NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

September 26, 2000

Systems Group Chairman's Factual Addendum 1

A. ACCIDENT DCA99MA060

Location: Little Rock, Arkansas

Date: June 1, 1999

Time: 2351 Central Daylight Time (CDT)

Airplane: American Airlines Flight 1420, N215AA
McDonnell Douglas DC-9-82 (MD-82)

B. Systems Group

Chairman: Joseph Sedor
National Transportation Safety Board
Washington, DC

C. SUMMARY

On June 1, 1999, at 2351 Central Daylight Time (CDT), a McDonnell Douglas DC-9-82 (MD-82), N215AA, operated by American Airlines as flight 1420, regularly scheduled passenger service from Dallas, Texas, overran the end of runway 4R and collided with the runway 22L approach lighting system at the Little Rock National Airport, in Little Rock, Arkansas. The captain and 10 passengers sustained fatal injuries; the remaining 134 passengers and crewmembers sustained various injuries. Shortly before the accident, the weather conditions at the airport were reported as: wind from 180 degrees at 9 knots, visibility 7 miles with thunderstorms, few clouds at 7,000 feet in cumulonimbus clouds, ceiling broken at 10,000 feet; temperature 77 degrees F, dew point 73 degrees F; altimeter, 29.86 Hg; Remarks - ASOS observation - thunderstorm began at 23 minutes after the hour, frequent lightning in clouds, and cloud-to-cloud, located from the west through the northwest; thunderstorms west through northwest moving northeast. The airplane was being operated in accordance with 14 CFR 121, and an instrument flight rules (IFR) flight plan had been filed.

D. DETAILS OF THE INVESTIGATION

1.0 APPENDIX C: AUTOSPOILER ACTUATOR TEARDOWN REPORT

The autospoiler actuator was reexamined at the Safety Board's Material Laboratory to gain further understanding of the anomalies found during the group teardown on August 6, 1999. The group found 1 of 2 white wires separated from terminal A in the filter/rectifier box during the original teardown. This wire was initially identified as that going to the motor field coils. During the reexamination, it was noticed that, in fact, the broken wire was to the brake coil and not to the motor field coils. This information does not change any of the conclusions that the group formed at the conclusion of the teardown on August 6, 1999.

It is important to note that prior to disassembly of the actuator on August 6, 1999, the group performed a functional test which included testing engagement and disengagement of the brake[1]. When power was removed from the actuator, the output shaft did not turn with 100 inch-pounds of torque applied to the output shaft in both clockwise (CW) and counterclockwise (CCW) directions. The output shaft moved freely in both directions, CW and CCW, when 80 VAC, 400 cps[2] was applied to the actuator.

[redacted]
Joseph M. Sedor
Systems Group Chairman
10/27

[1] The brake is released when power is applied and spring loaded engaged when power is removed.
[2] The actuator normally runs on 115 VAC, 400 cps power.