



Advisory Circular

Subject: Reporting of Laser Illumination of
Aircraft

Date: February 8, 2013

AC No: 70-2A

Initiated by: AJR-2

Change:

1. PURPOSE

a. This Advisory Circular (AC) provides information to the aviation community, particularly aircrews operating within the National Airspace System (NAS) on measures taken by the Federal Aviation Administration (FAA) to address incidents of unauthorized illumination of aircraft by lasers. The FAA Modernization and Reform Act of 2012, passed into public law on February 14, 2012, established a prohibition against aiming a laser pointer at an aircraft.

b. In addition, this AC provides guidance to aircrews and reflects current guidance for air traffic control (ATC) on the formal reporting of laser illumination incidents. Reporting laser incidents assists law enforcement and provides support for recommended mitigation actions to be taken to ensure continued safe and orderly flight operations.

c. This AC is issued in serious response to the significant increase of unauthorized laser illumination of aircraft incidents, as well as the proliferation and increased sophistication of laser devices available to the general public and other parties. FAA and other governmental studies show the exposure of aircrews to laser illumination may cause hazardous effects (e.g., distraction, glare, afterimage, flash blindness, and, in extreme circumstances, persistent or permanent visual impairment), which could compromise safety by adversely interfering with the ability of aircrews to carry out their responsibilities. ATC regards a laser illumination incident as an in-flight emergency, and will treat them as such, until the aircrew states otherwise.

d. The FAA, in coordination with local law enforcement, the Federal Bureau of Investigation, and other governmental agencies, such as the Department of Homeland Security, Transportation Security Administration (TSA), is taking immediate action to safeguard flights against these unauthorized illuminations and expeditiously locate the source of unauthorized laser transmissions.

2. CANCELLATION

Advisory Circular 70-2, dated January 11, 2005, is canceled.

3. EXPLANATION OF CHANGES

a. AC 70-2 has been revised to update changes and highlight FAA actions that have been taken to improve the formal reporting of unauthorized laser illumination of aircraft incidents. The dramatic increase of unauthorized laser illumination incidents since the original AC 70-2 was published in

2005 (283 events), compared to 2011 (3,591 events), has resulted in a recently passed public law, the FAA Modernization and Reform Act of 2012, that prohibits aiming a laser pointer at an aircraft.

b. Potential debilitating injuries caused by laser exposure could compromise safety and interfere with aircrew duties leading ATC to regard a laser illumination of aircraft incident as an in-flight emergency.

c. Paragraphs have been changed to provide clarity, combine and condense verbiage, place procedures in their proper order, and remove obsolete references.

d. The ATC report is updated to include the state where the laser illumination occurred and name and telephone number of the law enforcement entity contacted.

e. New means of laser reporting are added to this AC.

f. The “Aircrew Information Resources” section includes references to the FAA’s laser Web site and the Aeronautical Information Manual (AIM).

g. The “Related Documents” section has been expanded.

4. AUTHORITY

a. The FAA has the authority to regulate the safe and efficient use of navigable airspace (title 49, United States Code (U.S.C.), Section 40103, Sovereignty and use of airspace).

b. The FAA also has the authority to protect the flight of aircraft in air commerce (title 49, U.S.C., section 44701(a)(5)).

5. FAA NOTIFICATIONS AND REPORTING

a. FAA ATC facilities that are routinely connected to the Domestic Events network (DEN) will immediately report unauthorized laser illumination incidents directly to the DEN. All other FAA ATC facilities will immediately report unauthorized laser illumination incidents through the Washington Operations Center Complex (WOCC) to the DEN. The DEN shares real time security-related information that affects NAS air traffic operations among the FAA, the TSA, and other governmental stakeholders, including law enforcement agencies. This information will be used to support appropriate action taken by these governmental entities to safeguard the safety and security of aviation operations in the NAS.

b. The ATC report will include event date and time in universal coordinated time (UTC), operator, flight number, type of aircraft, nearest major city, state, altitude, location of event (e.g., latitude/longitude and/or fixed radial distance (FRD)), a brief description of the event, name and telephone number of the law enforcement entity contacted, and any other information needed to support the action.

c. If the laser event occurs in the vicinity of an FAA ATC terminal facility, ATC will broadcast on appropriate control frequencies a general caution about reported incidents of unauthorized laser illumination of aircraft. These cautions will be broadcast every 5 minutes for 20 minutes (four times) after each reported event. Cautionary broadcasts will include the following:

- Phrase “UNAUTHORIZED LASER ILLUMINATION EVENT.”
- General positional information (e.g., location and altitude).

d. ATC facilities will also notify flights operating in the immediate area of reported incidents of unauthorized laser illumination of aircraft using automatic terminal information service systems

(ATIS) for at least 1 hour following the report of the event. These ATIS broadcasts will include the following:

- Phrase “UNAUTHORIZED LASER ILLUMINATION EVENT.”
- Event time in UTC, general positional information (e.g., location and altitude).
- General description of event (e.g., color, intensity, and direction of beam).

e. In addition, the FAA will issue information on laser incidents to operators through established communication mechanisms (e.g., the FAA Air Traffic Control System Command Center (ATCSCC), coordination with aircraft operators, including representatives of the Airlines for America (A4A), the National Business Aviation Association (NBAA), etc.). Representatives at the ATCSCC will further disseminate this information as appropriate.

6. AIRCREW REPORTING PROCEDURES

a. All aircrews are requested to immediately report incidents of unauthorized laser illumination by radio to the appropriate ATC controlling facility. Reports should include event position (e.g., latitude/longitude and/or FRD), altitude, color of laser beam(s), originating direction, and any other information believed necessary for ATC, law enforcement, and other governmental action taken to safeguard the safety and efficiency of aviation operations in the NAS.

b. Aircrews flying in uncontrolled airspace are requested to immediately broadcast a general laser illumination caution on the appropriate UNICOM frequency. This general caution should include the following:

- Phrase “UNAUTHORIZED LASER ILLUMINATION EVENT.”
- Event time in UTC, general positional information (e.g., location and altitude).
- General description of event (e.g., color, intensity, and direction of beam).

c. On arrival at destination, all aircrews that have been affected by an unauthorized laser illumination are requested to complete the Laser Beam Exposure Questionnaire. The questionnaire is located on the FAA’s Laser Safety Initiative Web site at <http://www.faa.gov/about/initiatives/lasers/> and can be electronically submitted. The questionnaire may also be printed and faxed to the WOCC at (202) 267-5289, ATTN: DEN, or emailed to laserreports@faa.gov.

7. AIRCREW MITIGATION PROCEDURES

a. Although unauthorized laser illumination is difficult to predict there are certain practical actions aircrews should consider before, during, and after encountering laser activity.

- Pilots should avoid flight within areas of reported ongoing unauthorized laser activity to the extent practicable.

- In the event a cautionary broadcast (by ATC or another pilot) regarding unauthorized laser illumination is made within the previous 20 minutes for a particular area, pilots should avoid the area, if practicable.

- In the event laser activity is encountered or reported in the vicinity of flight, pilots operating in accordance with instrument flight rules (IFR) should obtain ATC authorization prior to deviating from their assigned clearance.

- In the event aircrews are unexpectedly exposed to laser illumination, direct eye contact with the beam should be avoided, and eyes should be shielded to the maximum extent possible consistent

with aircraft contract and safety. ATC understands that, under these circumstances, aircrews may regard the event as an in-flight emergency and may take evasive action to avoid further exposure to the laser illumination.

- As soon as possible, following an incident, pilots should report it to the appropriate ATC facility in accordance with the guidance provided by this AC. Forward as much information as available. Expedient reporting will assist law enforcement in locating the source of the laser transmission.

- Pilots are encouraged to complete the FAA Laser Beam Exposure Questionnaire located online at <http://www.faa.gov/about/initiatives/lasers/>, and submit electronically as soon as possible after landing. The questionnaire may also be printed and faxed to WOCC, (202) 267-5289, ATTN: DEN, or emailed to laserreports@faa.gov.

b. Research is underway by Government and private industry focusing on technological solutions for enhancing aircrew safety during laser incidents. Additional mitigation procedures will be issued as they become available.

8. AIRCREW INFORMATION RESOURCES

a. The FAA recommends that aircraft operators, particularly aircrews, regularly check for updates on this issue in the appropriate Notices to Airmen, with FAA flight service stations, and with their local ATC facilities.

b. Additional information may be available at the following Web sites:

- FAA Laser Safety Initiative Web site at <http://www.faa.gov/about/initiatives/lasers/>

- AIM at http://www.faa.gov/air_traffic/publications/atpubs/aim

9. RELATED DOCUMENTS

a. Title 49, U.S.C., section 40103, Sovereignty and use of airspace

b. Title 49, U.S.C., section 44701(a)(5), General requirements

c. Title 18, U.S.C., Part 1, Chapter 2, Section 39A, Aiming a laser pointer at an aircraft

d. Public Law 112-95, FAA Modernization and Reform Act of 2012, Section 311

e. FAA Order JO 7110.65, Air Traffic Control, Unauthorized Laser Illumination of Aircraft

f. FAA Order JO 7110.10, Flight Services, Unauthorized Laser Illumination Events

g. FAA Order JO 7210.3, Facility Operation and Administration, Reporting Unauthorized Laser Illumination of Aircraft



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