



QUICK REFERENCE HANDBOOK



Airbus A320
Quick Reference Handbook

Revision: 0
Issue Date: 29 Mar 2019
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GENERAL

Scope

The QRH contains some specific procedures which are not displayed on the ECAM.
As a general rule, the procedures displayed on the ECAM are not provided in the QRH.

Tasksharing for ABN/EMER PROC

For all abnormal/emergency procedures, the tasksharing is as follows:

- PF – Pilot Flying – responsible for the
 - o Thrust Levels
 - o Flight path and airspeed control
 - o Aircraft configuration (request configuration change)
 - o Navigation
 - o Communications
- PM – Pilot Monitoring – Responsible for the:
 - o Monitoring and reading aloud the ECAM and checklists
 - o Performing required actions or actions requested by the PF, if applicable
 - o Using engine master levers, cockpit C/Bs, IR and guarded switches with PF's confirmation (except on ground)

ECAM Clear

DO NOT CLEAR ECAM WITHOUT CROSS – CONFIRMATION OF BOTH PILOTS

ABN/EMER PROC INITIATION

Procedures are initiated on pilot flying command

No action will be taken (apart from audio warning cancel through MASTER WARN light) until:

- The appropriate flight path is established, and
- The aircraft is at least 400ft above the runway, if a failure occurs during takeoff, approach, or go around (In some emergency cases, provided the appropriate flight path is established, the pilot flying may initiate actions before this height)

Normal Checklist

Normal C/L are initiated by PF and read by the PM

The PF shall respond after having checked the existing configuration. When both pilots have to respond, "BOTH" is indicated.

Definitions of WARNINGS, CAUTIONS AND NOTES

The following are the official definitions of warnings, cautions and notes taken directly from the JAR25/CS-25 and applicable to the airbus flight operation documentation

WARNING

An operating procedure, technique etc. that may result in personal injury or loss of life if not followed

CAUTION

An operating procedure, technique, etc. that may result in damage to equipment if not followed

NOTE

An operating procedure, technique, etc. considered essential to emphasize. Information contained in notes may also be safety related

QRH Symbolology

PROCEDURE TITLE

The title of an abnormal or emergency procedure, displayed on the ECAM, appears on white background.

Abnormal procedure displayed on ECAM (amber caution) :

CAB PR SAFETY VALVE OPEN

Emergency procedure displayed on ECAM (red warning) :

CAB PR EXCESS CAB ALT

The title of an abnormal or emergency procedure, that does not appear on the ECAM is on a grey background.

Abnormal procedure not displayed on ECAM :

[QRH] L/G GRAVITY EXTENSION

Emergency procedure not displayed on ECAM :

[QRH] DITCHING

SEVERAL ALERTS UNDER THE SAME TITLE

When applicable, several alerts may be grouped under the same procedure title. However, depending on the failure, the actions that the flight crew should perform may differ.

Note: Alerts that have the same procedure title may be differentiated by a subtitle (e.g. ENG FIRE (On Ground) versus ENG FIRE (In Flight)).

MEMORY ITEMS

Memory items are items that the flight crew must memorize, in order to be able to rapidly apply them, without referring to the ECAM, and/or to the QRH.

Memory items are surrounded by a box in the FCOM/QRH procedure, in order to enable the flight crew to easily identify them.

Memory items

● If no braking:

REV	MAX
BRAKE PEDALS	RELEASE

Abnormal and Emergency Procedures

ECAM ADVISORY CONDITIONS

System	Conditions	Recommended Action
CAB PRESS	CAB VERTICAL SPEED V/S > 1 800ft/min	CPC changeover is recommended: MODE SEL (MAN) Wait 10s, then: MODE SEL (AUTO)
	CAB ALTITUDE Altitude ≥ 8 800ft	MODE SEL (MAN) Manual pressure control
ELEC	IDG OIL TEMP ≥ 147°C	Reduce IDG load, if possible (GALLEY or GEN OFF). If required, restore when the temperature has dropped. Restrict generator use to a short time, if the temperature rises again excessively.
Fuel	Difference between wing fuel quantities greater than 1 500 kg (3 307 lb)	FUEL MANAGEMENT (CHECK) If a fuel leak is suspected, Refer to QRH ABN-28 FUEL LEAK.
	Fuel temp greater than 45 °C in inner cell, or 55 °C in outer cell	GALLEY (OFF)
	Fuel temp lower than -40 °C in inner or outer cell	Consider descending to a lower altitude and/or increasing Mach to increase TAT.
OXY	CKPT OXY Pulsing green: When pressure is < 600 PSI. Amber: When pressure is < 300 PSI.	If mask is not being used, check if it is correctly stowed.
APU	EGT > EGT MAX -33 °C (inhibited during APU start)	
	OIL QTY (message LOW OIL LEVEL pulsing)	If there is no oil leak, then the remaining oil quantity allows normal APU operation for about 10 h.
ENG	OIL PRESS P < 16 PSI	- If oil pressure is between 16 PSI and 13 PSI (advisory), continue normal operation. - If oil pressure is below 13 PSI (red indication), without the ENG OIL LO PR warning, continue normal engine operation (it can be assumed that the oil pressure transducer is faulty). In both cases, monitor other engine parameters, especially oil temperature and quantity.
	OIL PRESS P > 90 PSI	Closely monitor other engine parameters for symptoms of engine malfunction.

		<p>If high oil pressure is not accompanied by other abnormal indications, operate the engine normally for the remainder of the flight. Record high oil pressure, and corresponding N2 readings, for maintenance action.</p>
	<p>OIL TEMP T > 140 °C</p>	<p>An oil temperature increase during normal steady-state operations indicates a system malfunction and should be closely monitored for other symptoms of engine malfunction. Note: If the OIL TEMP increase follows thrust reduction, increasing thrust may reduce oil temperature.</p> <p>In addition, an oil temperature increase could be related to the IDG oil cooling system. To reduce oil temperature increases before limits are reached, the following is recommended:</p> <ol style="list-style-type: none"> 1. Low Speed- Increase engine speed to increase fuel flow, and thereby cool IDG oil. 2. High Speed- Reduce generator load, or turn off generator. If oil temperature continues to rise, mechanically disconnect IDG.
	<p>OIL QTY < 3 qt</p>	<p>If oil quantity is low at a high power setting, expect level increase after power reduction.</p>
	<p>NAC TEMP ≥ 240 °C</p>	<p>Monitor engine parameters and crosscheck with other engine.</p>
	<p>VIBRATION N1 ≥ 6 units N2 ≥ 4.3 units</p>	<p>Refer to HIGH ENGINE VIBRATION procedure (Refer to QRH ABN-70 High Engine Vibration).</p>

TRIPPED C/B RE-ENGAGEMENT

In flight, do not reengage a circuit breaker (C/B) that has tripped by itself, unless the Captain judges it necessary to do so for the safe continuation of the flight. This procedure should be adopted only as a last resort, and only one reengagement should be attempted.

On ground, do not reengage the C/B of the fuel pump(s) of any tank. For all other C/Bs, if the flight crew coordinates the action with maintenance, the flight crew may reengage a tripped C/B, provided that the cause of the tripped C/B is identified.

ENG RELIGHT IN FLIGHT

MAX ALTITUDE..... See below
 ENG MASTER (affected)..... OFF
 THR LEVER (affected) IDLE
 ENG MODE SEL IGN
 X BLEED OPEN
 WING A. ICE (for starter assist) OFF
 ENG MASTER (affected) ON

Be aware that, contrary to an AutoStart on ground, the crew must take appropriate action in case of an abnormal start.

Engine light up should be achieved within 30 s after fuel flow increases.

ENG PARAMETERS (N2, EGT) CHECK
 When idle is reached (AVAIL indication pulses in green) :
 ENG MODE SEL NORM
 TCAS MODE SEL CHECK TA/RA

Check that the selector is at TA/RA since, if the **ENG SHUT DOWN** procedure has been applied, the TCAS mode selector may have been set at the TA position.

Affected SYS RESTORE

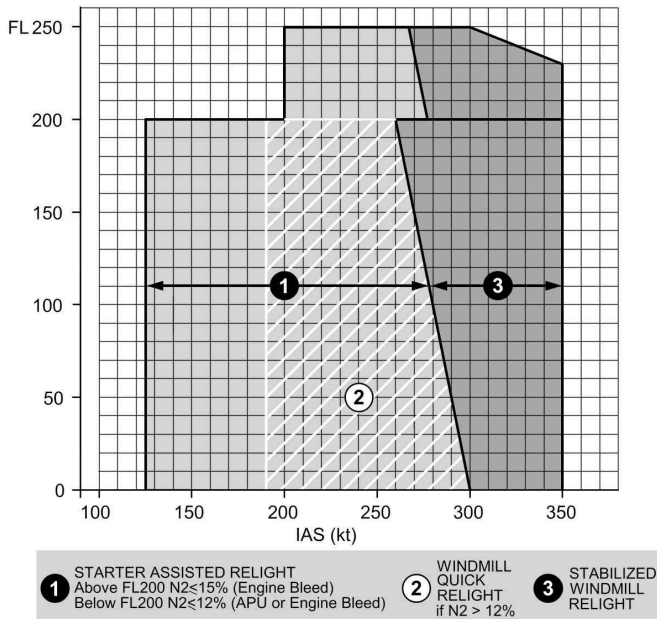
Restore affected systems and set the X BLEED selector to AUTO.

If no relight:

ENG MASTER (affected)..... OFF

Wait 30 s before attempting a new start (to drain the engine).

Inflight Engine Relight Envelope:



One Engine Inoperative – Straight-in Approach

For performance reasons, do not extend flaps full until established on a final descent to landing.

If a level off is expected during the final approach, perform the approach and landing in CONF 3.

Fuel Imbalance

FOB CHECK

Compare the FOB + FU, with the FOB at departure.

If the difference is significant, or if the FOB + FU decreases, suspect a fuel leak.

CAUTION

A fuel imbalance may indicate a fuel leak.

Do not apply this procedure, if a fuel leak is suspected.

FUEL X FEED ON

On the lighter side and in the centre tank:

FUEL PUMPS OFF

When fuel is balanced:

FUEL PUMPS (WING + CTR) ON

FUEL X FEED OFF

Overweight Landing

LDG CONF AS REQUIRED

Use the ECAM flap setting, if required for abnormal operations. In all other cases:

- FULL is preferred for optimized landing performance
- If the aircraft weight is above the maximum weight for go-around (given in the table below), use FLAP 3 for landing.

In all cases, if landing configuration is different from FLAP FULL, use 1+F for go-around.

Note: For weights greater than 70 000 kg (or 154 000 lb), S speed is greater than VFE CONF 2 (200 kt). Consequently, on the FCU, the crew must select a speed below 200 kt before setting FLAPS 2. When in FLAPS 2, the crew can use managed speed again.

LDG DIST CHECK
 PACK 1 and 2 OFF or supplied by APU
 Selecting packs OFF (or supplied from APU) will increase the maximum thrust available from the engines in the event of a go-around.

In the final approach stages:

TARGET SPEED VLS

Reduce the selected speed on the FCU to reach VLS at runway threshold.

Touch down as smoothly as possible (Maximum V/S at touchdown 360 ft/min).

At main landing gear touchdown:

REVERSE THRUST MAX AVAILABLE

After nosewheel touchdown:

BRAKES APPLY AS NECESSARY

Maximum braking may be used after nose wheel touchdown. But, if landing distance permits, delay or reduce braking to fully benefit from the available runway length.

Landing complete:

BRAKE FANS ON

Be prepared for tire deflation, if temperatures exceed 800 °C.

Severe Turbulence

SPEED AND THRUST SETTING FOR RECOMMENDED TURBULENCE SPEED

FL	SPD OR MACH	GROSS WEIGHT (1000kg)								
		44	48	52	56	60	64	68	72	76
		N1 %								
390	0.76	80.0	81.0	82.0	83.1	-	-	-	-	-
370	0.76	79.1	79.8	80.7	81.6	82.6	83.6	-	-	-
350	0.76	78.8	79.3	80.0	80.7	81.5	82.4	83.3	84.3	-
330	0.76	78.8	79.3	79.8	80.4	81.0	81.8	82.6	83.4	84.2
310	275	78.1	78.6	79.2	79.8	80.3	80.9	81.5	82.3	83.1
290	275	76.6	77.1	77.6	78.2	78.9	79.6	80.3	81.0	81.7
270	275	75.1	75.6	76.1	76.7	77.3	78.0	78.7	79.6	80.5
250	275	73.5	74.0	75.5	75.1	75.8	76.5	77.2	77.9	78.8
200	275	69.9	70.3	70.7	71.2	71.8	72.4	73.0	73.7	74.4
150	250	61.9	62.6	63.3	64.0	64.9	65.9	66.9	68.0	68.9
100	250	58.3	59.0	59.6	60.2	61.0	61.8	62.6	63.5	64.5
50	250	54.3	54.9	55.6	56.3	57.1	58.0	59.0	60.0	60.8

SIGNS ON
 AUTO PILOT KEEP ON
 A/THR (when thrust changes become excessive) DISCONNECT
 Descent CONSIDER
 Consider decent to or below **OPT FL** in order to increase the margin to buffet

FOR APPROACH
 A/THR in managed speed USE

[MEM] Unreliable Speed Indication

If the safe conduct of the flight is impacted:

MEMORY ITEMS

AP/FD OFF
A/THR OFF

PITCH/THRUST:

Below THRUST RED ALT 15°/TOGA
Above THRUST RED ALT and Below FL 100 10°/CLB
Above THRUST RED ALT and Above FL 100 5°/CLB
FLAPS (if CONF 0(1)(2)(3)) Maintain Current Conf
FLAPS (if CONF FULL) SELECT CONF 3 AND MAINTAIN
SPEEDBRAKES CHECK RETRACTED
L/G UP

When at, or above MSA or Circuit Altitude:
Level off for troubleshooting

GPS ALTITUDE Display on MCDU

To level off for troubleshooting:

AP/FD OFF
A/THR OFF

Note: Check the actual slat/flap configuration on ECAM, since flap auto-retraction may occur

PITCH / THRUST FOR INITIAL LEVEL OFF				
SLATS / FLAPS EXTENDED				
CONF	Speed	Above 67t	67-57t	Below 57t
		Pitch(°) / Thrust (% N1)		
3	F	7.0 / 62.4	7.0 / 58.4	7.0 / 53.0
2	F	8.5 / 62.3	8.5 / 58.3	8.5 / 53.0
1+f	S	4.5 / 61.3	4.5 / 57.2	4.5 / 52.3
1	S	7.5 / 60.2	7.5 / 55.8	7.5 / 51.0
CLEAN				
FL	Speed	Pitch(°) / Thrust (% N1)		
Below FL 200	250 kt	3.5 / 64.7	3.0 / 62.3	2.0 / 60.3
FL 200 – FL 320	275 kt	2.5 / 78.7	2.0 / 76.8	1.0 / 75.3
Above FL 320	M 0.76	3.0 / 84.6	2.5 / 83.3	2.0 / 80.8

FLYING TECHNIQUE TO STABILIZE SPEED

Adjust pitch in order to fly the required flight path.

When target pitch is reached, flying intended flight path, adjust thrust to target:

If the aircraft pitch tends to increase, aircraft is slow, then increase thrust;

If the aircraft pitch tends to decrease, aircraft is fast, then decrease thrust.

WHEN FLIGHT PATH IS STABILIZED

PROBE/WINDOW HEAT ON

TECHNICAL RECOMMENDATIONS

Respect Stall Warning

To monitor speed, refer to IRS Ground Speed or GPS Ground Speed variations

If remaining altitude indication is unreliable:

Do not use FPV and/or V/S, which are affected

ATC altitude is affected. Notify ATC.

Refer to GPS altitude: altitude variations may be used to control level flight and is an altitude cue.

Refer to Radio Altimeter.

CAUTION

If the failure is due to radome destruction, the drag will increase and therefore N1 must be increased by 5%. Fuel flow will increase by about 27%

AFFECTED ADR IDENTIFICATION

Crosscheck all speed indications and Refer to QRH PER-A-Operating Speeds table (for F, S speeds) or Refer to QRH OPS-Severe Turbulence table (for clean conf speeds):

If at least one ADR is reliable:

Faulty ADR(s) OFF

REMAINING AIR DATA CONFIRM

Alternates sources may be used to evaluate the air data:

- GPS Altitude
- GPS and IRS ground speeds, taking into account altitude and wind effect

If affected ADR(s) cannot be identified, or if all ADRs are affected:

When above FL250:

ONE ADR KEEP ON

TWO ADRs OFF

This prevents the flight control laws from using two coherent but unreliable ADR data.

For flight continuation, Refer to QRH UNRELIABLE SPEED INDICATION - Climb / Cruise / Descent (Pitch & Thrust Tables).

When below FL 250, if speed still unreliable:

ALL ADRs P/B OFF

All ADRs must be switched OFF to replace the PFD's normal speed scale and altitude indication to the Back Up Speed Scale and GPS altitude indication.

SPD FLY THE GREEN

Climb / Cruise / Descent (PITCH & THRUST TABLES) – CLIMB

Set the thrust to CL

CLEAN

FL	SPEED	Above 67t	67t-57t	Below 57t
		Pitch (°) / Thrust (% N1)		
FL250 – FL320	275kt	3.5 / CLB	3.5 / CLB	3.5 / CLB
Above FL 320	M 0.76	3.5 / CLB	3.5 / CLB	3.5 / CLB

CLIMB / CRUISE / DESCENT (PITCH & THRUST TABLES) - CRUISE

Adjust N1 to maintain approximate level flight with pitch attitude held constant.

When time permits *Refer to QRH OPS SEVERE TURBULENCE* and adjust pitch to maintain level flight.

CLEAN

FL	SPEED	Above 67t	67t-57t	Below 57t
		Pitch (°) / Thrust (% N1)		
FL250 – FL320	275kt	2.5 / 78.8	2.0 / 76.8	1.0 / 75.3
Above FL 320	M 0.76	3.0 / 84.6	2.5 / 83.3	2.0 / 80.8

Climb / Cruise / Descent (PITCH & THRUST TABLES) – DESCENT

Set thrust to IDLE.

CLEAN

FL	SPEED	Above 67t	67t-57t	Below 57t
		Pitch (°) / Thrust (% N1)		
FL250 – FL320	275kt	-0.5 / IDLE	-1.0 / IDLE	-2.0 / IDLE
Above FL 320	M 0.76	-0.5 / IDLE	-1.0 / IDLE	-2.0 / IDLE

ALL ADR OFF

SPD FLY THE GREEN
 Fly within the green area of the speed scale to ensure safe flight. For slats/flaps retraction, it is better to fly at the top of the green area of the speed scale.

CAUTION	The altitude displayed on the PFD is a GPS altitude.
----------------	--

BACK UP NAV USE
 When ADRs are OFF, both FMIs are lost.
 Revert to Back Up Nav via the NAV B/UP prompt on the MCDU MENU page.
 NAVAID TUNING USE RMP
 Set both RMPs to NAV.

MANUAL CABIN PRESSURE CONTROL

MODE SEL MAN
 MAN V/S CTL AS QRDR

MAN CAB PR CTL
 TGT V/S : CLIMB 500 ft/min DESC 300 ft/min

A/C GPS ALT	CAB ALT TGT
410	8000
350	7000
300	5500
250	3000
<200	0

FOR APPROACH

SPD FLY THE GREEN
 Before extending the slats/flaps, it is better to fly at the bottom of the speed scale green area, and to be in straight flight.
 FOR LDG USE FLAP 3
 GPWS LDG FLAP 3 ON
 LDG DIST PROC APPLY
 APPR SPD FLY THE BUG

During the approach, the bug indicates VAPP.

WHEN FLAP 2

LDG GRVTY EXTN PULL AND TURN

CAUTION	All gear doors remain open.
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WHEN L/G DOWNLOCKED:

L/G lever DOWN
 GEAR DOWN indications CHECK

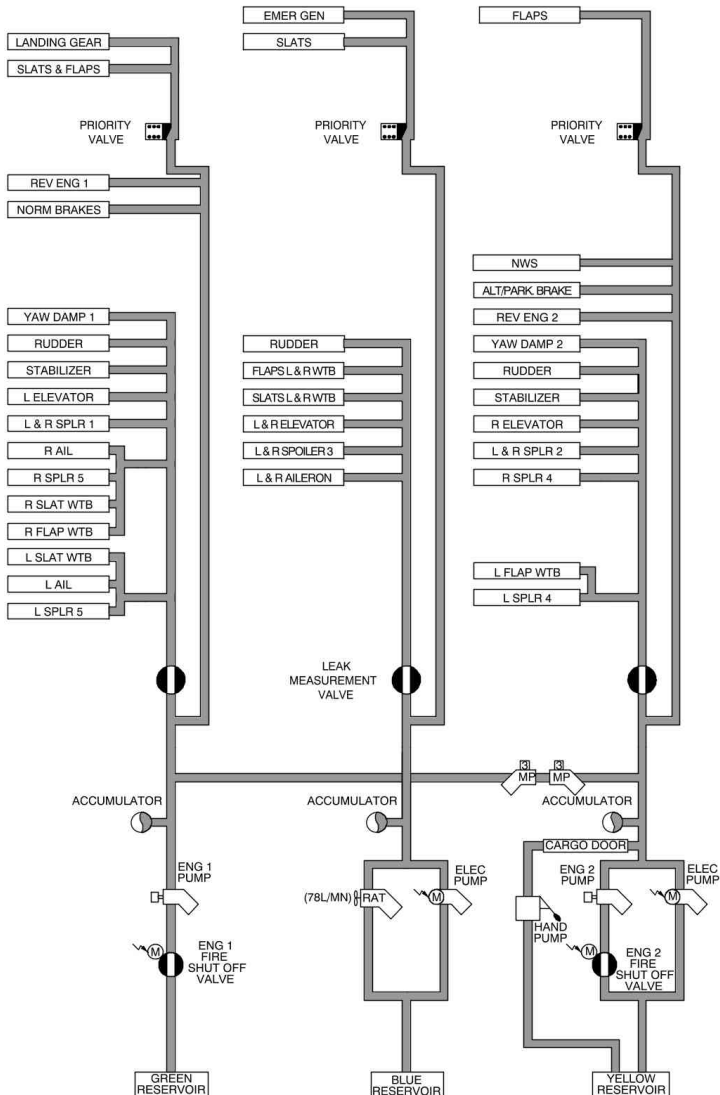
DURING FINAL APPROACH:

MAN V/S CTL FULL UP

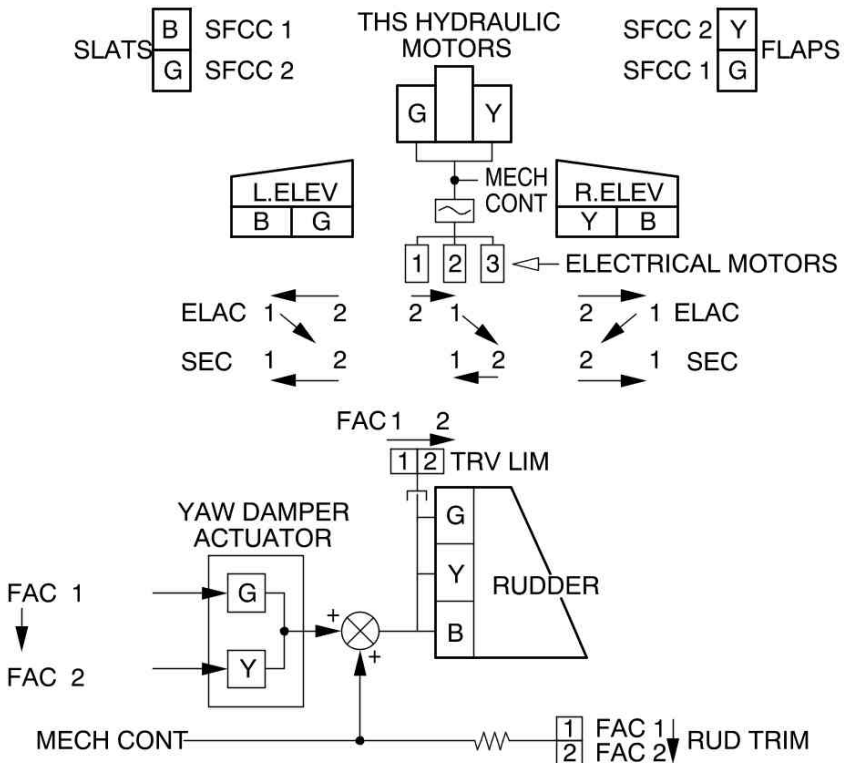
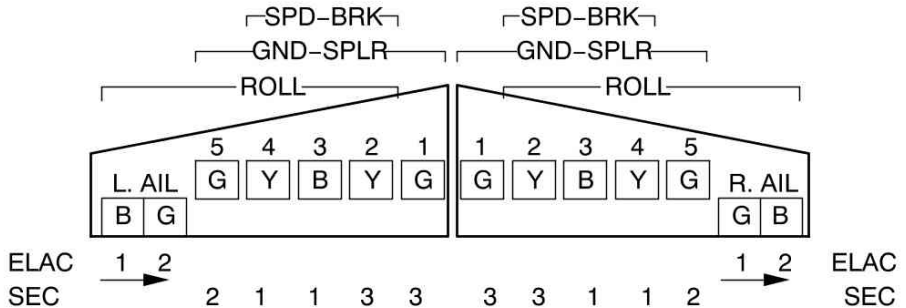
CAUTION	Check that the outflow valve is fully open, and that cabin altitude is at airfield elevation before opening the doors
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OPS Operational Data

Hydraulic Architecture



Flight Controls Architecture



REQUIRED EQUIPMENT FOR CAT 2 AND CAT 3

	FMA CAPABILITY EQUIPMENT	CAT 1	CAT 3 SINGLE	CAT 3 DUAL
FMGS MONITORED FOR FMA LDG CAPABILITY		1 AP ENGAGED	1 AP ENGAGED	2 AP ENGAGED
	AUTOTHURST		1	1
	FMA	1	2	2
	A/THR CAUTION		1	1
	ELECTRICAL SUPPLY SPLIT			1
	FAC	1	1	2
	ELAC	1	1	2
	YAW DAMPER/RUDDER TRIM	1/1	1/1	2/2
	HYDRAULIC CIRCUIT	2	2	3
	PFD	2	2	2
	FLIGHT WARNING COMPUTER	1	1	2
	BSCU CHANNEL	1	1	1
	ANTISKID	1	1	1
	NOSEWHEEL STEERING	1	1	1
	RADIO ALTIMETER	1 (displayed on both sides)	2	2
	ILS RECEIVER	2	2	2
	BEAM EXCESSIVE DEVIATION WARNING	1 for PM	2	2
	ATTITUDE INDICATION (PFD/PFD2)	N°1 + N°2	N°1 + N°2	N°1 + N°2
NOT FMGS MONITORED FOR FMA LDG CAPABILITY	ADR/IR			3/3
	AP DISCONNECT PB	2	2	2
	"AP OFF" ECAM WARNING	1	1	2
	"AUTOLAND " LIGHT	1	1	1
	RUDDER TRAVEL LIMIT SYSTEM	1 required for autoland with crosswind higher than 12 kt.		
	WINDSHIELD HEAT (L or R windshield)	1 for PF		
	WINDSHIELD WIPERS OR RAIN REPELLENT (if activated)			
	ND	1	2	2
	AUTO CALLOUT FUNCTION	one is required for autoland	1	1
	ATTITUDE INDICATION (STBY)	1	1	1
	DH INDICATION	1 for PM		



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Operations Engineering Bulletins (OEBs)

NIL Current OEBs

Memory Items

[MEM] Stall Recovery

As soon as any stall indication (could be aural warning, buffet...) is recognized, apply the immediate actions:

NOSE DOWN PITCH CONTROL APPLY

This will reduce angle of attack

Note: In case of lack of pitch down authority, reducing thrust may be necessary.

When out of stall (no longer stall indications):

BANK WINGS LEVEL
THRUST INCREASE SMOOTHLY AS NEEDED

Note: In case of one engine inoperative, progressively compensate the thrust asymmetry with rudder.

SPEEDBRAKES CHECK RETRACTED
FLIGHT PATH RECOVER SMOOTHLY

If in clean configuration and below 20 000 ft:

FLAP1 SELECT

Note: If a risk of ground contact exists, once clearly out of stall (no longer stall indications), establish smoothly a positive climb gradient.

[MEM] TCAS WARNINGS

Traffic Advisory (TA) alert

TCAS mode CHECK ARMED

Check that the TCAS flight guidance mode arms (TCAS blue). If not, the flight crew must be prepared to manually follow the Resolution Advisory orders.

If the A/THR is off:

A/THR ON

The flight crew should set the A/THR to ON to avoid the triggering of the AUTO FLT A/THR LIMITED alert at the A/THR activation, in the case of a RA.

Do not perform a manoeuvre based on a TA alone.

Resolution Advisory (RA) alert

The flight crew applies this procedure, when a RA is triggered, and the TCAS mode does not engage.

AP (if engaged) OFF
BOTH FDs OFF

Respond promptly and smoothly

VERTICAL SPEED ADJUST or MAINTAIN

Adjust or maintain the pitch as required, to reach the green area and/or avoid the red area of the vertical speed scale.

Note: Avoid excessive manoeuvres while attempting to maintain the vertical speed just outside the red area of the VSI, and within the green area. If necessary, use the full speed range between Vamax and Vmax.

If any “CLIMB” aural alert sounds during the final approach

GO-AROUND PERFORM

Respect STALL, GPWS or WINDSHEAR WARNING

ATC NOTIFY

When “CLEAR OF CONFLICT” aural alert sounds

ATC NOTIFY
LATERAL AND VERTICAL GUIDANCE ADJUST

Adjust the lateral and vertical guidance to resume normal navigation, in accordance with ATC clearance;

AP/FD AS RQRD

If necessary, reengage the AP/FD.

[MEM] WINDSHEAR

A red flag “WINDSHEAR” is displayed on each PFD associated with an aural synthetic voice “WINDSHEAR” repeated three times.

If windshear is detected either by the system or by pilot observation, apply the following recovery technique:

At Takeoff:

If before V1:

THR LEVERS	TOGA
REACHING VR	ROTATE
SRS ORDERS	FOLLOW

The takeoff should be rejected only if significant airspeed variations occur below indicated V1 and the pilot decides that there is sufficient runway remaining to stop the airplane.

If after V1:

If necessary, the flight crew may pull the sidestick fully back.

Note: If the FD bars are not displayed, move toward an initial pitch attitude of 17.5 °. Then, if necessary, to prevent a loss in altitude, increase the pitch attitude.

Airborne, initial climb or landing

THR LEVERS AT TOGA	SET OR CONFIRM
AP (if engaged)	KEEP ON
SRS ORDERS	FOLLOW

If necessary, the flight crew may pull the sidestick fully back.

Note:

1. Autopilot disengages if the angle of attack value goes above a prot.
2. If the FD bars are not displayed, move toward an initial pitch attitude of 17.5 °. Then, if necessary, to prevent a loss in altitude, increase the pitch attitude.

DO NOT CHANGE CONFIGURATION (SLATS/FLAPS, GEAR) UNTIL OUT OF WINDSHEAR.
CLOSELY MONITOR FLIGHT PATH AND SPEED.

RECOVER SMOOTHLY TO NORMAL CLIMB OUT OF WINDSHEAR.

[MEM] EMERGENCY DESCENT

CREW OXY MASKS	USE
SIGNS	ON
EMER DESCENT	INITIATE

If A.THR not active:

THR LEVERS	IDLE
------------------	------

SPD BRK	FULL
---------------	------

When descent established:

SPEED MAX/APPROPRIATE

If structural damage suspected:

MANEUVER WITH CARE

CONSIDER L/G EXTENSION

ENG MODE SEL	IGN
ATC	NOTIFY
EMER DESCENT (PA)	ANNOUNCE
ATC XPDR 7700	CONSIDER
CREW OXY MASKS DILUTION	NORM

MAX FL: 100 / MEA-MORA

If CAB ALT above 14 000ft:

OXYGEN PAX MASK MAN ON PRESS



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[MEM] GPWS Warnings

“PULL UP” – “TERRAIN AHEAD PULL UP” – “AVOID TERRAIN”
Simultaneously:

AP	OFF
PITCH	PULL UP

Pull to full backstick and maintain that position.

THRUST LEVERS	TOGA
SPEED BRAKES lever	CHECK RETRACTED
BANK	WINGS LEVEL or ADJUST

Aircraft achieve the best climb performance when the wings are as level as possible.

If the “TERRAIN AHEAD PULL UP” aural alert triggers, a turning manoeuvre can be initiated if the flight crew concludes that turning is the safest action. The PULL UP manoeuvre must be performed before a turn towards the safe direction, as climbing increases the terrain clearance.

The “TERRAIN AHEAD PULL UP” aural alert may be followed by the “AVOID TERRAIN” aural alert. In this case, the flight crew must adjust bank as necessary:

- If the alert generates when the wings are level, the aural alert indicates that the obstacles are probably ahead.
- If the alert occurs while the aircraft is turning, the aural alert indicates that the obstacles are probably within the turn trajectory.

DO NOT CHANGE CONFIGURATION (SLATS/FLAPS, GEAR) UNTIL CLEAR OF OBSTACLE

[QRH] EMER EVAC

AIRCRAFT/PARKING BRKSTOP/ON
ATC (VHF1) NOTIFY
CABIN CREW (NOTIFY) ALERT
 Δ P (only if MAN CAB PR has been used) CHECK ZERO

If Δ P not at zero:

CAB PR MODE SEL MAN
VS/CTL..... FULL UP
ALL ENG MASTERS OFF
ALL FIRE pb (ENGs & APU) PUSH
ALL AGENTS (ENGs & APU) AS RQRD

If evacuation required:

EVACUATION INITIATE

If evacuation is not required:

CABIN CREW AND PASSENGERS (PA) NOTIFY