



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Memorandum

Subject: **Information:** AAL77 Flight Path Information

Date: September 17, 2001

From: Automation Manager, AOS-370.ZID

Reply to  
Attn. of:

To: Air Traffic Manager, ZID-1

Our office has been asked to provide analysis on the flight path of beacon code target 3743 (AAL77) from September 11, 2001. Specifically, we were asked to analyze any data available from the time of the loss of a transponder response (approximately 12:56:19Z, Point A) and the time that a plausible "primary" radar target was identified (approximately 13:04:32Z, Point B). Although our office holds no certification in analyzing radar data, we periodically compile and analyze this form of data in reviewing HOST/NAS performance.

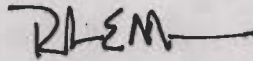
Several of the specialists from this office, contractors and AF personnel conducted a manual analysis and plotting of radar data available. The results from this activity include a depiction of the route of flight that is supported by the data available and is deemed to be most likely by the participants. This attached depiction is a manual reconstruction of this analysis. This reconstruction is an approximation and is not intended to give the exact flight path.

At the time the transponder stopped responding, the radar sort box area for the flight was QHY (Higby, WV), which is a "beacon only" site and does not report "primary" radar data. Once the transponder stopped responding, QHY could not provide any radar data on the flight. The secondary source of radar data for this radar sort box area was QRI (Lynch, KY). QRI did not provide conclusive primary radar data in ascertaining the aircraft position or flight path.

The most useful data used in this activity was derived from data recordings of the QBE (Bedford, VA) radar site. QBE reported a radar reinforced beacon target up until the transponder stopped responding. At the time the transponder stopped responding, QBE reported a primary target that is consistent with the expected radar values and matches the route of flight, which would be expected, given the approximate location of the plausible "primary" radar target observed at Point B.

The approximate location of the plausible "primary" radar target is derived from the SATORI analysis and other supporting data, which indicate a "primary" radar target displayed to the Air Traffic Control Specialists at Point B of the depiction. The availability of a "primary" target display to the ATCSs at Point B is likely the result of better data being available from QRI radar at that point. Between the time of the lost transponder data (Point A) and the time of the "primary" target being displayed (Point B), no radar data was available to the Air Traffic Control Specialists. The reconstruction attached was only possible through the compilation of other radar data sources not ordinarily displayed to the controllers under these circumstances.

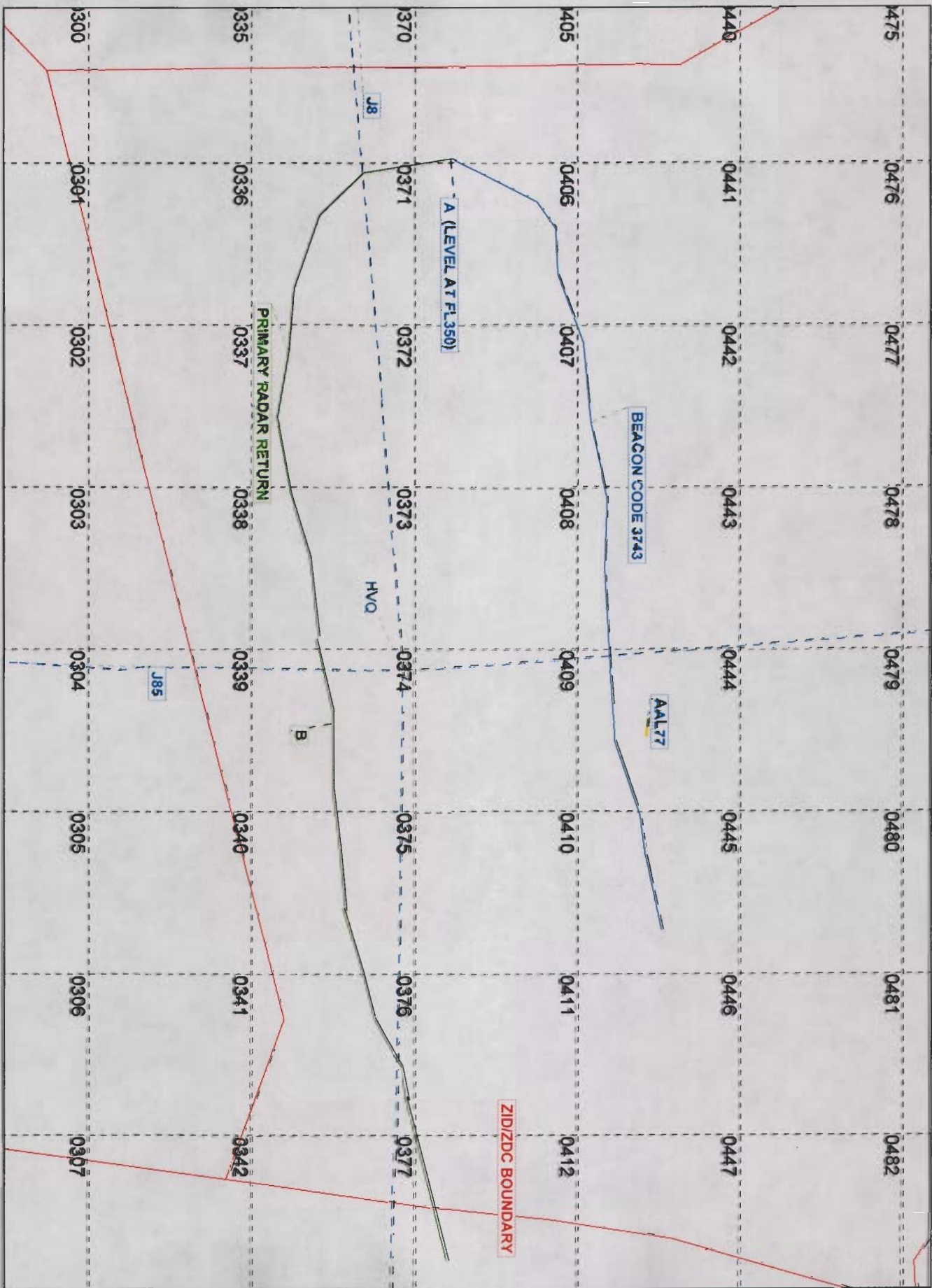
If you have any questions regarding this information, please contact me at extension 591.

A handwritten signature in black ink, appearing to read "REM" with a horizontal line extending to the right.

Robert E. Mount  
Automation Manager  
AOS-370.ZID

cc: William A. Orr, SMQA, Indianapolis ARTCC  
Jim May, Manager, En Route Operations Support Branch, AOS-370

ACES View: IND1119.nm





# INDY CENTER QUALITY ASSURANCE FAX MESSAGE

Date: 12/2/03

Number of pages including cover sheet: 4

To: Dan Diggins

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From: **Quality Assurance, ZID-505**

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REMARKS:  Urgent  For your review  Reply ASAP  Please comment

AOS data