

Lufthansa Systems FlightNav

General Navigation Data Information

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Potentially wrong turn during SID and missed approach: all Honeywell FMS types

The purpose of this document is to forward information about a potential issue that Lufthansa Systems has received from Honeywell and to inform about steps that Honeywell and Lufthansa Systems are taking to mitigate the issue. Please also refer to the corresponding publication from Honeywell, available at Honeywell's MyAerospace website <https://ads.honeywell.com/>.

Situation

Honeywell has identified some cases of SIDs and missed approaches in which the FMS may compute an erroneous trajectory from that defined by the published procedural chart. The SID and the missed approach procedures that may be affected are characterized as follows:

1. Climbing procedures (CA/FA/VA-leg) in conjunction with a significant course change, and
2. The aircraft must have either a significantly higher climb rate than expected by the procedure (SIDs or missed approaches), and/or the aircraft must initiate the procedure at a higher altitude than typical for the procedure (missed approach well above minimums)

Though there have been no reported cases of turning the wrong direction, Honeywell has established that under rare conditions, an incorrect turn direction could be performed by the FMS.

Mitigation

This potential issue will be mitigated by either a) modification of the Navigation Database coding (to be harmonized with the FMS operation), or b) by removing procedures from the Navigation Database.

Honeywell has provided a list of potentially affected procedures to Lufthansa Systems, based on the data of cycle 1503. This was analyzed and – in order to avoid the removal of the procedure – alternative codings have been established. Mainly, the critical CA/FA/VA Path Terminators were replaced by either FM or VM (Fix-to-manual-termination or Heading-to-manual-termination) Path Terminators. This means that the crew has to manually intervene and terminate these legs and activate the next leg. Nevertheless, the entire procedure remains available to the crew, including all transitions.

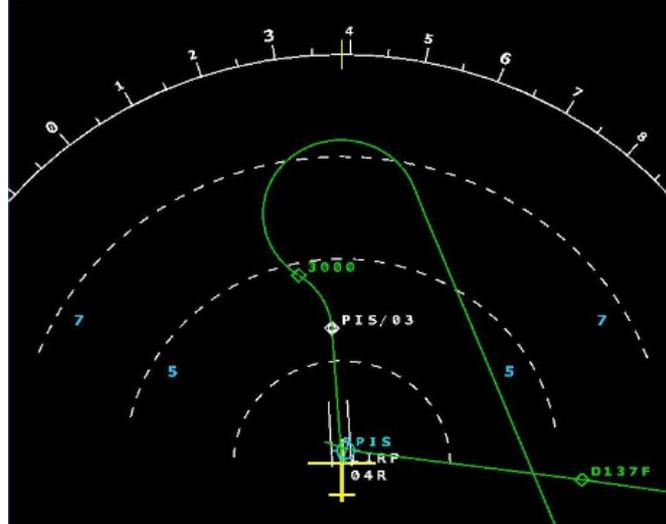
It is Lufthansa Systems' opinion that the increased workload for the crew in case the entire approach or departure procedure would be missing from the Navigation Database outweighs the additional workload introduced by the manual-termination leg.

While both Honeywell and Lufthansa Systems are trying their best to reduce the impact on our mutual customers, there may remain procedures for which no alternate coding could be established. Honeywell will inform customers about procedures removed from their database upon packing.

See below an example of a potentially affected procedure. In this example, the erroneous turn may be seen on ground whereas on other procedures it may only be seen after takeoff i.e. after the prediction updates.



AIP page (initial climb)



Navigation Display

Please contact us in case of any questions or comments.

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