

# Cockpit Voice Recorder and RIPS

## New Mandate Effective 29-May-2023

### Introduction

In 2019 amendments to *Canadian Aviation Regulations (CARs)* for Flight Data Recorders and Cockpit Voice Recorders were published in the [Canada Gazette Part II, volume 153, no 11. SOR/2019-130 May 10, 2019](#). Publication of these new regulations included a two-part, four-year implementation period to ensure aircraft operators had sufficient time to schedule the mandated CVR system upgrades. These new requirements will come into force on 2023-05-29

Following below is Maxcraft's interpretation and summary of the requirements.

### Requirements

- All aircraft that are required to be equipped with a CVR, shall be equipped with a CVR having a recording capacity of at least 2 hours. This is an increase from the current 30-minute recording capacity requirement. **Standard 625.34(2)**
- All aircraft required to be equipped with an FDR and a CVR shall be equipped with a "Recorder Independent Power Supply" (RIPS) installed adjacent or integral to the CVR, to power the CVR and the cockpit area microphone for a period of 10 minutes whenever normal aircraft power sources to the CVR are interrupted. **Standard 551.101, Standard 625.34(7)**
- Wording of **605.34(1)** will change from "multi-engined turbine-powered aircraft that is configured for six or more passenger seats and for which two pilots are required by the aircraft type certificate or by the subpart under which the aircraft is operated" to "multi-engined turbine-powered aircraft that is configured for six or more passenger seats and is operated by two flight crew members, **regardless** of the minimum crew requirements set out in the aircraft type certificate or the subpart under which the aircraft is operated"

**These requirements will come into effect 29 May 2023.**



*Cockpit Voice Recorder (CVR) with Integral RIPS*



*Recorder Independent Power Supply (RIPS)*

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### Requirements Summary

CAR 605.34 (1) CVR Requirement Applicability (Revision becomes effective 29-May-2023)	CVR & RIPS Requirements	
	Current	2023
This section applies in respect of the following aircraft:		
(a) a multi-engined turbine-powered aircraft that is configured for six or more passenger seats and is operated by two flight crew members, regardless of the minimum crew requirements set out in the aircraft type certificate or the subpart under which the aircraft is operated;	30-minute CVR (or N/A) Depending on interpretation	120-minute CVR 10-minute RIPS  <b>See Notes: 1, 2</b>
(b) a turbine-powered aeroplane that was type-certificated on or after January 1, 2016 and for which more than one flight crew member is required by the aircraft type certificate or by the subpart under which the aeroplane is operated;	120-minute CVR	120-minute CVR 10-minute RIPS  <b>See Notes: 3, 4</b>
(c) a turbine-powered aeroplane with an MCTOW of more than 27 000 kg (59,525 pounds) that was type-certificated after September 30, 1969 and was manufactured before January 1, 1987;	30-minute CVR	120-minute CVR 10-minute RIPS  <b>See Notes: 2,3,4</b>
(d) a large aeroplane that was manufactured on or after January 1, 1987; and	30-minute CVR Or 120-minute CVR	120-minute CVR 10-minute RIPS <b>See Notes 2,3,4</b>
(e) a transport category helicopter with an MCTOW of more than 7 000 kg (15,400 pounds).	30-minute CVR Or 120-minute CVR	120-minute CVR 10-minute RIPS <b>See Notes 2,3,4</b>
<b>CAR 605.34 (2) CVR Regulatory Requirement</b>		
Subject to subsection (4), no person shall dispatch or conduct a take-off in an aircraft unless the aircraft is equipped with a cockpit voice recorder that conforms to section 551.101 of Chapter 551 of the Airworthiness Manual and section 625.34 of Standard 625 — Aircraft Equipment and Maintenance of the General Operating and Flight Rules Standards.		
<b>Notes:</b>		
Note 1: For Reference, the current ( <u>but expiring</u> ) CAR 605.34 (1) wording is: "This section applies in respect of a multi-engined turbine powered aircraft that is configured for six or more passenger seats and for which two pilots are required by the aircraft type certificate or by the subpart under which the aircraft is operated."		
Note 2(a): Aircraft currently required to be equipped with an FDR and a CVR will require RIPS per <b>Standard 625.34(7)</b>		
Note 2(b): New Installations of 120-minute CVRs must include RIPS to meet installation requirements of <b>Standard 551.101</b>		
Note 2(c): Interpretation - Aircraft already equipped with a 120-minute CVR which don't require an FDR, won't require RIPS. Aircraft currently equipped with a 30-minute CVR must install a 120-minute CVR with RIPS.		
Note 3: Aircraft manufactured after 2002 should already be equipped with a 120-minute CVR. They only need to add RIPS.		
Note 4: Aircraft that were type certificated after 2009 should already be equipped with a 10-minute RIPS.		



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### Conclusion

Many Canadian business and commercial aircraft are affected by this MANDATE including, but not limited to; Turboprops such as the Beech King Air series, Beech 1900C and 1900D, Dornier 228, DHC-6 Twin Otter; Business Jets from Textron, Cessna, Bombardier, Dassault, Lear, Gulfstream; and rotorcraft from Bell, Sikorsky, and Airbus Helicopters.

Maxcraft Avionics has proactively invested in multiple STC approvals to enable operators (fixed wing and rotorcraft) to install mandate compliant CVR and/or RIPS equipment.

The implementation of these regulations will assist Canada in aligning with the 2013 ICAO standards and provide increased insight into safety and investigations in support of TSB.

It's also important to note that this mandate isn't a completely new initiative, Transport Canada initially indicated support for a TSB recommendation to implement RIPS back in June 1999.

### Key Takeaways

- This Mandate comes into effect 29 May 2023.
- Many Canadian aircraft are affected.
- There are serious penalties involved for non-compliance. (Standard 103 Schedule II)
- Maxcraft Avionics is ready to help operators become compliant with existing turnkey, STC approved solutions and/or with unique custom STC approved solutions if necessary.

### Web Links

The following weblinks will connect you directly to the mandate source material:

1. [Canada Gazette Part II, volume 153, no 11. SOR/2019-130 May 10, 2019.](#)
2. [CAR 605.34 \(2019 revision - current regulation\) Cockpit Voice Recorder](#)
3. [CAR 605.4 \(2023 Amendment – Not yet in force\) Cockpit Voice Recorder](#)
4. [Standard 625.34 \(2019 revision – current\) Cockpit Voice Recorders \(CVRs\)](#)
5. [Standard 625.34 \(2023 Amendment – Not yet in force\) Cockpit Voice Recorders](#)
6. [Standard 551.101 \(2019-current\) Design & Installation Standards -Cockpit Voice Recorders](#)
7. [Reassessment of the response to TSB recommendation A99-03](#)
8. [Maxcraft Avionics Ltd](#)