

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

AS/735/1020

Publication of this report is authorised by the Director-General of Civil Aviation under the provisions of Air Navigation Regulation 283(1)

1. LOCATION OF OCCURRENCE

| | | | | |
|--|-----------------------------|-----------------|------------------------------|-------------|
| 7 miles west of Calwinyardah Station Homestead, Western Australia | Height a.m.s.l. 310 feet | Date 26.9.73 | Time (Local) 1015 approx. | Zone WST |
|--|-----------------------------|-----------------|------------------------------|-------------|

2. THE AIRCRAFT

| | | |
|--|--|---|
| Type and Model Bell 47G2 Helicopter | Registration VH-WHR | Certificate of Airworthiness Valid from 12.7.65 to 11.7.74 |
| Certificate of Registration issued to Ord River Crop Control Pty. Ltd., P.O. Box 410, Darwin, Northern Territory. | Operator Ord River Crop Control Pty. Ltd., P.O. Box 72, Darwin, Northern Territory. | Degree of damage to aircraft Destroyed |
| | | Other property damaged Nil |
| Defects discovered Tail rotor drive head sleeve binding in tail rotor drive gear box shaft. Main rotor blade grip bearings slightly corroded. Lower cable, synchronised elevator control, worn beyond serviceability limits. Stress corrosion crack present at pin hole of one blade grip upper plate. | | |

3. THE FLIGHT

| | | | | |
|---|---------------------------------|---|---------------------------------------|-----------------------------------|
| Last or intended departure point 10 miles west of Calwinyardah Station Homestead | Time of departure 1000 hours | Next point of intended landing Departure Point | Purpose of flight Cattle Mustering | Class of operation Aerial Work |
|---|---------------------------------|---|---------------------------------------|-----------------------------------|

4. THE CREW

| Name | Status | Age | Class of licence | Hours on type | Total hours | Degree of injury |
|------------------|--------|-----|-----------------------|---------------|--|------------------|
| Thomas Lee MEEDS | Pilot | 25 | Commercial Helicopter | 64 | 443 - (Fixed Wing) 597 - (Helicopter) | Fatal |

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

| Name | Status | Degree of injury | Name | Status | Degree of injury |
|------|--------|------------------|------|--------|------------------|
| | | | | | |

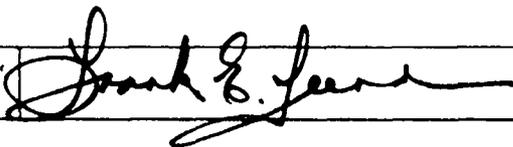
6. RELEVANT EVENTS

The pilot, an American national, had gained his helicopter flying experience mainly as a member of the United States military forces. Prior to obtaining employment with the Operator in June, 1973, he obtained Australian commercial helicopter and fixed wing pilot licences as well as an agricultural pilot rating for fixed wing aircraft. He subsequently undertook a short additional course of helicopter flying and was granted approval to conduct cattle mustering operations. Following a period of operation under supervision, the pilot commenced un-supervised operations in VH-WHR on 22 September, 1973 and, on the day of the accident, he was engaged in mustering cattle to a base camp on a property adjacent to Calwinyardah Station. During the morning he mustered cattle towards the camp, refuelling at the camp at about 0800 hours, and returned to the camp again just prior to 1000 hours. Flying conditions were fine, hot and turbulent. After some minutes he again took off and, a short time later, stockmen at the base camp observed a column of black smoke in the area, some three miles east of the camp, where the helicopter was known to be operating. Stockmen rode to the scene and found that the helicopter had crashed and a fierce fire had destroyed much of the wreckage and started a bushfire which burnt out a considerable area of scrub. There were no witnesses to the accident and the examination of the wreckage was severely restricted by the extent of the fire damage. Nevertheless, it was determined that the helicopter had struck the ground at a very high rate of descent while virtually level fore and aft and banked some 20 degrees to the left. There was evidence to indicate that, at impact, the engine was not operating and the rotational velocity of the main rotor was very low. Portion of the rear fuselage, together with the tail rotor assembly had been detached from the helicopter by a single strike of a main rotor blade and was lying ahead of the main wreckage at a distance of 140 feet. The defects detected during the examination of the wreckage are unlikely to have contributed directly to the accident but the condition of the tail rotor drive head sleeve in some circumstances could have led to some restriction of directional control.

7. OPINION AS TO CAUSE

There is insufficient evidence available to determine the cause of this accident.

Approved for publication



(Frank E. Yeend)

Delegate of the Director-General of Civil Aviation

Date

29.10.1974

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".