COMMONWEALTH OF AUSTRALIA DEPARTMENT OF TRANSPORT

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

Publication of this report is authorised by the Secretary under the provisions of Air Navigation Regulations 283 (1)

Reference No. V116/813/1019

1. LOCATION OF OCCURRENCE

	Height a.m.s.l.	Date	Time (Local)	Zone
Hobart Airport, Tasmania	13 feet	11.6.81	0445 hours	EST

2. THE AIRCRAFT

Make and Model	Registration	Certificate of Airworthiness
Fokker F27-600	VH-TQR	Valid from 26.3.75

Certificate of Registration issued to	Operator	Degree of damage to aircraft
		Substantial
		Other property damaged: Tug and Power Unit

Defects discovered: Nil

3. THE FLIGHT

Last or intended departure point	Time of departure	Next point of intended landing	Purpose of flight	Class of operation
Hobart	-	Melbourne	Carriage of freight	Regular Public Transport

4. THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
	Captain	40	First Class Airline Transport	1190	8990	Nil
	First Officer	28	Second Class Airline Transport	299 229 A.W.	5887	Nil
	Radio Maintenance Engineer	40	-	-	-	Nil

5. OTHER PERSONS (All passengers and persons injured on ground)

Name	Status	Degree of injury	Name	Status	Degree of injury
	Ground Engineer	Serious			

6. RELEVANT EVENTS

The aircraft had been engaged on a flight from Melbourne to Launceston but, due to fog at the destination, diverted to Hobart. It arrived at 0242 hours and, as there were no ground engineers on duty at that time, the aircraft was parked on an available position in front of and facing towards the operator's freight hangar. The area was brightly illuminated with floodlights. Ground electrical power was available by means of cables and a mobile transformer/rectifier (T/R) unit. manoeuvred the T/R unit adjacent to the aircraft and connected its lead to the external receptacle.

commenced scheduled duty at about 0330 hours. Shortly afterwards, a DC9 aircraft, which had also overflown Launceston because of fog, arrived and parked behind VH-TQR. connected a Douglas Tugmaster to the DC9 so that it could later be repositioned. He also moved the T/R unit connected to VH-TQR and attached it to a smaller Clark 40 tug. The position of the T/R unit was then adjacent to the right side of the aircraft nose and the tug was further forward, facing towards the cargo hangar.

At about 0430 hours, the crew of VH-TQR returned to the aircraft. After completing normal procedures, both engines were started. The Captain then signalled to the ground engineer to disconnect the ground power. This was done and, in addition, the nosewheel chock was removed. boarded the tug, with the intent of towing the T/R unit away. The aircraft crew members then heard a loud noise and felt a heavy vibration. The Captain stopped both engines.

The tug and T/R unit had struck the right side of the aircraft fuselage and then travelled rearward, through the right propeller arc, until coming to rest against the right mainwheels. had been thrown off the tug at some stage and was found lying some three metres forward of the right propeller.

It was established that the operator had four different types of tugs at Hobart Airport. The Douglas Tugmaster, which was normally used by ground engineering personnel, had an automatic transmission. Forward travel was achieved by selecting the gear lever forward and rearward movement by selecting the gear lever backward. The Clark 40 tug, which was normally used by porters, also had an automatic transmission but the gear lever worked in the reverse sense to the Douglas Tugmaster. After the accident, the gear lever was found in the forward (reverse travel) position. The hand brake was found in the off position. No evidence of pre-existing mechanical fault was found with the tug, but the normal gear selector indicator marking was missing and there was no 'gate' or other safety device to assist in preventing inadvertent selection of reverse.

6. RELEVANT EVENTS (Cont'd)

It was also probable that had not been wearing the ear muffs provided by the operator for noise protection. The loud sound of the operating aircraft engines could have been a distracting factor.

Two persons who subsequently spoke to the ground engineer in hospital reported that he recalled inadvertently selecting reverse gear instead of forward and then, after realising the mistake, accidentally depressing the accelerator pedal instead of the brake.

died in hospital on 14.7.81.

7. **OPINION AS TO CAUSE**

The probable cause of the accident was that the ground engineer inadvertently made an incorrect transmission selection whilst attempting to move the tug and T/R unit away from the aircraft.

Approved for publication	(G.V. Hughes) Delegate of the Secretary	Date 16.11.81