



**U.S. Department
of Transportation
Federal Aviation
Administration**

SAFO

Safety Alert for Operators

SAFO 10022

DATE: 12/15/10

Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos

A SAFO contains important safety information and may include recommended action. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

Subject: Maintenance of Night Vision Imaging Systems (NVIS).

Purpose: This SAFO alerts operators of aircraft equipped with a Night Vision Imaging System (NVIS) of potential deficiencies in the configuration and condition of installed NVIS equipment.

Background: Recent Federal Aviation Administration (FAA) assessments of NVIS-equipped aircraft have shown that the likelihood of configuration and maintenance problems increases as aircraft continue in service after NVIS modifications. This means that operators of NVIS-equipped aircraft may not be adequately meeting the inspection and maintenance requirements of NVISs.

The assessment also concluded that operators are installing light-emitting or light-reflecting equipment, which affects the NVIS compatibility of the aircraft, without ensuring that the equipment is properly evaluated.

Discussion: The FAA's Aviation Safety (AVS) organization recently directed a nation-wide sampling of NVIS- equipped aircraft. FAA teams, made up of Flight Standards Service (FS) inspectors and Aircraft Certification Service inspectors/engineers, conducted the sampling and discovered that NVIS-equipped aircraft were frequently out of compliance with NVIS requirements for three primary reasons:

- Operators installed light-emitting or light-reflecting equipment that caused the aircraft to no longer be properly configured for use with Night Vision Goggles (NVG);
- Operators failed to properly maintain the installed NVIS equipment; and
- Flightcrews were aware of conditions that reduced the ability to see necessary instruments/equipment during day, night, NVG-aided, or NVG-unaided flights. Another common problem was improperly filtered light-emitting equipment. Flightcrews did not communicate these discrepancies to the maintenance department or maintenance personnel.

After assessing and analyzing the data collected, the FAA has determined it is likely that other NVIS-equipped aircraft may not be properly configured or maintained for NVG operations. The term *night vision device* was intended to include all necessary equipment that is installed or modified as part of the entire NVIS, which includes NVGs. Failure to properly maintain an aircraft's NVIS configuration and equipment can degrade NVG acuity (i.e., blind spots for flight crewmembers using NVG) and prevent the flightcrew from clearly seeing aircraft instrumentation.

Recommended Action: Directors of Maintenance, Directors of Safety, Directors of Operations, Chief Pilots, mechanics, and pilots operating or maintaining NVIS-equipped aircraft should take appropriate action to confirm the following:

1. Instructions for Continued Airworthiness (ICA) are current, correct, applicable by serial number, and are being properly applied by maintenance departments and personnel. If the ICA has been incorporated into an inspection program, confirm that all the additional ICA requirements are being met;
2. Installed NVIS equipment are properly maintained;
3. Maintenance personnel are appropriately trained on the maintenance and inspection of NVIS installations;
4. Flightcrews fully understand the importance of reporting NVIS-related problems to maintenance personnel;
5. Aircraft configuration/conformity is periodically checked to ensure that installed NVIS equipment complies with the Supplemental Type Certificate (STC); and
6. Current and complete data is available to maintenance personnel to support the NVIS equipment.

NOTE: An aircraft that does not comply with the STC and/or ICA requirements, or that has inoperative or improperly maintained equipment, should not be operated until corrective action has been taken. Operators may use or apply for Minimum Equipment List (MEL) relief as applicable. MEL information is contained in FAA Order 8900.1, Flight Standards Information Management System (FSIMS), Volume 4, Chapter 4, Minimum Equipment Lists (MEL) and Configuration Deviation Lists (CDL), as well as MMEL Policy Letter 127.

Please visit http://www.faa.gov/aircraft/air_cert/design_approvals/rotorcraft/nvis/ for additional information on NVIS-equipped aircraft.

Contact: Questions or comments concerning this SAFO can be directed to your responsible Flight Standards office.