Attachment 8 To Operations/Human Performance Group Factual Report

DCA11IA040

Landing Speed Definitions

Step 2 Apply adjustments to obtain the Adjusted Landing Distance. Adjustments to landing distance are not made for increased $V_{APP\ MAN}$ due to headwind corrections.

Note: When adjusting for suspected ice buildup, approach speed must not be less than the specified increment above V_{LS} as displayed on the PFD. Obtain the required increment by adjusting V_{APP} on the PERF APPR page or using selected speed.

Step 3 Obtain the Required Landing Distance. Apply a 15% safety margin to the Adjusted Landing Distance using the scale at the bottom of the applicable chart.

Note: The 15% safety margin is not required when evaluating the airplane's ability to meet LAHSO stopping requirements.

Emergencies and the 15% Safety Margin

The 15% safety margin should normally be applied for all emergency landings. Landing on a runway without this margin should only be considered if there are no other suitable options or if remaining airborne would pose a greater risk. Without the 15% safety margin, the airplane is at risk for an overrun.

LANDING SPEED DEFINITIONS

 V_{LS} The minimum speed which provides a 1.23 V_S stall margin for landing. (Airbus certification in a 1g level flight condition provides protection equivalent to 1.3 V_S for traditional airplanes.) V_{LS} is computed by the FMGCs based on the landing flap setting (CONF 3 or Full) selected on the PERF APPR page and airplane gross weight. It cannot be modified by the pilots.

Note: The FMGC-computed V_{LS} is a fixed speed that is displayed only on the PERF APPR page. It should not be confused with the FAC-generated dynamic V_{LS} displayed on the PFD speed tape.

 V_{REF} The term used in ECAM procedures as a base number to which corrections are made for an abnormal configuration approach. V_{REF} is equal to the fixed V_{LS} displayed on the PERF APPR page for flaps Full.

V_{APP} (Target speed) The minimum speed at which the approach is flown.

For normal configurations, V_{APP} is computed by the FMGCs based on the predicted landing weight, flap setting (CONF 3 or Full) selected on the PERF APPR page, and the magnetic winds entered by the pilots.

(A320 airplanes N401UA - N453UA) $V_{APP} = V_{LS} + 5$ knots + 1/3 the headwind component, not to exceed a total of V_{LS} + 20. No additions are made for gusts.

(A320 airplanes N454UA and subsequent and all A319s) $V_{APP} = V_{LS} + 5$ knots or $V_{LS} + 1/3$ the headwind component (whichever is greater), not to exceed $V_{LS} + 15$. No additions are made for gusts.

(All A320 airplanes with forward CG) If the CG is less than 25.0% (displayed on the FUEL PRED page), add 2 knots to V_{APP}.