

Service Bulletin Number 1XXX.()-34-3719 Possible Loss of Approach Capability affecting legacy GPS due to GPS Week Number Rollover April 7, 2019

A. Effectivity

This Service Bulletin applies to the users of Universal Avionics GPS external sensors, Flight Management Systems (FMS), Navigation Computer Unit (NCU) with internal GPS sensor and the GPS Landing System (GLS-1250). See the tables below for applicable part numbers and impacts.

B. Compliance

Compliance with the information in this Service Bulletin for certain Universal FMS(s), NCU(s) and GPS external sensors can be operation critical. The information in this Service Bulletin should be distributed to all flight crewmembers.

To determine if the unit(s) installed in the aircraft are affected by this Service Bulletin, inspect the nameplate on the FMS, NCU or GPS sensor.



Nameplate location for the following units
UNS-1M, UNS-1C, UNS-1Csp, UNS-1C+,
UNS-1Csp+, UNS-1E and UNS-1Esp



Nameplate location for the following units:
UNS-1D, UNS-1K, UNS-1D+, UNS-1K+, UNS-
1F and UNS-1L

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C. Description

GPS Time as defined in the legacy GPS navigation message uses 10 bits to count GPS Week Numbers. This representation can only cover a finite period of 1024 weeks (19.7-year epoch). GPS Time is presently in its second Epoch, which will end on April 6, 2019.

The degradation of almanac data affecting RAIM predictions will begin at 02:00 UTC on Thursday 4 April 2019.

During and after this week rollover event, Universal Avionics GPS product lines will be impacted differently, although GPS satellite tracking and navigation integrity will be unaffected. See Table 1 for part number effectivity.

Table 1:

The effects of the Week Rollover on the following equipment are as follows:

Model	Part Number	Mod Status	Effect on Approach	Notes
UNS-1M	1013-4X-XXX	All	Loss of Approach Capability	3
UNS-1C	1017-3X-XXX	Without Mod 14	Loss of Approach Capability	3
	1017-4X-XXX			
	1017-6X-XXX	All	No Effect	1, 2, 3
	1017-7X-XXX			
UNS-1C+	10172-3X-XXX	Without Mod 16	Loss of Approach Capability	3
	10172-4X-XXX			
	10172-6X-XXX	All	No Effect	1, 2, 3
	10172-7X-XXX			
UNS-1Csp	1019-3X-XXX	Without Mod 13	Loss of Approach Capability	3
	1019-4X-XXX			
	1019-6X-XXX	All	No Effect	1, 2, 3
	1019-7X-XXX			
UNS-1Csp+	10192-3X-XXX	Without Mod 15	Loss of Approach Capability	3
	10192-4X-XXX			
	10192-6X-XXX	All	No Effect	1, 2, 3
	10192-7X-XXX			

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Model	Part Number	Mod Status	Effect on Approach	Notes
GPS-1000	1075-01	All	Loss of Approach Capability	3
GPS-1000A	1078-01	All	No Effect	1, 2, 3
GNSS-2400	1078-02	All	No Effect	1, 2, 3
GLS-1250	1086-01-00	All	No Effect	1, 2, 3
UNS-1K	1116-3X-XXXX	Without Mod 2	Loss of Approach Capability	3
	1116-4X-XXXX			
	1116-6X-XXXX	All	No Effect	1, 2, 3
	1116-7X-XXXX			
UNS-1K+	11162-3X-XXX	Without Mod 4	Loss of Approach Capability	3
	11162-4X-XXX			
	11162-6X-XXX	All	No Effect	1, 2, 3
	11162-7X-XXX			
UNS-1D	1192-00-XXX1XX	Without Mod 5	Loss of Approach Capability	3
	1192-30-XXX1XX			
	1192-00-XXX2XX	All	No Effect	1, 2, 3
	1192-30-XXX2XX			
UNS-1D+	11922-30-XXX1XX	Without Mod 7	Loss of Approach Capability	3
	11922-00-XXX1XX			
	11922-XX-XXX2XX	All	No Effect	1, 2, 3
	11922-30-XXX2XX			
UNS-1E	2017-3X-XXX	All	No Effect	1, 2, 3
	2017-4X-XXX			
UNS-1Esp	2019-3X-XXX	All	No Effect	1, 2, 3
	2019-4X-XXX			
	2019-7X-XXX			
UNS-1F	2192-30-XXX1XX	All	No Effect	1, 2, 3
	2192-00-XXX1XX			
UNS-1L	2116-3X-XXX	All	No Effect	1, 2, 3
	2116-4X-XXX			
	2116-7X-XXX			
	2116-6X-XXX			

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Model	Part Number	Mod Status	Effect on Approach	Notes
UNS-1Ew	3017-XX-XXX	All	No Effect	2, 3
UNS-1Espw	3019-XX-XXX	All	No Effect	2, 3
UNS-1Fw	3192-XX-XXX1XX	All	No Effect	2, 3
UNS-1Lw	3116-XX-XXX	All	No Effect	2, 3
LP/LPV Monitor	3116-52-1110	All	No Effect	2, 3

1. UTC date issue will still exist; Service Letter No. 2889 remains in effect, and will require continued operator vigilance for correct date entry.
2. The GPS week rollover will have no adverse effect.
3. GPS satellite tracking and navigation integrity will be unaffected.

D. Cost and Availability

For further information, please contact our Repair Station or Customer Support. Some units listed in Table 1 may have repair options to correct the effects of the week rollover. Prior to shipping the unit, contact Universal Avionics' Repair Station for pricing, scheduling, and shipping details. Universal Avionics will not be responsible for labor or other costs involved in removal and replacement of the unit.

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