INCIDENT

Aircraft Type and Registration:	Fokker 100, D-AFKC
No & Type of Engines:	2 Rolls Royce Tay 650-15 turbofan engines
Year of Manufacture:	1996
Date & Time (UTC):	18 November 2010 at 1445 hrs
Location:	London Heathrow Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 4 Passengers - 35
Injuries:	Crew - None Passengers - None
Nature of Damage:	Small perforation of nosecone
Commander's Licence:	Not known
Commander's Age:	Not known
Commander's Flying Experience:	Not known
Information Source:	Ground handling company report

Synopsis

During pushback, the pushback tractor came into contact with the nosecone of the Fokker 100 (F100) aircraft, causing minor damage. The towbar used during the manoeuvre was not compatible with the aircraft type. The ground handling company investigated the incident and implemented measures to prevent recurrence, which included making three internal safety recommendations.

History of the flight

D-AFKC, a Fokker 100 (F100) aircraft, was due to embark on a commercial passenger flight from London Heathrow Terminal 1 to Stuttgart, Germany. The aircraft was on Stand 141 at Terminal 1. Due to the configuration of stands and the taxiway in the Kilo cul-de-sac, pushback from Stand 141 requires a pushback and then a pull forward onto a curved taxiway centre line to abeam Stand 233 prior to release.

Ground handling for the flight was contracted to a ground handling company. The pushback for the aircraft was allocated to a tractor driver and a headset operator. The driver reported that he selected for the manoeuvre what he believed was a F100 type towbar. He connected the towbar to the aircraft and the headset operator assisted connection of the opposite end of the towbar to the tractor. The tractor faced the aircraft so that driving the tractor forward reversed the aircraft. The tractor was operating in "4-wheel steer".

The driver manoeuvred the aircraft back into the taxiway, at a shallow angle and without incident, where

he halted the aircraft. He then towed the aircraft forward towards its release position, looking over his shoulder in the direction of travel during this manoeuvre. The ground handling company reported that this action is normal procedure.

The tow forward required a sharper angle of turn than the pushback and as the angle of turn increased, the separation between the right front corner of the tractor and the left side of the aircraft nose decreased. The headset operator reported that he noticed the closing proximity of the tractor and the aircraft and called to the driver to halt. The driver reported that he halted as quickly as he could. The tractor contacted the aircraft nosecone causing a 12 inch L-shaped indentation, which pierced the skin.

The aircraft was unloaded and passengers disembarked through the normal exits. The weather radar, which is housed in the nosecone, suffered a 1 cm dent to the radar disc. After electrical testing the radar was cleared. The nosecone was replaced and the aircraft flew the following day.

Ground handling company report

The Safety Training & Standards Manager of the ground handling company conducted an investigation into the incident. This safety investigation reported that contact between the tractor and the aircraft was caused by use of an Avro RJ-compatible towbar, which is 55 cm shorter than the F100 towbar. This accounted for the lack of clearance during the ground manoeuvre.

Figure 1

F100 towbar clearly marked
(photograph courtesy of ground handling company)

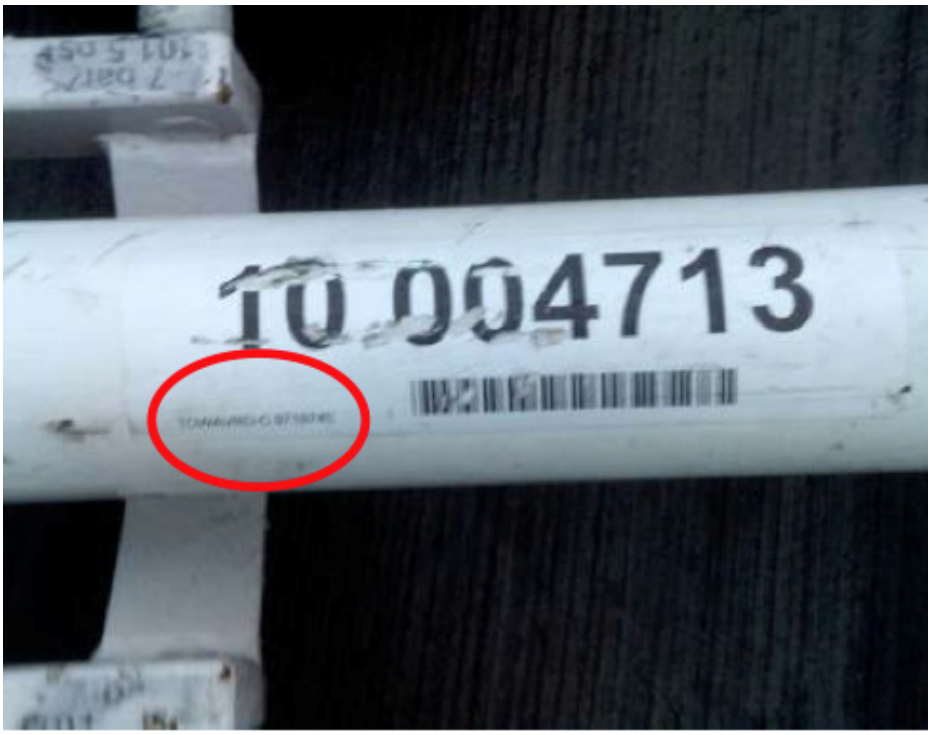

Figure 2

Avro RJ towbar markings circled
(photograph courtesy of ground handling company)

The safety investigation further reported that the F100 variant towbars were clearly marked (Figure 1) and that Avro RJ towbars:

> *'only had markings that were in very small letters on the side plate that formed part of the asset registration labelling'* (Figure 2).

The safety investigation reported that the size of the labelling on the Avro RJ towbar was a contributory factor in this incident and that the similarity in design of both towbars, together with the driver's recognition of the type of towbar he had previously used on Fokker 100 aircraft, was a further contributory factor.

Safety action

The ground handling company subsequently issued a Safety Alert to all staff. All unmarked towbars were taken out of service until they are clearly marked with the aircraft types with which they are compatible. This included all of the Avro RJ towbars.

The internal investigation report recommended that all future types of towbar are:

> *'clearly marked in bold letters showing the certified aircraft type.'*

For all in-service towbars it recommended monitoring and periodic checking for clear markings, and that the service check by the towbar maintenance provider be revised to include a check for clear markings.