Docket No. SA-538

Exhibit No. 2-J

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

Attachment 9 – UPS A300 Descent Planning
(4 Pages)

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

February 1, 2014

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OPERATIONAL FACTORS

DCA13MA133

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UPS A300 DESCENT PLANNING[1]

02.01.07 DESCENT

02.01.07.01 DESCENT PLANNING

The A300 provides a visual cue on the ND of the FMC calculated Top-of-Descent (TOD) point via a white descending arrow.

It must be remembered that the displayed TOD point is calculated based upon the FMC entered wind entries, cruise altitude, descent/speed constraints and cost index. Should any of these conditions change significantly without being entered into the FMC, the TOD point may be inaccurate. Although the FMC will normally calculate an adequate distance to begin the descent from the cruise altitude, it should not be used as a substitute for good mental planning.

Well before beginning the descent, check the weather at the destination and alternate airfields. Re-check the FMC F-PLN page for accurate data, ensuring the correct STAR, altitudes and speeds are entered. When possible, it may also prove beneficial to load the planned approach at this point to preclude having to do so in the busy terminal area. Be sure to leave the F-PLN discontinuity between the F-PLN clearance limit and the first waypoint on the approach.

It is always beneficial to thoroughly brief the STAR, planned approach and missed approach as well as runway information and planned exit point before beginning the descent. A good technique is to brief using the Jeppesen pages while simultaneously verifying the information entered in the FMC. This will provide a higher likelihood of catching mistakes entered/missing in/from the FMC flight plan.

Remain cognizant of anti-ice requirements and plan accordingly. Monitor the flight path deviation on the ND as well as the CDU PROGRESS page and use any FMC messages (i.e., MORE DRAG) to your advantage.

When descending to make an altitude and speed restriction (i.e., Darby at 11,000 feet, 250 knots), the A300 will actually begin to slow to the crossing restriction speed by decreasing the rate-of-descent 2000-3000 feet prior to the altitude restriction. If it appears that the continued use of Profile mode will not meet the restrictions, the PF should select LVL/CH or V/S and deploy the speedbrakes as required to ensure the restrictions are met.

[1] Source: UPS A300 Pilot Training Guide, Section 02.01.07.01, Descent.

Remember, once vectored off of the FMC lateral track, the use of PROFILE mode is inaccurate and not useful. It will be necessary to revert to LVL/CH or V/S mode, which means automatic speed protections will be removed (e.g., 250/10,000 feet).

02.01.07.02 INITIAL APPROACH

Proper management of the AFDS significantly enhances the efficiency of the crew when flying any approach. A good "rule-of-thumb" to remember is the "H.O.V.E." check.

(H) = HDG/S. HDG/S - mode must be used when being radar vectored in the terminal area to comply with ATC instructions.

(O) = Out of Profile - Once vectored off of the FMC lateral track, PROFILE mode is inaccurate and of little use. Therefore, to comply with ATC altitude instructions, the use of LVL/CH or V/S modes gives the crew direct control over the vertical path of the aircraft.

(V) = V/N/I switch - Select the V/N/I switch to the appropriate mode for the approach being flown.

(E) = Extend the Centerline - The Pilot Flying should ask the PM to load the expected approach (or runway if accomplishing a visual approach) and extend the centerline. Once the approach has been properly loaded and verified in the FMC, the F-PLN page should reflect the correct sequence of waypoints and altitudes to be flown on the approach.

02.01.07.03 INTERCEPTING THE GLIDESLOPE FROM ABOVE

With LAND mode selected, the A300 AFDS will not intercept the glideslope from above or prior to localizer interception. If the aircraft is well above the glideslope or outside the localizer, use the V/S pitch mode to descend until on the glide path or localizer interception. Provided LAND mode is armed, GS capture will occur as soon as the aircraft intercepts the glideslope.