Boeing 737 300-900
Type Rating Training Course Training Manual (EFIS / Classic Versions)

0.1 INTRODUCTION

The Swan Fly Estonia ATO B737 Type Rating Training Manual ('EFIS / Classic Versions') sets out the requirements for instructors to deliver, and students to receive training on an enrolled course of training for the award of a B737 300-900 Type Rating under the requirements of Part FCL.

This manual demonstrates compliance with the requirements of Part FCL and associated Parts including Part ORA requirements.

Swan Fly Estonia ATO staff are required to comply with the content of this manual and students are expected to follow the requirements herein.

Included within this manual is the Type Rating training program as required to show compliance with requirements of Regulation (EC) 2018/1139 and its Implementing Rules.

0.2 LIST OF DISTRIBUTION

Holder	Means of Distribution
Swan Fly Estonia ATO Office	Digital platform
Estonian Transport Administration	Digital platform
Accountable Manager	Digital platform
Head of Training	Digital platform
Safety Manager/ Compliance Monitoring Manager	Digital platform
Chief Theoretical Knowledge Instructor	Digital platform

0.3 SYSTEM OF AMENDMENT AND REVISION

See OMM Chapter 0.3 and Chapter 1.1.

0.4 LIST OF REVISIONS

Revision Number	Inserted by	Date	Signature
Issue 1 / Rev. 0	Swan Fly Estonia	16/02/2015	
Issue 1 / Rev. 1	Swan Fly Estonia	27/11/2018	***digitally signed***
Issue 2 / Rev 0	Swan Fly Estonia	01/05/2020	***digitally signed***
Issue 2 / Rev 1	Swan Fly Estonia	20/01/2022	***digitally signed***
Issue 2 / Rev 2	Swan Fly Estonia	20/12/2023	***digitally signed***

0.5 LIST OF EFFECTIVE PAGES AND DATES

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Approved by Swan Fly Estonia ATO	Approved by the Estonian Transport Administration*
digitally signed	***digitally signed***

* ETA approval for those parts required to be approved under Regulation 2018/1139 and its Implementing Rules. Signature herein indicates acceptance for all other parts.

0.6 TABLE OF CONTENTS

PART A: THE TRAINING PLAN

Chapter 1
Aim of the Course

The B737 type rating training course aims to train students to the level of proficiency required to fly the B737 300-900 aircraft (as applicable to the specific variant/s of the course undertaken) as a member of the operational crew, in full accordance with the requirements of Part FCL. Privileges of this may be granted upon successful completion of the Type Rating theoretical knowledge examinations (aircraft systems and performance), and type rating skill test as performed by a designated examiner. Completion of these requirements may also satisfy some requirements from Part OPS and related parts and subparts, however, there is no automatic inference and the requirements of the particular operator must be determined individually by the OM(D) of the AOC and any related documents and procedures.

This Manual should be used in conjunction with the latest OSD, available at

CLICK HERE

The following sub-chapters detail the aim of specific elements of the course.

1.1 Aim of the course - Theoretical Knowledge

The objective of the theoretical Knowledge Course for the B737 Type Rating course is to train the student to a level of knowledge required for the safe operation of this aircraft. To that end, the syllabus contained in Part D of this manual is developed in compliance with AMC1 FCL.725(a), AMC2 ORA.ATO.125 and any additional guidance contained in the relevant Operational Suitability Data for the aircraft type. All areas implied under this objective are contained within the syllabus in the respective sub-chapters of part D of this manual.

1.2 Aim of the course - Simulator Training

The objectives of the simulator training are to teach the student to a standard whereby she or he can perform all maneuvers related to the B737 type rating skill test, following Appendix 9 to Part FCL, smoothly, with accuracy and in a manner by which the outcome of the maneuver is never in doubt. In accomplishing this standard, the student is trained to a level whereby she or he can operate the aircraft in the simulator environment to the standard required for a pass in the type rating skill test, and subsequently transition this to the actual aircraft.

1.3 Aim of the course - Aeroplane Training

Not applicable

Chapter 2
Pre-entry requirements

2.1 Defined minimum requirements

Pre-entry requirements have to be fulfilled before the student enrolls in the course and/or commences training. The Authority of license issue, and Head of Training within Swan Fly Estonia ATO, may permit to make exemptions from the pre-entry requirements. Such permissions shall be enclosed in the individual student Training Record and shall be notified to the ETA for acceptance before training to commence.

2.1.1 Age

Applicant students shall be a minimum of 18 years of age before training commences.

2.1.2 Educational requirements

2.1.2.1 Applicants for course of training for first multi-pilot type rating

Unless otherwise determined in the operational suitability data, applicants for the issue of the first type rating course for a multi-pilot airplane:

- Be student pilots currently undergoing training on an MPL training course*;*

or

- have at least 70 hours of flight experience as PIC in airplanes; and,
- hold or have held a multi-engine IR(A); and,
- have completed the Advanced UPRT course – airplanes, PART-FCL.745.A (certificate of completion by an ATO); and,
- have passed the ATPL(A) theoretical knowledge examinations under Part-FCL; and,
- except when the type rating course is combined with an MCC course:
  - hold a certificate of satisfactory completion of an MCC course in airplanes;

  or
  - hold a certificate of satisfactory completion of MCC in helicopters and have more than 100 hours of flight experience as pilots of multi-pilot helicopters;

  or
  - have at least 500 hours as pilots of multi-pilot helicopters;

  or
  - have at least 500 hours as pilot in multi-pilot operations on single-pilot multi-engine airplanes, in commercial air transport following the applicable air operations requirements;

2.1.2.2 Applicants for course of training already holding or having held a Part-FCL Multi-Pilot Type Rating

Unless otherwise determined in the operational suitability data, applicants for the issue of a second or subsequent Multi-Pilot Type Rating shall:

- Hold a valid Commercial Pilot Licence or Airline Transport Pilot Licence and
- Hold or have held a valid Multi-Pilot Type Rating issued under Part-FCL.
- If the type rating shall be an unrestricted type rating valid for Pilot in Command, the applicant must be a holder of an Airline Transport Pilot Licence or satisfactorily complete the ATPL skill test under FCL.520.A upon graduation from the course, following the procedures contained herein.

Type rating courses for the benefit of Synthetic Flight instructors are exempt from these requirements provided they meet the respective requirements for Synthetic Flight Instructor (see B737 SFI Manual).

2.1.2.3 Language

Candidates shall hold a certificate issued under FCL.055 or license endorsement of at least level 4 of English language proficiency.

2.1.3 Medical requirements;

All applicants to enroll on a Swan Fly Estonia ATO type rating course shall be the holder of a valid Class 1 medical certificate issued per Annex IV to Regulation (EU) 1178/2011 (as amended). This medical certificate shall remain valid for the duration of the course, or if lapsing while the student is enrolled on the course, shall as a minimum be renewed before undertaking the aerodrome training element of the course.

Type rating courses for the benefit of Synthetic Flight instructors are exempt from these requirements provided they meet the respective requirements for Synthetic Flight Instructor (see B737 SFI Manual).

2.2 Any individual Member State (ETA or other) requirements.

Not Applicable

Chapter 3
Credits for previous experience

To be obtained from the ETA before training begins, if any credits are being sought.

3.1 Crediting

No standard crediting applies to this course

Chapter 4
Training syllabi

4.1 Flying syllabus

Not applicable.

4.2 Flight simulation training syllabus

The flight simulation training syllabus is contained within this subchapter and is written in a general manner to be relevant to all the company type rating courses. As such it should be taken on an 'as applicable' basis, which is clarified for the specific airplane type and course type in the respective TRM Part C.

Section 1

1 Flight preparation
1.1 Performance calculation
1.2 Aeroplane external visual inspection; location of each item and purpose of inspection
1.3 Cockpit inspection
1.4 Use of checklist prior to starting engines, starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies
1.5 Taxiing in compliance with air traffic control or instructions of instructor
1.6 Before take-off checks

Section 2
2 Take-offs
2.1 Normal take-offs with different flap settings, including expedited teake-off
2.2* Instrument take-off; transition to instrument flight is required during rotation or immediately after becoming airborne
2.3 Crosswind take-off
2.4 Take-off at maximum take-off mass (actual or simulated maximum take-off mass)
2.5 Take-offs with simulated engine failure
2.5.1 shortly after reaching V2 (in aeroplanes not certificated as transport category or commuter category aeroplanes, the engine failure shall not be simulated until reaching a minimum height of 500 ft above runway end. In aeroplanes having the same performance as a transport category aeroplane regarding take-off mass and density altitude, the instructor may simulate the engine failure shortly after reaching V2)*
2.5.2 between V1 and V2*
2.6 Rejected take-off at a reasonable speed before reaching V1

Section 3

3 Flight Manoeuvres and Procedures
3.1 Manual flight with and without flight directors (no autopilot, no autothrust/autothrottle, and at different control laws**, where applicable)
3.1.1 At different speeds (including slow flight) and altitudes within the FSTD training envelope
3.1.2 Steep turns using 45° bank, 180° to 360° left and right.
3.1.3 Turns with and without spoilers
3.1.4 Procedural instrument flying and manoeuvring including instrument departure and arrival, and visual approach
3.2 Tuck under and Mach buffets (if applicable) after reaching the critical Mach number, and other specific flight characteristics of the aeropleane (e.g. Dutch Roll)

3.3 Normal operation of systems and controls engineer's panel (if applicable)
3.4 Normal and abnormal operation of following systems:
3.4.0 Engine (if necessary propeller **)
3.4.1 Pressurisation and air condition
3.4.2 Pitot/static system
3.4.3 Fuel system
3.4.4 Electrical system
3.4.5 Hydraulic system
3.4.6 Flight control and Trim-system
3.4.7 Anti-icing/de-icing system, Glare shield heating
3.4.8 Autopilot/Flight director
3.4.9 Stall warning devices or stall avoidance devices, and stability augmentation devices
3.4.10 Ground proximity warning system, weather radar, radio altimeter, transponder
3.4.11 Radios, navigation equipment, instruments, flight management system
3.4.12 Landing gear and brake
3.4.13 Slat and flap system
3.4.14 Auxiliary power unit
3.6 Abnormal and emergency procedures
3.6.1 Fire drills, e.g. engine, APU, cabin, cargo compartment, flight deck, wing and electrical fires including evacuation
3.6.2 Smoke control and removal
3.6.3 Engine failures, shutdown and restart at a safe height
3.6.4 Fuel dumping (simulated) ***
3.6.5 Wind shear at take-off/landing
3.6.6 Simulated cabin pressure failure/emergency descent
3.6.7 Incapacitation of flight crew member
3.6.8 Other emergency procedures as outlined in the appropriate Aeroplane Flight Manual
3.6.9 TCAS event
3.7 Upset recovery training
3.7.1 Recovery from stall events in: take-off configuration; clean configuration at low altitude; clean configuration near maximum operating altitude; and landing configuration.
3.7.2 The following upset exercises: recovery from nose-high at various bank angles; and recovery from nose-low at various bank angles
3.8 Instrument flight procedures
3.8.1* Adherence to departure and arrival routes and ATC instructions
3.8.2* Holding procedures
3.8.3* 3D operations to DH/A of 200 ft (60 m) or to higher minima if required by the approach procedure
Note: According to the AFM, RNP APCH procedures may require the use of autopilot or flight director. The procedure to be flown manually shall be chosen taking into account such limitations (for example, choose an ILS for 3.8.3.1 in the case of such AFM limitation).
3.8.3.1* manually, without flight director
3.8.3.2* manually, with flight director
3.8.3.3* with autopilot
3.8.3.4* Manually, with one engine simulated inoperative during final approach, either until touchdown or through the complete missed approach procedure (as applicable), starting:

(i) before passing 1 000 ft above aerodrome level; and
(ii) after passing 1 000 ft above aerodrome level.

In aeroplanes which are not certificated as transport category aeroplanes (JAR/FAR 25) or as commuter category aeroplanes (SFAR 23), the approach with simulated engine failure and the ensuing go-around shall be initiated in conjunction with the 2D approach in accordance with 3.8.4. The go-around shall be initiated when reaching the published obstacle clearance height/altitude (OCH/A); however, not later than reaching an MDH/A of 500 ft above the runway threshold elevation. In aeroplanes having the same performance as a transport category aeroplane regarding take-off mass and density altitude, the instructor may simulate the engine failure in accordance with exercise 3.8.3.4..

3.8.4* 2D operations down to the MDH/A

3.8.5 Circling approach under following conditions:

(a)* approach to the authorised minimum circling approach altitude at the aerodrome in question in accordance with the local instrument approach facilities in simulated instrument flight conditions;
Followed by:

(b) circling approach to another runway at least 90° off centreline from final approach used in item (a), at the authorised minimum ciclinig approach altitude.

Remark: if (a) and (b) are not possible due to ATC reasons, a simulated low vibility pattern may be performed.

3.8.6 Visual approaches

Section 4

4 Missed Approach Procedures

4.1 Go-around with all engines operating* during a 3D operation on reaching decision height

4.2 Go-around with all engines operating* from various stages during an instrument approach

4.3 Other missed approach procedures

4.4* Manual go-around with the critical engine simulated inoperative after an instrument approach on reaching DH, MDH or MAPt

4.5 Rejected landing with all engines operating: from various heights below DH/MDH; after touchdown (baulked landing) In aeroplanes which are not certificated as transport category aeroplanes (JAR/FAR 25) or as commuter category aeroplanes (SFAR 23), the rejected landing with all engines operating shall be initiated below MDH/A or after touchdown.

Section 5

5 Landings

5.1 Normal landings* with visual reference established when reaching DA/H following an instrument approach operation

5.2 Landing with simulated jammed horizontal stabiliser in any out-of-trim position

5.3 Crosswind landings (a/c, if practicable)

5.4 Traffic pattern and landing without extended flaps and slats

5.5 Landing with critical engine simulated inoperative

5.6 Lading with two engines inoperative : ***

- aeroplanes with 3 engines : the centre engine and 1 outboard engine as far as practicable according to data of the AFM, **
- aeroplanes with 4 engines : 2 engines at one side

*	The starred items (*) shall be flown solely by reference to instruments. (If this condition is not net during the skill test or proficiency check, the type rating will be restricted to VFR only **).
**	This comment is not relevant to the B737 programs or to any other company programs which use this manual as the master manual, however, is retained herein because it is reflected in Appendix 9 to Part-FCL and as such it's presence herein will facilitate the building of future programs and/or facilitate instructor/student understanding of the requirements
***	These exercises do not apply to the B737 and other two-engine aircraft types for which courses are offered, however, they are applicable for other types for which training is offered and are thus included herein as the master manual

4.3 Theoretical knowledge training syllabus.

The theoretical knowledge syllabus is contained within this subchapter and is written in a general manner in order to be relevant to all relevant company courses. As such it should be taken on an 'as applicable' basis, which is clarified for the specific aeroplane type and course type in the respective TRM Part D. The syllabus is fully compliant with AMC1 FCL.725(a).

4.3.1 General Aircraft Knowledge

(a) Detailed listing for aeroplane structure and equipment, normal operation of systems and malfunctions:

(1) dimensions: minimum required runway width for 180 ° turn.

(2) engine including auxiliary power unit:

(i) type of engine or engines;

(ii) in general, function of the following systems or components:

(A) engine;
(B) auxiliary power unit;
(C) oil system;
(D) fuel system;
(E) ignition system;
(F) starting system;
(G) fire warning and extinguishing system;
(H) generators and generator drives;
(I) power indication;
(J) reverse thrust;
(K) water injection *

(iii) on piston or turbine-propeller engines additionally:*

(A) Propeller system
(B) Feathering system

(iv) engine controls (including starter), engine instruments and indications in the cockpit, their function, interrelation and interpretation;

(v) engine operation, including APU, during engine start, start and engine malfunctions, procedures for normal operation in the correct sequence.

(3) fuel system:

(i) location of the fuel tanks, fuel pumps, fuel lines to the engines, tank capacities, valves and measuring;

(ii) location of the following systems:

(A) filtering;
(B) heating;
(C) fuelling and defueling;
(D) Dumping **
(E) venting.

(iii) in the cockpit:

(A) the monitors and indicators of the fuel system;
(B) quantity and flow indication, interpretation.

(iv) procedures:

(A) fuel procedures distribution into the various tanks;
(B) fuel supply, temperature control and fuel dumping.

(4) pressurisation and air conditioning:

(i) components of the system and protection devices;

(ii) cockpit monitors and indicators;
(iii) interpretation about the operational condition;
(iv) normal operation of the system during start, cruise, approach and landing, air conditioning airflow and temperature control.

(5) ice and rain protection, windshield wipers and rain repellent:
(i) ice protected components of the aeroplane including engines, heat sources, controls and indications;
(ii) operation of the anti-icing or de-icing system during take-off, climb, cruise and descent, conditions requiring the use of the protection systems;
(iii) controls and indications of the windshield wipers and rain repellent systems operation.

(6) hydraulic system:
(i) components of the hydraulic system(s), quantities and system pressure, hydraulically actuated components associated to the respective hydraulic system;
(ii) controls, monitors and indicators in the cockpit, function and interrelation and interpretation of indications.

(7) landing gear:
(i) main components of the:
(A) main landing gear;
(B) nose gear;
(C) gear steering;
(D) wheel brake system, including anti-skid.
(ii) gear retraction and extension (including changes in trim and drag caused by gear operation);
(iii) required tyre pressure, or location of the relevant placard;
(iv) controls and indicators including warning indicators in the cockpit in relation to the retraction or extension condition of the landing gear and brakes;
(v) components of the emergency extension system.

(8) flight controls and high lift devices:
(i)
(A) aileron system;
(B) elevator system;
(C) rudder system; (D) trim system;
(E) spoiler system;
(F) lift devices;
(G) stall warning system;
(H) take-off configuration warning system.
(ii) flight control system from the cockpit controls to the flight control or surfaces;
(iii) controls, monitors and indicators including warning indicators of the systems mentioned under (8) (i), interrelation and dependencies.

(9) electrical power supply:
(i) number, power, voltage, frequency and location of the main power system (AC or DC), auxiliary power system location and external power system;
(ii) location of the controls, monitors and indicators in the cockpit;
(iii) flight instruments, communication and navigation systems, main and back-up power sources;

(iv) location of vital circuit breakers;

(v) generator operation and monitoring procedures of the electrical power supply.

(10) flight instruments, communication, radar and navigation equipment, autoflight and flight data recorders:

(i) visible antennae;

(ii) controls and instruments of the following equipment in the cockpit during normal operation:

(A) flight instruments;

(B) flight management systems;

(C) radar equipment, including radio altimeter;

(D) communication and navigation systems;

(E) autopilot;

(F) flight data recorder, cockpit voice recorder and data-link communication recording function;

(G) TAWS;

(H) collision avoidance system;

(I) warning systems; and

(J) weather radar system, best practices for optimum use, interpretation of displayed information.

(11) cockpit, cabin and cargo compartment:

(i) operation of the exterior, cockpit, cabin and cargo compartment lighting and the emergency lighting;

(ii) operation of the cabin and cargo doors, stairs, windows and emergency exits;

(iii) main components of the oxygen system and their location, oxygen masks and operation of the oxygen systems for the crew and passengers, required amount of oxygen by means of a table or diagram.

(12) emergency equipment operation and correct application of the following emergency equipment in the aeroplane:

(i) portable fire extinguisher;

(ii) first-aid kits;

(iii) portable oxygen equipment;

(iv) emergency ropes;

(v) life-jacket;

(vi) life rafts;

(vii) emergency transmitters;

(viii) crash axes;

(ix) megaphones;

(x) emergency signals.

(13) pneumatic system:

(i) components of the pneumatic system, pressure source and actuated components;

(ii) controls, monitors and indicators in the cockpit and function of the system;

(iii) vacuum system.

(b) Limitations:

(1) general limitations:

(i) certification of the aeroplane, category of operation, noise certification and maximum and minimum performance data for all flight profiles, conditions and aircraft systems:

(A) maximum tail and crosswind-components at take-off and landing;
(B) maximum speeds for flap extension vfo;
(C) at various flap settings vfe;
(D) for landing gear operation vlo, Mlo;
(E) for extended landing gear vle, Mle;
(F) for maximum rudder deflection va, Ma;
(G) for tyres;
(H) one propeller feathered.

(ii)

(A) minimum control speed air vmca;
(B) minimum control speed ground vmcg;
(C) stall speed under various conditions vso, vs1;
(D) maximum speed vne, Mne;
(E) maximum speed for normal operation vmo, Mmo;
(F) altitude and temperature limitations;
(G) stick shaker activation.

(iii)

(A) maximum airport pressure altitude, runway slope;
(B) maximum taxi mass;
(C) maximum take-off mass;
(D) maximum lift off mass;
(E) maximum landing mass;
(F) zero fuel mass;
(G) maximum dumping speed vdco, Mdco, vdce, Mdce;
(H) maximum load factor during operation;
(I) certificated range of centre of gravity.

(2) engine limitations:

(i) operating data of the engines:

(A) time limits and maximum temperatures;
(B) minimum RPMs and temperatures;
(C) torque;
(D) maximum power for take-off and go-around on pressure altitude or flight altitude and temperature;
(E) piston engines: certified range of mixture;
(F) minimum and maximum oil temperature and pressure;
(G) maximum starter time and required cooling;
(H) time between two start attempts for engines and auxiliary power unit;
(I) for propeller: maximum RPM of propeller triggering of automatic feathering device.

(ii) certified oil grades.

(3) systems limitations:

(i) operating data of the following systems:

(A) pressurisation, air conditioning maximum pressures;
(B) electrical power supply, maximum load of main power system (AC or DC);

(C) maximum time of power supply by battery in case of emergency;
(D) mach trim system and yaw damper speed limits;
(E) autopilot limitations of various modes;
(F) ice protection;
(G) speed and temperature limits of window heat;
(H) temperature limits of engine and wing anti-ice.

(ii) fuel system: certified fuel specifications, minimum and maximum pressures and temperature of the fuel.

(4) minimum equipment list.

(c) Performance, flight planning and monitoring:

(1) performance calculation about speeds, gradients, masses in all conditions for take-off, en-route, approach and landing according to the documentation available (for example for take-off v1, vmbe, vr, vlof, v2, take-off distance, maximum take-off mass and the required stop distance) on the following factors:

(i) accelerate or stop distance;
(ii) take-off run and distance available (TORA, TODA);
(iii) ground temperature, pressure altitude, slope, wind;
(iv) maximum load and maximum mass (for example ZFM);
(v) minimum climb gradient after engine failure;
(vi) influence of snow, slush, moisture and standing water on the runway;
(vii) possible single or dual engine failure during cruise flight;
(viii) use of anti-icing systems;
(ix) failure of water injection system or antiskid system;
(x) speeds at reduced thrust, v1, v1red, vmbe, vmu, vr, vlof, v2;
(xi) safe approach speed vref, on vmca and turbulent conditions;
(xii) effects of excessive approach speed and abnormal glideslope on the landing distance;
(xiii) minimum climb gradient during approach and landing;
(xiv) limiting values for a go-around with minimum fuel;
(xv) maximum allowable landing mass and the landing distance for the destination and alternate aerodrome on the following factors:

(A) available landing distance;
(B) ground temperature, pressure altitude, runway slope and wind;
(C) fuel consumption to destination or alternate aerodrome;
(D) influence of moisture on the runway, snow, slush and standing water;
(E) failure of the water injection system or the anti skid system;
(F) influence of thrust reverser and spoilers.

(2) flight planning for normal and abnormal conditions:

(i) optimum or maximum flight level;
(ii) minimum required flight altitude;
(iii) drift down procedure after an engine failure during cruise flight;
(iv) power setting of the engines during climb, cruise and holding under various circumstances, as well as the most economic cruising flight level;
(v) calculation of a short range or long range flight plan;
(vi) optimum and maximum flight level and power setting of the engines after engine failure.

(3) flight monitoring.

(d) Load and balance and servicing:

(1) load and balance:

(i) load and trim sheet on the maximum masses for take-off and landing;
(ii) centre of gravity limits;
(iii) influence of fuel consumption on the centre of gravity;
(iv) lashing points, load clamping, maximum ground load.

(2) servicing on ground, servicing connections for:
(i) fuel;
(ii) oil;
(iii) water;
(iv) hydraulic;
(v) oxygen;
(vi) nitrogen;
(vii) conditioned air;
(viii) electric power;
(ix) start air;
(x) toilet and safety regulations.

(e) Emergency procedures:

(1) recognition of the situation as well as immediate memory actions in correct sequence and for those conditions recognised as emergencies by the manufacturer and competent authority for certification:
(i) engine failure during take-off before and after v1, as well as in-flight;
(ii) malfunctions of the propeller system;*
(iii) engine overheat, engine fire on ground and in-flight;
(iv) wheel well fire;
(v) electrical smoke or fire;
(vi) rapid decompression and emergency descent;
(vii) air-conditioning overheat, anti-ice system overheat;
(viii) fuel pump failure;
(ix) fuel freezing overheat;
(x) electric power failure;
(xi) equipment cooling failure;
(xii) flight instrument failure;
(xiii) partial or total hydraulic failure;
(xiv) failures at the lift devices and flight controls including boosters;
(xv) cargo compartment smoke or fire.

(2) actions according to the approved abnormal and emergency checklist:
(i) engine restart in-flight;
(ii) landing gear emergency extension;
(iii) application of the emergency brake system;
(iv) emergency extension of lift devices;
(v) fuel dumping;
(vi) emergency descent.

(g) Special requirements for 'glass cockpit' aeroplanes with EFIS

Additional learning objectives:

(1) general rules of aeroplanes computer hardware and software design;
(2) logic of all crew information and alerting systems and their limitations;
(3) interaction of the different aeroplane computer systems, their limitations, the possibilities of computer fault recognition and the actions to be performed on computer failures;
(4) normal procedures including all crew coordination duties;

(5) aeroplane operation with different computer degradations (basic flying).

(h) Flight management systems.

4.3.2 UPRT Theoretical Training

In addition to the previous elements and, unless otherwise determined in the operational suitability data, the type rating courses shall include UPRT theoretical knowledge to the specificities of the relevant type.

The theoretical training should comprehend, at least:

A. Aerodynamics
   1. General aerodynamic characteristics
   2. Aeroplane certification and limitations
   3. Aerodynamics (high and low altitudes)
   4. Aeroplane performance (high and low altitudes)
   5. AoA and stall awareness
   6. Stick shaker or other stall-warning device activation (as applicable)
   7. Stick pusher (as applicable)
   8. Mach effects (if applicable to the aeroplane type)
   9. Aeroplane stability
   10. Control surface fundamentals
   11. Use of trims
   12. Icing and contamination effects
   13. Propeller slipstream*

B. Causes of and contributing factors to upsets
   1. Environmental
   2. Pilot-induced
   3. Mechanical (aeroplane systems)

C. Safety review of accidents and incidents relating to aeroplane upsets
   1. Safety review of accidents and incidents relating to aeroplane upsets

D. G-load awareness and management
   1. Positive/negative/increasing/decreasing G-loads
   2. Lateral G awareness (sideslip)
   3. G-load management

E. Energy management
   1. Kinetic energy vs potential energy vs effect of thrust-drag ratio on the total energy

F. Flight path management
   1. Relationship between pitch, power and performance
   2. Performance and effects of differing power plants (if applicable)
   3. Manual and automation inputs for guidance and control
   4. Type-specific characteristics
   5. Management of go-arounds from various stages during the approach
   6. Automation management
   7. Proper use of rudder

G. Recognition
   1. Type-specific examples of physiological, visual and instrument clues during developing and developed upsets
   2. Pitch/power/roll/yaw

3. Effective scanning (effective monitoring)
4. Type-specific stall protection systems and cues
5. Criteria for identifying stalls and upsets

H. System malfunction

1. Flight control defects
2. Engine failure (partial or full)
3. Instrument failures
4. Loss of reliable airspeed
5. Automation failures
6. Fly-by-wire (FBW) protection degradations **
7. Stall protection system failures including icing alerting systems

The following training elements should be integrated into type rating training courses for aeroplanes with a maximum cruising altitude above FL300:

1. Basic flight physics principles concerning flight at high altitude, with a particular emphasis on the relative proximity of the critical Mach number and the stall, pitch behaviour, and an understanding of the reduced stall angle of attack when compared with low altitude flight.
2. Interaction of the automation (autopilot, flight director, auto-throttle/auto-thrust) and the consequences of failures inducing disconnection of the automation.
3. Consequences of an unreliable airspeed and other failures indication at high altitude and the need for the flight crew to promptly identify the failure and react with appropriate (minimal) control inputs to keep the aircraft in a safe envelope.
4. Degradation of FBW flight control laws**/modes and its consequence on aircraft stability and flight envelope protections, including stall warnings.
5. Practical training, using appropriate simulators, on manual handling at high altitude in normal and in non-normal flight control laws**/modes, with particular emphasis on pre-stall buffet, the reduced stall angle of attack when compared with low altitude flight, and the effect of pitch inputs on the aircraft trajectory and energy state.
6. The requirement to promptly and accurately apply the stall recovery procedure, as provided by the aircraft manufacturer, at the first indication of an impending stall. Differences between high-altitude and low-altitude stalls must be addressed.
7. Procedures for taking over and transferring manual control of the aircraft, especially for FBW aeroplanes** with independent side-sticks.
8. Task sharing and crew coordination in high workload/stress conditions with appropriate call-out and acknowledgement to confirm changes to the aircraft flight control law/mode.

Items marked with an asterisk (*) do not apply to any types currently included in Swan Fly Estonia approval, and are left here for potential future purposes.

Items marked with two asterisks (**) apply to other types currently included in Swan Fly Estonia's approval but have no relevance to the type to which this manual relates.

Chapter 5

The time scale and scale, in weeks, for each syllabus

Arrangements of the course and the integration of syllabi time.

The course comprises a minimum of:

- 64 hours of theoretical knowledge training; comprising
  - At least 32 hours of System Knowledge (CBT) – 10 calendar days.
  - 3 calendar days of 8 hours of instruction per day of Theoretical Knowledge in a classroom;
  - 1 calendar day of 3 hours for the written test in a classroom.
- 44 hours of practical training; comprising
  - 12 hours (3 sessions) of practical training outside an FFS environment (OTD, Cockpit mock-up, etc.);
  - 32 hours (8 sessions) of practical training in an FSTD of which at least 16 hours (4 sessions) should be in an FFS.

5.1 Schematic Time Scale

The schematic time scale below includes only the minimum required hours of instruction. The students will always have the minimum hours of training as stipulated in the training program, or more if the student needs more training to attain at least the minimum required standard.

Swan Fly Estonia ATO will schedule 7 days a week. The days off during theoretical and synthetic flight training must take into account the minimum rest and maximum duty hours contained in OM(A) Chapters 14 through 16 and the restrictions from within this course contained in Part A, Chapters 6.4, 6.6 and 6.8.

The course schedule should be provided before entry to the course. However, for planning improvement reason, every training stage may be planned separately as long as it allows both the students and instructors to plan ahead. Swan Fly Estonia uses *ScheduleIT* for rostering its activities. The Training Plan should be stored in the Student File or accessible via ScheduleIT, and it should be approved by the HT, CFI or CTKI.

Chapter 6
Training program

6.1 The general arrangements of daily and weekly programs

6.1.1 Flying Program

Not applicable

6.1.2 Theoretical Knowledge Training Program

The Theoretical Knowledge Training Program is the first element of the course planned to be conducted. This is scheduled based on the information contained in Part D to this manual.

6.1.3 FSTD training program

The FSTD Training Program is the second element of the course planned to be conducted. This is scheduled based on the information contained in Part C to this manual.

6.2 Bad weather constraints;

Not applicable

6.3 Program constraints in terms of maximum student training times, flying, theoretical knowledge, on FSTDs), for example per day, week or month;

6.3.1 Flying

Not applicable

6.3.2 Theoretical Knowledge

Theoretical Knowledge training is completed at the beginning of the course. The course is planned to be conducted over not more than 3 calendar months. This is accomplished following the planning requirements defined in TRM Part A, Chapter 5.1

This period may be extended by the student or by Swan Fly Estonia ATO for any reason up to a maximum of 4 calendar months (inclusive of any breaks from training), however, any extension beyond this period requires the approval of the Head of Training (Form Appendix 5.1 to be used) who must take into account the progress, progress test results and instructor reports when making such a decision as to extend the student training or to refer to the disciplinary procedures as contained in OM(A) Chapter 4.

Extensions to training granted following this subparagraph must not cast doubt on the ability of the course to be delivered to completion and for the skill test to be completed within 6 calendar months from commencing the course.

6.3.3 FSTD

FSTD training consists of several FSTDs and OTD sessions as described in the respective training program. This is accomplished under the planning requirements defined in TRM Chapter 5.1.

The number of training sessions or phasing of them may be extended on request by the student or by Swan Fly Estonia ATO for any reason up to a maximum of 2 additional sessions over maximum 14 calendar days (inclusive of any breaks from training), however, any extension beyond this requires the approval of the Head of Training (Form Appendix 5.1 to be used) who must take into account the progress, progress check results and instructor reports when making such a decision as to extend the student training or to refer to the disciplinary procedures as contained in OM(A) Chapter 4.

Extensions to training granted following this subparagraph must not cast doubt on the ability of the course to be delivered to completion and for the skill test to be completed within 6 calendar months from commencing the course.

6.4 Restrictions in respect of duty periods for students;

The maximum duty period for a student is 8 hours.

Classroom study is considered as student duty, as is flight briefing and de-briefing.

This maximum may be extended to no more than 10 hours, provided the last 2 hours do not involve any flight duty.

6.5 Duration of dual and solo flights at various stages;

Not applicable

6.6 Maximum flying hours in any day or night;

Not applicable

6.7 Maximum number of training flights in any day or night;

Not applicable

6.8 Minimum rest period between duty periods.

A student may not be scheduled for duty (flying or theoretical training, or a combination of both), without a minimum of 12 hours rest between duty periods. This rest shall be increased to 36 hours at least once every 7 calendar days.

During simulator training rest period for students and/or instructors may be reduced to 10 hours. Such reduction may be applied not more than two sessions in a row, and not more than twice a week and not used consecutively.

Chapter 7
Training records

7.1 Rules for the security of records and documents;

The record entered into student file at the first possibility as described in OMM Chapter 6 and accessible only by HT, AM, CMM, SM, CFI, and CKTI.

7.2 Attendance records;

Same for all course

Each training record page contains a statement that the student was present for the session. This should be signed by the instructor to testify that the student was present as stated.

7.3 The form of training records to be kept;

Training records shall be retained following the general requirements contained in OMM Chapter 6.

- CBT completion record
- TKI classes attended, instruction covered by individual training record file entry (Appendix 7.1 to Part D of this manual)
- FFS sim training record

Except for the CBT completion record, the above training files have to be signed by both instructor and student.

7.4 Persons responsible for checking records;

7.4.1 Instructors

In the first instance, it will be necessary for the instructor supervising the particular element of training to check that records have been correctly entered, are up to date, accurate and comprehensive. This forms part of the regular duties of the instructor.

7.4.2 Chief Flying Instructor

The CFI is responsible for checking all flying training records. This is undertaken whenever there is a referral to him/her of a particular student's progress. It is also undertaken at the end of the flying training elements of the course.

7.4.3 Chief Theoretical Knowledge Instructor

CTKI is responsible for checking student training records as applicable to the delivery of theoretical knowledge instruction.

7.4.4 Head of Training

Head of Training is responsible for confirming the decisions of CFI and CTKI and holds overall responsibility for the standard and standardization of entries in training records.

7.4.5 Compliance Monitoring Manager / Auditor(s)

Compliance Monitoring Manager is responsible for confirming the uniform application of requirements as delivered to students through the heads of functional areas. This confirmation shall take the form of audits and inspections as defined in OMM Chapter 12.

7.5 The nature and frequency of record checks;

See OMM Chapter 12.6

7.6 Standardisation of entries in training records;

See OM(D) Chapter 4 for standardization requirements concerning instructors.

7.7 Rules concerning logbook entries.

See OM(A), Chapter 18 for a detailed description of the requirements for completion of logbooks in general.

The individual student training record should be completed by the instructor immediately after each training session and shall be signed and dated.

In any case, the students is responsible to bring their logbook to the training sessions.

Chapter 8
Safety training

8.1 Individual responsibilities;

Reserved

8.2 Essential exercises;

Reserved

8.3 Emergency drills (frequency);

Reserved

8.4 Dual checks (frequency at various stages);

Not applicable

8.5 Requirement before the first solo day, night or navigation, etc. if applicable.

Not applicable

Chapter 9
Tests and examinations

9.1 Flying

Not applicable.

9.1.1 Progress checks;

A minimum of 2 progress checks are conducted throughout the course. These are contained in the respective session plans contained within Part C of this manual.

9.1.2 Skill tests

Skill tests shall normally be performed at the end of the FSTD training and before airplane training. The licensing authority procedures shall be followed for submission of skill test forms, notification, the designation of examiners, etc.

The skill test form used should be under the requirements of Appendix 9 to Part FCL.

9.2 Theoretical knowledge:

9.2.1 Progress tests;

Theoretical knowledge progress tests are conducted following the respective lesson plans contained in Part D of this manual.

9.2.2 Theoretical knowledge examinations.

The final examination comprises 100 multiple choice questions, spread evenly throughout the syllabus covering all main systems of the aircraft.

Aircraft performance is appraised separately as described in Part D to this manual.

9.3 Authorisation for the test;

The following points are requisites before the candidate is permitted to take the final examination and before the recommendation is made to the Authority for Skill Test.

9.3.1 Authorisation for Final Course Examination

To qualify to sit the final course examination, the candidate must have satisfactorily passed the following:

CBT completion report with a minimum score of 75% on all study subjects.

Progress tests with a minimum score of 75%.

9.3.2 Requirements for Recommendation to be made to the Authority for Skill Test

For the recommendation to be made to the Authority for Skill Test, the candidate must have been assessed in all phases, lessons, and components of lessons, as detailed in the flight instructor progress reports for each lesson, at level 'Fair'/'Satisfactory' or above. and maneuvers in which the candidate fails to achieve levels 'Fair'/'Satisfactory' or above must be repeated in further instruction following the procedure detailed in Chapter 10.5 of this manual part.

Additionally, the student must have passed all progress tests and progress check sessions. Retests are allowed provided they are conducted following the procedure herein and the final result is a pass.

Upon satisfactory completion of the training elements, the assigned examiner shall submit the details of the candidate, along with his/her training file, to the HT.

The Examiner and HT have to follow and Download their CAA forms and use in compliance with the examiner's differences requirements published on the EASA website http://easa.europa.eu/easa-and-you/aircrew-and-medical/aircrew. And from here be updated and follow the procedure for this particular country about how to handle the application form.

After the student successfully passing skill test, the HT shall review the training record of the student and shall ensure the training has been fully completed following the requirements of this manual. Upon finding the training having been satisfactorily completed, the HT shall issue a course completion certificate in the format laid out in Appendix 9.3 to this part.

9.4 Rules concerning refresher training before retest;

Items failed, subjecting the student to a partial pass to be repeated one time in training before the student is released for re-test as described in 9.3.2.

A skill test that is failed in total (non-partial pass), shall require 1 session prof check to determine areas of weakness, and at least 1 session of training covering those areas of weakness, as determined by the assigned instructor conducting the prof check. To that purpose Appendix A.10.1 of the Present Part and Appendix 9.4 of Part C shall be used.

9.5 Test reports and records;

Reports from the tests described in Chapter 9 of this part are completed by the assigned instructor or separate invigilator and rater (if used). In all cases, the test paper must be retained in the student file, along with the answer sheet.

The completed form shall be checked by the HT/CTKI.

9.6 Procedures for examination paper preparation, type of question and assessment, the standard required for 'pass';

9.6.1 Purpose

The purpose of this procedure is to allow the updating of the question bank and associated examination papers used for the final examinations for type rating candidates and to additionally allow the handling of questions for progress tests etc.

9.6.2 Personnel Involved

The Head of Training is responsible for the application of this procedure however she or he may delegate it to suitably qualified TK instructors or a CTKI (as applicable).

9.6.3 Text

The following information applies to all theoretical knowledge tests and examinations as described in 9.2 of this part.

This procedure applies to both progress test, and final exam paper preparation. The exact procedure is now expanded on and shall be complied with in full.

9.6.3.1 Procedure for Examination Paper Preparation

This procedure applies to all personnel engaged in compiling examination papers for candidates. In essence, this is restricted to either the CKTI, HT, or other suitably trained persons permitted to so do under these provisions of this manual, the OMM Chapter 4 and with the authorization of HT as attested on the job description of the individual.

9.6.3.1.1 Number of Questions

The progress tests described in 9.2.1 shall comprise a minimum of 20 multiple choice questions with 4 possible answers from which the candidate must select the ONE correct answer.

The final examination described in 9.2.2 shall comprise 100 multiple choice questions with 4 possible answers from which the candidate must select the ONE correct answer.

9.6.3.1.2 Question Sources

Questions used for the formulation of test and examination papers for candidates shall only be sourced from the question bank secured in the Swan Fly Digital Platform only accessible by the HT, AM, CMM, SM, CKTI and CFI, and authorized instructors.

9.6.3.1.3 Presentation of Test and Examination Papers

Once the test and examination questions have been extracted from the question bank, they shall be entered into the test/examination in the format illustrated in the initial version secured in the Swan Fly Digital Platform in safe accessible by HT, AM, CMM, SM, CFI, CTKI and authorized instructors only.

9.6.3.1.4 Question Numbering

Questions shall be entered into the compiled test/examination paper sequentially in the order they are extracted from the question bank, thus, if Questions 1,4, 28 and 67 … are extracted from the Question bank, then they would become questions 1,2,3 and 4 respectively, in the paper.

9.6.3.3 Requirements for a 'Pass'

In all progress tests and examinations prepared by Swan Fly Estonia ATO, the student must attain a pass mark of at least 75% to be considered to have passed the respective test paper. There are only whole points awarded and no negative marking. A question is either answered correctly or not. A student may modify an answer on the answer sheet and indicate an alternative to the one she or he originally indicated, however, such a change is permitted only once and the last corrected answer shall be the one taken.

9.7 Procedure for question analysis and review and for raising replacement papers;

9.7.1 Purpose

The purpose of this procedure is to allow the updating of the question bank and associated examination papers used for the final examinations for type rating candidates and to additionally allow the handling of questions for progress tests etc. This is especially relevant to instances whereby it is established that a question is doubtful.

9.7.2 Personnel Involved

The Head of Training is responsible for the application of this procedure however she or he may delegate it to suitably qualified TK instructors or a CTKI (as applicable).

9.7.3 Text

Candidates shall be permitted to raise concerns regarding the suitability/validity/standard of questions contained in test/examination papers either during or after the test/examination. No alteration of the test/examination paper shall take place. Additionally, an assigned instructor may raise concerns regarding any question contained in a test/examination paper. In such events, a question investigation form (see appendix 9.2 to this Part) shall be completed by the complainant and handed to the instructor, or CTKI, HT or CMM, in such circumstances as the form being raised directly by the instructor. In all cases, the procedures contained in this paragraph shall be enacted.

When the procedure has been applied and a candidate's complaint upheld, the candidate shall be permitted to re-take a new complete test/examination, composed of completely new questions.

9.7.3.1 Procedures for Question Analysis

Upon receipt of a question investigation form, the instructor shall pass this directly to the CTKI or HT (as applicable), or in such circumstances as the form being raised by the assigned instructor be handed directly to the CTKI, HT or CMM (as applicable) by the instructor him/herself. In all cases, the individual responsible for initiating the question review process shall be the HT, thus, the form shall be forwarded to him/her in all circumstances regardless of the reporting channel.

Upon receipt of a question investigation form, the HT shall assign a suitably trained and experienced instructor with suitable subject knowledge, other than the instructor responsible for the submission, to conduct the investigation required from this procedure.

When an instructor is assigned to conduct a question investigation by the HT, she or he shall firstly read the complaint in the light of the question to establish the means which allowed the complaint to arise in the first place. Because the variety and nature of complaints could be wide and far-reaching, the following procedure is intended specifically for those instances where a complaint regarding the content of a question and/or the answers provided are concerned. It is appreciated that other complaints may arise which relate to more 'cosmetic' issues (such as the legibility of the writing or photo-copying, difficulty in reading typefaces, etc.), however, these should be easily dealt with by the assigned instructor without necessitating a full formal procedure of their own. In all cases, however, where the

complaint is found to be just, that question should be removed from the Question bank by the insertion of a temporary amendment, until the question may be edited, renewed or replaced.

The assigned instructor shall use the course reference contained in the particular question and cross-reference the question against the course material and this manual. Additionally she or he should confirm the validity of the question concerning applicable base materials (regulatory documents, AFM, QRH, etc.) where this is appropriate (there will usually be a reference within the course material).

Based on the review of the material, the assigned instructor may find:

- That the complaint is completely justified
- That the complaint is partially justified (e.g. the question contained more than one answer that could reasonably be interpreted as being correct)
- That the complaint is completely unjustified

The assigned instructor will present the details of his/her investigation on the question investigation form and return this to the HT. In turn, the HT shall inform the instructor of the outcome of the investigation and provide a copy of the question investigation form. Following this, the instructor shall feed the results of the investigation back to the complainant where this is appropriate.

9.7.3.2 Procedures for Raising Replacement Papers

The initial papers are intended to be used in the first instances of the provision of this course, however, when a greater number than 2 groups have passed through the course within 12 calendar months, it will become necessary to expand the number of papers available. In these cases, the following procedure shall be applied. Regardless of the production of new papers, it will be necessary for the new questions to be presented in an identical format to the initial ones as previously described.

9.7.3.3 Procedure for Selection of Type of Question and Assessment

The Question bank questions associated with this course, contain course references for each question. It is necessary when compiling a new test/examination paper for questions to be composed in conformance with the tables found in chapter 9.6.3.2 of this manual.

9.8 Examination resit procedures.

The following procedure applies to both progress tests and final course examination. In all cases, re-sit examinations shall be distinctly different in respect of each question of which the test/examination is composed.

9.8.1 Marginal Fail

For this course, a marginal fail shall be classified as one where the candidate returns a score of between 65 and 75% for progress tests or a score between 70 and 75% for the final test.

If a candidate returns a marginal fail in a progress test or examination, she or he shall be permitted to re-sit an alternative paper after a period of instructor supported refresher training as appropriate and agreed between the candidate and the assigned instructor. Such instruction shall focus on those areas which were found to be deficient during the test/examination, and any others believed to be pertinent by the assigned instructor.

9.8.1.1 Marginal Fail of Progress Tests

The resit shall be undertaken within 1 working day of the completion of any refresher training deemed to be necessary.

9.8.1.3 Marginal Fail of Examination

The resit shall be undertaken within 5 working days of the completion of any refresher training deemed to be necessary.

9.8.2 Fail

If a candidate fails a progress test with less than 65% or examination with less than 70% total score, it shall be necessary for him/her to repeat complete instruction covering the entire failed test.

Chapter 10
Training effectiveness

10.1 Individual responsibilities;

The instructor assigned to the course or course element shall be the official communication channel between the students and Swan Fly Estonia ATO, notwithstanding the communications channels regarding the Safety Management System and Compliance Monitoring System which are independently mentioned in OMM Chapter 11 and 12 respectively.

10.1.1 Instructors (all)

It is, in the first instance, the responsibility of the instructor to ensure safe and effective training for the students concerned. If there is doubt regarding the effectiveness of the training to any particular student, the instructor should forward this to the Chief Flying/Theoretical Knowledge Instructor (as applicable), or otherwise the Head of Training.

The CFI/CTKI or Head of Training (as applicable), must decide the effectiveness of the training being given, following the procedures contained in OM(A) Chapter 4 (Student Discipline), in such circumstances where it is determined the student is failing to receive effective training due to his/her own aptitude/approach, etc.

If an instructor identifies a failure in the respective training program/lesson plans/materials etc., it is his/her duty to report such shortcomings to the CFI/CTKI or HT (as applicable).

10.1.2 Head of Training

The HT shall have overall responsibility for the course. He shall undertake to ensure that it is staffed by qualified and sufficiently experienced individuals to ensure that the training provided to candidates is of a standard that is in keeping with the Regulation 2018/1139 commitment to provide the highest levels of training and flight safety.

10.1.3 Assigned instructor

Each course shall have one instructor assigned who shall be the individual who oversees the conduct of the entire course. She or he shall be a qualified Type Rating Instructor or Synthetic Flight Instructor (including instruction privileges for all elements intended to be offered by Swan Fly Estonia ATO for the student concerned), holding a Part-FCL professional pilot license or appropriate certificate, and sufficiently experienced to ensure that the training provided to candidates is of a standard that is in keeping with the commitment to provide the highest levels of training and flight safety.

The Assigned instructor may delegate certain functions to outside individuals and other similarly qualified and/or experienced individuals, however, this does not remove the

responsibility from him/her to ensure that training is being provided to all candidates in a uniform manner and to the high standard that is expected.
The Assigned instructor may also be a combined function for the Head of Training, CFI, CTKI, etc (as applicable).

10.1.4 Students

The students shall have an obligation to perform during the course to the best of their abilities, and nothing shall absolve them of the requirement to commit their attention and efforts as are required by the course. The student has an obligation to raise any difficulties (s)she or he is experiencing with the assigned instructor as soon as they become evident.

10.2 General assessment;

Review of progress tests and checks. Continuous monitoring by the instructor

10.3 Liaison between departments;

Within the scope of this course, there are four principal lines of communication which are described below.

10.3.1 Liaison Between Assigned instructor and Management

The assigned instructor shall have an obligation to maintain constant and updated communication lines with the Head of Training. Some of this communication shall be in the format of the forms contained in this manual, however, it is, likely she or he shall also need to keep an ongoing and verbal update of the progress so that appraisal of the progress may be made by the CFI/CTKI/HT (as applicable) and any potential difficulties may be identified as early as possible.

10.3.2 Liaison Between Assigned instructor and Administrative Staff

The assigned instructor shall maintain links with the administrative staff and any others as may be required for the booking of resources/rooms etc.
These aspects shall be undertaken under practices defined elsewhere in this manual and the supporting OM and OMM.

10.3.3 Liaison Between Compliance Monitoring Management and the Operation

This course falls under the scrutiny of the Compliance Monitoring department and Compliance Monitoring Manager. In such instances, the HT, assigned instructor, and all other applicable staff members should afford the CMM and Compliance Monitoring personnel, all the assistance they are able and is requested.

10.3.4 Liaison Between Assigned instructor and Safety Management System

The assigned instructor shall maintain links with the Safety Manager and Safety Management System personnel as may be required.
These aspects shall be undertaken by practices defined elsewhere in this manual and the supporting OM and OMM.

10.4 Identification of unsatisfactory progress (individual students);

There are three methods by which candidate performance is appraised during this course:

- The results of progress tests and examinations for the Theoretical Course
- The results of flight/synthetic flight progress tests
- The continuous monitoring of applicants during the theoretical and practical phases

The Head of Training shall check the training records at each progress check. Before a progress check, the instructor performing the test shall check that every item in the syllabus has been carried out, signed and approved. The Head of Training shall also check the integration between synthetic flight training, theoretical knowledge, and aircraft training[1]. If this check is not satisfactory, the training may have to be completed and an Occurrence Report shall point out the lack in the quality.

If a student has problems keeping up with the required training, in the first instance the assigned instructor or the instructor responsible for the particular area of the course shall decide what training actions are required. A report shall be made to the HT following the procedures contained in Chapter 10.5 of this manual part.

To be approved for completion of a theoretical course or course element, the student may not be absent for more than 20% of the scheduled lessons in each subject and stage. If the absence exceeds 20%, the may be required to repeat the entire course on the next occasion the course is available, or may, at his/her expense engage the instructor for individual lessons. The Head of Training will check the attendance records, and he shall initiate action in cases where a student has encountered problems.

In exceptional circumstances, the HT may grant exceptions from this rule regarding absence (i.e. ¡f an experienced technician undertakes the course, she or he may be absent from some of the technical lessons without a detrimental effect on the course outcome).

10.4.1 Progress Tests and Examination Results

Applicants delivering a marginal fail in any of the progress tests on more than one occasion per test shall have their performance assessed as ‘unsatisfactory.’

Applicants receiving more than two marginal fails in any of the progress tests shall have their performance assessed as ‘unsatisfactory.’

Applicants delivering a marginal fail in the final examination on more than two occasions shall have their performance assessed as ‘unsatisfactory.’

10.4.2 Continuous Monitoring – Theoretical Knowledge Instruction

Applicants who are considered by the assigned instructor, to show insufficient aptitude or commitment to complete the course, shall be referred to the HT.

[1] Not applicable for Type Rating Courses without landing training in an aircraft.

The HT shall assess the available evidence and report of the assigned instructor and either refer the applicant for additional training with the possibility of an instructor change (if available) or otherwise determine the candidate as being 'unsatisfactory'.

10.4.3 Flight/Synthetic Flight Progress Tests

Applicants delivering a partial pass in any of the progress tests on more than one occasion per test shall have their performance assessed as 'unsatisfactory'.

Applicants receiving more than two partial passes in any of the progress tests shall have their performance assessed as 'unsatisfactory'.

10.4.4 Continuous Monitoring – Flight/Synthetic Flight Training

Applicants who are considered by the assigned instructor, to show insufficient aptitude or commitment or flying skills to complete the course, shall be referred to the HT. The HT shall assess the available evidence and report of the assigned instructor and either refer the applicant for additional training with the possibility of an instructor change (if available) or otherwise determine the candidate as being 'unsatisfactory'.

Unsatisfactory students shall be subject to the disciplinary actions detailed in OM (A) Chapter 4.

10.5 Actions to correct unsatisfactory progress;

Actions to correct unsatisfactory progress rest in the first instance with the CFI/CTKI. The CFI/CTKI will base the decision on all the available details regarding the situation. This will include a review of the student record. The decision shall be communicated to the HT in the form of Appendix 10.1. HT signature is required before the implementation of any corrective actions.

Possible actions available to the CFI/CTKI include the requirement for additional sessions, briefings, one on one instruction or liaison. Additionally, and where possible, an instructor change may be recommended to the HT for consideration.

10.6 Procedure for changing instructors;

The reasons for changing instructors can be one of the following:

- The instructor requests change
  The student request change
- The instructor is no longer available
- When upgrading to another phase, a more qualified instructor may be needed.

The person who requests a change (student or instructor) shall contact the Head of Training (HT), and give reasons for his/her request. When relevant, all three parties shall participate in a meeting to clarify the problem. Reasons for changing may, for example, be personal problems, communication problems or unsatisfactory progress.

The Head of Training shall decide what action shall be taken, aiming for the best possible training result. A Training Report shall be made documenting all actions taken and decisions made, except if the reason for the change is that the instructor is no longer available or the change is for other operational reasons. In such cases, the reasons shall be entered into an amended student training plan.

10.7 Maximum number of instructor changes per student;

The objective is to limit each student to not more than three (3) Instructors in each phase, excluding progress checks and examinations.

Instructor changes requested and granted are subject to instructor availability.

10.8 Internal feedback system for detecting training deficiencies;

Training record – narrative reports

Narrative reports within training records are the principal medium used for detecting training deficiencies. Where such deficiencies exist, the HT should be made aware at the earlier opportunity by being both provided a copy of the training record and also by telephone, email or any other expeditious medium.

10.9 Procedure for suspending a student from training;

A student with disciplinary problems and serious and/or persistent deviation from standards or requirements of Swan Fly Estonia ATO, when no flight safety reason for the deviation exists, may be excluded from further training. In such cases, the HT shall complete the Training Report and shall inform the Estonian Transport Administration and Authority of the State of license issue.

10.10 Discipline;

All students must follow Swan Fly Estonia ATO regulations and requirements.

For reasons of flight safety, a student may deviate from given instructions, in which case an Occurrence Report shall be filed following OMM 1.7 and OMM Chapter 11.

Absence from a flight / simulated flight lesson will be charged. The price is determined by Swan Fly Estonia ATO and published in the training agreement between the student and the ATO. A student who is absent three times or more from planned sessions shall not be further scheduled until approved by the Head of Training. The reason for absence must be analyzed and the student may be subject to disciplinary action (see OM (A) Chapter 4).

10.11 Reporting and documentation.

Reports and documentation shall be maintained and retained under the requirements of OMM Chapter 6.

Chapter 11
Standards and level of performance at various stages

11.1 Individual responsibilities;

11.1.1 Instructors (All)

The instructors are responsible for both a continuous assessment of students and for delivering and monitoring the performance of students during progress checks.

Continuous assessment includes having an awareness of the individual student and how she or he is performing with both the course material and the general conduct of the student (e.g. punctuality, appearance, general approach to the aviation environment, etc.).

For the SFI/TRIs, the progress checks have to be supervised to ensure that the student applies the same discipline and demonstrates the same skill level as required in the final skill test (test performance criteria, etc.).

For the TKIs, the progress tests have to be supervised to ensure that the student applies the same discipline as in the final exam (no cheating, discussion, not allowed materials, books, and equipment, etc.), and also to ensure that students can demonstrate the requisite knowledge level without assistance.

11.1.2 Chief Flying Instructor

The CFI is responsible for the supervision of the students and SFIs/TRIs performance as well as the implementation of the procedures indicated in this manual relevant to the flight simulation instruction.

The CFI may delegate the supervision to the CKTI. In all cases, it is the CFI who is ultimately responsible for ensuring quality and standards.

11.1.3 Chief Theoretical Knowledge Instructors

The CTKI is responsible for the supervision of the students and TKIs performance as well as the implementation of the procedures indicated in this manual relevant to the theoretical instruction.

11.1.4 Head of Training

Head of Training is responsible for checking the ongoing satisfactory performance of students through a review of the training files. This should occur at least once during training for any individual student and then again subsequently before recommendation for skill test.

11.2 Standardisation;

The HT/CFI/CTKI shall periodically review the actual performance of individual instructors by observing sessions. This should occur at least once per calendar year (subject to availability).

11.3 Standardisation requirements and procedures;

During observed sessions, the HT/ CFI/CTKI shall complete the instructor appraisal form. Care shall be taken to ensure the training provided to students has not only met the requirements of the respective training program but also that it meets the exacting standards of Swan Fly Estonia ATO.

11.4 Application of test criteria.

Test criteria should be applied to all flights conducted as progress checks. It is assumed that student performance will progressively improve throughout the course, and indeed failure of the student to improve during this period is cause for use of the procedures contained herein to correct unsatisfactory progress. With this in mind, it is unlikely the student will be able to achieve flight/simulated flight to the level of accuracy required to meet test criteria during early flights, however, subsequently, the student should develop to a level of mastery of each maneuver to the point where test criteria can be comfortably applied during progress checks.

Chapter 12
Appendices

Appendix A.9.2 – Test Question Investigation Form

Name of Student / Staff member filing this report					
Enrolled Course (if filed by student)					
Test Number					
Question number to be Investigated (if filed by the student, include question number if you remember, otherwise, liaise with your tutor who will confirm the question with you)					
Reason for requested investigation (include as much detail as possible – Continue on a separate sheet if necessary)					
Received by HT:					
Signature			Date		
Assigned instructor for investigation:					
Name			Date assigned		
Following investigation, was the complaint found to be justified?					
Yes	☐	No	☐	Partially	☐
Justification of conclusion:					
Signed		Name		Date	
Findings feed back to complainant (yes/no) and CMM (yes/no) – delete as appropriate					
Signed Head of Training					
Name					
Date					
Copy to be retained in student file.					

Appendix A.9.3 – Course Completion Certificate

SWAN FLY	**SWAN FLY ESTONIA OÜ**
APPLICATION AND REPORT FORM	
TYPE RATING COURSE COMPLETION CERTIFICATE	
Applicant's last name(s):	
Applicant's first name(s):	
Aircraft Type:	
Signature of applicant:	
Type of licence held:	
Licence number:	
State of licence issue:	

1	**Theoretical training for the issue of a type or class rating performed during period**		
From:	**To:**	**At:**	
Mark obtained:	**% (Pass mark 75 %):**		
Signature of HT:		**Name(s) in capital letters:**	
2	**FSTD**		
FSTD (aircraft type):			
FSTD operator(s):		**FSTD ID code(s):**	
Total training time at the controls:			
Total training on a FSTD:	**FSTD without motion:**	**FFS with motion:**	
FSTD hours credited by previous experience:			
Signature of Head of Training:			
Name(s) in capital letters:			
Location, date and time:			

3	Flight training: in the aircraft ☐ in the FSTD (for ZFTT) ☐ Not Applicable ☐	
Type of aircraft:	**Registration:**	**Flight time at the controls:**
Take-offs:	**Landings:**	**Training aerodromes or sites (take-offs, approaches and landings):**
Take-off time:		**Landing time:**
Location and date:		**Type and number of license held:**
Type rating instructor ☐ Class rating instructor ☐		
Signature of Head of Training:		**Name(s) in capital letters:**

Appendix A.10.1

Refresher training assessment before additional training or re-test

Name of Student					
Enrolled Course					
☐Skill test/Proficiency Check Failed or Partial Passed, requiring assessment of further training ☐Additional training required to continue on the enrolled course (delete as appropriate)					
Item(s) failed					
Any comments from examiner/check airman taken into consideration					
Review of the student training file					
Did the failed items reflect previous problems experienced during training?	Yes	☐	No	☐	
(if yes then at least 1 training session should be used to concentrate on those areas of difficulty)					
Student interview (if conducted)					
What areas of particular difficulty did the student assess as requiring further training					
Was this an objective and realistic assessment of the student's requirements?					
(if yes then additional training may be used to accommodate the student self-assessment in agreement with the examiner/instructor/training file assessments					
Head of Training/CFI/CTKI Decision regarding further training:					
The following exercises should be repeated (list all that apply)					
The above exercises to be completed in					
FSTD/AC			Particular exercises (if mixed FSTD/AC used)		Minimum Nr of hours
☐	FFS (indicate level of device)				
☐	FTD (indicate level of device)				
☐	FNPT (indicate level of device)				
☐	BITD				
☐	Aircraft				
☐	Training aid				
☐	Additional theoretical knowledge				
Signed Head of Training					
Name					
Date					
Copy to be retained in student file.					

PART B: BRIEFING AND EXERCISES

Not Applicable

PART C: FLIGHT TRAINING IN FSTD

Chapter 1
Air exercise

1.1 INTRODUCTION

Synthetic Flight Training may consist of training on Full Flight Simulator, Cockpit mock-up, Flight Training Device and/or Other Training Device. All synthetic flight training regarding Boeing 737 300-500 is described in this chapter of the training manual.

1.2 OBJECTIVE

The objective of the synthetic flight training phase is to give the student training in different situations, to let the student know and recognize the situation and be able to make e an early recognition and recovery.

1.3 STUDENT PREREQUISITE

Before commencing the simulator phase, the students have to pass the theoretical knowledge phase (see Part A Chapter 4 of this manual) and progress check (written test) before entering phase with synthetic flight training.

1.4 STANDARD

The minimum standard is described in part 1 of this chapter.

FLIGHT TEST TOLERANCE
The student shall demonstrate the ability to:
(a) operate the airplane within its limitations;
(b) complete all maneuvers with smoothness and accuracy;
(c) exercise good judgment and airmanship;
(d) apply aeronautical knowledge;
(e) maintain control of the airplane at all times in such a manner that the successful outcome of a procedure or maneuver is always assured;
(f) understand and apply crew coordination and incapacitation procedures, if applicable; and
(g) communicate effectively with the other crew members, if applicable.

The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities, performance of the airplane used and the stage of the student during training (the student is not expected to achieve these tolerances during early sessions, but during checks, these should be achievable):

Height Generally ± 100 feet
Starting a go-around at decision height + 50 feet/– 0 feet
Minimum descent height/altitude + 50 feet/– 0 feet
Tracking on radio aids ± 5°
Precision approach half-scale deflection, azimuth and glide path
Heading all engines operating ± 5°
with simulated engine failure ± 10°
Speed all engines operating ± 5 knots
with simulated engine failure + 10 knots/– 5 knots

1.5 INSTRUCTIONAL METHODS

The briefing before the synthetic flight training consists of a minimum of 1.5 hours of instruction, and the debriefing consists of not less than 0,5 hours of instruction. Training conducted on Other Training Devices will include briefing, debriefing and theoretical instruction during the training as appropriate to the training being provided and may be expanded to include as much as an FFS full briefing and de-briefing as described above.

1.6 SYLLABUS INITIAL TRAINING TYPE RATING BOEING 737-300 - 500

1.6.1 INTRODUCTION

The type rating is for Boeing 737-300 - 900, but the training is only valid for Boeing 737-300 – 500 EFIS (the so-called 'classic'). If the student wishes to operate the Boeing 737-600 – 900 (the so-called 'NG'), the students have to complete 'differences training' following the applicable OSD. The B737CL(NON-EFIS and EFIS) to B737NG Differences Training requires the trainee to be qualified on a B737CL (NON-EFIS or EFIS) variant.

The airports to be used, weather conditions to be loaded into the simulator and simulated loads to be applied change dependent on which simulator will be used (dependent on simulator IOS capabilities). The actual airport, weather, and load to be applied and used shall be prepared by the instructor before the briefing and it should match the training requirements as per lesson plan.

The student will also find all the information about the aerodrome of use in the OM(C).

The instructor will verbally simulate Air Traffic Controller, Ground Crew, Cabin Chief, and Operations Officer. All communication (except to the instructor in his/her capacity purely as an instructor, and simulated entry of CC to the flight deck) will be made by the Audio Selector Panel, thus simulating normal operation as closely as possible.

The Pilot Flying will perform the Electrical Power Up, Preliminary Pre-Flight and Electrical Power Down. All other procedures will be performed from the respective seat. Both pilots must know, and also to be able to operate the aircraft from both seats (regardless of training), under the following criteria:

- Pilot Flying will always make his/her duties from the seat assigned for the training. Duties as
- Pilot Monitoring may be performed in any seat, regardless of rating.

The training records to be maintained for this training will be found in the following chapter (1.6.2 et. Seq.) and may be printed from the file as individual training file pages provided correct document version is confirmed with a hard copy manual before printing.

Within Chapter 1.6.2 et Seq., the presence of a starred item (*) indicates that a degree of instructor judgment should be used. In the case of briefing and de-briefing times, the indicated time is a guide and should be planned in case students with below-average aptitude, additional time may be required. In the case of the device, this is indicative that certain FSTD defects may be present (or a higher level of device used where it has been approved for use on the course), provided the training exercises are in no way affected by the defect (e.g. an FSTD smoke system unserviceability would in only affect those exercises where smoke is required).

Notes for the instructors:

- Before the first session, the instructor shall **perform a safety briefing** to the students. It should comprehend, at least, safety items concerning facilities and the FSTD evacuation procedures. In case of doubt, ask personnel.
- Before the first session, the instructor should make sure the **FSTD QUALIFICATION CERTIFICATE/SPECIFICATIONS** stored in Swan Fly digital platform (ask Swan Fly Management team for credentials): CLICK HERE) is current. In negative case, contact Head of Training as soon as possible or, if unreachable, make sure the current specifications allow compliance with the syllabus items and report it to the HT.
- In case of **FSTD deferred technical items** that affect the syllabus for the session, those syllabus items may be postponed to the next session if they do not affect the logical sequence of learning (for example, Traffic Avoidance exercise may be postponed if the TCAS system is unserviceable). This shall be reflected in 'Syllabus Comments', the syllabus item should be crossed and **manually inserted** in the next applicable session. This also applies in case the student performs below the standard
- When the respective item is above the minimum pass standard required for a pass in the respective item, the instructor will sign the exercise on the **Skill Test Form** (Practical Training section), if applicable.
- When a Syllabus Item is labeled as 'M':

	SUBJECT	PF	PM
1		M	M

It implies a mandatory item to be completed during the session. In the same box the following grading scale should be inserted:

PF	PM
M 1	M

Poor

PF	PM
M 2	M

Fair

PF	PM
M 3	M

Good

PF	PM
M 4	M

Excellent

- The instructor is responsible to send via e-mail after the session (documents@swan-fly.com) a scanned copy (digital photos are acceptable) of the syllabus page completed (signed by the instructor and the student). The **last session instructor** should also send the next sheet (signed).

Please, **sign for acknowledgment** as required and submit together with the syllabus:

X	X	X
Instructor Session 1	Instructor Session 2	Instructor Session 3
X	X	X
Instructor Session 4	Instructor Session 5	Instructor Session 6
X	X	X
Instructor Session 7	Instructor Session 8	Instructor Session 9
X	X	X
Instructor 10	Instructor 11	Instructor Session 12

Upon completion of the FSTD training part, the head of training shall verify and acknowledge compliance of the present syllabus/skill test form before the Skill Test.

X

Head of Training

1.6.2 SESSION B737CL-OTD-01

Fill as required:

TRAINING INFORMATION

BRIEFING	0:00*
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:00*
LOCATION	_____
EQUIPMENT	OTD
INSTRUCTOR	SFI/TRI/TKI

SUBJECT

Normal, and Non-normal operations workshop on mock-up. Touch drill training for different elements of flight and callouts memorizing.

HOMEWORK AND PREPARATION

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
Flow scan and areas of responsibility on different stages of flight.	FCOM	
Systems panels, normal and abnormal operations, possible warnings.	FCOM	
Flight deck preparation sequence and limitations.	FCOM	
Expanded Checklist from Before Starting Check to After Parking Check.	FCOM	
Procedures for every particular checklist shall be learned as memory items.	FCOM	
Engine start procedure.	FCOM	

BRIEFING

The briefing is included in the training.

TRAINING

1. General familiarization with B737 cockpit and assigned pilot seat environment.
    a. Location and arrangement of Primary flight Instruments (EFIS), stand by instruments. Difference between Left and Right stations
2. Location and accessibility of system's panels and control
    a. Limitations for RS pilot. Misuse of switches in problematic areas (Engine AI – Hydraulic Pumps)
3. Full flight deck preparation, pre-flight checks, and emergency equipment check
    a. Sequence of operation. Flow scan importance
4. Flow scan training with items to be checked and possible limitations

   a. Parameters to be checked and possible limitation
5. Normal checklist reading and execution. Procedures recall before every particular checklist
   a. Correct call-outs, the sequence of responses
6. Engines start sequence, parameters, and limitation
   a. Dividing of attention, limitations
7. Engine shutdown
   a. Electrical power transfer and possible non-normal situation

SESSION B737CL-OTD-01

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	FLIGHT DECK LAYOUT AND ARRANGEMENT.	M	M
2	FLOW SCAN PROCEDURE AND AREAS OF RESPONSIBILITY.	M	M
3	NORMAL PRE-FLIGHT PROCEDURES.	M	M
4	NORMAL CHECKLIST EXECUTION.	M	M
5	TEM/CRM	M	M
6			
13			
14			
15			

COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.3 SESSION B737CL-OTD-02

Fill as required:

TRAINING INFORMATION

BRIEFING	0:00*
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:00*
LOCATION	_____
EQUIPMENT	OTD
INSTRUCTOR	SFI/TRI/TKI

SUBJECT

Normal, and Non-normal operations workshop on mock-up. Touch drill training for different elements of flight and callouts memorizing.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
Review from the last session	Training Record	
Profiles	FCOM	
Speeds	FCOM	
Altitudes and configuration for standard to	FCOM	
Approach execution	FCOM	

BRIEFING

The briefing is included in the training.

TRAINING

1. Normal cockpit preparation.
    a. Parameters to be checked and possible limitation
2. Engine start with malfunctions.
    a. Check Memory Items are recalled. Correct Non-normal checklist
3. Normal TO.
    a. Correct calls, incapacitation calls importance and possible actions
4. ILS approach with a landing.
    a. Repeat flaps placard speeds limitations. Emphasize correct mechanization schedule
5. TO with Generator failure. Non-normal checklist.
    a. Importance of PF and PM concept. Sequence of Checklists execution
6. Visual approach sequence and calls.
    a. Correct timing vs wind
7. After landing procedures and taxi.
    a. Radar OFF, APU on and follow the starting
8. Engine shutdown. Post-flight cockpit operation.

SESSION B737CL-OTD-02

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	REVIEW FROM LAST SESSION	M	M
2	TRAINING FOR NORMAL OPERATIONS PROFILES.	M	M
3	NORMAL AND NON-NORMAL CHECKLIST EXECUTION.	M	M
4	TEM/CRM	M	M
5			
6			
7			
8			
9			

COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.4 SESSION B737CL-OTD-03

Fill as required:

TRAINING INFORMATION

BRIEFING	0:00*
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:00*
LOCATION	_____
EQUIPMENT	OTD
INSTRUCTOR	SFI/TRI/TKI

SUBJECT

Normal and Non-normal operations workshop on mock-up. Touch drill training for different elements of flight and callouts memorizing.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
REVIEW FROM LAST SESSION	FCOM + review of previous lesson comments	
QRH content, subdividing and sections integration.	QRH	
Flight profiles for TO with Engine failure.	FCOM, QRH	
One Engine Inoperative Approach and Landing.	FCOM, QRH	

BRIEFING

The briefing is included in the training.

TRAINING

1. Normal cockpit preparation.
    a. Follow and check correct sequence
2. Engine starts, normal and with fault.
    a. Identification of the problem
3. Rejected TO procedure and calls.
    a. High and Low energy abortion identification. Signs of Engine failure or other faults identification
4. TO with engine failure.
    a. Identification of different problems with the engine. Parameters check and interpretation
5. ILS approach with OEI.
    a. Sequence of actions and checklists

6. QRH reading and execution for Hydraulic failures.
    a. Correct sequence and proper execution. Correct checklist to use
7. QRH procedure for Emergency descent.
    a. Flow sequence to be learned by memory and trained on mockup
8. Review of Normal Checklist and Normal operation sequences.
    a. Check normal procedures are memorized

SESSION B737CL-OTD-03

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	REVIEW OF PREVIOUS SESSIONS	M	M
2	QRH PROCEDURES FOR DIFFERENT SYSTEMS.	M	M
3	NON-NORMAL OPERATION PROFILES.	M	M
4	TEM/CRM	M	M
6			
7			

COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.6 SESSION B737CL-FSTD-01

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with or without motion.
INSTRUCTOR	SFI / TRI

SUBJECT

This session consists of training in normal procedures in the Boeing 737, as well as the practice of FMS work. The LOFT will include of a distance of approximately 200 nm, and back again.
Normal operations. Familiarization with the real cockpit. Airplane controllability demo. Warning system demo.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
FMS quick setup.	FCOM	
Engine start calls and sequence.	FCOM/FCTM	
Take-off call-outs.	FCOM/FCTM	
Visual traffic pattern and landing techniques.	FCOM/FCTM/QRH	
Use of ILS and ILS standard approach sequence.	FCOM/FCTM/QRH	

BRIEFING

- Flight Planning
  - The instructor will explain how to make the flight-planning, including fuel calculation, mass & balance, and performance.
- Cockpit quick Set Up
- Electrical power-up procedure.
- Assumed Temperature Reduced Thrust calculation
- Review Pitch/power values for different stages of flight.
- Review visual traffic patterns with calls.
- Turns and slow flight.
- Simple ILS approach, use of ILS during visual approach.
- Boeing philosophy may differ from the previously flown airplanes

- Proper use of flow scan is important
- Crew coordination and cross-checks are essential
- Usual mistakes during pre-flight preparation.

TRAINING

PART 1

1. Simulator safety briefing.
    a. Emergency shutdown and evacuation. Seat belts policy Preliminary Pre-flight Procedures
2. Electrical power setup, use of ground power
    a. Correct communication. Checks sequence. Important Items to be checked like: Weather Radar, Flaps Lever position, etc
3. Full flight deck preparation, pre-flight checks, and emergency equipment check
    a. Parameters and limitations to be checked during preparation for the flight. APU start to be communicated with LP
4. Demonstration of Warning/Caution system including GPWS possible warnings.
    a. Review the Boeing Warning system's philosophy. Emphasize the absence of MC related to the indicators presented in the direct crew area. Demonstrate different Warnings and their presentation.
5. Seat adjustment
    a. Check correct feet position and field of view
6. FMS training. Initial Preparation. Performance and Route pages. Quick setup for Simulator
    a. Double-check of correct weights and speeds. The correct sequence of the pages, complete input. Short cuts and standard sequence presentation is effective
7. Before Start Checklist
    a. Correct calls and coordination between crewmembers. Correct sequence shall be explained and will safe time in future during training and flight operation
8. Start Check, engine start, Normal Checklist
    a. Sequence, call, and parameters to be checked. Readiness to abort and perform Memory Items
9. Taxi, Taxi Checklist, Configuration Warning.
    a. Coordination during Taxi
10. T/O (Flaps 5, AP engaged at 1000'), After T/O Checks. Climb FL 100.
    a. Dividing of attention. Importance of correct rate of rotation and initial pitch attitude
    b. Correct cross-wind technique
11. Manual flight without FD/AT at different speeds (including slow flight) and altitudes within the FSTD training envelope

a. Use of QRH, 'Performance Inflight' Chapter for obtaining pitch/power settings information.

12. Steep Turns Level flight. Clean and then flaps 15/30 (attitude, power and trim changes). Slow speed flight with gear down and flaps 30. Fly shallow turns with 15° bank maintaining speed Vref + 10kt. Turns with and without spoilers.
    a. Pitch/power for turns and other maneuvers. Effective use of stabilizer trim is important, not to over trim. PF shall keep one hand on the thrust levers throughout the maneuvering (for details in the use of Rudder and Lateral Control refer B737 FCTM Ch7).
13. Reposition to FL150. Acceleration to and Deceleration from VMO. Controllability demonstration flying in clean configuration at speeds below Minimum Maneuver Speed and speeds above High-Speed Buffet Limit.
    a. Set command speed to VMO. As speed observe: (a) nose-down trim required to keep airplane in trim and maintain level flight; (b) handling qualities during acceleration; (c) A/T protection at VMO. At a stabilized speed just below VMO executes turns at high speed while maintaining altitude. Next, accelerate above VMO by disconnecting the A/T and increasing the thrust. Observe (a) Overspeed warning; (b) sign of high-speed buffet; (c) deterioration of handling qualities. Set command speed to flaps up maneuver speed and decelerate. (use Speedbrake to enhance deceleration). Next, decelerate below Minimum Maneuver Speed. Observe (a) nose up trim required to maintain level flight (b) A/T protection at Minimum Speed and Reversion Mode. (For more details refer to B737 FCTM Ch 7 'Acceleration and Deceleration from VMO')
14. Area Arrival, Approach Briefing, Descent and Approach Checks
    a. Use of automation, change of control if required for briefing. Keep briefing short and relevant during simulator training
15. Vectoring for ILS approach and Landing
    a. Transition to manual flight, Stabilization well before. Continue flying the FD after change to manual. Ballooning is a common mistake
16. Visual circuits at 1500 ft AGL with cross-wind of 15 kts
    a. Pitch/power values, x-wind technique. Wrong flare corrections

PART2

1. As Part 1, 6-16

TRAINING RECORD

SESSION B737CL-FSTD-01

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	NORMAL PROCEDURES.	M	M
2	WARNING SYSTEM DEMO (GPWS, STALL)	M	M
3	MANEUVERING, TURNS (W & W/O SPOILERS)FMS TRAINING: INITIAL FMS SETUP, PRE-FLIGHT	M	M
4	MANEUVERING, TURNS (W & W/O SPOILERS)	M	M
5	AIRCRAFT CONTROLLABILITY DEMO.	M	M
6	ILS APPROACH.	M	M
7	VISUAL CIRCUITS.	M	M
8	TEM/CRM	M	M

COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.7 SESSION B737CL-FSTD-02

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with motion.
INSTRUCTOR	SFI / TRI

SUBJECT:Normal operations. Stall, upset recovery. GPWS warning. All kinds of precision and non-precision approaches, visual approach. Circling approach. FMS training: SID and STAR, approach setup

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
SOP for normal flying.	FCOM	
UPRT, STALL and GPWS	QRH/FCTM	
TO techniques and instrument approaches.	FCOM/FCTM/QRH	
Circling Approach	FCTM/QRH	
Use of AFCS.	FCOM/FCTM/QRH	
FD and AP use during different stages of flight.	FCOM/FCTM/QRH	
FMS setup for departure and approach.	FCOM	

BRIEFING

- Flights in IMC, dividing of attention on the primary flight instruments
- Importance of correct callouts
- Use of automation
- FMS quick setup before approach.
- RTOW, Power and Flap setting.
- Stall and upset Recovery
- Approach briefing
- Basics of PBN (3D and 2D approaches).
- Circling Approach.
- GPWS possible warning and crew actions.

TRAINING

PART 1

1. Quick cockpit preparation
    a. Correct calls, emphasize attention dividing during ground operation
1. FMS Training. SID and Approach setup. FMS training. GA setup, Second route for alternate programming.
    b. Minimum inputs required. Explain where required information is located
2. Engine start and Checklists
    a. Follow the sequence check how the attention is divided. Correct if necessary.
3. Taxi, Line-Up, and Checklists
    a. Coordination. Use of heading for orientation in limited visibility.
4. Rolling T/O with MTOM. Area Departure
    a. Pitch rate on rotation.
5. Stall in clean and landing configurations
    a. Recovery from stall events in take-off configuration; clean configuration at low altitude; clean configuration near maximum operating altitude; and landing configuration.
6. Upset recovery training
    a. Correct pitch control and power setting precautions. Recovery from nose-high at various bank angles; and recovery from nose-low at various bank angles

       NOTE: The instructor shall make sure the training is performed within the approved envelope in terms of Gs, Pitch and Bank Angle, Altitude, Speed, and Aircraft Configuration. Refer to the ATO list of approved devices.
7. Approach briefing, R/V for LNAV/VNAV or ILS. (FD/AP). Normal landing with visual reference established when reaching DA/H following an instrument approach operation.
    a. Briefing items. Correct sequence. Minima and stabilized approach adherence. Consider manual flight limitations according to the procedure.
    b. The correct transition from instrument to visual reference.
8. VOR/DME or NDB/DME approach with G/A or Landing.
    a. Correct sequence. Minima and stabilized approach adherence. Advise correct FMC operation.
9. Circling approach to another runway at least 90° off centerline from the final approach used in the instrument segment.
    a. Correct use of timing, Autopilot, and procedures. Stabilization criteria.
10. GPWS recovery training
    a. Brief students that normally recovery action shall be initiated at 'Terrain Caution Terrain' or other similar warnings stated in FCOM. Using AP deliberately fly into the mountain till EGPWS 'Terrain Pull Up' warning activation. Observe (a) sequence of the aural warnings; (b) Terrain Awareness Display indication. Emphasize correct recovery action as described the QRH. Make sure that: (a) Max Thrust is properly set by PF and checked by PM; (b) a/c positively rotated to 20°; (c) Speedbrake

checked/retracted; (d) no configuration change until clear of terrain. Review the difference in terrain recovery actions by Terrain Awareness Display and without. Repeat exercise as required in CAVOK or lower visibility conditions.The correct transition from instrument to visual reference.

11. RWY vacation and post-flight procedures
    a. After landing Checklist execution. Important items such as APU start, Flaps selection, Weather Radar off, etc

PART 2

- As Part 1, 5-11

PROGRESS CHECK #1

Precise following the SOP, use of correct callouts in all phases of flight. Obeying standard flight profiles sequences for normal operation.

Any regressions from the student's progress shall be reported to Head of Training.

TRAINING RECORD

SESSION B737CL-FSTD-02

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1.	NORMAL PROCEDURES.	M	M
2.	TO IN IMC.	M	M
3.	STALL AND UPSET RECOVERY	M	M
4.	ALL TYPES OF APPROACHES IN IMC WITH GA AND LANDING.	M	M
5.	CIRCLING TO APPROACH	M	M
6.	GPWS WARNINGS AND ACTIONS	M	M
7.	FMS TRAINING: SID AND STAR, APPROACH SETUP	M	M
8.	TEM/CRM	M	M

COMMENTS:

PROGRESS CHECK #1 COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.8 SESSION B737CL-FSTD-03

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with or without motion.
INSTRUCTOR	SFI / TRI

SUBJECT

Introduction to non-normal and emergency operations. Emergency Descent. Speed Unreliable. Rejected take-off. Raw data flying.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
Abnormal/Emergency Checklists and Memory items.	FCOM/FCTM/QRH	
Failures/Fires during T/O.	FCTM/QRH	
Pressurization abnormalities/ Emergency Descent	FCTM/QRH	
RTO and GA procedures.	FCTM/QRH	
TCAS maneuver	QRH	
Handling of failure during the flight. NNC reading culture. Multiple failure policy.	FCTM/QRH	
FMS setup for holding, entry, and exit.	FCTM/FCOM	

BRIEFING

- Rejected/continued T/O.
- GA and missed approach procedure.
- Windshear on TO and LDG, progress to Stall or GPWS warning.
- TCAS warning and crew actions.
- Pressurization abnormalities and Emergency Descent Procedure
- FMS setup for holding.
- Correct PF-PM coordination to deal with malfunctions
- Procedure for Master Warning and recall
- Cabin Altitude Warning and initial actions
- Usual mistakes during Emergency Descent procedure
- Runaway Stabilizer
- Speed Unreliable due to Pitot/Static system failure

TRAINING

PART 1

1. Quick cockpit preparation, Before Start Checklist.
    a. Correct sequence and flow scan method for flight deck setup
2. Start Check; Engine start abnormalities. Checklists.
    a. Correct calls and sequence
3. Taxi and Line up Checklist.
    a. Crew coordination
4. Rejected T/O due to Engine fire.
    a. Direct coaching for correct flight control inputs. Fire fighting items to be trained and correctly applied
5. T/O with crosswind.
    a. Direct coaching for correct flight control inputs. No bank technique. Heading bug use when airborne
6. Area departure with Runaway Stabilizer failure.
    a. Correct use of Memory Items and QRH.
7. TCAS warning.
    a. Correct procedure and phraseology for TCAS RA.
8. FMS training: Holding. Speed Unreliable due to pitot/system malfunction when exiting the holding.
    a. Check that correct holding setup. Entry and exit procedure.
    b. Memory items review and correct use of QRH. Situation awareness.
9. Climb to FL350. (a) IRS failure during climb. (b) Fuel filter bypass malfunction.
    a. Introduction of single system faults and open discussion when needed.
10. Continued climb to FL350. Pressurization control AUTO FAIL. Operation of Pressurization system in STBY mode.
    a. Assist if needed with checklist progress
11. FL 350. Slow decompression. Pressurization MAN mode operation. Emergency descent.
    a. Check the correct technique of putting oxy mask on (headset removed first and then putting them back). Check correct sequence and proper calls are used. PF shall keep AP on and perform all actions for Emergency Descent. PM shall assist as required and check/report
12. Repetition of Emergency Descent due to Explosive Decompression from FL300
    a. Check the correct sequence and proper calls are used. PF shall keep AP on and perform all actions for Emergency Descent. PM shall assist as required and check/report MSA
13. Emergency Descent, R/V for ILS approach.
    a. Mask removed around 10 000', then normal preparation for the approach is completed

14. GA and missed approach procedure (no contact) at DA, MDA and from various stages during an instrument approach, including after touchdown (rejected landing). Electrical fault with reset.
    a. Minima observation, correct calls for GA execution. Checklist for small faults initiated when stabilized in climb and situation permits
15. R/V for ILS, Windshear on final and GA.
    a. Minima observation, correct calls for GA execution. Stabilized approach procedure to facilitate WS recognition
16. R/V for ILS, Landing.
    a. Normal approach calls and coordination
17. T/O with crosswind and Windshear.
    a. Correct pitch. Identification of Windshear, correct actions and flying with Shaker when GPWS warning
18. If time allows, RAW data ILS approach training with landing or GA
    a. Importance of pitch/power values. Small adjustments. Constant and predetermined heading

PART2

As Part 1, 4-18

PROGRESS CHECK #2

Precise, within prescribed limits, manual flying of the airplane in normal operational conditions, without failures and in normal meteorological conditions.

Any regressions from the student's progress shall be reported to Head of Training.

TRAINING RECORD

SESSION B737-CL-FSTD-03

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1.	NON-NORMAL PROCEDURES	M	M
2.	RTO TRAINING	M	M
3.	SYSTEMS FAILURES: (PRESSURIZATON, ELECTRICAL).	M	M
4.	RUNAWAY STABILIZER.	M	M
5.	TCAS TRAINING	M	M
6.	FMS TRAINING: HOLDING SETUP	M	M
7.	SPEED UNRELIABLE.	M	M
8.	QRH PRACTICE.	M	M
9.	SYSTEMS FAILURES: (PRESSURIZATON, ELECTRICAL).	M	M
10.	EMERGENCY DESCENT PROCEDURE	M	M
11.	GA TRAINING	M	M
12.	WINDSHEAR, GPWS ESCAPE.	M	M
13.	CRM/TEM	M	M

COMMENTS:

PROGRESS CHECK #2 COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.9 SESSION B737CL-FSTD-04

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with or without motion.
INSTRUCTOR	SFI / TRI

SUBJECT

Smoke and Fire situations.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
Engine Crossbleed Start Supplementary Procedure	FCOM	
Air-conditioning/Electrical Smoke procedure.	QRH	
QRH procedure in case of Smoke/Fire.	QRH	

BRIEFING

- Supplementary engine start procedures
- LOFT scenario for Smoke and Fire on board.
- Smoke removal procedure and its implementation.
- Good planning and PF's briefing is important for effective crew coordination
- The danger of fire and smoke on board
- Land at nearest suitable airport policy

TRAINING

PART 1

1. Quick cockpit preparation.
    a. Correct sequence and flow scan method for flight deck setup
2. Start Check, APU bleed air malfunction. Engine start from Ground Air Cart followed by engine X-bleed start.
    a. Observe proper bleed air pressure check from RP.
3. After Start Checklist. Taxi, Before Take-Off Checklist.
    a. Correct calls and sequence.

4. T/O (flaps 15, AP) Area departure.
5. FMS training. Diversion FMS setup
    a. Correct Use of FMS: Cost Index=0, Route, Fuel Calculation of non-normal configuration.
6. Raw Data ILS, Manual reversion landing
    a. Transition to manual reversion warnings
    b. Correct execution of landing and system status awareness. All action an advance
7. Max X-wind TO, Area departure
    a. X-wind technique
8. Fire and Smoke on Board
    a. Coordination and delegation. Smoke procedure shall be initiated as soon as possible.
9. Diversion back to departure AP. Approach preparation.
    a. Decision making shall be communicated between the crew.
10. Raw Data ILS approach and at least three GAs on reaching DH. It should include a go-around due to (simulated) insufficient RVR, wind shear, airplane deviation above approach limits for a successful approach, and ground/airborne equipment failure before reaching DH and, go-around with simulated airborne equipment failure.
    a. During Raw data training check: (a) Correct pitch; (b) Correct thrust; (c) correct trim when change configuration; (d) No over control; (e) Heading stability; (g) X-wind consideration
11. If time allows, two visual landings with maximum crosswind
    a. Correct Technique.
12. If time allows: Reposition 10 nm final and landing with manual reversion conditions and simulated jammed horizontal stabilizer in any out-of-trim position
    a. Introduction to handling the aircraft in abnormal configurations.
13. If time allows: Reposition on downwind. Traffic pattern and landing without extended flaps and slats
    a. Ensure landing in the touchdown zone.

PART2

1. As Part 1, 4-13

PROGRESS CHECK #3

Ability to deal with a single malfunction, correct identification of a failure, application of NN Checklists. Application of CRM/TEM principles during a non-normal situation to solve the problem and continue flight to landing airport.

Any regressions from the student's progress shall be reported to Head of Training.

TRAINING RECORD

SESSION B737CL-FSTD-04

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1.	NON-NORMAL PROCEDURES.	M	M
2.	USE OF SUPPLEMENTARY PROCEDURES	M	M
3.	FMS TRAINING: DIVERSION FMS SETUP.	M	M
4.	MAX X-WIND TO	M	M
5.	SMOKE AND FIRE.	M	M
6.	RAW DATA FLIGHT WITH GA	M	M
7.	MAX X-WINDS LANDINGS	M	M
8.	(OPTIONAL) FORCED LANDINGS: MANUAL REVERSION, JAMMED STAB, FLAPS UP	M	M
9.	TEM/CRM	M	M

COMMENTS:

PROGRESS CHECK #3 COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.10 SESSION B737CL-FSTD-05

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with motion.
INSTRUCTOR	SFI / TRI

SUBJECT

Asymmetric thrust operation. Engine failure on different stages of flight.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
OEI operation.	FCTM	
Checklists for engine shutdown and air-start.	QRH	
Fuel Leak	QRH/FCOM	
OEI drift down procedure.	FCTM/QRH	
Evacuation	FCTM/QRH	

BRIEFING

- Identification of engine failure.
- Action Plan for different stages of flight
- Memory Items for engine shutdown.
- Air-start procedure.
- Correct application of control in case of Engine failure.
- Control coordination during OEI flight.
- MSA and RWY track maintenance when Engine fail.
- Correct use of controls
- Use of standard Pitch / Power and trim setting for OEI
- Usual mistakes when in the OEI situation.
- Evacuation

TRAINING

PART 1

1. Quick cockpit preparation.
2. Reposition to Line-up position. Checklists.

   a. Decision-making, wind direction, evacuation and sequence.
3. TO with engine failure after shortly after reaching V2. Also between V1 and V2
   a. Correct checklist execution, correct engine problem identification.
4. In-flight starts after level-off at assigned altitude.
   a. Decision-making: engine shutdown or restart?
5. Reposition to FL350. (a) Flameout and Drift Down procedure. (b) Engine Fuel Leak. In-flight engine shutdown and drift down.
   a. Use of AP and FD. Importance of correct speed and vertical profile. MSA vs Ceiling. Address performance issues.
6. FMS training. FMS setup for Drift Down and OEI operation.
   a. Correct page and sequence.
7. Repetition of Engine flameout at FL 250 with the Fuel Leak condition still active.
8. R/V for OEI ILS approach, OEI landing.
   a. Control coordination, pith/power, GA sequence, and correct checklists sequence.
9. Three T/O with engine failure at V_{ef} > V1.
   a. The trainee must verbally state the plan of action at a safe altitude.
10. R/V for VOR/DME approach, OEI landing.
   a. OEI landing technique. Use of rudder trim. Correct speed and Auto-brake setting.
11. Three ILS approaches (manual with or without FD) with OEI out followed by GA.
   a. The correct tempo of power setting, coordinated with rudder input. Importance of correct pitch.
12. OEI landing followed by Evacuation.
   a. Evacuation sequence. The correct reading of the checklist, correct signals via PA.

PART 2: As Part 1, 3-12

TRAINING RECORD

SESSION B737CL-FSTD-05

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1.	ONE ENGINE INOPERATIVE (OEI) TRAINING.	M	M
2.	ENGINE FAILURE ON DIFFERENT STAGES OF FLIGHT. IN-FLIGHT START	M	M
3.	FUEL LEAK	M	M
4.	DRIFT DOWN PROCEDURE.	M	M
5.	TO WITH ENGINE FAIL	M	M
6.	OEI APPROACH, GA, AND LANDING	M	M
7.	EVACUATION		
8.	CRM/TEM	M	M

COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.11 SESSION B737CL-FSTD-06

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with motion.
INSTRUCTOR	SFI / TRI

SUBJECT

Total loss of AC power. Both engine flameout. All kinds of approaches with One Engine Inoperative. Engine failure on the final.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
No Engine Bleed and Unpressurized TO and Landing supplementary procedures.	FCOM	
FMS malfunctions	QRH/FCOM	
Both engine flameout.	FCTM/QRH	
Both generators fail.	QRH	
Engine fire.	QRH	
Engine failure during the approach.	FCTM/QRH	
Contaminate and slippery RWY operations and performance calculation.	FCOM/FCTM	
Use of Engine Anti-Ice.	FCOM/FCTM	
Pilot Incapacitation	FCTM	

BRIEFING

- All Memory Items repetition and way of execution during different stages of flight.
- Flying technique and profile calculation for both engines flameout.
- Airplane limitation for winter operation.
- Preparation and briefing items for winter operation
- Crew coordination in case of Loss of AC and Both Engines failure
- 'Mayday' policy
- Pilot Incapacitation
- All-weather operations: low temp, low friction, contaminated rwys.

TRAINING

PART 1

1. Quick cockpit preparation.
2. Reposition to Line-up position. Checklists.
3. Two No Engine Bleed TO with engine failure shortly after V1, MTOM.
    a. Check the correct technique. Training shall be confident in OEI operation at this stage.
4. Normal TO, area climb
5. FMS Training. Steep climb, optimum FL, Cost index, Speed and Altitude intervention. FMS malfunctions.
    a. Check the understanding of main FMS principles. Cross-checking and execution. Emphasize the main pages needed during the flight. Addressing FMS Malfunctions with QRH.
6. Loss of AC supply.
    a. Study the available equipment and possible type of approach.
7. Both engine flameout followed by forced landing.
    a. Usually, the trainee will overestimate actual drag and come on final high and with excessive speed. Correct speed and glide distance calculation. Different maneuvering is possible.
8. Review: TO with Windshear. Area climb.
9. Review: TCAS scenario
    a. Correct pitch. Avoid over control and correct phraseology.
10. Review (as required): stall recovery, UPRT, and GPWS scape maneavour.
    a. Loss of altitude may be a problem. Emphasize the importance of the correct pitch.
11. Two manual ILS approaches (with or without FD) with engine failure on short final in IMC followed by missed approach. Maximum LW. First Engine failure before reaching 1000 AGL. Second Engine Failure after passing 1000 AGL from Threshold.
    a. Engine failure training. Power/pitch settings.
12. Two Raw Data manual ILS down to landing on RWY with low Friction.
    a. Raw Data training. Slippery RWY precautions and limitations.
13. Manual go-around with an engine inoperative upon reaching DA/MDA.
    a. Correct use of power, pitch, and rudder.
14. Pilot Incapacitation at Vr.
    a. Correct use of procedures and checklists. Mayday and landing.
15. RTO, followed by evacuation. RWY with reduced FC.
    a. Failure identification. Correct call of Memory Items and performance of the Evacuation checklist. No rush. Proper use of Park Brake.

PART 2

1. As Part 1, 3-15

PROGRESS CHECK #4:

Verify the precise procedure to deal with engine failure during different stages of the flight. Correct callout and sequence of actions in case of engine failure. Precise, within established limitations, directional control with asymmetric thrust situation.

Any regressions from the student's progress shall be reported to Head of Training.

TRAINING RECORD

SESSION B737CL-FSTD-06

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	OEI TRAINING.	M	M
2	ENGINE FAILURE ON TO AND ON FINAL APPROACH.	M	M
3	BOTH GENERATORS FAIL	M	M
4	REVIEW: TCAS, STALL, UPRT, GPWS	M	M
5	GA WITH OEI.	M	M
6	WINTER OPERATIONS, CONTAMINATED RWY.	M	M
7	FMS TRAINING: STEEP CLIMB, OPTIMUM FL, COST INDEX, SPEED AND ALTITUDE INTERVENTION. FMS MALFUNCTION.	M	M
8	PILOT INCAPACITATION	M	M
9	EVACUATION		
10	TEM/CRM	M	M

COMMENTS:

PROGRESS CHECK #4 COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.12 SESSION B737CL-FSTD-07

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with motion.
INSTRUCTOR	SFI / TRI

SUBJECT

LOFT training. Multiple failures. Jammed and restricted flight control system. Stabilizer runaway. Failures in the autopilot system.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
Taxi with low vis conditions	FCTM/FCOM	
Loss of Hydraulics	QRH/FCOM	
All kinds of flight controls malfunctions	QRH	

BRIEFING

- To Off alternate requirements when RVR<550m
- Decision-making algorithm (FOR-DEC, SADIE,…)
- QRH procedure and actions plan for Control malfunctions
- Multiple failures
- Forced landing preparation
- Difficulties with Control malfunctions, Flaps malfunctions Non-Normal QRH procedures of Boeing
- Crew coordination for an emergency landing
- Change of control philosophy in case of multiple malfunctions

PART 1

1. Quick cockpit preparation
    (a) LVO procedures. Lookout, stop for checklist if needed, red bar marking, RWY marking.
2. FMS training. Pre-flight setup
3. Reposition to Line-up position. Checklists
    (a) Correct checklist.
4. TO with flaps asymmetry

(a) Correct identification of the problem. Follow the correct checklist.

5. (a) Diversion and Trailing Flaps Up Landing. (b) Flaps asymmetry when down selection. All flaps up landing.
   (a) Correct approach sequence.
6. TO with Stabilizer Runaway.
7. LDG with Stab trim jam
8. TO and area departure
9. Ailerons jam approach and landing
   (a) Correct crew coordination. Appropriate decision making
10. TO and area departure
11. Loss of System A and B. Manual Reversion Approach and Landing.
    (a) Limitations, correct checklist and crew coordination. Emergency landing shall be planned. Also, post-landing actions shall be clarified and plan to be set with Cabin crew and ATC

PART 2

1. As Part 1, 4-11

PROGRESS CHECK #5:

Ability to deal with more complicated failures, multiple malfunctions, and control problems. Application of CRM/TEM principles to share the workload and to set the priority in non-normal and emergency situations.

Any regressions from the student's progress shall be reported to Head of Training.

TRAINING RECORD

SESSION B737CL-FSTD-07

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	NORMAL OPERATIONS	M	M
	LOW VISIB TO	M	M
2	FLAPS ASYMMETRY	M	M
3	STAB RUNAWAY QRH AND LANDING	M	M
4	STAB TRIM JAM QRH AND LANDING	M	M
5	AILERONS JAM QRH AND LANDING	M	M
6	MULTIPLE HYDRAULIC FAILURES.	M	M
7	MANUAL REVERSION LANDING	M	M
8	FMS TRAINING: REPETITION PRE-FLIGHT SETUP.	M	M
9	TEM/CRM	M	M

COMMENTS:

PROGRESS CHECK #5 COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

1.6.13 SESSION B737CL-FSTD-08

Fill as required:

TRAINING INFORMATION

BRIEFING	1:30
TRAINING SESSION TIME	4:00
DEBRIEFING TIME	0:30*
LOCATION	_____
EQUIPMENT	Full Flight Simulator with motion.
INSTRUCTOR	SFI / TRI

SUBJECT

LOFT training. Repetition of Emergency descent, fire on board and hydraulic malfunctions. Combination of system failure and engine failure. Multiple malfunctions.

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK
Airplane limitations.	FCOM	
TO methods.	FCOM, FCTM	
All kinds of approaches.	FCOM, QRH	
Emergency procedure.	FCTM, QRH	
Checklists that require diversion to the nearest airport.	FCTM, QRH	

BRIEFING

- Diversion policy.
- Crew coordination.
- CRM including the TEM model, a short presentation of principles and behavior markers.
- Questions from students to complete the conversion course.
- Set up the LOFT session.
- Weather, clearance, Loadsheet, preparation and performance calculation.
- Crew coordination and decision making for normal and non-normal operations
- Captain to deal with checklists and malfunctions delegating control to FO
- Review Decision-making process
- Speak up – is a powerful crew coordination and Situational Awareness tool.

Training

PART 1

1. Quick cockpit preparation, Before Start Checklist.
2. Start Check; engine Start Abnormalities, After Start Checklist.
3. Taxi, Before Take-Off Checklist. Use of WX Radar due to approaching TS.
    a. Observe the proper operation of WX radar.
4. T/O with crosswind, Windshear on TO. Area Departure, follow SID up to FL 100.
5. TCAS scenario. Minor faults
6. Stall in clean and landing configurations.
7. Slew to FL 350. High Altitude Stall
    a. Observe: (a) Correct actions on stall recovery; (b) Slower engine respond (c) Bigger altitude loss comparing to lower altitude stall.
8. Rapid depressurization and Emergency Descent to FL 100.
9. FMS training. Diversion setup, Holding and Approach Setup.
10. R/V for a non-precision approach. Loss of communication.
11. Landing with max X-wind.
12. Rejected T/O.
13. T/O with engine failure after V1, AP to be engaged at 1000 ft.
14. R/V for one engine out ILS app and Go-around.
15. R/V for Raw Data ILS approach and Landing.
16. TO with Engine failure and Fire.
17. R/V for ILS and Circuit to land.
18. Emergency Evacuation.

PART 2

1. As Part 1, 4-18

PROGRESS CHECK #6:

Ability to operate the airplane in normal, non-normal and emergency situations talking into account cabin crew, passengers, ATC and other factors of usual flight operations.

Any regressions from the student's progress shall be reported to Head of Training.

TRAINING RECORD

SESSION B737-CL-FSTD-08

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
1	LOFT TRAINING INCLUDING POSSIBLE SKILL TEST SCENARIO.	M	M
2	MULTIPLE FAILURES.	M	M
3	FMS TRAINING: REPETITION IN-FLIGHT DIVERSION, APPROACH SETUP.	M	M
4	CRM/TEM: COMMUNICATION WITH PASSENGERS AND CC. FLIGHT DECK CREW COORDINATION AND EFFECTIVE LEADERSHIP.	M	M

COMMENTS:

PROGRESS CHECK #6 COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

Chapter 2
Air exercise reference list

This chapter contains abbreviated lists of the above exercises (from Part C, Chapter 1), giving only main titles and subtitles for quick reference to facilitate daily use by instructors.

SESSION B737CL-OTD-01

	SUBJECT	PF	PM
1	FLIGHT DECK LAYOUT AND ARRANGEMENT.	M	M
2	FLOW SCAN PROCEDURE AND AREAS OF RESPONSIBILITY.	M	M
3	NORMAL PRE-FLIGHT PROCEDURES.	M	M
4	NORMAL CHECKLIST EXECUTION.	M	M
5	TEM/CRM	M	M

SESSION B737CL-OTD-02

	SUBJECT	PF	PM
1	REVIEW FROM LAST SESSION	M	M
2	TRAINING FOR NORMAL OPERATIONS PROFILES.	M	M
3	NORMAL AND NON-NORMAL CHECKLIST EXECUTION.	M	M
4	TEM/CRM	M	M

SESSION B737CL-OTD-03

	SUBJECT	PF	PM
1	REVIEW OF PREVIOUS SESSIONS	M	M
2	QRH PROCEDURES FOR DIFFERENT SYSTEMS.	M	M
3	NON-NORMAL OPERATION PROFILES.	M	M
4	TEM/CRM	M	M

SESSION B737CL-FSTD-01

	SUBJECT	PF	PM
1	NORMAL PROCEDURES.	M	M
2	WARNING SYSTEM DEMO (GPWS, STALL)	M	M
3	MANEUVERING, TURNS (W & W/O SPOILERS)FMS TRAINING: INITIAL FMS SETUP, PRE-FLIGHT	M	M
4	MANEUVERING, TURNS (W & W/O SPOILERS)	M	M
5	AIRCRAFT CONTROLLABILITY DEMO.	M	M
6	ILS APPROACH.	M	M
7	VISUAL CIRCUITS.	M	M
8	TEM/CRM	M	M

SESSION B737CL-FSTD-02

	SUBJECT	PF	PM
9.	NORMAL PROCEDURES.	M	M
10.	TO IN IMC.	M	M
11.	STALL AND UPSET RECOVERY	M	M
12.	ALL TYPES OF APPROACHES IN IMC WITH GA AND LANDING.	M	M
13.	CIRCLING TO APPROACH	M	M
14.	GPWS WARNINGS AND ACTIONS	M	M
15.	FMS TRAINING: SID AND STAR, APPROACH SETUP	M	M
16.	TEM/CRM	M	M

SESSION B737-CL-FSTD-03

	SUBJECT	PF	PM
14.	NON-NORMAL PROCEDURES	M	M
15.	RTO TRAINING	M	M
16.	SYSTEMS FAILURES: (PRESSURIZATON, ELECTRICAL).	M	M
17.	RUNAWAY STABILIZER.	M	M
18.	TCAS TRAINING	M	M
19.	FMS TRAINING: HOLDING SETUP	M	M
20.	SPEED UNRELIABLE.	M	M
21.	QRH PRACTICE.	M	M
22.	SYSTEMS FAILURES: (PRESSURIZATON, ELECTRICAL).	M	M
23.	EMERGENCY DESCENT PROCEDURE	M	M
24.	GA TRAINING	M	M
25.	WINDSHEAR, GPWS ESCAPE.	M	M
26.	CRM/TEM	M	M

SESSION B737CL-FSTD-04

	SUBJECT	PF	PM
10.	NON-NORMAL PROCEDURES.	M	M
11.	USE OF SUPPLEMENTARY PROCEDURES	M	M
12.	FMS TRAINING: DIVERSION FMS SETUP.	M	M
13.	MAX X-WIND TO	M	M
14.	SMOKE AND FIRE.	M	M
15.	RAW DATA FLIGHT WITH GA	M	M
16.	MAX X-WINDS LANDINGS	M	M
17.	(OPTIONAL) FORCED LANDINGS: MANUAL REVERSION, JAMMED STAB, FLAPS UP	M	M
18.	TEM/CRM	M	M

SESSION B737CL-FSTD-05

	SUBJECT	PF	PM
9.	ONE ENGINE INOPERATIVE (OEI) TRAINING.	M	M
10.	ENGINE FAILURE ON DIFFERENT STAGES OF FLIGHT. IN-FLIGHT START	M	M
11.	FUEL LEAK	M	M
12.	DRIFT DOWN PROCEDURE.	M	M
13.	TO WITH ENGINE FAIL	M	M
14.	OEI APPROACH, GA, AND LANDING	M	M
15.	EVACUATION		
16.	CRM/TEM	M	M

SESSION B737CL-FSTD-06

	SUBJECT	PF	PM
1	OEI TRAINING.	M	M
2	ENGINE FAILURE ON TO AND ON FINAL APPROACH.	M	M
3	BOTH GENERATORS FAIL	M	M
4	REVIEW: TCAS, STALL, UPRT, GPWS	M	M
5	GA WITH OEI.	M	M
6	WINTER OPERATIONS, CONTAMINATED RWY.	M	M
7	FMS TRAINING: STEEP CLIMB, OPTIMUM FL, COST INDEX, SPEED AND ALTITUDE INTERVENTION. FMS MALFUNCTION.	M	M
8	PILOT INCAPACITATION	M	M
9	EVACUATION		
10	TEM/CRM	M	M

SESSION B737CL-FSTD-07

	SUBJECT	PF	PM
1	NORMAL OPERATIONS	M	M
	LOW VISIB TO	M	M
2	FLAPS ASYMMETRY	M	M
3	STAB RUNAWAY QRH AND LANDING	M	M
4	STAB TRIM JAM QRH AND LANDING	M	M
5	AILERONS JAM QRH AND LANDING	M	M
6	MULTIPLE HYDRAULIC FAILURES.	M	M
7	MANUAL REVERSION LANDING	M	M
8	FMS TRAINING: REPETITION PRE-FLIGHT SETUP.	M	M
9	TEM/CRM	M	M

SESSION B737-CL-FSTD-08

	SUBJECT	PF	PM
1	LOFT TRAINING INCLUDING POSSIBLE SKILL TEST SCENARIO.	M	M
2	MULTIPLE FAILURES.	M	M
3	FMS TRAINING: REPETITION IN-FLIGHT DIVERSION, APPROACH SETUP.	M	M
4	CRM/TEM: COMMUNICATION WITH PASSENGERS AND CC. FLIGHT DECK CREW COORDINATION AND EFFECTIVE LEADERSHIP.	M	M

Chapter 3
Course structure: phase of training

The FSTD training is planned to be conducted after the completion of the Theoretical Knowledge training and examination described in Part D of this manual and before the student is recommended for the skill test and subsequently undertakes airplane training.

The detailed session plans in Chapter 1 of this part contain full details of progress tests and requirements to be completed in each session.

Chapter 4
Course structure: integration of syllabi

The student enters the FSTD training only upon completion of all elements of theoretical knowledge instruction and examination as detailed in Part D to this manual.

Chapter 5
Student progress

Student progress requirements are detailed within the individual detailed lesson plans contained in Chapter 1 to this part.

Chapter 6

Instructional methods

The detailed instructions for pre and post (simulated) flight briefing are contained in Chapter 1 to this part.

6.1 Briefing and Debriefing

The course details contained in Chapter 1 of this part give extensive details of the briefing and debriefing that must be included with each session.

6.2 Adherence to Syllabi and training specifications

Instructors are required to follow the program detailed in Chapter 1. The provision is made for items that cannot be covered during a session to be entered as 'hold items'. In the case a hold item is entered, the 'hold item' box on the individual student training form must be checked by the instructor, and the details of the nature of the hold item shall be entered into the comments section of the respective student training form. The student shall be briefed about this hold item during debriefing.

6.3 Authorisation of Solo Flights

Not applicable

Chapter 7
Progress tests

The detailed instructions for conducting progress tests are contained in Chapter 1 to this part.

Chapter 8
Glossary of terms

[reserved]

Chapter 9
Appendices

9.1 Progress test report forms;

Progress tests are contained within the respective lesson records. These are found in Chapter 1.6 of this part and may be used directly.

9.2 Skill test report forms;

Follow procedures as per PART A, 9.3.2 Requirements for Recommendation to be made to the Authority for Skill Test

9.3 ATO certificates of experience, competence, etc. as required.

The respective session information (Chapters 9.3 of Part B and 1.6 of Part C of this manual) contains the records to be kept that assert the training given to the student during the course. These may be used directly.

9.4 SESSION B737CL-_____

TRAINING INFORMATION:

BRIEFING	1:30
TRAINING SESSION TIME	
DEBRIEFING TIME	0:30*
LOCATION	
EQUIPMENT	FFS ☐ / Other ☐ Specify:
INSTRUCTOR	SFI / /TRI ☐ / Other ☐ Specify:

* Training Device to be equipped as required for the training specification, see relevant information in lesson plans herein.

SUBJECT

HOMEWORK

Before the students enter the training, they have to study and review the following:

SUBJECT	REF. BOOK	REMARK

BRIEFING

TRAINING

PART 1

PART 2

Only if required:

PROGRESS CHECK #___

TRAINING RECORD

SESSION B737CL-_____

STUDENT _____ DATE _____

INSTRUCTOR _____ LOCATION _____

	SUBJECT	PF	PM
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			

COMMENTS:

Only if required:

PROGRESS CHECK # COMMENTS:

CONTINUE TO:	☐ NEXT SESSION	☐ EXTRA SESSION
PROGRESS CHK	☐ PASSED	☐ FAILED
HOLD ITEMS:	☐ NO	☐ YES

Signed:

Instructor _____ Student _____

PART D: THEORETICAL KNOWLEDGE INSTRUCTION

Chapter 1
Structure of the theoretical knowledge course

1.1 INTRODUCTION

The first phase of the training Is theoretical training. All theoretical training will be under the supervision of an instructor while it is approved by the Head of Training within Swan Fly Estonia ATO.

When the student is scheduled to do CBT, there will always be an Instructor available. The contact details will be noted on the respective student individual schedule.

The theoretical training has to be completed and the respective written-test regarding the actual course and training. The written test has to be passed by an approved result, according to the respective lesson-plan.

Students may use other training aids than described in this Training Manual, but only as a complement to the lesson-plan. Students shall always obtain permission from their Instructor or Head of Training before they use other training aid than described in this chapter to avoid confusion and misunderstanding during the training.

The theoretical instruction within Swan Fly Estonia ATO consists of CBTs, instruction in the classroom, training on paper tiger, etc.

1.2 INSTRUCTIONAL METHODS

1.2.1 INTRODUCTION

The theoretical training within Swan Fly Estonia ATO will be performed via CBT and classroom, as described In the respective lesson-plan.

1.2.2 CLASSROOM

The theoretical instruction, have to be under the supervision of an approved Ground Instructor within Swan Fly Estonia ATO. The Theoretical Knowledge Instructor has to be trained following the OM, Part D.

The regular premises for training in the classroom are subject to the oversight of the Swan Fly Estonia ATO Compliance Monitoring System, and any extensions to, additional provisions or changes of location are subject to CMS inspection. The Estonian Transport Administration will review the CMS oversight of the facilities and may, should it wish, make site inspections. Temporary classroom may be approved by Head of Training or respective instructor, within Swan Fly Estonia ATO, subject to having been inspected under the applicable CMS requirements (see OMM Chapter 12).

All premises for training in the classroom will include:

- Ventilation to ensure a good environmental
- Lights in the premises
- Whiteboard
- All needed technical aids to make a good presentation of the training material
- Sufficient space for the planned activities including (as applicable to the training to be conducted):
    - One desk each for students (shared desks of sufficient size may be acceptable subject to there being sufficient space for them to open and work with all materials/charts/manuals etc. as appropriate to the lesson)
    - One desk for each instructor
- At least 1 computer/tablet for each student and for the instructor for the planned lesson (unless stated otherwise elsewhere in this manual or the student/instructor brings his/her own)
- OHP or projector (as applicable)

The normal and recommended lesson in the classroom is 45 minutes, and the lesson may not be extended more than 60 minutes without a break.

The maximum number of students In the classroom is 28 however this is dependent upon the actual facility available, the provisions of IT equipment, etc. The total shall be reduced where assessment of the facilities dictates (see OMM Chapter 5, Chapter 12 and related Appendices).

1.3 SYLLABUS THEORETICAL KNOWLEDGE FOR TYPE RATING B737-300 – 900, 'CL' Variants

1.3.1 INTRODUCTION

The first part includes 161 CBT lessons of system knowledge instruction.

The second part includes 24 lessons of instruction in the classroom and a written test at the end of the theoretical training. The students have to make their homework parallel with their training in the classroom.

All theoretical knowledge will be graduated by a written test. After the student passed or failed a written test, the Instructor shall sign the respective students Training Record.

Students may not proceed to the next phase of training before the written test is passed.

1.3.2 Structure

The following tables illustrate the structure of the course and give a general sequence of the topics to be taught in each subject, the time allocated to each topic, the breakdown per subject and give an example of the course schedule.

The first part of the theoretical training is scheduled to be via CBT and consists of 10 workdays but it may be shortened by student demand. It is structured as below:

Day 1		Day 2		Day 3	
Aircraft General Oxygen System	2h 35m 23m	Electrical System Hydraulic System Landing Gear 1	59m 59m 1h 23m	Landing Gear 2 APU Pneumatic S.	47m 59m 1h 47m
Day 4		Day 5		Day 6	
Air Conditioning Pressurization	2h 46m 35m	Power Plant Fuel System	1h 47m 2h 11m	Ice & Rain Prot. Fire Det. & Prot Autoflight	1h 11m 1h 23m 1h 23m
Day 7		Day 8		Day 9	
Instruments, Navigation & Communication 1	2h 23m	Instruments, Navigation & Communication 2	2h 23m	Instruments, Navigation & Communication 3	2h 23m
Day 10					
Flight Controls FMS	1h 47m 1h 47m				

The second part of the theoretical training is scheduled to be in the classroom and consists of 4 workdays, and it will be scheduled as below:

DAY	LESSON	SUBJECT
11	1	Progress test/Limitations
11	2	Limitations
11	3	Normal Procedures
11	4	Normal Procedures
11	5	Normal Procedures
11	6	Normal Procedures
11	7	Normal Procedures
11	8	Normal Procedures

DAY	LESSON	SUBJECT
12	1	Non-Normal Procedures
12	2	Non-Normal Procedures
12	3	Non-Normal Procedures
12	4	Non-Normal Procedures
12	5	Adverse weather operations
12	6	UPRT
12	7	UPRT
12	8	UPRT

DAY	LESSON	SUBJECT
13	1	Emergency Equipment/Minimum Equipment List
13	2	Flight planning
13	3	Performance
13	4	Performance/
13	5	Mass and Balance
13	6	Mass and Balance
13	7	Progress test/Review
13	8	Review

DAY	LESSON	SUBJECT
14	1	Written test
14	2	Written test
14	3	Written test/ Answer

Chapter 2
Lesson plans

This chapter contains a description of each lesson including teaching materials, training aids, progress test organization and inter-connection of topics with other subjects.

Please note that the lesson plans do not contain pre-determined start and end times to allow sufficient flexibility for the instructor delivering the training to make modifications to the delivery of the course should this be required.

Signature of the instructor preparing the lesson plan and the HT is not required if the requirements of the published lesson plan are being followed as published in this manual. If the instructor requires to deviate from the lesson plan then the instructor and head of training signatures are required before delivery.

Lesson titles are not used on this specific course.

2.1 Systems Knowledge

Lessons from B737CL-TK001 till B737CL-TK161 (systems knowledge) are delivered via CBT. It covers the -300, -400 and -500 variants. Therefore, the familiarization training between those variants is an integrated part of the CBT.

Completion report, including progress test results, is supplied by the CBT provider and it should be attached to the student file.

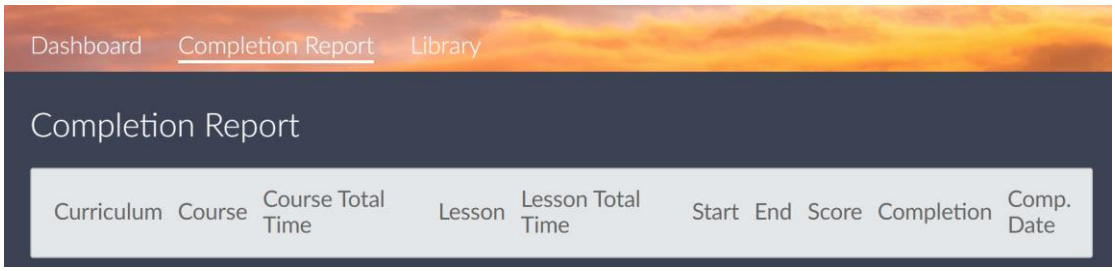
Appendix D.7.2 for expanded Systems Knowledge CBT syllabus.

Access to the online CBT service via the following link:

https://swan-fly.cpat.com/login

Once the student is enrolled she or he will be provided with a password:

At least one TKI will be assigned for assistance for the student. She or he will monitor the student progress daily using the completion report:



Should the student stays behind the program schedule or proves a bad performance, the instructor shall contact the student for assistance. If the instructor estimates the student won't be able to finish the CBT following the program, she or he contact the Head of Training for further action.

2.2 Limitations

Lesson Number		162		Lesson reference TRM	B737CL-TK162
Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- Progress test
- LIMITATIONS
- Operating Limitations
  - General
  - Airplane General
  - Operational Limitations
  - Non-AFM Operational Limitations
  - Mass Limitations
  - Anti-Ice, Rain
  - Autopilot/ Flight Director System
- Communications
  - Aircraft Communication Addressing and Reporting System
  - Electrical Power

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	163	Lesson reference TRM	B737CL-TK163

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- LIMITATIONS
  - Engines and APU
  - Engine Limit Display Markings
  - General Engine limitation
  - Engine ignition
  - Power Management Computer
  - Reverse Thrust
  - APU Flight Controls
  - Flight Management, Navigation
  - Fuel
    - Fuel Balance
    - Fuel Temperature
  - Landing Gear

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.3 Normal Procedures

Lesson Number	164	Lesson reference TRM	B737CL-TK164

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NORMAL PROCEDURES
  - Electrical power up
  - Preliminary Pre-flight Procedure
  - Pre-flight Procedure

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	165	Lesson reference TRM	B737CL-TK165

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- NORMAL PROCEDURES
  - Exterior Inspection
  - Before Engine Start

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	166	Lesson reference TRM	B737CL-TK166

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NORMAL PROCEDURES
  - Push back and towing procedures
  - Engine start procedure
  - After engine start procedure
  - Before takeoff procedure

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	167	Lesson reference TRM	B737CL-TK167

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NORMAL PROCEDURES
  - Takeoff procedure
  - After takeoff procedure
  - Takeoff flap retraction speed schedule
  - Climb and cruise procedure

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	168	Lesson reference TRM	B737CL-TK168

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NORMAL PROCEDURES
  - Descent and Approach Procedure
  - Approach Procedure
  - Landing Procedure
  - Go-Around Procedure
  - Landing Roll Procedure

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	169	Lesson reference TRM	B737CL-TK169

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NORMAL PROCEDURES
  - After landing procedure
  - Shutdown and Secure
  - Profiles
    - Normal takeoff
    - Precision approach
    - Non-precision approach
    - Circling
    - Traffic pattern

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.4 Non-normal Procedures

Lesson Number	170	Lesson reference TRM	B737CL-TK170

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NON-NORMAL PROCEDURES
  - Quick Reference Handbook
    - Air Systems
    - Cabin Altitude Warning or Rapid Depressurization
    - Emergency Descent
    - Engines
    - Aborted Engine Start
    - APU Fire
    - Engine Fire, Severe Damage or Separation
    - Engine Limits Surge/Stall
    - Engine Overheat
    - Engine Tailpipe Fire
    - Loss of Thrust on Both Engines

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	171	Lesson reference TRM	B737CL-TK171

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NON-NORMAL PROCEDURES
  - Fire Protection
    - APU Fire
    - Engine Fire, Severe Damage or Separation
    - Engine Overheat
    - Engine Tailpipe Fire
  - Flight Controls
    - Runaway Stabilizer
    - Uncommanded Rudder/Yaw or Roll
  - Flight Instrument, Display
    - Airspeed Unreliable

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	172	Lesson reference TRM	B737CL-TK172

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- NON-NORMAL PROCEDURES
  - Approach to Stall
    - Recovery
  - Rejected Takeoff
  - Terrain Avoidance
    - Ground Proximity Caution
    - Ground Proximity Warning
  - Traffic Avoidance
  - Upset Recovery
    - Nose High Recovery
    - Nose Low Recovery
  - Wind shear

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	173	Lesson reference TRM	B737CL-TK173

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- NON-NORMAL PROCEDURES
  - Profiles
    - Engine failure after V1
    - Precision Approach One-Engine Inoperative
    - Non-Precision Approach One-Engine Inoperative
    - Circling One-Engine Inoperative
    - Go-Around One-Engine Inoperative
  - Emergency Evacuation
  - Emergency Evacuation Procedures (both land and water)

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.5 Adverse Weather Operation

Lesson Number	174	Lesson reference TRM	B737CL-TK174

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- ADVERSE WEATHER OPERATION
  - Cold Weather Operation
    - De-Ice
    - Anti-Ice
    - Preflight
    - Engine Start
    - After Start
    - Taxi-Out
    - Before Takeoff
    - Climb and Cruise
    - Approach and Landing
    - Taxi-In and Park
    - Secure Hot Weather Operation Moderate and Heavy Rain
      - Turbulence
      - Wind shear
    - Avoidance
    - Precautions

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.6 UPRT

Lesson Number	175	Lesson reference TRM	B737CL-TK175

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- UPRT (1)
  - A. Aerodynamics:
    General aerodynamic characteristics; Airplane certification and limitations; Aerodynamics (high and low altitudes); Airplane performance (high and low altitudes); AoA and stall awareness; Stick shaker and other stall-warning device activation; Mach effects Airplane stability; Control surface fundamentals; Use of trims; Icing and contamination effects
  - B. Causes of and contributing factors to upsets:
    Environmental; Pilot-induced Mechanical (airplane systems)
  - C. Safety review of accidents and incidents relating to airplane upsets:
    Safety review of accidents and incidents relating to airplane upsets
  - D. G-load awareness and management:
    Positive/negative/increasing/decreasing G-loads; Lateral G awareness (sideslip); G-load management
  - E. Energy management:
    Kinetic energy vs potential energy vs effect of thrust-drag ratio on the total energy

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	176	Lesson reference TRM	B737CL-TK176

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- UPRT (2)

F. Flight path management:
Relationship between pitch, power and performance; Performance and effects of differing power plants; Manual and automation inputs for guidance and control; Type-specific characteristics; Management of go-arounds from various stages during the approach; Automation management; Proper use of rudder

G. Recognition:
Type-specific examples of physiological, visual and instrument clues during developing and developed upsets; Pitch/power/roll/yaw; Effective scanning (effective monitoring); Type-specific stall protection systems and cues; Criteria for identifying stalls and upsets

H. System malfunction:
Flight control defects; Engine failure (partial or full); Instrument failures; Loss of reliable airspeed; Automation failures; Stall protection system failures including icing alerting systems

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	177	Lesson reference TRM	B737CL-TK177

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- UPRT

  D. Flying at a cruising altitude above FL300:

  1. Basic flight physics principles concerning flight at high altitude.
  2. Interaction of the automation (autopilot, flight director, auto-throttle/auto-thrust) and the consequences of failures.
  3. Consequences of an unreliable airspeed and other failures indicate at high altitude and the need for the flight crew to promptly identify the failure and react with appropriate (minimal) control inputs.
  4. Degradation of modes and its consequence on aircraft stability and flight envelope protections, including stall warnings.
  5. Manual handling at high altitude in normal and in non-normal flight control modes.
  6. The requirement to promptly and accurately apply the stall recovery procedure, as provided by the aircraft manufacturer, at the first indication of an impending stall. Differences between high-altitude and low-altitude stalls must be addressed.
  7. Procedures for taking over and transferring manual control of the aircraft.
  8. Task sharing and crew coordination in high workload/stress conditions.

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.7 MEL & Emergency Equipment

Lesson Number	178	Lesson reference TRM	B737CL-TK178

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- MINIMUM EQUIPMENT LIST
  - General
  - Consultation and applicability
- EMERGENCY EQUIPMENT
  - Fire extinguisher Halon/Water
  - Lavatory fire extinguisher
  - Location
  - Lavatory Temperature Indicator Placard
  - Fire ax
  - Smoke goggles.
  - Smoke hoods
  - Fire Gloves
  - Emergency Flash Light
  - First Aid Kit
  - Medical Kit
  - Emergency Locator Transmitter
  - Portable Oxygen Bottle

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.8 Flight Planning

Lesson Number	179	Lesson reference TRM	B737CL-TK179

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- FLIGHT PLANNING
  - Flight plan (Nav log)
  - Abbreviations
  - Fuel Calculation
  - Alternate
  - Flight plan (Nav log)
    - Time Follow-up
    - Fuel Follow-Up
  - Review

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.9 Performance

Lesson Number	180	Lesson reference TRM	B737CL-TK180

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- PERFORMANCE
  - Definitions (review)
    - Takeoff Distance Available, Takeoff Roll Available, Accelerate-Stop Distance, Accelerate-Go Distance, Landing Distance Available
    - Climb Lim
    - Stop way, Clearway
    - V1, Vr, V2, Vref
  - Takeoff Calculation
    - Temperature
    - QNH
    - Wind
    - Runway Condition
    - Bleed ON/Bleed OFF
    - Maximum Takeoff Mass
    - Assumed Temperature
    - Engine Failure during Takeoff (all phases)

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	181	Lesson reference TRM	B737CL-TK181

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- PERFORMANCE
  - Landing Calculation
    - Wind
    - Runway Condition
    - Max Landing Mass
    - Non-normal configuration
- Review

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.10 Mass & Balance

Lesson Number	182	Lesson reference TRM	B737CL-TK182

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

- MASS & BALANCE
  - Definitions (review):
    - Basic Empty Mass, Max Zero Fuel Mass Max, Takeoff Mass, Max landing Mass, Pay Load, Standard Masses (Male Adult, Female Adult, Children, Infants, Baggage)
  - Load sheet
  - Load sheet Form
  - Balance Chart

Balance Chart

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	183	Lesson reference TRM	B737CL-TK183

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:

- MASS & BALANCE
  - Load sheet
    - Load sheet Form
    - Balance Chart
    - Exercises
  - Review

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

2.11 Review

Lesson Number		184		Lesson reference TRM	B737CL-TK184
Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT :

PROGRESS TEST

REVIEW

This is a review session

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Lesson Number	185	Lesson reference TRM	B737CL-TK185

Scheduled lesson time	0:45	Scheduled lesson start		Scheduled lesson end	

Materials required:
Classroom-based lesson – Classroom meeting requirements of OMM Chapter 5

- Computer *
- Projector *
- Presentation material, ppt slides, and printouts as defined below
- Operations and Training Manuals

* may be substituted with a single computer monitor where the group size does not exceed 2 students.

Objectives:
The instructor is aware of the ability of the students to assimilate the information provided.

Introduction:
None required

Lesson content:
SUBJECT

REVIEW
This is a review session

Exercises:

Summary:

Evaluation:

Prepared by: (name / signature)		Date:	
Approved by: (name / signature)		Date	

Chapter 3
Teaching materials

Specification of the training aids to be used (for example study materials, course manual references, exercises, self-study materials, demonstration equipment).

The following training aids are to be used in the respective lessons. The lesson plans contained in Chapter 2 of this part (and part 2 and 3 of this manual), stipulate the training aids to be used for each lesson. This chapter gives specific details that training aids must comply with to be suitable for use in those lessons. Included herein are:

- Study materials
- Course manual references
- Exercises
- Self-study materials
- Demonstration Equipment

Materials used shall have been checked following the compliance monitoring requirements contained in OMM Chapter 12.

3.1 Study materials

3.1.1 Flight Crew Training Manual (FCTM)

Students will be provided with a copy of the current Flight Crew Training Manual (as produced by Boeing) at the beginning of the course.

3.1.2 Flight Crew Operations Manual (FCOM)

Students will be provided with a copy of the current Flight Crew Operations Manual (as produced by Boeing) at the beginning of the course.

3.1.3 QRH

Students will be provided with a copy of the current Quick Reference Handbook (as produced by Boeing) at the beginning of the course.

3.2 Exercises

Practical exercises are described in Part B and C of this manual. Theoretical training within this program does not include specific exercises to be completed by students.

3.3 Self-study materials

Other than CBT, self-study does not form part of this course. Students are encouraged to undertake revision and preparatory reading in preparation for subsequent lessons, however, this is not an integral part of the course as a formal 'self-study.'

The FCTM, FCOM, and QRH issued to the students at the beginning of the course are considered adequate for the intended purpose of any homework reading suggested to them.

3.4 Demonstration Equipment

3.4.1 Whiteboard / Chalkboard

All theoretical classrooms shall be equipped with a whiteboard and/or chalkboard unless the group undertaking instruction is restricted to a maximum of 2 students, in which case it may be adequate for descriptive demonstrations by the instructor to be provided on paper for the students.

3.4.2 Cockpit pictorial representations

It is necessary for the simulator facility used to have a full-scale pictorial representation of the cockpit of the aircraft represented. This may be substituted where the pictorial representation is accurately positional located on a training device (paper tiger) and available for the briefing/debriefing sessions.

Certain training sessions described in part 3 of this manual require the use of such 'paper tigers'. This is described in the respective lesson.

In the classroom, a similar pictorial representation of the aircraft cockpit must be available, except where the group size is restricted to no more than 2 students, in which case the size may be scaled, provided it is possible for students to see all functional aspects of the cockpit and to relate these to each other in the representation provided

Chapter 4
Student progress

The student is expected to be able to show progressive assimilation of knowledge throughout the theoretical knowledge instruction element of this course. This is assured by progressive testing (see Chapter 5 of this part). Additionally, because this course is delivered through instructor-student contact time only, it is possible for the instructor, through the use of structured questioning, to build an ongoing picture of the progress of each student. Any comments arising from this will be entered into the student file.

Chapter 5
Progress testing

The progress testing requirements are contained in the respective lesson plans. See Chapter 2 of this Part for details.

There are two progress tests and each of them is formed by 20 multiple-choice questions. The pass standard is 75 % to pass the test.

Applicants who demonstrate unsatisfactory performance need to cover the areas of interest with the instructor and retake the entire test (further details of this procedure are contained in Part A, Chapter 9). This retake will be arranged on the same day or no later than the next working day and before the written exam.

Chapter 6
Review procedure

The disciplinary actions that will be taken in case of underperformance of a student are described in OM (A) Chapter 4.

6.1 Review by instructor

Instructors are expected to maintain a constant review of the student performance throughout the course. Besides, progress tests will be administered to ensure the student has assimilated the expected theoretical knowledge. Any substandard performance or recommendations for improvement should be entered by the instructor onto the student training file.

Instructors are expected to review the preceding training files before performing a subsequent lesson to review the instructor review of the previous sessions and take into account any recommendations or information contained therein.

6.1.1 General student performance

Students are expected to assimilate a progressive accumulation of knowledge throughout the course. Areas that are underperformed are expected to be subsequently revised by the student outside of formal lesson time.

6.1.2 Progress test performance (theoretical knowledge)

Students are expected to attain a pass of at least 75% in progress tests. Additional details are contained in Chapter 9.3 of Part A to this manual.

6.2 Review by CFI/CTKI/HT (as applicable)

CTKI/HT shall be requested by the overseeing instructor to review student performance where the student has failed to attain a pass mark of 75% in progress tests on at least 2 occasions, and subsequent lessons and re-test have shown the student to not have attained the required level of knowledge.

The CTKI/HT shall then act following the instructions in OM (A) Chapter 4.

Chapter 7
Appendices

Appendix D.7.1
Theoretical Knowledge Course Class Attendance Form

SWAN FLY ATTENDANCE SHEET			
Course:		**Date:**	
Facilitator:		**Place/Room:**	

Name and Surname	Signature

Instructor Signature:

X

Appendix D.7.2

Systems Knowledge CBT syllabus

Flight Simulation Company Learning Cen...

Dashboard Completion Report Library

Back to Dashboard

Due 2020/02/01
161 Lessons

CG-B737 CLASSIC

CG-B737 CLASSIC

161 Lessons

B737- Classic - PRT - Aircraft General

- B737-CL - Aircraft Overview
- B737-CL - Dimensions
- B737-CL - Flight Compartment Overview
- B737-CL - Passenger Compartment
- B737-CL - Cargo Compartments and Doors
- B737-CL - Water and Waste Systems
- B737-CL - Forward Airstairs
- B737-CL - Doors and Exits
- B737-CL - Cabin Lighting
- B737-CL - Flight Deck Lighting
- B737-CL - Exterior Lighting
- B737-CL - Emergency Lighting

B737-CL - Annunciator Lights

B737- Classic - PRT - Oxygen System

B737-CL - Flight Crew Oxygen

B737-CL - Passenger Oxygen

B737- Classic - PRT - Electrical System

B737-CL - Electrical Introduction Panel Locations

B737-CL - Constant Speed Drives IDG

B737-CL - AC Power Generation Distribution

B737-CL - DC Power

B737-CL - AC and DC Metering Panel

B737- Classic - PRT - Hydraulic System

B737-CL - Hydraulic System Introduction

B737-CL - Hydraulic System A

B737-CL - Hydraulic System B

B737-CL - Standby Hydraulic System

B737-CL - Hydraulic System PTU

B737- Classic - PRT - Landing Gear and Brakes

B737-CL - Landing Gear Introduction

B737-CL - Main Gear and Doors

B737-CL - Nose Gear and Doors

B737-CL - Landing Gear Operation

B737-CL - Auto Brakes

B737-CL - Gear Position Lights and Horn

B737-CL - Manual Gear Extension

B737-CL - Nose Wheel Steering

B737-CL - Normal and Alternate Brakes Anti-Skid

B737-CL - Alternate Gear Position Indicators

B737-CL - Parking Brake

B737- Classic - PRT - Auxiliary Power Unit

B737-CL - Auxiliary Power Unit Introduction

B737-CL - Auxiliary Power Unit Fuel Supply

B737-CL - Auxiliary Power Unit Controls and Indicators

B737-CL - Auxiliary Power Unit Operations

B737-CL - Auxiliary Power Unit Starting

B737- Classic - PRT - Pneumatic System

B737-CL - Pneumatic System Introduction

B737-CL - Pneumatic System Valves

B737-CL - Isolation Valve

B737-CL - Dual Bleed

B737-CL - Bleed Trip Off

B737-CL - Wing Body Overheat

B737-CL - APU Air Use

B737-CL - Ground Air and Crossbleed Start

B737-CL - Pack Operating Tips

B737- Classic - PRT - Air Conditioning

B737-CL - Air Conditioning Introduction

B737-CL - Recirculation Fan

B737-CL - Cargo Compartment Heating

B737-CL - Equipment Cooling Fans

B737-CL - Pack Valves

B737-CL - Pack Operation

B737-CL - Heat Exchangers

B737-CL - Pack Temperature Display

B737-CL - Pack Duct Overheats

B737- Classic - PRT - Air Conditioning (-400)

B737-CL - Air Conditioning Introduction (-400)

B737-CL - Recirculation Fan (-400)

B737-CL - Equipment Cooling Fans (-400)

B737-CL - Trim Air (-400)

B737-CL - Pack Operation (-400)

B737- Classic - PRT - Pressurization System

B737-CL - Pressurization Introduction

B737-CL - Digital Cabin Pressure Control System (DCPCS)

B737-CL - Cabin Pressure Control System (CPCS)

B737- Classic - PRT - Power Plant

B737-CL - Power Plant Introduction

B737-CL - Engine Oil System

B737-CL - Engine Fuel Control

B737-CL - Engine Gauges

B737-CL - PMC

B737-CL - Idle Speeds

B737-CL - Ignition and Starter

B737-CL - Thrust Reverse

B737-CL - Engine Indicating System (EIS)

B737- Classic - PRT - Fuel System

B737-CL - Fuel System Introduction

B737-CL - Fuel Pumps and Check Valves

B737-CL - Fuel Crossfeed

B737-CL - Fuel Shutoff Valves

B737-CL - Fuel Scavenge Jet Pump

B737-CL - Fuel Vent Lines

B737-CL - Fuel Control Panel

B737-CL - Fuel Quantity Gauges

B737-CL - Refueling

B737-CL - Dripless Sticks Floatsticks

B737-CL - Auxiliary Tank

B737- Classic - PRT - Ice and Rain Protection

B737-CL - Ice Protection Introduction

B737-CL - Engine Anti-Ice

B737-CL - Wing Anti-Ice

B737-CL - Window Heat

B737-CL - Pitot Static Heaters

B737-CL - Rain Protection

B737- Classic - PRT - Fire Detection and Protection

B737-CL - Fire Detection Protection Introduction

B737-CL - APU Ground Control Panel

B737-CL - Fire Det Prot Controls and Indicators

B737-CL - Fire Detection Test

B737-CL - Cargo Smoke Detection Fire Protection

B737-CL - Wheel Well Fire Procedure

B737-CL - Lavatory Fire Detection Protection

B737- Classic - PRT - Autoflight

B737-CL - Flight Guidance Introduction

B737-CL - Autothrottle System

B737-CL - AFDS Mode Control Panel

B737-CL - AFDS Flight Sequence

B737-CL - AFDS Speed Reversion

B737-CL - AFDS Vor Loc and App Modes

B737-CL - Dual Channel Approach and Go-Around

B737- Classic - PRT - Inst Nav Comm

B737-CL - Pitot Static System and Instruments

B737-CL - Mach Airspeed Indicator

B737-CL - Barometric Altimeter

B737-CL - VSI

B737-CL - EFIS Introduction

B737-CL - EADI

B737-CL - EHSI Introduction

B737-CL - EHSI Full Nav

B737-CL - EHSI Full Vor

B737-CL - EHSI Full ILS

B737-CL - EHSI EXP NAV

B737-CL - EHSI EXP VOR

B737-CL - EHSI EXP ILS

B737-CL - EHSI MAP CTR MAP PLAN

B737-CL - Compass Systems - RMI

B737-CL - Weather Radar

B737-CL - Introduction to Windshear Detection

B737-CL - Predictive Windshear Operating Parameters

B737-CL - GPWS

B737-CL - ADF Receivers

B737-CL - VHF Receivers

B737-CL - Transponder

B737-CL - VHF Comm. Panel

B737-CL - Communications-Audio Selector Panel

B737-CL - Interphone Systems and PA

B737-CL - Call System

B737-CL - Voice Recorder

B737-CL - Flight Recorder

B737-CL - IRS

B737-CL - Standby Instruments

B737-CL - Radio Altimeter

B737-CL - Clock

B737-CL - GPS

B737-CL - TAS TAT

B737-CL - TCAS II Introduction

B737-CL - EGPWS

B737- Classic - PRT - Flight Controls

B737-CL - Flight Controls Introduction

B737-CL - Ailerons

B737-CL - Elevators

B737-CL - Rudder

B737-CL - Yaw Damper

B737-CL - Spoilers and Speedbrakes

B737-CL - Flaps

B737-CL - Leading Edge Devices

B737-CL - Stabilizer Trim

B737- Classic - PRT - Flight Management System (FMS)

B737-CL - FMS1 Introduction

B737-CL - FMS2 Pre-Flight

B737-CL - FMS3 LNAV Mode

B737-CL - FMS4 VNAV INTRODUCTION

B737-CL - FMS5 VNAV CLIMB

B737-CL - FMS6 VNAV CRUISE

B737-CL - FMS7 VNAV DESCENT

B737-CL - FMS8 HOLDING

B737-CL - FMS9 ARRIVALS