Flight Crew Operating Manual

FCOM

A310

QRH

AIRBUS

QUICK REFERENCE HAND BOOK

A310

AIRBUS TRAINING

AIRBUS®

SIMU S4 for training only 1GM

CONTENTS

ALL

SCOPE

The QRH is used :

- When no ECAM procedure is available,

or

- When a QRH procedure is called by the prompt PROC in an ECAM warning page or in the ECAM STATUS page,

  and / or (in any case),

  before completing the ECAM STATUS page, in order to review the **originating procedure** for possible additional actions or information.

ABN/EMER PROCEDURES INITIATION

No action shall be taken (apart from audio warning cancel) until :

R ◆ The appropriate flight path is stabilized and,
◆ Normal procedures are applied,
R ◆ The aircraft is at least 400 ft above runway, if a failure occurs during
R takeoff, approach or go-around.
◆ Appropriate command by PF.

TASK SHARING FOR ABN/EMER PROCEDURES

- PF (Pilot Flying) is responsible for :
  - Throttle levers,
  - Flight path and airspeed control,
  - Aircraft configuration (PF orders, PNF executes),
  - Navigation,
  - Communications.

- PNF (Pilot Non Flying) is responsible for :

R – Monitoring and reading aloud the ECAM and checklists
R – Performing required actions or actions requested by the PF, if
R applicable
R – Using fuel levers, fire handles, IRS and guarded switches with PF's
R confirmation.

NOTE : During rejected takeoff, on-ground engine fire and on-ground emergency/evacuation, a CAPT-F/O task sharing applies.

NOTE : Memory Items may be carried out by either pilot, since response time may be important for success. However, initiation of Memory Items must be called out by the PF.

Continued on page 0.02

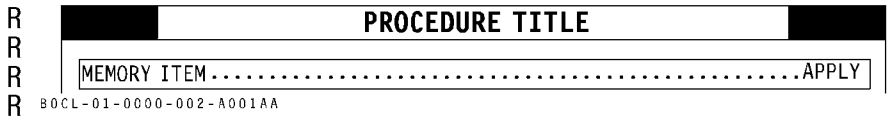
CLEARING ECAM

CLEAR . . . . . (title of ECAM page) is proposed by PNF but must be confirmed by PF before pressing the CLR key.

ABN/EMER PROCEDURES QRH LAYOUT

The QRH procedures are presented using the following layout standards :

– Memory items : identified by a thin solid line box. These actions have to be performed without referring to the QRH.



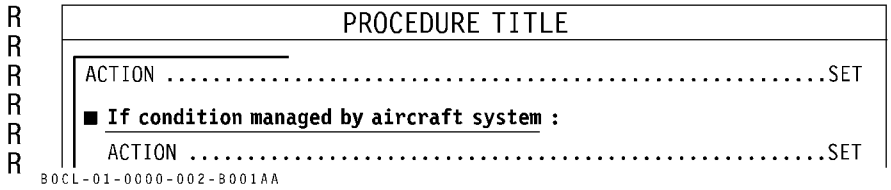
– Conditional actions :

■ Square symbols are used whenever several conditions (If) are possible but only one entry is to be used,

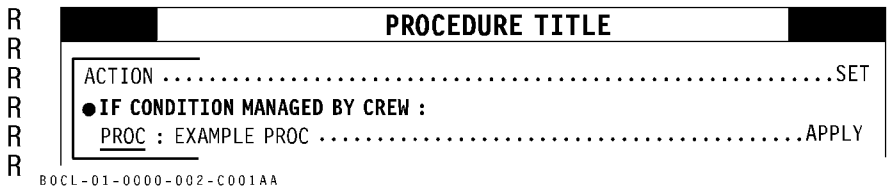
● Dots are used to identify a condition or a flight phase (e.g. If, At, When), all questions starting by a dot must be answered.

The ECAM does not display ■ and ●.

Small underlined letters in QRH mean that the condition is not displayed on the ECAM, but this condition is managed by the aircraft system.



If the condition is displayed on the ECAM, it appears in the QRH in large letters and have to be managed by crew.



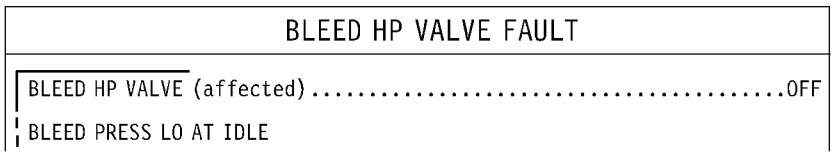
– ACTIONS : all actions are printed in capital letters.
For enhanced clarity, actions are regrouped by action blocks (e.g. actions related to the same system or the same purpose) when there is space available.

– The abbreviations used are identical to nomenclature on the cockpit panels.

NOTE : When action requests to set a system "OFF/R", the OFF position must be selected. It is not a request for reset.

ALL

– ECAM ACTIONS are identified by a bold solid vertical line.
– ECAM STATUS is identified by a bold dotted vertical line.



– Cross-references :

When another QRH procedure is cross-referenced, the procedure title is indicated after the prompt PROC : and the associated QRH page is indicated between brackets.

– FLIGHT PHASE : identifies the action which must be delayed until indicated flight phase (e.g. FOR LANDING, FOR APPROACH...).

– Emergency procedures are identified by :
  – Bold title in the table of contents and two black rectangles on each side of the title on top of the procedure.
  – 

LDG DISTANCE FACTOR – LDG SPEED INCREMENT

The ECAM LDG DIST factor is to be applied on the LDG DIST 30/40 (QRH 15.02).

The ECAM LDG SPD INCREMENT is to be added to the indicated V LS.

SPD INCREMENT is to be added to S and F speeds, only if specified in the QRH procedure.

R ## AFFECTED EQUIPMENT REVIEW

R ● In case of Abnormal/Emergency procedure related to Electrical, Hydraulic, Auto flight systems or Servo Controls, the affected equipment have to be reviewed using the dedicated tables :
R – BUS EQPT LIST (QRH 3.08 – 3.09 – 3.10)
R – HYDRAULIC POWER DISTRIBUTION (QRH 8.01)
R – AUTO FLIGHT SYSTEM – DISTRIBUTION (QRH 11.03)
R – SERVO CONTROLS (QRH 6.12).

R **NORMAL CHECK LISTS**

R NORMAL C/L are initiated by the PF and read by the PNF.
R The PF shall respond after having checked the item configuration.
R When (BOTH) is indicated, both pilots shall respond.

R **OEB PROC**

R An **Operations Engineering Bulletin (OEB)** is issued to rapidly inform R operators of any deviations from initial design objectives that have a R significant operational impact. An OEB provides the operators with R technical information and temporary operational procedures that R address these deviations. Each FCOM OEB has an associated "OEB R PROC" in the OEB section of the QRH (19.00).

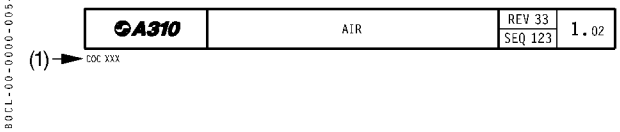
R All OEB PROCs are filed by type of OEB (RED OEB PROC first, then R WHITE OEB PROCs), and in numerical order for each type of OEB.

R In addition on the first page of the OEB section of the QRH, there is a LIST R OF EFFECTIVE OEBs (LEOEB) page, to enable the flight crew to easily R review the OEBs before flight. It provides the flight crew with the title (in R 28 characters) of the OEB and the number of the OEB PROC. Except in R particular circumstances, the FCOM OEB and associated QRH OEB R PROCs have the same OEB number in order to be consistent. However, R the issue number of the QRH OEB PROC and the FCOM OEB may be R different, because a revision of an FCOM OEB does not necessarily result R in a revision of the corresponding QRH OEB PROC that only provides the R procedure part.
R In any case, the number of the associated OEB is included in the OEB R PROC.

CUSTOMER ORIGINATED CHANGE (COC) UPDATE

COC IDENTIFICATION

Customer Originated Changes, incorporated into the QRH at customer request to reflect data or procedures originated by and peculiar to that specific customer, will be identified by the COC reference number (1). As from REV 33, the COC information is indicated by triangles in the margin of the individual pages.



RESPONSIBILITY

AIRBUS does not assume responsibility for the validity and/or the technical accuracy of material so identified.

AIRBUS will not undertake to test or evaluate in any form the validity or the technical accuracy of the customer originated material, and the customer shall have the sole and exclusive responsibility for the validity and accuracy of materials submitted for incorporation into the QRH.

DISCLAIMER CLAUSE

AIRBUS HEREBY EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, EXPRESSED OR IMPLIED, ORAL OR WRITTEN, ARISING BY LAW, COURSE OF DEALING, OR OTHERWISE, AND WITHOUT LIMITATION ALL WARRANTIES AS TO QUALITY, OPERATION, MERCHANTABILITY, FITNESS FOR ANY INTENDED PURPOSE, AND ALL OTHER CHARACTERISTICS WHATSOEVER, OF CUSTOMER ORIGINATED MATERIAL INCORPORATED INTO THE QRH. THE FOREGOING DISCLAIMER APPLIES TO ANY OTHER PORTION OF THE QRH WHICH MAY BE AFFECTED OR COMPROMISED BY SUCH CUSTOMER ORIGINATED CHANGES.

INTENTIONALLY LEFT BLANK

CONTENTS

BLEED LEAK

- **If WING ANTI ICE ON** :

R AVOID ICING CONDITIONS

WING SUPPLY pushbutton . . . . . OFF

- **If AIR X FEED in line** :

AIR X FEED . . . . . MAN

AIR X FEED . . . . . X LINE

BLEED VALVE (affected) . . . . . OFF/R

- **If left side affected** :

APU BLEED . . . . . OFF/R

PACK (affected side) . . . . . OFF

APU BLEED LEAK

APU BLEED . . . . . OFF/R

AIR X – FEED FAULT

AIR X FEED . . . . . MAN

ALL

BLEED HP VALVE FAULT

BLEED HP VALVE (affected) ..... OFF

BLEED PRESS LO AT IDLE

- **If FAULT light remains illuminated** :

  BLEED HP VALVE STUCK OPEN

  AIR X FEED ..... MAN

  AIR X FEED ..... IN LINE

  - **If WING ANTI-ICE ON** :

    ONE PACK ..... OFF

  BLEED VALVE (affected) ..... OFF/R

ENG ANTI-ICE ..... ON

FOR LANDING

AIR X FEED ..... MAN

AIR X FEED ..... IN-LINE

ONE PACK ..... OFF

ENG BLEED VALVE FAULT

AIR X FEED ..... MAN

AIR X FEED ..... IN LINE

- **If WING ANTI-ICE ON** :

  ONE PACK ..... OFF

BLEED VALVE (affected) ..... OFF/R

- **If transient fault suspected, after 30 seconds** :

  BLEED VALVE ..... ON

  - **If BLEED VALVE recovered** :

    AIR X FEED ..... AUTO

- **If ENG FIRE HANDLE pulled or BLEED VALVE not recovered** :

  ENG ANTI-ICE ..... ON

  - **If remaining bleed system subsequently lost** :

R PROC : DUAL BLEED FAULT (01.02A) ..... APPLY

DUAL BLEED FAULT

DESCENT TO FL100/MEA ..... INITIATE

■ **If ENG 1 BLEED was lost due to a :**
LEAK on side 1 or,
ENG 1 FIRE or,
ENG START VALVE 1 failed OPEN
DESCENT TO FL100/MEA ..... CONTINUE
AVOID ICING CONDITIONS

■ **If ENG 2 BLEED was lost due to a :**
LEAK on side 2 or,
ENG 2 FIRE or,
ENG START VALVE 2 failed OPEN
AIR X-FEED ..... Check CROSS-LINE
APU ..... START

● **At or below FL200 :**
WING SUPPLY ..... OFF
APU BLEED ..... ON
MAX FL200
AVOID ICING CONDITIONS

■ **In all other cases :**
DESCENT TO FL100/MEA ..... CONTINUE

● **If both PACKS are available :**

■ **If ENG 1 BLEED was lost first :**
PACK 1 ..... OFF
BLEED VALVE 2 ..... ON

■ **If ENG 2 BLEED was lost first :**
PACK 2 ..... OFF
BLEED VALVE 1 ..... ON

● **If ENG BLEED is not recovered, or if one PACK is inoperative :**
AIR X-FEED ..... MAN/IN-LINE
APU ..... START

● **At or below FL200 :**
APU BLEED ..... ON
MAX FL200
AVOID ICING CONDITIONS

● **If WING ANTI-ICE required :**
PACK (1 or 2) ..... OFF
WING SUPPLY ..... ON

AIR PACK FAULT

■ **If pack not supplied** :
PACK ..... OFF

■ **If pack overheat** :
PACK ..... OFF
PACK MODE SEL ..... MAN/COLD

● **WHEN TURB TEMP BELOW LIMIT** :
PACK ..... ON
PACK ..... MAN CTL

■ **If both packs inoperative** :
MAX FL 100/MEA

● **WHEN △P BELOW 1 PSI** :
RAM AIR ..... ON

R ● **If PACK FAULT due to low bleed air supply and if BLEED LEAK not suspected and if WING ANTI ICE not required** :

BLEED VALVE (affected side) ..... OFF
AIR X FEED ..... MAN/IN LINE
PACK (affected) ..... ON

ENG ANTI-ICE ..... ON

COMPT HOT AIR SUPPLY OVHT

HOT AIR SUPPLY ..... OFF/R
COMPT TEMP (affected compartment) ..... MAN/COLD

● **WHEN OVHT DISAPPEARS** :
HOT AIR SUPPLY ..... ON

COMPT TEMP (affected compartment) .. TEMP MAN CTL ONLY

● **If OVHT warning reoccurs when in COMPT TEMP MAN CTL** :

HOT AIR SUPPLY ..... OFF/R
PACK TEMP ..... MAN CTL

ALL

VENT BLOWERS LO FLOW

VENT BLOWERS ..... ALTN

VENT EXTRACT LO FLOW

VENT EXTRACT ..... OVBD

VENT OVBD VALVE FAULT

OVBD VALVE ..... OFF

- **If valve not closed** :
  CAB PRESS ..... CHECK

CARGO ISOL VALVES FAULT

FWD (BULK) ISOL VALVES ..... OFF/R

- **If transient fault suspected, after 1 minute minimum** :
  COMPT TEMP ISOL VALVE (affected) ..... ON

CARGO COOL VALVE FAULT

CARGO TEMP ..... MONITOR

- **If valve open and compartment temperature low** :
  COMPT TEMP (affected) ..... ADJUST

CONTENTS

EXCESS CAB ALT

OXY MASK ..... ON
DESCENT ..... AS RQRD
● **IF RAPID DECOMPRESSION**
EMER DESCENT ..... PERFORM
ATC ..... INFORM
IGNITION ..... CONT RELIGHT
TRANSPONDER ..... AS RQRD
PROC : EMER DESCENT (below) ..... APPLY

● **If no REG FAULT illuminated or no automatic change-over** :
CABIN PRESS REG (affected system) ..... OFF
● **If CAB ALT control not recovered** :
DESCENT ..... INITIATE

EMER DESCENT

CREW OXY MASKS ..... ON
CREW COMMUNICATIONS (HEADSETS) ..... ESTABLISH
TURN ..... INITIATE
DESCENT ..... INITIATE
● **It is recommended to descend with AP engaged** :
FCU ALT ..... DECREASE
LVL/CH ..... ENGAGE
SPD/MACH ..... SELECT SPD
THROTTLES ..... IDLE
SPD BRK ..... FULL
SPD ..... ADJUST AS REQUIRED

***CAUTION** : Descend at maximum appropriate speed or reduce speed if structural damage is suspected.*

SEAT BELT ..... ON
NO SMOKING ..... ON
IGNITION ..... CONT RELIGHT
ATC (VHF 1) ..... NOTIFY
TRANSPONDER ..... 7700 OR 77..
FCU ALT ..... MEA/MORA
LDG ELEVATION ..... SET
● **If CAB ALT above 14000 ft** :
OXYGEN PASSENGER ..... MAN OVRD
SYSTEM ACTUATED ..... CHECK ON
R CABIN CREW CONFIRMATION OF MASKS
R RELEASED ..... OBTAIN
● **Below 20 000 ft and below 270 kt IAS** :
L/G LEVER DOWN ..... CONSIDER
CREW OXY MASKS ..... SET "N"

ALL

Mod : 6269

CABIN PRESS REG FAULT

CAB PRESS REG (affected) ..... OFF

● **If both REG affected** :
MAN PRESS ..... ON
PROC : CAB PRESS MAN CTL (below) ..... APPLY

CABIN PRESS LO △P

EXPECT HI CABIN RATE.
A/C V/S ..... REDUCE

CAB PRESS MAN CTL

R ***CAUTION : When both CAB PRESS REGULATORS are selected OFF, the CAB ALT warning and the cabin pressure indications on ECAM are no longer provided nor valid.***

MAN PRESS ..... ON
V/S CTL switch ..... AS RQRD

CLIMB or CRUISE

FL	400	350	300	250	200 and BELOW
TARGET CAB ALT (ft)	8500	6800	5000	2500	0

CAB V/S (until target CAB ALT) ..... 500 FT/MIN

BEFORE DESCENT

CAB V/S (until LDG ELEVATION) ..... 350 FT/MIN

● **If high aircraft V/S :**
CAB V/S ..... ADJUST ACCORDINGLY

R **BEFORE LANDING, WHEN CAB ALT = LDG ELEVATION**

V/S CTL switch ..... UP (full open)

ON GROUND

PACKS 1 and 2 ..... OFF

● **Before doors opening** :
△P (DIFF PRESS) ..... CHECK ZERO

ALL

Mod : 3881

CONTENTS

IDG FAULT

IDG ..... DISC
GEN ..... OFF/R

APU : START

GEN FAULT

GEN ..... OFF/R

APU : START

● **If transient fault suspected** :
GEN (affected) ..... ON

GEN LOAD HI

GALLEY ..... SHED

BATTERY OVERHEAT

BAT (affected) ..... OFF/R

● **If ECAM inoperative** :
ALL BAT ..... OFF/R
BAT (one by one) ..... ON

● **If warning reactivated** :
BAT (affected) ..... OFF/R

R

CRT AMBER CAUTIONS NOT AVAIL

– MONITOR OVERHEAD PANEL

■ **If no FAULT light illuminated** :
R PROC : FWS FAULT (13.13) ..... APPLY

■ **If AC BUS 2 OFF light illuminated** :
PROC : AC BUS 2 OFF (3.02) ..... APPLY

■ **If CAB PRESS REG 1 FAULT and SLATS SYS 1 FAULT lights illuminated** :
PROC : AC EMER BUS OFF (3.03) ..... APPLY

ALL

AC BUS 1 OFF (AC ESS BUS OFF)

NO ACTION FEEDBACK ON CRT

OVRD SUPPLY 1 (or 2, if GEN 1 lost) . . . . . ON

PITCH TRIM 1 . . . . . RESET

YAW DAMPER 1 . . . . . RESET

AFFECTED EQUIPMENT . . . . . OFF

- SPLR 2, 3, 6, 7
- L WINDOW HEAT
- L OUTR TK PUMP 2
- R OUTR TK PUMP 1
- TRIM TK PUMP 1

LDG DIST . . . . . MULTIPLY BY 1.3

BUS EQPT LIST (3.08/3.09) . . . . . REVIEW

AC BUS 2 OFF

CRT AMBER CAUTIONS NOT AVAIL

– MONITOR OVERHEAD PANEL

R ● **If no fuel leak :**

R FUEL X-FEED (if CTR TK feeding) . . . . . IN LINE

ATC . . . . . SYS 1

AFFECTED EQUIPMENT . . . . . OFF

- PITCH FEEL 2
- RUD TRAVEL 2
- SPLR 4 and 1, 5
- R WINDOW HEAT
- CAB PRESS REG 2
- L INR TK PUMP 1
- L OUTR TK PUMP 1
- R OUTR TK PUMP 2
- R INR TK PUMP 2
- CTR TK R PUMP
- TRIM TK PUMP 2

LDG DIST . . . . . MULTIPLY BY 1.3

BUS EQPT LIST (3.08/3.09) . . . . . REVIEW

AC ESS BUS OFF

OVRD SUPPLY 1 (or 2, if GEN 1 lost) . . . . . ON

PITCH TRIM 1 . . . . . RESET

YAW DAMPER 1 . . . . . RESET

● **If unsuccessful :**

VENT EXTRACT . . . . . OVBD

FUEL X-FEED (if CTR TK feeding) . . . . . IN LINE

AFFECTED EQUIPMENT . . . . . OFF

- PITCH FEEL 1
- RUD TRAVEL 1
- L INR TK PUMP 2
- R INR TK PUMP 1
- CTR TK L PUMP

BUS EQPT LIST (3.08/3.09) . . . . . REVIEW

ALL

Mod : 3881 + 4801 + 6368

AC EMER BUS OFF

CRT AMBER CAUTIONS NOT AVAIL
– MONITOR OVHD PANEL

ATC ..... SYS 2
CAB PRESS REG 1 ..... OFF

CAPT ADC INST ..... SYS 2
ATS 1 ..... RESET
CAPT EFIS SGU ..... SYS 3

● **If PFD information required** :
PFD/ND XFR (CAPT side) ..... ON

NOTE 1 : If affected PFD is on the PF side, consider transferring PF responsibilities to PNF.

NOTE 2 : Pressing the PFD/ND XFR pushbutton a second time will recover ND information on the lower CRT.

BUS EQPT LIST (3.08/3.09) ..... REVIEW

DC ESS BUS ON BAT

STBY GEN ..... OVRD

NOTE 1 : The L INR 2, R INR 1 and L CTR FUEL PUMPS are supplied, but one at a time and with this priority order.

With all three pump pushbuttons selected to NORM, the R INR 1 and L CTR PUMP FAULT lights are illuminated (pumps not supplied).

NOTE 2 : FCC1, FCU1 and TCC2 are lost.

R

DC NORM BUS OFF

AVOID ICING CONDITIONS

LAND RECOVERY . . . . . ON
FUEL X-FEED (if CTR TK in use) . . . . . IN LINE

AFFECTED EQUIPMENT . . . . . OFF
. RUD TRAVEL 2
. PITCH FEEL 2
. WING ANTI ICE (NORM MODE lost)
. SPLR 2, 3, 5
. CAB PRESS REG 2
. WINDOW HEAT
. FUEL PUMPS (except L INR 2, R INR 1, CTR L)

LDG SPD INCREMENT . . . . . + 10 KT
LDG DIST . . . . . MULTIPLY BY 1.4
BUS EQPT LIST (3.08/3.09) . . . . . REVIEW

- **If WING ANTI ICE required** :
  MODE SEL . . . . . ALTN

R TRIM TK MODE . . . . . FWD

AUTO FUEL FEED MODE IS LOST :

- **If fuel in CTR TK** :
  FUEL X-FEED . . . . . IN-LINE
  L and R INR TK PUMPS (4) . . . . . OFF

- **If/When CTR TK empty** :
  L INR 2 and R INR 1 TK PUMPS . . . . . ON
  CTR TK PUMPS (2) . . . . . OFF
  FUEL X-FEED . . . . . CROSS-LINE

- **If / When INR TK's empty** :
  IGNITION . . . . . CONT RELIGHT
  FUEL X-FEED . . . . . CROSS-LINE

  ***CAUTION** : Avoid rapid throttle movement and low or negative g-load factors.*

  MAX FL . . . . . 250 (200 IF JP4/JET B USED)/MEA

  OUTR TK ISOL VALVE (affected) . . . . . CHECK IN LINE
  INR TK ISOL VALVE (affected) . . . . . OFF

NOTE 1 : On the ECAM FUEL system page :
- *the fuel feed lines do not reflect the actual fuel feed configuration,*
- *the pump symbols correctly reflect the pump operation, for the three operative pumps (L INR 2, R INR 1 and CTR L).*

NOTE 2 : Spurious GPWS warning "TOO LOW GEAR" may occur during approach.

R *NOTE 3 : The Cockpit Door Locking System (if installed) is inoperative.*
R *Consequently, the reinforced cockpit door is unlocked and can be*
R *opened from the cabin.*

FLIGHT ON BAT ONLY

IGNITION . . . . . CONT RELIGHT

CAUTION **: Avoid rapid throttle movement and negative load factors.**

LAND ASAP
LDG GEAR POSITION DET . . . . . SYS 1
COMMUNICATIONS VHF1/ATC1

MAX SPD 285/.78
USE ELEV AND RUD WITH CARE ABOVE SPD 170

MAX FL . . . . . 250 (200 IF JP4/JET B USED)/MEA
TRIM TK MODE . . . . . FWD
L and R OUTR TK ISOL VALVES . . . . . CHECK IN LINE

● **If any INR TK below 2000 kg/4400 lb** :
L and R INR TK ISOL VALVES . . . . . OFF

BAT OVRD . . . . . ON

BUS EQPT LIST - BAT ONLY (3.08/3.09) . . . . . REVIEW

R LDG DIST and VREF increments (15.02, 15.04) . . . . . DETERMINE

NOTES : 1) Beyond 30 min, total loss of electrical power may occur, leading to loss of slats/flaps extension.
2) Unsuccessful APU start attempts will decrease batteries operating time.
3) If landing is possible within 30 min, APU start is not recommended.
4) If landing is not possible within 30 min, APU may be started when below FL 200.

● **Before slats extension** :
LAND RECOVERY . . . . . ON

● **If ENG 2 inoperative** :
RAT . . . . . ON

R ■ **If YELLOW HYD SYS LO PR** :

R FLAPS INOP

R ● **If FLAPS less than 20°** :

R FOR APPROACH : ATS . . . . . OFF

R PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . . . APPLY

R ■ **If BLUE HYD SYS LO PR** :

R SLATS INOP

R ● **If SLATS less than 20°** :

R PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . . . APPLY

NOTE : Reverse inoperative.

ALL

Mod : 3881 + 4801 + 5911

LOSS OF BOTH ENG GENERATORS

IGNITION . . . . . CONT RELIGHT

GEN 1 and 2 . . . . . OFF/R then ON

● **If GEN 1 and 2 not recovered (and APU GEN not available)** :

● **If APU not required for air bleed** :

APU MASTER SWITCH . . . . . CHECK OFF

STBY GEN OPERATION . . . . CONFIRM BY :

– DC ESS ON BAT . . . . . CHECK EXTINGUISHED
– AC EMER ON INV . . . . . CHECK EXTINGUISHED
– FUEL X-FEED . . . . . CHECK IN-LINE

● **If STBY GEN FAULT light illuminated** :

STBY GEN . . . . . OVRD

● **If STBY GEN inoperative** :

PROC : FLIGHT ON BAT ONLY (3.05) . . . . . APPLY

R ● **If STBY GEN operative** :

PITCH TRIM 1 . . . . . RESET

YAW DAMPER 1 . . . . . RESET

TRIM TK MODE . . . . . FWD

COMMUNICATIONS VHF1/ATC1

VENT EXTRACT . . . . . OVBD

PACK 1 . . . . . MAN CTL

LDG GEAR POSITION DET . . . . . SYS 1

RUDDER TRAVEL 1 . . . . . OFF, after 1 min . . . . . ON

FUEL MANAGEMENT (3.07) . . . . . APPLY

BUS EQPT LIST-STBY GEN (3.08/3.09) . . . . . REVIEW

LDG DIST/VREF increments (15.02, 15.04) . . . . . DETERMINE

LAND ASAP

(continued)

LOSS OF BOTH ENG GENERATORS (cont'd)

FUEL MANAGEMENT

R ● **If CTR + TT FQI above 500 kg (1100 lb)** :
L INR TK PUMP 2 and R INR TK PUMP 1 . . . . . OFF

R ● **When CTR + TT FQI below 500 kg (1100 lb)** :
L INR TK PUMP 2 and R INR TK PUMP 1 . . . . . NORM

● **When L INR TK empty or fuel unbalance (max 4t/8800lb)** :
L INR TK PUMP 2 . . . . . OFF

● **When R INR TK empty or fuel unbalance (max 4t/8800lb)** :
L INR TK PUMP 2 . . . . . NORM

REPEAT CYCLE UNTIL BOTH INR TK'S ARE EMPTY.

● **When L and R INR TK empty** :
IGNITION . . . . . CONT RELIGHT
MAX FL . . . . . 250 (200 IF JP4/JET B USED)/MEA
OUTR TK ISOL VALVES . . . . . CHECK IN LINE
INR TK ISOL VALVES . . . . . OFF

CAUTION : Avoid rapid throttle movement and negative load factors (fuel gravity feeding).

● **Before slats extension :**

LAND RECOVERY . . . . . ON

CAUTION : DC power is now supplied from batteries, flight duration will be limited.

● **If ENG 2 inoperative** :
RAT . . . . . ON

■ **If YELLOW HYD SYS LO PR** :

FLAPS INOP

● **If FLAPS less than 20°** :

FOR APPROACH : ATS . . . . . OFF

PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . . . APPLY

■ **If BLUE HYD SYS LO PR** :

SLATS INOP

● **If SLATS less than 20°** :

PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . . . APPLY

PROC : L/G GRAVITY EXTENSION (10.02) . . . . . APPLY

NOTE 1 : In case of go around, do not retract landing gear
NOTE 2 : Nose wheel steering and reverse inoperative

BUS EQPT LIST

	SYS	BUS FAILURES						STBY GEN	SMOKE DRILL	BAT ONLY
		AC BUS				DC BUS			OVRD Supply 1 + 2	
		1	2	ESS	EMER	NORM	ESS			
NAV FLT INST	PFD		CM2 lost		CM1 lost ★★			CM2 lost	CM2 lost	CM2 lost
	ND		CM2 lost	CM1 lost	Select SGU3 on CM1			CM2 lost	CM2 lost	LOST
	IRS							2 lost	2 lost	2 lost 3 lost if not selected
	ALT		CM2 lost		CM2 STD only			CM2 lost	CM2 lost	CM2 lost
	VOR/ILS		2 lost		1 lost			2 lost	2 lost	2 lost
	ADF-DME		2 lost	1 lost				DME 1 only	2 lost	LOST
	ATC		2 lost		1 lost			2 lost	2 lost	2 lost
	TCAS-GPWS	LOST						LOST	LOST	LOST
	ADC		2 lost		1 lost			2 lost	2 lost	2 lost
	TAT/SAT	SAT lost	SAT lost					LOST	LOST	LOST
	FMS		2 lost	1 lost				2 lost	2 lost	LOST
	RADAR	1 lost	2 lost					LOST	LOST	LOST
	ECAM CRT	L CRT lost	R CRT lost					LOST	LOST	LOST
FLT CTL	ATS	LOST	2 lost			1 lost	2 lost	LOST	LOST	LOST
R R	FD/AP		2 lost	1 lost	LOST ★★★	2 lost	1 lost	LOST	2 lost	LOST
	PITCH FEEL RUDD TRV		2 lost	1 lost		2 lost	1 lost	2 lost	2 lost	LOST
	PITCH TRIM YAW DAMP		2 lost	1 lost	1 lost	2 lost	1 lost	2 lost	2 lost	LOST
	GRND SPLR CTL					LOST ★ NORM	LOST	LOST ★ NORM	LOST ★ NORM	LOST ★ NORM
	SPLR and SPD BRK	2, 3, 6, 7 lost	1, 4, 5 lost			LOST ★ 1.4.6.7 only		LOST ★ 1.4.6.7 only	LOST ★ 1.4.6.7 only	LOST ★ 1.4.6.7 only
	FLAPS SLATS		SLOW	Flaps slow	Slats slow SFPI lost	LOST ★ SLOW		LOST ★ SLOW	LOST ★ SLOW	LOST ★ SLOW
	KRUGER					LOST		LOST	LOST	LOST
COM	VHF					2(3) lost	1 lost	2(3) lost	2(3) lost	2(3) lost
	HF		2 lost	1 lost				2 lost	2 lost	LOST

★ With LAND RECOVERY pushbutton selected ON
★★ Recovered when SGU 3 is selected and PFD/ND XFR (if installed) is used.
R ★★★ AP2 can be engaged in GS Track or LAND modes.

ALL

Code : 0093

BUS EQPT LIST (Cont'd)

SYS			BUS FAILURES						STBY GEN	SMOKE DRILL	BAT ONLY
			AC BUS				DC BUS			OVRD Supply 1 + 2	
			1	2	ESS	EMER	NORM	ESS			
L/G and BRK	LDG GEAR	EXT						LOST	Not to be used		
		RET					SYS 1 ONLY	LOST	Not to be used	SYS 1 ONLY	SYS 1 ONLY
		IND					OVHD panel lost	MAIN panel lost	OVHD panel lost	OVHD panel lost	OVHD panel lost
	ANTI SKID						LOST		LOST	LOST	LOST
							★ NORM		★ NORM	★ NORM	★ NORM
	NOSE WHEEL STEER							LOST	Not avail.		
POWER PLANT	FUEL HP VALVE							LOST			
	N1					LOST					
	N2		ENG 1 lost	ENG 2 lost					LOST	LOST	LOST
	OIL PRESS		ENG 1 lost	ENG 2 lost					LOST	LOST	LOST
	OIL QTY						LOST		LOST	LOST	LOST
	EGT					LOST					
	START							LOST			
	FU/FF			ENG2 lost	ENG1 lost				LOST	ENG2 lost	LOST
	IGNITION			A lost		B lost		CONT REL. only	A lost	A lost	A lost
	REVERSE						LOST		LOST	LOST	LOST
FUEL	QTY IND			L +CTR +TRIM lost							
	PUMPS CTR			R lost	L lost		R lost	L lost	R lost	R lost	LOST
	PUMPS INR			1L +2R lost	1R +2L lost		2R +1L lost	1R +2L lost	2R +1L lost	2R +1L lost	LOST
	PUMPS OUTR		1R +2L lost	1L +2R lost			LOST		LOST	LOST	LOST
	PUMPS TRIM		1 lost	2 lost			LOST		LOST	LOST	LOST
	ISOL VALVE							INR + OUTR lost			
CAB PRESS	SYS			SYS 2 lost		SYS 1 lost	SYS 2 lost	SYS 1 lost	SYS 2 lost	SYS 2 lost	SYS 2 lost
	MAN PRESS							LOST			
ICE	WING						ALTN only		ALTN only	ALTN only	ALTN only
	NAC						OPEN		OPEN	OPEN	OPEN
	WINDOW HEAT		L lost	R lost			LOST		LOST	LOST	LOST
R	WIPERS						LOST		LOST	LOST	LOST

★ With LAND RECOVERY pushbutton selected ON

ALL

Code : 0046 GE Eng. : All

BUS EQPT LIST (Cont'd)

SYS		BUS FAILURES						STBY GEN	SMOKE DRILL	BAT ONLY
		AC BUS				DC BUS			OVRD Supply 1 + 2	
		1	2	ESS	EMER	NORM	ESS			
DOOR	CDLS					LOST		LOST	LOST	LOST

ALL

Mod : (5911 + 12557) or (5911 + 12715)

CONTENTS

ALL

IN FLT ENG FIRE

THROTTLE ..... IDLE
FUEL LEVER ..... OFF
FIRE HANDLE ..... PULL
1ST AGENT AFTER 10 S ..... DISCH

● **IF FIRE AFTER FURTHER 30 S :**
2ND AGENT ..... DISCH

LAND ASAP

PROC : SINGLE ENG OPERATION (12.08) ..... APPLY

ON GND ENG FIRE

THROTTLE ..... IDLE

● **WHEN A/C IS STOPPED :**
PARKING BRK ..... SET
FUEL LEVER ..... OFF
FIRE HANDLE ..... PULL
1ST AGENT ..... DISCH
PROC : ON GND ENG FIRE

2ND FUEL LEVER ..... OFF

R

● **If fire after 30 s :**
2ND AGENT ..... DISCH
FIRE HANDLES (ENG and APU) ..... PULL
FUEL ISOL VALVES ..... OFF

R PROC : ON GROUND EMER/EVAC (20.01) ..... APPLY

R

ALL

STD or Mod : 12134

APU FIRE

FIRE HANDLE . . . . . PULL
AGENT AFTER 10 S . . . . . DISCH
MASTER SW . . . . . OFF

● **IF FIRE WARN PERSISTS** :
LAND ASAP

ENG or APU LOOP FAULT

LOOP (affected) . . . . . OFF

ALL

CONTENTS

R

SMOKE/FUMES REMOVAL

OXY MASKS .. 100 %/EMERG/ON
GOGGLES ..... ON
CREW COM headset .. ESTABLISH

SEAT BELT/NO SMOKING ..... ON

CABIN FANS ..... OFF
COMPT TEMP ISOL VLVS .. OFF/R
ECON FLOW ..... OFF

ALL COCKPIT LOUVERS .... OPEN
COCKPIT DOOR ..... CLOSE

LDG ELEVATION ..... 10 000 FT/ MEA/MORA
CAB PRESS RATE LIM ..... MAX
NOTE : CAB ALT warning will be activated.

OUTFLOW AFT ..... OFF

DESCENT TO FL 100/MEA/MORA

R ATC ..... NOTIFY
R SMOKE PROC ..... CONTINUE

(Continued)

SMOKE/FUMES REMOVAL (CONT'D)

- **When △ P 1 PSI or below:**

RAM AIR ..... ON

- **To open sliding window :**

COCKPIT DOOR ..... OPEN
MAX SPD ..... 225 KT
PACK VALVES 1 & 2 ..... OFF
PNF SLIDING WINDOW . OPEN
PACK VALVES 1 & 2 . AS RQRD

CAUTION : Due to increased noise level pay particular attention to visual warnings.

R PROC : SMOKE/ FUMES ..... CONTINUE

SMOKE/FUMES

LAND ASAP

- **If MIN EQPT BAY smoke or AVIONICS smoke :**

  SNIFFER FAN ..... OPERATE

- **If smoke confirmed or if perceptible smoke :**

  OXY MASKS . 100%/EMERG/ON
  GOGGLES ..... ON
  CKPT/CABIN COM . . ESTABLISH
  CABIN FANS ..... OFF
  VENT EXTRACT ..... OVBD
  GALLEY ..... SHED
  CABIN SIGNS ..... ON

R ■ **If smoke source immediately**
R **obvious, accessible and**
R **extinguishable :**

  FAULTY EQPT ..... ISOLATE

R ■ **If smoke source not immediately**
R **isolated :**

R DIVERSION ..... INITIATE
R DESCENT (FL100/MEA, min
R obstacle clearance
R altitude) ..... INITIATE

(Continued)

ALL

SMOKE/FUMES (CONT'D)

- **At ANY TIME of the procedure, if smoke/fumes becomes the GREATEST THREAT :**

  PROC : SMOKE/FUMES REMOVAL ..... CONSIDER

- **At ANY TIME of the procedure, if situation becomes UNMANAGEABLE :**

  IMMEDIATE LANDING ..... CONSIDER

R ■ **If AIR COND SMOKE suspected (visible smoke or odors**
R **and/or simultaneous warnings) :**

APU BLEED ..... OFF/R
VENT EXTRACT ..... AUTO
PACK 1 VALVE ..... OFF

- **If AIR COND smoke continues :**

  PACK 1 VALVE ..... AUTO
  PACK 2 VALVE ..... OFF

  - **If AIR COND smoke still continues :**

    PACK 2 VALVE ..... AUTO
    VENT EXTRACT ..... OVBD

(Continued)

ALL

SMOKE/FUMES (CONT'D)

■ **If AVIONICS SMOKE suspected and FAULTY EQPT not identified** :

SNIFFER FAN ..... OPERATE
● **IF SMOKE CONFIRMED** :
OXY MASKS/GOGGLES ..... ON

VHF 1 / ATC 1 ..... SELECT
PILOT FLYING CM1
TRIM TK MODE ..... FWD
APU GEN ..... OFF/R
OVRD SUPPLY 1 AND 2 ..... ON
NOTE : FUEL X-FEED opens automatically.
PITCH TRIM 1 / YAW DAMPER 1 / AP-FD1 ..... RESET
LDG GEAR POSITION DET ..... SYS 1
PACKS (if required) ..... MAN CTL
● **If WING ANTI ICE required** :
WING ANTI ICE MODE SEL ..... ALTN
BUS EQPT LIST (3.08/3.09) ..... REVIEW
PROC : FUEL MANAGEMENT (5.06)
● **Before slats extension** :
LAND RECOVERY ..... ON
SPEED INCREMENT ON S, F, V_{REF}, (14.01) ..... + 10 KT
LDG DIST ..... MULTIPLY BY 1.4

■ **If MIN EQPT BAY SMOKE suspected and FAULTY EQPT not identified** :

SNIFFER FAN ..... OPERATE
● **IF SMOKE CONFIRMED** :
VHF 2 ..... SELECT
VENT EXTRACT ..... OVBD
MIN EQPT C/B's ..... PULL
CAPT ADC INST ..... SYS 2
ATC ..... SYS 2
ATS ..... RESET
AFFECTED EQUIPMENT ..... OFF

PROC : FUEL FEED MANUAL CONTROL (7.04)
● **If the SMOKE warning is still activated after 3 minutes** :
● **If IRS 1 or IRS 3 FAULT** :
MSU (affected IRS) ..... OFF

■ **If CABIN SMOKE suspected** :
PROC : CABIN SMOKE

ALL

FUEL MANAGEMENT FOR AVIONICS SMOKE

- **If CTR + TT FQI above 500 kg (1100 lbs)** :
  INR TK PUMP 2 L and 1R . . . . . OFF
- **If/when CTR + TT FQI below 500 kg (1100 lbs)** :
  INR TK PUMP 2 L and 1R . . . . . NORM
  - **When L INR TK empty or fuel unbalance (max 4000 kg/8800 lbs)** :
    L INR TK PUMP 2 . . . . . OFF
  - **When R INR TK empty or fuel unbalance (max 4000 kg/8800 lbs)** :
    L INR TK PUMP 2 . . . . . NORM

  REPEAT CYCLE UNTIL BOTH INR TK EMPTY.

  - **When L and R INR TK are empty** :
    CAUTION *: Avoid rapid throttle movement and negative load factors (fuel gravity feeding).*
    IGNITION . . . . . CONT RELIGHT
    MAX FL . . . . . 250 (200 IF JP4/JET B USED)/MEA/MORA
    OUTR TK ISOL VALVES . . . . . CHECK IN LINE
    INR TK ISOL VALVES . . . . . OFFrfin

RETURN TO AVIONICS SMOKE PROCEDURE (5.05)

BAT SMOKE

BAT (ALL) . . . . . OFF/R

● **IF WARN PERSISTS** :
LAND ASAP

● **If other SMOKE warnings are activated** :
AIR COND SMOKE . . . . . SUSPECT
PROC : SMOKE/FUMES (5.04) FOR AIR COND SMOKE . APPLY

CARGO COMPT SMOKE

LAND ASAP
AGENT 1 . . . . . DISCH
LDG ELEVATION 10 000FT

● **One hour later or for approach, whichever is earlier :**
AGENT 2 . . . . . DISCH

NOTE 1 : CAB ALT warning will be activated.

NOTE 2 : DISCH 2 light will illuminate approximately 30 minutes later due to the flow restrictor.

● **If warning activated during climb (and air turn-back decided) or during approach** :
LANDING ELEVATION . . . . . SET AIRFIELD ELEVATION

● **If transient warning (without crew action), if required (e.g. live stock transportation) :**
COMPT TEMP ISOL VALVE (affected) . . . . . OFF/R then ON
Maintenance action is due

● **When on ground** :
PASSENGERS . . . . . DISEMBARK/EVACUATE

● **When fire brigade in position and evacuation completed** :
CARGO DOOR (affected compartment) . . . . . ORDER OPEN

R **ON GROUND**

R ● **If warning activated on ground with cargo door opened** :
R AGENT . . . . . DO NOT DISCHARGE
R GROUND CREW . . . . . INFORM

ALL

R Mod : 5944 + 6041 + 6403 + 6445

CARGO LOOP FAULT

LOOP (Illuminated) . . . . . OFF
LOOP TEST . . . . . PERFORM

■ **If SMOKE light does not illuminate for affected compartment** :
LOOP (which is OFF) . . . . . RESELECT
Other LOOP . . . . . OFF

PROC : CARGO COMPT SMOKE (5.07) . . . . . APPLY

■ **If SMOKE light illuminates for affected compartment** :
R COMPT TEMP ISOL VALVES . . . . . OFF/R then ON

ALL

R Mod : 2254 or (2254 + 7122)

CABIN SMOKE

● **In case of dense smoke** :

LAND ASAP

CABIN CREW ..... ADVISE TO DON OXYGEN MASKS

COCKPIT DOOR ..... CLOSE

● **If cockpit smoke removal is required** :

DESCENT ..... INITIATE

R PROC : SMOKE/FUMES REMOVAL (5.02) ..... APPLY

CABIN REPORT ..... OBTAIN

■ **If AIR CONDITIONING SMOKE suspected** :

R PROC : SMOKE/FUMES (5.04) ..... APPLY FOR
R AIR COND SMOKE

■ **If GALLEYS SMOKE suspected** :

GALLEY ..... SHED

NOTE : If the affected galley is well identified, advise the cabin crew to isolate the affected galley by pulling its C/B on the galley C/B panel. Then, the GALLEY pushbutton may be restored to normal.

■ **If SEATS SMOKE suspected, as applicable** :

CABIN CREW ..... ADVISE TO PULL RELATED C/B (affected zone) ON 800VU

NOTE : If the smoke comes from the in-seat video or in-seat audio system, pull the C/B related to the Seat Electronic Box (SEB).

● **For approach** :

SEATS ..... CONFIGURE FOR LANDING

■ **If READING LIGHTS SMOKE suspected** :

CABIN CREW ..... ADVISE TO PULL READING LIGHT C/B (affected zone) ON 800 VU

■ **If PASSENGER ENTERTAINMENT SYSTEM SMOKE suspected, as applicable** :

CABIN CREW ..... ADVISE TO PULL RELATED C/B ON 800VU

NOTE : Depending on the smoke origin, pull PES and/or PSS and/or VIDEO and/or TV and/or VCC C/B as appropriate.

CABIN REPORT ..... OBTAIN

Maintain contact with the cabin crew to follow up on the status of the smoke.

ALL

Mod : 2254 or (2254 + 3881)

LEFT BLANK INTENTIONALLY

CONTENTS

ALL

SLATS SYS 1 AND 2 FAULT/SLATS STUCK

R SLATS/FLAPS lever . . . . . CYCLE

■ **If SLATS less than 15°** :

TRIM TK AFT XFR NOT AVAIL

LDG DIST . . . . . MULTIPLY BY 1.3

AFT CG WARNING INOP
AUTO FWD XFR ONLY
FUEL CONSUMPTION INCREASED

■ **If SLATS 15° or more** :

● **If TRIM TK not empty (and if above 1000 ft)** :

TRIM TK ISOL VALVE NOT OPEN
PROC : TRIM TK SYS FAULT (7.06) . . . . . APPLY

AUTO TRIM TK SYS INOP
FUEL MAN FWD XFR ONLY

● **If CTR TK not empty (and if above 1000 ft)** :
CTR TK AUTO FUEL FEED FAULT

L INR TK PUMP 1 . . . . . OFF
L INR TK PUMP 2 . . . . . OFF
R INR TK PUMP 1 . . . . . OFF
R INR TK PUMP 2 . . . . . OFF

PROC : FUEL FEED MAN CTL (7.04) . . . . . APPLY

LDG DIST . . . . . MULTIPLY BY 1.1

AFT CG WARNING INOP
FUEL CONSUMPTION INCREASED

R *NOTE : With slats extended, fuel consumption is multiplied by 1.7.*

R ● **If FAULT/STUCK occured during retraction** :
R Move the SLATS/FLAPS lever back to the notch selected before
R the jamming occured.

R **FOR APPROACH**

R LDG DIST and VREF increments (15.02, 15.04) . . . . . DETERMINE

R ● **If SLATS less than 20°** :

R PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . . APPLY

ALL

Code : 0098

FLAPS SYS 1 AND 2 FAULT/ FLAPS STUCK

R SLATS/FLAPS lever ..... CYCLE

GPWS ..... FLAP OVRD

■ **If FLAPS less than 20°** :

LDG DIST ..... MULTIPLY BY 1.3
FOR APPR : ATS ..... OFF
FUEL CONSUMPTION INCREASED

■ **If FLAPS 20° or more** :

LDG DIST ..... MULTIPLY BY 1.1
FUEL CONSUMPTION INCREASED

R *NOTE : With Flaps extended, fuel consumption is multiplied by 2.2.*

R ● **If FAULT/STUCK occured during retraction** :

R Move the SLATS/FLAPS lever back to the notch selected before the jamming occured.

FOR APPROACH

LDG DIST and VREF increments (15.02, 15.04) ..... DETERMINE

● **If FLAPS less than 20°** :

PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) .... APPLY

ALL

Mod : 6865 or 7576 or (6865 + 7576)

FLAP VANE JAM

R SLATS/FLAPS lever . . . . . CYCLE

FLAPS EXTENSION (RETRACTION) LIMITED

■ **If FLAPS less than 20°** :

LDG DIST . . . . . MULTIPLY BY 1.3

FOR APPR : ATS . . . . . OFF

FUEL CONSUMPTION INCREASED

■ **If FLAPS 20° or more** :

LDG DIST . . . . . MULTIPLY BY 1.1

FUEL CONSUMPTION INCREASED

R

FOR APPROACH

■ **If FAULT during extension** :

GPWS . . . . . FLAP OVRD

LDG DIST and VREF increments (15.02, 15.04) . . . DETERMINE

PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . APPLY

■ **If FAULT during retraction** :

SLATS/FLAPS . . . . . NORMAL EXTENSION

NOTE : With Flaps extended, fuel consumption is increased by 2.2.

ALL

Mod : 6865

NO FLAPS AND NO SLATS LANDING

- **If electrical failure suspected** :

  LAND RECOVERY ..... ON

  - **If unsuccessful** :

    LAND RECOVERY ..... OFF

- **If slats/flaps not recovered** :

  SLATS/FLAPS LEVER 0/0

  SPEED ..... GREEN DOT

  MAXIMUM LANDING WEIGHT (below) ..... DETERMINE

  LDG DIST ..... MULTIPLY BY 1.8

R

  ATS LEVER(S) ..... OFF

  TRP ..... SELECT TOGA

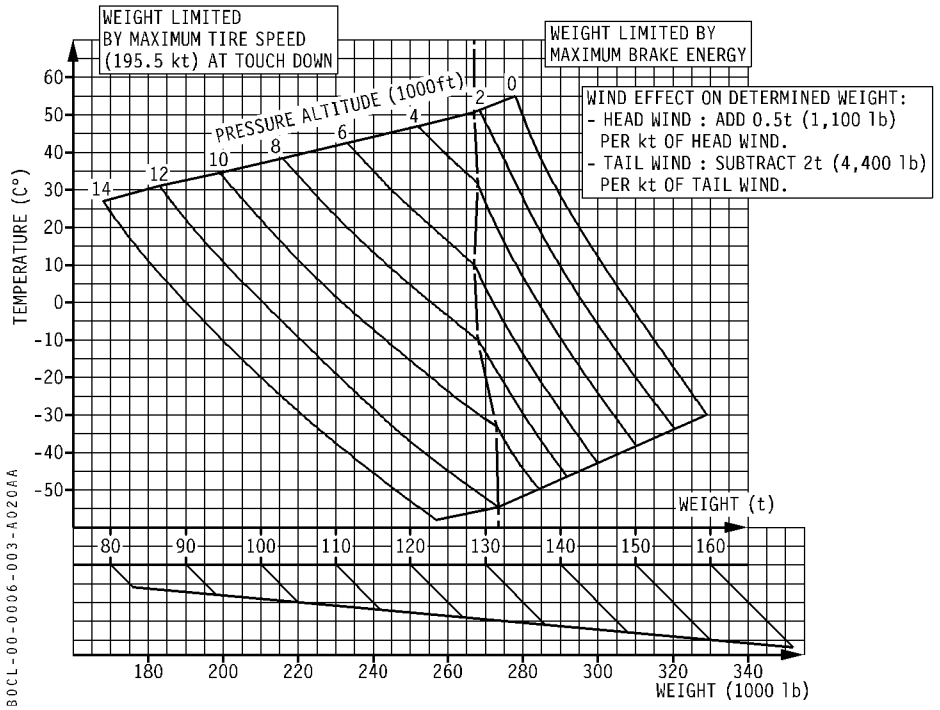
  GPWS ..... FLAP OVRD

  - **When VLS or VAPP obtained** :

    SLATS/FLAPS lever 15/0

  SPEED ..... VLS (VREF + 60) DOWN TO 300 FT
  THEN DECELERATE TO REACH VSS AT TOUCHDOWN

  MAX REVERSE ..... APPLY



ALL

GE Eng. : 80C2A2

KRUGER FAULT

■ **KRUGER NOT RETRACTED**
MAX SPD 300/.65
FUEL CONSUMPTION INCREASED

NOTE : Fuel consumption is increased by 12 %.

■ **KRUGER NOT EXTENDED**
LDG SPD INCREMENT . . . . . + 10 KT
LDG DIST . . . . . MULTIPLY BY 1.1

● **If Kruger not extended** :
SPEED INCREMENT ON S, F, V LS . . . . . + 10 KT

SPLR FAULT

SPLR (affected) . . . . . OFF/R

■ **If 4 or more roll spoilers per wing affected** :
LDG CONFIG/GPWS . . . . . FLAPS 20

LDG SPD INCREMENT . . . . . + 10 KT
LDG DIST . . . . . MULTIPLY BY 1.8

SPLR PARTIALLY INOP (or SPLRS INOP)

■ **If 3 or more spoilers per wing affected** :
LDG DIST . . . . . MULTIPLY BY 1.3
SPLR PARTIALLY INOP

● **If only one SPLR FAULT without any other warning activation** :
SPLR (affected) . . . . . ON

R ● **If SPLR stuck in extended position, to attempt to retract the spoiler** :
R SERVO CTL (affected spoiler) . . . . . OFF

R ● **After about 10 seconds** :
R SERVO CTL (affected spoiler) . . . . . ON

● **If SPLR cannot be retracted** :
SPEED INCREMENT ON V LS . . . . . + 20 KT
LANDING SPEED . . . . . (VLS + 20 KT) OR (VREF + 20 KT)

INADVERTANT STICK SHAKER

● **If spurious STALL warning occurs** :
STICK SHAKER C/B (affected side) . . . . . PULL

. WARN CAPT-STICK SHAKER (21VU-A9)
or
. WARN F/O-STICK SHAKER (21VU-A10)

ALL

R

G+Y SERVO LO PR (BLUE REMAINING)

LAND ASAP

MAX SPD 285/.78

R

USE ELEV WITH CARE ABOVE SPD 170

PROC : G+Y SERVO LO PR (below) ..... APPLY

AFFECTED EQUIPMENT ..... OFF

■ **If GREEN HYD SYS lost (KRUGER inoperative)** :

LDG SPD INCREMENT ..... + 10 KT

LDG DIST ..... MULTIPLY BY 1.5

PROC : L/G GRAVITY EXT (10.02) ..... APPLY

■ **If GREEN SERVO only inoperative (KRUGER available)** :

LDG DIST ..... MULTIPLY BY 1.3

PROC : L/G GRAVITY EXT (10.02) ..... APPLY

R MAX FL 350

● **If YELLOW PUMP LO PR** :

RAT ..... ON

AFFECTED YELLOW EQUIPMENT ..... RESTORE

CAUTION : If YELLOW SYS powered by RAT, G+Y SERVO LO PR will apply for landing.

FOR APPROACH

● **If one SERVO LO PR caused by** :

– **related HYD SYS RSVR OVHT (and if OVHT light is extinguished),**

or

– **related HYD SYS LO AIR PR** :

HYD PWR ENG PUMP(s) – (related) ..... ON

AFFECTED EQUIPMENT ..... RESTORE

● **If GREEN HYD SYS not recovered** :

SPEED INCREMENT ON S, F, V LS ..... + 10 KT

LANDING SPEED ..... (V LS + 10 KT) or (V REF + 10 KT)

ALL

R

B+Y SERVO LO PR (GREEN REMAINING)

LAND ASAP

PROC : B+Y SERVO LO PR (below) . . . . . APPLY

AFFECTED EQUIPMENT . . . . . OFF

LANDING CONFIG/GPWS 20/20

LDG SPD INCREMENT . . . . . + 10 KT

LDG DIST . . . . . MULTIPLY BY 1.8

PROC : L/G GRAVITY EXT (10.02) . . . . . APPLY

AVOID USING PTU

- **If YELLOW PUMP LO PR** :

  RAT . . . . . ON

  AFFECTED YELLOW EQUIPMENT . . . . . RESTORE

  CAUTION : If YELLOW SYS powered by RAT, B+Y SERVO LO PR will apply for landing.

FOR APPROACH

- **If one SERVO LO PR caused by** :

  – **related HYD SYS RSVR OVHT (and if OVHT light is extinguished),**

  or

  – **related HYD SYS LO AIR PR** :

  HYD PWR ENG PUMP (related) . . . . . ON

  AFFECTED EQUIPMENT . . . . . RESTORE

- **If GREEN SERVO CTL only remaining** :

  GPWS . . . . . FLAP 20

  SPEED INCREMENT ON V LS . . . . . + 10 KT

  LANDING CONFIG . . . . . FLAPS 20

  LANDING SPEED . . . . . (V LS + 10 KT) or (V REF + 20 KT)

R

B+G SERVO LO PR (YELLOW REMAINING)

LAND ASAP

PROC : B + G SERVO LO PR (below) . . . . . APPLY

AFFECTED EQUIPMENT . . . . . OFF

■ **If GREEN HYD SYS lost (KRUGER inoperative)** :

LDG SPD INCREMENT . . . . . + 10 KT

LDG DIST . . . . . MULTIPLY BY 1.5

PROC : L/G GRAVITY EXT (10.02) . . . . . APPLY

■ **If GREEN SERVO only inoperative (KRUGER available)** :

LDG DIST . . . . . MULTIPLY BY 1.3

PROC : L/G GRAVITY EXT (10.02) . . . . . APPLY

FOR APPROACH

● **If one SERVO LO PR caused by** :

– **related HYD SYS RSVR OVHT (and if OVHT light is extinguished),**

or

– **related HYD SYS LO AIR PR** :

HYD PWR ENG PUMP(s) – (related) . . . . . ON

AFFECTED EQUIPMENT . . . . . RESTORE

● **If GREEN HYD SYS not recovered** :

SPEED INCREMENT ON S, F, V LS . . . . . + 10 KT

LANDING SPEED . . . . . (V LS + 10 KT) or (V REF + 10 KT)

ALL

PITCH FEEL FAULT

PITCH FEEL (affected) . . . . . OFF/R

■ **If both PITCH FEEL set OFF, and both FAULT lights extinguished** :

MAX SPD 285/.78
ELEV WITH CARE ABV SPD 170.

■ **If both PITCH FEEL set OFF and both FAULT lights illuminated** :
PITCH FEEL IN HIGH SPEED.

● **If only one PITCH FEEL set OFF without any other warning activation,**
or
R **If both PITCH FEEL set OFF and both FAULT lights extinguished and no**
R **STABILIZER JAM** :

PITCH FEEL(s) . . . . . ON

● **If unsuccessful and if both PITCH FEEL affected** :
MAX SPD 285/.78
USE ELEVATOR WITH CARE ABOVE SPD 170 KT.

● **If PITCH FEEL in high speed configuration** :
PROC : HIGH PITCH FORCE (6.09) . . . . . APPLY

PITCH TRIM FAULT

PITCH TRIM . . . . . RESET

● **If both PITCH TRIM inoperative** :
PITCH TRIM . . . . . MANUAL
MAX SPD 285/.78
MAX FL 350

● **IF MAN CTL INOP** :
PROC : STAB JAM (6.09) . . . . . APPLY

ABNORMAL PITCH BEHAVIOR or PITCH TRIM RUNAWAY

CONTROL WHEEL . . . . . HOLD FIRMLY
TRIM WHEEL . . . . . HOLD FIRMLY
AP (if engaged) . . . . . DISCONNECT
PITCH TRIM LEVERS . . . . . CHECK BOTH OFF
PITCH TRIM . . . . . MANUAL

● **If STAB MAN CTL inop** :
PROC : STAB JAM (6.09)

● **If high pitch force** :
PROC : HIGH PITCH FORCE (6.09)

ALL

STABILIZER JAM

MAX SPD 285/.78
ELEV WITH CARE ABV SPD 170.

SPEED ..... MAINTAIN

● **Before reducing speed** :

PITCH FEEL 1 and 2 ..... OFF/R

USE ELEVATOR WITH CARE ABOVE SPD 170 KT.

ELEVATOR JAM or HIGH PITCH FORCE

● **If elevator jam** :
ELECTRICAL PITCH TRIM ..... USE

MAX SPD 285/.78

FOR APPROACH

MANUAL PITCH TRIM ..... USE
THROTTLES CONTROL BY PNF ..... CONSIDER

● **If alpha-floor activation** :
ATS ..... OFF

R *NOTE : For approach, normal slats and flaps configuration applies.*
R *However, flaps should be selected 15 above 3000 ft, when*
R *Slats 15/S-speed is established.*

FOR GO AROUND

A/THR ..... OFF
Apply GO AROUND thrust smoothly but gradually.

ALL

RUDDER TRAVEL FAULT

RUD TRAVEL (affected) . . . . . OFF/R

■ **If both RUD TRAVEL OFF and both FAULT lights extinguished** :
RUD WITH CARE ABV SPD 170.

■ **If both RUD TRAVEL OFF and both FAULT light illuminated** :
RUD TRAVEL IN HIGH SPEED.
MAX X WIND FOR LDG . . . . . 20 KT

● **If only one RUD TRAVEL set OFF, without any other warning activation,**

or

If both RUD TRAVEL set OFF and both FAULT lights extinguished :

● **After 1 minute** :
RUD TRAVEL . . . . . ON

● **If unsuccessful and if both RUD TRAVEL affected** :
USE RUDDER WITH CARE ABOVE SPD 170 KT.

YAW DAMPER FAULT

YAW DAMPER . . . . . RESET

● **If both YAW DAMPERS OFF** :
TRIM TK MODE . . . . . FWD
DESCENT TO FL 310 . . . . . CONSIDER

RUDDER JAM

BANK ANGLE LIMIT . . . . . 15°
MAX X-WIND FOR LDG . . . . . 20 KT

RUDDER TRIM RUNAWAY

AP (if engaged) . . . . . KEEP IN CMD
RUDDER TRIM . . . . . CHECK/RESET

RUDDER TRIM RESET FAULT

TRIM RESET . . . . . MANUAL

ALL

Mod : 4801

AILERON JAM

RUDDER . . . . . USE FOR ROLL CONTROL

■ **If CM1 control wheel jammed** :
SPLR 3 & 2, 6, 7 . . . . . OFF
– Use CM2 control wheel only

■ **If CM2 control wheel jammed**
SPLR 4 & 1, 5 . . . . . OFF
– Use CM1 control wheel only

FOR APPROACH

FLT CTL / KRUGER C/B (133VU-T61) . . . . . PULL

R PROC : KRUGER FAULT – NOT EXTENDED (6.04) . . . . . APPLY

AILERON TRIM RUNAWAY

■ **If AP is not engaged in CMD** :
CONTROL WHEEL . . . . . HOLD FIRMLY

■ **If AP is engaged in CMD** :
AP . . . . . KEEP ENGAGED IN CMD

FOR APPROACH

R ● **Below 200 kt and above 3000 ft AGL** :
AP . . . . . DISCONNECT

ALL

SERVO CTL JAM IN FLIGHT

R SERVO CTL (affected) . . . . . OFF

AFFECTED EQUIPMENT . . . . . OFF

– **BLUE** : SPLR 2, 3, 7

– **YELLOW** : PITCH FEEL 2
SPLR 1, 4, 6

– **GREEN** : PITCH FEEL 1
SPLR 5

● **If BLUE or YELLOW SERVO CTL affected** :

LDG DIST . . . . . MULTIPLY BY 1.3

SYSTEMS AFFECTED (below) . . . . . REVIEW

Affected system	Flight Controls	SPD BRK SPLRS	AP	YAW DAMPER	PITCH FEEL	PITCH TRIM
Blue	1 Actuator	2 + 3 + 7		N° 1		
Green	1 Actuator	5	N° 1		N° 1	1 Actuator
Yellow	1 Actuator	1 + 4 + 6	N° 2	N° 2	N° 2	1 Actuator

ALL

SERVO CTL JAM ON GROUND

SERVO CTL (affected) . . . . . CHECK ON
SERVO CTL (not affected) . . . . . BOTH OFF

■ **If stabilizer not affected** :
AFFECTED FLIGHT CONTROLS . . . . . MOVE RAPIDLY FULL TRAVEL
FLIGHT CONTROLS . . . . . CONFIRM DEFLECTION ON ECAM
or
LEFT ELEVATOR . . . . . VISUALLY CHECK

■ **If deflection not confirmed on one (or more) affected surface(s)** :
Maintenance action is due.

■ **If deflection confirmed on all affected surfaces** :
SERVO CTL (all) . . . . . ON
R AFFECTED FLIGHT CONTROLS . . . . . MOVE FULL TRAVEL
SERVO CTL (affected) . . . . . OFF

● **When LO PR illuminated** :
SERVO CTL (affected) . . . . . ON

■ **If JAM warning extinguished** :
Resume normal operation

■ **If JAM warning still illuminated** :
A jamming detection channel is inoperative.
The aircraft can be dispatched, refer to MEL.

■ **If stabilizer affected** :
PITCH TRIM (manual or electrical) . . . . . OPERATE
STABILIZER DEFLECTION (FLT CTL page) . . . . . CHECK

● **When releasing trim control** :
STAB TRIM . . . . . CHECK MOTION STOPS
BLUE SERVO CTL . . . . . ON
SERVO CTL (affected) . . . . . OFF

● **When LO PR illuminated** :
SERVO CTL (affected) . . . . . ON

■ **If deflection is confirmed and JAM warning extinguished** :
SERVO CTL (all) . . . . . ON
Resume normal operation

■ **If deflection is not confirmed or JAM warning does not extinguished** :
Maintenance action is due.

ALL

Mod : 5904

LANDING WITH ABNORMAL SLATS OR FLAPS

R ■ **If actual Landing Weight is at or below Max Landing Weight :**

● **Until SLATS/FLAPS lever in 30/40 position :**
SPEED . . . . . VFE NEXT – 5
SLATS/FLAPS lever . . . . . EXTEND ONE STEP FURTHER

● **When SLATS/FLAPS lever in 30/40 position :**
SPEED . . . . . VAPP

R ■ **If actual Landing Weight is above Max Landing Weight (overweight landing) :**

● **Until SLATS/FLAPS lever in 20/20 position :**
SPEED . . . . . VFE NEXT
SLATS/FLAPS lever . . . . . EXTEND ONE STEP FURTHER

● **When SLATS/FLAPS lever in 20/20 :**
VFE 20/20 . . . . . MAINTAIN

● **When aligned with the runway :**
SPEED . . . . . VFE NEXT
SLATS/FLAPS lever 30/40
SPEED . . . . . VAPP

R PACK VALVE 1 and 2 . . . . . OFF or on APU
R VERTICAL SPEED AT TOUCHDOWN . . . . . MINIMIZE
R – Maximum vertical speed at touchdown : 360 ft/mn.

FOR GO AROUND

SLATS/FLAPS lever 20/20
SPEED . . . . . VAPP + 10

■ **For immediate turn back :**
SLATS/FLAPS lever . . . . . MAINTAIN 20/20
SPEED . . . . . AS RQRD

■ **If diversion intended :**
Limit slats/flaps retraction to the position further extended than the jammed surface.

● **For slats or flaps retraction :**
SPEED . . . . . ACCELERATE TO VFE

● **When approaching VFE :**
SLATS/FLAPS lever . . . . . RETRACT ONE STEP FURTHER

ALL

Code : 0083

CONTENTS

FUEL X-FEED IN FLIGHT (FUEL IMBALANCE)

CAUTION : ***In case of fuel imbalance, consider first the possibility of a fuel leak.***
For this purpose, check that the sum of the fuel on board and the fuel used is consistent with the fuel on board at departure. If the sum is unusually smaller than the fuel on board at departure, suspect a fuel leak.

■ **If fuel leak suspected or confirmed** :

FUEL X-FEED . . . . . DO NOT USE

PROC : FUEL LEAK (7.02) . . . . . APPLY

■ **If fuel leak not suspected** :

FUEL X-FEED . . . . . IN LINE

- **On the wing from which fuel will be used** :
  ISOL VALVES (2) . . . . . CHECK IN LINE
  INR TK PUMPS (2) . . . . . CHECK NORM
- **On the opposite wing** :
  INR TK PUMPS (2) . . . . . OFF
- **When fuel balancing is completed** :
  ALL INR TK PUMPS (4) . . . . . NORM
R FUEL X-FEED . . . . . CROSS-LINE

ALL

FUEL LEAK

NOTE : A FUEL LEAK may be detected by :
- *the sum of the FOB and the F. USED is significantly less than the FOB at departure or decreases, or*
- *visual check from the cabin if accessibility permits, (fuel spray from engine/pylon or from wing tip), or*
- *total fuel quantity decreasing at an abnormal rate, or*
- *fuel imbalance, or*
- *tank emptying too fast (leak from engine/pylon or a hole in a tank), or*
- *tank overflowing (due to pipe rupture in a tank),*
- *excessive fuel flow (leak from engine), or*
- *fuel smell in the cabin.*

● **When a FUEL LEAK is suspected** :

– FQI CHAN SUPPLY 1&2 C/B (P60 & P61/132 VU) . . . . . PULL THEN PUSH

● **If a FUEL LEAK is confirmed** :

LAND ASAP

■ **If LEAK FROM ENGINE/PYLON confirmed** :

THROTTLE (affected side) . . . . . IDLE
FUEL LEVER (affected side) . . . . . OFF
FIRE HANDLE (affected side) . . . . . PULL
PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

NOTE : – If the leak stops, the FUEL X FEED valve can now be selected OPEN.
– Do not restart the engine.

■ **If LEAK FROM WING TIP confirmed and CTR TK FEEDING** :

(affected side OUTR TK indication may be 60-200 kg (132-440 lb) higher)

NOTE : Check that no fuel forward transfer (ACT/TT) has been requested while the CTR TK is full.

CTR TK PUMP (affected side) . . . . . OFF
INR TK PUMPS (affected side) . . . . . OFF

● **When both OUTR TK fuel quantities are equal** :

CTR TK PUMP (affected side) . . . . . NORM
INR TK PUMPS (affected side) . . . . . NORM
Continue to monitor outer tanks fuel quantities and look for any increase.

● **If leak is not prevented** :

continue with LEAK FROM ENGINE/PYLON/WING TIP not confirmed or LEAK not located procedure (below).

■ **If LEAK FROM ENGINE/PYLON/WING TIP not confirmed or LEAK not located** :

FUEL X FEED . . . . . MAINTAIN CROSS LINE
CTR TK PUMPS . . . . . OFF
TRIM TK ISOL VALVE . . . . . OFF
INR TK FUEL QTY . . . . . MONITOR

■ **If one inner tank depletes faster than the other by at least 500 kg (1102 lb) in less than 30 min** :

THROTTLE (affected side) . . . . . IDLE
FUEL LEVER (affected side) . . . . . OFF
FIRE HANDLE (affected side) . . . . . PULL
FUEL LEAK . . . . . MONITOR

(Continued)

FUEL LEAK (CONT'D)

■ **If the leak stops** :

CTR TK PUMPS . . . . . ON
TRIM TK ISOL VALVE . . . . . AUTO
TRIM TK MODE . . . . . AUTO
PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

NOTE : – The FUEL X FEED valve can now be selected OPEN.
– Do not restart the engine.

■ **If the leak continues after engine shutdown** :

TRIM TK ISOL VALVE . . . . . AUTO
TRIM TK MODE . . . . . AUTO
FIRE HANDLE . . . . . PUSH
PROC : ENG RESTART IN FLIGHT (12.07) . . . . . CONSIDER

● **When INR TK empty** :

CTR TK PUMPS . . . . . ON

CAUTION : Do not open the FUEL X FEED, even if requested by another procedure.

■ **If both inner tanks deplete at a similar rate** :

CTR TK PUMPS . . . . . ON

● **If fuel smell in the cabin** :

APU (if running) . . . . . OFF
TRIM TK ISOL VALVE . . . . . MAINTAIN OFF

● **If no fuel smell in the cabin** :

● **If trim tank not empty** :

TRIM TK ISOL VALVE . . . . . AUTO
TRIM TK MODE . . . . . FWD

● **If/When trim tank empty** :

TRIM TK MODE . . . . . AUTO
TRIM TK ISOL VALVE . . . . . OFF

FOR LANDING

CAUTION : . Do not use reverse
. Notify ATC

ALL

Mod : 4801

CTR/INR/OUTR TK PUMP FAULT / LO PR

CTR TK

■ **If one FAULT light illuminated** :
CTR TK PUMP (affected) . . . . . OFF
FUEL X-FEED . . . . . IN-LINE

■ **If both FAULT (or one FAULT/one OFF) lights illuminated** :
CTR TK PUMPS . . . . . OFF

R PROC : FUEL FEED MAN CTL (7.04) . . . . . APPLY

INR TK

■ **If one FAULT light illuminated** :
INR TK PUMP (affected) . . . . . OFF

■ **If in one INR TK both FAULT (or one FAULT/one OFF) lights illuminated** :
INR TK PUMPS (affected TK) . . . . . OFF

● **If INR TK not empty** :
FUEL X-FEED . . . . . IN LINE

● **If INR TK above 2000 Kg (4400 lbs)** :
PROC :
R FUEL GRAVITY FEEDING FOR INR TK (7.05) . . . . . APPLY

■ **If in both INR TK both FAULT (or one FAULT/one OFF) lights illuminated** :
INR TK PUMPS (all) . . . . . OFF

PROC : FUEL FEED MAN CTL (7.04) . . . . . APPLY

OUTR TK

■ **If one PUMP LO PR** :
OUTR TK PUMP (affected) . . . . . OFF

■ **If both PUMP LO PR in one OUTR TK, when other TK's empty** :
PROC :
R FUEL GRAVITY FEEDING FOR OUTR TK (7.05) . . . . . APPLY

ALL

AUTO FUEL FEED FAULT

■ **If both L and R CTR TK PUMPs FAULT (or one FAULT/one OFF) lights illuminated :**
L and R CTR TK PUMPs (2) . . . . . OFF

PROC : FUEL FEED MAN CTL (below) . . . . . APPLY

■ **If all four INR TK PUMP FAULT (or FAULT/OFF) lights illuminated :**
L and R INR TK PUMPs (4) . . . . . OFF

PROC : FUEL FEED MAN CTL (below) . . . . . APPLY

FUEL FEED MANUAL CONTROL

R ● **If AUTO FUEL FEED FAULT is not displayed on ECAM**

R ● **If all INR TK, or both CTR TK FUEL PUMP FAULT lights have illuminated simultaneously**
R AUTO FEED C/B . . . . . PULL THEN PUSH
R Affected PUMPS . . . . . ON

R ● **If FAULT light remain extinguished**
R Resume normal operation

OUTR TK PUMPs (4) . . . . . CHECK ON

■ **For CTR TK feeding :**
CTR TK PUMPs (2) . . . . . NORM
INR TK PUMPs (4) . . . . . OFF

● **When approaching CTR TK depletion :**
OUTR TK's FUEL QTY . . . . . MONITOR

● **When OUTR TK's start feeding :**
INR TK or OUTR TK FEEDING . . . . . SELECT

● **When CTR TK empty :**
TRIM TK MODE FWD . . . . . CONSIDER

■ **For INR TK feeding :**
INR TK PUMPs (4) . . . . . NORM
CTR TK PUMPs (2) . . . . . OFF

■ **For OUTR TK feeding :**
INR TK PUMPs (4) . . . . . OFF
CTR TK PUMPs (2) . . . . . OFF

TANK FEEDING . . . . . MONITOR ECAM/FQI

● **If tank feeding is not as desired :**
OUTR TK PUMPs (4) . . . . . CHECK ON
CTR TK (2) and INR TK PUMPs (4) . . . . . OFF
TK PUMPs (required INR TK or CTR TK) . . . . . NORM

● **If unsuccessful :**
AUTO FEED CTL C/B (132VU-M55) . . . . . PULL

ALL

Mod : 4801 + 4803

OUTER TK LO LEVEL

FUEL MANAGEMENT . . . . . CHECK

CAUTION **:** ***If a fuel leak is suspected, do not apply this procedure and refer to FUEL LEAK procedure.***

■ **If CTR TK or INR TK is not empty** :

FUEL FEED MAN CTL (7.04) . . . . . APPLY

■ **If CTR TK and INR TK are empty** :

FUEL X FEED . . . . . IN LINE

FUEL GRAVITY FEEDING

R ● **If AUTO FUEL FEED FAULT is not displayed on ECAM**

R ● **If both INR TK on same side FUEL PUMP FAULT lights have illuminated simultaneously**

R AUTO FEED C/B . . . . . PULL THEN PUSH

R Affected PUMPS . . . . . ON

R ● **If FAULT light remain extinguished**

R Resume normal operation

IGNITION . . . . . CONT RELIGHT

FUEL X-FEED . . . . . CROSS-LINE

CAUTION **:** ***Avoid rapid throttle movement and low or negative g-load factors.***

CTR TK

DO NOT CONSIDER FUEL GRAVITY FEEDING FROM CTR TK.

INR TK

■ **If INR TK QTY above 2000 kg (4400 lbs) :**

MAX FL . . . . . 200 (150 IF JP4/JETB USED) / MEA / MORA

INR TK ISOL VALVE (affected) . . . . . CHECK IN LINE

OUTR TK ISOL VALVE (affected) . . . . . OFF

● **When INR TK below 2000 kg (4400 lbs) :**

OUTR TK ISOL VALVE (affected) . . . . . IN LINE

INR TK ISOL VALVE (affected) . . . . . OFF

■ **If INR TK QTY below 2000 kg (4400 lbs) :**

DO NOT CONSIDER FUEL GRAVITY FEEDING FROM INR TK

OUTR TK

● **If fuel and pumps are available in CTR TK or INR TKs** :

ORIGINATING PROCEDURE . . . . . REFER

FUEL MANAGEMENT (originating procedure) . . . . . APPLY

● **If/When CTR and INR TKs empty** :

MAX FL . . . . . 250 (200 IF JP4/JETB USED) / MEA / MORA

OUTR TK ISOL VALVE (affected) . . . . . CHECK IN LINE

INR TK ISOL VALVE (affected) . . . . . OFF

ALL

TRIM TK SYS INIT

R **ZFW OR ZFCG DISAGREE**
PROC : TRIM TK SYS INIT

ECAM and LOAD SHEET TOGW and TOCG . . . . . COMPARE

■ **If ECAM values and load sheet data show a discrepancy of more than 1000 kg (2200 lbs) or 1.5 % CG :**
ZFW and ZFWCG . . . . . REENTER
ECAM and LOAD SHEET TOGW and TOCG . . . . . COMPARE

● **If ECAM values and load sheet data still show a discrepancy of more than 1000 kg (2200 lbs) or 1.5 % CG :**
TRIM TK PUMPS . . . . . OFF

■ **If ECAM TOGW and TOCG values and load sheet data are within 1000 kg (2200 lbs) or 1.5 % CG :**
ECAM WARNING . . . . . CLEAR

TRIM TK PUMP LO PR

TRIM TK PUMP (affected) . . . . . OFF

■ **If both TRIM TK PUMPs OFF and TRIM TK not empty :**

TRIM TK MODE . . . . . FWD

AUTO TRIM TK SYS INOP
FUEL GRAVITY FWD XFR ONLY

■ **If TRIM TK empty and both TRIM TK PUMPs LO PR :**

TRIM TK PUMP 1 and 2 . . . . . OFF

AUTO TRIM TK SYS INOP

TRIM TK MODE . . . . . AUTO

TRIM TK SYS FAULT

IN FLIGHT

TRIM TK MODE . . . . . FWD
TRIM TK PUMP 1 and 2 . . . . . CHECK ON

● **If no FWD XFR :**
PROC : TRIM TK FUEL UNUSABLE (7.08) . . . . . APPLY

● **If CTR TK above 14 T (31 000 lbs) :**
TRIM TK PUMPS 1 and 2 . . . . . OFF
NOTE : TRIM TK fuel will be transferred FWD by gravity.

● **When TRIM TK empty :**
TRIM TK PUMP 1 and 2 . . . . . OFF
TRIM TK MODE . . . . . AUTO

ON GROUND

Do not select TRIM TK MODE pushbutton switch to FWD position.

ALL

Mod : 4801

TRIM TK AFT XFR NOT AVAIL

ON GROUND

TRIM TK PUMP 1 and 2 ..... OFF

CAUTION : ***Do not select TRIM TK MODE pushbutton switch to FWD position even if instructed to do so by ECAM.***

AFT CENTER OF GRAVITY

TRIM TK MODE ..... FWD

- **AFTER 1 MINUTE** :

  TRIM TK MODE ..... AUTO

  CG TARGET SHIFTED FWD

EXCESS AFT CG

TRIM TK MODE ..... FWD

TRIM TK PUMP 1 and 2 ..... CHECK ON

- **IF FWD XFR UNSUCCESSFUL** :

  PROC : TRIM TK FUEL UNUSABLE (7.08) ..... APPLY

AUTO TRIM TK SYS INOP

FUEL MAN FWD XFR ONLY

- **If / When TRIM TK empty** :

  TRIM TK PUMP 1 and 2 ..... OFF

  TRIM TK MODE ..... AUTO

  - **If EXCESS AFT CG warning persists** :

    PASSENGERS RELOCATION ..... CONSIDER

    10 Pax from rear to front = – 2 % CG

    10 Pax from rear to mid = – 1 % CG

    PROC : TRIM TK FUEL UNUSABLE (7.08) ..... APPLY

ALL

Mod : 4801 + 7259

TRIM TK FUEL UNUSABLE

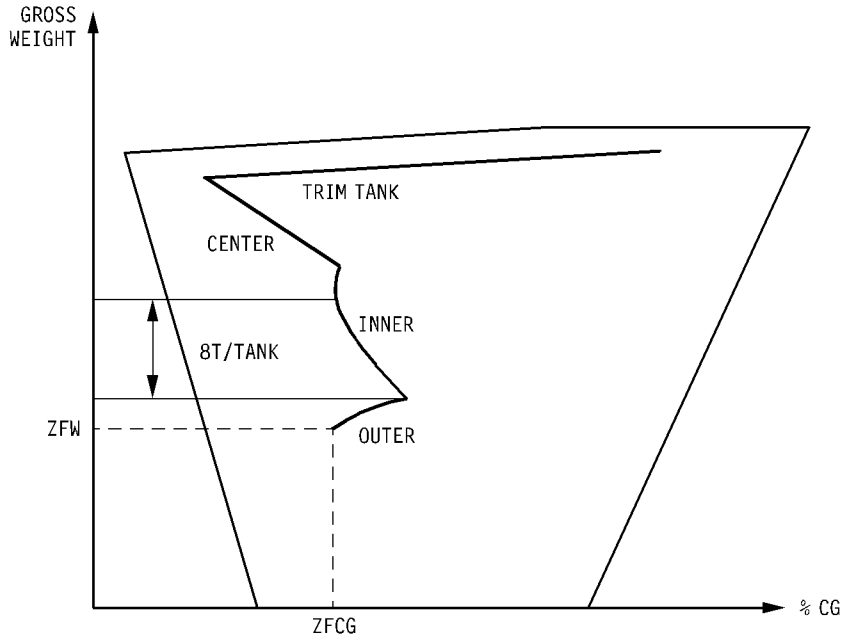
OUTR TK ISOL VALVES ..... CHECK IN LINE

OUTR TK PUMPS ..... CHECK ON
INR TK PUMPS (4) ..... OFF
CTR TK PUMPS (2) ..... OFF

- **When OUTR TK LO LVL** :
  INR TK PUMPS ..... NORM
  - **If required** :
    CTR TK PUMPS ..... NORM

CAUTION : ***Consider diversion since fuel consumption from CTR TK or from INR TKs (when below 8000 kg/17700 lbs in either INR TK) will move the CG aft and could lead to the exceedance of the aircraft aft CG limit for landing.***

LDG SPD INCREMENT ..... + 5 KT
LDG DIST ..... MULTIPLY BY 1.1



B0CL-00-0007-008-A106AB

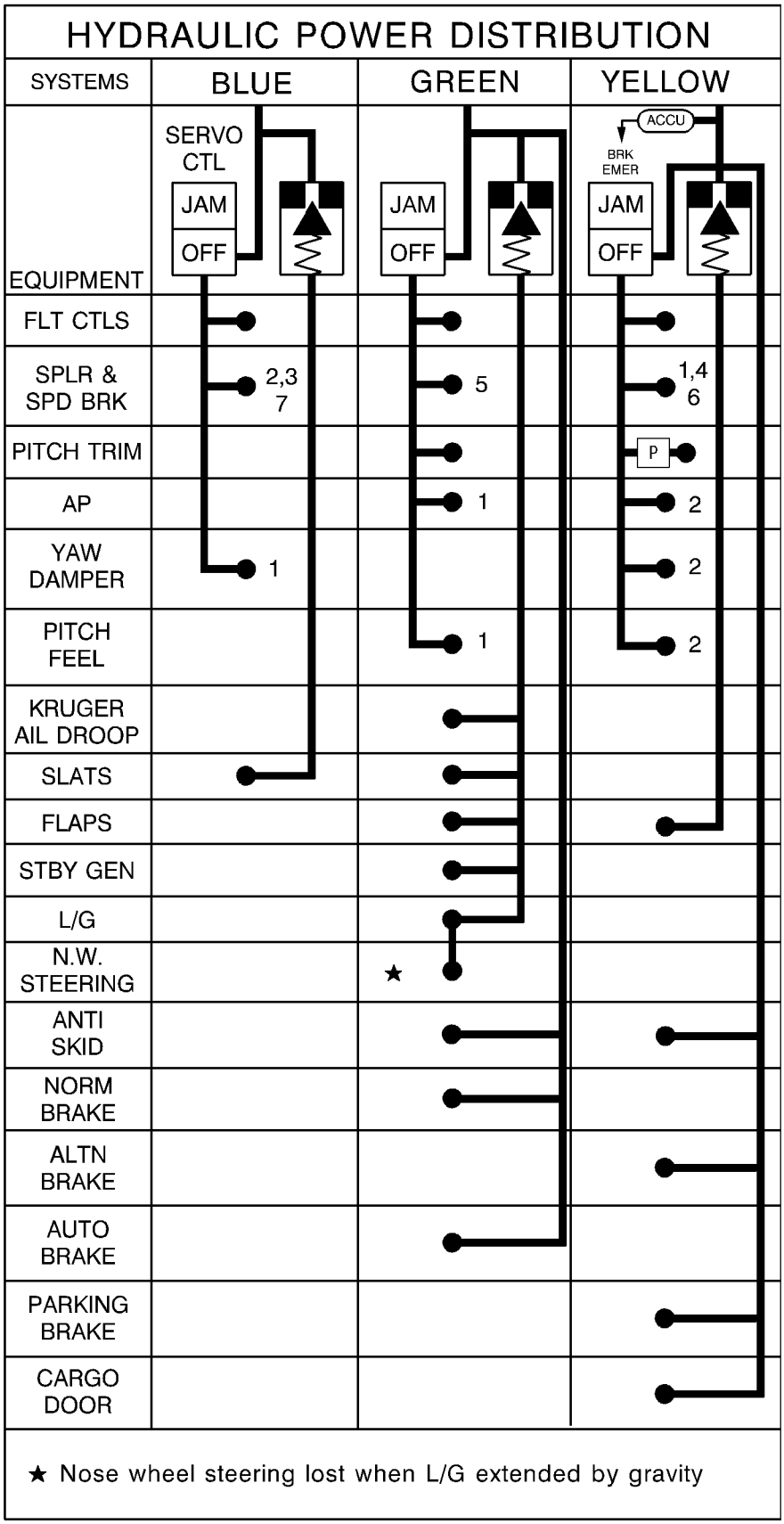
This graph recalls the effect of fuel consumption on the CG.

ALL

R Mod : 4801 or (4801 + 7576)

CONTENTS

R



R

80CL-00-0008-001-A100AB

ALL

Mod : 5911

G+Y HYD SYS LO PR (BLUE REMAINING)

LAND ASAP

MAX SPD 285/.78
ELEV WITH CARE ABV SPD 170.
BRK/ANTI SKID . . . . . ALTN / OFF
GPWS . . . . . FLAP OVRD

● **IF YELLOW PUMP FAIL (and no YELLOW HYD fluid loss suspected)** :
RAT . . . . . ON

AFFECTED EQUIPMENT . . . . . OFF

MAX BRK PRESS . . . . . 1000 PSI

PROC : DUAL (G+Y) HYD SYS LO PR . . . . . APPLY

PROC : L/G GRAVITY EXTENSION (10.02) . . . . . APPLY

● **If YELLOW SYS powered by RAT** :
AFFECTED YELLOW EQUIPMENT . . . . . RESTORE
CAUTION : G+Y HYD SYS LO PR will still apply for landing.

● **If both GREEN ENG PUMP failed (and no GREEN HYD fluid loss suspected)** :
HYD PWR ELEC PUMPS . . . . . ON

MAX FL 350
LDG DIST and V REF increments (15.02, 15.04) . . . . . DETERMINE

FOR APPROACH

● **If SYS lost by RSVR OVHT (and if OVHT light is extinguished) or by LO AIR PR** :
HYD PWR ENG PUMP (related) . . . . . ON
AFFECTED EQUIPMENT . . . . . RESTORE

● **If YELLOW SYS lost by RSVR LO LEVEL, for flaps extension** :
RAT . . . . . ON
CAUTION : G+Y HYD SYS LO PR will still apply for landing.

R ● **If unable to restore by HYD PWR ENG PUMP** :
SYSTEM STATUS WITH ONE HYD SYS (8.05) . . . . . REVIEW

LDG DIST and V REF increments . . . . . APPLY

● **If FLAPS less than 20°** :

ATS LEVER(s) . . . . . OFF

PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . . . . APPLY

ALL

B+Y HYD SYS LO PR (GREEN REMAINING)

LAND ASAP

AVOID USING PTU

- **IF YELLOW PUMP FAIL (and no YELLOW HYD fluid loss suspected)** :

  RAT ..... ON

AFFECTED EQUIPMENT ..... OFF

LANDING CONFIG / GPWS 20/20
LDG SPD INCREMENT ..... + 10KT
LDG DIST ..... MULTIPLY BY 1.8

PROC : DUAL (B + Y) HYD SYS LO PR ..... APPLY

PROC : L/G GRAVITY EXTENSION (10.02) ..... APPLY

- **If YELLOW SYS powered by RAT** :

  AFFECTED YELLOW EQUIPMENT ..... RESTORE

  CAUTION : B + Y HYD SYS LO PR will still apply for landing.

TRIM TK MODE ..... FWD

DESCENT TO FL 310 ..... CONSIDER

LDG DIST and V REF increments (15.02, 15.04) .... DETERMINE

FOR APPROACH

- **If SYS lost by RSVR OVHT (and if OVHT light is extinguished) or by LO AIR PR** :

  HYD PWR ENG PUMP (related) ..... ON

  AFFECTED EQUIPMENT ..... RESTORE

- **If YELLOW SYS lost by RSVR LO LEVEL for flaps extension** :

  RAT ..... ON

  CAUTION : B + Y HYD SYS LO PR will still apply for landing.

R - **If unable to restore by HYD PWR ENG PUMP** :

  SYSTEM STATUS WITH ONE HYD SYS (8.05) ..... REVIEW

  LDG DIST and V REF increments ..... APPLY

ALL

B+G HYD SYS LO PR (YELLOW REMAINING)

LAND ASAP

AFFECTED EQUIPMENT . . . . . OFF

PROC : DUAL (B+G) HYD SYS LO PR . . . . . APPLY

PROC : L/G GRAVITY EXTENSION (10.02) . . . . . APPLY

- **If both GREEN ENG PUMP failed (and no GREEN HYD fluid loss suspected)** :

  HYD PWR ELEC PUMPS . . . . . ON

LDG DIST and V REF increments (15.02, 15.04) . . . . . DETERMINE

FOR APPROACH

- **If SYS lost by RSVR OVHT (and if OVHT light is extinguished) or by LO AIR PR** :

  HYD PWR ENG PUMP (related) . . . . . ON

  AFFECTED EQUIPMENT . . . . . RESTORE

R - **If unable to restore by HYD PWR ENG PUMP** :

  BRK-A/SKID selector . . . . . ALTN-ON

  SYSTEM STATUS WITH ONE HYD SYS (8.05) . . . . . REVIEW

  LDG DIST and V REF increments . . . . . APPLY

  - **If SLATS less than 20°** :

    PROC : ABNORMAL SLATS/FLAPS LANDING (6.14) . . APPLY

SYSTEMS STATUS WITH ONE HYD SYS REMAINING			
SYS REMAINING	**BLUE**	**GREEN**	**YELLOW**
AP	LOST	LOST **	N° 2 ONLY
YAW DAMPER	N° 1 ONLY	LOST	N° 2 ONLY
PITCH FEEL	LOST	N° 1 ONLY	N° 2 ONLY
PITCH TRIM	LOST		
KRUGERS	LOST		LOST
SLATS	SLOW	SLOW	LOST
FLAPS	LOST	SLOW	SLOW
R STBY GEN	LOST		LOST
SPLR and SPD BRK	2, 3, 7 ONLY	5 ONLY	1, 4, 6 ONLY
L/G NORM EXT	LOST	DO NOT USE	LOST
N.W. STEERING	LOST	LOST *	LOST
BRK-A/SKID	ALTN/OFF	NORM/ON	ALTN/ON
AUTO BRAKE	LOST		LOST
PARKING BRAKE	LOST***	LOST***	

* Nose wheel steering is lost due to L/G gravity extension.

** AP is lost due to the loss of both YAW DAMPERS.

*** The parking brake will operate with accumulators only.

RETURN TO ORIGINATING DUAL HYD SYS LO PR PROCEDURE

ALL

Mod : 5911

HYD RSVR LO AIR PR / OVHT – PUMP LO PR

● **If HYD RSVR LO AIR PR and If PRESSURE FLUCTUATES** :

or

If HYD RSVR OVHT or HYD PUMP LO PR :

PUMP(s) (affected system) . . . . . OFF

● **If GREEN SYS affected** :

GREEN ELEC PUMPS . . . . . OFF

AFFECTED EQUIPEMENT . . . . . OFF

– **BLUE** : SPLRS 2, 3, 7

– **YELLOW** : PITCH FEEL 2
SPLRS 1, 4, 6

– **GREEN** : PITCH FEEL 1
SPLR 5

PROC : HYD SYS LO PR (below) . . . . . APPLY

● **If GREEN HYD RSVR OVHT warning activated with STBY GEN operating and SAT above ISA + 30** :

GREEN HYD PWR ENG PUMPS (2) . . . . . ON

HYD SYS LO PR

FOR APPROACH

● **If SYS lost by** :

■ **RSVR LO AIR PR** :

PUMP(s) (affected system) . . . . . ON

■ **RSVR OVHT** :

● **If OVHT light extinguished** :

PUMP(s) (affected system) . . . . . ON

■ **PUMP LO PR** :

■ **If GREEN SYS affected** :

HYD PWR ELEC PUMPS . . . . . ON

■ **If BLUE or YELLOW SYS affected** :

PTU (affected system) . . . . . ON

■ **If affected SYS recovered** :

AFFECTED EQUIPMENT . . . . . RESTORE

■ **If affected SYS not recovered** :

HYDRAULIC POWER DISTRIBUTION (8.01) . . . . . REVIEW

■ **If BLUE or YELLOW SYS affected** :

LDG DIST . . . . . MULTIPLY BY 1.3

■ **If GREEN SYS affected** :

LDG SPD INCREMENT . . . . . + 10 KT

LDG DIST . . . . . MULTIPLY BY 1.2

PROC : L/G GRAVITY EXT (10.02) . . . . . APPLY

● **If GREEN SYS affected** :

BRK-A/SKID . . . . . ALTN-ON

ALL

Mod : 5911

HYD RSVR LO LEVEL

PUMP(s) (affected system) . . . . . OFF

AFFECTED EQUIPMENT . . . . . OFF

BLUE : SPLRS 2, 3, 7

YELLOW : PITCH FEEL 2
SPLRS 1, 4, 6

GREEN : PITCH FEEL 1
SPLR 5

■ **If BLUE or YELLOW SYS affected** :

LDG DIST . . . . . MULTIPLY BY 1.3

■ **If GREEN SYS affected** :

LDG SPD INCREMENT . . . . . + 10 KT

LDG DIST . . . . . MULTIPLY BY 1.2

PROC : L/G GRAVITY EXT (10.02) . . . . . APPLY

R ● **If GREEN SYS affected** :

R BRK-A/SKID . . . . . ALTN-ON

R HYDRAULIC POWER DISTRIBUTION (8.01) . . . . . REVIEW

ALL

LEFT BLANK INTENTIONALLY

CONTENTS

ENG ANTI ICE FAULT

■ **If ENG ANTI ICE selected ON (valve not open)** :
AVOID ICING CONDITIONS.

R ■ **If ENG ANTI ICE selected off (valve not closed)** :
THRUST LIM PENALTY.

WING ANTI ICE VALVES FAULT

IN FLIGHT

■ **If WING SUPPLY selected ON (valve not open)** :
WING MODE SEL . . . . . ALTN

R ● **If FAULT light remains illuminated** :
WING SUPPLY . . . . . OFF
AVOID ICING CONDITIONS.

R ■ **If WING SUPPLY selected off (valve not closed)** :
THRUST LIM PENALTY

ON GROUND

R BLEED VALVE (1 or 2) . . . . . OFF/R
R APU BLEED . . . . . OFF/R

ALL

PROBE HEAT FAULT

■ **CAPT PITOT/ALPHA/STAT/TAT HEAT FAULT**
ADC 1 IND . . . . . MONITOR

■ **F/O PITOT/ALPHA/STAT/TAT HEAT FAULT**
ADC 2 IND . . . . . MONITOR

■ **STBY PITOT/ALPHA/STAT HEAT FAULT**
STBY IND . . . . . MONITOR

PROBE HEAT PARTIALLY INOP

R ● **If CAPT or F/O PITOT HEAT FAULT** :
R AP/FD . . . . . USE THE NON AFFECTED SIDE
R ● **If IAS disagree or before entering icing conditions** :
R ADC (affected) C/B . . . . . PULL
R . ADC 1 115 VAC (22VU-B19)
R or
R . ADC 2 115 VAC (21VU-E10)

WINDOW HEAT FAULT

WINDOW HEAT (affected) . . . . . OFF/R

● **If transient Fault is suspected, after 3 seconds minimum** :
WINDOW HEAT (affected) . . . . . ON

● **If FAULT light re-illuminates** :
WINDOW HEAT (affected) . . . . . OFF/R

● **If FAULT warning is triggered on ground with OAT greater than 40°C (100°F) and with PACKS OFF** :
PACKS . . . . . ON

● **After 5 minutes minimum** :
WINDOW HEAT (affected) . . . . . ON

FOR APPROACH

● **If WINDOW HEAT not recovered** :
COCKPIT COMPT TEMP . . . . . INCREASE
– Increasing the cockpit temperature will prevent window fogging during approach and landing.

ICE DETECTED

IGNITION . . . . . CONT RELIGHT
ENG ANTI ICE (1 and 2) . . . . . ON
WING ANTI ICE . . . . . AS RQRD

ICE DET OVHT

ICE DET . . . . . PTR

ALL

CONTENTS

ALL

BRAKES TEMP HI

■ **Before T.O.** :
BRK FAN (if installed) . . . . . ON
DELAY T.O.

■ **In flight** :

● **IF PERF PERMITS** :
LEAVE L/G DN FOR COOL
BRK FAN (if installed) . . . . . ON

ANTI SKID FAULT

BRK/ANTI SKID . . . . . ALTN/ON

■ **If warning cleared** :
LDG DIST . . . . . MULTIPLY BY 1.1
AUTO BRAKE INOP

■ **If warning remains activated** :
RELEASE IND . . . . . CHECK
MAX BRK PRESS . . . . . 1000 PSI

LDG DIST . . . . . MULTIPLY BY 1.5
AUTO BRAKE INOP

ALL

L/G LEVER INTERLOCKED

L/G POS DET SYS . . . . . OTHER SYS

● **If second attempt unsuccessful** :

L/G LEVER . . . . . DOWN

MAX SPD 270

FUEL CONSUMPTION INCREASED

R AUTOBRAKE . . . . . DISARM

NOTE : With landing gear down, fuel consumption is multiplied by 2.4.
FMS fuel predictions must be disregarded.
Refer to FCOM 2.18.40 for any additional limitations and in-flight performance determination if no immediate turnback.

L/G GRAVITY EXTENSION

PREPARATION

GRAVITY EXTENSION HANDCRANK . . . . . INSERT

EXTENSION

L/G LEVER . . . . . CHECK NEUTRAL

GRAVITY EXTENSION HANDCRANK . . . . . ROTATE

L/G LEVER . . . . . DOWN

CAUTION : Nose wheel steering is inoperative.

GEAR DOWN INDICATIONS . . . . . CHECK

● **If landing gear unsafe indication** :

VISUAL DOWN LOCK INDICATORS . . . . . CHECK

R ■ **If successful** :

R Do not reset the free-fall system. This will avoid such undesirable effects as
R further loss of fluid, in the event of a leak, or possible landing gear unlocking, in
R the event of a gear selector valve jamming in the UP position.

R *NOTE : The free-fall system may be reset in flights used for training. If the green*
R *hydraulic system is available, resetting the free-fall system allows the*
R *landing gear doors to be closed and the nosewheel steering to operate.*
R *The flight crew should not reset the free-fall system on the ground after*
R *flight.*

■ **If extension unsuccessful or down-lock position not confirmed** :

■ **If Nose L/G affected**

PROC : LDG WITH NOSE L/G ABNORMAL (10.04) . . . . . APPLY

■ **If ONE MAIN L/G affected** :

PROC : LDG WITH ONE MAIN L/G ABNORMAL (10.05) . . . . . APPLY

■ **If BOTH MAIN L/G affected** :

PROC : LDG WITH BOTH MAIN L/G ABNORMAL (10.06) . . . . . APPLY

RETURN TO ORIGINATING PROCEDURE, AS REQUIRED

ALL

L/G UNSAFE INDICATION

L/G selected DOWN

■ **Green light(s) extinguished on both panels** :
L/G NOT DOWN LOCKED
PROC : L/G GRAVITY EXTENSION (10.02) . . . . . APPLY

● **If unsuccessful** :
PROC : LDG WITH ABNORMAL L/G
(10.04/10.05/10.06) . . . . . APPLY

■ **Green light(s) extinguished on only one panel** :
L/G POS DET SYS 1(2) FAULT
L/G POS DET SYS . . . . . SYS 2(1)

● **If nose landing gear unsafe indication on overhead panel only** :
GPWS "TOO LOW GEAR" warning . . . . . DISREGARD

L/G selected UP

■ **Red light(s) illuminated on both panels** :
L/G NOT UP LOCKED
MAX SPD 270
L/G . . . . . DOWN

■ **Red light illuminated on only one panel** :
L/G POS DET SYS 1(2) FAULT
L/G POS DET SYS . . . . . SYS 2(1)

R *NOTE : With landing gear down, fuel consumption is multiplied*
R *by 2.4.*
R *FMS fuel predictions must be disregarded.*
R *Refer to FCOM 2.18.40 for any additional limitations and*
R *in-flight performance determination if no immediate*
R *turnback.*

L/G DOOR NOT CLOSED

● **If amber light(s) illuminated on both panels** :
MAX SPD 270
FUEL CONSUMPTION INCREASED

CAUTION : Do not cycle landing gear.

● **If Go-around required** :
L/G . . . . . KEEP DOWN

NOTE : Fuel consumption increased by 30%

ALL

LDG WITH NOSE L/G ABNORMAL

PREPARATION

CABIN CREW . . . . . NOTIFY

ATC . . . . . NOTIFY
TRANSPONDER . . . . . AS RQRD

FUEL WEIGHT (if possible) . . . . . REDUCE
CG LOCATION (if possible) . . . . . MOVE AFT

– 10 pax from front to rear = + 2 %
– 10 pax from mid to rear = + 1 %

SEAT BELTS/NO SMOKING . . . . . ON

APPROACH

R GRAVITY EXTENSION handcrank . . . . . ROTATE BACK TO NORM
L/G LEVER . . . . . DOWN
GPWS . . . . . OFF
CABIN REPORT . . . . . OBTAINED
EMER EXIT LT selector . . . . . ON
TRIM TK ISOL VALVE . . . . . OFF

BRK/A/SKID . . . . . ALTN/OFF
MAX BRAKES PRESSURE . . . . . 1000 PSI

BEFORE LANDING

PACKS 1 and 2 . . . . . OFF
RAM AIR . . . . . ON
BRACE FOR IMPACT . . . . . ORDER

R ● **If the external light condition is poor at landing :**
R DOME LIGHT . . . . . DIM

FLARE, TOUCH DOWN AND ROLL OUT

NOTE : Engines should be shut down sufficiently early to ensure fuel is shut off before the nacelles impact, but sufficiently late to ensure adequate supplies for the flight controls.

Engine pumps continue to supply adequate pressure for at least 15 seconds after first engine shutdown.

REVERSE . . . . . DO NOT USE
NOSE . . . . . MAINTAIN UP
– After touchdown keep the nose off the runway by use of elevator. Then, lower nose on to the runway before elevator control is lost.

BOTH FUEL LEVERS . . . . . OFF
– Shutdown the engines at touchdown before nose impact.

AT NOSE IMPACT

FIRE HANDLES (ALL) . . . . . PULL

WHEN A/C STOPPED

CABIN CREW (PA) . . . . . NOTIFY
FUEL ISOL VALVES . . . . . OFF
AGENTS (ENG and APU) . . . . . DISCH
△P (DIFF PRESS) . . . . . CHECK ZERO
EVACUATION . . . . . INITIATE
BAT (before leaving the aircraft) . . . . . OFF/R

ALL

Mod : 4801

LDG WITH ONE MAIN L/G ABNORMAL

PREPARATION

CABIN CREW . . . . . NOTIFY
ATC/TRANSPONDER . . . . . NOTIFY/AS RQRD
FUEL WEIGHT (if possible) . . . . . REDUCE
FUEL IMBALANCE (if possible) . . . . . ESTABLISH
– Reduce fuel on side with affected L/G

SEAT BELTS/NO SMOKING . . . . . ON

APPROACH

R GRAVITY EXTENSION handcrank . . . . . ROTATE BACK TO NORM
L/G LEVER . . . . . DOWN
GPWS . . . . . OFF
CABIN REPORT . . . . . OBTAINED
EMER EXIT LT selector . . . . . ON
TRIM TK ISOL VALVE . . . . . OFF
GND SPLRS . . . . . DO NOT ARM

BEFORE LANDING

PACKS 1 and 2 . . . . . OFF
RAM AIR . . . . . ON
BRACE FOR IMPACT . . . . . ORDER

FLARE, TOUCH DOWN AND ROLL OUT

NOTE : Engines should be shut down sufficiently early to ensure fuel is shut off before the nacelles impact, but sufficiently late to ensure adequate supplies for the flight controls.

Engine pumps continue to supply adequate pressure for at least 15 seconds after first engine shutdown.

REVERSE . . . . . DO NOT USE
FUEL LEVER (affected side) . . . . . OFF
– Shutdown the engine at touchdown before nacelle impact
AFFECTED SIDE WING . . . . . MAINTAIN UP
– Use roll control as necessary to maintain the unsupported wing up as long as possible.
DIRECTIONAL CONTROL . . . . . MAINTAIN
– Use rudder and brakes to maintain runway center line as long as possible.

AT NACELLE IMPACT

FIRE HANDLE (affected side) . . . . . PULL

WHEN A/C STOPPED

FUEL LEVER (opposite engine) . . . . . OFF
FIRE HANDLES (ALL) . . . . . PULL
CABIN CREW (PA) . . . . . NOTIFY
FUEL ISOL VALVES . . . . . OFF
AGENTS (ENG and APU) . . . . . DISCH
△P (DIFF PRESS) . . . . . CHECK ZERO
EVACUATION . . . . . INITIATE
BAT (before leaving the aircraft) . . . . . OFF/R

ALL

Mod : 4801

LDG WITH BOTH MAIN L/G ABNORMAL

PREPARATION

CABIN CREW . . . . . NOTIFY

ATC . . . . . NOTIFY
TRANSPONDER . . . . . AS RQRD

FUEL WEIGHT (if possible) . . . . . REDUCE

SEAT BELTS/NO SMOKING . . . . . ON

APPROACH

R GRAVITY EXTENSION handcrank . . . . . ROTATE BACK TO NORM
L/G LEVER . . . . . DOWN
GPWS . . . . . OFF

CABIN REPORT . . . . . OBTAINED
EMER EXIT LT selector . . . . . ON

TRIM TK ISOL VALVE . . . . . OFF

GND SPLRS . . . . . DO NOT ARM

BEFORE LANDING

PACKS 1 and 2 . . . . . OFF
RAM AIR . . . . . ON

BRACE FOR IMPACT . . . . . ORDER

R ● **If the external light condition is poor at landing :**
R DOME LIGHT . . . . . DIM

FLARE, TOUCH DOWN AND ROLL OUT

NOTE : Engines should be shut down sufficiently early to ensure fuel is shut off before the nacelles impact, but sufficiently late to ensure adequate supplies for the flight controls.

Engine pumps continue to supply adequate pressure for at least 15 seconds after first engine shutdown.

REVERSE . . . . . DO NOT USE

BOTH FUEL LEVERS . . . . . OFF
– Shutdown the engines before touchdown

PITCH ATTITUDE (at touchdown) . . . . . NOT LESS THAN 6°

AT NACELLES IMPACT

FIRE HANDLES (ALL) . . . . . PULL

WHEN A/C STOPPED

CABIN CREW (PA) . . . . . NOTIFY
FUEL ISOL VALVES . . . . . OFF
AGENTS (ENG and APU) . . . . . DISCH
△P (DIFF PRESS) . . . . . CHECK ZERO
EVACUATION . . . . . INITIATE
BAT (before leaving the aircraft) . . . . . OFF/R

ALL

Mod : 4801

R

LOSS OF BRAKING AT LANDING

R
R
R
R
R
R
R
R
R
R
R
R
R
R
R

- **If AUTOBRAKE is selected** :
  BRAKE PEDALS ..... PRESS
- **If NO BRAKING available** :
  MAX REVERSE ..... APPLY
  BRAKE PEDALS ..... RELEASE
  BRK/ANTI SKID ..... ALTN/OFF
  BRAKE PEDALS ..... PRESS
  MAX BRK PRESS ..... 1000 PSI
  - **If still NO BRAKING**
    PARKING BRAKE ..... USE

ALL

LEFT INTENTIONALLY BLANK

CONTENTS

LOSS OF ECAM DISPLAY

- **If white diagonal line on affected ECAM** :
  Affected SGU . . . . . OFF
- **If loss of CRT suspected (CRT is blank)** :
  ECAM brightness knob (affected side) . . . . . OFF

ALL

EFIS SGU FAULT

■ **EFIS SGU 3** :
EFIS ON SYS 3 . . . . . DO NOT USE

■ **EFIS SGU 1 or 2 (white diagonal line on affected PFD/ND)** :
CAPT (F/O) EFIS . . . . . SYS 3

LOSS OF PFD DISPLAY

R ***CAUTION*** : ***In case of loss of PFD display, be alert to transition rapidly to stand-by instruments.***

NOTE : *In case of excessive pitch or roll rate, both PFD and ND displays are blanked temporarily (white diagonal line on both CRT's).*

R ● **If loss of CRT suspected (CRT is blank) or when PFD information required** :
PFD brightness knob (affected side) . . . . . OFF

● **If ND information required**
PFD/ND XFR (affected side) . . . . . ON

NOTE 1 : *If affected PFD is on the PF side, consider transferring PF responsibilities to PNF.*

NOTE 2 : *Pressing the PFD/ND XFR pushbutton a second time will recover ND information on the lower CRT.*

LOSS OF ND DISPLAY

R ***CAUTION*** : ***In case of loss of ND display, be alert to transition rapidly to stand-by instruments.***

NOTE : *In case of excessive pitch or roll rate, both PFD and ND displays are blanked temporarily (white diagonal line on both CRT's).*

● **If ND display saturation suspected (diagonal line on ND only)** :
ND mode selector . . . . . PLAN

● **If unsuccessful** :
RANGE . . . . . REDUCE

R ● **If loss of CRT suspected (CRT is blank)** :
ND brightness knob (affected side) . . . . . OFF

● **If ND information required** :
PFD/ND XFR (affected side) . . . . . ON

NOTE 1 : *If affected ND is on the PF side, consider transferring PF responsibilities to PNF.*

NOTE 2 : *Pressing the PFD/ND XFR pushbutton a second time will recover PFD information on the upper CRT.*

ALL

STD or Mod : (5846 + 11123)

ADC FAULT

R ■ **If only one ADC FAULT** :
R ADC INST SWITCHING . . . . . SYS AVAILABLE
R ATC . . . . . SYS AVAILABLE
R ATS . . . . . RESET
R ■ **If both ADC FAULT** :
STBY INST . . . . . USE
MAX SPD 285
MAX FL. 310
ELEV WITH CARE ABV SPD 170.
RUD WITH CARE ABV SPD 170.
PITCH TRIM . . . . . MANUAL
AFFECTED EQUIPMENT . . . . . OFF
. PITCH FEEL 1 and 2.
. RUD TRAVEL 1 and 2.
R . ATS
TRIM TK AFT XFR NOT AVAIL
● **When Flaps are extended** :
PITCH TRIM . . . . . RESET
YAW DAMPER . . . . . RESET

AFS DISTRIBUTION - ATS - TRP (11.03) . . . . . REVIEW

IRS FAULT

■ **IRS 1 or 2** :
CAPT (F/O) ATT/HDG . . . . . SYS 3
■ **IRS 3** :
ATT/HDG ON SYS 3 . . . . . DO NOT USE

AFS DISTRIBUTION - ATS - TRP (11.03) . . . . . REVIEW

■ **If affected IRS ATT mode recovery is attempted** :

NOTE : Affected IRS may be available in ATT mode. The following procedure is not mandatory when only one IRS is affected. It has to be applied if a second IRS fails or at pilot's discretion.

IRS MODE (affected MSU) . . . . . ATT
ISDU SYS selector . . . . . AFFECTED SYS
ISDU DSPL selector . . . . . HDG STS
INDICATED HEADINGS ON ISDU and ND . . . . . CHECK

● **If heading indications disagree (more than 3 deg difference) and with wings level for 30 sec minimum :**

Heading (4 digits) from the other IRS in NAV mode or from the stby compass . . . . . ENTER
ENT KEY . . . . . PRESS

NOTE 1 : When HDG from another IRS in NAV mode is used, be sure to change it to magnetic HDG.

NOTE 2 : Repeat HDG entry every 15 minutes or after a turn. Keep HDG accuracy between ± 3 deg.

■ **If affected IRS ATT mode recovery is not attempted or if ATT mode selection unsuccessful** :

IRS (affected) . . . . . OFF

ALL

Mod : (4801 + MP S5063) or (4801 + 6523)

AUTO FLIGHT SYSTEM – DISTRIBUTION

INOPERATIVE SYSTEM	FUNCTION LOST									
	FCC 1		FCC 2		FAC 1			FAC 2		
	AP 1	FD 1	AP 2	FD 2	YAW DAMP 1	PITCH TRIM 1	α FLOOR 1***	YAW DAMP 2	PITCH TRIM 2	α FLOOR 2***
HYD BLUE					INOP					
HYD GREEN	INOP									
HYD YELLOW			INOP					INOP		
R **IRS 1**	INOP	INOP			INOP	INOP ****	INOP			
R **IRS 2**			INOP	INOP				INOP	INOP ****	INOP
IRS 1 + 2	INOP	INOP	INOP	INOP	INOP	INOP	INOP	INOP	INOP	INOP
ADC 1	INOP **	INOP **			INOP if flaps <15°	INOP if slats retracted	INOP if slats extended			
ADC 2			INOP **	INOP **				INOP if flaps <15°	INOP if slats retracted	INOP if slats extended
*** PITCH TRIM 1 + 2**	INOP		INOP							
*** YAW DAMPER 1 + 2**	INOP		INOP							
*** FAC 1 + 2**	INOP	INOP	INOP	INOP						
R R R **FCU**	INOP	INOP	INOP	INOP						

* No effect with single equipment failure.
** Except when GS green or LAND green is annunciated on the FMA.
*** α floor protection is lost when α floor 1 and α floor 2 are lost.
**** Except if : – onside AP is in CMD, or
– Slats are extended, or
– Speedbrakes are entended.

INOPERATIVE SYSTEM	EFFECT ON TCC	
	ATS – A/THR	TRP
*** ADC 1 + 2**	Both ATS disarm – ATS rearming is not possible.	Inoperative
IRS 1 (or 2)	ATS 1 (or 2) disarms, if SPD/MACH mode is engaged. Rearming is not possible.	
*** FAC 1 + 2**	Both ATS disarm – ATS rearming is not possible.	
ENG TRIM 1 (or 2) FAULT	A/THR (or THR L) disengages if : – TO or FLX TO limit mode is selected (disengagement after landing gear retraction), – CL, CR or GA limit mode is selected. A/THR mode can be re-engaged after ENG TRIM pushbutton is set to OFF.	
FCU	Both ATS disarm. ATS rearming is possible. A/THR re-engagement is not possible. THR L mode is available (by go-levers activation, in clean configuration).	
AP/FD 1 + 2	If A/THR is engaged, the active mode remains engaged. If A/THR is not engaged, A/THR engagement is possible but only in SPD/MACH mode.	

* No effect with single equipment failure.

ALL

Mod : MP S5063 or 6523

FMC INDEPENDENT OPERATION

■ **A/C STATUS MISMATCH (NAV data base difference)** :

ON BOTH NDs . . . . . SET IDENTICAL RANGE
ON BOTH CDUs . . . . . ENTER SAME INPUTS

■ **FMC POSITION MISMATCH (aircraft position difference)** :

FMC POSITION VERSUS RAW DATA . . . . . CROSS-CHECK
AIRCRAFT POSITION OF THE INCORRECT FMC . . . . . UPDATE
R FMC OPPOSITE TO ENGAGED AP . . . . . PULL/AFTER 10 SEC, PUSH (C/B : FMC 1/J11, FMC 2/J14)

■ **Resynchronization unsuccessful** :

R FMC OPPOSITE TO ENGAGED AP . . . . . PULL/AFTER 10 SEC, PUSH (C/B : FMC 1/J11, FMC 2/J14)

● **After 2 min following FMC reset by C/B** :

■ **If INDEPENDENT OPERATION still present** :

ON BOTH NDs . . . . . SET IDENTICAL RANGE
ON BOTH CDUs . . . . . ENTER SAME INPUTS

■ **If INDEPENDENT OPERATION has disappeared** :

NORMAL DUAL FMC OPERATION . . . . . CHECK RECOVERED

LOSS OF ONE FMS

A/THR . . . . . CHECK ENGAGED
PROFILE MODE . . . . . DISENGAGE AND RE-ENGAGE
AP OPPOSITE TO THE FAILED FMC . . . . . ENGAGE
NAV MODE . . . . . CHECK ENGAGED
NAVIGATION WITH ONE FMC . . . . . CAREFULLY MONITOR

● **If FMS navigation is not accurate** :

LOSS OF BOTH FMS PROCEDURE (below) . . . . . APPLY

LOSS OF BOTH FMS

AP . . . . . CHECK ENGAGED
APPROPRIATE VERTICAL MODE . . . . . ENGAGE
HDG SEL MODE . . . . . ENGAGE
A/THR . . . . . CHECK ENGAGED
ND MODE . . . . . SET ARC OR ROSE

■ **If aircraft is inside a NAVAID coverage area** :

APPROPRIATE RADIO NAVAID . . . . . TUNE
NAVAID RAW DATA . . . . . USE

■ **If aircraft is outside a NAVAID coverage area** :

VOR-NAV-ILS switches . . . . . SELECT VOR
FPV (on PF side) . . . . . SELECT
FPA (in cruise) . . . . . SET 0
VOR COURSE . . . . . SET PRESENT ROUTE
TO MAINTAIN "BIRD" IN THE "CAGE" (FPV/FPR) . . . . . ADJUST HEADING

AIRCRAFT PRESENT POSITION . . . . . CHECK USING ISDU

ALL

EGPWS ALERTS

CAUTION : ***During night or IMC conditions, apply the procedure immediately. Do not delay reaction for diagnosis. During daylight VMC conditions, with terrain and obstacles clearly in sight, the alert may be considered cautionary. Take positive corrective action until the alert ceases or a safe trajectory is ensured.***

■ "PULL UP" – "TERRAIN TERRAIN PULL UP" – "TERRAIN AHEAD PULL UP"

● **Simultaneously** :

AUTOPILOT . . . . . DISCONNECT

PITCH ATTITUDE . . . . . INITIALLY 20° NOSE UP

– Use Stick Shaker boundary as upper limit of pitch

A/THR . . . . . DISCONNECT

THROTTLES . . . . . FULL FORWARD

SPEED BRAKES LEVER . . . . . CHECK RETRACTED

R BANK . . . . . WINGS LEVEL or ADJUST

● **When flight path is safe and GPWS warning ceases** :

– Decrease pitch attitude and accelerate.

● **When speed above V_{LS} and V/S positive** :

– Clean up aircraft as required.

■ "TERRAIN TERRAIN" – "TOO LOW TERRAIN"

– Adjust the flight path or initiate a go around.

■ "TERRAIN AHEAD"

– Adjust the flight path. Stop descent. Climb and/or turn as necessary based on analysis of all available instruments and information.

■ "SINK RATE"

– Adjust pitch attitude and thrust to silence the warning.

■ "DON'T SINK"

– Adjust pitch attitude and thrust to maintain level or climbing flight.

■ "TOO LOW GEAR" – "TOO LOW FLAPS"

– Perform a go-around.

■ "GLIDE SLOPE"

– Establish the airplane on the glide slope

or

– Switch off the G/S mode pushbutton switch if flight below glide slope is intentional (non precision approach).

TCAS WARNINGS

■ **Traffic advisory – "TRAFFIC" messages** :

– Do not maneuver based on a TA alone.

– Attempt to see the reported traffic.

R ■ **Resolution Advisory – All "CLIMB" and "DESCEND" or**
R **"MAINTAIN VERTICAL SPEED" or "ADJUST VERTICAL SPEED"**
R **or "MONITOR VERTICAL SPEED" messages** :

R – AP (if engaged) . . . . . DISCONNECT
R – A/THR (if engaged) . . . . . DISCONNECT
R – Respond promptly and smoothly to an RA by adjusting or maintaining the thrust manually and the vertical speed, as required, to reach the green arc and/or avoid the red arc of the vertical speed scale.

R *NOTE : – The TCAS orders may require an incremental load factor that is greater than that achieved by the autopilot.*
R *– Avoid excessive maneuvers but, if necessary use the full speed range between Vss and Vmax.*

R – Respect stall, GPWS or windshear warning.

R – Notify ATC.

R – When "CLEAR OF CONFLICT" is announced :

R . Resume normal navigation in accordance with ATC clearance,

R . AP and A/THR can be reengaged as desired.

● **If a RA "CLIMB" or "INCREASE CLIMB" warning is activated on final approach (after the FAF or under 1000 ft AGL), GO AROUND procedure must be performed.**

RADIO ALTIMETER(S) FAULT					
INOPERATIVE SYSTEM	**SYSTEMS LOST**				**LANDING CAPABILITY**
RA 1 FAULT	AP 1* FD 1	GPWS			CAT 2
RA 2 FAULT	AP 2* FD 2				CAT 2
RA 1+2 FAULT	Both AP/FD*	GPWS	TCAS	α-floor protection	CAT 1

* If in LAND mode only

RADIO ALTIMETER(S) FAULT				
INOPERATIVE SYSTEM	FUNCTION LOST			
	SYSTEMS			LANDING CAPABILITY
RA 1 FAULT	AP 1* FD 1	GPWS		CAT 2 ONLY
RA 2 FAULT	AP 2* FD 2			CAT 2 ONLY
RA 1+2 FAULT	Both AP/FD*	GPWS	TCAS	CAT 1 ONLY

* If in LAND mode only

	RADIO ALTIMETER(S) FAULT					
	INOPERATIVE SYSTEM ▼	SYSTEMS LOST				LANDING CAPABILITY
R	RA 1 FAULT	AP 1* FD 1	GPWS			CAT 2
R	RA 2 FAULT	AP 2* FD 2				CAT 2
R	RA 1+2 FAULT	Both AP/FD*	GPWS	TCAS	α-floor protection	CAT 1

R * If in LAND mode only

ALL

INTENTIONALLY LEFT BLANK

CONTENTS

APU AUTOMATIC SHUT DOWN

MASTER SWITCH ..... OFF

APU INOP

APU FUEL PUMP ..... AUTO

APU FUEL LO PR

APU FUEL PUMP ..... OVRD

FUEL SUPPLY ..... CHECK

FUEL TK PUMPS (supplying tank) ..... ON/NORM

APU FLAP FAULT

MASTER SWITCH ..... OFF

ALL

LEFT BLANK INTENTIONALLY

CONTENTS

BOTH ENG FLAME OUT – FUEL REMAINING

CAUTION **: This paper procedure is applicable in case of both engines flame out, when there is fuel remaining on board. It includes all the necessary information to manage the situation.**

LAND ASAP
IGNITION . . . . . CONT RELIGHT
RAT . . . . . ON

THROTTLES . . . . . IDLE
OPTIMUM SPD . . . . . 260 KT IAS or GREEN DOT whichever is higher

NOTE : At optimum speed with both engines inop, it takes about 15 minutes to descend from FL 350 to the ground. The distance is about 90 NM.

GREEN DOT SPEED WITH BOTH ENGINES INOP (KNOTS)			
Weight (tons)	FL 200 and below	FL 300	FL 350
80	180	200	210
100	200	220	230
120	220	240	250
140	240	260	270
160	260	280	287

● **If unreliable or lost airspeed indication (volcanic ash encounter)** :

SET PITCH ATTITUDE	80t	100t	120t	140t	160t
FL 200 and below	– 1.5	– 1.5	– 0.5	0.5	0.5
FL 300	– 1.5	– 1.5	– 0.5	0.5	0.5
FL 350	– 1.5	– 1.5	– 0.5	– 0.5	– 1

USE ELEVATOR AND RUDDER WITH CARE ABOVE SPD 170 KT IAS
COMMUNICATIONS VHF1/ATC1

● **When time permits** :
ATC . . . . . NOTIFY
TRANSPONDER . . . . . AS RQRD
LANDING STRATEGY . . . . . DETERMINE
RELIGHT . . . . . MONITOR

NOTE : . The ground start EGT limit does not apply for airstarts.
. If EGT approaches the red line, cycle the FUEL LEVER (OFF, then ON as EGT decreases).
. The engine will accelerate very slowly at high altitudes, in heavy rain or in volcanic ash. If EGT is within limit and N1/N2 are increasing, continue the start attempt.

ENGINE RESPONSE . . . . . CHECK

● **If neither engine relights within 45s** :
FUEL LEVERS . . . . . OFF then ON after 30s

● **If unsuccessful** :
CREW OXY MASKS (above FL 100) . . . . . ON

● **Below FL 200** :
APU . . . . . START
APU BLEED . . . . . ON
STARTER ASSISTED RELIGHT . . . . . ONE ENG AT A TIME

ALL

GE Eng. : All

BOTH ENG FLAME OUT – FUEL REMAINING (cont'd)

● **When APU bleed is available or if engines restart is considered impossible** :

OPTIMUM SPD . . . . . GREEN DOT

NOTE : . At green dot speed, the aircraft can fly up to approximately 3 NM per 1000 feet (with no wind).
. Average rate of descent is about 2200 feet/min.

HYD PWR ELEC PUMPS (if APU GEN operating) . . . . . ON

GREEN HYDRAULIC EQUIPMENT . . . . . RESTORE

APPROACH PREPARATION

LDG ELEV . . . . . SET

ALTIMETERS . . . . . SET

CREW OXY MASKS (below FL 100) . . . . . OFF

CABIN CREW . . . . . NOTIFY

SEAT BELTS/NO SMOKING . . . . . ON

GPWS . . . . . OFF

CABIN and COCKPIT . . . . . PREPARE

. Loose equipment secured,
. Survival equipment secured,
. Belts and shoulder harness locked.

■ **If forced landing anticipated** :

APPROACH

● **Before slats extension** :

LAND RECOVERY . . . . . ON

APPROACH CONFIG . . . . . FLAPS 15°

APPROACH SPEED . . . . . Determine below

Weight (tons)	⩽ 100	110	120	130	140	160
App speed (kt)	150	155	165	170	175	183

NOTE : To reach the landing field/runway, the approach speed can be adjusted up to 210 (max speed with flaps 15).

L/G GRAVITY EXTENSION :

GRAVITY EXTENSION HANDCRANK . . . . . INSERT

L/G LEVER . . . . . CHECK NEUTRAL

GRAVITY EXTENSION HANDCRANK . . . . . ROTATE

L/G LEVER . . . . . DOWN

GEAR DOWN INDICATIONS . . . . . CHECK

GND SPLRS . . . . . ARM

NOTE : Final descent slope at approach speed, F15 and LDG GEAR DOWN, will be approximately 1900 feet/min (with no wind).

TRIM TK ISOL VALVE . . . . . OFF

AT 2000 FEET AGL

CABIN REPORT . . . . . OBTAIN

EMER EXIT LT selector . . . . . ON

BEFORE IMPACT

BRACE FOR IMPACT . . . . . ORDER

RAM AIR . . . . . ON

PITCH ATTITUDE . . . . . APPROXIMATELY 11°

VERTICAL SPEED . . . . . MINIMIZE

BOTH ENG FLAME OUT – FUEL REMAINING (cont'd)

AT TOUCHDOWN

BOTH FUEL LEVERS . . . . . OFF
APU MASTER SWITCH . . . . . OFF
FIRE HANDLES (ALL) . . . . . PULL

AFTER LANDING

● **When aircraft stopped** :
CABIN CREW (PA) . . . . . NOTIFY
FUEL ISOL VALVES . . . . . OFF
AGENTS (ENG and APU) . . . . . DISCH
● **If evacuation required** :
△P (DIFF PRESS) . . . . . CHECK ZERO
EVACUATION . . . . . INITIATE
BAT (before leaving the cockpit) . . . . . OFF/R

■ **If ditching anticipated** :

APPROACH

● **Before slats extension** :
LAND RECOVERY . . . . . ON
APPROACH CONFIG . . . . . FLAPS 15
APPROACH SPEED . . . . . Determine below

Weight (tons)	⩽ 100	110	120	130	140	160
App speed (kt)	150	155	165	170	175	183

NOTE : To reach the landing field/runway, the approach speed can be adjusted up to 210 (max speed with flaps 15)

L/G LEVER . . . . . UP
TRIM TK ISOL VALVE . . . . . OFF

AT 2000 FEET AGL

CABIN REPORT . . . . . OBTAIN
EMER EXIT LT selector . . . . . ON
OUTFLOW 1 and 2 (FWD and AFT) . . . . . OFF/(CLOSED)
MAN PRESS . . . . . CHECK OFF
RAM AIR . . . . . OFF/CLOSED

BEFORE DITCHING

BRACE FOR IMPACT . . . . . ORDER
PITCH ATTITUDE . . . . . APPROXIMATELY 11°
VERTICAL SPEED . . . . . MINIMIZE

AT TOUCHDOWN

BOTH FUEL LEVERS . . . . . OFF
APU MASTER SWITCH . . . . . OFF
FIRE HANDLES (ALL) . . . . . PULL

AFTER DITCHING

CABIN CREW (PA) . . . . . NOTIFY
R FUEL ISOL VALVES . . . . . OFF
△P (DIFF PRESS) . . . . . CHECK ZERO
AGENTS (ENG and APU) . . . . . DISCH
EVACUATION . . . . . INITIATE
BAT (before leaving the cockpit) . . . . . OFF/R

ALL

Mod : 4801

BOTH ENG FLAME OUT – NO FUEL REMAINING

CAUTION **:** ***This paper procedure is applicable in case of both engines flame out, when there is no fuel remaining on board. It includes all the necessary information to manage the situation.***

LAND ASAP
RAT . . . . . ON

THROTTLES . . . . . IDLE
OPTIMUM SPD . . . . . GREEN DOT

NOTE : At green dot speed with both engines inop, the aircraft can fly up to approximately 3.1 NM per 1000 feet (with no wind).
. Average rate of descent is about 1700 feet/min.
. It takes about 20 minutes to descend from FL 350 to the ground. The distance is about 105 NM.

GREEN DOT SPEED WITH BOTH ENGINES INOP (KNOTS)			
Weight (tons)	FL 200 and below	FL 300	FL 350
80	180	200	210
100	200	220	230
120	220	240	250

R ● **If unreliable or lost airspeed indication (volcanic ash encounter)** :
PITCH ATTITUDE . . . . . Determine below

FL 200 and below	FL 300	FL 350
1.5°	0.5°	0°

USE ELEVATOR AND RUDDER WITH CARE ABOVE SPD 170 KT IAS
COMMUNICATIONS VHF1/ATC1

● **When time permits** :
ATC . . . . . NOTIFY
TRANSPONDER . . . . . AS RQRD
LANDING STRATEGY . . . . . DETERMINE
CREW OXY MASKS (above FL 100) . . . . . ON
R EMER EXIT LT . . . . . DISARM

ALL

BOTH ENG FLAME OUT – NO FUEL REMAINING (cont'd)

R

APPROACH PREPARATION

LDG ELEV . . . . . SET
ALTIMETERS . . . . . SET
CREW OXY MASKS (below FL 100) . . . . . OFF
CABIN CREW . . . . . NOTIFY
SEAT BELTS/NO SMOKING . . . . . ON
GPWS . . . . . OFF
CABIN and COCKPIT . . . . . PREPARE

. Loose equipment secured,
. Survival equipment secured,
. Belts and shoulder harness locked.

■ **If forced landing anticipated** :

APPROACH

● **Before slats extension** :

LAND RECOVERY . . . . . ON
APPROACH CONFIG . . . . . FLAPS 15
APPROACH SPEED . . . . . Determine below

Weight (tons)	⩽ 100	110	120	130	140	160
App speed (kt)	150	155	165	170	175	183

NOTE : To reach the landing field/runway, the approach speed can be adjusted up to 210 (max speed with flaps 15)

L/G GRAVITY EXTENSION :

GRAVITY EXTENSION HANDCRANK . . . . . INSERT
L/G LEVER . . . . . CHECK NEUTRAL
GRAVITY EXTENSION HANDCRANK . . . . . ROTATE
L/G LEVER . . . . . DOWN
GEAR DOWN INDICATIONS . . . . . CHECK

GND SPLRS . . . . . ARM

NOTE : Final descent slope at approach speed, F15 and LDG GEAR DOWN, will be approximately 1900 feet/min (with no wind).

AT 2000 FEET AGL

CABIN REPORT . . . . . OBTAIN
EMER EXIT LT selector . . . . . ON

BEFORE IMPACT

BRACE FOR IMPACT . . . . . ORDER
RAM AIR . . . . . ON
PITCH ATTITUDE . . . . . APPROXIMATELY 11°
VERTICAL SPEED . . . . . MINIMIZE

AT TOUCHDOWN

BOTH FUEL LEVERS . . . . . OFF
FIRE HANDLES (ALL) . . . . . PULL

AFTER LANDING

● **When aircraft stopped** :

CABIN CREW (PA) . . . . . NOTIFY
FUEL ISOL VALVES . . . . . OFF
AGENTS (ENG and APU) . . . . . DISCH

● **If evacuation required** :

△P (DIFF PRESS) . . . . . CHECK ZERO
EVACUATION . . . . . INITIATE
BAT (before leaving the cockpit) . . . . . OFF/R

ALL

BOTH ENG FLAME OUT – NO FUEL REMAINING (cont'd)

■ **If ditching anticipated** :

APPROACH

● **Before slats extension** :

LAND RECOVERY . . . . . ON
APPROACH CONFIG . . . . . FLAPS 15
APPROACH SPEED . . . . . Determine below

Weight (tons)	≤ 100	110	120	130	140	160
App speed (kt)	150	155	165	170	175	183

NOTE : To reach the landing field/runway, the approach speed can be adjusted up to 210 (max speed with flaps 15)

L/G LEVER . . . . . UP

AT 2000 FEET AGL

CABIN REPORT . . . . . OBTAIN
EMER EXIT LT selector . . . . . ON
OUTFLOW 1 and 2 (FWD and AFT) . . . . . OFF/(CLOSED)
MAN PRESS . . . . . CHECK OFF
RAM AIR . . . . . OFF/CLOSED

BEFORE DITCHING

BRACE FOR IMPACT . . . . . ORDER
PITCH ATTITUDE . . . . . APPROXIMATELY 11°
VERTICAL SPEED . . . . . MINIMIZE

AT TOUCHDOWN

BOTH FUEL LEVERS . . . . . OFF
FIRE HANDLES (ALL) . . . . . PULL

AFTER DITCHING

CABIN CREW (PA) . . . . . NOTIFY
R FUEL ISOL VALVES . . . . . OFF
△P (DIFF PRESS) . . . . . CHECK ZERO
AGENTS (ENG and APU) . . . . . DISCH
EVACUATION . . . . . INITIATE
BAT (before leaving the cockpit) . . . . . OFF/R

ENG FAIL

IGNITION . . . . . CONT RELIGHT
THROTTLE (affected engine) . . . . . IDLE

● **If no immediate relight :**
FUEL LEVER (affected engine) . . . . . OFF

■ **IF DAMAGE :**
FIRE HANDLE . . . . . PULL
1ST AGENT (after 10 sec., if in flight) . . . . . DISCH

PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

■ **If no damage :**
PROC : ENG RESTART IN FLIGHT (below) . . . . . APPLY

ENG RESTART IN FLIGHT

CAUTION : Do not attempt to restart an engine following an in-flight engine fire or a repetitive engine stall, or if damage is suspected.

FUEL SUPPLY . . . . . CHECK
THROTTLE . . . . . IDLE
IGNITION . . . . . CONT RELIGHT

At FL300 or below

■ **N2 above 15 % (Windmilling Restart) :**
FUEL LEVER . . . . . ON

■ **N2 below 15 % (Starter Assisted Restart) :**
BLEED AIR (from ENG or below FL 200 from APU) . . . . . ESTABLISH
START PUSHBUTTON SWITCH . . . . . PRESS (OPEN)
FUEL LEVER (at or above 15 % N2) . . . . . ON

RELIGHT (within 45 seconds) . . . . . MONITOR

NOTE : The engine acceleration may be very slow and should not be misinterpreted as a failure to restart. If EGT is within limit and N1/N2 are increasing, continue the start attempt.

ENGINE RESPONSE . . . . . CHECK

● **If no engine response and hung start suspected :**
FUEL LEVER . . . . . OFF, after 2 sec. . . . . ON

■ **If restart unsuccessful**
FUEL LEVER . . . . . OFF

● **After any Starter Assisted Restart attempt :**
START PUSHBUTTON SWITCH . . . . . RELEASE
START OPEN LIGHT . . . . . CHECK EXTINGUISHED
PACK VALVES . . . . . CHECK OPENED

SECOND RESTART ATTEMPT . . . . . CONSIDER after 30 sec.

■ **If restart successful :**
IGNITION . . . . . AS RQRD
AFFECTED SYSTEMS . . . . . RESTORE

IDLE (conditions permitting) . . . . . MAINTAIN ONE MINUTE

ALL

SINGLE ENG OPERATION

LAND ASAP

- **If reverser UNLK :**
  MAX SPD 240
- **If WING ANTI ICE ON :**
  AIR X-FEED . . . . . MAN/IN LINE
  PACK (1 or 2) . . . . . OFF
- **If HYD PUMP LO PR :**
  ENG PUMPS (affected) . . . . . OFF
  PITCH FEEL and SPLR (affected) . . . . . OFF

GEN (affected) . . . . . OFF
PACK (affected) . . . . . OFF

AFT CG WARNING INOP

- **If SPLR not recovered :**
  LDG DIST . . . . . MULTIPLY BY 1.3

BLEED VALVE (affected engine) . . . . . OFF

- **If ENG FIRE handle not pulled and WING ANTI ICE off :**
  AIR X-FEED . . . . . MAN/IN LINE
  PACK (affected) . . . . . AUTO

IGNITION . . . . . CONT RELIGHT
FUEL X-FEED (if fuel leak is not suspected) . . . . . IN LINE

CAUTION : If a fuel leak from wing or not located is suspected, keep and check Fuel X-FEED cross-line.

APU . . . . . START

■ **If ENG 1 FIRE handle pulled :**
  APU BLEED . . . . . Check OFF/R

■ **If ENG 1 FIRE handle not pulled, below FL 200 :**
  APU BLEED . . . . . ON
  - **In case of perceptible oil smell or smoke :**
    APU BLEED . . . . . OFF

TCAS (if installed) . . . . . TA

FOR APPROACH

HYD PWR ELEC PUMPS . . . . . ON
PTU (affected side, unless hydraulic fluid loss is suspected) . . . . . ON
HYD PWR ENG PUMPS (affected side) . . . . . OFF

PITCH FEEL and SPLR (if selected OFF) . . . . . RESTORE
YAW DAMPER (if tripped OFF) . . . . . RESET

APPROACH/CLIMB LIMITATION . . . . . CHECK
R PROC : OVERWEIGHT LANDING (13.13) . . . . . REVIEW AS RQRD

- **If reverser UNLK :**
  LANDING SPEED . . . . . V_{LS} or (V_{REF} + 10 KT)
  ■ **If SPLR recovered :**
    LDG DIST . . . . . MULTIPLY BY 1.1
  ■ **If SPLR not recovered :**
    LDG DIST . . . . . MULTIPLY BY 1.4

ALL

Mod : 4801 + 5917 + 5918

CIRCLING APPROACH WITH ONE ENGINE INOPERATIVE

LANDING WEIGHT . . . . . CHECK

● **If the aircraft weight is above the maximum weight for circling in configuration Slats 20/Flaps 20 (given in the table below)** :

The aircraft cannot maintain flight level with CONF 20/20 and landing gear down.

– Consider delaying gear extension

NOTE : . If the approach is flown at less than 750 ft RA, the warning "L/G NOT DOWN" will be triggered. The aural signal can be cancelled using the "EMERG CANCEL" pushbutton.

. "TOO LOW GEAR" warning is to be expected, if the landing gear is not downlocked at 500 ft RA.

MAXIMUM WEIGHT FOR CIRCLING SLATS 20 FLAPS 20 (1000 KG)

AIR CONDITIONING ON ANTI-ICING OFF

	AIRPORT ELEVATION (feet)								
OAT (°C)	0	1000	2000	3000	4000	5000	6000	7000	8000
0	156	155	154	153	153	152	149	146	143
5	155	155	154	153	153	152	149	146	143
10	155	154	154	153	153	152	149	145	142
15	155	154	154	153	153	151	147	142	139
20	155	154	153	151	149	146	141	137	134
25	154	151	149	146	144	140	136	132	130
30	149	146	143	140	138	135	131	127	125
35	143	140	138	135	133	130	126	122	121
40	137	135	133	130	128	125	121	118	
45	131	129	120	125	122	121			
50	125	122	120						
55	118								

WEIGHT CORRECTION FOR ANTI-ICING

ENGINE ANTI-ICE ON	– 2 %
TOTAL ANTI-ICE ON	– 4 %

WEIGHT CORRECTION FOR ICE ACCRETION : – 3 %

ALL

Mod : 4863 GE Eng. : 80C2

ENGINE STALL

THROTTLE . . . . . IDLE
IGNITION . . . . . CONT RELIGHT

AIR BLEED HP VALVE . . . . . OFF
ENGINE PARAMETERS . . . . . CHECK

■ **If parameters abnormal (or stall recurs/continues) :**

FUEL LEVER . . . . . OFF

● **If engine damage suspected :**

FIRE HANDLE . . . . . PULL
1ST AGENT (after 10 sec, in flight) . . . . . DISCH

PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

■ **If parameters normal :**

ENG ANTI ICE . . . . . ON
WING ANTI ICE SUPPLY . . . . . ON
THROTTLE . . . . . SLOWLY ADVANCE

● **If stall recurs :**

Reduce thrust and operate below the stall threshold, or at the pilots discretion continue to operate at idle.

● **If stall does not recur :**

Continue engine operation.

NOTE : The EGT must not be more than 20° C above the previous trend level or the other engine EGT. Restrict N1 accordingly.

ENG OVER LIMIT

THROTTLE . . . . . BELOW LIMIT

MAXIMUM INDICATION :

■
N1	– 117.6 to 124.0 %
N2	– 112.6 to 114.0 %
EGT	– 961° to 1000°C

– Normal engine operation may be resumed to next landing.

■
N1	– Above 124.0 %
N2	– Above 114.0 %
EGT	– Above 1000°C

THROTTLE . . . . . IDLE
– Only use higher thrust at Captain's discretion.

● **If engine parameters or behavior abnormal :**

THROTTLE . . . . . IDLE
FUEL LEVER . . . . . OFF

PROC : SINGLE ENG OPERATION (12.08). . . . . APPLY

THROTTLE JAM/DISCONNECTION

A/THR ..... DISCONNECT

● **If aircraft handling affected :**

FUEL LEVER (affected engine) ..... OFF

PROC : SINGLE ENG OPERATION (12.08) ..... APPLY

WING ANTI ICE ..... ON

NON-AFFECTED ENGINE ..... KEEP N1 ABOVE 60 %

● **If throttle becomes free (throttle jam)**

PROC : ENGINE RESTART IN FLIGHT (12.07) ..... APPLY

FOR DESCENT

SPEED BRAKES ..... AS REQUIRED

L/G EXTENSION ..... CONSIDER

WEIGHT (t) (× 1 000 lb)	80 180	100 220	120 260
MAX ALTITUDE FOR L/G EXTENSION (ft)	37000	33000	29000

● **When altitude below max altitude and speed below 270 kt/.59 :**

L/G ..... DOWN

FOR APPROACH

● **If engine control not recovered and thrust above idle :**

FUEL LEVER (affected engine) ..... OFF

PROC : SINGLE ENG OPERATION (12.08) ..... APPLY

● **If throttle lever above idle position :**

GROUND SPOILERS ..... DO NOT ARM

SPEED BRAKES ..... EXTEND MANUALLY

LDG DIST ..... MULTIPLY BY 1.3

AUTOBRAKE is inoperative

ALL

ENG OIL LO PR

● **IF OIL PRESS BELOW 10 PSI :**

THROTTLE . . . . . IDLE

FUEL LEVER . . . . . OFF

PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

ENG OIL FILTER CLOG

THROTTLE . . . . . BELOW WARN

● **IF WARN AT IDLE AFTER 3 MN :**

FUEL LEVER . . . . . OFF

PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

ENG OIL TEMP HI

■ **If OIL TEMP between 161° and 175° C :**

OIL PRESS and QTY . . . . . MONITOR

ENGINE PARAMETERS . . . . . MONITOR

NOTE : If OIL TEMP rise follows throttle reduction, advancing throttle may reduce OIL TEMP.

If OIL TEMP rise occurs at high thrust, retard the affected throttle lever.

■ **If OIL TEMP between 161° and 175° C for more than 15 minutes**

or

If OIL TEMP above 175° C :

ENGINE PARAMETERS . . . . . MONITOR

● **If at least one other engine parameter is abnormal :**

NOTE : The following engine parameters may be affected (along with HI OIL TEMP) : Oil Pressure, Oil Quantity, Vibration, N1, N2, EGT, Fuel Flow, ENG FUEL FILTER CLOG and/or ENG OIL FILTER CLOG lights/messages.

THROTTLE . . . . . IDLE

FUEL LEVER . . . . . OFF

PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

ENG OIL QTY ABNORMAL INCREASE

● **If OIL QTY increases during steady state engine operation,**

or

If OIL QTY is at or approaching a full indication any time during flight :

NORMAL ENGINE OPERATION . . . . . CONTINUE
ENGINE PARAMETERS . . . . . MONITOR
OIL QTY . . . . . RECORD INCREASE

NOTE : Maintenance action is required before the next flight.

● **If excessive or increasing OIL QTY is accompanied by :**

Oil Temperature increase (typically by 10°C)

or

Oil Pressure fluctuation or decrease (typically by 10 psi),

or

Fuel or Oil fumes in the cabin.

(Conditions permitting)
THROTTLE . . . . . IDLE
FUEL LEVER . . . . . OFF
PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

● **If an engine parameter warning is activated :**

ECAM/QRH . . . . . APPLY

● **If an engine parameter advisory is activated :**

R ADVISORY CONDITIONS (13.14 to 13.16) . . . . . REFER

ENG REV UNLK

THROTTLE (affected engine) . . . . . IDLE
MAX SPEED 300

● **IF BUFFET OR BANK :**
THROTTLE (affected engine) . . . . . IDLE
FUEL LEVER . . . . . OFF
MAX SPEED 240
PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

● **If no buffet or bank :**
THROTTLE (affected engine) . . . . . KEEP AT IDLE
DIVERSION . . . . . CONSIDER

ALL

GE Eng. : All

ENG FUEL FILTER CLOG

THROTTLE ..... BELOW WARN

● **IF WARN AT IDLE** :
ENG PWR FOR SAFE FLT ONLY.

ENG TRIM FAULT (or POWER LOSS)

THROTTLE 1 + 2 ..... REDUCE
ENG TRIM ..... OFF
ENG PWR ..... AS RQRD

A/THR ..... ENGAGE

● **If transient FAULT suspected** :
ENG TRIM ..... ON

ENG TURB CASE COOL FAULT

■ **Below FL 160**

or

Above FL 240 with N2 above 99.5 % or below 80 %:
ENG TURB CASE COOL OPEN

AVOID HI ENG PWR

■ **Above FL 240 with N2 between 96.5 % and 83 %:**
ENG TURB CASE COOL CLOSED

ENG START (VALVE) OPEN (IN FLIGHT)

AVOID ICING CONDITIONS

BLEED VALVE (affected side) ..... OFF/R

● **If left side affected** :
APU BLEED ..... OFF/R

PACK VALVE (affected side) ..... OFF

■ **If WING ANTI ICE off** :
AIR X FEED ..... CHECK CROSS-LINE

■ **If WING ANTI ICE ON** :
AIR X FEED ..... MAN / IN-LINE

ALL

START VALVE FAILS TO OPEN

ENG START selector . . . . . OFF

● **Advise ground crew to prepare for manual start valve operation** :

GRND SERVICE INTPH . . . . . ON

● **When ground crew member is ready, order « START 1 or 2 »** :

ENG START selector . . . . . START A (or B)

ENG START button . . . . . PRESS

START VALVE . . . . . ORDER OPENING

– Continue the normal engine start procedure.

● **When N2 at 45 %** :

START VALVE . . . . . ORDER CLOSURE

– Continue the normal procedure.

PREMATURE START VALVE CLOSURE

FUEL LEVER . . . . . OFF

● **When N2 at 15 %**

ENG START pushbutton . . . . . PRESS and HOLD

– Motor the engine for 30 seconds.

FUEL LEVER . . . . . ON

● **When N2 at 45 %**

ENG START pushbutton . . . . . RELEASE

– Continue the normal engine start procedure.

START VALVE FAILS TO CLOSE (GROUND)

ENG START selector . . . . . OFF

OPEN light . . . . . CHECK EXTINGUISHED

■ **If OPEN light remains illuminated** :

■ **If APU supply** :

ENG 1 and 2 BLEED VALVES . . . . . OFF

APU BLEED VALVE . . . . . OFF

■ **If crossbleed supply** :

BLEED VALVE (supplying engine) . . . . . OFF

■ **If external pneumatic power supply** :

External pneumatic power . . . . . ORDER SHUT OFF

● **When BLEED PRESS (affected side ECAM indication) at zero** :

FUEL LEVER . . . . . OFF

– Maintenance action is due to verify START VALVE POSITION.

● **If start valve confirmed closed** :

– Apply appropriate MEL item (OPEN light inoperative)

● **If start valve confirmed open** :

– Apply appropriate MEL item (START VALVE inoperative)

■ **If OPEN light is extinguished** :

Continue normal operation.
Automatic closure of the start valve will not occur at 45% N2. The start valve will be closed when the ENG START selector is selected OFF.

ALL

ARM LIGHT OR START BUTTON FAILURE

NOTE : Start engine with affected ARM light first

ENG START pushbutton . . . . . PRESS and HOLD
OPEN light . . . . . CHECK ILLUMINATED

- **At 15 % N2 minimum :**
  FUEL LEVER . . . . . ON
- **When N2 at 45 % :**
  ENG START pushbutton . . . . . RELEASE
  OPEN light . . . . . CHECK EXTINGUISHED.

NOTE : After second engine start, both ARM lights will illuminate until ENG START selector is set to OFF.

NO « N2 » DURING ENGINE START (GROUND)

HYD ENG PUMP LO PR lights (affected side) . . . . . CHECK
ENG START Selector . . . . . OFF

■ **If HYD ENG PUMP LO PR lights were extinguished** :
ENGINE START WITH N2 INDICATION FAILED (12.17) . . APPLY

■ **If HYD ENG PUMP LO PR lights were illuminated** :
– Maintenance action is due.

(suspect starter motor failure)

ALL

ENGINE START WITH « N2 » INDICATION FAILED

NOTE : Be aware that the starter cut-out circuit may be inoperative.

GEN (affected side) ..... CHECK ON
ENG START selector ..... START A/B
ENG START pushbutton ..... PRESS and HOLD
– Confirm starter motor operation by checking the extinguishing of the onside HYD LO PR lights.

CLOCK ..... START

● **After 20 seconds (announce « 20 seconds »)** :
FUEL LEVER ..... ON
CAUTION : be alert for a possible hot start

● **When GEN FAULT light extinguishes** :
ENG START pushbutton ..... RELEASE
START OPEN light ..... CHECK EXTINGUISHED

NORMAL ENGINE START PROCEDURE ..... CONTINUE

NO « N1 » DURING ENGINE START (GROUND)

Request ground crew to visually check for fan rotation.

● **Fan rotation within 30 seconds of N2 idle operation** :
CAUTION : Do not exceed ground idle N2 until fan rotation is confirmed.

■ **If confirmed** :
– Continue the normal engine start procedure.
– If, after engine start, N1 indication is still failed (Refer to MEL).

■ **If not confirmed** :
FUEL LEVER ..... OFF

● **When N2 at 0 %** :
– Immediately perform a new start attempt.

● **Fan rotation within 30 seconds of N2 idle operation** :

■ **If confirmed** :
– Continue the normal engine start procedure.
– If, after engine start, N1 indication is still failed (Refer to MEL).

■ **If not confirmed** :
FUEL LEVER(s) ..... OFF
ENG START selector ..... OFF
– Maintenance action is due.

ALL

NO LIGHT UP DURING ENGINE START (GROUND)

FUEL FLOW . . . . . CHECK
FUEL LEVER . . . . . OFF
ENGINE MOTORING . . . . . 30 SECONDS

■ **If Fuel Flow (FF) satisfactory and for non-ETOPS flight** :
ENG START selector . . . . . SELECT OTHER « START » IGNITER

■ **If OPEN light extinguishes (start valve closure)** :

● **When N2 below 20 %** :
SECOND START ATTEMPT . . . . . PERFORM

■ **If OPEN light remains illuminated (start valve open)** :
FUEL LEVER . . . . . ON

SECOND START ATTEMPT . . . . . MONITOR

■ **If successful** :

● **If START B affected** :
MEL . . . . . APPLY

■ **If unsuccessful** :
FUEL LEVER(S) . . . . . OFF
ENG START selector . . . . . OFF
– Maintenance action is due

R ■ **If Fuel Flow (FF) satisfactory and for ETOPS flight** :
R ENG START selector . . . . . OFF
R *NOTE : Refer to MEL.*

■ **If Fuel Flow (FF) low or zero** :
ENG START selector . . . . . OFF

● **When N2 below 20 %** :
SECOND START ATTEMPT . . . . . PERFORM

● **If unsuccessful** :
– Maintenance action is due

ALL

HUNG START (GROUND)

Indications :
- **Abnormally slow engine acceleration after light-up,**
- **N2 hanging below idle,**
- **FF normal or low,**
- **EGT within limit.**

NOTE : Record engine primary parameters for analysis.

FUEL LEVER . . . . . OFF
ENGINE MOTORING . . . . . 30 SECONDS
ENG START selector . . . . . OFF

■ **If start pressure was low** :
PROC : CROSSBLEED ENGINE START (12.23) . . . . . CONSIDER

■ **When N2 below 20 %** :

HP BLEED VALVE (affected engine) . . . . . OFF
ENG START selector . . . . . CONT RELIGHT
SECOND START ATTEMPT . . . . . PERFORM

■ **If successful** :
HP BLEED VALVE (affected engine) . . . . . AUTO
ENGINE PARAMETERS . . . . . MONITOR

● **If engine parameters abnormal or if engine surges** :
FUEL LEVER . . . . . OFF
ENG START selector . . . . . OFF
– Maintenance action is due.

■ **If unsuccessful** :
FUEL LEVER . . . . . OFF
ENG START selector . . . . . OFF
– Maintenance action is due.

ALL

HOT START

Indications :

- **Rapid EGT rise likely to exceed the starting EGT limit or starting EGT limit exceedance.**
- **N2 increases below normal rate.**
- **FF normal or high.**
- **Tailpipe burning may be reported by ground crew.**

- Announce « EGT 750° ».
- Start clock.

■ **If EGT does not exceeds 820°C and is above 750°C for less than 40 seconds** :

START ATTEMPT ..... CONTINUE
LOG BOOK ENTRY ..... PERFORM

■ **If EGT exceeds 820°C for less than 40 seconds** :

START ATTEMPT ..... CONTINUE
LOG BOOK ENTRY ..... PERFORM

- Maintenance action is due prior to next start.

■ **If EGT exceeds 870°C or is above 750°C for more than 40 seconds** :

FUEL LEVER ..... OFF
ENGINE MOTORING ..... 30 SECONDS
ENG START selector ..... OFF

- Maintenance action is due
- Record peak EGT value,
- Record time above 750°C.

● **If precautionary start abort below 750°C, or below 820°C with less than 40 seconds above 750°C** :

SECOND START ATTEMPT ..... CONSIDER

CAUTION : ***If during the first attempt,***

- ***the fuel flow before light up was exceeding 320 kg/h (700 lb/h),***

or

- ***the maximum motoring N2 did not exceed 15 % N2,***

use extreme caution for the second start attempt.

ALL

ENG TAIL PIPE FIRE – ENG START

Indications :
- **EGT increases rapidly when FUEL lever is set to ON.**
- **Internal tailpipe fire reported by ground crew.**

CAUTION : ***Except as a last resort, do not use ground fire extinguisher, as serious engine damage may result.***

FUEL LEVER ..... OFF
AIR X FEED ..... MAN/IN LINE
ENG FIRE handle ..... PULL

● **If starter disengaged (valve closed), when N2 below 30%**

ENG START pushbutton ..... PRESS

R – Continue motoring the engine for 30 seconds or until the evidence
R of burning has ceased.

R ENG START selector ..... OFF
R – Maintenance action is due.

ENG TAIL PIPE FIRE – ENG SHUTDOWN

Indications :
- **EGT fails to decrease when FUEL lever is set to OFF.**
- **Internal tailpipe fire reported by ground crew.**

CAUTION : ***Except as a last resort, do not use ground fire extinguisher, as serious engine damage may result.***

FUEL LEVER ..... CHECK OFF
AIR X FEED ..... MAN/IN LINE
ENG FIRE handle ..... PULL
ENG START selector ..... CRANK
AIR BLEED ..... ESTABLISH

● **When N2 below 30 %** :

NOTE : *If N2 inoperative, wait for 15 seconds after FUEL lever is set to OFF before re-engaging the starter.*

START pushbutton ..... PRESS

– Continue motoring the engine for 30 seconds or until the evidence of burning has ceased.

ENG START selector ..... OFF

– Maintenance action is due.

ENGINE START WITH EXTERNAL PNEUMATIC POWER

APU GEN OR EXT PWR . . . . . ESTABLISH

- **Before connecting external pneumatic power** :
  PACK VALVES 1 and 2 . . . . . OFF
- **Before start** :
  ENG BLEED VALVES 1 and 2 . . . . . OFF
  AIR X FEED . . . . . MAN / IN LINE
- **When cleared to start** :
  BLEED PRESSURE . . . . . CHECK
  - **If BLEED pressure below minimum recommended pressure (table below)** :
    USING TWO GPU'S IN PARALLEL . . . . . CONSIDER

    NORMAL ENGINE START PROCEDURE . . . . . APPLY
- **After first engine start** :
  - **If CROSSBLEED ENGINE START is considered** :
    PNEUMATIC GPU(s) . . . . . DISCONNECT
    PACK VALVES 1 and 2 . . . . . ON

    PROC : CROSSBLEED ENGINE START (12.23) . . . . . APPLY
  - **If both engines are started on pneumatic GPU(s)** :
    NORMAL ENGINE START PROCEDURE . . . . . APPLY
    - **After second engine start** :
      PNEUMATIC GPU(s) . . . . . DISCONNECT
      AIR X FEED . . . . . AUTO / CROSS-LINE
      ENG BLEED VALVES 1 and 2 . . . . . AUTO
      PACK VALVES 1 and 2 . . . . . ON

MINIMUM RECOMMENDED STARTER AIR SUPPLY PRESSURE

AMBIENT CONDITIONS		STARTER AIR PRESSURE (PSI G)
ALTITUDE (FT)	TEMPERATURE (° C)	
0	– 40	35
0	15	30
0	55	25
8000	ALL	25

NOTE : Pressures are valid with start valve closed.
During engine start, pressure may drop by 10 %.

ALL

CROSSBLEED ENGINE START

CAUTION : ***Engine bleed supply and external pneumatic power supply must not be used simultaneously.***

APU BLEED VALVE ..... OFF
BLEED VALVE (receiving engine) ..... OFF
AIR X FEED ..... MAN / IN LINE
BLEED VALVE (supplying engine) ..... AUTO

- **If BLEED pressure below minimum recommended pressure (12.22) :**
  GROUND CREW ..... NOTIFY
  – Ascertain that air intake and exhaust areas are clear for thrust increase.
  MAX THRUST ..... GROUND IDLE + 9 % N2

NORMAL ENGINE START PROCEDURE ..... APPLY

- **After engine start :**
  AIR X FEED ..... AUTO / CROSS-LINE
  BLEED VALVE (receiving engine) ..... AUTO

BATTERY ENGINE START

CAUTION : ***– Ensure chocks are in place.***
– Alert ground staff before engine start

- **Before start :**
  GEN 1 ..... ON
- **When cleared to start :**
  APU BLEED or EXTERNAL PNEUMATIC POWER ..... ON
  IGNITION ..... START B
- **Engine 1 start :**
  ENG 1 START pushbutton ..... PRESS AND HOLD
  – Confirm starter operation by observing the control column movement.
  CLOCK ..... START
  « 20 SECONDS » ..... ANNOUNCE
  – 20 seconds represent the minimum for FUEL lever selection to ON
  ENG 1 FUEL lever ..... ON
  CAUTION : ***An EGT rise may occur resulting in an overtemperature.***
  - **When GEN 1 FAULT light extinguishes :**
    ENG 1 START pushbutton ..... RELEASE
- **After engine 1 start :**
  COCKPIT PREPARATION ..... COMPLETE
  ENGINE 2 ..... START

ALL

LACK OF THROTTLE RESPONSE (IN FLIGHT)

■ **If engine fails to accelerate upon throttle advance** :

■ **If no N1 response but N2 and EGT increasing** :

THROTTLE . . . . . IDLE

■ **If engine operation/parameters normal** :

IDLE OPERATION . . . . . MAINTAIN
END OF PROC

■ **If engine operation/parameters abnormal** :

FUEL LEVER (affected engine) . . . . . OFF
PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

■ **If no N1, N2 and EGT response** :

ENG BLEED VALVE OFF . . . . . CONSIDER
GALLEY SHED . . . . . CONSIDER
REDUCING ALTITUDE . . . . . CONSIDER

■ **If during idle descent** :

INCREASING AIRSPEED . . . . . CONSIDER
ENGINE RESPONSE . . . . . CHECK

● **If engine response not recovered** :

ENGINE OPERATION . . . . . AT PILOT DISCRETION
ENGINE PARAMETERS . . . . . MONITOR

FOR APPROACH

● **If engine above idle** :

FUEL LEVER (affected engine) . . . . . OFF
PROC : SINGLE ENG OPERATION (12.08) . . . . APPLY

END OF PROC

■ **If during approach** :

CONFIGURATION CHANGES . . . . . ANTICIPATE

END OF PROC

■ **If engine fails to decelerate upon throttle retard** :

ENGINE ANTI-ICE . . . . . ON
WING ANTI-ICE . . . . . ON
ECON FLOW . . . . . OFF
ENGINE RESPONSE . . . . . CHECK

● **If engine response not recovered** :

ENGINE OPERATION . . . . . AT PILOT DISCRETION
ENGINE PARAMETERS . . . . . MONITOR

FOR APPROACH

● **If engine above idle** :

FUEL LEVER (affected engine) . . . . . OFF
PROC : SINGLE ENG OPERATION (12.08) . . . . . APPLY

END OF PROC

ALL

CONTENTS

ALL

Mod : 12557 or 12715

UNRELIABLE AIRSPEED

ALL AIRSPEED INDICATIONS . . . . . DISREGARD
AP/FD (except in level flight), A/THR . . . . . DISCONNECT

■ **To climb :**

SET PITCH . . . . . WITH SLATS EXTENDED : **12.5°** NOSE UP
WITH SLATS RETRACTED – BELOW FL 100 : **7.5°** NOSE UP
– ABOVE FL 100 : **5°** NOSE UP

SET THRUST . . . . . **100** % N1

■ **To level-off/maintain level flight (at safe altitude) :**

SET PITCH . . . . . **2°** NOSE UP

SET THRUST . . . . . BELOW FL 100 : **70** % N1
FL 100 – FL 250 : **80** % N1
ABOVE FL 250 : **90** % N1

■ **To descend :**

SET PITCH . . . . . **1.5°** NOSE DOWN

SET THRUST . . . . . IDLE

● **If Stall Warning/Stick Shaker activated :**

STALL RECOVERY procedure . . . . . APPLY

– Stall Warning and Stick Shaker are based on the Angle-of-Attack and must be trusted.

● **If AP disconnection :**

DESCENT TO LOWER FL (FL 310) . . . . . CONSIDER

PROBE HEAT . . . . . CHECK ON

CONFIGURATION . . . . . CHECK/AS REQD
(GEAR, SLATS/FLAPS, SPEEDBRAKES)

R PITCH ATTITUDE (13.02) . . . . . CHECK TABLE/ADJUST
R N1 (13.02) . . . . . CHECK TABLE/ADJUST

USE OF FPV (only if altitude information is reliable) . . . . . CONSIDER

– Check actual angle of attack versus target :
. Angle of Attack = Pitch attitude (aircraft symbol) – Flight Path Angle (FPV).

GROUND SPEED . . . . . MONITOR

AIRSPEED INDICATIONS . . . . . CHECK FOR MOST RELIABLE INDICATION
ADC INST SWITCHING . . . . . CONSIDER

Continued on Page 13.02 and 13.03

UNRELIABLE AIRSPEED

Continued from Page 13.01

PITCH TARGET/N1 TARGET

TO OBTAIN/MAINTAIN	SET PITCH	SET N1	ANGLE OF ATTACK
Takeoff :			
– V2 + 10 kt (2 engine)	+ 15	TOGA	8
– V2 (1 engine out)	+ 12.5	TOGA	8
Acceleration/clean-up :			
– F speed	+ 10 (Start chrono)	100 % N1	5
– S speed (30 seconds after flaps retraction)	+ 10	100 % N1	5
Climb :			
– Turbulence speed :			
Below FL100	+ 10	100 % N1	2
Above FL100	+ 5	100 % N1	2
Cruise :			
– Turbulence speed	+ 2	**Refer to Page 13.03**	2
Descent :			
– Turbulence speed	– 1.5	Idle	2
Approach and **Landing**	**Refer to Page 13.03**	**Refer to Page 13.03**	**Refer to Page 13.03**

R

ALL

GE Eng. : All

UNRELIABLE AIRSPEED

TARGET N1 TO MAINTAIN TURBULENCE SPEED IN LEVEL FLIGHT

Weight (1000 kg) → FL ↓	90	100	110	120	130	140	150	160	164
390	87	89	91						
350	85	86	87	89	90	92	93		
310	84	85	86	87	88	89	91	92	93
270	81	82	83	84	85	86	87	88	89
250	80	81	82	83	84	85	86	87	88
200	76	77	78	79	80	81	82	83	84
150	72	73	74	75	76	77	78	79	80
100	68	69	70	71	72	73	74	75	76
50	64	65	66	67	68	69	70	71	72

R TARGET PITCH/N1 TO MAINTAIN MANEUVERING/FINAL APPROACH SPEEDS

						Weight (1000 kg)			
	IN CONFIG	TO MAINTAIN	SET PITCH	FPA	AOA	100	120	140	160
	Clean	G. Dot	+ 4	0	4	53	58	62	66
	S15	S speed	+ 7	0	7	56	61	66	71
	F15	F + 20	+ 7	0	7	58	63	67	71
	F20	F speed	+ 7	0	7	63	68	73	78
R	Gear Down F40	V REF + 10	+ 4	– 3°	7	55	60	66	70

R CORRECTIONS ON TARGET N1 :

R – Single engine operation : + 20 % N1

R – Radome burst : + 10 % N1

– Airfield elevation : + 0.8 % N1 per 1000 ft above sea level,

– Temperature : +/– 1 % N1 per 10°C above/below ISA,

– Wind component : + 1 % N1 per 10 kt head wind
– 1 % N1 per 10 kt tail wind,

– Glide slope angle : + 0.5 % N1 per 0.1° below 3°,
– 0.5 % N1 per 0.1° above 3°.

ALL

GE Eng. : 80C2

FLIGHT IN SEVERE TURBULENCE

WHEN ANTICIPATING TURBULENCE

SEAT BELT SIGN . . . . . ON
NO SMOKING SIGN . . . . . ON
IGNITION . . . . . CONT RELIGHT
AP . . . . . KEEP ENGAGED IN CMD
– Do not resist or override the AP.

● **If in PROFILE mode, revert to LVL/CH or ALT HLD** :
SPD/MACH SETTING KNOB . . . . . PULL/ADJUST

A/THR . . . . . KEEP ENGAGED
TARGET SPEED AND THRUST (table below) . . . . . READE AND NOTE
SPD/MACH . . . . . SET TARGET SPEED
R ALTITUDE . . . . . CONSIDER DESCENT AT OR BELOW
R OPTIMUM ALTITUDE
TRIM TK MODE (as applicable) . . . . . FWD

WHEN IN SEVERE TURBULENCE

A/THR . . . . . DISCONNECT
THRUST . . . . . SET TARGET THRUST
R ALTITUDE . . . . . DESCEND AT OR BELOW OPTIMUM ALTITUDE

● **If AP does not perform as desired** :
AP . . . . . DISCONNECT
PITCH ATTITUDE / WINGS LEVEL . . . . . MAINTAIN

● **When the turbulence is over or the upset has been recovered** :
AP . . . . . CONSIDER RE-ENGAGEMENT IN CMD (ALT HLD or LVL/CH)

● **If SPD BRK are used** :
SPD BRK . . . . . USE WITH CARE/KEEP HAND ON HANDLE

TARGET SPEED AND THRUST SETTING

	FLIGHT LEVEL	TARGET SPEED MACH/IAS (kt)	GROSS WEIGHT (1000 kg) 100	110	120	130	140	150	160
			TARGET N1 % ▒ = above optimum altitude						
R	410	.78	91	94					
R	390	.78	89	91	94				
R	370	.78	87	89	91	93			
R	350	.78	86	87	89	90	92		
R	330	.78	86	87	88	89	91	93	95
	310	.78	86	86	87	88	90	91	92
	290	290	85	85	86	87	88	89	91
	270	290	83	84	85	86	87	88	89
	250	295	82	83	84	85	86	87	88
	200	295	79	79	80	81	82	83	84
	150	295	75	76	77	77	78	79	80
	100	295	72	72	73	73	74	75	76
	50	295	68	68	69	70	70	71	72

ALL

VMO/MMO EXCEEDANCE

■ PREVENTING VMO/MMO EXCEEDANCE

AIRSPEED/SPEED TREND . . . . . MONITOR
AP . . . . . KEEP ENGAGED IN CMD

● **If in PROFILE mode, revert to LVL/CH or ALT HLD** :

SPD/MACH setting knob . . . . . PULL/ADJUST

● **If VMO exceedance in descent anticipated** :

SPD/MACH setting knob . . . . . PRESS TO SELECT PRE SET
SPD . . . . . SELECT/SET
– Set SPD value offering desired margin relative to VMO.

■ RECOVERY FROM VMO/MMO EXCEEDANCE

AP . . . . . KEEP ENGAGED IN CMD

● **If in PROFILE mode, revert to LVL/CH or ALT HLD** :

SPD/MACH setting knob . . . . . PULL/ADJUST

● **If AP or A/THR does not perform as desired** :

AP . . . . . DISCONNECT
A/THR . . . . . DISCONNECT

● **Once the overspeed condition is recovered** :

AP . . . . . RE-ENGAGE IN CMD (LVL/CH or ALT HLD)
A/THR . . . . . RE-ENGAGE

● **If SPD BRK are used** :

SPD BRK . . . . . USE WITH CARE / KEEP HAND ON HANDLE

ALL

OPERATION IN HEAVY RAIN

IGNITION ..... CONT RELIGHT

ENG ANTI ICE ..... ON
WING ANTI ICE ..... AS REQUIRED

A/THR ..... DISCONNECT

ENG PARAMETERS ..... MONITOR

THRUST (conditions permitting) ..... INCREASE

APU ..... START

AIRSPEED (conditions permitting) ..... DECREASE

VOLCANIC ASH ENCOUNTER

180° TURN ..... INITIATE
ATC ..... NOTIFY

CREW OXYGEN MASKS ..... ON
CABIN CREW ..... NOTIFY
PASSENGER OXYGEN ..... AS RQRD

A/THR ..... DISCONNECT
THRUST (conditions permitting) ..... DECREASE
IGNITION ..... CONT RELIGHT

ENG ANTI ICE ..... ON
WING ANTI ICE ..... ON
AIR COND ..... NORM FLOW

APU ..... START

ENG PARAMETERS ..... MONITOR
AIRSPEED INDICATIONS ..... MONITOR

- **If unreliable airspeed indication** :
  PROC : UNRELIABLE AIRSPEED (13.01/02/03) ..... APPLY

- **If both engine flame out** :

R ENG ANTI ICE (1 and 2) ..... OFF
R WING ANTI ICE ..... OFF
PROC : BOTH ENGINE FLAME OUT (12.01) ..... APPLY

FLIGHT IN ICING CONDITIONS

CAUTION : ***Extended flight in icing conditions with slats extended should be avoided.***

- **When ENG ANTI-ICE is required (If icing conditions exist or are anticipated)** :

  - **If ice accretion built-up on the engine air inlet** :
    THROTTLE LEVER . . . . . RETARD
    IGNITION . . . . . CONT RELIGHT
    ENG ANTI ICE . . . . . ON
    THROTTLE LEVER . . . . . RE-ADVANCE

  - **If no ice accretion built-up on the engine air inlet** :
    IGNITION . . . . . CONT RELIGHT
    ENG ANTI ICE . . . . . ON

R - **When engine parameters stabilized and except at top of**
R **descent, during descent and holding** :
    IGNITION . . . . . CONSIDER OFF

  - **If ice shedding on fan spinner and fan blades is suspected** :
    IGNITION . . . . . CONT RELIGHT
    THROTTLE (affected engine) . . . . . SET 70% N1
    ENGINE PARAMETERS . . . . . MONITOR
    ENGINE VIB LEVEL . . . . . MONITOR

    - **When vibration level decreases and stabilizes** :
      RESUME NORMAL ENGINE OPERATION
      IGNITION . . . . . AS REQUIRED

- **When WING ANTI-ICE is required (To prevent or remove ice accumulation on wing leading edges)** :
  WING ANTI-ICE . . . . . ON

  - **If significant ice accumulation is suspected on non de-iced parts** :
    LANDING SPEED . . . . . + 5 KT
    LANDING DISTANCE . . . . . MULTIPLY BY 1.1

  - **If WING ANTI-ICE is inoperative and ice accumulation is detected** :
    SPEED INCREMENT ON V_{LS} (clean configuration) . . + 15 KT
    SPEED INCREMENT ON V_{LS} (surface extended) . . . + 10 KT
    LANDING DISTANCE . . . . . MULTIPLY BY 1.2

BOMB ON BOARD

IF POSSIBLE, DESCEND, LAND, TAXI TO A REMOTE SITE AND EVACUATE THE AIRCRAFT IMMEDIATELY.
If it is not possible to land and evacuate the aircraft within 30 minutes, apply the following procedures :

- **COCKPIT PROCEDURES**

CABIN CREW . . . . . NOTIFY
ATC/COMPANY OPERATIONS . . . . . NOTIFY

LANDING ELEVATION . . . . . SET INDICATED CABIN ALTITUDE

FUEL RESERVES . . . . . DETERMINE
NEXT SUITABLE AIRPORT . . . . . DETERMINE

SPD/MACH SELECTION KNOB . . . . . PULL
DESCENT TO CAB ALT + 2500 FT OR MEA/MORA . . . . . INITIATE

- **When at CAB ALT + 2500 FT OR MEA/MORA :**

GALLEY . . . . . SHED

- **Fuel permitting :**

SLATS . . . . . EXTEND
L/G (except for overwater operation) . . . . . DOWN

NOTE : With gear down, fuel consumption is multiplied by 3.

- **When cleared to lower FL or altitude :**

DESCENT TO CLEARED FL (ALTITUDE) . . . . . INITIATE

- **Before landing :**

R
MAN PRESS . . . . . ON
V/S CTL . . . . . FULL UP
OUTFLOW VALVES . . . . . CHECK FULL OPEN

- **When aircraft on ground and stopped in a remote area (if possible) :**

△P (DIFF PRESS) . . . . . CHECK ZERO
EVACUATION/DISEMBARKATION . . . . . INITIATE ASAP

- **CABIN PROCEDURES**

The Least Risk Bomb Location (LRBL) for aircraft structure and systems is the right hand aft cabin door (door 3R).

EOD PERSONNEL ON BOARD . . . . . CHECK
SUSPICIOUS ARTICLE . . . . . DO NOT OPEN, DO NOT CUT WIRES, SECURE, AVOID SHOCKS
PASSENGERS . . . . . LEAD AWAY FROM SUSPICIOUS ARTICLE
SUSPICIOUS ARTICLE . . . . . CHECK FOR NO ANTI-LIFT DEVICE

- **If suspicious article can be moved :**

PASSENGERS . . . . . MOVE/ADVISE
RH AFT CABIN DOOR SLIDE . . . . . DISARM
LEAST RISK BOMB LOCATION . . . . . PREPARE
SUSPICIOUS ARTICLE . . . . . MOVE TO LRBL
LEAST RISK BOMB LOCATION SET UP . . . . . COMPLETE

- **When aircraft on ground and stopped, and when cabin evacuation/ disembarkation signal is received from the cockpit :**

EVACUATION/DISEMBARKATION . . . . . EXECUTE

CAUTION : Evacuate through normal and emergency exits on the opposite side of the "bomb" location but do not use the door just in front of the "bomb".

ALL

FORCED LANDING

PREPARATION (time permitting)

CABIN CREW . . . . . NOTIFY
ATC . . . . . NOTIFY
TRANSPONDER . . . . . AS RQRD

SEAT BELTS/NO SMOKING . . . . . ON
GPWS . . . . . OFF

CABIN and COCKPIT . . . . . PREPARE
. Loose equipment secured,
. Survival equipment secured,
. Belts and shoulder harness locked.

CAB PRESS-LDG ELEVATION . . . . . SET

APPROACH

● **If green hydraulic system lost** :
PROC : L/G GRAVITY EXTENSION (10.02) . . . . . APPLY

L/G LEVER . . . . . DOWN
GND SPLRS . . . . . ARM
SLATS and FLAPS (if engines running) . . . . . MAX AVAIL
TRIM TK ISOL VALVE . . . . . OFF

CABIN REPORT . . . . . OBTAIN
EMER EXIT LT selector . . . . . ON

BEFORE IMPACT

PACKS 1 and 2 . . . . . OFF
RAM AIR . . . . . ON

BRACE FOR IMPACT . . . . . ORDER

PITCH ATTITUDE . . . . . APPROXIMATELY 11°
VERTICAL SPEED . . . . . MINIMIZE

IMPACT

BOTH FUEL LEVERS . . . . . OFF

AFTER IMPACT

FIRE HANDLES (ALL) . . . . . PULL

● **When aircraft stopped** :
CABIN CREW (PA) . . . . . NOTIFY

FUEL ISOL VALVES . . . . . OFF
AGENTS (ENG and APU) . . . . . DISCH
R △P (DIFF PRESS) . . . . . CHECK ZERO

EVACUATION . . . . . INITIATE

BAT (before leaving the aircraft) . . . . . OFF/R

ALL

Mod : 4801

DITCHING

PREPARATION (time permitting)

CABIN CREW . . . . . NOTIFY
ATC . . . . . NOTIFY
TRANSPONDER . . . . . AS RQRD

SEAT BELTS / NO SMOKING . . . . . ON
GPWS . . . . . OFF

CABIN and COCKPIT . . . . . PREPARE
. Loose equipment secured,
. Survival equipment prepared,
. Belts and shoulder harness locked.

CAB PRESS-LDG ELEVATION . . . . . SET

APPROACH

L/G LEVER . . . . . UP
SLATS and FLAPS (if engines running) . . . . . MAX AVAIL
TRIM TK ISOL VALVE . . . . . OFF

CABIN REPORT . . . . . OBTAINED
EMER EXIT LT selector . . . . . ON

BEFORE DITCHING

OUTFLOW FWD and AFT . . . . . OFF/CLOSED
MAN PRESS . . . . . CHECK OFF
BLEED VALVES (ENG and APU) . . . . . OFF/R
RAM AIR . . . . . OFF/CLOSED

BRACE FOR IMPACT . . . . . ORDER

PITCH ATTITUDE . . . . . APPROXIMATELY 11°
VERTICAL SPEED . . . . . MINIMIZE

DITCHING

BOTH FUEL LEVERS . . . . . OFF

AFTER DITCHING

FIRE HANDLES (ALL) . . . . . PULL
CABIN CREW (PA) . . . . . NOTIFY
FUEL ISOL VALVES . . . . . OFF
R △P (DIFF PRESS) . . . . . CHECK ZERO

EVACUATION . . . . . INITIATE

BAT (before leaving the aircraft) . . . . . OFF/R

ALL

Mod : 3881 + 4801

COCKPIT WINDOW ARCING

R WINDOW HEAT (affected side) . . . . . OFF

COCKPIT WINDOW CRACKED

R WINDOW HEAT (if arcing) . . . . . OFF
MAX FL 250
LDG ELEVATION . . . . . SET ACCORDING TO TABLE

MAX △P = 5 PSI	FL	100	120	150	180	200	230	250
	LDG ELEV SETTING	0	1000	3000	5000	6000	8000	9200

● **When starting the descent** :
LDG ELEVATION . . . . . SET DESTINATION ELEVATION

DOOR NOT CLOSED IN FLIGHT

R ● **IF ABNORM CAB RATE OR CONFIRMED UNLOCKED** :
LDG ELEVATION . . . . . 10 000 FT
MAX FL 100/MEA

FWD or AFT or BULK CARGO

● **IF ABNORM CAB RATE** :
LDG ELEVATION . . . . . 10 000 FT
MAX FL 100/MEA

AVIONIC or FWD COMPT
– No Action

R **CABIN**
R DOOR CONTROL HANDLE . . . . . PUSH
R LOCKING INDICATOR . . . . . CHECK

ALL

Mod : 5779

COCKPIT DOOR FAULT

CKPT DOOR CONT panel . . . . . CHECK

- **If at least one STRIKE status light is illuminated :**
  - Select and maintain the toggle switch to UNLOCK position on the COCKPIT DOOR control panel ;
  - Fully open the door ;
  - Release the toggle switch to NORM position ;
  - Close the door ;

  - **If two or more STRIKE status lights are illuminated :**
    The cockpit door is no more intrusion-proof.

- **If the two CHAN status lights are illuminated :**
  Automatic latch release is unavailable in case of rapid cockpit decompression.

- **If no status light on the CKPT DOOR CONT panel is illuminated :**
  The CDLS control unit is faulty ; therefore, the cockpit door might unlock automatically. If it does not, consider using the mechanical override system to unlock the door.

NOTE : In case of a DC NORM BUS fault, no FAULT indication appears on the overhead COCKPIT DOOR panel. The Cockpit Door Locking System is no more electrically-supplied, and is inoperative. Then, the reinforced cockpit door is unlocked and can be opened from the cabin.

ALL

Mod : 12557 or 12715

AFTER TAILSTRIKE

LAND ASAP

MAN PRESS ..... ON

V/S CTL ..... FULL UP

● **If immediate return is not possible**

MAX FL ..... 100 or MSA

Refer to FLIGHT WITHOUT CABIN PRESSURIZATION (FCOM 2.18.20)

NOTE : For the comfort of the people on board, consider :

- *Climb at a rate of about 500 feet/minute*
- *descent at a rate of about 300 feet/minute, except for the final approach, which must be performed normally.*

Notify ATC of the aircraft rate of climb.

ALL

OVERWEIGHT LANDING

APPROACH/CLIMB LIMITATION (TGA) . . . . . CHECK

LANDING CONFIGURATION . . . . . DETERMINE

LANDING DIST (15.02) . . . . . CHECK

PACK VALVE 1 and 2 . . . . . OFF or on APU

VERTICAL SPEED AT TOUCHDOWN . . . . . MINIMIZE

– Maximum vertical speed at touchdown : 360 ft/mn.

FWS FAULT

■ SINGLE FWS FAULT

FWS
CRT AMBER CAUTIONS NOT AVAIL
– MONITOR OVERHEAD PANEL

NOTE : . Red warnings are not affected.

. Amber cautions processed by the affected FWS are lost, but local warnings are available.

. For the following faults and systems, no local warning is available :

- *A/SKID selected OFF,*
- *L/G lever interlock,*
- *Radio altimeter fault,*
- *EFIS SGU 3 FAULT,*
- *Automatic call out,*
- *DOOR (DOOR page on CRT available),*
- *AC EMER BUS OFF,*
- *Ground spoilers not extended.*

■ DUAL FWS FAULT

FWS FAULT . . . . . MONITOR SYS

NOTE : . All red warnings and amber cautions are lost, but local warnings are available.

. For the following faults and systems and in addition to the systems affected by the loss of one FWS (see list above), no local warning is available.

- *O/SPEED (V_{MAX} strip available on PFD),*
- *STALL (Vss strip available on PFD),*
- *LDG GEAR (3 green lights available on L/G panels),*
- *EXCESS CAB ALT (CAB ALT indicator available),*
- *HYD TANK LO LEVEL (QTY indicators available),*
- *ALTITUDE ALERT,*
- *DOOR (DOOR page on CRT available),*
- *AP OFF,*
- *AFS landing capability change (tripple click lost).*

ADVISORY CONDITIONS

SYSTEM	CONDITION	RECOMMENDED ACTION
AIR BLEED	Pack LO flow indication	Compare pack 1 and 2 Turbine Inlet Temperatures and Pack Discharge Temperatures : if respective temperatures do not differ by more than 10° C, ignore LO flow indication.
	TURBINE INLET TEMP ⩾ 95° C to ⩽ 120° C	PACK VALVE. . . . . .OFF (for a cooling period)
APU	EGT ⩾ 540° C	
CAB PRESS	CAB DIFF PRESS ⩾ 8.6PSI	• **In level flight :** Other CABIN PRESS SYS. . . . . .SELECT • **In Climb :** RATE LIM SEL. . . . . .MAX • **If required :** AIRCRAFT V/S . . . . . REDUCE
	CAB VERTICAL SPEED V/S ⩾ V/S selected + 50 %	Other CABIN PRESS SYS. . . . . .SELECT
	FWD and AFT OUTFLOW VALVE position difference > 40 %	Other CABIN PRESS SYS. . . . . .SELECT
ELEC – AC	IDG Outlet Oil Temp ⩾ 142° C	Reduce electrical load, if possible (GALLEY OFF or GEN OFF) Observe OIL TEMP evolution. If required, restore, when temperature has dropped. Restrict use of generator to short duration, if temperature rises again excessively. *Note : – If IDG is connected, reduced power setting may increase the OIL TEMP due to the decreased fuel flow and corresponding heat exchange across the fuel/oil heat exchanger :* *– After IDG DISC this advisory may be activated at low thrust setting due to :* *– low cooling effect,* *– high nacelle temperature affecting IDG temp bulb.*
ELEC – DC	TR current ⩽ 6A	No crew action required.
FUEL	Fuel imbalance in wing tanks (INR + OUTR TK) > 3000 kg (6700 lb)	FUEL management. . . . . .CHECK • **If FUEL LEAK suspected :** PROC : FUEL LEAK (7.02). . . . . .APPLY
FLT CTL	SPLRS extended at WHEEL SPEED > 70 kt	

ALL

Mod : 6041

ADVISORY CONDITIONS (CONT'D)

SYSTEM	CONDITION	RECOMMENDED ACTION
ENGINE	OIL TEMP ⩾ 160° C	• Refer to ENG OIL TEMP HI procedure. • Monitor OIL PRESS, OIL QTY and other engine parameters for associated abnormal indication (s), such as shift, fluctuation, mismatch.
	OIL PRESS ⩾ 90 PSI	• On ground : monitor oil pressure decrease while engine is warming up. • In-flight : monitor other engine parameters, particularly the OIL TEMP, OIL QTY, OIL FILTER CLOG light and vibrations.
	OIL PRESS ⩽ 16 PSI	• If the OIL LO PRESS local warning light and associated ENG OIL LO PR ECAM procedure are not activated, continue normal engine operation (an oil pressure transmitter defect may be suspected). • Monitor the OIL PRESS and other engine parameters, particularly the OIL TEMP, OIL QTY and OIL FILTER CLOG light. • Reduce power setting, as practical, if OIL TEMP is not in normal range.
	OIL QTY ⩽ 2 qt	• Monitor OIL PRESS, OIL TEMP and other engine parameters. • If OIL QTY is low at high power setting, expect oil level to increase after power reduction (oil gulping effect). • Only if the low OIL QTY is associated with a fluctuating or decreasing OIL PRESS, a precautionary engine shutdown may be considered.
	FUEL PRESS ⩽ 50 PSI	• Check tank pump operation. If normal avoid rapid throttle movement. Suspect fuel leak, consider fuel leak procedure.
	NAC TEMP ⩾ 185° C + TAT	• Monitor engine parameters and cross-check with other engine parameters. • Bleed air leakage has usually a short term effect on EGT, N2 and F/F (bleed air extraction effect) and a longer term effect on EGT and OIL TEMP (increased temperature exposure). • Conditions permitting, the following may be considered : – Checking NAC TEMP response to BLEED VALVE closure, – Checking NAC TEMP response to thrust level reduction, • If NAC TEMP drop confirms the bleed air leakage condition and all engine parameters are normal, engine operation can be continued, as follows (at pilot's discretion) : – In normal configuration, while monitoring NAC TEMP and other engine parameters, – With BLEED VALVE closed (refer to ENG BLEED VALVE FAULT procedure), – At reduced thrust level. • Only if NAC TEMP remains high in conjunction with abnormal engine indication, a precautionary engine shutdown may be considered, conditions permitting.

ALL

Mod : 7259 GE Eng. : All

ADVISORY CONDITIONS (CONT'D)

SYSTEM	CONDITION	RECOMMENDED ACTION
ENGINE	VIBRATION (N1) ⩾ 3 units (N2) ⩾ 5 units	• Check engine parameters and cross-check with other engine. • Validate VIB level by checking for : – VIB level response to throttle lever movement, – engine rumbling noise (N1 VIB), – aircraft structure vibration (N1 VIB), – engine parameters shift or mismatch (N2 VIB). • If engine parameters normal, continue engine operation at normal or reduced thrust level, at pilot's discretion. • Only if engine parameters and/or behaviour is abnormal, a precautionary engine shutdown may be considered, conditions permitting. • If icing conditions exist, N1 vibrations may be due to fan blades and/or spinner icing. Select IGNITION on CONT RELIGHT and increase thrust on affected engine with power setting compatible with flight phase (70 % N1 minimum). Resume normal operation when VIB level normal.

TRIPPED C/B RE-ENGAGEMENT

IN FLIGHT

Do not re-engage a tripped C/B, unless the Captain (using his emergency authority) judges it necessary for the safe continuation of the flight. This procedure should be adopted only as a last resort, and only one re-engagement should be attempted.

ON GROUND

If the flight crew coordinates the action with maintenance, he may re-engage a tripped C/B, provided the cause of the tripped C/B is identified.

SYSTEM RESET

Digital computers and systems abnormal behaviour, as a result of an electrical transient for example, may be stopped in some cases by interrupting the power supply of its processing part for a short time.

Generally, this may be achieved with the normal cockpit controls (engagement levers, pushbuttons) by selecting the related control OFF then ON.

However for some systems the cockpit normal controls do not cut off electrical power supply. The only way to reinitialize such a system is to pull and reset the corresponding circuit breaker.

PROCEDURE

To perform a system reset :

- Select the related normal cockpit control OFF, or pull the corresponding reset button or circuit breaker.
- Wait at least 3 seconds if a normal cockpit control is used, or 5 seconds if a circuit breaker is used (unless a different time is indicated).
- Select the related normal cockpit control ON, or push the corresponding reset button or circuit breaker.

CAUTION : ***Do not reset more than one computer at the same time, unless instructed to do so.***

SYSTEM RESET TABLE

The following table indicates which C/B may be used for this purpose, with the associated reset procedure or FCOM reference, when applicable.

In flight, as a general rule, before taking any action, the flight crew must consider and fully understand the consequences.

SYSTEM RESET TABLE

ATA	Affected system	Reset
22 AUTO FLIGHT SYSTEM	FCC (AP/FD)	Before engine start only : – Reset the C/B H03 on 21VU for FCC 1. – Reset the C/B H06 on 21VU for FCC 2. *NOTE : After reset, power up test of computer will restart with corresponding FD fault flag displayed for 1 min. Wait until this flag has disappeared before re-engaging AP/FD.*
	FAC (Yaw damper, Pitch trim, ...)	Before engine start only : – Reset the C/B G03 on 21VU for FAC 1. – Reset the C/B G12 on 21VU for FAC 2. *NOTE : After reset, power up test of computer will restart with corresponding SPD LIM fault flag displayed for 1 min. Wait 30 s after this flag has disappeared before re-engaging pitch trim lever and yaw damper lever.*
	TCC (ATS)	Before engine start only : – Reset the C/B H08 on 21VU for SYS 1. – Reset the C/B H12 on 21VU for SYS 2 (if installed). *NOTE : After reset, power up test of computer will restart with corresponding dashes on TRP displayed for 30 s. Wait until these dashes have disappeared before re-engaging ATS lever.*
23 COM	VHF	On ground or in flight : – Reset the C/B B16 on 22VU for VHF 1. – Reset the C/B D07 on 21VU for VHF 2. – Reset the C/B D08 on 21VU for VHF 3 (if installed).
	HF	On ground or in flight : – Reset the C/B D03 on 21VU for HF 1. – Reset the C/B D12 on 21VU for HF 2 (if installed).
	ACARS	On ground or in flight : – Reset the C/B C09 on 21VU for ACARS. – Reset the C/B C08 on 21VU for DFIDU.

SYSTEM RESET TABLE (CONT'D)

ATA	Affected system	Reset
27 FLT CTL	FLC (Artificial feel)	On ground or in flight : – Reset the C/B J02 on 21VU for FLC 1. – Reset the C/B J04 on 21VU for FLC 2.
	SFCC (Slats & Flaps)	On ground only : Slats system (FCOM 2.05.27 p 1) : – Reset the C/B T63 on 133VU for SYS 1. – Reset the C/B T64 on 133VU for SYS 2. Flaps system (FCOM 2.05.27 p 2) : – Reset the C/B U61 on 133VU for SYS 1. – Reset the C/B V61 on 133VU for SYS 2.
	EFCU (Spoilers)	On ground or in flight : (FCOM 2.05.27 page 5) : – Reset the related SPLR pushbutton (OFF then ON) to recover the affected spoiler(s). If reset unsuccessful (on ground only) : – Reset the C/B V62 on 133VU for spoiler 1 and 4. – Reset the C/B T62 on 133VU for spoiler 2 and 3. – Reset the C/B T65 on 133VU for spoiler 5. – Reset the C/B U62 on 133VU for spoiler 6 and 7. *NOTE : If/when EFCU reset successful on ground, the flight crew must perform a Flight Control Check, as per SOP.*
28 FUEL	AUTO FEED CTL	On ground or in flight : – Reset the C/B M55 on 132VU. **CAUTION : Do not take off within 3 min. after the reset.**
	FQI	On ground or in flight : – Reset the C/B P60 on 132VU for CHAN SUPPLY 1. – Reset the C/B P61 on 132VU for CHAN SUPPLY 2. **CAUTION : Do not take off within 3 min. after the reset.**
30 ICE PROTEC-TION	WINDOW ANTI-ICE	On ground or in flight : – Reset the C/B P67 on 132VU for window heat left. – Reset the C/B N66 on 132VU for window heat right.

R R R R

ALL

Mod : 4803

SYSTEM RESET TABLE (CONT'D)

ATA	Affected system	Reset
31 INDI-CATING/ RECOR-DING SYSTEMS	FWC	On ground or in flight : – Reset the C/B B08 on 21VU for FWC 1. – Reset the C/B A08 on 21VU for FWC 2. *NOTE : After reset, FWC restart lasts 25 s.*
	SDAC	On ground or in flight : – Reset the C/B A05 on 21VU.
32 LANDING GEAR	L/G PROXIMITY DETECTORS	On ground or in flight : **CAUTION: Do not move aircraft during this reset due to nose wheel steering and braking systems being temporarily lost.** – Reset the C/B U52 on 133VU for SYS 1. – Reset the C/B V52 on 133VU for SYS 2. *NOTE : Refer to FCOM 2.02.14 page 4 for effect of landing gear proximity detector malfunctions on ground or in flight.*

SYSTEM RESET TABLE (CONT'D)

ATA	Affected system	Reset
R 34 NAV	FMC	On ground or in flight : – Pull the C/B J11 on 21VU for SYS 1. – Wait 15 s before pushing the C/B. – Pull the C/B J14 on 21VU for SYS 2. – Wait 15 s before pushing the C/B.
	EFIS SGU	On ground or in flight : – Reset the C/B F04 on 21VU for CAPT EFIS SGU 1. – Reset the C/B F11 on 21VU for F/O EFIS SGU 2. – Reset the C/B F06 on 21VU for EFIS SGU 3.
	ADF (If installed)	On ground or in flight : – Reset the C/B D01 on 21VU for ADF 1. – Reset the C/B D14 on 21VU for ADF 2.
	VOR	On ground or in flight : – Reset the C/B C02 on 21VU for VOR 1. – Reset the C/B C13 on 21VU for VOR 2.
	DME	On ground or in flight : – Reset the C/B C04 on 21VU for DME 1. – Reset the C/B C11 on 21VU for DME 2.
	ILS (if MMR not installed)	On ground or in flight : – Reset the C/B C03 on 21VU for ILS 1. – Reset the C/B C12 on 21VU for ILS 2.
	MMR (if installed)	On ground only : **CAUTION : Do not move aircraft during this reset.** – Reset the C/B C03 on 21VU for MMR 1. – Reset the C/B C12 on 21VU for MMR 2.
	RAD ALTM	On ground or in flight : – Reset the C/B C05 on 21VU for RAD ALTM 1. – Reset the C/B C10 on 21VU for RAD ALTM 2.
	GPWS	On ground or in flight : – GPWS FAULT may be cleared by resetting associated radio altimeter C/B C05 on 21VU.
	VSI	On ground only : – Reset the C/B F18 on 22VU for CAPT VSI. – Reset the C/B E11 on 21VU for F/O VSI.
	TCAS (if installed)	On ground or in flight : – Reset the C/B F07 on 21VU.

ALL

INTENTIONALLY LEFT BLANK

SUSPECTED STUCK PTT IN TRANSMIT POSITION

PTT selector (affected) . . . . . RELEASE

- **If unsuccessful**

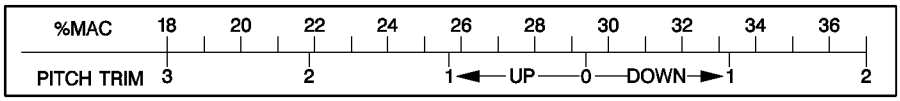
  ACP affected channel . . . . . DESELECT

  ACP (affected side) . . . . . USE IN RECEPTION ONLY

ALL

TO TRIM SETTING

B0CL-00-0014-001-A100AA



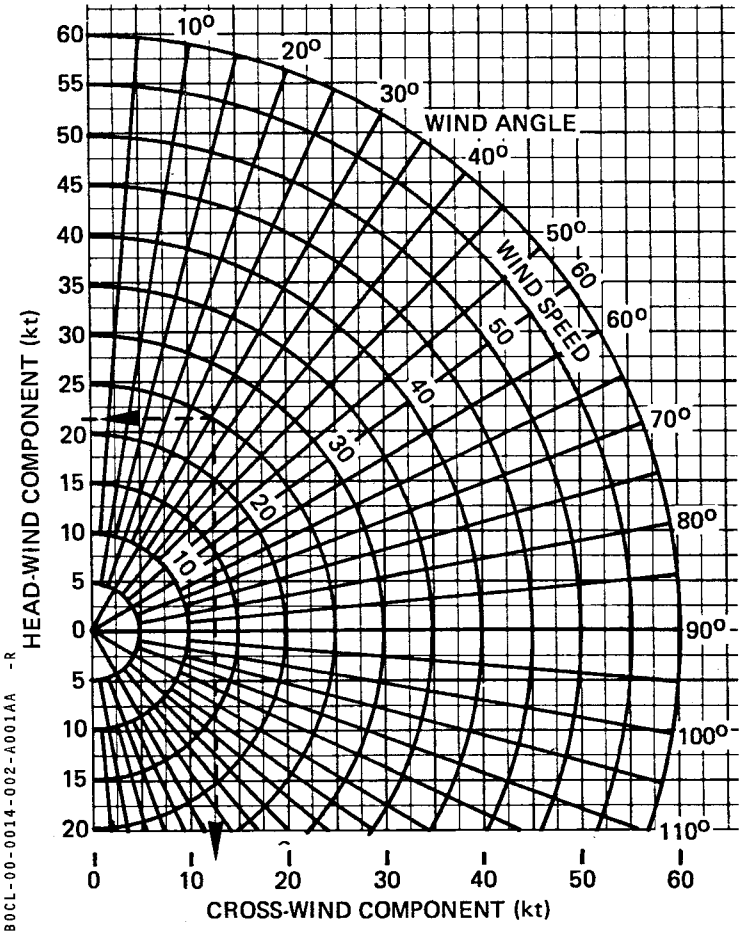
OPERATING SPEEDS (kt)					
WEIGHT (× 1000 kg)	**F** 1.25 Vs 15/0	**S** 1.25 Vs 0/0	**0** (Green dot) (below 20 000 ft)	V_{REF} + 10 1.3 Vs 20/20	V_{REF} 1.3 Vs 30/40
90	134	168	190	128	118
95	138	172	195	131	121
100	141	177	200	135	125
105	145	181	205	138	128
110	148	185	210	141	131
115	151	190	215	144	134
120	154	193	220	147	137
125	158	198	225	150	140
130	161	201	230	152	142
135	164	205	235	154	144
140	167	209	240	157	147
145	170	213	245	160	150
150	172	216	250	163	153
155	175	220	255	166	156
160	178	223	260	168	158
. Green dot speed : add + 2 kt per 1 000 ft above 20 000 ft					

R

ALL

Mod : 4863

WIND COMPONENT



MAX CROSSWIND	REPORTED BRAKING ACTION	REPORTED FRICTION COEFFICIENT	EQUIVALENT RUNWAY CONDITION
37 kt*	GOOD	0.40 and above	1
30 kt	GOOD/MEDIUM	0.39 to 0.36	1
25 kt	MEDIUM	0.35 to 0.30	2/3
20 kt	MEDIUM/POOR	0.29 to 0.26	2/3
15 kt	POOR	0.25 and below	3/4
5 kt	UNRELIABLE	UNRELIABLE	4/5

* : This is the maximum computed crosswind capability on dry and wet runway (Max demonstrated : 28 kt) .

EQUIVALENT RUNWAY CONDITIONS :

1 : Dry, damp or wet runway (less than 3 mm water depth) without risk of hydroplaning.

2 : Runway covered with slush

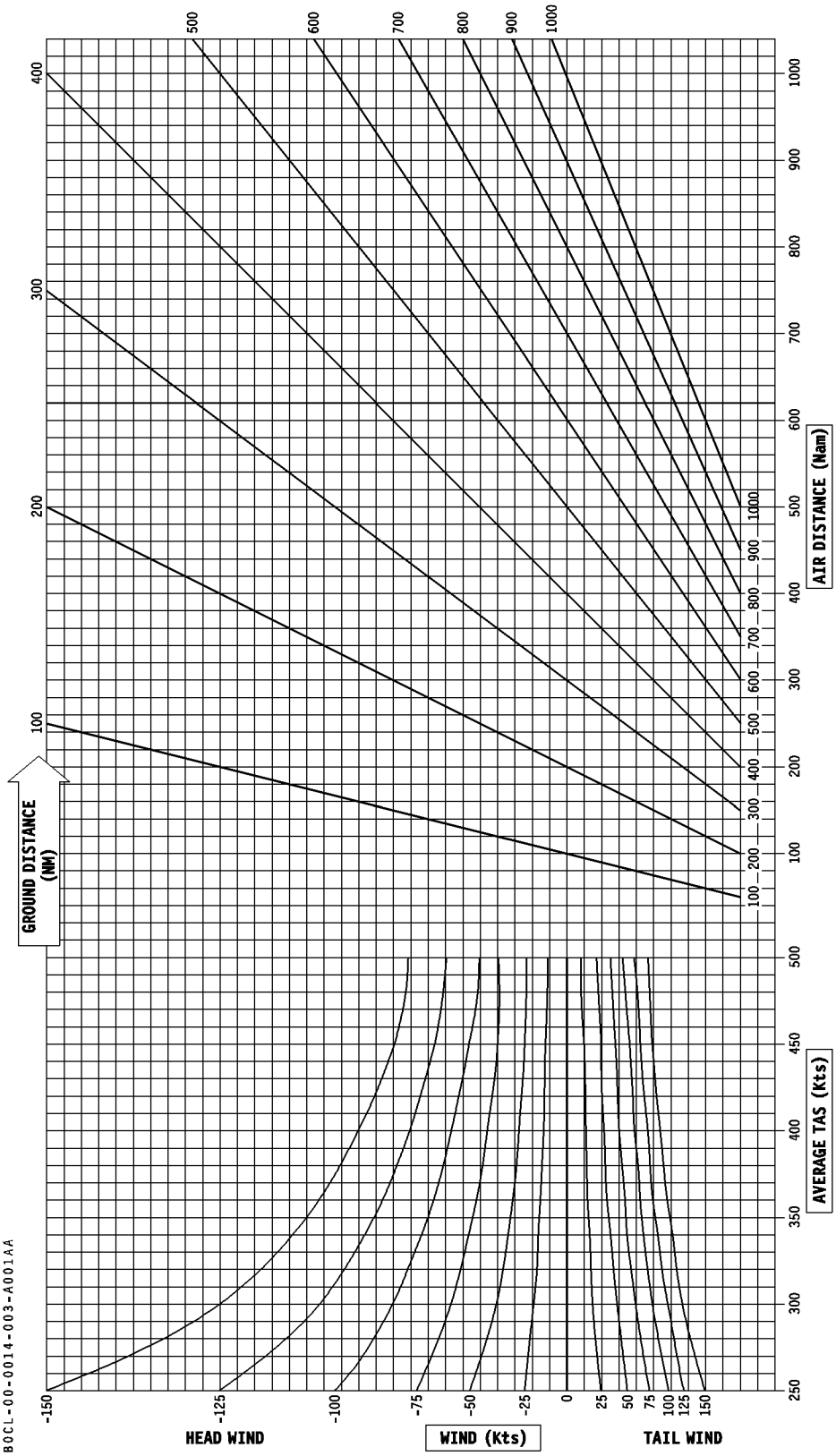
3 : Runway covered with dry snow.

4 : Runway covered with standing water with risk of hydroplaning or wet snow.

5 : Runway covered with compacted snow or with standing water with high risk of hydroplaning or icy runway (allowed for landing only).

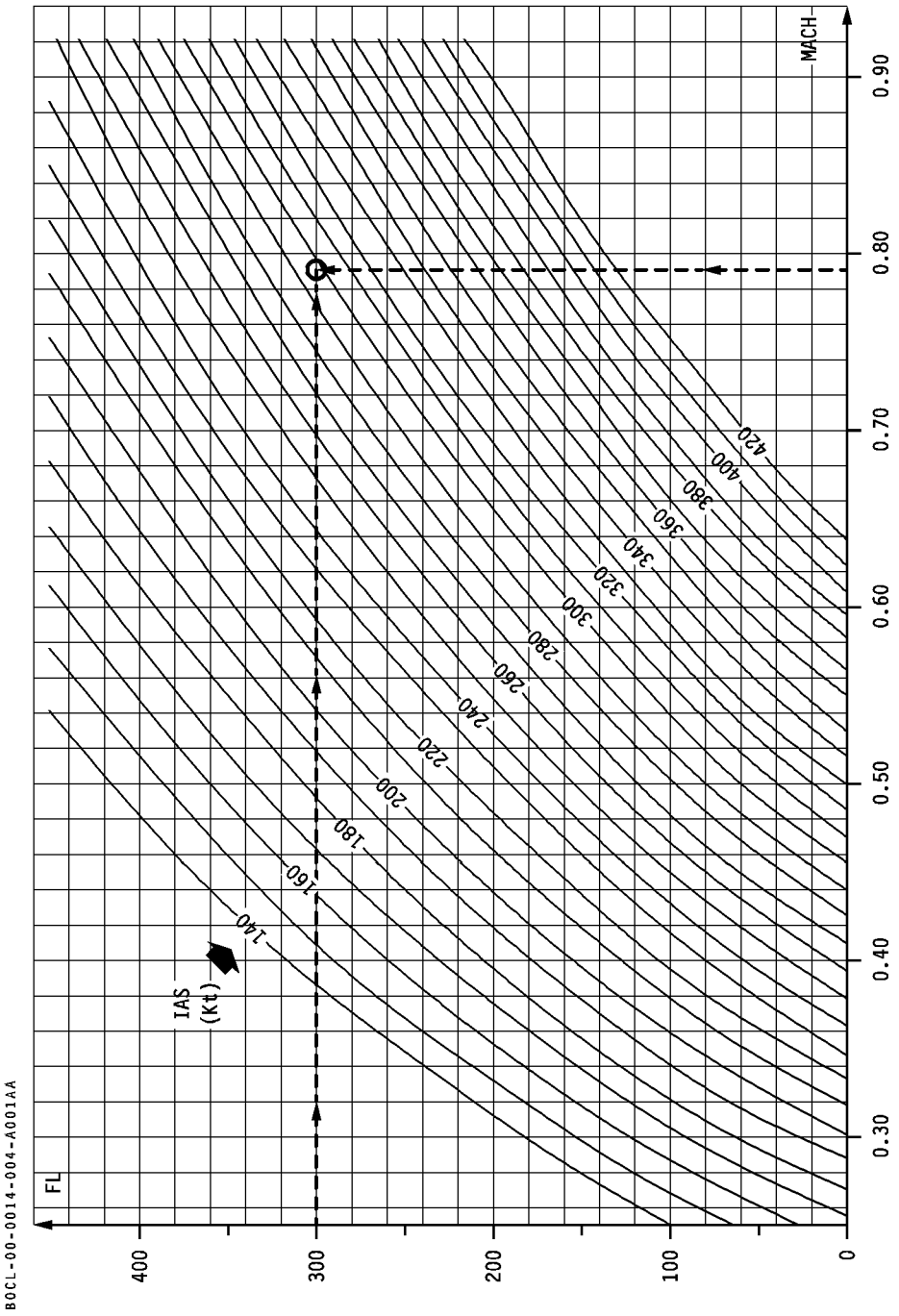
ALL

GROUND DISTANCE – AIR DISTANCE CONVERSION



ALL

IAS/MACH CONVERSION



ALL

MINIMUM EQUIPMENT REQUIRED (BY AIRWORTHINESS AUTHORITIES) TO BE OPERATIONAL TO MEET CAT 2 or CAT 3 APPROACH AND LANDING CRITERIA.

	CAPABILITY	
EQUIPMENT	CAT 2	CAT 3
AP/FD	1 AP IN CMD (with LAND mode engaged)	2 AP in CMD + 1 FD (with LAND mode engaged)
AP DISCONNECT P.B.	2	2
AUTOTHROTTLE	— *	IN SPEED MODE
AFS FLIGHT MODE ANNUNCIATOR (FMA)	1	2
ILS RECEIVER	2	2
BEAM EXCESSIVE DEVIATION WARNING	2	2
HORIZON	N°1 + N°2 + STANDBY	N°1 + N°2 + STANDBY
EFIS CRT's	3	4
RADIO ALTIMETER	1 (But two displays)	2
AUTO CALL OUT RADIO ALTIMETER	0	1**
DH INDICATION	1 ***	1***
FWC	1	2
« AP OFF » warning	1	2
« AUTOLAND » light	1	2
« ATS » warning	0	1
ENGINE TRIM	0	1
WINDSHIELD WIPERS OR RAIN REPELLENT (if activated)	1 ****	1 ****
WINDOW HEAT	1	1
ANTI-SKID SYSTEM	0	1 *****

* ATS is mandatory in CAT 3 only but is recommended even in CAT 1 or CAT 2.

** AUTO CALL OUT Radio altimeter setting must be in accordance with approved airline procedures.

*** One unit required for the CM2.

**** One unit required for CM1.

***** One unit required in CAT 3 with no DH.

NOTE : Compliance with CAT 2 (respectively CAT 3) approach and landing criteria has been demonstrated with CAT 2 and CAT 3 (respectively CAT 3) performance quality ILS beams only.

ALL

Mod : 4941

LEFT BLANK INTENTIONALLY

AUTOLAND LANDING DISTANCES WITH AUTOBRAKE

SLATS 30°/FLAPS 40°

LANDING DISTANCE (METERS)										CORRECTIONS (%) ON LANDING DISTANCE			
WEIGHT(1000KG)			90	100	110	120	130	140	150	PER 1000FT ABOVE SL	ALL REV.	PER 10KT TAIL WIND	PER 10KT HEAD WIND
RUNWAY CONDITION		MODE											
DRY		MED	1260	1340	1420	1510	1590	1670	1760	2	0	16	0
		LOW	1830	1960	2100	2230	2360	2500	2630	3	-6	17	-1
WET		MED	1370	1460	1550	1630	1720	1810	1910	3	-4	17	-1
		LOW	1830	1970	2100	2230	2370	2500	2630	3	-6	17	-1
COVERED WITH	6.3MM (1/4 IN) WATER	MED	1730	1870	2070	2300	2520	2770	3020	5	-16	30	-3
		LOW	1880	2030	2190	2360	2550	2780	3030	5	-13	28	-2
	12.7MM (1/2 IN) WATER	MED	1680	1810	1980	2200	2420	2660	2890	5	-15	30	-2
		LOW	1820	1970	2130	2290	2460	2680	2910	5	-12	26	-2
	6.3MM (1/4 IN) SLUSH	MED	1690	1830	1970	2110	2280	2510	2730	6	-16	29	-3
		LOW	1840	1980	2130	2270	2430	2600	2770	6	-12	26	-2
	12.7MM (1/2 IN) SLUSH	MED	1650	1780	1910	2050	2210	2410	2630	6	-15	28	-2
		LOW	1790	1930	2070	2210	2370	2530	2690	5	-11	25	-2
	COMPACTED SNOW	MED	1500	1600	1700	1800	1900	2000	2110	3	-10	18	-1
		LOW	1800	1930	2060	2190	2320	2450	2580	3	-7	17	-1
	ICE	MED	3000	3180	3370	3560	3760	3960	4170	4	-27	28	-3
		LOW	3060	3250	3440	3640	3840	4040	4250	4	-26	28	-3

A310-204 CF6-80C2A2 CARBON MESSIER 72MJ 30/40 CL-N0-CL-15-001-120

NOTE : The above landing distances may be also considered as a reference for standard manual approach and landing. They do not include the regulatory margin.

ALL

Mod : 4863 + 6233 GE Eng. : 80C2

R

ACTUAL LANDING DISTANCES WITHOUT AUTOBRAKE

SLATS 30°/FLAPS 40°

LANDING DISTANCE (METERS)								
WEIGHT (1000 KG)			90	100	110	120	130	140	150
VREF (KT IAS)			118	125	131	137	142	147	153
RUNWAY CONDITION	DRY		720	770	820	880	940	1030	1150
	WET		1000	1080	1170	1250	1340	1430	1520
	COVERED WITH	6.3 MM (1/4 IN) WATER	1340	1500	1690	1900	2130	2360	2590
		12.7 MM (1/2 IN) WATER	1290	1440	1620	1820	2030	2250	2470
		6.3 MM (1/4 IN) SLUSH	1320	1460	1600	1750	1930	2130	2360
		12.7 MM (1/2 IN) SLUSH	1280	1410	1550	1690	1860	2050	2260
		COMPACTED SNOW	1130	1230	1330	1430	1530	1630	1720
		ICE	2600	2770	2950	3140	3330	3530	3720

SLATS 20°/FLAPS 20°

LANDING DISTANCE (METERS)								
WEIGHT (1000 KG)			90	100	110	120	130	140	150
1.3 VS (KT IAS)			128	135	141	147	152	157	165
RUNWAY CONDITION	DRY		780	830	890	960	1040	1150	1300
	WET		1120	1210	1310	1420	1520	1630	1740
	COVERED WITH	6.3 MM (1/4 IN) WATER	1640	1890	2170	2460	2770	3090	3410
		12.7 MM (1/2 IN) WATER	1560	1790	2040	2310	2590	2890	3200
		6.3 MM (1/4 IN) SLUSH	1520	1700	1910	2160	2420	2710	3000
		12.7 MM (1/2 IN) SLUSH	1460	1630	1830	2050	2300	2560	2840
		COMPACTED SNOW	1280	1390	1510	1620	1730	1850	1960
		ICE	3080	3290	3510	3740	3970	4200	4440

R *NOTE :* – *The above actual landing distances are the distances to come*
R *to a complete stop from a point 50 ft above the landing*
R *surface. They are provided for in flight reference. They do not include the regulatory margin.*
– *Before departure refer to instructions in FCOM 2.15.20 p1 to calculate the required landing distance*

CORRECTION ON LANDING DISTANCES

– **Wind** : . per 5 kt tailwind add 10 %
. per 5 kt headwind subtract 2 %

– **Airport Elevation** : per 1000 ft above sea level add 3.5 %

– **Effect of Reverse Thrust** : Landing distances are decreased by :
– 5 % on dry runway
– 10 % on wet runway
– 10 % on runway covered with water or slush
– 18 % on runway covered with compacted snow
– 26 % on icy runway

ALL

- This table summarizes the landing speed increments and landing distance factors as already showed on the related procedures.
- For two non-related failures :
  - **If at least one LDG SPD INCR./CORR. is marked #** :
    HIGHEST LDG SPD INCR./CORR. . . . . APPLY
    HIGHEST LDG DIST FACTOR . . . . . APPLY
    For example :
    – 4 or more ROLL SPLRS per wing affected
    and
    – Kruger retracted
    LDG SPD increment : V REF + 20 kt
    LDG DIST factor : 1.8
  - **If neither LDG SPD INCR./CORR. is marked #** :
    LDG SPEED INCR./CORR. . . . . ADD BOTH
    LDG DIST FACTORS . . . . . MULTIPLY BOTH
    For example :
    – 3 or more GRND SPLRS per wing affected
    and
    – Kruger retracted
    LDG SPD increment : V REF + 10 kt
    LDG DIST factor : 1.3 × 1.1 = 1.45

SYSTEM AFFECTED CONFIGURATION		LDG SPD		MULTIPLY LDG DIST 30/40 BY
		V_{LS} INCR.	V_{REF} CORR.	(WITHOUT REVERSER EFFECT)
BRK	A/SKID ALTN →	–	–	1.1
	A/SKID OFF →			1.5
SPLR	ROLL SPLR (4 or more per wing affected) →	10#	20#	1.8
	GRND SPLR (3 or more per wing affected) →	–	–	1.3
R	Non retracted SPLR →	20#	20#	–
KRUG	RETRACTED →	10	10	1.1
HYD SINGLE	BLUE or YELLOW AFFECTED →	–	–	1.3
	GREEN AFFECTED →	10	10	1.2
REV UNLK	ENG SHUT DOWN, SPLRS recovered →	–	10#	1.1
	ENG SHUT DOWN, SPLRS not recovered →	–	10	1.4
NO FLAPS NO SLATS	→	–	60	1.8

ALL

Code : 0051

- All failures already take into account the effect(s) of related secondary failure(s), if any.
- This table gives the landing speed increments and landing distance factors to be applied as required by the relevant originating procedure.

R

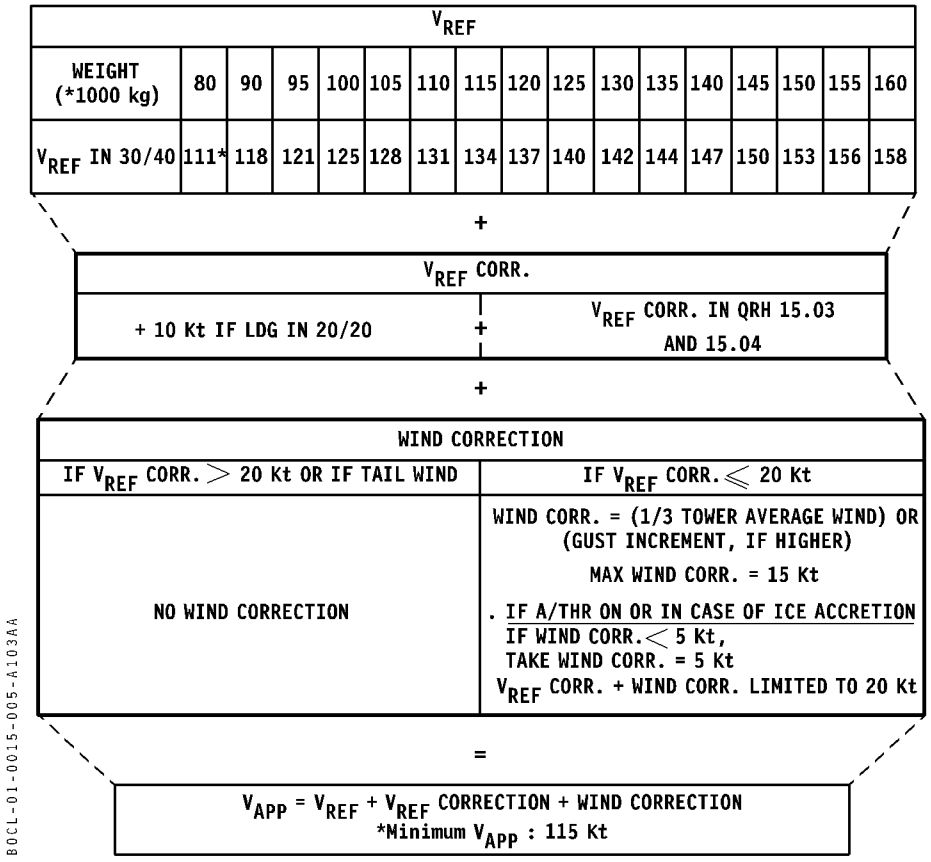
ORIGINATING PROCEDURE	SYSTEM AFFECTED CONFIGURATION	LDG SPD		MULTIPLY LDG DIST 30/40 BY
		VLS INCR. (KT)	VREF CORR. (KT)	(WITHOUT REVERSER EFFECT)
LOSS OF BOTH ENG GENERATORS	ALL HYD SYS AVAILABLE →	10	10	1.4
	YELLOW HYD SYS LO PR: FLAPS LESS THAN 20° →	**	30	1.8
	YELLOW HYD SYS LO PR: FLAPS 20° OR MORE →	**	15	1.6
	BLUE HYD SYS LO PR: SLATS LESS THAN 15° (FLAPS 40°) →	**	20	1.7
	BLUE HYD SYS LO PR: SLATS LESS THAN 15° (FLAPS 20°) →	**	35	2.1*
	BLUE HYD SYS LO PR: SLATS 15° OR MORE →	**	15	1.5
FLAPS SYS 1 and 2 FAULT/ FLAPS STUCK	FLAPS LESS THAN 20° →	**	20	1.3
	FLAPS 20° OR MORE →	**	5	1.1
SLATS SYS 1 and 2 FAULT/ SLATS STUCK	SLATS LESS THAN 15° (FLAPS 40°) →	**	20	1.3
	SLATS LESS THAN 15° (FLAPS 20°) →	**	35	1.6
	SLATS 15° OR MORE →	**	5	1.1
DUAL HYD	YELLOW REMAINING: SLATS LESS THAN 15° (FLAPS 40°) →	**	20	2.1*
	YELLOW REMAINING: SLATS LESS THAN 15° (FLAPS 20°) →	**	35	2.6*
	YELLOW REMAINING: SLATS 15° OR MORE: KRUG EXT →	**	5	1.8
	YELLOW REMAINING: SLATS 15° OR MORE: KRUG RET →	**	15	2.0
	BLUE REMAINING: FLAPS LESS THAN 20°: KRUG EXT →	**	20	2.9*
	BLUE REMAINING: FLAPS LESS THAN 20°: KRUG RET →	**	30	3.1*
	BLUE REMAINING: FLAPS 20° OR MORE: KRUG EXT →	**	5	2.5*
	BLUE REMAINING: FLAPS 20° OR MORE: KRUG RET →	**	15	2.7*
	GREEN REMAINING →	10	20	1.8

* To account for **reverser effect** (both reversers operative), multiply the landing distance factor in abnormal configuration by 0.8, **whatever the runway condition**.

** LDG SPD determination must be based on VREF only, disregard VLS.

ALL

VAPP DETERMINATION



Example :

Landing configuration	: 20/20	Flight condition	: Autothrust
Landing weight	: 120 t	Tower average wind	: 20 kt
Failure	: No failure	Gust	: 25 kt

VREF determinated from the landing weight : VREF = 137 kt
VREF CORRECTION due to the landing configuration : + 10 kt
VREF CORRECTION = 10 ≤ 20

As VREF CORRECTION is less than 20 kt, a wind correction should be applied :
(1/3 of tower average wind) or (gust increment, if higher) = (1/3 of 20) or (25-20, if higher) = (7) or (5, if higher)
WIND CORR = 7 kt (< 15)

A/THR used, but WIND CORR > 5 kt, no additional correction

VREF CORRECTION + WIND CORR = 10 + 7 = 17 kt < 20, the total correction of 17 kt must be applied.

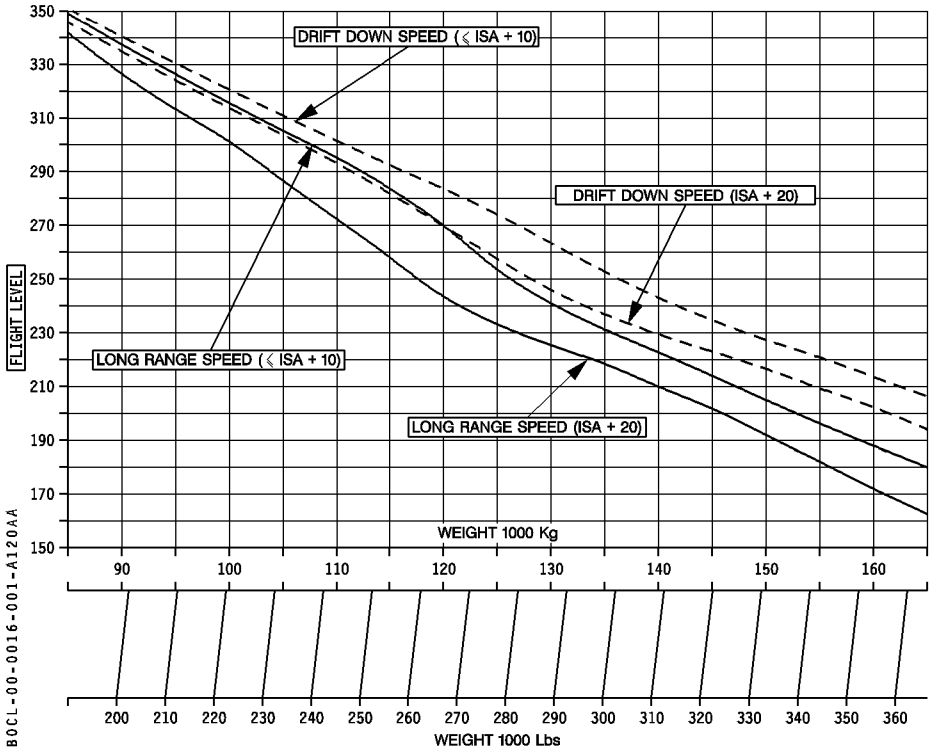
VAPP = 137 + 17 = 154 kt

ALL

Mod : 4863

INTENTIONALLY LEFT BLANK

ONE ENGINE GROSS CEILINGS
ANTI-ICING OFF - ONE AIR CONDITIONING PACK ON
MAX CONTINUOUS THRUST
C.G. POSITION = 27 %



		⩽ ISA + 10	ISA + 20
DRIFT DOWN	ENG. ANTI-ICE ON	– 250 ft	– 300 ft
	TOTAL ANTI-ICE ON	– 800 ft	– 1 000 ft
LONG RANGE	ENG. ANTI-ICE ON	– 300 ft	– 400 ft
	TOTAL ANTI-ICE ON	– 1 000 ft	– 1 200 ft

ALL

Mod : 4863 GE Eng. : 80C2

GROSS FLIGHT PATH DESCENT AT DRIFT DOWN SPEED

MAX. CONT. THRUST LIMITS
NORM. AIR CONDITIONING
ANTI ICING OFF

ISA
CG=27.0%

DIST.(NM) TIME (MIN)
INIT. SPEED (KT) FUEL (1000KG)
LEVEL OFF (FT)

INIT. GW (1000KG)	INITIAL FLIGHT LEVEL 250	290	330	350	370	390	410
90				114 18 220 .9 34200	237 38 224 1.9 34400	281 44 228 2.2 34500	310 48 232 2.3 34500
95				207 33 225 1.7 33400	262 41 229 2.1 33500	297 46 233 2.4 33500	321 50 237 2.5 33500
100			115 19 226 1.0 32300	239 38 230 2.1 32500	279 44 234 2.4 32500	309 48 238 2.6 32600	332 51 242 2.7 32600
105			207 33 231 1.9 31500	262 42 235 2.4 31600	296 47 239 2.6 31600	323 50 243 2.8 31600	341 53 247 2.9 31700
110			238 38 236 2.3 30600	280 45 240 2.6 30700	310 49 244 2.8 30700	334 52 248 3.0 30700	347 54 250 3.0 30700
115			260 42 241 2.6 29700	296 47 245 2.8 29800	321 50 249 3.0 29800	344 53 253 3.2 29800	353 55 250 3.2 29800
120		102 17 238 1.1 28600	277 44 246 2.8 28900	309 49 250 3.1 28900	332 52 254 3.2 29000	348 54 258 3.3 29000	356 55 250 3.4 29000
125		187 30 243 2.1 27900	294 47 251 3.1 28100	320 51 255 3.3 28100	341 53 259 3.4 28100	354 55 262 3.5 28100	359 56 250 3.5 28100
130		233 38 248 2.6 26900	314 50 256 3.4 27100	338 53 260 3.6 27100	356 56 264 3.7 27200	365 57 262 3.7 27200	
135		265 43 253 3.1 25900	330 53 261 3.6 26100	353 56 265 3.8 26100	369 58 269 3.9 26100	375 59 262 4.0 26100	
140	105 17 250 1.3 24600	290 47 258 3.4 25000	348 55 266 3.9 25100	367 58 270 4.1 25100	380 60 274 4.2 25100	386 60 262 4.2 25100	
145	182 30 255 2.3 23900	296 48 263 3.6 24100	349 56 271 4.0 24200	368 58 275 4.2 24200	376 59 274 4.2 24200		
150	208 34 260 2.7 23100	298 48 268 3.7 23300	347 55 276 4.1 23300	362 57 280 4.2 23400	368 58 274 4.2 23400		
155	220 36 265 2.9 22500	296 48 273 3.7 22600	339 53 281 4.1 22600	353 55 285 4.2 22600	358 56 274 4.2 22600		
160	231 38 270 3.1 21800	293 47 278 3.8 21900	332 52 286 4.1 22000	341 53 287 4.1 22000			

5A H-07A A310-304 CF6-80C2A2 23500010C6KG270 0 018590 0 0 3 .0 .0 .0 0 02 1.000 1.000 .000 0 CL-B0-CL-16-02-120

ALL

Mod : 4863 GE Eng. : 80C2

LONG RANGE CRUISE 1 ENGINE OUT

MAX. CONTINUOUS THRUST LIMITS
NORMAL AIR CONDITIONING
ANTI-ICING OFF

ISA
CG=27.0%

N1 (%) **MACH**
KG/H **IAS**

WEIGHT (1000KG)	FL100	FL150	FL200	FL220	FL240	FL250
90	80.7 .456 3115 252	84.8 .500 3092 252	87.0 .514 2865 234	88.0 .518 2787 227	89.2 .523 2722 220	89.7 .524 2693 215
95	82.2 .468 3287 259	85.8 .506 3215 255	88.0 .517 2977 236	89.1 .521 2902 228	90.3 .524 2844 220	91.1 .527 2840 217
100	83.7 .479 3459 265	86.9 .511 3336 257	89.0 .519 3094 237	90.2 .523 3022 229	91.7 .529 3000 222	92.7 .536 3024 221
105	85.1 .492 3650 272	87.8 .513 3445 259	90.1 .522 3211 238	91.3 .525 3152 230	93.3 .537 3187 226	97.0 .611 3618 253
110	86.3 .502 3814 278	88.5 .514 3541 259	91.1 .524 3334 239	92.6 .530 3318 232	97.5 .612 3802 259	98.0 .614 3757 254
115	87.2 .506 3939 280	89.3 .516 3652 260	92.1 .525 3465 240	94.1 .538 3511 236	98.4 .615 3940 260	99.4 .626 3980 260
120	88.1 .510 4062 283	90.1 .518 3770 261	93.4 .530 3638 242	98.2 .612 4163 270	99.7 .626 4161 265	100. .635 4190 264
125	88.9 .513 4175 284	91.0 .520 3889 262	94.8 .538 3833 246	99.1 .615 4306 271	101. .634 4367 269	102. .649 4444 270
130	89.5 .514 4281 285	91.8 .522 4008 263	98.7 .609 4502 280	100. .625 4513 276	103. .647 4622 275	
135	90.1 .515 4377 285	92.7 .524 4138 264	99.7 .616 4687 283	101. .633 4725 280		
140	90.8 .516 4487 286	93.5 .525 4262 265	100. .622 4864 286	103. .644 4969 285		
145	91.5 .518 4607 287	94.5 .528 4427 266	101. .631 5088 290			
150	92.2 .520 4728 288	95.7 .534 4614 269	103. .639 5306 294			
155	92.9 .521 4843 289	98.8 .587 5233 297				
160	93.6 .523 4969 290	100. .614 5634 311				

5A H-07A A310-304 CF6-80C2A2 12200010C6KG270 0 018590 0 0 3 1.0 .0 .0 0 01 .990 .000 .000 0 CL-B0-CL-16-03-120

ALL

Mod : 4863 GE Eng. : 80C2

IN CRUISE QUICK CHECK FROM ANY MOMENT IN CRUISE TO LANDING
LONG RANGE CRUISE - ONE ENGINE FAILURE

REF. INITIAL WEIGHT = 115000 KG
NORMAL AIR CONDITIONING
ANTI-ICING OFF

ISA
CG = 27.0%

FUEL CONSUMED (KG)

TIME (H.MIN)

AIR DIST. (NM)	FLIGHT LEVEL 100	150	200	220	250	270	CORRECTION ON FUEL CONSUMPTION (KG/1000KG) FL100 FL150	FL200 FL220	FL250 FL270
100	1319 0.25	1091 0.25	933 0.25	880 0.24	795 0.23	743 0.23	3	1	0
200	2529 0.44	2214 0.44	1999 0.43	1944 0.43	1846 0.39	1791 0.39	9	9	7
300	3732 1.03	3330 1.02	3058 1.02	2999 1.01	2889 0.55	2830 0.54	14	17	15
400	4928 1.21	4438 1.21	4108 1.21	4045 1.20	3924 1.12	3861 1.10	20	24	23
500	6118 1.40	5540 1.40	5150 1.39	5082 1.38	4951 1.28	4883 1.26	26	32	30
600	7301 1.59	6636 1.58	6185 1.58	6112 1.57	5970 1.44	5896 1.41	32	39	38
700	8478 2.18	7725 2.17	7212 2.17	7134 2.16	6982 2.00	6901 1.57	37	46	46
800	9648 2.37	8807 2.36	8233 2.36	8146 2.34	7987 2.17	7897 2.13	43	53	53
900	10812 2.56	9883 2.54	9249 2.54	9149 2.53	8985 2.33	8886 2.29	49	60	60
1000	11969 3.15	10952 3.13	10258 3.13	10144 3.12	9978 2.49	9866 2.45	54	67	68
1100	13122 3.34	12019 3.32	11261 3.31	11130 3.31	10963 3.06	10839 3.02	60	74	75
1200	14268 3.53	13080 3.50	12254 3.50	12104 3.50	11943 3.22	11803 3.18	65	81	83
1300	15402 4.12	14136 4.09	13242 4.09	13070 4.09	12918 3.38	12760 3.34	71	87	91
1400	16529 4.32	15186 4.28	14223 4.28	14027 4.28	13888 3.55	13709 3.50	76	94	99

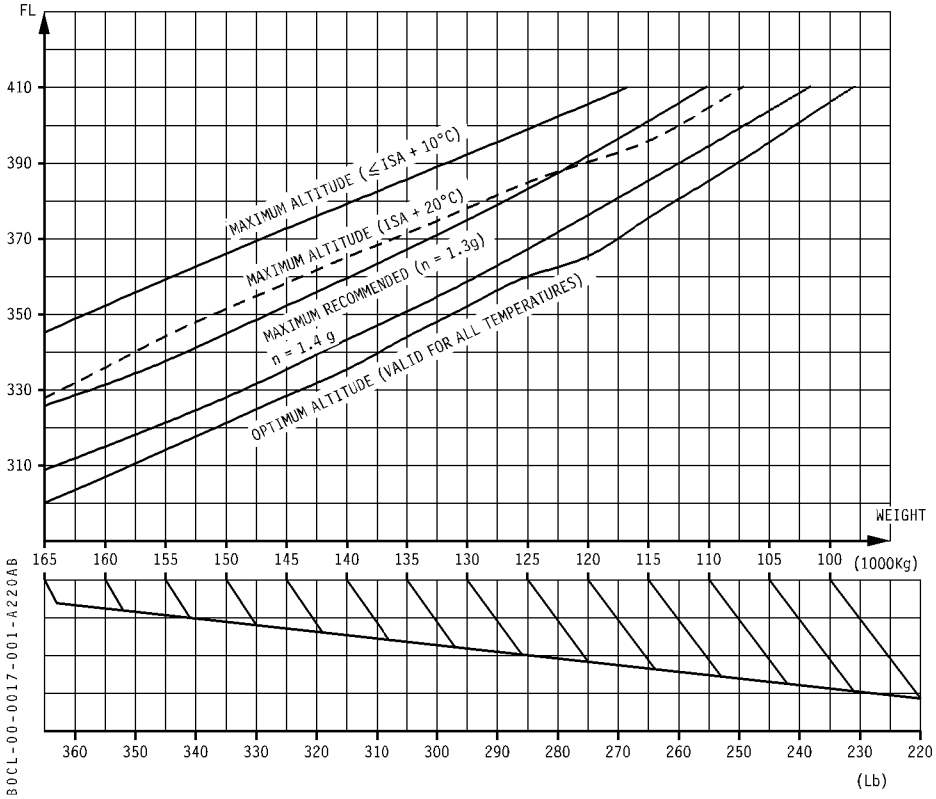
FLIP20G A310-304 CF6-80C2A2 3410 02701.001010 0 0 0 .0001 .000000 360 0 0350115 0 200200 65400 18590 CL-B0-CL-16-04-120

ALL

ALL ENG MAX/OPT ALTITUDES

M = 0.79

C.G. POSITION : 37.5 %



IN CRUISE QUICK CHECK FROM ANY MOMENT IN CRUISE TO LANDING

CRUISE M.79

REF. INITIAL WEIGHT = 115000 KG
ECONOMIC AIR CONDITIONING
ANTI-ICING OFF

ISA
CG = 37.5%

FUEL CONSUMED (KG)

TIME (H.MIN)

AIR DIST. (NM)	FLIGHT LEVEL 290	310	330	350	370	390	CORRECTION ON FUEL CONSUMPTION (KG/1000KG) FL290 FL310	FL330 FL350	FL370 FL390
200	1732 0.36	1629 0.36	1546 0.36	1477 0.36	1425 0.36	1389 0.36	0	2	3
400	3717 1.01	3504 1.02	3330 1.02	3195 1.02	3110 1.02	3080 1.02	6	10	16
600	5693 1.27	5369 1.27	5102 1.28	4896 1.29	4775 1.29	4744 1.29	11	18	28
800	7660 1.52	7224 1.53	6862 1.54	6583 1.55	6422 1.55	6382 1.55	17	26	39
1000	9617 2.18	9069 2.19	8609 2.20	8256 2.21	8051 2.22	7996 2.22	22	34	50
1200	11565 2.44	10904 2.45	10345 2.46	9914 2.48	9661 2.48	9589 2.48	27	41	60
1400	13503 3.09	12728 3.11	12070 3.12	11559 3.14	11254 3.15	11161 3.15	31	47	70
1600	15432 3.35	14544 3.37	13784 3.38	13190 3.40	12831 3.41	12713 3.41	36	54	79
1800	17350 4.01	16350 4.03	15487 4.05	14808 4.07	14393 4.08	14245 4.08	40	60	88
2000	19259 4.26	18147 4.28	17181 4.31	16415 4.33	15939 4.34	15759 4.34	45	66	96
2200	21158 4.52	19935 4.54	18867 4.57	18012 4.59	17469 5.01	17254 5.01	49	72	104
2400	23049 5.18	21717 5.20	20543 5.23	19597 5.26	18985 5.27	18731 5.27	53	77	111
2600	24932 5.43	23491 5.46	22214 5.49	21174 5.52	20486 5.54	20192 5.54	57	83	118
2800	26807 6.09	25258 6.12	23875 6.15	22741 6.18	21976 6.20	21636 6.20	61	88	125
3000	28675 6.34	27017 6.38	25528 6.41	24297 6.45	23452 6.46	23066 6.46	64	92	131
3200	30536 7.00	28769 7.04	27172 7.07	25844 7.11	24919 7.13	24484 7.13	68	97	137
3400	32390 7.26	30513 7.29	28808 7.33	27381 7.37	26376 7.39	25890 7.39	71	102	143
3600	34237 7.51	32247 7.55	30435 7.59	28910 8.03	27822 8.06	27283 8.06	74	106	149
3800	36076 8.17	33970 8.21	32054 8.25	30430 8.30	29260 8.32	28662 8.32	83	110	154
4000	37909 8.42	35684 8.47	33666 8.51	31941 8.56	30688 8.59	30029 8.59	87	114	159

FLIP20G A310-304 CF6-80C2A2 3410 03751.000021 0250300 .7900 .000000 360 0350350115 0 200200 60 60 18590

ALL

Mod : 4801 + 4863

GE Eng. : 80C2

DESCENT M.79 / 300 KT / 250 KT									
IDLE THRUST ECON. AIR CONDITIONING ANTI-ICING OFF			ISA CG=27.0%		MAX CABIN RATE OF DESCENT- 350 FT/M				
WEIGHT (1000KG)	100				130				
FL	TIME (MIN)	FUEL (KG)	DIST. (NM)	N1	TIME (MIN)	FUEL (KG)	DIST. (NM)	N1	IAS (KT)
410	18.6	311	115	IDLE					233
390	17.8	298	108	IDLE	19.8	331	121	IDLE	244
370	16.9	285	102	IDLE	19.0	319	115	IDLE	256
350	16.2	273	96	IDLE	18.3	307	109	IDLE	268
330	15.5	263	91	IDLE	17.6	297	104	IDLE	281
310	14.9	254	87	IDLE	16.9	287	99	IDLE	293
290	14.3	245	82	IDLE	16.1	277	93	IDLE	300
270	13.5	235	76	IDLE	15.2	264	86	IDLE	300
250	12.7	223	70	IDLE	14.3	251	79	IDLE	300
240	12.3	217	67	IDLE	13.8	244	76	IDLE	300
220	11.5	204	61	IDLE	12.9	229	69	IDLE	300
200	10.6	191	56	IDLE	11.9	213	63	IDLE	300
180	9.8	177	50	IDLE	10.9	197	56	IDLE	300
160	9.0	163	45	IDLE	9.9	181	50	IDLE	300
140	8.1	149	40	IDLE	8.9	164	44	IDLE	300
120	7.2	134	34	IDLE	7.9	146	38	IDLE	300
100	6.3	117	29	IDLE	6.9	127	32	IDLE	300
50	2.3	45	10	IDLE	2.5	49	11	IDLE	250
15	.0	0	0	IDLE	.0	0	0	IDLE	250

5A H-7A A310-304 CF6-80C2A2 23100000E5KG270 0 018590 0 0-1-350.0 15.0 .0 0 03 .790300.000250.000 0

ALL

Mod : 4863 GE Eng. : 80C2

ALTERNATE PLANNING FROM DESTINATION TO ALTERNATE AIRPORT
LONG RANGE CRUISE

REF. GO-AROUND WEIGHT = 100000KG
ECONOMIC AIR CONDITIONING
ANTI-ICING OFF

ISA
CG = 27.0%

FUEL CONSUMED (KG)

TIME (H.MIN)

AIR DIST. (NM)	FLIGHT LEVEL 100	150	200	250	270	310	CORRECTION ON FUEL CONSUMPTION (KG/1000KG) FL100 FL150	FL200 FL250	FL270 FL310
100	1828 0.24	1775 0.23	1753 0.23				6	6	
150	2446 0.34	2334 0.33	2261 0.32	2226 0.31	2218 0.30	2211 0.30	8	9	10
200	3062 0.44	2891 0.42	2767 0.40	2690 0.39	2667 0.38	2628 0.37	11	12	12
250	3676 0.53	3447 0.51	3272 0.49	3153 0.47	3115 0.46	3045 0.45	13	14	15
300	4289 1.03	4001 1.00	3776 0.57	3615 0.55	3561 0.53	3460 0.52	16	17	17
350	4900 1.13	4553 1.09	4278 1.06	4075 1.03	4006 1.01	3875 0.59	18	19	19
400	5509 1.23	5104 1.18	4780 1.14	4534 1.11	4450 1.09	4289 1.06	21	22	22
450	6117 1.33	5654 1.27	5279 1.23	4992 1.19	4892 1.17	4701 1.13	23	24	24
500	6723 1.42	6202 1.37	5778 1.32	5449 1.27	5334 1.24	5113 1.20	26	27	27
550	7328 1.52	6749 1.46	6275 1.40	5905 1.35	5774 1.32	5524 1.28	28	29	29
600	7931 2.02	7295 1.55	6772 1.49	6359 1.43	6213 1.40	5934 1.35	31	32	32
650	8532 2.12	7839 2.05	7267 1.57	6812 1.51	6652 1.48	6342 1.42	33	35	34
700	9132 2.22	8382 2.14	7761 2.06	7264 2.00	7089 1.56	6749 1.49	36	37	37
750	9731 2.32	8924 2.23	8255 2.15	7715 2.08	7525 2.04	7155 1.57	38	40	39
800	10328 2.42	9464 2.33	8747 2.23	8165 2.16	7960 2.12	7560 2.04	41	42	41
850	10923 2.52	10002 2.42	9238 2.32	8613 2.24	8394 2.20	7964 2.11	43	45	44
900	11517 3.02	10539 2.51	9727 2.40	9061 2.33	8826 2.28	8367 2.19	46	47	46

FLIP20G A310-304 CF6-80C2A2 3510 02701.000020 300250270 .6501 .000000 240 0350350100 0 200200 60 60 18590

ALL

Mod : 4863 GE Eng. : 80C2

SAFETY EXTERIOR INSPECTION	
PF	PNF
	* NOSE WHEEL CHOCKS . . . . . CHECK IN PLACE * L/G DOORS . . . . . CHECK POSITION * APU AREA . . . . . CHECK

PRELIMINARY COCKPIT PREPARATION	
PF	PNF
	IGNITION . . . . . OFF WIPERS . . . . . OFF THROTTLE LEVERS . . . . . CHECK IDLE REVERSE LEVERS . . . . . CHECK STOWED FUEL HP VALVES . . . . . CHECK OFF L/G lever . . . . . DOWN C/B PANELS . . . . . CHECK BAT/EMERGENCY INV . . . . . AUTO/CHECK HYDRAULIC panel . . . . . CHECK APU FIRE . . . . . CHECK/TEST EXT PWR (if avail) . . . . . ON APU . . . . . START EXT PWR . . . . . AS REQ * COCKPIT LT . . . . . AS REQ STBY GEN . . . . . TEST (IF REQ) ELEC panel . . . . . CHECK FUEL L. I. PUMP 2 . . . . . NORM PROBE/WINDOW HEAT . . . . . CHECK OFF VENT panel . . . . . CHECK ANN LT . . . . . AUTO TEST APU BLEED . . . . . ON PACK VALVES . . . . . ON COMPT TEMP . . . . . AUTO/AS REQ PARKING BRK . . . . . ON ALTERNATE BRK . . . . . CHECK SPD BRK . . . . . CHECK RET SLAT/FLAP . . . . . CHECK POSITION Lateral panel . . . . . CHECK MAINT PANEL AUDIO SELECTOR . . . . . PA EMER EQUIP . . . . . CHECK RAIN REPELLENT . . . . . CHECK * EXT. WALK AROUND . . . . . PERFORM

COCKPIT PREPARATION	
PF	PNF
GEAR PINS + COVERS . . . . . CHECK <u>OVHD PANEL</u> * ALL WHITE LIGHTS . . . . . EXTINGUISH * IRS . . . . . NAV FMS LAT/LONG . . . . . CHECK/CORRECT ALIGN IRS PROMPT . . . . . PRESS * SIGNS . . . . . SET * CALLS . . . . . CHECK HYD quantities . . . . . NORMAL RANGE * FLT RCDR GND CTL . . . . . ON ISDU (if installed) . . . . . OFF * EXT LTS . . . . . AS REQ * PITCH TRIM/YAW DAMPER/ATS . . . . . ON ENG 1 FIRE PROTECTION . . . . . CHECK/TEST EVAC SIGNAL . . . . . AS REQ L/G ANN . . . . . CHECK * FUEL panel . . . . . CHECK * FUEL X-FEED (if ER flight) . . . . . TEST * CVR . . . . . TEST CABIN PRESS . . . . . CHECK * CREW OXY . . . . . CHECK ENG 2 FIRE PROTECTION . . . . . CHECK/TEST * EMER EXIT LT . . . . . ARM COMPT TEMP . . . . . CHECK/AS REQ * COM . . . . . SET * AIRFIELD DATA . . . . . OBTAIN	

Cont'd

ALL

R STD or Mod : (12785 + 13203)

	* FMS INITIALIZATION	
	DATA BASE VALIDITY . . . . . CHECK	
	NAVAID DESELECTION . . . . . AS REQ	
	F-PLN INITIALIZATION . . . . . COMPLETE	
	F-PLN A . . . . . CHECK/COMPLETE	
	F-PLN B . . . . . CHECK	
	SEC F-PLN . . . . . AS REQ	
	* FMS DATA INSERTION	
	ZFW/CG or ZFCG/BLOCK FUEL . . . . . INSERT	
	T. O. DATA . . . . . INSERT	
	THR RED/ACC ALT . . . . . SET/CHECK	
	. When both pilots seated :	
	GLARESHIELD :	
	* PFD/ND BRIGHTNESS . . . . . AS REQ	* PFD/ND BRIGHTNESS . . . . . AS REQ
	* FPV/FD . . . . . ON FD	* FPV/FD . . . . . ON FD
	* VOR/NAV/ILS . . . . . AS REQ	* VOR/NAV/ILS . . . . . AS REQ
	* EFIS cont panel . . . . . AS REQ	* EFIS cont panel . . . . . AS REQ
	* ND mode/range . . . . . AS REQ	* ND mode/range . . . . . AS REQ
	* FCU . . . . . CHECK/SET	* FCU . . . . . CHECK/SET
	LATERAL CONSOLE :	
	RAT . . . . . CHECK OFF	RAT . . . . . CHECK OFF
	OXYGEN MASK . . . . . TEST	OXYGEN MASK . . . . . TEST
R	GND SVS INTPH . . . . . OFF	
	CM1/CM2 INST PANELS :	
R	GPWS . . . . . NORM	
	PFD/ND . . . . . CHECK	PFD/ND . . . . . CHECK
	STBY ASI . . . . . CHECK	STBY ASI . . . . . CHECK
	VSI . . . . . CHECK	VSI . . . . . CHECK
	ALTIMETER . . . . . CHECK	ALTIMETER . . . . . CHECK
	* BARO REF . . . . . SET	* BARO REF . . . . . SET
	CLOCK . . . . . CHECK/ADJUST	CLOCK . . . . . CHECK/ADJUST
	CTR INST PANEL	
	STBY ALT . . . . . CHECK	
	* BARO REF . . . . . SET	
	STBY HORIZON . . . . . CHECK	
	* ECAM . . . . . RCL	
	BRK-A/SKID . . . . . NORM/ON	
	* ENGINE INST . . . . . CHECK	
	* OIL QUANTITY . . . . . CHECK	
	* REV and REV UNLK lts . . . . . CHECK	
	* TRP . . . . . CHECK	
	L/G WARN TEST . . . . . PRESS	
	L/G POSITION DET SYS . . . . . AS REQ	
	LDG ELEV . . . . . SET DEPARTURE FIELD ELEV	
	PEDESTAL :	
	ADF . . . . . CHECK	
	* RADIOS . . . . . CHECK	
	* WX RADAR . . . . . CHECK OFF	
	* PARK BRK . . . . . CHECK OFF/AS REQ	
	* ATC TRANSPONDER . . . . . STBY/OFF	
	* TCAS (if installed) . . . . . OFF	
	VOR/ILS . . . . . AS REQ	
	* FMS DATA CONFIRMATION	
		IRS ALIGN . . . . . CHECK
		INIT PAGE A/B . . . . . CHECK
		T.O. DATA . . . . . CALCULATE/CONFIRM
		F-PLN . . . . . CHECK
		AIRFIELD DATA . . . . . CONFIRM
		DFDR fault lights . . . . . CHECK EXTINGUISHED
	FUEL	
		* FUEL QUANTITY . . . . . CHECK
		* FUEL PUMPS . . . . . ON
	* TAKE-OFF BRIEFING . . . . . PERFORM	

ALL

Mod : 3881

BEFORE PUSH BACK or START	
PF	PNF
LOADSHEET ..... CHECK (CM1)	
T. O. DATA . . . . . PREPARE/REVISE	T. O. DATA . . . . . PREPARE/REVISE
SEAT . . . . . ADJUST	SEAT . . . . . ADJUST
CDU . . . . . TAKE-OFF (PF)	CDU . . . . . F-PLN (PNF)
	EXT PWR . . . . . OFF/DISCONNECTED
BEFORE START C/L DOWN TO THE LINE	
PUSHBACK/START CLEARANCE . . . . . OBTAIN	
WINDOW/DOORS . . . . . CLOSED	WINDOW . . . . . CLOSED
PARK BRK . . . . . AS REQ	BEACON . . . . . ON/AUTO
BEFORE START C/L BELOW THE LINE	

ENGINE START	
PF	PNF
	THROTTLE LEVERS . . . . . IDLE
	IGNITION . . . . . START A/B
ANNOUNCE . . . . . "START ENG 2"	START 2 . . . . . PRESS
	ANNOUNCE . . . . . "VALVE OPEN"
ANNOUNCE . . . . . "N2"	
	OIL PRESSURE INCREASING . . . . . CHECK
	ANNOUNCE . . . . . "OIL PRESSURE"
FUEL LEVER . . . . . ON	
ANNOUNCE . . . . . "FUEL ON"	
FUEL FLOW . . . . . CHECK	
ANNOUNCE . . . . . "FUEL FLOW"	
CLOCK . . . . . START	CLOCK . . . . . START
ANNOUNCE . . . . . "EGT"	
ANNOUNCE . . . . . "N1"	
ANNOUNCE . . . . . "N2 45 %"	
	ANNOUNCE . . . . . "VALVE CLOSED"
ANNOUNCE . . . . "ALL PARAMETERS CORRECT"	
REPEAT THE START SEQUENCE ENG 1	

AFTER START	
PF	PNF
	APU BLEED . . . . . OFF
	APU . . . . . OFF
IGNITION . . . . . OFF	
	ENG ANTI ICE . . . . . AS REQ
	WING ANTI ICE . . . . . AS REQ
	SLATS/FLAPS . . . . . SET
	GND SPOILERS . . . . . ARM
	AIL/RUD TRIM . . . . . ZERO
	PITCH TRIM . . . . . SET
ECAM . . . . . CHECK STS	
ECAM DOOR PAGE . . . . . CHECK	
CLEAR To disconnect . . . . . ANNOUNCE	
AFTER START C/L	

R

ALL

TAXI

PF	PNF
NOSE LIGHT . . . . . TAXI	TAXI CLEARANCE . . . . . OBTAIN
PARK BRK . . . . . OFF	ELAPSED TIME . . . . . START
EXT LTS . . . . . AS REQ	
THRUST . . . . . AS REQ	
BRAKES . . . . . CHECK	ANNOUNCE . . . . . "PRESSURE ZERO"
FLT CTL . . . . . CHECK	FLT CTL . . . . . CHECK
	ATC CLEARANCE . . . . . OBTAIN/CONFIRM
T. O. DATA/CONDITIONS . . . . . CHECK/REVISE	T.O. DATA/CONDITIONS . . . . . CHECK/REVISE
	FMS F-PLN . . . . . CHECK
	FCU ALT/HDG/SPD . . . . . CHECK
	PROF . . . . . ARM
	NAV . . . . . ARM
FD . . . . . CHECK ON	FD . . . . . CHECK ON
FMA . . . . . CHECK	FMA . . . . . CHECK
FLT INST . . . . . CHECK	FLT INST . . . . . CHECK
R RADAR . . . . . AS REQ	RADAR . . . . . AS REQ
	ATC CODE . . . . . CONFIRM/SET
R TERR ON ND . . . . . AS REQ	TERR ON ND . . . . . AS REQ
TAKE-OFF BRIEFING . . . . . CONFIRM	
CABIN REPORT ..... OBTAIN (CM1)	
	T.O. CONFIG TEST . . . . . PRESS
	ECAM . . . . . NORM FOR T. O.
BEFORE TO C/L DOWN TO THE LINE	

BEFORE TAKE OFF

PF	PNF
	TAKE OFF/LINE UP CLEARANCE . . . . . OBTAIN
	CABIN CREW . . . . . ADVISE
	BRAKE PRESSURE . . . . . CHECK
APPROACH PATH . . . . . CLEAR OF TRAFFIC	BRAKE TEMP (if BRK FAN on) . . . . . CHECK
	BRAKE FAN (if installed) . . . . . OFF
	AUTO BRK . . . . . MAX
	IGNITION . . . . . CONT RELIGHT/AS REQ
	PACK VALVE . . . . . AS REQ
	ATC TRANSPONDER . . . . . ON/ALT REP
EXT LTS . . . . . SET	TCAS (if installed) . . . . . TA/RA/AS REQ
R QFU & THRESHOLD . . . . . CONFIRM	QFU & THRESHOLD . . . . . CONFIRM
BEFORE TO C/L BELOW THE LINE	

TAKE OFF

PF	PNF
ANNOUNCE . . . . . "TAKE OFF"	
CLOCK . . . . . START	CLOCK . . . . . START
BRAKES . . . . . RELEASE	
GO LEVERS . . . . . TRIGGERS (CM1)	
CM1 keeps his hand on throttles until V1 is reached.	
PFD/ND . . . . . SCAN	PFD/ND . . . . . SCAN
FMA INDICATION . . . . . ANNOUNCE	N1 (EPR) . . . . . CHECK
R • **Below 80 Kts :**	THRUST SET . . . . . ANNOUNCE
	AIRSPEED/ENG INST . . . . . SCAN
• **At 100 Kts :**	ANNOUNCE . . . . . "100 KTS"
• **At V1 :**	ANNOUNCE . . . . . "V1"
• **At VR :**	ANNOUNCE . . . . . "ROTATE"
• **At VSI positive :**	ANNOUNCE . . . . . "POSITIVE CLIMB"
ORDER . . . . . "GEAR UP"	L/G . . . . . UP
	GND SPOILERS . . . . . DISARM
	EXT LTS . . . . . SET
AP . . . . . ON/AS REQ	L/G LEVER . . . . . NEUTRAL
	ANNOUNCE . . . . . "GEAR UP/NEUTRAL"
• **At thrust red alt**	
FMA/TRP . . . . . CHECK	
	ONE PACK . . . . . ON
• **At F speed**	
ORDER . . . . . "FLAPS ZERO"	FLAPS 0 . . . . . SELECT
	ANNOUNCE . . . . . "FLAPS ZERO"
• **At S speed**	
ORDER . . . . . "SLATS RETRACT"	SLATS 0 . . . . . SELECT
	ANNOUNCE . . . . . "SLATS RETRACTED"
	2ND PACK . . . . . ON

ALL

Mod : (7172 + 11894) or (7172 + 12972)

R

AFTER TAKE OFF	
PF	PNF
	APU BLEED . . . . . AS REQ
	APU . . . . . AS REQ
	IGNITION. . . . . AS REQ
ANTI ICE . . . . . AS REQ	SIGNS . . . . . AS REQ
	TCAS (if installed) . . . . . TA/RA
AFTER TO/CLIMB C/L DOWN TO THE LINE	

CLIMB	
PF	PNF
	LAND LTS . . . . . OFF/RETRACT
FMA . . . MONITOR/ANNOUNCE ANY CHANGES	FMA . . . . . MONITOR ANY CHANGES
PF CDU . . . . . PROG	PNF CDU . . . . . F-PLN
FCU/FMS . . . . . SET (IF AP ON)	FCU/FMS . . . . . SET (IF AP OFF)
• **At transition altitude**	
ALTIMETER . . . . . STD	ALTIMETER . . . . . STD
CRZ FL . . . . . CHECK/MODIFY	
AFTER TO/CLIMB C/L BELOW THE LINE	
RADAR . . . . . AS REQ	RADAR . . . . . AS REQ

CRUISE	
PF	PNF
	TRP . . . . . CHECK CR
ECAM MEMO/STS . . . . . REVIEW	
ECAM SYS PAGES . . . . . REVIEW	
FLIGHT PROGRESS . . . . . CHECK	
OPT FL . . . . . CHECK	
FUEL QUANTITY AND DISTRIBUTION . . . CHECK	
AIRCRAFT TRIMMING . . . . . CHECK	
NAV ACCURACY . . . . . CHECK	
RADAR TILT . . . . . ADJUST	
CABIN TEMP . . . . . MONITOR	

DESCENT PREPARATION	
PF	PNF
	ECAM MEMO/STS . . . . . CHECK
	WEATHER/LANDING INFO . . . . . OBTAIN
	LANDING ELEV . . . . . SET
	FUEL . . . . . CHECK
	LANDING DATA . . . . . PREPARE
FMS . . . . . PREPARE	FMS . . . . . PREPARE
APPROACH BRIEFING . . . . . PERFORM	
	DESCENT CLEARANCE . . . . . OBTAIN
FCU ALT . . . . . CLEARED ALT	
	ANTI ICE . . . . . AS REQ
	IGNITION . . . . . AS REQ

ALL

Mod : 7172

DESCENT	
PF	PNF
DESCENT INITIATION . . . . . MONITOR	
FMA . . . . . CHECK/ANNOUNCE ANY CHANGES	FMA . . . . . CHECK/ANNOUNCE ANY CHANGES
PF CDU . . . . . PROG	PNF CDU . . . . . F-PLN
SPEED BRK . . . . . AS REQ	
RADAR TILT . . . . . ADJUST	
• **At transition altitude**	
ALTIMETER . . . . . SET	ALTIMETER . . . . . SET
NAV ACCURACY . . . . . CHECK	

INITIAL APPROACH	
PF	PNF
	IGNITION . . . . . CONT RELIGHT/AS REQ
	SIGNS . . . . . SET
	EXT LTS . . . . . AS REQ
POSITIONING . . . . . MONITOR	POSITIONING . . . . . MONITOR
	NAV/COM . . . . . CHECK/SET
ILS . . . . . SELECT/AS REQ	
NAV ACCURACY . . . . . CHECK	
RADAR TILT . . . . . ADJUST	
R TERR ON ND . . . . . AS RQRD	TERR ON ND . . . . . AS RQRD
ND . . . . . RANGE 15NM	ND . . . . . RANGE 15 NM
ND . . MAP FOR ILS (OTHERWISE ROSE OR ARC)	ND . . . . . MAP/AS REQ
• **For CAT II OR CAT III :**	
DH . . . . . CHECK/SET	DH . . . . . CHECK/SET
APPROACH C/L	

ALL

Mod : 11894 or 12972

STANDARD APPROACH

PF	PNF
FCU* ..... GREEN DOT SPEED	
HDG SEL . . . . . AS REQ	
SLATS EXTEND . . . . . ORDER	ANNOUNCE . . . . . "SPEED CHECKED"
	SLATS 15 . . . . . SELECT
	ANNOUNCE . . . . . "SLATS EXTENDED"
FCU* ..... S SPEED	
GPWS . . . . . AS REQ	
• **When cleared for final approach**	
LAND . . . . . PRESS	
2ND AP . . . . . AS REQ	TCAS (If installed) . . . . . TA/AS REQ
FMA . . . . . CHECK/ANNOUNCE	FMA . . . . . CHECK
LOC CAPTURE . . . . . MONITOR	
LOC* . . . . . ANNOUNCE	
ILS COURSE . . . . . CHECK	
RWY HDG . . . . . SET	
G/S CAPTURE . . . . . MONITOR	
G/S* . . . . . ANNOUNCE	
GO AROUND ALT* ..... SET	
• **At 2000 ft AGL Min**	
FLAPS 20 . . . . . ORDER	ANNOUNCE . . . . . "SPEED CHECKED"
	FLAPS 20 . . . . . SELECT
FCU* ..... VAPP	
THROTTLES (if A/THR OFF) . . . . . IDLE	ANNOUNCE . . . . . "FLAPS 20"
GEAR DOWN . . . . . ORDER	L/G . . . . . DOWN
	GND SPOILERS . . . . . ARM
	AUTO BRK . . . . . AS REQ
	ANNOUNCE . . . . . "GEAR DOWN"
FLAPS 40 . . . . . ORDER	FLAPS 40 . . . . . SELECT
	ANNOUNCE . . . . . "FLAPS 40"
	BRAKE/A-SKID . . . . . NORM/ON
	ECAM WHEEL PAGE . . . . . CHECK
THROTTLES (if A/THR off) . . . . . ADJUST	AUTOLAND Lights . . . . . TEST (For autoland only)
	WING ANTI ICE . . . . . OFF
	EXT LTS . . . . . SET
CABIN REPORT . . . . . OBTAIN (CM1)	
CABIN CREW . . . . . ADVISE	
LANDING C/L	
announce any FMA modifications	check any FMA modifications
	FLT PARAMETERS . . . . . CHECK
	announce any deviations in excess of : V/S : 1000 ft/min IAS : + 10KT/-5KT ILS : 1/4 dot LOC ; 1 dot GS Significant changes in ground speed
R • **At 400 ft**	LAND . . . . . CHECK/ANNOUNCE
• **At MDA + 100**	ANNOUNCE . . . . . "100 ABOVE"
• **At MDA OR DH**	MONITOR/ANNOUNCE . . . . . "MINIMUMS"
ANNOUNCE . . . . "CONTINUE" or "GO AROUND FLAPS"	
AUTO CALL OUT . . . . . MONITOR	

* PF if AP on, PNF if AP off.

ALL

Mod : 7172

NON PRECISION APPROACH

PF	PNF
APPROACH SPEED TECHNIQUE	
The standard speed technique is a stabilized approach using AP engaged in CMD mode and A/THR engaged in SPD mode.	
INITIAL APPROACH	
NAVIGATION ACCURACY . . . . . CHECK	
REFERENCE NAVAIDS . . . . . TUNED/CHECKED	
MDA (MDH) . . . . . CHECK/SET	
■ If accuracy check is positive :	
ND . . . . . MAP	ND . . . . . MAP
Use NAV mode down to the MDA or until LOC interception (lateral)	
Use PROFILE mode until FAF then V/S mode down to the MDA (vertical)	
VOR/NAV/ILS switch . . . . . NAV	VOR/NAV/ILS switch . . . . . NAV
■ If accuracy check is negative :	
ND . . . . . ROSE or ARC	ND . . . . . MAP or ROSE or ARC
Use HDG SEL mode down to the MDA or until LOC interception (lateral)	
Use V/S mode after leaving the FAF down to the MDA (vertical)	
VOR/NAV/ILS switch . . . . . VOR or ILS	VOR/NAV/ILS switch . . . . . AS RQRD
FPA/CRS target . . . . . SET	FPA/CRS target . . . . . SET
APPROACH C/L . . . . . .COMPLETE	
INTERMEDIATE APPROACH	
R The STANDARD APPROACH steps to prepare the aircraft for landing (L/G down, spoilers armed, Flaps 40, speed V_{APP}) R should be performed before reaching the FAF. If the aircraft is not stabilized on the approach path in landing R configuration at 1000 ft AAL in IMC, or at 500 ft AAL in VMC, or as restricted by Operator policy/regulations, a R go-around must be initiated unless the crew estimates that only small corrections are necessary to rectify minor R deviations from the stabilized condition due, amongst others, to external perturbations.	
FINAL APPROACH	
FD/FPV switch . . . . . SELECT FPV	FD/FPV switch . . . . . SELECT FPV
• At FAF :	
V/S . . . . . SELECT	
• If ND is in MAP mode :	• If ND is in MAP mode :
VOR/NAV/ILS switch . . . . . ILS	VOR/NAV/ILS switch . . . . . ILS
GA ALTITUDE . . . . . SET	
• During final approach :	
POSITION and FLIGHT PATH . . . . CHECK/ADJUST	
LANDING C/L . . . . . COMPLETE	
FLIGHT PARAMETERS . . . . . CHECK	FLIGHT PARAMETERS . . . . . CHECK
Announce any FMA modifications	Check any FMA modifications
	Call out if : – Speed lower than V_{APP} – 5 kt or greater than speed target + 10 kt. – Pitch attitude lower than – 2.5° or greater than 10° nose up. – Bank angle greater than 7° – Descent rate greater than 1000 ft/min. – Any significant changes in ground speed indicating windshear. If a call out occurs, a go-around must be initiated.
• At MDA (MDH) + 100 ft :	HUNDRED ABOVE . . . . . ANNOUNCE
• Reaching MDA (MDH) :	
■ When visual references are acquired and confirmed by both PF/PNF :	
R CONTINUE . . . . . ANNOUNCE	
AP . . . . . OFF	
■ If no visual references are acquired :	
• At MDA (MDH) and VDP :	
GO AROUND/FLAPS . . . . . ANNOUNCE	

ALL

LANDING

PF	PNF
• **From stabilized approach conditions, the flare height is about 30 ft :**	
FLARE . . . . . PERFORM	
THROTTLES . . . . . MONITOR IDLE	
• **At touchdown :**	
R REVERSE . . . . . PULL	N1, EGT, IAS . . . . . MONITOR
R	GRND SPLRS EXT . . . . . CHECK/ANNOUNCE
R	REVERSERS . . . . . CHECK/ANNOUNCE
	DECELERATION . . . . . CHECK/ANNOUNCE
REVERSE THRUST . . . . . MAX	
DIRECTIONAL CONTROL . . . . RUDDER PEDALS	
BRAKES . . . . . AS REQ	
• **At 80 kts or IAS fluctuations**	ANNOUNCE . . . . . "80 KT"
REV . . . . . IDLE	
• **At TAXI speed**	
REV . . . . . STOW	

GO AROUND

PF	PNF
ANNOUNCE . . . . . "GO AROUND-FLAPS_"	
GO LEVERS . . . . . PRESS	FLAPS . . . . . RETRACT ONE STEP
THROTTLE LEVERS . . . FOLLOW THROUGH/TOGA	FMA . . . . CHECK/ANNOUNCE THR, GO AROUND
ROTATION . . . . . PERFORM	ANNOUNCE . . . . . "POSITIVE CLIMB"
ORDER . . . . . "GEAR UP"	L/G . . . . . UP
	ANNOUNCE . . . . . "GEAR UP, FLAPS"
NAV or HDG* . . . . . SELECT	
• **At thrust reduction altitude**	
TRP* CL	
• **At acceleration altitude**	
SPD* . . . . . 250 KT	
LVL/CH* . . . . . SELECT	
	FLAPS . . . . . RETRACT ON SCHEDULE
MISSED APPROACH PROCEDURE . . . . FOLLOW	

AFTER LANDING

PF	PNF
LANDING LTS . . . . . OFF/RETRACT	ICE PROTECTION . . . . . AS REQ
GND SPOILERS . . . . . DISARM	IGNITION . . . . . OFF
	APU . . . . . START
	TRANSPONDER . . . . . STBY/OFF
	TCAS (if installed) . . . . . STBY OFF
	RADAR . . . . . OFF/TEST
	PITCH TRIM . . . . . 1° NOSE UP
	SLATS/FLAPS . . . . . RETRACT
	BRAKE TEMP . . . . . CHECK
	BRAKE FANS (if installed) . . . . . AS REQ
AFTER LANDING C/L	

* PF IF AP ON, PNF IF AP OFF

ALL

LANDING	
PF	PNF
RR • **From stabilized approach conditions, the flare height is about 30 ft :**	
FLARE . . . . . PERFORM	
THROTTLES . . . . . MONITOR IDLE	
• **At touchdown :**	
REVERSE . . . . . PULL	N1, EGT, IAS . . . . . MONITOR
	GND SPOILER EXT . . . . . CHECK
	ANNOUNCE . . . . . "REV GREEN"
REVERSE THRUST . . . . . MAX	
DIRECTIONAL CONTROL . . . . RUDDER PEDALS	
BRAKES . . . . . AS REQ	
• **At 80 kts or IAS fluctuations**	ANNOUNCE . . . . . "80 KT"
REV . . . . . IDLE	
• **At TAXI speed**	
REV . . . . . STOW	

GO AROUND	
PF	PNF
ANNOUNCE . . . . . "GO AROUND-FLAPS_"	
GO LEVERS . . . . . PRESS	FLAPS . . . . . RETRACT ONE STEP
THROTTLE LEVERS . . . FOLLOW THROUGH/TOGA	FMA . . . . CHECK/ANNOUNCE THR, GO AROUND
ROTATION . . . . . PERFORM	ANNOUNCE . . . . . "POSITIVE CLIMB"
ORDER . . . . . "GEAR UP"	L/G . . . . . UP
	ANNOUNCE . . . . . "GEAR UP, FLAPS"
NAV or HDG* . . . . . SELECT	
• **At thrust reduction altitude**	
TRP* CL	
• **At acceleration altitude**	
SPD* . . . . . 250 KT	
LVL/CH* . . . . . SELECT	
	FLAPS . . . . . RETRACT ON SCHEDULE
MISSED APPROACH PROCEDURE . . . . FOLLOW	

AFTER LANDING	
PF	PNF
LANDING LTS . . . . . OFF/RETRACT	ICE PROTECTION . . . . . AS REQ
GND SPOILERS . . . . . DISARM	IGNITION . . . . . OFF
	APU . . . . . START
	TRANSPONDER . . . . . STBY/OFF
	TCAS (if installed) . . . . . STBY OFF
	RADAR . . . . . OFF/TEST
R	PITCH TRIM . . . . . 1° NOSE UP
	SLATS/FLAPS . . . . . RETRACT
	BRAKE TEMP . . . . . CHECK
	BRAKE FANS (if installed) . . . . . AS REQ
AFTER LANDING C/L	

* PF IF AP ON, PNF IF AP OFF

ALL

PARKING	
PF	PNF
NOSE LIGHT . . . . . OFF/AS REQ	
R PARKING BRAKE ACCU PRESS . . . . . CHECK	
PARKING BRAKE . . . . . ON	APU BLEED . . . . . ON
ENG FUEL LEVERS . . . . . OFF	ELAPSED TIME . . . . . STOP
EXT LTS . . . . . AS REQ	SLIDES DISARMED . . . . . CHECK
	CABIN PRESS . . . . . CHECK
	FUEL PUMPS . . . . . OFF
SEAT BELTS . . . . . OFF	WINDOW HEAT . . . . . OFF
GROUND CONTACT . . . . . ESTABLISH	PROBE HEAT . . . . . OFF
PARKING BRAKE . . . . . OFF/AS REQ	IRS DRIFT . . . . . CHECK
	IRS MSU, 1, 2, 3 . . . . . OFF/AS REQ
	BRAKE TEMP . . . . . CHECK
	BRAKE FANS (if installed) . . . . . AS REQ
CRT's . . . . . DIM	CRT's . . . . . DIM
PARKING C/L	

SECURING THE AIRCRAFT	
PF	PNF
	IRS MSU 1, 2, 3 . . . . . OFF
	CREW OXYGEN . . . . . OFF
	EXT LTS . . . . . OFF
CRT's . . . . . OFF	CRT's . . . . . OFF
	APU BLEED . . . . . OFF
	EXT PWR . . . . . AS REQ
	APU . . . . . AS REQ
	EMERGENCY EXIT LT . . . . . DISARM
	BATTERIES . . . . . OFF
SECURING THE AIRCRAFT C/L	

ALL

M	OEB PROC NO	TYP	AFFECTS EFFECTIVITY	ECAM	DATE	TITLE
	125-3A	W	ALL		MAY2008	IDG CONNECTOR ARCING
	148-3A	W	ALL		MAY2008	"RA FAIL" FLAG ON THE VSI

Extracted from FCOM OEB N° : 125. For more information refer to FCOM 2.19.

SUBJECT : INTERMITTENT ELECTRICAL POWER SUPPLY – INTERRUPTION CAUSED BY IDG FEEDER CONNECTOR PIN/SOCKET ARCING

IDG CONNECTOR ARCING

In the case of one or a combination of the following typical occurences (or the recurrence thereof) :

- Flickering of PFD, ND, ECAM or FMS/CDU CRT's,
- Disengagement of ATS, YAW DAMPER or PITCH TRIM,
- Warnings and/or flags affecting ADC, FAC or FWS data.

Apply the following procedure :

- Using the BUS EQUIPMENT LIST (QRH 3.08 – 3.09), positively identify the affected generator.
- APU ..... START

NOTE : APU should be started (if available) only if current altitude is compatible with APU in-flight restart envelope.

- GEN (affected) ..... OFF/R
- Perform Logbook entry.

END OF OEB PROC

ALL

Extracted from FCOM OEB N° : 148. For more information refer to FCOM 2.19.

SUBJECT : ATA 34 - TCAS / VSI INDICATOR FAULT INDICATION AND PARTIAL DISPLAY IN SOME MULTIPLE AIRCRAFT ENCOUNTER

"RA FAIL" FLAG ON THE VSI

In the case of TCAS Resolution Advisory, the corresponding audio message must be followed even if the "RA FAIL" flag is displayed on the VSI.

If the "MAINTAIN VERTICAL SPEED, MAINTAIN" Resolution Advisory message is triggered, the current vertical speed must be maintained to keep the current flight path accordingly.

The awareness of the traffic situation is still available through the traffic advisory information, which is correctly displayed on the VSI.

END OF OEB PROC

ALL

	CODE	DESIGNATION
	0001	Mod : (3347 + 3448) or (3347 + 3448 + 5119 + 5713)
	0002	Mod : 3881 + 4801 + 5910 + 8648 + 12134
	0003	Mod : 3881 + 4801 + 5910 + 6256 + 8648 + 10554 + 12134
	0004	Mod : (3703 + 8130) or (5435 + 5616) or (3703 + 5435 + 5616) or (3703 + 5435 + 8130) or (3703 + 5435 + 5616 + 7088 + 8130)
	0005	Mod : (3881 + 6428) or (3881 + 5388 + 6428 + 6792)
R	0006	Mod : (4801 + 7259 + 10806 + 12134 + 12691) or (S7988 + 4801 + 7259 + 10806 + 12134 + 12691)
	0007	Mod : (3881 + 5051 + 5911) or (3881 + 5051 + 5911 + 8260) or (3881 + 5051 + 5911 + 10393) or (3881 + 5911 + 8260 + 10393) or (3881 + 5051 + 5846 + 5911 + 11123)
	0008	Mod : 8260 or (6195 + 10393) or (5051 + 6195 + 10393)
	0009	Mod : (5051 + 5911 + 8260) or (5911 + 8260 + 10393)
	0010	Mod : 3881 + 4801 + 5911 + 6368 + 11319
	0011	Mod : 3881 + 5910 + 5911 + 6368 + 6428 + 8648
	0012	Mod : 3881 + 4705 + 5388 + 5910 + 5911 + 6368 + 6792 + 8648
	0013	Mod : 3881 + 4705 + 5388 + 5910 + 5911 + 6368 + 6428 + 6792 + 8648
	0014	Mod : (4209 + 5913) or (4209 + 5913 + 6234) or (4209 + 5913 + 6352) or (4209 + 5697 + 5913 + 6234) or (4209 + 5913 + 6234 + 6352)
	0015	Mod : (5697 + 5913) or (5697 + 5913 + 6234)
	0016	STD or Mod : 6269 or 6727 or 6865 or 7037 or (6269 + 6865) or (6727 + 7037)
	0017	Mod : (6269 + 6727) or (6727 + 6865) or (6865 + 7037) or (6269 + 6727 + 6865) or (6727 + 6865 + 7037)
	0018	Mod : (5697 + 8960) or (5697 + 5913 + 8960) or (5697 + 6234 + 8960) or FDX
R	0019	Mod : 3881 + 4801 + 5910 + 8648
	0020	Mod : 5435 or (3703 + 5435)
	0021	Mod : (3703 + 7088) or (3703 + 8130) or (5435 + 5616) or (3703 + 5435 + 5616) or (3703 + 5435 + 7088) or (3703 + 6527 + 8130) or (3703 + 7088 + 8130) or (3703 + 5435 + 5616 + 7088) or (3703 + 5435 + 7088 + 8130) or (3703 + 5616 + 7088 + 8130) or (3703 + 5435 + 5616 + 6527 + 7088) or (3703 + 5435 + 5616 + 7088 + 8130)
	0024	Mod : (3881 + 5051 + 5846 + 5911) or (3881 + 5051 + 5846 + 5911 + 8260) or (3881 + 5051 + 5846 + 5911 + 10393) or (3881 + 5846 + 5911 + 8260 + 10393)
	0025	Mod : (5051 + 5846 + 5911 + 8260) or (5846 + 5911 + 8260 + 10393)
	0026	Mod : (5697 + 6041) or (5697 + 6865) or (6041 + 6234) or (5697 + 6041 + 6865) or (6041 + 6234 + 6865) or (6041 + 6352 + 6865)
	0027	Mod : (5697 + 6041) or (5697 + 6865) or (6041 + 6234) or (5697 + 6041 + 6865) or (6041 + 6234 + 6865) or (6041 + 6352 + 6865)
	0028	Mod : (3219 + 5911) or (5911 + 6591) or (3219 + 5911 + 6591)
	0029	Mod : 3219 or 6591 or (3219 + 6591)
	0030	Mod : (4801 + 10806) or (MP S7988 + 4801 + 10806) or (4801 + 7259 + 10806) or (MP S7988 + 4801 + 7259 + 10806)
	0031	Mod : (4863 + 5443 + 5911) or (4863 + 5911 + 6233) or (4863 + 5443 + 5911 + 6591)
	0033	Mod : (6269 + 6727) or (6269 + 6865) or (6727 + 6865) or (6865 + 7037) or (6269 + 6727 + 6865) or (6727 + 6865 + 7037)
	0034	Mod : (4801 + 10806) or (4801 + 7576 + 10806)
	0035	STD or Mod : 3703 or (3703 + 6527)
	0037	Mod : (3881 + 6368) or (3881 + 5388 + 6368 + 6792)
	0038	Mod : (3881 + 5910 + 5911 + 6368) or (3881 + 4705 + 5388 + 5910 + 5911 + 6368 + 6792)
	0039	Mod : 3881 + 4801 + 5910 + 6368 + 6428
	0040	Mod : 3881 + 4801 + 5910 + 5911 + 6368

ALL

CODE	DESIGNATION
0041	Mod : (4801 + 5562 + 6865 + 6920) or (4801 + 5562 + 6920 + 7576)
0042	Mod : (3881 + 5388 + 5910 + 5911 + 6368) or (3881 + 4705 + 5388 + 5910 + 5911 + 6368)
0043	Mod : 3881 + 4801 + 5910 + 5911 + 6368 + 6428
0044	Mod : 3881 + 4801 + 5388 + 6368 + 6428 + 6792
0045	Mod : (3881 + 4801 + 5910 + 5911 + 6368 + 6428) or (3881 + 4801 + 5388 + 5910 + 5911 + 6368 + 6428)
0046	Mod : 3881 + 4801 + 5910 + 5911 + 6368 + 6428 + 8648
0047	Mod : (3881 + 4801 + 5910 + 5911 + 6368 + 6428 + 8648) or (3881 + 4801 + 5388 + 5910 + 5911 + 6368 + 6428 + 8648)
0048	Mod : 3881 + 4801 + 5388 + 5910 + 5911 + 6368 + 6428 + 6792
0049	Mod : 3881 + 4801 + 5388 + 5910 + 5911 + 6368 + 6428 + 6792 + 8648
0050	STD or Mod : 5443 or (3219 + 6591) or (5443 + 6591)
0051	Mod : (4863 + 5443) or (4863 + 6233) or (4863 + 5443 + 6591)
0052	Mod : 6365 or (5917 + 5918) or (5918 + 6365) or (5917 + 5918 + 6365)
0053	STD or Mod : 6269 or 6727 or 6865 or 7037 or (6269 + 6865)
0054	Mod : (5562 + 6865) or (5562 + 7576) or (5562 + 6865 + 7576)
0055	Mod : (3881 + 5051) or (3881 + 8260) or (3881 + 5051 + 8260) or (3881 + 6195 + 10393) or (3881 + 5051 + 6195 + 10393) or (3881 + 5051 + 6415 + 8260)
0058	Mod : (5846 + 6195 + 10393) or (5846 + 8260 + 10393) or (5051 + 5846 + 6195 + 10393)
0059	Mod : (3881 + 5846 + 6195) or (3881 + 5846 + 6195 + 10393) or (3881 + 5846 + 8260 + 10393) or (3881 + 5051 + 5846 + 6195 + 10393)
0060	Mod : 3703 or 6395 or (3703 + 6527)
0061	Mod : (3703 + 5616) or (3703 + 5435 + 5616)
0062	Mod : (3703 + 6527) or (3703 + 5435 + 6707)
0063	Mod : (11318 + 11319 + 11592) or (11318 + 11319 + 12248)
0064	FDX or MSN 425, 434, 441, 444, 482, 484, 522, 523
0065	Mod : (6403 + 6439 + 12134) or (6403 + 6445 + 12134)
0066	Mod : (6439 + 7483 + 12134) or (6445 + 7483 + 12134)
0067	Mod : (4801 + 5562 + 6865 + 12134) or (4801 + 5562 + 6865 + 7576 + 12134)
0068	Mod : 4801 + 5562 + 6865 + 6920 + 7576 + 12134
0069	Mod : (6865 + 12134) or (7576 + 12134) or (6865 + 7576 + 12134)
0070	Mod : (6727 + 6865 + 12134) or (6269 + 6727 + 6865 + 12134)
0071	Mod : (5917 + 5918 + 10264) or (5917 + 5918 + 11318)
0072	Mod : (11318 + 11319 + 11592) or (11318 + 11319 + 12248)
0073	Mod : 3881 + 4801 + 5910 + 6256 + 10554
0074	Mod : 3881 + 4801 + 5910 + 6256 + 8648 + 10554
0075	Mod : 3881 + 4801 + 5507 + 5910 + 8648 + 10554
0076	Mod : 2254/MSN 425, 441, 444, 482
0077	Mod : 3881/MSN 425, 441, 444, 482
0078	Mod : (3703 + 5435 + 5616) or (3703 + 5435 + 5616 + 7088)
0079	Mod : 3881/MSN 434, 484, 522, 523
0080	Mod : 3881 + 4801 + 5911 + 6368 + 12134
0081	Mod : (4863 + 5443) or (4863 + 6233)
0082	Mod : 5917 or 6365 or (5917 + 5918) or (5918 + 6365) or (5917 + 5918 + 6365) or (5051 + 5917 + 5918 + 6415)
0083	Mod : (7172 + 11899) or (7172 + 11900) or (7172 + 11899 + 11900)
0084	Mod : MP S7988 + 4801 + 7259 + 10806 + 12134
0085	Mod : (4801 + 5917 + 5918 + 10264) or (4801 + 5917 + 5918 + 11318) or (4801 + 5917 + 5918 + 10264 + 11318)

ALL

	CODE	DESIGNATION
	0086	Mod : (11318 + 11319 + 11592) or (11318 + 11319 + 12248) or (11651 + 11318 + 12248)
R	0087	Mod : 12972 or (5697 + 12972) or (FDX + 5697 + 12972)
R	0088	Mod : (3791 + 11318 + 11319 + 11592) or (3791 + 11318 + 11319 + 12248) or (3791 + 11318 + 11651 + 12248) or (3791 + 11318 + 11651 + 12248 + 12291)
R	0089	Mod : (11318 + 11319 + 11592 + 11894) or (11318 + 11319 + 11894 + 12248) or (11318 + 11651 + 11894 + 12248) or (11318 + 11319 + 11651 + 11894 + 12291) or (11318 + 11651 + 11894 + 12248 + 12291) or (11318 + 11319 + 11592 + 11651 + 11894 + 12291) or (11318 + 11319 + 11651 + 11894 + 12134 + 12291)
R	0090	Mod : 11318 + 11651 + 11894 + 12134 + 12144 + 12248 + 12291
R	0091	Mod : 2989 + 3347 + 3448 + 5119 + 5713 + 12134
R	0092	Mod : (3881 + 5051 + 5911 + 12691) or (3881 + 5051 + 5911 + 8260 + 12691) or (3881 + 5051 + 5911 + 10393 + 12691) or (3881 + 5911 + 8260 + 10393 + 12691) or (3881 + 5051 + 5846 + 5911 + 11123 + 12691)
	0093	Mod : (MP S5063 + 5910 + 5911) or (5910 + 5911 + 6523)
	0094	Mod : (MP S5063 + 4536 + 5910 + 5911) or (4536 + 5910 + 5911 + 6523)
R	0095	Mod : 3881 + 4801 + 5911 + 6368 + 12134 + 12691
R	0096	Mod : 3881 + 4801 + 5910 + 12134 + 12691
R	0097	Mod : 3881 + 4801 + 5910 + 8648 + 12134 + 12691
	0098	Mod : (4801 + 5562 + 6865) or (4801 + 5562 + 7576) or (4801 + 5562 + 6865 + 7576)
	0099	Mod : (4801 + 5697 + 6041) or (4801 + 6041 + 6352)
	0100	Mod : (3703 + 5435 + 5616) or (3703 + 5435 + 5616 + 7088) or (3703 + 5435 + 5616 + 7088 + 8130)
	0101	Mod : (6403 + 6439 + 7483) or (6403 + 6445 + 7483) or (6403 + 6439 + 6445 + 7483)
	0102	Mod : 8260 or (6195 + 10393) or (8260 + 10393) or (5051 + 6195 + 10393)
	0103	Mod : (5051 + 5917 + 5918) or (5051 + 5918 + 6365) or (5051 + 5917 + 5918 + 10393) or (5051 + 5918 + 6365 + 8260) or (5051 + 5918 + 6195 + 6365 + 10393) or (5917 + 5918 + 6195 + 6365 + 10393)
	0104	STD or Mod : (5388/PW 4000) or (5388 + 6792) or (5388 + 6792/PW 4000)
R	0105	STD or Mod : 11318 or 11651 or 12291 or (11318 + 11319) or (11318 + 12134) or (11318 + 12248) or (11318 + 12291) or (11651 + 12291) or (11318 + 11651 + 12134) or (11318 + 11651 + 12291) or (11651 + 12144 + 12291) or (11318 + 11651 + 12134 + 12291)
R	0106	Mod : 3791 or (3791 + 11651) or (3791 + 12248) or (3791 + 12291) or (3791 + 11318 + 12248) or (3791 + 11651 + 12291) or (3791 + 11318 + 12134 + 12291) or (3791 + 11318 + 12248 + 12291)
R	0107	Mod : 11894 or (11318 + 11894) or (11651 + 11894) or (11894 + 12291) or (11318 + 11319 + 11894) or (11318 + 11894 + 12248) or (11651 + 11894 + 12291) or (11318 + 11651 + 11894 + 12291) or (11651 + 11894 + 12144 + 12291) or (11318 + 11651 + 11894 + 12134 + 12291)
	0108	Mod : (5697 + 11894) or (5697 + 5913 + 11894) or (5697 + 8960 + 12523) or (5697 + 5913 + 8960 + 11894)
	0109	Mod : (6365 + 11318) or (5917 + 5918 + 10264) or (5917 + 5918 + 11318) or (5918 + 6365 + 11318) or (5917 + 5918 + 6365 + 11318)
	0110	Mod : (2254 + 6794) or (2254 + 7019) or (2254 + 7122) or (2254 + 7402) or (2254 + 7787) or (2254 + 3881 + 7122)
	0111	Mod : (MP S5063 + 12134 + 12144 + 12291) or (6523 + 12134 + 12144 + 12291)

ALL

CODE	DESIGNATION
0112	Mod : (6439 + 7483) or (6445 + 7483) or (6439 + 6445 + 7483)
0113	Mod : 3881 + 4801 + 5911 + 6368 + 12134
0114	Mod : 11318 + 11894 + 12134 + 12144 + 12248 + 12291
0115	Mod : 12025 or 12034 or 12043 or 12094 or 12339 or 12354
0116	Mod : (5697 + 6041) or (5697 + 6865) or (6041 + 6234) or (5697 + 6041 + 6865) or (6041 + 6234 + 6865) or (6041 + 6352 + 6865) or (5697 + 6041 + 6234) or (5697 + 6041 + 6234 + 6865) or (6041 + 6234 + 6352 + 6865)
0117	FDX or MSN 421, 422, 425, 441, 444, 448, 482, 550, 551
0118	Mod : 12557 or 12693 or 12715 or (12557 + 12693)
0119	Mod : 12671 or (12557 + 12671) or (12557 + 12671 + 12693)
0120	Mod : (4705 + 5911 + 12557) or (4705 + 5911 + 12715)
0121	Mod : (3881 + 4801 + 5910 + 8648/MSN 425, 441, 444, 482)
0122	Mod : 3881 or (3881 + 5051 + 6415) or (3881 + 5051 + 5846 + 6195 + 6415)
0123	Mod : (3881 + 5846 + 6195) or (3881 + 5051 + 5846 + 6195) or (3881 + 5846 + 6195 + 10393) or (3881 + 5846 + 8260 + 10393) or (3881 + 5051 + 5846 + 6195 + 10393)
0124	Mod : (5697 + 11894) or (5697 + 5913 + 11894) or (5697 + 8960 + 11894) or (5697 + 8960 + 12523) or (5697 + 5913 + 6234 + 11894) or (5697 + 5913 + 8960 + 11894) or (5697 + 6234 + 8960 + 11894) or (4209 + 5697 + 5913 + 6234 + 11894)
0125	Mod : 5917 or 6365 or (5917 + 5918) or (5918 + 6365) or (5917 + 5918 + 6365) or (5918 + 6195 + 6365) or (5051 + 5917 + 5918 + 6415) or (5051 + 5917 + 5918 + 6195 + 6415)
0126	Mod : (5051 + 5917 + 5918) or (5051 + 5918 + 6365) or (5051 + 5917 + 5918 + 10393) or (5051 + 5918 + 6365 + 8260) or (5051 + 5918 + 6195 + 6365 + 10393) or (5917 + 5918 + 6195 + 6365 + 10393) or (5051 + 5917 + 5918 + 10393 + 12134) or (5051 + 5917 + 5918 + 6195 + 6365 + 10393)
0127	STD or GE or Mod : (2753 + 8850) or ((2753 + 8850)/GE)
0128	Mod : (5697 + 6041+ 12691) or (6041 + 6352 + 12691)
0129	Mod : (7483 + 12691) or (7483 + 12134 + 12691)
0130	Mod : 12691 or (12134 + 12691)
0131	Mod : (3881 + 12691) or (3881 + 12134 + 12691)
0132	Mod : (5910 + 12691) or (5910 + 12134 + 12691)
0133	Mod : (3881 + 5910 + 12691) or (3881 + 5910 + 12134 + 12691)
0134	Mod : 3881 + 4801 + 5910 + 12134
0135	Mod : 3881 + 4801 + 5910 + 12691
0136	Mod : 12691 or (6269 + 12691) or (6727 + 12691) or (6865 + 12691) or (6727 + 6865 + 12691) or (6865 + 7037 + 12691) or (6727 + 6865 + 7037 + 12691) or (6727 + 6865 + 12134 + 12691)
0137	Mod : 12691 or (6269 + 12691) or (6727 + 12691) or (6865 + 12691) or (12134 + 12691) or (6727 + 6865 + 12691) or (6865 + 7037 + 12691) or (6727 + 6865 + 7037 + 12691) or ((6727 + 6865 + 12134 + 12691)
0138	Mod : 12691 or (5443 + 12691) or (12134 + 12691) or (3219 + 6591 + 12691)
0139	Mod : (3219 + 12691) or (3219 + 12134 + 12691)
0140	Mod : 7177 + 7885 + 12134 + 12691
0141	Mod : (10264 + 12691) or (11318 + 12691) or (10264 + 11318 + 12691)
0142	Mod : 10800 + 11318 + 11695 + 12691
0143	Mod : 12691 or (5443 + 12691) or (3219 + 6591 + 12691)
0144	Mod : 5917 or 6365 or (5917 + 5918) or (5918 + 6365) or (5917 + 5918 + 6365)
0145	Mod : (6041 + 12691) or (6041 + 6865 + 12691)

ALL

	CODE	DESIGNATION
	0146	Mod : (5697 + 6041 + 12691) or (5697 + 6865 + 12691) or (6041 + 6234 + 12691) or (5697 + 6041 + 6234 + 12691) or (5697 + 6041 + 6865 + 12691) or (6041 + 6234 + 6865 + 12691) or (6041 + 6352 + 6865 + 12691) or (5697 + 6041 + 6234 + 6865 + 12691)
	0147	Mod : 5051 + 5917 + 5918 + 12134 + 12691
	0148	Mod : 3881 + 5051 + 5846 + 5911 + 12691
	0149	Mod : 3881 + 4801 + 5911 + 6368 + 12134 + 12691
	0150	Mod : 4801 + 5917 + 5918 + 11318 + 12691
	0151	Mod : 5944 + 6041 + 6403 + 6445 + 7483 + 12134
	0152	Mod : 4801 + 5562 + 6865 + 6920 + 7576 + 12134 + 12691
	0153	Mod : (3219 + 12691) or (6591 + 12691) or (3219 + 6591 + 12691)
	0154	Mod : 3881 + 4801 + 5910 + 10002 + 12134
	0155	Mod : (3219 + 10002 + 12691) or (6591 + 10002 + 12691) or (3219 + 6591 + 10002 + 12691)
	0156	Mod : (5697 + 11894 + 13095 + 13174) or (5697 + 5913 + 11894 + 13095 + 13174)
	0157	Mod : (4010 + 12557) or (12557/FDX) or (4010 + 12557/FDX)
R	0158	Mod : 3881 + 4801 + 5910 + 8648 + 10554 + 12134 + 12691
R	0159	Mod : 4801 + 5562 + 6865 + 7576 + 12134 + 12691
R	0160	Mod : (4801 + 10806 + 12691) or (4801 + 7576 + 10806 + 12691)
R	0161	Mod : (4801 + 7259 + 10806 + 12134 + 12144 + 12691) or (MP S7988 + 4801 + 7259 + 10806 + 12134 + 12144 + 12691)
R	0162	Mod : (4863 + 5443 + 12691) or (4863 + 6233 + 12691) or (4863 + 5443 + 6591 + 12691)
R	0163	Mod : (4863 + 5443 + 5911 + 12691) or (4863 + 5911 + 6233 + 12691) or (4863 + 5443 + 5911 + 6591 + 12691)
R	0164	Mod : 11894 or (11318 + 11894) or (11651 + 11894) or (11894 + 12291) or (11318 + 11319 + 11894) or (11318 + 11894 + 12248) or (11651 + 11894 + 12291) or (11318 + 11651 + 11894 + 12291) or (11651 + 11894 + 12144 + 12291) or (11651 + 11894 + 12248 + 12291) or (11318 + 11651 + 11894 + 12134 + 12291)
R	0165	Mod : (3791 + 11894) or (3791 + 11651 + 11894 + 12291) or (3791 + 11318 + 11651 + 11894 + 12134)
R	0166	Mod : (11318 + 11319 + 11592) or (11318 + 11319 + 12248) or (11651 + 11318 + 12248) or (11318 + 11651 + 12248 + 12291)
R	0167	Mod : 11318 + 11651 + 12134 + 12144 + 12248 + 12291
R	0168	Mod : 3881 + 4801 + 5911 + 6368 + 11319 + 12134
R	0170	Mod : 4801 + 7259 + 8911 + 10806 + 12134 + 12144 + 12691

ALL

THIS TABLE GIVES, FOR EACH AIRCRAFT INCLUDED IN THE MANUAL, THE CROSS REFERENCE BETWEEN :

- THE MANUFACTURING SERIAL NUMBER (MSN) WHICH APPEARS IN THE LIST OF EFFECTIVE PAGES

- THE REGISTRATION NUMBER OF THE AIRCRAFT AS KNOWN BY AIRBUS INDUSTRIE.

MSN	REGISTRATION
0528	SIMU-S4'04

M	PAGE	SEQ	REV	VALIDATION CRITERIA / EFFECTIVITY
0	.00	001	REV035	ALL
0	.01	001	REV035	
0	.02	001	REV034	ALL
0	.03	001	REV036	
0	.04	001	REV036	ALL
0	.05	001	REV034	
0	.06	001	REV034	ALL
1	.00	105	REV034	M:3448=(3448+5119+5713) ALL
1	.01	001	REV030	
1	.02	020	REV034	STD=M:6120/GE 80C2 ALL
1	.02A	100	REV034	CODE 0144 ALL
1	.03	020	REV031	GE 80C2
1	.04	215	REV035	M:2989+3448 ALL
2	.00	100	REV032	M:3881 ALL
2	.01	100	REV036	M:6269
2	.02	100	REV029	M:3881 ALL
3	.00	100	REV034	M:5911 ALL
3	.01	305	REV034	CODE 0126
3	.02	303	REV034	M:3881+4801+6368 ALL
3	.03	301	REV031	CODE 0007
3	.04	410	REV033	M:3881+4801+5911+6368/GE ALL ALL
3	.05	300	REV029	M:3881+4801+5911
3	.06	316	REV032	M:4801+5910+5911/GE ALL
3	.07	300	REV030	M:3881+4801+5911
3	.08	300	REV036	CODE 0093 ALL
3	.09	710	REV028	CODE 0046/GE
3	.10	200	REV033	M:5911+12557=5911+12715 ALL
4	.00	001	REV028	ALL
4	.01	001	REV035	STD=M:12134
4	.02	001	REV027	ALL
5	.01	100	REV033	M:2254
5	.02	200	REV033	M:2989+3881 ALL
5	.03	001	REV034	
5	.04	001	REV034	ALL
5	.04A	001	REV035	ALL
5	.05	411	REV033	M:3881+4801+5910+8648/GE
5	.06	300	REV036	M:4801+6368+8648 ALL
5	.07	405	REV035	M:5944+6041+6403+6445
5	.08	100	REV032	M:2254=(2254+7122) ALL
5	.09	100	REV034	MOD:2254=2254+3881
5	.10	100	REV032	MOD:2254 ALL
6	.00	001	REV033	ALL

M	PAGE	SEQ	REV	VALIDATION CRITERIA / EFFECTIVITY
6	.01	300	REV033	CODE:0098
6	.02	103	REV033	M:6865=7576=(6865+7576)
		ALL		
6	.02A	103	REV033	M:6865
		ALL		
6	.03	020	REV029	GE 80C2A2
6	.04	210	REV029	CODE 0026
		ALL		
6	.05	001	REV033	
6	.06	200	REV033	CODE 0116
		ALL		
6	.07	001	REV033	
6	.08	001	REV035	
		ALL		
6	.09	001	REV030	
6	.10	100	REV029	M:4801
		ALL		
6	.11	001	REV029	
6	.12	001	REV035	
		ALL		
6	.13	100	REV035	M:5904
6	.14	200	REV031	CODE 0083
		ALL		
7	.00	100	REV034	M:4801=(4801+7576)
		ALL		
7	.01	001	REV032	
7	.02	203	REV036	M:4801+4803
		ALL		
7	.02A	105	REV036	M:4801
		ALL		
7	.03	001	REV028	
7	.04	200	REV033	M : 4801+4803
		ALL		
7	.05	001	REV033	
7	.06	100	REV031	M:4801
		ALL		
7	.07	200	REV033	M:4801+7259
7	.08	106	REV030	M:4801=(4801+7576)
		ALL		
8	.00	001	REV028	
		ALL		
8	.01	100	REV028	M:5911
8	.02	001	REV036	
		ALL		
8	.03	300	REV036	CODE 0099
8	.04	001	REV036	
		ALL		
8	.05	100	REV029	M:5911
8	.06	100	REV029	M:5911
		ALL		
8	.07	001	REV028	
8	.08	001	REV027	
		ALL		
9	.00	100	REV028	M:2753=M:2753/GE
		ALL		
9	.01	001	REV027	
9	.02	110	REV033	M:2753/GE
		ALL		
10	.00	001	REV033	
		ALL		
10	.01	001	REV027	CODE 0050
10	.02	200	REV036	CODE 0017
		ALL		
10	.03	200	REV030	CODE 0033
10	.04	120	REV036	M:4801
		ALL		
10	.05	105	REV036	M:4801
10	.06	105	REV036	M:4801
		ALL		

M	PAGE	SEQ	REV	VALIDATION CRITERIA / EFFECTIVITY
M	PAGE	SEQ	REV	VALIDATION CRITERIA
	10 .07	001	REV033	
	10 .08	001	REV033	
		ALL		
	11 .00	120	REV036	CODE 0164
		ALL		
	11 .00A	001	REV029	
		ALL		
	11 .01	001	REV028	STD OR MOD (5846+11123)
	11 .02	200	REV032	M:(4801+MPS5063)=(4801+6523)
		ALL		
	11 .03	100	REV036	M:MP S5063=6523
	11 .04	001	REV030	
		ALL		
	11 .05	220	REV036	CODE 0124
	11 .06	100	REV035	CODE 0115
		ALL		
	11 .07	001	REV036	
	11 .08	001	REV036	
		ALL		
	11A.00	001	REV027	
		ALL		
	11A.01	001	REV027	
	11A.02	001	REV028	
		ALL		
	12 .00	030	REV034	GE
		ALL		
	12 .01	010	REV034	GE
	12 .02	110	REV034	M:4801
		ALL		
	12 .03	110	REV036	M:4801
	12 .04	001	REV036	
		ALL		
	12 .05	001	REV035	
	12 .06	001	REV036	
		ALL		
	12 .07	010	REV034	GE
	12 .08	306	REV034	M:4801+5917+5918
		ALL		
	12 .09	120	REV034	M:4863/80C2
	12 .10	020	REV034	GE80C2
		ALL		
	12 .11	001	REV034	
	12 .12	010	REV034	STD OR M:11318/GE
		ALL		
	12 .13	010	REV035	GE
	12 .14	020	REV034	GE 80C2
		ALL		
	12 .15	001	REV034	
	12 .16	001	REV034	
		ALL		
	12 .17	010	REV034	GE
	12 .18	010	REV035	GE
		ALL		
	12 .19	010	REV034	GE
	12 .20	010	REV034	GE ALL
		ALL		
	12 .21	010	REV034	GE
	12 .22	001	REV034	
		ALL		
	12 .23	001	REV034	CODE 0104
	12 .24	001	REV034	
		ALL		
	13 .00	100	REV034	M:12557=12715
		ALL		
	13 .01	020	REV028	GE 80C2
	13 .02	005	REV028	GE ALL
		ALL		
	13 .03	020	REV028	GE 80C2
	13 .04	220	REV032	CODE 0021/80C2
		ALL		

M	PAGE	SEQ	REV	VALIDATION CRITERIA / EFFECTIVITY
13	.05	001	REV027	
13	.06	010	REV029	GE ALL
				ALL
13	.06A	010	REV034	GE80C2
				ALL
13	.07	001	REV034	
13	.08	100	REV031	M:4801
				ALL
13	.09	200	REV031	M:3881+4801
13	.10	103	REV027	M:5779
				ALL
13	.11	100	REV033	M:12557-12715
13	.12	001	REV033	
				ALL
13	.13	110	REV033	M:7172
13	.14	100	REV033	M:6041
				ALL
13	.15	113	REV033	M:7259/GE ALL
13	.16	001	REV033	
				ALL
13	.17	001	REV034	
13	.18	100	REV034	M:3881
				ALL
13	.19	103	REV036	M:4803
13	.20	200	REV034	M:4803+5051
				ALL
13	.21	001	REV036	
13	.22	001	REV034	
				ALL
13	.23	001	REV033	
				ALL
14	.01	100	REV033	M:4863
14	.02	001	REV022	
				ALL
14	.03	001	REV022	
14	.04	001	REV022	
				ALL
14	.05	100	REV029	M:4941
14	.06	001	REV030	STD=4E1-4152
				ALL
15	.01	230	REV026	MOD 4863+6233 GE80C2
15	.02	220	REV030	CODE 0051/GE 80C2
				ALL
15	.03	200	REV035	CODE 0051
15	.04	310	REV034	CODE 0031
				ALL
15	.05	103	REV033	M:4863
15	.06	001	REV033	
				ALL
16	.01	120	REV022	MOD4863/GE80C2
16	.02	120	REV022	MOD4863/GE80C2
				ALL
16	.03	120	REV022	MOD4863/GE80C2
16	.04	120	REV022	MOD4863/GE80C2
				ALL
17	.01	220	REV029	M:4801+4863/GE80C2
17	.02	220	REV022	MOD4801+4863/GE80C2
				ALL
17	.03	120	REV022	MOD4863/GE80C2
17	.04	120	REV022	MOD4863/GE80C2
				ALL
18	.01	001	REV035	STD=M:(12785+13203)
18	.02	100	REV030	M:3881
				ALL
18	.03	001	REV035	
18	.04	200	REV036	M:7172+11894 OR 7172+12972
				ALL
18	.05	100	REV030	M:7172
18	.06	100	REV034	M:11894 OR 12972
				ALL

M	---PAGE---	SEQ-	--REV--	----VALIDATION CRITERIA-----
M	---PAGE---	SEQ-	--REV--	----VALIDATION CRITERIA-----
				-----------EFFECTIVITY----------
	18 .07	100	REV036	M:7172
	18 .08	001	REV035	
		ALL		
	18 .09	001	REV033	
	18 .10	001	REV031	
		ALL		
	19 .00-LEB	001	REV036	LEOEB-PROC
		ALL		
	19 .01	001	REV036	LIST OF CODES
	19 .02	001	REV036	LIST OF CODES
		ALL		
	19 .02A	001	REV036	LIST OF CODES
		ALL		
	19 .02B	001	REV036	LIST OF CODES
		ALL		
	19 .02C	001	REV036	LIST OF CODES
		ALL		
	19 .03-	001	REV036	CROSS REFERENCE TABLE
		ALL		
	19 .04-	001	REV036	HIGHLIGHTS
		ALL		
	19 .05-	001	REV036	LIST OF EFFECTIVE PAGES
		ALL		
	19 .06-	001	REV036	LIST OF TEMPORY REVISIONS
		ALL		
	19 .07-	001	REV036	LIST OF MODIFICATIONS
		ALL		
	20 .01	001	REV035	STD=12134
	20 .02	010	REV036	GE
		ALL		

M --TR NO----	--DATE-	------TITLE--------- EFFECTIVITY----------
196-1A	FEB2008	TR APPLICABLE TO ALL
204-1A	JUN2008	TR APPLICABLE TO ALL

This Temporary Revision has been issued after REV N° 35.

Remove this TR only when instructed to do so by the FILING INSTRUCTIONS TEMPORARY REVISIONS and the LIST OF EFFECTIVE TEMPORARY REVISIONS.

VALIDITY : All Aircraft

SUBJECT : Normal Procedure – Landing

REASON FOR ISSUE : This Temporary Revision is issued to introduced REVERSER and DECELERATION announcement in Normal Procedure for landing.

INSTRUCTIONS :

Insert the following pages in the QRH

TR N° 196-1 page 1 of 2 following the LIST OF EFFECTIVE TEMPORARY REVISION (LETR) in 19.05
TR N° 196-1 page 2 of 2 facing QRH 18.09

ALL

This Temporary Revision has been issued after REV N° 36

Remove this TR only when instructed to do so by the FILING INSTRUCTIONS TEMPORARY REVISIONS and the LIST OF EFFECTIVE TEMPORARY REVISIONS.

VALIDITY : All aircraft

SUBJECT : Radio altimeter(s) fault – systems lost

REASON FOR ISSUE : This TR is issued to correct a misprint

INSTRUCTIONS :

Insert the following pages in the QRH

TR N° 204-1 page 1 of 2 following the LIST OF EFFECTIVE TEMPORARY REVISION (LETR) in 19.05
TR N° 204-1 page 2 of 2 facing QRH 11.07

ALL

M V T	REV	MOD SB	MP	TITLE VALIDITY
.	033	2254	.....	FIRE DETECTION - DOUBLE THE NUMBER OF AMBIENT SMOKE DETECTORS
		.....		ALL
.	033	2753	.....	INSTALL AN EXTERIOR ICING WARNING SYSTEM
		.....		ALL
.	033	2989	.....	FWD CARGO COMPARTMENT - ADD VENTILATION AND HEATING
		.....		ALL
.	033	3448	.....	AIR CONDITIONING - MODIFY VENTILATION SYSTEM FOR THE FWD AND BULK CARGO COMPARTMENTS
		.....		ALL
.	033	3703	.....	AIRCRAFT CERTIFICATION FOR INCREASED DESIGN WEIGHTS - MTOW 138.6T - MLW 121.5T, MZFW 111.5T
		.....		ALL
.	033	3881	.....	CABIN PRESSURE CONTROL SYSTEM - INTRODUCE NEW PRESSURE REGULATING SYSTEM COMPONENTS
		.....		ALL
.	033	4672	.....	NAVIGATION - INSTALL 3 HONEYWELL IRS
		.....		ALL
.	033	4801	.....	FUEL - INSTALL TRIM TANK SYSTEM
		.....		ALL
.	033	4803	.....	EQUIPMENT/FURNISHINGS - FLIGHT COMPARTMENT - MODIFY DESIGN
		.....		ALL
.	033	4863	.....	WINGS - INTRODUCE NEW WING TIP
		.....		ALL
.	033	4904	.....	POWER PLANT - INSTALL GE ENGINES CF6-80C2 A2
		.....		ALL
.	033	4941	.....	AUTOFLIGHT - ACHIEVE CAT. 3 FAIL OPERATIVE AUTOMATIC LANDING
		.....		ALL

M V T	REV	MOD SB	MP	TITLE VALIDITY
.	033	5051	.....	INDICATING/RECORDING SYSTEMS - ECAM - DELETE WLDP
		.....		ALL
.	036	5370	.....	FLIGHT CONTROLS - AILERON, RUDDER AND ELEVATOR SERVO CONTROLS - REPLACE JAMMING BALL BEARINGS BY NEDDLE BEARINGS
		.....		ALL
.	033	5435	.....	DESIGN WEIGHTS - AIRCRAFT CERTIFICATION FOR INCREASED DESIGN WEIGHTS
		.....		ALL
.	033	5443	.....	LANDING GEAR - REPLACE STEEL BRAKES BY CARBON BRAKES AND ASSOCIATED WHEELS -
		.....		ALL
.	033	5562	.....	FUEL - MODIFY FEED SYSTEM LOGIC DURING TAXI/TAKE OFF PHASE
		.....		ALL
.	033	5697	.....	NAVIGATION - GPWS - IMPROVE FUNCTION
		.....		ALL
.	036	5725	.....	INDICATING/RECORDING SYSTEMS - FLIGHT WARNIN COMPUTER - INTRODUCE L12 BATCH IMPROVEMENT
		.....		ALL
.	033	5779	.....	INDICATING/RECORDING SYSTEMS - ECAM - MODIFY SGU SOFTWARE
		.....		ALL
.	033	5904	.....	FLIGHT CONTROLS - JAMMING DETECTION SYSTEM - MODIFY JAMMING DETECTION UNIT
		.....		ALL
.	033	5910	.....	ELECTRICAL POWER - INSTALL SYSTEM PROVISION FOR INSTALLATION OF AN AC/DC STANDBY GENERAT HYDRO-ELECTRICAL UNIT
		.....		ALL
.	033	5911	.....	ELECTRICAL POWER - INSTALL AN AC/DC STANDBY GENERATION HYDRO ELECTRICAL UNIT
		.....		ALL

M V T	REV	MOD SB	MP	TITLE / VALIDITY
.	033	5917	.....	AIRBORNE AUXILLIARY POWER - STARTING - EXTEND RELIGHT ALTITUDE
		.....		ALL
.	033	5918	.....	FUSELAGE - APU AIR INTAKE - INSTALL FIXED DIVERTER AND MODIFY FLUID BARRIERS
		.....		ALL
.	034	5944	.....	GENERAL - CERTIFY AIRCRAFT FOLLOWING F.A.A. REQUIREMENTS (AS PART)
		.....		ALL
.	033	6041	.....	INDICATING/RECORDING SYSTEMS - ECAM - INTRODUCE NEW SGU SOFTWARE
		.....		ALL
.	033	6120	.....	PNEUMATIC - ENGINE BLEED AIR SUPPLY SYSTEM - INCREASE MINIMUM ENGINE IDLE
		.....		ALL
.	033	6233	.....	LANDING GEAR - INSTALL A320 GOODYEAR CARBON BRAKES AND RELATED WHEELS
		.....		ALL
.	033	6234	.....	NAVIGATION - GPWS - INSTALL FLAP SELECTOR SWITCH
		.....		ALL
.	033	6269	.....	INDICATING/RECORDING SYSTEMS - MODIFY ECAM SGU SOFTWARE
		.....		ALL
.	036	6354	.....	AUTO FLIGHT - AFS - INTRODUCE FAC CERTI-FICATION STANDARD FOR ST7
		.....		ALL
.	033	6368	.....	FUEL - FUEL PUMP SYSTEM - MODIFY ELECTRICAL POWER SUPPLY
		.....		ALL
.	033	6403	.....	FIRE PROTECTION - INSTALL A FLOW METERING SYSTEM FOR FIRE EXTINGUISHING IN CARGO COMPARTMENT
		.....		ALL

M V T	REV	MOD SB	MP	TITLE VALIDITY
.	033	6428	.....	FUEL - FUEL QUANTITY INDICATING - MODIFY COMPUTER POWER SUPPLY ALL
.	033	6445	.....	INDICATING/RECORDING SYSTEMS - ECAM - INTRODUCE FWC SOFTWARE S4 ALL
.	033	6523	.....	AUTO FLIGHT - INSTALL A SECOND TCC ALL
.	036	6548	.....	FLIGHT - INTRODUCE COMMON TCC ALL
.	033	6727	.....	INDICATING/RECORDING SYSTEMS - FWC - INTRODUCE S5 SOFTWARE ALL
.	033	6865	.....	INDICATING/RECORDING SYSTEMS - ECAM MODIFY SGU SOFTWARE ALL
.	036	6908	.....	NAVIGATION - MODIFY EFIS SGU ALL
.	033	7088	.....	DESIGN WEIGHTS - AIRCRAFT CERTIFICATION FOR INCREASED DESIGN WEIGHTS MTOW 157T, MLW 124T, MZFW 114T, - ALL
.	036	7171	.....	AUTO FLIGHT - FAC - INTRODUCE NEW EQUIPMENT - ALL
.	033	7172	.....	FUEL - MODIFY FUEL PUMP SEQUENCE CONTROL - ALL
.	036	7187	.....	AUTO FLIGHT - GENERAL - INSTALL COMPONENTS WITH AIRBORNE WINDSHEAR WARNING SYSTEM CAPACITY ALL
.	036	7208	.....	INDICATING/RECORDING SYSTEMS - FWC - MODIFY S5 SOFTWARE ALL

M V T	REV	MOD SB	MP	TITLE VALIDITY
.	036	7258	.....	AUTO FLIGHT - FAC - MODIFY SOFTWARE
		.....		ALL
.	033	7259	.....	INDICATING/RECORDING SYSTEMS - ECAM -
		.....		MODIFY SGU SOFTWARE
				ALL
.	036	8364	.....	AUTO FLIGHT - FAC - MODIFY SOFTWARE.
		.....		ALL
.	033	8648	.....	ELECTRICAL POWER - MODIFY ESSENTIAL
		24-2041 10		BUSBAR DISTRIBUTION -
				ALL
.	036	10107	.....	NAVIGATION - MODIFY TCAS/VSI SOFTWARE
		.....		(SEXTANT) -
				ALL
.	036	11320	.....	NAVIGATION - MODIFY FMS FOR GPS
		.....		C1 CAPABILITY -
				ALL
.	036	11364	.....	NAVIGATION - FMS - MODIFY HONEYWELL
		.....		AFMS FOR PW ENGINES
				ALL
.	033	11894	.....	NAVIGATON - EGPWS - ACTIVATE ENHANCED
		.....		FUNCTIONS OF EGPWS
				ALL
.	033	11900	.....	AUTO FLIGHT-AUTOPILOT/FLIGHT DIRECTOR-
		.....		INTRODUCE A310-A300/600 STANDARD
				P/N B 470ADM
				ALL
.	033	12025	.....	NAVIGATION - TCAS - INSTALL ALLIED
		.....		SIGNAL COMPUTER P/N 066-50000-2220
				(WITH CHANGE 7.0) (WITH DATA LOADER)
				ALL
.	036	12044	.....	NAVIGATION - FMS - CORRECT FMS
		.....		"GPS STANDARD" (GE ENGINES)
				ALL

M V T	REV	MOD SB	MP	TITLE / VALIDITY
.	033	12291	.....	NAVIGATION - EFIS - INSTALL NEW SGU - EFIS E21 STANDARD
		.....		ALL
.	033	12557	.....	DOORS - FIXED INTERIOR DOORS IN PAX COMPARTMENT - INSTALL ELECTRICAL COCKPIT DOOR RELEASE (SHORT COCKPIT)
		.....		ALL

ON GND ENG FIRE

R THROTTLE ..... IDLE

R ● **WHEN A/C IS STOPPED** :

R PARKING BRK ..... SET

R FUEL LEVER ..... OFF

R FIRE HANDLE ..... PULL

R 1ST AGENT ..... DISCH

R PROC : ON GND ENG FIRE

R 2ND FUEL LEVER ..... OFF

R ● **If fire after 30 S** :

R 2ND AGENT ..... DISCH

R FIRE HANDLES (ENG and APU) ..... PULL

R FUEL ISOL VALVES ..... OFF

R PROC : ON GROUND EMER/EVAC (below) ..... APPLY

ON GROUND EMER/EVACUATION

AIRCRAFT/PARKING BRK ..... STOP/SET

ATC (VHF 1) ..... NOTIFY

BOTH FUEL LEVERS ..... OFF

CABIN CREW (PA) ..... NOTIFY

EMER EXIT LT selector ..... ON

FIRE HANDLES (ENG and APU) ..... PULL

FUEL ISOL VALVES ..... OFF

AGENTS (ENG and APU) ..... AS RQRD

RAM AIR ..... ON

● **If CAB MAN PRESS selected** :

V/S CTL ..... MAINTAIN UP

△P (DIFF PRESS) ..... CHECK ZERO

■ **If Evacuation required** :

EVACUATION (PA) ..... INITIATE

BAT (ALL) (before leaving the cockpit) ..... OFF/R

■ **If Evacuation not required** :

CABIN CREW & PASSENGERS (PA) ..... NOTIFY

ALL

STD or Mod : 12134

BEFORE START

COCKPIT PREP	COMPLETE (BOTH)
GEAR PINS and COVERS	REMOVED
SIGNS	SET
NAV SYSTEMS	NAV
FUEL QUANTITY	«--KG/LB »
TO DATA	SET (BOTH)
LDG ELEV	CHECK
ALTIMETERS	SET (BOTH)
BRK-A/SKID	NORM/ON
WINDOWS/DOORS	CLOSED (BOTH)
BEACON	ON
PARKING BRAKE	AS RQRD

AFTER START

PITCH TRIM	SET
RUDDER TRIM	ZERO
SLATS/FLAPS	SET
SPOILERS	ARMED
ANTI ICE	AS RQRD
ECAM STATUS	CHECK

BEFORE T.O

FLIGHT CONTROLS	CHECK (BOTH)
FLT INST	CHECK (BOTH)
BRIEFING	CONFIRM
FLAP SETTING	__/__ (BOTH)
V1, VR, V2/FLX TEMP	____ (BOTH)
TO CONFIG	TEST
CABIN CREW	ADVISE
TRANSPONDER	SET
R TCAS (if installed)	TA/RA/AS RQRD
AUTOBRAKE	MAX
IGNITION	AS RQRD
PACKS	AS RQRD

AFTER T.O / CLIMB

LDG GEAR	UP/NEUTRAL
SLATS/FLAPS	RETRACTED
PACKS	ON
ALTIMETERS	SET (BOTH)

APPROACH

BRIEFING	CONFIRM
ECAM STATUS	CHECK
SIGNS	ON
ALTIMETERS/MDA/DH	SET (BOTH)
IGNITION	AS RQRD
LDG ELEV	CHECK

LANDING

CABIN CREW	ADVISE
LANDING GEAR	DOWN
ANTI SKID	CHECK
SLATS/FLAPS	SET
SPOILERS	ARMED

AFTER LANDING

TRANSPONDER	OFF
SLATS/FLAPS	RETRACTED
SPOILERS	DISARMED
APU	START

PARKING

APU BLEED	ON
ENGINES	OFF
△P (DIFF PRESS)	CHECK ZERO
LIGHTS/SIGNS	AS RQRD
FUEL PUMPS	OFF
WINDOW and PROBE HEAT	OFF
PARKING BRK and CHOCKS	AS RQRD

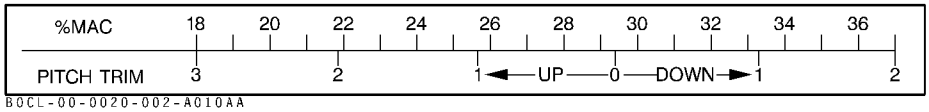
SECURING AIRCRAFT

NAV SYSTEMS	OFF
OXYGEN	OFF
APU BLEED	OFF
EMER EXIT LT	DISARM
APU AND BAT	OFF

ON GROUND EMER/EVACUATION

REFER TO 20.01

TAKEOFF TRIM SETTING



B0CL-00-0020-002-A010AA

ALL

GE Eng. : All