



**Safety Regulation Group
Personnel Licensing Department**

Joint Aviation Requirements Flight Crew Licensing

**Notes for the Guidance of Applicants taking the CPL Skill Test
(Helicopters)**

Standards Document 03(H), Version 01

Please note that this document is for guidance purposes only. The latest version of this document can be viewed on the Personnel Licensing Department website.

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Foreword

This document sets out the guidance for applicants taking the CPL Skill Test for the grant of a Commercial Pilots Licence (CPL) (Helicopter). The information will help applicants prepare for this flight test, but it must be remembered that aspects mentioned here are of a general nature only and do not give precise details of each exercise or manoeuvre.

Nothing in the document is intended to conflict with the UK Air Navigation Order or other legislation, which remains the primary authority. Whilst every effort is made to ensure that all information in this document is correct, the CAA reserves the right to amend this document as required to reflect changes in practice required for the effectiveness of the test. The notes incorporate the UK licensing requirements for the CPL (Helicopter) and align with JAR-FCL 2.

This document is available for all those engaged in training and testing for the initial issue of the CPL. CAA Standards Documents are available at www.caa.co.uk/fclstandards web site and can be downloaded to users without charge.

If, after reading this document, you still have queries about the CPL Skill Test, please either contact the Personnel Licensing Department, one of the Regional Flight Test Centres or your selected training provider:

Civil Aviation Authority
Personnel Licensing Department
Approvals Support
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

Tel no 01293 573700

Fax no 01293 573996

Email: fclweb@srg.caa.co.uk

Regional Flight Test Centres

Bournemouth	01202 576621	Cranfield	01234 750111 Ext 5586
Bristol	01275 475226	Oxford	01865 841199
Leeds	0113 2506625		

Joint Aviation Authority (JAA)

The Civil Aviation Authorities of certain European States (the Joint Aviation Authorities (JAA)) have developed common aviation regulation requirements, known as Joint Aviation Requirements (JAR). Joint Aviation Requirements for Flight Crew Licensing (JAR-FCL 2) detail the requirements for all helicopter pilot licences. JAR-FCL licences will enable the holder to pilot helicopters registered in any JAA member state.

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Part 1 General Information

- 1.1 Successful completion of the CPL Skill Test may satisfy the requirements of a Licensing Skill Test for a Type rating; provided that evidence is available that all of the training and testing requirements (including the Technical Knowledge examination) have been completed. The appropriate Type Rating will be added to the applicant's licence.
- 1.2 The Type Rating issued from the CPL Skill Test will be valid for the period stated in JAR-FCL 2.
- 1.3 Throughout these notes the following editorial practices and definitions shall apply:
- "*Shall*" and "*Must*" are used to indicate a mandatory requirement.
 - "*Expect*" and "*Should*" are used to indicate strong obligation.
 - "*May*" is used to indicate discretion.
 - "*Examiner*" is used to indicate a person who is authorised by the CAA to conduct the appropriate Skill Test.
 - "*Applicant*" is used to indicate a person who is seeking the issue or renewal of a pilot's licence or rating.
 - "*He / She*". The pronoun 'he' is used throughout for ease of reading.
 - "*Training Organisation*" is used to indicate any organisation or facility authorised by the CAA to carry out training for the issue of a CPL (H) and so will include all those Registered Training Facilities (RTF) and Flying Training Organisations (FTO) so authorised.
- 1.4 Examiners shall not conduct Skill Tests for any applicant whom they have trained for the licence/rating. However, it will be possible for Examiners to conduct progress and safety checks on prospective test applicants, as this is not considered to be giving instruction; it is also considered to be an essential aspect of CPL training. This includes any progress or safety checks required within the last 10 hours of training towards the CPL Skill Test. Any involvement beyond this would need to have permission of the CAA.

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Part 2 Preparation, Provision of Helicopters and Test Bookings

2.1 Flight Test Preparation

2.1.1 Requirements

The CPL Skill Test shall be taken within 6 months of the completion of training and all sections of the test must be completed within 6 months of the first attempt.

2.1.2 Ground examinations and training

Applicants for a CPL Skill Test shall have passed the associated theoretical knowledge examinations before undergoing the flight test, although exemptions may be made the CAA for applicant undertaking a course of integrated training. Instruction for the associated theoretical examinations shall have been completed before the flight test is taken.

2.1.3 Flight training

The applicant for the CPL Skill Test shall have successfully completed the training in the same type of aircraft being used for the flight test. Applicants on modular courses shall not be presented for the test until the syllabus requirements for CPL training have been met in full. On integrated courses only the test may be flown with up to less than the specified syllabus hours remaining. However JAR-FCL minimum hours must be met before the issue of the licence.

2.1.4 Certificate of Competence - F170A

Applicants must have obtained a F170A before attempting the flight test. At the end of an approved course or period of training at a Flight Training Organisation (FTO) the F170A is issued by an authorised instructor after a check flight where he is satisfied that the required standard of flying and theoretical knowledge has been reached to pass the test. This F170A check flight may be conducted as part of the course revision and need not be in addition to the course hour requirement. The F170A signatory must also certify that he has inspected the applicants personal flying logbook and that the applicant has had the appropriate training experience. Any previous attempts at the CPL Skill Test that the applicant has made shall also be indicated on the F170A. The FTO responsible for the applicants training will also be required to produce his training record to the Examiner.

2.1.5 Previous tests - FCL686

Applicants who have previously attempted the CPL Skill Test must produce to the Examiner the previous test result form FCL686 that shows the reasons for failure and any re-training requirement. See Appendix 1.

2.1.6 Medicals

Applicants must be in possession of a JAA Class 1 or Class 2 medical certificate at the time of the test. The medical certificate shall be shown to the Examiner. If the certificate is out of date the Examiner may still conduct the test, but the applicant should be aware that, regardless of the outcome, he will not be permitted to use his licence or rating until the certificate is revalidated. If a Class 2 medical is held the applicant should be aware he will not be issued with a CPL until a Class 1 medical is gained. UK armed forces personnel must hold a valid and current, military aircrew medical category.

2.1.7 Flight Radio Telephony Operator's (FRTO) Licence

An applicant will be required to hold a FRTO licence or have passed the required examinations prior to attempting the CPL Skill Test.

2.2 Provision of Helicopters

2.2.1 Applicants must provide a helicopter for the CPL Skill Test. The helicopter, its equipment and documentation, must be approved by the CAA for the purpose. The process of approval will be carried out by the Examiner.

2.2.2 Helicopters used for the CPL Skill Test must be equipped and maintained to a recognised and accepted maintenance standard. It must have a certificate of airworthiness issued or accepted by a JAR Member State to enable the applicant to obtain a class or type rating for licence issue.

2.2.3 The helicopter must be fitted with duplicate primary flying controls for use by the applicant and Examiner. Swing-over flying controls are not acceptable.

2.2.4 Flight, engine and associated ancillary instruments as required by CAP 682 Part 8 Appendix 3. Instruments must be readily visible to both the Examiner and the applicant.

2.2.5 Wheel brakes, undercarriage controls, engine controls, fuel controls and cabin fire extinguishers must be either duplicated or positioned so that they are accessible to both the Examiner and applicant.

2.2.6 The helicopter must be suitable for demonstrating all aspects of the training syllabus.

2.2.7 Radio navigation equipment should be installed including at least one VOR or ADF receiver.

2.2.8 Helicopters must be equipped with a VHF Transceiver and a two-way intercommunication must be fitted, for use by the Examiner and applicant. In flight communication should be carried out using headsets.

2.2.9 A stopwatch or other suitable timing device should be provided for use by the applicant. This may be part of the helicopter equipment or provided separately.

2.2.10 A means of screening from external reference must be provided to simulate flight by sole reference to instruments. Head worn visors or goggles may be used for this purpose.

2.2.11 The CAA shall not be responsible for the provision of insurance for the applicant taking the skill test. It is necessary for the operator to maintain an insurance policy that adequately covers the helicopter, applicant and the Examiner during the conduct of the flight test.

2.3 Test Bookings

Applicants for the test must be made through the FTO conducting the training to PLD Approvals Support Section at Gatwick. Tests are normally arranged for a date within 10 days of the application. The fee for the skill test must be paid at the time of booking. Applicants will be required to show evidence of payment for their test before a flight is made.

Part 3 Conduct of the Test

3.1 Preview of Events

- 3.1.1 This section will outline those items that the Examiner considers as he constructs the profile. Section 3.2 gives details of the contents of the Initial Briefing; Sections 3.3 and 3.4 describe the Main and Pre Flight Briefing; Sections 3.5 and 3.6 the Planning and Weather considerations that are required. Sections 3.7 details Flight and 3.8 Post Flight Debrief.
- 3.1.2 The CPL Skill Test will be conducted by a Flight Examiner or Inspector authorised by the CAA. The JAA and CAA set the test schedule and standards required. The Examiner will conduct each test to meet the required schedule and achieve a meaningful, fair and valid assessment. He will give the applicant clear and unhurried instructions and will check that the applicant has understood what he has been asked to do.
- 3.1.3 Applicants will be assessed on all aspects of the helicopter operation. Sound handling skills are essential as well as airmanship, navigation, instrument flying, correct R/T phraseology, captaincy, spatial awareness and overall flight management skills which should be commensurate with those of a commercial helicopter pilot. The CPL Skill Test flight tolerances are at Appendix 3. The Examiner may elect to evaluate certain aspects by oral questioning.
- 3.1.4 The CPL Skill Test is divided into five main sections:
- | | |
|-----------|--|
| Section 1 | Pre/Post Flight Checks and Procedures |
| Section 2 | Hover Manoeuvres, Advanced Handling and Confined Areas |
| Section 3 | Navigation - En-route procedures |
| Section 4 | Flight Procedures and Manoeuvres |
| Section 5 | Abnormal and emergency procedures |
- 3.1.5 The CPL Skill Test is intended to be flown as a complete flight including navigation and general handling manoeuvres. However, as agreed between the applicant and the Examiner, the En Route Procedures may be flown as a separate flight.
- 3.1.6 If the skill test is completed in two parts, both parts shall be conducted by the same Examiner. The overall result of the attempt shall not be assessed or recorded until all sections have been completed. Each part of the attempt shall be recorded on separate test report forms (FCL 686) and clearly marked with the attempt/series number.
- 3.1.7 The sequence in which the sections may vary depending on the circumstances. Briefing and planning will be completed in approximately 2 hours. The Navigation - En Route section, including Instrument Flying and Radio Tracking, normally takes about 1 hour and the Hover Manoeuvres, Advanced Handling and Confined Areas combined about 1 hour. Section 5 may be combined, at the discretion of the Examiner, with Sections 1 through 4, or, flown as a separate section. The complete flight test may last about 4 hours and 30 minutes, and will be followed by a post flight debriefing by the Examiner.
- 3.1.8 The flight test will be conducted in a helicopter certificated for single pilot operation.
- 3.1.9 The CPL Skill Test is very demanding; it is appreciated that even the most competent pilots can make mistakes, however this does not necessarily mean that a failure should result.
- 3.1.10 The following notes reflect the style and sequence of the briefing that the applicant may expect to hear. However, the Examiner may make variations in the delivery of the briefing and may have to modify the sequence in which items are briefed and flown.

3.2 Initial Briefing

- 3.2.1 The purpose of the initial briefing is to check that the applicant has completed the necessary training and experience requirements, to establish the aim of the flight test and check that he is aware of those planning resources that he will require. This briefing will normally take about 10 minutes.
- 3.2.2 At the pre-arranged time the Flight Examiner will meet the applicant. A check will be made to ensure that the applicant has the necessary equipment and documentation including:
- Pilots licence with helicopter rating (if applicable)
 - Personal flying logbook (including evidence of any re-training if this is not the first attempt)
 - A JAA medical certificate
 - A form of identity e.g. valid passport, UK Forces ID card or airport pass
 - A valid F170A, a Certificate of Course Completion or previous attempt form F686
 - Evidence of successful completion of all theoretical knowledge examinations
 - Appropriate helicopter technical and insurance documents
 - Two headsets - most Examiners will carry their own headset but a spare unit should be available for the flight
 - Two copies of the authorised helicopter check list
 - Instrument flying screens, visors or goggles
 - Current publications for the routing and airfields
 - Planning material including a blank flight log, map and navigation equipment
 - Any relevant CAA correspondence such as a letter of assessment or retraining requirements
 - Proof of payment for the test

3.2.3 The Examiner will outline the content of the CPL Skill Test.

3.2.4 The applicant will be given the Examiner's weight for his Performance and Mass & Balance calculations.

3.3 Main Briefing

3.3.1 The Examiner will give a comprehensive briefing covering all aspects of the flight. During the briefing the applicant should ask questions at any time if he is unclear about any aspect. This briefing would normally take 30 minutes. The Examiner may not brief in the sequence below, but will cover all the relevant items in his briefing.

3.3.2 Briefing will include:

a. **The purpose of the flight**

The purpose of the flight is for the applicant to demonstrate his ability to plan and conduct a simulated passenger carrying Public Transport Flight whilst acting as pilot-in-command and operating as a single pilot. The briefed profile shall be conducted in VMC and the flight will include simulated helicopter emergencies and general flying manoeuvres. Passenger safety, comfort and reassurance must be considered throughout the flight. The applicant is asked to assume that the Examiner is a passenger who will act as the Safety Pilot when flight in simulated IMC takes place. The applicant is not to expect any assistance from the Examiner.

b. **The applicant's responsibilities**

The Examiner will explain that all the duties and decisions necessary for the safe and practical conduct of the flight, in accordance with current legislation, will be the responsibility of the applicant. The applicant should liaise with ATC but if ATC instructions conflict with the briefing these will take priority; the Examiner will only intervene if he decides to do so for reasons of safety or clarification.

c. **Checklists**

Throughout the flight the applicant will be expected to use the authorised helicopter checklist. The applicant is to assume that the test is the first flight of the day. Airborne checks may be completed from memory, or from alternative notes, but must be in accordance with the checklist and with each check item spoken aloud.

d. **Planning check**

The Examiner will assess the applicant's ability to check the appropriate helicopter documents before flight. He will expect to be briefed by the applicant as to the weather suitability. The Examiner will check the flight navigation log and may take a photocopy. He may question the applicant on any aspect of the planning, for example: choice of operating altitudes, safety altitudes (heights), fuel planning, NOTAMS. The applicant's calculations of the helicopter's Mass & Balance and Performance will be assessed.

e. **The profile**

The Examiner will go through the flight, item by item explaining to the applicant what is required of him. The Examiner will brief on the navigation route and any other airfields to be used (to avoid repetition of the briefed items these are expanded at Para 3.7 - The Flight). The Examiner will not instruct the applicant on how to fly or manage the flight; he will advise what he wants to see the applicant do. Conditions, such as when radio aids may be used, will be covered. Procedures for the use of the screens, goggles or visors will be advised, including a reminder that, when simulating IMC, the Examiner will be responsible for collision avoidance. During the briefing the Examiner will regularly check if the applicant has any questions and finally he will ask the applicant if he is quite clear what is required of him during the test.

f. **Helicopter control**

The helicopter must be operated in accordance with the Aircraft Flight Manual or Pilots Operating Handbook, as appropriate, and the operating procedures should follow those given in the Training Organisation's Flying Order Book or Operations Manual. The Examiner will require confirmation of the various speeds and configurations to be used at each phase of flight. Speeds may be adjusted to meet different conditions or circumstances and the Examiner must be advised of the new target speed at that time. The Examiner will also explain that if the applicant wishes to change any of the speeds in flight, he must inform the Examiner and nominate a new speed.

g. **Emergencies and abnormal conditions**

The Examiner will discuss the actions necessary should any actual emergency or abnormal condition occur during the flight. In general, the applicant is to control and handle any helicopter emergency but the Examiner, as helicopter captain, may elect to take control at any stage.

h. **Simulated Emergencies**

The Examiner will brief on how he will initiate simulated emergencies.

i. **Oral questioning**

The Examiner may ask practical questions relating to the flight on subjects such as VFR procedures, helicopter performance and technical aspects, emergency handling and the helicopter documents.

3.3.3 When the applicant is clear about the format for the flight he will be given time to complete the necessary planning and pre-flight preparation, normally 1 hour, depending upon the circumstances. The Examiner will specify the time to meet for the pre flight briefing.

3.4 Pre-Flight Briefing

3.4.1 When the applicant has completed the flight planning, he will present a flight log (see Para 3.5.4 and give the Examiner a pre flight briefing.

3.4.2 The pre flight briefing must contain at least the following items (the acronym "MATED" has only been included as a suggested aide memoir):

Met	Meteorology conditions, as appropriate for the area and time of the flight
Aircraft	AUM, C of G, fuel load, tech log details
ATC	Airfield details, NOTAMS, Royal Flights, RT services, Nav aids
Exercise	How the Navex is to be conducted (produce flight log)?
Duties	Pax brief (normally conducted at the aircraft)

3.4.3 The Examiner may stop the test at any stage if he considers that the applicant's demonstration of skill and/or knowledge requires a complete retest.

3.5 Planning

3.5.1 Planning facilities will be available either at the Training Organisation or aerodrome flight planning facility. The Examiner will check that the applicant is aware of where resources are. A quiet briefing room should be used so that the planning can be completed without interruption or distraction.

3.5.2 Planning shall be completed without assistance from other students or instructors.

3.5.3 Current ATC and Met information should be obtained from the aerodrome flight planning facility. Any booking requirements must be made in adequate time for the flight.

3.5.4 A flight log must be prepared and the Examiner may require a copy. The log must include such items as:

- Route (including flight to any planned alternate aerodrome)
- Communication and nav aid frequencies (note that where this information is clearly displayed on planning documents, such as the charts to be used, it is not necessary to copy that information to the log)
- Planned levels and altitudes
- Timings, ETAs
- MSA, safety height or minimum levels/altitudes
- Fuel (showing contingency fuel)
- Space for logging ATIS and clearances

3.5.5 The route may require flight through airspace other than Class G airspace and consideration should be given to any special precautions during planning.

3.5.6 Pre-prepared flight logs, specially drawn routes, or pre-prepared helicopter weight and C of G calculations shall not be used. Only routinely available planning information and documents are permitted.

3.6 Weather Minima

3.6.1 The pre-flight preparation of the CPL Skill Test requires the applicant to assess the weather conditions and make his decision whether to proceed with the flight. In arriving at his decision an applicant must take into account the requirements of all the sections of the test that he is taking. The flight must be conducted maintaining (VMC) throughout. For those items of the test which are required to be flown by sole reference to instruments, (IMC) will be simulated by using appropriate cockpit screening, goggles or a visor.

3.6.2 Applicants shall comply with the minimum weather conditions specified in their Training Organisation's Flying Order Book, Operations Manual or other more stringent limitations if applicable (e.g. State Minima). However, when extreme conditions of high wind speed, severe turbulence, icing or thunderstorms exist, the Examiner may determine that this would make the flight difficult to assess and may override the applicant's willingness to proceed. The flight should not proceed if all planned sections cannot be achieved or the forecast would prevent a return to base or a suitable alternate aerodrome.

3.6.3 Awareness of engine icing conditions must be displayed by regularly checking the outside air temperature and carburettor heat where appropriate. Training Organisations must ensure that an operating procedure is published for using helicopter icing equipment, particularly with reference to carburettor heat. The helicopter must not be flown deliberately into icing conditions if this is contrary to the helicopter flight manual.

3.7 The Flight

The following is a suggested sequence of the sections for the flight test, however this sequence may be varied according to individual conditions and circumstances, or may be flown as two separate flights. The applicant will be assessed through all sections on his general flight management, airmanship, observance of aircraft limitations, accuracy and flying skills.

3.7.1 Pre/Post Flight Checks and Procedures (Section 1)

The Examiner will assess the applicant's ability to check the appropriate helicopter documents before flight. He will expect to be briefed by the applicant as to the weather suitability. The Examiner will check the flight navigation log and may take a photocopy. He may question the applicant on any aspect of the planning, for example, choice of operating altitudes, safety altitudes/heights, fuel planning, NOTAMS. The applicant's calculations of the helicopter's Mass & Balance and Performance will be assessed.

3.7.2 The applicant will be expected to carry out a safe and practical inspection of the helicopter prior to flight and must be aware of the servicing operations that he is entitled to carry out on the helicopter. The applicant will be expected to proceed with the checks at a practical pace and with reference to the approved checklist. Where visual checks are made these should be described to the Examiner only if requested. Pre-flight checks of the radio and navigation equipment should include all the equipment, which the applicant proposes to use during the flight. The Examiner must be briefed, as a passenger, on the position and method of the use of emergency exits, safety belts, safety harnesses, life jackets, and all other devices required by the ANO and intended for use by passengers in the case of emergency. The applicant must instruct the Examiner in the emergency action which he should take.

3.7.3 The applicant will be expected to complete all pre/post take off checks, including radio calls and demonstrate compliance with ATC procedures and instructions.

3.7.4 On completion of the flight the applicant will be expected to carry out all the prescribed parking, shutdown and post flight procedures in accordance with the Flight Manual, checklist, local procedures and ATC instructions.

3.7.5 The En-Route procedures (Section 3)

Section 3 is usually flown first to ensure an efficient flow to the flight. During this section of the flight the helicopter is assumed to be on a private, passenger carrying flight under Visual Flight Rules (VFR). The navigation comprises of 3 pre-planned legs, a planned pure navigation leg of about 20 NM with a short map reading leg of about 5 km, a planned track crawl of about 20 NM, a radio navigation tracking leg of about 20 NM to a named beacon and then an unplanned 'in flight' diversion.

Leg 1: The first leg should be flown in accordance with the applicant's navigation calculations, aiming to accurately maintain heading, height and speed. This leg will take the applicant to a simulated landing site (LS), normally a stately home manor house or similar feature. Initially a 1 : 250,000 chart should be used to navigate to an initial point (IP) which should not normally be more than 5 km from the LS and then map read using the 1 : 50,000 map. When the helicopter has achieved cruising altitude and is on heading for the turning point, the applicant should confirm to the Examiner the heading, altitude, and ETA, thereafter advising any changes. For instance, "2 minutes late at my halfway point and 5 miles left of track - the revised heading to the IP is.... and the new ETA at the LS is now ...".

Leg 2: This leg is to be flown as a track crawl with the applicant returning to using the 1:250,000 chart and maintaining the track by map reading. The track should be 'direct' but sensible use should be made of clearly identifiable features on the track ahead. If the applicant wishes to deviate from the planned track/height he should state the reason and then return to the track/height as soon as possible.

Leg 3: The third leg will be a tracking leg using the VOR (or ADF) to maintain a radial which will nominated on completion of leg 2. The appropriate navaid and aircraft instrument checks should be carried out before the facility is used. Once established on the radial the applicant should correct for wind.

Diversion: The purpose of this leg is to see the applicant carry out 'in flight' planning to an alternate location. The Examiner will mark on the 1 : 250,000 map, the diversion location and the aircraft's present location. The applicant will assess the new heading and ETA and then make any adjustments enroute using any of the techniques used in the previous legs. During this leg any aids on the aircraft (including GPS) may be used.

Throughout the section the Examiner will assess the applicant for:

- Correct altimeter settings use.
- Awareness of minimum safety altitudes (MSA) and minimum levels.
- Compliance with regulations and liaison with ATC. Sound airmanship and a safe practical approach to ATC liaison are required.
- Accuracy of flying, altitude, speed and heading control.
- Cruise checks as appropriate, fuel management, carburettor icing etc.
- Navigation/Map reading and assessment and correction of errors.
- Log keeping. (The Examiner may ask to see the applicant's Pilot Log after the flight.)
- Achievement of ETAs (+/- 3 minutes at turning points).
- Engine handling and rotor control.

3.7.6 Simulated IMC (Section 4)

The Examiner will simulate inadvertent entry into cloud, by means of screens, visors or goggles. The applicant is expected to show consideration of the safety factors necessary for flight in IMC whilst flying by sole reference to instruments, of the following test items:

- Level flight, control of heading, altitude/height and speed.
- Rate 1 level turns onto specified headings, 180 to 360 degrees left and right.
- Climbing and descending, including rate 1 turns onto specified headings.
- Recovery from unusual attitudes.
- Level turns with up to 30 degrees angle of bank, 180 to 360 degrees left and right.

3.7.7 Hover Manoeuvres, Advanced Handling and Confined Areas (Section 2)

This section of the skill test reflects the type rating requirements for the helicopter on which the licence will be opened. The applicant will be asked to demonstrate the following:

- Spot turns in the hover left and right
- Lift-off and touch down crosswind and downwind
- Sideward and backward hover manoeuvring
- Sloping ground landing
- Quickstops into and downwind
- A standard accurate training circuit
- A take off at simulated max weight using limited power techniques
- Arrival and departure from a confined area
- Simulated engine failure from the hover
- A simulated Engine Off Landing to touchdown
- Two auto rotations
- A Practice Forced Landing

3.7.8 Abnormal and Emergency Operations (Section 5)

The items of this section may be combined with Sections 1 through 4. The Examiner will simulate an abnormal or emergency situation; the applicant is expected to carry out the appropriate emergency actions. If drills involve the operation of fuel cocks, fuel shut off valves, mixture controls and any critical engine control, operations should be simulated by "touch actions" only. Emergency radio calls should be made aloud but not transmitted. Applicants should not assume that the practice emergency is complete until told by the Examiner.

3.8 Post Flight Action

3.8.1 Post-flight the Examiner may complete any oral questioning to finalise the requirements of the Type Rating element of the test. The Examiner will then give the result and any reasons for failure before conducting the debriefing and discussing the applicant's performance. The Examiner may ask questions in order to clarify certain items or actions.

3.8.2 Notification of the result will be given on the test result form (FCL686). The form will show the result of each item and section. Should the result be a Partial Pass or Fail, the Examiner will explain the reasons for the failure and also give advice on any aspect of the test, which the applicant may find useful during any subsequent attempt. The applicant will be required to sign the form as having understood the result and will be given the white copy of the report form to retain. Applicants will also receive the green copy of the report form, which must be retained and then forwarded to the Personnel Licensing Department together when making application for the issue of the licence. All FCL copies (green) of the test report must be sent with the licence application. Following a successful Skill Test, applicants must also obtain the signature of the Examiner in the relevant section of the licence application form. Skill Test report forms are security coded to prevent misuse.

3.8.3 Appendix 2 to this document gives a list of the test standards upon which the Examiner will base his assessment. The criteria are arranged to reflect the order of items listed on the Test Report form (FCL 686).

3.8.4 Should an applicant have cause for concern about the conduct of the flight test then such comment should be made in writing to the Chief Flight Examiner. Details of the appeal procedure are given at Part 4.3.

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Part 4 Assessment Criteria and Administrative Procedures

4.1 Assessment Criteria

- 4.1.1 The flight will be assessed as public transport, passenger carrying flight. The safety and comfort, reassurance and briefing of passengers must be considered. The applicant shall demonstrate ability to:
- Operate the helicopter within its limitations.
 - Complete all manoeuvres with smoothness and accuracy.
 - Exercise good judgement and airmanship.
 - Apply aeronautical knowledge of procedures and regulations as currently apply.
 - Maintain control of the helicopter at all times in a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt.
- 4.1.2 Throughout the flight the helicopter should be flown as accurately as possible. The tolerances for operation are given as guidance to applicants but do not necessarily indicate that a 'failure' will result if any Skill Test limit is exceeded. Similarly, flight within the tolerances should not be achieved at the expense of smoothness and co-ordination.
- 4.1.3 The Examiner will make allowance for adverse weather conditions such as turbulence and the handling qualities and performance of the helicopter used. The CPL Skill Test Tolerances shown at Appendix 3 are for general guidance.

4.2 Administrative Procedures

- 4.2.1 Each time an applicant undertakes a CPL Skill Test it is known as an 'Attempt'. 'Attempts' are grouped into 'Series'. There are two Attempts in each Series. There is no limit to the number of Series that may be taken.
- 4.2.2 A PASS will be awarded when all sections of the test are passed.
- 4.2.3 An applicant failing only one section at the first attempt in a Series shall have gained a PARTIAL PASS. The second attempt will always require the applicant to retake Section 1 and the section failed at the first attempt.
- 4.2.4 A FAIL will be awarded if more than one section is failed at the first attempt in a Series. A failure of any section of the second attempt will require the applicant to retake the entire test.
- 4.2.5 A FREE RETEST may be awarded if the applicant discontinues the flight and the reasons for doing so are agreed by the Examiner. The free retest will require only those sections or items not previously flown to be completed; these items must be completed before the result of the flight can be determined. If the applicant terminates the flight test for reasons considered inadequate by the Examiner, he may forfeit the test fee and a further fee will be required before the next test.
- 4.2.6 The failure to pass all appropriate sections in two attempts in the first Series will conclude that Series. Before undertaking a further attempt in the next (second) Series the applicant will be required to:
- Complete the retraining prescribed by the Flight Examiner at the completion of the Series and indicated on the Flight Test and report form FCL 686.
 - Present his personal flying logbook to the Flight Examiner, containing entries, certified by the Chief Flying Instructor (CFI) of the training organisation giving training, indicating that the prescribed training has been completed and that the applicant is fit to retake the CPL Skill Test.
- 4.2.7 Should the applicant fail to pass the second or subsequent Series the Examiner will indicate the retraining required and may seek advice from the CAA Chief Flight Examiner (CFE) or his deputy. The second attempt in Series 2 shall, whenever possible, be conducted by a Staff Examiner or an Examiner nominated by the CFE or his deputy. Retraining will be based upon an assessment of the reasons for failure of all previous attempts. The retraining hours must be expected to become more severe with continued failure at the test.
- 4.2.8 Applicants failing the first attempt in a Series may elect to forego the second attempt of the Series. Any Series, which is forfeited, will require the applicant to undergo mandatory retraining before the next Series of attempts. This retraining will include all elements of the test schedule and a minimum of 3 hours flying. Any applicant deciding upon this option shall inform the Training Organisation who must enter this decision into the student's records and sign the applicant's log book when the mandatory retraining is complete.

4.3 Applicant's Appeal Procedure

- 4.3.1 The test result, F686 (reverse), contains an extract from the Civil Aviation Authority Regulations 1991, which is reproduced below:

"Regulation 6(5) of the Civil Aviation Regulations 1991 provides, any person who has failed any test or examination which he is required to pass before he is granted or may exercise the privileges of a personnel licence may within 14 days of being notified of his failure request that the Authority determine whether the test or examination was properly conducted."

In order to succeed with an appeal the applicant will have to satisfy the CAA that the examination or test was not properly conducted. Mere dissatisfaction with the result is not enough. Should the applicant have concern about the conduct of the CPL Skill Test, he should write to the Chief Flight Examiner who will provide guidance on the Appeal Procedure.

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Appendix 1 Flight Test Form FCL 686 (page 1 of 3)

UK Civil Aviation Authority
Member of the Joint Aviation Authorities



CPL/PPL (H) SKILL TEST REPORT FORM - APPLICATION

Please complete the form in BLOCK CAPITALS using black or dark blue ink.

1. PERSONAL DETAILS											
Surname	Forename(s)										
CAA Ref. No. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>											CPL(H) <input type="checkbox"/> PPL(H) <input type="checkbox"/>
Series	Attempt No. Date										
It is an offence to make with intent to deceive any false representation for the purpose of procuring the grant, issue, renewal or variation of any certificate, licence, approval, permission or other document. Persons so doing render themselves liable, on summary conviction, to a fine not exceeding the statutory maximum (currently £5000) or in Northern Ireland £2000 and on conviction on indictment to an unlimited fine or imprisonment for a term not exceeding 2 years or both.											
I declare that the information provided is correct.	Applicant's Signature										

2. FLIGHT TEST																
Route																
Helicopter Type & Reg	Block Times: Depart		Arrive	Total												
Test Sections:	1	2	3	4	5	Other										
Sections to be taken:																
Result:																
(a)																
(b)																
(c)																
(d)																
(e)																
(f)																
(g)																
(h)																
(i)																
(j)																
(k)																
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(n)																
(o)																
(p)																
Re-test:																
Test Sections incomplete due																
Items not completed:																
Re-training requirements:	Helicopters:	Sim:			if applicable											
Examiner's Signature	Examiner's No.		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>													
Received (Applicant)	Date															

3. FLIGHT TRAINING ORGANISATION		
FTO	Aerodrome	Date Flight Training Completed

Form FCL 686 Issue 1 (SRG\1172)

White: Applicant's copy; Pink: PLD copy; Yellow: Examiner's copy; Blue: CE's copy

Appendix 1 Flight Test Form FCL 686 (page 2 of 3)

Civil Aviation Authority Regulation 6	
Regulation 6(5) of the Civil Aviation Authority Regulations 1991 as follows: Any person who has failed any test or examination which he is required to pass before he is granted or may exercise the privileges of a personnel licence may within 14 days of being notified of his failure request that the Authority determine whether the test or examination was properly conducted. In order to succeed you will have to satisfy the Authority that the examination or test was not properly conducted. Mere dissatisfaction with the result is not sufficient reason for appeal.	
SECTION 1. PRE-FLIGHT/POST - FLIGHT CHECKS & PROCEDURES	SECTION 3. NAVIGATION - ENROUTE PROCEDURES
a Helicopter knowledge - tech log, fuel, mass and balance, performance. Flight Planning, NOTAM's Weather	a Navigation and orientation at various altitudes/heights, map reading
b Pre-flight inspection/action, location of parts and purpose	b Altitude/height, speed, heading control, observation of airspace, altimeter setting
c Cockpit inspection, Starting procedure	c Monitoring of flight progress, flight log, fuel usage, endurance, ETA, assessment of track error and re-establishment of correct track, instrument monitoring
d Communication and navigation equipment checks, selecting and setting frequencies	d Observation of weather conditions, diversion planning
e Pre take-off procedure, R/T procedure, ATC liaison - compliance	e Tracking positioning (NDB and/or VOR), identification of facilities
f Parking, shutdown and post-flight procedures	f ATC liaison and observance of regulations, etc.
SECTION 2. HOVER MANOEUVRES, ADVANCED HANDLING & CONFINED AREAS	SECTION 4. FLIGHT PROCEDURES & MANOEUVRES (BY SOLE REFERENCE TO INSTRUMENTS)
a Take-off and landing (lift-off and touch-down)	a Level flight, control of heading, altitude/height and speed
b Taxi, hover taxi	b Rate 1 level turns onto specified headings, 180 degrees to 360 degrees left and right CPL only
c Stationary hover with head/cross/tail wind	c Climbing and descending, including turns at rate 1 onto specified headings
d Stationary hover turns, 360 degrees left and right (spot turns)	d Recovery from unusual altitudes CPL only
e Forward, sideways and backwards hover manoeuvring	e Level with up to 30 degrees bank, 180 degrees to 360 degrees left and right
f Simulated engine failure from the hover	f Level turns 180 degrees left and right by sole reference to instruments PPL only
g Quickstops into and down wind	SECTION 5. ABNORMAL & EMERGENCY PROCEDURES (Simulated where appropriate)
h Sloping ground/unprepared sites landings and take-offs	Note 1: Where the test is conducted on a multi-engine helicopter a simulated engine failure drill, including a single engine approach and landing shall be included in the test.
i Take-offs (various profiles) including cross wind, down wind take-off (if practicable)	Note 2: The FE shall select a minimum of 4 items from the following:
j Take-off at maximum take-off mass (actual or simulated)	a Engine malfunctions, including governor failure, carburettor/engine icing, oil system, as appropriate
k Approaches (various profiles)	b Fuel system malfunction
l Limited power take-off and landing	c Electrical system malfunction
m Autorotations (FE to select two items from: basic, range, low speed and 360 degrees turns)	d Hydraulic system malfunction, including approach and landing without hydraulics as applicable
n Autorotative landing	e Main rotor and/or anti-torque system malfunction, (flight simulator or discussion only)
o Practice forced landing with power recovery	f Fire drills, including smoke control and removal, as applicable
p Confined area power checks, reconnaissance technique, approach and departure technique	g Other abnormal and Emergency procedures as outlined in appropriate Flight Manual and with reference to JAR-FCL 2.240, Sections 7 and 8, including for multi engine helicopters: Simulated engine failure at take-off: <ul style="list-style-type: none"> • rejected take-off at or before TDP • rejected take-off shortly after TDP Landing with simulated engine failure: <ul style="list-style-type: none"> • landing or go-around following engine failure before LDP • landing following engine failure after LDP

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Appendix 2 CPL Skill Test Schedule and Standard

Applicant's Notes

These notes are intended to give applicants a detailed account of the exercises that may, at the discretion of the Examiner, be required in each section. The headings used relate directly to those shown on Form 686 a copy of which is shown at Appendix 1. In the interests of openness the standards to which they are assessed have also been included and these are shown in *italics*. It is emphasised that during the CPL Skill Test applicants should concern themselves only with flying and operating the helicopter to the best of their ability. The application of the test standards is the responsibility of the Examiner.

Examiner's Notes

These guidance notes are published to establish the test standard required for a United Kingdom or JAA CPL Skill Test. Any flight test can only be a brief 'snapshot' of a pilot's ability and therefore, to ensure overall pilot competence, Training Organisation's Flight Instructors are expected to use these standards when preparing applicants for the test. The Examiner must apply the standards evenly and fairly and without prejudice. The flight however, may be conducted in any sequence to achieve a complete and efficient test.

Section 1 – Pre/flight

- a. **Helicopter knowledge-tech log, fuel, C of G, performance. Flt Planning. NOTAMS. Weather**
 - *Check all documents required for a private, passenger carrying flight are correct*
 - *Obtain and assess all elements of the prevailing and forecast weather conditions*
 - *Collate all relevant ATC information, NOTAMS, Royal Flights, Nav aids, RT services.*
 - *Complete an appropriate flight navigation log and chart*
 - *Determine that the helicopter is correctly fuelled for the flight*
 - *Complete Mass & Balance schedule*
 - *Calculate helicopter Performance criteria and limitations applicable to the forecast weather conditions and make adjustments if required for actual conditions before take off*
- b. **Helicopter pre-flight inspection action, location and purpose of parts**
 - *Check helicopter serviceability record and technical log*
 - *Using an approved checklist perform all elements of the helicopter pre-flight inspections, identifying components and functions as required by the Examiner*
 - *Confirm that the helicopter is in a serviceable and safe condition for flight*
 - *Check and complete all necessary documentation*
 - *Complete an appropriate passenger emergency procedure briefing for the Examiner*
- c. **Cockpit inspection. Starting procedures**
Complete all recommended cockpit inspection, engine/rotor starting and after starting procedures using an approved checklist
- d. **Communication and navigation equipment checks, selecting and setting frequencies**
 - *Complete all recommended communication and navigation equipment checks*
 - *Select and set appropriate frequencies and transponder codes*
- e. **Pre take-off procedure RT procedure, ATC liaison - compliance**
 - *Complete all recommended pre take off checks using an approved checklist.*
 - *Obtain and ATC clearance and follow ATC instructions*
 - *Complete all necessary after take off checks from memory*
 - *Comply with airport markings*
 - *Use charts or other published information as required*
 - *Execute a safe departure in accordance with clearance and with due regard for other air traffic*
 - *Use correct lookout techniques*
 - *Observe the Rules of the Air and ATC Regulations*
 - *Maintain directional control and drift corrections throughout*
 - *Follow any noise routing or departure procedures and ATC instructions*
 - *Complete all necessary climb checks*
 - *Demonstrate standard R/T procedures and phraseology*
 - *Demonstrate compliance with ATC instructions*
 - *Operate on the ground and in the air with particular regard for passenger safety and comfort*
- h. **Actions after flight including documentation**
 - *Return helicopter to parking area and complete engine shutdown*
 - *Complete all after landing checks and drills*
 - *Secure helicopter and complete documentation*

Section 2 – HOVER MANOEUVRES ADVANCED HANDLING AND CONFINED AREAS

- a. **Take-off and landing (lift off and touch down)**
 - *Lift to and establish a stable hover maintaining ground position and heading*
 - *Descend to land maintaining ground position and heading*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- b. **Taxi, Hover Taxi**

- *Demonstrate control of heading, height and groundspeed in hover taxi*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- c. Stationary hover with head/cross/ tail wind**
- *Maintain heading, height and ground position whilst in the stationary hover into wind, crosswind and downwind*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- d. Stationary hover turns 360 degrees left and right**
- *Carry out a spot (pedal) turn, maintaining the height, ground position and rate of turn throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- e. Forward, sideways and backwards manoeuvring**
- *Establish and maintain throughout each manoeuvre the nominated height, heading and speed*
 - *Backwards manoeuvre to be preceded by lookout turn and increase of hover height*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- f. Simulated engine failure from the hover**
(Normally initiated by the Examiner simulating an engine failure by closing the throttle with or without verbal warning)
- *Prevent the aircraft tendency to drift and roll*
 - *Stop the yaw tendency*
 - *Cushion the touchdown*
 - *When on the ground lower the collective lever*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- g. Quickstops - into wind and downwind**
- *Establish straight and level flight at the nominated speed, height and heading with cruise power set.*
 - *Into Wind - Initiate manoeuvre with verbal warning – Quickstop, Quickstop, Go- lower the collective whilst simultaneously flaring the aircraft, maintaining height and heading until aircraft comes to complete stop before descending into low hover*
 - *Downwind - Initiate manoeuvre with verbal warning – Quickstop, Quickstop, Go – then either flare the aircraft and turn, or turn and flare the aircraft (or a combination of both) to bring the aircraft back into wind whilst maintaining height and not letting the speed fall below 30 kts until heading within 30 degrees of the wind. Once the aircraft has come to a complete stop descend into a low hover.*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
 - *Maintain directional control and balance throughout*
- h. Sloping ground/unprepared sites landing and take off**
- *Identify landing area on slope and conduct recce to consider at least the following points:*
 - i. *Size - Large enough to land the aircraft onto without striking the tail/blades*
 - ii. *Shape - Valley, bowl, direction of slope*
 - iii. *Surrounds - Blade/tail clearance, FOD, trees/shrubs, people*
 - iv. *Slope - Within limits of aircraft/pilot*
 - v. *Surface - Firm, slippery, muddy, rocky*
 - *Move onto slope area and conduct up slope/cross slope landing*
 - *Maintain heading, ground position, and prevent movement of aircraft on slope*
 - *When landed centralise the flying controls*
 - *Prior to take off preposition controls*
 - *Lift into hover maintaining heading and ground position*
 - *Move away from slope ensuring tail is not turned towards the slope*
 - *Be prepared to abort the landing at any stage*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- i. Take offs (various profiles)**
(Can be combined with items j, k & m)
- *Demonstrate take-off/transition from the hover as detailed by the Examiner*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- j. Cross wind, down wind take-off (if practical)**
- *Demonstrate take-off cross wind/down wind transitions from the hover*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- k. Take off at maximum take off mass (actual or simulated)**
(Can be combined with item m)

- *Demonstrate, using an appropriate technique a take off and transition from the hover ensuring the aircraft is flown within the limits set by the Examiner*
 - *Maintain directional control/balance throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- l. Approaches (various profiles)**
(Can be combined with item m)
- *Demonstrate an approach nominated by the Examiner*
 - *Maintain directional control/ balance throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- m. Limited Power take-off and landing**
(Normally simulated by the Examiner giving an simulated power limitation)
- *Carry out hover power check*
 - *Select and demonstrate a transition from the hover using an appropriate technique for the simulated power limit set by the Examiner*
 - *When instructed carry out an in flight power check, from which the Examiner will set a simulated power limit to be used for the approach and landing*
 - *Select and demonstrate an appropriate technique for the approach and landing using only the simulated power limit set by the Examiner*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
- n. Auto-rotations**
(The Examiner will nominate 2, from basic, range, low speed, and 360degree turns)
- *Select an area and height/altitude for the nominated autorotation*
 - *Carry out HASEL (or other appropriate) checks*
 - *Establish straight and level flight at the nominated speed, height and heading with cruise power set (into wind)*
 - *Initiate manoeuvre with verbal warning – Practice Autorotation Go- and establish autorotation*
 - *Fly the appropriate parameters for the nominated technique.*
 - *Close throttle to idle position (only if appropriate and briefed by the Examiner)*
 - *When instructed by the Examiner to 'Go Around' (or at an agreed height/altitude) open throttle and establish the aircraft in a climb using the nominated climbing speed*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
 - *Maintain directional control and balance throughout*
 - *Control Nr throughout*
- o. Auto-rotative landing (simulated EOL)**
(The Examiner will nominate the landing area, the entry speed, height and heading. The applicant will select entry point unless otherwise instructed)
- *Identify the nominated landing area, if appropriate conduct recce (Size, Shape, Surrounds, Slope Surface)*
 - *Carry out HASEL (or other appropriate) checks*
 - *Establish final approach (into wind), straight and level flight at the nominated speed, height and heading with cruise power set*
 - *Initiate manoeuvre with verbal warning – Practice Engine Failure Go- and establish autorotation using the appropriate parameters for the nominated technique.*
 - *Close throttle to idle position (only if appropriate and briefed by the Examiner), if necessary the Examiner will assist*
 - *Ensure no aircraft skid or drift by 300ft AGL*
 - *Apply appropriate flare at appropriate height for aircraft/conditions*
 - *Cushion the aircraft onto the ground, with a running landing if appropriate, whilst maintaining heading*
 - *Lower collective lever judiciously*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*
 - *Maintain directional control and balance throughout*
 - *Control Nr throughout*

p. Practice Forced Landings with Power Recovery

The Examiner will brief on how the PFL will be initiated during the Main briefing. The HASEL checks and carb heating selection is the responsibility of the Examiner for this exercise

- *Enter autorotation*
- *Select the landing site*
- *Adopt the appropriate autorotative technique to 'make' the selected landing site*
- *Carry out the appropriate radio calls (in the cockpit only)*
- *Carry 'touch drills' to indicate emergency cockpit drills*
- *Close throttle to idle position (only if appropriate and briefed by the Examiner)*
- *Give appropriate warning to passenger*
- *When instructed by the Examiner to 'Go Around' (or at an agreed height/altitude) open throttle (if closed) and establish the aircraft in a climb using the nominated climbing speed*
- *Complete all necessary checks and drills throughout*
- *Maintain lookout throughout*
- *Maintain directional control and balance throughout*
- *Control Nr throughout*

q. Confined Area including power checks, recce technique, approach and departure techniques

(The Examiner will nominate the confined area to be used)

- *Identify the nominated landing area and conduct appropriate recce to cover at least the following points (normally not conducted lower than 500ft AGL):*
 - i. *Size - Is the confined area large enough for pilot's ability and aircraft size and which type of approach will it require?*
 - ii. *Shape - In relation to the wind direction/final approach*
 - iii. *Surrounds - Outer - habitation, hazards that may affect the circuit, approach, overshoot; Inner - hazards in the immediate area of the landing site*
 - iv. *Slope & Surface - Suitability of the landing site (may require confirmation prior to landing)*
- (Other factors such as sun, shadow, wires etc may need to be considered as appropriate)*
- *Carry out power check (normally into wind, within 500ft AGL of the landing area), note power available*
 - *Conduct circuit and approach, identifying escape routes and landing committal point in order to carry out a landing, dummy approach or overshoot (go around) as appropriate*
 - *Establish hover at appropriate height in the confined area (land/spot turn only if requested by Examiner)*
 - *When instructed to take off by the Examiner note power available and carry out the appropriate take off profile, in an appropriate direction, to depart the confined area*
 - *Maintain directional control and balance throughout*
 - *Control Nr throughout*
 - *Complete all necessary checks and drills throughout*
 - *Maintain lookout throughout*

Section 3 – Navigation En-route Procedures**a. Navigation and orientation at various altitudes/map reading**

- *Complete all elements of VFR planning for the route prescribed with particular reference to planned altitudes and safe levels of operation*
- *Identify position visually by reference to ground features and map*

b. Altitude/height/level, speed, heading control, observation of airspace, altimeter settings

- *Control helicopter altitude speed and heading using visual attitude flying techniques*
- *Maintain the heading height and speed as computed in navigation log or advised to the Examiner within the prescribed limits observing airspace.*
- *Complete all necessary checks and drills*
- *Set altimeter to QNH, Regional Pressure setting (RPS), Standard pressure setting, or QFE as specified in checklist, Flying Order Book or as appropriate*

c. Monitoring of flight progress, flight log, fuel usage endurance ETA assessment of track error and re-establishment of correct track, instrument monitoring

- *Navigate by means of calculated headings, ground speed and time.*
- *Make appropriate corrections to maintain track*
- *Achieve destinations or turning points within 3 minutes of estimated time of arrival (ETA)*
- *If appropriate configure engine for cruise/endurance performance in accordance with Flight Manual*
- *Adjust and monitor fuel consumption for range or endurance if appropriate*
- *Make regular checks for carburettor icing, if appropriate*

d. Observation of weather conditions, diversion planning

- *Calculate heading, ground speed, ETA and fuel required during any unscheduled diversion*
- *Calculate Minimum Safe Altitude for track to new destination*
- *Navigate by means of calculated headings, ground speed and time*
- *Maintain the heading height and speed as computed in navigation log or advised to the Examiner within the prescribed limits*
- *Observation of weather conditions with timely, appropriate captaincy decisions*

- e. Tracking positioning (NDB or VOR) identification of facilities**
- *Select and identify appropriate radio and navigation aids as required or nominated by Examiner*
 - *Carry out aircraft navigation instrument functional checks (if not previously conducted)*
 - *Locate and record the helicopter position by using radio navigation equipment when required by the Examiner*
 - *Intercept and maintain given tracks or radials using the navigation aids nominated*
- f. ATC liaison and observation of regulations etc.**
- *Set altimeter to QNH, Regional Pressure setting (RPS), Standard pressure setting, or QFE as specified in checklist, Flying Order Book or as appropriate*
 - *Maintain two way R/T communication using correct phraseology throughout*
 - *Obtain ATC clearances and appropriate level of service*
 - *Comply with ATC clearances and instructions when required*
 - *Display sound airmanship and cockpit management (Aerodrome arrival procedures)*
 - *Carry out appropriate checks and drills*
 - *Set altimeters and cross check in accordance with check list, Flying Order Book or as required*
 - *Comply with published arrival procedure or clearance*
 - *Maintain adequate lookout and collision avoidance*
 - *Consider weather and wind conditions, landing surface and obstructions*
 - *Plan and follow the circuit pattern and orientation with the landing area*
 - *From the circuit pattern establish the recommended helicopter approach configuration adjusting speed and rate of descent to maintain a stabilised approach*
 - *Select and achieve the appropriate touchdown area*
 - *Complete all necessary checks and drills*

Section 4 – Flight Procedures and Manoeuvres (by sole reference to instruments)

The Examiner will simulate IMC by use of screens, visors or goggles and the applicant will be required to execute the following exercises by sole reference to the appropriate aircraft instrumentation. Applicants are expected to show consideration of the safety factors necessary for flight in IMC.

Throughout this section the Examiner will be responsible for lookout, navigation and ATC liaison.

- a. Level flight, control of heading altitude/height and speed**
- *Establish straight and level flight at a nominated speed, height and heading*
 - *Demonstrate competence at controlling helicopter altitude speed and heading by sole reference to flight instruments*
 - *Use an appropriate technique of instrument scanning and cross check to maintain flight within prescribes limits*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
- b. Rate 1 turns onto specified headings 180 to 360 degrees left and right**
- *Establish turns at rate 1, using the direction indicator, on to Examiners nominated headings whilst maintaining altitude/height and speed*
 - *Demonstrate competence at manoeuvring the aircraft by sole reference to flight instruments*
 - *Use an appropriate technique of instrument scanning and cross check to maintain flight within prescribes limits*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
- c. Climbing and descending, including turns at rate 1 onto specified headings**
- *Establish climb/descent and turns at rate 1, on to Examiners nominated headings whilst maintaining altitude/height and speed*
 - *Demonstrate competence at manoeuvring the aircraft by sole reference to flight instruments*
 - *Use an appropriate technique of instrument scanning and cross check to maintain flight within prescribes limits*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*
- d. Recovery from unusual attitudes**
- The Examiner will take control of the aircraft with the applicant continuing to follow through. The applicant will close his eyes whilst the Examiner places the aircraft into an 'unusual attitude'. On being given the instruction "you have control" the applicant is to return the aircraft to straight and level flight (if in the descent establish a climb).
- *Regain control of the aircraft*
 - *Adjust/correct aircraft attitude, speed and altitude, demonstrating an appropriate sequencing technique*
 - *Demonstrate competence at manoeuvring the aircraft by sole reference to flight instruments*
 - *Use an appropriate technique of instrument scanning and cross check to maintain flight within prescribes limits*
 - *Maintain directional control and balance throughout*
 - *Complete all necessary checks and drills throughout*

e. Level turns with up to 30 degree angle of bank, 180 to 360 degrees left and right

- *Establish turns at up to 30 degrees angle of bank, using the direction indicator, on to Examiners nominated headings whilst maintaining altitude/height and speed*
- *Demonstrate competence at manoeuvring the aircraft by sole reference to flight instruments*
- *Use an appropriate technique of instrument scanning and cross check to maintain flight within prescribes limits*
- *Maintain directional control and balance throughout*
- *Complete all necessary checks and drills throughout*

Section 5 - Abnormal and Emergency Procedures.

The Examiner shall select a minimum of 4 items from this section. These may be performed in sections 1 through 4 or as a separate section.

- Engine malfunctions including governor failure, carb/engine icing, oil systems
- Fuel system malfunction
- Electrical system malfunction
- Hydraulic system malfunction including manual approach and landing
- Main rotor/tail rotor malfunction (FS or discussion only)
- Fire drills including smoke control and removal
- Other abnormal and emergencies procedures as outlined in Appendix 3 to JAR FCL 2.240

The applicant shall:

- *Analyse emergency or abnormal situation and formulate appropriate plan*
- *Execute abnormal or emergency drills*
- *Plan and execute further actions to ensure safe recovery of helicopter, passengers and crew*
- *Use check list to confirm actions when time permits*
- *Make suitable emergency R/T calls (given to Examiner but not transmitted)*
- *Inform ATC of practice emergency situation and assistance required (where appropriate)*

Appendix 3 CPL Skill Test Tolerances

The following is an extract from JAR Appendix 1 to FCL 2.135. NB: Extracts have to use the same words.

PROFILE	Tolerance
Height – normal forward flight	± 100 ft
Height - with simulated major emergency	± 150 ft
Height hovering IGE	± 2 ft
Heading/Tracking of radio aids - normal flight	± 10°
Heading/Tracking of radio aids - with simulated major emergency	± 15°
Speed – take-off / approach	± 5 kt
Speed - all other flight regimes	± 10 kt
Ground drift - T.O. & hover IGE	± 3 ft
Drift permissible on landing	Nil