



FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SAIB: HQ-16-25

SUBJ: SBAS-capable FMS and GPS Equipment With No LP capability

Date: September 28, 2016

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) is for navigation equipment manufacturers of space-based augmentation system (SBAS) capable navigation equipment that does not include localizer performance without vertical guidance (LP) capability and their database providers. This SAIB addresses navigation equipment (primarily flight management systems (FMS)) providing LP instrument approach procedures (IAP) to pilots when the navigation equipment is not certified for LP approach capability.

At this time, the airworthiness concern is not an unsafe condition warranting an airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

LP is a line of minima on area navigation (global positioning system) (RNAV(GPS)) IAPs charted as either stand-alone or in combination with lateral navigation (LNAV) and/or Circling minimums. RTCA/DO-229D Chg 1 implemented by TSO-C145() and C146() requires operational Class 3 and Class 4 equipment to provide LP capability. Some manufacturers received deviations to not provide LP capability. The deviations were granted with an equipment limitation that, when installed, it is not approved for LP IAPs, but the equipment is approved to fly an LNAV line of minima. This means the equipment must not allow pilots to select an LP line of minima since the equipment is not approved for that capability.

Additionally, IAPs with only LP and Circling minimums (see figure 1) require the installed equipment and aircraft to be approved for LP capability to accomplish the Circling minimums. Some manufacturers, database providers, and aircraft operators incorrectly believe the circling minimums are based on LNAV capability rather than LP.

IAPs with LP, LNAV, and Circling minimums (see figure 2) only require LNAV capability to accomplish the Circling minimums.

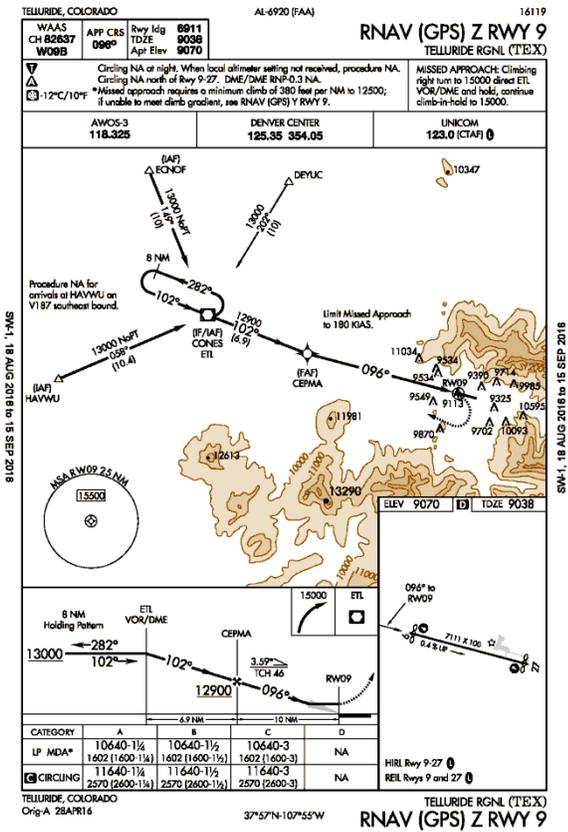


Figure 1

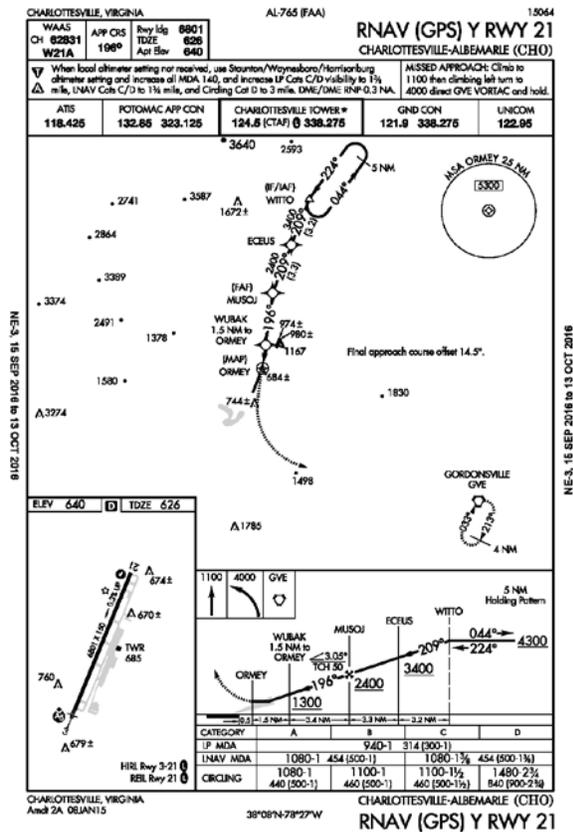


Figure 2

Recommendations

Manufacturers of SBAS operational Class 3 and Class 4 navigation equipment without LP capability must ensure pilots cannot select an LP IAP line of minima. The equipment manufacturer may use hardware or software methods, or database controls (i.e., removing LP from the navigation database) to prevent pilots from accessing LP minimums, LP-only IAPs, or IAPs with only LP and Circling minimums.

Equipment manufacturers affected by this SAIB must also ensure their equipment operating manuals clearly explain the equipment does not provide LP capability and the level of service (LNAV, LNAV/VNAV, LPV) annunciations for RNAV(GPS) IAPs.

For Further Information Contact

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