



# Flight Examiner Manual

**Module 5.2 - HPA-COMPLEX(A)**



## HPA-Complex TR(A) Skill Test or Proficiency Check

draft V1.3

## General Applicable Framework

<b>Flight rules:</b>	IFR
<b>Operational rules:</b>	Part-NCC (Part-NCO for MET with a MTOM < 5'700 kg)
<b>Crew concept:</b>	SPO, MPO, SPO/MPO
<b>Equipment:</b>	FFS; Aeroplane combined with FSTD; Aeroplane
<b>Applicable type or class:</b>	HPA-Complex MET or MEJ
<b>Required examiner certificate:</b>	TRE(A) or SFE(A), with MPO privileges, if relevant



# 1. Introduction

The privileges of the TR holder are to act as PIC, respectively COPI, on the type of aeroplane and crew concept, specified in the rating, within the privileges of the relevant aeroplane pilot license held.

The test content for the different possible crew concepts is provided in subpart 6.



## 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 for the test. The test should be accomplished under IFR; at least one of the approaches shall be PBN.

If an aircraft is used, the Examiner normally occupies the instructor seat and is the PIC. In MPO the second pilot shall be either another applicant or a type rated qualified pilot; if an aircraft is used, the second pilot shall be the examiner or a qualified TRI on the type. No other person, if not operationally or organisationally necessary for the conduct of the examination, should be allowed in the aeroplane or simulator. Additionally, ATO limitations, if applicable, should be considered.

Before proceeding with the test or check, the Examiner shall verify that the prerequisites are met; if applicable, 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(A) or higher
- Medical EASA Class 1 or 2, with IR checked
- Radiotelephony privileges in English and language proficiency requirements
- EASA logbook, showing the relevant minimum experience and flight instruction
- Relevant TR(A) test form filled, 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)
- For a first HPA-Complex type rating, completion of an advanced UPRT course
- For an MPO skill test, hold an MCC certificate, or meet the MCC credit requirements

Additionally for a skill test:

- TR course completion certificate from the ATO
- HPA course (for a first HPA TR if not holding theoretical knowledge credit for the ATPL)
- Hold or have held a multi-engine IR(A) established under Part-FCL

Additionally for a revalidation proficiency check:

- 10 route sectors within the previous 12 months, or
- a route sector flown with an examiner (this route sector is additional to the proficiency check content)
- this requirement does not apply if the proficiency check is combined with a Part-CAT OPC

Additionally for a renewal proficiency check:

- TR refresher training completion certificate from an ATO

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 test/check
- Applicable weather minimum (e.g., Part-NCC, NAA, ATO, or test requirements)
- PIC responsibility of the Examiner; the Candidate acts autonomously and leads as PF
- Handling of radiocommunications during specific parts of the test
- Use of the sight-limiting device
- Examiner role-play in normal operations and simulated emergencies
- 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 explicate the standards of completion laid down 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:

- Take-off performance, including OEI situations
- Landing performance; selection of touchdown point and acceptable tolerances
- Crosswind take-off and landing; expectation on handling and precision
- Simulated emergencies; expectation on handling, checklist use and what and how to simulate.

In covering the standards of completion, the Examiner should also review how the Candidate has been trained by the ATO, if applicable, as procedures and flight techniques might differ between organisations. This is especially important for manoeuvres such as unusual attitudes, stalls 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
- 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 (applicable regulations and relevant specific national requirements)
- Licensing (e.g. TR privileges, ratings validity, currency requirements)
- Operational aspects
- Weather information and interpretation
- Airspace structure and limitations
- Aircraft systems, limitations, performance, mass and balance
- Flight planning
- IFR charts
- Emergency procedures



## 6. Skill Test and Proficiency Check items

The use of checklist, airmanship, anti-icing/de-icing procedures, etc., and MCC concept, if applicable, apply in all sections.

When an FSTD is used for parts, or the whole, of the test, the FSTD suitability shall be verified and the applicable limitations considered.

The mandatory items are denoted by an **M** in the left column. Expanded guidance and additional explanations are provided in the right column. Starred items (\*) shall be flown solely by reference to instruments

Subsection 3.7 (UPRT) relates to training only and should not be tested. Subsection 3.3 refers to engineer's panel and subsection 5.6 relates to aeroplane with more than two engines, which are currently not found in CS32 certified aeroplanes, neither are the systems referred to in 3.4.14 and 3.6.4. Accordingly, the respective subsections are not provided hereafter.

The following table provides the test content for the different possible crew concepts:

	SPO	MPO	SPO to MPO (initial)	MPO to SPO (initial)	MPO + SPO (initial)
Initial Issue	Sections 1-5	Sections 1-5	Refer to OSD	Refer to OSD	Only if foreseen in the OSD
Revalidation	Sections 1-5	Sections 1-5	n/a	n/a	Sections 1-5 in MPO, and additionally the sections 2.5, 3.8.3.4, 4.4, 5.5 and one item from section 3.4 shall be completed in SPO
Renewal					

Note: unless otherwise specified in the applicable OSD, a conversion course SPO to MPO, respectively MPO to SPO, could only take place after the initial training, including skill test, is completed either in SPO or MPO.



## Module 5.2 - HPA-COMPLEX(A)

**Section 1 - Flight Preparation**

<b>1.1</b>	<b>Performance calculation</b>	<ul style="list-style-type: none"><li>• exhibit adequate knowledge of performance and limitations, including a thorough knowledge of the adverse effects of exceeding any limitation</li><li>• demonstrate proficient use of (as appropriate to the aeroplane) performance charts, tables, graphs</li><li>• describe (as appropriate to the aeroplane) the airspeeds used during specific phases of flight</li><li>• describe the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph or other performance data</li><li>• demonstrate good planning and knowledge of procedures in applying operational factors affecting aeroplane performance</li></ul>
<b>1.2</b>	<b>Aeroplane external visual inspection; location of each item and purpose of inspection</b>	<ul style="list-style-type: none"><li>• check aeroplane serviceability record and technical log</li><li>• perform all elements of the aeroplane pre-flight inspections as detailed</li><li>• confirm that the aeroplane is in a serviceable and safe condition for flight</li><li>• check and complete all necessary documentation</li></ul>
<b>1.3</b>	<b>Cockpit inspection</b>	<ul style="list-style-type: none"><li>• checks and cockpit procedures are carried out in compliance with the authorised checklist for the aeroplane used in the test</li></ul>
<b>1.4</b> <b>M</b>	<b>Use of checklist prior to starting engines, starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies</b>	<ul style="list-style-type: none"><li>• exhibit adequate knowledge of the correct engine start procedures, starting under various atmospheric conditions, normal and abnormal starting limitations, and the proper action required in the event of a malfunction</li><li>• ensure the ground safety procedures are followed during the before-start, start, and after-start phases</li><li>• ensure the use of appropriate ground crew personnel during the start procedures</li><li>• perform all items of the start procedures by systematically following the approved briefing/checklist items for the before-start, start, and after-start phases</li><li>• demonstrate sound judgement and operating practices in those instances where specific instructions or briefing/checklist items are not published</li><li>• complete the appropriate briefing/checklist</li></ul>
<b>1.5</b>	<b>Taxiing in compliance with ATC instructions or instructions of examiner</b>	<ul style="list-style-type: none"><li>• exhibit adequate knowledge of safe taxi procedures, as appropriate to the aeroplane type</li><li>• demonstrate proficiency by maintaining correct and positive aeroplane control</li><li>• maintains proper spacing on other aeroplane, obstructions, and persons</li><li>• accomplish the applicable briefing/checklist items and performs recommended procedures</li><li>• comply with ATC instructions</li><li>• observe runway hold lines, localizer and glide slope critical areas, beacons, and other surface control markings and lighting</li><li>• maintains constant vigilance and aeroplane control during taxi operation</li></ul>





**Module 5.2 - HPA-COMPLEX(A)**

**1.6**  
**M**

**Before take-off checks**

- *exhibit adequate knowledge of the pre-takeoff checks*
- *divide attention properly inside and outside cockpit*
- *ensure that all systems are within their normal operating range prior to beginning, during the performance of, and at the completion of those checks required by the approved checklist*
- *complete the appropriate checklist*



## Module 5.2 - HPA-COMPLEX(A)

Section 2 - Take-offs		
2.1	Normal take-offs with different flap settings	<ul style="list-style-type: none"><li>• exhibit adequate knowledge of normal take-offs and climbs including airspeeds, configurations, and emergency/abnormal procedures</li><li>• align the aeroplane on the runway centreline while minimising runway loss</li><li>• use the correct take-off technique using the calculated speeds for decision, rotation/lift-off and initial climb</li><li>• ensure a safe climb and departure adjusting power and aeroplane configuration as appropriate</li><li>• complete the appropriate checklist</li></ul>
2.2*	Instrument take-off	<ul style="list-style-type: none"><li>• sets the applicable radios/flight instruments to the desired setting prior to initiating the takeoff</li><li>• transition smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions</li><li>• maintains the appropriate climb attitude.</li><li>• complies with the appropriate airspeeds and climb segment airspeeds</li><li>• maintains desired heading and desired airspeeds.</li><li>• complete the appropriate checklist</li></ul>
2.3	Crosswind take-off	<ul style="list-style-type: none"><li>• maintain directional control during take-off roll and lift-off</li><li>• use aileron control adequately and as per AFM recommendations, if any</li></ul>
2.4	Take-off at max take-off mass	<ul style="list-style-type: none"><li>• exhibit adequate knowledge and understanding of the issues and critical elements of take-off and climb at maximum take-off mass</li><li>• select an appropriate flaps setting to achieve the take-off and climb performance for the runway in use</li><li>• maximise utilisation of the available take-off length</li></ul>
2.5 Take-offs with simulated engine failure:		
2.5.1	Shortly after reaching V2	<ul style="list-style-type: none"><li>• maintain control of aeroplane by sole reference to instruments</li><li>• identify failed engine, complete checks and drills, establish safe climb speed in trim</li><li>• follow planned IMC escape route (OEI procedure), as briefed</li></ul>
2.5.2* M	Between V1 and V2 (FFS only)	<ul style="list-style-type: none"><li>• recognise the failure and continue the take-off</li><li>• maintain lateral control</li><li>• at Vr pitch for the correct attitude to reach V2 at 35 ft</li></ul>
2.6 M	Rejected take-off at a reasonable speed before reaching V1	<ul style="list-style-type: none"><li>• maintain lateral control</li><li>• swiftly take the necessary actions to stop safely within remaining runway, and inform ATC</li><li>• analyse situation and decide on follow-up actions</li></ul>



## Module 5.2 - HPA-COMPLEX(A)

Section 3 - Flight Manoeuvres and Procedures		
<b>3.1</b>	Manual flight with and without flight directors (no AP/AT)	
<b>3.1.1</b>	At different speeds, including slow flight, and altitudes	<ul style="list-style-type: none"><li>• demonstrate control of heading, altitude and airspeed in straight and level manual flight by reference to instruments</li><li>• demonstrate correct use of trim</li></ul>
<b>3.1.2</b>	Steep turns using 45° bank, 180° to 360° left and right	<ul style="list-style-type: none"><li>• establish and maintain throughout the turn the nominated altitude and speed</li><li>• establish and maintain a coordinated turn with the specified bank</li><li>• coordinate the recovery from turns to straight and level flight without loss/gain of height</li></ul>
<b>3.1.3</b>	Turns with and without spoilers	
<b>3.1.4</b>	Procedural instrument flying and manoeuvring including instrument departure and arrival, and visual approach	<ul style="list-style-type: none"><li>• select and identify appropriate radio and navigation aids as required</li><li>• demonstrate systematic interception procedure</li><li>• demonstrate systematic wind correction procedure</li><li>• follow SID, STAR 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>3.2</b>	Tuck under and Mach buffets (if applicable), and other specific flight characteristics of the aeroplane (e.g., Dutch Roll) (FFS only)	<ul style="list-style-type: none"><li>• The Candidate possesses adequate knowledge of the normal and abnormal procedures of the systems, subsystems, and devices relative to the aeroplane type (as may be determined by the examiner); knows immediate action items to accomplish, if appropriate, and proper briefing/checklist to accomplish or to call for, if appropriate.</li></ul>



## Module 5.2 - HPA-COMPLEX(A)

**3.4 Normal and abnormal operations of following systems  
(M 3 items minimum):**

<b>3.4.0</b>	Engine (if necessary propeller)	
<b>3.4.1</b>	Pressurisation and air conditioning	
<b>3.4.2</b>	Pitot/static system	
<b>3.4.3</b>	Fuel system	
<b>3.4.4</b>	Electrical system	<ul style="list-style-type: none"><li>• exhibit adequate knowledge of the emergency procedures relating to the particular aeroplane type.</li></ul>
<b>3.4.5</b>	Hydraulic system	<ul style="list-style-type: none"><li>• demonstrate the proper emergency procedures relating to the particular aeroplane type.</li></ul>
<b>3.4.6</b>	Flight control and trim-system	<ul style="list-style-type: none"><li>• demonstrate the proper procedure for any other emergency outlined in the appropriate approved AFM.</li></ul>
<b>3.4.7</b>	Anti-icing/de-icing system, glare shield heating	<ul style="list-style-type: none"><li>• complete the appropriate briefing/checklist.</li></ul>
<b>3.4.8</b> <b>M</b>	Autopilot/Flight director (SPO only)	<ul style="list-style-type: none"><li>• analyse emergency or abnormal situation and formulate appropriate plan</li></ul>
<b>3.4.9</b>	Stall warning or stall avoidance devices, and stability augmentation devices	<ul style="list-style-type: none"><li>• execute abnormal or emergency drills and checklists</li></ul>
<b>3.4.10</b>	GPWS, weather radar, radio altimeter, transponder	<ul style="list-style-type: none"><li>• plan and execute further actions to ensure safe recovery of aeroplane, passengers and crew</li></ul>
<b>3.4.11</b>	Radios, navigation equipment, instruments, FMS	<ul style="list-style-type: none"><li>• use check list to confirm actions when time permits</li></ul>
<b>3.4.12</b>	Landing gear and brake	<ul style="list-style-type: none"><li>• make suitable emergency R/T calls (given to Examiner but not transmitted)</li></ul>
<b>3.4.13</b>	Slat and flap system	<ul style="list-style-type: none"><li>• maintain control of aeroplane direction and speed following simulated engine failure</li><li>• priority setting and decision making</li></ul>



## Module 5.2 - HPA-COMPLEX(A)

3.6 Abnormal and emergency procedures (M 3 items minimum):		
3.6.1	Fire drills, including evacuation	<ul style="list-style-type: none"><li>• <i>proper application of published procedure</i></li><li>• <i>priority setting and decision making</i></li></ul>
3.6.2	Smoke control and removal	<ul style="list-style-type: none"><li>• <i>timely and proper usage of oxygen masks</i></li><li>• <i>proper application of published procedure</i></li><li>• <i>priority setting and decision making</i></li></ul>
3.6.3	Engine failures, shut-down and/or restart at a safe height	
3.6.5	Wind shear at take-off/landing (FFS only)	<ul style="list-style-type: none"><li>• <i>timely wind shear recognition and recovery action implementation</i></li><li>• <i>proper application of published procedure</i></li></ul>
3.6.6	Simulated cabin pressure failure/emergency descent	
3.6.7	Incapacitation of flight crew member	<ul style="list-style-type: none"><li>• <i>timely recognition of incapacitation</i></li><li>• <i>make best use of automation</i></li><li>• <i>consider post landing actions (e.g. seeking an ambulance to meet the aircraft)</i></li></ul>
3.6.8	Other emergency procedures as outlined in the appropriate AFM	
3.6.9	TCAS event (FFS only)	



## Module 5.2 - HPA-COMPLEX(A)

3.8 Instrument flight procedures		
3.8.1*	Adherence to departure and arrival routes and ATC instructions	<ul style="list-style-type: none"><li>• show correct interpretation of departure and arrival plates</li><li>• comply with speed and altitude constraints</li><li>• use correct altimeter setting procedures</li><li>• comply with AZC instructions and use correct phraseology</li></ul>
3.8.2*	Holding procedures	<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>
3.8.3 3D operations to DH/A of 200 ft or to higher minima if required by the approach procedure		
3.8.3.1* M	Manually, without flight director (Skill Test only)	<ul style="list-style-type: none"><li>• set and identify relevant navigation aids, respectively load and verify the applicable procedure</li><li>• confirm the availability and serviceability of selected navigation equipment, respectively GNSS/SBAS and approach activation</li></ul>
3.8.3.2*	Manually, with flight director	<ul style="list-style-type: none"><li>• comply with the published approach procedures</li><li>• establish the appropriate aeroplane configuration and airspeed for the different approach phases</li></ul>
3.8.3.3*	With autopilot	<ul style="list-style-type: none"><li>• crosscheck GS/GP intercept position and altimeter settings</li><li>• control the aeroplane to achieve a stable and trimmed final approach path with the defined configuration</li><li>• acquire visual references and continue to land or initiate missed approach by DA</li></ul>
3.8.3.4* M	Manually, with one engine simulated inoperative during final approach, either until touchdown or through the complete missed approach procedure	<ul style="list-style-type: none"><li>• demonstrate sound judgement and knowledge of the aeroplane manoeuvring capabilities in compliance with published approach procedures and approach timing</li><li>• perform all procedures required and maintains aeroplane control in a smooth, positive, and timely manner</li><li>• complete the appropriate briefing/checklist.</li><li>• Inform ATC and request appropriate RFFS</li></ul>
3.8.3.4* M	2D operations down to the MDH/A	<ul style="list-style-type: none"><li>• set and identify relevant navigation aids, respectively load and verify the applicable procedure</li><li>• confirm the availability and serviceability of selected navigation equipment, respectively GNSS/SBAS and approach activation</li><li>• comply with the published approach procedures, using a CDFA technique</li><li>• anticipate the final descent to be established on the nominated approach path at the defined speed and configuration</li><li>• monitor the approach profile and correct accordingly, never encroach the published minimum altitudes</li><li>• acquire visual references and continue to land or initiate missed approach by DA/MDA</li></ul>
3.8.5	Circling approach	
3.8.6	Visual approaches	



## Module 5.2 - HPA-COMPLEX(A)

**Section 4 - Missed Approach Procedures**

<b>4.1</b>	<b>Go-around with all engines operating during a 3D operation on reaching decision height</b>	<ul style="list-style-type: none"><li>• <i>correct go-around action initiated promptly to ensure minimum height loss consistent with aircraft type</i></li><li>• <i>reconfigure on schedule</i></li><li>• <i>follow missed approach procedure, respecting altitude constraints</i></li></ul>
<b>4.2</b>	<b>Go-around with all engines operating from various stages during an instrument approach</b>	<ul style="list-style-type: none"><li>• <i>apply appropriate power and control aeroplane attitude to initiate a safe climb out</i></li><li>• <i>reconfigure on schedule</i></li><li>• <i>follow missed approach procedure, respecting altitude constraints</i></li></ul>
<b>4.3</b>	<b>Other missed approach procedures</b>	
<b>4.4*</b> <b>M</b>	<b>Manual go-around with the critical engine simulated inoperative after an instrument approach on reaching DH, MDH or MAPt</b>	<ul style="list-style-type: none"><li>• <i>maintain aircraft control</i></li><li>• <i>establish the required pitch to achieve the calculated speed</i></li><li>• <i>reconfigure on schedule</i></li></ul>
<b>4.5</b>	<b>Rejected landing with all engines operating, from a height below DH/MDH or after touchdown</b>	<ul style="list-style-type: none"><li>• <i>execute a timely decision to discontinue the approach either when instructed or as considered necessary</i></li><li>• <i>apply appropriate power and control aeroplane attitude to initiate a safe climb maintaining balance and heading</i></li><li>• <i>adjust configuration and speed to achieve a positive climb at the appropriate climb out profile</i></li><li>• <i>complete all necessary checks and drills</i></li></ul>



## Module 5.2 - HPA-COMPLEX(A)

Section 5 - Landings		
5.1	Normal landings with visual reference established when reaching DA/H following an instrument approach operation	<ul style="list-style-type: none"><li>• <i>select and achieve the appropriate touchdown area at the calculated speed</i></li><li>• <i>adjust descent and flare to achieve a safe landing with little or no float with appropriate drift correction</i></li><li>• <i>maintain directional control after touchdown and apply brakes for a safe roll out</i></li></ul>
5.2	Landing with simulated jammed horizontal stabiliser in any out-of-trim position (FFS only)	
5.3	Crosswind landings	<ul style="list-style-type: none"><li>• <i>establish the recommended approach configuration, adjusting speed and rate of descent to maintain a stabilised approach</i></li><li>• <i>select and achieve the appropriate touchdown area at the calculated speed</i></li><li>• <i>adjust descent and flare to achieve a safe landing with little or no float with appropriate drift and crosswind correction</i></li><li>• <i>maintain directional control after touchdown and apply brakes for a safe roll out</i></li></ul>
5.4	Traffic pattern and landing without extended or with partly extended flaps and slats	<ul style="list-style-type: none"><li>• <i>consider landing distance required</i></li><li>• <i>establish and maintain normal approach path</i></li><li>• <i>stabilise the aeroplane at the calculated approach speed for the configuration</i></li><li>• <i>adjust descent and flare to achieve a safe landing with little or no float</i></li></ul>
5.5 M	Landing with critical engine simulated inoperative	<ul style="list-style-type: none"><li>• <i>directional control is maintained</i></li><li>• <i>brakes and other retardation devices are used appropriately to achieve a safe roll out and deceleration</i></li></ul>





## 7. Standard of Completion

To pass the TR test, the Candidate shall demonstrate the ability to:

- (a) operate the aeroplane 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 aeroplane 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 aeroplane used:

Height	
Generally,	± 100 ft
Starting a go-around at DA	+ 50 ft/- 0 ft
Minimum descent altitude	+ 50 ft/- 0 ft
Tracking	
On radio aids	±5°
For 'angular' deviation (e.g. ILS, LPV)	½ scale lateral and vertical
linear lateral deviation (e.g. LNAV)	½ RNP value of the procedure
linear vertical deviation (e.g. LNAV/baro VNAV)	< 75 ft below the vertical profile, and < 75 ft above the vertical profile when less than 1'000 ft AAL
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 requirement (a) and (f), completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. 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.

### Section 1 - Flight Preparation

planning and preparation of a safe and compliant flight, including the usage of TEM  
safe and compliant usage of the aircraft on the ground and during the transition to flight

#### Knowledge

- applicable regulations (rules of the air, operational, licensing)
- weather information interpretation and understanding
- Notams interpretation and understanding
- aircraft flight manual structure, relevant information usage
- aeronautical charts interpretation and usage
- radio communication procedures and standard phraseology
- taxi instruction/clearances, if applicable

#### Skill

- flight preparation information retrieval
- searching in official reference documents (e.g. AFM, AIP)
- standard SOP and checklist usage
- smooth aircraft handling
- communicate clearly and assertively
- obtain taxi instructions, acknowledge taxi clearances, and review taxi routes on the airport diagram.
- comply with ATC clearances, as appropriate
- coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi

#### Attitude

- looking for information and assess them critically
- safety-minded rather than mission-minded
- takes effective decisions
- assertive when in doubt
- aware of his limited experience and abilities
- failure to complete checklist(s)
- entering or crossing runways awareness
- maintain situational awareness



**Module 5.2 - HPA-COMPLEX(A)**

## Section 2 - Take-offs

safe and smooth aircraft operation throughout the ground to air transition, awareness of the aircraft limitations and the factors affecting take-off performance

<b>Knowledge</b>	<ul style="list-style-type: none"><li>• effects of atmospheric conditions, including wind, on takeoff and climb performance</li><li>• appropriate V-speeds for takeoff and climb</li><li>• appropriate aircraft configuration and power setting for takeoff and climb</li><li>• runway markings and lighting.</li><li>• recovery procedures from an unusual aircraft state</li></ul>
<b>Skill</b>	<ul style="list-style-type: none"><li>• coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to takeoff in a timely manner.</li><li>• verify the airplane is configured for takeoff.</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>• retract the landing gear and flaps in accordance with manufacturer or operator procedures and limitations, as appropriate</li><li>• smooth flight path changes, following the established SOP</li><li>• follow noise abatement procedures, as practicable.</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) 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><li>• improper aircraft configuration or settings</li><li>• distractions, loss of situational awareness, or improper task management</li><li>• failure to complete checklist(s)</li></ul>

**Module 5.2 - HPA-COMPLEX(A)****Section 3 - Abnormal and Emergency Procedures Elements**

recognising, assessing, and addressing emergencies or abnormal situations using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary

<b>Knowledge</b>	<ul style="list-style-type: none"><li>• emergency drills memory items</li><li>• understanding of all emergency and abnormal procedures</li><li>• standard phraseology for emergency and abnormal situation</li><li>• transponder codes for emergency or com-loss situations</li><li>• priority setting tools (e.g. DODAR, DECIDE, etc)</li><li>• engine failure emergency procedure</li><li>• difference between controllability and performance in OEI operations</li><li>• specific systems operation and limitations</li></ul>
<b>Skill</b>	<ul style="list-style-type: none"><li>• instrument scanning for advanced information of an impending issue</li><li>• timely execution of emergency drills memory items</li><li>• proper use of the applicable checklist</li><li>• ability to deal with a system failure according to the AFM</li><li>• situation assessment, decision and solution implementation</li></ul>
<b>Attitude</b>	<ul style="list-style-type: none"><li>• information gathering and problem solving</li><li>• timely, informed decision making and effective implementation</li><li>• set priorities (Fly, Navigate, Communicate, Manage)</li><li>• appropriate evaluation of the developing situation</li></ul>

**Section 3 - Instrument Flight Procedures Elements**

safe, structured and compliant IFR operation, including PBN operation, by sole reference to instruments; clear and timely communication with ATC; stable 2D and 3D approaches to DA and missed approach/landing

<b>Knowledge</b>	<ul style="list-style-type: none"><li>• instrument procedures, instrument chart reading, briefing structure and purpose</li><li>• radiotelephony requirements, procedures, and applicable standard phraseology</li><li>• onboard navigation and communication equipment use and limitation</li><li>• governing minima and conditions to start and continue an approach</li><li>• Part-NCC, particularly subparts OP, IDE and SPEC</li><li>• PBN operation</li></ul>
<b>Skill</b>	<ul style="list-style-type: none"><li>• flight preparation information retrieval and usage of official reference documents</li><li>• aeroplane control by sole reference to instruments, stabilised flight path in trim</li><li>• IFR charts reading (understanding and usage of information)</li><li>• proficient usage of onboard navigation and communication equipment</li><li>• adherence to instrument procedures</li><li>• applicable standard communication phraseology</li></ul>
<b>Attitude</b>	<ul style="list-style-type: none"><li>• continuously acquire information 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><li>• ready and willing to seek assistance as necessary (e.g. from ATC)</li><li>• importance of throughout preparation and knowledge of IFR procedures</li><li>• workload anticipation and management</li></ul>



Module 5.2 - HPA-COMPLEX(A)

### Section 4 - Missed Approach Procedures

timely decision and safe execution of a go-around while complying with the published, or cleared, missed approach procedure, during normal and OEI operation.

<b>Knowledge</b>	<ul style="list-style-type: none"><li>governing minima and conditions to start and continue, respectively discontinue an approach</li><li>go-around procedures and applicable SOPs</li><li>difference between controllability and performance in OEI operations</li><li>applicable standard communication phraseology</li></ul>
<b>Skill</b>	<ul style="list-style-type: none"><li>timely decision to abort the approach or landing</li><li>correct and systematic application of go-around drills</li><li>maintain aircraft control, and establish a stable flight path, during AEO and OEI operations</li><li>effective and correct AP/FD usage and mode changes monitoring</li><li>correct active navigation guidance selection</li><li>communicate clearly and assertively</li><li>adherence to missed approach procedure</li><li>comply with ATC clearance, as appropriate</li></ul>
<b>Attitude</b>	<ul style="list-style-type: none"><li>safety-minded rather than mission-minded</li><li>take adequate and decisive action</li><li>maintain situational awareness</li><li>set priorities (Fly, Navigate, Communicate, Manage)</li><li>anticipation and readiness for a missed approach</li><li>ready and willing to seek assistance as necessary (e.g. from ATC)</li></ul>

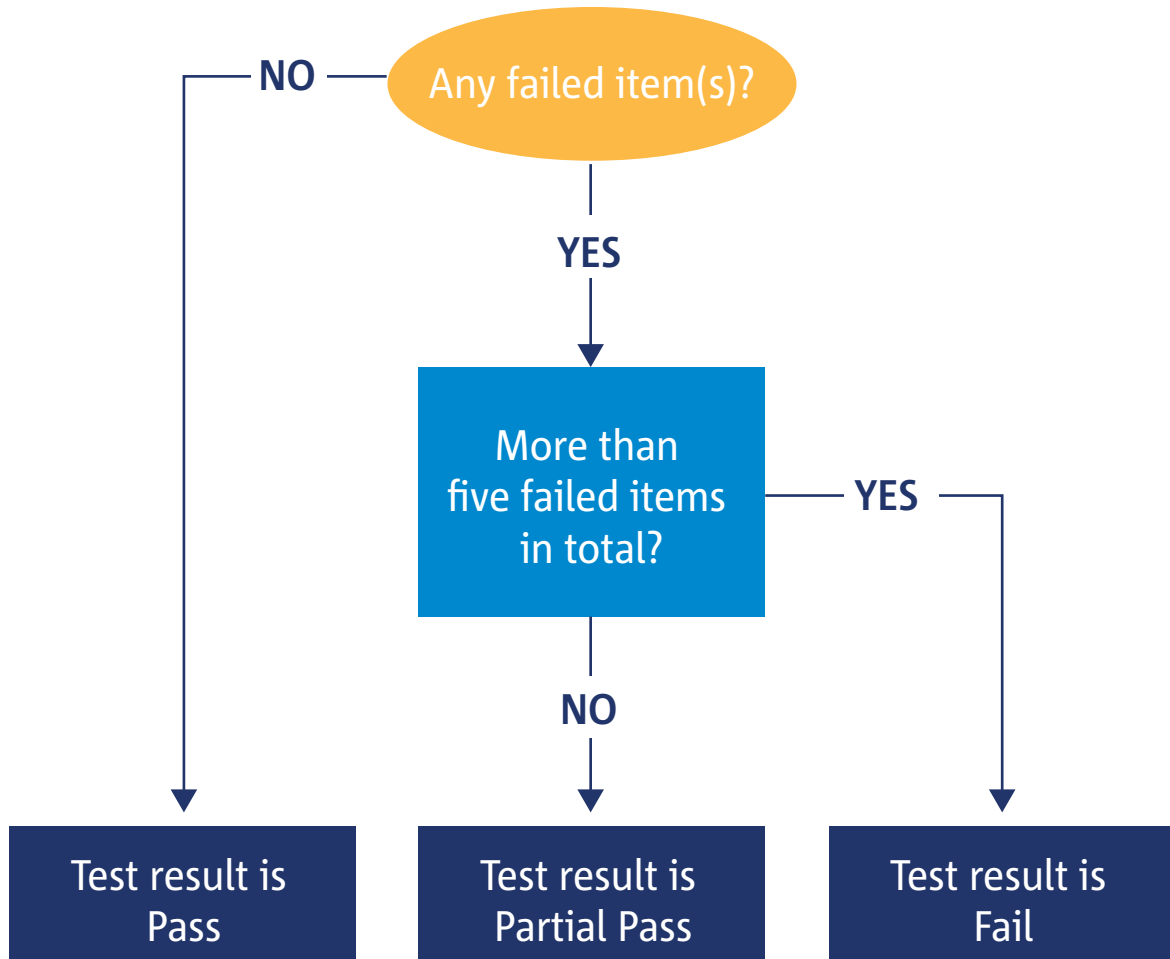
### Section 5 - Landings

stable approach leading to a safe landing in different configurations adapted to the situation

<b>Knowledge</b>	<ul style="list-style-type: none"><li>RWYCC and landing performance calculation</li><li>applicable landing techniques with different winds and configurations</li><li>multi-engine specific speeds</li><li>published or recommended exit route after landing</li></ul>
<b>Skill</b>	<ul style="list-style-type: none"><li>systematic configuration changes, operated within the applicable limitations</li><li>precise and stable approach path</li><li>positive touch down within the designated touch down zone, at the correct speed</li><li>effective and adequate deceleration and breaking</li></ul>
<b>Attitude</b>	<ul style="list-style-type: none"><li>appreciation for the performance limitation 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>anticipation and workload 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 requirements. 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.