สำนักงานการบินพลเรือนแห่งประเทศไทย
The Civil Aviation Authority of Thailand

Guidance for Flight Examiner CR TR SP(A) Except HPA Complex

CAAT-GM-PEL-CTSPA

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Approved by

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Director General of the Civil Aviation Authority of Thailand

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Foreword

CR/TR(A) Skill Test or Proficiency Check (except HPA-Complex)	V2024-1

General Applicable Framework

Flight rules:	VFR, VFR/IFR
Operational rules:	Part-NCO or NCC as relevant
Crew concept:	SPO, MPO, SPO/MPO
Equipment:	Aeroplane. A suitable FSTD could be used for The approuved sections.
Applicable type or class:	TMGS, SEP, MEP, SET, MET except complex HPA
Required examiner certificate:	FE(A) or CRE(A), with IR examination privileges, if relevant

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0. Introduction

The privileges of the CR/TR holder are to act as PIC on the class or type of aeroplane specified in the rating, within the privileges of the relevant aeroplane pilot license held.

0.1 Background

This version is issued by The Civil Aviation Authority of Thailand (CAAT) in order to provide its stakeholders with an updated and easy-to-read publication. It has been prepared by putting together the officially published regulations with the related acceptable means of compliance and guidance material (including the amendments) adopted so far.

0.2 Purpose

This guidance provides guidelines and recommendations for CR/TR/SP(A) Except HPA Complex assessment of competence.

0.3 Applicability

Flight Examiner CR/TR/SP(A)

0.4 Effective date

This document is shall become effective from 13 May 2024 onwards.

0.5 Reference

I. TCAR PEL Part FCL [1]

[1] TCAR PEL Part FCL shall become effective in 2024

1. 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 skill test, respectively proficiency check. Section 3A shall be completed to revalidate a type or multi-engine class rating, VFR only, where the required experience of 10 route sectors within the previous 12 months has not been completed; however, Section 3A does not replace the route sector with examiner required under the applicable regulation. Section 3A is not required if Section 3B is completed. If the test or check includes IR revalidation or renewal, at least one of the approaches shall be PBN.

When the skill test or proficiency check is conducted in an aeroplane, the Examiner may occupy either a control seat or a suitable observer seat (jump seat or back seat). Where the examiner occupies a control seat the examiner should be nominated as PIC. Where the examiner occupies a jump seat or back seat, a suitably qualified instructor should occupy a control seat and should be nominated as PIC. 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/DTO 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;
- CAAT Medical Class relevant to the privilege sought
- Radiotelephony privileges and language proficiency requirements;
- CAAT logbook, showing the relevant minimum experience and flight instruction;
- Relevant CR/TR(A) skill test form filled, endorsed by the ATO if applicable;
- Aircraft documents or FSTD as applicable;
- Current navigation charts, and database if applicable;
- Insurance of aircraft covering check flights;
- Specific equipment for the flight part (e.g. sight-limiting device).

<u>Additionally, for a skill test:</u>

- TR/CR course completion certificate from the ATO;
- For a first CR/TR for Single-pilot high performance non-complex aeroplanes, the applicant must; demonstrate minimum experience requirements and hold HPA course completion certificate or equivalent.
- For Single-pilot aeroplane in multipilot operations the applicant must hold:
  - Advanced UPRT course completion certificate
  - MCC course certificate or demonstrate experience as required by FCL.720.A(b)(4).

<u>For a revalidation proficiency check:</u>

- for types and multi-engine class, 10 route sectors (as defined in FCL.010) within the previous 12 months, or

- a route sector flown with an examiner (this sector could be flown before, after, or during the proficiency check)
- this requirement does not apply when the proficiency check is combined with a CAT OPC

Additionally, for a renewal proficiency check:

- CR/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.

Case of conversion of pilot licence issued by the CAAT in accordance with the regulations in force before the entry into force of TCAR PEL FCL/TO:

Before proceeding with the proficiency check for conversion, the examiner must have received from the CAAT a copy of the "application form for licence conversion to TCAR PEL-Part FCL licence" to check if additional demonstrations are required during the LPC for conversion e.g.:

- demonstration of PBN privileges

- demonstration of knowledge of performance and planning

In this case the candidates must make available the relevant documents to the Examiner

Examiner must assess results in the relevant boxes of 04 Formexa

2. Examiner Briefing

- Freedom for the Candidate to ask questions
- Purpose and aim of the test/check
- Applicable regulations (e.g. Rules of the Air, Part-NCO, Part NCC if relevant, CAAT requirements, ATO operational requirements, or test requirements)
- Examiner or instructor (if examiner on back seat) has PIC responsibility; the Candidate acts autonomously as if he was the PIC
- Handling of radiocommunications during specific parts of the test
- Use of the sight-limiting device
- Use of automation and flight-director
- Examiner or instructor (if examiner on back seat) role-play in normal operations and simulated emergencies
- Engine failure-simulation (refer to ATO safety manual or CAAT instructions for minimum safety height, handling of engine-controls). Actual engine shut-down and restart on ME aeroplane if applicable.
- 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 chapter, 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; selection of take-off rejection point
- Landing performance; selection of touchdown point and acceptable tolerances for the different types of landings
- Crosswind take-off and landing; expectation on handling and precision
- Navigation accuracy
- 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.

For this purpose, Candidate must make available to the Examiner the Operations Manual and safety manual of the organisation (ATO, AOC…)

3. 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)
- Aircraft status and documents, including maintenance release
- Weather situation and forecast
- NOTAMs, including relevant local military restrictions, as applicable
- GNSS constellation status if applicable
- Operational navigation flight plan
- Fuel planning
- Mass and balance calculation
- Performance calculation
- IMC escape route (OEI procedure), if applicable
- ATC flight plan
- Safety equipements
- Threat and Error Management aspects

4. 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 (TCAR-PEL-Part FCL, TCAR-OPS, any other applicable regulations)
- Licensing (e.g. CR/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
- Navigation charts
- Emergency procedures

During LPC for conversion, this part of examination can include demonstration of knowledge of performance and planning

5. Skill Test and Proficiency Check Items

The use of checklist, airmanship, anti-icing/de-icing procedures, etc., apply in all sections. Section 3B and, for multi-engine, Section 6, shall be flown by sole reference to instruments if the revalidation, respectively renewal, of an IR is included in the test/check. Section 5 may be combined with sections 1 to 4; section 6, if applicable, may be combined with sections 1 to 5.

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.

Section 7 (UPRT) relates to training only and shall not be tested. Accordingly, section 7 is not provided hereafter. The following table provides the test content for the different possible crew concepts. **Multi-pilot operation must be required by TCAR OPS and described in Operations manual**.

	(1)		(2)		(3)		(4)		(5)	
	Type of operation									
Type of aircraft	**SP**		**MP**		**SP → MP (initial)**		**MP → SP (initial)**		**SP + MP**	
	Training	***Testing/ checking***	***Training***	***Testing/ checking***	***Training***	***Testing/ checking***	***Training, testing and checking (SE aeroplanes)***	***Training, testing and checking (ME aeroplanes***	***SE aeroplanes***	***ME aeroplanes***
Initial issue										
All (except SP complex)	Sections 1-6	Sections 1-6	MCC CRM Human factors TEM Sections 1-7	Sections 1-6	MCC CRM Human factors TEM Section 7	Sections 1-6	1.6, 4.5, 4.6, 5.2 and, if applicable, one approach from Section 3.B	1.6, Section 6 and, if applicable, one approach from Section 3.B		
SP complex	1-7	1-6								
Revalidation										
All	n/a	Sections 1-6	n/a	Sections 1-6	n/a	n/a	n/a	n/a	MPO: Sections 1-7 (training) Section 1-6 (checking) SPO: 1.6, 4.5, 4.6, 5.2 and, if applicable, one approach	MPO: Sections 1-7 (training) Sections 1-6 (checking) SPO: 1.6, Section 6 and, if applicable, one
									from Section 3.B	approach from Section 3.B
Renewal										
All	FCL.740	Sections 1-6	FCL.740	Sections 1-6	n/a	n/a	n/a	n/a	Training: FCL.740 Check: as for the revalidation	Training: FCL.740 Check: as for the revalidation

TRAINING AND REPORT FORM SKILL TEST AND PROFICIENCY CHECK TMGS AND SINGLE-PILOT AEROPLANES EXCEPT FOR HIGH PERFORMANCE COMPLEX is referenced PEL-EX-FM-002

Section 1 - Departure		
1	**Pre-flight, including documentation, mass and balance, weather briefing, NOTAMs**	• *check that all documents required for the flight are carried and correct* • *obtain and assess all elements of the prevailing and forecast weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate flight navigation log, chart and flight plan* • *determine that the aeroplane is correctly fuelled for the flight* • *complete mass and balance schedule and establish performance criteria*
2 M	**Pre-start checks: external and internal**	• *check aeroplane serviceability record and technical log* • *perform all elements of the aeroplane pre-flight inspections as detailed* • *confirm that the aeroplane is in a serviceable and safe condition forflight* • *check and complete all necessary documentation* • *complete an appropriate passenger emergency procedure briefing*
3 M	**Engine starting: normal, malfunctions**	• *complete engine starting and after starting procedures as per the applicable checklist* • *execute abnormal engine start procedures and analyse situation*
4 M	**Taxiing**	• *complete all recommended taxiing checks and procedures* • *comply with airport markings and signals* • *maintain adequate spacing from other aircraft and obstacles*
5 M	**Pre-departure checks: engine run-up (if applicable)**	• *ensure all systems are operating normally, respectively comply withMEL provisions, if applicable* • *complete all departure checks and drills including engine operation* • *ensure the aeroplane is correctly configured for departure* • *obtain ATC departure clearance*

6 M	**Take-off procedure: normal with flight manual flaps setting, and crosswind (if conditions are available)**	• *confirm any aeroplane performance criteria including crosswind condition* • *position the aeroplane correctly for take-off and advance thepower-lever/s to take off power with appropriate checks* • *use the correct take-off technique using the recommended speeds for rotation/lift-off and initial climb* • *ensure a safe climb and departure adjusting power and aeroplane configuration as appropriate* • *complete all necessary after take-off checks*
7 M	**Climbing: Vx/Vy, turns onto headings,level off**	• *achieve target speeds and headings* • *comply with ATC instructions* • *use correct and effective lookout techniques* • *complete all necessary climb checks* *maintain the aeroplane in trim*
8 M	**ATC liaisons compliance and R/T procedures**	• *demonstrate standard R/T procedures and phraseology* *demonstrate compliance with ATC instructions*

Section 2 - Airwork (VMC)

1	Straight and level flight at various airspeeds including flight at critically low airspeeds with and without flaps (including approach to Vmca when applicable)	• *demonstrate control of heading, altitude and airspeed in straight andlevel flight by visual attitudes while maintaining a correct lookout technique* • *demonstrate correct technique for visual flight manoeuvring within thespecified limits* • *maintain balance and trim* • *demonstrate an understanding of Vmca and control recovery procedure*
2 M	Steep turns (360° left and right at 45° bank)	• *demonstrate the correct lookout technique before, during and after turns* • *establish and maintain throughout the turn the nominated altitude andspeed* • *establish and maintain a coordinated turn with the specified bank* • *coordinate the recovery from turns to straight and level flight as directedby the Examiner without loss/gain of height*
3 M	At list one of the following: Stalls and recovery: i. clean stall ii. approach to stall in descending turn with approach configuration and power iii. approach to stall in landing configuration and power iv. approach to stall in climbing turn with take-off flaps and climb power (single-engine aeroplanes only)	• *consider safety checks before the manoeuvres where necessary* • *establish the stall entry as appropriate from straight or turning flightand select the required aeroplane configuration* • *recognise the symptoms of incipient and full stalls* • *recover systematically by reducing the AoA and then re-establishinga safe and stable flight path* • *complete all necessary checks and drills* • *maintain lookout throughout*
4 M	Handling using autopilot and flight director (may be conducted in Section 3), if applicable	• *complete correctly the necessary AP/FD pre-flight checks* • *know the AP/FD limitations* • *demonstrate correct operating procedures of AP/FD in all applicablemodes*

5 M	**ATC liaison compliance and R/T procedures**	*during this section the Examiner or the safety pilot will be responsible for most of the ATC liaison and R/T procedures but this does not absolve the applicant from taking responsibility for the management of his aeroplane and for collisionavoidance*

Section 3A - En-route Procedures VFR		
1	**Flight plan, dead reckoning, and map reading**	• *navigate by means of calculated headings, ground speed and time* • *identify position visually by reference to ground features and map*
2	**Maintenance of altitude, heading and speed**	• *control aeroplane using visual attitude flying techniques* • *maintain the heading, altitude and speed as computed in navigationlog* • *maintain systematic lookout*
3	**Orientation, timing and revision of ETAs**	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *make appropriate adjustment to maintain, regain or correct back totrack* • *overfly fixes within 3 minutes of ETA*
4	**Use of radio navigation aids (if applicable)**	• *select and identify appropriate radio and navigation aids as requiredor nominated by Examiner* • *intercept and maintain given tracks or radials using the navigationaids nominated*
5	**Flight management (flight log, routine checks including fuel, systems and icing)**	• *maintain a navigation log to monitor flight progress and fuel situation* • *set engine power for cruise or endurance performance in accordancewith AFM* • *set and cross check altimeters to local QNH or standard pressuresetting, as appropriate* • *complete all necessary checks and drills*
6	**ATC liaison compliance and R/T procedures**	• *maintain two way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate* • *comply with ATC clearances and instructions when required*

Section 3B - Instrument Flight

1* **M**	**Departure IFR**	• *establish the climb, complete a smooth transition to instrument flightand complete after take-off checks and drills* • *follow the cleared SID or ATC departure instructions* • *maintain aeroplane control, speed, heading, level and balance* • *apply appropriate drift corrections to maintain assigned departuretrack* • *identify any navigation aids used* • *complete all necessary climb checks including altimeter setting procedures and ice precautions*
2* **M**	**En route IFR**	• *follow the flight-planned route, or cleared ATC route, within theoperating limits specified* • *identify and use navigation systems correctly* • *use the correct altimeter setting procedures, show awareness of minimum altitudes and temperature effects* • *maintain a flight log for navigation, monitor flight progress and fuel situation* • *monitor OAT and the aeroplane surfaces for ice, and take the appropriate actions if necessary*
3* **M**	**Holding procedures**	• *use correct holding entry* • *make the necessary wind and time corrections* • *comply with applicable speed restrictions*
4* **M**	**3D operations to DA (autopilot may be used to GS/GP intercept)**	• *complete the checks and drills for landing and configure the aircraftcorrectly* • *set and identify relevant navigation aids, respectively load and verifythe applicable procedure* • *confirm the availability and serviceability of selected navigation equipment, respectively GNSS/SBAS and approach activation* • *comply with the published arrival and approach procedures* • *establish the appropriate aeroplane configuration and airspeed for thedifferent approach phases* • *crosscheck GS/GP intercept position and altimeter settings* • *establish the final approach and maintain the approach path in horizontal and vertical profile to DA* • *control the aeroplane to achieve a stable and trimmed final approachpath with the defined configuration* • *acquire visual references and continue to land or initiate missed approach by DA* • *if going around, establish aeroplane in a safe climb and reconfigure accordingly* • *follow assigned missed approach procedure*

5* M	**2D operations to DA/MDA (normally CDFA technique is to be used)**	• *complete the checks and drills for landing and configure the aircraftcorrectly* • *set and identify relevant navigation aids, respectively load and verifythe applicable procedure* • *confirm the availability and serviceability of selected navigation equipment, respectively GNSS/SBAS and approach activation* • *comply with the published arrival and approach procedures* • *establish the appropriate aeroplane configuration and airspeed for thedifferent approach phases* • *establish the final approach segment and maintain the approach trackand vertical profile; achieve steady and stable rates of descent and adhere to the published distance/altitude profile* • *control the aeroplane to achieve a stable and trimmed final approachpath with the defined configuration* • *acquire visual references and continue to land or initiate missed approach by DA/MDA* • *if going around, establish aeroplane in a safe climb and reconfigure accordingly* • *follow assigned missed approach procedure*
6* M	**Flight exercises including simulated failure of the compass and attitude indicator: rate one turns, and recoveries from unusual attitudes**	• *recognise failure promptly* • *control the aeroplane by sole reference to partial or limited instruments* • *controlled straight and level flight and turns flown at rate one onto nominated headings, using the correct technique and demonstratingcorrect instrument scan and interpretation* • *recover systematically from unusual attitudes and then re-establishinga safe and stable flight path*
7*	**Failure of localiser or glideslope**	• *recognise failure promptly* • *re-brief for a degraded approach and continue accordingly, or conducta missed approach*
8* M	**ATC liaison compliance and R/T procedures**	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

(*) shall be flown solely by reference to instruments if revalidation/renewal of an IR is included in the skill test or proficiency check. If the starred (*) items are not flown solely by reference to instruments during the skill test or proficiency check, and when there is no crediting of IR privileges, the class or type rating will be restricted to VFR only.

Section 4 - Arrivals and landings

1 M	**Aerodrome arrival procedure**	• *set altimeters and cross check as required* • *comply with published arrival procedure or clearance* • *maintain adequate lookout and collision avoidance* • *adjust circuit pattern and speed to maintain spacing with other traffic*
2 M	**Normal landing**	• *consider weather and wind conditions, landing surface and obstructions* • *establish the recommended approach configuration, adjusting speed andrate of descent to maintain a stabilised approach* • *select and achieve the appropriate touchdown area at the calculatedspeed* • *adjust descent and flare to achieve a safe landing with little or no floatwith appropriate drift correction* • *maintain directional control after touchdown and apply brakes for a saferoll out*
3 M	**Flapless landing**	• *consider the increased landing distance required* • *establish and maintain normal approach path* • *stabilise the aeroplane at the calculated approach speed for the configuration* • *adjust descent and flare to achieve a safe landing with little or no floatwith appropriate drift correction* • *maintain directional control after touchdown and apply brakes for a saferoll out*
4	**Crosswind landing (if suitable conditions)**	• *consider approach speed increment* • *adjust descent and flare to achieve a safe landing with little or no floatwith appropriate drift and crosswind correction* • *utilises appropriate technique to minimise drift and undercarriage loadupon landing* • *maintain directional control after touchdown and apply brakes for a saferoll out*
5	**Approach and landing with idle power from up to 2,000 ft AAL (single-engine aeroplane only)**	• *promptly establish best glide speed* • *visualise flight path to touch down and adjust trajectory and configuration accordingly* • *conduct go around if the landing will not take place inside the touchdown zone*
6 M	**Go-around from minimum height**	• *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *apply appropriate power and control aeroplane attitude to initiate a safeclimb maintaining balance and heading* • *adjust configuration and speed to achieve a positive climb at VY or VXas appropriate* • *maintain take off power until a safe manoeuvring altitude is reached andthen adjust to a normal climb configuration and speed* • *complete all necessary checks and drills*

7	**Night go-around and landing (if applicable)**	
8 **M**	**ATC liaison compliance and R/T procedures**	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions* • *maintain awareness of other traffic through R/T and lookout*

Section 5 - Abnormal and Emergency Procedures

((This section may be combined with Sections 1 through 4.)

1 M	**Rejected take-off at a reasonable speed**	• *recognise need to discontinue take-off* • *swiftly take the necessary actions to stop safety within remainingrunway, and inform ATC* • *analyse situation and decide on follow-up actions*
2 M	**Simulated engine failure after take-off (single-engine aeroplanes only)**	• *establish safe flight speed without delay* • *execute emergency drills (touch drills) without error* • *time permitting, investigate possible cause of engine failure/fire and takecorrective action* • *plan and execute further actions to ensure safe recovery of aeroplane, passengers and crew*
3 M	**Simulated forced landing without power** **(single-engine aeroplanes only)**	• *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such thata safe landing would be likely* • *prepare for evacuation and brief passengers*
4	**Simulated emergencies:** **i) fire or smoke in flight; and** **ii) systems' malfunction as appropriate**	• *identify and analyse situation, and formulate appropriate plan* • *execute emergency drills, if any* • *execute emergency or abnormal checklist* • *plan and execute further actions to ensure safe recovery of aeroplane, passengers and crew* • *make appropriate emergency R/T calls (simulated)*
5	**ME aeroplanes and TMG training only: Engine shut down and restart (At a safe altitude if performed in the aircraft)**	• *control aircraft in heading, altitude, speed and balance during full engine shut down at safe altitudes, carry out appropriate drills andchecklist* • *control aircraft heading, height and speed during re-start drills accordingto check list and re-establish aircraft to symmetric cruising flight*
6	**ATC liaison compliance and R/T procedures**	• *inform ATC and maintain two way R/T communication using correct phraseology* • *request assistance if necessary*

Section 6 – Simulated Asymmetric Flight (This section may be combined with Sections 1 through 5.)		
1* M	**Simulated engine failure during take-off (at a safe altitude unless carried out in an FFS or an FNPTII)**	• *maintain control of aeroplane direction and speed following simulatedengine failure* • *identify failed engine* • *complete checks and drills* • *establish safe climb at V_{YSE} in trim*
2* M	**Asymmetric approach and go-around**	• *fly a visual circuit, respectively instrument approach, with asymmetricpower to establish a final approach* • *maintain a stable (trimmed) approach in the correct configuration* • *make a clear decision to land/go-around at or before appropriate asymmetric committal altitude/height (ACH)* • *at ACH or when instructed, carry out a go-around to establish a safeclimb in the recommended configuration at V_{YSE}*
3* M	**Asymmetric approach and full stop landing**	• *fly a visual circuit, respectively instrument approach, with asymmetricpower to establish a final approach* • *maintain a stable (trimmed) approach in the correct configuration* • *make a clear decision to land at or before ACH* • *execute a safe landing at the recommended speed/configuration in the appropriate landing area*
4* M	**ATC liaison compliance and R/T procedures**	• *inform ATC of abnormal flight condition and any assistance required* • *comply with ATC procedures and instructions; assertiveness*

(*) shall be flown solely by reference to instruments if revalidation/renewal of an IR is included in the skill test or proficiency check. If the starred (*) items are not flown solely by reference to instruments during the skill test or proficiency check, and when there is no crediting of IR privileges, the class or type rating will be restricted to VFR only.

6. Standard of Completion

Extract of appendix 9 of TCAR-PEL part FCL

A. General

1. Applicants for a skill test shall have received instruction in the same class or type of aircraft to be used in the test.

The training for MPA and PL type ratings shall be conducted in an FFS or in a combination of FSTD(s) and FFS. The skill test or proficiency check for MPA and PL type ratings and the issue of an ATPL and an MPL, shall be conducted in an FFS, if available.

The training, skill test or proficiency check for class or type ratings for SPA and helicopters shall be conducted in:

(a) an available and accessible FFS, or

(b) a combination of FSTD(s) and the aircraft if an FFS is not available or accessible; or

(c) the aircraft if no FSTD is available or accessible.

If FSTDs are used during training, testing or checking, the suitability of the FSTDs used shall be verified against the applicable ‘Table of functions and subjective tests’ and the applicable ‘Table of FSTD validation tests’ contained in the primary reference document applicable for the device used. All restrictions and limitations indicated on the device's qualification certificate shall be considered.

2. Failure to achieve a pass in all sections of the test in two attempts will require further training.
3. There is no limit to the number of skill tests that may be attempted.

CONTENT OF THE TRAINING/SKILL TEST/PROFICIENCY CHECK

4. Unless otherwise determined in the operational suitability data established in accordance with EASA Part 21 or any equivalent material established in accordance with Type certification regulations acceptable to CAAT, the syllabus of flight instruction, the skill test and the proficiency check shall comply with this Appendix. The syllabus, skill test and proficiency check may be reduced to give credit for previous experience on similar aircraft types, as determined in the operational suitability data established in accordance with EASA Part 21 or any equivalent material established in accordance with Type certification regulations acceptable to the CAAT.
5. Except in the case of skill tests for the issue of an ATPL, when so defined in the operational suitability data established in accordance with EASA Part 21 or any equivalent material established in accordance with Type certification regulations acceptable to the CAAT, for the specific aircraft, credit may be given for skill test items common to other types or variants where the pilot is qualified.

CONDUCT OF THE TEST/CHECK

6. The examiner may choose between different skill test or proficiency check scenarios containing simulated relevant operations approved by the CAAT. Full-flight simulators and other training devices shall be used, as established in this regulation.

7. During the proficiency check, the examiner shall verify that holders of the class or type rating maintain an adequate level of theoretical knowledge.
8. Should applicants choose to terminate a skill test for reasons considered inadequate by the examiner, they shall retake the entire skill test. If the test is terminated for reasons considered adequate by the examiner, only those sections not completed shall be tested in a further flight.

9. At the discretion of the examiner, any manoeuvre or procedure of the test may be repeated once by the applicants. The examiner may stop the test at any stage if it is considered that the applicants' demonstration of flying skill requires a complete retest.
10. Applicants shall be required to fly the aircraft from a position where the PIC or co-pilot functions, as relevant, can be performed. Under single-pilot conditions, the test shall be performed as if there was no other crew member present.
11. During preflight preparation for the test, applicants are required to determine power settings and speeds. Applicants shall indicate to the examiner the checks and duties carried out, including the identification of radio facilities. Checks shall be completed in accordance with the checklist for the aircraft on which the test is being taken and, if applicable, with the MCC concept.
Performance data for take-off, approach and landing shall be calculated by applicants in compliance with the operations manual or flight manual for the aircraft used. Decision heights/altitudes, minimum descent heights/altitudes and missed approach point shall be agreed upon with the examiner.
12. The examiner shall take no part in the operation of the aircraft except where intervention is necessary in the interests of safety or to avoid unacceptable delay to other traffic.

SPECIFIC REQUIREMENTS FOR THE SKILL TEST/PROFICIENCY CHECK FOR TYPE RATINGS FOR MULTI-PILOT AIRCRAFT, FOR SINGLE-PILOT AIRCRAFT WHEN OPERATED IN MULTI-PILOT OPERATIONS, FOR MPL AND FOR ATPL

13. The skill test for a multi-pilot aircraft or a single-pilot aircraft when operated in multi-pilot operations shall be performed in a multi-crew environment. Another applicant or another type rated qualified pilot may function as the second pilot. If an aircraft is used, the second pilot shall be the examiner or an instructor.
14. Applicants shall operate as PF during all sections of the skill test, except for abnormal and emergency procedures, which may be conducted as PF or PM in accordance with MCC. Applicants for the initial issue of a multi-pilot aircraft type rating or ATPL shall also demonstrate the ability to act as PM. Applicants may choose either the left-hand or the right-hand seat for the skill test if all items can be executed from the selected seat.
15. The following matters shall be specifically checked by the examiner for applicants for the ATPL or a type rating for multi-pilot aircraft or for multi-pilot operations in a single-pilot aircraft extending to the duties of a PIC, irrespective of whether the applicants act as PF or PM:

    (a) managing crew cooperation;

    (b) maintaining a general survey of the aircraft operation by appropriate supervision; and

    (c) setting priorities and making decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation, including emergencies.

16. The test or check should be accomplished under IFR, if the IR rating is included, and as far as possible be accomplished in a simulated commercial air transport environment. An essential element to be checked is the ability to plan and conduct the flight from routine briefing material.
17. When the type rating course has included less than 2 hours of flight training in the aircraft, the skill test may be conducted in an FFS and may be completed before the flight training in the aircraft.

The approved flight training shall be performed by a qualified instructor under the responsibility of:

(a) an ATO; or

(b) an organisation holding an AOC and specifically approved for such training; or

(c) the instructor, in cases where no aircraft flight training for SP aircraft at an ATO or AOC holder is approved, and the aircraft flight training was approved by the CAAT.

A certificate of completion of the type rating course including the flight training in the aircraft shall be forwarded to the competent authority before the new type rating is entered in the applicants' licence.

18. For the upset recovery training, ‘stall event’ means either an approach-to-stall or a stall. An FFS can be used by the ATO to either train recovery from a stall or demonstrate the type-specific characteristics of a stall, or both, provided that:

(a) the FFS has been qualified in accordance with the special evaluation requirements in CS-FSTD(A); and

(b) the ATO has successfully demonstrated to the competent authority that any negative transfer of training is mitigated.

B. Specific requirements for the aeroplane category

PASS MARKS

1. In the case of single-pilot aeroplanes, with the exception of single-pilot high-performance complex aeroplanes, applicants shall pass all sections of the skill test or proficiency check. Failure in any item of a section will cause applicants to fail the entire section. If they fail only one section, they shall repeat only that section. Failure in more than one section will require applicants to repeat the entire test or check. Failure in any section in the case of a retest or recheck, including those sections that have been passed on a previous attempt, will require applicants to repeat the entire test or check again. For single-pilot multi-engine aeroplanes, Section 6 of the relevant test or check, addressing asymmetric flight, shall be passed.

2. In the case of multi-pilot and single-pilot high-performance complex aeroplanes, applicants shall pass all sections of the skill test or proficiency check. Failure in more than five items will require applicants to take the entire test or check again. Applicants failing 5 or fewer items shall take the failed items again. Failure in any item on the retest or recheck, including those items that have been passed on a previous attempt, will require applicants to repeat the entire check or test again.

FLIGHT TEST TOLERANCE

3. Applicants shall demonstrate the ability to:

(a) operate the aeroplane within its limitations;

(b) complete all manoeuvres with smoothness and accuracy;

(c) exercise good judgement and airmanship;

(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 in doubt;

(f) understand and apply crew coordination and incapacitation procedures, if applicable; and

(g) communicate effectively with the other crew members, if applicable.

4. The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the aeroplane used:

Height

Generally	± 100 ft
Starting a go-around at decision height/altitude	+ 50 ft/– 0 ft
Minimum descent height/MAPt/altitude	+ 50 ft/– 0 ft

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 one time the RNP value are allowable
3D linear vertical deviations (e.g. RNP APCH LNAV/VNAV) using BaroVNAV)	not more than – 75 ft below the vertical profile at any time, and not more than + 75 ft above the vertical profile at or below 1.000 ft above aerodrome level

Heading

all engine operating	± 5°
with simulated engine failure	± 10°

Speed

all engine operating	± 5 knots
with simulated engine failure	+ 10 knots/– 5 knots

CONTENT OF THE TRAINING/SKILL TEST/PROFIENCY CHECK

5. Single-pilot aeroplanes, except for high performance complex aeroplanes:

(a) The following symbols mean:

P = Trained as PIC or co-pilot and as PF and PM

OTD = Other training devices may be used for this exercise.

X = An FFS shall be used for this exercise; otherwise an aeroplane shall be used if appropriate for the manoeuvre or procedure.

P# = The training shall be complemented by supervised aeroplane inspection.

(b) The practical training shall be conducted at least at the training equipment level shown as (P), or may be conducted on any higher equipment level shown by the arrow (→)

The following abbreviations are used to indicate the training equipment used:

A = Aeroplane

FFS = Full Flight Simulator

FSTD = Flight Simulator Training Device

(c) The starred (*) items of section 3B and, for multi-engine, section 6, shall be flown solely by reference to instruments if revalidation/renewal of an IR is included in the skill test or proficiency check. If the starred (*) items are not flown solely by reference to instruments during the skill test or proficiency check, and when there is no crediting of IR privileges, the class or type rating will be restricted to VFR only.

(d) Section 3A shall be completed to revalidate a type or multi-engine class rating, VFR only, where the required experience of 10 route sectors within the previous 12 months has not been completed. Section 3A is not required if section 3B is completed.

(e) Where the letter 'M' appears in the skill test or proficiency check column this will indicate the mandatory exercise or a choice where more than one exercise appears.

(f) An FSTD shall be used for practical training for type or ME class ratings if they form part of an approved class or type rating course. The following considerations will apply to the approval of the course:

i) the qualification of the FSTD as set out in the relevant requirements of TCAR-PEL part ORA and in CAAT procedure;

ii) the qualifications of the instructors;

iii) the amount of FSTD training provided on the course; and

iv) the qualifications and previous experience on similar types of the pilot under training.

(g) If privileges for multi-pilot operation are sought for the first time, pilots holding privileges for single-pilot operations shall:

(1) complete a bridge course containing manoeuvres and procedures including MCC as well as the exercises of Section 7 using threat and error management (TEM), CRM and human factors at an ATO; and

(2) pass a proficiency check in multi-pilot operations.

(h) If privileges for single-pilot operations are sought for the first time, pilots holding privileges for multi-pilot operations shall be trained at an ATO and checked for the following additional manoeuvres and procedures in single-pilot operations:

(1) For SE aeroplanes, 1.6, 4.5, 4.6, 5.2 and, if applicable, one approach from Section 3.B; and

(2) For ME aeroplanes, 1.6, Section 6 and, if applicable one approach from Section 3.B

(i) Pilots holding privileges for both single-pilot and multi-pilot operations in accordance with points (g) and (h) may revalidate privileges for both types of operations by completing a proficiency check in multi-pilot operations in addition to the exercises referred to in points (h)(1) or (h)(2), as applicable, in single-pilot operations.

(j) If a skill test or a proficiency check is completed in multi-pilot operations only, the type rating shall be restricted to multi-pilot operations.

The restriction shall be removed when pilots comply with point (h).

(k) The training, testing and checking shall follow the table mentioned below.

(1) Training at an ATO, testing and checking requirements for single-pilot privileges

(2) Training at an ATO, testing and checking requirements for multi-pilot privileges

(3) Training at an ATO, testing and checking requirements for pilots holding single-pilot privileges seeking multi-pilot privileges for the first time (bridge course)

(4) Training at an ATO, testing and checking requirements for pilots holding multi-pilot privileges seeking single-pilot privileges for the first time (bridge course)

(5) Training at an ATO and checking requirements for combined revalidation and renewal of single and multi-pilot privileges

See table paragraph 6 of this Chapter

(l) To establish or maintain PBN privileges one approach shall be an RNP APCH. Where an RNP APCH is not practicable, it shall be performed in an appropriately equipped FSTD.

By way of derogation from the subparagraph above, in cases where a proficiency check for revalidation of PBN privileges does not include an RNP APCH exercise, the PBN privileges of the pilot shall not include RNP APCH. The restriction shall be lifted if the pilot has completed a proficiency check including an RNP APCH exercise.

7. 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 - Departure	
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
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
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

Section 2 - Airwork (VMC)

safe and smooth aircraft operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur

Knowledge	• aircraft pitch-power-configuration values • recovery procedures from an unusual aircraft state (stall, approach to stall, spiral dive) • spin prevention and spin recovery procedure • causes of load-factor increase and effect on stall speed • critical airspeeds (e.g. Vs, Vne, Vno, Va) and respective ASI markings
Skill	• establish stabilised flight path in trim, with the required power, airspeed, or vertical speed, as required • smooth, precise, and coordinated aircraft handling • smooth flight path changes, following the established SOPs • correct and systematic application of recovery drills
Attitude	• acquire and update his knowledge about his position and potential threats (e.g. traffic, terrain, flight path) and consider their future evolution • set priorities (Fly, Navigate, Communicate, Manage) • assertive, seek clarification of doubts and misunderstandings before acting

Section 3A - En-route Procedures VFR

navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary

Knowledge	• navigation charts legend and charts interpretation • operational flight plan usage • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track or radio-navigation track, while maintaining altitude • communicate clearly, assertively, and in due time • flight replanning and diversion implementation • ability to fly and navigate in simulated IMC
Attitude	• aware of the current situation and its possible evolution, and proactively generating options • set priorities (Fly, Navigate, Communicate, Manage) and manage workload • takes effective decisions, displaying leadership • considerate about other traffics and the potential threat • ready and willing to seek assistance as necessary (e.g. from ATC)

Section 3B - Instrument Flight

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

Knowledge	• instrument procedures, instrument chart reading, briefing structure and purpose • radiotelephony requirements, procedures, and applicable standard phraseology • onboard navigation and communication equipment use and limitation • governing minima and conditions to start and continue an approach • Part-NCO, particularly subparts OP, IDE and SPEC • PBN operation
Skill	• flight preparation information retrieval and usage of official reference documents • aeroplane control by sole reference to instruments, stabilised flight path in trim • IFR charts reading (understanding and usage of information) • proficient usage of onboard navigation and communication equipment • adherence to instrument procedures • applicable standard communication phraseology
Attitude	• 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 • set priorities (Fly, Navigate, Communicate, Manage) • assertive, seek clarification of doubts and misunderstandings before acting • ready and willing to seek assistance as necessary (e.g. from ATC) • importance of throughout preparation and knowledge of IFR procedures • workload anticipation and management

Section 4 - Arrival and Landing

safe arrival and entry into an airport area in compliance with the regulation; structured pattern and stable approach leading to a safe landing in different configurations; discontinuation of the approach or landing

Knowledge	• arrival procedures, standard pattern, visual approach chart reading, briefing structure and purpose • engine-out pattern and key positions • applicable landing techniques with different winds and configurations • go around procedures and applicable SOPs • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g. post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• systematic configuration changes, operated within the applicable limitations • precise and stable approach path • positive touch down within the designated touch down zone, at the correct speed • timely decision to abort the approach or landing • correct and systematic application of go-around drills • safe engine-out approach and landing
Attitude	• awareness of the other traffics, their intentions, and the resulting impact • mindful about the environment and its impact (e.g. wind, sun, impending fog, night) • considerate for other traffics • assertive radiotelephony communication

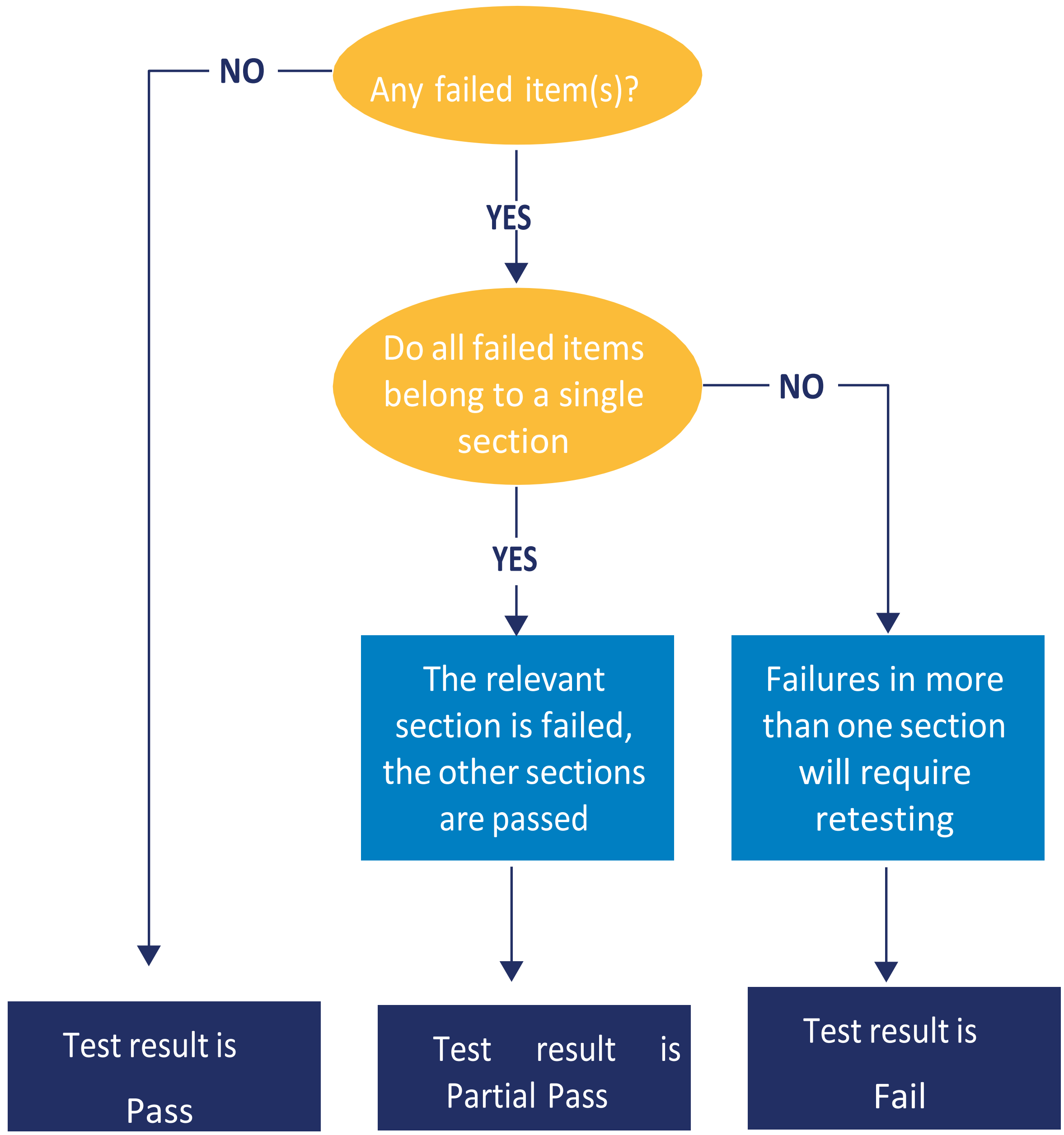
Section 5 - Abnormal and Emergency Procedures

	spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • precautionary landing methodology • standard phraseology for emergency and abnormal situation • transponder codes for emergency or com-loss situations • priority setting tools (e.g. PPAA or FNCM)
Skill	• instrument scanning for advanced information of an impending issue • timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal with a system failure according to the AFM • situation assessment, decision and solution implementation
Attitude	• information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • set priorities (Fly, Navigate, Communicate, Manage)

Section 6 - Simulated Asymmetric Flight

	safe asymmetric operation during, and after, engine failure; single-engine flight path management during take-off, climb, approach, landing, and go-around; performance limitation issues
Knowledge	• difference between single-engine controllability and performance • understanding that performance is related to excess power available • multi-engine specific speeds, relevance and markings (e.g. Vsse, Vxse, Vyse, Vmca) • emergency drills memory items • engine failure emergency procedure • specific systems operation and limitations (e.g. pressurisation, anti/de-icing)
Skill	• maintain aircraft control, and establish a stable flight path, during and after engine failure-simulation • timely execution of emergency drills memory items • proper use of the applicable checklist • adapt aircraft configuration for single-engine operation • standard phraseology for emergency and abnormal situation (e.i single-engine situation) • proper usage of specific aircraft systems (e.g. pressurisation, anti/de-icing)
Attitude	• appreciation for the performance limitation and adoption of a conservative planning approach • assessment of the current situation under single-engine operation • realistic and effective decision making • anticipation and workload management

8. Decision Making Flow Chart



9. 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 CAAT. With the agreement of the Candidate, the Examiner may allow, the responsible instructor, a Senior Examiner or an Inspector of the CAAT, to take part in the debriefing.

10. Completion of All Applicable Records

All relevant records required by the CAAT must be completed. Please refer to the CAAT procedures.

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.