

Instruments and Automatic Pilots

AD/INST/40 LITEF Attitude Heading Reference System 2/97 DM

Applicability: Attitude Heading Reference Systems (AHRS) manufactured by Litef GmbH, Freiburg, Germany listed below:

Model	Part Number	Model	Part Number
LCR-92	124210-1000	LCR-92S	141852-1000
	124210-2000		141852-1100
	124210-3000		141852-2000
LCR-92H	141450-1000		141852-2100
	141450-1100		141852-3000
	141450-2000		141852-3100
	141450-2100		141852-3200
	141450-3000		
	141450-3100		

Note: Litef Model LCR-92, LCR-92H and LCR-92S AHRS are known to be fitted, but not limited to, Pilatus PC-12 aeroplanes, Sikorsky Aircraft Model S-76 helicopters, Bell Helicopter Textron Inc Model 412 helicopters and McDonnell Douglas Helicopter Systems Model MD-900 helicopters .

- Requirement: 1. Carry out one of the following actions:
- a. Obliterate the United States Federal Aviation Administration (FAA) Technical Standard Order (TSO) C4c information from the TSO label on the exterior of the AHRS and install a placard adjacent to each primary attitude indicator that states:

“Flight Limited to Day VFR Operations Only”, or if the primary attitude instrument(s) have been deactivated, **“Flight Limited to VFR Operations Only”**,

or;
 - b. Modify the AHRS wiring in accordance with either the accomplishment instructions of Litef GmbH Service Bulletin 141450-0000-840-003 dated 9 July 1996 or, for Sikorsky S-76 helicopters, the accomplishment instructions of Sikorsky Aircraft Alert Service Bulletin 76-34-6A dated 12 September 1996.

SCHEDULE OF AIRWORTHINESS DIRECTIVES

Note 1: A Flight Manual Particular Amendment is required if the Requirement 1b modification is incorporated. This is available from a CASA District Airworthiness Office.

2. Inspect the modified AHRS wiring cable, using a calibrated bonding meter, for proper shielding, proper bonding of the wiring cable shields, and proper unit grounding. The electrical shielding and grounding resistance should be less than 0.005 ohms. If the electrical resistance of the shielding bond is 0.005 ohms or greater, the cable shielding bond is unacceptable.

Note 2: Compliance with Requirement 1a or alternatively, with both Requirements 1b and 2 will satisfy this Directive.

Note 3: FAA AD 96-21-13 Amdt 39-9789 and LBA AD 96-212/2 refer.

Compliance: For Requirement 1 - Prior to 1 February 1997.

For Requirement 2 - Prior to further flight, immediately following the Requirement 1b modification and thereafter, at intervals not exceeding one calendar year.

This Directive takes effect on 27 November 1996.

Background: The LBA has reported that certain Litef AHRS do not meet the radio frequency (RF) susceptibility requirements of RTCA Inc Document RTCA/DO-160C Section 20 Category W, this may cause the AHRS to generate misleading pitch and roll information. Action specified by this directive are intended to prevent reliance on, or to correct the cause of, misleading roll and pitch information produced by the AHRS when certain RF are encountered.

The FAA approach has been adopted by CASA, rather than that of the LBA, this is due to CASA not being aware of individual aircraft configurations that may effect the RF susceptibility of the AHRS installed in that particular aircraft.