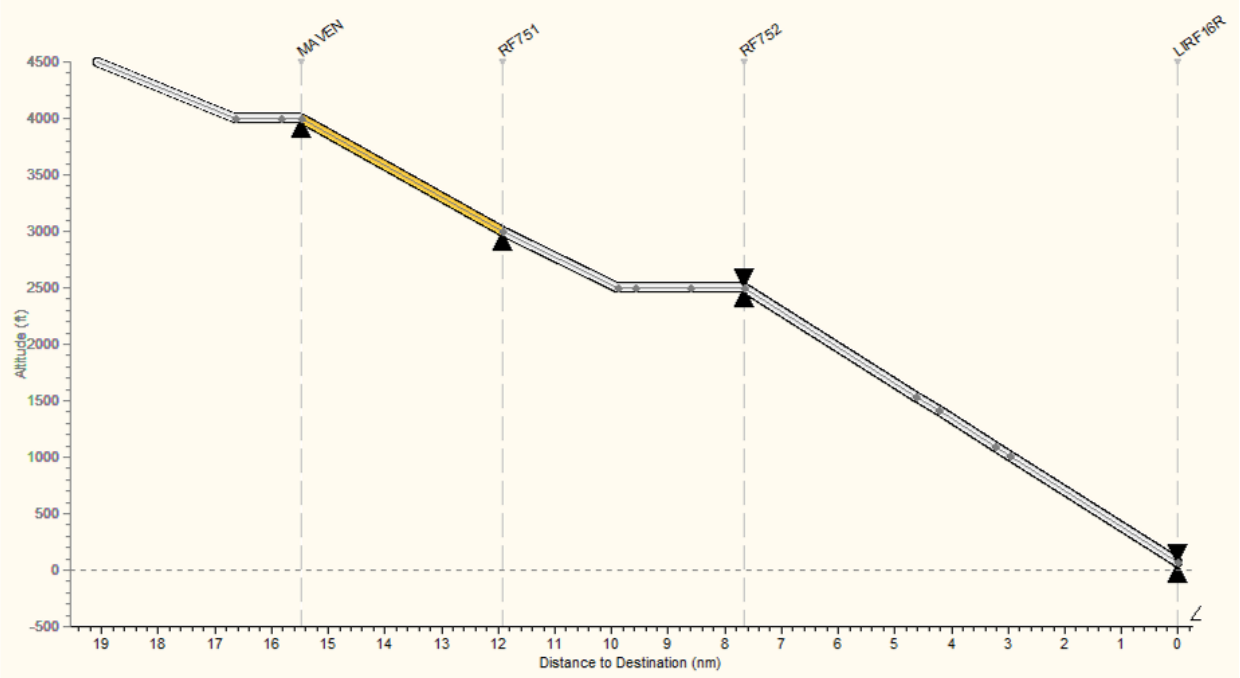
DATE: ***11 May 2020***
SUBJECT: ***Duplication of FPA on Approaches - No Longer Mandatory***
Impacted: ***Flex NavDB Airbus Customers***
Cycles: ***2006 – Effective Date 21 May 2020***

Dear Valued Customer,

Flight Management System (FMS) Final Approach vertical construction is based on Altitude constraints and Vertical Angle. Historically, some of the Type 1 and DAT 1 Data Suppliers have not applied the Vertical Angle to every leg of the Final Approach. Step-Down Fixes and Final Approach Fix are some examples. The result is an inefficient “Dive and Drive” type of construction.

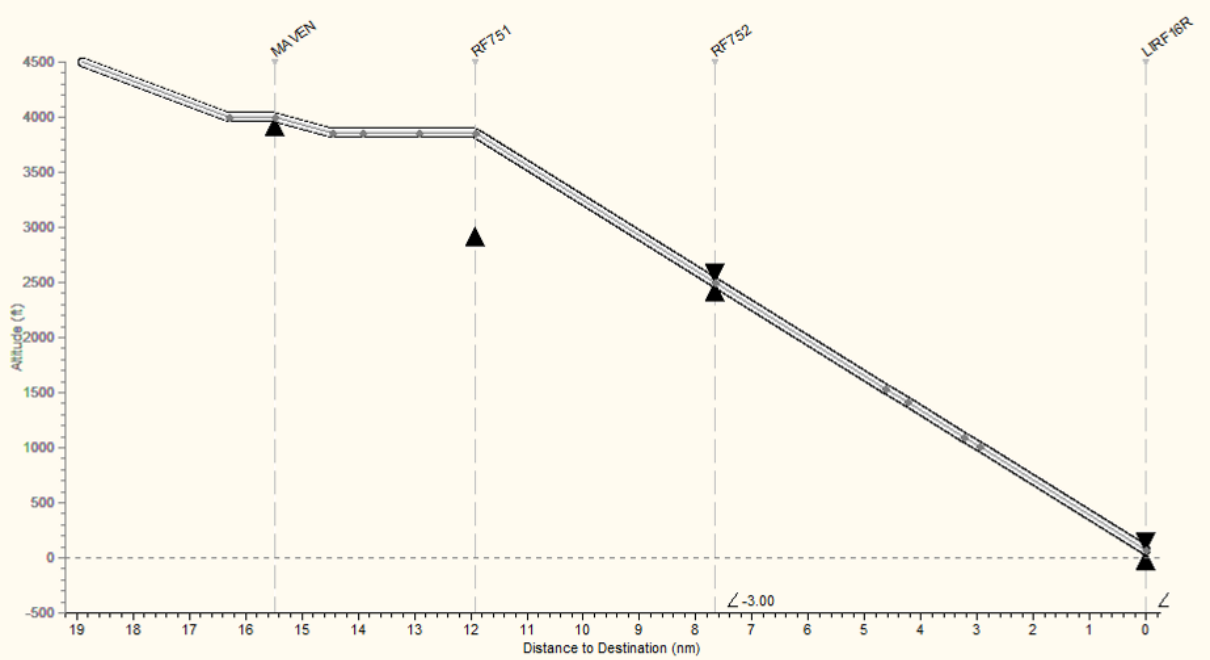
Example: LIRF RNV16R (Vertical Angle not Duplicated – “Dive and Drive” Construction)



For a long time, Honeywell has managed this for our customers by duplicating the Vertical Angle to construct a more efficient Final Approach profile. This duplication is performed using a Data Management (DM) routine during the creation of the Navigation Database (NavDB). The DM does the following:

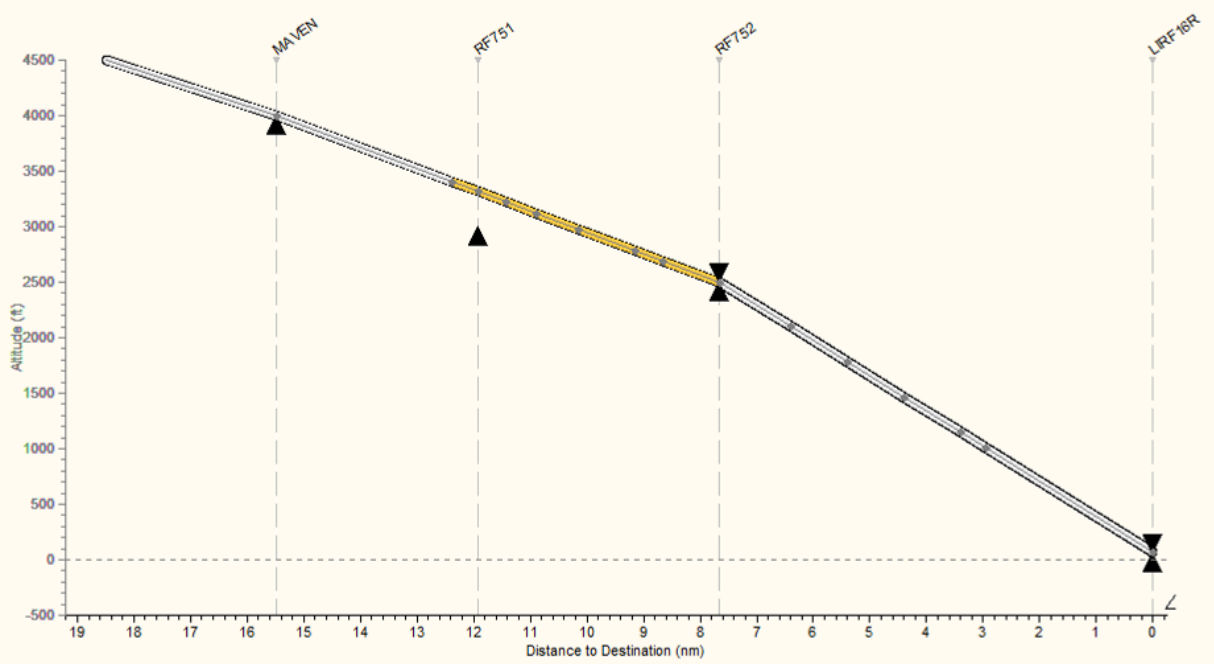
1. Copies the Vertical Angle value from the Missed Approach Point (or Final End Point) to Final Approach Fix on Non-Precision Approaches, if the Altitude difference between the Final Approach Capture Fix and Final Approach Fix is greater than 50 feet.
2. Copies the Vertical Angle value to all the Step-Down Fixes between the Final Approach Fix and Missed Approach Point (or Final End Point).

Example: LIRF RNV16R (Vertical Angle Duplicated on FAF – No Level Segment in Final Approach)



With modern Approach construction, the FMS is more robust and avoids the “Dive and Drive” construction. An example is the Continuous Descent/Approach (CDA) construction. The need for this DM no longer exists with some of our most recent FMS versions.

Example: LIRF RNV16R (Vertical Angle not Duplicated – CDA Construction)



DMs are mandatory whereas Operator Requested Changes (ORCs) are optional items that can be applied or not as requested by the customer. Airbus and Honeywell have decided to change the DM to an ORC for all Flex NDBs and have the Vertical Angle duplication no longer applied on any NavDBs generated for standards with CDA available: Single Aisle A/C Operators with the H3 standard (PS4087600-907) or A350 Operators. NavDBs for Long Range A/C Operators, Single Aisle A/C Operators with any standard prior to H3, and A380 Operators will

continue to have the Vertical Angle duplication applied. However, for any of the below listed FMS P/Ns, the customer can request the Vertical Angle duplication to be applied or not by contacting Aviation.Services@Honeywell.com before the cutoff date for the cycle you wish to receive the change.

FMS P/N	Airbus Standard ID	ORC Default
PS4087600-903	SA H2	FPA Duplicated
PS4087600-904	SA H2A	FPA Duplicated
PS4087600-905	SA H2B	FPA Duplicated
PS4087600-906	SA H2C	FPA Duplicated
PS4087600-907	SA H3	FPA Not Duplicated
PS4087700-904	LR P4	FPA Duplicated
PS4087700-905	LR P4A	FPA Duplicated
PS4087700-906	LR P5	FPA Duplicated
PS4087700-907	LR P5A	FPA Duplicated
HNP50XAL01X8002	A380 EIS	FPA Duplicated
HNP51XAL01X8003	A380 L2	FPA Duplicated
HNP57XAL01X8005	A380 L2.1	FPA Duplicated
HNP56XAL01X8004	A350 EIS	FPA Not Duplicated
HNP54XAL01X8006	A350 S4	FPA Not Duplicated

Frequently Asked Questions:

Q1: When should Vertical Angle duplication be requested?

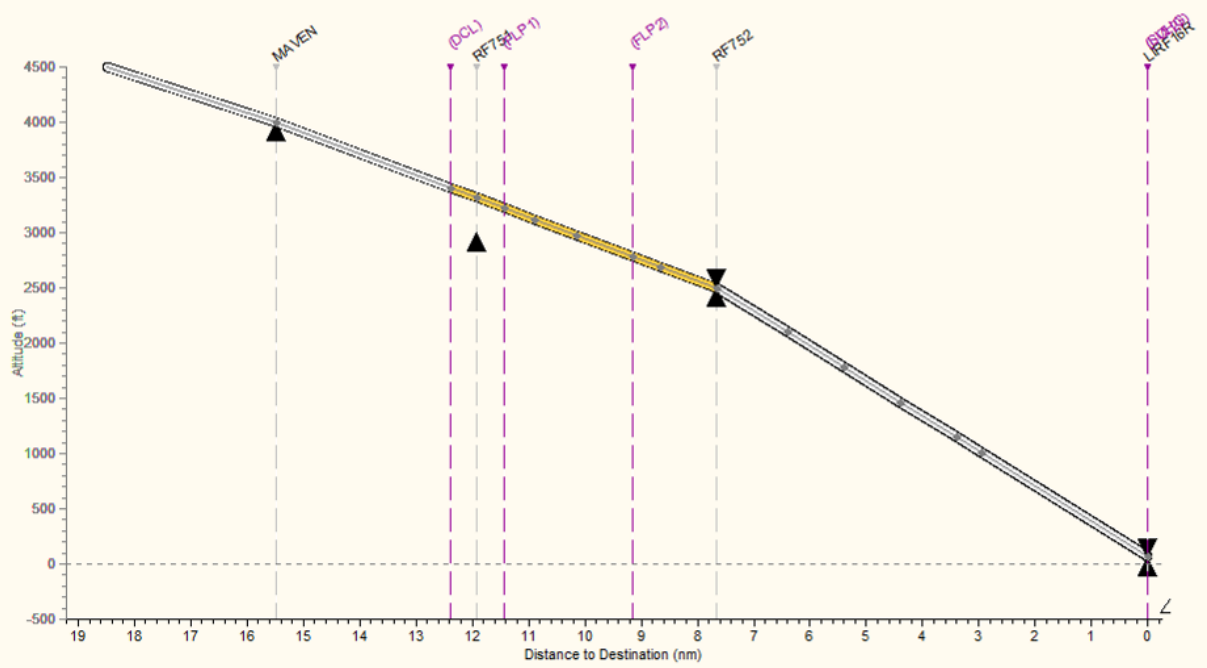
A1: When CDA is enabled, Vertical Angle duplication should not be requested. Otherwise, Vertical Angle duplication should be applied. Honeywell has tried to apply these rules through the default selection. However, there are some cases where the default selection is not appropriate. The operator should consider the following case:

Honeywell provides the capability to share Flex NavDBs for operators with single-aisle, long-range and A350 A/C. This shared NavDB will have limitations for current standards. The ORC for Vertical Angle duplication is applied to this shared NavDB by default because single-aisle standards prior to H3 or long-range standards could use this NavDB. If an operator only shares single-aisle H3 and A350 with CDA enabled, requesting to remove Vertical Angle duplication makes sense.

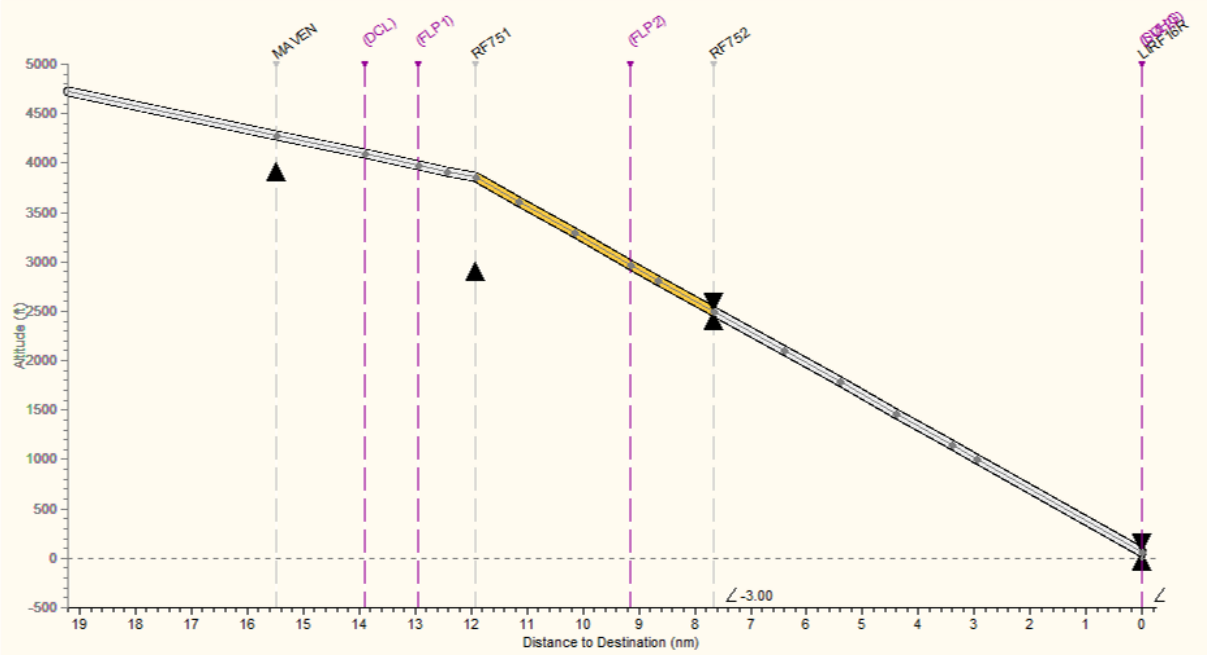
Q2: What is the benefit of removing Vertical Angle duplication from single-aisle H3 and A350 with CDA enabled?

A2: The Vertical Angle duplication extends the -3° construction upstream the Final Approach. In doing so, it prevents the use of a shallow slope which is more beneficial for energy management in this critical phase of flight.

Example: LIRF RNV16R (Vertical Angle not Duplicated – CDA Construction)



Example: LIRF RNV16R (Vertical Angle Duplicated – CDA Construction)



NavDB Production: