Level-D Simulations 767 performance file for FSBuild

Here is the Level-D 767 performance file, aircraft config file entries, and supporting information:
http://www.mbev.net/bev/Level-D_FSB.zip

There are two versions of the performance file based on your version of FSBuild, those before version 2.20 build 180 or those from that point on. Each is in its own zip file. The later versions allow for better projections as they have improved methodology.

The performance file was created with LDS performance data, the climb data is based on LDS 330,000 LBS GRWT. The cruise data is based on a mach .80 cruise, Cost Index 70. Place the performance file (**B763_LDS_Lbs.PRF)** in the FSBuild\Aircraft directory.

For the performance (PRF) file to work, you need to add the LDS aircraft (**Level-D_aircraft.txt**) to the FSBuild aircraft config file (fsb_Aircraft.cfg) which is in the main FSBuild installation directory.

COPY and ADD (append) THE SECTION BELOW to: **fsb_Aircraft.cfg**
For best results, use the text file in the link above.

```
[B767-300 Level-D] -- (M.Bevington) ---
WeightUnit=LBS              // set to LBS or KGS, then recalculate all weights below
CallSign=AAL327             // set to your favorate callsign
PayloadWeight=46695         // set as required to match load editor
ReserveFuel=:45             // set as required (minutes or actual)
AlternateFuel=              // can force in minutes or weight (not recommended)
HoldFuel=:15                // set as required (minutes or actual)
ExtraFuel=:20               // set as required (minutes or actual)
TaxiFuel=180/min            // 140 per min at idle, 180 is good average
ApproachFuel=1200           // added after last waypoint, adjust as required
OperEmptyWeight=197000                  // do NOT change
MaxTakeoffWeight=408000                 // do NOT change
MaxZeroFuelWeight=288000                // do NOT change
MaxLandingWeight=310000                 // do NOT change
MaxFuelWeight=161740                    // do NOT change
PerformanceData=B763_LDS_Lbs.PRF        // do NOT change
ToldData=B763.tld                       // do NOT change
DefaultTOFlaps=5            // as required
DefaultLDGFlaps=30          // as required
ImageFile=LDS767.jpg                    // do NOT change
MaxCruise=41000                         // do NOT change
ClimbFuelbias=0.0           // adjusted for LDS model 330,000 GRWT
CruiseFuelbias=2.4          // adjusted for LDS model at Mach 8.0
DescentFuelbias=0.0         // requires large change to see any effect

;-----------------end of LDS addition ------------------
```

There is a new image file to be used in FSBuild for the LDS 767 aircraft. The file (**LDS767.jpg**) must should be placed in the FSBuild\Images folder.

Tweaking settings in the aircraft config file (fsb_Aircraft.cfg)

The aircraft configuration file has many fields that a user can adjust. Since it requires FSBuild to close and restart for these changes to be seen, it is not recommended to make changes from flight to flight. I would recommend finding settings that best match the average for the flying you do.

Weights can be set in KGS or in LBS. Be sure to recalculate all of weights in the LDS section.

There is a entry called ApproachFuel=1200. What this does is add 1200 pounds of fuel to your last segment before landing. It is an overall average for procedures not included in the flight plan. This may be changed to meet your needs.

The last three lines are used to adjust the climb, cruise, and descent fuel bias level. A change from 0.0 to 5.0 represents a 5% increase in the fuel that FSBuild will calculate.

Climb
For GRWTs of 280-340, no (0.0) climb bias in necessary as FSBuild will provide an acceptable projection for climb fuel burn. If you normally fly with a lower or higher GRWT, you can enter any minus (-10.0) or any positive (10.0) percent adjustment to the calculated burn.

Cruise (default is mach 8.0 / CI 70)
The cruise performance tables set the cruise burn based on altitude and GRWT at any given waypoint. There currently is a limitation in FSBuild that restricts the table to only one mach value. The default setting of 2.4 has worked very well across the range of tests performed at Cost Index 70 (mach .80 average). You may tweak this at your discretion. For mach .82 cruise, a bias of about 4.0 should be set. If you actually do use mach .84 for your normal cruise speed, you should set a bias of about 12.0.

Descent
Because of the relatively low amount of fuel used in the descent, changes here are not usually required.

FSBuild Limitations

FSBuild will grab the climb performance data (rate-of-climb, airspeed, fuel flow) each time it crosses a waypoint appearing in the FP. FSBuild will also force a hidden pseudo waypoint at 25 mile intervals on the climb, 100 mile intervals in the cruise. Then FSBuild assumes the performance level crossing that waypoint as a continuous level of performance to FSBuild's next waypoint. This starts with the initial takeoff performance for climb/speed/fuel flow. There are a couple small FSBuild limitations that can affect consistent calculations across the full range of GRWT and mach airspeeds. FSBuild "currently" cannot recognize more that one climb table (range of values for only one GRWT). The cruise portion of the flight is somewhat affected because FSBuild "currently" only recognizes one table at a set mach value (mach .80 in this case). Bias settings provide a way around this if you normally fly light/heavy (climb) slow/fast (cruise). For these reasons, your results may vary slightly from flight to flight.