Radio Communication and Navigation Equipment

AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

AD/RAD/72	Apollo SL30 VHF NAVCOM	8/2001 TX

Applicability: UPS Aviation Technologies, Inc., Model Apollo SL30 very-high-frequency navigation/communication (VHF NAVCOM) unit having Part Number (P/N) 430-6040-300 or 430-6040-301.

Requirement: 1. Determine what version of Digital Signal Processor (DSP) Software the Apollo SL30 VHF NAVCOM unit is using, in accordance with the following procedure:

Placing Unit In System Mode

Operation Summary (Refer to page 4 of operation manual)

Power On

Turn the SL30 on. Either turn the Power/Volume knob clockwise to turn the power on or, if installed, turn on the master switch that powers the radios. The SL30 will go through a short initialization routine and then briefly display the last VOR check date.

System Info (Refer to page 26 of operation manual)

System Info provides information about the Software versions and the Display Intensity.

1. Press **SYS** and turn the **LARGE** knob if necessary to the System Info page. Press **ENT**.

2. In the System Info function turn the **LARGE** knob to Nav Software Version.

3. Turn the **SMALL** knob to left (counterclockwise) to view DSP Software Version.

Note 1: The procedure specified in Requirement 1 is identical to the "PROCEDURE" section of UPS Aviation Technologies, Inc., Service Bulletin SB2001-003, dated 29 June 2001.

2. If the Requirement 1 procedure indicates that the NAVCOM unit is using DSP Software Version Number 1.00, carry out the following actions:

    a. Attach on or place near the SL30 within clear view of the pilot a placard that reads as follows:

        "USE OF SL30 VOR FUNCTION FOR NAVIGATION PROHIBITED."

    b. Insert a copy of this Directive into the Limitations Section of the approved Aeroplane Flight Manual.

3. Apollo SL30 VHF NAVCOM units, having P/N 430-6040-300 or 430-6040-301 may not be installed on any aeroplane, unless the requirements of this Directive are accomplished.

Note 2: FAA Emergency AD 2001-14-51 refers.

Compliance: For Requirement 1 - Before further flight after the effective date of this Directive.

For Requirement 2 - Before further flight following the determination that Software Version Number 1.00 is installed.

For Requirement 3 - As of the effective date of this Directive.

This Airworthiness Directive becomes effective on 5 July 2001.

Background: The United States Federal Aviation Administration (FAA) has received a report from the equipment manufacturer indicating that, during installation of an Apollo SL30 NAVCOM unit on an aeroplane, the installer noted that the radio was providing incorrect radial bearing information. Subsequent testing by the equipment manufacturer revealed that the bearing information was off by 14 degrees.

This incorrect bearing information has been attributed to an error in DSP Software Version Number 1.00. If the radio receives a signal from a VHF omnirange (VOR) ground station that deviates from the standard 30-Hertz signal, the error in the software causes the radio to incorrectly decode the bearing of the station. Because the occurrence of the error is dependent on the signal coming from a given station and not on the radio itself, the pilot may not know if the bearing information is incorrect. This condition, if not corrected, could lead the pilot to use incorrect bearing information, which could result in inaccurate navigation information.

This Directive is considered to be interim action. The equipment manufacturer has advised the FAA that it is currently developing a software update that will positively address the unsafe condition addressed by this Directive. Once this software update is developed, approved, and available, the FAA may consider additional rulemaking.

Eugene Paul Holzapfel
Delegate of the Civil Aviation Safety Authority

2 July 2001