



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

# Advisory Circular

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**Subject: REPORTING LASER  
ILLUMINATION OF AIRCRAFT**

**Date: 04/03/2020  
Initiated by: AJR-2**

**AC No: 70-2B**

## **1. PURPOSE.**

**a.** This Advisory Circular (AC) provides information to aircrews, operating within the National Airspace System (NAS), and the broader aviation community on measures taken by the Federal Aviation Administration (FAA) to address incidents of unauthorized illumination of aircraft by lasers. Specifically, this AC provides guidance to aircrews and reflects current guidance for air traffic control (ATC) on the formal reporting of laser illumination incidents. 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. Title 18 United States Code (U.S.C.) 39(A) makes it a crime to aim the beam of a laser pointer at an aircraft. The FAA collects laser incident reports to assist law enforcement and provide support for recommended mitigation actions to be taken to ensure continued safe and orderly flight operations.

**b.** This AC is issued in response to the significant number of unauthorized laser illumination of aircraft incidents, as well as the proliferation and increased sophistication of laser devices available to the general public and others. 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.

**c.** The FAA, in coordination with local law enforcement, the Federal Bureau of Investigation (FBI), and other governmental agencies, including the 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. AUDIENCE.**

The audience for this AC includes, but is not limited to, all ATO service units, including air traffic control (ATC) facilities; Flight Standards, and other FAA lines of business; aircraft operators, aircrews, and anyone involved in the aviation community; and Federal, state, local, Tribal, and Territorial law enforcement agencies.

## **3. CANCELLATION.**

AC 70-2A, dated February 8, 2013, is cancelled.

## **4. EXPLANATION OF CHANGES.**

This AC includes the following changes:

- Updates the AC's focus on formal reporting of laser illumination incidents by aircrews, hazards of laser illumination of aircraft, safeguarding flights, and support for law enforcement efforts;
- Adds new paragraph 2, "Audience"; and the renumbering of subsequent paragraphs from 3 to 10;
- Adds pertinent United States Codes and Public Law authorities;
- Adds pertinent references to FAA Orders, where appropriate;
- Updates the links to the FAA Laser Beam Exposure Questionnaire website; and the FAA Laser Initiative website;
- Provides general edits to improve clarity and the removal of obsolete references.

## **5. AUTHORITIES.**

- 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).
- The FAA also has the authority to protect the flight of aircraft in air commerce (title 49, U.S.C., section 44701(a)(5)).
- The Federal Government authorized a prohibition against aiming a laser pointer at an aircraft through the FAA Modernization and Reform Act of 2012 (Public Law 112-95 Section 311).
- Law enforcement agencies have the authority to investigate aiming the beam of a laser pointer at an aircraft as a crime (Title 18 U.S.C. Section 39(A)).

## **6. FAA NOTIFICATIONS AND REPORTING.**

**a.** ATC facilities will report unauthorized laser illumination incidents to local law enforcement or the FBI; and to the FAA's Air Traffic Security Coordinator (ATSC) for notification on the Domestic Events Network (DEN), in accordance with FAA Order JO 7210.3 (Facility Operation and Administration). The DEN enables sharing of 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.** When a laser event is reported to an air traffic facility, ATC will broadcast on appropriate control frequencies a general caution about reported incidents of unauthorized laser illumination of aircraft, in accordance with FAA Order JO 7110.65 (Air Traffic Control). These cautions will be broadcast every 5 minutes for 20 minutes (four times) after each reported event. Cautionary broadcasts will include the following:

- Phraseology, "UNAUTHORIZED LASER ILLUMINATION EVENT."
- General positional information (e.g., location and altitude).

**c.** ATC terminal 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 last report of the event, in accordance with FAA Order JO 7110.65. These ATIS broadcasts will include the following:

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

**d.** 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.

## **7. AIRCREW REPORTING PROCEDURES.**

**a.** All aircrews are requested to report incidents of unauthorized laser illumination by radio to the appropriate ATC controlling facility as soon as possible. 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 broadcast, as soon as possible, a general laser illumination caution on an appropriate frequency, such as UNICOM or VHF/UHF guard frequencies 121.5/243.0. This general caution should include the following:

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

**c.** On arrival at destination, pilots and crewmembers affected by an unauthorized laser illumination are encouraged to report the event via the FAA Laser Beam Exposure Questionnaire located on the FAA website at <https://www.faa.gov/aircraft/safety/report/laserinfo/>.

## **8. AIRCREW MITIGATION PROCEDURES.**

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 the 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 control and safety.
- 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.

## **9. AIRCREW INFORMATION RESOURCES.**

- a.** Aircraft operators, particularly aircrews, should regularly check for unauthorized laser illumination updates in the appropriate Notices to Airmen, Flight Service Stations, and ATC facilities.
- b.** Additional information may be available at the following FAA websites:
- FAA laser initiative website at <http://www.faa.gov/about/initiatives/lasers/>
  - Aeronautical Information Manual at [https://www.faa.gov/air\\_traffic/publications/atpubs/aim\\_html/index.html](https://www.faa.gov/air_traffic/publications/atpubs/aim_html/index.html)

**10. RELATED PUBLICATIONS.**

- FAA Order JO 7110.65, Air Traffic Control, Unauthorized Laser Illumination of Aircraft
- FAA Order JO 7110.10, Flight Services, Unauthorized Laser Illumination Events
- FAA Order JO 7210.3, Facility Operation and Administration, Reporting Unauthorized Laser Illumination of Aircraft
- Aeronautical Information Manual (AIM), Light Amplification by Stimulated Emission of Radiation (Laser) Operations and Reporting Illumination of Aircraft
- Aeronautical Information Publication (AIP), Light Amplification by Stimulated Emission of Radiation (Laser) Operations and Reporting Illumination of Aircraft

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