

Department of Trade

ACCIDENTS INVESTIGATION BRANCH

**Piper PA 28 Model - 140 G-AVLA
Report on the accident south of Biggin Hill
Aerodrome, Kent, on 16 May 1975**

List of Aircraft Accident Reports issued by AIB in 1976

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Department of Trade
Accidents Investigation Branch
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25 May 1976

The Rt Honourable Edmund Dell MP
Secretary of State for Trade

Sir,

I have the honour to submit the report by Mr P J Bardon, an Inspector of Accidents, on the circumstances of the accident to Piper PA 28 model - 140 G-AVLA which occurred south of Biggin Hill Aerodrome, Kent, on 16 May 1975.

I have the honour to be
Sir
Your obedient Servant

W H Tench
Chief Inspector of Accidents

1. Factual information

1.1 History of the flight

The aircraft was one of twelve taking part in the British Broadcasting Corporation (BBC) 'Nationwide' rally finishing at Biggin Hill between 1148 and 1159 hrs on 16 May 1975. The rally was to be followed during the afternoon by an air race and pilots were instructed to fly a practice race circuit before landing after the rally. The occupants of the aircraft were the pilot, a navigator and a BBC representative.

The aircraft's starting point for the rally was Glasgow and landings were to be made at Newcastle, Leeds, Manchester and Birmingham. The flight was to be made in accordance with Visual Flight Rules (VFR) and Gatwick was to be used as an alternate. The total flight plan time was 4 hours 11 minutes.

The aircraft departed from Glasgow at 0740 hrs and the flight proceeded as planned. No fuel was uplifted *en route* and the aircraft's remaining endurance when it departed from Birmingham was 2 hours with a flight plan time of 1 hour 5 minutes.

Whilst approaching London the weather conditions deteriorated and the pilot was obliged to fly around the north-east corner of the Control Zone with the assistance of London radar advisory service. On three occasions, alterations of course were necessary to avoid conflicting traffic. When asked by radar if he was flying in good VFR conditions as there was conflicting traffic, the pilot replied that he was not. At 1149 hrs when the aircraft was approaching RW 21 at Biggin Hill in continuous rain and a low cloud base, the pilot noticed the runway was occupied by two aircraft and that there was another aircraft in the circuit. He therefore made a 360° turn to the right in order to conform to rally instructions which prohibited any flying east of RW 21. On his second approach to land the pilot again found the runway occupied by an aircraft and he started to carry out another overshoot, crossing the rally finish line at about 200 feet altitude when the engine stopped. With the fuel booster pump already operating the pilot immediately selected the other fuel tank but there was only a momentary response from the engine. He then gave a Mayday distress call and concentrated on the forced landing off the aerodrome into the valley beyond the end of the runway. The aircraft touched down in a field and overran into a boundary hedge at low speed, breaking off the nose-wheel and damaging the left wing in the process. None of the three occupants was injured.

1.2 Injuries to persons

None

1.3 Damage to aircraft

Substantial damage to left wing and nosewheel

1.4 Other damage

None

1.5 Personnel information - the pilot

Age: 52 years

Licence: Private Pilot's Licence valid until 10 September 1978

Aircraft ratings: Group A and B

Certificate of Experience: Group A valid until 6 November 1975

Flying experience:

Total time as pilot: 5,287 hours

Time in command: 4,252 hours

Time in command on type: 100 hours

Time in previous 28 days: 15.20 hours

1.6 Aircraft information

(a) Type: Piper PA 28-140

Date of manufacture: 1967

Certificate of Airworthiness: (C of A) General Purpose Category valid until 25 April 1977

Certificate of Release: Issued 25 April 1975 valid until 23 June 1975
50 flying hours

Total flying hours:

- (1) since new: 4,486
- (2) since last check 1: 41.20
- (3) since last C of A: 91

Engine: One Lycoming O-320-E2A 150 HP

Date of engine manufacture: 16 December 1970

Total engine running time since new: 2,701 hours

Engine running time since last check 1: 41 hours 20 minutes

(b) Maximum weight authorised: 2,150 lb

Weight at time of accident: 1,873 lb - estimated

Centre of Gravity range: 85.9 inches - 95.9 inches aft of datum at 1,975 lb AUW

Centre of gravity at time of accident: 88.4 inches (estimated)

(c) Type of fuel: Avgas 100/130

1.7 Meteorological information

1.7.1 Forecast weather in the Biggin Hill area

There are no official MET forecasters or observers at Biggin Hill aerodrome and the MET service for Biggin Hill is provided by Gatwick airport which is 15 miles to the southwest. This service is available to all pilots. The flight forecast for the Biggin Hill area obtained by the pilot and issued by Glasgow MET office at 0550 hrs on 16 May 1975 was as follows:

Special features:	A slow moving occluded front over southern England.
Cloud:	5/8 800-1,200 feet, but 400-700 feet in heavier rain covering hills, tops 1,500 feet. 8/8 1,500-2,000 feet tops 20,000, layered with embedded cumulo nimbus (Cb).
Visibility:	8 to 12 km but 3 to 6 km in heavy rain, 100 metres or less in hill fog.
Weather:	Rain at times, isolated Cb, extensive hill fog.
Icing level:	5,000 feet.
Icing index:	Moderate to severe in any Cb.
Warnings:	Severe turbulence and icing in Cb and extensive hill fog.

NOTE All heights are above mean sea level (amsl)

1.7.2 Forecast for Gatwick from 0700 to 1600 hrs

Wind:	050/8 kts.
Visibility:	3 km.
Weather:	Rain.
Cloud:	5/8 500 feet, 7/8 1,000 feet.
Gradually becoming between 0900-1200 hrs:	
Visibility:	8 km, 5/8 1,500 feet, 6/8 4,000 feet.
Probability 20% tempo 0700 - 1600 hrs:	
Visibility:	1½ km, 7/8 Cb 1,200 feet.

NOTE All heights are above ground level Gatwick. Gatwick elevation 202 feet, Biggin Hill elevation 600 feet (amsl).

1.7.3 *Actual weather*

Pilots' reports of weather at Biggin Hill during the accident period varied between a cloud base of 200 to 300 feet above the ground and flight visibility of 1.8 to 3 km in continuous rain. The actual weather conditions for 1151 hrs at Gatwick were wind 060/7 kts, visibility 3.4 km, continuous moderate rain, cloud 1/8 at 500 feet; 6/8 at 700 feet; 8/8 at 1,000 feet, temperature +8.3°C.

The accident occurred in daylight.

1.8 *Aids to navigation*

The only navigation aid at Biggin Hill is the VOR (115.1 Mz) sited on the aerodrome. This is an *en route* navigation aid and was used by rally pilots both to navigate to the aerodrome and as a let down aid.

1.9 *Communications*

The pilot was in normal communications with London Heathrow Director whilst receiving radar advisory service in and around the London Control Zone. However Biggin Hill communications with aircraft 5 to 10 miles from the aerodrome at altitudes below 1,000 feet can often be broken and distorted. On this occasion communications with the rally aircraft on the tower and approach frequencies were not completely effective. However this is not considered to have been a factor in the accident.

As Biggin Hill has no VHF Direction finding or radar facilities for holding, let down or approach aids, Article 72(2) of the Air Navigation Order 1974 requiring that radio transmissions be recorded did not apply and no recording apparatus was installed.

1.10 *Aerodrome and ground facilities*

Biggin Hill is a licensed aerodrome outside controlled airspace and is operated and administered by Surrey Aviation Ltd with an unlicensed Air Traffic Control Unit (ATCU). The Civil Aviation Authority (CAA) publication Air Pilot in section AGA 5-1 under 'Schedule of hours', listed Biggin Hill on 16 May 1975 as a licensed ATCU. This was incorrect.

The Safety Altitude providing 1,000 feet clearance above the highest obstacle within 25 nm is 2,300 feet and obstructions rise to 950 feet amsl within 4 nm of the aerodrome reference point. Length of Runway 03/21 is 1,807 metres.

At the time of the accident there were 4 unlicensed ATC officers on duty in the tower. A licensed controller also happened to be present but he was not on duty at the time. Though he had been employed in previous years to act as air traffic controller for the rally finish, he was not so employed on this occasion. The reason for his presence in the tower was because he was due to come on duty later in the day as it is a requirement that a licensed controller be available when military aircraft are taking part in the air display.

Though he had not received an official briefing on the rally arrangements, he assumed that it was still taking place despite the poor weather conditions. The only official rally details that he had seen was a document loaned from a member of the BBC staff. When rally aircraft started arriving he realised that there was a conflict between aircraft completing the rally along RW 21 and landing traffic in the opposite direction on RW 03.

As the situation was hazardous he brought this to the attention of the ATC staff and at the same time he alerted the emergency firemen to immediate readiness. When the distress call came from G-AVLA, which was confirmed by a pilot in the circuit, the emergency procedure was carried out.

1.11 Flight recorders

Not required and not fitted.

1.12 Wreckage

1.12.1 Accident site

The aircraft had descended into a valley about 100 feet below aerodrome level and landed in open farmland. After travelling some 200 yards it was brought to rest from a low speed by a wire fence and hedge which damaged the left wing and broke off the nosewheel. An on site examination of the aircraft six hours after the accident, during which time there had been continuous rain, established the following:

Booster pump	On
Fuel selector	Off
Master switch	Off
Right wing fuel filler cap missing.	

1.12.2 Fuel system

Subsequent examination of the aircraft established that the left fuel tank was almost empty as only $\frac{1}{4}$ pint (200 ml) was drained from it. The tank although slightly damaged was not leaking and satisfactorily withstood an air pressure check. The right tank contained 7 gallons including nearly a pint of water but as the filler cap was removed shortly after the accident a considerable quantity of rain water had entered the tank subsequent to that. The complete fuel system was checked and found to function correctly as fuel flowed normally from each tank outlet pipe via the selector cock to the carburetter. There was no leakage in the system. A further check was carried out with the fuel booster pump operating and using the aircraft battery. Full fuel flow was obtained at the carburetter with either tank selected. The engine driven fuel pump was operating and the carburetter was clean and in good condition. The right fuel tank contents gauge was checked using the aircraft's electrical system after refilling the right tank with 5 gallons of fuel. The cockpit reading then registered 2.5 gallons which although under-reading, was on the safe side and proved the system functioned. A sample of fuel from the right tank was sent for analysis and was found to meet the Avgas 100/130 specification.

1.12.3 Engine

The engine ignition and oil system were normal and there was no evidence of mechanical malfunction of the engine or its controls.

1.13 Medical and pathological information

There were no injuries to the three occupants.

1.14 Fire

There was no fire.

1.15 Survival aspects

At the time of the forced landing all three occupants were wearing lap belts only, as it is not mandatory in this aircraft to fit a full shoulder harness. As soon as the aircraft came to rest the occupants quickly evacuated the aircraft. The pilot's distress call had alerted the emergency services at the aerodrome and a fire appliance together with an ambulance arrived at the site without delay.

1.16 Test research

Nil.

1.17 Other information

1.17.1 *Aircraft landing at and diverting from Biggin Hill*

One of the rally entrants retired at Leeds due to technical problems. However the evidence of the other eleven together with that of another visiting pilot describes the activity and conditions in the Biggin Hill circuit during the accident period. This is given below, aircraft by aircraft, in landing sequence order together with their scheduled rally arrival slot times.

Aircraft (1): rally 'slot' time 1155 hrs

This entrant approached Biggin Hill from the north and contacted Stansted ATC for the Biggin Hill weather. After being given cloud base 200 feet and visibility 2,500 yards he immediately diverted into Stansted aerodrome where he landed at 1142 hrs.

Aircraft (2): landed at 1147 hrs; rally 'slot' time 1149 hrs

This entrant approached from the south-west and had difficulties in contacting Biggin Hill on the approach frequency and therefore changed to tower frequency. It became obvious to the pilot that the controller was unaware that he was a rally aircraft and because there was a non-radio equipped aircraft in the circuit at Biggin Hill he was requested to hold over Kenley aerodrome. Finally the aircraft was cleared to join the Biggin Hill circuit but with the landing runway being contrary to the rally finish rules this gave rise to a further exchange on the radio. The pilot decided to land on RW 03. He estimated the flight visibility to be 3 km and the cloud base at 500 feet but when on the ground and taxiing he noticed a marked deterioration in the weather and visibility.

Aircraft (3): landed at 1148 hrs, rally 'slot' time 1156 hrs

This pilot approached Biggin Hill from the west and on sighting the aerodrome in the poor weather conditions and being aware there were several other rally aircraft in the circuit and vicinity, which he could not see, decided to land immediately on RW 03, the runway in use.

Aircraft (4): forced landed at 1151 hrs; rally 'slot' time 1151 hrs

This aircraft was G-AVLA which is the subject of this report.

Aircraft (5): landed 1154 hrs; rally 'slot' time 1148 hrs

This aircraft approached from the south-west and as it was early the pilot decided to make a 360° orbit. By this time there were other aircraft in the vicinity and after flying down RW 21 he was given RW 03 as the landing runway. When positioning for 03 the pilot noticed a Piper Cherokee climbing away from RW 21 and shortly after saw the Cherokee which was G-AVLA make a forced landing. The pilot informed the tower and completed his landing.

Aircraft (6): landed 1155 hrs; rally 'slot' time 1153 hrs

This pilot approached from the north into a lowering cloud base with decreasing visibility. After sighting the aerodrome and calling finals for RW 21 he flew down the runway to 300 feet and after being advised to land on 03 made a procedure turn to the left and followed another aircraft to land on 03. He also witnessed the forced landing of G-AVLA.

Aircraft (7): landed 1158 hrs; rally 'slot' time 1157 hrs

This entrant approached from the north having advised tower of his arrival. As he approached the threshold of RW 21 he was advised that the runway in use was 03 with intensive circuit traffic. The pilot decided to forego the rally instructions to fly along the runway axis of 21 and made an immediate tight left orbit whilst on the approach and landed on RW 21. He reported that it was raining heavily, that the flight visibility was less than 1,800 metres and that the cloud base was 200 feet.

Aircraft (8): landed 1203 hrs; rally 'slot' time 1154 hrs

This aircraft approached from the south-west and called Biggin Hill to obtain landing instructions and the traffic information. The reply was unreadable and on changing to tower frequency the pilot overheard the tower asking the Distress traffic to repeat the call. The pilot overflowed the aerodrome in Instrument Meteorological Conditions (IMC) in a northerly direction and positioned himself north of the field and waited until the Distress traffic ended. After letting down from 1,500 feet in IMC the pilot subsequently joined for a left hand circuit on 03. He estimated the flight visibility as 3½ km with cloud base of 250 to 400 feet in moderate rain.

Aircraft (9): landed Gatwick 1205 hrs; rally 'slot' time 1150 hrs

The pilot was approaching Biggin Hill from the south-west and when in contact was informed that the cloud base was 150 to 200 feet. He immediately diverted to Gatwick.

Aircraft (10): landed Gatwick 1209 hrs

This aircraft was not a rally entrant but in the rally stream approaching from the south-west. On changing to the Biggin Hill tower frequency there was such heavy congestion on the radio the pilot was unable to make a call. When answered by Biggin Hill he was requested to stand by. After waiting several minutes with no further communication with the tower the pilot decided to divert in view of the increasing traffic in the vicinity and deteriorating weather. After informing Biggin Hill of his intentions he climbed to 2,500 feet and passed over the Biggin Hill VOR and flew for 5 minutes on a north-east radial. After clearing the local traffic he was identified by radar and proceeded to Gatwick.

Aircraft (11): landed at Gatwick 1219 hrs; rally 'slot' time 1152 hrs

This aircraft approached from the south-west and overflowed the Biggin Hill VOR at 1,500 feet IMC and was given advisory instructions to join the circuit for RW 21. The Biggin weather was given as cloud base 300 feet and visibility 2 km. After letting down to 600 feet above the ground without visual contact, the pilot climbed to 1,500 feet and diverted to Gatwick. The Distress traffic was heard when in the vicinity of Biggin Hill.

Aircraft (12): landed 1229 hrs; rally 'slot' time 1159 hrs

This entrant had been given a Biggin Hill forecast of 300 feet with no significant change for the period. Approaching from the north he requested the latest weather whilst *en route* and as it had not changed he diverted into Birmingham. On telephoning

Biggin Hill he was informed that the rally was not cancelled, and as one aircraft had landed and three more were on the way he should proceed. He then took off with 3¾ hours endurance and when released by the controller to Biggin Hill frequency he climbed to 2,000 feet and flew to the Biggin Hill VOR. After requesting traffic information from Biggin tower he subsequently made a let down using the VOR and landed on RW 03.

1.17.2 *Rally organisation*

Although the BBC were promoting the 'Nationwide' air rally which was part of an event in the International Air Fair programme at Biggin Hill aerodrome on 16 May 1975, it was not involved in the operational aspects of the rally. The event was in two parts; a rally and a race. The rally commenced at 0800 hrs from designated aerodromes and ended between 1148 and 1159 hrs at Biggin Hill with the 60 mile race scheduled to start from Biggin Hill in the afternoon. The race was cancelled due to the weather.

The rally rules received by the pilots stated, *inter alia*, that 'the event is organised by the British Light Aviation Centre (BLAC) in accordance with the Sporting Code of the Federation Aeronautique Internationale (FAI), together with the Competition Rules and Standing Supplementary Regulations of the BLAC.'

Subsequently it was explained by the BLAC that the rally rules were incorrect insofar as they stated that BLAC were responsible for the organisation of the rally. In fact, the BLAC was responsible only for the organisation and operational control of the race, which in the event was cancelled. The actual organisation of the rally and the formulation of the rules was the responsibility of Airfield Displays Ltd, though the BLAC did agree to accept responsibility for time keeping. Additionally they were also responsible for the issue of FAI competition licenses to all competitors.

There is conflicting evidence about the amount of information concerning the rally organisation that was made available to the ATC personnel at the time of the accident. According to the organisers the senior air traffic controller was conversant with details of the rally. However there is evidence that four members of the ATC staff were not aware of the manner in which the rally was supposed to end or even where the finishing line was. Furthermore the tower and approach controllers handling the radio communications at the time of the accident had neither copies of the rally rules, list of competitors, types of aircraft or flight plans and were so overwhelmed by the number of aircraft arriving in marginal weather conditions that aircraft landed on both RW 21 and 03. Yet, according to the senior air traffic controller, traffic movements appeared to be operating normally until the distress traffic called the tower.

1.17.3 *Rally rules and procedures*

Written instructions issued to the pilots by the International Air Fair Committee stated that the finish of the rally was a white line at right angles to the axis of RW 21 and 1,620 metres from the beginning of the runway. This line was to be overflown from north to south along the runway axis irrespective of the runway in use. No aircraft were to fly to the east of the runway because of spectators. The rules also stated that should a pilot fail to overfly the finishing line correctly he could be excluded from the results. As an incentive, prize money was awarded to the crews finishing in the first three places; points being scored for distance flown and the number of designated aerodromes visited *en route*. The rules contained no guidance to pilots as to the minimum weather conditions for the finish at Biggin Hill.

1.17.4 *Safety arrangements at flying displays and races*

In June 1973 the Directorate of Flight Safety CAA issued a pamphlet - JH/59/07 giving advice to organisers. Relevant extracts from this pamphlet are as follows:

'General

Advice in this pamphlet has been prepared to assist organisers of flying displays and air races to discharge their ultimate responsibilities for the safety of spectators and/or persons and property in the vicinity of the area where the event is held. Guidance has been provided on all matters normally requiring attention; this should not however be regarded as exhaustive since the local conditions or particular circumstances may necessitate additional considerations being taken into account by an organiser in making his arrangements.

— Briefing of pilots and conduct of flying activities

A pilot should be appointed to be responsible for the conduct of flying activities who is competent to ensure that:

- (a) pilots are sufficiently experienced to participate in their particular events and have recent flying experience on the type(s) concerned;
- (b) briefing of pilots is thorough and clearly understood;
- (c) minimum weather conditions are established and that flying is terminated if weather conditions fall below these.'

1.18 **New investigation techniques**

Nil.

2. Analysis

2.1 The forced landing

There was no evidence that the aircraft was other than fully serviceable when it crossed the rally finishing line. There is therefore no immediate explanation for the engine stopping shortly afterwards, other than the possibility of fuel starvation. There would appear to be some support for this. Though 7 gallons of fuel was drained from the aircraft after the accident, it was all contained in the right tank. The left tank was found to be empty, and as it was virtually undamaged and able to withstand an air pressure test subsequently, it is thought unlikely that any fuel was lost due to spillage after the accident. If, therefore, the contents of the tank were completely consumed in flight, as seems probable, then an explanation for the engine stopping can be that fuel was being drawn from that tank up to the moment when it ran dry. The pilot cannot recall which tank he was using at the time and it has not been possible to resolve the question during the investigation.

If fuel was being drawn from the right tank, then no explanation can be found for the engine stopping. The ignition and fuel system was thoroughly checked after the accident and found to be functioning normally. The relatively large quantity of water drained from the right tank is not thought to have had a bearing on the accident since the tank filler cap had been removed after the accident allowing rain water to run off the wing into the tank.

The amount of fuel drained from the aircraft is less than might have been expected to remain after a flight of about 4 hours, though how much less proved impossible to calculate with any accuracy. It is probable therefore that some fuel was lost from the right tank due to spillage after the accident but before the contents of the tank could be measured.

The forced landing itself was skilfully performed by the pilot in adverse circumstances.

2.2 Rally organisation

It is apparent that it was not fully understood at all levels as to whose responsibility it was to organise the rally and take control of its operational procedures. The rally instructions added to the confusion by stating that 'the event is organised by the BLAC' when in fact this was not true. BLAC's responsibility was for the race, which was due to take place after the completion of the rally and which was cancelled anyway. Though the Airfield Displays Ltd official concerned with the organisation of the rally was clear in his own mind as to the division of responsibilities, it would appear that these responsibilities were not properly defined.

Though the senior air traffic controller had been briefed on the arrangements for the rally finish, it appears that the other ATC personnel were not aware that the rally finishing instructions required the competitors to fly down Runway 21. Had they known this, it may well have affected their choice of Runway 03 for landing. It is not surprising that in the resultant confusion aircraft landed in both directions. The concentration of aircraft and the lack of proper control provided most if not all the necessary ingredients for a mid-air collision, and as many of the rally pilots appeared to allow their competitive enthusiasm to outweigh good airmanship, it was purely fortuitous that such an accident did not occur.

The senior air traffic controller, who in the normal course of events might have been expected to deal with the situation before it got out of hand, may well have had his position made complicated by the presence in the tower of the licensed air traffic controller, especially as that individual had been the responsible officer on previous occasions. The situation was further exacerbated by the fact that no weather minima had been established, as recommended by the CAA pamphlet. Had such minima been stated and a responsible person been appointed to decide on the postponement or cancellation of the rally before the competitors reached the London area, the outcome might well have been very different.

2.3 RTF recording apparatus at General Aviation aerodromes

Had RTF recording apparatus been available at Biggin Hill, it would have been possible to determine more precisely the pattern of events that led to the accident. As it was, the investigation had to depend solely on the recollection of those individuals involved and the resultant information was therefore inevitably incomplete. For a number of years the question of widening the provisions of Article 72(2) of the Air Navigation Order 1974 has been discussed with a view to including those airfields that are at present outside the scope of the Order but which cater for a large volume of general aviation traffic. This accident has once again highlighted the necessity for RTF recording apparatus to be installed at such airfields and the matter needs to be reviewed again.

3. Conclusions

(a) Findings

- (i) The pilot was properly qualified and adequately experienced to make the flight.
- (ii) The documentation of the aircraft was in order and the weight and centre of gravity were within the authorised limits.
- (iii) Whilst the aircraft was at a low altitude the engine stopped for reasons which could not be determined. However the possibility of fuel starvation having occurred when the tank in use ran dry cannot be discounted.
- (iv) There was no evidence that the engine stopped due to mechanical malfunction or technical failure.
- (v) The fuel remaining aboard the aircraft when it crossed the rally finishing line could not be established but it was probably more than that drained from the right tank after the accident.
- (vi) The weather conditions between 1148 hrs and 1159 hrs on 16 May 1975 at Biggin Hill were unsuitable for the holding of an air rally.
- (vii) The organisers of the rally had made no provisions for its cancellation in the event of the weather conditions being below a set minimum as recommended by the former Directorate of Flight Safety of the Civil Aviation Authority.
- (viii) The respective responsibilities of those concerned with the operational control of rally procedures were not properly defined.
- (ix) There was no formal briefing of all the air traffic control personnel as to the rally finishing procedures.

(b) Cause

The accident was caused by the engine stopping whilst the aircraft was at a low altitude. The reason for the engine stopping could not be determined though it is possible that fuel starvation occurred when the tank in use ran dry. Contributory factors were indifferent rally organisation and poor air traffic control.

4. Safety Recommendations

- 4.1 It has been recommended that the Aircraft Owners and Pilots Association (formerly BLAC) consider the question of instituting weather minima in respect of rally functions and air races with a view to making specific recommendations in the Association's rules for the guidance of stewards controlling such functions. This recommendation was accepted by the Association and is being implemented. It is further recommended that any rules introduced by the AOPA with respect to weather minima should be compiled under the guidance of the General Aviation Branch of the Civil Aviation Authority.
- 4.2 It is recommended that the managements of airfields, where flying competitions are to take place, ensure that a proper and adequate liaison is established with the organisers during the planning and operational stages of a competition.
- 4.3 It is recommended that the managements of airfields, where competitions are taking place, ensure that all air traffic personnel on duty during the competition period are fully briefed on the competition and that the appropriate safety standards are met. The Civil Aviation Authority have agreed that, where it is within its power to do so, it will endeavour to bring the attention of the appropriate personnel to this recommendation.
- 4.4 It is recommended to the Civil Aviation Authority that a review of the current provisions of Article 72(2) of the Air Navigation Order 1974 be made with a view to extending the scope of the requirement for RTF recording apparatus to those airfields not presently covered by the Order but which have a large volume of general aviation traffic.

P J BARDON
Inspector of Accidents

Accidents Investigation Branch
Department of Trade

May 1976