DIAMOND AIRCRAFT DA62 (DA62X Improvement Mod)
Beginner Guide - Checklist & Procedures for MS Flight Simulator   by JayDee v0.1

This checklist is intented for flight simulator use only. It is a compromise between pure realism and having fun as a casual flightsim pilot. If necessary I tried to optimize workflow for single pilot operation and included things like FMS steps and procedures, but staying as close as possible to real checklists.

Diese Checkliste ist nur für den Gebrauch im Simulator gedacht. Es ist ein Kompromiss zwischen purem Realismus und Spielspaß für den Gelegenheits-Sim-Piloten. Wenn angebracht, habe ich den Arbeitsablauf für die Operation mit einem Piloten optimiert und auch Schritte der Programmierung der FMS mit eingebunden, und dabei versucht, so dicht wie möglich an echten Checklisten zu bleiben.

SPECIFICATIONS

Max. Takeoff Weight	5.017 lbs/2.300 kg
Max. Landing Weight	4.850 lbs/2.200 kg
Maximum Operating Altitude	20.000 ft
V_{LE}	205 KIAS
$V_{LE(retraction)}$	162 KIAS
$V_{FE\ T/O}$	136 KIAS
$V_{FE\ LDG}$	119 KIAS

ENGINE START

Parking Brake	SET
Gear Selector	DOWN
Flap Selector	UP
Fuel Selectors	BOTH ON (Red Safety Guard Closed)
Power Levers	IDLE
Alternators	BOTH ON
VOTER Switches	BOTH AUTO
Electric Master	ON
Strobe Lights	ON
first LEFT engine, than RIGHT engine	
Engine Master	ON
Start Button	PRESS

AFTER ENGINE START & BEFORE TAXI

Avionics Master	ON
Internal Lights	AS REQ
Avionics/GPS/AP	SETUP
Squawk Code	SET
Transponder	STBY
Altimeter	SET LOCAL
Flaps	SET FOR TAKEOFF (T/O)
Trim	SET FOR TAKEOFF
Pitot Heat	ON
Postion Lights	ON
Taxi Light	ON
Flight Controls	CHECK

BEFORE TAKEOFF / HOLDING POINT

Parking Brake	SET
Avionics/AP/GPS	CHECK SET
Transponder	ON
Altimeter	CHECK SET LOCAL
Fuel Selectors	CHECK BOTH ON
Fuel Pumps	BOTH ON
Trim	CHECK SET FOR TO
Flaps	CHECK SET T/O
Anit-Ice	AS REQ
Landing Lights	ON
Strobes	CHECK ON
Power Check	10 sec. MAX POWER (~90-100%)

TAKEOFF

→ line up and brake
→ relase BRAKES
→ slowly set POWER to Max. Power
→ ROTATE @ 75 - 80 KIAS (dep. on weight)
→ pitch ~ 10° NOSE UP
→ initial climb with ~ 85 - 90 KIAS (dep. on weight)
→ GEAR UP when definitely airborne
→ @ ~ 500ft start to accelerate to ~ 95 - 100 KIAS
→ fully retract FLAPS UP @ ~ 95 KIAS

AUTOPILOT	AS REQ

CLIMB

Flaps	CHECK UP
Gear	CHECK UP
Taxi Light	OFF
Fuel Pumps	BOTH OFF
Cruise Climb Power	max. 95%
Cruise Climb Speed	~ 95 - 100 KIAS
@ Transition Altitude	
Altimeter	SET STD
@10.000 ft / FL100	
Landing Lights	OFF

CRUISE

Max. Cruise Power	max. 95%
Recommend Cruise Power	75%

DETERMINATION OF TOP OF DESCENT (TOD)

Check STAR and APPROACH altitude contraints and if possible compare to actual charts. Estimate your TOD and compare it to actual TOD in FMS. Descent should start latest at approx. (Altitude/1.000)*3 NM +10 NM before the Destination. If ATC has not given you clearance 1-2 Minutes after your TOD, then start to descent anyways.Due to a lot of wrong STAR/APPROACH altitude constraints in MS FS database, you are advised to constantly check your altitude during descent and approach, even if you were given clearance to descent at the TOD. For a standard 3° glidepath approach, make sure you are not significantly higher at a given point than the elevation of the destination plus a 1.000 ft per 3 NM to go. Example: If you have 21 NM to go, destination is at 1.000 ft, you should be around at 21/3*1.000+1.000 ft = 8.000 ft altitude. Sinkrate for 3° Glidepath equals 5 * Ground Speed!

Checkt die STAR und APPROACH Höhenbeschränkungen und vergleicht sie wenn möglich mit echten Karten. Überschlagt Euren TOD und vergleicht ihn mit dem TOD im FMS. Der Sinklfug sollte spätestens ca. bei (Höhe/1.000)*3 NM + 10 NM vor dem Ziel beginnen. Wenn Euch die ATC nicht 1-2 Minuten nach dem TOD die Freigabe zum Sinken erteilt hat, leitet den Sinkflug trotzdem ein. Auf Grund einer Vielzahl von falsch hinterlegten Höhenbeschränkungen in der Datenbak des MS FS, solltet Ihr regelmäßig eure Höhe überprüfen, auch wenn Ihr rechtzeitig die Sinkflugfreigabe erhalten hattet. Für einen Standard 3° Sinkpfad solltet Ihr sicherstellen, dass Ihr zu keinem Punkt höher als die Zielhöhe plus 1.000 ft pro 3 NM verbleibender Flug. Beispiel: Müsst ihr noch 21 NM fliegen und das Ziel liegt auf 1.000 ft Höhe, solltet Ihr bei ca. 21/3*1000 ft + 1.000 ft = 8.000 ft Höhe sein. Sie Sinkrate für einen 3° Sinkpfad entspricht dem 5 fachen der Ground Speed (Geschwindigkeit über Grund).

DESCENT / APPROACH

AVIONICS/AP/GPS...SET
ILS Frequency..................COMPARE AND CHECK SET

@ 10.000 ft / FL100
Landing Lights...ON

@ Transition Altitude
Altimeter...SET LOCAL

@ ~ 15 NM to go
Fuel Selectors..................................CHECK BOTH ON
Fuel Pumps...ON

VISUAL / TRAFFIC PATTERN LANDING

approach @ ~ 1.000 ft above destination airport elevation

@ 5 NM
   → start to slow down to ~ 110 - 120 KIAS
@ Downwind Leg
   → set FLAPS 1 (T/O)
   → GEAR DOWN
   → slow down to ~ 100 KIAS
@ Base Leg
   → turn for landing & start to descent
   → set FLAPS FULL (LDG)
   → final speed ~ 85 - 90 KIAS **(dep. on weight)**
   → sinkrate ~ 300 - 1.000 fpm
@ ~ Treshold
   → very slowly reduce power (IDLE @ ~ 10 ft AGL)
   → slowly flare
   → touchdown with main wheels

ILS APPROACH & LANDING

approach @ ~ 3.000 ft above destination airport elevation or use proper procedure altitudes

@ ~ 15 - 12 NM
   → start to slow down to ~ 120 - 130 KIAS
@ Glideslope Capture
   → nothing
@ ~ 6 NM
   → set FLAPS 1 (T/O)
   → slow down to ~ 100 KIAS
@ ~ 3 NM
   → GEAR DOWN
   → set FLAPS FULL (LDG)
   → AUTOPILOT OFF (latest @ 200 ft AGL)
   → final speed ~ 85 - 90 KIAS **(dep. on weight)**
   → sinkrate for 3° Glidepath = 5 x Ground Speed
@ ~ Treshold
   → very slowly reduce power (IDLE @ ~ 10 ft AGL)
   → slowly flare
   → touchdown with main wheels

GO AROUND

   → set POWER to Max. Power
   → retract FLAPS to T/O
   → Gear UP
   → speed ~ 85 – 90 KIAS until obstacles clear
   → @500 ft accelerate to 95 - 100 KIAS
   → fully retract FLAPS UP @ ~ 95 KIAS

AFTER LANDING

Flaps......................................FULLY RETRACT
Taxi Light..ON
Landing Lights..OFF
Transponder...STBY
Pitot Heat..OFF
Anti-Ice...OFF
Fuel Pumps..BOTH OFF

PARKING / SHUTDOWN

Parking Brake..SET
Power Lever...IDLE
Avionics Master...OFF
Engine Masters....................................BOTH OFF
Lights...OFF
Electric Master..OFF
Lights...OFF