

MILITARY AIRCRAFT ACCIDENT SUMMARY
AIRCRAFT ACCIDENT TO ROYAL AIR FORCE
PHANTOM XT893

Date:	24 April 1989
Parent Airfield:	RAF Wattisham
Place of Accident:	30nm East of Flamborough Head
Crew:	Two
Casualties:	1 Major and 1 Slight

CIRCUMSTANCES

1. On 24 Apr 89, a Flight Commander was programmed to fly with a first tour pilot on a squadron training sortie. During the sortie, XT893 was fully refuelled by a Tristar tanker and then transitted at FL260 to the operating area. With the aircraft in a gradual descent and with a speed of between 300-350kts the Flight Commander, the rear seat pilot, took control in order to demonstrate the airflow affects over the wing at the ideal angle of attack (AOA) for maximum lift (19 units) and this would be accomplished by using fuel dump for visual effect. He throttled the engines to idle, extended the airbrakes and arrested the descent. When the speed approached 250kts, he applied full power without reheat, began to retract the airbrakes and noticed that he had to use right aileron trim to hold the wings level. He had the front seat pilot select fuel dump whilst he concentrated on maintaining 19 units AOA. He noticed that the control column was some 3 inches right of centre and with the aircraft approaching 22,000ft, he centralised the control column and the left wing dropped 20 degrees. He applied right rudder to return the aircraft to level flight. The aircraft responded but then almost immediately pitched up and the nose sliced to the right. He then moved the control column fully forward, centralised the rudder and held the control column forward for about 3 seconds as the aircraft inverted. The aircraft continued to roll and pitch and began to auto-rotate towards an upright spin to the right. On recognising the spin, the pilots carried out the full spin recovery drill.

As the aircraft passed 18,000ft, the rear seat pilot felt the turn begin to tighten and he assumed this to be the onset of recovery. However, the rolling, yawing and pitching became progressively more violent and the spin became particularly oscillatory in pitch. Since the aircraft was still spinning violently as it passed through 15,500ft, the pilots ejected, successfully.

CAUSE

2. The cause of the accident was that the aircraft entered a high AOA, highly oscillatory spin from which there was insufficient height to recover. The right aileron trim had been applied to compensate for an imbalance of fuel in the 2 underwing tanks, probably caused by ice in a fuel transfer valve. The loss of control of the aircraft was most probably caused by the application of aileron followed by right rudder when the aircraft was flying at high AOA with fuel asymmetry, high all-up weight and a rear centre of gravity. It is possible that a rudder powered flying control unit defect may have contributed to the loss of control. The pilot's failure to complete trim and balance checks after the air to air refuelling and prior to the start of high AOA manoeuvring was a contributory cause of the accident.