

6/25/2025

FOR YOUR INFORMATION

2025-155/10-16

To: Airport Manager, Washington Dulles International Airport (IAD), VA, FAA 2242062
(ATM IAD Tower, AEA-600)

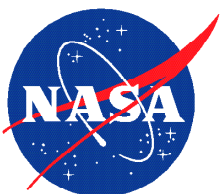
Info: FAA (Director of Air Traffic Operations ESA North, AJV-A, AAS-1, AAS-300, AVP-1, AVP-200, AFS-260, AFS-200, Runway Safety Team), A4A, AAAE, ALPA, AOPA, APA, ASAP, ATSAP, ATSG, CAPA, IATA, ICASS, IFALPA, IPA, NATCA, NBAA, NTSB, RAA, SWAPA

From: Becky L. Hooey, Director
NASA Aviation Safety Reporting System

Re: IAD CAVLR6 STAR Steep Descent Profile Concerns

We recently received ASRS reports describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the enclosed deidentified report.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dr. Becky Hooey at (408) 541-2854 or email at becky.l.hooey@nasa.gov.



Aviation Safety Reporting System
P.O. Box 189 | Moffett Field, CA | 94035-0189



ACN 2242062**DATE / TIME**

Date of Occurrence	202505
Local Time Of Day	1201 to 1800

PLACE

Locale	ZDC.ARTCC
State	VA
Altitude - MSL	22000

ENVIRONMENT

Flight Conditions	IMC
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AIRCRAFT / EQUIPMENT X

ATC / Advisory - Center	ZDC
Make Model Name	B737 Undifferentiated or Other Model
Operating Under FAR Part	121

PERSON 1

Function - Flight Crew	Captain
Function - Flight Crew	Pilot Not Flying
ASRS Report Number	2242062

EVENTS

Anomaly	Deviation - Altitude - Crossing Restriction Not Met
Anomaly	Deviation - Altitude - Overshoot
Detector - Automation	Aircraft Other Automation
Detector - Person	Flight Crew
Result - Flight Crew	FLC Overrode Automation
Result - Flight Crew	Overcame Equipment Problem

NARRATIVE 1

I have seen this same situation numerous times on the 737, but not all the time. On the CAVLR6 STAR, there is a crossing restriction to cross PERKN at or above FL220. About 75% of the time on this arrival, we receive a "steep descent after PERKN" message on the FMC, but this time we did not. Autopilot was ON, FO was flying pilot, LNAV and VNAV engaged, ATC gave a "descend via the CAVLR6, landing south." 4000 feet was set in the altitude window. We began the VNAV descent out of FL250, and when we got close to PERKN, although the autopilot was ON, and LNAV and VNAV were engaged, the autopilot did not abide by the altitude restriction of FL220 or above at PERKN. We were about two miles from PERKN descending through FL220, and since it happened so quick, it was quicker for me as the pilot monitoring (PM), to click off the autopilot and level the airplane to try and abide by the altitude restriction at PERKN. Before I could stop the airplane from descending, we had descended to approximately 21,700 about 1.5 miles prior to PERKN. I then handed the airplane back to the FO, and he continued to slowly climb us back to FL220. As always on this STAR, the profile is way too steep for the airplane directly after PERKN, so the VNAV PATH dropped into VNAV SPD, and we were high on the descent path. The FO reengaged the autopilot and used speed brakes to try and descend to get us on the VNAV PATH. We continued the descend via clearance, but barely made the altitude and speed restriction at CAVLR because the airplane had a steep descent after PERKN. The rest of the arrival was uneventful, and we continued to a landing.

I normally see this situation when we have a very strong tailwind, but today we had a quartering headwind of approximately 25 kt.

The descent profile for this STAR is way too steep for the 737 right after the PERKN intersection. For some reason, even though there is a big altitude restriction window at KHOOD, the software program of this airplane wants to start an extremely steep descent after PERKN, sometimes up to 4,000 – 6,000 FPM rate of descent.

SYNOPSIS

B737 Captain reported the descent profile for the CAVLR6 STAR to IAD is too steep for the B737 right after the PERKN intersection and noted that most of the time the flight crew receives a steep descent message on the FMC on this arrival.