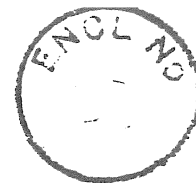




MINISTRY OF DEFENCE



Military Aircraft Accident Summaries

MAAS 15/83

15/83

AIRCRAFT ACCIDENT TO ROYAL AIR FORCE JAGUAR T MK 2 XX828

Date:	1 June 1981
Parent Airfield:	RAF Lossiemouth Morayshire
Place of Accident:	8nm NE of Kirriemuir, Tayside
Crew:	Two Pilots
Casualties:	Nil

CIRCUMSTANCES

Jaguar XX828 was being flown by two staff pilots from the Operational Conversion Unit (OCU). They were carrying out a simulated low level attack, flying at 450 kts and 300 ft above ground level, when the front canopy disintegrated with a loud bang. The front seat pilot was in control at the time; he was aware of a very high noise level, a rush of air and a loss of intercommunication. His cockpit was littered with fragments of canopy. By using pre-briefed lateral movements of the control column, he handed over control to the Captain in the rear seat who put the aircraft into a gentle climb while assessing the situation. The left engine RPM had decayed to 30% with an abnormally high Jet Pipe Temperature (JPT), whilst the right engine RPM was fluctuating around 90%, also with an excessive JPT. The Captain assumed that the aircraft had struck a bird, which had caused the canopy to disintegrate, and that both engines had surged. In an effort to clear the surge on the right engine, he closed it down and attempted to relight it. The HPT, having decreased to below 450°C after the right throttle was selected to stop, increased rapidly through the maximum permitted 700°C during the relight attempt, with the throttle at idle. At this stage ejection was the only safe option and both pilots came to this conclusion independently. The Captain ordered the front seat pilot to eject, firstly by using the aircraft's intercommunication system and then, since there was no response, by flashing the cockpit warning lights several times using the test facility. The front seat pilot had, meanwhile, used hand signals to attract the Captain's attention. He used an eject sign to indicate that

13 MAY 1983/1006

the rear seat pilot should eject first. The Captain saw this and ejected. After a short pause the front seat pilot also ejected. The ejections were successful and the aircraft crashed in farm-land caught fire and was destroyed.

CAUSE

An aerial search back along the aircraft's flight path discovered a dead black-headed gull and fragments of canopy in a field and it was concluded that the gull had hit the aircraft's canopy causing it to fracture. Strip examination of the engines revealed that both turbines had suffered severe in-flight over-heat damage, to the extent that neither engine could develop full power. Both engines were thought to have ingested fragments of the canopy which damaged the compressors and effectively led to a double engine failure. The accident was accordingly attributed to a catastrophic birdstrike; no action by the crew could have saved the aircraft.

SUBSEQUENT ACTIONS

Proposals to develop a strengthened canopy for the Jaguar T2 are being pursued, as are modifications to strengthen the front cockpit quarter lights. Revised instructions have been issued in the event of abandonment of the aircraft being necessary with a loss of intercom.

CLAIMS

Four claims totalling £5,800 have been settled for damages to crops, for oil pollution and for damage to power lines.

Issued by - Public Relations (Royal Air Force)
Ministry of Defence
Main Building
Whitehall
London
SW1A 2HB
01-218-3253/4

AIRCRAFT ACCIDENT INVOLVING ROYAL AIR FORCE
WHIRLWIND HAR 10 XP 347 - 2

CAUSE

3. It was clear from the loss of yaw control immediately before the crash that the aircraft had suffered a failure in the tail rotor transmission or control system. Examination of the wreckage revealed that a splined coupling, which forms part of the drive from the Main Rotor Gearbox to the Tail Rotor Gearbox, had failed through excessive wear. The interlocking splines of the coupling had worn almost to their roots and the two parts of the coupling were free to rotate within each other. The excessive wear was caused by lack of lubrication in the coupling combined with the presence of corundum, a hard substance normally used as an abrasive. It was found that a seal which is designed to retain grease within the coupling was missing thus allowing centrifugal effects to spin the lubricant away from the driving faces of the splines. The seal had been inadvertently omitted during an earlier servicing of the coupling. No reason could be found to account for the presence of the corundum.

SUBSEQUENT ACTIONS

4. While this accident revealed that some minor improvements could be made to the crash worthiness of the Whirlwind and to the procedures used during servicing of the aircraft, it was decided that the imminent retirement of the Whirlwind from Royal Air Force service would not make the pursuit of the improvements worthwhile.

Issued by - Public Relations (RAF)
Ministry of Defence
Main Building
Whitehall
London
SW1A 2HB
01-218 3253/4