

Notice to Aircrew

No: 002/20/T

Title	Low Visibility Training Syllabi added to OMD App A
Applicability	All pilots
Applicability	All pilots

Background

Training providers hitherto did not submit training syllabi for Low Visibility Operations. Those that have a generic syllabus have now been added to OM D App A

Policy

OM D Appendix A is updated with the Low Visibility training syllabi of our main training providers.

Issued by

Name Paul Milton

Position HoT

Date:	16/01/2020	Valid to:	31/07/2020	lssue:	1
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INTRODUCTION

The Phased Recurrent Programme is designed to cover all of the technical elements required by the applicable regulations below over a rolling 3-year period. The training is provided by Flight Safety International & CAE, following their programmes as outlined in their respective training manuals. It is designed to be compliant with the following regulations:

Training Elements	EASA Compliance
Recurrent Training	ORO.FC.130 Recurrent training and checking ORO.FC.230 Recurrent training and checking AMC1 ORO.FC.230 Recurrent training and checking GM1 CAT.OP.MPA.290 Use of EGWPS GM1 CAT.OP.MPA.295 Use of ACAS
UPRT	AMC 1 & 2 ORO.FC.220 & 230 AMC1 & 2 ORA.FC.145 AMC1 & 2 ORO.FC.145(b)

Normal and abnormal operations and emergency procedures 3 year rolling phase training syllabus:

FSI name their phases Blue, White & Red; CAE name theirs as A, B, C

Phase A / Blue	Phase B / White	Phase C / Red
 APU Hydraulics Landing gear Brakes / steering Primary Flight Control System Fire Protection Engine & Propeller (Flight Safety) 	 Electrical System Lighting Systems Communications Systems Navigation Systems Instruments & Recorders Autopilot system Fuel System (incl. Dumping If applicable) Engines and propeller (CAE) 	 Pneumatic Systems Air Conditioning System Pressurisation System Oxygen System Ice & Rain Protection Emergency equipment Pitot and Static

Ground training Instructors will show the layout, construction and function of the aircraft components and systems detailed in but not limited to the applicable phase (phase systems) as detailed above. They will show the available protections and indications and explain the normal and abnormal operation of the aircraft, including the phase systems, and the associated limitations. This will include pre and post-flight checks in normal operations including mass and balance, loading and aircraft performance with reference to the Aircraft Flight Manual and related documentation.

Time will be spent reviewing accident/incident and occurrence reports and highlighting safety

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Issues. Flight Crew members will complete a questionnaire at the end of the ground and/or refresher period.

Flight Training and Checking

The phased recurrent flight training programme is designed to cover all of the technical elements required of ORO.FC.130 or ORO.FC.230 (as applicable to the operation) over a rolling 3-year period, covered in tandem with the ground technical training phases. Similarly, the Upset Prevention & Recovery Training (UPRT) requirements of AMC1 ORO.FC220 & 230 are embedded within and delivered simultaneously with the 3-year recurrent training programme. The UPRT elements have been collated into 3 modules to fit with each of the phases. The UPRT modules are detailed within each respective Phase syllabus as set out in the following pages.

Training providers will forward all required paper records for each crew member to Gama Crew Training. Gama accepts training provider paperwork from EASA approved & audited ATOs.

For the company OPC, training providers will additionally complete Gama form FRM-TR-1101 & forward to Gama Crew Training.

ANNUAL PHASED RECURRENT TRAINING – CAE

Ground School Technical Training

Ground school must cover a detailed review of the systems listed above as per phase, including normal and abnormal systems operation and associated emergency procedures.

Flight Manoeuvres, Procedures & UPRT

		Phase A Training Day	OPC Check	Phase B Training Day	OPC Check	Phase C Training Day	OPC Check
	FLIGHT MANOEUVRES &	PROCED	URES SY	STEMS			
3.4.0	Engine / Powerplant				х		
3.4.1	Pressurisation and Air-Conditioning system					X	
3.4.2	Pitot / Static system			Х			
3.4.3	Fuel system				Х		
3.4.4	Electrical system			Х			
3.4.5	Hydraulic system	Х					
3.4.6	Flight control and Trim-System	Х					
3.4.7	Anti and De-Icing system, Glare Shield Heating						Х
3.4.8	Auto-pilot/Flight director				х		Х
3.4.9	Stall Warning Devices, & Stability Augmentation Devices	Х	Х			X	
3.4.10	EGWPS, Weather Radar, Radio Altimeter, Transponder			Х			
3.4.11	Radios, Navigation Equipment, Instruments, FMS				Х		
3.4.12	Landing Gear and Brake system		х				
3.4.13	Slat and Flap system (Flapless approach)	х					
3.4.14	Auxiliary Power Unit		х				

		Phase A Training Day	OPC Check	Phase B Training Day	OPC Check	Phase C Training Day	OPC Check
	EMERGENCY & ABNO	ORMAL PR	ROCEDUR	RES			
3.6.1	Fire drills including evacuation				Х		
3.6.2	Smoke control and removal (Deploy EVAS if fitted)		X			Х	
3.6.3	Engine failures, shut-down and restart at a safe height				Х		Х
3.6.5	Windshear at Take-Off / Landing	X					
3.6.6	Simulated Cabin Pressure Failure / Emergency Descent					Х	
3.6.7	Incapacitation of Flight Crew Member				Х		
3.6.8	Other emergency procedures as outlined in the AFM			X			
3.6.9	TCAS event	Х	Х	Х	Х	Х	Х
3.8	Early Recognition & Countermeasures on Approaching Stall			Х			



	INSTRUMENT FLIC	GHT PRO	CEDURES				
3.9.3.1	Precision approach to DA, manually, without the flight director		AS REQ		AS REQ		AS REQ
3.9.3.2	Precision approach to DA, manually, with the flight director		AS REQ		AS REQ		AS REQ
3.9.3.3	Precision approach to DA, manually, with the auto-pilot		AS REQ		AS REQ		AS REQ
3.9.3.4	Precision approach to DA, manually, with one engine inoperative		х		X		x
3.9.4	Non Precision approach down to MDH/A		х		X		х
3.9.5	Circling Approach	х					
4.1	Go-Around with all engines operating after an ILS approach reaching DH					Х	
4.2	Other missed approach					Х	
4.3	Manually flown go-around with critical engine inoperative		AS REQ		AS REQ		AS REQ
4.4	Rejected landing at 15m (50 ft) above runway threshold and go-around			х			
5.1	Normal landing after an ILS approach with transition to visual flight on reaching DA						
5.2	Landing with simulated jammed horizontal stabiliser	х				Х	
5.3	Cross wind landings						
5.4	Traffic pattern and landing without extended / partly extended flaps/ slats	х					
5.6	Landing with two engines simulated inoperative (if applicable):			х			

CAE Recurrent Phased UPRT Recovery training (recurrent ground briefing and FFS items required, by phase)	Phase A	Phase B	Phase C
Pre- Recovery handling exercise;			
Steep turn			x
Recovery from developed upsets;			
Description of the second s			
Recovery from nose high with bank angle	x		x
Recovery from nose low with bank angle		x	
Timely and appropriate intervention and consolidated summary of aeroplane recovery techniques	x	x	x
Recovery from stall events in the following configurations;			
Take-off configuration + clean config low altitude		x	x
Landing configuration during the approach phase	x		x
Clean configuration near maximum operating altitude	x	X	

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Operations Manual Part D – Training

Appendix A – Training Syllabus for Normal & Abnormal Operations and Emergency Procedures – Phase Training

ANNUAL PHASED RECURRENT TRAINING – FLIGHT SAFETY

Ground School Technical Training

Ground school must cover a detailed review of the systems listed above as per phase, including normal and abnormal systems operation and associated emergency procedures

Flight Manoeuvres, Procedures & UPRT

Blue Phase

Blue I	Phase	Sim 1	Sim 2	Sim 3
	reaching decision height (4.1*)			
•	Other Missed Approach Procedures (4.2)	X		
•	Manual Go-around, one engine inoperative after an instrument approach on reaching DH, MDH or MAPt(4.3*)		х	х
•	Rejected Landing at 15m (50ft) above runway threshold and go-around (4.4)	х		
Landir	ngs			
•	Normal landings with visual reference established when reaching DA/H following an instrument approach operation (5.1)	х		
•	Landing with a Simulated Jammed Horizontal Stabilizer in any Out-of-Trim Position (5.2)		х	
•	Traffic Pattern and Landing Without Extended or With Partly Extended Flaps and Slats (5.4)		x	
•	Landing With Critical Engine Simulated Inoperative (5.5)		X	Х
•	Landing with Two Engines Inoperative (airplanes with 3 engines: the Center Engine and One Outboard Engine) (5.6)		x	х
Postfli	ght Procedures			
•	After Landing Procedures		X	Х
UPRT		1.5		1.5.
•	UPRT Blue Phase (FSTD Training Elements and Components According to Appendix 1)		х	

Blue Phase	Sim 1	Sim 2	Sim
Flight Preparation	C-AIP	-	2
 Use of checklist prior to starting engines, starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies (1.4) 	х	x	x
 Before Takeoff Checks (1.6) 	Х	X	X
Takeoffs	and the second		
 Normal Takeoffs with different flap settings, including expedited takeoffs (2.1) 	Х		
 Takeoff with simulated engine failure between V1-V2 (2.5.2*) 		X	X
 Rejected takeoff at a reasonable speed before reaching V1 (2.6) 		X	X
Normal and Abnormal Operations of Systems		1. 510	
 Engine (if necessary propeller) (3.4.0) 			X
Hydraulic System (3.4.5)	X		
 Flight Control and Trim System (3.4.6) 		X	
 Stall warning devices or stall avoidance devices, and stability augmentation devices(3.4.9) 		x	
 Landing Gear and Brakes (3.4.12) 	X		
 Slat and Flap System (3.4.13) 		X	
 Auxiliary Power Unit (if applicable) (3.4.14) 			X
Abnormal and Emergency Procedures			
 Fire Drills including Evacuation (3.6.1) 			X
APU Fire			X
Cabin Fire			X
 Smoke Control and Removal (3.6.2) 			X
 Engine failures, shutdown and restart at a safe height (3.6.3) 		X	
 Windshear at Takeoff/Landing (3.6.5) 		X	
 ACAS event (3.6.9) 	X		
Early recognition and counter measures on approaching stall (up to activation of stall warning device) in take-off configuration (flaps in take-off position), in cruising flight configuration and in landing configuration (flaps in landing position, gear extended) (3.8)		x	
Instrument Flight Procedures			
 Adherence to Departure and Arrival Routes and ATC instructions (3.9.1*) 	х		
 3D approach, Manually With Flight Director (3.9.3.2*) 			X
 3D approach, One Engine Inoperative, Manually Flown (3.9.3.4*) 		x	x
 2D approach down to the MDH/A (3.9.4*) 	Х	X	X
RNP Approach	Х	X	X
Missed Approach Procedures		1 - 2	
· Go-around, All Engines Operating during a 3D approach on	X		



Red Phase

Red Phase Manoeuvres/Procedures	Sim 1	Sim 2	
Flight Preparation		-	
 Use of checklist prior to starting engines, starting procedures, 	X	X	X
radio and navigation equipment check, selection and setting of	~	~	~
navigation and communication frequencies (1.4)			
Taxiing in compliance with ATC (1.5)			
Before Takeoff Checks (1.6)	X	X	X
Takeoffs			
 Instrument Takeoff, transition to instrument flight is required 	X		
during rotation or immediately after becoming airborne (2.2*)	~		
 Takeoff with simulated engine failure between V1-V2 (2.5.2*) 		X	X
 Rejected takeoff at a reasonable speed before reaching V1 (2.6) 		X	X
Flight Manoeuvres and Procedures	1		
Turns With / Without Spoilers (3.1)		X	
Tuck under and Mach buffets after reaching the critical Mach		X	
number, and other specific flight characteristics of the airplane			
(e.g Dutch Roll) (3.2)			
Normal and Abnormal Operations of Systems			
Pressurization and Air Conditioning System (3.4.1)		X	
Anti-ice and Deice System (3.4.7)			X
Pneumatic System		X	
Oxygen System		X	
Emergency Equipment			X
Abnormal and Emergency Procedures			-
 Fire Drills including Evacuation (3.6.1) 	X		X
Cargo Fire		X	
 Engine failures, shutdown and restart at a safe height (3.6.3) 		X	X
 Simulated cabin pressure failure/Emergency Descent (3.6.6) 		X	
· Others Emergency Procedures, as outlined in the appropriate			X
AFM (3.6.8)			
 ACAS event (3.6.9) 	X		
Instrument Flight Procedures			
· Adherence to Departure and Arrival Routes and ATC	Х		
instructions (3.9.1*)			
· 3D approach, One Engine Inoperative, Manually Flown		X	X
(3.9.3.4*)			
 2D approach down to the MDH/A (3.9.4*) 	Х	X	X
 Circling Approach (3.9.5*) 			
RNP Approach	Х	X	X
Missed Approach Procedures			
· Manual Go-around, one engine inoperative after an instrument		X	X



approach on reaching DH, MDH or MAPt(4.3*)			
 Rejected Landing at 15m (50ft) above runway threshold go-around (4.4) 	and X		
Landings	1.10.5	D'antit	Stat 3
 Normal landings with visual reference established w reaching DA/H following an instrument approach opera (5.1) 			
 Crosswind Landing (5.3) 	X		
 Landing With Critical Engine Simulated Inoperative (5.5) 		X	X
 Landing with Two Engines Inoperative (airplanes wit engines: the Center Engine and One Outboard Engine) (5.6) 		x	X
Postflight Procedures	1.1.1	1.00	-
 After Landing Procedures 		X	
UPRT		1.5	1.1.1
 UPRT Red Phase (FSTD Training Elements and Compon According to Appendix 1) 	ents	x	

White Phase

 2D approach down to the MDH/A (3.9.4*) 	Х		X
RNP Approach	Х	X	X
Missed Approach Procedures			1224
 Other Missed Approach Procedures (4.2) 	Х		
 Manual Go-around, one engine inoperative after an instrument approach on reaching DH, MDH or MAPt(4.3*) 			X
 Rejected Landing at 15m (50ft) above runway threshold and go-around (4.4) 	Х		
Landings			5.2
 Normal landings with visual reference established when reaching DA/H following an instrument approach operation (5.1) 	х		
 Crosswind Landing (5.3) 	Х		
 Landing With Critical Engine Simulated Inoperative (5.5) 		X	X
 Landing with Two Engines Inoperative (airplanes with 3 engines: the Center Engine and One Outboard Engine) (5.6) 		X	X
Postflight Procedures	la se la seconda de la seconda d		
After Landing Procedures	Х	X	X
 Parking and Securing 	X	X	
UPRT			
 UPRT White Phase (FSTD Training Elements and Components According to Appendix 1) 		х	

White Phase	Sim 1	Sim 2	Sim 3
Manoeuvres/Procedures			_
Flight Preparation			
Cockpit Inspection (1.3)	X	X	
 Use of checklist prior to starting engines, starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies (1.4) 	X	X	X
 Before Takeoff Checks (1.6) 	X	X	X
Takeoffs			1
 Normal Takeoffs with different flap settings, including expedited takeoffs (2.1) 	X		
 Instrument Takeoff, transition to instrument flight is required during rotation or immediately after becoming airborne (2.2*) 	x		
 Crosswind Takeoff (2.3) 	X		
 Takeoff at Maximum Takeoff Mass (2.4) 			X
 Takeoff with simulated engine failure between V1-V2 (2.5.2*) 		X	X
 Rejected takeoff at a reasonable speed before reaching V1 (2.6) 		X	X
Normal and Abnormal Operations of Systems	Second State		
 Pitot Static System (3.4.2) 		X	
 Fuel System (3.4.3) 			X
 Electrical System (3.4.4) 	X		
 Autopilot/Flight Director (3.4.8) 	X		
 Stall warning devices or stall avoidance devices, and stability augmentation devices(3.4.9) 			
 Ground Proximity Warning System, Weather Radar, Radio Altimeter, Transponder (3.4.10) 		Х	
 Radios, Navigation Equipment, Instruments, Flight Management System (3.4.11) 		Х	
Abnormal and Emergency Procedures			
 Fire Drills including Evacuation (3.6.1) 			X
Wing Fire			X
 Engine failures, shutdown and restart at a safe height (3.6.3) 		X	
 Fuel Dumping (if applicable to airplane) (3.6.4) 			X
 Windshear at Takeoff/Landing (3.6.5) 	X		
 Incapacitation of Flight Crewmember (3.6.7) 	X		X
 ACAS event (3.6.9) 		X	
nstrument Flight Procedures			
 Adherence to Departure and Arrival Routes and ATC instructions (3.9.1*) 	х		
 3D approach, Manually With Flight Director (3.9.3.2*) 	X		
 3D approach, One Engine Inoperative, Manually Flown (3.9.3.4*) 		Х	Х



Operations Manual Part D – Training

Appendix A – Training Syllabus for Normal & Abnormal Operations

and Emergency Procedures – Phase Training

Company OPC

This check profile includes all the mandatory items required for the OPC. Training Providers will complete company form FRM-TR-1101 & forward to Gama Crew Training

1	Pre-Flight & Taxi	Full start up - Trim function test incorrect 3.4.6 APU fault - if applicable to type 3.4.14
2	RTO	Non engine-related warning/fault after 80kts before V1
3	Take-off	Engine Failure between V1 and V2 (in aircraft after V2 & safe height)
4	Descent & Approach	Engine failure in cruise, descent or initial approach
5	2D approach OEI LOC DME, VOR, NDB or LNAV-Only RNAV	AP available - Go around due weather
6	3D approach OEI to land ILS, LPV or LNAV/VNAV (Baro VNAV)	No AP - FD available - weather at minima
NOTE : At least one instrument approach should be a PBN approach. This may be 2D or 3D. NOTE : Examiner must cover equivalent items for 2 nd applicant but may use alternative profile.		

NOTE: HUD & EVS not for operational credit.

LOW VISIBILITY OPERATIONS

COMPLIANCE

Low Visibility Operations training modules are intended to be compliant with the following EASA AIR-OP's requirements:

Training Elements	EASA Compliance
CAT II	SPA.LVO.100 Low visibility operations
	AMC1 SPA.LVO.100 Low visibility operations
	AMC4 SPA.LVO.100 Low visibility operations
	AMC7 SPA.LVO.100 Low visibility operations
	GM1 SPA.LVO.100 Low visibility operations
	GM1 SPA.LVO.100(c), (e) Low visibility operations
	SPA.LVO.110 General operating requirements
	SPA.LVO.120 Flight crew training and qualifications
	AMC1 SPA.LVO.120 Flight crew training and
	qualifications
	SPA.LVO.130 Minimum equipment
CAT II/III	SPA.LVO.100 Low visibility operations
	AMC1 SPA.LVO.100 Low visibility operations
	AMC4 SPA.LVO.100 Low visibility operations
	AMC5 SPA.LVO.100 Low visibility operations
	AMC7 SPA.LVO.100 Low visibility operations
	GM1 SPA.LVO.100 Low visibility operations
	GM1 SPA.LVO.100(c), (e) Low visibility operations
	GM1 SPA.LVO.100(e) Low visibility operations

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	SPA.LVO.110 General operating requirements
	SPA.LVO.120 Flight crew training and qualifications
	AMC1 SPA.LVO.120 Flight crew training and
	qualifications
	SPA.LVO.130 Minimum equipment
EVS	SPA.LVO.100 Low visibility operations
	AMC1 SPA.LVO.100 Low visibility operations
	AMC6 SPA.LVO.100 Low visibility operations
	AMC7 SPA.LVO.100 Low visibility operations
	GM1 SPA.LVO.100 Low visibility operations
	SPA.LVO.110 General operating requirements
	SPA.LVO.120 Flight crew training and qualifications
	AMC1 SPA.LVO.120 Flight crew training and
	gualifications
	SPA.LVO.130 Minimum equipment

CAE

SIMULATOR SESSION

Initial Flight Simulator Training will include as a minimum the satisfactory completion of manoeuvres:

- ★ Low Visibility Taxi & Take-off (LVTO)
- ★ Rejected Take-off
- ★ LVTO & Engine Failure After Take-off
- ★ 6 CAT II OR COMBINATION OF CAT II/III ILS approaches
- ★ Abnormal procedures requiring reversion to higher minima
- ★ Abnormal procedures requiring reversion to Missed Approach Procedure
- ★ Ground based elements of Approach unserviceable
- ★ MMEL/MEL dispatch issue affecting Low Visibility Operations
- ★ Incapacitation exercise

★ Missed Approach Procedures due to weather

If the HUD is used for CAT II/III approaches then the following additions are required:

- 1) 2 CAT II OR COMBINATION OF CAT II/III ILS approaches2
- 2) HUD failure requiring reversion to higher minima

Finnish Aviation Academy (BE350 SP Operations)

22L

Low Visibility Training

Airfield	Helsinki-Vantaa (EFHK)

Runway

RVR 150m

- aborted takeoff, engine fire and evacuation
- continued takeoff, engine failure at V1
- normal takeoff



Operations Manual Part D – Training

Appendix A – Training Syllabus for Normal & Abnormal Operations and Emergency Procedures – Phase Training

Flight Safety

Flight Simulator Training (2.0/1.0) Technical Objectives:

The aim of the Simulator training module is to qualify the student for Initial Qualification, and where appropriate subsequent recurrent training to meet the requirements found in:

- Air Operations Regulation (EU) No 965/2012
- Annex IV Part-CAT subpart B-Operating Procedures
- Annex V Part-SPA subpart E-Low Visibility Operations (LVO) appendices and the Company SOPs for LVTO and Category I I/III Operations. Lesson Overview Initial Qualification:
- Low Visibility Taxi Procedures (Minimum Approved Departure RVR)
- Take-off:
- Visual Confirmation of RVR
- Aborted Take-off in Minimum Approved RVR
- Normal Take-off in Minimum Approved RVR
- Take-off with Engine Failure Between V1 VR
- Approaches:
- Coupled Approach with Freezes at various heights relevant to the Approach Category with Corresponding RVRs to Demonstrate Approach / Threshold Lights that can be expected to be Visual. Normal Landing
- Coupled Approach to Go- around Due to Weather. RVR Reduces Below Landing Minimum RVR after FAF.
- Coupled Approach to a Go-around AFTER Landing Decision
- Coupled Approach with Engine Failure at DH +500 ft Go-around
- Coupled Approach With One RAD ALT Failure At DH+300 ft, Revert To CAT I Minimums. RVR Reported As 550 m.
- Coupled Approach with LOC Deviation at DH +200 ft Go-around with Engine Failure During Go-around Once Flaps Selected to Go-around Setting.
- Coupled Approach with PF Incapacitation after FAF
- Coupled Approach to Landing. RVR relevant to the Approach category. FlightSafety International 30 May 2017_Rev3.0 Page | 7.

Recurrent Qualification:

- Low Visibility Taxi Procedures (Minimum Approved Departure RVR)
- Take-off:
- Visual Confirmation of RVR
- Aborted Take-off in Minimum Approved RVR
- Take-off with Engine Failure between V1 VR
- Approaches: (Minimum of Three Approaches, More May Be Flown Time Permitting)
- Coupled Approach to Landing RVR relevant to the Approach Category.
- Coupled Approach to Go-around Due to Weather. RVR Reduces to Below Required Landing RVR After F AF.
- Coupled Approach To Go-Around Due to System Malfunction that Downgrade s Category II/III Capability.
- L3: LV Requests to be made on TCA.