



# SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation

**Federal Aviation  
Administration**

SW-06-68  
September 20, 2006

<http://www.faa.gov/aircraft/safety/alerts/>

---

*This is information only. Recommendations aren't mandatory.*

## Introduction

This Special Airworthiness Information Bulletin alerts you, aircraft owners and operators, of the potential hazards of installing **Forward Looking Infrared (FLIR) systems** with embedded laser capability on rotorcraft. Some of the known FLIR systems with laser capability include: **Ultra 7500 and Westcam MX-16**.

## Background

Older models of FLIR systems did not contain embedded laser imaging capability. These systems were commonly approved for installation on rotorcraft via Field Approvals. However, FLIR manufacturers have recently embedded Class 3b and Class 4 laser imaging capability into their FLIR systems. We have been made aware that these newer FLIR systems with embedded laser imaging capability have also been installed via 337 (Field Approval) with no apparent limitations on the use of the laser imaging capability, or with an approved Flight Manual Supplement included as part of the installation. Also, the installations did not include provisions for system safety lock-out devices.

We are currently developing policy for installation of laser systems on rotorcraft. When we've completed and published the policy, it will establish the required certification procedures for installation of laser systems on rotorcraft.

The inclusion of the Class 3b or 4 laser imaging capability into the FLIR systems introduces the following potential hazards:

- Eye damage to the flight crew or passengers due to inadvertent aiming and firing of the laser beam through the cabin windows
- Eye damage to the flight crew or passenger due to reflections of the laser beam off of a highly reflective or polished surface or structure of the rotorcraft (e.g. mirrors, skid gear, spot lights, etc.)
- Eye damage to civilians on the ground during normal operation of the laser illuminator
- Eye damage to flight crew and passengers of other aircraft due to intentional or non-intentional lasing of nearby aircraft
- Eye damage to ground maintenance crew or personnel during ground maintenance of the system

## Recommendations

As an interim corrective measure, we strongly recommend the following:

1. Before further flight, physically disable the laser imaging feature in the FLIR system.
2. If disabling of the laser imaging feature is not possible, discontinue the use of the laser arming and firing feature.
3. Certificate limitation should state: “Laser designation system **NOT** authorized for Civil Aircraft Operations, however may be permissible in Public Use Law Enforcement Operations.”
4. Contact your local Flight Standards District Office (FSDO) so that an evaluation of your laser installation can be performed by an FAA engineering office in order to ensure that the hazards discussed above are adequately addressed.

## For Further Information Contact

Carroll R. Wright, Aviation Safety Engineer,  
ASW-111, FAA Rotorcraft Directorate,  
Fort Worth, TX 76193- 0110, phone  
(817) 222-5120, fax (817) 222-5961, email:  
carroll.r.wright@faa.gov, or

Jorge.R.Castillo, Aviation Safety Engineer,  
ASW-111, FAA, Rotorcraft Directorate, Fort  
Worth, TX 76193-0110, phone (817) 222-  
5127, fax (817) 222-5961, email:  
jorge.r.castillo@faa.gov