GE Aviation

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Navigation Database User's Manual

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Revision History

CHG ORDER	REV	REV DATE	DESCRIPTION	RELEASE DATE	RELEASE APPROVER
96374	-	190913	PRODUCTION RELEASE	190919	J. MacPherson
97745	A	191218	PRODUCTION RELEASE Updates to address DO-200B audit findings and observations.	200110	S. Johnson
102269	B	210208	Added a description of the Duplicate ILS data condition.	210219	S. Johnson
109575	C	230203	Updated website links. Updated customer contact options	230228	J. MacPherson
110661	D	20230426	Added text about data integrity assurance of user data.	20230710	K. Sorensen

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1. INTRODUCTION

1.1 Purpose and Scope

This document, prepared by GE Aviation Systems LLC (GE Aviation), is intended to provide operators of aircraft utilizing a GE Aviation Flight Management Computer System (FMCS) with guidance for using their Navigation Database (NDB).

1.2 Acronyms and Abbreviations

The following acronyms and abbreviations are used throughout this document and are defined here for convenience.

CRC	Cyclic Redundancy Check
DQR	Data Quality Requirements
FAA	Federal Aviation Administration
FMCS	Flight Management Computer System
LOA	Letter of Acceptance
NDB	Navigation Database
RTCA	Radio Technical Commission for Aeronautics Inc

2. REFERENCED DOCUMENTS

The following items of the exact issue shown form a part of this document to the extent specified herein. For those items showing no date of issue, the current issue applies.

Federal Aviation Administration (FAA)

AC20-153B		Acceptance of Aeronautical Data Processes and Associated Databases

Radio Technical Commission for Aeronautics (RTCA), Inc.

DO-200B		Standards for Processing Aeronautical Data

3. GE AVIATION'S TYPE 2 LETTER OF ACCEPTANCE

GE Aviation holds Type 2 Letters of Acceptance (LOA) which certify that our process for producing NDBs is compliant to the RTCA DO-200B and FAA AC20-153B standards.

GE Aviation's Type 2 LOAs are available on our website.

4. OBTAINING A NAVIGATION DATABASE

To obtain an NDB the operator must contact an approved data supplier. The following data suppliers are approved for use by GE Aviation:

- AeroNavData
- Jeppesen
- Lufthansa Systems FlightNav Inc.
- National Geospatial-Intelligence Agency
- NAVBLUE Limited

The operator will coordinate with GE Aviation, directly or via the chosen data supplier, to define the NDB parameters. This includes specifying the required terminal & enroute content as well as which versions of FMCS software the NDB is intended to be used with. Lists of accepted FMCS software part numbers are available in GE Aviation's Type 2 LOA, and associated Part Number Matrices, which are available on our website.

5. NAVIGATION DATABASE QUALITY ASSURANCE

GE Aviation will deliver a release statement alongside every NDB, which serves as confirmation that the RTCA DO-200B and FAA AC20-153B compliant process was used to produce it. Operators should review this release statement before installing the NDB to verify database assurance and acknowledge any deviations from DQRs or data alterations.

Each NDB will meet the Data Quality Requirements (DQR) and the intended function of the FMCS(s) defined in your NDB parameters, with the exceptions below:

- Airbus's Take-off Securing (TOS-2) feature: In order for your FMCS to take advantage of this feature, you will need to request that high resolution latitude & longitude be included in your NDB parameters.
- Rev2+ (A2.0) Duplicate ILS Facilities: The FMCS software Rev2+ (A2.0) will reset if it attempts to access the first or last ILS record in the NDB **and** there is an ILS record with a duplicate identifier adjacent to it. If this data condition occurs, GE Aviation may need to remove an ILS (and its approaches) from the old cycle. GE Aviation will notify you if any data is removed in this manner.

6. GENERATING AIRCRAFT LOADABLE MEDIA

GE Aviation provides easy-to-use specialized software, called NDB Explorer which generates aircraft loadable media from the delivered NDB.

Every NDB contains CRCs to ensure data integrity and a digital signature to ensure data security. As part of generating the loadable media, NDB Explorer verifies the CRCs and digital signature. This ensures that the data received by the user has not been corrupted.

For more information or to download NDB Explorer visit our website.

7. INSTALLING A NAVIGATION DATABASE

NDB installation instructions are specific to the aircraft manufacturer. Operators should contact the aircraft manufacturer or data loader manufacturer for instructions on loading the NDB.