



# White Paper: Refresher Competency-Based Training and Assessment (CBTA) and Evidence-Based Training (EBT) Session for “Post COVID” Operational Recovery, Edition 2

## Context and purpose

In March 2020, the COVID-19 crisis has created the need for both training organizations and operators to extend the period of validity of the pilot license and associated ratings (including the instructor one), to provide similar flexibilities to the operator recurrent training and checking requirements, and to find solutions for the pilots to maintain sufficient recent experience in the cockpit.

National Aviation Authorities have globally approved, for a limited period, alternative solutions to the traditional licensing and operational requirements. This has been possible for operators and training organizations that have implemented suitable special conditions of operations monitored by their respective Safety Management Systems.

The value of these alternative solutions was clearly to ensure operations when maintaining pilot recent experience was difficult to achieve, the training capacity was limited, and the administrative licensing revalidation process was disturbed.

Nevertheless, the positive aspects of the license or the operator training validity extension for a few months (generally 3 to 4 months) represents the following challenges:

- Harmonization: Further extensions are possible but remain at the discretion of the National Aviation Authority, this could generate a different playing field level within regions, as the perception and the interpretation of COVID risks are defined by the government policy.
- Increased volume of training: First, at the end of the exemption period, there is a peak in the volume of training to be delivered as the “extended pilots population” is combined with the “non-extended pilots population”. Second, the National Aviation Authority may ask operators to recover some elements of the triennial training programs that have been delivered during the extension period through alternatives (e.g., distance learning instead of classroom, etc.)
- Maintenance of pilot competence: Due to the magnitude of the COVID crisis, most of the operators’ programs are reduced to a minimum. Hence, it is expected that the pilot population (both “extended” and “non extended”) will go through the extension period with very limited training and operational experience. Operators and National Aviation Authority must be confident that pilots are performing to the adequate performance standards to ensure safe and efficient operations.



Therefore, the purpose of this white paper is to provide recommendations to operators and training organizations for the design of a refresher pilot training session following the principles of competency-based training and assessment (CBTA) and Evidence-Based Training in the context of the "post-COVID" return to operations.

The following acronyms are used in this paper:

- AOC: Operator holding an Air Operator Certificate
- ATO: Approved Training Organization
- NAA: National Aviation Authority



## Designing a refresher pilot training session following the principles of competency-based training and assessment (CBTA) and evidence-based training (EBT)

The objectives of this refresher session are to:

- Validate that pilots are competent and confident for a safe and efficient return to operations
- Support the design of a refresher CBTA session that covers equivalent or more training objectives compared to traditional recurrent training and checking
- Provide operators with an alternative mean of compliance to their approved recurrent training and checking program

### The pilot competencies

IATA recommends following the latest ICAO provisions for competency-based training and assessment.

AOCs and ATOs should use two sets of competencies:

- 9 Pilot competencies (8 Pilot competencies as proposed by ICAO and the competency “Application of Knowledge” as proposed by EASA for EBT - see Annex 1), and
- 5 Instructor/Evaluator competencies (as proposed by ICAO - see Annex 2)

The 9 pilot competencies (PC) are:

- PC 0 Application of Knowledge
- PC 1 Application of Procedures and Compliance with Regulations
- PC 2 Communication
- PC 3 Aeroplane Flight Path Management, automation
- PC 4 Aeroplane Flight Path Management, manual control
- PC 5 Leadership and Teamwork
- PC 6 Problem Solving and Decision Making
- PC 7 Situation Awareness and Management of Information
- PC 8 Workload Management

The 5 instructor/evaluator competencies (IEC) are:

- IEC 1 Pilot competencies (see above)
- IEC 2 Management of the Learning Environment
- IEC 3 Instruction
- IEC 4 Interaction with the trainee
- IEC 5 Assessment and Evaluation

Note: Detailed information on the instructor/evaluator competencies can be obtained in the [IATA/IFALPA Guidance Material for Instructor and Evaluator Training](#).



## CBTA principles

### Concept

This white paper describes a competency-based approach for pilot refresher training. Following the ICAO “ADDIE” (Analyze, Design, Develop, Implement and Evaluate) model, the CBTA training program should include the following five components and related outputs:

No.	Component	Output
1	Analysis of the training need	Training specification
2	Design of the competency model including performance criteria	2.1. Competency model 2.2. Training assessment plans
3	Development of the training and assessment materials	Training materials, assessments, examinations
4	Conduct of the course	Competent pilots
5	Evaluation of the course including the assessment and training plans	Course report

### Preparing the refresher training session

The first step (No. 1 above) of the ADDIE model is the thorough analysis of the training need, resulting in a training specification.

The resulting training specification should provide answers to questions regarding the purpose of the training, the tasks associated with the purpose, the operational environment, the technical, regulatory and organizational requirements. For the refresher training, these questions can be answered by referring to the existing documentation of the AOC/ATO.

Output No. 2.1 requires the design of the competency model, including the *performance criteria* (the competency *standards* and *conditions*). For the refresher training, it is assumed that the competency model of the AOC/ATO is already in place.

*Standards:* For the refresher training it is assumed that the final competency standard is already defined and implemented for the existing recurrent training and assessment scheme.

*Conditions:* The conditions (nature and complexity of the operational and environmental context; tools and systems/equipment) under which the competencies of the trainees will be assessed comprise the given operating environment of the AOC/ATO.

Development of the assessment and training plans (No. 2.2) and the training materials (No. 3) is based on the training specification, which will include any special emphasis of the program.



## Special emphasis

The pilots need to be trained and assessed in all 9 pilot competencies to the organization's final competency standard. However, the AOC and the ATO may decide to put special emphasis on the competencies that have been identified, during the training gap analysis, as critical for the successful performance in the context of return to operations.

## Practical application of CBTA principles to the refresher session

The refresher CBTA session "post COVID" has been designed considering the following assumptions:

- The pilots' licenses are valid (extended or non-extended).
- The flight crew composition is two pilots. If there is only one pilot to be trained, the instructor acts as pilot from one of the pilot seats.
- The pilots may have lost partially or totally their recent experience (3 takes-off and 3 landings in the last 90 days).
- The pilots had limited training or operational experience in the last 4 to 12 months.
- The pilots' documentation is up to date and the operator has provided the pilots with the necessary policy and operational procedure knowledge refresher.
- The pilots have received the training program sufficiently in advance to prepare the session.
- The training session is conducted in an FSTD approved by the NAA to conduct recurrent training and checking.
- The AOC and the ATO are already assessing the pilots' performance based on the ICAO pilot competency framework (Annex 1).
- The AOC and the ATO have criteria based on previous global competence and experience to define the pilot population eligible to this session (e.g., pilot is not under remedial training).
- The AOC and the ATO design the session with some spare time to allow for the instructor to adapt to the pilots' needs. For example, the instructor further develops pilot competencies or the pilot requests to be trained in specific events to gain confidence.



The global training objective of this refresher CBTA session is the following:

- The pilots must be able to conduct normal and abnormal operations in accordance with the performance standard defined by the AOC or the ATO, in an FSTD approved by the NAA for recurrent training and checking, under realistic conditions that are representative of the nature and the complexity of their operational and environmental context.

The detailed training objectives of this refresher CBTA session are the following:

- The pilots must be able to conduct normal SOPs in an operational context in accordance with the performance standard, under real time operational conditions.
- The pilots must be able to perform abnormal SOPs including emergency procedures in operational context, in accordance with the performance standard under operational conditions. At least one of the abnormal procedures should have an impact on aircraft performance.
- The pilots must be able to manage the flight path manually and with automation, in accordance with the performance standard, under operational conditions, including a combination of precision and non-precision approach, and visual approach.

*Note concerning the condition related to the level of the instructor: for all exercises above mentioned, the instructor's support and intervention are acceptable at the beginning of the session, but pilots must be fully autonomous at the end of the session.*

## Special emphasis in practice

The special competency emphasis of this refresher CBTA session is the result of an analysis of the pilot competencies and their associated observable behaviors, combined with the training need of an average already qualified pilot population lacking both training and operational experience.

Pilot competencies to be trained during refresher session post COVID		
PC 0	Application of Knowledge	TA
PC 1	Application of Procedures and Compliance with Regulations	TA-SE
PC 2	Communication	TA
PC 3	Aeroplane Flight Path Management, automation	TA
PC 4	Aeroplane Flight Path Management, manual control	TA-SE
PC 5	Leadership and Teamwork	TA
PC 6	Problem Solving and Decision Making	TA
PC 7	Situation Awareness and Management of Information	TA-SE
PC 8	Workload Management	TA-SE

**Note: TA: Means competencies *trained and assessed***

**SE: Means competencies requiring *special emphasis* during training**



As an example, from Annex 1 Pilot Competencies, Application of Procedures and Compliance with Regulation, the Observable behaviors in **bold** have been used to define the training objectives of the session.

<b>Competency</b> Description	<b>Observable behaviors</b>
<p data-bbox="256 506 678 569"><b>Application of Procedures and Compliance with Regulations</b></p> <p data-bbox="245 611 690 705">Identifies and applies appropriate procedures in accordance with published operating instructions and</p>	<p data-bbox="824 506 1414 569"><b>OB 1.1 Identifies where to find procedures and regulations</b></p> <p data-bbox="824 590 1414 684"><b>OB 1.2 Applies relevant operating instructions, procedures and techniques in a timely manner</b></p> <p data-bbox="824 705 1474 768">OB 1.3 Follows SOPs unless a higher degree of safety dictates an appropriate deviation</p> <p data-bbox="824 789 1479 852"><b>OB 1.4 Operates aeroplane systems and associated equipment correctly</b></p> <p data-bbox="824 873 1325 905"><b>OB 1.5 Monitors aircraft systems status</b></p> <p data-bbox="824 926 1357 957">OB 1.6 Complies with applicable regulations.</p> <p data-bbox="824 978 1409 1010"><b>OB 1.7 Applies relevant procedural knowledge</b></p>

## Evidence-based training (EBT) principles

The aim of EBT is to identify, develop and evaluate the competencies required to operate safely, effectively and efficiently in a commercial air transport environment whilst addressing the most relevant threats according to evidence collected in accidents, incidents, flight operations and training.

During COVID operations, the IATA Safety Department has identified a significant increase of events related to unstable approaches due to the pilot mismanagement of the energy and unreliable airspeed indications due to the contamination of pitot/static systems on aircraft returned to service after a period of storage.

Therefore, this simulator refresher session should use the scenarios that integrate the management of the above-mentioned events as “vehicles” to develop the pilot competencies.

Example of Scenario elements challenging the pilot’s ability to manage the energy of the airplane:

- Scenario element 1: ATC or terrain related environment creating a high energy descent with the need to capture the optimum profile to complete the approach in a stabilized configuration
- Scenario element 2: ATC or terrain related environment creating a high energy descent leading to unstable conditions and requiring a go-around



Competency map, when the scenario is conducted in the descent-approach phase and the pilot flying using automation.

Pilot Competencies	Scenario element 1	Scenario element 2
Application of knowledge	X	X
Application of procedures and compliance with regulations	X	X
Communication		
Aeroplane Flight Path Management, automation	X	X
Aeroplane Flight Path Management, manual control		
Leadership and Teamwork		
Problem Solving and Decision Making		
Situation awareness and management of information	X	X
Workload Management		

Further details about scenario elements concerning the unstable approach can be found in ICAO Doc 9995 Manual of Evidence-based Training.





Example of scenario elements challenging the pilot’s ability to manage unreliable airspeed indication:

- Scenario element 1: During a very short positioning flight without passengers on board, repetitive and intermittent Air Data Reference Unit 2 fault [identical to pitot probe #2 blocked by insects]. Keep malfunction steady when already in approach.
- Scenario element 2: During cruise, Air Data Reference Unit 2 fault [due to blocked pitot #2] and Air Data Reference Unit disagreement leading to the degradation of flight control laws.
- Scenario element 3: During take-off run introduce airspeed discrepancy between Air Data Reference Unit 1 and Air Data Reference Unit 2 before 100kt.

Pilot Competencies	Scenario element 1	Scenario element 2	Scenario element 3
Application of knowledge	X	X	
Application of procedures and compliance with regulations	X	X	X
Communication			
Aeroplane Flight Path Management, automation			
Aeroplane Flight Path Management, manual control		X	
Leadership and Teamwork			
Problem Solving and Decision Making	X	X	X
Situation awareness and management of information			X
Workload Management	X	X	



## Additional Reference Documents

Link to the IATA Safety and Flight Ops Operational notices, Unstable approach during reduced operations:

[https://www.iata.org/contentassets/e5bc94292b44433ba852925ee9ac47bb/on\\_002\\_20\\_ua\\_during\\_reduced\\_operations.pdf](https://www.iata.org/contentassets/e5bc94292b44433ba852925ee9ac47bb/on_002_20_ua_during_reduced_operations.pdf)

Link to the IATA Safety and Flight Ops Operational notices, Contamination of pitot/static systems on aircraft returned to service after a period of storage.

[https://www.iata.org/contentassets/e5bc94292b44433ba852925ee9ac47bb/operational-notice-003\\_20--contaminated-pitot\\_static-systems-on-aircraft-returned-to-service-after-a-period-of-storagefinal-20-august.pdf](https://www.iata.org/contentassets/e5bc94292b44433ba852925ee9ac47bb/operational-notice-003_20--contaminated-pitot_static-systems-on-aircraft-returned-to-service-after-a-period-of-storagefinal-20-august.pdf)

For more details on the competencies frameworks and examples of operators' training programs, refer to the following Annexes in this document:

- Refer to Annex 1 for ICAO Pilot competency framework
- Refer to Annex 2 for Instructor-Evaluator competency framework
- Refer to Annex 3 for Operators training curriculum examples



## Annex 1 - Pilot competencies

<b>Competency</b> Description	<b>Observable behaviors</b>
<p><b>Application of Knowledge</b></p> <p>Demonstrates knowledge and understanding of relevant information, operating instructions, aircraft systems and the operating environment</p>	<p>OB 0.1 Demonstrates practical and applicable knowledge of limitations and systems and their interaction</p> <p>OB 0.2 Demonstrates required knowledge of published operating instructions</p> <p>OB 0.3 Demonstrates knowledge of the physical environment, the air traffic environment including routings, weather, airports and the operational infrastructure</p> <p>OB 0.4 Demonstrates appropriate knowledge of applicable legislation</p> <p>OB 0.5 Knows where to source required information</p> <p>OB 0.6 Demonstrates a positive interest in acquiring knowledge</p> <p>OB 0.7 Is able to apply knowledge effectively</p>
<p><b>Application of Procedures and Compliance with Regulations</b></p> <p>Identifies and applies appropriate procedures in accordance with published operating instructions and</p>	<p>OB 1.1 Identifies where to find procedures and regulations</p> <p>OB 1.2 Applies relevant operating instructions, procedures and techniques in a timely manner</p> <p>OB 1.3 Follows SOPs unless a higher degree of safety dictates an appropriate deviation</p> <p>OB 1.4 Operates aeroplane systems and associated equipment correctly</p> <p>OB 1.5 Monitors aircraft systems status</p> <p>OB 1.6 Complies with applicable regulations.</p> <p>OB 1.7 Applies relevant procedural knowledge</p>
<p><b>Communication</b></p> <p>Communicates through appropriate means in the operational environment, in both normal and non normal situations</p>	<p>OB 2.1 Determines that the recipient is ready and able to receive information</p> <p>OB 2.2 Selects appropriately what, when, how and with whom to communicate</p> <p>OB 2.3 Conveys messages clearly, accurately and concisely</p> <p>OB 2.4 Confirms that the recipient demonstrates understanding of important information</p> <p>OB 2.5 Listens actively and demonstrates understanding when receiving information</p> <p>OB 2.6 Asks relevant and effective questions</p> <p>OB 2.7 Uses appropriate escalation in communication to resolve identified deviations</p> <p>OB 2.8 Uses and interprets non-verbal communication in a manner appropriate to the organizational and social culture</p> <p>OB 2.9 Adheres to standard radiotelephone phraseology and procedures</p> <p>OB 2.10 Accurately reads, interprets, constructs and responds to datalink messages in English</p>



<p style="text-align: center;"><b>Aeroplane Flight Path Management, automation</b></p> <p>Controls the flight path through automation</p>	<p>OB 3.1 Uses appropriate flight management, guidance systems and automation, as installed and applicable to the conditions</p> <p>OB 3.2 Monitors and detects deviations from the intended flight path and takes appropriate action</p> <p>OB 3.3 Manages the flight path safely to achieve optimum operational performance</p> <p>OB 3.4 Maintains the intended flight path during flight using automation while managing other tasks and distractions</p> <p>OB 3.5 Selects appropriate level and mode of automation in a timely manner considering phase of flight and workload</p> <p>OB 3.6 Effectively monitors automation, including engagement and automatic mode transitions</p>
<p style="text-align: center;"><b>Aeroplane Flight Path Management, manual control</b></p> <p>Controls the flight path through manual control.</p>	<p>OB 4.1 Controls the aircraft manually with accuracy and smoothness as appropriate to the situation</p> <p>OB 4.2 Monitors and detects deviations from the intended flight path and takes appropriate action</p> <p>OB 4.3 Manually controls the aeroplane using the relationship between aeroplane attitude, speed and thrust, and navigation signals or visual information</p> <p>OB 4.4 Manages the flight path safely to achieve optimum operational performance</p> <p>OB 4.5 Maintains the intended flight path during manual flight while managing other tasks and distractions</p> <p>OB 4.6 Uses appropriate flight management and guidance systems, as installed and applicable to the conditions</p> <p>OB 4.7 Effectively monitors flight guidance systems including engagement and automatic mode transitions</p>
<p style="text-align: center;"><b>Leadership and Teamwork</b></p> <p>Influences others to contribute to a shared purpose.</p> <p>Collaborates to accomplish the goals of the team.</p>	<p>OB 5.1 Encourages team participation and open communication</p> <p>OB 5.2 Demonstrates initiative and provides direction when required</p> <p>OB 5.3 Engages others in planning</p> <p>OB 5.4 Considers inputs from others</p> <p>OB 5.5 Gives and receives feedback constructively</p> <p>OB 5.6 Addresses and resolves conflicts and disagreements in a constructive manner</p> <p>OB 5.7 Exercises decisive leadership when required</p> <p>OB 5.8 Accepts responsibility for decisions and actions</p> <p>OB 5.9 Carries out instructions when directed</p> <p>OB 5.10 Applies effective intervention strategies to resolve identified deviations</p> <p>OB 5.11 Manages cultural and language challenges, as applicable</p>



<p><b>Problem Solving and Decision Making</b></p> <p>Identifies precursors, mitigates problems; and makes decisions</p>	<p>OB 6.1 Identifies, assesses and manages threats and errors in a timely manner</p> <p>OB 6.2 Seeks accurate and adequate information from appropriate sources</p> <p>OB 6.3 Identifies and verifies what and why things have gone wrong, if appropriate</p> <p>OB 6.4 Perseveres in working through problems while prioritizing safety</p> <p>OB 6.5 Identifies and considers appropriate options</p> <p>OB 6.6 Applies appropriate and timely decision-making techniques</p> <p>OB 6.7 Monitors, reviews and adapts decisions as required</p> <p>OB 6.8 Adapts when faced with situations where no guidance or procedure exists</p> <p>OB 6.9 Demonstrates resilience when encountering an unexpected event</p>
<p><b>Situation Awareness and Management of Information</b></p> <p>Perceives, comprehends and manages information and anticipates its effect on the operation.</p>	<p>OB 7.1 Monitors and assesses the state of the aeroplane and its systems</p> <p>OB 7.2 Monitors and assesses the aeroplane’s energy state, and its anticipated flight path</p> <p>OB 7.3 Monitors and assesses the general environment as it may affect the operation</p> <p>OB 7.4 Validates the accuracy of information and checks for gross errors</p> <p>OB 7.5 Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected</p> <p>OB 7.6 Develops effective contingency plans based upon potential risks associated with threats and errors</p> <p>OB 7.7 Responds to indications of reduced situation awareness</p>
<p><b>Workload Management</b></p> <p>Maintain available workload capacity by prioritizing and distributing tasks using appropriate resources</p>	<p>OB 8.1 Exercises self-control in all situations</p> <p>OB 8.2 Plans, prioritizes and schedules appropriate tasks effectively</p> <p>OB 8.3 Manages time efficiently when carrying out tasks</p> <p>OB 8.4 Offers and gives assistance</p> <p>OB 8.5 Delegates tasks</p> <p>OB 8.6 Seeks and accepts assistance, when appropriate</p> <p>OB 8.7 Monitors, reviews and cross-checks actions conscientiously</p> <p>OB 8.8 Verifies that tasks are completed to the expected outcome</p> <p>OB 8.9 Manages and recovers from interruptions, distractions, variations and failures effectively while performing tasks</p>

## Annex 2 - Instructor-Evaluator competencies

<b>Competency</b> Description	<b>Observable behaviors</b>
<b>Pilot Competencies</b>  (See Annex 1 above)	Refer to observable behaviors in the Pilot Competencies.
<b>Management of the learning environment</b>  Ensures that the instruction, assessment and evaluation are conducted in a suitable and safe environment.	OB 2.1 Applies TEM in the context of instruction/evaluation OB 2.2 Briefs on safety procedures for situations that are likely to develop during instruction/evaluation OB 2.3 Intervenes appropriately, at the correct time and level (e.g., progresses from verbal assistance to taking over control) OB 2.4 Resumes instruction/evaluation as practicable after any intervention OB 2.5 Plans and prepares training media, equipment and resources OB 2.6 Briefs on training devices or aircraft limitations that may influence training, when applicable OB 2.7 Creates and manages conditions (e.g., airspace, ATC, weather, time, etc.) to be suitable for the training objectives OB 2.8 Adapts to changes in the environment whilst minimizing training disruptions OB 2.9 Manages time, training media and equipment to ensure that training objectives are met
<b>Instruction</b> Conducts training to develop the trainee’s competencies.	OB 3.1 References approved sources (operations, technical, and training manuals, standards and regulations) OB 3.2 States clearly the objectives and clarifies roles for the training OB 3.3 Follows the approved training program OB 3.4 Applies instructional methods as appropriate (e.g., explanation, demonstration, facilitation, discover with assistance, discover without assistance) OB 3.5 Sustains operational relevance and realism OB 3.6 Adapts the amount of instructor inputs to ensure that the training objectives are met OB 3.6 Adapts to situations that might disrupt a planned sequence of events OB 3.7 Continuously assesses trainee’s competencies OB 3.8 Encourages the trainee to self-assess OB 3.9 Allows trainee to self-correct in a timely manner OB 3.10 Applies trainee-centered feedback techniques (e.g., facilitation, etc.) OB 3.11 Provides positive reinforcement



<p><b>Interaction with the trainees</b> Supports the trainees' learning and development</p> <p>And</p> <p>Demonstrates exemplary behavior (role model)</p>	<p>OB 4.1 Shows respect for the trainees (e.g., for culture, language, experience)</p> <p>OB 4.2 Shows patience and empathy (e.g., by actively listening, reading non-verbal messages and encouraging dialogue)</p> <p>OB 4.3 Manages trainees' barriers to learning</p> <p>OB 4.4 Encourages engagement and mutual support</p> <p>OB 4.5 Coaches the trainees</p> <p>OB 4.6 Supports the goal and training policies of the operator/ATO and Authority</p> <p>OB 4.7 Shows integrity (e.g., honesty and professional principles)</p> <p>OB 4.8 Demonstrates acceptable personal conduct, acceptable social practices, content expertise, a model for professional and interpersonal behavior</p> <p>OB 4.9 Actively seeks and accepts feedback to improve own performance</p>
<p><b>Assessment and Evaluation</b> Assesses the competencies of the trainee</p> <p>and</p> <p>Contributes to continuous training system improvement</p>	<p>OB 5.1 Complies with Operator/ATOs and Authority requirements</p> <p>OB 5.2 Ensures that the trainee understands the assessment process</p> <p>OB 5.3 Applies the competency standards and conditions</p> <p>OB 5.4 Assesses trainee's competencies</p> <p>OB 5.5 Performs grading</p> <p>OB 5.6 Provides recommendations based on the outcome of the assessment</p> <p>OB 5.7 Makes decisions based on the outcome of the summative assessment</p> <p>OB 5.8 Provides clear feedback to the trainee</p> <p>OB 5.9 Reports strengths and weaknesses of the training system (e.g., training environment, curriculum, assessment/evaluation) including feedback from trainees</p> <p>OB 5.10 Suggests improvements for the training system</p> <p>OB 5.11 Produces reports using appropriate forms and media</p>



## Annex 3 – Operators’ training curriculum examples

### Example from Lufthansa

#### Re-Qualification & Maintaining Competency during the course of short-time work

Competency Refresher after 1 months absence and loss of recency:



REF 1 (or EBT module (2 days), if due)

Competency Refresher after 2 months absence:



REF 2 (+ EBT module (2 days), if due)  
+ KNO GND REF

Competency Refresher after > 3 months absence:



REF 2 + EBT module (2 days) (or REF 3) +  
LIFUS (4 legs SR, 2 legs LR) + KNO  
GND REF

Competency Refresher after > 6 months absence:



REF 2 + REF 3 + EBT module (2 days) +  
LIFUS (10 legs SR, 2 legs LR) +  
KNO GND REF

28.06.2020 FRA L/OT



#### Re-Qualification & Maintaining Competency

REF 1 (4hrs)	REF 2 (4hrs)	REF 3 (4hrs)	KNO GND REF	LIFUS
<ul style="list-style-type: none"> <li>NORMAL OPS LOFT A – B</li> <li>LDG RECENCY Radar / Visual Pattern Go Around</li> <li>Max 4 pilots</li> <li>STD &amp; non STD Crew</li> <li>TRIRp oder TRI</li> </ul>	<ul style="list-style-type: none"> <li>NORMAL &amp; ABNORMAL OPS LOFT A – B</li> <li>STICK &amp; RUDDER ENG FAIL X-Wind</li> <li>LDG RECENCY Radar / Visual Pattern Go Around</li> <li>Max 2 pilots</li> <li>STD &amp; non STD Crew</li> <li>TRIRp oder TRI</li> </ul>	<ul style="list-style-type: none"> <li>HEAVY ABNORMAL OVERWEIGHT 2 ENG OUT (if app.)</li> <li>STICK &amp; RUDDER ENG FAIL STALL EMER DESC</li> <li>LVO</li> <li>LDG RECENCY Radar / Visual Pattern Go Around</li> <li>Max 2 pilots</li> <li>STD &amp; non STD Crew</li> <li>TRIRp oder TRI</li> </ul>	<ul style="list-style-type: none"> <li>General &amp; OPS Highlights</li> <li>KNO Refresher OM/A</li> <li>KNO Refresher OM/B Normal</li> <li>KNO Refresher Route &amp; Area – OM/C</li> <li>KNO Refresher SEP Training</li> <li>Dangerous Goods</li> </ul>	<ul style="list-style-type: none"> <li>SR 4 / 10 Legs</li> <li>LR 2 Legs</li> <li>No Line CHECK</li> <li>TOPIC list for preparation plus individual questions from crew</li> </ul>

28.06.2020 FRA L/OT







## Example from Air France

Time (T) in Days (D) without flight or sim activity	$T \leq 30 D$  <b>Column 1</b>	$31 D \leq T \leq 44 D$  <b>Column 2</b>	$45 D \leq T \leq 89 D$  <b>Column 3</b>	$\geq 90 D$
<b>Recurrent Training Validity</b> <b>VALID</b> (with or without exemption)	It is recommended to perform the distance learning additional training	According to the professional records, the Chief Pilot will decide between column 1 and column 3  As a minimum, distance learning additional training will be performed	<ul style="list-style-type: none"> <li>- distance learning additional Training</li> <li>- the CBTA refresher sim session</li> </ul>	<ul style="list-style-type: none"> <li>- distance learning Additional Training</li> <li>- the CBTA refresher sim session</li> <li>- regular Recurrent Training sessions</li> </ul>
<b>Recurrent Training Validity</b>  <b>NOT VALID</b>	Regular Recurrent Training Sessions	According to the professional records, the Chief Pilot will decide between column 1 and column 3	<ul style="list-style-type: none"> <li>- distance learning additional Training</li> <li>- the CBTA refresher sim session</li> <li>- regular Recurrent Training sessions</li> </ul>	



## CBTA REFRESHER SIMULATOR SESSION

CPT	PART 1: PROCEDURE REFRESH	1h05
<b>1.1</b>	<b>COCKPIT PREPARATION (SOP with instructor supervision) ENG START</b>	<b>CDG</b> <b>0h30</b> <i>0h30</i>
	<i>Aircraft in Secured stop</i>	
	<i>INIT LFPG GATE FMS : LFPG26R – LGLxB-LFPG ILS26L</i>	
<i>Simulator</i>		
<i>ATC</i>	<i>ATIS A : T/O 26R LDG 26L – 33020KT BKN035 20/12 Q1005 CLR: « LGL2B squawk 1000 121,930 For push »</i>	
<i>Training Objectives</i>	<i>Perform full cockpit preparation including the performance calculation Instructor reinforce realistic conditions by role playing Ground staff for task interruption</i>	
<b>1.2</b>	<b>TAXI RWY 26R &amp; TAKE OFF</b>	<b>0h05</b> <i>0h35</i>
	<i>« AF146, Taxi to holding point T11, Runway 26R » « AF146, After take-off, maintain 4000ft » « AF146, RWY26R cleared for take-off, wind 330/20KT »</i>	
	<i>ATC</i>	
<b>1.3</b>	<b>Radar Vectors Aircraft Handling Simple system malfunction with impact on aircraft performance (e.g. LDG DIST PROC)</b>	<b>0h15</b> <i>0h50</i>
	<i>Instructor to trigger the malfunction after the manual flying part : Example : A320/330/340 : HYD YRSVR LOW LVL B777/787 : HYD PRESS SYS C</i>	
	<i>Position Freeze during downwind if necessary  IOS: Instructor activates RW 26L or keep RW 26R depending pilot's decision-making process</i>	
<i>Simulator</i>		
<i>ATC</i>	<i>« AF146, Turn Left HDG 090°, radar vectors for ILS APP RWY 26L/R»</i>	
<i>Training Objectives</i>	<i>Pilot to control the flight path through manual control Pilot to review abnormal SOPs Pilots to manage landing performance calculation with malfunction impact on landing distance Pilots can express to manage specific malfunction having the above characteristic</i>	



1.4		<b>3D - RNAV (RNP) 26L (N) ENG, AP &amp; FD &amp; A/THR ON</b>	<b>0h10</b>
			1h00
	<i>Training Objectives</i>		<i>If necessary, the instructor reminds key elements of the RNAV approach to the pilots</i>

1.5		<b>Landing (N) ENG RWY 26L/R</b>	<b>0h05</b>
			1h05
	<i>ATC</i>		<i>« AF146, RWY26L/R cleared to land, wind 330/20KT »</i>

<b>CPT</b>	<b>PART 2: AIRCRAFT HANDLING</b>	<b>0h40</b>
------------	----------------------------------	-------------

2.1		<b>Take-off RWY 26R</b>	<b>0h05</b>
			1h10
	<i>Simulator</i>		<i>MTO CAVOK INIT LFPG T/O 26R FMS : T/O 26R CLB 3000' RWY HDG LDG ILS 26R</i>
<i>ATC</i>	<i>« AF146, After T/O, maintain 3000ft » « AF146, RWY26R cleared for take-off, wind 330/20KT »</i>		

2.2		<b>Exercises “a la carte” including 2 take-offs and 2 landings</b>	<b>0h35</b>
			1h45
	<i>Training Objectives</i>		<i>Pilot to control the flight path through manual control Pilot to review abnormal SOPs and emergency procedures to include memory items “a la carte” means that the pilot can request specific exercises to build confidence or the instructor decides to further develop pilot competencies by selecting specific events Example: windshear procedures at take-off or during final approach...</i>



<b>F/O</b>	<b>PART 3: AIRCRAFT HANDLING</b>	<b>0h40</b>
------------	----------------------------------	-------------

<b>3.1</b>		<b>Take-off RWY 26R</b>	<b>0h05</b>
			<i>1h50</i>
	<i>Simulator</i>		<i>MTO CAVOK            INIT LFPG T/O 26R            FMS : T/O 26R CLB 3000' RWY HDG LDG ILS 26R</i>
<i>ATC</i>	<i>« AF146, After <b>take-off</b> maintain 3000ft »            « AF146, <b>RWY26R</b> cleared for take-off, wind 330/20KT »</i>		

<b>3.2</b>		<b>Visual Approach RWY 26R Landing N (ENG) RWY 26R</b>	<b>0h05</b>
			<i>1h55</i>
	<i>Training Objectives</i>		<i>Pilot to control the flight path through manual control            Pilot to review visual patterns</i>

<b>3.3</b>		<b>Exercises “a la carte” including 2 take-offs and 2 landings</b>	<b>0h30</b>
			<i>2h25</i>
	<i>Training Objectives</i>		<i>Pilot to control the flight path through manual control            Pilot to review abnormal SOPs and emergency procedures to include memory items            “a la carte” means that the pilot can request specific exercises to build confidence or the instructor decides to further develop pilot competencies by selecting specific events             Example: windshear procedures at take-off or during final approach...</i>

<b>F/O</b>	<b>PART 3: AIRCRAFT HANDLING</b>	<b>0h05</b>
------------	----------------------------------	-------------

<b>4.1</b>		<b>Taxi in and Perform SOPs</b>	<b>0h05</b>
			<i>2h30</i>
	<i>Training Objectives</i>		<i>Pilots to apply after landing and parking normal procedures</i>

**END OF THE SESSION**



## Example from Emirates

### 4.4.7.4 Session Guide

COVID-19 PHASE 1 SINGLE DAY RECURRENT											
Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief		
	00:00	00:10			ADIRU ON.						
					Position Set: REF ARPT OMDB; RWY 30R; Hold Clear.						
					Aircraft Set: ZFW 221T; CG 28% ALL; FUEL 30T. ADIRU RAPID ALIGN.						
					Environment Set: 210/15KT 3000 OVC005 25 1010. Insert WS FAA #5 TKOF MOD.						
			CANDIDATE 1 (Captain)								
							Load FMC				
					Quick set-up for Take-off.						
					ENG RAPID START. EXT Power OFF.						
					Flaps 5, FMS STORE.						
					Cabin Ready						
					1.6	Before take-off checks					
					OBS	Before take-off Procedure.					
					Line up 30R						
					1.5	Taxiing in compliance with air traffic control or instructions of instructor					
					OBS	Correct taxi technique.					
1	00:10	00:05	Windshear on takeoff								
					2.1	Normal take-offs with different flap settings, including expedited take-off		x	x		
					OBS	Take-off Procedure.					
					OBS	Correction rotation.					
					OBS	Correct crosswind technique.					
					3.6.5	Wind shear at take-off/landing					
					OBS	Windshear escape manoeuvre.					
					OBS	PM duties.					



COVID-19 PHASE 1 SINGLE DAY RECURRENT											
Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief		
						OBS	Flap retraction schedule.				
						OBS	Autopilot engagement.				
2	00:15	00:05	SID Adherence								
					ATC advise turn right heading 090, maintain 4000' due inbound traffic.						
						3.9.1	Adherence to departure and arrival routes and ATC instructions		x		
						OBS	Correct navigation of SID or ATC instructions.				
3	00:20	00:05	Traffic Avoidance								
					TCAS Climb RA.						
							TCAS Event – Climb RA				
						3.6.9	ACAS Event				
						OBS	Correct Crew actions for TCAS Event.				
						OBS	Correct ATC terminology.				
4	00:25	00:05	Non-Normal Management								
					ATA 29: HYD PUMP LOW PRESS PRI - R. .						
							HYD PRESS PRI R				
						3.4.5	Hydraulic system.				
						OBS	Timely management of Priorities.				
						OBS	Correct application of EICAS procedures.				
						OBS	Situation Awareness.				
						OBS	Decision Making and Problem Solving.				
						OBS	Use of FMC ALTN page or DEP/ARR page if appropriate.				
						OBS	Communication.				
					The Candidates will need to decide to continue or return. Send an ACARS message requesting EK 502 to return to OMD. Provide vectors for return to 30L.						
5	00:30	00:10	Non-ILS Approach								
					Position Set: RWY 30L.						
							Set up for RNAV 30L.		x		



COVID-19 PHASE 1 SINGLE DAY RECURRENT										
Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief	
						3.9.4	Non-precision approach down to the MDH/A			
						OBS	Descent and Approach Preparation.			
						OBS	Descent and Approach Checklists.			
						OBS	Non-ILS Approach Procedure using VNAV.			
						OBS	PM duties.			
						5.1	Normal landings* also after an ILS approach with transition to visual flight on reaching DH			
					End point: Stopped on runway.					
					CLEAR MALF.					
6	00:40	00:05	Take-off with engine failure between V1 and V2.						x	
					Position Set: RWY 30R; T/O.					
					Aircraft Set: FUEL 79T.					
					Environment Set: CAT 1.					
					ATA 71: ENGINE N1 SEIZURE L, PRESET V1 (174).					
					FMS STORE/RECALL. Mini-brief. Refresh Engine Out Procedure.					
						2.5.2	Take-offs with simulated engine failure between V1 and V2			
						3.4.0	Engine.			
						3.4.6	Flight control and Trim system.			
						3.6.3	Engine failures, shutdown and restart at a safe height			
						OBS	Correct handling techniques and procedures during EFATO (refer FCTM) completion of Non Normal and Normal checklist.			
						OBS	PM duties.			
						OBS	Decision Making and Problem Solving.			
					End point: Flaps in desired position and CON thrust set.					
					Gear DOWN, Flaps 20, GRD PROX FLAP.					
					Aircraft Set: FUEL 30T.					



COVID-19 PHASE 1 SINGLE DAY RECURRENT									
Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief
7	00:45	00:05	ILS Manual Engine Inoperative.						x
					Position Set: RWY 30L. 8 NM.				
					Environment Set: CAT 2.				
						3.9.3.4	ILS Manual Engine Inoperative.		
						OBS	Landing Procedure – ILS		
						OBS	Engine inoperative ILS		
						OBS	Correct handling.		
						OBS	PM duties.		
8	00:50	00:05	Missed Approach One Engine Inoperative						
					Note: Missed Approach due insufficient visual reference.				
					Initial Go Around actions manually flown until passing 1000ft.				
						4.3	Manual go-around with the critical engine simulated inoperative after an instrument approach on reaching DH, MDH or MAPt		
						OBS	Go Around and Missed Approach Procedure.		
						OBS	Correct handling.		
						OBS	PM duties.		
					End point: Established at MISAP ALT.				
					Flaps 5.				
9	00:55	00:05	ILS Engine Inoperative (A/P available).						
					Position Set: 12NM. Slew back outside IAF (ULDOT).				
					Environment Set: CAT 1.				
					Engine inoperative ILS 30L. A/P available, TAC operative.				
						3.9.3.3	Precision approaches down to a decision height (DH) not less than 60 m (200 ft) with autopilot		
						OBS	Landing Procedure – ILS		
						OBS	Engine inoperative ILS		
						OBS	Correct handling.		





COVID-19 PHASE 1 SINGLE DAY RECURRENT												
Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief			
						OBS	PM duties.					
10	01:00	00:05	Landing with Engine Inoperative									
					Note: A/P available for the approach but landing must be manual.							
						5.5	Landing with critical engine simulated inoperative					
						OBS	Flight from DA to touchdown.					
						OBS	Correct landing roll procedure.					
						OBS	Correct use of reverse thrust and braking.					
					End point: Stopped on runway.							
					CLEAR MALF.							
					ALL SYSTEM RESET							
						Fuel Control Switch RUN.						
					ENG RAPID START.							
11	01:05	00:05	Rejected Take-off & Evacuation								x	
					Position Set: RWY 30R; T/O.							
					ATA 26: ENGINE FIRE UNEXTINGUISHABLE R - Preset 120KTS.							
					FMS RECALL. Mini-brief.							
						2.6	Rejected take-off at a reasonable speed before reaching V1					
						OBS	Correct RTO actions.					
						OBS	PM duties.					
						3.6.1	Fire drills e.g. engine, APU, cabin, cargo compartment, flight deck, wing and electrical fires including evacuation					
						OBS	Correct CA and F/O on ground emergency actions.					
						OBS	Correct FIRE ENG Memory Items.					
						OBS	Decision Making.					
						OBS	Communications.					
						OBS	Evacuation NNC correctly accomplished.					
					End point: Evacuation Checklist complete and aware of evacuation actions.							



**COVID-19 PHASE 1 SINGLE DAY RECURRENT**

Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief		
							Position Set: REF ARPT OMDB; RWY 30R; T/O.				
12	01:10	00:55	<b>CANDIDATE 2 (First Officer)</b>								
							Repeat items 1-10 (except item 4 not required)				
							End point: Stopped on runway.				
							Position Set: T/O.				
							Aircraft Set: FUEL 30T				
							Environment Set: 8000 OVC020				
							FMS RECALL.				
13	02:05	00:10	<b>Visual Circuit</b>								<b>x</b>
							End point stopped on runway.				
							Position Set: RWY 30R; T/O.				
			<b>CANDIDATE 1</b>								
							Complete a visual circuit or continue to RHS Revalidation as required.				
			<b>RHS Revalidation</b>								
14	02:15	00:05	<b>Take-off with engine failure between V1 and V2.</b>								
							ATA 71: ENGINE N1 SEIZURE L, PRESET V1 (167).				
							FMS RECALL. Mini-brief. Refresh Engine Out Procedure.				
						7.1	Take-offs with simulated engine failure between V1 and V2				
							Secure Engine & Checklists as appropriate.				
15	02:20	00:05	<b>Visual Circuit with Go-Around</b>								
							Manually flown visual circuit and go-around from 200ft with one engine inoperative.				
						7.2	Missed Approach One Engine Inoperative				
16	02:25	00:05	<b>Landing with One Engine Inoperative</b>								
							Visual Circuit to landing. Note: Full visual circuit or REPOS outside the IAF is required for recency.				
						7.3	Landing with critical engine simulated inoperative				
							End point: Stopped on runway.				
Event	Time Line	Event Time	Scenario	Sim Set	Examiner Set-up	Examiner Guide	Elements	OPT	Brief		
							CLEAR MALF.				
							ALL SYSTEM RESET				
							Fuel Control Switch RUN. Flaps 5. FMS RECALL.				
							ENG RAPID START.				
17*	02:30	00:05	<b>Rejected Take-off (time available)</b>								
							Position Set: T/O.				
							ATA 71: ENGINE N1 SEIZURE L, PRESET 120KTS.				
						2.6	Rejected take-off at a reasonable speed before reaching V1				
							End point stopped, with PA complete.				
							Position Set: REF ARPT OMDB; RWY 12R; Gate F17.				
							TOTAL RESET, EICAS RESET.				
	02:35						Aircraft Set: EXT Power ON				