


**A320-233**  
**STANDARD OPERATING**  
**PROCEDURES**


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|  | <b>INTRODUCTION</b>                       |

## **INTRODUCTION**


- A. The **Yemen Airways** operating philosophy for the A320 will be in accordance with the procedures and techniques laid down in the FCOM's and QRH. This document complements the A320 Standard Operating Procedures (SOP) in the FCOM PRO/LIM TOME 1 and PRO/LIM TOME 2 reflecting Yemenia's specific Standard Operating Procedures. The procedures in this document are consistent with the Operations Manual Part A.

Whereas some items in the Operations Manual – Part A covers the overall company policy the SOP's reflected in this document are type specific and where conflict arises between the two, the Operations Manual – Part A over rides.

- B. Standard Operating Procedures detail specific duties assigned to each crewmember as well as standard calls and actions which enable the crew to operate the aircraft and systems efficiently.
- C. The aim of the Standard Operating Procedures is to provide positive guidelines to the crew, to standardize their operation together as a team and to promote the safest possible operation of Yemenia aircraft.
- D. It is therefore, mandatory that the A320 Standard Operating Procedures in the FCOM PRO/LIM (TOME 1) and the specific Company Procedures detailed in this document be adhered to by the A320 flight crewmembers during all normal operations. Airmanship may dictate deviation in certain circumstances, this is permitted subject to the deviation being briefed, understood and agreed by both pilots.

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|   | <b>AREAS OF RESPONSIBILITY</b>            |

**AREAS OF RESPONSIBILITY**

- A. Flight crew duties from boarding the aircraft until “BEFORE TAKE-OFF CHECKLIST below the line” are apportioned to CM1 and CM2. Thereafter and until the end of the landing roll the responsibilities are as PF and PNF:

| <b>TASK SHARING FOR NORMAL OPERATIONS</b>   |  |
|---|--|
| <b>PF</b>                                   | <b>PNF</b>                                       |
| - Normal Procedures                         | - Normal Procedures                              |
| - Flight path                               | - Checklist reading and actions                  |
| - Navigation                                | - Communications                                 |
|   | - Tasks requested by PF                          |
| <b>TASK SHARING FOR ABN/EMER PROCEDURES</b> |  |
| <b>PF</b>                                   | <b>PNF</b>                                       |
| - Throttle levers                           | - ECAM or Checklist reading                      |
| - Flight path and<br>airspeed control       | - Execution of required actions<br>on PF request |
| - Request configuration changes             | - Engine Master Switches                         |
| - Navigation                                | ENG FIRE Pb                                      |
| - Communications                            | (with the consent of the PF)                     |

- B. For all ABN / Emergency Procedures Task Sharing refer to **QRH – General 0.00**.
- C. The First Officer (CM2) may be assigned PF duties from the beginning of take-off roll until the end of the landing roll.
- D. Notwithstanding the above allocation of duties, the Captain may take over control at any time he deems it is necessary to do so, by saying “I HAVE CONTROL” the other Pilot will acknowledge by saying “YOU HAVE CONTROL”, release the flight controls and the thrust levers.

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## E. AIRCRAFT FUELLING

For station where no engineer support is available, it is the responsibility of the First Officer to carry out the duty of re-fuelling the aircraft. Ensure that the fuel specific gravity is entered on the fuel receipt by the fueling personnel.

**Note:** For refueling / fuel transfer rate, refer FCOM PRO/SPO (Special Operation) TOME 2.

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|   | CHECKLIST                          |

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| <b>CHECKLIST</b> |
|------------------|

Checklist will be conducted as per the A320 SOP in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.

**A. GENERAL**

1. The Normal Operating Procedures and the Normal Procedures Checklist are consistent with Modern cockpit technology and assume that all systems are operating normally and that automated features are used at all times where authorized or possible.
2. The Normal Checklist is used as verification that steps of a procedure have been accomplished. It includes only items that may have a direct impact on safety or efficiency if not properly accomplished, and only if their omission is not detectable in the cockpit by means such as the ECAM or other Warning system.
3. During ground operations, the Captain (CM1) is to initiate each checklist by calling for it by name; if the captain does not call for the checklist, the First Officer (CM2) is required to ask the captain if he is ready for checklist. After each checklist is completed, the reader must identify each checklist by name and state that it was completed.


**B. NORMAL CHECKLIST**

All Normal Checklists will be Challenge and Response, except for:

THE AFTER LANDING: When clear of the runway or back tracking on the runway CM1 will disarm the GRND SPLRS, CM2 will perform the actions from memory, read AFTER LANDING CHECKLIST silently the challenge and response, and announce AFTER LANDING CHECKLIST Complete.

Preferred to be silently for A320.



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### C. CHECKLIST SEQUENCE

In general, the following rule applies:

#### 1. DURING TAKE-OFF:

- a. For Emergency Procedures:
  - Read ECAM or Emergency Checklist
  - Read AFTER TAKEOFF Checklist
  - Review ECAM STATUS page
  - Check OEB
  - Decide next course of action (Directo TO, Return to departure airport, or hold).
- b. For Abnormal Procedures:
  - Complete the after take-off checklist first, then
  - The abnormal checklist.


#### 2. DURING APPROACH:

- a. For Emergency Procedures:
  - The emergency / ECAM / Checklist is completed first, then
  - The approach and landing checklist.
- b. For Abnormal Procedures:
  - Complete the abnormal checklist first, then
  - The approach and landing checklist

### D. CHECKLIST PRESENTATION

1. Through out this Chapter and on the checklist (in the QRH), the following assignment of duties apply:

- CM1** The crewmember in the left seat (designated 1 in the checklist).
- CM2** The crewmember in the right seat (designated 2 in the checklist).
- PF** Pilot flying
- PNF** Pilot not flying

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2. These titles are used to designate, which crewmember is responsible for corresponding items on the checklist.


#### NOTE

In training flight, the pilot-in-command may be a training Captain operating in the right hand seat. However, in this Chapter it assumes the CM1 is pilot-in-command.

3. NORMAL PROCEDURE in the QRH all “PF” & “PNF” titles under the following checklist to be read “CM1” & “CM2” accordingly.
  - BEFORE PUSHBACK or START
  - ENGINE START
  - AFTER START
  - TAXI
  - BEFORE TAKE OFF
  - AFTER LANDING
  - PARKING
  - SECURING THE AIRCRAFT

#### E. USE OF COCKPIT CHECKLISTS


1. On ground CM1 will call for all checklists and abnormal checklist if required.
2. PF will call all checklist in flight.
3. Use of the checklist is mandatory for all phases of flight. The appropriate checklist will be read from the printed card. **At no time the checklist should be RECITED from memory.**
4. Normally the checks will be completed by scan from memory before the checklist is read, thereby ensuring:
  - Uninterrupted reading of the checklist with challenges and responses only.
  - Double check of all actions when each challenge is acknowledged by the crewmember concerned.

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5. Strict adherence to the checklist must be observed at all times, and the crewmember concerned must not call the next item until the item called is checked and the appropriate response given.
6. For those checklist items identified (AS RQRD) the response states the actual condition or configuration of the system, e.g : (“ANTI-ICE”.... “OFF”).

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## COMMUNICATIONS AND STANDARD CALLS

### A. RMP

The following frequencies will be monitored.

|      |                             |
|------|-----------------------------|
| VHF1 | ATC                         |
| VHF2 | Company / Agent + <b>WX</b> |
| VHF3 | 121.5 / 126.9 / DATA        |
| HF1  | ATC + Company / DATA        |

**Note:** 126.90 MHz, or applicable frequency to specific region must be complied with 10 minutes prior to entering any IATA IFBP (IATA In-flight broadcast procedure).


### B. COCKPIT COMMUNICATION

1. Cross-cockpit communication for any two pilot crew is vital. Good communication coupled with a high degree of standardization should produce a system where repeated interchange of crewmembers is possible without compromising operational safety.
2. Any time a crewmember makes an adjustment or change to any information or equipment on the flight deck, he will advise the other crewmember of his intentions or actions and receive an acknowledgement. This includes **but is not** limited to such items as FMGS alterations, changes in speed, tuning navigation radios, flight plan deviations, and selecting such systems as anti-ice and economy flow.

**Note:** Refer to OM-A 8.1.13.10.1

### C. STANDARD CALLS

1. Standard calls will be in accordance with the Operations Manual – Part A and the A320 SOP standard call outs except where stated otherwise below. Refer to Task Allocation in FCOM (PRO-NOR-SOP-90/P1/10 TOME 1).

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## 2. FMA

All FMA, speed and altitude changes must be announced. Normally by PF, checked by PNF.

If an FMA call is not called or completed by PF/PNF the other Pilot must make the call after waiting period of approximately 3sec.

- FMA colours when on armed mode only.

## 3. AP AND A/THR DISENGAGEMENT:


The PF should announce prior to disengagement of AP and A/THR.

## 4. ATC:

All ATC instructions / clearances regarding altitude, heading and speed, should be repeated by PF, after the PNF acknowledges the ATC instructions.

## D. COCKPIT TO CABIN COMMUNICATION

1. Except for short periods to allow access between the flight deck and the cabin the flight deck door in the interests of security, to remain closed during all phases of flight. The door may be left open for extended periods only if operational conditions required it and on the instructions of the **captain**.
2. For all public address messages primarily intended for the passengers the **PA** handset is to be used with loud speakers off and flight deck door closed.
3. The Purser / Senior Flight Attendant having received the cabin report from each flight attendant, shall report "CABIN READY" by pressing the CABIN READY button on the CABIN STATUS page of the Flight Attendant Panel (FAP). The "CABIN READY" will be triggered on the ECAM MEMO page.

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The cabin ready shall be reported to the cockpit through the interphone. Takeoff is not to be initiated until "Cabin Ready" is received.

**Note:** In case is not available on ECAM memo, as a malfunction item. The completion of the demo announcement does not mean that the Cabin is ready. The "CABIN READY" report is only reported after the above requirement is met.


4. Just Before entering the runway for take-off and after receiving the "CABIN READY", the CM2 will recycle the **FASTEN SEAT BELT** signs "OFF/ON" once to signal the cabin crew that take off is imminent.
5. At TOD the PF shall recycle the FASTEN SEAT BELT signs "OFF/ON" once to signal the cabin crew that descent has started (cabin crew to start cabin preparation for landing).
6. During approach and after first slats/flaps selection, the PNF shall recycle the **FASTEN SEAT BELT** signs "OFF/ON" Once to signal the cabin crew that landing is imminent.

**Note:** Refer to Operations Manual – Part A 8.1.13.10 "Standard Communication" and 8.1.13.34 "Cockpit and Cabin Standard Communication Procedures".

#### E. PUBLIC ADDRESS (PA)

1. Public address is used for emergency situations, cabin crew and passenger information and to promote the Company.
2. Captains are to ensure that clear and brief announcements are made in Arabic and English. Announcements should be made in a friendly tone voice, avoid speaking quickly.
3. Welcome Announcement by the Captain shall be made in accordance with the Flight Crew Announcement Guide.

**Note:** With the operation of the airshow, it is not any more required explaining flight plan details to the passengers.

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4. Keep the passengers informed when carrying out any usual operations, or when subjected to a phenomenon which may cause anxiety to the passengers' e.g., Turbulence.

#### 5. USE OF HEAD SET

Both pilots must wear their headsets from start-up all the way to TOC and from TOD all the way to after landing. With captain's discretion headsets may be removed during cruise provided the volume intensity has been checked through the speakers and the intercom / radio switch is selected neutral position.

**Note:** It is prohibited to use non-approved headsets (without boom).

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### **PRE-FLIGHT PREPARATION**

Flight preparation will be conducted as per the A320 SOP in the FCOM Volume 3 except where stated otherwise below.

- A. For operation into RVSM airspace flight planning and pre-flight procedures shall be conducted as per the Operations Manual Part A (8.3.2.11), PRO-SPO-SO P 1/4 (TOME 2).
- B. The PF & PNF assignment shall be made by the captain at flight dispatch.

### **SAFETY EXTERIOR INSPECTION**

Safety Exterior Inspection will be conducted as per the A320 SOP in FCOM Volume 3.

### **PRELIMINARY COCKPIT PREPARATION**

The preliminary cockpit preparation will be conducted as per the A320 SOP in FCOM Volume 3 except where stated otherwise below:

#### 1. AIRCRAFT DOCUMENTS AND MANUALS

The aircraft documents and manuals shall be checked in accordance with the list in the Aircraft Documents Bag (in the Flight Deck). Refer to Operations Manual Part A – 8.1.12.1.

#### 2. EMERGENCY EQUIPMENT

- a. Normally completed by PNF.
- b. Stowage and Emergency Equipment quantity as per the A320 Standard Operating Procedures in FCOM PRO/LIM (TOME 1).

### **EXTERIOR INSPECTION**

Exterior Inspection will be conducted as per the A320 SOP in FCOM PRO/LIM (TOME 1) except where stated otherwise below:

1. Normally completed by PNF.



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2. Prior to every flight an Exterior Inspection will be made. The responsibility for this inspection rests with the captain.
3. Prior to commencing the Exterior Inspection, the PNF shall:
  - Set the parking brake. This will ensure an accurate indication of brake wear during the walk around.
  - Selects the NAV & LOGO lights switch to system 1 or 2 as required. After completion of exterior inspection, NAV & LOGO switch should be switched OFF for day operation (provided stroop light operative as per the MEL).
  - Complete the PNF duties under the Preliminary Cockpit Procedures in FCOM PRO/LIM (TOME 1).
4. The Exterior Inspection must include:
  - a. A check for obvious wear and damage, especially of the following components:
    - Engine inlets / outlets
    - Nose gear, wheels and tires
    - Main gear wheels, brakes and tires
    - Structure for impact or damage
    - That there is no evident of fuel, oil or hydraulic leak
    - That all ground access doors are closed.

**Note:**

    - The parking brake must be applied if brake wear is to be accurately checked.
    - APU start, unless needed for air-conditioning and/or electrical power, shall be delayed till in hot and humid area 10 minutes before STD.
    - No water from FAUCET due to lack of bleed source.
  - b. A further aspect of this inspection is to provide a general overview of the condition of the aircraft before the start of the flight and may cover further technical / operational aspects such as:

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- Possibility of FOD (Foreign Object Damage) at parking position
- Obstructions within initial taxi area
- Progress of fuelling and loading
- Cold/Adverse weather operational considerations.

**Note:** Fluorescent vest must be worn when conducting the exterior walk-round.

### COCKPIT PREPARATION

Cockpit preparation will be conducted as per the A320 SOP in FCOM Volume 3 except where stated otherwise below:

1. The Cockpit preparation is divided into two parts:
  - a. The main scan will be completed by the PF from his normal crew seat. The scan flow pattern as per the SOP in the FCOM PRO-NOR-SOP-06 P 2/16 (TOME 1).
    - Overhead panel
  - b. The reminder of the cockpit preparation will be conducted by each Pilot from his crew seat (as detailed on the FCOM Volume 3 - 3.03.06) and consist scans of:
    - CENTER INSTRUMENT PANEL
    - PEDESTAL
    - FMGS
    - GLARESHIELD
    - LATERAL CONSOLE
    - CM1 / CM2 INSTRUMENT PANELS

**Note:** The PF shall announce the parameters when performing the scan on the FCU and INST Panel, cross checked by the PNF.

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## 2. FMGS

- a. On completion of the FMGS Initialization by the PF, the PNF will carry out the FMGS DATA CONFIRMATION check, by checking each page to ensure that he is aware of and in agreement with the inserted data and that the loaded route coincides with that on the CFP.

**Note:** When cross-checking the FMGS route it is recommended to simultaneously use F-PLN page to confirm track/distance and ND PLAN mode on an appropriate range to visually check that proper SID is inserted with altitude constraints cross-checked with departure charts and then check that way-points follow the CFP route.

- b. TRIP WIND entry in FMGS

For a rough fuel and time estimate, enter the average wind component from the CFP in the INIT B page.

**Note:** Choose between using TRIP WIND (INIT B page), or Forecast wind, for CRZ or DES phases. If the crew have already inserted the wind on the CRUISE and DESCENT WINDS, the system will no longer accept the TRIP WIND.

**Note:** For the most accurate fuel and time estimates, en-route winds must be entered.

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c. ADIRS

During transit stops it is not normally necessary to realign the IRSs. The crew should however monitor the IRSs performance by checking the residual ground speed on the MCDU with the aircraft stationary. If one IRS has a residual ground speed greater than 5 knots perform a fast alignment of all 3 IRSs:

- Set all 3 ADIRS DCU selector to OFF
- Set all ADIRS CDU selectors back to NAV within 5 seconds.
- Press ALIGN IRS, and check coordinates received by ADIRS. For flights with long sectors on which there is no updating of FMGS position with radio navigation, perform a complete alignment. For other flights, a fast alignment is sufficient.

**For all ETOPS flights a full alignment must be performed.**

d. COST INDEX

Use cost index of 35.

e. TAKE-OFF DATA

- THR RED/ACC ALTITUDE

The normal THR RED ALT will be 1500 ft AGL. The normal ACC ALT will be 3000ft AGL unless a no noise abatement procedure is specifically mentioned in the SID. For a non-noise abatement departure 1500ft AGL will be used for the THR RED ALT and 1500ft AGL will be used for the ACC ALT (This information will be specified on the departure charts and must be used for all departures from European airfields).

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- NON-STANDARD ACC ALT

In some cases the obstacle clearance procedure will require a climb to a height greater than 3000ft above airfield elevation before acceleration. Airports that have non-standard acceleration heights will be shown at the bottom of the Runway Analysis charts indicating the specific required acceleration height (indicated as MIN ACCEIERATION HEIGHT).

**Note:** Acceleration Altitude to be rounded to the next higher 100 ft.

3. AIR CONDITIONING

a. Select PACK FLOW as follows:

- LO - Less than 115 PAX
- NORMAL, for all other normal operating cases
- HI – For abnormal hot and humid conditions.

4. ALTIMETER CHECK

Altimeter check (altitude indications on the PFD and Standby Altimeter) to be performed by the PF to ensure the altimeters are within the altitude Tolerance limit (given in FCOM PRO-NOR-SOP-14 P 2/4). Once the instrument checks have been done by the PF he will announce “ALTIMETER CHECK” and will call “XXX (QNH) set..... feet ..... blue Standby checked”.

5. ATC TRANSPONDER

- Select System 1 if AP1 in use
- Select System 2 if AP2 in use

**Note:** Only SYS 1 is available in Emergency Electrical Configuration.

## 6. RADAR SYSTEM

During taxi out when clear of terminal and other aircraft, set WX radar selector to WX and adjust the Tilt as per the FCOM PRO/LIM (TOME 1).

## 7. TAKE-OFF DATA

- a. The CM2 shall calculate the take-off data based on the Estimated ZFW from the Computer Flight Plan to obtain take-off speed and FLEX temp. according to optimum flap configuration using L P C (RWY analysis chart as backup).
- b. The CM1 shall cross-check the take-off data with the CM2 and insert them in the MCDU Performance Page.

## 8. ALTIMETER SETTING

- a. During Climb:

| EVENT                             | PF  | PNF  |
|-----------------------------------|---|--|
| PASSING<br>TRANSITION<br>ALTITUDE | "SET STD"<br><br><br><br>Respond<br>"CHECKED" | Announce "Transition Altitude"<br><br>Respond<br>"STD SET PASSING .....<br>CLIMING FOR FL...." |

b. During Descent:

| EVENT                          | PF                                    | PNF   |
|--------------------------------|---------------------------------------|---|
| PASSING<br>TRANSITION<br>LEVEL | "Set QNH"<br><br>Respond<br>"CHECKED" | Announce "Transition Level"<br><br>Respond<br>"xxx SET<br>PASSING ... DESCENDING.." |

**Note:** When altimeter subscale settings are altered, a cross check of altimeters is to be made to confirm agreement. Refer to Operatins Manual – Part A, Page 8.1.13.8 (i).

9. TAKE-OFF BRIEFING

- a. The take-off briefing must be completed following the completion of the cockpit preparation by both Pilots prior to engine start.
- b. The take-off briefing will consist of two parts:
  - i. The first part is GENERAL BRIEFING and will be completed before each flight and will include but not limited to:
  - ii. The second part is EMERGENCY and REJECTED TAKE-OFF BRIEFING. This part must be completed for the first flight of the day, for subsequent flights this part may be shortened at the discretion of the Captain and the phrase "Take-Off emergency and rejected take-off as briefed earlier" will be sufficient.
  - iii. During this briefing extensive use of the FMS CDU, FCU displays should be made to confirm and emphasis the briefing.

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**Note:** - The decision to reject the take-off and stopping actions will be made by the captain. The call “STOP” it should be understood that the captain will call STOP, will have control and will carry out the stopping action even if the take-off is made by the first officer.

- Monitoring airplane deceleration means, monitoring:

- MAX Auto brake operation
- Speed brake extension, and
- MAX reverse application

- No attempt to vacate the runway until you are sure that no evacuation is required and it is safe to do so (high speed RTO).

## 11. DECISION TO REJECT THE TAKE-OFF

The rejected takeoff situation includes a cut-off point at 100 kts. This is to ensure that take-off is not rejected unnecessary at high speeds. Stopping the aircraft below 100 kts is not considered critical.

a. Below 100 Kts:

Below 100 kts, the decision to reject the takeoff may be taken at the discretion of the captain according to the circumstances, such as:

- Flight control jamming.
- If any ECAM warning activation.

**Note:** If it should ever happen, flight control jamming will most likely be detected at the 100 kts check or at rotation. When felt at 100 kts, takeoff should be rejected, while after V1 takeoff must be continued.



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b. Above 100 Kts (high speed RTO):

Rejecting the takeoff is more serious matter and particularly on slippery runways and would lead to a hazardous situation when speed is close to V1.

The decision to reject the takeoff should be taken for a very few cases the main are being:

- Fire warning or severe damage
- Sudden loss of engine thrust
- Malfunctions or conditions of malfunctions that give unambiguous indication that the aircraft will not safely fly
- ECAM warning activation:
  - \* Engine or APU fire
  - \* Engine failure
  - \* T.O. configuration warning.
  - \* Engine Oil LO PR
  - \* Engine REV UNLOCKED
  - \* L + R ELEV FAULT

Note: - Nose gear vibration should not lead to a rejected takeoff above 100 kts.

- Tire failure in the V1 minus 20 to V1 range, unless debris from the tires cause serious engine abnormalities, it is better to get airborne, reduce the fuel load and land with a full runway length available.


### TAKE-OFF BRIEFING FLOW CHART

|          |  |
|----------|--|
| <b>1</b> | <b><u>MISCELLANEOUS</u></b><br>Aircraft technical status (MEL and CDL considerations, relevant OEB)<br>NOTAMS<br>Weather<br>RWY conditions<br>Use of ENG/Wings Anti Ice<br>ENG Start Procedure<br>Push Back<br>Expected Taxi Clearance<br>Use of Radar<br>Use of Packs for Takeoff |
| <b>2</b> | <b><u>INIT B PAGE</u></b><br>Block Fuel ♦..... (FOB on EWD)<br>Estimated TOW<br>Extra time at destination  |
| <b>3</b> | <b><u>TAKE-OFF PERF PAGE</u></b><br>T/O RWY<br>T/O CONF<br>FLEX / TOGA ♦..... (FLEX TOGA on EWD)<br>V1, VR, V2 ♦..... (V1, V2 on PFD)<br>TRANS ALT<br>THR RED / ACC Altitude   |
| <b>4</b> | <b><u>FLIGHT PLAN</u></b><br>Minimum Safe Altitude<br>First assigned FL ♦..... (altitude target in blue on PFD)<br>Flight Plan description ♦..... (SID on MCDU FPLN page)<br>RAD NAV ♦..... (RAD NAV on ND)  |
| <b>5</b> | <b><u>ABNORMAL OPERATION</u></b><br>Page No.-020P 12/14 (FCTM)   |

♦ Items that must be cross-checked on associated display.

|   |   |
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|   | BEFORE PUSH BACK OR TAXI           |


**BEFORE PUSH BACK OR TAXI**

**A. LOAD SHEET**

1. When L.M.C exceed 500 Kgs a new load sheet should be requested.
2. Any additional data provided to the crew that has an operational aspect e.g., livestock or dangerous goods should be reviewed.

**B TAKE-OFF DATA**


1. CM1 should thoroughly check the load and trim sheet particularly for gross weight errors.
2. If computerized load sheet are used, make sure that the entered data is correct e.g correct flight, correct aircraft, dry operating index, configuration. Check fuel on board and fuel index correction.
3. Once the load sheet is thoroughly checked, CM1 reads the actual ZFW/ZFWCG and CM2 will insert them in the INIT B Page and read out the TOW from INIT B Page. Check that the ZFW and ZFCG have been correctly inserted in the MCDU.
4. The CM2 will recalculate the Take-Off data based on the actual ZFW (if it is more than EZFW) and cross-checked by CM1.
  - The CM1 will then insert the V1, VR, V2 and FLX temp into the MCDU Perf Page.
  - The CM2 will then cross check all entries.

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**C. AIRCRAFT CONFIGURATION**

| <b>Aircraft Type</b> | <b>Aircraft Registration</b> | <b>Dry Operating Weight</b> | <b>Index</b> |
|----------------------|------------------------------|-----------------------------|--------------|
| <b>A320</b>          | 7O-AFA                       | 43846.35                    | 56.93        |
|                      | 7O-AFB                       | 43891.82                    | 57.24        |

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|   | <b>ENGINE START / PUSH BACK AND TAXI</b>  |

### ENGINE START

Engine start will be conducted as per the A320 SOP in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.

- CM1 will always start engines

### PUSH BACK AND TAXI

Push back and Taxi will be conducted as per the A320 Standard Operating Procedures in FCOM PRO/LIM (TOME 1) except where stated otherwise below:

- A. CM2 obtains push back and start-up clearance. Ensure that ground equipment have cleared away from the aircraft.

**Note:**1. If NWS DISC is not displayed on the ECAM, but the ground crew confirms tht the steering selection by pass pin in the towing position, then the push back must not be performed. To dispatch the aircraft in such a case, refer to MEL.

2. The selection of the NWS to OFF position prior to commencing push back is not required.

- B. When commencing push back or taxi:


- CM2 will start his elapsed time.
- CM1 will declare "BLOCK-OUT" together with reasons for any delay.

- C. End of push back (after N/W steering disc message extinguished from ECAM memo, A/skid + N/W steering switch ON).


- D. During taxi, no checklist should be initiated until aircraft is clear of congested areas.

### E. TAXI NOTES

1. Caution is necessary while turning the aircraft on congested areas on the ramp. If necessary, have ground personnel monitor wingtip clearance. Wingtip and horizontal stabilizer turning radius are greater than that of the nose.

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|   | <b>ENGINE START / PUSH BACK AND TAXI</b>  |

2. Good taxi technique requires an awareness of the proximity of obstacles, the effects of thrust causing damage to equipment or injury to personnel, and the consideration of passenger comfort.
3. Make all turns at a slow taxi speed (max 15 kts) with as large a turn radius as possible. Use a maximum speed of 10 kts for turns of 90 degrees or greater. Minimum radius turns result in heavy side loads and unnecessary scrubbing and heating of tires.
4. During taxi, any time the aircraft is brought to a complete stop, the parking brake should be set to prevent unmonitored movement of the aircraft.
5. A specific characteristic of carbon brakes is that relatively greater wear rates occur when they are subject to frequent light braking inputs as compared to making less frequent but firm inputs. At light weights or downhill, the aircraft may accelerate to a higher speed than required. **Do not ride the brakes** to prevent high taxi speed. Allow the aircraft to accelerate to 30 kts then brake smoothly to slow taxi speed of 10 kts, release brakes smoothly and repeat the sequence. Intermittent brake usage provides a cooling period between brake applications. Taxi speed should not normally exceed 30 kts or as per FCOM Volume 3 on a straight taxiway. Use brake fans as required before significant temperature build-up (refer to FCOM PRO/LIM (TOME 1)).
6. When taxiing before takeoff, brakes should not be solicited too often.
7. When entering a runway or maneuvering on an active runway for an extended period or back tracking on the runway, the **STROBE** should be selected ON.
8. CM1 may allow the CM2 to taxi the aircraft during their assigned PF sectors. CM2's taxi is not, however, allowed inside the apron areas.

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|   | <b>ENGINE START / PUSH BACK AND TAXI</b>  |

9. Taxi with added caution in low visibility conditions.
10. Be fully aware of aircraft taxiing in your vicinity.
11. Observe CAT II/III holding point marking lights.
12. If uncertain of ground position or missing a turn, advise ATC immediately.

**CAUTION**

If the brakes fail during ground operations, release the brake pedals immediately select the *A/SKID NOSE WHEEL* switch to *OFF*, and modulate the brakes. (Nose wheel steering is lost). *THIS IS A RECALL ITEM*

**CAUTION**

In an extreme emergency, and only if pedals are ineffective with the antiskid off, the aircraft may be stopped with the parking brake (full pressure application will occur). If BSCU fails (BRAKES SYS 1 (2) on ECAM) then release the brake pedals before operating *A/SKID & NOSE WHEEL* switch. This prevents sudden spikes of brake pressure during changeover of BSCU channels causing passenger discomfort.


13. At some European airports (Refer to the Jeppesen Terminal Charts and OM-C Chapter), transponder operatin shall comply with the following:

**Note:**

- To comply with the requirements of a ground surveillance and incursion monitoring system utilizing Mode A and Mode S. The applicable procedure for the respective airport in the Jeppesen Charts shall be followed. E.g., in CDG or FRA, the following procedure shall be adopted:

*Arrival* – Prior to descent select ATC switch from ‘AUTO’ to ‘ON’. *Taxi to Stand* – Retain ATC Transponder switch ‘ON’ with the assigned Transponder code until aircraft reaches final parking position. *Parked at Stand* – Select ‘AUTO’ and code 2000.




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*Departure* - Immediately prior to pushback select ATC Transponder switch from 'AUTO' to 'ON'. Retain 'ON' throughout ground operations. Select ATC Transponder switch to 'AUTO' after departure.

**Note:** "ON" position to be used during ground operation of transponder mode S is faulty.

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|   | <b>BEFORE TAKE-OFF</b>                    |


|                        |
|------------------------|
| <b>BEFORE TAKE-OFF</b> |
|------------------------|

Before take-off checklist will be conducted as per the A320 Standard Operating Procedures in FCOM PRO/LIM (TOME 1) except where stated otherwise below:


- A. The BEFORE TAKEOFF checklist shall be read after obtaining ATC clearance.
- B. Select Predictive Wind Shear to AUTO.
- C. EGPWS – Select TERR ON ND till passing MSA (Minimum Sector Altitude)

If weather radar is required due to weather, select terrain on the PNF and to allow PF to retain the weather radar display.

- D. Advise cabin crew by recycling the Fasten Seat Belt signs “OFF/ON” once (PNF).
- E. SLIDING TABLE stow
- F. WX radar ON (1) or (2) to PF onsite.
- G. TCAS TA/RA to be selected following receipt of take-off clearance and prior to entering the active runway (to avoid ATC disturbance).

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|   | BEFORE TAKE-OFF                    |

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|   | TAKE-OFF AND CLIMB                 |

### TAKE-OFF AND CLIMB

Take-off and climb will be conducted as per the A320 SOP in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.

- A. **Take-off is not to be initiated until “CABIN SECURED” is received.**
- B. When commencing take-off, at the call "THRUST SET" CM1/CM2 will start their chrono.
- C. Above 100 feet AGL, AP 1 or 2 may be engaged. At congested airports, such as, CDG, LHR, FRA, etc., the AP must be engaged immediately above 100 feet AGL.
- D. Minimum Height for Turns – Unless required by SID, day/VFR 500 ft AGL and night or IMC 1000° (Operations Manual – Part A 8.1.2.4.1).
- E. If SID calls for a heading change at a DME fix, commence the turn at the exact DME distance, do not anticipate the turn.
- F. When vectored away from the desired outbound track, maintain green dot speed unless otherwise advised by ATC until approaching the correct course.


### AFTER TAKE-OFF

After take-off will be conducted as per the A320 Standard Operating Procedures in the FCOM PRO-NOR-SOP-13 P 1/2 (TOME 1).

### CLIMB

Climb will be conducted as per the A320 Standard Operating Procedures in the FCOM Volume 3 except where stated otherwise below:

- A. Below 10,000 ft AGL, 250 knots speed unless restricted by aircraft weight or turbulence. The use of higher speeds in un-congested areas or under positive radar control is discretionary.
- B. Seat Belts / Lights:  
  
PNF will turn NOSE LIGHT and Runway Turnoff light to OFF after gear retraction during take-off.


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|   | TAKE-OFF AND CLIMB                 |

- C. Landing lights remain ON until 10,000 AGL provided speed 250 kts. WX radar range and tilt should be adjusted according to requirement, if auto tilt is inoperative.
- D. Non-essential tasks should be kept to a minimum during initial phase of flight. None should be attempted below 10,000 ft AGL.
- E. Passing 10,000 ft AGL or transition altitude and after completion of the after take-off checklist, the PNF complete the CFP and contact flight dispatch / ground handling and notify:
- Block-out time
  - Airborne time
  - ETA, and
  - Any special messages (reason of delay, etc).
- F. Passing 10,000 ft AGL, the PNF shall perform the following:
1. LAND LIGHTS – OFF (provided speed 250 kts).
  2. SEAT BELTS – OFF (condition permitting after permission from Captain).
- Note:** At AUTO position, NO SMOKING sign remain ON but EXIT sign will extinguish (for PAX comfort).
3. EFIS OPTION – CSTR/ARPT

PNF Select the ARPT option to provide information of the nearest airport.

PF will remain with CSTR on EFIS so that grid MORA can be displayed.
  4. RAD NAV - CHECK

Clears manually tuned ADF's/VOR's from the MCDU RAD NAV page, when no longer required. Any information set in the FIX INFO must also be cleared at this stage (to be performed by PNF on command from PF).

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|   | TAKE-OFF AND CLIMB                 |

5. Copy the active Flight Plan in the secondary (after passing the point of return).


6. OPT/MAX ALT – CHECK on PROG.

The normal contingency fuel is 5%.

7. ECAM MEMO – Check

G. With the AP engaged and when below 10,000 ft the PF could make any short term FMGS inputs. Long term changes (such as F-PLN revision) will be done by either the PF or to be performed by the PNF on command from PF. Above 10,000 ft the PF will make any required FMGS inputs and F-PLN revisions.

**Note:** Passing MSA turn off TERR if it was being used during departure.

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|   | CRUISE                             |

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| <b>CRUISE</b> |
|---------------|

Cruise procedures will be conducted as per the SOP in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.

- Check overhead panel and pedestal panel.

#### A. ALTIMETER CHECK

The PNF annotates CFP with Altimeter 1-2 and 3 indications. Should an altimeter subsequently fail this information will assist in the determination of the failed indication. Primary indications must be within 200 ft when within RVSM airspace and this independent of tolerance laid down in the flight manual.

#### B. SEC F-PLN

- PROG page amend as required
- Check the EQUI TIME POINT
- Check all system pages.

**Note:** All system pages should be checked every 45 minutes.


#### C. TCAS

- Cruising at or above FL380, select TCAS to position "BLW"
- Cruising below FL380, select TCAS to position "ALL".

#### D. CRUISING ALTITUDE SELECTION

1. Crewmembers are to plan the flight level indicated on the flight plan. During cruise, crews are to attempt to fly optimum level whenever ATC allows it. Deviation from this standard policy are only allowed if there are good reasons to do so.
2. When planning climb to higher level, consider the following guidelines:
  - If enroute turbulence is forecast, climb to a higher flight level should not be commenced until 1.4g buffet protection can be achieved at the new level. (Ref. QRH 4.09).
  - If no turbulence is forecast or reported reduced buffet protection of 1.35g may be used.
  - Before planning climb to higher levels assess if this will result in improved fuel economy.



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|   | CRUISE                             |

## E. CABIN TEMPERATURE MONITORING

Communication between cockpit and cabin will assist in maintaining comfortable cabin temperatures.

Regular attention should be paid to the ECAM Cruise page so that passenger cabin temperature may be monitored and adjusted if requested by the cabin crew (the purser of the flight).

## F. EN-ROUTE FUEL PLANNING


1. For flights less than one-hour fuel computation is required for TOC and TOD.
2. For flights, one hour and more fuel check every 30 minutes and fuel remaining at TOC and TOD and shall be recorded on the CFP noting (Refer to OM-Part A 8.3.7.1.2):
  - Time of observation
  - Actual fuel on board (FOB)
3. This type of monitoring would detect fuel leaks and provide a more reliable basis of evaluation in case of either Fuel Quantity Indicator (FQI) or Fuel Used (FU) failure during flight.

However, without any failure or fuel leak, some discrepancies, which may be considered large (more than 1000 Kg on some aircraft), can be evidenced. These may due to:

- i. APU consumption (up to 120 kg/h) which is not recorded by FU.
- ii. FQI errors on block fuel on FOB.
- iii. FU indication tolerance.

Water freezing in tanks may also affect the FQI indications.

**Note:** Whenever the fuel discrepancy is more than 1000 kg, it must be reported by the Commander in the Commander's Trip Report.

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|   | <b>CRUISE</b>                             |

4. Prior to top of descent, PF should review the fuel prediction page on the progress page, which should include holding time, diversion fuel and remaining fuel.


#### **G. COMPUTER FLIGHT PLAN (CFP)**

1. Two sets of CFP will be provided for each sector. The original copy for the PNF.
2. On post flight, for company record, flight plan (Post Flight Report) to be printed and kept in the Flight Envelop. It is the responsibility of the Captain to ensure that flight plan print is made and retained for company record (refer to: AFTER LANDING (D)).

#### **H. IN-FLIGHT RVSM PROCEDURES**

When flying into RVSM airspace, in-flight procedures shall be conducted as per the Operations Manual Part A 8.3.2.11 and FCOM PRO-SPO-SO P 1/4 (TOME 2).

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## DESCENT AND APPROACH

Descent and approach procedures will be conducted as per the A320 SOP in the FCOM PRO-NOR-SOP-16 P 1/4 (TOME 1) except where stated otherwise below.

### A. APPROACH BRIEFING

1. The main objective of the approach briefing is for the PF to inform the PNF of his intended course of action for the approach. The briefing should be practical and relevant to the actual weather conditions expected. It should be concise and conducted in a logical manner. It should be given at a time of low workload if possible, to enable the crew to concentrate on the content. It is very important that any misunderstandings are resolved at this time. Refer to OM-A 8.1.13.25 (d).
2. The table below shall be used as a general guidelines on how to conduct the approach briefing (Refer to A320 FCTM No.-070 P10/12).

| PF Briefing   | Associated cross check |
|---|------------------------|
| <b>Technical Status</b>   |                        |
| <b>NOTAM</b>  |                        |
| <b>Weather</b>  |                        |
| - Accessibility<br>- Runway in use  |                        |
| <b>Descent</b><br>- TOD (time, position)<br>- MORA, STAR, MSA<br>- Altitude and speed constraints | FPLN page<br>FPLN page |
| <b>Holding (if expected)</b><br>- Entry in holding pattern<br>- MHA and MAX speed                 |                        |
| <b>Radio aids</b>   | RAD NAV                |

| PF Briefing   | Associated cross check   |
|---|--|
| <p style="text-align: center;"><b>PERF Page</b></p> <ul style="list-style-type: none"> <li>- Approach type</li> <li>- Altitude and FAF Identification</li> <li>- Descend gradient</li> <li>- MDA/DH</li> <li>- Missed approach procedure</li> <li>- Alternate considerations</li> </ul>   | <ul style="list-style-type: none"> <li>- PERF APPR and ND</li> <li>- FPLN</li> <li>- PFD/FMA</li> <li>- PERF APPR</li> <li>- FPLN</li> <li>- FPLN</li> </ul> |
| <p style="text-align: center;"><b>PROG Page</b></p> <p style="text-align: center;"><b>Fuel</b></p> <ul style="list-style-type: none"> <li>- Extra Fuel</li> </ul> <p style="text-align: center;"><b>Landing</b></p> <ul style="list-style-type: none"> <li>- Runway condition, length and width</li> <li>- Tail strike awareness</li> <li>- Use of Auto brake</li> <li>- Expected taxi clearance</li> </ul> | <p style="text-align: center;">FUEL RED page</p>   |

**B. DES WIND**

Enter winds for the descent (if not already entered) starting at cruise page. If the descent winds are not entered then the descent profile may not be accurate.


**C. RAD NAV PAGE**

Set nav aids, as required, and check indents on the NDs (VOR-ADF) and PFDs (ILS). For ILS approach, check the frequency and course of the selected ILS. If a VOR/DME exists close to the airfield select it and enter its indent in the BRG/DIS field of the PROG page, for NAV ACCY monitoring during descent. If GPS PRIMARY is available no further checks is necessary.

The RAD NAV page shall be set up in the following order of priority:

For the approach both VOR/DME receivers should be manually tuned. This will be done in the following order of priority:

- ILS Approach:
  - VOR/DME and radial to be used for go-around if applicable.

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|   | <b>DESCENT AND APPROACH</b>               |

- VOR/DME and radial to be used for the VOR/DME approach if applicable.
- VOR/DME situated on airfield and CRS to reflect runway QDM.
- VOR/DME situated on the airfield and the course to reflect the initial holding pattern.
- VOR/DME Approach:
  - VOR/DME and radial to be used for approach.

The NDB will always be manually tuned to the NDB that is required for the approach on to the runway or go-around in use. If there is no NDB stated in the approach or go-around, there is no requirement to manually tune the aid.

#### **D. AUTO BRAKE**


1. Use of auto brake is recommended.
2. On short or contaminated runway, use MED mode. On contaminated runway use AUTO BRAKE until the aircraft comes to a complete stop, before disengaging it.

#### **E. Check landing elevation on ECAM.**

|                |
|----------------|
| <b>DESCENT</b> |
|----------------|

Descent procedures will be conducted as per the A320 Standard Operating Procedures in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.

- A. Shortly before TOD the PNF will call the Purser/Senior to the cockpit and provide the airfield temperature and check for any special requirement such wheel chair, etc.
- B. On commencing descent the PF shall recycle the **FASTEN SEAT BELT** signs “**OFF/ON**” once to signal the cabin crwe that descent has started (cabin crew to start cabin preparation for landing).

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|   | <b>DESCENT AND APPROACH</b>               |

**C.** The PNF shall perform the following:

- EGPWS – Select TERR ON ND

Select terrain display ON when approach to MSA.

If weather radar is required due to weather, select terrain on the PNF ND to allow PF to retain the weather radar display.

The PNF shall perform the following:

- ECAM STATUS – CHECK
  - ECAM STATUS page automatically appears if not empty when the BARO setting selected or slat is selected.
  - Check ECAM Status page. Take particular note of any degradation in landing capability, or any other aspect affecting approach and landing.

**D. APPROACHING 10000 FT AGL**

The PNF shall perform the following:


1. LAND LIGHTS – ON (provided speed is less than 250 kts).

STROB lights may be switched OFF when in cloud or restricted visibility to preclude flight crew disorientation.

2. EFIS option PF and PNF (constraint)

3. SEAT BELTS – ON

**Note:** At ON position exit light will be turned ON plus no smoking light remains ON.

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|   | <b>DESCENT AND APPROACH</b>               |

### 3. LS PUSHBUTTON – AS REQD

The PFD displays the LOC and glide slope scales and deviation symbols if there is a valid ILS signal.

| PF & PNF to select LS pushbutton for ILS approach.

### 4. RAD NAVAIDS - SET

Confirm that RAD NAV correctly set.

### 5. NAV ACCURACY - CHECK

Check that HIGH is displayed on the PROG page or GPS PRIMARY is available. If NAV ACCY is LOW, select the EGPWS TERR pushbutton to OFF.


### 6. SLIDING TABLE stow.

## F. SPEED BRAKES


1. If speed brake is required, move the SPEED BRAKE lever smoothly and slowly to the required position. Except when conducting other duties, the PF will keep his hand on the lever until speed brakes are retracted.
2. If the pilot uses the speed brakes to increase the rate of deceleration or to increase the rate of descent he should realize that the green dot will never be less than VLS. As a result as VLS increases (due to speed brake extension) so will green dot speed. This speed may be higher than VFE FLAP 1 and the pilot should start to stow the speed brake at VLS (green dot speed with spoilers extended) + 5 knots.

**Note:** On commencing descent, set TCAS to below.



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|   | INSTRUMENT PROCEDURES              |

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| <b>GENERAL</b> |
|----------------|

- A. At 3000 ft or below, or when within 15 NM from airport, whichever is more limiting, slow down to green dot speed, not more than green dot speed unless required by ATC. If ATC instructs to maintain high speed, below 10,000 ft a speed up to 300 knots may be maintained to not later than 20 NM from airport.
- B. In instrument condition, it is recommended that the aircraft be stable in the landing configuration with the checklist completed by 1500 ft AGL. However, it is imperative that all instrument approaches are stabilized not later than 1000 ft AGL in IMC/VMC. An approach is stabilized, when the aircraft is on the profile, and flown at the desired (approach speed) in the landing configuration with the checklist completed, and maintaining an acceptable rate of descent; only small power changes should be necessary to maintain the approach profile. Maximum allowed rate of descent on Final is 1000 ft per minute. A G/A is mandatory if not stabilized by 1000 ft AGL in IMC condition and 500 ft AGL in VMC condition.

**Note:** The minimum descent gradient in the final approach of a non-precision procedure with FAF is 4.3% (approximately 260 ft/NM, which is equivalent to a 2.5° glide path angle). The optimum descent gradient in the final approach of a procedure with FAF is 5% (approximately 300 ft/NM, which is equivalent to 3° glide path angle). Where a steeper descent gradient is necessary, the maximum permissible is 6.1% (approximately 370 ft/NM, which is equivalent to a 3.5° glide path angle for Cat C & D aircraft). In the case of a precision approach the operationally preferred glide path angle is 3.0°. In ILS glide path in excess of 3.0° (in some airports) is used only where alternate means of satisfying obstacle clearance requirements are impractical.

Refer to OM-Pat A 8.1.13.29.

|   |                                    |
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|   | INSTRUMENT PROCEDURES              |

|                     |
|---------------------|
| <b>ILS APPROACH</b> |
|---------------------|

ILS approach procedures will be conducted as per the A320 Standard Operating Procedures in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.

To minimize flap wear, flaps selection should be made at VFE-15 knots for all flap settings.


- It is strongly recommended to use decelerated approach as per the FCTM No. P 2/22.
- Complete the APPROACH checklist.
- When there is a need to extend the gear for deceleration, the gear may be lowered at speed to below 220 kts to avoid gear doors overstress.

**Note:** When the aircraft is in level flight at average weight, deceleration from 300 knots to green dot speed takes 7 NM.

If anticipating G/S intercept from above, configure FLAPS 3 L/G down to prevent speed increase towards  $V_{FF}$ . The APP will maintain  $V_{FE}$  and reduce V/S without mode reversion.

- Set FCU ALT above A/C ALT
- Select VIS (MAX 2000 ft)
- CK APR Mode ARM
- When approaching to G/S intercept reduce VIS
- At G/S set go-around ALT


After selection FLAPS 1, the PNF shall recycle the **FASTEN SEAT BELT** signs “**OFF/ON**” once to signal the cabin crew that landing is imminent.

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#### NON-PRECISION APPROACH

- A. Non-precision approach procedures will be conducted as per the A320 Standard Operating Procedures in the FCOM PRO/LIM (TOME 1) except where stated otherwise below.
- B. At a point normally 7 NM (still air conditions) before the FAF the aircraft should start to be configured for the approach and landing. The landing gear should be extended at about 3 NM before the FAF, so that the aircraft is fully configured and stabilized at VAPP by FAF point (stabilized approach).
- C. In all cases, it is recommended to use managed speed and stabilized approach. The flight crew insert  $V_{APR}$  as a SPD constraint at the FAF so the aircraft intercept the final descent path in landing configuration.

Note: Refer to OM-Part A 8.1.13.29.4.

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### VISUAL APPROACH

Visual Approach procedures will be conducted as per the A320 Standard Operating Procedures in the FCOM PRO-NOR-SOP-20 P 2/2 (TOME 1). Refer to OM-Part A 8.1.13.29.6.

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**LANDING AND GO-AROUND**

Refer to Flight Crew Training Manual.



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### GO-AROUND

The Go Around procedure will be conducted as per the A320 Standard Operating Procedures in FCOM PRO-NOR-SOP-22 P 1/2 (TOME 1).

### AFTER LANDING

The After Landing procedures will be conducted as per the A320 Standard Operating Procedures in FCOM PRO-NOR-SOP-23 P 1/2 (TOME 1) except where stated otherwise below.

- A. When clear of the active runway, CM1 / CM2 will stop their chrono.
- B. CM1 will:
  - Disarm the SPOILERS
- C. The CM2 will perform the after landing procedure.


**Note:** - The disarming of the ground spoilers by CM1 is the signal for the CM2 to begin the after landing procedure as per the Standard Operating Procedures in FCOM PRO-NOR-SOP-23 P 1/2 (TOME 1).

- APU start shall be delayed till approaching the stand/gate (approximately 2 minutes to the stand/gate).
- When OAT is 30°c or more leave the flaps lever at 1.

#### **D. Post Flight Report**

After each flight, CM2 shall print the Post Flight Report:

- DATA PAGE – Select PRINT FUNCTION (LS 6R)
- ACARS PAGE (LS 6R) – Select Page 2
- POST FLIGHT (Page 2) – Select PRINT

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### PARKING AND SECURING THE AIRCRAFT

The parking procedures will be conducted as per the A320 Standard Operating Procedures in FCOM PRO/LIM (TOME 1) except where stated otherwise below.

IRS Performance


- The CM2 shall check the IRS drift as detailed on 3.03.25 P2.
- If the ground speed exceeds 15 knots, report the excessive deviation in the Aircraft Flight Log.

CM2 will stop the ELAPSE TIME.


### SECURING THE AIRCRAFT

The Securing of the Aircraft procedures will be conducted as per the A320 Standard Operating Procedures in FCOM PRO-NOR-SOP-26 P 1/2 (TOME 1).

**Note:** A minimum of 10 second after switching the IRS to OFF before switching OFF the electrical supply to ensure that the ADIRS memorizes the latest data.

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### COMMUNICATIONS AND STANDARD TERMS

Standard phraseology is essential to ensure effective crew communication. The phraseology should be concise and exact. The following Chapter lists the calls that should be used as standard. They supplement the callouts identified in the SOP.

These standard Airbus callouts are also designed to promote situational awareness, and to ensure crew understanding of systems and their use in line operation.

### CHECKLIST CALLOUTS

- "CHECK": A command for the other pilot to check an item.
- "CHECKED": A response that an item has been checked.
- "CROSSCHECKED": A call verifying information from both pilots stations.

If all checklist needs to be interrupted, announce: "HOLD CHECKLIST AT \_\_\_\_\_" and "RESUME CHECKLIST AT \_\_\_\_\_" for the continuation. Upon completion of a checklist announce: "\_\_\_\_\_ CHECKLIST COMPLETE".

### ACTIONS COMMANDED BY PF


The following commands do not necessarily initiate a guidance mode change, eg: selected to managed/managed to selected. The intent is to ensure clear, consistent, standard communication between crewmembers.

All actions performed on the FCU must be verified on the PFD/ND.

### **SET**

The "SET" command means using an FCU knob to set a value, but not to change a mode. SET is accomplished by only rotating the appropriate selection knob. Example:

- "SET GO AROUND ALTITUDE \_\_\_\_\_"
- "SET QNH \_\_\_\_\_"
- "SET FL \_\_\_\_\_"
- "SET HDG \_\_\_\_\_"

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### MANAGE/PULL

The “MANAGE” command means pushing an FCU knob to engage, or arm, a managed mode or target.

The “PULL” command means pulling an FCU knob to engage, or arm, a selected mode or target. Example:

- “HDG 090 PULL” (Heading knob is turned and pulled).
- MANAGE NAV (Heading knob is pushed).
- “FL 190 PULL” (Altitude knob is turned and pulled).
- “FL 190 MANAGE” (Altitude knob is turned and pushed).
- SPEED 250 KTS PULL (Speed knob is turned and pulled).
- MANAGE SPEED (Speed knob is pushed).

Note: 1. If the value was previously set, there is no requirement to repeat the figure. Simply call e.g. HDG PULL : SPEED PULL : FL PULL.

2. It is sometimes preferable to first pull the FCU knob before setting the value (e.g. a long turn).

The VS/FPA selector knob has no managed function. The standard calls for the use of this knob are as follows:

V/S Plus (or Minus) 700 PULL or –

FPA Minus 3° PULL (V/S (FPA) knob is turned and pulled)

PUSH TO LEVEL OFF (V/S (FPA) knob is pushed)

### ARM

The “ARM \_\_\_\_\_” command means arming a system by pushing the specified FCU button.

e.g.: “ARM APPROACH”


e.g.: “ARM LOC.”

### ON/OFF

The simple ON or OFF command is used for the autopilot, flight directors, autothrust and the bird (flight path vector).

e.g.: BIRD ON (The HDG-V/S/TRK-FPA pushbutton is pushed).

Note: All actions on the FCU and MCDU must be verified on the PFD and ND, as follows:

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- First, ensure that the correct FCU knob is used, then verify indications on the PFD/ND.
- Mode changes should be confirmed by calling the color when appropriate (e.g. BLUE, MAGENTA).

**FMA**

Unless listed otherwise (e.g. CAT II & III task sharing), all FMA changes will be normally called by the PF.

**ALTITUDE**

The PNF calls “ONE THOUSAND TO GO” when passing 1000 feet before the cleared altitude or FL, and is acknowledged by the PF calling “CHECKED”.


**FLAPS OR GEAR CONFIGURATION**

**FLAPS CALLS**

| FLAPS CONFIGURATION | CALL      |
|---------------------|-----------|
| 1                   | Flap One  |
| 0                   | Flap Zero |

The reply will be given when selecting the new flap position.  
e.g.:

|     | CALL                            | REMARK  |
|-----|---------------------------------|---|
| PF  | "FLAPS FULL"                    | PF commands Flaps full  |
| PNF | "SPEED CHECKED"<br>"FLAPS FULL" | PNF replies when selecting the Flap position, and checks the blue number on the ECAM flap indicator to confirm the the correct selection has been made. |

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### GEAR CALL

|     | CALL             | REMARK   |
|-----|------------------|--|
| PF  | "GEAR UP (DOWN)" | PF commands Gear Up (Down)   |
| PNF | "GEAR UP (DOWN)" | PNF replies when selecting the Gear position, and checks the lights on the landing gear indicator panel to confirm gear operation. |

### FLIGHT PARAMETERS IN APPROACH

PNF will make call-outs for the following conditions during final approach. Altitude callouts also to be made through to landing.

- "SPEED", when speed becomes less than  $V_{APP} - 5$  or more than speed target + 10.
- "SINK RATE:", when V/S is greater than - 1000 ft/min.
- "BANK" when bank angle becomes greater than 7°.
- "PITCH" when pitch attitude becomes lower than 0° or higher than +10°.
- "LOC" or "GLIDE" when either localizer or glide slope deviation is one dot.
- "COURSE", when greater than ½ dot (VOR) or 5 degrees (ADF).
- " \_\_\_\_\_ FT HIGH (LOW)" at altitude checks points.


PF must respond "CORRECTING"

- "Not stabilized" when not stabilized at 1000 ft IMC.
- "Not stabilized", Go-around" when not stabilized at 500' VMC.
- "Go-around" must be initiated when not stabilized

### FLIGHT PARAMETERS IN GO-AROUND

PNF will make a callout for the following conditions:

- "BANK" when bank angle becomes greater than 7°.
- "PITCH" when pitch attitude becomes greater than 20° up or less than 10° up.
- "SINK RATE" when there is no-climb rate.

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### PF/PNF DUTIES TRAFER

Transfer of control is initiated by a command and followed by an acknowledgement.

- "I HAVE CONTROL" is either the command that the other pilot is to pass control and assume PNF duties; or the acknowledgement by the other pilot that he has assumed PF duties.
- "YOU HAVE CONTROL" is either the command that the other pilot is to take control and assume PF duties; or the acknowledgement by the other pilot that he has assumed PNF duties.

### ABNORMAL AND EMERGENCY CALL OUTS


#### ECAM Procedures

1. "ECAM ACTION" is commanded by PF when required.
2. "CLEAR \_\_\_\_\_ (title of the system)" is asked by the PNF for confirmation by the PF, that all actions have been taken/reviewed on the present ECAM WARNING / CUTION or SYSTEM PAGE.
3. "CLEAR \_\_\_\_\_ (title of the system)" is the command by the PNF that the action and review is confirmed.
4. "ECAM ACTIONS COMPLETE" is the announcement by the PNF that all APPLICABLE ACTIONS have been completed.
5. Should the PF require an action from the PNF during ECAM procedures, the order "STOP ECAM" will be used. When ready to resume the ECAM the order "CONTINUE ECAM" will be used.

### SUMMARY FOR EACH PHASE

| TO REMOVE GROUND SUPPLY            |                              |                           |
|------------------------------------|------------------------------|---------------------------|
| EVENT                              | CM1 or CM2                   | GND Mech                  |
| Initial ground contact             | GROUND (from) COCKPIT        | COCKPIT (from) GROUND     |
| External _____ disconnection       | REMOVE EXTERNAL_____         | EXTERNAL _____ REMOVED    |
| BEFORE ENGINE START/PUSH BACK      |                              |                           |
| EVENT                              | CM1                          | CM2                       |
| Before start up clearance received | BEFORE START C/L TO THE LINE | BEFORE START C/L COMPLETE |
| After start up clearance received  | BELOW THE LINE               | BEFORE START C/L COMPLETE |




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| <b>PUSH BACK/ENGINE START</b>   |  |  |
|---|--|--|
| <b>EVENT</b>  | <b>CM1</b>                                       | <b>GND Mech.</b>                           |
| When ready for push back and push back clearance received from ATC            | GROUND (from) COCKPIT,<br>CLEARED FOR PUSH       | COCKPIT (from) GROUND,<br>RELEASE BRAKES   |
| Start of push   | BRAKES RELEASED<br>CLEAR TO PUSH                 |  |
| When ready to start engines   | CLEAR TO START<br><br>STARTING ENG(S)___         | CLEAR TO START                             |
| When push back completed  | BRAKES SET                                       | SET BRAKES                                 |
| When ready to disconnect (after engine started and parameters are stabilized) | CLEAR TO DISCONNECT (hand signals on left/right) | DISCONNECTING (hand signals on left/right) |

| <b>AFTER ENGINE START</b>                                  |                 |                          |
|--|-----------------|--------------------------|
| <b>EVENT</b>   | <b>CM1</b>      | <b>CM2</b>               |
| All engines started and stabilized and GND is disconnected | AFTER START C/L | AFTER START C/L COMPLETE |


| <b>TAXI</b>   |                         |  |
|---|-------------------------|--|
| <b>EVENT</b>  | <b>CM1</b>              | <b>CM2</b>                                     |
| When taxi clearance obtained  | CLEAR LEFT (RIGHT) SIDE | CLEAR RIGHT (LEFT) SIDE                        |
| Flight control check in following sequence (can be done before start of taxi) | FLIGHT CONTROL CHECK    |  |
| 1. Elevators  | DO CHECK (silently)     | Calls out "FULL UP", "FULL DOWN", "NEUTRL".    |
| 2. Ailerons   | DO CHECK (silently)     | Calls out "FULL LEFT", "FULL RIGHT", "NEUTRAL" |

|   |   |
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| <b>AFTER ENGINE START</b>  |   |  |
|----------------------------|---|--|
| <b>EVENT</b>               | <b>CM1</b>  | <b>CM2</b>   |
| 3. Rudder                  | DO<br><br>CHECK (silently)                        | Calls out "FULL LEFT",<br>"FULL RIGHT", "NEUTRAL"<br>Silently applies FULL<br>longitudinal and lateral<br>Sidestick deflection |
| Brake transfer check       | BRAKE CHECK                                       | CHECK SILENTLY   |
| During taxi                | BEFORE TAKE-OFF<br>CHECK LIST DOWN TO<br>THE LINE | BEFORE TAKE-OFF C/L<br>TO THE LINE   |
| Lining up on the<br>runway | BELOW THE LINE                                    | BEFORE TAKE-OF C/L<br>COMPLETE   |

Note: The CM2 should follow pedal movement with his/her feet.  
Before lining up, check both approach SIDs visually and in very poor visibility turn on TCAS in order to check both approach SIDs for any traffic.

| <b>TAKEOFF</b>   |                       |                               |
|--|-----------------------|-------------------------------|
| <b>EVENT</b>   | <b>PF</b>             | <b>PNF</b>                    |
| Setting thrust levers to initial stabilization value                           | TAKE-OFF              |                               |
| When thrust levers set to FLEX/TOGA  | ANNOUNCE FMA          | CHECKED                       |
| Before passing 80 kts  |                       | THRUST SET                    |
| At 100 kts   | CECKED                | ONE HUNDRED KNOTS             |
| At V1 (V1-5)   |                       | V1                            |
| At VR  |                       | ROTATE                        |
| When climbing clear of the ground (positive increase of V/S, BARO and RAD ALT) | GEAR UP               | POSITIVE CLIMB<br><br>GEAR UP |
| If AP is engaged by PNF<br>If AP is engaged by PF                              | AP 1(2) ON<br>AP 1(2) | CHECKED                       |


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| <b>TAKEOFF</b>  |                            |  |
|---|----------------------------|--|
| <b>EVENT</b>  | <b>PF</b>                  | <b>PNF</b>                                   |
| When F Speed and accelerating   | FLAPS ONE                  | SPEED CHECKED<br>FLAPS ONE                   |
| When S Speed and accelerating   | FLAPS ZERO                 | SPEED CHECKED<br>FLAPS ZERO                  |
| After T/O check (not normally)<br>requested before flap retraction completed) | ATER TAKE-OFF<br>CLIMB C/L | AFTER TAKE-OFF C/L CLIMB<br>DOWN TO THE LINE |


| <b>ALTIMETER SETTING</b>          |                                       |  |
|-----------------------------------|---------------------------------------|--|
| <b>EVENT</b>                      | <b>PF</b>                             | <b>PNF</b>   |
| PASSING<br>TRANSITION<br>ALTITUDE | "SET STD"<br><br>Respond<br>"CHECKED" | Announce "Transition Altitude"<br>Respond<br>"STD SET PASSING....<br>CLIMBING FOR FL....." |

| <b>EVENT</b>                   | <b>PF</b>                             | <b>PNF</b>  |
|--------------------------------|---------------------------------------|---|
| PASSING<br>TRANSITION<br>LEVEL | "Set QNH"<br><br>Respond<br>"Checked" | Announce "Transition Level"<br><br>Respond<br>"xxx SET<br>PASSING...<br>DESCENDING.." |

\* Note: Altimeter setting on ISIS should be set by P.F.

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| <b>APPROACH AND LANDING</b>  |  |   |
|--|--|---|
| <b>EVENT</b>   | <b>PF</b>  | <b>PNF</b>                                  |
| When cleared below transition level or when appropriate                                | APPROACH C/L   | APPROACH C/L COMPLETE                       |
| Activation of approach Phase (approx 15nm from touchdown automatic, if in managed nav) | ACTIVATE APPROACH PHASE BEFORE DECELERATED POINT BY 2 NM | APPROACH PHASE ACTIVATED                    |
| Beginning of radio altimeter indication (could be auto callout of 2500 ft)             | CROSS CHECKED  | RAD ALT ALIVE (see Note 1 below)            |
| At green dot speed or < VFE  | FLAPS ONE  | SPEED CHECKED<br>FLAPS ONE                  |
| "GS*", "FINAL APP", OR "FAF"   | SET GA ALTITUDE __ FT                                    | GA ALTITUDE __ SET                          |
| 2000 FT AGL min (ILS); or S speed (non-precision)                                      | FLAPS TWO  | SPEED CHECKED<br>FLAPS TWO                  |
| When at flaps at two   | GEAR DOWN  | GEAR DOWN                                   |
| When gear is down  | FLAPS THREE  | SPEED CHECKED<br>FLAPS THREE                |
| When flaps at three (unless landing with Flap 3)                                       | FLAPS FULL   | SPEED CHECKED<br>FLAPS FULL                 |
| FAF or OM if applicable  | CHECKED  | OM/DME .....<br>PASSING _____ FT/<br>TIMING |
| When landing flaps set, and landing memo is displayed on ECAM                          | LANDING C/L  | LANDING C/L COMPLETE                        |

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| <b>APPROACH AND LANDING</b>   |                 |  |
|---|-----------------|--|
| <b>EVENT</b>  | <b>PF</b>       | <b>PNF</b>                                     |
| 1000 ft above TDZE (may be auto callout)  | CHECKED         | ONE THOUSAND                                   |
| FMA "LAND GREEN" (ILS approach)   | LAND            | CHECKED  |
| 100 ft above MDA/DH   | CHECKED         | ONE HUNDRED ABOVE (if no Auto Call out)        |
| MDA/DH visual reference   | LANDING         | MINIMUM  |
| MDA/DH visual reference   | GO AROUND-FLAPS | MINIMUM  |
| PNF monitors pin-programmed auto callout, or announces if inoperative   |                 |  |
| After touchdown   |                 | SPOILERS, REVERSE GREEN (See the note 2 below) |
| If autobrake armed  |                 | DECEL (See note 3 below)                       |
| At 70 kts   | CHECK           | SEVENTY KNOTS                                  |
| Note 1: Crew awareness: Crew should now keep RA in scan to landing.<br>Note 2: If reverse deployment is not as expected, call NO REVERSE ENGINE __ or NO REVERSE, as appropriate<br>Note 3: If autobrake is armed and no positive deceleration is observed, call NO DECEL |                 |  |

|                        |
|------------------------|
| <b>TASK ALLOCATION</b> |
|------------------------|

The TASK ALLOCATION shall be conducted as per the A320 PRO/LIM (TOME 1) Normal Procedures except where stated otherwise below:

- A. The Captain of the flight is designated as CM1 and the First Officer as CM2 from boarding the aircraft until before takeoff checklist below the LINE. Thereafter and until the end landing roll, the responsibilities are as PF and PNF. The Captain will have certain legal responsibilities to perform on each flight and those will be designated within the following allocation of duties.
  
- B. When conducting a normal series of flights, one pilot will be designated as the handling pilot for the sector (PF) and one as the non-handling pilot (PNF). When the First Officer is designated as PF for the sector he will do the tasks to be promoted as PF. It **MUST** be emphasized that when the First Officer operates this sector he is operating as Pilot-in-Command under supervision. He will fly and make as many operational decisions (as reasonably possible) but **the Captian will always retain the right to make the final decision.**
  
- C. The decision as to who should be PF and PNF for the secotr should be made once the weather at the destination and the initial briefing at dispatch is complete. Captains must make a conscious effort to formally state as to who will fly each sector so that the crew positions are known as early as possible.
  
- D. The following task are designated as CM1 responsibilities under the PRELIMINARY COCKPIT PREPARATION:
 


|                          |       |
|--------------------------|-------|
| - Cabin Crew .....       | BRIEF |
| - Technical Log .....    | CHECK |
| - Cabin Defect Log ..... | CHECK |

|   |   |
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| <b>SAFETY EXTERIOR INSPECTION</b>   |  |
|---|--|
| PF  | PNF  |
|   | * WHEEL CHOCKS ..... CHECK IN PLACE<br>* L/G DOORS ..... CHECK POS.<br>* APU AREA ..... CHECK  |
| <b>PRELIMINARY COCKPIT PREP</b>   |  |
| PF  | PNF  |
| Cabin Crew ..... BRIEF (CM1)<br>Technical Log ..... CHECK (CM1)<br>Cabin Defect Log ..... CHECK (CM1)<br>Aircraft Documents ..... CHECK (CM1) | A/C LIBRARY ..... CHECK<br>ENG MASTERS ..... CHECK OFF<br>ENG MODE SEL ..... CHECK NORM<br>L/G lever .....CHECK DOWN<br>WIPERS ..... OFF<br>BAT ..... CHECK AUTO<br>EXT PWR ..... ON<br>APU FIRE ..... CHECK/TEST<br>APU ..... START<br>* EXT PWR ..... AS RQRD<br>*COCKPIT LIGHTS ..... AS RQRD<br>*PARKING BRAKE ..... ON<br>*ACCU/BRAKE PRESS ..... CHECK<br>ALTN BRAKING ..... CHECK<br>FLAPS ..... CHECK POSITION<br>*SPD BRK LEVER ...CHECK RET AND DISARMED<br>PROBE WINDOW HEAT ..... AUTO<br>APU BLEED ..... ON<br>AIR COND panel ..... SET<br>ELEC panmel ..... CHECK<br>VENT panel ..... CHECK<br><br>*ECAM RECALL ..... PRESS<br>*ECAM OXY PRESS/HYD QTY/<br>ENG OIL QTY ..... CHECK<br>OEB IN QRH ..... CHECK<br>EMER EQPT ..... CHECK<br>RAIN REPELLENT ..... CHECK<br>*EXT. WALKAROUND .....PERFORM |


| <b>PRELIMINARY COCKPIT PREP</b>    |                                     |
|------------------------------------|-------------------------------------|
| <b>PF</b>                          | <b>PNF</b>                          |
| GEAR PINS & COVERS ..... CHECK     |                                     |
| <u>OVERHEAD PANEL</u>              |                                     |
| *ALL WHITE LIGHTS ..... EXTINGUISH |                                     |
| *RCDR GND CTL ..... ON             |                                     |
| CAPT & PURS ..... CAPT             |                                     |
| ADIRS ..... NAV                    |                                     |
| EXTERIOR LIGHTS ..... AS RQRD      |                                     |
| *SIGNS ..... SET                   |                                     |
| LDG ELEV ..... AUTO                |                                     |
| PACK FLOW ..... AS RQRD            | CHECK PF PANEL SCAN                 |
| BAT ..... CHECK                    |                                     |
| FUEL T. TANK ..... AUTO            |                                     |
| ENG FIRE ..... CHECK/TEST          |                                     |
| DATA LOADER ..... CHECK OFF        |                                     |
| MAIN PANEL ..... CHECK             |                                     |
| PA (3rd occupant) ..... RECEIPT    |                                     |
| CVR ..... TEST                     |                                     |
| RMP ..... SET                      |                                     |
| AIRFIELD DATA ..... OBTAIN (CM2)   |                                     |
| ACARS ..... INITIALIZE             |                                     |
| <u>CTR INSTRUMENT PANEL</u>        |                                     |
| *ISIS ..... CHECK                  |                                     |
| * NORTH REF ..... CHECK            |                                     |
| ECAM SWITCHING ..... SET           |                                     |
| *CLOCK ..... CHECK/ADJUST          |                                     |
| LDG GEAR GRVTY EXTN..... STOWED    |                                     |
| *A/SKID N/W STRG ..... ON          |                                     |
| <u>PEDESTAL</u>                    |                                     |
| ACP ..... CHECK                    |                                     |
| *WEATHER RADAR ..... SET           | <u>*FMGS DATA CONFIRMATION</u>      |
| PARKING BRAKE PRESS ... CHECK      | AIRFIELD DATA ..... CONFIRM         |
| SWITCHING PANEL ..... NORM         | ATC CLEARANCE ..... OBTAIN          |
| *LDG ELEV (ECAM) ..... CHECK AUTO  | IRS ALIGN ..... CHECK               |
| THRUST LEVERS ..... CHECK IDLE     | GROSS WEIGHT INSERTION ..... CHECK  |
| ENG MASTER ..... CHECK OFF         | TO DATA ..... CALCULATE/CHECK (CM2) |
| ENG START SEL ..... CHECK NORM     | F-PLN A and B ..... CHECK           |
| ATC ..... SET                      | *ATC CODE ..... SET (CM2)           |
| *FUEL QTY ..... CHECK              | *FUEL QTY ..... CHECK               |
| ALT CHECK ..... CHECK              |                                     |



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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


\* When both pilots are seated:

|  |  |
|--|--|
| <p><u>FMGS INITIALIZATION</u><br/> ENGINE &amp; AIRCRAFT TYPE .... CHECK<br/> DATABASE VALID ..... CHECK<br/> NAVAID DESELECTION .... AS RQRD<br/> F-PLN INITIALIZATION ..... COMPLETE<br/> ALIGN IRS ..... AS APPROPRIATE<br/> F-PLN A ..... COMPLETE AND CHECK<br/> WINDS CLB/CRZ ..... INSERT<br/> F-PLN ..... CHECK<br/> SEC F-PLN ..... AS APPROPRIATE<br/> RADIO NAV ..... CHECK<br/> <u>FMGS DATA INSERTION</u><br/> ZFCG, EZFW, BLOCK FUEL .. INSERT<br/> TAKEOFF DATA ..... INSERT<br/> PRESENT SPEEDS ..... AS RQRD<br/> <u>GLARESHIELD</u><br/> *LOUDSPEAKER ..... SET<br/> *BARO REF ..... SET<br/> *FD ..... CHECK ON<br/> *LS ..... AS RQRD<br/> *ND mode and range ..... SET<br/> *ADF/VOR sel ..... AS RQRD<br/> *FCU ..... SET<br/> <u>LATERAL CONSOLE</u><br/> OXY MASK ..... TEST<br/> <u>PF INSTRUMENT PANEL</u><br/> EFIS DMC SEL ..... NORM<br/> PFD-ND brightness ..... ADJUST<br/> *PFD-ND ..... CHECK</p> | <p><u>GLARESHIELD</u><br/> *LOUDSPEAKER ..... SET<br/> *BARO REF ..... SET<br/> *FD ..... CHECK ON<br/> *LS ..... AS RQRD<br/> *ND mode and range ..... SET<br/> *ADF/VOR sel ..... AS RQRD<br/> <br/> <u>LATERAL CONSOLE</u><br/> OXY MASK ..... TEST<br/> <u>PF INSTRUMENT PANEL</u><br/> EFIS DMC SEL ..... NORM<br/> PFD-ND brightness ..... ADJUST<br/> *PFD-ND ..... CHECK</p> |
|--|--|

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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


| <b>BEFORE PUSHBACK or START</b>                   |   |
|---|---|
| <b>CM1</b>  | <b>CM2</b>  |
| LOADSHEET ..... REVISE/ANNOUNCE                   | LOADSHEET ..... CHECK (CM1)   |
| TO DATA ..... SEAT BELTS ..... MCDU ..... PERF TO | TO DATA ..... SEAT BELTS ..... MCDU ..... F-PLN ..... EXT PWR ..... CHECK OFF |
| BEFORE START C/L DOWN TO THE LINE                 | PUSHBACK/START CLEAR ..... OBTAIN   |
| NW/S DISC ..... CHECK AS RQRD                     | WINDOW/DOORS ..... CHECK  |
| WINDOW/DOORS ..... CHECK                          | THR LEVERS ..... IDLE   |
| THR LEVERS ..... IDLE                             | PARK BRK ..... AS RQRD  |
| PARK BRK ..... AS RQRD                            | BEACON ..... ON   |
| BEFORE START C/L BELOW THE LINE                   |   |

| <b>ENGINE START</b>                |                         |
|------------------------------------|-------------------------|
| <b>CM1</b>                         | <b>CM2</b>              |
| ENG START sel ..... IGN/START      | ENG START ..... MONITOR |
| ANNOUNCE ..... "STARTING ENGINE 1" |                         |
| MASTER SW 1 ..... ON               |                         |
| START VALVE                        |                         |
| N2                                 |                         |
| IGNITER                            |                         |
| FUEL FLOW                          | CHECK                   |
| EGT                                |                         |
| N1                                 |                         |
| OIL PRESS                          |                         |
| START VALVE CLOSED AT OR ABOVE AT  |                         |
| 50 % N3                            |                         |
| ENG IDLE PARAMETERS ..... CHECK    |                         |
| ANNOUNCE ..... "STARTING ENGINE 2" |                         |
| REPEAT THE START SEQUENCE FOR      |                         |
| ENG2                               |                         |

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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


| AFTER START                         |                             |
|-------------------------------------|-----------------------------|
| CM1                                 | CM2                         |
| ENG START sel ..... NORM            | GND SPLRS ..... ARM         |
| APU BLEED ..... OFF                 | RUD TRIM ..... ZERO         |
|                                     | FLAPS ..... SET TO CONFIG   |
|                                     | PITCH TRIM ..... SET        |
| ECAM STATUS ..... CHECK             | ENG ANTI ICE ..... AS RQRD  |
| ECAM DOOR PAGE ..... CHECK          | WING ANTI ICE ..... AS RQRD |
| ANNOUNCE .... "CLEAR TO DISCONNECT" | APU MASTER SW ..... AS RQRD |
| AFTER START C/L                     | NWS TOWING LT ..... CHECK   |
| FLT CTL ..... CHECK                 |                             |

| TAXI                              |                             |
|-----------------------------------|-----------------------------|
| CM1                               | CM2                         |
| NOSE LIGHT ..... TAXI             | TAXI CLEARANCE ..... OBTAIN |
| <b>* Taxi clearance obtained:</b> |                             |
| PARKING BRAKE ..... OFF           | ELAPSED TIME ..... START    |
| BRAKES ..... CHECK                | BRAKE PRESS ..... CHECK     |
|                                   | FLT CTL ..... CHECK         |
|                                   | AUTO BRAKE ..... MAX        |
| <b>* ATC clearance obtained:</b>  |                             |
|                                   | ATC CLEARANCE ..... OBTAIN  |
|                                   | TO DATA ..... CHECK         |
|                                   | FMGS-F-PLAN/SPD ..... CHECK |
|                                   | AFCU ALT/HDG ..... SET      |
|                                   | BOTH FD ..... CHECK ON      |
|                                   | FLT INST & FMA ..... CHECK  |
| TERR ON ND ..... AS RQRD          | TERR ON ND ..... AS RQRD    |
|                                   | ATC TRANSPONDER ..... SET   |
| TO BRIEFING ..... CONFIRM (PF)    |                             |
| CABIN REPORT ..... RECEIVE (CM1)  |                             |
|                                   | TO CONFIG ..... PRESS       |
|                                   | TO MEMO ..... CHECK NO BLUE |
| BEFORE TO C/L DOWN TO THE LINE    |                             |

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| Yemenia  اليمنية | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |

| <b>BEFORE TAKEOFF</b>   |   |
|---|---|
| <b>PF</b>   | <b>PNF</b>  |
| APPROACH PATH CLEAR OF TRAFFIC ..... CHECK<br>CABIN CREW ..... ADVISE<br><br>EXTERIOR LIGHTS ..... ON<br>SLIDING TABLE ..... STOWED<br>BEFORE TO C/L BELOW THE LINE | BRAKE TEMP (if fans running) ..... CHECK<br>BRAKE TFANS (if fans running) ..... OFF<br>TAKEOFF/LINE UP CLEARANCE ... OBTAIN<br>ENG START SEL ..... AS RQRD<br>RADAR&PREDECTIVE WINDSHEAR ON/AUTO<br>TCAS ..... TA or TA/RA<br>ATC (if no AUTO position) ..... ON<br>PACKS 1 + 2 ..... AS RQRD<br>SLIDING TABLE ..... STOWED |


| <b>TAKEOFF</b>   |   |
|--|---|
| <b>PF</b>  | <b>PNF</b>  |
| ANNOUNCE ..... "TAKEOFF"<br><br>BRAKES ..... RELEASEE<br>THRUST LEVERS ..... FLEX/TOGA<br><p style="text-align: center;"><b>When thrust set, Captain places hands on thrust levers until V1</b></p> CHRONO ..... START<br>ANNOUNCE ..... FMA<br><br><b>*Below 80 knots</b> .....<br><br><b>*At 100 knots</b> .....<br>ANNOUNCE ..... "CHECKED"<br><p style="text-align: center;"><b>At V1, "V1" synthetic voice is triggered</b></p> * At V1:<br>* At VR:<br>* When V/S positive + ALTI: .....<br>ORDER ..... "GEAR-UP"<br><br>A/P ..... AS RQRD<br>ANNOUNCE ..... FMA | CHRONO ..... START<br>PFD/ND ..... SCAN<br>N1 (EPR) ..... CHECK<br>ANNOUNCE ..... "THRUST SET"<br>PFD/ENG parameters ..... SCAN<br>ANNOUNCE ..... "100 KT"<br><br>ANNOUNCE 5 KTS BEFORE V1 ..... "V1"<br>ANNOUNCE ..... "ROTATE"<br>ANNOUNCE ..... "POSITIVE CLIMB"<br>L/G ..... UP<br>GRND SPLRS ..... DISARM<br>EXTERIOR LIGHTS ..... SET<br><br>ANNOUNCE ..... "GEAR UP" |

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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |

| <b>TAKEOFF</b>  |  |
|---|--|
| PF  | PNF  |
| <b>*At thrust reduct alt.:</b><br>THRUST LEVERS ..... CL<br>ANNOUNCE FMA ..... "THR CLB. SRS" | ONE PACK ..... ON<br>(IF TAKEOFF WITH PACKS OFF)                                     |
| <b>* At acceleration alt.:</b><br>ANNOUNCE<br>FMA ..... "THR CLB. CLB OR OPEN<br>CLB"         |  |
| <b>* At F speed:</b><br>ORDER ..... "FLAPS 1"   | FLAPS 1 ..... SELECT<br>CONFIRMATION/ANNOUNCE ..... "FLAPS 1"                        |
| <b>* At S speed:</b><br>ORDER ..... "FLAPS 0"   | FLAPS 0 ..... SELECT<br>CONFIRMATION/ANNOUNCE ..... "FLAPS 0"<br>2ND PACK ..... "ON" |

| <b>AFTER TAKEOFF</b>                |   |
|-------------------------------------|---|
| PF                                  | PNF   |
|                                     | APU BLEED/MSW ..... AS RQRD<br>ENG START selector ..... AS RQRD<br>TCAS ..... TA/RA<br>ANTI ICE ..... AS RQRD |
| AFTER TO/CLIMB C/L DOWN TO THE LINE |   |


| <b>CLIMB</b>  |  |
|---|--|
| PF  | PNF  |
| MCDU ..... PERF CLB<br>FCU/FMGS ..... SET IF AP ON  | MCDU ..... F-PLN<br>FCU/FMGS ..... SET IF AP OFF |
| <b>* At transition altitude:</b><br>BARO REF ..... SET/X CHECK<br>AFTER TO C/L BELOW THE LINE   | BARO REF ..... SET/X CHECK                       |
| RADAR TILT ..... ADJUST   | ENG ANTI ICE ..... AS RQRD                       |
| <b>* Att 10000 feet:</b><br>LAND LIGHTS ..... OFF<br>SEAT BELTS ..... AS RQRD<br>EFIS OPTION ..... CST/ARPT<br>RADIO NAV ..... CHECK<br>OPT/MAX ALT ..... CHECK | ECAM MEMO ..... REVIEW<br>EFIS OPTION ..... ARPT |

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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |

| <b>CRUISE</b>           |                |                  |         |
|-------------------------|----------------|------------------|---------|
| <b>PF</b>               |                | <b>PNF</b>       |         |
| SEC F-PLN .....         | AS RQRD        |                  |         |
| ECAM MEMO/SYS PAGES ... | REVIEW         |                  |         |
| FLIGHT PROGRESS .....   | CHECK          |                  |         |
| FUEL .....              | MONITOR        | FUEL .....       | MONITOR |
| STEP FLIGHT LEVEL ...   | AS APPROPRIATE |                  |         |
| NAV ACCURACY .....      | CHECK          |                  |         |
| RADAR TILT .....        | ADJUST         |                  |         |
| CABIN TEMP .....        | MONITOR        | CABIN TEMP ..... | MONITOR |


| <b>DESCENT PREPARATION</b> |         |                         |         |
|----------------------------|---------|-------------------------|---------|
| <b>PF</b>                  |         | <b>PNF</b>              |         |
| LDG ELEV .....             | CHECK   | DEST WX .....           | OBTAIN  |
| FMGS .....                 | PREPARE | LANDING DATA .....      | PREPARE |
| LAND DATA .....            | INSERT  |                         |         |
| V-BUGS .....               | VAPP/GD | DESCENT CLEARANCE ..... | OBTAIN  |
| APPR BRIEFING .....        | PERFORM | ANTI ICE .....          | AS RQRD |

| <b>DESCENT</b>   |                   |            |       |
|------------------|-------------------|------------|-------|
| <b>PF</b>        |                   | <b>PNF</b> |       |
| DESCENT .....    | INITIATE          |            |       |
| ANNOUNCE .....   | FMA               | FMA .....  | CHECK |
| CABIN CREW ..... | ADVISE            |            |       |
| MCDU .....       | PROG/PERF DESCENT | MCDU ..... | F-PLN |
| DESCENT .....    | MONITOR           |            |       |
| SPD BRK .....    | AS RQRD           |            |       |
| RADAR TILT ..... | ADJUST            |            |       |

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|---|---|
|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


| DESCENT   |   |
|---|---|
| PF  | PNF   |
| <b>* ALT FL200:</b><br>EGPWS ..... TERR ON ND<br>NAV ACCY ..... CHECK   | ECAM STATUS ..... CHECK                               |
| <b>* When cleared to altitude:</b><br>BARO REF ..... SET/X CHECK  | BARO REF ..... SET/X CHECK                            |
| <b>* At 10000 feet:</b><br>LAND LIGHTS ..... ON<br>SEAT BELTS ..... ON<br>EFIS OPTION ..... CSTR<br>LS pushbutton ..... AS RQRD<br>RADIO NAV ..... SELECT/IDENT<br>NAV ACCURACY ..... CHECK | EFIS OPTION ..... CSTR<br>LS pushbutton ..... AS RQRD |

| ILS APPROACH  |  |
|---|--|
| PF  | PNF  |
| <u>Initial approach:</u><br><br><b>Approx 15 NM from touchdown:</b><br>APPR PHASE .... ACTIVATE or set green dot<br>POSITIONING ..... MONITOR<br>RADAR TILT ..... ADJUST<br>APPR C/L  | ENG START sel ..... AS RQRD<br><br>NAV ACCURACY ..... MONITOR  |
| <u>Intermediate/Final approach:</u><br>When cleared for ILS approach:<br>APPR ..... PRESS<br>BOTH AP ..... ENGAGE<br><b>At green dot:</b><br>ORDER ..... "FLAPS 1"<br><br>CHECK OR SET S SPEED *<br>FMA ..... ANNOUNCE<br>LOC CAPTURE ..... MONITOR<br>ANNOUNCE ..... "LOC" | FLAPS 1 ..... SELECT<br>CONFIRM/ANNOUNCE..... "FLAPS 1"<br>CABIN CREW ..... ADVISE<br><br>TCAS ..... TA or TA/RA<br>FMA ..... CHECK<br>RESPOND ..... CHECKED |


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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |

| <b>ILS APPROACH</b>                         |  |
|---|--|
| <b>PF</b>                                   | <b>PNF</b>                                     |
| GLIDE CAPTURE ..... MONITOR                 | GO AROUND ALT ..... SET                        |
| ANNOUNCE ..... "G/S"                        | RESPOND ..... CHECKED                          |
| GA ALT ..... SET                            | RESPOND ..... GO ALT SET                       |
| RESPOND ..... "X-CHECKED"                   | CROSS OM/DME .. "OM/DME_PASSING_<br>FT/TIMING" |
| <b>At 2000 feet AGL:</b>                    |  |
| ORDER ..... "FLAPS 2"                       | FLAPS 2 ..... SELECT                           |
|   | CONFIRM/ANNOUNCE ..... "FLAPS 2"               |
|   | CHECK OR SET F SPEED*                          |
| <b>When Flaps 2</b>                         |  |
| ORDER ..... "GEAR DOWN"                     | L/G DOWN ..... SELECT                          |
|   | GRND SPLRS ..... ARM                           |
|   | AUTO BRAKE ..... CONFIRM                       |
| CABIN REPORT ..... OBTAIN (CM1)             | CONFIRM/ANNOUNCE ..... "GEAR DOWN"             |
| <b>When L/G down, below V<sub>FE</sub>:</b> | CABIN CREW ..... ADVISE                        |
| ORDER ..... "FLAPS 3"                       | FLAPS 3 ..... SELECT                           |
|   | CONFIRM/ANNOUNCE ..... "FLAPS 3"               |
|   | ECAM WHEEL PAGE ..... CHECK                    |
| <b>When FLAPS 3, below V<sub>FE</sub>:</b>  |  |
| ORDER ..... "FLAPS FULL"                    | FLAPS FULL ..... SELECT                        |
|   | CONFIRM/ANNOUNCE ..... "FLAPS FULL"            |
|   | CHECK OR SET VAPP*                             |
|   | A/THR ..... CHECK SPD or OFF                   |
|   | WING A. ICE (if not required) ..... OFF        |
|   | EXTERIOR LIGHTS ..... SET                      |
| SLIDING TABLE ..... STOWED                  | SLIDING TABLE ..... STOWED                     |
| LDG C/L                                     | LDG MEMO ..... CHECK NO BLUE                   |
| ANNOUNCE ANY FMA modification               | FLT PARAMETERS ..... CHECK                     |
|   | Announce any deviation in excess of:           |
|   | V/S : 1000 ft/min                              |
|   | IAS : speed target +10 kt speed target-5 kt    |
|   | LDG: 1/4 dot LOC                               |
|   | GLIDE: 1 DOT FS                                |
|   | pitch: 0° nose down; 10° nose up               |
|   | BANK: 7 °                                      |
| <b>At DH + 100 (or MDA/MDH + 100):</b>      | MONITOR OR ANNOUNCE . "ONE HUNDRED<br>ABOVE"   |
| <b>At DH (or MDA/MDH):</b>                  |  |
| ANNOUNCE..... "LANDING" or "GA/FLAPS"       | MONITOR or ANNOUNCE ..... "MINIMUM"            |
| * PF FOR AUTO APPR, PNF FOR MAN<br>APPR     |  |




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|---|---|
|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |

| NON PRECISION APPROACH (MANAGED GUIDANCE)<br>NON ILS APPROACH IN NAV DATA BASE <u>AND</u> NAV ACCY CHECK POSITIVE |                                     |
|---|-------------------------------------|
| PF  | PNF                                 |
| <u>Initial approach:</u>  | ENG START sel ..... AS RQRD         |
| <b>Approx 15 NM from touchdown:</b>   |                                     |
| APPR PHASE .... ACTIVATE or set green dot   |                                     |
| POSITIONING ..... MONITOR   | NAV ACCURACY ..... MONITOR          |
| RADAR TILT ..... ADJUST   |                                     |
| APPR C/L  |                                     |
| <u>Intermediate/Final approach:</u>   |                                     |
| When cleared for ILS approach:  |                                     |
| APPR ..... PRESS  |                                     |
| <b>At green dot:</b>  |                                     |
| ORDER ..... "FLAPS 1"   | FLAPS 1 ..... SELECT                |
|   | CONFIRM/ANNOUNCE ..... "FLAPS 1"    |
|   | CHECK OR SET S SPEED*               |
| ND MODE RANGE ..... AS RQRD   | TCAS ..... TA or TA/RA              |
| FMA ..... ANNOUNCE  | ND MODE RANGE ..... AS RQRD         |
|   | FMA ..... CHECK                     |
| <b>At S speed:</b>  |                                     |
| ORDER ..... "FLAPS 2"   | FLAPS 2 ..... SELECT                |
|   | CONFIRM.ANNOUNCE ..... "FLAPS 2"    |
|   | CHECK OR SET F SPEED*               |
| <b>When Flaps 2</b>   |                                     |
| ORDER ..... "GEAR DOWN"   | L/G DOWN ..... SELECT               |
| CABIN REPORT ..... OBTAIN (CM1)   | GRND SPLRS ..... ARM                |
| <b>When L/G down, below V<sub>FE</sub>:</b>   | AUTO BRAKE ..... CONFIRM            |
| ORDER ..... "FLAPS 3"   | CONFIRM/ANNOUNCE ..... "GEAR DOWN"  |
|   | CABIN CREW ..... ADVISE             |
|   | FLAPS 3 ..... SELECT                |
|   | CONFIRM/ANNOUNCE ..... "FLAPS 3"    |
| <b>When FLAPS 3, below V<sub>FE</sub>:</b>  | ECAM WHEEL PAGE ..... CHECK         |
| ORDER ..... "FLAPS FULL"  | FLAPS FULL ..... SELECT             |
|   | CONFIRM/ANNOUNCE ..... "FLAPS FULL" |

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|---|---|
|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


| <b>NON PRECISION APPROACH (MANAGED GUIDANCE)</b>   |  |
|--|--|
| NON ILS APPROACH IN NAV DATA BASE AND NAV ACCY CHECK POSITIVE  |  |
| PF   | PNF  |
| <b>At the FAF:</b> CHECK OR SET VAPP*<br><b>After the FAF:</b> SET GA ALTITUDE ON FCU<br><br>POSITION/FLT PATH ..... MONITOR<br><br>SLIDING TABLE ..... STOWED<br><br>LDG C/L<br>ANNOUNCE ANY FMA MODIFICATION<br><br><b>At MDA + 100:</b><br><br><b>At MDA</b><br>ANNOUNCE ..... "LANDING" or GA/FLAPS"<br>AP (if applicable) ..... OFF | FINAL APP ..... CHECK<br>GA ALTITUDE ..... SET<br>A/THR ..... CHECK SPD or OFF<br>WING A.ICE (if not required) ..... OFF<br>EXTERIOR LIGHTS ..... SET<br>SLIDING TABLE ..... STOWED<br>LDG MEMO ..... CHECK NO BLUE<br><br>FLT PARAMETERS ..... CHECK<br>Announce any deviation in excess of:<br>V/S : 1000 ft/min<br>IAS : speed target +10 kt, speed target -5 kt<br>PITCH: 0° nose down; 10° nose up<br>BANK: 7°<br>COURSE: 1/2 dot or 2.5° (VOR); 5° (ADF)<br>MONITOR OR ANNOUNCE "ONE HUNDRED ABOVE"<br><br>MONITOR or ANNOUNCE ..... "MINIMUM" |

| <b>NON PRECISION APPROACH (MANAGED GUIDANCE)</b>   |   |
|--|---|
| NON ILS APPROACH IN NAV DATA BASE, OR, NAV ACCY CHECK NEGATIVE   |   |
| PF   | PNF   |
| <u>Initial approach:</u><br><br><b>Approx 15 NM from touchdown:</b><br>APPR PHASE ..... ACTIVATE or set green dot<br>POSITIONING ..... MONITOR<br>RADAR TILT ..... ADJUST<br>APPR C/L<br><br><u>Final approach:</u><br><b>At green dot:</b><br>ORDER ..... "FLAPS 1" | ENG START sel ..... AS RQRD<br><br>NAV ACCURACY ..... MONITOR<br><br>FLAPS 1 ..... SELECT<br>CONFIRM/ANNOUNCE ..... "FLAPS 1" |

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|  | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


| <b>NON PRECISION APPROACH (MANAGED GUIDANCE)</b>                                       |  |
|--|--|
| NON ILS APPROACH IN NAV DATA BASE, OR, NAV ACCY CHECK NEGATIVE                         |  |
| PF   | PNF  |
| CHECK OR SET S SPEED*  |  |
| ND MODE RANGE ..... AS RQRD  | TCAS ..... TA or TA/RA<br>ND MODE RANGE ..... AS RQRD  |
| <b>At S speed:</b><br>ORDER ..... "FLAPS 2"  | FLAPS 2 ..... SELECT<br>CONFIRM/ANNOUNCE ..... "FLAPS 2"   |
| CHECK OR SET F SPEED*  |  |
| <b>When Flaps 2</b><br>ORDER ..... "GEAR DOWN"   | L/G DOWN ..... SELECT<br>GRND SPLRS ..... ARM<br>AUTO BRAKE ..... CONFIRM<br>CONFIRM/ANNOUNCE ..... "GEAR DOWN"  |
| CABIN REPORT ..... OBTAIN (CM1)  | CABIN CREW ..... ADVISE  |
| <b>When L/G down, below V<sub>FE</sub>:</b><br>ORDER ..... "FLAPS 3"                   | FLAPS 3 ..... SELECT<br>CONFIRM/ANNOUNCE ..... "FLAPS 3"   |
| <b>When FLAPS 3, below V<sub>FE</sub>:</b><br>ORDER ..... "FLAPS FULL"                 | ECAM WHEEL PAGE ..... CHECK<br>FLAPS FULL ..... SELECT<br>CONFIRM/ANNOUNCE ..... "FLAPS FULL"  |
| CHECK OR SET VAPP*   |  |
| <b>AT the FAF:</b>   | SET FPA TO FINAL APPROACH PATH*  |
| <b>After the FAF:</b>  | SET FA ALTITUDE ON FCU   |
| POSITION/FLT PATH ..... MONITOR  | A/THR ..... CHECK SPD or OFF<br>WING A.ICE (if not required) ..... OFF<br>EXTERIOR LIGHTS ..... SET<br>SLIDING TABLE ..... STOWED<br>LDG MEMO ..... CHECK NO BLUE  |
| LDG C/L<br>ANNOUNCE ANY FMA MODIFICATION   | FLT PARAMETERS ..... CHECK<br>Announce any deviation in excess of:<br>V/S : 1000 ft/min<br>IAS : speed target +10 kt, speed target -5 kt<br>PITCH: 0° nose down; 10degree nose up<br>BANK: 7 °<br>COURSE: 1/2 dot or 2.5° (VOR); 5° (ADF)<br>MONITOR OR ANNOUNCE . "ONE HUNDRED ABOVE" |
| <b>At MDA + 100:</b>   |  |
| <b>At MDA</b><br>ANNOUNCE ..... "LANDING" or GA/FLAPS"<br>AP (if applicable) ..... OFF | MONITOR or ANNOUNCE ..... "MINIMUM"  |

\* PF FOR AUTO APPR, PNF FOR MAN APPR

|   |   |
|---|---|
| Yemenia  اليمنية | <b>A320 STANDARD OPERATING PROCEDURES</b> |
|   | <b>TASK ALLOCATION</b>                    |


| <b>LANDING</b>           |  |
|--------------------------|--|
| <b>PF</b>                | <b>PNF</b>                                 |
| <b>At 30 feet:</b>       |  |
| FLARE ..... PERFORM      | ATTITUDE ..... MONITOR                     |
| THRUST LEVERS ..... IDLE |  |
| <b>At touchdown:</b>     |  |
| REV ..... PULL           | ANNOUNCE ..... "GRND SPLRS"<br>"REV GREEN" |
| BRAKES ..... AS RQRD     |  |
| REV ..... MAX            | ANNOUNCE ..... "70 KT"                     |
| <b>AT 70 knots:</b>      |  |
| REV ..... IDLE           |  |
| <b>At taxi speed:</b>    |  |
| REV ..... STOW           |  |
| <b>Before 20 knots</b>   |  |
| AUTO BRK ..... DISENGAGE |  |

| <b>GO AROUND</b>                 |                                 |
|----------------------------------|---------------------------------|
| <b>PF</b>                        | <b>PNF</b>                      |
| THRUST LEVERS ..... TOGA         | FLAPS ..... RETRACT ONE STEP    |
| ANNOUNCE ..... "GO AROUND-FLAPS" | ANNOUNCE ..... "POSITIVE CLIMB" |
| ROTATION ..... PERFORM           |                                 |
| ANNOUNCE ..... FMA               |                                 |
| ORDER ..... "GEAR UP"            | L/G ..... UP                    |
|                                  | ANNOUNCE ..... "GEAR UP-FLAPS"  |
|                                  | NAV or HDG ..... SELECT         |
| <b>At GA thrust red. alt:</b>    |                                 |
| THRUST LEVERS ..... CL           |                                 |
| <b>At GA accel alt:</b>          |                                 |
| SPEED ..... MONITOR              | FLAPS ..... RETRACT ON SCHEDULE |

|   |   |
|---|---|
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| <b>AFTER LANDING</b>  |  |
|---|--|
| <b>CM1</b>  | <b>CM2</b>   |
| <u>PF</u> at night, <u>PNF</u> by day<br>LANDING LIGHTS ..... OFF   |  |
| GRND SPLRS ..... DISARM<br>NOTE: AT TAXI SPEED OR AFTER<br>VACATING THE RUNWAY.<br>(signal for PNF to commence after<br>landing items)<br>ELAPSED TIME ..... STOP | FLAPS ..... RETRACT<br>ENG START sel ..... NORM<br>ATC (if no AUTO position) ..... STBY/OFF<br>TCAS MODEL SEL ..... SET ON<br>ANTI ICE ..... AS RQRD<br>APU ..... START<br>RADAR ..... OFF/STBY<br>PREDICTIVE WINDSHEAR ..... OFF<br>BRAKES TEMP ..... CHECK |
| AFTER LDG C/L   |  |

| <b>PARKING</b>   |   |
|--|---|
| <b>CM1</b>   | <b>CM2</b>  |
| PARKING BRK ..... ON<br>ENG MASTER 1, 2 ..... OFF<br>GROUND CONTACT ..... ESTABLISH<br>BEACON LT ..... OFF<br>EXTERIOR LIGHTS ..... OFF<br>SEAT BELTS ..... OFF<br>PARKING BRAKE ..... AS RQRD<br>DU's ..... DIM | ANTI ICE ..... OFF<br>APU BLEED ..... ON<br>SLIDE DISARMED ..... CHECK<br>ELAPSED TIME ..... STOP<br>FUEL PUMPS ..... OFF<br>ATC ..... SET ON STBY<br>STATUS ..... CHECK<br>IRS DRIFT RATE ..... CHECK<br>BRAKE FAN ..... OFF<br>DU's ..... DIM |
| PARKING C/L  |   |

|   |   |
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| <b>SECURING THE AIRCRAFT</b> |                                 |
|------------------------------|---------------------------------|
| <b>CM1</b>                   | <b>CM2</b>                      |
| PARKING BRK ..... CHECK ON   | OXY CREW SUPPLY ..... OFF       |
| ADIRS (1 + 2 + 3) ..... OFF  | EXTERIOR LIGHTS ..... OFF       |
|                              | GND SELECT CTL SW ..... AS RQRD |
|                              | APU BLEED ..... OFF             |
|                              | EXT PWR ..... AS RQRD           |
|                              | APU MASTER SW ..... OFF         |
|                              | EMER EXIT LIGHTS ..... OFF      |
|                              | NO SMOKING ..... OFF            |
|                              | BAT 1 + 2 + APU ..... OFF       |
| SECURING THE A/C C/L         |                                 |

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|---|
| <b>EMERGENCY DESCENT - TASK SHARING</b> |
|---|

This emergency descent should only be initiated upon positive confirmation that cabin altitude and rate of climb is excessive and uncontrollable. This procedure should be carried out by the crew from memory. Emergency descent procedures should be conducted as per the QRH Chapter 1, page 1.24.

Actions for descent are performed in 2 loops:


- The 1<sup>st</sup> loop establishes the aircraft in descent
- The 2<sup>nd</sup> loop is used to adjust the descend target (ALT-HDG-SPD high or low).

The following table describes the tasks of the CM1 and CM2 when conducting this procedure.

| TASK SHARING  |   |
|---|---|
| CM1   | CM2   |
| CREW OXYGEN MASKS ..... ON<br>Set Oxygen diluter selector to N, if in % 100 oxygen quantity<br>might not be sufficient to cover the emergency descent<br>CREW COMMUNICATION ..... ESTABLISH (HEADSET)   |   |
| <b>1st Loop</b><br>ALT selector knob and pull<br>Turn HDG selector knob and pull<br>PULL SPEED KNOB<br>CHECK ..... FMA<br>THRUST ..... IDLE<br>SPD BRK ..... PULL   | SIGNS ..... ON<br>ENG START SEL ..... IGN<br>ATC ..... NOTIFY<br>IF CAB ALT > 1400 feet<br>PAX OXY MASKS ..... MAN ON |
| <b>2nd Loop - Target Adjustments</b><br>ALT ..... SELECT CLEARED ALT<br>OR MORA<br>HDG ..... ADJUST<br>IF DAMAGE SUSPECTED<br>CURRENT SPEED ..... MAINTAIN<br>NO DAMAGE:<br>SPEED TARGET ..... SET MMO<br><br>REQUEST "ECAM ACTINS", OR<br>CHECKLIST (if NO ECAM) |   |

Note: It is recommended to descend with AP engaged.



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