



# Flight Examiner Manual

**Module 3.6 – IR (H)**



**Module 3.6 – IR (H)**

**IR(H) Skill Test**

**V2023.1**

**General Applicable Framework**

|                                       |   |
|---------------------------------------|---|
| <b>Flight rules:</b>                  | IFR                                       |
| <b>Operational rules:</b>             | Part-NCO/NCC                              |
| <b>Crew concept:</b>                  | SPO                                       |
| <b>Equipment:</b>                     | Helicopter and FSTD for the approved item |
| <b>Applicable type or class:</b>      | Any SP Helicopter (SET or MET)            |
| <b>Required examiner certificate:</b> | IRE(H)                                    |



# 1. Introduction

The basic privileges of an IR(H) holder are to fly helicopters under IFR, including PBN operations, with a decision height of no less than 200 ft. The holder of an IR shall exercise such privileges within the relevant pilot license and helicopter type rating held. For multi-engine IR privileges, skill test (section 5 Appendix 9) shall be taken in a multi-engine helicopter.



## 2. Test Administration

The Examiner should provide the Candidate with advance information regarding the examination flight routing, taking into account weather forecasts and local restrictions, to afford the Candidate with sufficient time to prepare the flight.

The test is intended to simulate a practical flight, flown single-pilot under IFR. The scenario should have a duration and structure that allows the Candidate to demonstrate all the test items without excessive workload. The flight duration shall be at least 60 minutes.

Usually, the Examiner occupies the instructor seat and is the PIC. No other person, if not operationally or organisationally necessary for the conduct of the examination, should be allowed in the helicopter or simulator. Additionally, ATO limitations should be considered.

Before proceeding with the test, the Examiner shall verify that the prerequisites are met, including IR(H) skill test recommendation; the ATO shall make available the training records for verification if requested. Accordingly, the following documents and conditions shall be verified:

- Passport or ID
- PPL(H) or higher
- NIT rating, if the IR privileges will be used at night
- Valid type rating for the helicopter used in the skill test, otherwise refer to FCL.600 IR
- Medical EASA Class 1 or 2, with IR checked
- Radiotelephony privileges and language proficiency requirements in English
- EASA logbook, showing a minimum of 50 hours of cross-country flight time as PIC on aircraft, of which at least 10 shall be on helicopter (not applicable to integrated courses)
- Training completion certificate from the ATO
- IR(H) skill test form filled, and endorsed by the ATO if applicable
- Aircraft documents
- Current navigation charts and database
- Insurance of aircraft covering check flights
- Specific equipment for the flight part (e.g. sight-limiting device)

When the Examiner is satisfied that the prerequisite requirements are met, they should seek confirmation that the Candidate is fit and ready for the test. If so, the Examiner formally starts the test; it is a good practice to take this opportunity to show the examiner credentials.



## 3. Examiner Briefing

The Examiner must brief the following elements:

- Freedom for the Candidate to ask questions
- Purpose and aim of the skill test
- Applicable weather minima (e.g. IFR, Part-NCO/NCC, NAA, ATO, or test requirements)
- Examiner has PIC responsibility;
- Candidate acts autonomously from a position where the PIC functions
- Handling of radio communications during specific parts of the test
- Use of the sight-limiting device
- Use of automation and flight-director
- Examiner role-play in normal operations and simulated emergencies
- ME only: engine failure-simulation (minimum safety height, handling of engine-controls).
- Handling of possible contingencies (technical, weather, ATC)
- Handling of actual emergencies (e.g. engine failure procedures, change of aircraft control)
- Pass, fail, and partial pass criteria, repeat items option, and examination termination rules

When covering pass/fail criteria the examiner should cover general standards of completion in subpart 7 of this module, including decision-making and airmanship. Some test items may require specific emphasis for the Candidate to understand what is required. The standards of completion should be agreed with the Candidate, and the Examiner should consider actual flight conditions when briefing them. Items which could require special emphasis could be:

- Radio communications
- Work systematic, workload management
- Navigation accuracy, PBN requirements, level of service and RAIM
- Go-around decision

In covering the standards of completion, the Examiner should also review how the candidate has been trained by the ATO as procedures and flight techniques might differ between organisations. This is especially important for manoeuvres such as: unusual attitudes, autorotative descend and engine-out procedures, etc.



## 4. Candidate Flight Briefing

The Examiner should allow the Candidate to brief uninterrupted; the Candidate shall conclude their briefing by making a go/no-go decision. The briefing should cover the following aspects:

- Timetable (e.g. slot planning, boarding time)
- Operational navigation flight plan
- Weather situation and forecast
- NOTAMs, including relevant local military restrictions, as applicable
- Fuel planning
- Mass and balance calculation
- Performance calculation
- IMC escape route (OEI procedure), if applicable
- ATC flight plan
- Aircraft status and documents, including maintenance release
- Threat and Error Management aspects



## 5. Oral Examination on Ground

The Examiner should verify the relevant theoretical knowledge of the Candidate during the briefing on the ground by asking questions related, as far as possible, to the planned flight covering, for example, the following areas:

- Follow-up questions to the Candidate's briefing
- Regulations (EU and relevant specific national requirements)
- Licensing (e.g. IR(H) privileges, ratings validity, currency requirements)
- Operational aspects
- Weather information and interpretation
- Airspace structure and limitations
- Aircraft systems, limitations, performance, mass and balance
- Flight planning
- Navigation charts
- Emergency procedures



## 6. Skill Test Items (Appendix 7)

The use of checklist, airmanship, anti-icing/de-icing procedures, etc., apply in all sections. To the exception of items (j), (k) and (l) in section 1 and section 3a, the flight shall be conducted by sole reference to instruments. Items (c), (g) and (h) in sections 4 and 5 can be performed in either section. Item (d) in section 2 may be performed in an FTD 2/3 or FFS; the FSTD used shall represent the same helicopter type and variant used for the skill test.

The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.





## Module 3.6 – IR (H)

**Section 1 - Pre-flight Operation and Departure**

|          |   |  |
|----------|---|--|
| <b>a</b> | <b>Use of flight manuals, especially helicopter performance calculation, mass and balance</b> | <ul style="list-style-type: none"><li>• complete mass and balance schedule</li><li>• calculate helicopter performance criteria and limitations applicable to runway and departure; make adjustments if required for actual conditions before take-off</li><li>• verify availability and compliance of helicopter documents</li></ul>   |
| <b>b</b> | <b>Use of Air Traffic Services document, weather document</b>                                 | <ul style="list-style-type: none"><li>• use of suitable and correct documents, including maps; charts and approach procedure plates to prepare flight plan and flight log</li><li>• obtain and assess all elements of the prevailing and forecast weather conditions</li><li>• obtain and assess all aeronautical information and NOTAMs; where applicable complete a RAIM check (AUGUR) and consults NANUs for updated information on constellation status and advisories</li></ul>   |
| <b>c</b> | <b>Preparation of ATC flight plan, IFR flight plan/log</b>                                    | <ul style="list-style-type: none"><li>• complete an appropriate flight navigation log</li><li>• complete the required ATC flight plan(s) and ensures that all required airfields are addressed</li><li>• determine that the helicopter is correctly fuelled, loaded and legal for the flight.</li><li>• confirm any helicopter performance criteria and limitations applicable in relation to runway, departure and weather conditions</li><li>• demonstrate sufficient knowledge of the regulatory requirements relating to instrument flight</li></ul>                                 |
| <b>d</b> | <b>Identification of the required nav aids for departure, arrival and approach procedures</b> | <ul style="list-style-type: none"><li>• set and identifies the appropriate nav aids, respectively set-up FMS, for take-off and departure, including emergency return, if relevant</li><li>• set and identifies the appropriate nav aids, respectively set-up FMS for approach and landing, if already possible</li></ul>   |
| <b>e</b> | <b>Pre-flight inspection</b>  | <ul style="list-style-type: none"><li>• perform all elements of the helicopter pre-flight inspections as applicable to the actual or simulated weather conditions, assuming the risk of icing conditions</li><li>• confirm that the helicopter is in a serviceable and safe condition for flight</li><li>• check and completes all necessary documentation</li><li>• take appropriate action with respect to any identified unsatisfactory conditions</li><li>• confirm that the necessary navigation databases are current and that the planned RNAV approaches are available</li></ul> |
| <b>f</b> | <b>Weather Minima</b>   | <ul style="list-style-type: none"><li>• assess the weather affecting the departure, route, destination and alternate</li><li>• determine the expected instrument approach minima and decision altitude</li><li>• candidate will be expected to operate to the minimum weather conditions defined by the operating rules and airborne equipment limitation</li></ul>  |



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|          |  |   |
|----------|--|---|
| <b>g</b> | <b>Taxiing</b>   | <ul style="list-style-type: none"><li>• complete all recommended taxiing checks and procedures</li><li>• comply with airport markings and signals</li><li>• follow ATC instructions</li></ul>   |
| <b>h</b> | <b>PBN departure (if applicable)</b>                             | <ul style="list-style-type: none"><li>• verify that the correct procedure has been loaded in the FMS, cross-check waypoints and constraints with the departure chart</li><li>• verify that the correct navigation source is displayed and used</li></ul>  |
| <b>i</b> | <b>Pre-take-off briefing, procedures and checks</b>              | <ul style="list-style-type: none"><li>• verify that applicable minimums can be complied with</li><li>• brief cleared departure and constraints, verify correct set-up of NAV/COM/FMS</li><li>• brief change of COM frequency after take-off if applicable.</li><li>• brief runway status, T/O performance and speeds, SID climb requirements</li><li>• brief emergency-procedures</li></ul> |
| <b>j</b> | <b>Transition to instrument flight</b>                           | <ul style="list-style-type: none"><li>• transition to instrument flying before entering IMC, respectively simulated IMC</li><li>• establish a stable flight path in trim</li><li>• don sight-limiting device, as necessary</li></ul>  |
| <b>k</b> | <b>Instrument departure procedures, including PBN departures</b> | <ul style="list-style-type: none"><li>• follow SID and/or ATC instructions</li><li>• stay within the applicable navigation tolerances</li><li>• comply with altitude and speed restrictions, as published or cleared</li><li>• apply correct altimeter setting procedure</li></ul>  |
| <b>l</b> | <b>ATC liaison — compliance, R/T procedures</b>                  | <ul style="list-style-type: none"><li>• demonstrate standard R/T procedures and phraseology</li><li>• switch COM frequencies as published or requested</li><li>• demonstrate compliance with ATC instructions</li></ul>   |



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### Section 2 - General Handling

|          |  |   |
|----------|--|---|
| <b>a</b> | <b>Control of the helicopter by reference solely to instruments,</b>                                   | <ul style="list-style-type: none"><li>• <i>demonstrate control of heading, altitude and airspeed in straight and level manual flight by reference to instruments</i></li><li>• <i>demonstrate correct use of trim.</i></li></ul>  |
| <b>b</b> | <b>Climbing and descending turns with sustained rate one turn</b>                                      | <ul style="list-style-type: none"><li>• <i>demonstrate performing correct rate1 turns by use of different instruments and cross-check by timing the heading change.during climb and descent</i></li></ul>   |
| <b>c</b> | <b>Recoveries from unusual attitudes, including sustained 30 bank turns and steep descending turns</b> | <ul style="list-style-type: none"><li>• <i>recognise the situation and initiate prompt and correct recovery action</i></li><li>• <i>continue recovery action without exceeding any helicopter limitations</i></li><li>• <i>complete all necessary checks and drills</i></li></ul> |



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## Section 3 - En-route IFR Procedures

|          |  |  |
|----------|--|--|
| <b>a</b> | Tracking, including interception, e.g. NDB, VOR, RNAV                                  | <ul style="list-style-type: none"><li>• demonstrate systematic interception procedure onto given given tracks or radials, using the navigation means assigned by the Examiner</li><li>• demonstrate systematic wind correction procedure</li><li>• stay within the applicable navigation tolerances</li></ul>  |
| <b>b</b> | Use of navigation system and radio aids  | <ul style="list-style-type: none"><li>• demonstrate proficiency in setting, identifying and using navigation aids</li><li>• demonstrate proficiency in programming waypoints, tracks and airways into FMS</li><li>• understand the applicability and limitations of the different navigation systems</li></ul>   |
| <b>c</b> | Level flight, control of heading, altitude and airspeed, power setting, trim technique | <ul style="list-style-type: none"><li>• demonstrate competence at controlling and manoeuvring the helicopter by sole reference to instruments</li><li>• maintain the heading, altitude and speed as computed in navigation log, respectively assigned by ATC or by the Examiner, within the prescribed limits</li><li>• use an appropriate instrument scanning and cross check technique to maintain the flight within prescribes limits</li></ul> |
| <b>d</b> | Altimeter setting  | <ul style="list-style-type: none"><li>• set and cross checks altimeters, to QNH or standard pressure setting, as per applicable ATC regulations and aircraft system requirements</li></ul>   |
| <b>e</b> | Timing and revision of ETAs (en-route hold, if required)                               | <ul style="list-style-type: none"><li>• advise ATC when ETA would exceed the applicable requirement</li><li>• use correct holding entry</li><li>• make the necessary wind and time corrections</li><li>• comply with applicable speed restrictions</li></ul>   |
| <b>f</b> | Monitoring of flight progress, flight log, fuel usage, systems' management             | <ul style="list-style-type: none"><li>• maintain a navigation log to monitor flight progress and fuel situation</li><li>• observe en-route weather and adjust altitude and/or route as necessary to ensure flight safety, comfort or efficiency, in coordination with ATC</li><li>• use appropriate means to update weather information concerning the conduct of the flight or possible diversion-planning</li></ul>                              |



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| <b>g</b> | <b>Ice protection procedures, simulated if necessary</b> | <ul style="list-style-type: none"><li>• demonstrate adequate icing conditions situation awareness, in relation to de/ant-ice protection system capabilities</li><li>• demonstrate proper usage of the de/anti-icing protection system</li><li>• demonstrate adequate decision making to maintain a safe flight</li></ul> |
| <b>h</b> | <b>ATC compliance and R/T procedures</b>                 | <ul style="list-style-type: none"><li>• maintain two way R/T communication using correct phraseology throughout</li><li>• demonstrate correct knowledge of com-failure-procedures</li><li>• comply with ATC clearances and instructions</li></ul>  |

**Section 3a - Arrival Procedures**

|          |   |   |
|----------|---|---|
| <b>a</b> | <b>Setting and checking of navigational aids, identification of facilities, if applicable</b> | <ul style="list-style-type: none"><li>• define an adequate nav setting strategy to fly the standard arrival and approach</li><li>• set and identify the required navigation aids, respectively set-up the FMS</li></ul>   |
| <b>b</b> | <b>Arrival procedures, altimeter check</b>  | <ul style="list-style-type: none"><li>• listen to ATIS or request the arrival information from ATC</li><li>• set and cross checks altimeters to QNH as per applicable ATC regulations</li></ul>   |
| <b>c</b> | <b>Altitude and speed constraints, if applicable</b>  | <ul style="list-style-type: none"><li>• plan and manage descent profile in anticipation of altitude and speed constraints</li><li>• comply with applicable altitude and speed restriction</li></ul>   |
| <b>d</b> | <b>PBN arrival (if applicable)</b>  | <ul style="list-style-type: none"><li>• verify that the correct procedure has been loaded in the FMS, cross-check waypoints and constraints with the relevant arrival chart</li><li>• verify that the correct navigation source is displayed and used</li></ul> |



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| Section 4 - 3D Operations |  |  |
|---------------------------|--|--|
| <b>a</b>                  | Setting and checking of navigation aids, check vertical path angle.  | <ul style="list-style-type: none"><li>• set and identify the relevant navigation aids, respectively load and verify the applicable procedure</li><li>• verify that the correct procedure has been loaded in the FMS, cross-check waypoints and constraints with the relevant arrival chart</li><li>• confirm the availability and serviceability of selected navigation aids, respectively GNSS/SBAS level of service, or RAIM availability, if applicable</li><li>• monitor approach activation</li></ul> |
| <b>b</b>                  | Approach and landing briefing, including descent/approach/landing checks, including identification of facilities | <ul style="list-style-type: none"><li>• brief approach to be used and automation level, determine minimum</li><li>• verify suitability of current weather conditions</li><li>• brief approach and go-around path, including altitudes and speeds</li><li>• confirm approach preparation and navigation setting</li><li>• complete the checks for approach</li></ul>  |
| <b>c</b>                  | Holding procedure  | <ul style="list-style-type: none"><li>• use correct holding entry</li><li>• make the necessary wind and time corrections</li><li>• comply with applicable speed restrictions</li></ul>   |
| <b>d</b>                  | Compliance with published approach procedure   | <ul style="list-style-type: none"><li>• comply with the published approach procedures</li><li>• crosscheck GS/GP intercept position and verify altimeter settings</li><li>• Application of temperature compensation to the final approach segment linear vertical deviation (BAROVNAV only, if applicable)</li><li>• at the DA decide on approach continuation or initiate a go-around</li></ul>   |
| <b>e</b>                  | Approach timing  | <ul style="list-style-type: none"><li>• monitor or control the approach procedure using timing, as necessary</li></ul>   |
| <b>f</b>                  | Altitude, speed, heading control (stabilised approach)   | <ul style="list-style-type: none"><li>• establish the final approach and maintain the approach path in horizontal and vertical profile to DA</li><li>• establish the appropriate helicopter configuration and airspeed for the different approach phases</li><li>• control the helicopter to achieve a stable and trimmed final approach path with the defined configuration</li><li>• at DA acquire visual references to continue to land or initiate missed approach</li></ul>                           |
| <b>g</b>                  | Go-around action   | <ul style="list-style-type: none"><li>• promptly establish the helicopter in a safe climb and reconfigure accordingly</li><li>• ensure that suitable lateral and vertical navigation is displayed</li><li>• inform ATC when time permit</li></ul>  |



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| <b>h</b> | <b>Missed approach procedure/landing</b> | <ul style="list-style-type: none"><li>• <i>follow assigned missed approach procedure, or</i></li><li>• <i>continue to land</i></li></ul>   |
| <b>i</b> | <b>ATC compliance and R/T procedures</b> | <ul style="list-style-type: none"><li>• <i>demonstrate standard R/T procedures and phraseology</i></li><li>• <i>demonstrate compliance with ATC instructions</i></li><li>• <i>know the applicable com-loss procedure</i></li></ul> |



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| Section 5 - 2D Operations |   |   |
|---------------------------|---|---|
| <b>a</b>                  | Setting and checking of navigation aids.  | <ul style="list-style-type: none"><li>• set and identify the relevant navigation aids, respectively load and verify the applicable procedure</li><li>• verify that the correct procedure has been loaded in the FMS, cross-check waypoints and constraints with the relevant arrival chart</li><li>• confirm the availability and serviceability of selected navigation aids, respectively GNSS/SBAS level of service, or RAIM availability, if applicable</li><li>• monitor approach activation</li></ul>  |
| <b>b</b>                  | Approach and landing briefing, including descent/ approach/landing checks, including identification of facilities | <ul style="list-style-type: none"><li>• brief approach to be used and automation level, determine minimum</li><li>• verify suitability of current weather conditions</li><li>• brief approach and go-around path, including altitudes and speeds</li><li>• confirm approach preparation and navigation setting</li><li>• complete the checks for approach</li></ul>   |
| <b>c</b>                  | Holding procedure   | <ul style="list-style-type: none"><li>• use correct holding entry</li><li>• make the necessary wind and time corrections</li><li>• comply with applicable speed restrictions</li></ul>  |
| <b>d</b>                  | Compliance with published approach procedure  | <ul style="list-style-type: none"><li>• comply with the published approach procedures (may be flown using a CDFA technique with manual calculation only)</li><li>• anticipate the final descent to be established on the nominated approach path at the defined speed and configuration</li><li>• never infringe the published speed and altitude constraints</li><li>• Apply the temperature compensation to the final approach segment, if applicable</li><li>• at the MDA or DA, respectively MAPt or VDP decide on approach continuation or initiate a go-around</li></ul>  |
| <b>e</b>                  | Approach timing   | <ul style="list-style-type: none"><li>• monitor or control the approach procedure using timing, as required</li></ul>   |
| <b>f</b>                  | Altitude/distance to MAPt, lateral deviation, altitude/speed constraint, if applicable                            | <ul style="list-style-type: none"><li>• anticipate the final descent to be established on the nominated approach path at the defined speed and configuration</li><li>• monitor the constant angle descent (without the use of VNAV equipment). vertical position on the nominated approach path with the provided altitude/distance reference table, if applicable</li><li>• establish the appropriate helicopter configuration and airspeed for the different approach phases</li><li>• control the helicopter to achieve a stable and trimmed final approach path with the defined configuration</li><li>• at MDA/DA or MAPt is reached acquire visual references to continue to land or initiate missed approach</li></ul> |





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|          |   |   |
|----------|---|---|
| <b>g</b> | <b>Go-around action</b>                   | <ul style="list-style-type: none"><li>• promptly establish the helicopter in a safe climb and reconfigure accordingly</li><li>• ensure that suitable lateral and vertical navigation is displayed</li><li>• inform ATC when time permit</li></ul> |
| <b>h</b> | <b>Missed approach procedure/ landing</b> | <ul style="list-style-type: none"><li>• follow assigned missed approach procedure, or</li><li>• continue to land</li></ul>  |
| <b>i</b> | <b>ATC compliance and R/T procedures</b>  | <ul style="list-style-type: none"><li>• demonstrate standard R/T procedures and phraseology</li><li>• demonstrate compliance with ATC instructions</li></ul>  |

**Section 6 – Abnormal And Emergency Procedures**

|          |   |   |
|----------|---|---|
| <b>a</b> | <b>Simulated engine failure (OEI) after take-off or on go-around (at a safe altitude unless carried out in an FSTD)</b> | <ul style="list-style-type: none"><li>• make a clear decision to reject or continue the take-off considering TDP/DPATO and VMINI</li><li>• maintain control of helicopter by sole reference to instruments</li><li>• identify failed engine, complete checks and drills, establish safe climb at VY</li><li>• follow planned IMC escape route (OEI procedure), as briefed</li><li>• fly a stable OEI approach with the appropriate configuration</li><li>• initiate a safe OEI go-around to a OEI climb, with the appropriate configuration</li></ul> |
| <b>b</b> | <b>Failure of stability augmentation devices/ hydraulic system (if applicable)</b>                                      | <ul style="list-style-type: none"><li>• demonstrates manual aircraft control skills with smoothness and accuracy as appropriate to the situation</li><li>• maintains the aircraft within the flight envelope</li><li>• recognise system malfunction</li></ul>   |
| <b>c</b> | <b>Limited panel</b>  | <ul style="list-style-type: none"><li>• Detects deviations through instrument scanning</li><li>• Applies knowledge of the relationship between aircraft attitude, speed &amp; torque</li></ul>  |
| <b>d</b> | <b>Autorotation and recovery to a pre-set altitude</b>  | <ul style="list-style-type: none"><li>• maintain directional control, OEM recommended speed and RPM inside limits</li><li>• promptly recovery from autorotation without descent below the safe altitude</li></ul>   |
| <b>e</b> | <b>3D operations manually with or without flight director (Only one item to be tested)</b>                              | <ul style="list-style-type: none"><li>• Detects deviations through instrument scanning</li><li>• Maintains the aircraft within the tolerance during manual aircraft control</li></ul>   |



## 7. Standard of Completion

To pass the IR (H) Skill Test, the Candidate shall demonstrate the ability to:

- a operate the helicopter within its limitations;
- b complete all manoeuvres with smoothness and accuracy;
- c exercise good judgment and airmanship; that is, to consistently use good judgement and well-developed knowledge, skills and attitudes to accomplish flight objectives;
- d apply aeronautical knowledge;
- e maintain control of the helicopter at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;
- f stay within the following limits. Those tolerances are for general guidance; the Examiner should make allowance for turbulent conditions and the handling qualities and performance of the helicopter used:

| Height   |  |
|--|--|
| Generally  | ±100 feet  |
| Starting a go-around at DH/A   | +50 feet/–0 feet   |
| MDH/A/MAP  | +50 feet/–0 feet   |
| Tracking   |  |
| On radio aids  | ±5°  |
| For angular deviations   | Half scale deflection, azimuth and glide path (e.g. LPV, ILS, MLS, GLS)  |
| 2D (LNAV) and 3D (LNAV/VNAV) “linear” lateral deviations                 | cross-track error/deviation shall normally be limited to ± ½ the RNP value associated with the procedure. Brief deviations from this standard up to a maximum of 1 time the RNP value are allowable. |
| 3D linear vertical deviations (e.g. RNP APCH (LNAV/VNAV) using BaroVNAV) | not more than – 75 feet below the vertical profile at any time, and not more than + 75 feet above the vertical profile at or below 1 000 feet above aerodrome level.                                 |
| Heading  |  |
| all engines operating  | ±5°  |
| with simulated engine failure  | ±10°   |
| Speed  |  |
| all engines operating  | ±5 knots   |
| with simulated engine failure  | +10 knots/–5 knots   |

Compared to requirements (a) and (f), completion standards (b) to (e) do not rely on quantitative tolerances, but on qualitative ones. Usage of guidance provided in subpart 8 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.



## 8. Knowledge, Skills and Attitude Assessment Guidance

The following tables are designed to give the Examiner guidance when assessing the Knowledge, Skills and Attitudes required by the Candidate to successfully complete each section of the test. It should aid the Examiner to assess the standard of completion elements laid down in subpart 7 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.



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### Section 1 - Pre-flight Operation and Departure

Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the helicopter on the ground and during the transition to flight

|                  |  |
|------------------|--|
| <b>Knowledge</b> | <ul style="list-style-type: none"><li>• applicable regulations (rules of the air, operational, licensing)</li><li>• weather information interpretation and understanding</li><li>• NOTAMs interpretation and understanding</li><li>• aircraft flight manual structure, relevant information usage</li><li>• aeronautical charts interpretation and usage</li><li>• radio communication procedures and standard phraseology</li></ul> |
| <b>Skill</b>     | <ul style="list-style-type: none"><li>• flight preparation information retrieval</li><li>• searching in official reference documents (e.g. RFM, AIP)</li><li>• standard SOP and checklist usage</li><li>• smooth aircraft handling</li><li>• communicate clearly and assertively</li></ul>   |
| <b>Attitude</b>  | <ul style="list-style-type: none"><li>• looking for information and assess them critically</li><li>• safety-minded rather than mission-minded</li><li>• take effective decisions</li><li>• assertive when in doubt</li><li>• aware of his limited experience and abilities</li></ul>   |

### Section 2 - General Handling

Safe and smooth helicopter operation by sole reference to instruments throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur

|                  |  |
|------------------|--|
| <b>Knowledge</b> | <ul style="list-style-type: none"><li>• aircraft pitch-power-configuration values</li><li>• recovery procedures from an unusual aircraft state (unusual attitude)</li><li>• causes of load-factor increase and effect on stall speed</li><li>• critical airspeeds (e.g. <math>V_{mini}</math>, <math>V_y</math>, <math>V_{ne}</math>) and respective ASI markings</li></ul>  |
| <b>Skill</b>     | <ul style="list-style-type: none"><li>• control of the helicopter by sole reference to instruments</li><li>• establish stabilised flight path in trim, with the required power, airspeed, or vertical speed, as required</li><li>• smooth, precise, and coordinated aircraft handling</li><li>• smooth flight path changes, following the established SOPs</li><li>• correct and systematic application of recovery drills</li></ul> |
| <b>Attitude</b>  | <ul style="list-style-type: none"><li>• acquire and update his knowledge about his position and potential threats (e.g. traffic, terrain, flight path, weather, icing) and consider their future evolution</li><li>• set priorities (Fly, Navigate, Communicate, Manage)</li><li>• assertive, seek clarification of doubts and misunderstandings before acting</li></ul>   |

**Module 3.6 – IR (H)****Section 3 - En-route IFR Procedures**

**Navigating safely and effectively en-route under IFR, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary**

|                  |   |
|------------------|---|
| <b>Knowledge</b> | <ul style="list-style-type: none"><li>• navigation charts legend and charts interpretation</li><li>• operational flight plan usage</li><li>• on-board navigation and communication equipment use and limitation</li><li>• applicable regulation (airspace class, en-route altitude)</li><li>• radiotelephony requirements, procedures, and applicable standard phraseology</li></ul>  |
| <b>Skill</b>     | <ul style="list-style-type: none"><li>• IFR charts reading (understanding and usage of information)</li><li>• proficient usage of on-board navigation and communication equipment</li><li>• smooth tracking of radio-navigation track, while maintaining altitude</li><li>• communicate clearly, assertively, and in due time</li><li>• weather situation understanding</li></ul>   |
| <b>Attitude</b>  | <ul style="list-style-type: none"><li>• aware of the current situation and its possible evolution, and proactively generating options</li><li>• set priorities (Fly, Navigate, Communicate, Manage) and manage workload</li><li>• take effective decisions, displaying leadership</li><li>• conservative in regard to weather threats (icing, convective weather)</li><li>• ready and willing to seek assistance as necessary (e.g. from ATC)</li></ul> |

**Section 3a – Arrival Procedures**

**Safe and systematic arrival procedure and instrument approach preparation; structured nav aids setup, briefing and checks. Observation of constraints and safe altitudes. Clear and timely communication with ATC**

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|------------------|--|
| <b>Knowledge</b> | <ul style="list-style-type: none"><li>• instrument arrival procedures, instrument approach chart reading, briefing structure and purpose</li><li>• application of minima and limitations (ceiling, visibility, wind)</li><li>• general weather situations and specific local weather phenomena</li><li>• knowledge of advanced navigation and warning systems (e.g. FMS, GNSS)</li></ul> |
| <b>Skill</b>     | <ul style="list-style-type: none"><li>• adherence to instrument arrival procedures,</li><li>• applicable standard communication phraseology</li><li>• handling of advanced navigation and warning systems (e.g. FMS, GNSS)</li></ul>   |
| <b>Attitude</b>  | <ul style="list-style-type: none"><li>• awareness of weather development and traffic restrictions</li><li>• importance of throughout preparation and knowledge of IFR procedures</li><li>• importance of insight into advanced navigation systems</li><li>• assertive radiotelephony communication</li></ul>   |



## Module 3.6 – IR (H)

## Section 4 - 3D Operations

Safe, compliant and structured 3D approach preparation and conduct; stable vertical and lateral tracking to DA; establishment of visual references and continuation for a safe landing, otherwise initiation of a go-around

### Knowledge

- obstacle clearance margin along the different approach segments
- stable approach criteria
- governing minima and conditions to start and continue the approach
- effect of wind and wind correction method

### Skill

- identification of approach aid, respectively monitoring of approach activation
- positive verification of GS/GP intercept position
- helicopter control to achieve a stable and trimmed final approach path
- missed approach procedure and guidance activation

### Attitude

- assertive decision making in case of unstabilised approach
- assertive decision making if visual references are not acquired at DA
- consideration of alternatives (holding, alternate airports, diversions etc.)
- awareness of weather evolution and fuel situation

## Section 5 – 2D Operations

Safe, compliant and structured 2D approach preparation and conduct; monitored vertical profile with adequate adjustments to DA; smooth corrections to visually align the plane with the runway on the correct final path

### Knowledge

- obstacle clearance margin along the different approach segments
- stable approach criteria
- governing minima and conditions to start and continue the approach
- effect of wind and wind correction method

### Skill

- identification of approach aid, respectively monitoring of approach activation
- point of descent anticipation
- helicopter control to achieve a stable and trimmed final approach path
- monitoring of altitude/distance, respectively altitude/time
- missed approach procedure and guidance activation

### Attitude

- assertive decision making in case of unstabilised approach
- assertive decision making if visual references are not acquired at MDA
- consideration of alternatives (holding, alternate airports, diversions etc.)
- awareness of weather evolution and fuel situation



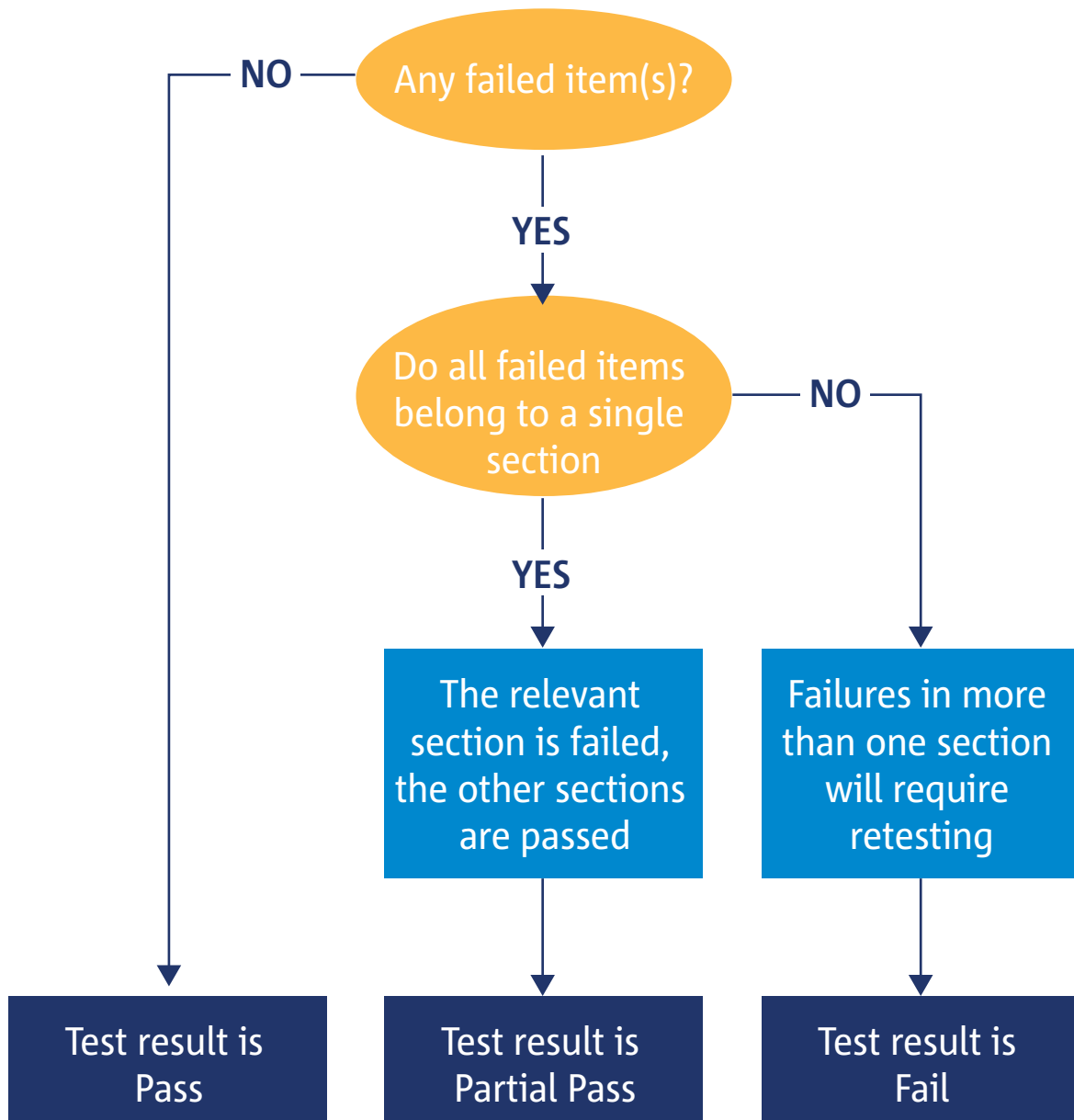
## Section 6 – Flight with One Engine Inoperative (multi-engine helicopters only)

Safe OEI operation, by sole reference to instruments, during and after engine failure; OEI flight path management during take-off, climb, approach, landing, and go-around; OEI escape route considerations

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|------------------|--|
| <b>Knowledge</b> | <ul style="list-style-type: none"><li>• multi-engine specific speeds, relevance and markings (e.g. VTOSS, V50, VMINI, VYI, VNEI)</li><li>• automation and flight director limitations under OEI conditions</li><li>• anti/de-icing limitations under OEI conditions</li><li>• performance requirements for IFR procedures and that only normal operations are considered</li><li>• determination of suitable escape route (OEI procedure)</li><li>• standard phraseology for emergency and abnormal situation</li></ul>                                |
| <b>Skill</b>     | <ul style="list-style-type: none"><li>• maintain aircraft control, by sole reference to instruments, and establish a stable flight path, during and after engine failure</li><li>• timely execution of emergency drills and proper use of the applicable checklists</li><li>• adapt aircraft configuration for single-engine operation</li><li>• proper usage of specific aircraft systems under OEI condition (e.g. cross feed, anti/de-icing)</li><li>• proper usage of standard phraseology to inform ATC and seek appropriate assistance</li></ul> |
| <b>Attitude</b>  | <ul style="list-style-type: none"><li>• appreciation for the performance limitations and adoption of a conservative planning approach</li><li>• assessment of the current situation under OEI operation</li><li>• realistic and effective decision making</li><li>• workload anticipation and management</li></ul>   |



## 9. Decision Making Flow Chart







## 10. Test Debriefing

The debriefing should begin with the Examiner informing the Candidate the result of the test. After that, the Examiner should make use of a facilitated discussion and emphasise the relevant strengths and weaknesses demonstrated by the Candidate. If the test is failed, the Examiner shall inform the Candidate and the training organisation regarding any training recommendation. The Candidate shall be explained their right of appeal, according to the procedures set by the Candidate's competent authority. With the agreement of the Candidate, the Examiner may allow, the responsible instructor, a Senior Examiner or an Inspector of the NAA, to take part in the debriefing.



# 11. Completion of all applicable records

All relevant records must be completed. Which includes, but is not limited to::

- Relevant operational documentation, aircraft logbook, closing ATS flight plan
- Skill test protocol and examiner report
  - original to the applicant, respectively as per the candidate's competent authority instructions
  - 1 copy to the candidate's competent authority
  - 1 copy to the examiner's competent authority
  - 1 copy for the examiner's records
- Candidate logbook

For any failed or partially failed test, the justification for failure must be printed on the examiner report. The ground for failure must be clear and motivated; a mere indication of which item was failed is not adequate nor sufficient. Any re-training recommendation should equally be written in the examiner report.