

# DUAS16

*Posted on 13.04.2023 by Rupert Dent*

**Category:** [Drone](#)

**Report Title** Unintended deployment of Flight Termination System

## Initial Report

The aircraft was undergoing test flights – the pilot in charge was inexperienced and had only recently been promoted to test pilot. The FTS (Flight Termination System) deployed with no warning and there was no immediate reason for this.

Following the initial report to CHIRP there was some further communication which is re-printed below in its entirety, so the context can be better understood.

## CHIRP email to reporter:

Firstly, many thanks for your report, which CHIRP is pleased to accept. In order to learn from it, I wondered if you would be kind enough to give us a little more detail on what happened?

1. You state that the parachute deployed without warning. This implies that there was a technical problem and human error was not involved. Were there in your opinion any human factors involved in the occurrence or was it entirely technical? Perhaps you would be able to give me your view on this aspect?
2. You have mentioned that the pilot was inexperienced. However, from the submitted report, the pilot has 300 hours of flying, which for small UAVs is relatively experienced. Given that this was a test flight and only the second flight of the XXX I take it that you mean inexperienced on type or on flight testing. Perhaps you could just confirm this aspect?
3. Were there in your view any lessons to be learnt regarding the training available, or explanation of how the aircraft works, prior to undertaking the test flights?
4. Are there any other aspects connected with the occurrence that would be useful to learn from and that involved Human Factors or a Just Culture?

## Response email from the reporter:

Thanks for the reply, I've answered your points below:

1. Human factors were not involved in this occurrence, the system initiated entirely uncommanded by any team/crew member.
2. I may not have explained that correctly. I have around 300 hours of UAS flying, but I was not

pilot in command. In fact, I had essentially refused to fly the aircraft due to safety concerns. The newly-promoted test pilot was one of the engineer team and had a small number of hours of UAS flying. As you surmised, there is nobody with any experience on type as this was the second flight.

3. The test program was being rushed and undue pressure to perform was being placed on the whole team due to commercial considerations. The team was very often having very early starts before spending large amounts of 'down' time at the airfield due to weather being out of limits for the aircraft, generally in line with weather forecasts.

These are mainly my opinions and I have not been party to the full internal investigation as I no longer work for the company. I am still amazed that the company has never been audited by the CAA (terrible accident rate in the 6 months prior to this event) and that AAIB did not pick up this issue, despite all occurrences being reported through the correct channels. There had been a significant deterioration in safety culture as was highlighted during an independent audit, but I believe that the findings were never escalated to the Senior team and therefore not acted upon in a timely manner.

## **Comment**

We did of course discuss the report with the responsible manager of the company involved and established that the matter was investigated, and a full report was submitted to the company's Safety Review Board, which was chaired by the CEO. We also understand that the aircraft was grounded for 8 weeks whilst corrective actions were considered, which included a design change that added 2 buttons with covers that were required to be lifted, before the deployment of the FTS could be triggered.

In answer to one of the reporter's points, we have checked with the AAIB, and have determined that if they see a recurrence of accidents from a particular Operator, they do in fact have the ability to recommend auditing by CAA, if they are of the view it would be beneficial.

The reporter was concerned enough about the situation to file a report and, after a little encouragement, give some additional details about what they felt was not being dealt with correctly. We have been able to alert the company to the concerns, sought and received reassurance on several matters and have also been able to discuss some of the points raised with the AAIB.

There is one item that we would not agree with the reporter on and that is there were no Human Factors at play. The fact that the FTS was triggered inadvertently may have been because Human Factors were not adequately considered in the design stage. Indeed, it seems from the company's corrective actions that they thought it might have had something to do with it. Adding two covers to the buttons used to deploy the system will no doubt have reduced the chance of the same event

occurring again.

Another point that we feel is worth mentioning is that the test airfield was about 30 minutes' drive from the manufacturing site and office. Given the equipment that needed to be transferred from one place to another, the distance probably led to a tendency to go to the test site and spend all day there, waiting for any unsuitable weather to pass. This may have led to a lack of clarity on when a pilot was on duty or on a rest period, with fatigue becoming an issue.

Last but not least, it may have been unwise to have gone ahead with the flight if the more experienced pilot had, as indicated in the report, refused to do so. Peer and Commercial pressure may have had some influence here.



