



Wing Commander R. B. B. Colmore, O.B.E., Director of Airship Development. (FLIGHT Photo.)

aboard, and the gangway was closed. Red and white lights appeared on the head of the tower, and one red light cast a curious ruddy glow over part of the nose of the ship. A flood light from the tower illuminated the silver belly of R 101. The airship, too, began to light up. Red and green navigation lights appeared on the lateral fins, the control car was brilliant with white light, and a fainter yellow glow from the windows of the dining room suggested that Lord Thomson and the other passengers were having dinner—"only a cold dinner to-night" said one of the officials to me with a grin. From the control car a small spot-light kept flashing from one engine car to another to watch the propellers twirling gently round. Then the new heavy-oil starting engine in the starboard forward car had trouble with its condensed air. *Quis custodiet ipsos custodes?* It is quaintly irritating when a starting engine cannot itself be started. This caused a delay, but in time the trouble was overcome, and all the Tornado engines were running gently and being warmed up. The scene was now quite beautiful, with the lights of various colours showing through the darkness. The afternoon had been fine though grey, with a south-west wind of about 20 m.p.h. blowing at the head of the tower. This was expected to continue throughout the passage across France, and it was known that conditions might get worse in France. It had been decided to fly over London and Paris, and then follow a course to the west of the Rhone valley, striking the Mediterranean about Narbonne. Up to that point the airship was to depend for weather forecasts on the wireless station at Cardington, but after she reached the Mediterranean the Malta station was to take charge of her from a meteorological point of view. Her wireless equipment gave her a speaking range of 900 miles by day and 1,500 miles by night. It was intended during the flight to practise simultaneous sending and reception on different wave-lengths.

The last moments before the cable was slipped were spent in adjusting nicely the trim of the airship. Several times water ballast was discharged from the forward tanks, and the drops as they cascaded down were illuminated by the flood light from the tower, and gave a fairy-like touch to the scene. At 7.36 p.m. a cheer from the crowd told that the mooring cable had been slipped. The said crowd had now assumed remarkable proportions, and I find it hard to believe that all had received Air Ministry passes to enter the airship station. The road from Bedford was lined as far as one could see with cars, whose headlamps made an almost continuous belt of light. All looked for a great success, something as splendid as the flight of R 100 to Canada and back, and more interesting because novel problems would be studied during the flight.

The heavily laden airship did not rise smartly above the head of the tower. Naturally she had on board every ton of fuel and ballast which she could carry. I was told that there were 25 tons of fuel oil, and some 8 tons of water ballast. Irwin was taking the watch, and he let the wind blow the ship gently backwards clear of the tower, while he skilfully regulated the drive of the engines. Slowly, rather sluggishly one might say, she backed, and slowly she raised her nose above the head of the tower. When she was clear, she began to move forward, very gently increasing her height. It struck me as extremely good handling. As she rose, the shape of her hull was lost in

the darkness, and only her lights could be seen. She first circled over her native town of Bedford, and as she did so a drizzling rain began to fall. It steadily increased in volume as I drove back to town, and as the rain got heavier, so the wind got more violent.

The Voyage

The next stage is best told by printing in full the messages sent out by the airship and received at Cardington.

9.21 p.m. (B.S.T.).—

Over London, moderate rain, base of low cloud 1,500 ft.; wind, 240 deg., 25 miles an hour; course now set for Paris. Intend to proceed *via* Paris, Tours, Toulouse and Narbonne.

10.47 p.m.—At 10.35 crossing coast in vicinity of Hastings. It is raining hard, and there is a strong south-westerly wind. Cloud base is at 1,500 ft. After a good getaway from the mooring tower at 7.30, ship circled Bedford before setting course. Course was set for London at 7.54. Engines running well at cruising speed gave 54.2 knots (62 miles). Reached London at 9 o'clock, and then set course for Paris, gradually increasing height, so as to avoid high land. Ship is behaving well generally, and we have already begun to recover water ballast.

12.36 a.m.—Crossing French coast at Pointe de St. Quentin; wind 245 deg. true, 35 miles an hour.

1 a.m.—15 miles south-west of Abbeville, course and speed made good from 7.30 various, 33 knots (38 miles) an hour; altimeter height, 1,500 ft.; air temperature, 51 degrees; intermittent rain; cloud nimbus at 50 ft.; conditions since departure similar; temperature uniform. After an excellent supper our distinguished passengers smoked a final cigar, and having sighted the French coast, have now gone to bed to rest after the excitement of their leave-takings. All essential services are functioning satisfactorily. The crew have settled down to watch-keeping routine.

The airship also talked to Croydon, and at 1.8 a.m. sent to Croydon the message:—"Thanks for valuable assistance; will not require you further to-night." At 1.23 Croydon replied "Am remaining on watch." Then there was a series of short messages between the ship and Cardington, to test the strength of the wireless signals, which were quite strong both ways and showed no sign of atmospheric disturbance. At 2.44 (B.S.T.) Croydon overheard the airship asking Le Bourget for her position. This was given by Le Bourget as 1 km. to the north of Beauvais aerodrome.

Then at 3.16 (B.S.T.) Le Bourget broadcast the message:—"G.F.A.A.W. a *pris feu*." The watches of some of the crew stopped at 2.10. Evidently they had been put on to Greenwich time. Between 1 a.m. and 3.10 a.m. (both B.S.T.) R 101 had travelled only 36 miles. The wind had kept pretty steady from London to Pointe de St. Quentin at S.S.W., which was very nearly abeam. It increased in strength from 25 m.p.h. over London to 35 m.p.h. when she crossed the French coast, and doubtless went on increasing in the two and a-half hours. When she was near Abbeville she was flying at 1,500 with nimbus clouds well below her. When just north of Beauvais she was not sure of her position, which suggests that there was still cloud below her.



Flight Lieut. H. C. Irwin, A.F.C., Captain of R 101. (FLIGHT Photo.)



Lieut. Comdr. N. G. Atherstone, A.F.C., R.N. (Rtd.), First Officer. (FLIGHT Photo.)