



ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other issues to be considered by the Technical Commission

CANADA'S STRATEGY TO ADDRESS LASER ATTACKS AGAINST AIRCRAFT

(Presented by Canada)

EXECUTIVE SUMMARY

This paper presents an overview of Canada's comprehensive Laser Attacks Strategy (the Strategy) and outlines the progress made since its implementation in June 2018. The Strategy addresses the critical safety issue of hand-held laser attacks targeting aircraft, which may cause flash blindness and distraction of pilots, thereby potentially endangering the safety of crew members and passengers. ICAO previously highlighted laser illumination as a safety concern and urged Member States to take appropriate actions, such as taking legislative measures and raising public awareness to address this issue.

Action: The Assembly is invited to:

- a) support ICAO in efforts targeted at reducing laser attacks against aircraft in order to promote global aviation safety; and
- b) request Member States share information and best practices on strategies mitigating laser attacks on aircraft.

<i>Strategic Objectives:</i>	This working paper relates to the Safety Strategic Objective.
<i>Financial implications:</i>	N/A
<i>References:</i>	State letter AS8/5-14/83 dated 4 December 2014 State letter AS8/5-18/17 dated 13 February 2018

1. INTRODUCTION

1.1 Hand-held lasers, when misused and directed at an aircraft, produce an intense, directional beam of optical radiation that can result in distraction, disruption, disorientation and flash blindness of the pilots. This impacts their ability to safely monitor flight instruments and maintain control of the aircraft during critical stages of flight, such as take-off and landing. This can have a severe impact on the safe operation of an aircraft, endangering the safety of the flight crew, and passengers.

1.2 In 2014, based on the increasing number of laser attacks globally, ICAO urged all civil aviation authorities to highlight this issue as a hazard to aviation safety and raise public awareness of the dangers posed by laser attacks against aircraft (State letter AS8/5-14/83).

1.3 In 2018, ICAO requested that all Member States demonstrate progress and efforts to enforce legislation, penalties and outline any newly-developed and implemented legislative provisions to address laser attacks against aircraft. Canada responded to ICAO outlining its current legislation, penalties and progress to date, in addressing laser attacks. Canada also highlighted its intention to implement a comprehensive laser attacks strategy to significantly reduce laser attacks against aircraft (State letter AS8/5-18/17).

2. ISSUE

2.1 *Laser attack numbers are a concern:* In Canada, there were 1,803 laser attacks reported to Transport Canada and published in the Civil Aviation Daily Occurrence Reporting System (CADORS) between January 2015 and at the end of May 2019. All types of aircraft have been targeted. There were 590 laser attacks reported in 2015; 527 attacks in 2016; 379 attacks in 2017; and there were 211 reported attacks in 2018. Typically, 60 percent of laser attacks occur in Canada's largest urban centres of Vancouver, Montreal, or Toronto. While there are no documented cases of laser attacks causing aircraft accidents (e.g., causing a crash or permanent injury), the danger to pilots from people pointing lasers at aircraft are real. For instance, there have been a number of cases of Canadian pilots claiming to have been distracted, or suffered blurred vision or temporary blindness due to a laser attack.

2.2 *Ongoing challenges:* Many powerful prohibited lasers are in circulation and are often mislabelled when they are sold and imported into Canada. This is despite Canadian legislation prohibiting the sale, manufacturing and importation of battery-powered hand-held lasers with a power output greater than 5 milliwatts. Furthermore, it has proven extremely difficult to locate and catch offenders in the act of aiming a laser at an aircraft. As a result, it has been challenging to significantly reduce the number of laser attacks across Canada.

3. OVERVIEW OF CANADA'S LASER ATTACK STRATEGY

3.1 *Canada's Comprehensive Laser Attacks Strategy:* In June 2018, Canada implemented the Laser Attacks Strategy (the Strategy), to address this aviation safety risk. The Strategy consists of three key components, prohibiting hand-held lasers, increasing education and awareness, and strengthening enforcement. An overview of the Strategy is provided below:

3.2 *Prohibiting hand-held lasers:* As a first measure, on June 28, 2018, Canada prohibited the possession of hand-held lasers to immediately take action to deal with the dangers posed by hand-held

lasers. This was accomplished through the issuance of an Interim Order signed by the Minister of Transport and was valid for one year. The Interim Order prohibited Canadians from possessing a battery operated hand-held laser over 1 milliwatts in all public places within a 10-kilometre radius of any certified aerodromes or heliports, or within the municipal boundaries of the greater Montréal, Toronto, and Vancouver regions. Exceptions included possession for legitimate purposes, such as work, school or educational needs. Furthermore, the Interim Order allowed delegated law enforcement officials and Transport Canada inspectors to issue immediate fines to anyone found to be in contravention of the Interim Order. Fines are up to \$5,000 for an individual and \$25,000 for a corporation. To continue to safeguard aviation safety, Canada renewed the Interim Order, (Interim Order No. 2) for an additional year to June 2020, while it develops a permanent regulatory solution.

3.3 *Strengthening Enforcement:* The second piece of the Laser Attacks Strategy is to strengthen enforcement efforts. The Canadian Aviation Regulations prohibit the projection of a directed bright light source into navigable airspace. The *Aeronautics Act*, further makes it an offence to engage in any behaviour that endangers the safety or security of an aircraft in flight or of persons on board an aircraft in flight. Furthermore, the *Canada Consumer Product Safety Act*, prohibits hand-held lasers with a power output greater than 5 milliwatts from being sold, imported and advertised in Canada.

3.4 In June 2018, Canada amended the Canadian Aviation Regulations to make laser offenses a designated provision which allows law enforcement with delegated authority to issue monetary fines for regulatory offenses. Fines are up to \$5,000 for an individual and \$25,000 for a corporation. The objective is to create a stronger deterrent by issuing these fines immediately rather than relying solely upon criminal prosecution. Other measures that have been put into place to further strengthen enforcement include engaging with Canadian law enforcement, crown prosecutors and the air navigation services provider to discuss strategies that will improve and enable the identification and prosecution of offenders in a timely manner. Front line law enforcement agencies across Canada remain committed to reducing laser attacks.

3.5 *Increasing Education and Awareness:* Canada recognized the importance of education and awareness in the reduction of laser attacks. As a result, Canada re-designed and launched several online public resources. In June 2018, Canada launched an online discussion forum called “Let’s Talk Lasers” via its social media channels, including Facebook and Twitter. This allowed Canada to seek out public input on hand-held laser use and safety issues. Participant comments helped the government better understand laser users, identified knowledge gaps, in order to effectively target its awareness campaign messaging. The “Not a Bright Idea” website provides compliance guidelines for the public, and includes an interactive map illustrating prohibited zones for hand-held lasers under the Interim Order.

3.6 Canada has also engaged and established partnerships with local community associations, such as the Canadian Crime Stoppers Association to better educate the general public and to target high-risk populations (e.g. youth) by conducting outreach with local schools and in communities. In January 2019, the Canadian Crime Stoppers Association unveiled promotional materials available to its 87 Canadian Crime Stoppers programs to raise awareness of the dangers of laser attacks against aircraft and increase deterrence of the misuse of hand-held lasers.

4. **PROGRESS TO DATE**

4.1 *Reduction in laser attacks across Canada.* Since the broader Strategy and Interim Order have been implemented, Canada has seen positive results. The number of reported Laser Attacks has decreased in 2018. As noted earlier, in 2015, there were 590 attacks reported in Canada; 527 laser attacks

in 2016; 379 attacks in 2017; and there was a low of 211 reported attacks in 2018. This represents a decrease of 44 percent.

Table 1 – Laser attacks (2015-2018)

Year	2015	2016	2017	2018
Laser Attacks	590	527	379	211

4.2 Furthermore, the greatest number of laser attacks across Canada normally occur during the summer months from June to September. Between June 2017 and September 2017, there were 171 reported laser attacks. Over the same period in 2018, following the implementation of the Strategy, there have only been 72 reported laser attacks. This represents a 57 per cent decrease.

Table 2 – Laser attacks by summer months (2016-2018)

Year	June	July	August	September	Total
2016	42	46	73	60	221
2017	26	31	49	65	171
2018	19	14	19	20	72

5. A SUSTAINED APPROACH FOR SUCCESS

5.1 While Canada continues to maintain a strong aviation safety record, it also strives to improve and promote domestic and international aviation safety. Although there has been a reduction in the number of laser attacks across Canada in 2018, attacks continue to occur and the numbers still remain a concern. In 2019, for the first seven months (January to July 2019), there were 110 reported laser attacks across Canada. This poses a continued and serious risk to aviation safety.

5.2 The success of the Strategy and the issuance of the Interim Order has encouraged Canada to consider permanent regulations. Canada is proposing to permanently prohibit the possession of hand-held lasers with an output greater than 1 milliwatts within the immediate vicinity of certified aerodromes and heliports and within the municipal boundaries where most of the laser attacks are reported. This would maintain the geographic restrictions introduced by the Interim Order: within a 10 km radius of the geometric centre of an airport or heliport and within the prescribed municipalities of Canada’s largest urban centres. Canada will continue to monitor laser attack statistics and enforcement actions to track progress and identify any problem areas.

5.3 In addition, Canada continues to educate and communicate with suppliers and retailers both domestic and foreign on Canada’s laser regulations and requirements under the *Canada Consumer Product Safety Act*.

6. CONCLUSION

6.1 In consideration of the number of reported laser attacks and the hazard to aviation safety, in 2018, Canada developed a comprehensive Laser Attack Strategy and implemented stronger regulatory measures, increased education and awareness and enhanced enforcement measures to address this critical safety issue.

6.2 Canada will maintain the Strategy, working with its law enforcement agencies and will continue its communications approach and related tools for proactive engagement with the public on the dangers and misuse of hand-held lasers. The Strategy will continue to include public announcements and advertisements, social media campaigns, with a focus on deterrence and prevention measures.

6.3 Canada invites all Member States to share information and best practices to further address laser attacks and to support ICAO's global initiative in reducing laser attacks against aircraft to promote aviation safety. Canada encourages all Member States to visit <http://www.tc.gc.ca/en/campaigns/not-bright-idea.html> to learn more about its new safety measures to protect Canadians from laser attacks on aircrafts.

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