DO NOT USE FOR FLIGHT

ATR 72 - 500

Checklist / Flow-Procedure

including basic Flight-Planning-Charts

for Flight1 ATR 72 - 500
with Microsoft Flight Simulator / Prepar3D

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Print Notice: Page size DIN A5. Print 2 pages per A4 or Letter page. This page is the front cover.

Attention:

1. You should have a saved ATR72 flight with parkingbrake set to make sure you have no problems loading the aircraft in dark & cold mode.
   Attention: Only save in 2d panel mode.
2. Flight1 gives the advice to create a new flight within FS every time by loading the standard flight (Cessna 172), then changing the aircraft (to AT72) and airport. *I am not following their advice and have no problems, but you have to do this once to create a flight to load.*
3. You need to work the OvHP Columns & specified panels from bottom to top.

Parking Position:

• Dark & Cold (at Configurator)	Set
• Load at Configurator	Set & **Note** Zero Fuel Weight & Maximum Fuel
• FSX	Start & Load saved ATR72 flight You could also create a new flight as described above.
• Parkingbreak	Set
• IVAP-Connection	Activate
• Load (at FSX)	Check / Reset
• Fuel (at FSX)	Set
• Dep-Metar	Check & note
• Arr-Metar	Check & note
• Flightplan	Create (e.g. at Asalink RouteFinder or FSBuild)
• Door 1	Open (Shift + E)
• Gangway	Enable (if available) (CTRL + J)
• Battery (OHP)	On
• Wait for System Self Test to finish	- FMC 1A/2A light flash - FMC 1A/2A light extinguish - FMC 1B/2B light flash - FMC 1B/2B light extinguish - EMER BUS & ESS BUS arrows illuminated - UNDV (under-voltage) light extinguished

- Cockpit-Lights — On (as required)
- External Lights — All off
- Power Levers — Verify Ground Idle
- Condition Levers — Verify FUEL SO (Fuel Shutoff)
- EEC — On (Light extinguished)
  (Elec Eng Control)
- PEC — On (Light extinguished)
  (Prop Elec Control)
- Gust Lock — Engaged

--- Gust Lock = uppermost black click spot on the ENG control panel. ---

- Flaps Lever — Set to current flap position
- Land Gear Lever — Verify Down
- Wipers — Off

--- If no External Power available you have to start ENG2 now, proceed by ENG2 fire test, activating the No2 Fuel Pump, setting the Prop Brake & enabling the Beacon Light. ---

- External Power / Ext Pwr — On
- AC Wild External Power — On
- Master Caution Light — Push / Disable
- Main Elec Panel
  - Verify no amber lights on
  - Only DC GEN FAULT Light illuminated
- NAV Light — On
- Fuel Qty Indicators — Check
- Fuel Qty Test Button — Press & verify “8888” indicated

--- Next step only after turn-around. ---

- Fuel Used Counters — Reset
- ANN LT — Test & verify all lights illuminated
- ANN LT — BRT / DIM (as required)
- Bleed Air / Packs — All On / All white lights off

--- Packs & Eng Bleed yellow Fault Lights should be illuminated. ---

- Avionics Vent Ovbd Valve — Auto & Armed, verify no white/amber lights

➔ Left Ovhd Panel Column

- Calls — Reset

- SELCAL — Reset
- ENG 1 Fuel Pump — On
  --- Verify — - RUN Lights illuminated
  - FEED LO PR Light extinguished
  - LP VALVE in line
  - X-FEED VALVE x line ---
- ENG 2 Fuel Pump — - On
  --- Verify — - RUN Lights illuminated
  - FEED LO PR Light extinguished
  - LP VALVE in line
  - X-FEED VALVE x line ---

--- Door test will only work with doors open. ---

- Doors SW Test — Press & verify Cab OK Light on
- Spoiler — Verify lights extinguished
- Landing Gear — Verify 3 green
- MFC (FMC) — Verify no amber lights

--- Next step is optional. ---

- SELCAL Code — Set

--- ENG 1 Fire Test: ---

- ENG 1 Fire Handle — In & latched
- White Lights — Verify all extinguished
- Squib Test Switch — Press & verify Agent Squib lights illuminated
- Test Switch — Fire & hold
- Eng 1 Fire red light — Verify illuminated
- CCAS (Centralized Crew Alerting System) — Verify activated
- Continuous Repetitive Chime Sound — Verify sound played
- Master Warning Light — Verify flashing red
- ENG 1 Fire on Crew Alerting Panel — Verify red light illuminated
- Fuel Shut Off Light — Verify red light illuminated
- Test Switch — Fault & hold
- Loop A & B Fault Lights — Verify illuminated
- CCAS — Verify activated
- Single Chime Sound — Verify sound played
- Master Caution Light — Verify flashing amber
- LOOP Light — Verify amber light on

--- ENG 2 Fire Test: ---

• ENG 2 Fire Handle	In & latched
• White Lights	Verify all extinguished
• Squib Test Switch	Press & verify Agent Squib lights illuminated
• Test Switch	Fire & hold
• Eng 2 Fire red light	Verify illuminated
• CCAS (Centralized Crew Alerting System)	Verify activated
• Continuous Repetitive Chime Sound	Verify sound played
• Master Warning Light	Verify flashing red
• ENG 2 Fire on Crew Alerting Panel	Verify red light illuminated
• Fuel Shut Off Light	Verify red light illuminated
• Test Switch	Fault & hold
• Loop A & B Fault Lights	Verify illuminated
• CCAS	Verify activated
• Single Chime Sound	Verify sound played
• Master Caution Light	Verify flashing amber
• LOOP Light	Verify amber light on

➔ Center-Left Ovhd Panel Column

• Logo Lights	On
• Cockpit Voice Recorder Test	Press & verify pointer moves into black area

➔ Center-Right Ovhd Panel Column

• Emergency-Lights	Armed
• Seat Belts	On
• No Smoking	On
• Anti- / De-Icing	All white lights off
• Probe / Windshield Heating	**On** (All white lights off)
• AC Wild Elec Power	All white lights off
• Hyd Power	All white lights off
• Emer Loc Xmtr	Verify Auto & guarded

➔ Right Ovhd Panel Column

• Compt Temp / Air Bleed	All white lights off
• Compt Temp Selectors	As required
• Oxygen	Verify high pressure indicated
• Oxygen Main Supply	On / Light extinguished

- Oxygen Pax Supply — On / Light extinguished
- Compt Smoke Test — Press & hold

--- Verify Continuous Repetitive Chime Sound. After 3 seconds continue. ---

- Avionics Vent Exhaust Mode — Reset (by pressing twice)

➔ Lower Pedestal (Center Console)

- Cockpit Door — As required / Deny
- Flight Number — Set
- Aileron / Rudder Trim — Center / 0
- Stby Pitch Trim — Off & guarded
- VHF / COM 1 / 2 — On
- ADF 1 / 2 — ADF
- Transponder — Stdby
- TCAS — Auto
- TCAS Test — Push & verify “TCAS System Test Okay” Sound played

➔ Upper Pedestal (Control Stand)

- Idle Gate — Verify light extinguished & orange band visible
- Emer Audio Cancel — Verify switch guarded (red)

➔ Captains EFIS Control Panel

- Radar — Stby
- E-ADI DIM — On / Maximum

--- E-ADI DIM is the left click-spot of the ADI DIM / DH TST knob, the right click-spot is for DH (Decision Height). ---

- E-HSI DIM — On / Maximum
- DH — Set (200ft or as required)
- Bearing Pointer 1 Mode — RNV (or as required)
- Bearing Pointer 2 Mode — RNV (or as required)
- EHSI Full / Arc Mode — ARC (or as desired)
- EHSI Map Mode — 1x MAP (or as desired)
- EHSI Mode — Set to RNV (or as desired)

➔ Center Instrument Panel

- ADC-SW — Odd Days: 1 (or) Even Days: 2
- Stdy Instruments — Verify no flags

- Stby Horizon — Pull to erect (Bug: DON'T DO THAT ➔ RNAV Error)
- Instrument Checks
  - PWR MGT — TO
  - ENG 1 & 2 Instruments — Check
  - ENG Controls — All white lights extinguished
  - Cab Press Lights — All extinguished
  - Man Rate Knob — Norm
  - Cabin Press Indicator — DIFF: 0
RATE: 0
ALT: Pressure Altitude
  - Stick Shaker Fault Light — Extinguished
  - Anti Skid Lights — All extinguished
  - RMI / EHSI — Crosscheck Heading
  - VSI — Verify no flags & pointer zero
  - Clock — Verify time & adjust if required
  - ASI — Verify no flags, airspeed 0 & VMO 250
  - EADI — Verify no flags
  - Altimeter — Verify no flags

--- GPWS Test Button is upper-right of the EADI. ---

- GPWS / GS Test Button — Push

--- Verify "Flight Slow – Pull Up" Sound played. ---

--- Continue here at turn-around. ---

- FMC
  - Ident Page ➔ DATA Btn. ➔ Ident ➔ LSK 6L
  - Verify current AIRAC file loaded
  - Pos Ref ➔ LSK 6R
  - Verify GPS position correct
  - Route ➔ LSK 6R
  - Option 1: Load saved route ➔ User Rtes ➔ LSK 4R
    - Select route ➔ LSK xL (x = line no.)
    - Enter into Rte 1 or 2 ➔ LSK 6x (x = L or R)
  - Option 2: Create new route
    - Enter Dep Airport 4-letter code ➔ LSK 1L

- Enter Arr Airport 4-letter code ➔ LSK 1R
- Enter Flight No. ➔ LSK 2R (e.g. DLH84)
- Enter T/O Runway ➔ LSK 2L
- Enter Company Route Name ➔ LSK 3R

--- I recommend choosing the rte name like this: xxxxyyyyzzzz with x = Dep Airport, y = Arr Airport, z = Aircraft code (here: AT72). ---

- Next Page ➔ NEXT
- Enter first waypoint after SID ➔ LSK 2R
- Continue adding next waypoints ➔ LSK xR (x = line no.)

--- After every 5 waypoints you have to change to the next page. ---

- Back to Rte Page 1 ➔ PREV (press till you reach Page 1)
- Save Rte ➔ LSK 5R
- Activate ➔ LSK 6R

--- Green Exec Light should be illuminated. ---

- Execute ➔ EXEC

- Dep/Arr Page ➔ DEP/ARR
- Dep ➔ LSK 1L
- Select Runway ➔ xR
- Select SID ➔ xL
- (Select Transition ➔ xL)

--- Green Exec Light should be illuminated. ---

- Execute ➔ EXEC

--- You could now select the STAR via the DEP/ARR page, but I postponed this step until reaching the last waypoint before the top of descent. ---

- Legs Page ➔ LEGS
- Clear all discontinuities by replacing the discontinuity with the next waypoint
- Rte Page ➔ RTE
- Perf Init ➔ LSK 6R

--- Following weights will be indicated in 1000kg (1kg ≈ 2,2lbs) ---

- Auto - ZFW ➔ LSK 3L
- Auto – GW ➔ LSK 1L
- Enter Reserves ➔ LSK 4L (standard: 0.9 ≈ 900kg ≈ 2000lbs)
- Enter Flight Level / Cruize Alt ➔ 1R

--- Green Exec Light should be illuminated. ---

- Execute ➔ EXEC

• IVAP-Flightplan	Create, enter route, alternate, POB, FOB, TO time
• Mach (or TAS) in Flightplan	Enter
• Departure Time	Enter (in UTC)
• VHF / Com 1 frequency	Set active ATC (or Unicom 122.8)
• IFR-Clearance	Request
• Clrc. data	Note & Readback

--- Note Squawk, First-Altitude, QNH, SID ---

• FP correction	Correct (if required)
• Squawk	Set
• Altimeter	Set to atmospheric pressure (B)
• Auto Press Landing Elevation	- QNH in use➔ Set to airport elevation - OFE in use ➔ Set 0
• ASI Speed Bug	Set V2 (yellow bug) + 5 knots
• Door 1	Close (Shift + e)
• Gangway	Disable (Ctrl + j)

Engine s/u & Pushback:

• Engine s/u & p/b clrc	Request
• Doors	Check all closed
• Beacon Lights	On
• Parkingbreak	Release
• Pushback	Start

--- ENG 2 Start ---

• ENG Start Rotary Knob	Start A or B
• Start 2	Push & verify on light illuminated

--- Between 10 & 19% NH and ITT > 200°C ---

• Condition Lever 2 (CL)	FTR

--- Verify after 45% NH Start 2 On light extinguished & after 62% NH DC Gen Fault 2 light extinguished. ---

• Condition Lever 2 (CL)	Auto

--- Verify NP stabilized at 71%. ---

---- ENG 1 Start ---

- Start 1 — Push & verify on light illuminated

--- Between 10 & 19% NH and ITT > 200°C ---

- Condition Lever 1 (CL) — FTR

--- Verify after 45% NH Start 1 On light extinguished & after 62% NH DC Gen Fault 1 light and BTC flow bar light extinguished. ---

- Condition Lever 1 (CL) — Auto

--- Verify NP stabilized at 71%. ---

- ENG Start Rotary Knob — Off / Start Abort

- DC External Power — Off

--- Verify DC GEN 1 & 2 Fault light extinguished. ---

- AC Wild External Power — Off
- Air Bleed — Verify all lights extinguished
- AC Wild Elec Pwr — Verify all lights extinguished

- Flaps — 15
- Anti Skid Test — Press & Release

--- Verify no F lights remain illuminated. ---

- Pushback — End
- Taxi Lights — On
- No Smoking — Verify on
- Seat Belts — Verify on

Taxi:

- Taxi-Clrc — Request
- Taxiways — Note
- (Ground guidance — Request if required)
- Taxi — To h/p as cleared

- NAV Receiver 1 — On
- NAV Receiver 2 — On
- A/P Altitude — Set to first altitude

  --- Altitude Selected will be shown in the A/P window. ---
- A/P HDG — Set to runway heading

--- Heading will be shown in the lower-left corner of the EHSI. ---

• ASI Speed Bug	Verify set to V2 + 5 knots
• EHSI	Verify RNV & MAP set
• EHSI Range	Set (with arrow buttons)
• A/P CPL	Set pilot flying side (left arrow illuminated)
• T/O Config Test	Push & verify no alert

h/p:

• Hand-off GND to TWR	Change frequency
• l/u & t/o clrc	Request ("rdy for dep h/p xx")
• Gust Lock	Release

--- Gust Lock = Uppermost black click spot ---

• Air Bleed Valves	Norm Flow
• Wing Lights	On
• Strobe Lights	On
• Landing-Lights	On
• Transponder	On
• Postion & hold	Taxi & stop on rwy

Ready to Takeoff:

• Parkingbreak	Set

--- Right click on both levers to auto-set to Power Lever Notch. ---

• Thrust Levers	
○ Manuel t/o thrust	Move forward
--- or ---	
○ Auto t/o thrustor	Right click to set levers to Power Lever Notch.
• Parking Break	Release
• Yoke (till 70 knots)	Press forward
• V1	No abort of take-off
• VR	Lift nose up
• V2	Lift-off

Takeoff:

- Trim settings — Adjust (when needed)
- Gear — Up (at positive climb rate >500ft)
  ---at 1000ft AGL---
- Airborne — Publish when on Unicom
- Start time — Note (if needed)
- A/P YD — On
- A/P NAV — On
- A/P (Master Switch) — On
  --- Verify YD & AP arrow lights illuminated and green LNAV is shown in the A/P display. ---
- Flaps — Raise passing about 150kts
- PWR MGMT — CLB
- Power Levers — Forward to about 80%
  --- If the aircraft climbs to fast and is loosing speed set climb speed through A/P. ---
- A/P IAS — IAS
- A/P IAS — Select Climb speed with A/P wheel
  --- Warning: If you set the speed to high the aircraft will descend to gain speed! ---
  --- Continue here. ---
- Hand-off TWR to APP(DEP) — Change frequency

Climb:

- Landing Lights — Off
- Taxi Lights — Off
- Wing Lights — Off
  --- to final FL / next FL clrc ---
- AP altitude — Change
- Hand-off APP to CTR — Change frequency
- Altimeter — Readjust (above 18000ft)

Cruise:

- PWR MGMT — CRZ
- ATC contact — Maintain

- Autopilot — Check permanently
- FMC — Check PROG & ACT LEGS pages
- FMC — Check VNAV Page 2 for T/D

Cruise with Icing Conditions:

- Probes & Windshield HTG — Verify on (lights extinguished)
- Mode SEL — Auto (light extinguished)
- Prop, Horns & Side Windows Anti-Ice — On (On lights illuminated)
- ENG & Airframe De-Icing — On (On lights illuminated)
- Minimum Icing Speeds — Set bugs as shown in charts

Descent & Approach:

--- Begin descend preparations before reaching Top of Descend (T/D) ---

- Descent preparations — Begin
- Airport-/Meta-Information — Retrieve
- FMC
  - DEP/ARR Page ➔ DEP/ARR
  - Destination Arrival Page ➔ LSK 2R
  - Select Arrival Runway ➔ LSK xR
  - Select STAR ➔ LSK xL
  - Select Transition ➔ LSK xL

    --- Verify green Exec light illuminated. ---
  - Execute ➔ EXEC
  - Legs Page ➔ LEGS
  - Clear all discontinuities by replacing the discontinuity with the next waypoint

    --- If you deleted an discontinuity green Exec light should be illuminated. ---
  - Execute ➔ EXEC
  - VNAV Page 1 ➔ Look up Gross Weight
- Look up Vapp in charts according to Gross Weight
- ASI Speed Bug — Set to Vapp

--- Before reaching Top of Descent (T/D). ---

- Descent-Request — Request

--- Continue here when reaching T/D. ---

- A/P Altitude — Set to next cleared Altitude or final approach Altitude

- A/P IAS or VS — Activate & set

--- It is recommend to use VS mode for the first part of the descent (set as recommend on the FMC VNAV page), use IAS mode for final approach (set to Vapp). ---

--- Center Panel: ---

- CCAS — Depress CPL button & check aircraft status
- Landing Elevation — - If QNH in use ➔ Destination Airport Altitude
  - If QNE in use ➔ 0

--- Continue here after descending through 18000. ---

- Altimeter — Readjust (under 18000ft)
- Decision Height — Set (200ft RA or as required)
- Hand-off CTR to APP — Change frequency
- Landing lights — On
- Wing Lights — On
- Taxi Lights — On

Final Approach:

- A/P Altitude — Set to Destination Airport Alt. plus Decision Height

--- Passing Deceleration Altitude. ---

- Power Levers — Flight Idle

--- Passing 180kts. ---

- Flaps — 15

--- Passing 170kts. ---

- Gear — Down
- PWR MGMT — TO

--- Passing 150kts. ---

- Flaps — 30

--- After stabilized on glide slope & ILS. ---

- ILS captured — Announce
- Hand-off APP to TWR — Change frequency

--- Continue after landing clrc received. ---

--- At decision altitude. ---

- A/P — Disconnect (Press 2x)
- Trim settings — Adjust (as required)

---Touchdown---

- Throttles — Idle
- Thrust reversers — Engage (if required)
- Thrust reversers — Disengage at 70kts, thrust idle
- Runway — Vacate (“rwy vacated”)

Taxi:

- Transponder — Stdby
- Hand-off TWR to GND — Change frequency
- Taxiways — Note and follow
- (Ground-Guidance — Request if required)
- Flaps — Set 0
- Trims — Reset
- Gust Lock — Engage
- Landing lights — Off
- Wing lights — Off
- Strobe lights — Off
- NAV Receivers — Off
- Landing time — Note (if needed)

Parking Position:

- Parkingbreak — Set
- Taxi Lights — Off
- Ground Power — On
- AC Wild Ground Power — On
- ENG 1 CL — FTR ➔ FUEL SO
- ENG 2 CL — FTR ➔ FUEL SO
- Door 1 — Open (Shift + e)
- Gangway — Enable (Ctrl+ j)
- Master Caution — Push / Off
- Seat Belts — Off
- No Smoking — Off
- Beacon Lights — Off

- ATC — End service (“on blocks”)

--- Ready for turn-around, continue for dark & cold. ---

- ENG 1 & 2 Fuel Pumps — Off
- Master Caution — Push / Off

➔ Captains EFIS Control Panel

- E-HSI DIM — Off
- E-ADI DIM — Off
- Radar — Off

➔ Lower Pedestal (Center Console)

- TCAS — Stby
- Transponder — Off
- ADF 1/2 — Off
- VHF / COM 1/2 — Off
- Cockpit Door — Open

➔ Center-Right Ovhd Panel Column

- All Anti-Icing & Heating — Off
- Emergency-Lights — Disarm

➔ Center-Left Ovhd Panel Column

- Logo Lights — Off
- NAV Lights — Off

➔ Right Ovhd Panel Column

- ENG 1/2 Bleed — Off
- Packs — Off

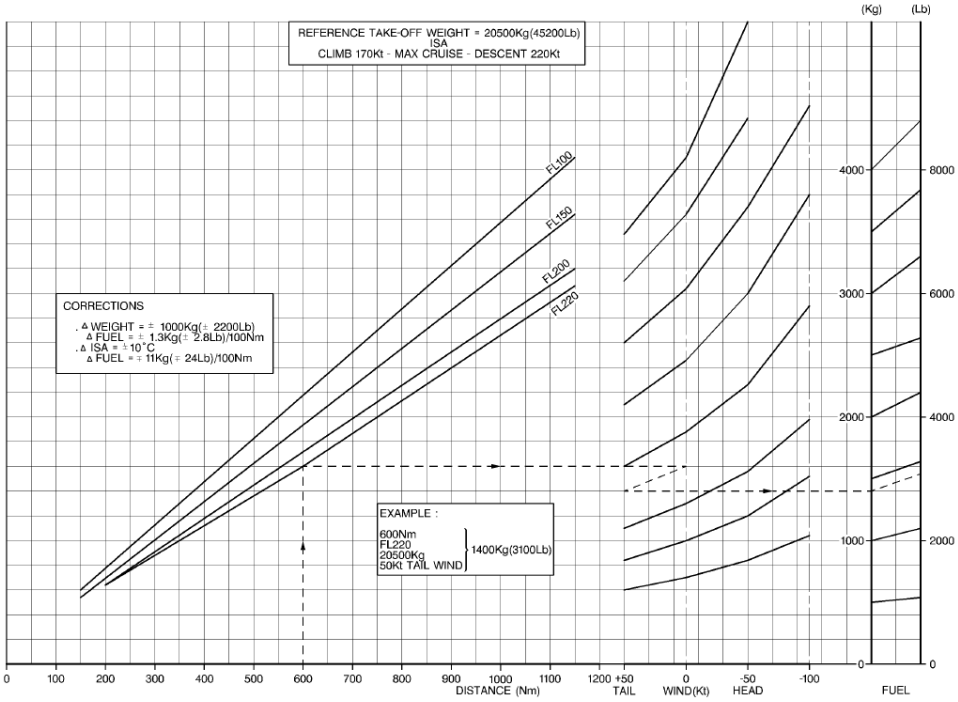
- AC Wild External Power — Off
- External Power — Off
- External Lights — Verify all off
- Cockpit Lights — All off
- Battery — Off

Intentionally Blank

Fuel-Planning

Fuel Required:

Trip Fuel +Taxi, Take-Off, Climb & Landing Fuel



Fuel planning notes (IFR Flights):

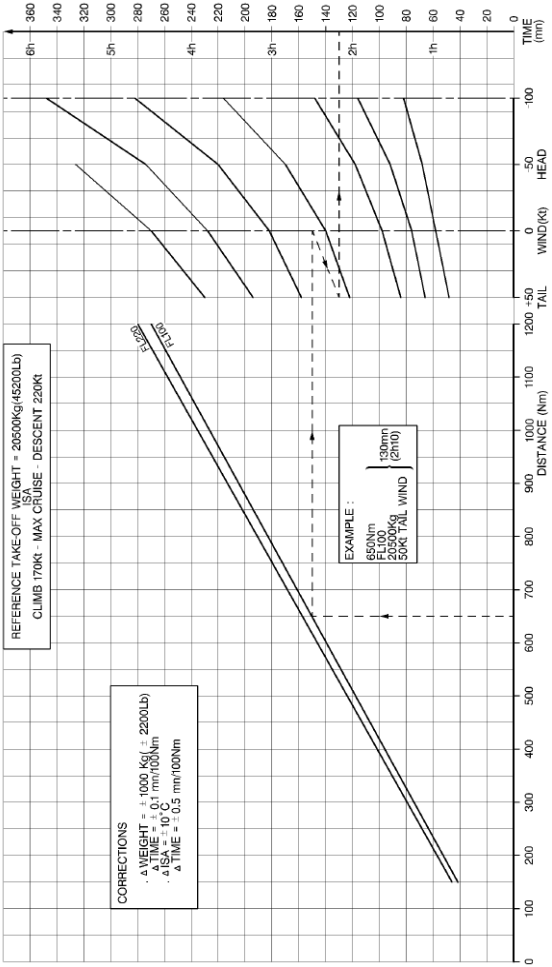
	Basic Operating Weight (OEW)	29.762	LBS	
+	Payload (passengers & cargo)	XX.XXX	LBS	
=	Zero Fuel Weigh (ZFW)	XX.XXX	LBS	max 45.194
+	Minimum Landing Fuel (FAA 45min res.)	01.000	LBS	
+	Alternate Fuel (200nm distance)	01.000	LBS	
+	Contingency Fuel (included in chart above)	00.000	LBS	
=	Planned Landing Weight (PLW)	XX.XXX	LBS	max 48.502
+	Flight Plan Fuel (fuel for route)	XX.XXX	LBS	
=	Planned Takeoff Weight (PTOW)	XX.XXX	LBS	max 48.502

➔Flight Plan Fuel + 2.000 LBS = Total Fuel (2.000 LBS ≈ 900 KG)

➔ *Total fuel = Enough fuel for route, 45min contingency (holding & taxi), problematic winds, alternate fuel for 200nm and a minimum landing fuel (45min). Modify alternate value as needed.*

➔ Load wing tanks first, with same amount of fuel; wing tanks full ➔ center tank.

Distance & Time:



Vapp (Approach Speed):

FINAL APPROACH SPEED

$$V_{APP} = V_{mHB} + \text{WIND FACTOR}$$

Wind factor :
The highest of
- 1/3 of the reported head wind velocity

-or-

- the gust in full

with a maximum wind factor of 15 kt.
Wind factor is added to give extra margin against turbulence, risk of windshear etc...

FLAPS 30°

Weight (1000 kg)	VmHB IAS limited by VMCL	
	Normal conditions	Icing conditions
13	95	95
14	95	95
15	95	97
16	95	100
17	96	104
18	99	107
19	102	110
20	105	114
21	108	117
22	111	120
22.5	113	122

Weight (1000 lb)	VmHB IAS limited by VMCL	
	Normal conditions	Icing conditions
29	95	95
31	95	95
33	95	97
35	95	100
37	95	104
39	98	106
41	101	109
43	103	112
45	106	115
47	109	118
49	112	121
49.5	113	122