OPERATIONS MANUAL PART B
AIRBUS A320/A321

AIRCRAFT OPERATING MATTERS

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PRELIMINARY PAGES

APPROVAL PAGE

This page constitutes the approval page of the Operations Manual Part B of Fly2Sky JSC. Unless explicitly mentioned, it shall be signed by the Manual Responsible (MR) and stamped and countersigned by the Competent Authority upon approval. The Original signatures are present at the Flight Operations Department.

OM-B ISSUE 2

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PRELIMINARY PAGES

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	12	**AIRCRAFT SYSTEMS**	01 JUL 21
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(1) Evolution code: N=New, R=Revised, E=Effectivity, M=Moved

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GENERAL INFORMATION AND UNITS OF MEASUREMENT

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0-1 GENERAL INFORMATION

0-2 COMPANY SOP

0-3 DEFINITIONS

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Localization Title	Toc Index	ID	Reason

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0-1-1 INTRODUCTION

Applicable to: ALL

Fly2Sky operates aeroplanes for the purpose of commercial air transportation in accordance with Annex IV to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (Text with EEA relevance) and in compliance with the terms of its Certificate of Airworthiness and within the approved limitations contained in its Airplane Flight Manual.

All units of measurement are metric unless specifically noted.

This document has been compiled for Fly2Sky operations. Whenever used throughout this manual, the simple term “Fly2Sky” implies Fly2Sky OOD.

OPERATIONS MANUAL PART B (OM-B)

It is type-specific and provides the flight crew with information additional to AFM, FCOM, FCTM and eQRH on the technical, procedural and performance characteristics of the Airbus A320 family aircraft, including the following variants:

- A320 CEO (IAE and CFM engine); and
- A321 CEO (IAE and CFM engine).

Note: When the published information is specific to one or more variants only, this will be clearly indicated by “Applicable only to: [variant]”.

Refer to: FCOM DSC-AIRCRAFT GENERAL

It shall be treated as a reference manual based on the Airbus AFM and FCOM. Fly2Sky Standard Operating Procedures (SOP), as far as practicable, are based on Airbus SOP. Where the company has a defined reason to publish specific SOPs, these will be indicated in this manual. Furthermore, the manual contains procedures that are approved by the national authority and therefore supplement the Airbus SOP and has the following appendices, which are the extensive reference documents for self-study of all theoretical and practical aspects related to EFB.

Refer to Centrik for the manuals below:

- Electronic Flight Bag Manual (EFB).

Note: In case of discrepancies, Refer to: OM-B 0-2 COMPANY SOP for the policy on priority.

Electronic personal copies of all the documents referenced in OM-B are available for onboard and online (home) use in the Centrik system. The system is also available for offline use. However, it requires daily synchronisation. The same distribution system is used for the OM: Refer to: OM-A 0-2-6 SYSTEM OF DISTRIBUTION OF MANUALS, AMENDMENTS AND REVISIONS.

CONVERSION TABLES

Refer to: Jeppesen FD Pro X Pubs – ATC - AOM – EASA Air Operators
Refer to: FCOM PER-OPD
Refer to: AFM GEN-UNIT

REVISION MARKS

The following remarks are intended to explain the revision marking of the OM-B:

- Preliminary pages - table of contents: a vertical line is used to mark whether if the title itself is changed. It doesn't refer to the content of the title.
- Any chapter - table of contents: a vertical line is used to mark if there will be any change in the content of the chapter/subchapter.
- In the actual documentary units/subchapters: a vertical line is used to mark a whole paragraph/documentary unit where there is a change in the content. This may be used to signify reading the whole affected paragraph/documentary unit.

  Refer to: OM-A 0-2-4 SYSTEM FOR ANNOTATION OF PAGES AND CHANGES

0-1-2 CURRENT FLEET

Applicable to: ALL

The fleet of Fly2Sky is listed in the table below.

Registration	Model	MSN	YOM	Configuration
LZ-FSH	A321-211	01932	2003	Y220
LZ-FSI	A321-211	01960	2003	Y220
LZ-FSB	A320-214	03055	2007	Y180
LZ-FSD	A320-214	03461	2008	Y180
LZ-FSJ	A320-233	03570	2008	Y180
LZ-FSF	A320-214	03605	2008	Y180
LZ-FSA	A320-232	04247	2010	C12 Y138
LZ-FSG	A320-232	05228	2012	Y180
LZ-MDL	A321-211	01503	2001	Y220
LZ-MDK	A320-232	01422	2001	Y174

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0-2-1 GENERAL RULES

Applicable to: ALL

Refer to: [FLT 3.11.20]

To understand Fly2Sky procedures, pilots must be thoroughly familiar with the standard Airbus operational procedures. The following documents must be used in the order of priority:

- OM-B and Normal Check List;
- OEB in the eQRH and FCOM;
- Abnormal and emergency and emergency procedures in the ECAM, QRH and FCOM (if applicable and time permits).

In case of discrepancies between procedures/publications, the priorities are as follows:

- NOTAM;
- Crew Notices (CNR and CNY);
- Operations Manual and its SOP;
- Cabin Crew Operating Manual (CCOM);
- Airbus eQRH, AFM, FCOM, FCTM, (including TR);
- Supporting Manuals (EFB).

The company recognises that SOP cannot cater for all situations, and hence, in exceptional circumstances, the Commander or his/her deputy shall act as required by the situation. In such a situation, the Commander must forward a report to the Director Flight Operations within 24 hours explaining the exceptional circumstances and reasons for the deviation.

As a general policy, Fly2Sky's SOP requires flight crew members to crosscheck and confirm critical actions during normal, abnormal and emergency situations, including:

- Aircraft configuration changes (landing gear, wing flaps, speed brakes);
- FCU window selections (barometric reference, speed, heading, altitude and vertical speed);
- FCU/AFS Control Panels entries after AP disconnection must be made by the PM (not by the PF)
- Transfer of control of the aircraft;
- Changes to the Automated Flight System (AFS)/Flight Management System (FMS) and radio navigation aids during the departure and or approach phases of flight;
- Weight/mass and balance calculations and associated AFS/FMS entries;
- Performance calculations or inputs, including AFS/FMS entries. For details,

Refer to: OM-B 2-13 SUMMARY FOR EACH PHASE; FCTM-AIRBUS OPERATIONAL PHILOSOPHY-TASKSHARING RULES AND COMMUNICATION-FCU ABD EFIS CONTROL PANELS

0-2-2 PHRASEOLOGY

Applicable to: ALL

Are / Is to / Must / Shall imply a mandatory action or procedure during normal operations. These become the recommended procedure whenever possible during abnormal operations.

May / Should imply a recommended action or procedure.

The generic terms **He / Him** is used throughout but apply equally to pilots of either gender.

0-2-3 LANGUAGE RULES ON BOARD

Applicable to: ALL

In Fly2Sky, the common language is English and must be used for all normal and abnormal/emergency situations. Whatever the native language of the pilots, the English language is mandatory for the following items:

- All technical announcements and callouts;
- Briefings;
- Radio communications (with ATC, Ground Handling Agent, etc.);
- Interphone communications between cockpit and cabin and cockpit and ground.

Basic courtesy rules apply when the crew have different native languages. Crewmembers are to remember that good CRM may be impaired when deliberately using a language unknown to one or more crewmembers.

0-3-1 INTRODUCTION

Applicable to: ALL

PF	Pilot Flying (controls the aircraft)
PM	Pilot Monitoring (supports the PF)
CM1	Crew Member 1 occupying the LHS. *Note: In Airbus documentation, CAPT is used to indicate CM1*
CM2	Crew Member 2 occupying the RHS. *Note: In Airbus documentation, FO is used to indicate CM2*
Commander (PIC)	A suitably qualified captain responsible for the aircraft. The Commander is designated in the first row of the crew list on the journey log. • Normal configuration: The Commander will be CM1; • Training/checking configuration: The Commander may be CM2. *Refer to: OM-A 4-2 FOR THE DESIGNATION OF THE COMMANDER*
Co-Pilot	A pilot operating other than as Commander
Captain (CPT)	A position assigned by Fly2Sky. Relevant initial and recurrent training applicable as per OM-D.
First Officer (FO)	A position assigned by Fly2Sky. Relevant initial and recurrent training applicable as per OM-D.

Before each flight, the Commander will designate the pilot who will operate the sector (PF). Generally, and whenever possible, flights will be "shared" as evenly as possible, each pilot acting as PF or PM. This, however, does not prevent the Commander from reviewing the situation whenever he deems it necessary. According to circumstances, the Commander may elect to be PF if specific skills are required (such as environmental conditions, the experience of the FO etc.), or he may elect to be PM to keep better situation awareness and overall view.

In case of PF incapacitation, lack of reaction to flight-path deviations, lack of reaction to audio warnings (e.g., GPWS, TCAS) or a failure to call for appropriate actions in the case of an emergency, the PM shall take control shall it become clear that non-compliance to such an event could endanger the safety of flight. For further definitions and abbreviations. *Refer to: OM-A 0-1-4 EXPLANATION AND DEFINITION OF TERMS AND WORDS*

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LIMITATIONS

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1-1 GENERAL

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LIMITATIONS

PRELIMINARY PAGES

SUMMARY OF HIGHLIGHTS

Localization Title	Toc Index	ID	Reason
1-1-1 CERTIFIED AND APPLICABLE OPERATIONAL LIMITATIONS	A	1	REVISION FOR RUNWAY EXCURSION

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1-1-1 CERTIFIED AND APPLICABLE OPERATIONAL LIMITATIONS

Applicable to: ALL

Refer to: [FLT 3.11.46], [FLT 3.11.47]

General and company-specific limitations are provided in this section as defined by Airbus or Fly2Sky and are approved by the competent Authority. Fly2Sky complies and requires crews to comply with the operating limitations as defined by the OEM and established by the state of registry of each aircraft in its fleet.

WARNING	All flight deck crew are required to comply with the limitations provided herein.

REFERENCE LIST FOR CERTIFIED OPERATIONAL AND COMPANY LIMITATIONS

CERTIFICATION STATUS

- For certification, status *Refer to: AFM LIM-GEN/KIND OF OPERATIONS*
- For environmental certification, *Refer to: AFM APPENDICES AND SUPPLEMENTS-EXTERNAL NOISE*

PASSENGER SEATING CONFIGURATION

Refer to: CCOM Emergency Equipment Location Map

TYPES OF OPERATION THAT ARE APPROVED

- VFR and IFR *Refer to: AFM LIM-GEN/KIND OF OPERATIONS* and *Refer to: OM-A 8-3-1 VFR/IFR POLICY*;
- Flight in icing conditions *Refer to: AFM LIM-GEN-KIND OF OPERATIONS*;
- Operations using performance-based navigation (PBN);
- Operations according to minimum navigation performance specifications (MNPS);
- Operations in airspace with reduced minimum separation minima (RVSM);
- Low visibility operations (LVO).

CREW COMPOSITION

Refer to: AFM LIM-GEN-MINIMUM FLIGHT CREW

MASS AND CENTER OF GRAVITY

Refer to: AFM LIM-WEIGHTS AND LOADING

SPEED LIMITATIONS

Refer to: FCOM LIM-ACG/SPEEDS

Pilots shall comply with the below company speed restrictions:

<table>
<tr><th colspan="2" rowspan="2">Range</th><th colspan="2">Maximum IAS</th></tr>
<tr><th>Controlled airspace (except class E)</th><th>Class E and uncontrolled airspace</th></tr>
<tr><td rowspan="3">Descent</td><td>2: FL100/10 000’</td><td>340</td><td>250</td></tr>
<tr><td>be ow FL 100/10 000' 2: 5 000' AAL (1)</td><td>300 (2)</td><td rowspan="3">220</td></tr>
<tr><td>< 5 000’ AAL (1)</td><td rowspan="2">250</td></tr>
<tr><td rowspan="3">Climb</td><td>< 5 000’ AAL</td></tr>
<tr><td>5 000' AAL : 5 be ow FL 100/10 000'</td><td rowspan="2">N/A</td></tr>
<tr><td>2: FL100/10 000</td><td>250</td></tr>
</table>

(1) *Or MSA + 2 000 ft, whichever is higher.*
(2) *Briefed and agreed by both pilots.*

For taxi speed limitations, *Refer to: OM-B 2-5-1 TAXI*.

CAUTION	More restrictive speed restrictions may be imposed either by: • Airspace speed restriction *Refer to: Jeppesen FD Pro X*; • ATC (appropriate request/clearance must be obtained), or • Turbulence conditions *Refer to: eQRH ABN-SEVERE TURBULENCE*

FLIGHT ENVELOPE

Refer to: FCOM LIM-AG/OPS-ENVIRONMENTAL ENVELOPE

WIND LIMITS, INCLUDING OPERATIONS ON CONTAMINATED RUNWAYS

Fly2Sky follows wind component limitations for takeoff, approach and landing that do not exceed the values demonstrated or recommended by the OEM and also address operations when the:

- Runway is contaminated;
- Visibility is degraded;
- Aircraft stopping capability is degraded.

These specifications are directly related to the prevention of runway excursion.

Runway excursion is when an aircraft veers off or overruns the runway surface during takeoff or landing.
This is one of the most common runway safety events worldwide.

The veer-off - means the aircraft exits the side of the runway. It may be caused by landing roll-out, crosswind, loss of directional control, contaminated surface (ice, slush, water), incorrect use of the brake or steering.

Overrun - means the aircraft departs the end of the runway - may be caused by unstable approach, long landing, excessive speed, strong tailwind, contaminated or short runway, rejected take off beyond safe limits

Common Causes for runway excursion:

1. Operational Factors

- **Pilot Actions (**Unstable approach, high/fast/late landing, incorrect performance calculations, loss of directional control)
- **Long landing** (late touchdown)
- **Excessive speed** at threshold
- **Improper braking or thrust reverser use**
- **Contaminated runway** (water, snow, ice)
- **ATC/Airport Issues**: Communication breakdowns, runway incursions (another aircraft or vehicle on the runway)

2. Aircraft / Technical Factors

- Brake or anti-skid issues
- Thrust reverser malfunction
- Steering failures

3. Environmental Factors

- Low visibility
- Wind shear / gusts
- Hydroplaning
- Sudden change in runway friction
- Strong crosswind or tailwind
- Heavy rain or snow

4. Human Factors

- Press-on-itis / continuation bias – means the decision to continue and “get home” or “hurry syndrome”
- Failure to go around
- Incorrect performance calculations
- Misleading visual cues at night or in rain

Risk Indicators for Flight Crew:

A runway excursion becomes more likely when you have:

1. On Landing

- Speed > Vref + 20
- Unstable approach below 1,000 ft IMC / 500 ft VMC
- Touchdown zone missed
- Wet or snow-covered runway
- Tailwind operations
- Crosswind near limits
- Limited braking action (“Medium”, “Poor”, “Nil”)

2. On Takeoff

- Reduced thrust with short runway margin
- Contaminated runway
- Heavy aircraft at MTOW
- Engine failure after V1

- Incorrect runway entered or wrong intersection departure

Prevention – Best Practices for Flight Crew:

1. Preflight Planning

- Correct runway performance calculations
- Check NOTAMs and runway conditions (RWYCC)
- Recalculate if conditions change
- Avoid tailwind landings if possible

2. Approach Management

- Stabilized approach criteria
- Mandatory go-around if unstable
- Aim for correct touchdown point
- Use proper flare and de-crab technique

3. Landing Execution

- Firm touchdown on contaminated runway
- Use appropriate autobrake setting
- Deploy reversers quickly and fully
- Monitor speed and directional control

4. Crosswind Technique

- Use correct crosswind method (crab / sideslip / de-crab)
- Maintain centerline discipline
- Smooth but firm rudder inputs

5. Rejected Takeoff Discipline

- Adhere to V1 decision speed
- Reject only for valid reasons below V1
- After V1 → continue the takeoff unless:
  - Unflyable aircraft
  - Engine failure accompanied by fire or loss of control

6. Prevention

- Improved training (focusing on stabilized approaches and go-around procedures)
- Better procedures (SOPs): clear policies for critical phases of flight
- Enhanced safety tools: using flight data monitoring (FDM) to catch precursor events
- Collaboration: Pilots, ATC, and airport working together

What to Do if a Runway Excursion Occurs:

- Stop the aircraft if it's safe
- Follow evacuation/communication procedures
- ATC notification
- Record relevant data for investigation (speed, braking, reversers, etc.)
- Secure the aircraft

The following apply to all Fly2Sky aircraft and are considered limitations for take-off, approach and landing including in degraded visibility. The FlySmart+ TakeOff and Landing modules take into account the aircraft stopping capability degradation and runway state.

Refer to: FCOM LIM-AG-OPS-AIRPORT OPERATIONS AND WIND LIMITATIONS
Refer to: FCOM EFB-LDG-RUNWAY CONDITIONS/RUNWAY CONDITION ASSESSMENT MATRIX FOR LANDING

PERFORMANCE LIMITATIONS FOR APPLICABLE CONFIGURATIONS

For the Fly2Sky operations, performance limitations are determined through performance calculations.

Refer to: OM-B 4 PERFORMANCE

RUNWAY SLOPE

Refer to: FCOM LIM-AG-OPS-AIRPORT OPERATIONS AND WIND LIMITATIONS

Note: The slope of the actual take-off/landing runway is considered during performance calculation.

LIMITATIONS ON WET OR CONTAMINATED RUNWAYS

Refer to: FCOM LIMITATIONS

AIRFRAME CONTAMINATION

Refer to: FCOM PRO-NOR-SUP-ADWXR-GROUND OPERATIONS IN COLD WEATHER CONDITIONS-EXTERIOR WALKAROUND

SYSTEM LIMITATIONS

Refer to: FCOM LIMITATIONS

1-1-2 GENERAL LIMITATIONS

Applicable to: ALL

All certified tail number specific operational limitations are applicable as published in the FCOM and AFM.

Refer to: FCOM LIMITATIONS
Refer to: AFM LIMITATIONS

Company limitations, when published, override Airbus FCOM / AFM limitations.

LOW VISIBILITY OPERATIONS

During low visibility operations, CM1 must be PF.

Refer to: OM-A 8-4 LOW VISIBILITY OPERATIONS

1-1-3 TAKE-OFF AND LANDING PERFORMANCE LIMITATIONS

Applicable to: ALL

FLEXIBLE THRUST TEMPERATURE LIMITATION

T FLEX MIN = OAT+5 degrees (as OAT is reported in METAR or by ATC)

Note: *This extra limitation is to avoid nuisance ECAM caution during take-off due to local temperature (sensing) anomalies.*

This is the only manual restriction to be applied to the calculated FLX temperature.

The FLX temperature provided by FlySmart take-off performance calculation satisfies all the other requirements stated in the FCOM.

Refer to: FCOM PER-TOF-THR-FLX-FLX30-REQUIREMENTS
Refer to: FCOM LIMITATIONS-ENGINES-REDUCED THRUST TAKEOFF
Refer to: FCOM LIMITATIONS-ENGINES-REVERSE THRUST

1-1-4 EN-ROUTE LIMITATIONS

Applicable to: ALL

MAXIMUM DISTANCE FROM AN ADEQUATE AERODROME

The maximum permissible distance from an adequate (does not include WX suitability) aerodrome is 380 NM.

Note: *For calculations, the FCTM standard drift down one engine inoperative operating speed is used (an average TAS of 380 KTS).*

Refer to: FCTM PR-AEP-ENG Engine Failure During Cruise

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NORMAL PROCEDURES

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2-1 GENERAL INFORMATION

2-2 PRE-FLIGHT

2-3 PRE-DEPARTURE

2-4 ALTIMETER SETTING AND CHECKING

2-5 TAXI, TAKE-OFF AND CLIMB

2-6 NOISE ABATEMENT

2-7 CRUISE, DESCENT AND APPROACH PREPARATION

2-8 APPROACH

2-9 MISSED APPROACH

2-10 NORMAL LANDING

2-11 POST-LANDING

2-12 OPERATIONS ON WET AND CONTAMINATED RUNWAYS

2-13 SUMMARY FOR EACH PHASE

2-14 APPROACH SUMMARIES

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Localization Title	Toc Index	ID	Reason
2-1-8 STABILISED APPROACH OPERATIONS	H	1	UPDATE FOR THE STABILISED APPROACH CRITERIA
2-12-1 GENERAL	A	2	UPDATE OF THE PROCEDURES AND GUIDANCE FOR OPERATION ON WET AND CONTAMINATED RUNWAYS

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2-1-1 PRELIMINARY INFORMATION

Applicable to: ALL

The following sections contain expanded information on normal procedures. Standard Operating Procedures consist of inspections, preparations and normal procedures. All items of a given procedure are listed in a sequence that follows a standardised scan of the cockpit panels unless that sequence goes against the action priority logic to ensure that all actions are performed in the most efficient way.

Standard Operating Procedures are divided into flight phases and are performed from memory. These procedures assume that all systems are operating normally and that all automatic functions are used appropriately.

With any procedures, some common sense is needed in their application. For example, a minor switching action may be assigned to PF or to PM (e.g., taxi light). However, it is not intended to prohibit the other pilot from using that switch. It is assigning responsibility for checking that the action has been done and, if not, doing it.

Transit stop items (marked by *) in the Normal Procedures section of the FCOM and shall be performed and checked as per instructions published at the beginning of the relevant flight phase-related FCOM chapters. Certain non-routine, normal procedures will be found in the FCOM.

Refer to: FCOM PRO-NOR-SUPPLEMENTARY PROCEDURES
Refer to: FCOM PRO-SPECIAL OPERATIONS

For Fly2Sky EFB related normal procedures, *Refer to: EFB Manual*

For Cabin Crew Normal Procedures, refer to the CCOM. *Refer to: CCOM 8 STANDARD OPERATING PROCEDURES*

2-1-2 COMMUNICATION

Applicable to: ALL

Refer to: [FLT 3.13.3]

CROSS-COCKPIT COMMUNICATION

The term "cross-cockpit communication" refers to communication between the PF and the PM. This communication is important for any flight crew. Each time one flight crewmember adjusts or changes information and/or equipment on the flight deck, the other flight crewmember must be informed, and an acknowledgement must be obtained.

Such adjustments and changes include:

- FMGS alterations;
- Changes in speed or Mach;
- Tuning navigation aids;
- Flight path modifications;
- System selections (e.g., anti-ice system).

When using cross-cockpit communication, standard phraseology is essential to ensure effective flight crew communication. This phraseology shall be concise and exact.

Refer to: OM-B 2-13 SUMMARY FOR EACH PHASE
Refer to: FCOM PRO-NOR-SOP-90 Communications and Standard Terms

In addition to the standard callout, the flight crew shall communicate to enhance situation awareness. As per PM role and in accordance with the Airbus golden rules, the PM shall monitor and announce any situation that requires PF reaction or shall takeover, when necessary.

This is the case for any deviation from the intended flight path or any case that requires a new assessment of the flight situation and of the flight crew's intention.

COMMUNICATION BETWEEN COCKPIT AND CABIN

During normal operation, the following standardized phraseology is used between the flight crew and the cabin crew:

FROM	TO	COMMUNICATION METHOD(S)	REMARKS
SCC	COCKPIT	- Verbal or PA System: **"MAY WE START BOARDING"**	When cabin checks are completed, and cabin crew are ready for boarding
COCKPIT	SCC	- Verbal or PA System: **"START BOARDING"**	
SCC	COCKPIT	- Verbal or PA System: **"BOARDING COMPLETED ___PAX ON BOARD, MAY I CLOSE THE DOOR?"**	When boarding is completed, and all documents are on board
COCKPIT	SCC	- Verbal or PA System: **"YOU MAY CLOSE THE DOOR"**	Giving signal to close and arm doors.
SCC	COCKPIT	-Verbal or PA System: "All doors Armed and crosschecked"	PU to affirm to the captain that the doors are armed
COCKPIT	SCC	-Checked	Captain to confirm that he has checked the doors are armed.
SCC	COCKPIT	- Interphone: **"CABIN READY"**	The purser reports to the flight crew when the cabin is ready for departure.
COCKPIT	CABIN	- PA System: **"CABIN CREW TAKEOFF"**	The PM advises the cabin crew when the take-off is imminent.
COCKPIT	CABIN	- PA System: **"CABIN CREW PREPARE CABIN FOR LANDING"**	The PM advises the cabin upon descent when passing FL100/10 000 ft AAL
COCKPIT	CABIN	- PA System: **"CABIN CREW LANDING"**	The PM advises the cabin when the landing gear is down.
SCC	COCKPIT	- Interphone: **"ALL DOORS DISARMED MAY I OPEN THE DOORS"**	The purser reports to the flight crew when the cabin all the doors are disarmed and cross-checked.

COCKPIT	CABIN	- Interphone: **"YOU MAY OPEN THE DOORS"**	The commander checks the slides disarmed indication on the DOOR/OXY SD page and replies.

COMMUNICATION WITH THE ATC

The ATC communication shall be in English. For exact phraseology, *Refer to: Appendix 1 to AMC1 SERA.14001 General.*

For CPDLC procedures, *Refer to: OM-C 3-5 ATC DATALINK APPLICATIONS – SOP.*

STERILE FLIGHT DECK

Refer to: OM-A 8-0-1 GENERAL POLICY

When the aircraft is below 10 000 ft, any conversation that is not essential shall be avoided. This includes conversations that take place in the cockpit or between the flight crew and cabin crew. It is important to adhere to this policy to facilitate communication between both of the flight crew and to ensure the effective communication of emergency or safety-related information between flight and cabin crew members.

2-1-3 ADMISSION TO FLIGHT DECK

Applicable to: ALL

Refer to: OM-A 8-3-12 ADMISSION TO FLIGHT DECK

2-1-4 COCKPIT ORGANISATION

Applicable to: ALL

- CM1 is responsible for:
  - Compiling the Technical/Flight Logbook;
  - Checking the load and trim sheet.
- CM2 is responsible for:
  - Completing the Journey Log;
  - Accessing the DOW/DOI according to the Crew configuration in AHM-565 (A320/A321);
  - Opening any relevant MEL/CDL in the FlySmart+ OLB module or Centrik.
- The Commander is responsible for:
  Refer to: OM-A 1-4-3 DUTIES AND RESPONSIBILITIES OF THE COMMANDER
- The First Officer is responsible for:
  Refer to: OM-A 1-5-2 FIRST OFFICER

CLEAN COCKPIT

Objects not stored in their dedicated area in the cockpit may fall and cause hazards such as damage to the equipment or inadvertent operations of the controls or pushbuttons.

The flight crews shall put and store all objects in their dedicated area in the cockpit:

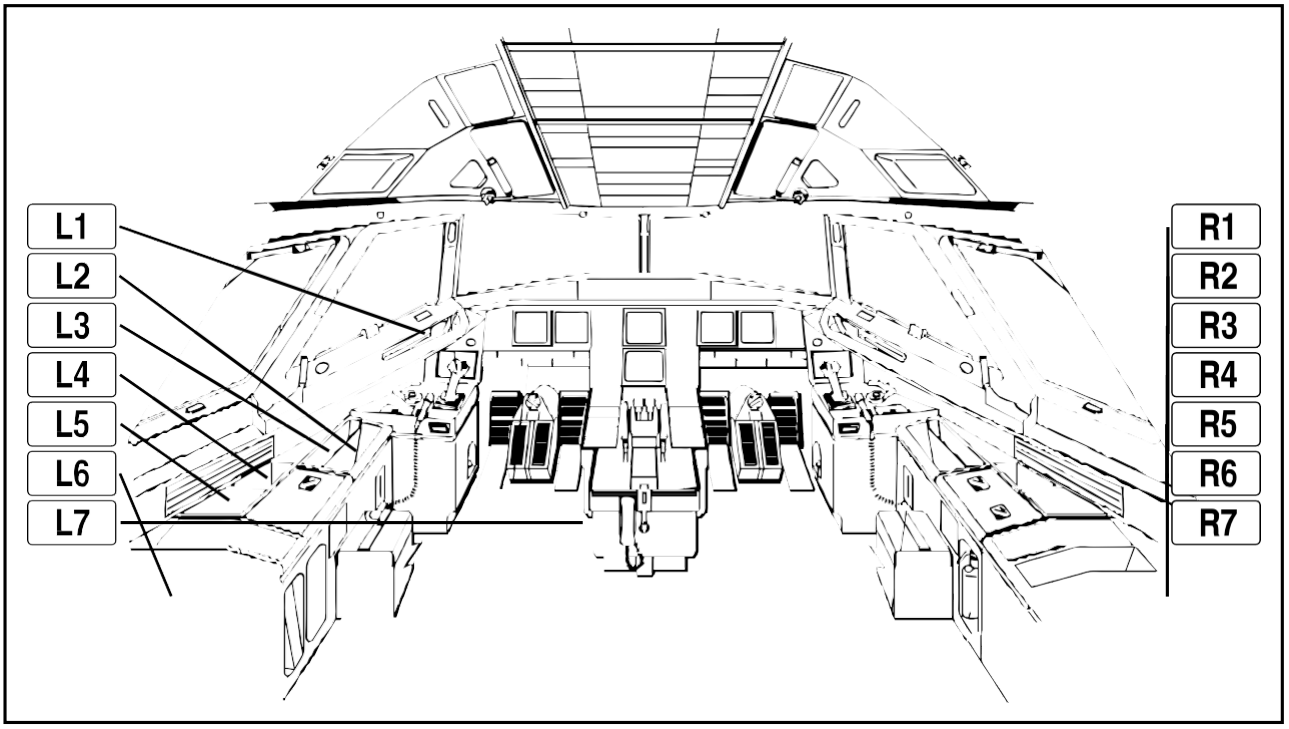
- Cups with lids in the cup holders;
- Bottles with caps in the bottle holders;
- Books and paper, if any, in the lateral stowage;
- The trash in the waste bin in the lateral console;
- Meal trays on the floor behind the flight crew. The flight attendants shall collect the meal trays as soon as possible;
- Personal equipment properly secured in the various stowage areas;
- Portable electronic devices properly secured in the flight document stowage *Refer to: FCOM DSC-25-10-10 GENERAL ARRANGEMENT*.

CAUTION	The flight crew must carefully handle liquids in the cockpit area in accordance with the liquid prohibited zone in order to avoid any damage to equipment or inadvertent operation of controls. The flight crew must always ensure that the cups are equipped with lids and bottles equipped with caps.

DOCUMENT LOCATION

The flight deck shall be kept tidy, and any documents used during the flight shall be returned to their designated storage at the end of a flight rotation.

Some of the paper manuals are still available on board. The following picture gives information on the documentation stowage in the flight deck. It is important to maintain those books at their specific position for quick access if required.



L1	CM1 Normal Checklist	R1	CM2 Normal Checklist
L2	• Technical/Flight Logbook • Printer (if used by CM1)	R2	• Current Flight Envelope (if used) • Printer (if used by CM2)
L3	CM1 iPad cover stowage	R3	CM2 iPad cover stowage
L4	Reserved	R4	Reserved
L5	• Flight Deck Binder 1 (Documents) • Flight Deck Binder 2 (Forms)	R5	• Spare Flight Envelopes (if used) • Spare paper • One PBE
L6	Closet (in a bag beneath the hangers): • Spare iPad • Chargers • Printer stowage (if used) • Printer consumptives (if used)	R6	Shelves behind CM2: • Observer's Headset • Stationery (if used)
L7	Reserved	R7	Reserved

2-1-5 SECURED AND TRANSIT STOP

Applicable to: ALL

The aircraft is:

- In Transit Stop when the last checklist performed by the flight crew is the Parking C/L
- In Secured Stop when the last checklist performed by the flight crew is the Securing the Aircraft C/L

The flight crew performs only the items indicated by an asterisk (*) in the Standard Operating Procedures (SOP) when there is no flight crew change and after a Transit Stop. Otherwise, the flight crew performs all the items of the SOP.

2-1-6 NORMAL CHECKLIST

Applicable to: ALL

Checklists and guidance are provided for each flight crew member. The following documents are available in the cockpit:

- 2 Normal checklists.

Airbus normal checklist takes into account ECAM information and includes only those items that can directly impact flight safety and efficiency if actions are not correctly performed. These checklists are of a non-action type (i.e., all actions shall be completed from memory before the flight crew performs the checklist).

The Pilot Flying (PF) requests the checklists, and the Pilot Monitoring (PM) reads it. The checklist actions are referred to as challenge and response-type actions. The PF responds to the challenge only after checking the current status of the aircraft. When both pilots have to respond, (BOTH) is indicated.

For detailed explanation of the procedures and callouts related to the normal checklist, *Referto: FCTM PR-NP-NORMAL CHECKLISTS.*

COMPANY CHECKLIST

FLY2SKY A320/A321 NORMAL CHECKLIST	NORMAL CHECKLIST	1/2
		05 DEC 23

COCKPIT PREPARATION

GEAR PINS & COVERS	REMOVED
FUEL QUANTITY	____KG
SEAT BELTS	ON
ADIRS	NAV
BARO REF	____ (BOTH)

BEFORE START

PARKING BRAKE	____
T.O SPEEDS & THRUST	____ (BOTH)
WINDOWS	CLOSED (BOTH)
BEACON	ON

AFTER START

ANTI ICE	____
ECAM STATUS	CHECKED
PITCH TRIM	____%
RUDDER TRIM	NEUTRAL

TAXI

FLIGHT CONTROLS	CHECKED (BOTH)
FLAP SETTING	CONF____ (BOTH)
RADAR & PRED W/S	ON & AUTO
ENG MODE SEL	____
ECAM MEMO	T.O NO BLUE
- AUTO BRK MAX	
- SIGNS ON	
- CABIN READY	
- SPLRS ARM	
- FLAPS TO	
- TO CONFIG NORM	
CABIN	READY

LINE-UP

T.O RWY	____ (BOTH)
TCAS	____
PACKS 1 & 2	____

<<DEPARTURE CHANGE>>

RWY & SID	____
FLAPS SETTING	CONF ____ (BOTH)
T.O SPEEDS & THRUST	____ (BOTH)
FCU ALT	____

APPROACH

BARO REF	____ (BOTH)
SEAT BELTS	ON
MINIMUM	____
AUTOBRAKE	____
ENG MODE SEL	____

LANDING

ECAM MEMO	LDG NO BLUE
- LDG GEAR DN	
- SIGNS ON	
- CABIN READY	
- SPLRS ARM	
- FLAPS SET	
CABIN	READY

AFTER LANDING

RADAR & PRED W/S	OFF

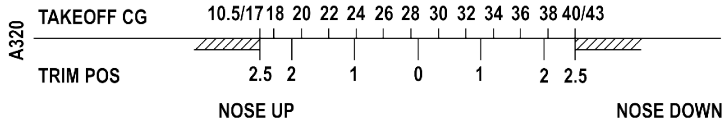
PARKING

PARK BRK OR CHOKS	____SET
ENGINES	OFF
FUEL PUMPS	OFF
YELLOW ELEC PUMP	OFF

SECURING THE AIRCRAFT

OXYGEN	OFF
EMER EXIT LT	OFF
BATTERIES	OFF

TAKEOFF CG/TRIM POS



VAW MSN 03055 **LZ-FSB**

ONE ENGINE TAXI – AT ARRIVAL	
COOLING TIME (3 MIN)	ELAPSED
APU	AVAILABLE
• **When the APU AVAIL:**	
ENG 2	SHUT DOWN
Y ELEC PUMP	ON
• **At parking:**	
Y ELEC PUMP	OFF
ENG 1	SHUT DOWN

LOW VISIBILITY BRIEFING GUIDE	
TAKE-OFF	MINIMUM RVR TAKE-OFF ALTERNATE (IF RQRD) TAXI PATTERN SPECIALS (RT CALLS) QUESTIONS
APPROACH	CREW QUALIFICATION AND CURRENCY SERVICABILITY (AIRCRAFT/AERODROME) AUTHORISATION WEATHER (DEST AND ALTN) FUEL (HOLDING AND MIN FOR DIVERSION) APPROACH BRIEFING FAILURES/ACTIONS (ABOVE/BELOW 1000 FT) DOWNGRADING (OPTIONS AND ACTIONS) REVIEW LVO CALLS TAXI PATTERN SPECIALS (RT CALLS) QUESTIONS ADVISE SCC ABOUT AUTOLAND (PEDs OFF)

TASK SHARING CAT II / III (DH)		
EVENT	**CM1**	**CM2**
At 350 ft RA	**"LAND"**	**"CHECKED"**
Minimum	**"CONTINUE" or "GO-AROUND"**	*Monitors automatic callouts*
At 40-35 ft RA	**"CHECKED"** or **"GO-AROUND"**	**"FLARE"** or **"NO FLARE"**
At 10 ft RA "RETARD"	*Sets THR LVR to IDLE*	*Monitors engine parameters*
At Touchdown	*Sets THR LVR to REV*	**"SPOILERS, REV GREEN, DECEL, 70 KT"**
End of Rollout	**"AUTOPILOT OFF"**	**"CHECKED"**

EMER EVAC

AIRCRAFT/PARKING BRAKE ..... STOP / ON
ATC (VHF 1) ..... NOTIFY
CABIN CREW (PA) ..... ALERT
ΔP (only if MAN CAB PR has been used) ..... CHECK ZERO
• **If ΔP not at zero:**
CAB PR MODE SEL ..... MAN
V/S CTL ..... FULL UP
ALL ENG MASTERS ..... OFF
ALL FIRE pb (ENGs & APU) ..... PUSH
ALL AGENTS (ENGs & APU) ..... AS RQRD
■ **If evacuation required:**
EVACUATION ..... INITIATE
■ **If evacuation not required:**
CABIN CREW AND PASSENGERS (PA) ..... NOTIFY

2-1-7 CONTROL TRANSFER

Applicable to: ALL

"**I HAVE CONTROL**" is an order/request respectively for the transfer of control to the other pilot. They also serve as an acknowledgement that control has been accepted following a "**YOU HAVE CONTROL**" order/request from the other pilot. Likewise, these options may be used as an acknowledgement that control has been relinquished.

If an unplanned and/or un-briefed take-over of flight controls is necessary by either pilot during the manual flight, the side stick take-over pushbutton must be pressed and held until the transfer has been confirmed or for 40 seconds, whichever is shorter.

No control inputs are to be made by the non-handling pilot.

In manual flight, if the aircraft flight path does not obey pilot inputs at any time, the takeover pushbutton is to be pressed and held. If the irregularity continues, control is to be transferred to the other pilot until the AP is engaged.

2-1-8 STABILISED APPROACH OPERATIONS

Applicable to: ALL

Refer to: (AMC1 CAT.OP.MPA.115(a)), (GM1 CAT.OP.MPA.115(a)), [FLT 3.11.59], [FLT 3.11.60], SMM Chapter 10

The aim is to stabilise all flights by 1 000 ft above the landing runway threshold elevation.

Fully stabilized is defined as:
- On profile: within 1 dot GS/LOC (ILS), 100ft (NPA), within 1 light high or low on the VASI/PAPI (visual).
- Established on the correct lateral and vertical flight path
- IAS = $V_{APP\ TARGET}$ (managed or selected) -5/+10kts.
- Stabilized approach power if autothrust is not engaged.
- Spoilers are armed.
- The thrust is stabilized, usually above idle.

Note: ***Short transitory fluctuations of V_{APP} are acceptable beyond these limits below 1000 ft caused by turbulence, sudden wind change, or slow A/THR response, as long as the approach is fully stable by 500 ft. The case must be reported on an ASR.***

Note: ***The landing gear can be extended anytime below V_{LO} in order to meet the stabilization criteria above. Any verbal reference to "non-standard configuration" is NOT required.***

Note: ***Below 1000 feet on approach, PF must keep his hand on the thrust levers (go-around ready) unless making FCU selections.***

The following criteria shall be satisfied for all stabilised approach operations with airplanes:

- The flight management systems and approach aids shall be correctly set, and any required radio aids identified before reaching the FAF/FAP.
- The airplane shall be flown according to the following criteria from the FAF/FAP onwards:

  – The angle of bank shall be less than 30 degrees;
- During a circling approach, wings shall be level on final when the aircraft reaches 300 ft AAL; and
- The target rate of descent shall be that required to maintain the correct vertical path at

the planned approach speed.

- Acceptable vertical and lateral displacement from the normal approach path: *Refer to: FCOM PRO-NOR-SOP Approach Aircraft Guidance Management;*
- The vertical speed is no greater than -1 000 ft/min (unless an approach specifically requires a sink rate greater than -1 000 ft/min, in which case a special briefing must be conducted);
- The airspeed of the aeroplane is not more than Vref + 20 kt and not less than Vref;
- The aeroplane is in the correct configuration for landing latest at 1 000 ft AAL, unless operating procedures require a final configuration change for performance reasons after visual reference is acquired; and
- The thrust/power and trim settings are appropriate.
- In visual conditions, the aeroplane shall be stabilised for landing before reaching 500 ft above the landing runway threshold elevation.
- For approach operations where the pilot does not have visual reference with the ground, the aeroplane shall additionally be stabilised for landing before reaching 1 000 ft above the landing runway threshold elevation except that a later stabilisation in airspeed may be acceptable if higher than normal approach speeds are required for operational reasons specified in the operations manual;
- The landing checklist shall be completed;
- The aircraft crosses the threshold by a safe margin at appropriate speed;
- In addition, a landing may only be completed provided that the touchdown occurs within the touchdown zone area;

Required minimum height(s) AAL to achieve stabilization criteria:

- Not lower than 1000 ft. for approaches in IMC or not lower than 500 ft in VMC.

Refer to: FCOM PRO-NOR-SOP-APPROACH-APPROACH GENERAL-STABILIZATION CRITERIA

Shall the approach become unstabilised, it shall be abandoned, and a go-around must be performed.

If the any deviations from the above-mentioned criteria are required due to unique approaches and/or abnormal conditions, these must be pre-planned and specially briefed.

In any case, the strict adherence to the SOP described in this document, including the task sharing between the PF and PM shall be respected to counteract human errors and biases.

Any approach that fails to meet or maintain the stabilized approach criteria constitutes an undesired aircraft state in the terminology of Threat and Error Management. In order to avoid this developing further into an unrecoverable 'end state' it is vital that the pilots take action to adequately manage the undesired aircraft state. The flight crew must:

- Recognize that the approach is unstable;
- Communicate with other crew members;
- Take immediate action to rectify the situation;
- Monitor the corrective action.

To avoid an unstabilised approach it is important for flight crew:

- To be aware of the stabilized approach criteria;
- To be aware of the aircraft horizontal and vertical position in respect to a stabilized approach at all times, even when under radar control;
- To comply with the stabilized approach criteria published in their SOPs;
- To advise ATC when unable to comply with a clearance that would result in the aircraft being too high and/or too fast, would require approach path interception from above or would unduly reduce separation from other aircraft;
- To advise ATC when unable to comply with instructions that are incompatible with a stabilized approach;
- To advise ATC when reducing or increasing speed to achieve a stabilized approach;
- To decline late changes of landing runway when approach stabilization would become marginal or impossible;
- To prepare for visual approaches by briefing speed/altitude/configuration gates, equivalent to those of an instrument approach and follow the published 'visual approach' pattern in the manufacturer's or operator's SOP;
- To execute a go-around if the approach cannot be stabilized by the stabilization altitude/height or subsequently becomes unstabilized;
- To be alert to the approach becoming unstabilized on very short final or in the flare;
- To be aware that it may be possible to go-around even after touchdown as long as reverse thrust has not been selected.

GENERAL APPROACH AND GO-AROUND PROCEDURES

Refer to FCOM/PRO/NOR/SOP/APPROACH
Refer to FCOM/PRO/NOR/SRP/01FMS/APPROACH

• During the approach for a manual landing PF shall continuously ensure, that the AUTOTHRUST is maintaining VAPP TARGET. In case of unsatisfactory AUTOTHRUST performance set the THR LEVERS momentarily above CLB detent to regain speed or change to manual thrust.

EFB

• Display the relevant approach chart.
• EFBs shall be kept at their dedicated place.
Refer to OMB/13-2-3-20 GENERAL APPROACH AND GO-AROUND PROCEDURE

AIRCRAFT CONFIGURATION MANAGEMENT

For the application of 'DECELERATED' or 'EARLY STABILIZED' approach techniques
Refer to FCOM/PRO/NOR/SOP/Approach Speed Technique

• Consider the steps of the speed/configuration profile in FCOM as the last moments for a given action (e.g.: At 2000'…Flaps 2 means, that 'latest' at 2000').

In the following conditions consider earlier speed reduction/configuration:
• High landing weight (typically above 60t)
• Tailwind on final
• Turbulence caused by thermals associated with convective weather
• Non-standard, steeper-than-normal G/S

TASK SHARING BETWEEN PF AND PM SUMMARY FOR ALL APPROACHES

Refer to OMB 2-13-8 Passing 10 000 ft, 2-13-9 Approach and landing, 2-13-10 Discontinued approach., 2-13-11 Go Around

GO-AROUND

Refer to FCOM/PRO/NOR/SOP/GO-AROUND/GO-AROUND WITH FD

NOTE: When applying the Airbus go-around procedure **at or above** the altitude selected on the FCU, the SRS vertical mode will engage and the aircraft will start to climb.
ALT* mode however, will not engage, as long as the aircraft is not crossing the altitude selected on FCU, consequently, there is a risk of altitude bust in climb.

To avoid the above situation and as an alternative to the standard go-around procedure, the flight crew may perform the "discontinued approach" procedure.
Refer to: FCOM/PRO/NOR/SOP/APPROACH/APPROACGENERAL/DISCONTINUED APPROACH.

In case of a missed approach, prompt initiation of the go-around and the associated configuration changes required must take priority over ATC communication. Informing ATC or the acknowledgement of the ATC instruction may have to be deferred until workload permits.
• TOGA must always be initially applied by the PF.
• Particular attention must be given to acceleration after go-around by both pilots.
• PM must closely monitor speed and be ready for flaps retraction.
• PM must call "SPEED" if the speed trend vector indicates VFE will be exceeded:
- PF shall promptly select the thrust levers to the 'CLB' detent.
- PF shall announce "PULL SPEEED" and/or "PULL V/S" or make the selections if the AP is engaged.
• Prompt selection of the AP may avoid an altitude bust.
• Manual thrust may be considered to avoid exceeding VFE.

NOTE: do not select V/S when in SRS mode. Do not select V/S or "PUSH to LEVEL OFF" when ALT* mode is engaged. Use of AP and ATHR is highly recommended.

CONSIDERATIONS ABOUT GO-AROUND NEAR THE GROUND

• Refer to FCTM/PR/NP/SOP/Go-Around Near the Ground

- Refer to FCTM/PR/NP/SOP/Tail Strike Avoidance
- Refer to OM B 2-9-2 MISSED APPROACH NEAR THE GROUND

2-2-1 FLIGHT PREPARATION

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-FLIGHT PREPARATION

2-2-2 TECHNICAL CONDITION OF THEAIRCRAFT

Applicable to: ALL

A preliminary technical condition of the aircraft is available, for all aircraft in the documentation module of the Centrik system. The HIL Report lists open defects and due maintenance actions. The Flight crew shall be aware that these reports are updated once per day and may not include all raised defects.

The technical status of the aircraft shall be confirmed during the Preliminary Cockpit Preparation by consulting the Technical/Flight Logbook, the Hold Item List (HIL) and Cabin Defect Log. Furthermore, the crew shall ensure that the items listed in the Hold Item List are entered properly by the maintenance personnel and seek maintenance assistance if there is a doubt in the correct documentation of the open defects.

All provisions regarding the above-mentioned documents in the OM-A apply. *Refer to: OM-A 8-6-1 MINIMUM EQUIPMENT LIST*

2-2-3 WEATHER BRIEFING

Applicable to: ALL

It is Commander's responsibility to verify that, taking into account the expected weather conditions, the Required Landing Distance (LD-DISPATCH) for the destination airdrome is within the Landing Distance Available for the intended runway.

Estimated weights may be used. If final weights after receiving the load and trim sheet result to be higher than the one used on this phase, the LD-DISPATCH shall be recomputed using actual weights.

In case of actual or forecasted low visibility operations (LVO) at departure, departure alternate, destination, destination alternate and Enroute alternates, flight crew shall verify the accessibility of airports considering the databases and autoland limitations.

2-2-4 GPS PRIMARY AVAILABILITY

Applicable to: ALL

The RAIM Validate function is integrated into Operational Flight Plan (OFP) computation. The validation takes into account GPS availability at the destination, alternates and aircraft GPS configuration.

In case of RAIM TEST FAILED where RAIM is required for the intended flight crew shall contact OCC for detailed information about the reasons for the RAIM failure and alternative flight planning. *Refer to: OM-A 8-3-2 NAVIGATION PROCEDURES*

2-2-5 FLIGHT PLAN AND OPERATIONAL REQUIREMENTS

Applicable to: ALL

Operational Flight Plan (OFP) is normally available for download starting from 3 hours before ETD.

- Up to 1 hour before ETD, it is the Commander responsibility to verify that both OFPs include the last valid OFP edition. OCC may not inform Crew of any OFP change;
- Starting from 1 hour before ETD, in case of OFP changes, OCC shall advise the flight crew. OCC will try to reach the flight crew by any available means, and in case all attempts shall be unsuccessfully flight will be delayed.

To avoid unnecessary delays crew shall maintain all available communication systems ON when on the ground according to procedures.

2-2-6 OPTIMUM FLIGHT LEVEL

Applicable to: ALL

Flight crew shall strictly adhere to routes and flight levels as reported in OFP. If a change is necessary (weather, performances, MEL, etc.) OCC shall be informed, and a new OFP shall be issued. The flight level to be requested to ATC in flight shall be according to the one in the OFP.

2-2-7 FUEL REQUIREMENTS

Applicable to: ALL

When the extra fuel loaded is more than 500 kg. The Commander shall indicate the reason in the relevant section on the first page of the OFP.

Intentionally left blank

2-3-1 SAFETY EXTERIOR INSPECTION

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-SAFETY EXTERIOR INSPECTION

2-3-2 PRELIMINARY COCKPIT PREPARATION

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-PRELIMINARY COCKPIT PREPARATION

GENERAL

Flight crew shall perform the Preliminary Cockpit Preparation by READ and DO from eQRH-SOP Preliminary Cockpit Preparation.

WEATHER RADAR SETTING

The WX Radar MODE selector shall be set to W+T or W/TURB, depending on model. For aircraft LZFSG refer to FCOM-AIRCRAFT SYSTEMS-SURVELLANCE-WEATHER RADAR-DESCRIPTION

CARGO HEAT SETTING

The Cargo Heat Temperature Selector must be in the 12 O'clock Position.

EFB/ACARS INITIALISATION

Transmitting mode of all devices (iPads and mobile phone) shall be ON. The following suites, applications and modules are available on the EFB system.

Suite	Applications	Module
Airbus FlySmart+	Performance applications	TakeOff
		InFlight
		Landing
	OLB application	Ops Library Browser (OLB)
	Loadsheet application	Loadsheet
	Integrated applications	eQRH
Jeppesen	Jeppesen FD Pro X	Terminal charts
		Enroute charts

All Flight Crew members shall use the company EFB for performance calculations and charts. They shall check that:

- iPads have no defects and work properly;
- The battery level is above 75%, or the iPad is connected to the aircraft power supply;
- All-suite applications and modules updated according to the data published in the Company Notice;
- Destination, destination alternates and Enroute alternates airports are included in the Airbus FlySmart + Performance applications (alternatively as an attachment to flight envelope package).

WARNING	Flight crew shall exercise extreme care when selecting the aircraft registration. A wrong selection may lead to incorrect performances and procedures that may affect the safety of the aircraft and its occupants. All previous flight data shall be erased, and new entered aircraft registration shall be crosschecked by both flight crew. It is the flight crew responsibility to maintain the iPad, and EFB updated according to the procedures published in the Electronic Flight Bag Manual.

ECAM/LOGBOOK CHECK

Technical/Flight Logbook shall be checked for previous entry (remaining fuel, PIREPs, Commander Signature, Part 145 Release to Service, etc.).

Before aircraft acceptance, attention shall be dedicated to check Technical/Flight Logbook) and Hold Items List (HIL) for correct filling and applicable procedures. The 'PRE-FLIGHT/TRANSIT CHECK' section shall be signed by the engineer. It is also good practice to review previous flight's pages.

Cabin Defect Record Log (CDRL) shall also be reviewed at this stage together with Senior Cabin Crew that shall be informed of any defect affecting cabin operations.

VALIDITY OF DAILY AND WEEKLY INSPECTION

- Daily Check - line maintenance check which is valid for 48 hours (elapsed, not flying hours) without aircraft utilisation limitation.

  Note: Interval is counted from 00:00 o'clock of next day (has not to include remaining day).

- Weekly Check - line maintenance check, which is valid for 10 calendar days (10x24 hours) since the last accomplishment time. A weekly check is normally carried out within a maximum of 10 days.

PRELIMINARY PERFORMANCE DETERMINATION

Pilot Monitoring (PM) shall record airfield data in the OFP. Also, Take-off ATIS, ATC Clearance, any Notes.

FlySmart+ Take-off Performance provides CONF 1+F as standard (STD) flaps setting for take-off. It's recommended to use CONF 1+F unless deemed necessary for performance reasons.

CAUTION	Extreme care shall be exercised when it becomes necessary to select CONF 1+F on A321 aircraft as it may results in reduced tail clearance during take-off.

The standard take-off configuration is assumed with the Air Conditioning packs on. However, the commander may decide to depart with pack off if deemed necessary.

ECAM PAGES

Refer to: FCOM LIM-OXY Minimum Flight Crew Oxygen Pressure

The crew shall check the oxygen limitation for dispatch.

In addition, when the oxygen pressure is approaching the limit for dispatch with 2 Crew Members + 1 OBS, the flight crew shall advise the maintenance to plan the replacement/refill of the oxygen bottle.

Note: A32F aircraft are equipped with different types of bottles which may be associated with different minimum oxygen requirements.

EMERGENCY EQUIPMENT

Aircraft may be equipped with different emergency equipment for the number, type and locations, *Refer to: CCOM 14 EVACUATION DEVICES AND EMERGENCY EQUIPMENT.*

EXTERIOR WALKAROUND

Refer to: FCOM PRO-NOR-SOP-EXTERIOR WALKAROUND

2-3-3 FLIGHT WITHOUT CABIN CREW

Applicable to: ALL

In case of a flight without cabin crew, it is the flight crew responsibility to verify that the passenger cabin is secured for take-off.

2-3-4 COCKPIT PREPARATION

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-COCKPIT PREPARATION

EVAC SELECTOR

The CAPT & PURS/CAPT switch must be set to CAPT.

ADIRS

IR MODE selectors (Rotary Switch) shall be set to NAV in the following sequence to keep correct ADIRS identification awareness as follows: IR1 (Lett) IR2 (Right) IR3 (Center)

ATC PANEL

Fleet aircraft are equipped with different ATC/TCAS panels. The crew shall review the panel's control and indications specific to the model installed. *Refer to: Refer to: FCOM DSC 34-SURV.*

For RVSM flights, the crew shall select ATC SYS 1 or ATC SYS 2 in accordance with the autopilot (AP 1 or AP 2) that is intended to be used. The TRAFFIC SEL shall be set to ABV to enhance traffic awareness during the climb and BLW once reaching the cruise level.

RMP PANEL USAGE

During normal operations, on the ground and in flight, VHF 1 shall be displayed on RMP 1, and VHF 2 shall be displayed on RMP 2. This does not prevent the crew from tuning the frequencies trough any of the RMPs by momentarily selecting the desired VHF channel.

Airline VHF use policy:

- VHF 1 for ATC communication.
- VHF 2 for 121.50 monitoring, for weather, and if needed handling communication.
- VHF 3 for DATA usage (if applicable).

FMGS PREPARATION

Before starting the FMGS preparation, the crew shall verify that they have been provided with the latest version of OFP issued by the OCC. In case of doubt (connectivity problems, different OFP version, clearance not consistent with OFP, etc.) crew shall immediately contact OCC to verify which is the active OFP edition accepted by ATC. This applies to both the electronic OFP or the hard copy if one is used.

When preparing the PERF page of the MCDU for departure, the crew shall enter the QNH at the destination aerodrome in the primary APPR PERF page from the latest METAR provided. This adds an additional protection against gross QNH errors.

WARNING	No temperature or wind data shall be entered in the APP PERF page at this stage, unless detailed wind and temperature data is inserted in the F-PLN, as it will disrupt the fuel and time predictions of the FMGS.

PERFORMANCE FACTOR

Flight crew shall check PERF and IDLE FACTOR to agree with the values provided with the OFP.

In case of discrepancies, the flight crew shall inform MCC (mcc@fly2sky.aero), and they will plan data update at the next daily inspection. Entry into the Technical/Flight Logbook is not required. No limitation to the flight is applicable.

CAUTION	FMS fuel, time predictions/performance information is provided for an advisory purpose only (AFM- LIM-22-FMS). The Operational Flight Plan (OFP) is computed considering the aircraft's applicable PERF FACTOR. For this reason, it shall be considered the applicable data in terms of fuel, time predictions and Performance information. Only maintenance personnel shall take the responsibility to update the IDLE and PERF factor values. Therefore, flight crew are NOT authorised to change IDLE and PERF factor values.

The MCDU INIT A page shall be initialised with the ATC CALLSIGN as indicated on the OFP. The crew shall be aware that ATC callsign may differ from FLIGHT NUMBER.

SECONDARY FLIGHT PLAN

This is routinely a copy of the active flight plan. However, in this phase, it's policy to copy the active F-PLN but modify it at a suitable WPT for an immediate return to the departure airfield in the event of, for example, engine failure.

According to obstacle configuration on the departing runway, Airbus FlySmart provides two types of Engine Out Departure Procedures. They are as follows:

- Standard EOSID (STD)

  When the obstacle situation allows, standard (STD) engine failure procedures are constructed. The use of the term "STD" in the procedure only identify that it conforms with the preferred design standard where a straight climb to obtain 1 500 ft above runway end can be performed before turning to the engine failure procedure holding pattern.

  All runways are initially evaluated for a STRAIGHT-OUT extended runway centreline take-off flight path for obstacle clearance to 20 NM.

  As a reference, for augmented situational awareness, the SEC F-PLN shall be prepared creating a PBD point located 20 NM ahead of the departing RWY centreline (i.e., if departing from EDDF RWY 18 PBD shall be EDDF18/178/20), runway heading shall be flown in HDG MODE.

The turn to the holding pattern shall be initiated at the completion of the acceleration segment, initially using HDG mode to avoid the wrong side turn and then by selecting DIR TO the HP.

- Special EOSID (NON-STD)
  The NON-STD EOSID is used when obstacles in the take-off path are limiting, thus the take-off weight can be further optimised by producing a special (NON-STD) EOSID procedure. A turn may be included before the acceleration altitude is reached, at a DME distance or at an altitude. As a reference for augmented situational awareness, the SEC F-PLN shall be prepared, creating PBD points according to the procedure.
  If the weather is below landings minima at the departure airfield, the secondary flight plan shall be required for a diversion immediately after take-off.

RADIO NAV

Check that NAVAIDS are correctly tuned by the FMGC. Modify if necessary to prepare for raw data navigation in case of RNP degradation, contingency procedures or engine failure.

TAKEOFF DATA INSERTION (PERF TAKEOFF PAGE)

The crews shall separately calculate the take-off performance using the latest data for every departure, checking the actual climb performance against the required one. It must be crosschecked before the departure briefing. The thrust reduction altitude and acceleration altitudes are set by default at 1 500 ft AAL or at different altitudes depending on FMGS configuration.

The THR RED/ACC altitude shall be adjusted in the PERF TAKE-OFF page according to the OM-B. *Refer to: OM-B 2-6-1 NOISE APATEMENT PROCEDURES*

The ENG OUT ACC field shall be set according to the FlySmart+ TakeOff module.

FCU PREPARATION

If no initial altitude is published for the intended departure, the crew shall select 9 900 ft as initial altitude in the FCU before obtaining the departure clearance. This mitigates the risk of selecting wrong initial altitude as 9 900 ft is an unusual number, which is more likely to draw one's attention.

DEPARTURE CLEARANCE

When copying the departure, both crewmembers shall be actively listening and wearing headsets. The clearance is usually requested, read back and documented by the PM. After the crew has read back and documented the clearance in EFBOne or paper OFP (if one is used). The PF shall then read and call out the following:

- Initial Altitude from the PFD;
- SID designator from the MCDU F-PLN page; and
- Squawk from the ATC panel.

After verifying it against the recorded clearance, the PM shall respond with: **"CHECKED"**.

2-3-5 DEPARTURE BRIEFING

Applicable to: ALL

Refer to: [FLT 3.11.23]

Briefing requires out-of-the-box thinking, beyond the pure reflection of routine and standard operations. It shall have a threat-focused view and identify and prioritise likely threats to the intended operation. It shall then detail the actions to mitigate these threats. A briefing shall be conversational, interactive and use open questions that involve all flight crewmembers to share their experience and expectations. The commander shall perform safety briefing to the occupant of the jump seat if present on the flight deck.

The structure and minimum items of the departure briefing are:

Step	PF	PM
1	Cockpit door closed - Set an environment with no distraction *(1)*	
2A		Plan *(2)*: • T.O RWY (Intersection); • SID designator; • First cleared altitude; • MSA/MORA for climb trajectory; • Extra fuel and time.
2B	Plan *(2)*: • Hotspots of planned taxiroute; • Stop margin for RTO; • EOSID; • Return/diversion considerations; • Special operation; • Non-standard operation.	
3A		Identified threats *(3)*
3B	Identified threats *(3)*	
4	Mitigations *(4)*	
5	Miscellaneous *(5)*	

(1) For the briefing to be of good quality it is important to minimise interruptions. The cockpit door shall be closed. It shall be the task of the Commander (CM1) to anticipate potential disturbance and to manage this step. If interrupted, the briefing shall resume at the beginning of the step where the interruption occurred.

(2) The PM shall start to brief the main items of the PLAN. This ensures that both pilots share the same mental image of the flight trajectory after the FMS preparation (by PF) and check (by PM) according to SOP. Then, the PF briefs the hotspots of potential taxi- routes if any, and considers at least the following items:

- *Consideration for RTO (stop margin if available);*
- *The EOSID/Engine-out trajectory;*
- *The considerations for a return landing or diversion if so required (weather/weight).*

The PF recalls any Special Operations or Supplementary procedures to be applied. Briefing the PLAN shall normally only be a high-level description. It shall normally not be a repetition of the detailed setting and checking of the flight trajectory in the FMS performed in the respective SOP items.

(3) The PM shall brief the THREATS identified throughout the preparation for the mission. The PF highlights additional threats if required.

(4) The PF and PM discuss and agree on the Mitigation of the identified threats.

(5) Miscellaneous is intended to consider additional items e.g.:

- *Intended use of automation after take-off;*
- *Supplementary Procedures if not yet briefed;*
- *Observer safety briefing and duties;*
- *Dangerous goods on board;*
- *Aircraft Status.*

Refer to: FCTM AIP-TASKSHARING RULES AND COMMNICATION-HOW TO CONDUCT BRIEFINGS

2-3-6 LOADSHEET

Applicable to: ALL

- Ramp Agent normally provides a computerised Load and Trim Sheet (LTS) to the Commander. One copy is handover to First Officer.
- If a computerised Load and Trim Sheet is not available, the Loadsheet shall be prepared with the Loadsheet application of the FlySmart software. Both pilots shall perform computation, and the result shall be in agreement. The result shall be printed using the onboard printers or recorded by PM in the Loadsheet Report form (F07).

- In the FlySmart+ TakeOff performance calculation, the T.O. CG shall be selected according to the Load and Trim Sheet calculation and the T.O CG (%) result.
- In the case of Last-Minute Change, the recomputed TOW and T.O. CG shall match the TOW, and T.O. CG entered in FlySmart Take-Off performance speed calculation.
- After signature by the Commander original copy of the Load and Trim Sheet is inserted in the flight envelope, one copy is handled to Ramp Agent and one to the SCC.

2-3-7 FLIGHT DOCUMENTS TO BE STORED

Applicable to: ALL

The following documents shall be stored in the flight envelope *as per OM-A. Refer to: OM-A 8-1-12 DOCUMENTS, FORMS AND INFORMATION TO BE CARRIED.* It is usually performed by the First officer and checked by the commander.

- Fuel Receipts;
- One copy of the Technical/Flight Logbook;
- Journey Log;
- Final Loadsheet.
- Meteorological information
- NOTAMS
- NOTOC (if any)
- Cargo manifest
- Occurrence report (if any)
- Operational Flight Plan
- Security form
- SAFA check report form (if any)

2-3-8 ENGINE START AND PUSHBACK

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-BEFORE PUSHBACK OR START
Refer to: FCOM PRO-NOR-SOP-ENGINE START

CAUTION	Before requesting start-up and pushback clearance, the flight crew must ensure that the ground crew is ready. Asking for start-up and pushback before the ground crew is ready may lead to clearance cancellation and unnecessary delays.

2-3-9 AFTER START

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-AFTER START

1. After start Flow Pattern

- *Refer to: FCOM - PROCEDURES - NORMAL PROCEDURES - NORMAL PROCEDURES - STANDARD OPERATING PROCEDURES- AFTER START (ALL ENGINES TAXI AT DEPARTURE*

- *2* In case of Airframe Deicing/Anti-icing Procedures on Ground, do not arm the spoilers and do not move the flight controls until the aircraft is fully deiced.

Refer to: FCOM - PROCEDURES - NORMAL PROCEDURES- ADVERSE WEATHER - GROUND OPERATIONS IN COLD WEATHER CONDITIONS - AFTERSTART

2-4-1 ALTIMETER SETTING PROCEDURES

Applicable to: ALL

Refer to: OM-A 8-3-3 ALTIMETER SETTING PROCEDURES

2-4-2 ALTIMETER CALLS

Applicable to: ALL

Altimeter subscale settings are to be co-coordinated by PF:

- PF calls "**SET STANDARD**" or "**SET QNH____**" as appropriate.
- PM verifies that settings on:
  - Both PFDs;
  - MCDU PERF APPR page (only when changing from STD to QNH for approach);
  - STBY ALT (set by CM1) are the same.

PM responds: "STANDARD or QNH CROSS-CHECKED, PASSING FL NOW or PASSING____FEET NOW".

- PF answers: "**CHECKED**".

2-4-3 VERTICAL SPEED GUIDANCE AND CALLS

Applicable to: ALL

Refer to: [FLT 3.11.50A], [FLT 3.11.50B], [FLT 3.11.50C]

When operating an aircraft at low heights AGL, to restrict rates of descent for the purposes of reducing terrain closure rate and increasing the recognition/response time available in the event of an unintentional conflict with terrain, Fly2Sky applies the following procedure:

When an aircraft is flown at low altitude AGL, descent rates are restricted to:

- Reduce the closure rate between aircraft and terrain.
- Give the crew more recognition and response time in case of an unintentional terrain conflict.
- Support GPWS/EGPWS protection envelopes (since those rely on descent rate vs. height AGL).
- Pilots shall avoid excessive descent rates when below 2,500 ft AGL unless on a stabilized final approach.

- Standard practice:
  - Below 2,500 ft AGL → avoid rates of descent greater than 1,000 ft/min unless briefed and required (e.g., approach profile).
  - Below 1,000 ft AGL → descent shall normally not exceed 500–700 ft/min (except during flare).

- This concept is embedded in Stabilized Approach Criteria:

  - By 1,000 ft AGL (IMC) or 500 ft AGL (VMC) → aircraft must be on correct flight path, speed, configuration, and descent rate ≤ 1,000 ft/min (unless special briefing).

Crews have to apply the following technique when approaching cleared levels or altitudes:

The rate of climb/descent shall be limited to a value of the difference between the present altitude/level (passing) and the cleared altitude/level (e.g.: when 3 000 feet to go, the rate shall not be higher than 3 000 ft/min). During the last 1 000 feet, the rate shall be limited to 1 000 ft/min.

When ATC rate restriction is applicable, it overrides this rule, and the assigned rate shall be maintained until reaching the cleared altitude/level.

Any time the rate is more than the value stated above and there is no ATC rate restriction in force, PM shall call "**RATE**". PF is to immediately take corrective actions to reduce the rate.

The PM shall announce "**THOUSAND TO GO**" when passing 1 000 feet above/below a target altitude/FL. PF shall reply "**CHECKED**". If PM does not make the call, PF is to initiate, and PM is to reply. This call is designed to raise the situation awareness for both crewmembers to monitor altitude interception.

For en-route level changes of 2 000 feet or less, the V/S mode is recommended with a rate of 1 000 ft/min or less, unless otherwise instructed by ATC. Be aware of performance limits when climbing using V/S.

The rate of descent below MOCA/MORA plus 2 000 ft or below valid MSA plus 2 000 ft shall normally not exceed 2 000 ft/min until 2 000 ft AAL where the rate of descent shall not exceed 1 000 ft/min till landing. Exceptions may be made during daylight with the surrounding terrain clearly visible or when a greater rate of descent is part of an approved ATC procedure.

Note: The aim of altitude/level restrictions of instrument procedures or clearances assigned by ATC is to provide traffic and/or terrain separation. By respecting the rules of rate

limitations flight deck crew will be able:

To restrict rates of descent for the purposes of reducing terrain closure rate and increasing recognition/response time in the event of an unintentional conflict with terrain, and to reduce the chance of triggering unnecessary TCAS RA.

To keep situational awareness PF shall systematically check his ND for traffic and terrain situation when changing level/altitude.

WARNING	Never select V/S when in SRS mode. Never attempt to select V/S or 'PUSH LEVEL OFF' when the ALT* mode is engaged.

The PM shall use the Terrain on ND function for increased terrain and obstacle awareness and avoidance of controlled flight into terrain.

2-5-1 TAXI

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-TAXI

CAUTION	As per company policy, "ONE ENGINE TAXI – AT DEPARTURE" is NOT allowed.

It is recommended to perform a welcome briefing to the passengers before pushback if time permits or as soon situation permits during flight. Performing PA is a distraction that may potentially lead to:

- Missing ATC communication;
- Poor monitoring of PF duties;
- Lack or lower situation awareness;
- Possible ATC clearance infringements (runways incursions, etc.).

BRAKES

The crew shall be aware that the fleet's aircraft are equipped with different braking systems.

Refer to: FCOM DSC-32-30 Brakes and Antiskid

FLIGHT CONTROLS CHECK

It is recommended that both pilots perform the flight control checks prior to the start of the taxi in case of:

- Congested areas;
- Delay expected prior taxi;
- Short taxi;
- Unfamiliar airport;
- Low visibility procedure.

Good coordination between the pilots shall be used to determine the best course of action.

Note: When De-icing or/and anti-icing procedures are to be applied, delay flight control check upon completion De- and anti-icing.

TAXI SPEED

Taxi speed must be limited to:

- 50 kts while taxiing on runways (or backtrack).
- 30 kts on straight taxiways (on snow/slippery or contaminated TWY – 10kts).
- 20 kts where a taxiway passes through a ramp area.
- 15 kts on normal taxiway turns, 10 kts for tight 90° turns or 180° turn-around (on snow/slippery or contaminated TWY turns – 5kts).

TAKEOFF DATA AND CONDITIONS

If due to the last changes before take-off, it becomes necessary to recompute and crosscheck the performance data or, in case of significant ACT changes requiring to update the take-off briefing, it's recommended to stop the aircraft.

FINAL CHECK

To enhance the awareness of the status of cabin preparation for take-off, the FINAL CHECK sequence shall be performed as follows:

The Cabin Ready report shall be communicated by the Senior Cabin Crew via Intercom stating: "**CABIN READY**".

After receiving the report, the PM shall press the T.O. CONFIG PB and check the upper ECAM display for the T.O. CONFIG NORMAL indication without blue lines.

2-5-2 BEFORE TAKE-OFF

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-BEFORE TAKEOFF

APPROACH PATH CLEARED OF TRAFFIC

The PM shall advise cabin crew via PA that take-off is imminent as with: "**CABIN CREW TAKE-OFF**"

SLIDING TABLE/EFB

All EFB transmitting mode shall be set to Flight Mode. The Transmitting mode of all devices, including mobile phones, shall be OFF.

PACKS

Both packs shall be ON for take-off, unless required OFF for performance reasons.

LINE-UP CHECKLIST

For enhanced situation awareness at the completion of LINE-UP C/L, the PM shall add:

- "**LINE UP ONLY**" if clearance is only to enter the runway, line up and wait; or
- "**TAKEOFF CONFIRMED**" if the clearance includes take-off clearance.

PF shall replay "**LINE UP ONLY**" or "**TAKEOFF CONFIRMED**" as appropriate.

2-5-3 TAKE-OFF

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-TAKEOFF

No rolling take-off shall be commenced if the stop margin is less than 50 m.

2-5-4 AFTER TAKE-OFF

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-AFTER TAKEOFF

2-5-5 CLIMB

Applicable to: ALL

Refer to: (CAT.OP.MPA.215), [FLT 1.11.17]

The provided headset with boom microphone shall be worn on ground when receiving the ATC departure clearance via voice communication, and when engines are running. Additionally, the headset shall be worn in flight up to top of climb and whenever deemed necessary by the commander.

Additionally, even if wearing the headsets, the speakers' volume knob shall not be reduced below 9 o'clock position.

Refer to: FCOM PRO-NOR-SOP-CLIMB

2-5-6 AT FL100 / 10 000 FT

Applicable to: ALL

SEAT BELTS switch shall be placed to OFF by PM at Commander discretion considering cockpit workload and weather situation. It shall be considered that when the SEAT BELTS is switched off, the Cabin Crew will start their inflight service. Delay if necessary and inform Senior Cabin Crew.

It's important to start any activity (OFP filling, Datalink, CPDLC, unnecessary communications, passenger PA, etc.) only when the situation and workload permit. In bad weather conditions or in congested ATC areas, it's recommended to delay any of the above-mentioned actions to the cruise phase.

BEFORE ENTERING RVSM AIRSPACE

Refer to: FCOM PRO-SPO-50-REDUCED VERTICAL SEPARATION MINIMUM-RVSM

Before entering RVSM airspace, the crew shall perform an RVSM ALT CHECK, and PM shall record it in the OFP.

2-6-1 NOISE ABATEMENT PROCEDURES

Applicable to: ALL

Refer to: (CAT.OP.MPA.130), (AMC1 CAT.OP.MPA.130), (GM1 CAT.OP.MPA.130)

Noise abatement procedures ensure that the necessary safety of flight is maintained whilst minimising exposure to noise on the ground. The noise abatement procedures are simple and safe to operate, as they are programmed into the FMGS prior to departure and cause no increase of the workload during critical phases of the flight. However, the flight crews must ensure that safety has priority over noise abatement considerations. The Noise abatement procedures shall not be complied with in case of an emergency.

Pilots prompted by safety concerns can refuse a runway offered for noise preferential reasons. Noise Abatement Procedures are not conducted in conditions of significant turbulence or windshear. The commander must not perform or shall discontinue a noise abatement procedure if the conditions preclude the safe execution of that procedure and the minimum required obstacle clearance.

The crews shall use the following table as guidance when programming the MCDU. However, in case an airport publishes a specific noise abatement profile described in OM-C Airports or Jeppesen FD Pro X, it has priority over the table below and shall always be followed.

Published NADP	THR RED/ACC (AAL)
N/A NADP 2 ICAO B	1000/1000
NADP1	1000/3000
ICAO A	1500/3000

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2-7-1 CRUISE

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-CRUISE

Altitude Range switch / TRAFFIC SEL shall be set to BELOW / BLW in order to enhance traffic awareness.

2-7-2 MITIGATION OF PROLONGED LOSS OF COMMUNICATION

Applicable to: ALL

Refer to: [FLT 3.14.11]

To mitigate the risk of prolonged loss of communication, the following procedures are enforced in cruise:

- Check that VHF 2 or 3 is tuned to 121.5 and the volume is adjusted to permit proper frequency monitoring;
- Headset shall be used whenever the ACT frequency is congested, the quality of the signal is lower than 5, only one flight crew is in the cockpit, or the commander deems it necessary to enhance situation awareness;
- When the time between last communication intercurred with ATC is more than 20 min. A radio check shall be performed;
- In case contact with the ATC unit is not establish or is lost, apply procedure as per Radio Communication Failure. *Refer to: FD Pro X-Pubs-Regions-Reference-Common Procedures for Radio Communication failure*

2-7-3 COCKPIT ACCESS PROCEDURE DURING FLIGHT

Applicable to: ALL

Refer to: OM-A 8-3-10 CREW MEMBERS AT THEIR STATIONS
Refer to: OM-A 8-3-12 ADMISION TO FLIGHT DECK

When the aircraft is in flight, two crew members shall always be present on the flight deck. In the event, a flight crew needs to leave the cockpit. *Refer to: CCOM 8.1.4 COCKPIT ACESS PROCEDURE DURING FLIGHT*

When a cabin crew is present in the cockpit, one flight crew shall use a headset.

2-7-4 FLIGHT PROGRESS

Applicable to: ALL

Pilot Monitoring (PM) shall complete all elements of the OFP sections.

When the Enroute weather is monitored through the use of DATALINK messages (if applicable), the pilots shall not print the report unless deemed necessary.

For the inflight fuel, check procedure *Refer to: OM-A 8-3-7 POLICY AND PROCEDURES FOR IN-FLIGHT FUEL MANAGEMENT*

2-7-5 DESCENT PREPARATION

Applicable to: ALL

Refer to: [FLT 3.11.68A]

In case of actual or forecasted low visibility operations at the destination, destination alternate and Enroute alternates, flight crew shall verify the accessibility of airports considering the databases autoland limitations.

It is commander's responsibility to assess the landing performance in the aircraft configuration to be used for landing prior to arrival at destination or any alternate airport to determine that Landing Distance Available is sufficient for the intended runway of operation at the estimated time of arrival (ETA). However, the PM shall upload the Landing Performance in the relevant section of EFBOne as part of the approach preparation.

Refer to: FCOM PRO-NOR-SOP-DESCENT PREPARATION.

PERF DES PAGE

When flying at a high-Cost Index (CI) to minimise the risk of overspeed, it is recommended before the top of descent point, taking into account ATC restriction, to modify the ECON MACH/SPD inserting a lower descend MACH/IAS or use vertical speed instead of DES/OP DES initially.

PERF APPR PAGE

To avoid undershooting the published minimum during a go-around, due to aircraft inertia during the pull-up, when inserting the minima, 50 feet shall be added to the published minima for the following type of approaches:

- NDB, NDB/DME
- VOR, VOR/DME
- LOC, LOC/DME
- VDF, SRA; or
- GNSS/LNAV

Refer to: OM-A 8-1-3 ESTABLISHING AERODROME OPERATING MINIMA

PERF GO-AROUND PAGE

On PERF GO AROUND page, altitudes shall be set as follow:

- THR RED/ACC to 1000/1000 ft AAL;
- ENG OUT ACC to MSA or missed approach altitude, whichever is lower for the missed approach track.

Note: Thrust Setting and EGT Limits shall be respected. Refer to: FCOM LIM-EN-THRUST SETTING-EGT LIMITS.

2-7-6 ARRIVAL BRIEFING

Applicable to: ALL

Refer to: FCTM AIP-TASKSHARING RULES AND COMMNICATION/HOW TO CONDUCT BRIEFINGS

Briefing requires out-of-the-box thinking, beyond the pure reflection of routine and standard operations. It shall have a threat-focused view and identify and prioritise likely threats to the intended operation. It shall then detail the actions to mitigate these threats. A briefing shall be conversational, interactive and use open questions that involve all flight crewmembers to share their experience and expectations. A long briefing is not necessarily a good one.

The structure and minimum items of the arrival briefing are:

Step	PF	PM
1	Set an environment with no distraction (1)	
2A		Plan (2): • Arrival/transition designator; • MORA/MOCA/MSA for planned trajectory; • STAR; • Runway and type ofapproach; • Approach minimum; • Go-around trajectory; • Extra fuel and time.
2B	Plan (2): • Guidance for approach; • Landing flaps setting; • Stop margin; • Use of reverse thrust; • Use of autobrake; • Planned runway exit; • Hotspots for taxi-in; • Special operation; • Non-standard operation.	
3A		Identified threats (3)
3B	Identified threats (3)	
4	Mitigations (4)	
5	Miscellaneous (5)	

(1) *For the briefing to be of good quality it is important to minimize interruptions. Allocating the right time before top of descent mitigates potential disturbances. It shall be the task of the Commander (CM1) to anticipate potential disturbance and to manage this step. If interrupted, the briefing shall resume at the beginning of the step where the interruption occurred.*

(2) *The PM shall start to brief the main items of the Plan. This ensures that both pilots share the same mental image of the flight trajectory after the FMS preparation (by PF) and check (by PM) according to SOP. The PF briefs what the PF considers for landing. Briefing the Plan shall normally only be a high-level description. It shall not be a repetition of the detailed setting and checking of the flight trajectory in the FMS performed in the respective SOP items.*

(3) *The PM shall brief the threats they have identified. The PF highlights additional threats if required.*

(4) *The PF and PM discuss and agree on the Mitigation of the identified threats.*

(5) *Miscellaneous is intended to consider additional items e.g.:*

- *Special Operations*
- *Supplementary Procedures if not yet briefed.*

2-7-7 DESCENT

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-DESCENT.

Headset shall be used from the top of descent point to parking.

During the descent phase, for the purposes of reducing terrain closure rate and increasing recognition/response time in the event of an unintentional conflict with terrain, the vertical speed shall be limited below 10 000 feet. For vertical speed guidance, *Refer to: OM-B 2-4-3 VERTICAL SPEED GUIDANCE AND CALLS.*

It is recommended to start the descent approximately 10 NM before the TOD. If the aircraft has passed the TOD at high altitude, the crew shall not initiate the descent with the managed descent (DES) mode, as the speed advances very close to the MMO or VMO and these can easily be exceeded. The best option in this case is to initiate the descent with the OP DES mode and once the correct descent path is captured to switch to managed descent (DES) mode.

2-7-8 AT FL100 / 10 000 FT

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-DESCENT

LAND lights must be switched ON, and the PM shall advise cabin crew via PA to finalise cabin preparation for landing with "**CABIN CREW PREPARE CABIN FOR LANDING**".

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2-8-1 APPROACH GENERAL

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-18-Approach General

Note: In case of GPS INTERFERENCE, refer to FCOM-PROCEDURES-NORMAL PROCEDURES-SUPPLEMENTARY PROCEDURES-GPS INTERFERENCE

2-8-2 AIRCRAFT CONFIGURATION AND GUIDANCE MANAGEMENT

Applicable to: ALL

Refer to: [FLT 3.11.65], [FLT 3.11.66]

For the application of Decelerated or Early Stabilised approach techniques, *Refer to: FCOM PRO-NOR-SOP-Approach Speed Technique*

Consider the steps of the speed and configuration profile in FCOM as the last moments for a given action (e.g., At 2 000 ft, Flaps 2 means that latest at 2 000 ft).

Consider earlier speed reduction and configuration in the following conditions:

- High landing weight (typically above 60t);
- Aircraft with sharklet;
- Tailwind on final;
- Turbulence caused by thermals associated with convective weather;
- Non-standard, steeper-than-normal G/S.

Observe the conditions in FCOM for configuration changes for not putting too high demand on the hydraulic system (e.g., FCOM states: “WHEN FLAPS ARE AT 2”, or “WHEN LANDING GEAR IS DOWN”, do not select LDG DOWN before having FLAPS at 2 or FLAPS 3 before having landing gear down/.)

WHEN LANDING GEAR IS DOWN

When the landing gear is down, the PM shall advise the cabin that landing is imminent via PA as follow: “**CABIN CREW LANDING**”.

APPROACH USING LOC G/S GUIDANCE

Refer to: FCOM PRO-NOR-SOP-18 APPROACH USING LOC G/S GUIDANCE

The crew shall use the LVO – BRIEFING GUIDE for preparation and action in case of systems degradation.

LVO APPROACHES

Refer to: OM-A 8-4 LOW VISIBILITY OPERATIONS

Refer to: FCOM PRO-NOR-SOP-Aircraft Guidance Management-Approach using LOC G/S Guidance – Final Approach for approach procedures.

Refer to: FCOM PRO-NOR-SOP-Approach using LOC G/S Guidance – Management of Degraded Guidance for the management of failures.

Refer to: FCTM PR-NP-SOP-APPROACH-GUIDANCE MANAGEMENT-APPROACH USING LOC G/S FOR CAT II CAT III

The basis for LVO approaches are contained in FCOM, however detailed company procedures for all LVO operations are contained in the OM-A.

To conduct LVO approaches both pilots must be current for Low Visibility Operations (simulator training). Knowledge in dealing with failures and downgrades above and below 1 000 feet AAL is imperative for both crewmembers.

APPROACH USING FINAL APP GUIDANCE

Refer to: FCOM PRO-NOR-SOP-18 APPROACH USING FINAL APP GUIDANCE

No restrictions are applicable for RNAV (GNSS) with LNAV/VNAV minima and RNAV (GNSS) with LNAV minima.

In case of loss or degradation of RNAV/RNP capability: *Refer to: 8-3-2 NAVIGATION PROCEDURES*

All non-ILS approaches are flown in a stabilised descent profile during the final segment. However, this does not preclude the definition of altitude gates or level segments between the FAF and the runway, where such constraints are deemed necessary and reflected in the approach design.

APPROACH USING FPA GUIDANCE

Refer to: FCOM PRO-NOR-SOP-18 APPROACH USING FPA GUIDANCE

CIRCLING APPROACH

a. The MDH for a circling operation with airplanes shall not be lower than the highest of:
    a. the published circling OCH (obstacle clearance height) for the airplane category;
    b. the minimum circling height derived from Table below; or
    c. the DH/MDH of the preceding instrument approach procedure.
b. The minimum visibility for a circling operation with aeroplanes shall be the highest of:
    a. the circling visibility for the airplane category, if published;
    b. the minimum visibility derived from Table below (MDH and minimum visibility for circling vs. airplane category):

HEIGHT AND VISIBILITY	Category A	Category B	Category C	Category D
MDH (ft)	400	500	600	700
Minimum meteorological visibility (m)	1500	1600	2400	3600

Refer to: FCOM PRO-NOR-SOP-18 CIRCLING APPROACH
Refer to: FCTM PR-NP-SOP-GUIDANCE MANAGEMENT-VIRCLING APPROACH

RNAV VISUAL APPROACH

Refer to: FCOM PRO-NOR-SOP-18 RNAV VISUAL APPROACH

VISUAL APPROACH

Refer to: FCOM PRO-NOR-SOP-APPROACH-18 VISUAL APPROACH.
Refer to: OM-A 8-1-3 ESTABLISHING AERODROME OPERATING MINIMA

WARNING	In the case of a visual approach assisted by ILS signals, do not dive below the GP. Deactivation of GPWS G/S mode is NOT allowed.

2-8-3 TYPE A APPROACHES WITH ENGINE-OUT

Applicable to: LZ-FSD, LZ-MDL,LZ-MDK

Refer to: FCOM LIM-AFS-GENERAL-NON-PRECISION APPROACHES WITH ENGINE-OUT

If one engine is inoperative, it is not permitted to use the autopilot to perform NPA in the following modes: FINAL APP, NAV V/S, NAV/FPA. Only FD use is permitted.

2-9-1 GENERAL

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-GO-AROUND-GO-AROUND WITH FD

CAUTION	When applying the Airbus go-around procedure at or above the altitude selected on the FCU, the SRS vertical mode will engage, and the aircraft will start to climb. ALT* mode, however, will not engage as long as the aircraft is not crossing the altitude selected on FCU. Consequently, there is a risk of altitude bust in climb.

To avoid the above situation and as an alternative to the standard go-around procedure, the flight crew may perform the "discontinued approach" procedure. *Refer to: FCOM PRO-NOR- SOP-APPROACH-APPROACH GENERAL-DISCONTINUED APPROACH*

MISSED APPROACH CONSIDERATIONS

- In case of a missed approach, prompt initiation of the go-around and the associated configuration changes required must take priority over ATC communication. Informing ATC or the acknowledgement of the ATC instruction may have to be deferred until workload permits.
- TOGA must always be initially applied.
- Particular attention must be given to acceleration after go-around by both pilots.
- PM must closely monitor speed and be ready for flaps retraction.
- PM must call "**SPEED**" if the speed trend vector indicates VFE will be exceeded:
  - PF shall promptly select the thrust levers to the 'CLB' detent.
  - PF shall announce "**PULL SPEED**" and/or "**PULL V/S**" * or make the selections if the AP is engaged.
- Prompt selection of the AP may avoid an altitude bust.
- Manual thrust can be considered to avoid exceeding VFE.

WARNING	Never select V/S when in SRS mode. Never attempt to select V/S or 'PUSH LEVEL OFF' when the ALT* mode is engaged.

2-9-2 MISSED APPROACH NEAR THE GROUND

Applicable to: ALL

Refer to: [FLT 3.11.67]

In most cases, a missed approach is initiated at or before the applicable DA or MDA for the approach being flown. Because any later decision to go around must have followed an earlier positive decision by the PF to continue to a landing, it is often described as a rejected landing or a baulked landing, although neither term has any formal definition. It may or may not involve at least part of the landing gear contacting the runway, and in extreme cases, touchdown may occur on all main landing gear units.

A decision to reject a landing that has previously been judged achievable with safety is often the only way to avoid aircraft damage through a loss of control near to or on the runway, which may also culminate in a runway excursion. This can be the result of a sudden deterioration of forward visibility or extreme wind velocity variations. It may even be the only way to avoid a runway collision if a runway incursion occurs at a late stage.

In case of a Go-Around below the minimum, the PF shall resist the tendency to apply excessive rotation rate to avoid bouncing with an excessive rate of descent in order to prevent tail-strike.

In case of a Go-Around below the minimum or a bounce, initiating normal Go-Around duties near the ground use standard call for Go-around, but call "**GO-AROUND**" and delay the call for "**FLAPS**" until a safe flight path has been established.

Note: The flight crew must consider delaying flap retraction. This is to avoid sudden early flap retraction during rejected landing. Depending on the energy level of the aircraft, a sudden change in configuration at this stage may result in a high rate of descent.

Temporary landing gear contact is acceptable, but not with an excessive rate of descent, which would result in a hard landing.

Refer to: FCTM PR-NP-SOP-Go-Around Near the Ground
Refer to: FCTM PR-NP-SOP-Tail Strike Avoidance

2-10-1 POLICY

Applicable to: ALL

Refer to: [FLT 3.11.61]

Commencing the landing (below MDA/DA), the aeroplane shall be in a position to continue with a normal rate of descent and land within the touchdown zone. The crew shall manoeuvre the aircraft so as to touchdown within the touchdown zone. The landing has to be performed in a way to prevent runway excursion. Touchdown zone (TDZ)' means the portion of a runway, beyond the threshold, where landing aeroplanes are intended to first contact the runway.

PROCEDURE

Refer to: FCOM PRO-NOR-SOP-LANDING

- Follow the ILS G/S when available down to DA/DH. Change to visual references approaching DA/DH (e.g., PAPI).
- When G/S is not available, start to follow the PAPI or VASI (if available) when changing to visual references.
- Check RWY identification visually and if there is any obstacle on the runway as far as possible (even if landing clearance has been received).
- If more than idle reverse has been used during landing, PM starts Chrono for the cooling period when PF commands idle reverse.

REVERSE THRUST

Refer to: FCOM PRO-NOR-SOP-Descent Preparation – Landing Performance – Note 2

The above-mentioned note provides information about considerations for setting the reverse thrust for landing distance calculations.

- Reverse thrust is always to be used, if available.
- When landing on wet performance limited runways or whenever landing on contaminated runways, MAX REV THRUST must be MAINTAINED until positive deceleration is observed (speed trend), felt (physical deceleration) and stop margins are assured.
- Idle reverse shall normally be selected below 70 kts and maintained until taxi speed or leaving the runway.

- Reverse thrust above idle is a braking aid, and its use is recommended whenever the circumstances dictate.
- The contribution of maximum reverse application on actual landing distance depends on braking action. As braking action deteriorates, the contribution of reverser increases exponentially. On contaminated runways, it can be as high as 50%, and on DRY RWY, it is 1%.
- Reverse thrust above idle shall be considered on short turnarounds and in high summer temperatures to reduce brake temperatures for subsequent dispatch.

BRAKING

Refer to: FCTM PR-NP-SP-LANDING – BRAKING ACTION

- The use of autobrake is usually preferable because it minimises the number of brake applications and therefore reduces wear.
- The autobrake is recommended on short, wet, contaminated runways, in poor visibility conditions, in moderate to strong crosswinds and in the case of an Autoland.
- In the case of uneven contamination on a wet or contaminated runway, the autobrake may laterally destabilise the aircraft. If this occurs, consider disconnecting the autobrake.
- The autobrake shall be selected by PF during the approach briefing. The selection of autobrake has to be done with the involvement of the other pilot. No selection can be made independently and silently.
- The level of autobrake (LO/MED) and reverse thrust selected shall take into consideration:

  – Length of the planned landing run.
  – Runway conditions and head/tailwind.
  – Brake temperatures versus turnaround time available.

- If autobrake is used, PF announces "**MANUAL BRAKES**" when disconnecting. (It is forbidden to change the autobrake selection after touchdown).

CAUTION	If difficulty in directional control is experienced during the landing rollout, immediately select reverse idle and release brakes until directional control is regained. After regaining directional control, apply subsequent braking and reverse thrust as required according to the remaining runway LDA.

2-10-2 LANDING WITH FLAPS 3

Applicable to: ALL

CAUTION	As opposed to using CONF FULL, an approach and landing with CONF 3 requires: • Additional anticipation/planning in order to meet company stabilisation criteria (less drag); • Longer LDR (less drag + higher touchdown speed).

Subject to the following considerations:

- Landing with CONF 3 is recommended in conditions of wind shear
- Landing with CONF 3 is not recommended:
  - In turbulence that is not associated with wind shear (i.e., no significant change of wind direction or speed during the approach, e.g., in thermals); or
  - When tailwind exists or is anticipated on the approach.

Note: FLAPS 3 configuration reduces noise, environmental impact and costs.

APPLICABLE TO A320 ONLY

When considering normal (no failure) landing of an A320 with CONF 3, the default approach correction is 10 kts (instead of 5 kts) in order to reduce the higher pitch attitude during approach and flare for landing. This value shall only be further increased in accordance with instructions of the FlySmart+ Landing module.

Note: This recommendation is not applicable to A321, as the pitch values during landing are identical for both CONF FULL and CONF 3.

PROCEDURE

- On MCDU PERF APPR page:
  - Select landing configuration CONF 3
  - Check VLS
  - Insert VAPP= VLS FLAPS 3+10 kts
- On the overhead panel:

- Select GPWS FLAP 3 ON

In case of an abnormal situation (failure), follow instructions on ECAM or in the FlySmart+ software.

CAUTION	Landing performance calculation shall take any speed increment into account.

2-10-3 OVERWEIGHT LANDING

Applicable to: ALL

There might be cases when the crew considers an overweight landing due to return or diversion (bird strike, OCC or MCC request etc.) or the crew arrives at destination slightly overweight due to lower-than-expected fuel burn when tankering.

The FCTM states:

When the aircraft weight exceeds the maximum landing weight, structural considerations impose the ability to touch down at 360 ft/min without damage. This means that no maintenance inspection is required if vertical speed is below 360 ft/min. If the vertical speed exceeds 360 ft/min at touchdown, a maintenance inspection is required.

However, the information given in the troubleshooting part of the AMM (Aircraft Maintenance Manual) differs from that described in the FCTM, and as a result, crews need to be aware that an overweight landing will always require an overweight maintenance inspection. It could potentially also require a hard landing inspection as the hard landing parameters are reduced when overweight. The overall consequences, in either case, are more costly to the company than burning fuel to reduce to maximum landing weight.

Furthermore, FCOM Limitations states:

- In exceptional cases (in-flight turn back or diversion), an immediate landing at weight above maximum landing weight is permitted, provided the pilot follows the overweight landing procedure.
- The keyword is 'exceptional', and it means an overweight landing shall only be made in abnormal situations when time is critical (land ASAP, Pan, Mayday etc.). In summary, do not perform an overweight landing for purely commercial reasons.

2-10-4 AUTOMATIC LANDING

Applicable to: ALL

AUTOLAND CONTINUOUS MONITORING

Every aircraft shall perform at least 1 autoland every 90 days with continuous CAT 3 DUAL landing capability to demonstrate that the autoland system complies with the requirements for successful automatic landings as required for Category III operations. Autoland shall be performed as per the procedure described in the OM-A. *Refer to: OM-A 8-4-2 INSTRUMENT APPROACH OPERATIONS IN LOW-VISIBILITY CONDITIONS*

PRACTICE CAT III LVO APPROACH AND AUTOLAND (WHEN LVP ARE NOT ACTIVE)

REQUIREMENTS

- Ceiling above 1 000 feet AAL;
- Visibility above 5 000 m;
- The runway is equipped with ILS CAT II/III beam (appropriate minima published), and the system status is not degraded by NOTAMs.

PROCEDURE

- During descent preparation:

  – Check requirements (See above);
  – CAT I (BARO) minimum must be inserted into MCDU 'PERF APP PAGE' and must be briefed;

Note: 'NO' will be inserted, as DH on final approach subject to actual weather conditions

  – Approach briefing as for an LVO approach;
  – Normal LVO task-sharing applies with CM1 PF and CM2 PM;

- During descent
  - Advise ATC that an autoland is intended: "**SOFIAJET___INTENDING AUTOLAND**".

Note: This shall ensure that any information that could affect the autoland will be passed to the crew by ATC.

- During approach if visual with the runway before passing 1 000 ft AAL:

  – PF calls: "**VISUAL – INSERT NO DH**";
  – The PM shall insert NO DH into MCDU 'PERF APP PAGE';
  – PM must remain 'head down' and monitor the FMA throughout the approach and landing;
  – Standard LVO approach callouts apply until the completion of the rollout;
  – If the AP performance is unsatisfactory at any stage, PF must immediately disconnect the AP and land manually.

- During the approach, if not visual with the runway until passing 1 000 ft AAL:

  – PF calls: "**CAT I APPROACH – MANUAL LANDING**";
  – Continue normal CAT I approach with manual landing and appropriate callouts.

2-11-1 AFTER LANDING

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-AFTER LANDING
Refer to: EFM 2-12-24 AFTER LANDING.

After leaving the runway (including backtracking), PF disarms the spoilers to trigger the after-landing scan and the After Landing checklist is completed by PM. On finishing the checklist, PM announces, "**AFTER LANDING CHECKLIST COMPLETE**".

CAUTION	If the approach was made in icing conditions, or if the runway was contaminated with slush or snow, do not retract the flaps/slats until after engine shutdown and after the ground crew has confirmed that flaps/slats are clear of obstructing ice.

For brake temperature anomalies:

Refer to: FCOM PRO-NOR-SOP-After Landing-Brake Temperature

ENGINE COOLING PERIOD

For Airbus policy on the application of the cooling time:

Refer to: FCOM PRO-NOR-SOP-PARKING

Note: The instructions below override guidance published in FCOM.

The flight crew must routinely apply an engine cooling period of 3 minutes for both the CFM and IAE engines after any landing by operating the engines "at or near idle thrust" for thermal stabilisation. Not applying this practice may lead to engine degradation.

ATC TRANSPONDER

Unless differently required by the local aerodrome regulations, the ATC transponder shall be AUTO (or ON) until the engine shutdown.

TAXI AT ARRIVAL

In case of a long taxi at arrival flight crew shall consider one engine taxi.

Refer to: FCOM PRO-NOR-SUP-ENG-ONE ENGINE TAXI-GENERAL
Refer to: FCOM PRO-NOR-SUP-ENG-ONE ENGINE TAXI-AT ARRIVAL

USE OF APU

PM shall not start the APU until approximately one minute before engine shutdown except as required for a single-engine taxi.

Use of APU BLEED is optional for conditioning, and it is not required for engine shutdown.

2-11-2 PARKING

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-PARKING

SEAT BELT SWITCH

As per cabin crew procedure switching OFF the seat belt sign cabin crew initiate sequence to disarm slides. The sequence of actions shall be as follow. After switching off the seatbelt signs, CM1 shall wait for the SCC call reporting "**ALL DOORS DISARMED MAY I OPEN THE DOORS**"

After positive verification that the slides are disarmed on the DOOR/OXY SD page, CM1 shall warn the cabin crew if any slide is not disarmed. If all slides are disarmed, CM1 shall reply, "**YOU MAY OPEN THE DOORS**"

BEACON LIGHTS

The PF switches off the Beacon Lights when the N1 spools down below 10% to allow the ground staff approach the aircraft.

ATC TRANSPONDER

The PM shall set Squawk 2000 and then select ATC transponder to STBY.

FUEL QUANTITY

Check the sum of fuel onboard and the fuel used is consistent with the fuel onboard at departure. The remaining Fuel on Board (FOB) shall be recorded on the OFP.

EFB / ELECTRONIC DEVICES

Company mobile devices shall be switched ON as soon as practical to allow communication with the OCC.

2-11-3 SECURING THE AIRCRAFT

Applicable to: ALL

Refer to: FCOM PRO-NOR-SOP-SECURING THE AIRCRAFT

Flight crew shall perform the Securing the Aircraft by READ and DO from the eQRH. *Refer to: eQRH SOP-Securing the Aircraft*

ADIRS

IRS MODE selectors (Rotary Switch) shall be set to OFF in the following sequence to keep correct ADIRS identification awareness:

IR1 (Left) → IR2 (Right) → IR 3 (Center)

MAINTENANCE BUS

The lifetime of the onboard components and computers increases when reducing the power off and power on cycles. Also, the number of small glitches after power ON and the number of resets required is reduced significantly. Therefore, the following guideline shall be used:

- Perform securing the aircraft checklist;
- Dim all Display Units (DU) but keep them ON. Never dim the inner ND ring;
- If ground power is available and connected, keep it on (systems will remain powered).

When sure that the aircraft will remain on the ground for several hours (typically after the last flight of the day), consider powering the Maintenance Bus only.

FLIGHT DECK INSPECTION

After the last flight, the crew shall check the general condition of the flight deck. Special attention shall be given to the following:

- Remove all garbage from the flight deck (papers, napkins, cups, water bottles, etc.);
- Check that the aircraft documentation is properly stowed as per OM-B;
- All electronic devices like onboard telephones, charging cables, etc., shall be left at their places. They shall be removed from their mounts only if taken out of the aircraft;
- Check windshield status and, if required, advise maintenance.

EXTERIOR WALKAROUND

When no maintenance staff is available after the last flight, the crew shall check the general external condition of the aircraft before leaving. This will eventually permit early detection of anomalies and avoid delay on the next flight.

Special attention shall be given to the tires, brakes and engines intake. If out of limits, call MCC for maintenance assistance.

POST-FLIGHT DE-BRIEFING

After completion of the last sector, the Commander shall evaluate with Senior Cabin Crew the need to perform a debriefing in case of noticeable events that occurred during the flight duty period. De-briefing shall be brief and concise.

The commander shall collect and destroy any unused copies of the General Declaration.

Unless specifically required for the operations, after submitting successfully the flight report in EFBOne, the crew shall discard all hard copies of the documents except the Journey Log, which shall be uploaded in Centrik.

2-12-1 GENERAL

Applicable to: ALL

For procedures and guidance for operation on wet and contaminated runways:

a. When the appropriate weather reports or forecasts, or both, indicate that the runway at the estimated time of arrival may be wet, the LDA shall be one of the following distances:

   1. landing distance provided in the AFM for use on wet runways at time of dispatch, but not less than that required by point CAT.POL.A.230(a)(1) or (a)(2), as applicable;
   2. if a landing distance is not provided in the AFM for use on wet runways at time of dispatch, at least 115 % of the required landing distance, determined in accordance with point CAT.POL.A.230(a)(1) or (a)(2), as applicable;
   3. a landing distance shorter than that required by point (a)(2), but not less than that required by point CAT.POL.A.230(a)(1) or (a)(2), as applicable, if the runway has specific friction-improving characteristics and the AFM includes specific additional information for landing distance on that runway type;

b. When the appropriate weather reports or forecasts indicate that the runway at the estimated time of arrival may be contaminated, the LDA shall be one of the following distances:

   1. at least the landing distance determined in accordance with point (a), or at least 115 % of the landing distance determined in accordance with approved contaminated landing distance data or equivalent, whichever is greater;
   2. on specially prepared winter runways, a landing distance shorter than that required by point (b)(1), but not less than that required by point (a), may be used if the AFM includes specific additional information about landing distances on contaminated runways. Such landing distance shall be at least 115 % of the landing distance contained in the AFM.

c. By way of derogation from point (b), the increment of 15 % needs not to be applied if it is already included in the approved landing distance data or equivalent.

d. For points (a) and (b), the criteria of points CAT.POL.A.230(b), (c) and (d) shall apply accordingly.

e. For dispatching the aeroplane, the aeroplane must be capable of:
    1. landing on the most favourable runway, in still air; and
    2. landing on the runway most likely to be assigned, considering the probable wind speed and direction, the ground-handling characteristics of the aeroplane and other conditions such as landing aids and terrain.

f. If the operator is unable to comply with point (e)(1) for a destination aerodrome where the appropriate weather reports or forecasts indicate that the runway at the estimated time of arrival may be contaminated and where a landing depends upon a specific wind component, the aeroplane shall only be dispatched if two alternate aerodromes are designated.

g. If the operator is unable to comply with point (e)(2) for the destination aerodrome where the appropriate weather reports or forecasts indicate that the runway at the estimated time of arrival may be wet or contaminated, the aeroplane shall only be dispatched if an alternate aerodrome is designated.

h. For points (f) and (g), the designated alternate aerodrome or aerodromes shall allow compliance with one of the following:
    1. points CAT.POL.A.230(a) to (e), if the runway at the estimated time of arrival is dry;
    2. points CAT.POL.A.235(a) to (e), if the runway at the estimated time of arrival is wet or contaminated.

FACTORING OF AUTOMATIC LANDING DISTANCE PERFORMANCE DATA

In those cases where the landing requires the use of an automatic landing system, and the distance published in the AFM includes safety margins equivalent to those contained in CAT.POL.A.235, the landing mass of the aeroplane shall be the lesser of:

1. the landing mass determined in accordance with CAT.POL.A.235; or
2. the landing mass determined for the automatic landing distance for the appropriate surface condition, as given in the AFM or equivalent document. Increments due to system features such as beam location or elevations, or procedures such as use of overspeed, shall also be included.

For more information,

Refer to: FCOM PRO-NOR-SUP-ADVWXR-OPERATIONS ON CONTAMINATED AIRPRTS Refer to: FCTM PR-NP-SP-ADVERSE WEATHER/COLD WEATHER OPERATIONS AND ICING CONDITIONS

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2-13-1 TO REMOVE GROUND SUPPLY

Applicable to: ALL

EVENT	PF or PM	GND Mechanic
Initial ground contact	GROUND (from) COCKPIT	COCKPIT (from) GROUND
External disconnection	REMOVE EXTERNAL ___	EXTERNAL_REMOVED

2-13-2 BEFORE ENGINE START/PUSHBACK

Applicable to: ALL

EVENT	CM1	SCC
When cabin checks are completed, and cabin crew are ready for boarding.	START BOARDING	MAY WE START BOARDING
When boarding is completed, and all documents are on board (Verbal or Intercom)	YOU MAY CLOSE THE DOOR	BOARDING COMPLETED ___PAX ON BOARD, MAY I CLOSE THE DOOR?
When doors are armed and crosschecked	CHECKED	ALL DOORS ARMED AND CROSSCHECKED!
Departure briefing completed	COCKPIT PREPARATION C/L	COCKPIT PREPARATION C/L CPMPLETE
After start-up clearance received	BEFORE START C/L	BEFORE START C/L COMPLETE

2-13-3 PUSH BACK/ENGINE START

Applicable to: ALL

EVENT	PF	PM
PERMISION FOR PUSHBACK AND/OR ENGINE START	Sets beacon to ON	Sets the ATC to AUTO and starts the Clock

EVENT	PF	GND Mechanic
When ready for pushback, and pushback clearance received from ATC	GROUND (from) COCKPIT, CLEARED FOR PUSH	COCKPIT (from) GROUND, RELEASE BRAKES

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Start of push	BRAKES RELEASED, READY TO PUSH	
When ready to start engines	CLEAR TO START? STARTING ENG(S)___	CLEAR TO START
When pushback completed	 BRAKES SET	SET BRAKES
When ready to disconnect (after engine started and parameters are stabilised)	CLEAR TO DISCONNECT (hand signals on left/right)	 DISCONNECTING (hand signals on left/right)

2-13-4 AFTER ENGINE START

Applicable to: ALL

EVENT	PF	PM
Hand signal from the ground personnel.	AFTER START C/L	 AFTER START C/L COMPLETE

2-13-5 TAXI

Applicable to: ALL

EVENT	PF	PM
When taxi clearance obtained	CLEAR LEFT (RIGHT) SIDE	 CLEAR RIGHT (LEFT) SIDE
Brake (transfer) check	BRAKE CHECK	 PRESSURE ZERO *(1)*

(1) The callout is necessary for standardisation purposes with the older MSNs.

EVENT	CM1	SCC
When the cabin is secured for take-off	 CABIN READY	CABIN READY

EVENT	PF	PM
Flight control check in the following sequence (can be done before commencing taxi)	FLIGHT CONTROL CHECK	
1. Elevators		FULL UP, FULL DOWN, NEUTRAL
2. Ailerons/Spoilers		FULL LEFT, FULL RIGHT, NEUTRAL
3. Rudder *(1)*		FULL LEFT, FULL RIGHT, NEUTRAL
T.O CONFIG pb pressed and cabin report received	TAXI C/L	TAXI C/L COMPLETE
Line-up clearance received, before Take-off flow pattern completed	LINE-UP C/L	PA: CABIN CREW TAKEOFF LINE-UP C/L COMPLETE
If the clearance is only to enter the runway	LINE UP ONLY	LINE UP ONLY
If the clearance includes take-off clearance	TAKEOFF CONFIRMED	TAKEOFF CONFIRMED
Lining up on the runway	APPROACH (DEPARTURE) AREA CLEAR	APPROACH (DEPARTURE) AREA CLEAR

(1) The PM shall follow pedal movement with his/her feet

2-13-6 TAKEOFF

Applicable to: ALL

EVENT	PF	PM
Setting thrust levers to initial stabilization value	TAKEOFF (announce FMA)	CHECKED
Before passing 80 kt		THRUST SET
At 100 kt	CHECKED	ONE HUNDRED KNOTS
At V1		V1
At VR		ROTATE
Gear retraction	GEAR UP	POSITIVE CLIMB GEAR UP
If AP is engaged by PM	AP 1(2) ON	
When F speed and accelerating	FLAPS ONE	SPEED CHECKED, FLAPS ONE
When S speed and accelerating	FLAPS ZERO	SPEED CHECKED, FLAPS ZERO

2-13-7 ALTIMETER SETTING CHANGES TO/FROM QNH-STD

Applicable to: ALL

EVENT	PF	PM
Barometric setting change and subsequent altimeter cross-check	SET STANDARD (SET QNH) CHECKED	STANDARD (QNH) CROSS-CHECKED PASSING FL (FT) NOW

2-13-8 PASSING 10 000 FT

Applicable to: ALL

EVENT	PF	PM
On climb	TEN THOUSAND CHECKS	TEN THOUSAND
On descent	TEN THOUSAND CHECKS	TEN THOUSAND PA: CABIN CREW PREPARE CABIN FOR LANDING

2-13-9 APPROACH AND LANDING

Applicable to: ALL

EVENT	PF	PM
Below 10 000 ft AAL and barometric reference set	APPROACH C/L	APPROACH C/L COMPLETE
Activation of Approach Phase	ACTIVATE APPROACH PHASE	APPROACH PHASE ACTIVATED
RA alive	CHECKED	RADIO ALTIMETER ALIVE*(1)(2)*

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At Green dot speed or<VFE but before 3 nm from FAF	FLAPS ONE	SPEED CHECKED, FLAPS ONE
S Speed or latest 2 000 FT AGL	FLAPS TWO	SPEED CHECKED, FLAPS TWO
When Gear Down		PA: CABIN CREW LANDING
At G/S*, FINAL APP or below the go-around altitude for approach with FPA guidance	• **If the PF requests the PM to set the go-around altitude:** SET GA ALTITUDE_FT	GA ALTITUDE_SET
	• **If the PF sets the go-around altitude:** GA ALTITUDE_SET	CHECKED
When in CONF 2	GEAR DOWN	GEAR DOWN
When the landing gear is down	FLAPS THREE	SPEED CHECKED, FLAPS THREE
When in CONF 3, unless when landing in CONF 3	FLAPS FULL	SPEED CHECKED, FLAPS FULL
At FDP (other than ILS or visual approach)	CHECKED	PASSING (Fix Name)_FT
LDG CONF set, and cabin report received	LANDING C/L	LANDING C/L COMPLETE
1 000 ft RA	CHECKED	ONE THOUSAND (2)
100 ft above MDA/DH	CHECKED	ONE HUNDRED ABOVE (2)
MDA / DH visual reference	CONTINUE	MINIMUM (2)

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MDA/DH no visual reference	GO AROUND-FLAPS	MINIMUM (2)
		ONE HUNDRED (2) FIFTY (2)
After touchdown Ground spoilers extended SPOILERS (3) REV green on EWD		SPOILERS (3) REVERSE GREEN (4)
Deceleration		DECEL (5)
At 70 kt	CHECKED	SEVENTY KNOTS

(1) Crew awareness, crew shall now keep RA in scan to landing

(2) PM monitors pin-programmed auto callout or announces if inoperative.

(3) If the spoilers are not extended, call NO SPOILERS

(4) If the reverse deployment is not as expected, call NO REVERSE ENGINE or NO REVERSE, as appropriate.

(5) DECEL Callout means that the deceleration is felt by the crew and confirmed by the speed trend on the PFD. If no positive deceleration, NO DECEL.

2-13-10 DISCONTINUED APPROACH

Applicable to: ALL

EVENT	PF	PM
DISCONTINUED APPROACH decision	CANCEL APPROACH	

2-13-11 GO AROUND

Applicable to: ALL

EVENT	PF	PM
Go-around decision	GO AROUND – FLAPS	
Flaps retraction		FLAPS__
Gear retraction	GEAR UP	POSITIVE CLIMB GEAR UP
When F speed and accelerating	FLAPS ONE	SPEED CHECKED, FLAPS ONE
When S speed and accelerating	FLAPS ZERO	SPEED CHECKED, FLAPS ZERO

2-13-12 AFTER LANDING

Applicable to: ALL

EVENT	PF	PM
After Landing Flow pattern completed	AFTER LANDING C/L	AFTER LANDING C/L COMPLETE

2-13-13 PARKING

Applicable to: ALL

EVENT	CM1	SCC
After switching seatbelt signs off, CM 1 shall wait for the SCC call		INTERCOM: ALL DOORS DISARMED AND CROSS CHECKED
After positive verification on the DOOR / OXY SD page that all slides are disarmed	INTERCOM: YOU MAY OPEN THE DOORS	

EVENT	CM1	CM2
SEAT BELTS switch OFF	PARKING C/L	PARKING C/L COMPLETE

2-13-14 SECURING THE AIRCRAFT

Applicable to: ALL

EVENT	PF	PM
After the last passenger left the aircraft (if securing the aircraft is intended)	SECURING THE AIRCRAFT C/L	SECURING THE AIRCRAFT C/L COMPLETE

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2-14-1 APPROACH SUMMARY – ILS CAT I / II / III APPROACH

Applicable to: ALL

ILS CAT I / II / III APPROACH

REQUIREMENTS	OPERATOR	CREW	AIRCRAFT	AIRPORT
	Authorisation required except for: • CAT I	• Training • Currency	Refer to eQRH OPS Required Equipment for CAT2 and CAT3	LVP must be in force except for: • CAT I
CONDITIONS	• Outside of the normal GS/LOC capture zone?			Y
	N			
GUIDANCE MODE	**G/S - LOC**			False LOC or G/S captures may happen
SOP	• Choose lowest usable Minima (CAT I/II/III) subject to LVP • Special LVO SOP except for CAT I			

CALLOUTS	• FMA Change Calls (Guidance)
	• G/S Check
	• Deviation Calls
	  • LOC > ½ Dot
	  • G/S > ½ Dot			

GO-AROUND IF NOT VISUAL	• Loss of Ground NAVAID indication • Degraded Guidance, Go-Around when needed as per SOP			

DEGRADED GUIDANCE	• Early / Untimely Flare Mode Engagement – Refer to SOP
	• CAT II / CAT III Operations – Refer to SOP
	  – Amber Caution (Single Chime)
	  – Landing capability Degradation (Triple Click)
	  – Autoland Warning Light			

2-14-2 APPROACH SUMMARY – LOC APPROACH

Applicable to: ALL

LOC (ILS G/S OUT) APPROACH

REQUIREMENTS	• Display of LOC must be available	
CONDITIONS	• Outside of the normal GS/LOC capture zone?	Y
	N	
GUIDANCE MODE	**FPA - LOC**	False LOC or G/S captures may happen
SOP	• Insert RWY THR to PROG page • Increase MDA by 30 ft (to convert MDA to DA for CDFA) • Manual insertion of DME frequency may be necessary to VOR1 or VOR 2 when DME is not associated with the LOC • Select GPWS G/S Mode switch to OFF	
CALLOUTS	• **PASSING__,___FT** • ALT vs DIST Checks • Deviation Calls • LOC > ½ Dot	
GO-AROUND IF NOT VISUAL	• Loss of Ground NAVAID indication	
DEGRADED GUIDANCE	**N/A**	

2-14-3 APPROACH SUMMARY – RNP APPROACH TO VNAV MINIMA

Applicable to: ALL

RNP/RNAV APPROACH TO VNAV MINIMA

	OPERATOR	CREW	AIRCRAFT	AIRPORT
REQUIREMENTS	AOC entry required: • RNP APCH	• Training • Currency	• One FMGC • One GPS • Two IRS • One MCDU • One FD • One PFD at PF • Two ND • Two FCU channels	• GND based NAVAID not required, except stated otherwise on the chart.
CONDITIONS	• DB Expired? • Approach not (correct) in DB? • GPS PRIMARY LOST? • FINAL TRK DIFF > 1°? • FPA DIFF > 0.1°? • Temperature below the minimal temperature on the chart? • QNH Remote? • TOO SEEP PATH after FDP? • Discrepancy between altimeters > 100 ft?		Applicable to: For LZ-FSD, LZ-MDK and LZ-MDL, if one engine is inoperative, it is not permitted to use the autopilot to perform NPA in the following modes: **FINAL APP, NAV V/S, NAV/FPA.** Only FD use is permitted.	
	N			Y
GUIDANCE MODE	**FINAL APP**			**NOT ALLOWED** RNP/RNAV Approach to LNAV Minima using FPA-NAV may be available
SOP	• Insert RWY THR to PROG page			

CALLOUTS	• FMA Change Calls (Guidance)
	• ALV vs DIST checks (Reference to ND TO Waypoint)
	• Deviation Calls
	  • XTK > 0.1 NM
	  • V/DEV > ½ Dot			

GO-AROUND IF NOT VISUAL	• XTK > 0.3 NM • V/DEV > ¾ dot below GP • Degraded Guidance • Loss of required Equipment • If commencing a Missed Approach: - Follow special cont. missed approach, or ask for vectors			
DEGRADED GUIDANCE	• GPS PRIMARY LOST <u>on both</u> NDs • NAV FM/GPS POS DISAGREE ON ECAM • NAV ACCUR DOWNGRAD <u>on both</u> FMGS			

2-14-4 APPROACH SUMMARY – RNP APPROACH TO LNAV MINIMA

Applicable to: ALL

RNP/RNAV APPROACH TO LNAV MINIMA

	OPERATOR	CREW	AIRCRAFT	AIRPORT
REQUIREMENTS	AOC entry required: • RNP APCH	• Training • Currency	• One FMGC • One GPS • Two IRS • One MCDU • One FD • One PFD at PF • Two ND • Two FCU channels	• GND based NAVAID not required, except stated otherwise on the chart.
CONDITIONS	• DB Expired? • Approach not (correct) in DB? • GPS PRIMARY LOST? • FINAL TRK DIFF > 1°? • FPA DIFF > 0.1°? • Temperature below the minimal temperature on the chart? • QNH Remote? • TOO SEEP PATH after FDP? • Discrepancy between altimeters > 100 ft?	Y	• DB Expired? • Approach not (correct) in DB? • GPS PRIMARY LOST? • FINAL TRK DIFF > 1°?	
	Applicable to: For LZ-FSD, LZ-MDK and LZ-MDL, if one engine is inoperative, it is not permitted to use the autopilot to perform NPA in the following modes: **FINAL APP, NAV V/S, NAV/FPA.** Only FD use is permitted.	N		Y
GUIDANCE MODE	**FINAL APP**		**FPA-NAV**	
SOP	• Insert RWY THR to PROG page • Increase MDA by 30 ft (to convert MDA to DA for CDFA)			

CALLOUTS	• FMA Change Calls (Guidance)
	• ALV vs DIST checks (Reference to ND TO Waypoint)
	• Deviation Calls
	  • XTK > 0.1 NM
	  • V/DEV > ½ Dot (Only FINAL APP)
				NOT ALLOWED

GO-AROUND IF NOT VISUAL	• XTRK > 0.3 NM • V/DEV > ¾ dot below GP (Only in FINAL APP) • Degraded Guidance • Loss of required Equipment • If commencing a Missed Approach: - Follow special cont. missed approach, or ask for vectors			
DEGRADED GUIDANCE	• GPS PRIMARY LOST <u>on both</u> NDs • NAV FM/GPS POS DISAGREE ON ECAM • NAV ACCUR DOWNGRAD <u>on both</u> FMGS			

2-14-5 APPROACH SUMMARY – NPA BASED ON GND NAVAID

Applicable to: ALL

NPA BASED ON GND NAVAID (VOR AND NDB) APPROACH

	AIRCRAFT			AIRPORT
REQUIREMENTS	• One FMGC • One GPS • Two IRS • One MCDU • One FD in TRK-FPA	• One PFD at PF • Two ND • Two FCU channels • VOR/ADF/DME to monitor raw data		• GND based NAVAID not required.
CONDITIONS	• DB Expired? • Approach not (correct) in DB? • GPS PRIMARY LOST? • FINAL TRK DIFF > 1°? • FPA DIFF > 0.1°? • Temperature below the minimal temperature on the chart? • QNH Remote? • TOO STEEP PATH after FDP?		Y • DB Expired? • Approach not (correct) in DB? • GPS PRIMARY LOST? • FINAL TRK DIFF > 1°?	
	• Discrepancy between altimeters > 100 ft? Applicable to: For LZ-FSD, LZ-MDK and LZ-MDL, if one engine is inoperative, it is not permitted to use the autopilot to perform NPA in the following modes: FINAL APP, NAV V/S, NAV/FPA. Only FD use is permitted.		N	Y
GUIDANCE MODE	**FINAL APP**		**FPA-NAV**	**FPA-TRK**
SOP	• Insert RWY THR to PROG page • Increase MDA by 30 ft (to convert MDA to DA for CDFA) • Insert approach NAVAID to RAD NAV as required to monitor deviation and ALT			
CALLOUTS	• VS • FMA Change Calls (Guidance) • ALT vs DIST checks (Reference to ND TO Waypoint) • Deviation Calls – XTK >0.1NM – V/DEV >½ Dot (Only FINAL APP) – VOR: ½ Dot or 2.5° – NDB: 5°			Distance Checks • Same as for FINAL APP and FPA-NAV • Deviation calls:
GO-AROUND IF NOT VISUAL	•Loss of ground NAVAID indication •If lateral Guidance is not satisfactory and no visual contact: Continue in FPA-TRK Mode; or APPROACH SUMMARIES A320/A3-21Go-around			

DEGRADED GUIDANCE	– LOSS OF RADIO NAVAID – POSITION ACCURACY DEGRADES – IR ALLIGNMENT DRIFT – FMS NO LONGER ENSURE SUFFICIENT ACCURACY – DME UPDAITING IS LOST (NAV ACCURACY LOW)

2-14-6 APPROACH USING FINAL APP GUIDANCE FOR RNP (VPT)

Refer to: FCOM – PROCEDURES - NORMAL PROCEDURES - STADARD OPERATING PROCEDURES – APPROACH - AIRCRAFT GUIDANCE -APPROACH USING FINAL APP GUIDANCE FOR RNP (VPT)

2-14-6 APPROACH SUMMARY – SRA APPROACHES

Applicable to: ALL

SRA APPROACHES	
REQUIREMENTS	• Continuous VHF communication with the Approach Controller must be available.
CONDITIONS	**N/A**
GUIDANCE MODE	**FPA-TRK**
SOP	• Insert RWY THR to PROG page • Increase MDA by 30 ft (to convert MDA to DA for CDFA)
CALLOUTS	• FMA Change Calls (Guidance)
GO-AROUND IF NOT VISUAL	• Loss of communication with the Controller. If no visual, perform a Go-around.

ABNORMAL AND EMERGENCY PROCEDURES

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3-1 GENERAL

3-2 FAILURE GUIDANCE

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Localization Title	Toc Index	ID	Reason
3-2-3 UNPRESSURUSED AND PARTIALLY PRESSURISED FLIGHT	C	1	EMERGENCY DESCENT PROCEDURE UPDATE
3-2-6 ENGINE FAILURE AND CONTINGENCY PROCEDURES	F	2	ENGINE FAILURE BELOW 1000 FT UPDATE

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3-1-1 GENERAL INFORMATION

Applicable to: ALL

Refer to: FCOM PRO-ABNORMAL AND EMERGENCY PROCEDURES
Refer to: FCTM PR-AEP
Refer to: FCTM AOP-MANAGEMENT OF ABNORMAL OPERATIONS
Refer to: FCTM AOP-Golden Rules for Pilots

For NAT HLA contingency and emergency procedures, *Refer to: OM-C 10-1-6 NORTH ATLANTIC HIGHLEVEL AIRSPACE.* All flight deck crew must retain a good working knowledge of the entire CCOM.

3-1-2 FLIGHT DECK PROCEDURES

Applicable to: ALL

Refer to: [FLT 6.14.6]

Provided the aircraft is in-flight and the nominated sector PF has the appropriate instrumentation available and is not incapacitated, no role change needs to occur for any abnormal or emergency situation. However, this is subject to the Commander's discretion and authority for particular events and may also take into account the experience of the co-pilot. It is the sole right of the Commander to decide on the specific roles and task assignment for each crew member in abnormal or emergency situations.

On the ground (after landing included), when an emergency or abnormal situation occurs, the CM1 shall assume the PF role in preparation for an eventual evacuation.

Note: RTO and EVAC are always done with CM1 as PF.

For low and high speed rejected take-off, refer to the FCTM. *Refer to: FCTM PR-AEP-MISC-REJECTED TAKEOFF*

Abnormal and emergency procedures frequently require a high degree of CRM. It is recognized that it may not always be possible to follow the task sharing philosophies used during normal operations. However, the crew shall adhere as closely as possible to normal procedures.

When an emergency situation arises, the Commander turns the 'SEAT BELT' sign ON. This is to ensure passengers are seated and ready to receive instructions from the cabin crew.

3-1-3 ECAM PROCEDURES/TASK SHARING/PHRASEOLOGY

Applicable to: ALL

Refer to: FCTM AOP-MANAGEMENT OF ABNORMAL OPERATIONS-HANDLING OF ECAM -QRH / OEB

The success to dealing with any emergency/abnormal situation is clear and unambiguous task sharing and precise and concise communication.

- When an emergency/abnormal situation is recognised:
  - First and foremost, fly the aircraft.
  - The first pilot to notice (usually PM) resets the master warning/caution pushbutton and simultaneously announces the title of the failure.
  - A MASTER WARNING requires immediate action but does not take priority over the safety of the aircraft. The Airbus Golden Rules must be adhered to.
- **FLY / NAVIGATE / COMMUNICATE** in this order with appropriate task sharing
- Use the appropriate level of automation at all times
- Understand the FMA at all times
- Take action if things do not go as expected
  - A MASTER CAUTION (Level 2) requires crew action when time permits.
  - A CAUTION (Level 1) requires crew awareness only.
- Only when the flight path is safe:
  - PF confirms/announces "**ECAM ACTIONS**".
  - PM confirms the failure by reference to ECAM and local warnings (overhead system panel or pedestal).
- For ECAM:
  - When an OEB is applicable, PM calls "**OEB APPLIES**" and performs actions according to the OEB. (OEB overrides ECAM actions, so ECAM lines for the corresponding failure will be cleared one by one without performance afterwards).

CAUTION	OEBs not affecting the ECAM (ECAM ENTRY: NONE indicated in eQRH) may be necessary to be referred to at a later stage.

- PM actions the PRIMARY or INDEPENDANT failure (left side of the E/WD) according to Airbus philosophy.
- For the SECONDARY FAILURES (right side of the E/|WD), PM announces "**CLEAR (title of the system)?**" thereby asking the PF for confirmation that all actions have been taken/reviewed on the present SYSTEM PAGE. E.g., "**CLEAR HYDRAULIC?**"
- "**CLEAR (title of the system)**" is the command by the PF that the action and review are confirmed.
- Before commencing the status page, the crew must confirm if any Computer resets or Paper Checklists apply. The PF asks the PM, "**PAPER CHECKLIST, COMPUTER RESETS?**".
- For the status page, "**REMOVE STATUS**" will be used.
- "**ECAM ACTIONS COMPLETED**" is the announcement by the PM that all applicable actions have been completed.
- Shall
  FLY / NAVIGATE / COMMUNICATE principle take priority, the order "**STOP ECAM**" will be used. When ready to resume the ECAM, the order "**CONTINUE ECAM**" will be used.

SPECIAL CONSIDERATIONS FOR ENGINE FAILURE DURING TAKE-OFF

- In case of ECAM warning during the take-off phase until the aircraft reaches 400 ft AGL and a safe flight path is established, the PM shall:

  - Reset the MASTER WARNING/CAUTION P/B.
  - Announce the title of the failure only once the gear has been selected up and the failure has appeared on the ECAM.

- At 400 ft, AGL PF announces, "**ECAM ACTIONS**".

3-1-4 MEMORY ITEMS

Applicable to: ALL

Refer to: FCOM PRO-ABN-[MEM] MEMORY ITEMS

Refer to: FCOM PRO-ABN-INTRODUCTION-ABNORMAL AND EMERGENCY CALL OUTS -MEMORY ITEMS

Memory items with associated callouts are listed in FCOM. The objective is to callout the appropriate procedure. This will allow the crew to be aware of the situation and be prepared to properly react (crew coordination, task sharing and communication).

3-1-5 GUIDANCE FOR HANDLING EMERGENCY SITUATIONS

Applicable to: ALL

GENERAL ADVICE

- There is no detailed universal recipe that describes what to do and how and when to do it for all possible abnormal/emergency situations. However, some main principles and rules always assist in the efficient management of a critical situation.
- Keep things as simple as possible, do not rush, and use common sense.
- Fly the aircraft: Always apply the Airbus Golden Rules: Fly, navigate, communicate in that order. Always advise ATC with a "**PAN**" or "**MAYDAY**" call as applicable and at the appropriate time.
- Make sure one pilot is always flying the aircraft (one head up). Do not switch too frequently flying and communication duties;
- Use all resources and communicate with ATC and cabin crew as necessary.
- Be sure the right procedure is applied and follow the Airbus ECAM philosophy.
- Remember the OEB briefing before flight as certain OEBs will affect ECAM. When an OEB affects (impacts) ECAM, at the PF announcement "**ECAM ACTIONS**", the PM shall consult the relative OEB first. *(Refer to: OEBs and RESET PROCEDURES later in this section).*
- Fly the aircraft: An emergency condition (which may be associated with a red Master Warning) requires immediate action. That does not mean a rushed action. An abnormal condition (which may be associated with amber Master Caution) may tolerate a delayed action. Remember to prioritize. (Fly, Navigate, Communicate and deal with the situation).

- Whenever time is needed (to finish a procedure or to prepare for the approach), always request delaying actions by either requesting a holding pattern or delaying vectors. (A holding pattern has the advantage of reducing pilot workload and will assist the PF with his orientation to the airport).

PROCEDURES

- Fly2Sky recommends using the DODAR decision process (DIAGNOSE, OPTIONS, DECIDE, ASSIGN (ALLOCATE), REVIEW).
- Normally, the announcement by PM "**ECAM ACTIONS COMPLETED**" is the prompt for the decision process to begin (DODAR). At the very beginning of the DODAR process, the Commander shall return to the ECAM fuel page and determine the fuel status (usable fuel/endurance/any fuel loss to damage) as this is often a critical factor in the decision process. This is also a good time to consider fuel balance and cross-feeding.
- The PF keeps controls and takes the radio before the PM starts ECAM or paper checklist. This configuration is advisable until the PM has finished all procedures, has collected the different information needed for the decision process (fuel, weather, NOTAMS, runway suitability), and the assignment of duties has been allocated.
- Once the decision is made to return to the departure airport, divert, or continue to the destination airport according to **D O D** A R, the Commander shall immediately give a NITS briefing to the SCC. In this way, the SCC can prepare the cabin for either a normal or emergency landing while the flight deck crew simultaneously prepares the aircraft. *Refer to: OM-B 3-1-9 DISTRESS AND URGENCY MESSAGES* for procedures of communication with cabin crew. Normally, after the assignment/allocation of tasks according to D O D **A** R, a transfer of control takes place:

  – When preparing the approach in FMGC, if the AP is available and the aircraft navigation is safe (a holding pattern is preferred), PF shall transfer the controls to PM, and PF shall prepare the approach. Once finished, controls shall be transferred back to PF. PF briefs PM using ND / PLAN with CSTR selected, effectively remaining 'head up' and monitoring the control of the aircraft, while PM goes 'head down' checking the approach procedure in the EFB. This is the same routine as for normal operations.
  – If AP is not available or safe navigation takes priority, one pilot must be fully dedicated to aircraft control at all times. In this case, each pilot must independently check the MCDU against the published approach in the EFB. After the individual check is complete, the PF verbally briefs PM on how the approach will be flown.

- When the Crew is ready for final descent and approach, the normal task sharing is resumed (PF takes control, PM takes communications).

RECOGNISING AN ABNORMAL SITUATION

- An abnormal situation can be defined as any event which is not expected and requiring specific actions from the Crew. The abnormal situation can be environmental or related to aircraft systems.
- The cockpit crew can be alerted in different ways, for example:

  – Master caution/warning light.
  – Other signs are given by the aircraft (aural/visual alarms, noise, vibration or deviation from commanded parameters, unusual scent etc.).
  – Cabin crew (medical cases, bomb on board, smoke etc.).
  – Cockpit crew incapacitation signs.
  – ATC/ATIS/ACARS (bomb on board, airport closure, unexpected bad weather, last-minute change of approach procedure, radar failure etc.).
  – Other external actors (on the ground by other aircraft, fire brigade, ramp agent etc.).

  <u>Note:</u> Unexpected bad weather:

  - *Last-minute change of approach procedure.*
  - *Unavailability of expected radar vectoring etc., must be identified by the crew as an abnormal situation. Many serious events have their origin in one of these factors, associated with time pressure (fuel concern, commercial pressure etc.).*
  - *Adopting as necessary 'DODAR', 'NITS' and the general failure management process to 'NON-TECHNICAL' abnormal situations will assist the crew in managing the situation.*

MONITORING THE FLIGHT PATH AND NAVIGATION

- The first concern of both pilots shall always make sure the aircraft is flying safely or to act in order to recover a safe condition and to capture and maintain the desired targets. It means:

  – In case of IDENTIFIED EMERGENCY SITUATIONS WITH MEMORY ITEMS: For PF to immediately apply the procedure. In cases calling for a REJECTED TAKE-OFF: To positively decide ("**STOP**" call initiated by CM1) and to concentrate on bringing the aircraft safely to a complete stop within the runway.
  – In case of a major failure at or after to concentrate on getting the aircraft airborne (at the correct pitch attitude) and following the engine-out procedure.
  – In all cases, for PF to make sure the aircraft is following the given clearance in a safe condition and with all adequate automation engaged.

- During these critical phases, there is no room (and no need) for radio calls or system analysis. The PM shall backup the PF by:

  – Closely monitoring the flight parameters, calling for any excessive deviation.
  – Carefully following the flight profile and clearances, calling for configuration changes and deviation from clearances.
  – The crew shall always know where they are, where they shall be and where the terrain and obstacles are.

PRIORITISATION

- Announcing "**I HAVE COMMUNICATIONS**" does not mean a radio communication has to be immediately done. The priority is always to fly and secure the aircraft and its systems. The initial call to ATC must be short and precise, always using the standard phraseology (PAN or MAYDAY), briefly stating the problem, or if time is limited, "**SOFIAJET MAYDAY / PAN, STANDBY**".
- After that, the normal task sharing for failure applies. It means:

  – The PF is responsible for aircraft handling, navigation and communications. He also orders the different steps of the ECAM/paper checklist procedure and shall, whenever possible, have an overview of the PM during the ECAM/paper checklist actions.

– The PM performs the ECAM procedure or the read-and-do checklist. He also assists, when requested, the PF. PM has also to cross-check all changes in flight parameters and navigation (FMA). The workload on the PM can be demanding, and a high degree of CRM is required. Work as a team.

3-1-6 SYSTEM FAILURES/ECAM PROCEDURES AND PAPER CHECKLISTS

Applicable to: ALL

- The PM reads the ECAM and checklists, performs ECAM actions on PF command, requests PF confirmation to clear actions, and performs actions required by the PF.

  Note: The PM never touches the thrust levers, even if requested by the ECAM. Thrust levers have to be operated by the PF and only after confirmation by the PM.

- Some selectors or pushbuttons (including the ENG MASTER switch, FIRE P/B, IR, IDG and in general, all guarded switches) must be crosschecked by both the PF and PM before the guard is raised or they are moved or selected to prevent the flight crew from inadvertently performing irreversible actions.
- To avoid mistakes in identifying the switches, Airbus overhead panels are designed to be uncluttered. When the ECAM requires action on the overhead panel pushbuttons or switches, the correct system panel can be identified by referring to the white name of the system on the side of each panel.
- When performing any action, the PM shall follow the sequence: 'System, then switch/selector, then action' and verbalise this to the PF (e.g., "**AIR, CROSS BLEED, CLOSE**"). Announcing selections enables the PM to keep the PF aware of the progress of the procedure.
- It is important to remember that if a system fails, the associated FAULT light on the system P/B (located on the overhead panel) will be illuminated to enable correct identification. Remember also that engine FIRE lights are located on both overhead panel and pedestal adjacent to ENGINE MASTERS for positive identification.
- When selecting a system switch or P/B, the PM shall check the SD to verify that the selected action has occurred (e.g., closing the cross-bleed valve shall change the indications that appear on the SD).
- When the ECAM displays several failures or a combination of failures, the sequence 'action, when request and confirmation before clearance' shall be repeated for each failure. When all necessary actions are completed, the failures will disappear from the E/WD.
- When the ECAM displays several system pages, the sequence (request and confirmation before removing) shall be repeated for each system page.

- The PF may order "**STOP ECAM**" at any time if the safety of the flight is threatened or other specific actions must be performed (e.g., paper checklist or performing a computer reset). When the action is completed, the PF must order "**CONTINUE ECAM**".
- When the flight crew selects FLAP 1 for approach or sets QNH during descent, the SD automatically displays the STATUS. The STS shall be carefully reviewed, and the required procedure applied if not already completed.
- When ECAM actions have been completed and the ECAM status has been reviewed, the PM may refer to the FCOM procedure for supplementary information if time permits. However, in critical situations, the flight shall not be prolonged to consult the FCOM.
- If an ECAM warning disappears while a procedure is being applied, the warning can be considered no longer applicable. Application of the procedure can be stopped. For example, during the application of an engine fire procedure, if the fire is successfully extinguished when the first fire agent is discharged, the ENG FIRE warning disappears, and the procedure no longer applies.
- In the case the aircraft is stopped, and the parking brake set ON, the PM still reads and performs the actions, but confirmation by PF of irreversible actions is NOT required.

LAND ASAP ON ECAM

RED = Land as soon as possible at the nearest suitable airport at which a safe approach and landing can be made.

AMBER = Advice to the flight crew to consider landing at the nearest suitable airport.

Note: A 'suitable airport' means a choice, and a 'safe approach and landing' means preparation.

FAILURE OF ECAM MEMO

In case of a failure of its item(s), the ECAM MEMO (T/O or LDG) may not be indicated properly. As a consequence, may not be used as an electronic checklist. For such cases, the following paper checklists are provided.

These checklists shall be used only as a result of ECAM TAKE-OFF or LANDING MEMO failure/not available (including when the aircraft is dispatched in accordance with MEL 31- 08-03).

3-1-7 OEB AND RESET PROCEDURES

Applicable to: ALL

The OEBs are reviewed during cockpit preparation to identify the OEBs affecting ECAM. In the event of an in-flight failure, the OEBs affecting ECAM (marked "ECAM ENTRY: ") will be followed instead of ECAM. For Tripped C/B reengagement, *Refer to: eQRH ABNORMAL AND EMERGENCY PROCEDURES-ELEC-C/B TRIPPED*.

The order is, therefore:

1. After confirmation of failure, PF orders as usual "**ECAM ACTIONS**".
2. PM announces "**OEB APPLIES**" and deals automatically at this stage with OEBs (if affecting ECAM).
3. PM thenrequests "**CLEAR___?**" (the ECAM actions replaced by the OEB).
4. PF confirms "**CLEAR___**".
5. PM announces "**STATUS**" when the STS page is presented.
6. PF orders: "**STOP ECAM, PAPER CHECKLIST, COMPUTER RESET**?"

Note: If an engine relight is considered (after failure without damage), it is performed at this stage, provided that the aircraft is above sector MSA.

Corrections for landing shall be done after the STS (inoperative systems) are completed (in conjunction with the DODAR process) as the assessment of the IFLD (after failure) may affect the decision process.

eQRH checklists for complex/heavy failures are also reviewed immediately after the ECAM is completed as part of the decision process as there may be an additional impact on the approach and landing.

3-1-8 DISTRESS AND URGENCY MESSAGES

Applicable to: ALL

Refer to: [FLT 3.14.11]

When an aircraft suffers an accident or incident, radio messages are classified according to the following priority:

1. Emergency call
2. Urgency call
3. ATC messages
4. Messages relating to flight information between the company (OCC/MCC) and crew

DEFINITION OF AN EMERGENCY (DISTRESS) CALL

A Mayday or distress situation is one in which a vessel, aircraft, vehicle, or person is in grave and imminent danger and requires immediate assistance.

Emergency calls have absolute priority above all other types of communication and must contain all the following information in the given sequence and format:

1. "**MAYDAY, MAYDAY, MAYDAY**";
2. Name of station addressed;
3. Call sign and standby if time is critical; or
4. Nature of the emergency (concise and precise);
5. Position, flight level and heading (as appropriate);
6. Intensions (if decided) or standby (or further information).

DEFINITION OF URGENCY CALLS

A situation of a lower order than a "grave and imminent danger requiring imminent assistance" such as a system failure or a medical problem.
Urgency calls have priority above all other types of communication except emergency calls and must contain all the following information in the given sequence and format:

1. "**PAN-PAN, PAN-PAN, PAN-PAN**";
2. Name of station addressed;
3. Call sign and standby if time is critical; or
4. Nature of the urgency (concise and precise);

5. Position, flight level and heading (as appropriate);
6. Intensions (if decided) or standby (for further information).

Emergency and Urgency calls are made on the frequency in use at the time. In case no contact can be established, 121,500 MHz must be used for emergency calls.

3-1-9 GUIDANCE FOR DECISION MAKING

Applicable to: ALL

Fly2Sky implemented a preferred decision-making model, called 'DODAR': **D** (Diagnosis), **O** (Options), **D** (Decision), **A** (Assign or Allocate duties), **R** (Review). The model must Include all relevant crewmembers in the process and follow a structured scheme as suggested below, which will assist the process and shall result in logical decisions:

DIAGNOSIS

Keep the process as simple as possible (using the KISS principle). TIME – FUEL. Always begin the decision process with a careful review of the fuel status. The exception is if an immediate landing is required due to smoke, fire or any other high-level emergency. The fuel review shall consider quantity, balance and consumption. Remember that a wing tank that is leaking fuel shall normally be considered unusable. If the emergency or abnormal situation is not time-critical (such as smoke or fire), time will be dictated by usable fuel. Obviously, a fuel leak may quickly lead to a time-critical situation.

OPTIONS

Look for obvious and simple solutions. Assess the time and fuel available. Collect information on suitable airport/runway combinations according to time and fuel and ensure a safe landing can be made (including the 15% company margin) when time or fuel is not limiting. Evaluate the time required for landing (for the subsequent NITS briefing to the SCA and for the ATC update).

DECISION

Keep the process as simple as possible. Use good CRM and arrive at a logical decision. Do not procrastinate. While crew inputs are important (according to good CRM practice) in order to arrive at a timely and suitable outcome, the final decision always remains with the Commander.

ASSIGN TASKS/COMMUNICATE

Once the decision is made by the Commander, he shall allocate tasks according to the situation. Task allocation in the cockpit shall be done according to:

- The workload with regard to the experience of the co-pilot.

Once the allocation of tasks is made, the Commander shall immediately give the NITS briefing to the SCC. This allows both the cabin and cockpit to be prepared simultaneously. A passenger PA shall be made at an appropriate time, generally during a lower workload period. Next steps:

- Monitor the situation. If new factors appear, make sure the plan is still able to reach the objective. Stay organised.
- Remember, there may be the deferred checklist items requested by the procedures.
- Ask for updates from ATC so as to not be surprised by unexpected elements during the final stages of the flight.
- Keep a high situational awareness of time, weather and fuel.

PREPARE THE AIRCRAFT

- The PF shall hand over control and communications to PM during approach preparation.
- If the CM1 must fly the aircraft, the approach preparation defaults to CM2.

BRIEF THE APPROACH

When preparing the approach and landing in the FMGC, there are two options:

- If the AP is available and navigation is safe (preferably in a holding), the PF shall take the controls. Communications remain with the PM as usual. The PF shall then initiate the briefing as usual.
- If the AP is not available or safe navigation takes priority (e.g., being radar vectored), one pilot must be fully dedicated to aircraft control. When this option is used, each pilot must self-brief himself using MCDU versus Jeppesen FD Pro X content while the other pilot retains control and communications. When no differences are found, PF shall then take the controls and initiate the briefing.

REVIEW

A brief review shall include the following:

- Fuel status/weather update?
- Is the cabin prepared, has cabin crew and ATC been updated and have the passengers been informed?
- Has the briefing been completed?
- Has anything been overlooked?

CAUTION	Never rush for the approach, be fully prepared and ask for proper guidance.

3-1-10 CABIN CREW COMMUNICATION

Applicable to: ALL

Refer to: [FLT 3.13.3], [FLT 3.14.13]

All pilots shall be familiar with the content of the Cabin Crew Operation Manual (CCOM) in order to understand what actions are expected by CCM from the flight deck crew and what actions the flight deck crew expect from CCM.

An emergency may result in either a PREPARED or an UNPREPARED emergency landing or ditching. Crew actions depend on the time available. Procedures can never guarantee to cover every eventuality.

DOOR NUMBERING

Fly2Sky cabin attendants are trained to use a door numbering system that includes all exits. For simplification of procedures, the below door numbering is used throughout the entire A320 family:

- The forward main passenger doors are 1L and 1R,
- The rear main passenger doors are 4L and 4R.
- Applicable: to A320 CEO

  -The overwing emergency exits are 2L/R and 3L/R
- Applicable: to A321 CEO

  - The emergency exits are 2L/R and 3L/R

NITS BRIEFING

In the event of an abnormal or emergency situation and when time permits, the Commander is to fully brief the SCC on the situation using the following format:

Always start the communication with the SCC with: "**THIS IS A NITS BRIEFING**".

- Nature of the emergency.
- Intentions (return, diversion or continuation to destination).
- Time remaining before landing.
- Special instructions. In the special instructions, the Commander is to clearly instruct the SCC whether to prepare the cabin for 'NORMAL' or 'EMERGENCY' landing.

A NITS briefing must be read back by the SCA (to make sure there is no misunderstanding).

Note: The NITS format (without using the acronym) is also practical for communicating about an abnormal situation to ATC, OCC etc.

		To SCC	To ATC	To Passengers
N	Nature	Be precise but not too technical. (A controller or SCC doesn't know what an IRS is but understands when you have a navigation problem.)		Minimise the problem but stay credible.
I	Intentions	What is your decision (return to departure, diversion, continue)		
T	Time	Be precise		Overestimate the required time to land
S	Specials	Order: - Normal Landing - Emergency Landing - Any other specials	Ask: - Vectors - APP type and runway - Ground assistance - Any other Specials	Ask them to follow the Cabin Crew Orders strictly

Whenever possible, to avoid alarming passengers unnecessarily, the SCC shall be called to the flight deck using the normal crew call functions. However, if an urgent need to brief the SCC arises, the Commander shall make the PA announcement "**PURSER TO THE COCKPIT PLEASE!**" or use the EMER CALL button. (This causes a triple Hi-Lo chime and flashing crew call lights in the cabin and an EMERGENCY CALL message on Attendant Information Panels).

In time-critical situations prior to an emergency landing, it may not be possible for either crew to give a full NITS briefing, and the Commander shall adapt to the situation.

Before starting an approach, when cabin crew reports "cabin is ready" back to Commander, update cabin crew on expected time till landing.

PHRASEOLOGY DURING ABNORMAL AND EMERGENCY SITUATIONS

FROM	TO	PHRASEOLOGY	REMARKS
COCKPIT	CABIN	PA: "**PURSER TO COCKPIT, PLEASE!**"	The Purser, or any other cabin crewmember, must go to the cockpit. It is used also in case of Flight crew member incapacitation.
COCKPIT	CABIN	PA: "**FINISH PREPARATION**"	The cockpit crew gives this order a short time before an emergency landing.
COCKPIT	CABIN	PA: "**BRACE FOR IMPACT**"	The cockpit crew announces to brace for impact approximately 1 min before landing.
COCKPIT	CABIN	PA: "**ATTENTION CREW! AT STATIONS!**"	An emergency evacuation may soon be required.
COCKPIT	CABIN	PA: "**CABIN CREW AND PASSENGERS REMAIN SEATED!**"	The captain decides that an evacuation is not required
COCKPIT	CABIN	PA: "**EVACUATE, EVACUATE**"	The captain orders an immediate evacuation
CABIN	COCKPIT	Interphone: "**PRIO CAPT**"	Any crew member can make such a call. The flight crew must reply. It is used in case of cabin crew member incapacitation.
COCKPIT	CABIN	PA: "**CABIN CREW TAKE YOUR SEATS**"	When encountering moderate or severe turbulence.

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3-2-1 CREW INCAPACITATION

Applicable to: ALL

Refer to: FCTM PR-AEP-MISC Flight Crew Incapacitation

- Immediately take controls and communications.
- Use maximum automation.
- On Take-off, climb to MSA. On descent monitor MSA. On approach consider Go-around. In either case, consider a HOLD.
- ATC: Declare a MAYDAY
- When the situation is under control, request assistance from the SCC: PA "**PURSER TO COCKPIT**"
- Decide on a plan. (Use DODAR):
  - Although medical assistance for the victim is vital, a safe approach and landing at the nearest suitable airport is the overriding factor. Choose an airport and runway approach that will allow maximum automation and reduced workload for single crew operation.
  - Inform the SCC using a standard NITS briefing after a plan is made.
- Adhere to SOP. Ensure you are thoroughly self-briefed for the approach and all necessary checklists are completed in an unhurried manner before starting the approach.
- After landing and, if necessary, taxi to the gate slowly to retain situational awareness due to single crew operations.
- Do not use an aerobridge.
- After the engine shut-down cycle the 'SEAT BELT' sign OFF/ON.
- The SCC will order all doors disarmed and passengers to remain on board while Emergency Medical personal remove the incapacitated crew member.

3-2-2 FIRE AND SMOKE DRILLS

Applicable to: ALL

Refer to: FCOM PRO-ABN-SMOKE
Refer to: FCTM PR-AEP-SMOKE

LITHIUM BATTERY FIRE IN THE CABIN

Many Portable Electronic Devices (PED) carried onboard the aircraft (e.g., smartphones, laptops, tablets) are powered by Lithium batteries. Lithium batteries are capable of ignition

and subsequent explosion due to overheating. Overheating may be caused by shorting, rapid discharge or overcharging.

The procedure for fighting a lithium battery fire consists of two phases:

- Extinguish the fire.
- Cooling the remaining cells to stop the thermal runaway.

The following steps shall be followed by CCM in case of a Lithium Battery fire:

- Put on PBE.
- Relocate the passengers away from the device.
- Use Halon to extinguish the fire.
- Move the PED away from passengers. Another CCM shall locate an empty atlas box and move it near the PED location to facilitate the removal of the device. In any case, the device shall not be relocated uncontained.
- Do use water or non–combustible liquid in order to cool the device immediately after extinguishing the fire. This will prevent additional battery cells from reaching the thermal runaway.
- Repeat firefighting if necessary.
- Monitor to ensure the fire remains out.

WARNING	Do not cover the device or use ice to cool the device. Ice or other materials insulate the device, increasing the likelihood that additional battery cells will reach the thermal runaway.

LITHIUM BATTERY FIRE IN THE COCKPIT

Refer to: FCOM PRO-ABN-SMOKE SMOKE-FIRE FROM LITHIUM BATTERY

3-2-3 UNPRESSURISED AND PARTIALLY PRESSURISED FLIGHT

Applicable to: ALL

Refer to: [FLT 3.11.49], [FLT 3.14.10]

PARTIAL PRESSURISATION FAILURE

Partial pressurization failure might be due to a faulty 'PACK' supply or a failure in the pressurisation control itself.

- Commence troubleshooting using ECAM and/or eQRH.
- During the climb, consider reducing speed (possible return) and or stopping the climb during the troubleshooting process.

At a high-altitude climb, consider advising the SCC to terminate any cabin service.

During cruise, consider descending to a lower altitude (particularly during a single PACK operation) if PACK performance is suspected.

TOTAL LOSS OF PRESSURISATION

Follow first the Memory Items, then ECAM or eQRH procedures. When necessary (ECAM or Commander's decision), perform emergency descent.

Fly2Sky applies the following steps in case of "Emergency Descent":

The procedure starts with "Navigate as deemed appropriate by the pilot", which gives the pilot full discretion to navigate as needed – possibly turning, possibly descending straight ahead.

EMERGENCY DESCEND	
PF	**PM**
OXY mask ON	OXY mask ON
Intercom ON. Establish communication "CAPTAIN ON OXYGEN"	Intercom ON. Establish communication "FIRST OFFICER ON OXYGEN"
CALL – "EMERGENCY DESCEND" "ECAM ACTION"	Start to perform the memory items than check ECAM (QRH if ECAM NA)

INITIAL ACTIONS	
1. ALT – turn and pull 2. HDG – turn and pull / pull 3. SPD – pull and select IAS 4. FMA – read 5. SPD BRK ½ check Vls than SPD BRK full (if damage use with care)	- Signs ON - ENG mode sell - IGN - ATC – 7700 - FMA check (answer to PF) - Report to ATC 'MAY DAY, MAY DAY, MAY DAY this is VAW001 on emergency descent due to decompression" - PAX oxy mask ON (only if CAB ALT ≥14000 ft)
- Adjust parameters 1. ALT-FL 100 (or MSA if higher) 2. HDG 90° L/R (for RVSM) 3. SPD (if damage ≤ present speed), (if no damage MAX MACH/SPEED, EXPEDITE could be used)	- ECAM check actions completed
	- Check MSA
CLOSING FL 100 OR MSA (whichever is higher)	
	Announce "2000' TO LEVEL OFF"
Retract speed brakes to level of at FL 100 or MSA	
	FMGS, QRH check fuel required
AT FL 100 OR MSA	
CAPTAIN - PA	
1. "Cabin crew, safe altitude" 2. Dodar 3. "PURSER TO COCKPIT, PLEASE" call by the Captain (NITS briefing).	
Decision making to divert or proceed to destination. Check PAX condition.	

- It takes 4 min and 40nm to descend from FL 390 to FL100 - high speed and SPD BRK extended (V/S ~7000'/min). The flight crew shall be aware that the MORA – displayed on ND is the highest MORA value within a radius of 40 NM around the aircraft.
- Bellow FL250 and V <250kts/MO.6 consider landing gear down
- OXY mask OFF at 10 000' cabin altitude.
- Reset control slide on mask box in order to deactivate the mask microphone and to be able to use headset mic. If OXY door is closed OXY flow is **stopped!!!**

Additionally, refer to:
Refer to: FCOM PRO-ABN-MISC [MEM] EMER DESCENT
Refer to: FCOM PRO-SPO-20-Flight Without Cabin Pressurization
Refer to: QRH ABN MISC EMER DESC

3-2-4 OVERWEIGHT LANDING

Applicable to: ALL

Refer to: FCOM PRO-ABN-MISC OVERWEIGHT LANDING.
Refer to: FCTM PR-AEP-MISC OVERWEIGHT LANDING
Refer to: eQRH ABN-MISC Overweight Landing

3-2-5 LIGHTNING STRIKES

Applicable to: ALL

A lightning strike is a common event. However, it can usually be avoided by using precautionary measures. It can be distressing to crew and passengers. A lightning strike is generally not life-threatening to aircraft occupants but can be a hazard to aircraft equipment and flight safety.

The best precaution is to avoid CBs wherever possible by following company procedures. After a lightning strike has occurred, the flight crew shall carry out a routine check of communication and navigation equipment. If equipment is unaffected, continuation to destination is advisable.

Post-flight actions following a lightning strike:

- Contact MCC for further action.
- It is mandatory to submit an ASR post-flight.

3-2-6 ENGINE FAILURE AND CONTINGENCY PROCEDURES

Applicable to: ALL

Refer to: FCOM PRO-ABN-ENG-ENGINE 1(2) FAIL
Refer to: FCOM PRO-ABN-ENG-ENGINE 1(2) SHUTDOWN
Refer to: FCTM PRO-ABN-ENG-ENGINE FAILURE GENERAL

Handling an engine failure at a critical time requires a high level of crew awareness that can only be possible by strict adherence to SOP, precise flying and good knowledge and application of ECAM procedures. Therefore, the following guidelines supplement the information given in the Airbus standard engine-out flight profiles/procedures.

During the cockpit preparation phase, when Standard EFP is expected, the PF shall insert a waypoint, which creates a 20NM long extended centreline using the PBD function.

ENGINE FAILURE/FIRE DURING TAKE-OFF

Refer to: FCTM PR-AEP-ENG Engine Failure after V1

Fly the aircraft:

- Keep straight using the runway visual references.

- Smoothly rotate to the correct pitch attitude at the right rate.
- At 50 ft, the flight controls transit to Flight Mode, and the blue Beta Target replaces the sideslip indicator. Trim the rudder. Adjust the pitch. SRS gives speed guidance when in flight mode.
- Engage the AP, consider TOGA and follow the specified EFP or Special EFP.

Note: For a straight flight path, and if NAV has engaged, select RWY HDG with drift allowance. For a straight flight path, if RWY TK has engaged, keep RWY TK.

- At 400 feet AAL, if the flight path is safe, PF announces, "**PULL HEADING, ACTIVATE SECONDARY FLIGHT PLAN**" The Secondary Flight Plan will be activated only if it is intended to be flown. The crew may decide to fly the EOSID in HDG if applicable.
- After being established on the extended centerline, the PF orders "**ECAM ACTIONS**"
- PM confirms the failure using E/WD and local warnings on overhead panel/pedestal;
- When the engine is secured, PM announces, "**ENGINE SECURED**".
- When the engine is secured, PF announces "**STOP ECAM**" and commences to clean up the aircraft whilst simultaneously following the specified EFP procedure.

Note: Company minimum engine-out acceleration altitude is 1500 feet AAL or as specified in the Special EFP, or when engine is secured, whichever comes later. If the acceleration has commenced normally at 1 000 feet when an engine fails, select TOGA and climb to 1 500 feet (or as specified)/ENGINE SECURED before clean-up.

For a Standard EFP, the turn towards the nominated fix is made after the acceleration and clean-up in NAV. However, if a turn (SID) has commenced when an engine failure is experienced, continue the turn (SID), select TOGA and climb to MSA before commencing the clean-up. (Do not turn back to follow the EFP or Special EFP).

When following the EFP or SPECIAL EFP, the initial turn shall always be done using HDG to ensure the turn is done in the correct direction. Activate the SEC F-PLN only after the initial turn is made.

- Approaching Green Dot, select OP CLB, MCT and climb to at least MSA.
- PF announces "**CONTINUE ECAM**".
- Upon completion of the ECAM, PM announces "**ECAM ACTIONS COMPLETED**".

- Begin the decision process ('DODAR') commencing with Fuel status. Consider using FUEL X-FEED to maintain balance if no fuel leak is evident

CAUTION	Selecting TOGA after exiting the SRS mode (OP CLB) when Slats are extended will trigger the GO-AROUND mode. If a fuel leak is evident, use the eQRH FUEL LEAK procedure. Consider fuel from a leaking fuel tank to be unusable for endurance purposes.

ENGINE FAIL/FIRE IN CLIMB/CRUISE/APPROACH/LANDING/GO-AROUND

Refer to: FCTM PR-AEP-ENG
Refer to: FCOM PRO-ABN-ENG-ENG 1(2) FAIL
Refer to: FCOM PRO-ABN-ENG-ENG 1(2) FIRE (IN FLIGHT)

When performing a go-around with one engine inoperative, the crew shall follow the missed approach procedure described on the approach plate, unless unable to follow it due to performance restrictions. In that case the crew shall establish a contingency procedure which may be the Engine Out Procedure for the intended runway.

ENG FAILURE below 1000 ft.

- Continue the approach — do not disconnect automation
- Set thrust MCT
- If the failure occurs above 400 ft RA:
  - Continue the approach
  - The aircraft must remain stabilized on the ILS;
  - Autoland capability is maintaining sufficient for landing (CAT 3 SINGLE or CAT 2)
- No ECAM action except if required for safety
- Perform Go-around if no visual references at the DA/DH.

ENG FIRE below 1000 ft – continue approach
It is a high-urgency and time-critical situation.

Principles:

- Fly the aircraft (PF)
- PM – Follow the LVO procedure. No ECAM action.

When landing with one engine out, consider resetting rudder trim during the flare. Discuss this during the approach preparation.

ALL-ENGINE FLAME OUT

Refer to: FCTM PR-AEP-ENG-ALL ENGINES FAILURE

- In case of low altitude, or short time is available before touchdown:

Refer to: eQRH EMER LANDING ALL ENG FAILURE
Refer to: FCOM PRO-ABN-MISC-[QRH] EMER LANDING ALL ENG FAILURE

- Otherwise

Refer to: FCOM PRO-ABN-ENG-[QRH] ALL ENGS FAIL or ENG DUAL FAILURE ENGINE RELIGHT

The final decision to attempt or not an engine relight is always at the Commander's discretion. There can be situations in which the following might need to be disregarded.

3-2-7 SYSTEM FAILURES

Applicable to: ALL

Refer to: FCOM PRO-ABN

3-2-8 DIVERSION AFTER SERIOUS TECHNICAL FAILURE

Applicable to: ALL

Generally, use the following parameters as a guide to assist in decision making:

- **LAND ASAP AMBER** Consider landing at the nearest suitable airport where a landing can be made using all the normal parameters for IFLD WITH FAILURE, including COMPANY MARGIN of 15%.
- **LAND ASAP RED** Land at the nearest suitable airport where a landing can be made using all the normal parameters for IFLD WITH FAILURE 7-1
including COMPANY MARGIN of 15%. If the flight is TIME or FUEL limited, dispensing with the COMPANY MARGIN of 15% is at the Commander's discretion.

3-2-9 GROUND PROXIMITY WARNING SYSTEM

Applicable to: ALL

Refer to: (CAT.IDE.A.150), (AMC1 CAT.IDE.A.150), (GM1 CAT.IDE.A.150), [3.14.9]

When a GPWS warning occurs, pilots shall immediately, and without hesitation evaluate the warning, execute the pull-up action recommended in the relevant Aircraft Operations manual , depending on the aircraft type. An immediate maximum performance full power climb must be initiated and continued until the GPWS warning stops, and the crew determines that terrain clearance is assured.

This immediate pull-up procedure must be followed Except in clear daylight visual meteorological conditions when the flight crew can immediately and unequivocally confirm a false GPWS warning. Air traffic control (ATC) must be notified as soon as possible after an EGPWS warning.

Refer to: FCOM PRO-ABN-SURV [MEM] GPWS CAUTIONS and [MEM] EGPWS WARNINGS

3-2-10 TCAS/ACAS WARNING

Applicable to: ALL

Refer to: (CAT.IDE.A.155), [FLT 3.14.8]

- On first auto callout advisory, "**TRAFFIC, TRAFFIC**", PF announces, "**TCAS, I HAVE CONTROL**", guarding the sidestick.
- Both pilots shall monitor the ND and proper task sharing between the pilot flying and the pilot monitoring. The pilot flying shall respond to a corrective RA with appropriate control inputs. The pilot monitoring shall monitor the response to the RA and shall provide updates on the traffic location by checking the traffic display. Proper crew resource management (CRM) shall be used.
- An RA takes precedence over an ATC instruction. Pilots shall comply with the RA.

CAUTION	Do not disconnect the AP for a 'TRAFFIC' advisory. Leave the A/THR engaged.

- On receiving a Resolution Advisory (RA), the PF disengages AP and will order "**FLIGHT DIRECTORS OFF**" and promptly and smoothly follow TCAS commands. PM informs ATC "**SOFIAJET TCAS RA**".
- On the TCAS command 'CLEAR OF CONFLICT', PF shall smoothly recover and gently pitch the aircraft towards the previously cleared altitude/FL. PM informs ATC "**SOFIAJET CLEAR OF CONFLICT**".

- PF orders "**FLIGHT DIRECTORS ON**", appropriate mode selection (usually V/S), engages AP and reads FMA. PM checks FMA.
- The crew must note the time of the event for ASR reporting.

Refer to: FCOM PRO-ABN-SURV-[MEM] TCAS WARNINGS
Refer to: FCTM AS-TCAS

3-2-11 WINDSHEAR RECOVERY

Applicable to: ALL

Refer to: [FLT 3.11.39]

Windshear / Downburst can be recognised by:

- Abnormal PITCH attitude.
- Abnormal V/S.
- Large and uncharacteristic speed and/or speed trend vector changes.
- Significant changes in wind direction and speed.

Upon positive recognition of wind shear, with or without the reactive wind shear automatic callout "WINDSHEAR, WINDSHEAR", the PF shall promptly announce "**WINDSHEAR TOGA**" and follow the recommended Airbus recovery technique.

Once out of SRS MODE, the FDs shall program normal acceleration:

- Pitch 17.5 degrees.
- Check gear up (if applicable).
- Check Thrust levers 'CLB' detent.
- Check appropriate FD MODE ('CLB/OP CLB' or 'V/S').
- Check A/THR engaged.
- Retract flap on schedule.
- Confirm further clearance with ATC (if required).

Refer to: FCOM PRO-ABN-SURV- [MEM] WINDSHEAR WARNING-REACT. WINDSHEAR
Refer to: FCTM PR-NP-SP-ADVERSE WEATHER WINSHEAR

3-2-12 EMERGENCY LANDING AND DITCHING

Applicable to: ALL

Conduct the flight using the corresponding procedures:

- ECAM;
- Paper Checklist & eQRH summary (if applicable).

In case of low altitude, or short time is available before touchdown:

- *Refer to: eQRH EMER LANDING-ALL ENG FAILURE*
- *Refer to: FCOM PRO-ABN-MISC-[QRH] EMER LANDING ALL ENG FAILURE*

Otherwise:

- *Refer to: FCOM PRO-ABN-MISC-[QRH] FORCED LANDING*
- *Refer to: FCOM PRO-ABN-MISC-[QRH] DITCHING*

Secure the loose items in the cockpit before landing and make the following announcements (typically done by PM):

- "**FINISH PREPARATION**" at about 1 500 feet AAL
- "**BRACE FOR IMPACT**" at about 500 feet AAL

After the aircraft comes to a complete stop, even if the landing is normal, the CM1 orders:

- "**ATTENTION CREW! AT STATIONS!**" (cabin crews are trained to expect this announcement).

Then evaluate the situation and either:

- Start the EMER EVAC procedure if required announcing "**EVACUATE, EVACUATE**".
- Announce "**CABIN CREW AND PASSENGERS REMAIN SEATED!**" if the aircraft is secured.

CAUTION	Do not evacuate the aircraft if an emergency no longer exists, i.e., there is no threat for the passengers to remain on board.

3-2-13 MEDICAL EMERGENCY

Applicable to: ALL

Refer to: [FLT 3.11.18]

In case of medical emergency in the cabin, the SCA will inform the Commander.

If a passenger falls seriously ill or becomes seriously injured on board, the Commander shall decide, in consultation with the SCC, whether the flight shall proceed according to the plan. After consultation with the SCC the flight deck crew shall decide a plan action (Use DODAR):

- Decide on whether immediate diversion and/or medical advice from ground is necessary or not.
- Although medical assistance for the victim is vital, a safe, unhurried approach and landing at the nearest suitable airport is the overriding factor.
- Choose an airport and runway approach that will allow:
  - Appropriate medical service to be provided for the passenger (airports with improved Infrastructure / higher traffic)
  - Maximum automation and reduced workload (familiar airport with precision approach shall be preferred)
  - Reasonably short time till landing (time to reach airports within ND range 80 NM is 15-20 minutes)
  - Least detrimental operational consequences (airports on Fly2Sky network shall be preferred – flight may be continued after the disembarkation of the passenger).

After that, the flight crew shall inform the SCCM using a standard NITS briefing after a plan is made. Then, the flight crew shall inform ATC about intentions (declare **PAN-PAN** if appropriate) and needs (request ambulance). Finally, the flight crew shall inform the passengers. The NITS framework reduces can be used as reference during the passengers briefing.

Always adhere to the SOP. Make sure that the approach is thoroughly briefed, and all necessary checklists are completed in an unhurried manner before starting the approach. After engine shutdown, cycle the SEAT BELT signs OFF/ON. The SCCM will order all doors disarmed and passengers to remain on board while emergency medical personal remove the affected passenger.

GUIDANCE FOR FIRST AID IN CASE OF ILLNESS AND SERIOUS INJURIES

The following is summarised guidance in case of illness and serious injuries on board:

- The Commander shall be informed;
- The Commander will contact the destination airport when a medical doctor is needed directly after arrival;
- In case of minor injuries, the Commander shall advise the passenger to see a doctor at the airport directly upon arrival;
- In case the passenger refuses treatment make a note on the trip report;
- If the passenger refuses to sign the report, the Commander and two witnesses shall sign it.

PERFORMANCE

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Localization Title	Toc Index	ID	Reason

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4-1-1 GENERAL INFORMATION

Applicable to: ALL

Refer to: (CAT.POL.A.100), (CAT.POL.A.105), (CAT.POL.A.200), (CAT.POL.A.205), (CAT.POL.A.210), (CAT.POL.A.225), (CAT.POL.A.230), (CAT.POL.A.235), (ORO.MLR.105), [FLT 4.1.1], [FLT 4.1.2]

The performance information that is contained within this section of the Operations Manual is in compliance with the appropriate Certification Specifications for Large Aeroplanes and in compliance with the appropriate operating requirements specified for Commercial Transportation by Aeroplanes in Performance Class A (Air-Ops), as detailed by EASA.

Fly2Sky has a process, performed by the Operations Engineering, to determine and maintain guidance, procedures and performance data, applicable to the A320 and A321, for applicable departure, destination and alternate airports' as well as prior to operating over any new route or into any new airport. Such guidance and data enable the flight crew to determine or compute the following:

MAXIMUM STRUCTURAL WEIGHTS

The Maximum Taxi, Take-off and Landing Weights are accessible in the FCOM.
Refer to: FCOM LIM-AG-WEIGHTS

TAKEOFF PERFORMANCE

The FlySmart+ TakeOff module provides the crews with the following data:

- Accelerate – stop, close-in obstacles that also ensures charting accuracy is accounted for, when necessary, in assessing take-off performance in the event of a critical power unit failing at any point in the take-off;
- Climb performance (distant obstacles);
- Landing performance (minimum landing distance, go-around).

Refer to: OM-B 4-3 TAKE-OFF

MAXIMUM BRAKE ENERGY AND MINIMUM COOLING TIME

The Maximum brake energy and minimum cooling time is accessible in the FCOM.

Refer to: FCOM LIM-LG-BRAKE TEMPERATURE

Fly2Sky has a process, performed by Operations Engineering, to determine and maintain guidance, data and procedures, applicable to the A320 and A321, that enable the flight crew to determine and/or compute aircraft performance for all phases of flight. Such guidance and data shall ensure the flight crew considers all relevant factors affecting aircraft performance, this includes:

- Aircraft weight;
- Operating procedures;
- Runway gradient (slope);
- Runway surface condition at the expected time of use;
- NOTAMs (including airport NOTAMs);
- As applicable, MEL/CDL information;
- Aircraft configuration (wing flap setting);
- Anti-ice usage and, when applicable, ice accretion;
- Runway length used for aircraft alignment prior to take-off;
- Fuel freeze considerations during extended operations, *Refer to OM-A 8-2-1 FUELLING PROCEDURES*.
- Obstacle data and obstacle clearance for all phases of flight (minimum safe altitudes);
- Runway (width, length and pavement loading);
- Navigation aids and lighting;
- Weather considerations;
- Emergency services;
- Fuel burn calculations;
- Air Traffic Services;
- Critical engine inoperative operations;
- Depressurization over critical areas;
- (Special) airport classification.

All the factors mentioned above are covered by the calculations performed by the FlySmart+ modules. For more information regarding the procedures related to the FlySmart system, refer to the EFB Manual.

4-2-1 GENERAL

Applicable to: ALL

Single point performance calculations are carried out through the FlySmart with Airbus Application TakeOff and Landing modules. The FlySmart Application uses the OCTOPUS (Operational and Certified Take-off and Landing Performance Universal Software) program. The OCTOPUS software and the specifically approved aircraft databases are certified for the relevant performance calculations.

The results provided by the Take-off and Landing modules must be used in conjunction with the gross weight, operational and environmental limitations given in the LIMITATIONS chapter of the FCOM. The performance and speeds of the lowest weight at which the Take-off and Landing modules are able to give results can be considered valid from this weight down to the certified minimum weight. Additional performance data not included in the FlySmart+ Application can be found in the FCOM and in the eQRH.

4-2-2 FLYSMART WITH AIRBUS

Applicable to: ALL

Refer to: [FLT 3.11.51]

The FlySmart+ performance modules provide optimised and accurate results and much quicker preparation than the traditional paper tables or graphs. This is particularly the case when faced with abnormal conditions of the runway state.

The FlySmart+ software enables the pilots to determine and compute aircraft performance for all phases of the flight trough its modules. For further guidance refer to the EFB Manual.

4-2-3 AUTOMATION AND AIRCRAFT CONFIGURATION

Applicable to: ALL

Compared with paper, the risk of calculation errors with the FlySmart Application is generally greatly reduced. The consistency of various input parameters is checked by the system, but it cannot detect all errors. Guard against erroneous input errors, as these are unlikely to be detected by the software. Input errors will lead to output errors, with their associated risk. A careful check of the consistency of the results by the Flight Crew is very important.

With single-point performance calculations, there is no visibility of the performance trend, so anomalous results may not appear out of place. For that reason, Flight Crew has to perform the calculations individually, using two separate iPads extracting two sets of results. Redundancy is ensured when the Flight crew comparing those results found no discrepancies. When a discrepancy has occurred, both crewmembers must perform the calculations from the beginning.

Consider using the input fields of the FlySmart+ as you would a checklist. If you have been distracted during the input sequence to a performance calculation, consider starting from the beginning once again. Take particular care when specific input parameters have changed due to rapidly changing ambient conditions or airport and ATC environment, e.g., late offer of intersection departure or different departure runway.

Take particular care when Modify RWY or INOP ITEM have been used to make modifications to the runway or aeroplane configuration and that they are applied correctly or indeed removed if appropriate. This is particularly the case when the INOP Item Selection has been sent directly from the MEL. Guard against distraction when calculating performance with FlySmart, particularly when under time pressure.

There is a certain degree of integration in the FlySmart+ with both the Weight and Balance module and the MEL. Ensure that previously entered data in these modules have not been populated in error for the calculation you intend to perform.

Use the detailed results section to increase your awareness of the specific parameters of the performance calculation. Recheck the outputs using logical check patterns, e.g. Take-off weight versus runway length, Speeds consistency with the actual take-off weight, etc.

4-3-1 TAKE-OFF GENERAL

Applicable to: ALL

Refer to: [FLT 4.1.4]

Fly2Sky provides operating instructions, applicable to A320 and A321, that enable the Commander to determine if the required all-engine climb performance can be achieved during the departure phase of flight under the existing conditions. The FlySmart+ by Navblue is used by all crews to calculate such performance. *Refer to: OM-B 4-3-1 COCKPIT PREPARATION*

The maximum allowable take-off weight is the lowest of the weights permitted by the requirements below, and the Aeroplane Flight Manual (AFM) limited Maximum Take-off Weight (MTOW). The regulations relating to take-off performance consist of separate requirements for:

- Runway length;
- Climb gradients;
- Obstacle clearance;
- Tyre speed;
- Brake energy.

RUNWAY LENGTH REQUIREMENTS

The take-off distance, take-off run, and accelerate-stop distance required to vary with aerodrome pressure altitude, ambient temperature, aeroplane weight, take-off configuration, wind, runway slope and engine bleed configurations. In addition to these, the selected V1, VR and V2 speeds affect the above.

In all cases, to ensure compliance with the relevant requirements, the actual runway length requirements must not exceed their respective available distances. The distance required to align the aeroplane on the runway prior to take-off is a function of aeroplane geometry and taxiway configuration for a particular take-off position. This distance used is taken into account in take-off calculations.

CLIMB GRADIENT REQUIREMENTS

Minimum required gradients are specified for each segment in the take-off flight path. For the Airbus family, the significant ones are:

- Second Segment 2.4% Gross
- Final Segment 1.2% Gross

OBSTACLE CLEARANCE REQUIREMENTS FOR TAKEOFF FLIGHT PATH

Obstacle clearance is established by means of the Net Take-off Flight Path. This is considered to begin at 35 feet above the end of the take-off distance. The Net Take-off Flightpath must clear all obstacles by a vertical distance of at least 35 feet or by a horizontal distance of at least 90 meters plus 0•125 x D, where D is the horizontal distance, the aeroplane has travelled from the end of the take-off distance available. If the intended flight path does not require track changes of more than 15°, obstacles that have a lateral distance greater than 600 m need not be considered. For flights under all other conditions, obstacles that have a lateral distance greater than 900m need not be considered.

The Net Take-off Flight Path is the actual (i.e., gross) flight path reduced by a specific gradient decrement. This is 0.8% for two-engine aeroplanes.

TYRE SPEED AND BRAKE ENERGY

These limitations ensure that the maximum tire speed is not exceeded during the take-off and that the limitations of the brake system are not exceeded in the event of a rejected take- off. When a take-off is aborted, brakes must absorb and dissipate the heat corresponding to the aircraft's kinetic energy at the decision point.

FLYSMART OPTIMISATION PHILOSOPHY

The purpose of the FlySmart Takeoff module is to calculate the maximum take-off weight for a given runway, taking all the regulatory requirements and ambient conditions into account, as determined by the aeroplane's general characteristics, aerodynamics and engine performance. In order to achieve this, it allows full and dynamic optimization of all available parameters as detailed below:

V1 / VR RATIO

V1 and VR speeds are optimized based upon the available runway declared distances and ambient conditions. In certain circumstances, a range of valid V1 speeds may exist. In this instance, the mean V1 is selected by the FlySmart take-off module, providing performance margins on both the accelerate-stop and the accelerate-go cases.

V2 / VS RATIO

When excess take-off distance is available, the V2 speed may be increased to achieve an improved second segment climb gradient. V1 and VR speeds are also increased to maintain consistent performance relationships. This enables an increase in the second segment climb limited take-off weights, and in some cases, an increase in the obstacle limited take-off weights (depending on the location of the obstacle). The take-off may consequently become field length limited. Increased V speeds reduce the tire speed and brake energy limited take-off weights, which may, as a consequence, become limiting.

TAKEOFF CONFIGURATION

The standard flaps for take-off will be CONF 1+F. In any case, the T/O flap setting may be modified by the crew if performance requirements or MEL instructions dictate so.

4-3-2 TAKE-OFF DRY AND WET

Applicable to: ALL

DEFINITIONS

DRY

This means a runway whose surface is free of visible moisture and not contaminated within the area intended to be used.

Note: The 'area intended to be used' means the area of the runway that is part of the TORA, accelerate and stop distance available (ASDA) or landing distance available (LDA) declared in the aeronautical information publication (AIP) or by a NOTAM.

DAMP RUNWAY

The crew shall use "WET RUNWAY" definitions.

WET RUNWAY

This means a runway whose surface is covered by any visible dampness or water up to and including 3 mm deep within the area intended to be used.

Note: The 'area intended to be used' means the area of the runway that is part of the TORA, accelerate and stop distance available (ASDA) or landing distance available (LDA) declared in the aeronautical information publication (AIP) or by a NOTAM.

REJECTED TAKE-OFF

DRY

No credit for reverse thrust is included in the rejected take-off case.

WET

The use of maximum reverse thrust on the operative engine is assumed in the rejected take-off case.

TAKE OFF FLIGHT PATH

WET

The engine failure take-off performance for a wet runway is based on a screen height of 15 feet above the end of the take-off distance. When taking off on a wet runway and an engine fails at or close to V1, the aeroplane may initially be as much as 20 feet below the Net Take-off Flight Path and consequently may clear close in obstacles by only 15 feet.

FLYSMART+ RUNWAY CONDITION DETERMINATOR

Refer to: FCOM PERFORMANCE (EFB)-TAKEOFF-PERFORMANCE CALCULATION

Note: If Air Traffic Control reports the presence of water on the runway using the terms "water patches" or "flooded", contaminated performance information shall be used, i.e., standing water.

Where contamination exists in critical portions of the take-off run (e.g., rotation and lift-off area, stop area), consideration shall be given by the Flight Crew to applying more restrictive performance calculations, i.e., contaminated instead of wet.

TAKE OFF FLEXIBLE REDUCED THRUST

GENERAL

Reduction of the take-off thrust prolongs engine life; aircraft dispatch reliability and reduces engine-operating costs. This is achieved by lowering turbine operating temperatures, which increases engine hot section life.

Even small reductions in take-off thrust can produce significant economic benefits. Therefore, it is Fly2Sky policy to use this method whenever possible. However, often the aeroplane will be able to take off at much heavier weights than actually required or, conversely, take off at the required weight at much higher temperatures than the current ambient temperature. In this situation, the use of reduced take-off thrust is possible, as approved by a Regulatory Authority, as detailed in the AFM, by determining a higher FLEX temperature.

This method of reducing thrust is approved provided that the availability of full take-off thrust is periodically verified. This is monitored monthly through routine engineering reporting functions. In addition, this method of reducing thrust is approved provided that all applicable performance requirements are met, and the maximum allowable reduction in thrust is 25% of the rated thrust.

This method is conservative in nature, providing additional performance margins in both accelerate-stop and accelerate-go conditions, primarily due to the lower TAS at the ambient temperature than assumed at the Flex temperature in the take-off calculation.

FLYSMART OPTIMISATION

FlySmart generates a performance solution that maximises the flex temperature.

LIMITATIONS - ASSUMED TEMPERATURE

Assumed Temperature Take-off is prohibited when:

- The runway is contaminated.
- Dispatch is planned with the landing gear extended.

TAKE OFF SLIPPERY WHEN WET

GENERAL

Reference to the ICAO Annex 14, when friction levels of operational runways deteriorate to below pre-defined maintenance planning levels, or runway maintenance or resurfacing of a portion of a runway adversely affects the runway friction, and the runway may be notified as “may be slippery when wet” by NOTAM.

PROCEDURE

When 25% or more of the runway length (TORA) is declared as “may be slippery when wet”, FlySmart take-off performance calculations must be performed with selected runway condition "slippery wet". The maximum crosswind limitation for the specific runway is as per FCOM.

4-3-3 TAKE-OFF CONTAMINATED

Applicable to: ALL

GENERAL

The information relating to take-off on contaminated runways is guidance information and, as such, is advisory in nature. Engine failure is accounted for on contaminated runway performance. This material represents the best available information on operations on contaminated runways.

CAUTION	Operation on contaminated runways implies uncertainties with regard to runway friction and contaminant drag and consequently aeroplane acceleration, braking performance and directional control (particularly in crosswinds or when using reverse thrust). In the case of a contaminated runway, the first option for the Flight Crew is to wait until the runway is cleared. If this is impractical, they may consider a take-off, provided they have made the appropriate selection in the FlySmart take-off module any further safety measures they consider justified under the prevailing conditions.

Crew shall consider any weather changes since the last runway surface condition report, paying particular attention to the effects of precipitation and temperature.

DEFINITIONS

CONTAMINATED RUNWAY

As the runway condition is reported in runway thirds, a significant portion of the runway surface area is more than 25 % of one-third of the runway surface area within the required length and width being used. The runway length being used in this context is the physical length of runway available, typically from the start of the take-off run available (TORA) in one direction to the start of the TORA in the opposite direction. When the runway is shortened by a notice to airmen (NOTAM) — for example, due to works, or the aerodrome operator is not able to clear the full length of the runway and closes part of it for operations, the length being used is that declared in the NOTAM and the 'reduced runway length' that declared in the RCR.

The runway width being used in this context is the physical width of the runway (between the runway edge lights) or the 'cleared width' if reported in the RCR. It is not intended that 25 % coverage is reported when contaminants affect only the runway edges after runway cleaning. Runway inspectors are instructed to focus on the area around the wheel tracks when reporting the contaminant type, coverage and depth.

SLUSH

Water saturated with snow which spatters when stepping firmly on it. It is encountered at temperatures around 5º C, and its density is approximately 0.85 kg/ litre.

DRY SNOW

A condition where snow can be blown if loose or if compacted by hand will fall apart again upon release. Its density is approximately 0.2 kg/litre.

WET SNOW

A condition where, if compacted by hand, snow will stick together and tend to form a snowball. Its density is approximately 0.4 kg/litre.

ICY

A condition where the friction coefficient is 0.05 or below.

STANDING WATER/SLUSH TAKE-OFF PERFORMANCE

Performance data for take-off on runways contaminated with standing water, slush and snow include accountability for the following:

ACCELERATION

Contaminant drag in the form of displacement (by the nose and main wheels) and impingement (on the aircraft structure) as a function of ground speed and includes the reduction in friction as a result of aquaplaning.

DECELERATION

Contaminant drag in the form of displacement (by the nose and main wheels) and impingement (on the aircraft structure) as a function of ground speed Reduced wheel braking on the contaminated runway, including negligible wheel braking above the aquaplaning speed

COMPACTED SNOW

Performance data for take-off on slippery runways, i.e., those with no measurable depth of contaminant, including compacted snow- and ice-covered runways include accountability for:

ACCELERATION

Normal acceleration, no additional drag due to runway state

DECELERATION

Reduced aeroplane tire to ground friction at predetermined levels

TAKE OFF FLIGHT PATH

The criteria used for the calculation of the take-off flight path are identical to those used on a wet runway. The engine failure take-off performance on a contaminated runway is based on a screen height of 15 feet above the end of the take-off distance. When taking off on a contaminated runway and an engine fails at or close to V1, the aeroplane may initially be as much as 20 feet below the Net Take-off Flight Path and consequently may clear close in obstacles by only 15 feet.

REJECTED TAKE-OFF

Refer to: FCOM PERFORMANCE (EFB)-TAKEOFF-PERFORMANCE CALCULATION

The use of maximum reverse thrust on the operative engine is assumed in the rejected take-off case.

Note: If Air Traffic Control reports the presence of water on the runway using the terms "water patches" or "flooded", contaminated performance information shall be used, i.e., standing water.

Where contamination exists in critical portions of the take-off run (e.g., rotation and lift-off area, stop area), consideration shall be given by the Flight Crew to applying more restrictive performance calculations.

Runways contaminated with compacted snow or ice have no measurable depth of contaminant.

For contaminated take-off calculations, water represents the worst case due to its high specific gravity, deriving the lowest hydroplaning speeds and the most significant d ag penalties.

BRAKING ACTION

The reporting of braking action is not consistent across all European countries. Braking action reports will not be passed by ATC on runways contaminated with standing water, slush or snow (wet or dry) due to limitations in friction measuring devices (they may give unacceptably erroneous readings in these conditions). Braking action "unreliable" may be reported via MOTNE or SNOWTAM in these circumstances. If a measured Friction Coefficient (FC) is reported instead, refer to the table in Jeppesen FD Pro X to determine the applicable Braking Action (BA). With braking action UNRELIABLE, the braking action may range between GOOD and POOR.

LIMITATIONS AND CONTAMINATED TAKE-OFF

GENERAL

Take-off with full rated thrust.

Take-off is not recommended on the following runway conditions:

- Water on top of compacted snow
- Dry snow or wet snow over ice

Take-off is not permitted on the following runway conditions:

- Wet ice

Consider:

- Using the full available length of the runway, unless there are significant ground handling concerns, e.g., a requirement for a 180° turn or holdover considerations. This will provide enhanced margins for accelerate-stop and accelerate-go;
- Whether appropriate visual guidance is available from runway edge and/or centreline, markings and/or lighting;
- Performance margins when tankering fuel for economic reasons.

FLYSMART+ TAKEOFF PERFORMANCE LIMITATIONS

Several regulatory requirements limit take-off performance. They are called take-off limitations. These take-off limitations are identified in the computation results via limitation codes. The following table indicates the various codes that can appear:

Code	Explanation
TOW	Maximum Computation Weight, or Maximum Structural Weight
RWY0	All-Engine Take-off Distance (TOD0), or All-Engine Take-off Run (TOR0), or All-Engine Accelerate-Stop Distance (ASD0)
RWY1	One-engine Inoperative Take-off Distance (TOD1), or One-engine Inoperative Take-off Run (TOR1), or One-engine Inoperative Accelerate-Stop (ASD1)
VMCG	V1 limited by Minimum Control Speed on Ground
TIRE	Vlof limited by Maximum Tire Speed
BRK	V1 limited by Brake Energy
VMCA	V2 limited by Minimum Control Speed in the Air
1SEG	1st Segment Climb Gradient
2SEG	2nd Segment Climb Gradient
3SEG	Acceleration (3rd) Segment
FTO	Final Take-off Climb Gradient
OBS	Obstacle Clearance
VMU	Minimum Unstick Speed

4-4-1 GENERAL

Applicable to: LZ-FSA, LZ-FSB, LZ-FSD, LZ-FSG, LZ-FSH, LZ-FSI, LZ-FSJ, LZ-MDL, LZ-MDK

Operations on runway widths less than 45 m but not less than 30 m are certified and approved for operational use.

Refer to: FCOM PRO-SPO-60-OPERATIONS ON NARROW RUNWAYS

4-4-2 LIMITATIONS

Applicable to: LZ-FSA, LZ-FSB, LZ-FSD, LZ-FSG, LZ-FSH, LZ-FSI, LZ-FSJ, LZ-MDL, LZ-MDK

The minimum runway width permissible is 30 m. The dispatch from/to narrow runways is not allowed in case of:

- Nosewheel steering inoperative
- One brake or more inoperative.

Autoland is not permitted.

4-4-3 PERFORMANCE

Applicable to: LZ-FSA, LZ-FSB, LZ-FSD, LZ-FSG, LZ-FSH, LZ-FSI, LZ-FSJ, LZ-MDL, LZ-MDK

The performance on narrow runways requires an increase in VMCG to improve controllability in the event of an engine failure. The appropriate increments are incorporated automatically in the FlySmart TakeOff module from runway width data stored in the aerodrome and obstacle database.

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4-5-1 GENERAL

Applicable to: ALL

Refer to: (CAT.POL.A.215), (ORO.MLR.100), [FLT 4.1.3]

Fly2Sky has a process, performed by Operations Engineering, to determine and maintain guidance, data and procedures, applicable to A320 and A321, that enable the flight crew to determine and/or compute enroute aircraft engine-out performance. This guidance, data and procedures include aircraft engine-out:

- Service ceiling; and
- Drift down altitudes.

Both of the service ceiling and the drift down altitudes are calculated with the FlySmart+ InFlight module. The specific guidance and procedures that ensure terrain clearance along the route to the destination or to the enroute alternate airport are laid down in the OM-C.

The regulations relating to En-route performance ensure that the aeroplane can maintain a safe clearance margin over all obstacles and terrain under the route of flight, in the expected operating conditions, following an engine failure. These requirements are intended for use in the dispatch phase.

OBSTACLE CLEARANCE REQUIREMENTS

Obstacle clearance is established by means of the En-route net flight path. The gradient of the En-route net flight path must be positive at least 1 000 ft. above all-terrain and obstructions along the route within 5 NM on either side of the intended track. If this is not achievable, the net flight path must permit the aeroplane to continue the flight from the cruising altitude to an aerodrome where a landing can be made, clearing by at least 2 000 ft, all-terrain and obstructions along the route within 5 NM on either side of the intended track.

The En-route net flight path must have a positive gradient at 1 500 ft. above any aerodrome where a landing is assumed to be made after engine failure. The expected meteorological conditions for the flight must be taken into account in determining the En-route net flight path. In meteorological conditions requiring the operation of ice protection systems, the effect of their use on the En-route net flight path must be taken into account.

The En-route net flight path is the actual (i.e., gross) flight path reduced by a specific gradient decrement. This is 1.1% for two-engine aeroplanes.

PROCEDURE

- Read MSA from the OFP under the WPT MSA column to assess the critical stage of flight;
- If required, apply temperature, pressure and wind corrections to MSA;
- Estimate the En-route aeroplane weight at the critical stage of the flight from the actual ZFW and the FUEL REM column of the OFP;
- Use the FlySmart+ InFlight module to assess the level off altitude at the critical WPT MSA;
- If the calculated En-route weight at the critical stage of flight is in excess of the net level off weight, take-off weight must be reduced to enable compliance with the net level off weight or a route planned with less critical terrain clearance issues.

4-6-1 GENERAL

Applicable to: ALL

PER-LDG Landing provides a detailed explanation of landing performance requirements As per AIR-OPS CAT.OP.MPA.300: "Before commencing an approach to land, the commander shall satisfy himself/herself that, according to the information available to him/her, the weather at the aerodrome and the condition of the runway intended to be used shall not prevent a safe approach, landing or missed approach, having regard to the performance information contained in the Operations Manual".

The flight crew shall perform a landing performance assessment in the reported conditions as part of their approach preparation. FlySmart landing performance module provides 2 two modes of calculation:

DISPATCH LANDING PERFORMANCE

Dispatch Landing Performance calculation performed with FlySmart is to be used prior to and during flight to compute a Regulated Landing Weight. The crew must compute the regulated landing weight using the latest updated information regarding weather and runway conditions at dispatch and before commencing the approach.

The RLDW is computed for the given conditions, and a Required Landing Distance (RLD) is computed. The calculation starts at the MLW. If at the MLDW, the required landing distance exceeds the LDA, an iterative calculation on the RLDW is run until the RLD equals the LDA. The Required Landing Distance is the actual landing distance multiplied by regulatory factors assuming:

- Approach speed at 50 feet over threshold equals VLS;
- Maximum manual braking;
- No reverse thrust credit for a DRY and WET runway.

In case of contaminated runway conditions, the required landing distance is always the greater of:

- WET RLD (actual landing distance DRY x 1.67 x 1.15);
- Actual landing distance considering runway conditions x 1.15;
- No reverse thrust credit for a DRY and WET runway.

The Required Landing Distance is calculated according to regulations. It is based on conditions, which usually does not correspond to operational conditions. For an actual landing distance calculation, refer to In-flight landing performance.

IN-FLIGHT LANDING PERFORMANCE

In-Flight Landing Performance module is available in Fly Smart and provides information for the distance needed for the aircraft, from the point of 50 ft over the threshold until the aircraft comes to a complete stop.

That distance reflects real performance only if the crew uses the same configuration to decelerate the aircraft, as it uses for the calculation (e.g., AUTO BRAKE mode, REVERSERS selection, Vapp increment etc.) and uses the actual weather and runway conditions. Crews shall use that method of performance calculation further to Dispatch Landing Performance, which is the primary requirement, in order to operate on a specific runway under normal conditions (no failures). Under these conditions, this method is used mainly for "brake to vacate" decisions regarding the selection of braking, configuration or use of reverse. In the case where a failure or combination of failure exists then, the In-Flight Landing Performance module is the main tool for landing runway selection in abnormal situations. In FlySmart, two different distances are depicted for assessment, the Landing Distance and the Factored Landing Distance.

LANDING DISTANCE (LD)

The LD is the landing distance calculated in-flight (also called in-flight landing distance). It is based on the landing performance model elaborated by the Take-off and Landing Performance Assessment / Aviation Rulemaking Committee (the TALPA/ARC committee was mandated to find an industry consensus and produce recommendations for a new regulation on landing performance assessment). LD wants to be more representative of the landing technique followed by the line pilot and so more representative of daily operations.

FACTORED LANDING DISTANCE (FLD)

The LD calculated in flight does not include margins. It assumes a stabilized approach in outside conditions consistent with the computation assumptions. In order to cover the variability in flying techniques and unexpected conditions at landing, the flight crew shall apply an appropriate margin to the in-flight landing distance (either determined with or without failure).

4-6-2 SLIPPERY WHEN WET

Applicable to: ALL

GENERAL

Reference to the ICAO Annex 14, when friction levels of operational runways deteriorate to below pre-defined maintenance planning levels, or runway maintenance or resurfacing of a portion of a runway adversely affects the runway friction, and the runway may be notified as "may be slippery when wet" by NOTAM.

On runways, notified as "may be slippery when wet" with no other accompanying substantive information, take-off and landing conditions shall only be considered when the distances available equal or exceed those required for a runway with Braking Action Medium.

PROCEDURE

When 25% or more of the runway length (LDA) is declared as "may be slippery when wet", FlySmart+ landing performance calculations must be performed with selected runway condition "slippery wet". The maximum crosswind limitation for the specific runway is as per FCOM.

4-6-3 FLYSMART LANDING INPUT / OUTPUT POLICY AND GUIDELINES

Applicable to: ALL

For FlySmart Landing Input/output policy and guidelines of the FlySmart+ software, Refer to the Performance engineering personnel. *Refer to: AIRBUS PERFORMANCE PROGRAMS MANUAL 60I PERF APPLI-LANDING.*

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FLIGHT PLANNING

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5-1 GENERAL

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Localization Title	Toc Index	ID	Reason

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5-1-1 GENERAL INFORMATION

Applicable to: ALL

Fly2Sky provides a computerised operational flight plan (OFP) for all flights. The OFP is fully PART-OPS compliant. It is the Commander's responsibility to check the accuracy of the alternate routing (computed distance versus direct distance), to check the accessibility of destination, En-route and destination alternate airports taking into consideration weather, NOTAMs and performance and uplift fuel accordingly.

Responsibilities relating to the management of the flight once the OFP has been filed with ATC are described in OM-A. *Refer to: OM-A 8-1-10 OPERATIONAL FLIGHT PLAN*

Pilots must remain familiar with the contents of the OFP.

- A full and updated description of the OFP is kept in the OM-A
- Supplementary data to the OFP that may be required for contingency planning and is readily available to the crew (holding, diversion, in-flight re-planning etc.).

PERFORMANCE DATA

Flight phase-related performance data (power settings and speed schedules) for conservative flight planning is provided in FCOM and FlySmart+ package.

Refer to: FCOM PER-FPL AND FLIGHT PHASE RELATED SECTIONS

During the preparation of the OFP, the flight planning system uses more sophisticated performance data tuned according to the planned cost index and expected weather conditions. This system uses the appropriate speed schedules and power settings based on FCOM procedures.

SPECIAL CASES

During fuel calculation for special operations, sophisticated power setting and speed schedule data based on the FCOM are used by the flight planning system.

ENGINE OUT

- Flight crew procedures
  Refer to: OM-B 3-2-6 ENGINE FAILURE AND DEPARTURE CONTINGENCY PROCEDURES
- Performance data
  Refer to: FCOM PER-OEI
  Refer to: FlySmart+ Applications

ISOLATED AERODROMES

- Flight crew procedures
  Refer to: OM-A 8-1-7 DETERMINATION OF FUEL AND OIL QUANTITIES CARRIED
- Performance data
  Refer to: FCOM PER-FPL

5-1-2 FUEL CALCULATIONS FOR DIFFERENT STAGES OF FLIGHT

Applicable to: ALL

GENERAL

For the rules and requirements on pre-flight fuel planning

Refer to: OM-A 8-1-7 DETERMINATION OF FUEL AND OIL QUANTITIES CARRIED

For crosscheck and in-flight use purposes, conservative fuel consumption data is provided in the FlySmart+ and FCOM.

Refer to: FCOM PER-FPL and flight phase-related sections

During the preparation of the OFP, the flight planning system uses more sophisticated fuel consumption data tuned according to the planned cost index and expected weather conditions.

This system uses the appropriate speed schedules and power settings based on FCOM procedures.

SPECIAL CASES

During pre-flight fuel calculation for special operations, sophisticated flight planning system data is used based on FCOM and FlySmart+ performance data.

ENGINE OUT

Fuel consumption data for a crosscheck and in-flight use purposes:

Refer to: FCOM PER-OEI
Refer to: FlySmart+ InFlight module

ISOLATED AERODROMES

Refer to: OM-A 8-1-7 DETERMINATION OF FUEL AND OIL QUANTITIES CARRIED

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MASS AND BALANCE

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6-1 CALCULATION SYSTEM

6-2 MASS AND BALANCE DOCUMENTATION

6-3 LIMITING MASSES AND CENTRE OF GRAVITY

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Localization Title	Toc Index	ID	Reason

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6-1-1 DRY OPERATING WEIGHT AND INDEX

Applicable to: ALL

The dry operating indexes (DOI) must be rounded to the nearest decimal when used for the balance calculations. For dry operating masses and dry operating indexes.

Refer to: AHM-565 DOM-DOI Tables

PANTRY CODES

The following table indicates the pantry codes used for the calculation of the dry operating weights (DOW).

The use of each code assigned for each operation shall be communicated to the crew trough the Centrik System.

Pantry Code	Weight in FWD galley KG	Weight in AFT galley KG	Total weight KG	Description
A	144	235	379	Short Haul Variant 1
B	179	235	414	Short Haul Variant 2
C	189	330	519	Medium Range Variant 1
D	200	450	650	Medium Range Variant 2
E	250	550	800	Long Range Variant 1
VAW IN	330	630	960	Long Range / Back to base
VAW OUT	400	760	1160	Long Range / Out of base
Z	48	52	100	No catering, for ferry flights

DOW/DOI TABLES

Refer to: AHM-565 A320 (AT THE END OF THE DOCUMENT)
Refer to: AHM-565 A321 (AT THE END OF THE DOCUMENT)

PASSENGER DISTRIBUTION PER TRIM ZONE

Refer to: AHM-565 A320 6.3.1 Cabin Area Information
Refer to: AHM-565 A320 6.3.1 Cabin Area Information

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6-2-1 GENERAL INFORMATION

Applicable to: ALL

A mass and balance document referred to as "Load and Trim Sheet" is to be prepared for each flight carried out for the purpose of commercial air transport. The company is using computerised load sheets (prepared by the Weight and Balance FlySmart Module) or manually written load sheets, as shown in this section.

6-2-2 DISTRIBUTION

Applicable to: ALL

The person supervising the loading must confirm by signature that the load and its distribution are as stated on the mass and balance document, which must also contain the name of the person who prepared it. Copies are distributed as follows:

- The original is for the ship papers.
- 1 copy for the Handling agent to remain with the handling agent for a minimum of 1 day

6-2-3 AIRCRAFT MASS AND BALANCE DATA

Applicable to: ALL

The aircraft mass and balance data are supplied to Fly2Sky Ltd. By the AHM-565.

6-2-4 STANDARD MASS VALUES

Applicable to: ALL

For Standard Mass values to be used for LMC, *Refer to: OM-A 8-1-8 MASS AND CENTRE OF GRAVITY*

6-2-5 LAST MINUTE CHANGE

Applicable to: ALL

Refer to: (CAT.POL.MAB.105(d)), (GM1 CAT.OP.MPA.181)

The last-minute change provides means of entering late alterations to the load (passengers, baggage, technical kit and cargo). If any last-minute change occurs after the completion of the mass and balance documentation, this must be brought to the attention of the commander and entered on the mass and balance documentation. If this number is exceeded, a new mass and balance documentation must be prepared.

The maximum Last-Minute Change (LMC) is limited to 5 Adult passengers or 500 kg of absolute change (passengers and load). No Fuel LMC is allowed, however a difference between the FOB and the planned fuel of ±150 kg does not require an LMC. The LMC must be entered on the loadsheet and approved by the Commander including the following items:

- Destination of passengers;
- Number ±;
- Location;
- Total weight in kg.

Performance calculations for take-off must be made taking the LMC into account. If there is a difference of more than +1 000 kg between the estimated OFP ZFW and the actual ZFW, a new OFP has to be requested, taking into account the actual weights.

Refer to: OM-A 8-1-8 MASS AND CENTRE OF GRAVITY

6-2-6 COMPUTERISED LOAD AND TRIM SHEET

Applicable to: ALL

The computerised Load and Trim Sheet is provided by the Ramp Agent and performed by the load control. Additionally, if required, it may be performed by a cockpit crew member with the FlySmart FS+ Loadsheet module and the Loadsheet file shall either be sent via email to the OCC, the departure and the destination station. Additionally, the printer might be printed in three copies and distributed in paper.

An example of a computerised load sheet is depicted below.

LOADSHEET			CHECKED	APPROVED	EDNO
ALL WEIGHTS IN KILOGRAMS			IVAN IVANOV	VASIL DIMITROV	1

FROM/TO	FLIGHT	A/C REG	VERSION	CREW	DATE	TIME
EDDF LBSF	001	LZ-MDK		2/4	11JUL21	1122

	WEIGHT	DISTRIBUTION	
LOAD IN COMPARTMENTS	2500	CP1/900	
		CP4/1600	
PASSENGER/CABIN BAG	10752	128/0/0/0	TTL 128

TOTAL TRAFFIC LOAD	13252			
DRY OPERATING WEIGHT	43452			
ZERO FUEL WEIGHT ACTUAL	56704	MAX 61000	L	ADJ
TAKE OFF FUEL	8800			
TAKE OFF WEIGHT ACTUAL	65504	MAX 77000		ADJ
TRIP FUEL	6500			
LANDING WEIGHT ACTUAL	59004	MAX 64500		ADJ

BALANCE AND SEATING CONDITIONS

			LAST MINUTE CHANGE		
DOI 50	DEST	SPEC	CL/CPT	+-	WEIGHT
LIZFW 66 LITOW 63					
LILAW 64					
MACZFW 31.8 MACTOW 29.7					
MACLAW 30.5					
STAB TO -0.3 NOSE DOWN					
TRIM TANK FUEL WEIGHT					
UNDERLOAD BEFORE LMC 4296			LMC TOTAL		

CAPTAINS INFORMATION/NOTES

CG LIMITS	MACTOW	FWD	17	AFT	42
	MACZFW	FWD	15.7	AFT	40.7

NO NOTOC

OA40/ OB44/ OC44/ /

SEATING CONDITIONS

CAPTAIN CERTIFICATE:
I HEREBY CERTIFY THAT I AM SATISFIED THE LOAD IS OF PERMISSIBLE

MASS, SAFELY DESTRIBUTED AND SECURED FOR FLIGHT.

LOAD MESSAGE BEFORE LMC

CHECKED
IVAN IVANOV

APPROVED
VASIL DIMITROV

6-2-7 HANDWRITTEN LOADSHEET REPORT

Applicable to: ALL

The form will be filled out by a Cockpit Crew Member or by authorised handling agents. The Cockpit Crew Member will be instructed how to fill out Mass and Balance documents when joining the company by a suitably qualified Pilot.

It is usually prepared through the FlySmart FS+ Loadsheet module, but the trim information may be deducted from a Manual Trimsheet available in the AHM-565 of the relevant variant and depicted in the following subsection if the FlySmart FS+ Loadsheet module is not available.

If the Manual Trimsheet is used, the crew must consider the DOW/DOI for the relevant aircraft registration and Pantry Code in the last pages of the AHM-565 of the relevant variant.

A Loadsheet Report is depicted below, and the following Issues, Revisions and Dates apply:

Form	Issue/rev	Date
LOADSHEET REPORT A320/A321	Issue 1, Rev.0	01/072021

ALL WEIGHTS IN KG

FLY2SKY	LOADSHEET REPORT A320/A321	F07

DATE	A/C REG	FLT !!	FROM	TO	CREW	PANTRY
01/07/21	LZ-MDI	VAW101	LBSF	EDDF	2/4	E

PASSENGERS INFORMATION					
MALE/ADULTS	FEMALE	CHILDREN	INFANT	TOB	C/Y
78	79	6	3	163+3	163Y

OA	OB	OC
54	54	55

CARGO INFORMATION						
		CP1	CP2	CP3	CP4	CP5
BAGGAGE	PC					
	KG	988			1102	528
TECH KIT	KG					
CARGO	KG					
TOTAL	KG	988			1102	528

TOTAL CARGO	2618	KG

I certify that the load and its distribution are in accordance with this load sheet report and current Fly2Sky loading instructions.	Loading Supervisor Name and Signature: I. IVANOV

LOADING INFO				REVISED LOAD/TRIM INFO			
ZFW/ZFWCG	59 200	26,7	%	ZFW/ZFWCG	58 900	26,7	%
TOW/TOWCG	68 000	25,4	%	TOW/TOWCG	67 700	25,4	%

LAST MINUTE CHANGE (LMC)			
SPECIFICATION	LOCATION	±	WEIGHT
3 MALE PAX, DEST FRA	Y	-	264 kg
	TOTAL LMC	-	264 kg

COMMANDER NAME, CODE	COMMANDER'S SIGNATURE
VASIL DIMITROV, VSD	VDIMITROV

ISSUE 1 REVISION 0

ORIGINAL

LOADSHEET REPORT' FORM DESCRIPTION

Identifying Preamble	Required Action
DATE	Enter the date of departure
A/C REG	Enter the aircraft's registration
FLT Q	Enter the flight number
FROM	Enter the departure airport
TO	Enter the arrival airport
CREW	Enter the crew composition
PANTRY	Enter Pantry code from AHM-565

Identifying Preamble	Required Action
MALE/ADULTS	Enter the number of males or adults
FEMALE	Enter the number of females
CHILDREN	Enter the number of children
INFANTS	Enter the number of infants
TOB	Enter the total passengers on board
C/Y	Enter the total passengers in Club and Economy class
OA	Enter the total passengers on section A
OB	Enter the total passengers on section B
OC	Enter the total passengers on section C

Identifying Preamble	Required Action
CP1	Enter the total weight of Baggage, Tech Kit and Cargo in Compartment 1
CP2	Enter the total weight of Baggage, Tech Kit and Cargo in Compartment 2 (A321 only)
CP3	Enter the total weight of Baggage, Tech Kit and Cargo in Compartment 3
CP4	Enter the total weight of Baggage, Tech Kit and Cargo in Compartment 4
CP5	Enter the total weight of Baggage, Tech Kit and Cargo in Compartment 5
TOTAL CARGO	Enter the Total Cargo weight in kilogram

Identifying Preamble	Required Action
ZFW / ZFWCG	Enter Zero Fuel Weight and Zero Fuel Weight Center of Gravity computed by the FlySmart Loadsheet application or Manual Trimsheet.
TOW / TOWCG	Enter Take-off Weight and Take-off Weight Center of Gravity computed by the FlySmart Loadsheet application or Manual Trimsheet.
ZFW / ZFWCG	Enter the revised Zero Fuel Weight and Zero Fuel Weight Center of Gravity, considering the LMC as computed by the FlySmart Loadsheet application or Manual Trimsheet.
TOW / TOWCG	Enter the revised Take-off Weight and Take-off Weight Center of Gravity, considering the LMC as computed by the FlySmart Loadsheet application or Manual Trimsheet.

Identifying Preamble	Required Action
SPECIFICATION	Type of LMC.
LOCATION	Compartment or Position of the load.
±	Identification of ON or OFF load.
WEIGHT	Weight of the LMC.
LMC TOTAL	Total weight of all LMC.

LOADSHEET REPORT FORM REVISION

For the current revision of the Loadsheet Report Form, *Refer to: OM-B 6-2-7 HANDWRITTEN LOADSHEET REPORT.*

For the current revision of the Manual Trimsheet, *Refer to: AHM-565.*

6-2-8 MANUAL TRIMSHEET

Applicable to: ALL

27.04.2021/R6 Trim sheet Airbus A320 LZ - MDK (Y174) FLY2SKY

Flight: VAW101	Date: 01/07/21	A/C Reg.: LZ-MDK	Capt. VASIL DIMITROV	Sign. VDimitrov

DRY OPERATION TABLE - POTABLE WATER INCLUDED

LZ-MDK	2/0	2/3	2/4	2/5	2/6	3/0
DOW	43052	43277	43352	43427	43502	43137
DOI	49.96	49.21	50.19	51.15	52.12	48.85
LZ-MDK	3/3	3/4	3/5	3/6	Pantry Code Z ..../.... DOW/DOI correction	
DOW	43362	43437	43512	43587	43 452	
DOI	48.09	49.07	50.03	51.01	50.34	

LOAD COMPARTMENTS

1 - FWD		3 - AFT		4 - AFT		5 - BULK	
Weight	Index corr.	Weight	Index corr.	Weight	Index corr.	Weight	Index corr.
152	-1	248	+1	137	+1	95	+1
457	-3	496	+2	274	+2	190	+2
761	-5	743	+3	410	+3	285	+3
1066	-7	991	+4	547	+4	380	+4
1370	-9	1239	+5	684	+5	475	+5
1675	-11	1487	+6	1675	+6	570	+6
1980	-13	1735	+7	1980	+7	665	+7
2284	-15	1983	+8		+8	760	+8
2590	-17	2230	+9		+10	855	+9
2900	-19	Max 2426	+9.79		+11	950	+10
3200	-21				+12	1045	+11
Max 3400	-22.33				+13	1140	+12
					+14	1235	+13
					+15	1330	+14
					+15.43	1425	+15
						Max 1497	+15.76

FUEL

Weight	Index corr.
3000	+1.60
3500	+1.07
4000	+0.56
4500	+0.06
5000	-0.40
5500	-0.85
6000	-1.26
6500	-1.66
7000	-2.04
7500	-2.23
8000	-2.73
8500	-3.04
9000	-3.29
9500	-3.42
10000	-3.41
10500	-3.27
11000	-2.99
11500	-2.59
12000	-2.08
12500	-1.39
13000	-1.92
13500	-2.55
14000	-3.25
14500	-4.02
15000	-4.80
15500	-5.58
16000	-6.35
16500	-7.13
17000	-7.91
17500	-8.28
18000	-9.14
18500	-10.23
FULL 19005	-11.10

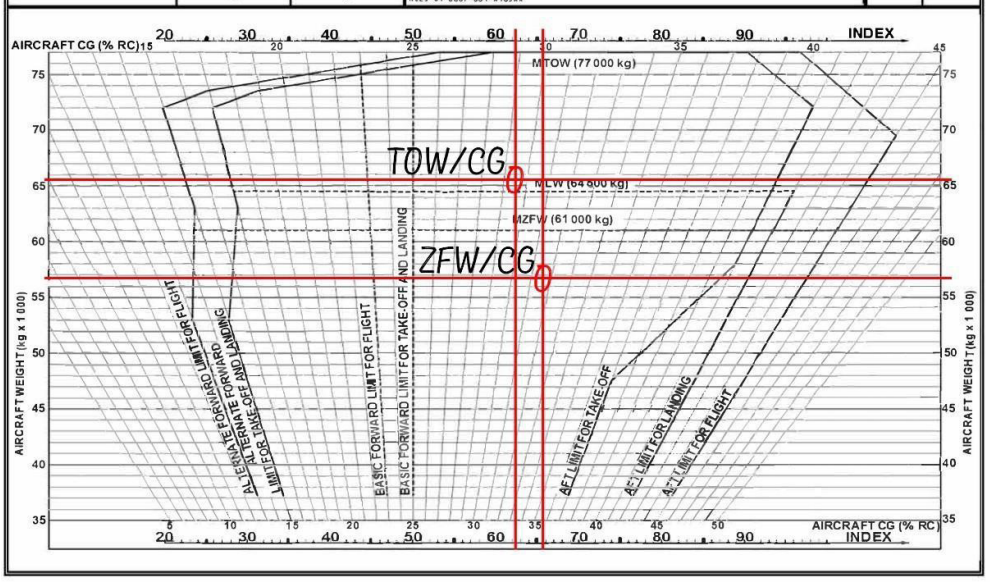
INDEX CALCULATION TABLE

DOI		50.34
PAX	–	+16
1-FWD Cargo	-7	
3 - AFT Cargo		–
4 - AFT Cargo		+6
5 - BULK Cargo		–
LIZFW	–	65.34
MAC ZFW		31.8
TOF Index	-3.29	
LITOW	29.7	62.05
MAC TOW %		-0.3 DN
TRIM	-	+

PASSENGERS INDEX CORRECTION

ROWS	2-10	11-22	23-32
PAX	OA	OB	OC
1-6	-3	0	+4
7-12	-7	+1	+8
13-18	-9	+2	+12
19-24	-13	+1	+16
25-30	-17	+2	+20
31-42	-23	+3	+28
43-54	-30	+3	+36
55-60		+4	+40

TOTAL PAX INDEX CORRECTION	+16



6-3-1 CARGO COMPARTMENT LOAD LIMITS

Applicable to: ALL

Refer to: OM-B 7 LOADING

6-3-2 CENTRE OF GRAVITY DOW/DOI LIMITS

Applicable to: ALL

Center of Gravity limits are presented in:

- Airplane Flight Manual;
- AHM-565 A320;
- AHM-564 A321.

Note: *In regular Operations, the C/G limits will most likely not be exceeded.*

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LOADING

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7-1 GENERAL

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LOADING

PRELIMINARY PAGES

SUMMARY OF HIGHLIGHTS

Localization Title	Toc Index	ID	Reason

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7-1-1 LOADING INSTRUCTION

Applicable to: ALL

Refer to: FCOM PER-LOD-GEN General
Refer to: GOM 10.8.3.8. SAFETY FACTORS SAFETY PROCEDURES

7-1-2 LOADING POLICY

Applicable to: ALL

The following standard passenger and loading distribution shall be used as a general guideline.

STANDARD PAX AND LOAD DISTRIBUTION A320

The following standard passenger and load distribution policy is designed to provide a TOCG above 27%, avoiding the Alternate/Extended FWD penalties.

Standard Passenger & Load Distribution A320						
Number of Pax	Pax Seating			Load Distribution		
	Cabin Section			Cargo Compartment		
	0A	0B	0C	CPT 1	CPT 3	CPT 4
Up to 50	30%	40%	30%	-	100%	-
51-100	30%	40%	30%	30%	40%	30%
101-150	30%	40%	30%	30%	40%	30%
151-180 (174)	EVENLY			30%	40%	30%
Maximum Capacity	60	60	60	3402 kg	2426 kg	2110 kg
Fill Cargo Compartment 5 (capacity = 1497 kg) only when other Compartments are full.						

STANDARD PAX AND LOAD DISTRIBUTION A321

There are no Alternate/Extended FWD penalties for the A321 fleet. The following standard passenger and load distribution policy is designed to provide optimum load distribution in order to avoid tail tipping on the ground and the biggest margins on the ZFW CG envelope.

Load planning sequence for A321 with ACT (Additional Center Tank):

For actual loading maximum available space shall be used. Observe compartment maximum load, do not exceed.

1. Fill compartment 3 first.
2. Continue with loading compartment 4.
3. Further overflow to compartment 2.
4. Further overflow to compartment 1.
5. Crew baggage is loaded in compartment 5.
6. Last minute bags – bags collected at the gate or onboard, baby strollers and wheelchairs are to be loaded in compartment 4 or 2, with ensuring proper securing and loading. If compartments 4 and/or 2 are full, compartment 1 can be used.

Standard Passenger Distribution A321 with ACT:

Number of Passengers	OA	OB	OC
Up to 50	-	50%	50%
51-150	20%	50%	30%
151-200	25%	50%	35%
Above 200	Evenly	Evenly	Evenly

DANGEROUS GOODS LOADING ON A321

Loading of following articles is strictly prohibited in AFT/BULK (compartment 3+4+5) in all cases:

- Any Dangerous Goods in Class 8 (RCM) CORROSIVE;
- Any Dangerous Goods in Division 1.4S (RXS) EXPLOSIVE;
- Any Dangerous Goods in Division 2.1 (RFG) FLAMMABLE GAS;
- Any Dangerous Goods in Class 3 (RFL) FLAMMABLE LIQUIDS;

- Any cargo items with a front section equal or less than 40x40cm and a length exceeding 1.9 m;
- Any package weighing more than 150kg (HEA).

Above articles may be loaded FWD only. If A321 is bulk loaded in FWD or AFT, the section nets must be installed and the limitations for A321 (bulk loaded) will apply and loading instructions and limitations of AFT/BULK must be adhered (see also next page).

7-1-3 CARRIAGE OF AVI (LIVE ANIMALS)

Applicable to: ALL

GENERAL

The forward and aft cargo compartments on the A32F aircraft are ventilated by ambient cabin air coming from the cabin zones through openings in the cabin floor behind the sidewall panels. Some old versions of the A320 fleet are not fitted with the optional extraction fans or heating system. As a consequence, there is a legacy of not accepting live animals (AVI) for carriage in the cargo holds of these aircraft, except only in some exceptional circumstances.

Animals shall be transported in accordance with IATA Live Animals Regulations. Live animals shall only be loaded into suitable aircraft compartments authorised by Fly2Sky, taking into account the animals needs.

The flight crew shall be notified on the form "Special Load Notification to Captain" (NOTOC) of any live animals loaded as baggage or cargo on the baggage hold.

Live animal shipments must be manifested in all documents as AVI.

RAMP HANDLING

Ground transportation and loading/unloading shall be performed smoothly in order not to startle the animal. Animal shipment shall not be left standing unnecessarily in the open or on an aircraft when the departure is delayed.

STOWAGE ON AIRCRAFT

The following guidelines shall be observed during AVI transportation on Fly2Sky aircraft:

- Live animals shall not be packed inside a closed ULD, except for a few species, e.g., tropical fish;
- The containers shall always be tied down or be otherwise secured against any kind of movement at take-off, landing and during flight, to prevent shifting or falling off the animal container;
- The containers shall be stowed in such a way that there is enough space between cages and other loads to guarantee sufficient air circulation;
- Cages shall not be placed under other loads;
- The containers shall be accessible without needing to be off-loaded when care of the animal is required during transit stops.
- In the event of an excessive delay, special care shall be taken, according to shippers' instructions, e.g., opening of compartment doors, extra watering/feeding, off-loading, etc. as necessary;
- The containers shall not be loaded directly in front of or below air ventilation outlets or in contact with the floor, or compartment walls, or internal lights;
- The use of spreader boards may be necessary to insulate from the airframe;
- Live animals shall not be loaded in close proximity to other loads that may have a negative effect on their health and welfare;
- Animals, which are natural enemies, shall not be loaded in close proximity to one another. If male and female animals are loaded in the same compartment or hold, they shall be stowed as far apart as possible;
- Animals shall not be loaded in the same compartment as cryogenic liquids (RCL), Carbon dioxide, solid (dry ice) (ICE);
- Live animals shall not be stowed in the same compartment as poisons (RPB), infectious substances (RIS) and foodstuffs (EAT);
- Live animals may be loaded together with radioactive materials, provided that the separation distances stated in the IATA Live Animals Regulations are complied with;
- For ethical reasons, live animals (AVI) and human remains (HUM) shall be segregated in aircraft cargo compartments.

AGE & FITNESS TO FLY

Puppies must be over 10 weeks of age, with documentation to prove this.

GOVERNMENT REGULATIONS

All government regulations must be complied with, and the owner of the animal must obtain all necessary documentation (i.e., export/import/transit permits, health/vaccination certificates etc.) Fly2Sky does not assume any responsibility if an animal is refused entry into or transit through a country. It is the Owners responsibility to ensure that they adhere to the regulations of the country they are travelling to.

CRATES

Pets carried in the aircraft hold must be properly crated according to IATA Live Animals Regulations. Pets over 40 kg must be carried in strong wooden containers. If the crate is found to be unsuitable or too small, a new larger container needs to be obtained before the animal is allowed to continue its journey. (Crate examples Attachment 2) It is the shipper's responsibility to provide the crate.

Crates must be:

- Strong enough so that the pet cannot escape during the journey;
- Spacer bars must be provided along the middle of both long sides of the container;
- Durable with leak-proof bottom, absorbent bedding must be provided, not straw as many countries prohibit importation;
- All openings must be paw-proof to avoid any part of the animal protruding from the container;
- Ventilated properly on all sides, including the door;
- Large enough to permit the animal to stand upright and lie down comfortably in its natural position;
- Water containers must be present within the container with outside access for
- filling;
- Labelled with the shipper's name and address and contact details, "This Way Up" labels and Live Animal green labels wherever possible without covering ventilation holes.

MAXIMUM NUMBER OF ANIMALS PER CRATE

The maximum number of animals per crate:

- 2 animals per crate up to a max of 14kg each; or
- Maximum of 3 animals up to the age of 6 months if they are from the same litter.

Refer to: Section 10 and appendix B of the IATA Live Animal Regulations for more specific information on personnel health and hygiene when handling live animals.

AMBIENT TEMPERATURES

At any time when the temperature is over 30°C, Fly2Sky may not be able to accommodate animals.

Under IATA regulations, live animals cannot be transported when the ground temperature is 35°C or more, including the humidity level. This means Fly2Sky will not accept live animals on any flight when the ground temperature is 35°C or higher, including the humidity level at the station of origin, transit station or destination. If temperatures are equal to or exceed 35°C at any of the stations in the routing, animals will not be accepted and will therefore be rebooked for the next available flight(s).

At any time when the temperature is below 5°C, Fly2Skymay not be able to accommodate animals. It is not recommended to ship toy-sized dogs, puppies and kittens.

HEALTH & HYGIENE (PERSONNEL)

All animals, including domestic pets are capable of transmitting a variety of diseases to humans, some more than others. Consequently, physical contact with the animal must be avoided, and strict personal hygiene must be observed.

Refer to: Section 10 and appendix B of the IATA Live Animal Regulations for more specific information on personnel health and hygiene when handling live animals.

ANIMALS NOT TO BE CARRIED

The following animals are not to be carried on board:

- Puppies under 10 weeks of age;
- Wild-caught birds are not accepted for carriage;
- Minks;
- Animals intended for laboratory use. The following types of Dog Breeds will not be carried due to their aggressive nature:
- Akita;
- Dogo Argentino;
- Fila Brazillero;
- Mastiff;
- Pit Bull;
- Tosa;
- Bull Dogs.

Snub-Nosed (brachycephalic) dogs or cats will not be carried due to their inability to breathe easily and cool themselves down, such as Bulldogs, Pugs, Boxers, Shih Tzu, Persian.

CAUTION	Limitations apply for aircraft not equipped with Cargo Ventilation and or Heating (see paragraph below).

COMPATIBILITY OF ANIMALS CARRIED

To ensure compliance with regulations, contact Fly2Sky;

Cargo Reservations must check to see if there are animals already booked and if there is any incompatible freight booked;

Other influences depend on the volume of animals carried, the size of the animals and the mix;

Dogs and cats can be mixed regardless of if they come from the same family, provided they are in separate containers and are placed in opposite directions in the hold.

TRANSPORTATION OF AVI ON UNVENTILATED CARGO COMPARTMENTS

GENERAL KNOWLEDGE & GUIDELINE TABLES

Airbus does not recommend the transportation of live animals in an unventilated compartment.

Nevertheless, Airbus provides the Live Animal Transportation Tool Calculator (LATC) as an alternate means of calculating the cargo hold environmental condition and provides suitable conditions for the transport of live animals.

The Airbus Live Animal Transportation Tool Calculator (LATC) was used to provide guidance for the transportation of live animals. The purpose of LATC is to determine the built-up levels of CO_2 levels, heat and moisture produced by the animals during the flight. It's based on the specific inputs provided by the operator. Factors like ambient temperature and relative humidity at departure and destination are taken into account to produce a series of "Go / No-Go" results for the carriage of animals.

A conservative approach was used for the variable inputs, and the results are tabulated in the table below.

The calculation assumes an unventilated and unheated cargo hold compartment.

GUIDANCE TABLE FOR ACCEPTING PETS IN CARGO HOLDS

Q of pets per hold	GND temp at departure (°C)	GND temp at arrival (°C)	Max Flying Time (hours)	Min. hold temp during flight if empty compartment (°C)	Minimum hold free space available (m^3)
1 up to 40 kg	10 – 29 °C	10 – 29 °C	05:00	0 – 5 °C	6.0
2 up to 40 kg	10 – 29 °C	10 – 29 °C	05:00	0 – 5 °C	6.0
3 up to 40 kg	10 – 29 °C	10 – 29 °C	03:30	0 – 5 °C	6.0

Note: *Fly2Sky shall carry domestic pets (dogs and cats only) in the cargo hold;*

Pets can be loaded in any hold provided the minimum free space is fulfilled (see table below);

The optimum pet location is in the hold that is empty or least loaded (i.e., hold 5 if empty or hold 1 if loaded less than half).

CARGO COMPARTMENT CAPACITY A320

Hold	A320 Hold Size (m^3)
Hold 1	13.2
Hold 3	9.7
Hold 4	8.5
Hold 5	5.88
Total	37.28

CARGO COMPARTMENT CAPACITY A321

Hold	A321 Hold Size (m^3)
Hold 1	8.86
Hold 2	13.95
Hold 3	9.41
Hold 4	8.52
Hold 5	5.880
Total	46.62

The front hold will keep ~1.0 C higher temperature than back holds during the flight in unventilated holds.

TRANSPORTATION OF AVI ON VENTILATED CARGO COMPARTMENTS

GENERAL KNOWLEDGE

Same temperature limitations apply as per the Unventilated Cargo compartment Max temp above.

For A32F, one installation is using an Extraction fan to draw air from the cargo compartment and exhaust it overboard. Air from the cabin replaces the exhausted air, thus ventilating the cargo compartment.

In another installation, Air from the cabin goes via the inlet isolation valve to the aft cargo compartment driven by an extraction fan. Air is controlled by the outlet isolation valve and then goes outboard through the outflow valve. The cargo ventilation controller controls the operation of the inlet and outlet isolation valves and the extraction fan.

When the isolation valves are fully open, the extraction fan operates continuously when the aircraft is on the ground and during flight. The controller closes the isolation valves and stops the extraction fan when:

the flight crew turns the AFT ISOL VALVE pushbutton switch OFF, or the aft cargo smoke detection unit detects smoke.

TRANSPORTATION OF AVI ON VENTILATED-HEATED CARGO COMPARTMENTS

GENERAL KNOWLEDGE

For A32F, the ventilation system for the aft cargo compartment uses hot engine bleed air (upstream of the packs), mixing it with the ambient cabin air that flows through the cargo compartment. The cargo regulating valve regulates the pressure of this hot air supply, and the trim air valve, which is modulated electrically by the controller, controls the flow.

The cargo pressure regulating valve is pneumatically operated and electrically controlled from the HOT AIR pushbutton on the CARGO HEAT panel. The hot air is controlled by the cargo trim air valve, which is modulated electrically by the controller. The hot air is then mixed with air from the cabin and supplied to the cargo compartment through the ventilation inlet isolation valve.

According to the temperature selector demand, the controller regulates the amount of hot air added by the trim air valve until the desired temperature is reached. If the inlet temperature exceeds 70 °C, the controller closes the trim air valve.

If the inlet temperature exceeds 88 °C, the controller interprets this as a duct overheat and closes the pressure regulating valve. This valve then remains closed until the flight crew resets the system by pressing the HOT AIR pushbutton — which it cannot do until the temperature drops below 70 °C.

Temperature knob Control compartment temperature as below:

COLD position	HOT position	Middle position
Approximately 5 °C (41 °F)	Approximately 26 °C (79°F)	Approximately 15 °C (59 °F)

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CONFIGURATION DEVIATION LIST

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8-1 GENERAL

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CONFIGURATION DEVIATION LIST

PRELIMINARY PAGES

SUMMARY OF HIGHLIGHTS

Localization Title	Toc Index	ID	Reason

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8-1-1 GENERAL INFORMATION

Applicable to: ALL

Refer to: AFM MASTER CONFIGURATION DEVIATION LIST

The CDL used by Fly2Sky is the Master CDL contained in the Aircraft Flight Manual (AFM) and is accessed through:

- The PDF version of the AFM in the Centrik System;
- The FlySmart FS+ OLB module.

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MINIMUM EQUIPMENT LIST

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9-1 GENERAL

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Localization Title	Toc Index	ID	Reason

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9-1-1 GENERAL INFORMATION

Applicable to: ALL

Refer to: MEL PREAMBLE/GENERAL/INTRODUCTION/MEL PROCEDURES
Refer to: OM-A 8-6 USE OF THE MEL AND CDL

Fly2Sky Minimum Equipment List is based on the Master Minimum Equipment List (Airbus MMEL and EASA CS-MMEL) published for the A320 family.

Revisions are submitted for approval to Civil Aviation Authorities within 90 days after publication of MMEL revision.

The MEL is available in:

- The PDF version of the Centrik System;
- The FlySmart FS+ OLB module.

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SURVIVAL AND EMERGENCY EQUIPMENT

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10-1 GENERAL

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SURVIVAL AND EMERGENCY EQUIPMENT

PRELIMINARY PAGES

SUMMARY OF HIGHLIGHTS

Localization Title	Toc Index	ID	Reason

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10-1-1 GENERAL INFORMATION

Applicable to: ALL

The following survival and emergency equipment is to be carried on each flight:

		Emergency equipment	Survival equipment
List of items		*Refer to: Registration specific Emergency Equipment Location Map (1)*	For crew life vests Refer to: registration specific Emergency Equipment Location Map (1) + 1 adult life vest under each passenger seat
Requirement		All items required on all flights (2)	1 life vest for each passenger and crewmember (2)(3)
Pre-flight check procedure	Flight Deck	*Refer to: FCOM-PRO-NOR-SOP-PRELIMINARY COCKPIT PREPARATION-EMERGENCY EQUIPMENT*	
	Cabin	*Refer to: CCOM 8.3 PRE-DEPARTURE CHECKS*	

(1) Hard copies of the Emergency Equipment Location Map specific to the aircraft are provided in the onboard document folder and under each cabin crew jump seat. An electronic copy of the same document is provided in the Centrik System.

(2) Except when dispatching as per MEL provisions

(3) Required only in case of specific overwater flights. Refer to: OM-A 8-1-2 DETERMINING THE ADEQUACY OF AERODROMES

10-1-2 OXYGEN SUPPLY

Applicable to: ALL

To determine the required amount of oxygen, Refer to the FCOM.

Refer to: FCOM LIM-OXY Minimum Flight Crew Oxygen Pressure
Refer to: FCOM DSC-OXYGEN

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EMERGENCY EVACUATION PROCEDURES

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11-1 GENERAL

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Localization Title	Toc Index	ID	Reason

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11-1-1 EMERGENCY EVACUATION GUIDELINES

Applicable to: ALL

Refer to: FCOM PRO-ABN-90-DETAILED CABIN-COCKPIT EVACUATION PROCEDURE; FCTM PROCEDURES-ABNORMAL AND EMERGENCY PROCEDURES-MISC-EMER EVAC

Unless the aircraft has obvious structural damage, an emergency evacuation must always be the result of a decision process (if the aircraft has suffered major structural damage, the cabin crew procedures allow an evacuation without an order from the cockpit crew).

Whenever possible, communicate before the landing with the SCC (NITS briefing) and ATC (NITS format) the possibility of an emergency evacuation. Remain clear about what you want to be done or what is only a possibility. Clearly state to ATC whether you require an inspection of the aircraft on the runway after landing or whether you only require emergency services on standby.

Before starting the process, obtain all relevant information for the decision (inside and outside information). Never start the process before the aircraft has come to a complete stop 'PARK BRAKE' set ON, Dome Light set ON, and the announcement "**ATTENTION CREW! AT STATIONS!**" made.

Do not specify side or direction when ordering an evacuation. The checklist is a read and does checklist by CM2. Confirmation of ENG MASTERS or FIRE P/Bs is NOT required. On initiating an "**EVACUATE, EVACUATE!**" command, CM1 must remain in the cockpit and will continue to communicate with ATC/emergency services on the status of the evacuation.

Note: The electrical transfer to aircraft batteries on shutdown of Engines/APU may require re-selection of VHF 1 transmit on the ACP 1.

CM2 will retain the cockpit BCF extinguisher and PBE (if fire or smoke is evident in the cabin), and in all cases, he will proceed to the forward galley to assist. If not required, he will be directed to EVACUATE and assist in moving passengers away from the aircraft to a safe location.

CM1 is the last to leave the aircraft through the rear exit if available after checking that all occupants have evacuated.

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AIRCRAFT SYSTEMS

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12-1 GENERAL

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Localization Title	Toc Index	ID	Reason

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12-1-1 GENERAL INFORMATION

Applicable to: ALL

A full description of the Airbus A320 family systems is in the Airbus FCOM.

Refer to: FCOM DSC-AIRCRAFT SYSTEMS

APPENDIX

13-1 GENERAL

Localization Title	Toc Index	ID	Reason

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APPENDIX 1

DONNING THE PORTABLE BREATHING EQUIPMENT (PBE) P/N 15-40F-11 AND P/N 15-40F-80 - FORMERLY - AIR LIQUIDE

APPLICABLE: LZ-FSA, LZ-FSB
DO NOT USE PROCEDURE IN FCOM DSC-35-40-10 USING THE HOOD FOR THESE AIRCRAFT

Reason for use of a Portable Breathing Equipment (PBE)
This Portable Breathing Equipment is designed to protect the user's eyes and respiratory tract in a contaminated atmosphere.
This PBE provides the ability to locate and combat a fire within the cabin limited to 15 minutes, as per TSO-C116 requirements.

Main features of the PBE
The PBE is a closed-circuit system, delivering pressurized oxygen at a defined flow rate independent from the user. The gas is automatically released during donning. It was designed so that it can be put on quickly (less than 15 seconds for a trained person) using a very simple operating method. Its design allows movement of the head while keeping a very good visibility.
The hood is packed under vacuum in an aluminium cover, airtight and resistant, fitted with a quick opening system of red colour. Thus packed, it is slipped into its stowage container. It is installed in a fixed position.
The life limit of the PBE is 10 years. This total duration includes the shop storage time and service time on-board the aircraft. This life limit is guaranteed if the latch of inviolability is not broken and the sealed aluminium cover remains under vacuum, therefore ensuring that the CO2 absorption system will function correctly.

Principles of operation
The composition of the Portable Breathing Equipment is shown in Figure 1.

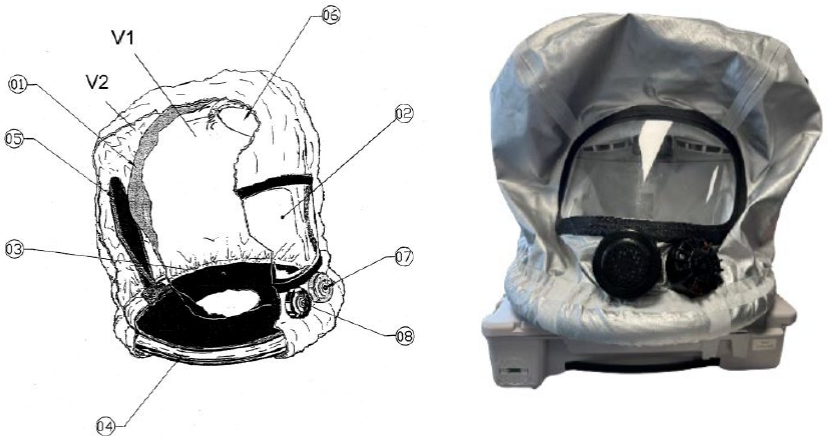

Fig. 1

It has:

- A flexible sealed envelope with two compartments (1)
- a visor (2)
- a sealing collar at the level of the neck (3)
- a compressed oxygen container (4)
- a triggering paddle system (5)
- a CO2 absorption system (6)
- a safety pressure valve (7)
- a phonic membrane (8)

The oxygen is contained in a doughnut shaped cylinder, allowing the passage of the head, providing stability to the hood on the head of the user. The oxygen is delivered when the triggering paddle is activated through the installation of the hood on the head. The triggering paddle is pushed by the head, releasing the flow of oxygen.

Applicable to PNR 15-40F-11

The steps for taking the Portable Breathing Equipment out of the box are shown in the pictogram (refer to Figure 2).

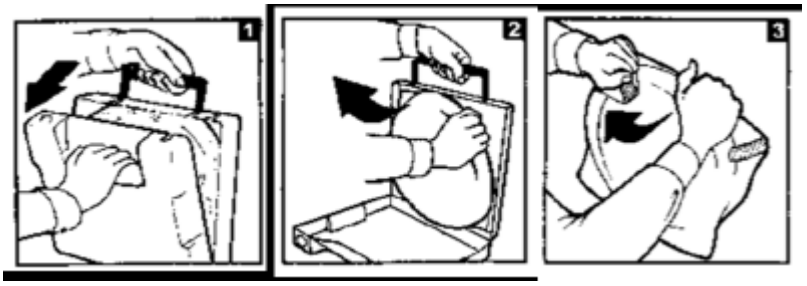

Figure 2

(1) Hold the box handle marked 1 in one hand and with the other hand firmly pull the grey part of the lid marked 2 „PULL“ the stick breaks, the lid opens.
(2) Hold the vacuum-packed hood in one hand and hold in position by the two yellow squares then take it out of the packing box by pulling it towards you.
(3) Discard the box and hold the hood by the red tear tabs with one hand.

Applicable to PNR 15-40F-80

The steps for taking the Portable Breathing Equipment out of the box are shown in the pictogram (refer to Figure 3).

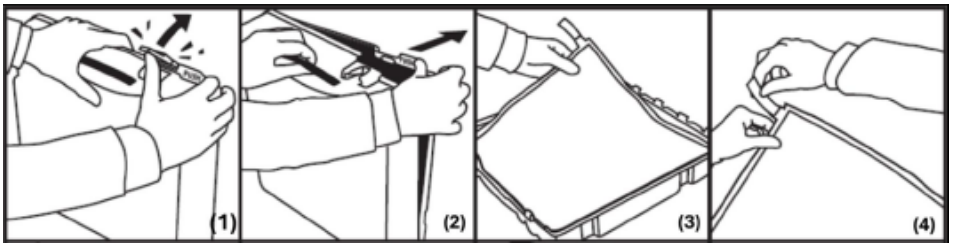

Figure 3

(1) Hold the case in one hand and with the other lift the part of the green security latch marked “SEAL” to break it.
(2) Push sharply on the part of the cover marked “PUSH” to open the cover.
(3) Hold the vacuum-packed hood in one hand (held in position by the two yellow clips) and take it out of the packing box by pulling it.

(4) Discard the box and take hold of the red tear tab with one hand, holding the pouch with the other hand.

Applicable to both PNR 15-40F-11 and PNR 15-40F-80

The steps for donning the Portable Breathing Equipment are shown in the pictogram (refer to Figure 4).

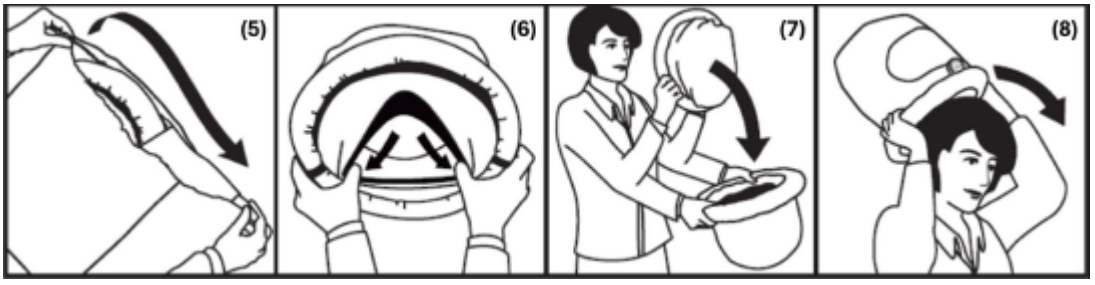

Figure 4

(5) Pull on the red tear tab, the cover tears easily. Take out the hood pulling on the compressed oxygen container (refer to Figure 5a, 5b, 5c and 5d).

WARNING: PULL THE HOOD WITH THE CYLINDER. DO NOT INSERT THE HAND IN THE PACKAGING TO PULL THE HOOD BY THE FABRIC OR THE SEALING COLLAR. THIS CAN DAMAGE THE OXYGEN ACTIVATION SYSTEM AND AFFECT ITS OPERATION.

Figure 5a Figure 5b

Figure 5c

Figure 5d

(6) With the orange marks visible and towards you, place your hands on the orange marks (refer to Figure 6a) and, using your thumbs, open the black neck seal at the base of the hood (refer to Figure 6b).

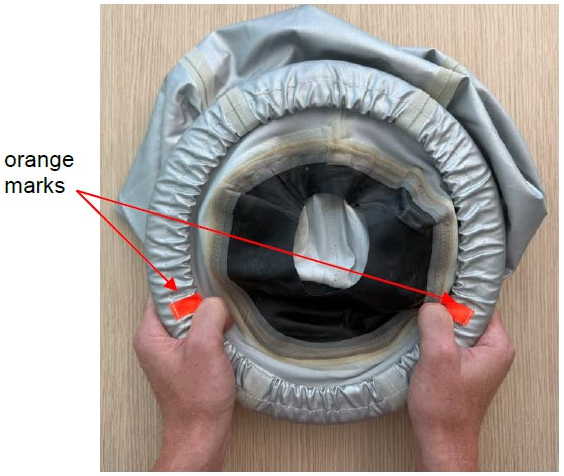

Figure 6a

Figure 6b

WARNING: YOU MUST ONLY GRAB THE BLACK NECK SEAL (FIGURE 7a) AND NOT INTERNAL COMPONENTS (FIGURE 7b) OR THE WHITE FABRIC (FIGURE 7c). IF YOU GRAB THE WHITE FABRIC OR THE INTERNAL COMPONENTS, YOU CAN DAMAGE THE ACTIVATION OF THE OXYGEN SYSTEM. A DAMAGED SYSTEM CAN CAUSE INJURY TO PERSONS.

Figure 7a Figure 7b Figure 7c

(7) Holding the oxygen container tightly with both hands with the black neck seal open, flick the hood down in a sharp movement to deploy it (steps detailed in Figure 8).

Figure 8

(8) Put the hood over your head, from back to front. After donning the hood, you will hear a slight click caused by the activation of the oxygen system. You will then hear a noise caused by the oxygen flow in the PBE. Breathe normally, the hood is now operational. You will feel the hood act as a lung, inflating and deflating when you breathe (refer to Figure 9).
It is recommended to start a clock for the 15min operating time.

Figure 9

WARNING: WHEN DONNING THE PBE OR DURING ITS FIRST SECONDS OF USE, IF YOU DO NOT HEAR THE NOISE PRODUCED BY THE OXYGEN FLOW, YOU MUST IMMEDIATELY REMOVE THE PBE AND EQUIP WITH ANOTHER PBE.

(9) Remove the hood from your head after 15 minutes.

WARNING: YOU SHALL REMOVE THE PBE AFTER 15 MINUTES. THE OPERATIONAL PERFORMANCE IS NOT GUARANTEED AFTER THIS DURATION. NOT REMOVING THE PBE AFTER 15 MINUTES WILL CAUSE DETRIMENTAL EFFECT ON THE USER'S PHYSICAL STATE.

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