<u>Afterword</u>

When writing these procedures, our main aims were to help pilots to fly easier and earlier without any adverse effects on realism.

Our major objectives when drafting these procedures were to allow virtual MD82 pilots to fly more easily and quickly but not at the expense of realism and without frustrating oversimplifications. We wanted also to make the Maddog an attractive, accessible and friendly FS aircraft to other pilots, including those of our French virtual airline CyberAvia, saving them hours of trials and errors we experienced.

We hope you will be as happy reading this booklet as we were writing it.

Take your time to tame the MadDog, be patient and you'll get a faithful friend

___***____

Cyril MURAT, FCY-MC, Jean-Luc POURROY, FCY-JLP and Guy NOEL, FCY-NOE on behalf of CyberAvia, first French Virtual Airline http://www.cyberavia.org/

Acknowledgments

Many thanks to CyberAvia VA for all they do for the virtual pilots community.

Any remark, suggestion, criticism? Please drop us a line at:

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Translator's note: English is not my mother tongue. I am French as you probably noticed! If you spot any weird language please let us know – FCY-JLP



MD82 Normal

Procedures





COCKPIT CREW CHECKLIST		
Challenge	СМ	Respond
DFDR	2	SET
AHRS ALIGNEMENT	1/2	CHECKED
FMS	PF	SET
EMER LTS	1	TESTED & ARMED
NO SMOK	1	ON
WINDSHIELD ANTI-ICE	1	ON
ENG SYNC	1	OFF
STALL WARNING	2	TESTED
AIR COND SUPPLY	1	AS REQUIRED
POS / STROBE	2	BOTH
FIRE PROTECTION	2	TESTED
TRI	2	TESTED
FUEL QUANTITY	1	KG
ALTIMETERS	1/2	QNH / X-CHECKED
FUEL SHUTOFF	1	CLOSED
CABIN PRESS	1	AUTO

BEFORE START CHECKLIST		
Challenge	СМ	Respond
PARKING BRAKES / PRESS	1	SET / CHECKED
PNEUMATIC PRESS	1	PSI
ENG IGNITION	1	AS REQUIRED
TANK PUMP	1	AS REQUIRED
SEAT BELTS	1	ON
ANTI COLLISION	2	ON
APU NORM/ECON	1	NORM
AIR COND SUPPLY	1	OFF
GALLEY POWER	1	OFF
PNEUMATIC X-FEED	1	OPEN
THRUST	1	IDLE

AFTER START CHECKLIST		
Challenge	СМ	Respond
ELECTRICAL SYSTEM	1	CHECKED
GALLEY POWER	1	ON
ENG IGNITION	1	OFF
PITOT & STATIC HEATERS	1	CAPT
ANTI-ICE	1	AS REQUIRED
AIR COND SUPPLY	1	AUTO
DOORS LIGHT	1	OFF
HYD SYSTEM	2	ON & HI

TAXIING CHECKLIST		
Challenge	СМ	Respond
TRI / ART	1	AS REQUIRED
V BUGS	1/2	_/_/_/_
FGS	1	AS REQUIRED
FLIGHT CONTROLS	1/2	TESTED
FLAPS / SLATS	1	/ EXT
TO BRIEFING & DATA	1/2	PERFORMED

BEFORE TAKEOFF CHECKLIST		
Challenge	СМ	Respond
TRIM	1	ZERO / ZERO / SET
FUEL HEAT	1	OFF
APU AIR	1	OFF
PNEU X-FEED	1	CLOSED
BRAKE TEMP	2	CHECKED
ENG IGNITION	1	BOTH
EOAP	1	CHECKED



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Normal Checklists		



TO Procedures





Preflight Briefing

Both crew members agree on the following points:

- Masses, center of gravity
- Local weather (METAR)
- Weather forecast en route and at destination airport
- Planned route
- Departure procedure, initial flight level
- Flats, V-Speeds, take off trim
- Flex (depending on temperature) / Normal Takeoff



I/ Final – PF

Instructions to PM:

Ignition Bank Angle 15° Flaps (28° in difficult conditions. If not: 40°) Gear Spoilers <u>Final Checklist</u> Called for

Autopilot OFF

At 50' maximum

J/ After Landing – Capt.

Nose Light / Wing Landing Lights Pitot Heat / Ice Protection IGN <u>After Landing Checklist</u> DIM / RET OFF OFF / OFF OFF Called for

K/ Parking – Capt.

Taxiing to parking Seat Belts Fuel Pumps / Start Pump APU Elec / Pneumatics Parking Brakes Press / Brakes Parking Checklist

OFF OFF / ON (If APU in service) ON (if needed) APU / Ground Checked / SET Called for

L/ Leaving the airplane – Capt.

Battery Charger	Checked
Galley Pwr	OFF
Windshield Heat	OFF
FD & Ext. Lts	OFF
Emmer Lts	OFF
APU	OFF
Fuel Pumps	OFF
Battery	OFF
Leaving the Airplane Checklist	Called for



4. Cockpit Inspection

6 Fire Loops Oxygen Oil Qty Hyd Qty BOTH Checked Checked 12 - 16 Checked 4.25 minimum



<u>Approach</u>

Approach - When stable:

Target Speed – 5 kt < IAS < Target Speed + 15 kt $VS < 1500^{\prime} \ / \ min \ or \ N_1 > 55\%$

<u>« Monitored</u> <u>In case of</u>

Capt. tasks

Monitor F/O actions during the whole approach and check the flight instruments.

At 100', call « APPROACHING MINIMUMS, I'M GOING HEADS UP »

IF decision to land:

Call: « I HAVE THE AIRCRAFT » Control the aircraft until landing or go around decision

IF decision to go around before 100':

Call « GO-AROUND » Control F/O actions

<u>Autoland</u>

Replace "100 " If not strictly on aligned on RW at 100',



5. First Fly Of Day / Receiving Aircraft

	0
EFIS	ON / Tested
DFDR: Date / Flight / Leg	Set
Fuel Pumps / X-feed *	Tested
Fuel System / Counters	Checked / RESET
Engine Sync	OFF
Ground Prox	Tested * then NORM
WNDSHR *	Tested
Anti-Skid	Tested * then ARM
Stall System 1 & 2 *	Tested
Max Speed Warn 1 & 2 *	Tested
Yaw Damper	ON
Mach Trim	NORM
Ice Fod *	Tested
Radio Rack	FAN
Air Cond System/ Temp.	Checked
Air Cond Shutoff / Ram Air	AUTO / OFF
Annunciator & Digital Lights	Tested
Flood / Anti Coll Lights	OFF
Wing / Nacl. Lights	RONLY
Position / Strobe	вотн
Flight Directors 1 & 2	FD
Auto Throttle	OFF
Autoland *	Tested
Bank Limit	15°
Auto Pilot	OFF
DFGC	1 or 2 depending on who is PF
Altitude Alert *	Tested
Fire Detector *	Tested (excepted if APU in use)
Altimeter	SET QNH
TRI *	Test
Engine Instruments	Checked
Landing Gear *	Tested
Hyd Aux / Trans *	Tested
Static Air	NORMAL



G/ Descent preparation – PF

Before to of descent (TOD)

Eng. Sync	OFF
Approach briefing	Done
Anti-Ice	As needed

After TOD

Altimeter & Stby altimeter	Set
Speed bugs	Set
TRI	GA
Seat Belts	ON

Set approach speed ----

Wind correction = ½ wind speed + gust speed

Approach speed = $V_{Flaps 40^{\circ}/28^{\circ}}$ + win correction or $V_{Flaps 40^{\circ}/28^{\circ}}$ if Autoland in use

Descent Checklist

Called for

H/ Approach preparation – PF

Altimeter Bug / DH	SET
Radios / Course	SET

Approach Checklist

Called for



Radar * Tested TCAS Range / Code / Alt / SEL 5 Miles / Set / ABOVE / Depending on who is PF TCAS * Tested Long Trim / Alt Long Trim Tested Rudder HYD CONT Takeoff Warning, Throttles Checked OFF **Fuel Levers Cabin Altitude Ctrl Checked AUTO**

B/ Start Preparation – F/O

Before Push Back and Taxi

Anti Collision Aux & Trans Hyd Pumps Hyd Pumps Doors Clairance de Push Back Push Back ON ON HI Closed Checked Called for Start ◆

C/ Starting – F/O

START ON – Do not release
N2 increase Checked
Oil Press increase Checked
Call « OIL PRESSURE»
N1 increase Checked
Check FF and EGT increase
N2 > 40 % Release START and call « START VALVE CLOSED »
Check all parameters are stable



Climbing – Technical aspects

Operations WITH autopilot on

PF sets FGS parameters and says aloud what he/she has done.

PM monitors and checks PF actions.

PM tells PM about ATC altitude clearances. PG sets and arms the respective altitudes.

Operations WITHOUT autopilot on

PF requests PM to set FGS at PF discretion

PM sets and arms altitude requested by ATC and says aloud what he/she has done. PF confirms appropriate entries in ALT SEL display.

<u>Climbing</u>

If no other ATC request, climb at 290 KIAS / .72 mach

After Takeoff checklist and when workload decreases, PM checks:

- OEAP and WAAP
- CSDs temperature
- AC generators voltage and amperage
- Exterior temperature probes
- Pressurization
- Cabin temperature

Fuel management

Both pilots have the responsibility to check if the current fuel amount matches the fuel amount calculated from the flight card.

Fuel amount is checked on a regular basis and orally reported.

Air cond. packs

Every pack in manual mode can quickly overheat thus automatically shuts off. At least one pack must be continuously in auto mode.

<u>Lights</u>

Flood lights: OFF above FL100

Wing Landing Lights: RET above 200 kt



Packs Hydraulics

AUTO AUX, TRANS, HI, Checked > 3000 PSI

D/ Taxiing – F/O

→ Flaps / Clearance		Flaps set / ATC Clearance OK
DFDR: TOW / CF / 000		Set
Flights Controls		Checked
Takeoff Data		Reviewed / X-Checked
	RW in service	
	Temperature	
	Flaps Setting	
	Power Setting	
	Flex TO	
Speed Bugs		Set
ART		FLEX TO $ ightarrow$ OFF. If not AUTO (Checked)
Flex TO Temp.		Set
Flaps / CG Com	puter	Set
Long Trim		Set
Instruments		Checked No Flag
Takeoff Briefing	S	Completed

- ← ← ←



Introduction

This booklet is intended to allow practical use of jet simulator McDonnel 82 "Fly The Maddog" 2006 version by Leonardo for Microsoft Flight Simulator 2004 / X. This booklet is largely based on real procedures used by Continental AirLines and its main aim is to serve as a reminder at hand while flying.

It is totally focused on the "shared cockpit" Maddog function which allows two real people to act as CM1 and CM2 (see below) in the most realistic way via an Internet connection.

Of course this booklet must not be used for any type of flights in real life but you knew it!

Booklet structure

There are two distinctions between « Crew Members » (CM):

- The PF (Pilot Flying) is in charge of piloting the plane while the PM (Pilot Monitoring) or PNF (Pilot Not Flying) is in charge of ATC communications and PF support.
- Capt. (Captain) or CM1 is responsible for everything that happens in the aircraft and is seated left hand while the F / O (Flight Officer) or CM2 assists, advises and supports Capt. and is seated right hand.

When landed, the procedures are divided between those carried out by the Capt. and those carried out by the F / O. They are shown in parallel in two facing pages (6 & 7, 8 & 9, etc.).

When flying, procedures are divided between those carried out by the PF and those carried out by the PM. They are also presented in parallel in two facing pages.

Every flight has several phases. When each phase is completed, the Capt when landed and the PF when flying requests from the other crew member the checklist (c/l) of this phase. This crew member says aloud each item to check. One or both crew members must reply depending on items (see the checklists).

Items with a **♦** mark may be done by the PF (not mandatory; PNF may do these items)

Items with a * mark must be done for the first fly of day only.



AFTER TAKEOFF CHECKLIST		
Challenge	СМ	Respond
BRAKE TEMP	2	CHECKED
LANDING GEAR	PF	UP / NO LTS
FLAPS / SLATS	PF	0 / RET
ENG IGN	PF	OFF
FUEL TANK PUMP	PF	AS REQUIRED
ALTIMETERS	1/2	1013 / X-CHECKED

DESCENT CHECKLIST		
Challenge	СМ	Respond
APP & LND BRIEFING	PF/PM	PERFORMED
FGS	PF	AS REQUIRED
TRI	PF	GA
LANDING DATA	PF/PM	CONFIRMED
V BUGS	PF/PM	_/_/_/_
ALTIMETERS	PF/PM	X-CHECKED
HYD SYSTEM	2	AUX / TRANS / HI
PRESSURISATION	PF	CHECKED

APPROACH CHECKLIST		
Challenge	СМ	Respond
CABIN SIGNS	PF	ON / ON
FUEL SYSTEM	PF	SET
ALTIMETERS & BUGS	PF/PM	X-CHECKED

FINAL CHECKLIST		
Challenge	СМ	Respond
LANDING GEAR	1/2	DOWN 3 GREEN
FLAPS / SLATS	PM	/ EXT
SPEED BRAKES	PM	ARMED
ENG IGNITION	PM	BOTH
EOAP	PM	CHECKED

AFTER LANDING CHECKLIST		
Challenge	СМ	Respond
FLAPS / SLATS	2 (SILENT)	15 / EXT
SPEEDBRAKE	-	RET
ENG IGNTION	"	OFF
PITOT & STATIC HEATERS	"	OFF
ANTI-ICE		OFF
RADAR	=	OFF

PARKING CHECKLIST		
Challenge	СМ	Respond
FUEL TANK PUMP	1	AS REQUIRED
AUX & TRANS HYD	2	OFF / OFF
PARKING BRAKES / PRESS	1	SET

LEAVING THE AIRPLANE CHECKLIST		
Challenge	СМ	Respond
EMER LTS / GALLEY PWR	1	OFF / OFF
PACKS	1	OFF
FD / FLIGHT INSTR	1	OFF
APU	1	AS REQUIRED
BATT	1	AS REQUIRED



Cockpit Flow



<u>Arrows:</u> Order and direction of panel controls <u>Grey areas:</u> Under Capt. responsibility <u>White areas:</u> Under F/O responsibility



ILS App. Procedures





A/ Preflight – Capt.

1. Cockpit Safety Inspection (may be done by F/O)

V _{BATT} > 25 V	Checked
Gear lever	Down
Flap/Slat lever	Up
Speed Brakes	Retracted
Aux Hyd Pump	OFF
Radar	OFF
Wiper	OFF

2. Establishing Electrical Power (AC & DC) (may be done by F/O)

Option 1. APO Power	
Battery	ON / Locked
Fire Test *	Checked
APU Master / Air	OFF / OFF
Fire Control	NORM
APU Bus	OFF
Start Pump	ON
APU Master	START
APU Volt / Freq	Checked
APU Bus	ON
APU Load < 1.0	Checked
Right Aft Pump	ON
Start Pump	OFF
Option 2: External Power	
Battery	ON / Locked
Ext Pwr Lights ON - Volt / Freq	Checked
Ext Pwr Bus	ON

3. Establishing Air Conditioning

Option 1: APU Air	
APU Air	ON if $T_{Cabin} < 24^{\circ}C$
	Air Cond Colder if $T_{Cabin} \ge 24^{\circ}C$
Pneu X-Feed Right	ON
Air Cond Supply Right	AUTO or HP BLD OFF
Option 2: External Pneumatic Air	
Air Starter Unit	Connected
Pneum. X-Feed Right	ON
Air Cond Supply Right	AUTO or HP BLD OFF
Option 3: External Preconditioned Air	
Ground Air Conditioning	Connected



I/ Final – PM

Ignition Bank Angle Flaps Landing Gear Spoilers EOAP

On PF request:

BOTH 15° 28° / 40° DOWN, 3 Green ARM Checked

J/ After Landing – F/O

Flaps Radar / TCAS Spoilers <u>After Landing Checklist</u>

15° OFF / Standby Retracted Silently read

K/ Parking – F/O

Flaps Fuel Valves Beacons Hydraulics / Stby / Trans. 0° / Retracted OFF OFF OFF / OFF / OFF

L/ Leave the airplane – F/O

Packs FD & Ext. Lts OFF OFF



5. First Fly Of Day / Receiving Aircraft

EFIS	ON / Tested
CADC	NORM
CSD	Capped
L & R Eng Gen *	RESET then ON
L & R Eng Gen	Checked ON
AC / DC X-Tie	AUTO / OPEN
Galley Power	ON (excepted if higher pressure needed)
Emergency Power *	Checked
APU Fire Agent	OFF
Fire Cont	NORM
Ignition	OFF
Fuel Heat	OFF
Start Switches	OFF / Guarded
Windshield Anti-Ice	ON
Windshield Anti-Fog	As needed
Engine / Airfoil Anti-Ice	OFF
Pitot Heat	OFF
Emergency Exit Lights	Tested then ARM
Boarding	Started
No Smoking	ON
Cargo Detection Suppression*	Tested
Cargo Detection Selector	AUTO Checked
Wing Landing / Nose Lights	OFF
Altimeter / Stby Altimeter	SET QNH
Stby Horizon	Caged
Static Air	NORMAL
Speed Selector	Set a V2 + 10 ♦
Heading Selector	Set Rwy QFU♦
ALT SEL	Set ♦
Course	Set 🔶
VHF Freq.	Set 🔶
ART	AUTO / OFF (ifi Flex TO)♦
TRI	TO or TO FLX♦
FMS	Set 🔶
Parking Brake	Set / Pressure checked



procedure (in short)

Interruption and go around

Mandatory if approach not stabilized at 500' AGL (VFR) or 1000' AGL (IFR)

<u>Approach »</u> <u>low visibility</u>

F/O tasks

Responsible for AutoPilot and AutoThrottle. Takes control before LOC interception and not later than 3 NM before Outer Marker

IF Capt. calls « I HAVE THE AIRCRAFT »:

Check instruments and call heights: « 50 », « 30 », « 20 », « 10 », and "MINIMUMS" at DA or DH

IF Capt. calls « GO-AROUND » OR at DA or DH:

Open throttles

<u>callouts</u>

with « ALIGN » or « NO ALIGN » , manual landing



Cockpit Crew Checklist

Called for

B/ Start Preparation – Capt.

Before Push Back and Taxi

Fuel Qty / ZFW Fuel Pump Pitot Heat Ignition Seat Belts Checked / Set ON CAPT A or B ON After Start Clearance

Galley Power & Packs Pneu X-Feed / Press *Before Start Checklist* OFF / OFF ON / Checked (36 PSI min.) Called for

C/ Starting – Capt.

Call «STARTING ENGINE N° »
N ₂ increase Checked
N ₁ increase Checked
N ₂ Stable (15 % minimum) Fuel ON
Monitor FF and EGT increases
Check parameters stabilization



G/ Descent preparation – PM

Before top of descent (TOD)

Weather at destination Auto pressurization Alt & Press V-Speed Reviewed Set Determined

After TOD

Hydraulics Altimeter Speed bugs AUX, TRANS, HI, Checked > 3000 PSI Set Set

--- Autoland use conditions

Correction \leq 15 kt

Autoland forbidden if $\frac{1}{2}$ fix wind speed > 15 kt or gust speed > 10 kt or cross wind > 15 kt or back wind > 10 kt

H/ Approach preparation – PM

Altimeter Bug / DH

SET



OFF External Air / APU Air External Power / APU Power OFF Excepted if rain: APU Power & BUS ON → Takeoff AC X-Tie * Checked AC Volt / Freq / Load Checked AC / DC Load Checked Ignition OFF **Galley Power** ON ON if OAT < 6°C, visible moisture or OAT – dew point Engine Anti Ice difference of 3° C or less ON if Fuel Temp. $\leq 0^{\circ}$ C. Fuel Heat Warning: Lights OFF before takeoff Doors Light Checked Out After Start Checklist Called for

D/ Taxiing – Capt.

Ask "FLAPS __ , TAXI CLEARANCE" \rightarrow

Nose / Wing Land Lights		DIM / EXT OFF
Flights Controls		Checked
Takeoff Data		Revues / X-Checked
	RW in service	
	Temperature	
	Flaps Setting	
	Power Setting	
	Flex TO	
Speed Bugs		Set
FMA		TAK OFF
Takeoff Warning		Tested
Instruments		Checked No Flag

Takeoff Briefing

Completed

Special takeoff conditions Review takeoff procedure Review transition altitude

Taxiing Checklist

Called for



Cruise – Technical aspects

To level when cruising without Autothrottle

Maintain climb power until at least 0.01 above the desired cruise speed then reduce power to the power cruise.

To level when cruising with autothrottle

Prefer IAS mode to Mach mode because Mach mode depends on OAT and leads to frequent and uncomfortable rpm changes.

Parameters check

Regularly check if IAS, EPR, N1/N2 and Fuel Flow agree with the performance tables.

Compensation check

Periodically switch off Autopilot to check appropriate aircraft compensation.

Engine synchronization

Switch on engine synchronization when cruise power is stable and only if both engine N1 do not differ than more of 1%

Engine synchronization must be switched off before starting descent.

Before top of descent

Check weather at destination

Set ASI indexes

Switch off engine synchronization



E/ Prepare for Takeoff – Capt.

Before Takeoff Checklist
Nose / Wing Land Lights
Radar
EOAP / WAAP
Ignition

BOTH Checked As needed BRT / EXT ON Called for

F/ Takeoff – PF

Throttles set to get 1.4 EPR
Call « AUTOTHROTTLE ON »
60 kt \rightarrow Call « CHECK POWER »
Rotation
Nose / Wing Land Lights: OFF / RET OFF. Call « GEAR UP »
400' AAL $ ightarrow$ Call « HEADING SEL »
1000' AAL $ ightarrow$ Call « CLIMB POWER »
3000' AAL $ ightarrow$ Call « ALF RATE SPEED 250 »
Request flaps up then slats retracted when needed
At about 245 kts, switch to IAS HOLD

Clean Man. Speed: Ignition Auto Pilot <u>After takeoff Checklist</u>

OFF 1000' AGL minimum Called for

E/ Prepare for Takeoff – F/O

TO Clearance
Brake Temp
Pneumatic X-feed
TCAS
Flood Lights

Obtained Checked OFF TARA ON

F/ Takeoff – PM

Autothrottle ON

Call « POWER CHECK _____ % »Call « 100 KNOTS, V₁ , ROTATE

Positive rate with altimeter confirmation \rightarrow Call « POSITIVE RATE »

Gear UP

Switch on HDG SEL in MCP

Switch on CL mode in TRI

Select VS 1200 ft/min and IAS 250

Flaps up and slats retracted when requested

Hydraulics / Aux Hyd / Trans Bank Lim. LOW / OFF / OFF 30°

