

**Aviation Safety Investigation Report  
199000081**

**Rand KR2**

**8 April 1990**

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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](http://www.atsb.gov.au).**

**Occurrence Number:** 199000081

**Occurrence Type:** Accident

**Location:** 3km N Serpentine Airfield WA

**Date:** 8 April 1990

**Time:** 1157

**Highest Injury Level:** Minor

**Injuries:**

	Fatal	Serious	Minor	None
Crew	0	0	0	0
Ground	0	0	0	-
Passenger	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

**Aircraft Details:** Rand KR2

**Registration:** VH-CVA

**Serial Number:** N/A

**Operation Type:** Private

**Damage Level:** Substantial

**Departure Point:** Serpentine WA

**Departure Time:** 1155

**Destination:** Serpentine WA

**Approved for Release:** 3rd July 1990

#### **Circumstances:**

The aircraft was on its first flight at the time of the accident. All engine parameters had been normal during extensive ground testing and immediately prior to takeoff. The aircraft was in a turn at 600 feet after takeoff when the engine began to run roughly. The pilot commenced an approach for a forced landing in a paddock which appeared to be suitable. However, just prior to touchdown he observed a ditch running across the paddock. He attempted to clear the ditch, by raising the nose, but the right wing dropped. The right mainwheel struck the ground and was torn off, causing the aircraft to settle into the ditch and overturn. An inspection of the engine indicated that some of the cylinder head retaining bolts were not torqued correctly. In addition, the spark plug in the left rear cylinder had been inserted with a crossed thread and was not seating correctly. The centre electrode of this plug has been destroyed. There was damage to both the cylinder head and the exhaust valve seat and there were indications that combustion gases had been blowing past the poorly seated spark plug and the closed exhaust valve. Ceramic deposits, from the missing electrode, were found in the cylinder and the exhaust port. The engine had been purchased and installed as a correctly certified zero time unit, although the spark plugs had been removed and replaced prior to the flight.

#### **Significant Factors:**

The following factors were considered relevant to the development of the accident

1. The procedures used during assembly of the engine and installation of the spark plugs were inadequate.
2. The partial loss of engine power, resulting from damage caused by the incorrect assembly, forced the pilot to carry out a landing on unsuitable terrain.