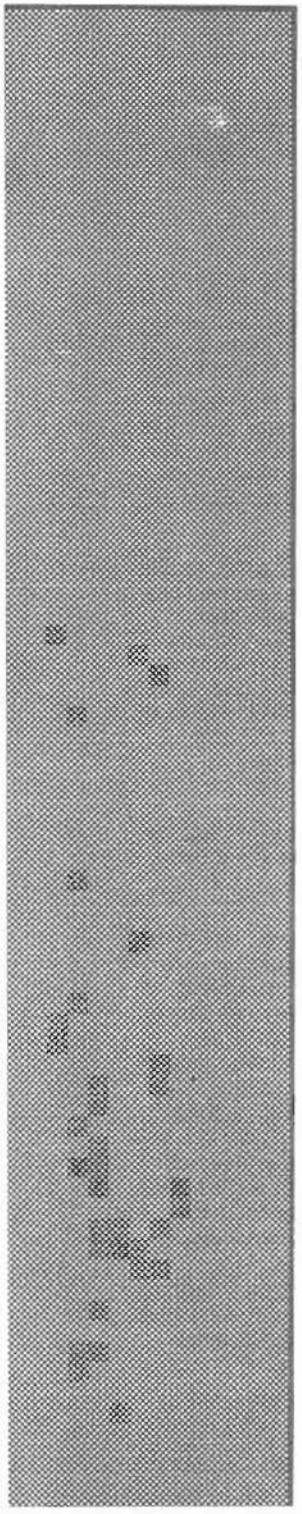
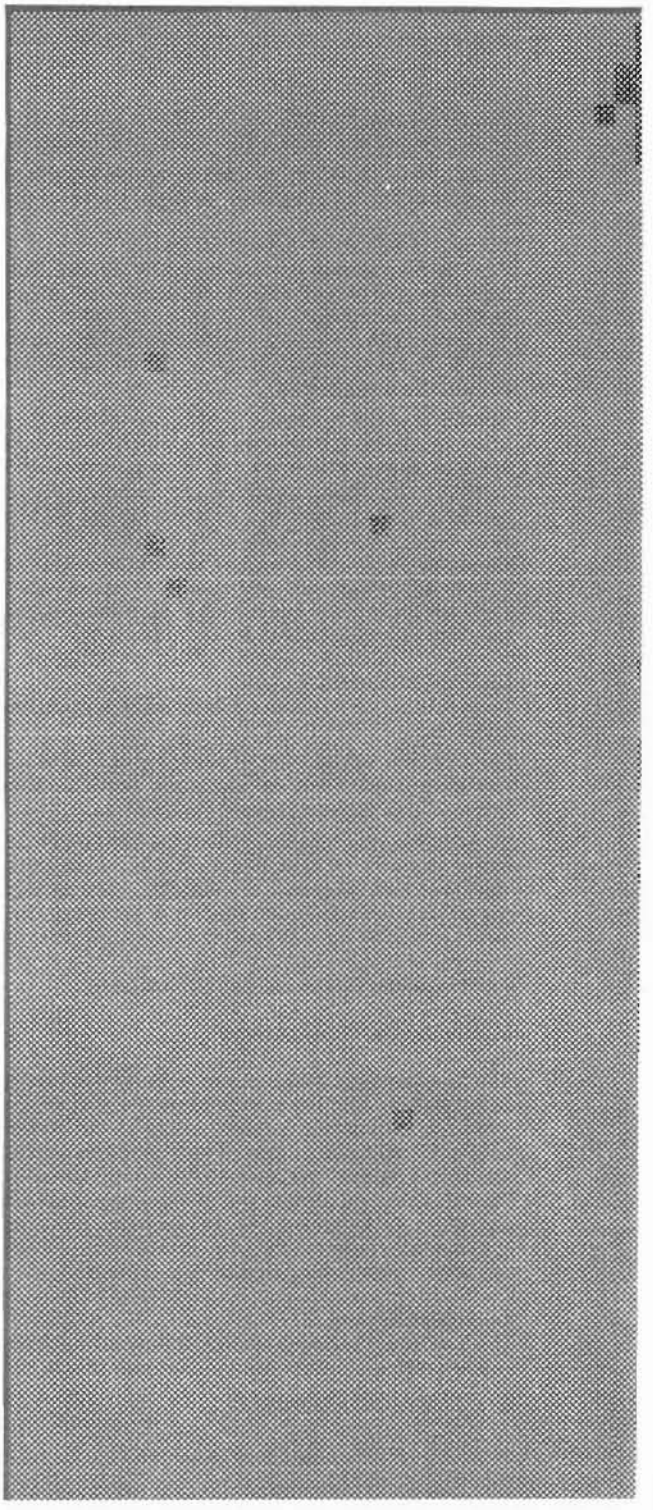
AUSTRALIA

THE BUREAU OF AIR SAFETY INVESTIGATION JOURNAL





NUMBER 1
WINTER 1988

Bureau of Air Safety Investigation
THE BASI JOURNAL
WINTER 1988 (No 1)

During 1988 the aviation service and regulatory divisions of the Department of Transport & Communications (DTC) will be amalgamated to become the Civil Aviation Authority (CAA).

The Bureau of Air Safety Investigation **(BASI) is not part of the CAA**, but is an independent organization reporting directly to the Minister, relying on the DTC for administrative support only.

THE BASI JOURNAL

Because of this independence, the accident summary currently included in the Aviation Safety Digest centre pages will no longer appear in that magazine, but will be produced separately in the form of BASI Journals. It is also planned to include information on significant incidents in this publication together with more detailed analyses of investigations which reveal significant safety issues.

A section of the report will contain de-identified feedback information from the Confidential Aviation Incident Reporting (CAIR) programme described below. This part of the report will be called CAIREP.

The BASI Journal will be distributed within the Aviation Safety Digest envelope as a cost saving measure.

The issue of this first Journal presents a good opportunity to explain the BASI charter, organisation and products.

THE CHARTER OF THE BUREAU

BASI is responsible for investigating aircraft accidents and incidents involving civil aircraft operating in Australian airspace. On occasions it also participates in the investigation of occurrences involving Australian aircraft operating overseas and will provide assistance to overseas investigatory bodies when requested.

The information gathered during the course of a BASI investigation is intended to be used only for safety enhancement purposes. The facts and circumstances are analysed to establish the causal factors and to provide the basis of recommendations to improve aviation safety. **BASI does not seek to apportion blame or liability and rightfully has no authority to take action against any type of licence.** (Licencing powers are vested with the CAA who may take such action as they see fit, after they have conducted their separate investigation of an occurrence.)

ORGANIZATION OF BASI

The Director of the Bureau is directly responsible to the Minister.

Field Offices of the Bureau are located in Brisbane, Sydney, Canberra, Melbourne, Adelaide and Perth with the Central Office of the Bureau located in Canberra.

Investigations are normally carried out by the nearest Field Office but may be allocated to another depending on workload and transport availability. Very serious occurrences, for instance involving large transport aircraft, may be investigated by a special team from Central Office.

BASI has the following functional areas:

Investigation Management

The Investigation Management area consists of specialist investigators who have wide experience in all fields of aviation. As well as being pilots, many of the investigators hold qualifications in other fields allied to aviation. Investigators are located in Central Office and the Field Offices to enable quick response to air safety occurrences. They are on call 24 hours a day, 365 days a year. Their primary goal is to establish the reasons for an accident or incident with the aim of preventing similar occurrences.

Technical Services

The Technical Services section is located in Central Office and is staffed by engineers and technical officers. These officers provide expert assistance to the investigators in areas such as the technical assessment of aircraft components and wreckage, readouts of flight data, cockpit voice, automatic voice and radar recorders. The section is equipped with audio, engineering and micrometry laboratories, and has access to the Bureau's extensive computing facilities.

Human Performance and Investigation Research

Human performance is a causal factor in 76% of aircraft accidents. Most human factors in aircraft accidents and incidents are behavioural, that is, psychological, rather than medical. Typically, they involve pilot decision-making, reaction time, visual perception, stress, cockpit design, and so on.

This section, which is staffed by aviation psychologists, also provides the Bureau with an important research capability. With the assistance of powerful computer statistical software, BASI's extensive accident and incident data base is analysed to identify underlying factors and trends, with the aim of making recommendations to enhance aviation safety. The Human Performance section may also plan and conduct applied research experiments, for example in a flight simulator, as part of the investigation of individual accidents.

Computer and Data Services

The Computing Services section operates the Bureau computing and data recording facilities. Information gathered during investigations is recorded in a computer which details 119500 records on Australian accidents and incidents since 1969 (56000 records from the USA, New Zealand, West Germany and Papua New Guinea are also held).

The section also provide specialist computing facilities for the technical services section, including the radar recording and flight data recording areas, and maintains an Australia wide computing network for the Bureau. A sophisticated computer graphics unit is also operated and maintained by this section.

Confidential Aviation Incident Reporting (CAIR) system

A Confidential Aviation Incident Reporting programme has commenced operation in Australia. Enclosed with this Journal is a copy of a pamphlet which describes the programme. CAIR is operated by select Bureau staff and to ensure confidentiality, access to the CAIR office and information is prohibited to all other persons. CAIREP will feed back de-identified information received under this programme and will be a regular feature of the Journal.

Administration

The Administration section is responsible for providing the "housekeeping" functions needed by the Bureau and for providing logistical support at investigations.

THE FACTS ABOUT OUR HANDLING OF INFORMATION

Although BASI investigators do not conduct interviews or record evidence for the purpose of any legal proceeding, we must nevertheless comply with Australian laws. We cannot resist a summons or subpoena and if a BASI file is subpoenaed by a court of law, that file must be made available to the court.

In cases where our files have been subpoenaed, we have requested that BASI documents not be made public and that access be restricted to the court and the legal representatives of the appropriate parties. Courts have acknowledged our international agreements and concerns for the free exchange of information and this request has been met in all cases.

We are concerned only with aviation safety. It is our job to identify problem areas within the aviation environment and bring those areas to the attention of the CAA and the industry. We do not investigate for any other purpose.

MATERIAL AVAILABLE TO YOU FROM THE BUREAU

Most of the information gathered by BASI during its investigations is available to the public in various formats. For each accident and highly significant incident, an "Aircraft Accident Report" (AAR) or "Aircraft Incident Report" (AIR) is produced and distributed to those parties involved in the occurrence. These reports summarise the events and factors which have been identified during the course of the investigation and are available to the public on request.

In the case of significant investigations, considered to be of special importance, a fully detailed "Aircraft Accident Investigation Report" is produced in the form of a booklet, available from the Australian Government Publishing Service (AGPS).

"Air Safety Research Reports" are produced on selected subjects after specific air safety problem areas have been identified and researched.

Each year the Bureau produces the "Annual Survey of Accidents to Australian Civil Aircraft" which is available through AGPS. This publication contains statistical information and an extract from the AAR produced for each accident.

An index of all of the above reports will be included in each Journal.

Access to most of the information contained in the Bureau's computer database can be obtained by telephoning any Bureau office or writing to PO Box 967 Civic Square ACT 2608. Every effort will be made to accommodate your requests.

BASI information can be requested under the Freedom of Information Act (FOI) however this information is selectively released, taking into account the International Civil Aviation Organization's (ICAO) exemptions and the established exemptions under the FOI Act. For example, statements from pilots, aircrew, air traffic services personnel, medical information and information contained on flight recorders may not be made available.

FEEDBACK FROM THE INDUSTRY

You are encouraged to offer your comments on the content and format of the Journal, which will provide you with a comprehensive list of information available on request. Rather than BASI arbitrarily publishing information we think you might require we hope this new approach will better suit your needs for safety information.

WHERE TO CONTACT THE BUREAU

		Phone	Fax
ADELAIDE	GPO BOX 1112 ADELAIDE SA 5001	08-2180583	08-2313662
BRISBANE	PO BOX 24 BRISBANE, ADELAIDE ST QLD 4000	07-8336307	07-8336379
CANBERRA	PO BOX 967 CIVIC SQ ACT 2608	062-684081	062-473117
MELBOURNE	PO BOX 1 LATROBE STREET POST OFFICE MELBOURNE VIC 3000	03-6672365	03-6672629
PERTH	PO BOX 63 GUILDFORD WA 6055	09-3781333	09-3771566
SYDNEY	PO BOX K237 HAYMARKET NSW 2000	02-2187684	02-2187687

Confidential Aviation Incident Reporting

CAIR

Future issues of the BASI Journal will contain a feature called "CAIREP"; the report on the operation of CAIR. "CAIREP" will include selected, de-identified reports to provide information to the industry from industry members. Although a report form and pamphlet outlining CAIR is enclosed, this first BASI Journal presents an opportunity to expand on some of the aims and operation of the CAIR programme.

A gap in incident information has been identified. Analysis of accident data reveals human factors present in 76% of them, but analysis of incidents, reported by flight crew alone, reveals only 12% involving human factors. The reluctance to report to a non-confidential system is understandable; embarrassement and fear of retribution being the main reasons. The reporting of all occurrences in which the margin of safety is reduced is essential to provide the information necessary to reduce safety hazards.

The introduction of CAIR is an attempt to elicit reports from flight crew to complete the safety picture in Australian aviation. In this programme the Director guarantees that the reporter's identity and any other identifying information will not be revealed to anyone, nor recorded. Only a very small number of select personnel will have access to identifying material, and then for only three days after receipt of the report.

This programme is not concerned with individuals, but with identifying the extent of particular problems in systems and procedures. Your name, address and phone number are require to allow clarification of the report details, when necessary. Within three working days after receipt of a report, the information will be de-identified, the identification portion returned to the reporter and the remainder of the report will be destroyed.

CAIR REPORT forms will be posted to you on a regular basis but will also be available from briefing offices, training and other organisations who agree to stock them on our behalf. (Enquiries for supplies can call reverse charges to Canberra 685581.)

This programme is being established to improve aviation safety. The Bureau recognises that a single breach of confidentiality will destroy this potentially great safety tool and is determined to make the programme a success. Your participation in CAIR will allow others to benefit from your experience.

ACCIDENTS TO CIVIL AIRCRAFT IN AUSTRALIA

FOR THE PERIOD 1-01-1987 TO 31-12-1987

AS AT 16-May-88

STAT. GROUP	REGION													
	QLD		NSW		V-TAS		SA-NT		W.AUS		O/SEAS		TOTAL ACC.	FATAL ACC.
	tot	ftl	tot	ftl	tot	ftl	tot	ftl	tot	ftl	tot	ftl		
AIRLINE	.	.		.	1	.	.	.	.	.	1	.	2	.
SAL	.	.	.	.	.		1	.	.	.	.	.	1	.
COMMUTER	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CHARTER	13	1	10	1	1	.	6	.	3	.	.	.	33	2
AGRICULTURE	9	.	7	.	8	1	2	.	.	.	.	.	26	1
TRAINING	5		9	.	8	.	2	.	1	.	.	.	25	.
OTH. AER. WK	12	3	5		2	.	9	.	3	1	.	.	31	4
PRIVATE/BUS.	32	3	39	5	16	2	15		14	.	.		116	10
GLIDING	4	.	9	2	7	.	8	.	1	.	.	.	29	2
TOTAL	75	7	79	8	43	3	43	.	22	1	1	.	263	19
Prev.3 yrs	61		72		42		35		27		1		239	19
*Average rounded to nearest whole number														
ROTARY	17	3	5	.	.	.	7	.	6	1		.	35	4
Included in dissection above														

SPORT AVIATION UNREGISTERED AIRCRAFT

GYROPLANE	.	.	2	.	.	.	.	.	.	.	.	.	2	.
H. GLID/KITE	1	.	1		.		.	.	.	.	.		2	.
PARACHUTE	1	1	2	2	2	2	.	.	.	.	.	.	5	5
PLANE <180kg	5	2	10	1	7	2	2	1	.	.	.	.	24	6

ACCIDENTS TO CIVIL AIRCRAFT IN AUSTRALIA

FOR THE PERIOD 1-01-1988 TO 31-03-1988

AS AT 16-May-88

(Note: Preliminary information only, subject to revision)

STAT. GROUP	REGION													
	QLD		NSW		V-TAS		SA-NT		W.AUS		O/SEAS		TOTAL ACC.	FATAL ACC.
	tot	ftl	tot	ftl	tot	ftl	tot	ftl	tot	ftl	tot	ftl		
AIRLINE	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAL	2	.	.	.	.	.	1	.	.	.	.	.	3	.
COMMUTER	.	.	.	.	.	.	1	.	.	.	.	.	1	.
CHARTER	5	.	2	.	.	.	2	.	1	.	.	.	10	.
AGRICULTURE	6	1	2	.	.	.	.	.	.	.	.	.	8	1
TRAINING	2	.	2	.	.	.	.	.	1	.	.	.	5	.
OTH. AER. WK	1	.	1	.	1	.	.	.	.	.	.	.	3	.
PRIVATE/BUS.	7	.	6	1	5	1	4	1	3	.	.	.	25	3
GLIDING	2	.	3	1	1	.	4	.	.	.	.	.	10	1
TOTAL	25	1	16	2	7	1	12	1	5	.	.	.	65	5
Prev.3 yrs	14		22		17		8		6		0		68	3
*Average rounded to nearest whole number														
ROTARY	2.	3	.	1	.	1	.	1	.	.	.	8	.	
Included in dissection above														

SPORT AVIATION UNREGISTERED AIRCRAFT

GYROPLANE	.	.	.	.	.	.	.	.	.	.	.	.	.	.
H. GLID/KITE	.	.	1	.	1	.	.	.	.	.	.	.	2	.
PARACHUTE	.	.	1	1		.	.		.	.	.	.	1	1
PLANE < 180kg	%	.	.	.	3	2	.	.	1	.	.	.	6	2

Aircraft accident reports

First quarter 1988

The following information has been extracted from accident data files maintained by the Bureau. The intent of publishing these reports is to make available information on Australian aircraft accidents from which the reader can gain an awareness of the circumstances and conditions which led to the occurrence.

At the time of publication, many of the accidents are still under investigation and the information contained in those reports must be considered as preliminary in nature and possibly subject to amendment when the investigation is finalised.

Readers should note that the information is provided to promote aviation safety — in no way is it intended to imply blame or liability.

Preliminary reports

The following accidents are still under investigation

Fixed Wing

12 Jan, PIPER 24, VH-COM, Non commercial — pleasure, ST GEORGE QLD 10NE
The pilot reported that while the aircraft was in cruise at 7000 feet, the engine failed without warning. As he was unable to locate a more suitable landing area, a forced landing was carried out in a ploughed paddock.

An initial inspection of the engine revealed that an idler gear which drives the camshaft, fuel pump, left magneto and vacuum pump had failed.

20 Jan, PARTENAVIA P68 B, VH-PFN, Non commercial — business, NORGATE MINE QLD
The touchdown was reported as being smooth but during the landing roll, just after braking was commenced, the right mainwheel and strut came free of the aircraft. The strut bounced and struck the right horizontal stabiliser, severing a large section of it. The aircraft slewed to the right before running off the strip into trees.

Inspection of the aircraft found that the bolt holding the landing gear strut to the inboard gear mounting assembly had failed.

26 Jan, SNOW 600 S2D, VH-FCN, Aerial agriculture, DALBY QLD 18SE
The rudder failed above the top hinge point when the pilot pulled up at the end of a spray run. The rudder was bent over at 45 degrees but the pilot was able to maintain control and carry out a safe landing at Dalby.

02 Feb, AIR TRACTOR AT301, VH-FAA, Aerial agriculture, TOOWOOMBA QLD 57WSW
The pilot said he had commenced a procedure turn at the end of a spray run when the engine suddenly failed at 200 feet AGL. The aircraft landed in a crop and overturned. Preliminary examination revealed number 9 cylinder and connecting rod failure.

06 Feb, PIPER 24, VH-MDJ, Non commercial — pleasure, TARA QLD
Immediately after takeoff, the pilot noticed a lack of power. The aircraft failed to climb and what little inertia was left was used to clear a row of 5 — 12 metre trees. This manoeuvre resulted in an aerodynamic stall from which a partial recovery was made before the aircraft struck the ground.

18 Feb, CESSNA TU206 A, VH-DGD, Aerial mapping/photography/survey, PROSERPINE QLD 30SSE
Before departure the pilot removed the fuel filler caps and checked that both tanks were full. He calculated the fuel endurance as 300 minutes. The flight proceeded normally with fuel selection being alternated between the left and right tanks. After a flight time of about 207 minutes, and with the left tank selected, the engine began to surge in a manner described by the pilot as typical of a tank running dry. He immediately selected the right tank and turned the fuel LOW BOOST switch on. The surging continued, so he reselected the left tank and then the right tank, with no apparent improvement in engine operation.

By this time the aircraft had descended to about 2500 feet above ground level, so the pilot ceased trouble-shooting and concentrated on landing the aircraft. He made a successful landing in a cleared area. Damage resulted when the aircraft nosed into a ditch late in the landing roll.

Preliminary investigation revealed that the left tank bladder had partially collapsed and the tank was empty. The right tank was about one third full.

25 Feb, CESSNA 177-RG, VH-TXG, Non commercial — pleasure, ARCHERFIELD QLD
The pilot was unable to lower the landing-gear by the normal or emergency methods after arrival at Maroochydore due to a hydraulic system failure. A diversion was made to Archerfield and the aircraft was landed with the gear in the intermediate position

08 Mar, ROCKWELL S2R, VH-SYQ, Aerial agriculture, EMERALD QLD
The pilot was engaged in spraying a cotton crop about 1.3 metres tall. He decided to make a clean-up spray run under a powerline which was suspended above the crop. Before reaching the position where the powerline crossed the treatment area, the aircraft contacted the crop and was pulled to the ground.

15 Mar, CESSNA 150 M, VH-WWN, Instructional — dual, INGHAM QLD 20NW
During the pre-take-off briefing the instructor advised the student that they would conduct an inspection of the Herbert River power line crossings during the flight. The student subsequently flew the aircraft, in accordance with the instructor's directions, at about 150 feet above the river. The instructor was aware of four power line crossings. After passing the first they were en-route to the second when the pilots heard a scraping sound and the aircraft slowed. The student countered a nose-up pitch change and applied full power. The aircraft then started to nose down and subsequently struck the surface of the water at a shallow angle. Investigation revealed that the aircraft had collided with a power line below the level of tree-tops on the bank. One of the supporting poles was obscured by these

trees, while the other pole was located approximately 350 metres across the river and in sugar cane plantations. The wires were estimated to be 100 feet above water level.

16 Mar, CESSNA U206-G, VH-HIS, Non commercial — business, SPOONBILL STATION QLD
As he approached the destination, the pilot noticed that rain had recently fallen on the strip. The pilot claimed that he overflew the strip but wanted to ascertain the amount of rain that had fallen before he attempted to land. He reported that an inspection run was conducted, however a strong tailwind component existed and the resulting groundspeed was too high to enable an adequate inspection to be made. A procedure turn onto a reciprocal heading was carried out, and the aircraft was placed in the approach configuration. This particular inspection run was intended to be flown at a height of about 200 feet above the ground. Additional engine power was introduced as required to compensate for downdrafts. During the inspection, the aircraft struck a power line about 20 feet above a road, and subsequently landed heavily on the sloping roadside.

17 Mar, CESSNA 310-R, VH-KEU, Charter — passenger operations, LONGREACH QLD
Take-off was conducted at night into an area devoid of external visual cues, with the aircraft becoming airborne at the normal speed. After lift-off the aircraft was held parallel to the runway until the two-engine best rate climb was acquired The aircraft was then rotated so that a nose up attitude and positive rate of climb were indicated, whereupon the landing gear was selected up and the landing lights were switched off The pilot then checked that the air speed indicator was indicating 120 knots, his desired climb speed, and was commencing to adjust the throttles when the aircraft struck the ground. The initial propeller strikes indicate that the aircraft had a ground speed of approximately 136 knots at that time.

19 Mar, PIPER 25 260, VH-PXO, Aerial agriculture, GATTON QLD 18SSW
The pilot was carrying out a procedure turn after a spray run when he encountered unexpected sink. He applied full power and dumped the load but was unable to prevent the aircraft striking trees. The crop being treated was located in a valley running north-south near a mountain range. Conditions in a valley were calm but there were strong prevailing southeasterly winds above 2000 feet.

24 Mar, PIPER PA31-350, VH-OCG, Supplementary Airline, BRISBANE QLD
The pilot was taxying the aircraft towards the designated parking bay. Nearing the area, he mistook the vehicular traffic boundary line (red single line) for a taxiway guidance line. The aircraft collided with the steel weld-mesh boundary fence and the left wingtip was severed by a steel post. Light conditions were poor between rain showers and, with the tarmac wet, the pilot could not make out the colour of the line he was following. It was his first flight into the newly commissioned airport.

26 Mar, CESSNA 337 C, VH-EGX, Charter — passenger operations, BOIGU IS QLD
The aircraft was observed to commence the take-off roll from a wet strip, with the elevator fully up. The nosewheel cleared the ground early in the roll and the aircraft adopted a pronounced nose-high attitude. It remained in this attitude, before becoming airborne about two thirds of the way along the strip. After reaching a height of about 20 feet, the aircraft gradually descended and touched down in a mangrove swamp. The pilot indicated that he did not detect any abnormality with the aircraft or its engines during the take-off, and he was unable to arrest the descent into the ground.

01 Mar, BEECH 200, VH-IBC, Supplementary Airline, BRISBANE QLD
During a routine inspection by maintenance personnel on 1st March 1988, numerous creases were found in both wing upper surfaces and leading edges. In addition, spar cap rivets were found to be damaged by shear load. The damage is consistent with excessive positive G loading in flight. The circumstances leading to the permanent deformation of the wings are unknown.

03 Jan, BELLANCA 8 GCBC, VH-ADP, Non commercial — pleasure, FINLEY NSW 14NNE
The aircraft had launched a glider from Tocumwal and was proceeding to Jerilderie Aerodrome to pick up another glider that had outlanded there. Enroute the tow cable was dropped at a strip and the aircraft landed to retrieve the cable which was placed in the back of the aircraft. The aircraft then departed the strip and was flown at low level towards Jerilderie It subsequently struck two powerlines and dived into the ground, impacting 27 metres beyond the powerlines. The aircraft overturned before coming to rest 34 metres beyond the initial point of ground impact. The passenger was assisted from the wreckage by a passing motorist, however, before the pilot could be evacuated the wreckage burst into flames and further assistance was rendered impossible.

04 Jan, CESSNA 210 L, VH-BBI, Non commercial — pleasure, POINT PLOMER NSW
The aircraft was cruising at 1500 feet above sea level, when the pilot noted smoke entering the cabin through the lower air vent, accompanied by a strong burning smell. Almost immediately afterwards, the engine suffered a complete loss of power. The pilot carried out a successful wheels-up forced landing on a beach. Initial inspection revealed that a fire which had been burning in the nosewheel well area had apparently been extinguished by salt water and wet sand during the landing slide.

25 Feb, CESSNA 172-RG, VH-NDM, Training, BANKSTOWN NSW
The flight was the first session of the private pilot's constant speed unit and retractable undercarriage endorsement training. The aircraft was taking off on Runway 11 Centre for the training area.

The pilots reported that at a height of about 50 feet, the engine failed completely, surged briefly, then failed completely again The instructor took over control and landed the aircraft. The aircraft overran the runway, passed over the top of a 4 to 5 metre deep drainage ditch, and impacted heavily on the top of the far bank, approximately 150 metres from the end of the bitumen runway.

To date, the cause of the engine failure has not been determined.

16 Jan, PITTS S2-A, VH-AVM & VH-WIZ, Air show, PORTSEA VIC
Both aircraft were part of a three-aircraft formation aerobatic display team. On this occasion the team were carrying out their display as part of a regatta being held in the Portsea area. The display was carried out normally up until the last manoeuvre, in which the aircraft, from a Vee formation, carried out a loop with roll to the upright before rejoining in a line astern formation and departing for their destination The second aircraft, VH-WIZ, pulled to commence the loop but was observed to continue with a vertical climb after entry before rolling upright and descending steeply. During the decent, VH-WIZ collided with VH-AVM, which was in the process of completing its manoeuvre, before contacting a yacht and diving into the water. The pilot of VH-AVM regained control of his aircraft but being unable to maintain it in level flight ditched near to a vessel. He escaped from the wreckage as it sank and was picked up by a nearby boat. The pilot of VH-WIZ did not escape from his aircraft.

23 Jan, CESSNA 172 M, VH-WYJ, Non commercial — pleasure, WEST SISTER IS TAS
On arrival over the strip on West Sister Island, the pilot carried out a low level inspection of the strip to determine the surface conditions and ascertain the wind velocity, the windsock was missing. With no real indication of the wind velocity, he assumed it to be the same as it had been at the nearby departure point, south-westerly at 20 knots. Being concerned about the possibility of windshear during the approach, he elected to fly an approach speed of 75 knots. The aircraft touched down about 150 metres into the 510 metre strip and the pilot found that braking was ineffective on the long, wet grass. He attempted to turn the aircraft to the right to avoid overrunning the strip. However, the aircraft slid sideways along the strip until it came to rest in low scrub off the end of the strip. The noseleg fork broke when it encountered a small ditch at the end of the slide.

13 Mar, PIPER 28 R180, VH-SVP, Non commercial — pleasure, MILDURA VIC
The wind was from about 240/8 for departure from runway 27 on a local flight. At the completion of this flight the pilot rejoined the circuit on downwind for runway 27 in similar wind conditions.

Final approach was made at 80 knots with the gear extended and full flap was lowered. On crossing the threshold at a height of about 50 feet the pilot closed the throttle and touched down on the main wheels.

A few seconds later as the nose wheel contacted the runway the right main gear leg collapsed. The pilot attempted to keep the aircraft straight but was unable to do so and the aircraft swung right off the right side of the runway.

30 Mar, TRANSAVIA PL12, VH-MYH, Ferry, WHITEMORE TAS
At the conclusion of agricultural operations, the inboard fuel tanks were refilled in preparation for the return flight to the home base. Departure was delayed for about one hour, and during this time the aircraft was parked on a substantial slope. Although the fuel selector had been correctly positioned, fuel transfer took place towards the lower wing tanks. This transfer was not detected by the pilot.

Because of an unserviceable alternator and low battery power the engine had to be started by the use of jumper leads. Approaching the destination the engine failed due to fuel starvation. The pilot changed tanks and activated the high prime fuel switch, but probably because of the battery condition this did not allow the engine to restart. The aircraft touched down just short of the strip and ran through a fence and a hedge.

The pilot discovered after landing that the right inboard tank, which had been selected during refuelling and for the ferry flight, was empty. However, the left inboard tank was full and there was also a significant amount of fuel in the left outboard tank which had been empty at the time of refuelling.

08 Feb, CESSNA 402 B, VH-UBI, Scheduled passenger service, KINGSCOTE SA
On final approach the aircraft sank onto the ground heavily touching the right mainwheel first. This touchdown occured in the undershoot area some 96 metres short of the gravel strip and about 166 metres short of the marked threshold. The aircraft bounced and touched down again on the runway some 220 metres from the initial ground contact point. The pilot recalled that at this point he heard the landing gear warning horn and noticed that the right main gear safe indication light had gone out. The pilot reported that the right wing then dropped slowly until it contacted the ground and the aircraft slewed to the right through 180 degrees.

29 Jan, CONAERO LA4 200, VH-BDK, Non commercial — pleasure, MYPOLONGA SA
The pilot was water-taxiing the aircraft at about 35 knots along the intended take-off path to check for powerlines.

At the end of this inspection run, the pilot reported that he initiated a turn to the left to position for take-off. The left pontoon float dug into the water and was torn off. He immediately turned the aircraft towards the river bank but collided with submerged willow trees as he neared the bank.

13 Mar, CESSNA P210 N, VH-SWM, Non commercial — pleasure, OUTER HARBOUR SA
Prior to departure, the pilot reported that he had some difficulty in obtaining enough fuel for the planned flight. However, he said after draining several fuel drums, he was able to fill one aircraft fuel tank and nearly fill the other.

About 135 minutes after departure, while cruising at 9500 feet, the pilot detected a change in engine note and some rough running. He altered the mixture control setting without effect but a slight reduction in power reportedly restored the engine to smooth running. The pilot then started a descent to 1000 feet above mean sea level.

Some 40 minutes after the first indication of rough running, it recurred and the engine lost power. The pilot changed tanks and selected the auxiliary fuel pump to LOW. The engine regained some power but the pilot reported that the fuel pump switch "jumped out" and the engine lost all power.

The pilot then selected the fuel pump to HIGH and held it in this position but the engine did not respond and he prepared to ditch the aircraft. The ditching was carried out with the flaps UP and the aircraft in a tail-down attitude at close to the stall speed.

Neither front seat occupant had the sash of their seat belt harness fastened and they struck their heads on the instrument panel. However, they both remained conscious and the pilot was able to unlock and force open his door to escape. The occupant of the right front seat opened the emergency exit on the right side of the aircraft. Two passengers egressed through the pilot's door and the other two passengers egressed through the emergency exit. The aircraft was reported to have sunk after about 30 seconds.

All five people on board stayed together in the water for about 30 minutes until one of the passengers decided to swim to shore. The other four survivors were rescued some three hours later but the fifth person is still missing.

No life jackets were carried on the aircraft.

The aircraft was located two days later at a depth of 10 metres. It was recovered successfully the next day.

20 Mar, AEROCOMMANDER 500 S, VH-ACZ, Supplementary Airline, CLIFTON HILLS SA
The Clifton Hills airstrip had been inspected the previous week and the threshold displaced. A notam was issued which the pilot received before departing on the flight. 850 metres remained effective which the pilot assessed as adequate. On arrival the pilot forgot about the displaced threshold and made an approach for the normal threshold. When he sighted the displacement he had to apply power to land beyond the markers. The aircraft carried further than he expected and as a result overran the runway. During the overrun it crossed a road and was substantially damaged when it hit the windrow on the other side of the road

The pilot reported that the mound of dirt paralleling the road was only about 15 centimetres high. He said the strip had been 100 metres longer before the road was built across it.

The pilot then extricated the aircraft using engine power and completed his flight schedule to Port Augusta. The aircraft was inspected at that base and then flown to Parafield where it was assessed that the aircraft was substantially damaged.

The Adelaide Field Office was first notified of the occurrence at 1000 on 22 March 1988.

20 Mar, CESSNA U206-G, VH-WYN, Non commercial — pleasure, ALICE SPRINGS NT
The pilot had only recently regained currency and was inexperienced on type. On return from Yulara, he made an approach into a gusty crosswind. During the landing flare, the aircraft ballooned and subsequently touched down heavily on the right mainwheel.

A later inspection revealed damage to the right main landing gear assembly.

The accident was previously notified as an incident and no on-site investigation was conducted.

14 Feb, THORP T18, VH-CJO, Non commercial — pleasure, SERPENTINE WA
Shortly after takeoff, the engine began to run roughly, lose power and produce black smoke. The pilot decided to abort the takeoff and attempted to land the aircraft in the remaining runway length. The aircraft touched down at the end of the sealed strip and entered the overrun area, where it ran through a section of soft sand. The nose wheel sank into the sand and the aircraft overturned.

02 Mar, CESSNA 182-R, VH-XYZ, Non commercial — aerial application, WATHEROO WA 7S
The pilot reported that whilst on climb through 2000 feet the aircraft encountered sudden and severe turbulence which caused it to roll very rapidly to the left in excess of 75 degrees angle of bank. Full right control column rotation and full right rudder pedal deflection were rapidly applied in an effort to regain control and the aircraft regained level flight.

Later in the flight the pilot noticed that the aircraft handling characteristics appeared to have changed. A subsequent inspection revealed distortions of the right wing, right elevator and empennage consistent with the application of abnormal flight loads.

Rotary Wing

11 Feb, BELL 206 L1, VH-FTV, Charter — passenger operations, PORT DOUGLAS QLD 6N
The pilot reported that he was returning to Port Douglas due to unsuitable weather. He said that he had descended to 200 feet and slowed to about 10 knots when he felt a bump. He stated that the aircraft then rotated uncontrollably to the right and landed in the sea.

15 Jan, KAWASAKI BK117-A4, VH-PHF, Police activities, SYDNEY NSW
The helicopter crew was responding to an emergency call. The aircraft was being operated at 1500 feet above sea level with maximum continuous power applied. As descent was commenced there was a loud bang, followed by severe vibration. The helicopter was briefly out of control and the vibrations were such that the pilot was unable to read the instruments. Power and speed were reduced and the pilot was able to regain control. Because of expected difficulties with control near the ground, the pilot elected to carry out a landing in water, some 80 metres from a beach. Initial investigation revealed that the left engine cowling had detached in flight, and had entered the main rotor disc. Portions of the cowling and the main rotor blades were located about 2 kilometres from the accident site.

05 Mar, BELL 47-G2, VH-JCN, Non commercial — pleasure, MOORABBIN VIC
As the pilot lifted the helicopter into the hover he felt an unusual vibration and was unable to prevent an immediate turn to the left. Shortly afterwards the nose of the helicopter pitched up and down sharply and the tail rotor guard struck the ground two or three times. The guard broke, and portions of the tail rotor blades were torn off. The helicopter then landed heavily, damaging a landing skid.

19 Mar, BELL 47 G3B1, VH-SJI, Charter — passenger operations, KATHERINE GORGE NT
The pilot intended to transport two passengers and their equipment along the Katherine Gorge. The helipad used for take-off was on the side of the gorge, some 40 feet above the river level. The pilot initiated a running take-off on the skids and later recalled that the helicopter began to sink as it left the river bank. He applied full throttle to correct this loss of height, but without effect. As the helicopter approached the opposite bank at tree-top level, the pilot raised the collective lever in an attempt to clear the trees. The aircraft did not respond and as it continued to sink, the pilot recalled seeing the engine and rotor rpm decay towards the lower limit of the operating range. The helicopter descended into the trees and came to rest on its left side about 400 metres from the take-off point. Initial investigation revealed that the condition of the waste-gate and turbo charger were such that the engine could not develop rated power output and that the helicopter was some 114 kilograms over the maximum permissible all-up weight.

28 Mar, BELL 214-ST, VH-LAO, Charter — passenger operations, TROUGHTON ISLAND WA 120NW
Whilst the aircraft was cruising at 4000 feet above mean sea level the pilot heard a bang and the aircraft began to vibrate violently. The pilot placed the aircraft in an autorotational descent and the co-pilot prepared the passengers for the expected ditching.

As the main rotor system was unloaded after autorotation was entered, the rotor R.P.M increased and the vibration reduced. The pilot attempted to re-introduce collective control but the vibration increased.

The pilot carried out a landing onto the water, however, as the flotation bags began to inflate the main rotor system struck a large wave and the aircraft rolled to the right and overturned.

All of the occupants were able to escape from the helicopter without difficulty. They were found one hour after the ditching and were rescued shortly after being found. The helicopter sank about 40 minutes after the ditching when the rough sea state caused the flotation bags to separate from the aircraft.

Gliders

21 Feb, GLASFLUGEL LIBELLE, VH-GCS, Non commercial — pleasure, TOWOOMBA QLD 25SW
The pilot was undertaking a cross country training flight. For reasons not yet established, he was forced to land in a field well short of his destination. The landing gear hit a rock during the landing roll and was extensively damaged.

13 Mar, EIRI AVION PIK 20, VH-WVA, Non commercial — pleasure, BOONAH QLD
The wing man released the wing tip of the glider early during an aero-tow launch. The left wing dropped to the ground and the pilot was unable to lift it with the controls due to low airspeed. The glider pilot released the tow when the glider started to diverge significantly. He was unable to stop the glider before it collided with the side boundary fence.

14 Jan, SCHEMP NIMBUS 3, VH-IUE, Non commercial — pleasure, NARRANDERA NSW 15NE
The pilot was undertaking a 1000 kilometre cross-country exercise in a modified Nimbus 3 glider. The glider failed to reach the planned destination and an aerial search the following day located the wreckage of the aircraft in a paddock. It was determined that the outboard sections of the wings had failed in flight and the glider had subsequently impacted the ground at extremely high speed. Initial investigation suggests that the wing failures may have been the result of aerodynamic flutter, however the reasons for the apparent onset of this phenomenon have not yet been established.

Ultralights

06 Mar, AVIASUD SIROCCO, NOT REG, WHITTLESEA VIC
The pilot had flown the aircraft on approximately four occasions previously. The strip is aligned approximately North / South and there was a southerly wind blowing. The pilot took off into the South and flew one right hand circuit and landing. He then proceeded to fly a second right circuit at an altitude of about 300 feet above the ground.

When the aircraft was on final approach it appeared to be a little high. It then commenced a turn to the right which appeared normal at first. However, the angle of bank increased suddenly to at least 90 degrees and the aircraft dived to the ground.

Impact marks on the ground indicated that the aircraft hit the ground in a right wing low partly inverted attitude. It slid 16 metres before coming to a stop. Other pilots gave evidence that there was turbulence and wind shear in the area where the pilot lost control and the more experienced pilots had been making allowances for it. The wind at the time was from the South at an average strength of about 10 knots but with occasional higher gusts. There were numerous trees in the area that would have caused some mechanical turbulence.

28 Mar, TYRO U/LIGHT, NOT REG, RENMARK SA 28ENE
During the take-off run the reduction drive started to slip, resulting in a major loss of power being transmitted to the propeller. The pilot judged that he could not stop the aircraft in the remaining strip length. He reduced the throttle setting in an effort to obtain a lesser degree of drive slippage, while allowing sufficient power to be developed to enable the aircraft to clear a fence at the end of the strip. The aircraft became airborne, but shortly after passing over the fence the airspeed decayed and the aircraft landed heavily in a ploughed paddock. The left wheel was torn off and the aircraft came to rest inverted, 5 metres from the initial impact point.

27 Mar, NOT REG, BYFORD WA
The pilot took off with the intention of completing a circuit of the private airfield. Once airborne, he perceived that the wind was more gusty than he thought it was from the shelter of the airfield so he decided to land immediately in a clear field below.

At about 15 to 20 feet above the ground the nose of the aircraft suddenly dropped and the aircraft impacted the ground heavily. Before ground impact, the aircraft did not respond to elevator inputs or to throttle application so the pilot switched off the ignition. Although seriously injured, the pilot was able to extricate himself from the wreckage and walk to a safe resting place

Final reports

The investigation of the following accidents has been completed

Fixed Wing

14 Jan, PIPER 25 235, VH-KLN, Aerial agriculture, CLERMONT QLD 32E, Commercial, 00925 hrs
The pilot had been engaged to spray a stubble field for Noogoora burr. After flying to the property to be sprayed and loading the required chemical the aircraft took off, about 30 minutes after sunrise, to commence the first spray run. The pilot had chosen to fly the spray runs into the east, although on the only other occasion he had sprayed the field the runs had been made into the west. About 110 metres after commencing the spray run the aircraft collided with a branch of a dead tree and struck the ground. A small fire started and witnesses reported that the aircraft appeared to explode.

The tree was the only obstruction in the field and it is probable that it would have been difficult for the pilot to see because of the rising sun.

13 Jan, BELLANCA 8-GCBC, VH-KKZ, Non commercial — aerial application, THARGOMINDAH QLD 72SE, Private, 00673 hrs
The pilot was stock-spotting with both side windows of the aircraft open. He noticed smoke trailing from the aircraft, and saw that some towelling material and a chamois were smouldering under the rear seat. He closed the windows to reduce the flow of air to these articles and proceeded to select a suitable landing area. In the meantime, smoke in the cabin forced him to open a side window again, resulting in the smouldering material bursting into flame. He attempted to douse the flames with water from his water bottle with little success

During the landing on a flat-topped hill, he had to keep his head out the window for visibility. The aircraft bounced several times and overturned. The pilot was knocked unconscious for a period of about five minutes. When he regained consciousness he released his harness and extinguished the remnants of the fire with the aircraft's extinguisher. He believes the loose extinguisher struck him on the head during the overturn sequence

This accident was not the subject of an on-site investigation.

30 Jan, PITTS S1 E, VH-SIS, Non commercial — pleasure, GATTON QLD 3E, Private, 00480 hrs
The pilot had not flown the aircraft for more than two months. The destination was a private strip where he had arranged to undertake aerobatics practice. The owner of the strip, who was on-site for the pilot's arrival, advised him by radio to land into the north-east as the surface wind was down the strip at 10 — 15 knots.

The pilot flew one circuit with a touch-and-go landing and assessed the strip condition as satisfactory. On the second approach the strip owner observed the aircraft not to be on the ground until about two thirds to three quarters of the strip length. The pilot reported that, because of the reduced forward view in the three point attitude, he was unsure of how far he was from the end when he touched down. However, shortly after touchdown he noticed that the aircraft was running through a waterlogged area and he then saw an electric fence ahead, marking the end of the strip. He applied full power in an attempt to go around but the aircraft swung left, striking a fencepost with the lower left wing tip. The aircraft travelled a further 81 metres before coming to rest near the top of a one metre high embankment.

Although the total strip length was some 600 metres, rising ground, trees, a power line at the approach end, and a wet area at the other end, reduced the effective length such that that it was not suitable for the operation of the aircraft.

23 Feb, PIPER 32 300, VH-BDG, Charter — passenger operations, HUGHENDEN QLD 95SE, Commercial, 02100 hrs
The pilot had not been to Ashton before, but had been given comprehensive information regarding the strip location. During the flight he experienced communications problems due to poor HF radio conditions. Shortly before his estimated arrival time, the pilot saw a strip in the kind of surroundings he expected for Ashton. He made an inspection of the strip and was satisfied that it was suitable. He was still having communications difficulties, and this diverted his attention to some extent.

During the landing roll the left main wheel struck a log concealed in grass which was longer than the pilot had expected. He later learned that the strip, which was some 10 kilometres from his intended destination, was not in current use.

This accident was not the subject of an on scene investigation.

07 Mar, CESSNA 188B-A1, VH-FJT, Aerial agriculture, BOWENVILLE QLD, Commercial, 01750 hrs
The task of spraying a cotton crop was nearing completion. The time for a scheduled radio call was approaching, and on checking his watch the pilot found a need to alter its setting. He also checked the amount of spray liquid remaining in the hopper. As a result of these distractions, he momentarily relaxed his vigilance in regard to a powerline obstruction located at the end of the spray run. As he approached the powerline he took action to gain altitude, but the main landing gear struck the wires causing the aircraft to land heavily in an adjacent paddock.

17 Mar, BEECH 58, VH-SDL, Charter — cargo operations, BRISBANE QLD, Commercial, 01370 hrs
The aircraft was on a regular freight run which the pilot had flown numerous times. An area of turbulence was encountered which led the pilot to reduce to turbulence penetration speed. When the throttles were closed, the landing gear warning horn sounded. After a short time, the pilot felt that the horn was affecting his concentration so he pulled the warning horn circuit breaker.

As the pilot was conducting the pre-landing checks, but before he selected the landing gear down, the Control Tower requested him to reduce to minimum approach speed because of departing traffic ahead. The aircraft subsequently landed with the wheels in the fully retracted position.

No fault was found with the landing gear system. The landing gear warning horn circuit breaker was in the OUT position when the aircraft was inspected. There is some evidence that the pilot was fatigued.

28 Jan, BEECH 95 B55, VH-ILU, Charter — cargo operations, COONAMBLE NSW, Senior commercial, 03500 hrs
The aircraft was engaged on a multi-sector flight for the purpose of transporting bank documents. After the pilot completed normal pre-landing checks the aircraft made an apparently normal touchdown on runway 05. During the subsequent landing roll the undercarriage commenced to retract, resulting in the left main and nose gear legs collapsing. The aircraft skidded for a short distance before coming to rest 10 metres beyond the runway edge. No evidence was found of a pre-existing fault in the undercarriage system.

It was considered probable the gear was inadvertently selected up whilst the pilot was attempting to raise the flaps during the landing ground roll.

07 Feb, TRANSAVIA PL12, VH-EVY, Aerial agriculture, TUMUT NSW 28E, Commercial, 21300 hrs
During the first take-off for top dressing operations, the aircraft commenced to swing to the left. The pilot applied opposite rudder and braking but was unable to control the swing. The side loads imposed on the right hand gear caused it to fail at its attachment to the stub wing, and fold up.

The left hand oleo strut piston had separated from its cylinder, which then failed at its attachment, and fell from the aircraft. The gear then started to fold back, bringing the piston into contact with the tyre, which gave a braking affect and caused the aircraft to swing.

A Transavia Service Bulletin and an Airworthiness Directive require a mandatory inspection to be carried out on all oleo struts of this type after each 100 hours time in service, in order to prevent a failure of this nature from occurring. The aircraft log books could not be located, and it could not be established whether the required inspections had been carried out.

17 Feb, CESSNA A188 A1, VH-KVI, Aerial agriculture, BATHURST NSW 9NNW, Commercial, 10000 hrs
The aircraft had made a number of flights spreading superphosphate in hilly country, partially covered by trees. After being loaded with a similar amount of material as previously carried, the aircraft took off and began a gradual climbing turn, downwind, towards the area to be treated. The pilot said the aircraft entered an area of sink and began to lose height. He increased power but failed to notice a large tree ahead of the aircraft until he had almost reached it. The pilot had insufficient distance to manoeuvre around the tree and elected to clear it by climbing. The aircraft struck the uppermost branches of the tree, at a low forward speed, before descending steeply and impacting heavily in a paddock. The aircraft skidded a short distance and caught fire. The pilot, who had been wearing a full safety harness, was able to escape through a side window.

23 Feb, CESSNA 172, VH-CXJ, Non commercial — pleasure, WALLACIA NSW, Private, 00400 hrs
The aircraft was making a landing approach with full flap extended. The pilot said the aircraft floated for some distance, after the landing flare, before touching down about midway along the 614 metre strip. Brakes were applied but the braking action was reduced due to a mechanical impairment known to the pilot. When he realised the aircraft would overrun the strip end, the pilot said he purposely turned the aircraft to the right to prevent it from infringing a main road located a short distance ahead. The aircraft passed through a low wire fence and rolled down a steep slope before finally stopping, partially submerged, in a small dam.

03 Mar, PIPER 32 300, VH-POW, Non commercial — pleasure, BALRANALD NSW 11N, Private, 00140 hrs
The pilot was landing on a property strip in gusty crosswind conditions. Directional control was lost during the landing roll and the pilot was unable to prevent the aircraft from running off the side of the strip. As he attempted to taxi the aircraft back onto the strip the nosewheel entered an area of soft sand and subsequently collapsed.

The particular strip in use was only 20 metres wide, and consequently did not meet the requirements for an Authorised Landing Area. The strength of the crosswind component could not be determined

This accident was not subject to an on scene investigation.

10 Feb, PIPER 25 235, VH-MLR, Non commercial — aerial application, SPRENT TAS, Senior commercial, 03500 hrs
The pilot had completed spraying operations for the day. He decided to proceed via a friend's property at Sprent to pick up some mail. There is an agricultural strip located on the property but it is some distance from the house. Instead of using that strip he decided to land in a paddock close to the house to save himself a walk. He had used this paddock previously and considered it suitable.

The distance from fence to fence in the landing direction that the pilot chose was approximately 250 metres. The first 200 metres had a steep upslope and the last 50 metres was approximately level. Late in the final approach the pilot realised that the speed was high and that he had misjudged the approach. He forced the aircraft onto the ground some 95 metres beyond the approach end fence. The aircraft bounced and touched down again 40 metres further on. From this point heavy braking marks were evident.

When the aircraft came to the top of the steep slope the pilot realised that he was not going to be able to stop before the fence at the end of the paddock. There was insufficient room to groundloop and the pilot decided against attempting a go-around as there was a power line beyond the end of the paddock.

The aircraft ran through the fence at the end of the paddock, across a driveway and came to rest straddling a fence on the other side of the driveway. When the pilot vacated the aircraft he noted that there was a 10 knot tailwind. The pilot believed that he had a crosswind for landing but there was no windsock at the paddock. It was established that he had been spraying very small paddocks in hilly country, requiring a high degree of concentration. With the day's spraying operations over he had relaxed and did not give his full attention to flying an accurate approach and landing.

19 Jan, AMERICAN AIR 5 B, VH-IFL, Instructional — dual, JANDAKOT WA, Commercial, 10100 hrs
The pilot-under-check was conducting his first circuit in the aircraft as part of a conversion onto the type. On final approach he realised that he had not selected carburettor heat, and moved to apply this control. However, he inadvertently pulled out the mixture control and all engine power was lost. Both pilots tried to return the mixture control to the full rich position, but found that the control could not be moved.

The approach was being conducted in strong wind conditions and the instructor assessed that the airfield was beyond safe gliding range. He took control and turned the aircraft towards a cleared area. However, the aircraft overshot this area and collided with trees before coming to rest in a ditch.

Examination of the mixture control revealed that the cable had broken due to metal fatigue. However, the cause of this fatigue was not positively determined.

09 Feb, CESSNA 182-R, VH-MAB, Non commercial — pleasure, BEVERLEY WA, Private, 00139 hrs
The pilot carried out a normal full flap approach into a steady 15 knot headwind. Immediately before touch down the aircraft was struck by a strong wind gust from the left. The aircraft yawed sharply to the left and the nose lifted. The pilot applied full power and attempted to lower the nose but the aircraft touched down heavily on its main wheels and tail tie down ring. The aircraft did not bounce and the pilot elected to complete the landing.

It was likely that the aircraft had been affected by a willy-willy at a critical stage of the approach. The pilot's recovery actions were unable to prevent the resulting heavy landing.

This accident was not subject to an on scene investigation.

03 Feb, AEROSPATIALE AS350-B, VH-HRD, Instructional — dual, ARCHERFIELD QLD, Commercial — helicopter, 04000 hrs
The pilot under training had recently completed a Private Pilot Licence course on Robinson R22 helicopters. This was the first flight of his conversion to the AS350-B type.

After about ten minutes hovering practice the pilot carried out a successful landing. He was instructed to come to the hover again and perform another landing. The instructor stated that on touchdown the pilot made a sudden movement of the cyclic control, causing the tail rotor to strike the ground and breaking both blades. The helicopter swung to the left through 180 degrees and one landing skid was broken.

The helicopter type has light and sensitive controls. The pilot had probably applied excessive cyclic inputs as the helicopter touched down. The instructor was unable to take control in time to prevent the tail rotor strike.

08 Jan, ROBINSON R22, VH-CIU, Instructional — dual, HOXTON PARK NSW, Commercial, 01113 hrs
The student was receiving instruction in autorotative techniques. The crew completed several autorotative descents terminating in power recoveries. The instructor then demonstrated an autorotation during initial climb at 50 knots, simulating an engine failure after take off. The helicopter was levelled and throttle and collective applied, but the instructor was unable to arrest the rate of descent and the helicopter landed heavily. Following a bounce, the left skid dug into the ground and the helicopter cartwheeled before coming to rest upright, facing in the reciprocal direction to the landing.

The instructor commenced the practice autorotation after take off at too low a height/speed configuration. Despite the use of power, he was unable to reduce the excessive sink rate prior to ground impact.

12 Feb, HUGHES 269-C, VH-HJD, Non commercial — practice, CANBERRA ACT, Commercial — helicopter, 00210 hrs
The flight was to be a period of solo practice exercises following the completion of a Commercial Licence flight test a number of weeks earlier. The pilot conducted a number of circuits and landings, and on this circuit was carrying out a power termination autorotation landing from 800 feet above the ground. As he commenced levelling the helicopter from the flare, he felt a bump at the tail. He landed the helicopter and shut the engine down.

An inspection revealed that the tail rotor had contacted the ground, severing the tail rotor blades. The resultant vibration and imbalance caused the tail boom to fracture and the horizontal stabiliser to became detached. No pre-existing defect was found with the helicopter which could have contributed to the occurrence. It was evident that the pilot had misjudged his height above the ground during the landing flare.

Gliders

30 Jan, ROLLADEN LS4A, VH-GXP, Non commercial — pleasure, FORBES NSW 2NE, Glider, 00850 hrs
During the initial climb of an aerotow launch, the glider experienced strong sink. The pilot released from the tow, but the sink persisted. The pilot attempted to return to the aerodrome, and continued with this attempt beyond the point where a safe outlanding could be made. A straight-in approach was made to a paddock, where shortly after touchdown the aircraft collided with a ditch and a fence.

This accident was not subject to an on scene investigation.

19 Feb, SCHLEICHER ASK13, VH-GPY, Instructional — check, TUMBARUMBA NSW, Glider, 04900 hrs
The pilot was undergoing a check flight with an instructor. The strip in use was positioned at the top of a ridge, with landings being made into a 20 knot wind. The approach to the strip passed over powerlines, which were some 200 metres prior to the normal touchdown point.

[illegible] brakes fully extended. However, the pilot allowed the airspeed to decay and, despite repeated instructions from the instructor to increase the airspeed, he failed to respond. The aircraft sank below the required approach path. The instructor attempted to correct the undershoot by closing the dive brakes, but was too late to prevent the aircraft entering a downdraft created by the wind curling over the ridge. The aircraft struck the powerlines with the left wing and canopy, which shattered on impact. The pilot received an electric shock and burns to the head. The aircraft then fell to the ground and came to rest adjacent to the powerlines.

This accident was not subject to an on scene investigation.

06 Feb, SCHLEICHER ASW20B, VH-HDY, Non commercial — pleasure, HORSHAM VIC 14SE, Glider, 02121 hrs
Both pilots were at Horsham to compete in the annual "Horsham Week" gliding competitions. On the day of this accident no task had been set but both pilots had taken the opportunity to make pleasure/familiarisation flights of the area.

At the time of the accident the two aircraft were at approximately 5000 feet above sea level VH-HDY was flying towards Horsham on a constant heading of approximately 330 degrees. The aircraft was in a descent and the pilot estimated he was about 1000 feet below the cloud base. Cloud cover was reported as six eights of cumulus type cloud.

VH-KYO was flying in the opposite direction to VH-HDY, also on a constant heading at the same altitude. The pilot of VH-HDY reported that he had just completed a scan of his instruments when he looked up to see the other glider head on. He pushed the control column forward to try and avoid a collision but this was not successful. The pilot of VH-KYO reported that he had also looked up from concentration on another task, to sight the other aircraft head on at the very last moment. He had no time to take any avoiding action.

The right wing of VH-HDY hit the nose/cockpit area of VH-KYO, smashing the canopy, dislodging the instrument panel and damaging the nose. VH-HDY lost two metres of its right wing and became uncontrollable. The pilot abandoned the aircraft and parachuted to the ground. The pilot of VH-KYO received injuries to his right foot and face in the collision but was able to maintain control of the aircraft and fly it back to Horsham where he made a safe landing in a paddock beside the aerodrome.

At the time of the accident both aircraft were operating in an environment where the pilots were responsible for maintaining separation from other aircraft on the basis of see and be seen. In this accident both aircraft were approaching head on, both were gliders with thin wings and narrow fuselages, both were essentially white in colour when viewed from head on and both were against a background of whitish coloured cloud. Such circumstances would have made it very difficult for each pilot to sight the other's aircraft.

06 Feb, ROLLADEN LS 4A, VH-KYO, Non commercial — pleasure, HORSHAM VIC 14SE, Glider, 01080 hrs
Both pilots were at Horsham to compete in the annual "Horsham Week" gliding competitions. On the day of this accident no task had been set but both pilots had taken the opportunity to make pleasure/familiarisation flights of the area.

At the time of the accident the two aircraft were at approximately 5000 feet above sea level. VH-HDY was flying towards Horsham on a constant heading of approximately 330 degrees. The aircraft was in a descent and the pilot estimated he was about 1000 feet below the cloud base. Cloud cover was reported as six eights of cumulus type cloud.

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03 Jan, ROMANIAN IS29-B2, VH-GFL, Non commercial — pleasure, HALLETT SA 9S, Glider, 00051 hrs
After becoming low during a cross country flight, the pilot selected a paddock in which to carry out an outlanding. During the approach the pilot became aware of a powerline in the vicinity of the paddock and elected to land in an adjoining paddock. As the glider was flared for landing it struck a small mound concealed in the knee high stubble. The impact resulted in the aircraft being substantially damaged.

This accident was not the subject of an on-site investigation.

10 Jan, SCHEIBE BERGFALKE 4, VH-GZM, Non commercial — pleasure, CLARE SA 49WSW, Glider, 00079 hrs
The pilot had been ridge-flying not far from the glider field, along a range of hills oriented north/south. The coastline was located just west of the range of hills, and a north-westerly wind was providing good lift along the ridge. When a sea breeze developed, the wind changed to a south-easterly and the pilot was unable to maintain altitude or reach the glider field. During the subsequent outlanding the glider sustained damage when the pilot induced a ground loop to avoid striking a fence.

This accident was not the subject of an on-site investigation.

24 Jan, GLASFLUGEL LIBELLE, VH-GSQ, Non commercial — pleasure, KALANGADOO SA 5NE, Glider, 00714 hrs
The pilot was undertaking an out and return flight to Kalangadoo from his home field. On reaching his turning point, he was unable to locate sufficient lift to continue on the return leg.

An open field was selected for landing and the surface appeared to be covered with stubble. However, during the landing flare, the right wingtip struck metre-high thistles which covered the field. The glider swung rapidly to the right and the empenage was torn off during the ensuing ground loop.

The accident was not the subject of an on-site investigation.

20 Feb, BURKHART TWIN ASTIR, VH-FQI, Instructional — solo (supervised), GAWLER SA, Student, 00015 hrs
The pilot was conducting his first solo circuit and landing. Following the initial touchdown the aircraft ballooned twice, and the pilot was unable to maintain directional control after the final touchdown. The aircraft collided with another glider which was being prepared for launching.

Immediately prior to this particular flight, the pilot had successfully completed a check flight with an instructor. It was considered likely that the aircraft had been affected by a crosswind component during the latter stages of the landing, and the pilot had been unable to react in sufficient time to avoid a collision with the parked glider.

This accident was not subject to an on-scene investigation.

Ultralights

02 Jan, MAXAIR DRIFTER A503, NOT REG, BOONAH QLD, Airline transport, hrs N/K
After conducting general flying for about 45 minutes the occupants returned to conduct circuit practice. During take-off after the third stop-and-go landing, an engine power loss occurred. The pilot lowered the nose of the aircraft rapidly but was unable to prevent a collision with the ground and a barbed wire fence.

No positive cause for the engine failure was established, however the method of restraining the fuel lines to the aircraft structure was not in accordance with normal engineering practice, and could have restricted fuel flow to the engine.

The pilot involved in this accident adhered to a directive issued by the industrial organisation of which he is a member and did not provide any information to assist in the investigation.

07 Feb, AVENGER ULTRA LITE, NOT REG, CABOOLTURE 2SE, None, hrs N/K
The pilot stated that a characteristic of the strip in use was that there existed off the north-eastern end an area of downdraught caused by prevailing wind blowing over the adjacent terrain and trees. To counteract this downdraught it was necessary to climb to at least 150 feet above the ground level prior to overflying the end of the strip. On this occasion, the pilot believed sufficient altitude had been gained after takeoff, and turned to the left to take advantage of the upgoing air. However, the aircraft encountered a downdraught and the pilot reported that he allowed the airspeed to get too low and the aircraft entered a spin to the left. During the recovery attempt the aircraft entered a spin to the right and completed recovery was not achieved before ground impact.

13 Jan, SANVEENSTRA SV-8 (MODIFIED), NOT REG, TARRAWINGEE 6ESE, None, 00200 hrs
After taking off in calm, fine weather conditions, the pilot climbed the aircraft to a height of about 500 above the ground and commenced a series of manoeuvres incorporating steep angles of bank. During the nose-down segment of a wing-over, the aircraft was seen to be near vertical and to accelerate rapidly before pulling up into a steep turn at about 200 feet above the ground. The turn was tightened to at least 60 degrees of bank, and shortly afterwards the right wing failed The aircraft fell to the ground at high speed and collided with a fence post after sliding for 18 metres.

The aircraft had been substantially modified by the pilot, and was being operated at well in excess of the design weight. The wing spar had failed as a result of the overload forces applied to the structure during the sequence of manoeuvres.

Final updates

The investigation of the following accidents has been completed. The information is additional to or replaces that previously printed in the preliminary report

Fixed Wing

27 Aug 87, PIPER 28-235, VH-CEE, Private, CLERMONT QLD, 00550 hrs
The pilot and his passengers were on the final stages of a trip through central and northern Australia. After spending the night at Clermont they were observed to enter the aircraft, and following engine start an engine run-up was carried out. Witnesses reported that at times during the run-up the engine ran roughly. Following the run-up, the pilot taxiied the aircraft to the runway threshold and the takeoff

was commenced. During the takeoff run the engine sound was reported as being normal. The aircraft was then observed to become airborne and a short time later the sound of an impact was heard. The wreckage was located in timbered country, 475 metres beyond the upwind end of the departure runway.

The investigation revealed that the No 3 cylinder exhaust valve had stuck shortly after takeoff, resulting in a substantial loss of engine power. The valve appears to have become jammed in the closed position due to a build up of carbon in the valve guide which resulted in the pushrod bending. Following the power loss the pilot was faced with carrying out a forced landing on unsuitable terrain.

27 Aug 87, GRUMMAN G16 4, VH-PUV, Commercial, DUNWICH QLD, 10000 hrs
Just after takeoff, at about 40 feet above ground level, the engine began to misfire and run roughly, then failed completely. The pilot dumped the load and commenced a steep turn to the left in an attempt to land on a track behind the aircraft. During the turn he realised that the aircraft would not make the chosen area and the aircraft was stalled into the tops of the trees. After the impact it descended steeply to the ground. The pilot escaped with scratches and some bruising.

Subsequent inspection of the engine found that the left magneto had become detached from its mountings because of the loss of the retaining nuts. The mount bolts of both magnetos were fitted with spring washers rather than being lockwired. When the left magneto detached it pulled and broke the right magneto switch lead. It appears that the broken lead then contacted part of the engine and grounded the right magneto, depriving the engine of an ignition source.

14 Sep 87, CESSNA U206-G, VH-WEN, Commercial, NOOSA QLD, 09326 hrs
During the final approach, the pilot observed kangaroos near the edge of the strip. He continued the approach, expecting the animals to take fright at the approaching aircraft and clear the strip. However, just prior to touchdown, one of the animals bounded towards the aircraft. The pilot attempted to carry out a go-around but the animal struck the right elevator causing substantial damage to the empennage and rear fuselage. The go-around attempt was abandoned and the aircraft was landed.

No means was available to prevent animals from entering the flight strip.

This accident was not the subject of an on-site investigation.

01 Aug 87, BEECH 35 C33, VH-DHB, Private, LAWN HILL QLD, 02000 hrs
The pilot had hired the aircraft for an extended period. When it was returned for a periodic inspection, substantial damage was discovered in the area of the right landing gear and the right wing.

Investigation revealed that the damage had occurred when the right wheel had struck an anthill during a landing roll at Lawn Hill. The accident had not been reported, and a replacement landing gear leg had been fitted by the pilot and another person, neither of whom was a licensed engineers.

This accident was not subject to an on scene investigation.

24 Sep 87, MOONEY M20 B, VH-DUV, Private, THEODORE QLD 19W, 02197 hrs
Prior to the flight the pilot checked the strip details with the owner. These included advice that there was a powerline on the approach. On arrival the pilot located a powerline near the north-east end of the strip. He assumed that this was the one to which the owner had referred, and decided to land from the opposite direction. On final approach, he saw a single wire powerline ahead and attempted, unsuccessfully, to fly beneath it. The aircraft yawed violently to the left as it struck the wire, but the pilot was able to regain control and safely land the aircraft.

Post-flight inspection revealed that a section of the fin and the complete rudder assembly had been torn from the aircraft. The point of impact with the wire was 262 metres short of the strip threshold and occurred when the aircraft was at a height of about 30 feet above the ground. The span between the poles supporting the wire was 333 metres, and the poles were difficult to see against the background.

27 Sep 87, PIPER 34 200, VH-RYL, Senior commercial, ROMA QLD, 01960 hrs
After arriving overhead his destination the pilot selected the landing gear down, but received an indication that the nosegear had not locked down. When the emergency gear extension procedure failed to achieve a nosegear down and locked indication, the pilot diverted the aircraft to Roma. Following touchdown on the main wheels, the nose was lowered to the runway and the aircraft slid to a stop.

The aircraft had undergone some routine maintenance at Brisbane before the flight. During this maintenance the Nose Gear Centering Spring Assembly had been changed. Examination of this assembly after the accident showed that an attach bolt, had been incorrectly installed and had fouled the nose gear door torque tube, causing the nose gear to "hang up". The correct installation of the bolt is critical, and is the subject of special mention in several Piper Service Documents and Australian Airworthiness Advisory Circular No. 143.

29 Nov 87, CESSNA R172 K, VH-UDU, Private, GATTON QLD, 00166 hrs
After a short flight with three passengers, the owner offered one of the passengers who held a Private Pilot Licence a further flight as pilot in command, as she had not flown this particular aircraft model previously. The aircraft was seen to take off, complete a circuit, land very heavily, and bounce into the air to a height of about 20 feet. Witnesses heard the engine noise increase and saw the aircraft climb slowly with a high nose attitude and with full flap set, to a height of about 80 feet. The aircraft then entered a flat, unsteady, skidding turn to the left through about 180 degrees. After flying straight for a short period, still at very low speed, the left wing and nose dropped suddenly, and the aircraft impacted the ground.

Evidence was found of the nose landing gear lower attachment bracket having been misaligned prior to final impact. This could have resulted from the heavy landing and jammed the lower section of the strut preventing its normal movement and/or buckling the lower firewall and adjacent fuselage area. Such damage could cause a jammed rudder control. There is evidence of high foot loads being applied to the right hand rudder pedal(s) at impact. This is consistent with the aircraft having the rudder jammed to the left and could account for the abnormal skidding left turn performed by the aircraft after the heavy landing.

Ground impact occurred with the flaps at 10 degrees. It is probable that action was taken to raise the flaps after the turn in an attempt to increase aircraft performance, but the combination of low speed and incompatible control surface deflections caused the aircraft to stall.

06 Dec 87, MAULE M5 235C, VH-TZD, Private, GOONDIWINDI QLD, 00400 hrs
The pilot reported that during the flare in preparation for a landing on runway 03, the aircraft was hit by a gust of wind. The aircraft touched down on the right mainwheel, which was bent backward, and the right wingtip contacted the ground.

At the time the wind velocity was 330 degrees at 10 knots and the pilot had been unable to use the more into wind runway because it was unserviceable. He was also generally inexperienced on the aircraft type and in particular in operating the aircraft in crosswind conditions.

This accident was not the subject of an on-site investigation.

12 Dec 87, CESSNA 150 G, VH-KXC, Private, YENLOORA STN QLD, 00350 hrs
The pilot reported that prior to takeoff he dipped the fuel tanks and determined that there was sufficient fuel for the flight over his property. During the flight the engine lost all power and the pilot was committed to a landing in a treed area. After touchdown the left wing struck a tree and the

aircraft swung to the left causing the right wingtip to contact the ground

The pilot subsequently dipped the fuel tanks and found they contained only a small quantity of unuseable fuel.

This accident was not the subject of an on-site investigation.

14 Dec 87, GRUMMAN G44-A, VH-WET, Senior commercial, CAIRNS QLD 74NW, 05497 hrs

Two photographers chartered the aircraft to fly them to a white tropical beach. Enroute to Hope Island, the passengers asked the pilot to land near a beach at the mouth of the Daintree River. After making a water landing on the river, the pilot found that he could not get his passengers and their photographic equipment to the shore because the hull of the aircraft grounded on a sandbank, some 50 Metres from the beach. A decision was then made to takeoff from the water and land on the beach. During the landing, the pilot lost control of the aircraft when one of the mainwheels ran through shallow water. The aircraft nosed over and came to rest inverted.

20 Dec 87, CESSNA 210 B, VH-RDS, Private, TOOGOOLAWAH QLD, 00950 hrs

After the parachutists exited the aircraft the pilot closed the door and positioned for a landing on the 24 strip. The aircraft was established on final at an indicated airspeed of 65 knots and as the pilot was checking the airspeed indicator, the aircraft suddenly yawed to the left. The pilot immediately applied full right rudder, levelled the wings, and landed the aircraft on the left side of the strip.

Investigation revealed that the left wing of the aircraft had struck a sapling, about 4 metres above ground level, 78 metres short of the end of the strip.

07 Jun 87, BEDE 4, VH-ECW, Private, HOXTON PARK NSW, 00575 hrs

At a height of about 350 feet after a normal takeoff, the engine commenced to run roughly. The pilot considered that the problem may have been caused by part of a propeller blade becoming detached. Power was reduced and the pilot commenced to turn back towards the aerodrome. A substantial amount of height was lost during this turn, and the aircraft was seen to make a number of lateral oscillations. It then struck the ground in a tail low, wings level attitude at relatively low forward speed.

No pre-impact mechanical defect was found with the engine or propeller. However, initial examination of the wreckage revealed that the fuel selector valve was very close to the "Off" position. Tests conducted on a similar aircraft indicated that with the fuel selector positioned as found, sufficient fuel was available to allow engine operation at low to moderate power settings. It was considered likely that on this occasion the fuel flow required for take-off exceeded the amount available through the selector valve. This in turn led to an excessively lean mixture, and the engine lost power. The aircraft had stalled during the attempted turn back towards the aerodrome, and the pilot had insufficient height in which to effect a recovery.

02 Jul 87, AUSTER J1 B, VH-ASK, Private, WALCHA NSW 30NE, 00105 hrs

The pilot was undertaking his third flight for the day, during which he completed a number of circuits and landings. Following a touch and go landing, the aircraft had reached a height of about 300 feet when it was seen to commence a turn back towards the strip. During the turn the nose dropped and the aircraft subsequently struck the ground in a steep nose-down attitude. Investigation revealed that there was virtually no fuel remaining in the tanks, and the that engine was not under power at the time of the accident.

The pilot had refuelled the aircraft the day before the accident and he made a note of the fact that the main fuel tank was full and that the auxiliary tank was empty. He then flew the aircraft for 30 minutes. On the day of the accident the pilot flew a further three separate trips, including the accident flight, without refuelling. The total flight time for the four trips was estimated as 137 minutes and the calculated endurance, with the main tank full and the auxiliary empty, was 138 minutes.

The pilot had constructed a number of emergency landing areas on his property for use in the event of an engine failure. One of these areas lay directly ahead of the aircraft on the centreline of the airstrip, however, the pilot did not attempt to use it.

13 Jul 87, CESSNA 152, VH-FST, Student, BANKSTOWN NSW, 00045 hrs

At the completion of a flight in the training area, the pilot returned for a full stop landing on the duty runway. A preceding aircraft in the circuit advised the Tower that sun glare would soon be a problem for landing aircraft. Immediate steps were taken by the Controller to change the duty runway, and VH-FST was to be the last aircraft to use the runway in question. The pilot later advised that as she flared the aircraft for landing, all forward visibility was lost because of sun glare. The aircraft touched down heavily and bounced several times, causing the nosegear to collapse.

Although affected by the sun glare, the pilot had decided to continue with the landing, as she had not previously attempted a go around in conditions of limited forward visibility The Tower Controller had been unaware of the sun glare hazard until the problem had been identified by the pilot of a landing aircraft.

This accident was not subject to an on scene investigation.

13 Sep 87, PIPER 28 161, VH-MHE, Private restricted, SCHOFIELDS NSW, 00369 hrs

The pilot had been authorised to carry out circuit and landing practice. He had been operating for about 20 minutes when witnesses observed that immediately after lift-off from a touch and go landing, the aircraft assumed a higher than normal nose attitude. At an height of between 100 and 150 feet above the runway, the engine noise ceased and the aircraft pitched forward to a steep nose down attitude. This attitude was maintained until the aircraft impacted the ground, before coming to rest 50 metres to the right of the runway centreline.

A subsequent investigation determined that the pilot had probably suffered a heart attack at about the point of lift-off, resulting in incapacitation and loss of aircraft control.

18 Sep 87, PIPER 25 235, VH-SGD, Commercial, BROCKLESBY NSW 3NNW, 03000 hrs

The pilot was engaged in spraying a wheat crop. Two large trees, 18 metres apart, were situated in the centre of the paddock and the pilot intended to fly between the trees during one of the spray runs. He positioned the aircraft to fly under overhanging foliage and as close as possible to the tree on his right. As the aircraft passed the tree the right wing struck a dead branch. The pilot was able to maintain control of the aircraft and subsequently landed at the departure strip.

The pilot had failed to notice the dead branch protruding beneath the foliage of the tree.

This accident was not subject to an on scene investigation.

27 Sep 87, QUICKIE Q2, VH-BQQ, Private, PORT MACQUARIE NSW, 00600 hrs

The pilot was landing the aircraft in gusty wind conditions. As the aircraft was flared for landing, it touched down heavily nosewheel first, and bounced. Power was applied to assist in regaining control During the second touchdown the nose dropped, the nosegear collapsed and the aircraft overturned.

After the accident the pitch trim devise was found to be in a nose-down position. The pilot advised that he usually selects a nose-up position for landing.

This accident was not the subject of an on-site investigation.

31 Oct 87, PIPER 32-R301, VH-WIV, Private, GRIFFITH NSW, 00341 hrs

The pilot was making a landing approach in gusty wind conditions. The aircraft was observed to descend rapidly, and in a nose high attitude, from a height of about 80 feet above the runway. The subsequent contact with the runway was heavy, and the right maingear collapsed.

At the time of the approach, the aircraft centre of gravity was at or slightly aft of the rear limit, and the weight was close to the maximum allowable. The pilot had not attempted to arrest the rate of descent, and the aircraft had struck the ground with sufficient force to bend the axles of both maingears and to distort the wing surfaces.

This accident was not the subject of an on scene investigation.

09 Nov 87, BEECH 95 B55, VH-EHN, Senior commercial, BREWARRINA NSW, 03565 hrs

The pilot reported that as full power was applied on the take-off run, he heard a loud bang and the aircraft yawed to the right. He shut down the right engine and brought the aircraft to a stop. Initial inspection revealed that the right propeller assembly had failed at the hub. One blade had separated from the hub and struck the nose section of the aircraft.

It was determined that the hub had failed from fatigue which had originated at the root of the blade retention thread. It was estimated that the fatigue crack had propagated over about 900 engine start cycles, and had occurred at some time after a regular inspection to check for this type of cracking.

10 Nov 87, DE HAVILLAND C2, VH-IMJ, Commercial, GLEN INNES NSW, 10000 hrs

The aircraft was spreading Mexican Sulphur, a mixture of sulphur and a carrier base. Operations were being conducted from a one-way strip in a 2 to 3 knot tailwind, and an appropriate reduction in payload had been made by the pilot commensurate with the conditions. It was reported that operations had proceeded slowly as the spreading medium would not flow freely, tending to clog in the clam-shell gate. This required the pilot to work the gate continuously to achieve an even discharge. A witness reported that during the sixth takeoff of the day, a strong wind gust substantially increased the tailwind. The aircraft did not become airborne, and the pilot pulled the hopper handle in an attempt to reduce the weight of the aircraft in order to clear a boundary fence. The load failed to dump normally. The pilot then selected additional flap and the aircraft became airborne in a tail-low attitude. Although the mainwheels cleared the fence, the tailwheel struck a fence post. The aircraft remained airborne, but the pilot found it necessary to hold the control column in the fully-forward position. After some altitude was gained, the pilot made a further and successful attempt to dump the load. Although difficulty was experienced in controlling the aircraft, a safe landing was made at another aerodrome nearby.

The aircraft sustained substantial damage to the rear fuselage and empennage. Empennage damage included buckling of the tailplane and rudder trailing edge. It was also found that spreading medium had clogged the hopper gate, preventing emergency dumping of the payload, and the hopper gate mirror was incorrectly aligned so that the pilot was unable to observe load release.

This accident was not the subject of an on-site investigation.

22 Nov 87, PIPER 28 181, VH-SXB, Private, PIPER FIELD NSW, 00909 hrs

The pilot had hired the aircraft to fly to Piper's Field with three friends for the day. He was familiar with the strip which is used for glider operations. On arrival in the circuit area, the pilot contacted the local gliding club by radio and was advised that gliders were landing and taking off in a southerly direction. The strip, 686 metres in length, has a one percent average down slope to the south. The wind velocity was reported as 200 degrees at 10 knots.

The pilot reported that the aircraft encountered sink on final approach and that he applied power to counteract the sink. The aircraft touched down well into the strip and bounced. The second touchdown was about halfway along the strip and the pilot was unable to stop the aircraft before it overran the strip. The aircraft was damaged when it ran through a ditch which was concealed by long grass.

03 Dec 87, BEECH 65 B80, VH-MWO, Senior commercial, COORANBONG NSW, 06500 hrs

The aircraft had been chartered to transport the passengers to Cooranbong for the day. The pilot had not previously operated into the strip and prior to departure he enquired of another operator as to the suitability of the strip for his operation. He determined that the strip was suitable. On arrival in the circuit area the pilot assessed that the wind direction was swinging between 170 and 210 degrees and the velocity was gusting between 10 and 20 knots. The pilot elected to land the aircraft on runway 17.

The pilot reported that when the aircraft was on short final it was affected by windshear. The aircraft touched down heavily, short of the runway sealed surface, continued along the ground for 7 metres before the mainwheels struck a low earth bank. Both propellers struck the ground momentarily as the aircraft continued onto the runway.

The strip is located in hilly, tree covered terrain and at times is adversely affected by windshear. Two local pilots reported that at about the time of the accident adverse wind conditions did exist.

16 Dec 87, PIPER 25 235, VH-ALA, Commercial, GRIFFITH NSW 15SE, 02200 hrs

The aircraft was to spray a paddock of rice with a non-toxic herbicide. The pilot carried out an aerial survey of the area prior to commencing the spraying. During the survey he noted that a spur powerline ran to a pole at the north-eastern corner of the paddock, and mistakenly assumed that the line ended at the pole. No other information about the area to be treated was obtained. As the aircraft approached from the north to commence the first spray run it struck the continuation of the powerline which was strung above the northern boundary of the paddock. The aircraft remained airborne, dragging between 200 and 300 metres of powerline, and was subsequently landed in a wheat stubble paddock.

17 Dec 87, CESSNA 150 M, VH-UQP, Student, COORANBONG NSW, 00015 hrs

The student pilot was carrying out a series of "touch and go" circuits using gravel runway, 06. The wind was reported as being easterly at about 5 knots. On the fourth "touch and go", after a normal landing, the student applied full power, selected the carburettor heat control to cold and commenced to raise the electrically actuated flaps. He said he looked up and saw that the aircraft had commenced to veer to the left. The student closed the throttle and attempted to correct the swing with opposite rudder but was unable to prevent the aircraft striking a 30 centimetre high earthen bank bordering the edge of the runway. The nose gear was torn from its mounting and the aircraft overturned, coming to rest just beyond the runway edge.

The earth bank was formed during recent grading of the strip. This work was interrupted by wet weather and was incomplete at the time of the accident.

19 Dec 87, GOVT AIRCRAFT N22-B, VH-BRQ, Commercial, SYDNEY NSW 25N, 06500 hrs

The pilot was returning to collect passengers he had conveyed to the alighting area some hours previously. This area is bordered by steeply rising ground. Because of wind conditions, the pilot was approaching from a different direction to that normally used. About 1.5 kilometres from the alighting area, the aircraft collided with power lines which were about 29 metres above the water level. The collision severed the top portion of the fin and rudder, however the pilot was able to maintain limited control. The aircraft touched down heavily on the left float, after the pilot had taken action to avoid a dinghy in his path.

Although the pilot had operated into the alighting area on a number of occasions, he had been unaware of the presence of the power lines struck by the aircraft.

This accident was not subject to an on scene investigation.

23 Dec 87, DE HAVILLAND 82, VH-DDA, Senior commercial, BANKSTOWN NSW, 07400 hrs

The Private Pilot Licence holder was undergoing type endorsement training. During the third landing, on runway 29 Left, the aircraft commenced to swing to the right. The pilot in command reported that after checking that there were no obstructions he allowed the swing to continue. The student pilot was unable to stop the swing and as the air-

craft turned through 40 degrees it began to skid, with the result that the landing gear folded.

The aircraft is fitted with a tailskid but no brakes, and was unable to use the normal unsealed landing area as that area was wet and out of service. At the time of the landing the wind conditions resulted in a quartering tailwind from the right at five knots.

24 Dec 87, BEECH C23, VH-UMT, Commercial, HOXTON PARK NSW, 00197 hrs
The pilot was carrying out a period of circuit practice. After touchdown on the fourth circuit the aircraft commenced to porpoise. The pilot applied forward elevator in an attempt to control the aircraft. The aircraft subsequently touched down heavily on the nosewheel, causing the nosegear to collapse and the propeller to strike the runway.

The pilot lacked recent experience, and had not considered going around when the aircraft began to porpoise.

This accident was not subject to an on scene investigation.

27 Dec 87, DE HAVILLAND 82 A, VH-AGY, Private, RYLSTONE NSW, 01400 hrs
The pilot was departing into strong and gusty wind conditions. The aircraft was observed to climb steeply to about 200 feet above ground level. It then entered a descending turn to the right, at a low airspeed The descent continued with the aircraft in a nose high attitude, and a wing was seen to drop shortly before ground impact. The pilot subsequently reported the engine was delivering full power throughout the flight.

Another pilot who had flown a number of flights in the area during the day, reported that he had encountered pronounced areas of sink to the north of the strip It was considered that while attempting to fly out of simular conditions, the pilot had allowed the airspeed to decay and the aircraft had stalled. There had been insufficient height available for the pilot to effect recovery.

This accident was not the subject of an on-scene investigation.

20 Aug 87, AIR TRACTOR AT 301, VH-JFA, Senior commercial, CORRYONG VIC 10E, 01400 hrs
The pilot was spraying a pine forest in hilly country. The spray runs were made in the downhill direction only, which required a low power setting during application. When the pilot applied power at the end of a particular run, engine roughness was noticed. He attempted to return to the departure aerodrome, but the engine performance deteriorated to the point where a precautionary landing became necessary. The only suitable area was a short stretch of road, and the pilot was forced to apply heavy braking after touchdown. The tail lifted, allowing the propeller to strike the ground, and the aircraft overturned.

Investigation established that the head had separated from one of the cylinders, as a result of fatigue cracking. No abnormalities were found in the casting material of the cylinder which might have explained the onset of the fatigue. It was possible that the cracking resulted from damage caused by excessive manifold pressure and/or cylinder head temperatures applied during previous operations.

22 Aug 87, PIPER 25 235, VH-KRT, Private, NHILL VIC 20NE, 00400 hrs
The pilot was spraying a crop of peas on his own property, less than 500 metres from the strip. The aircraft was observed to finish the second swath run, but during the subsequent pull-up the left wing struck a branch of a 9 metre high tree. The aircraft veered to the left and collided with a large gum tree 235 metres further on. The aircraft came to rest inverted some 50 metres beyond this tree. A fire broke out and consumed much of the wreckage.

No evidence was found of any pre-impact defect or malfunction of the aircraft which might have led to the development of the accident. The pilot was relatively inexperienced, was not qualified to conduct aerial agricultural operations, and had not received any formal training for such tasks. It was considered likely that he had mis-judged the distance from the tree struck by the left wing during the pull-up manoeuvre.

13 Oct 87, PIPER PA25-235, VH-HMC, Commercial, DONALD VIC 15E, 01380 hrs
During the pull up at the end of a clean up run, a small note pad fell to the floor of the cockpit. The pilot leant forward to retrieve it but almost immediately the aircraft struck the ground.

The note pad was used to record spraying details that were not critical to the operation of the aircraft.

18 Oct 87, AIRBUS A300, VH-TAC, Airline transport, MELBOURNE VIC, 15770 hrs
As the aircraft was nearing the end of the landing roll, the Tower Controller observed smoke briefly issuing from one of the wheel assemblies. The crew was alerted, and reported that a hot brake temperature warning was indicated on the flight deck. The smoke had not persisted, and the pilot in command elected to continue taxying to the terminal area, in order to allow a normal disembarkation of the passengers. He requested the Tower to monitor the situation. The Airport fire services were summoned and followed the aircraft. Another Tower Controller then reported that fire had broken out in the left maingear. The aircraft was halted and the pilot in command ordered an evacuation. The evacuation proceeded smoothly, but injuries resulted from the use of the escape slides. The fire crews rapidly extinguished the fire and assisted with the evacuation process.

Investigation revealed that an electrical short circuit had occurred in a solenoid in the anti-skid system which controls the brakes on one of the left mainwheels. This led to the brakes on the affected wheel being applied continuously. The resulting overheating in turn led to the eventual disintegration of the brake disc and pads, and the outer covering of an hydraulic line caught fire. Considerable overheating of the tyre and wheel rim also took place. The crew had no direct communication with the fire crews on site, and were unaware of the extent of the fire. This had left the pilot in command with no alternative but to order the evacuation of the aircraft.

02 Nov 87, PITTS S1E, VH-XII, Commercial, WHITSTOCK FIELD VIC, 00802 hrs
At the conclusion of an aerobatic flight, the pilot intended to practice a number of circuits and landings. Two touch-and-go landings were completed, and the pilot positioned the aircraft for a full-stop landing in 10 knot crosswind conditions. Towards the end of the landing roll, the aircraft commenced to ground loop to the left. The pilot applied corrective rudder and brake, but was unable to arrest the swing. He then applied full power, with the intention of becoming airborne and passing between trees which lined the side of the strip. The aircraft lifted off, but then collided with a tree, fell to the ground, and came to rest inverted.

The particular type is known to be difficult to control directionally. It was considered likely that the pilot had relaxed his concentration after the aircraft had touched down.

This accident was not subject to an on scene investigation.

03 Nov 87, CESSNA 175, VH-WAR, Private, LEONGATHA VIC 13SSW, 00322 hrs
The pilot's first attempted departure from his property strip was abandoned when he encountered strong downdrafts at about 150 feet above the ground. Sufficient strip length remained to permit a safe landing straight ahead. The pilot then attempted a second take-off, but again encountered severe downdrafts. On this occasion a landing back on the strip was not possible. The pilot decided the aircraft could not outclimb the terrain ahead, and selected an open area just to the right of his track in which to land. The nosegear and the right maingear were torn out when the aircraft touched down on the soft surface and groundlooped to a halt.

No evidence was found to indicate that the engine was not capable of delivering full power during the take-off attempts. The wind at the time was strong and gusty, and conditions were conducive to downdrafts and wind shear. The pilot had not waited for the conditions to abate before commencing the second take-off.

11 Nov 87, CESSNA A188 A1, VH-KQB, Commercial, ELMORE VIC 1W, 06200 hrs
The pilot held the aircraft on the brakes and did his run up checks then commenced take off to the west with a ten knot crosswind from the left. As the tail lifted the aircraft commenced a swing to the left which the pilot was unable to control with full right brake and rudder. He closed the throttle, the aircraft swung sharply left and the right main leg and tail wheel leg collapsed.

Inspection of the aircraft showed that the right brake torque plate was attached by welds, one of which failed due to poor quality and low penetration of the weld. This allowed a degree a movement of the torque plate but did not appear to impair the brake operation.

One of the three left main wheel through bolts had failed, following 90 per cent progressive fracture in a manner typical of low stress high cycle fatigue cracking. This allowed the wheel halves to be forced slightly apart at this section, causing distortion of the brake disc and drag contact with the brake pads at each wheel rotation. With operation on the ground the effect would have been increased due to the weight of the aircraft and rolling contact with minor strip surface undulations.

It was also established that the left brake could be applied normally but that sometimes when the brake was released the brake remained partly applied. The circumstances of the investigation were such that the reason for this was unable to be determined.

The uncontrolled swing on take off most likely resulted from the combined effects of the cross wind, the failed wheel through bolt and unidentified defect which caused the left brake not to release fully after it had been applied.

16 Nov 87, PIPER 25 235, VH-AMZ, Commercial, ECHUCA VIC 8SSE, 14000 hrs
The pilot was engaged in spraying a small crop of tomatoes. This was the first time he had sprayed this paddock. The farmer provided him with a map of the area to be sprayed, but the powerlines were not marked on the map, so a briefing was conducted on the location of the powerlines. There was a set to the north of the paddock and two sets to the south. Before he commenced spraying, the pilot conducted an aerial inspection of the area. During the aerial inspection he was in radio contact with the farmer and believed he had located all the powerlines.

Shortly after commencing the job, the pilot manoeuvred the aircraft for a run in the northerly direction. His intention on this run was to fly below a powerline that on previous runs, because of the disposition of that particular line, he had flown over. When manoeuvring to fly below this line, the aircraft hit another line 80 metres to the south. The pilot was not aware of the presence of the line the aircraft struck. The aircraft hit the ground and was destroyed by the impact and the resulting fire.

The briefing received by the pilot was inadequate.

20 Nov 87, CESSNA A185 F, VH-TLO, Private, SILVAN RES VIC, 00300 hrs
After take-off from a property strip near the Silvan Reservoir, the aircraft was flown at a low height above the calm, smooth surface of the water. A left turn was completed at low level, but shortly thereafter the aircraft struck the surface near the middle of the dam. On initial contact, water entered the front of the cabin and the engine ceased running. The aircraft then bounced back into the air and the pilot attempted, unsuccessfully, to re-start the engine. The aircraft lost height and skidded along the surface to a halt before the nose began to sink. The three occupants evacuated the aircraft but only one passenger succeeded in reaching the shoreline.

The wreckage was recovered, and an examination revealed no evidence of any pre-impact defect or malfunction which might have accounted for the accident. Water impact damage sustained by the engine cowling indicated that the aircraft struck the water at a shallow angle of descent, with the wings level and at a speed of about 100 knots. Damage sustained by the propeller assembly and crankshaft indicated that substantial power was being developed at the time of impact.

While flying at a low height above the expanse of calm water, the pilot had very few visual cues to gauge his clearance from the water. It was also determined that the pilot had a blood/alcohol level such that impairment of his visual acuity was possible.

24 Nov 87, PEREIRA OSPREY 2, VH-LII, Private, CAPE LIPTRAP 5ENE, 00000 hrs
At a height of about 50 feet on initial climb, the aircraft suffered a birdstrike which resulted in the canopy being broken. Although the pilot's vision was inhibited by the effects of windblast, he was able to land the aircraft. After the engine was shut down the pilot heard a noise, determined that the aircraft was on fire and vacated just before it was totally consumed.

It is likely that as a result of the birdstrike, a fuel line was damaged and this allowed fuel to spray onto the hot engine/exhaust area causing the fire.

04 Dec 87, TRANSAVIA PL12-T300, VH-AUL, Commercial, DEVONPORT TAS, 05900 hrs
Prior to departure the pilot ascertained that there was about 23 litres of fuel in the left tank and 91 in the right tank. Take off was with the left tank selected and spray operations commenced.

Two paddocks were sprayed and half way along a clean up run to finish off the areas the engine failed due to use of all the fuel from the left tank. The pilot switched to the right tank with the boost on and turned left towards a clear area.

The engine did not respond and after about 160 degrees of turn the left wing struck the ground and the aircraft slid to a stop. Had the pilot stopped the turn and levelled the wings earlier the aircraft would have struck trees.

11 Dec 87, CESSNA 172-P, VH-RWV, Student, CAMBRIDGE TAS, 00065 hrs
The pilot was carrying out a period of solo circuits as part of a check on the aircraft type. Following the third circuit, the aircraft was observed to approach and land normally into the 10 to 15 knot headwind. During the subsequent landing roll, while still travelling at about 30 knots, the aircraft veered suddenly to the left. The pilot applied full right brake and rudder and then both brakes in an attempt to stop the aircraft. However, before the aircraft stopped it struck one of the boundary fence posts.

An inspection of the aircraft did not reveal any mechanical defects that could have contributed to the occurrence, and the pilot was unable to explain the reason for the loss of directional control.

This accident was not the subject of an on-site investigation.

24 Dec 87, CESSNA 180, VH-MPW, Commercial, MOORABBIN VIC, 00980 hrs
In the latter stage of the landing roll the aircraft encountered a strong gust of wind from the right. The aircraft swung suddenly to the right and the pilot was unable to maintain directional control. The left maingear leg bent and the airframe distorted, allowing the left door to become dislodged. The aircraft came to rest on the runway, after having groundlooped through 130 degrees.

Before landing the pilot had carefully monitored the Aerodrome Terminal Information. He was fully aware of the possibility of occasional wind gusts resulting in a maximum crosswind component of 15 knots, which is 2 knots above the maximum limitation for the aircraft. Also he was prepared to conduct a go-around should he have encountered any problems during the approach and flare during the touch down. It is also probable that the pilot relaxed his concentration too early during the landing roll, in anticipation of completing the day's flight.

02 Aug 87, BEAGLE A109, VH-UEM, Private, STREAKY BAY SA, 03000 hrs
After application of full throttle during the takeoff run, a severe vibration developed which rapidly stopped the engine from rotating. When the aircraft came to rest the pilot noted that one of the two propeller blades had cleanly separated from its hub.

The hub failed as a result of fatigue cracking which extended around approximately half of its circumference. The cracking originated in the root of the blade retention thread and grew progressively over about 850 flights. The cracking was not visible during normal periodic inspections because the hub had been painted to help prevent corrosion.

08 Aug 87, CESSNA 402 B, VH-UBI, Commercial, ADELAIDE SA, 01272 hrs

Upon arrival at Penneshaw the pilot did not obtain a gear down and locked indication for the right main gear. Several alternative methods were tried but a safe indication could not be obtained. During a flypast, another pilot on the ground observed the aircraft with the aid of binoculars and reported that the gear appeared to be down. During the landing roll the pilot felt the right gear start to collapse. He decided to go-around and fly back to Adelaide where better facilities were available. Several more attempts were made to lock the gear in the down position, but to no avail. During the subsequent landing the right gear collapsed at about 30 knots and the aircraft slid a further 212 metres before coming to rest on a taxiway off the right side of the runway.

Examination revealed that the lower and centre drag link brace joints had been excessively tightened. This was probably done in an attempt to eliminate excessive side movement in the joint, caused by wear. It was also revealed that the centre brass bushings were found to be shorter than the steel outer bushings, which allowed the lugs to squeeze in onto the brace when the overtorqueing took place. The resultant abnormally high friction caused the push-pull rod to bend thus preventing the gear from extending to the fully locked down position.

18 Sep 87, PIPER 32 260, VH-BMB, Private, COOBER PEDY SA, 01100 hrs

Upon arrival in the circuit, the pilot assessed the conditions and approached to land into wind on runway 04. When the nosewheel was lowered onto the runway, the aircraft veered to the right and did not respond to the application of left rudder. A go-around was initiated, but soon after becoming airborne, the aircraft rolled to the right until it reached a bank angle of about 60 degrees. The pilot attempted to counter the roll with the application of opposite aileron but the aircraft continued to roll right until the starboard wingtip touched the ground. The auxiliary wingtip tank ruptured and caught fire. The nose of the aircraft dropped and the aircraft struck the ground heavily in a wings level attitude. The aircraft ran along the ground for 18 metres before the nosegear collapsed. It then slid to a halt 250 metres beyond the runway markers with flames now emanating from the engine bay and right wing. The occupants evacuated the aircraft successfully. The pilot reported that after exiting the aircraft he sighted the windsock which indicated a wind direction of approximately 310 degrees and estimated the speed to have been 35 knots.

During the early part of the landing roll the wind backed to a 35 knot crosswind from the left. This wind change was unforecast and unexpected by the pilot. It is probable that the wind change caused the left wind to lift and as a result the aircraft turned downwind. During the attempted go-around, in what was now a 35 knot tailwind, the aircraft stalled and the right wing struck the ground.

28 Sep 87, CESSNA 152, VH-ALH, Private, MARYVALE STN NT, 01422 hrs

The pilot was attempting to take-off from a dirt road to fly to the Station's strip. Just as the aircraft became airborne a slight left turn had to be negotiated. During the turn, the left wingtip struck a clump of bushes and the aircraft slewed to the left. The left wheel struck an embankment and the aircraft proceeded through a small bush and also clipped the top off another small tree with the right wing. Full power was still applied to the engine and the aircraft was still airborne when the left tailplane caught on a large bush. The aircraft landed and the pilot then closed the throttle and abandoned the take-off attempt. It then ran through another large bush before finally coming to rest.

The aircraft had been landed on the road, apparently because it was convenient, despite the fact that the station airstrip was only 400 metres away. The road was only 10 metres wide and had large bushes lining either side.

07 Oct 87, PIPER 23 250, VH-WGN, Commercial, KIMBA SA, 01800 hrs

After landing, as the aircraft turned left into the taxiway, the left maingear collapsed. Inspection revealed that the drag link centrebolt had failed.

Examination of the bolt revealed that it had failed due to fatigue, which had initiated from pit corrosion along the shank of the bolt. It also displayed signs of in-service wear which possibly contributed to the failure. This aircraft reportedly operated from rough, uneven dirt strips on a regular basis.

09 Nov 87, CESSNA 404, VH-ANM, Senior commercial, PEPPERMENARTI NT, 08913 hrs

After landing, the aircraft was backtracking along the runway when the nosegear collapsed. The pilot reported that at the time of the collapse the aircraft was moving at about 4 knots as it was slowed to take the turn into the apron. The nosewheel had become completely detached, allowing the oleo forks to contact the ground.

A nosewheel bearing had seized from lack of lubrication. This had caused the axle to spin in its oleo support eyes One support eye had failed because of the heat generated, and the other failed in overload, allowing the nosewheel to detach.

This accident was not subject to an on scene investigation.

23 Nov 87, CESSNA 172-P, VH-FCQ, Commercial, DELISSAVILLE NT, 01650 hrs

The student was carrying out a practice forced landing on Delissaville airstrip as part of a pre-licence test. After the student had initiated the flare for landing, the instructor became aware of a high descent rate but too late to prevent a hard landing The instructor took control, carried out a touch and go, then advised the student to return to Darwin. Inspection there, revealed that the aircraft had suffered substantial damage as a result of the hard landing.

The student was landing on a strip that presented different visual cues to the strip he had used for most of his training. During the approach the instructor allowed his attention to be diverted from his monitoring task. The student also believes that he allowed his attention to wander from the landing to the next situation that the instructor may have presented to him, and flared too high.

This accident was not the subject of an on-site investigation.

30 Nov 87, CESSNA 172 D, VH-RKX, None, BORROLOOLA NT, 00010 hrs

The aircraft was stolen by a person with the intention of travelling to Western Australia. The ignition lock was activated using the frame of a pair of sunglasses, and after starting the engine the pilot taxied the aircraft onto the strip, where he commenced to take off downwind. Shortly after the aircraft became airborne the tail struck the ground, and the pilot reduced engine power. The nosewheel then contacted the ground and the aircraft commenced to "wheelbarrow". It ran off the side of the strip and subsequently overturned.

There is no record of the pilot ever having held a flying licence, or of having received any formal flying training.

The accident was not subject to an on scene investigation.

12 Dec 87, AMERICAN AIR 5, VH-ETT, Private, PORT LINCOLN SA 14NW, 00290 hrs

The aircraft touched down 385 metres into the 675 metre long paddock. The pilot reported that he applied the brakes but that they were ineffective. He decided that insufficient area remained for a successful go-around to be carried out and attempted to steer the aircraft through a gate. The right wing struck the gate and the aircraft turned through 190 degrees before coming to rest.

The brakes were checked and found to be serviceable. The pilot stated that after touchdown he held the nosewheel on the ground and did not retract the flap. This would have

had the effect of reducing the weight on the mainwheels and could have contributed to the reported brake ineffectiveness. The landing technique used by the pilot on this occasion was contrary to the technique recommended in the Pilot's/Owner's Handbook.

31 Aug 87, BEECH 58, VH-WLC, Private, PORT HEDLAND WA, 00280 hrs
After selecting gear down, a safe indication could not be obtained for the left main gear. The pilot diverted to a more suitable aerodrome, where further attempts to lower that gear also failed. The gear was retracted and a wheels-up landing carried out.

The pilot subsequently advised that a similar left gear unsafe indication had occurred 3 landings prior to this particular occurrence, but on that occasion after recycling the gear a normal extension was obtained.

The left gear had not been rigged or lubricated in accordance with maintenance instructions, and the left gear uplock roller had seized. A check that the rollers are free to rotate is part of the normal pre-flight inspection. Indications were that neither of the maingear rollers had rotated for some time. There was some doubt that the pilot had been advised of the gear roller check requirement when he was undergoing endorsement training on the aircraft.

23 Jul 87, CESSNA A188B A1, VH-RYO, Commercial, BALLIDU WA 8SE, 00400 hrs
The pilot stated that at the end of the take-off run the wheels hit a 60cm high contour bank. He also reported that he misjudged the distance between the point at which the takeoff was commenced and the bank. The aircraft sustained substantial deformation damage to the landing gear attachment points and the carry through structure.

The pilot had not calculated the distance required for takeoff, nor had he availed himself of all of the takeoff distance available.

This accident was not the subject of an on-site investigation.

24 Sep 87, CESSNA 210 L, VH-MHC, Commercial, KUNUNURRA WA, 00775 hrs
The maingear uplock assembly had just been fitted with a new seal and the aircraft was flown to ensure the correct operation of the system. The gear retracted normally but could not be lowered and a gear up landing was made. Inspection revealed that the unit had been incorrectly reassembled after the seal was changed.

The maintenance had been performed by an unlicenced engineer who had not previously completed a similiar task. When carrying out the work he did not refer to either the aircraft maintenance manual or a licenced engineer. On completion of the job no retraction tests were carried out. The engineer believed that the work he had performed would only effect the operation of the gear doors, and not the retraction and extension of the landing gear.

27 Sep 87, PIPER 28 140, VH-RVN, Private, CERVANTES WA 11ESE, 00125 hrs
The pilot flew to Cervantes on the day prior to the accident to visit some friends. However, upon hearing reports of acts of vandalism at Cervantes airstrip, he inspected several areas on the farm as possible landing sites with the intention of repositioning the aircraft. The next day the aircraft was flown to the farm, where after an airborne inspection the pilot chose the second of two possible landing sites. The aircraft subsequently overshot the intended touchdown point. During the hold off over rising ground, the nose of the aircraft dropped and the aircraft impacted the ground heavily on the nosewheel. The aircraft pitched forward and came to rest inverted.

The landing area was unsuitable because of the steeply undulating surface.

01 Nov 87, BEECH A36, VH-RCS, Private, PERTH WA, 02167 hrs
As the aircraft approached Jandakot Airport the pilot noticed an un-commanded increase in propeller rpm which he was unable to correct with the propeller control lever. The pilot retarded the throttle and as a result regained some control over the propeller. Shortly after the pilot reduced power the engine began to make unusual noises and the cockpit filled with smoke. The pilot decided to make an emergency landing on the only clear area available, a disused rubbish dump. The engine failed completely during the approach to land. On touch down the aircraft collided with a mound of earth and overturned.

The No.6 cylinder and piston exhibited signs of severe detonation probably caused by an unserviceable spark plug. The detonation had burnt a hole through the piston and this allowed all of the engine oil to be either burnt or pumped overboard from the now pressurised crankcase. The loss of engine oil caused the propeller to move to the fine pitch stops (propeller overspeed) and eventually resulted in a complete engine failure.

The pilot reported that, up until the time he observed the unexpected increase in propeller rpm, there were no indications that the engine was anything but serviceable.

09 Nov 87, CESSNA 210 N, VH-CWN, Private, ERONG SPRINGS WA, 00454 hrs
The pilot and his passengers were touring in the north-west of Australia. For a number of landings after the departure from Parafield the aircraft displayed a tendency to veer to the left side of the runway. The aircraft was checked by a licenced aircraft maintenance engineer and no defects were found. However, the pilot continued to experience the same problem.

For the landing at Erong Springs, the aircraft was landed with a slight crosswind from the left. Shortly after the nosewheel was gently lowered onto the runway, the aircraft once again veered to the left. The pilot did not regain control of the aircraft, which ran off the runway and collided with a tree.

A thorough inspection was made of the aircraft following the accident but no fault could be found that may have affected the landing performance. The reason for the aircraft diverging to the left during the landing roll could not be determined.

12 Nov 87, CESSNA 150 B, VH-RWM, Private, KOOKYNIE WA, 02400 hrs
As the aircraft was being flared for the landing, a mob of sheep ran onto the strip. Two sheep were hit by the aircraft, one being thrown up against the left flap and the other struck the right tailplane. The landing was completed without further incident.

The strip was not fenced off from the rest of the paddock and the pilot did not see the mob as he approached to land.

13 Dec 87, CESSNA 150 L, VH-EKP, Private, MT NARRYER HS NSW, 03000 hrs
The pilot was engaged in a mustering operation on his own property. During the operation he saw a truck departing from the property. He had an urgent message for the driver, so he elected to land on a road near the truck's route which he knew was suitable as a landing area. During the landing roll the left wing hit a steel pole which was off the edge of the road. The pilot did not see the pole because he was landing to the East and the rising sun was in his eyes.

This accident was not subject to an on scene investigation.

Rotary Wing

23 Jan 87, HILLER 12E, VH-HJW, Commercial — helicopter, AYR QLD 8E, 05887 hrs
The pilot reported that a power loss occurred as the aircraft climbed through an altitude of about 35 feet. The subsequent forced landing was made onto newly cultivated ground, the skids dug in, and all four skid legs were bent. On exiting the aircraft, the pilot noted a strong smell of what he considered to be burnt clutch linings.

An inspection of the aircraft revealed a worn clutch. Although the clutch was still within serviceability limits, it is considered possible that some slippage occurred which resulted in the loss of power to the rotor system.

This accident was not the subject of an on-site investigation.

21 Nov 87, ROBINSON R22-BETA, VH-HBG, Private — helicopter, DALBY QLD 46W, 04926 hrs
Having taken delivery of a new helicopter the previous day, the pilot was carrying relatives on short flights over their property. On the second flight, descending through 200 feet for landing, the rotor low rpm warning horn sounded. The pilot applied full throttle and lowered the collective pitch control but this did not restore rotor rpm. As the horn continued to sound he turned the aircraft into wind and attempted a landing in a clear area. The aircraft struck the ground with the heels of both skids and the tail rotor. The tail boom was severed by the main rotor, and the helicopter came to rest on its right side.

The passenger suffered bruising as a result of contact with the emergency locator beacon which was mounted between the backrests of the two seats.

No fault was found with the engine or airframe which might have contributed to the accident. However, atmospheric conditions existing at the time were such that moderate to serious carburettor icing was probable.

17 Dec 87, HILLER UH12-E, VH-FXX, Commercial, AYR QLD 6NE, 06450 hrs
Prior to commencing operations in the area the pilot carried out an aerial reconnaissance to check the location of powerlines. He stated that he had almost completed the second load when he had the feeling that he was running out of chemical. He believes that he momentarily looked at his instruments to check for pressure and load remaining and temporily forgot about the presence of the powerlines. He subsequently saw the powerlines as the aircraft was approaching the end of the run, just before they were struck by the canopy of the helicopter. Control was maintained with difficulty, and when the pilot noticed that the aircraft was trailing wires he decided to land. The landing in a cleared paddock was heavy, causing the skids to collapse, and the main rotor to flex downwards, striking the tailboom and severing the tail rotor.

The pilot stated that the powerlines were difficult to see because of wire sag and the backdrop of trees and buildings.

This accident was not the subject of an on-site investigation.

25 Dec 87, BELL 412, VH-NSO, Commercial — helicopter, MT BARRINGTON NSW 7SE, 03949 hrs
The helicopter was engaged in a medical evacuation operation. A crewman was positioned on the ground to anchor a tag line, which was attached to a Stokes litter and was designed to prevent the litter from spinning during winching. The nature of the terrain was such that the line could not be positioned at the correct angle. Shortly after the winching operation commenced, the litter commenced to spin. As it neared the helicopter, the winch operator attempted to stop the spinning to enable the litter to be lifted on board. His right arm was broken when it became entangled in the litter straps.

This accident was not subject to an on scene investigation.

20 Sep 87, BELL 206 B, VH-BLR, Commercial, WAIKERIE SA 22WSW, 00697 hrs
The helicopter was flying at 40' above ground level to enable the cameraman to film a velucle. The crew heard a loud bang and the pilot suspected an engine failure so he commenced an autorotation. However, he quickly found that the engine responded normally to power changes but not knowing what had caused the noise, he decided to land on suitable terrain just ahead. After they had exited the helicopter, the cameraman reported to the pilot that he saw a wire just prior to hearing the noise. Inspection of the machine confirmed that it had suffered a wirestrike.

The task required a high degree of attention on the movements of the vehicle in order to position the helicopter as required by the cameraman. The pilot did not have a low flying approval and his supervisor had instructed him not to descend below 100 feet above ground level, however he complied with the cameraman's request to fly as low as possible. The person occupying the left seat was not trained as an observer for this type of operation. The supporting poles for the wire struck by the helicopter were widely spaced and one was obscured by a stand of trees.

10 Dec 87, BELL 206-B, VH-ITH, None, JAMESTOWN SA 7NW, 03350 hrs
The aircraft was engaged in defining swarms of locusts as part of a control programme. The helicopter was being flown at about 35 feet above ground level, when one of the main rotor blades struck a powerline. Control of the aircraft was lost and it struck the ground in a nose down attitude. 111 metres beyond the powerline.

The pilot had flown over the area earlier in the day, but had not sighted the wire. On this occasion he did not make a specific search for wires before commencing the low level operation. The span of wire between the support poles measures 610 metres and although the support poles were easy to see, the wire was not. The pilot was not aware that the helicopter had collided with the wire until some time after the accident.

07 May 87, AEROSPATIALE SA330J, VH-WOF, Senior commercial — helicopter, NTH RANKIN A WA 15SE, 10950 hrs
The pilot reported that when the aircraft was in the cruise at 3500 feet he heard a noise followed by severe vertical and less severe lateral vibration. The aircraft was descended and checks carried out in an attempt to ascertain the cause of the vibration. The cause of the vibration was not determined and the pilot decided to hover taxi the aircraft back to the platform. The aircraft was subsequently landed on a barge without further incident.

An inspection of the aircraft found that one of the two lugs on a main rotor blade flapping hinge had failed. The lug fractured as a result of fatigue which originated adjacent to an area of fretting where the blade retaining pin passes through the lug. The lug was known to suffer from a design defect and the manufacturer had issued recommendations for the periodic inspection of the lug. These recommendations were not incorporated into the maintenance system for this helicopter, and therefore, were not carried out. Had the recommendations been completed it is probable that the fretting of the lug would have been detected prior to failure.

13 Jul 87, BELL 206, VH-BEQ, Commercial — helicopter, KARRATHA WA 11SE, 00710 hrs
After consultation with his passengers regarding the expected duration of the return survey flight, the pilot decided that he needed only one 200 litre drum to refuel. Just short of Karratha he advised the passengers that he would have to land due low fuel state. During the descent the engine stopped, due to fuel starvation, and the helicopter was substantially damaged in the resulting heavy landing on a dirt road, in fading light.

The pilot was unfamiliar with the fuel system installed in the aircraft. The duration of the return flight was increased by a requirement to complete an extra task. However, when the pilot became aware that insufficient fuel remained to complete the flight with the required reserves, he elected to continue the flight to the planned destination. The landing was only attempted when the pilot became concerned that all the fuel would be exhausted before arrival at the destination.

This accident was not the subject of an on-site investigation

29 Oct 87, ROBINSON R22, VH-JVC, Commercial — helicopter, JANDAKOT WA, 00112 hrs
During a practice circuit, the pilot noticed an intermittent vibration through the aircraft. He elected to discontinue the exercise and carried out a normal landing. As the mixture control was placed in the idle/cut-off position, one of the main rotor blades struck the tail boom.

The vibration noticed by the pilot probably resulted from spark plug fouling. Strong, gusty wind conditions prevalent at the time of the accident, were ideal for exaggerated main rotor flapping known as "blade sailing".

Gliders

02 Nov 87, GLASFLUGEL MOSQUITO, VH-GML, Glider, CORRYONG NSW 45E, 00430 hrs
After about four hours flying, the pilot decided to return to Corryong to land. Because the aircraft was too low he