

# Service Information Letter



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**SUBJECT: MISLEADING VERTICAL DEVIATION FOR RNAV APPROACHES (LNAV/VNAV OR LNAV) WHERE MISSED APPROACH POINT IS DISPLACED FROM RUNWAY THRESHOLD AND THE ALTITUDE SOURCE IS SBAS**

## Revision History

|                           |   |
|---------------------------|---|
| Original: Aug. 26, 2025   | Initial Release.  |
| Revision 1: Aug. 28, 2025 | CORRECTIVE ACTION section updated, and list of procedures from Appendix B & C removed       |
| Revision 2: Oct. 06, 2025 | APPLICABILITY section updated, CORRECTIVE ACTION section updated and Appendix B & C deleted |

## APPLICABILITY:

CMA-9000 FMS Installations configured and approved for SBAS-approach, using:

- CMA-9000 FMS Hardware P/N: 100-601951-xxx (all variations), with the following Operational Software P/N: 169-614876-320, 169-616414-320, -320A, -320B, -321, -322, -322A, -323, -323A, -323B, -330, -331, -331A, -340, -340A, -340B, -341

And configured per CMA-9000 FMS Installation Manual with:

A429 GPS CONFIG page 1/1:

- TYPE = A743\_B

and

APPROACH CONFIG page 1/2:

- SBAS LNAV/VNAV = ENABLE
- or
- ADVISORY VNAV = SBAS

And interfaced with either:

- CMA-5024 GLSSU Hardware P/N 100-601967-XXX (all variations).
- CMA-5024 SBAS/GBAS GLSSU Hardware P/N 100-604095-XXX (all variations).
- CMA-6024 GLSSU Hardware P/N 100-604076-XXX (all variations).

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If you operate the CMA-9000 FMS with an Operational Software version that is enumerated above, but not configured or interfaced as per the above, then you are not affected by the misleading vertical deviation issue.

This version of the Service Information Letter is intended to operators with CMA-9000 FMS (see APPLICABILITY above) loaded with CMC navigation database produced with Jeppesen Sanderson aeronautical data.

## PURPOSE:

This Service Information Letter (SIL) intends to inform CMC Electronics Inc. (“CMC”) equipment operators about a potential misleading vertical deviation for RNAV approaches (LNAV/VNAV or LNAV) where the Missed Approach Point (MAPt) is displaced from the landing runway threshold and the altitude source is the GLSSU (SBAS).

## BACKGROUND:

When interfaced with the CMA-5024/6024 GLSSU, the CMA-9000 FMS supports RNAV approaches to the following minima: LPV, LP, LNAV/VNAV and LNAV. For LPV and LP approaches, the FMS navigation database hosts the published Final Approach Segment (FAS) Data Block (FASDB), which contains the final approach lateral and vertical path definition. Upon crew selection of an LPV or LP approach, the FMS transmits the FASDB to the GLSSU. The GLSSU then provides the final approach vertical deviations (ILS look-alike deviations). Most RNAV approaches having a published LPV or LP minima, also have published LNAV/VNAV and/or LNAV minima. The FASDB (path definition) is equally applicable to those minima.

Conversely, some RNAV approaches do not have a published LPV or LP minima, but have published LNAV/VNAV and/or LNAV minima. In such case, even though the approach is authorized for SBAS-guidance, there is no associated published FASDB. In these cases, the CMA-9000 FMS builds a virtual FAS DB, using approach data from the Navigation Database. Upon crew selection of such an LNAV/VNAV or LNAV approach, the FMS transmits this virtual FASDB to the GLSSU, and the latter then provides the final approach vertical deviations (ILS look-alike deviations), just as it would have done for a published FASDB.

When the LPV/LP Approaches are not requested by the operator in the CMC NDB Subscription Form (refer to Appendix A), the FASDBs are not included in the Navigation Database, therefore a virtual FASDB is always generated by the FMS for approaches authorized for SBAS.

## PROBLEM DESCRIPTION:

For an RNAV approach (authorized for SBAS) to an LNAV/VNAV or LNAV minima, without a FASDB available in the navigation database, if the Missed Approach Point (MAPt) is displaced from the runway threshold, the virtual FASDB created by the FMS using the Navigation Database data may differ from the intended final approach path.

The root cause is as follows: CMC’s Navigation Database Packing Tool (NDPT) may incorrectly compute the Missed Approach Point (MAPt) ellipsoid height information. The FMS then uses this incorrect parameter from the Navigation Database to build the virtual FAS DB, thus leading the GLSSU to generate a misleading vertical deviation. No issue was found in the CMA-9000 FMS or the CMA-5024/6024 GLSSU product.

The problem was reported by in-service operator at airport EDDV approach RNAV27R. [Figure 1](#) is an excerpt from the approach chart:

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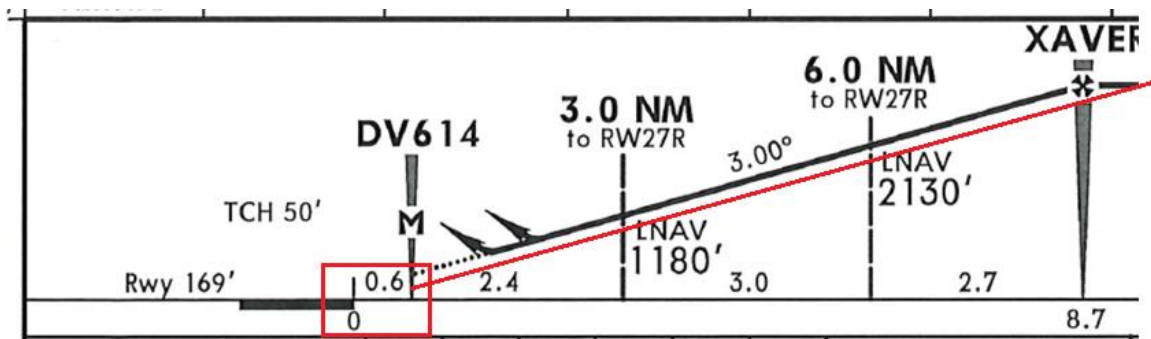


Figure 1 - Approach Chart – EDDV/R27R

The red line indicates the incorrect vertical approach path when using SBAS altitude source. For this approach, the induced vertical error is 250ft below the intended path.

## CORRECTIVE ACTION:

### IMMEDIATE MEASURE – Applicable only when using Navigation Database based on AIRAC Cycle 2510 (effective until 29 October 2025) or prior

- For installations that are LPV capable:
  - CMC requires affected operators to NOT fly RNAV approaches that do not have a published LP or LPV line of Minima, to an LNAV or LNAV/VNAV line of minima, using an SBAS altitude source.
- For installations that are NOT LPV capable:
  - CMC requires affected operators to NOT fly RNAV approaches using an SBAS altitude source.

### Permanent Solution - Effective as of AIRAC Cycle 2511

CMC has completed the implementation of the permanent solution. The permanent solution consists in the deployment of an updated version of CMC's NDPT tool.

Starting with AIRAC Cycle 2511 (effective as of 30 October 2025), the Navigation Database produced by CMC will no longer have the issue described in this SIL and consequently the Immediate Measure will no longer be applicable.

## CMC NAVIGATION DATABASE SUPPORT:

To contact CMC Navigation Database Support, complete our Navigation Database Support Request Form at:

<http://www.cmcelectronics.ca/CustomerSupport/NavigationDBSupport.aspx>

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## APPENDIX A

**NOTE:** The CMC NDB Subscription Form is completed and provided to CMC by the organization subscribed to the CMC NDB Service.

### CMC NDB Subscription Form extract for Navigation Database with LPV/LP approaches:

|   |   |
|---|---|
| <b>7e) LPV/LP Approaches</b>  |   |
| <b>DO NOT SELECT THIS FEATURE IF THE FMS IS NOT CONFIGURED TO SUPPORT THIS FEATURE.</b>   |   |
| <b>CMA-9000:</b> The Configuration File must support LPV/LP Approaches (refer to FMS Installation/Flight Line Manual). The FMS Configuration File is approved as part of the Installation approval. LPV/LP Approaches are only available for Software Versions in the range -055-099, -310-399, -655-699. |   |
| <b>CMA-4100:</b> LPV/LP Approaches are supported by default. LPV/LP Approaches are only available for Software Version - 001  |   |
| <b>CMA-9000 only</b>  | I confirm my FMS is configured as follows (refer to FMS Installation/Flight Line Manual): |
| <input checked="" type="checkbox"/> I Confirm   | APPROACH CONFIG 1/2: LP/LPV = ENABLE<br>APPROACH CONFIG 1/2: SBAS LNAV/VNAV = ENABLE      |
| <b>CMA-9000 and CMA-4100</b>  |   |
| <input checked="" type="checkbox"/> I request to include LPV/LP Approaches in my NDB  |   |

### CMC NDB Subscription Form extract for Navigation Database without LPV/LP approaches:

|   |   |
|---|---|
| <b>7e) LPV/LP Approaches</b>  |   |
| <b>DO NOT SELECT THIS FEATURE IF THE FMS IS NOT CONFIGURED TO SUPPORT THIS FEATURE.</b>   |   |
| <b>CMA-9000:</b> The Configuration File must support LPV/LP Approaches (refer to FMS Installation/Flight Line Manual). The FMS Configuration File is approved as part of the Installation approval. LPV/LP Approaches are only available for Software Versions in the range -055-099, -310-399, -655-699. |   |
| <b>CMA-4100:</b> LPV/LP Approaches are supported by default. LPV/LP Approaches are only available for Software Version - 001  |   |
| <b>CMA-9000 only</b>  | I confirm my FMS is configured as follows (refer to FMS Installation/Flight Line Manual): |
| <input type="checkbox"/> I Confirm  | APPROACH CONFIG 1/2: LP/LPV = ENABLE<br>APPROACH CONFIG 1/2: SBAS LNAV/VNAV = ENABLE      |
| <b>CMA-9000 and CMA-4100</b>  |   |
| <input type="checkbox"/> I request to include LPV/LP Approaches in my NDB   |   |

# Service Information Letter

## APPENDIX B

DELETED

# Service Information Letter

## APPENDIX C

DELETED