets all of the following requirements, in terms of Part 61 CAR's and CATS, for the issue of a:

CPL (A) (H) Licence/rating.

Training requirements and achievement record are complete Y/N				
Passed examination Y/N				
Age				
Current Medical Class Valid to:				
Aeronautical experience	Dual	PIC	IF	Night

In my opinion the applicant meets the standard required to pass the skills test as specified in Part 61.

Chief Flight Instructor: Date:

Name CFI:	ARN:

The IR (A) test form must be assessed and outcome indicated in the following manner:

□ □Satisfactory- All evidence as described in the Practical test standard demonstrated

X Unsatisfactory - The evidence described in the practical test standards was not demonstrated within test tolerances

TR Training Records - Test element was reviewed from training records as it was not practically possible to demonstrate evidence

N Not Tested- Evidence not assessed

Items indicated with "**M"** indicates mandatory items

Items indicated with "**F"** indicates mandatory items in Full flight simulator only

1.4.4 Failure assessment

The failure to perform a maneuver or procedure may be broken into two levels depending on the safety implications during the flight test. Both levels result in a fail assessment.

Safety critical items

The highest level, being safety critical, is where the control of the aircraft is such that the safe outcome of the manoeuvre or procedure is in doubt and the examiner has to take control (physically or by direction).

Examples of safety critical failure items include, but are not limited to:

- failure to complete checklist items mandated by the AFM
- failure to correctly prepare the aircraft for flight
  failure to comply with ATC clearances and airspace requirements
- failure to operate the aircraft within the limitations of the AFM
- failure to maintain required flight visibility and cloud separation during a visual segment
- failure to maintain required terrain clearance

- failure to comply with minimum descent altitudes
- failure to maintain minimum traffic separation standards
- failure to comply with the hand-over/take-over technique (not applicable to single pilot authorisations)
- failure to safely and consistently apply the elements of TEM
- If the error is safety critical and the examiner needs to take control or intervene, t he flight test must be terminated immediately.

Some credits may be given for test items already assessed
that are not associated with or relevant to the safety critical event.

Non-safety critical items

The second level is where the control of the aircraft is such that the safe outcome of the manoeuvre or procedure is certain, but the flight tolerances have been exceeded or the technique is unsatisfactory. Under these circumstances the flight test may be continued and credit given for successfully completed test items.

The examiner has the discretion to enable the applicant to demonstrate TEM to avoid the situation where the error becomes safety critical.

Credits are only valid for one retest.

1.5 Complete (post-flight) 1.5.1 Debriefings

The examiner must debrief the applicant and the training provider as soon as practicable after the conclusion of the flight component.

In the event of a fail assessment, in addition to the verbal debriefing, the examiner should ensure sufficient detail is entered into the applicant's training records to allow the training provider to construct a remedial training program.

1.5.2 Flight test administration

- At the conclusion of the flight test, the examiner must:

- within 7 days after the day of the test, complete the flight test report and provide a copy of the report to the applicant, training provider and NCAA □
- Licence entries made by the examiner (if applicable) must be in accordance with the Flight Examiner Manual.

FSS PEL 61-32 - Commercial Pilot - Aeroplane

FLIGHT TEST REPORT

APPLICANT NAME:		Licence #							

Initial/Reissue ☐ OR Renewal/Revalidation ☐ OR Additional endorsement ☐

S = Satisfactory **U = Unsatisfactory** **N =** Not Tested **TR** = Training Record **M**=Mandatory

Item No.	Description	Unit Ref	Result	
GROUND COMPONENT				
2.1 Knowledge Requirements				
(a)	Privileges and limitations of the licence and category rating		M	
(b)	Requirements for an AOC		M	
(c)	Classification of Operations		M	
(d)	Type of information contained in an operation manual		M	
(e)	Flight and duty time limits		M	
(f)	Applicability of drug and alcohol regulations		M	
(g)	Day VFR commercial aircraft instrument requirements		M	
(h)	Emergency equipment requirements		M	
(i)	Requirements for landing areas and aerodromes		M	
(j)	GNSS and its use in VFR navigation		M	
(k)	Fuel planning and oil requirements for the flight		M	
(l)	Loading and unloading fuel		M	
(m)	Managing cargo and passengers		M	
(n)	Aircraft loading system		M	
(o)	Normal and non-normal operation of the propeller system fitted to the aeroplane utilised for the flight test			
(p)	Aircraft performance and landing calculations		M	
(q)	Pilot maintenance authorisations		M	
(r)	Aircraft speed limitations		M	
(s)	Aircraft systems		M	
FLIGHT COMPONENT				
3.1 Pre-Flight				
(a)	Perform pre-flight actions and procedures	C1	M	
(b)	Perform pre-flight inspection	C1	M	
(c)	Refuel aircraft	C3	M	
3.2 Ground ops, take-off, departure and climb				
(a)	Complete all relevant checks and procedures	S3	M	
(b)	Taxi aircraft	S3	M	
(c)	Plan, brief and conduct take-off and departure procedures	S4	M	
(d)	Conduct crosswind take-off	S4		
(e)	Conduct short field take-off	S7		
(f)	Conduct climbs and climbing turns – Must include any 2 of maximum rate, maximum angle or cruise climb	S5	M	
3.3 En route cruise				
(a)	Maintain straight and level turn aircraft	S5	M	
(b)	Navigate aircraft en route	C12	M	
(c)	Perform any 1 cruise configuration for turbulence, holding or range	C12	M	
(d)	Navigate at low-level	C12	M	
(e)	Perform lost procedure	C12	M	
(f)	Perform diversion procedure	C12	M	
(g)	Use instrument navigation systems	C12	M	

Item No.	Description	Unit Ref	Result	
3.4 Test specific activities and manoeuvres				
(a)	Enter and recover from stalls – 1 must be in the approach configurations and at least 1 stall and 1 incipient spin	S7	M	
(b)	Conduct steep turns of at least 45° bank	S7	M	
(c)	Perform full panel instrument flying	S10/ S26	M	
(d)	Full panel instrument flying, recover from at least 2 unusual attitudes	S10/ S26	M	
(e)	Conduct precautionary landing	S8	M	
(f)	Manage a malfunction during start or shutdown and 1 of: a system malfunction, fire or radio failure	S8	M	
(g)	Perform forced landing (SE) or manage engine failure in cruise (ME)	S8	M	
3.5 Descent and arrival				
(a)	Conduct descents and descending turns		M	
(b)	Plan and conduct arrival and circuit joining procedures	S5	M	
3.6 Circuit, approach and landing				
(a)	Conduct normal circuit pattern, approach and landing	S5	M	
(b)	Conduct crosswind landing	S6	M	
(c)	Conduct short field and flapless landings	S6/S7		
(d)	Perform a go-around procedure	S6		
(e)	Perform after-landing actions and procedures	S6	M	
3.7 Shut down and post flight				
(a)	Park, shut down, secure aircraft and complete post-flight administration	S3	M	
3.8 General requirements				
(a)	Maintain effective lookout	C14	M	
(b)	Maintain situational awareness	C14	M	
(c)	Assess situations and make decisions	C14	M	
(d)	Set priorities and manage tasks	C14	M	
(e)	Maintain effective communications and interpersonal relationships	C14/ E1	M	
(f)	Recognise and manage threats	C14	M	
(g)	Recognise and manage errors	C14	M	
(h)	Recognise and manage undesired aircraft state	C14	M	
(i)	Operate in controlled airspace	C12		
(j)	Operate in Class G airspace	C12		
(k)	Operate at controlled aerodrome	C12		
(l)	Operate at non-towered aerodrome	C12		
(m)	Use correct radio procedures	C2	M	

ADDITIONAL RATINGS					
Tug	☐	Tow	☐	Agriculture	☐

Note: Night proficiency will not be necessary for renewals but however mandatory for initial licence issue.

FLIGHT TEST REPORT

Examiner's Comments

Date	**Pass** ☐ **Fail** ☐	Applicant Name	Applicant Signature	Applicant PEL No.	Test Number
Reg.	Aircraft Type	Examiner Name & PEL No.	Examiner Signature	Ground Time	Flight Time
Sim Reg.	Sim Type		Sim A/C Type		Sim Flt Time

Examiner's Final Remarks: