

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

Reference No.

AS/713/1003

1. LOCATION OF OCCURRENCE

Essendon Airport, Victoria.	Height a.m.s.l. (ft) 260 feet	Date 2.3.71	Time (Local) 1644	Zone EST
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2. THE AIRCRAFT

Make and Model Piaggio P166	Registration VH-MMP	Certificate of Airworthiness	Valid from 20.3.64	Valid to 19.2.73
Registered Owner Motifair, c/- A.R. Millis, 436 Queen Street, Melbourne, Victoria.	Operator Motifair, c/- A.R. Millis, 436 Queen Street, Melbourne, Victoria.	Degree of damage to aircraft Substantial Other property damaged Nil.		

Defects discovered

The 'O' ring seal fitted to the port main undercarriage jack piston was badly chipped. A fragment from this seal had lodged in the orifice of the port gear jack brake valve, part number 7066.15, preventing the flow of hydraulic oil through the orifice.

3. THE FLIGHT

Last or intended departure point Adelaide	Time of departure 1226	Next point of intended landing Essendon	Purpose of flight Positioning	Class of operation Private
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4. THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
Bruce Albert BRETHERTON	Pilot	48	Commercial	277	2388	Nil

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

Name	Status	Degree of injury	Name	Status	Degree of injury
Samuel WARNE	Passenger	Nil			

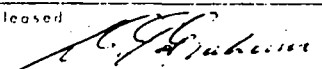
6. RELEVANT EVENTS

It had been pointed out to the pilot, by another pilot on a previous flight, that the undercarriage retraction cycle was slow and he resolved to have this checked on the approaching 100 hourly inspection. The purpose of this flight was to position the aircraft for this inspection. After a normal flight from Adelaide the pilot selected undercarriage "Down" on a practice ILS approach to Essendon and noticed that cockpit indications for the port undercarriage continued to show "Up". He advised the Tower of the problem and on a subsequent pass over the Tower, ground observers confirmed that the port wheel was still retracted. Since he had plenty of fuel on board, the pilot spent about an hour attempting to lower the undercarriage, using the normal and emergency lowering methods. All systems operated normally, except for the port gear, which remained retracted. Acting upon instructions from engineers on the ground, the passenger removed a panel from the hydraulic system and tapped the port gear jack with the rubber end of a crash axe, but to no avail. The pilot decided to make a wheels up landing on the grass parallel to runway 08, and outside the northern boundary of the flight strip. Although the aircraft landed smoothly the under side of the fuselage was considerably damaged.

Subsequent examination of the port undercarriage jack showed that the piston 'O' ring was badly chipped, but the reason for this could not be established. A fragment from the chipped 'O' ring had blocked the orifice of the jack brake valve, preventing operation of the jack to lower the port gear. The unit containing the defective 'O' ring was required to be overhauled at periods not in excess of 4 years, but examination of the aircraft servicing records showed that it had not been overhauled since 14.2.67.

7. OPINION AS TO CAUSE

The cause of the accident was a blockage in the hydraulic system which prevented the lowering of the port main gear.

Report released  (D.S. GRAHAM)	Designation Assistant Director-General (Air Safety Investigation)	Date 22.11.72
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DEFINITIONS

ACCIDENT - An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all those persons have disembarked and in which

- (a) any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached to the aircraft; or
- (b) the aircraft suffers substantial damage.

FATAL INJURY - Any injury which results in death within 30 days.

SERIOUS INJURY - Any injury other than a fatal injury which

- (a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
- (b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- (c) involves lacerations which cause severe haemorrhages, nerve, muscle or tendon damage; or
- (d) involves injury to any internal organ; or
- (e) involves second or third degree burns, or any burns affecting more than five percent of the body surface.

MINOR INJURY - Any injury other than as defined under "Fatal Injury" or "Serious Injury".

DESTROYED - Consumed by fire, demolished or damaged beyond repair.

SUBSTANTIAL DAMAGE - Damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft and which would normally require major repair or replacement of the affected component. The following types of damage are specifically excluded: engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, taxi-ing damage to propeller blades, damage to tyres, engine accessories, brakes, or wingtips.

MINOR DAMAGE - Damage other than as defined under "Destroyed" or "Substantial Damage".