

ISOLATED AIRFIELD FUEL

Refer to **OM Part A 8.1.9.1.11.6, 8.1.10.3**

A400M Isolated Airfield Holding Reserve Fuel is **9000kg**.

5.4 EN-ROUTE DIVERSION

Before there is a decision to divert, the crew must have formulated an accurate fuel plan. Consider using the FMS SEC function (*Post Mod 84477*) to aid constructing a fuel plan. This section outlines the steps to be followed to execute an unscheduled diversion.

5.4.1 EN-ROUTE DIVERSION FUEL PLANNING

In addition to an accurate calculation of a projected fuel overhead the diversion, it is essential a 'ballpark' figure be derived as a gross error check against input errors. During the procedure, if possible, all inputs should be stated by the PM and confirmed by the PF.

BALLPARK FUEL FIGURE METHOD

The following method can be used to obtain a ballpark fuel calculation

- Decide on the fuel required overhead diversion (MIN FUEL AT DEST).
- Estimate distance to diversion.
- With reference to the forecast wind chart, estimate a ground speed to the diversion: TAS +/- head/tail component, using either a standard 400KTAS (28000ft ISA 4-Eng 0.68M) or 340KTAS (28000ft ISA 3-Eng LRC speed). Alternatively, the current TAS displayed in the upper left corner of the NTD could be used.
- Divide distance by ground speed to obtain a leg time (hrs) to the diversion airfield.
- To give a ballpark fuel burn figure, multiply leg time by 4.7T/hr (generic 4-Eng FF), 3.7T/hr (generic 3-Eng FF) or current total FFT/hr displayed on the CRUISE SD page
- Add the ballpark fuel burn figure to MIN FUEL AT DEST.

6 MASS AND BALANCE

Refer to **WBM**

Caution: *It is critically important that the PM crosschecks the ZFW and ZFWCG in the FMS against the LTS during the BEFORE START CLEARANCE tasksharing.*

Equal Time Points (ETP) / Critical Points (CP)

- Distance to ETP(nm) = $(D \times H) / (O + H)$
- Time to ETP(hrs) = Distance to ETP / O

Point of no return (PNR)

- **Before passing PNR, fuel remaining must be $\geq 105\%$ remaining TRIP burn + MIN FUEL AT DEST**
- Distance to PNR(nm) = $SEA \times O \times (H / (O + H))$
- Time to PNR (hrs) = $SEA \times (H / (O + H))$
- PNR formulae must be calculated using **dispatch values**.

Last Point of Diversion (LDP)

- *This is a PNR calc for if the destination is at such a distance it is not possible to carry enough fuel to reach the destination and then divert safely.*
- **Before passing an LPD, fuel remaining must be $\geq 105\%$ remaining TRIP burn + MIN FUEL AT DEST**
- \sim time to LPD = $(SEA / SER) \times EET$ (A to B)

ETP, PNR & LPD KEY

D = Total distance (nm).

O = Go-on groundspeed (kts) = 400 KTAS 4-Eng \pm Wind factor (kts) or 3-Eng 340 KTAS LRC \pm Wind factor (kts), at 28000ft.

H = Go-home groundspeed (kts) = 400 KTAS 4-Eng \pm Wind factor (kts) or 3-Eng 340 KTAS LRC \pm Wind factor (kts), at 28000 ft. **A** = Departure (or nominated return airfield).

B = Destination airfield.

C = Alternate airfield.

EET = Estimated Elapsed Time (hrs).

SER = Safe Endurance Required (hrs) = EET (A to B) + EET (B to C).

SEA = Safe Endurance Available (hrs).

Note: To calculate SEA:

- *Decide on the fuel required overhead the diversion airfield (after considering, e.g. the reason for the diversion, weather etc)*
- *Delete this value from the amount of Fuel On Board (minus Taxi fuel) to get Flight Fuel Available.*
- *Divide Flight Fuel Available by fuel burn (4-Eng: generic 4.7 T/hr or 3-Eng generic 3.7 T/hr) to get SEA.*