TCAS: A VALUABLE TOOL
IF EVERYONE PLAYS THE GAME

The CAA receives regular reports of near misses[1] resulting from aircraft transponders being faulty, or not turned on.

The message is simple: For TCAS (traffic collision avoidance system) to work and prevent a potential catastrophe, transponders *must* be turned on.

In October 2019, the pilots of an IFR helicopter took avoiding action after receiving a TCAS alert advising of another aircraft in close proximity.

An internal investigation by the helicopter company found it was likely a light aircraft that had entered controlled airspace without an ATC clearance. When it did contact ATC, it was already in controlled airspace and in close proximity to the helicopter.

The helicopter's TCAS monitored about 18 NM around the aircraft. Since the light aircraft didn't appear on the TCAS until after the call to ATC, and appeared in very close proximity, it's possible its transponder wasn't turned on until that moment.

A safety spokesperson for the helicopter company said, however, that they couldn't confirm if the light aircraft's transponder was off and then switched on at the last minute.

"But having been through this incident, however, we want to encourage the use of transponders by all aircraft at all times, including outside controlled airspace."

There've been three mid-air collisions in New Zealand since 2008, all of which were outside controlled airspace.

"We would encourage the use of any tool that improves pilots' situational awareness," says Hamish McKoy, the CAA's senior specialist on airspace use.

"TCAS is a valuable tool to a pilot, but it's only as good as the information it receives. That means the transponders of all aircraft need to be turned on."

This applies particularly to mandatory broadcast zones – uncontrolled airspace where pilots must have transponders on at all times.

"However, the pilots of those aircraft with TCAS," says Hamish, "should also make sure that it adds to, but does not replace, a good lookout."

Automatic Dependent Surveillance-Broadcast (ADS-B) and in particular ADS-B IN, will increase pilots' situational awareness and improve their ability to avoid conflicting traffic.

"Like TCAS, however," says Hamish, "to be effective, ADS-B relies on the pilot actually turning it on." ✈

Comments or queries?
Email **aeronauticalservices@caa.govt.nz**

// Traffic alerting systems such as TCAS and ADS-B need to be in operation to be of any use.

Photo CAA/Pen Mackay

1 'Near collision', 'air proximity' and 'loss of separation' events.