Cessna U206F Stationair, G-STAT

AAIB Bulletin No: 2/2004	Ref: EW/G2003/08/40	Category: 1.3
Aircraft Type and Registration:	Cessna U206F Stationair, G-STAT	
No & Type of Engines:	1 Continental IO-520-F piston engine	
Year of Manufacture:	1976	
Date & Time (UTC):	24 August 2003 at 1350 hrs	
Location:	Strathallan Airfield, Perthshire	
Type of Flight:	Aerial Work (Parachuting)	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1	Passengers - N/A
Nature of Damage:	Aircraft damaged beyond economic repair	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	34 years	
Commander's Flying Experience:	260 hours (of which 37 were on type)	
	Last 90 days - 31 hours	
	Last 28 days - 24 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The aircraft was being used for parachute dropping. It had completed one flight lasting 42 minutes and was returning to its base airfield at the end of the second flight, having been airborne for 38 minutes, when the engine stopped. The aircraft was about 800 feet above the ground. The right fuel tank had been used throughout both flights, so the pilot changed the fuel selector to feed from the left fuel tank and attempted to restart the engine but without success. He transmitted a radio call to advise the airfield of his emergency and then, having completed the appropriate checks, carried out a forced landing into a field. The pilot reported that, in trying to extend the glide into one field, the aircraft's airspeed was allowed to decay to the point where it may well have stalled before landing heavily at the far end of the preceding field. It came to rest against a fence in a large ditch. The pilot also commented that the flaps were retracted and he was surprised how high the rate of descent was with the propeller stopped. He was briefly trapped in the cockpit by the instrument panel but managed to free himself and exited the aircraft through the right door having suffered only minor injuries. There was no fire.

Subsequent examination of the fuel tanks revealed that there were 30 gallons of fuel in the left tank and no fuel in the right tank. Forty litres of fuel was then added to the right tank and fuel flow checks from both tanks were normal. The pilot stated that he had refuelled the aircraft prior to the two flights and estimated that there were 60 gallons on board, giving a total endurance of about three to three and a half hours. He also reported that there was no accurate way of measuring the quantity of fuel in each of the tanks, which were large capacity, long range fuel tanks, and that the fuel gauges fluctuated when the engine was running, particularly at a low fuel state. However, the fuel gauges did indicate the proportion of fuel in each tank, graduated between 'full' and 'empty', and they had shown that the tanks were approximately three quarters full before the first flight.

The pilot's normal practice was to change the fuel feed selection once each flight, and this was consistent with the recommended practice at his club. On this occasion he did not and believes that

this was a result of not conducting sufficient airmanship checks. He reported that he had been keeping a close eye on the engine oil temperature, which was near to the top of its normal operating range, and was concerned that the aircraft's climb performance was not as good as he would have expected. This latter aspect may have been because the weather conditions were warm and the aircraft contained five parachutists during each climb, making it heavy.

The pilot concluded that the engine would not have stopped if he had changed the fuel tank selection on each flight. When changing the fuel tank selector with fuel in both tanks there was no requirement to operate the electric fuel booster pump. However, a placard in the aircraft advised pilots to switch the fuel booster pump on momentarily when changing the fuel tank selector from a dry fuel tank to one containing fuel. The pilot did not do this, which probably accounts for the engine not restarting before he carried out the forced landing checks, which included selecting the fuel off.

The pilot has since received further training and the operator has changed its procedures to ensure that pilots change the fuel tank selection once in the climb, before descent and once in the descent on each flight when dropping parachutists.