CARBON MONOXIDE DETECTION

PILOT SURVEY SUMMARY
Q3: MARCH - MAY 2022

This is the third quarterly report for the year-long trial investigating how CO detectors with attention-getting capabilities (so called 'active detectors') perform in general aviation. The third quarter covered the end of the winter period and took us into spring.

We would again like to thank all those who have committed to the trial and diligently completed the surveys so far!

Many thanks to those who got in touch to provide photos of your CO detector location in your aircraft and for sharing your experiences of diagnosing CO issues as well as flying with your detector.

If you would like to provide any feedback or if you have questions related to CO, please do not hesitate to get in touch via code@caa.co.uk.

71% average response rate to our monthly survey in Q3.

Flying activity

56% of participants flew 1-5 times a month
21% flew 6-10 times a month
13% flew 11-30 times a month
2% flew 31-50 times a month
8% did not fly with their detector in Q3

Total Number of CO Alerts

83% of respondents reported no CO alerts
12% reported 1-5 alerts and
5% reported more than 5 alerts in Q3

CO Alerts and Aircraft Age

Aircraft age (years)	Proportion of CO alerts
41+	**52%**
31-40	**22%**
21-30	4%
11-20	11%
0-10	11%

CO Occurrences

We received approximately **39** descriptions of CO occurrences in Q3, not all of which resulted in an alert.

Similar to previous quarters, about **70% of the described occurrences took place on the ground** (e.g. start-up, taxi, power checks).

There was one report of a participant feeling light-headed despite relatively low levels of CO recorded (less than 50 ppm). This serves as a timely reminder that it's not just the CO level that's important but also the duration of exposure!

CO Peak Readings

For those flying with a detector that displayed or recorded CO readings in Q3:

35% recorded a peak reading of zero parts per million (ppm).

45% recorded a peak reading of less than 50 ppm.

There were **seven** reports of a CO readings over 51 ppm:
four between 51-100 ppm
two between 101-200 ppm
one at 276 ppm

CO Detector Safety Issues

The vast majority (**89%**) of respondents reported no safety issues caused by their active CO detector whilst flying in Q3.

There were a small number of reports relating to inaudibility of the alarm (1%), loose article risk (3%), and distraction (2%).

Yet more evidence of people being alerted to a fault with their engine as a result of carrying an active CO detector! The devices are also helping people identify pathways for CO to enter the cabin (e.g. drain holes, poor sealing).

Getting to know your CO detector is important. If you frequently fly different aircraft, there are benefits to carrying your CO detector with you rather than having to familiarise yourself with a different device that may be fitted in an unfamiliar aircraft.

CO levels can vary quite significantly in the cabin. By varying your detector location you will pinpoint the best location for your device to detect CO.

If your device has a digital display, ensuring the display is in line-of-sight of the pilot is highly recommended. This is especially true when flying in unfamiliar aircraft where the optimal detector location may not be known.

We're now into the final quarter of the trial and encourage participants to continue to complete the monthly surveys for this last period. Once the responses to the last survey are collected, rather than issue a Q4 report, we intend to publish a final report, summarising the findings from the 12-month trial.

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