

## AIRCRAFT ACCIDENT REPORT No. 1/92

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### REPORT ON THE ACCIDENT TO BAC ONE-ELEVEN, G-BJRT OVER DIDCOT, OXFORDSHIRE ON 10 JUNE 1990.

#### SUMMARY

The accident happened when the aircraft was climbing through 17,300 feet on departure from Birmingham International Airport en route for Malaga, Spain. The left windscreen, which had been replaced prior to the flight, was blown out under effects of the cabin pressure when it overcame the retention of the securing bolts, 84 of which, out of a total of 90, were of smaller than specified diameter. The commander was sucked halfway out of the windscreen aperture and was restrained by cabin crew whilst the co-pilot flew the aircraft to a safe landing at Southampton Airport.

The following factors contributed to the loss of the windscreen:-

A safety critical task, not identified as a 'Vital Point', was undertaken by one individual who also carried total responsibility for the quality achieved and the installation was not tested until the aircraft was airborne on a passenger carrying flight.

The Shift Maintenance Manager's potential to achieve quality in the windscreen fitting process was eroded by his inadequate care, poor trade practices, failure to adhere to company standards and use of unsuitable equipment, which were judged symptomatic of a longer term failure by him to observe the promulgated procedures.

The British Airways local management, Product Samples and Quality Audits had not detected the existence of inadequate standards employed by the Shift Maintenance Manager because they did not monitor directly the working practices of Shift Maintenance Managers.

Eight Safety Recommendations were made during the course of the investigation.

- 1 The CAA should examine the applicability of self certification to aircraft engineering safety critical tasks following which the components or systems are cleared for service without functional checks. Such a review should include the interpretation of 'single mal-assembly' within the context of 'Vital Points' and the requirements which include a waiver making the definition of 'Vital Points' non-mandatory for aircraft with a Maximum Take-Off Weight Authorised of over 5,700 kg which were manufactured in accordance with a Type Certificate issued prior to 1 January 1986.

- 2 British Airways should review their Quality Assurance system and the relative roles of E1022s and Quality Monitoring Deficiency Reports be clarified and they should continue to educate and encourage their engineers to provide feedback from the shop floor.
- 3 British Airways should review the need to introduce job descriptions/terms of reference for engineering grades including Shift Maintenance Manager and above.
- 4 It is recommended that British Airways should review the Product Sample procedure with a view to achieving an independent assessment of standards and conduct an in-depth audit into the work practices at Birmingham.
- 5 The CAA should review the purpose and scope of the Flight Operations Inspectorate (FOI 7) Supervisory Visit.
- 6 The CAA should consider the need for the periodic training and testing of Engineers.
- 7 The CAA should recognise the need for the use of corrective glasses, if prescribed, in association with the undertaking of aircraft engineering tasks.
- 8 The CAA should ensure that, prior to the issue of an ATC rating, a candidate shall undergo an approved course which includes training in both the theoretical and practical handling of emergency situations. This training should then be enhanced at the validation stage and later by regular continuation and refresher exercises.