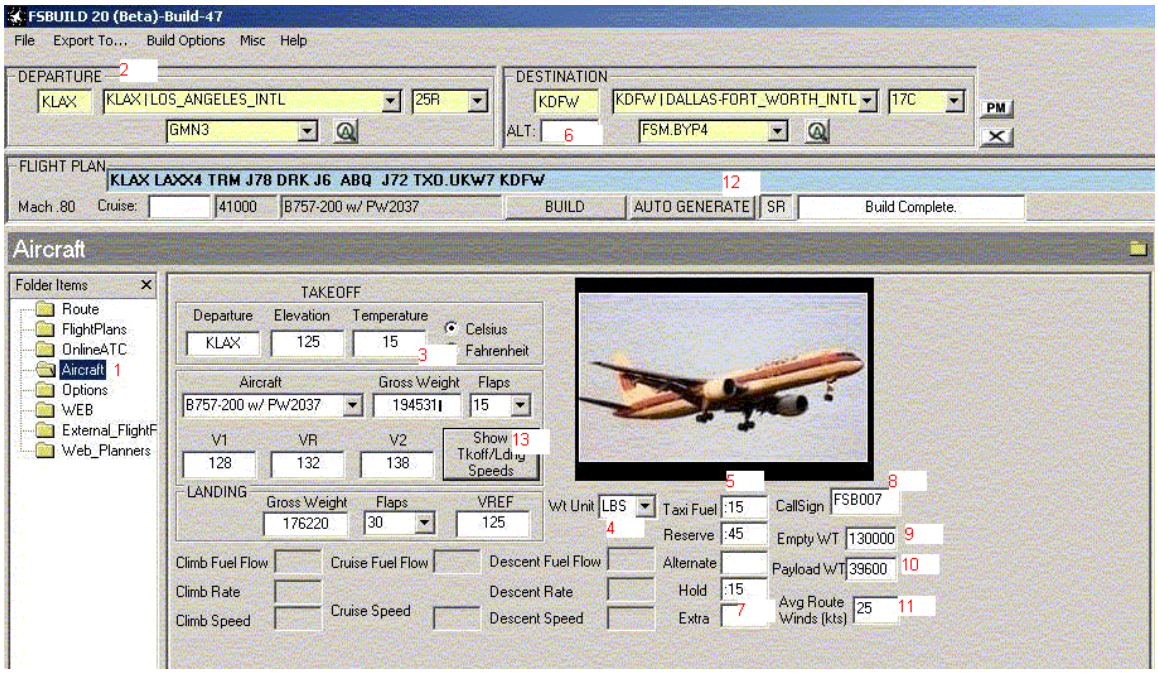
Domestic Flight Planning w/ FSBUILD 2.0 (by Marc Brodbeck)

Running a Domestic Flt plan from KLAX to KDFW, using FSB2 w/ the **B757-200 w/ PW2037** (Pratt and Whitney powered version). Start up FSBUILD 2.0 now. I'm assuming some real world wx is going to be used to the fly in Flt Sim, so I'll also load up the ADDS wx site to check out the route/wx.

You will be greeted by the main planning window screen of FSB2. Below is the AIRCRAFT screen from step 1 through 13.



1. Select the **Aircraft** File Folder, from Folder Items on the left hand side, select the **B757-200 w/ PW2037** from the Aircraft pull down menu.
2. Go up to the top and type in **KLAX** to Departure and **KDFW** for Destination (note: KDAL is the default alternate for KDFW in FSB2, select another one or choose to delete the alternate if the wx/TAF conditions permit [1 hour before or after ETA, the visibility is at least 3SM and cloud ceiling at least 2000ft, e.g. 3SM OVC020] http://adds.aviationweather.noaa.gov/ and review the METAR/TAF for KLAX and KDFW.

KLAX 222330Z 230024 27010KT 4SM HZ BKN200
FM0400 VRB03KT P6SM BKN100
FM0800 VRB03KT 4SM BR BKN020
FM1900 27010KT P6SM SCT020=

KLAX 230050Z 27009KT 6SM HZ FEW100 OVC200 15/13 A3022 RMK AO2 SLP232 T01500128

KDFW 222330Z 230024 36014G20KT P6SM OVC030
FM0400 35015KT P6SM BKN040
FM1000 01014KT P6SM SCT045 SCT200=

KDFW 230103Z 35017KT 10SM OVC030 02/M08 A3038 RMK AO2

3. Enter the correct wx data into the Aircraft Screen to produce the correct Takeoff and Landing data (TOLD).
4. Will use **Wt units** in LBS, feel free to change to KGS.
5. Let's now enter, **Taxi, Reserve, Alternate, Hold, and Extra Fuel**. For **Taxi fuel**, plan **:15 minutes**, for large airports, less for smaller ones. For domestic US flights use **:45 Reserve**.
6. The wx forecast for KDFW does not require an alternate, so I will remove the **KDAL** default one.
7. For most airports, **:15 hold** will be adequate to deal with any momentary arrival delays. Consider adding more minutes of hold, if wx is expected to impact the amount of flights that can land at ETA. Such as low visibility approaches, Snow removal, or Thunderstorms suspending operations for a short time. **Extra fuel** can be added in to allow for various contingencies enroute, including, but not limited to, the capricious nature of the ATC handling, enroute wx detours, possible deviations at higher cruise speed, or lower cruise altitude than planned. I have chosen none.
8. Add a flight **Callsign** for ATC.
9. **Empty weight**, is the standard weight for the aircraft with no payload or fuel onboard, just the seats, flt crew, and normal onboard equipment (water, catering, etc.).
10. **Payload weight**, is the weight of the passengers + cargo. I use an average passenger wt of 220 lbs. or 100 kgs. 180 passengers * 210 = 39,600 lbs.
11. And from the http://adds.aviationweather.noaa.gov/projects/adds/winds/ Derive an a**vg. route winds** speed estimate to plug in and get a more accurate time/burn result. I'm going to use 25 kts for this sample (for a 25kts tailwind, if you want to make a headwind, use a (-) minus sign).
12. Build our route now, I'm just going to let FSB2 do its thing with the **Auto Generate** function, it will look for a stored route first, and then it will build a new one if none is found. Click Auto Generate. A route was Auto Generated, **KLAX LAXX4 TRM J78 DRK J6 ABQ J72 TXO.UKW7 KDFW**
13. Before leaving the **AIRCRAFT** folder screen, click **Show Tkoff/Lndg speeds** to run the TOLD data and paste to the bottom of the **Navlog** flt plan.
14. Go to the **ROUTE** folder and review the **Navlog** tab, this is the flight plan produced.

Navlog Pilot Input headers

```
                BLOCK TIMES          FLIGHT TIMES          FUEL

IN      . . . . .    ON      . . . .      TAKEOFF . . . .
OUT     . . . . .    OFF     . . . .      LANDING . . . .
TOTAL   . . . . .    TOTAL   . . . .      BURNOFF . . . .
```

Ability to track Block times and Flight Times, by noting the times and calculating the TOTAL data.

1. IN = Parked at gate.
2. OUT = Brakes released and being pushed back from gate.
3. TOTAL BLOCK TIMES = IN minus OUT time
4. ON = Landing gear touchdown.
5. OFF = Landing gear liftoff.
6. TOTAL FLIGHT TIMES = ON minus OFF.
7. TAKEOFF FUEL = fuel on board at takeoff
8. LANDING FUEL = fuel on board at landing
9. FUEL BURNOFF = TAKEOFF minus LANDING fuel.

Navlog Fuel Plan Headers and Explanations

```
FLT REL IFR FSB007 [1]  KLAX/KDFW [2]  MACH 80 [3]  A/C  B757-200 W/ PW2037 [4]

                FUEL  TIME    CORR       TOGWT      LDGWT       AVG W/C
[5] TAXI       000525 0015  . . . .  [13]194531 [14]176220  [15]P024
[6] DEST KDFW  018311 0229  . . . .
[7] RESV       004965 0045  . . . .
[8] ALTN       000000 0000  . . . .  [16] ALTN     DIST  0
[9] HOLD       001655 0015  . . . .
[10]EXTRA      000000 0000  . . . .  [17] ZFW 169600      PAYLOAD 039600
[11]TTL AT TO  024931 0329  . . . .                [18] DIST  1089
[12]REQD       025456 0339  . . . .

[19] CLB BIAS 0.0 %  CRZ BIAS 0.0 %   DSC BIAS 0.0 %

[20] KLAX LAXX4 TRM J78 DRK J6  ABQ  J72 TXO.UKW7 KDFW/0229
```

1. ATC Call sign
2. ICAO code Departure / Destination
3. Cruise Mach Number
4. Aircraft Type w/ Engine type
5. Taxi fuel and time
6. Destination Fuel burn and time
7. Reserve Fuel and endurance time
8. Alternate Fuel and time
9. Hold fuel and time
10. Extra fuel and time
11. Total fuel planned at Takeoff (equals Required Fuel, less taxi fuel)
12. Required Fuel, sum of all above fuel amounts
13. Planned Takeoff Gross Weight (LBS or KGS)
14. Planned Landing Gross Weight
15. Average enroute wind component (Plus for Tailwind/Minus for Headwind)
16. ICAO arpt code for Alternate airport and Distance from Destination to Alternate (if listed)
17. Aircraft Zero Fuel Weight, Empty Weight Plus Payload
18. Total planned route distance from Dept to Dest.
19. Climb, Cruise, Descent performance factors. Adjust individual aircraft burn performance to accurately reflect changes in performance based on aging engines and more drag.
20. ATC and Flight Plan Route.

Navlog Main Flight Plan legs data

```
                          M/H FL                        WIND   ATC
TO           NM  AWY      M/C TAS G/S     ZT  ACTME ETA ATA ACBO ABO REM AREM

 N3337.6/W11609.6         084 CLB                    000000  LAX
TRM 116.20   113 LAXX4    084 357 369   00/18 00/18 .../... 0046/... 0202/...

 N3355.8/W11538.0         055 CLB                    000000  LAX
TOC          032 J78      055 357 382   00/05 00/23 .../... 0059/... 0189/...

 N3406.1/W11440.9         055 410                    000000  LAX
PKE 117.90   047 J78      055 459 484   00/05 00/29 .../... 0066/... 0182/...
```

1. TO – data from last waypoint to current waypoint row. 3 or 5 letter waypoint ID (TOC/TOD = Top Of Climb or Descent)
2. Latitude/Longitude of current waypnt.
3. ID for current wypnt (Navaid or Fix) and Navaid Frequency.
4. AWY – Airway ID from previous waypoint to current wypnt (SID, STAR, Airway).
5. NM – nautical miles from previous waypoint to current wypnt.
6. M/H – Magnetic Heading from previous waypoint to current wypnt.
7. M/C – Magnetic Course from previous waypnt to current wypnt.
8. FL – Flight Level altitude. Or CLB/DSC – climbing or descending.
9. TAS and G/S – True Airspeed and Ground Speed.
10. ZT – Segment time from previous waypoint to current wypnt.
11. ACTME – Accumulated time from DEPT arpt to current wypnt.
12. WIND – Direction of Wind/Speed.
13. ETA/ATA – Field to manually fill out Estimated Time of Arrival and Actual Time.
14. ATC – Online ATC sector that current wypnt resides in.
15. ACBO – Accumulated fuel burn from DEPT arpt to current wypnt.
16. ABO – Actual fuel burn, for manual tracking of fuel score.
17. REM – Estimated Fuel on board remaining at current wypnt.
18. AREM – Actual Fuel on board remaining at current wypnt.

Navlog TOLD data

```
TAKEOFF
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FLAPS   15
V1      128
VR      132
V2      138

LANDING
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FLAPS   30
VREF    125
```

1. Takeoff Vspeed for listed Flap setting.
2. Landing Ref Speed for listed Flap setting.