

FLIGHT

and
AIRCRAFT ENGINEER

No 2502 Vol 71 FRIDAY 4 JANUARY 1957

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In the Dark . . .

THE public is now well aware of the statement made in the House of Commons on December 20 concerning the Vulcan accident at London Airport on October 1. Because of its important implication this pronouncement (summarized on page 27) has been eagerly awaited. But careful consideration of its contents—and of other statements, noted in our news pages overleaf—leaves us with the unhappy conclusion that the accident has not in fact been explained at all. The critical phase of the Vulcan's fateful G.C.A. approach must have been during the seconds which elapsed between the time the pilot was told he was 80ft above the glide-path and the moment the aircraft struck the ground. Only an exact and complete record of what occurred during those seconds can explain why the aircraft lost about 250ft and why the pilot was not warned about this by the G.C.A. controller—even though his warning might in any case have come too late.

In the normal course of London Airport's excellent talk-down procedure, two traffic directors in the main control tower, using the Cossor A.C.R.6 radar, would have directed the Vulcan from the Epsom stack to a point seven or eight miles from touch-down, where the G.C.A. controller would have taken over. The controller has two plan-position radar scopes, one covering the last eight miles and the other (on a larger scale) the last two miles to touch-down. Beside him sits the tracker, who adjusts a needle indicator computing the height of the aircraft relative to the glide-path. The tracker passes verbal information on elevation and range to the controller. Dr. A. G. Touch, Director of Electronic Research and Development at the Ministry of Supply, considered that there was no evidence of technical failure or malfunctioning in the radar equipment.

We can only read between the lines, but it has been stated that the Vulcan was directed by the talk-down controller at five miles to begin its descent along the approach glide-path. Many factors can prevent a pilot from settling down, and corrections of large degree may be required. In fact, the report indicates that a certain number of azimuth and glide-path corrections were passed. As frequently occurs during such an approach, trouble came in the last three-quarters of a mile when the pilot's instrument flying had to be extremely precise and the aircraft was only a few hundred feet above ground. On L.A.P.'s usual three-degree glide-path angle, the aircraft would correctly be 208ft above touch-down at this range; and at 1,000 yd (where the Vulcan hit the ground), only 157ft. The approach speed, which has been reported as 140 kt, is not more than 15 kt faster than that of, say, a Stratocruiser.

S/L. Howard, the pilot, had not before made a full G.C.A. in the Vulcan. We wonder whether anyone at all had ever made a G.C.A. in a Vulcan in such bad visibility and heavy rain. No amount of simulation can quite reproduce the psychological conditions. Under such stress the sight of the high-intensity approach lighting is a great relief and there is an understandable and well-known tendency for pilots to fly down towards the guiding pattern of lights. Curiously, S/L. Howard's own testimony on this approach has not been made public.

Another shortcoming of the statement is its failure to explain why the G.C.A. controller not only passed no warning, but continued the talk-down as if nothing had happened. This is not necessarily to be attributed immediately to the G.C.A. staff. The pilot may have used his transmitter and cut out the controller's transmissions. Conversation in cockpit or caravan could have interrupted proceedings. Official statements do not deal with such possibilities; and yet here may lie the crux of the whole affair. However unfavourable the events up to this point, corrective action should have been possible; otherwise the whole G.C.A. system must be called in doubt.

It is also pertinent to ask why the Vulcan did not use I.L.S. or an autopilot with an approach coupler. The Valiant has this equipment and one assumes that the Vulcan would be similarly or better equipped.

Not to seek a scapegoat, but for the peace of mind of all concerned, a detailed record of the occurrences during the few critical seconds should be made public.