Fokker F27 Mark 050, G-UKTH

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INCIDENT

Aircraft Type and Registration:	Fokker F27 Mark 050, G-UKTH
No & Type of Engines:	2 Pratt & Whitney PW-125B turboprop engines
Year of Manufacture:	1993
Date & Time (UTC):	17 May 1999 at 1427 hrs
Location:	London Stansted Airport
Type of Flight:	Public Transport
Persons on Board:	Crew - 4 - Passengers - 18
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Deflated outer left mainwheel tyre; local overheating and fire damage of outer left brake pack
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	38 years
Commander's Flying Experience:	8,400 hours (of which 240 were on type)
	Last 90 days - 104 hours
	Last 28 days - 62 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and telephone inquiries

Introduction

During preceding sectors, the left wheel brakes had exhibited a tendency to 'snatch' and this was reported by the incoming crew. After a visual examination and discussions with ground engineering staff, and in view of the fact that the aircraft had operated 4 sectors already in that condition, the commander of the outbound flight decided to accept the aircraft. The first officer and cabin crew were informed of the problem, the latter primarily to ensure that they were seated during taxiing.

The incident and the evacuation

The engine start was normal, except that the right engine start was delayed until after pushback because of a strong wind from directly behind the aircraft on the stand. Upon starting to taxi, with the first officer handling, the brakes were tested and appeared to function normally. They continued to function normally during the subsequent taxi for Runway 05. However, since there was a strong gusting tailwind, and to avoid the possibility of an engine tailpipe fire warning, additional power was used during taxiing with the brakes being used to maintain an acceptable speed. The aircraft was then stopped at holding point HA and the park brake was applied.

After a short time at the hold, the No 2 cabin crew member entered the flight deck and reported that there was a fire on the left hand wheels. The commander ordered an evacuation and instructed the first officer to carry out the ground evacuation drills. He also informed ATC that they had a brake fire and were evacuating the passengers. The aircraft electrical power was switched off, and the emergency lights switched on. No passenger address announcement was made, since it was apparent that the evacuation was already well under way. Having opened his cockpit window to look back at the left wheels and seen that the outer tyre had deflated, with a small fire burning around the outer brake unit, the commander decided that there was no need to activate the engine fire extinguishers. By that stage, all of the passengers appeared to have evacuated and so he instructed the first officer to leave the aircraft and help assemble the passengers. However, realising that he had received no acknowledgement from ATC, the commander then switched on the batteries again, but upon hearing ATC transmissions which made it evident that his transmission had been received, he made a further transmission informing ATC that the evacuation had been completed, before switching off the batteries again and leaving the aircraft. By this time, the fire was almost extinguished and he joined the passengers and the rest of the crew, who confirmed that all passengers had left the aircraft and that there were no injuries. The Airport Fire Service arrived shortly afterwards, but by that time the fire had extinguished. After liaising with the Fire Chief, the commander re-entered the aircraft to retrieve the landing gear pins, and then fitted them. After further liaison, the passengers were allowed back on board, under supervision, to recover their personal effects before being taken by bus to the terminal.

Examination of the brake unit

The cause of the brake fire was assessed by the operator's engineering staff as a faulty brake unit. Further investigation revealed that the brake unit concerned had been involved previously in an incident involving G-UKTH on 27 October 1998 when, following a crosswind landing, the left main outer tyre had deflated. Investigation of that incident had shown that the brake unit had absorbed considerable energy, sufficient to cause the fusible plugs to activate and deflate the tyre. Although it was evident that the heat had been caused by the brake 'dragging', no fault was identified in the brake unit.

Investigation of the brake unit following the current incident revealed that the pack was in a seized condition and that the piston seals had disintegrated, allowing brake fluid to leak onto the hot brake unit, initiating the fire. The left hand anti-skid valve was tested and found to operate satisfactorily, but the brake control valve was submitted for tests and strip examination by the manufacturer, and the associated strip report is awaited.

Operator action

The operator's Fleet Manager issued a notice on 2 July 1999 (NOTAC 09/99) referring F50 aircrews to the relevant parts of the F50 Operations Manual, and advising the use of reverse thrust when taxiing with a tailwind, to reduce the risk of overheating the brakes.

The operator has undertaken to report further findings, and any relevant information will be published as an addendum in a future AAIB Bulletin.