

**Aviation Safety Investigation Report
199402324**

**Bell Helicopter Co
JetRanger III**

23 August 1994

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: 199402324 **Occurrence Type:** Accident
Location: 70km N Perth Airport
State: WA **Inv Category:** 4
Date: Tuesday 23 August 1994
Time: 1210 hours **Time Zone** WST
Highest Injury Level: None

Aircraft Manufacturer: Bell Helicopter Co
Aircraft Model: 206B (III)
Aircraft Registration: VH-WCF **Serial Number:** 3134
Type of Operation: Commercial Fire Control
Damage to Aircraft: Substantial
Departure Point: Perth Airport WA
Departure Time: 1000 WST
Destination: Perth Airport WA

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial	800.0	9300

Approved for Release: Monday, February 6, 1995

The helicopter was dropping incendiary bombs, from 100 feet above ground level, as part of a controlled bush burn. Prior to takeoff the pilot had placed his flying jacket between the rear of the pilot's seat and the incendiary delivery machine.

During an incendiary dispatch run the exit chute became detached from the incendiary machine body allowing ignited bombs to fall inside the aircraft. One of these bombs set fire to the pilots jacket and this along, with the burning incendiaries, filled the cabin with dense black smoke.

Despite the fact that the passengers opened their doors the dense smoke prevented the pilot from seeing anything either inside or outside the helicopter. He elected to land the aircraft immediately so the crew could extinguish the fire.

During the unsighted landing in dense scrub the helicopter collided with a number of trees.

It was reported that the clamp attaching the exit chute to the machine body had been secured normally prior to departure. The clamp design relied on friction only, to keep the chute in place. It is probable that natural helicopter vibration was sufficient to overcome the friction allowing the chute to separate. Once the chute separated, ignited incendiary balls were free to roll around inside the aircraft and set fire to the jacket.



The design of the incendiary machine did not include any means of restricting the movement of the incendiary balls should they fall out of the machine. It was believed that the balls, which were only armed after they had entered the delivery system, could not escape.

For the same reasons it was not believed that flammable material might be in danger if it was stored near the machine and consequently there were no restrictions and no placards prohibiting such storage.

Safety Action

Immediately following the accident the Bureau of Air Safety Investigation advised the owner of the incendiary equipment that the following modifications would improve the safety of the system.

1. A clearly visible placard should be fitted to the incendiary machine indicating that objects should not be stored in its vicinity.
2. The chute attachment should be redesigned to make it more positive.
3. A fail safe system be designed to catch loose incendiaries. It is suggested that a metal tray, with sides, located under the dispensing machine would probably meet all requirements.

The operator withdrew all similar incendiary dispensing devices from operations until the defects had been corrected. Redesign and modification of the devices has been completed and the machines have been returned to service.

