

INDIVIDUAL HISTORY

FAIREY FD-2 DELTA WG777/7986M
MUSEUM ACCESSION NUMBER 85/A/10

- 1956 Built to supersonic research aircraft specification E.R.103 as the second 'Delta Two'; constructor's number F.9422. The other was WG774, later rebuilt as the B.A.C.221. There was also a static test airframe. The last fixed-wing type to be designed and built by Fairey; original contract 6/Acft/5597/CB.7 (a) placed October 1950. WG777 was identical to WG774 apart from slight differences in equipment and instrumentation and the removal of the underwing flap system.
- 15 Feb 56 First flight, from A&AEE, Boscombe Down; Pilot Peter Twiss. During the 25-minute flight it went trans-sonic.
- 5 Mar 56 Twiss's second flight in WG777, with his third flight three days later; to save fuel, a Land Rover towed the aircraft to the end of the runway for take-off.
- 13 Apr 56 To the Royal Aircraft Establishment, Thurleigh, near Bedford, initially as a measuring and handling follow-up aerodynamic research programme for the Ministry of Supply.
- 4 Apr 56 Flown by Twiss at Boscombe Down.
- 13 Apr 56 To Bedford by road.
- 14 Apr 56 First flight from Bedford, acting as the last contractor check flight, after which the aircraft was accepted, with 9hr 20 minutes flying time, logged in some 20 flights by Twiss and Slade. Passed to Ministry of Supply at RAE Bedford to prepare it for its forthcoming research programme of high-speed measurement, stability and handling research.
- 21 Aug 56 Returned to Bedford, flown by Peter Twiss.
- 24 Aug 56 Restarted flying from Bedford, being used to prove the satisfactory behaviour of the various modifications embodied during the lay-up at Hayes.

- Sep 56 Both F.D.2s flown at the SBAC display at Farnborough; WG777 had arrived there 4 August; on the practice day both aircraft passed over Farnborough at 38,000 feet, visible by their contrails and audible 25 seconds later by the arrival of sonic booms; bad weather prevented a repeat of the performance during show week.
- WG777 also photographed at RAF Coltishall the same month – Aeromilitaria Spring 2006 p.5.
- 23 Oct 56 WG777 commenced its RAE flights, flown by RAE test pilot Lt Cdr W. Noble, R.N. Six flights made that month, observing pitch oscillations.
- 5-13 Nov 56 Made five flights at Bedford, covering damping in pitch and handling.
- 9 Jan 57 First flight of 1957, with six more flights that month.
- Feb 57 Over two dozen flights, flown by Dennis Tayler, RAE Pilot Stan Hubbard and Peter Twiss, including Dutch roll observations, aileron effectiveness, yaw check, speed reduction, and aileron response.
- Mar/Apr 57 Not flown.
- May 57 Three flights, including an aerodynamic heating research flight at 40,000ft on 30 May.
- 31 May 57 Low-level supersonic run by Dennis Tayler at 10,000ft at Mach 1.15, over the Wash.
- 3 Jun 57 Flown by Dennis Tayler to RAF Leuchars for static display at visit by H.M Queen the following day. Photo – Aeroplane December 2005 p.73. Tayler flew the aircraft back to Bedford on 5 June.
- Jun 57 Seventeen further flights, including there low-level supersonic runs at 10,000ft by Stan Hubbard at Mach 1.25 and 1.15 on 18 June.
- July 57 Used in programme of stability and controllability tests until October 1957 - included aerodynamic tests at supersonic speeds, lateral stability, performance, pressure plotting and kinetic heat trials for comparison with theoretical and wind tunnel tests.

Aug 57	Low level supersonic programme completed with three flights by Stan Hubbard at Mach 1.18 and 10,000ft, two on 27 August and one on 28 August. Three other flights made that month, all six by Hubbard.
Sep 57	Made eleven flights that month, including studying supersonic Dutch roll behaviour. Included aerobatics at Upwood and Duxford on Battle of Britain Day, 14 September, and two flights by Ted Mellor for supersonic Dutch roll investigation on 27 September.
Oct 57	Flown seven times for drag measurements in approach configuration, and for accelerations.
Nov 57	Further flights, for partial glides and associated airbrake angles, drag measurements and induced drag research, achieving Mach 1.6.
2 Dec 57	Final flight before being laid up for several months, having made 18 flights since 23 September 1957.
7 Jul 58	Resumed flying after 60 hour inspection; By this date WG777 had completed 161 flights and 71 flying hours.
Sep 58	Made 15 flights, including level runs at 40,000ft and speed reduction flights by Dennis Tayler. Other flights down to 10,000ft at Mach 1.2.
Oct 58	Made ten buffet investigation and speed reduction flights by Humphreys, Hubbard and Tayler, and an assessment flight by Goodfellow on 31 October.
Nov 58	Four flights, being grounded following its fourth flight on 11 November.
Jan 59	Not flown.
Feb 59	Flown by Hubbard five times, and three times in March 1959.
Apr 59	Flown nine times. Most February-April flights were for thrust measurements using the swinging pitot tube.
May 59	Made twelve flights, mainly for swinging probe work and high-speed aerodynamic research.
June/July 59	Not flown.

17 Aug 59	Resumed flying-pilot John Humphreys.
Sep 59	Made nine wingtip weight flights.
Oct 59	Made 11 flights that month.
Nov 59	Six flights, including swinging probe to measure jet efflux.
Dec 59	Flown once, for engine calibration.
Jan 60	Flown twice for pressure plotting, on 6 January.
Feb 60	Nine flights for pressure plotting. Included formation flight over Bedford with other FD.2 WG774 on 19 February – photo Matthews & Davison p.82. Grounded for several months afterwards for maintenance/installation work.
Aug 60	Both FD.2s photographed at Bedford. Matthews & Davison p.83.
Sep 60	Made fourteen flights from 2 September.
Oct 60	Eight flights, one being aborted on 28 October.
Nov 60	Made nine flights
Dec 60	Three flights, 40,000ft frequently being reached.
Jan 61	Flown four times, for swinging probe thrust measurements, rudder kicks and elevon and landing gear tests.
Feb 61	Six flights, achieving Mach 1.64 at 32,000ft.
Mar/Apr 61	Not flown
May 61	One flight, on 30 May, by Angus McVitie.
Jun 61	Flown for air test on 6 June by Henderson at Mach 1.8 at 41,500ft. Shown at Farnborough 8 September, returning to Bedford 12 June. Flight by Jack Henderson on 28 June aborted because of reheat problems.
Jul 61	Flown up to 18 July when test flight had to be aborted because of engine problems; a new engine was fitted and flights resumed on 28 July.

Aug 61	Ten flights, at up to Mach 1.4 and 40,000ft.
Sep 61	Five flights, accelerating up to Mach 1.56, sideslips, supersonic stability and low-speed handling at full aft Centre of Gravity.
6 Oct 61	Flown by Godfrey Auty on familiarisation test and test of rear centre of gravity; one of seven flights that month.
Nov 61	Flown to Coningsby, returning to Bedford on 24 November.
Dec 61	Flown once, on 18 December, and then laid up for almost two years.
1 Nov 63	Low-speed air test following fitting of smooth flow wing gloves..
Dec 63	Further flying; by the end of the month, WG777 had made a total of 312 flights since 1956.
24 Jan 64	30min first FD-2 familiarisation flight by RAE pilot Clive Rustin.
Feb 64	Flown five times, with the wing gloves fitted with a camera.
Apr 64	Flown six times for checks on vortex pressure fluctuations.
May 64	Eleven flights, fitted with wing gloves and camera.
Jun 64	One flight only – sub-sonic vortex pressure fluctuation research flight on 25 June.
Jul 64	Flown twice.
Aug 64	One recorded flight, on 5 August – vortex pressure research mission.
19 Sep 64	On static display at RAF Coltishall for Battle of Britain day display.
Oct 64	Two vortex pressure fluctuation investigations, on 23 and 27 October.
Nov 64	Flights on 3 and 4 November by John Farley converting onto the FD-2. Aircraft then laid up for several months.
9 Jul 65	Flown again – supersonic air test; pilot Clive Rustin.

Aug 65	Flown twice by Rustin.
Sep 65	Ten flights, including visiting RAF Coltishall on 17 September to participate in Battle of Britain flying display.
Oct 65	Dickie Millward made four flights for Dutch rolls at high Mach number and trim drag.
Nov 65	Aircraft and instrumentation problems grounded the aircraft, so following some ground runs it flew only once that month, on 24 November, its 389 th flight.
Dec 65-Feb 66	Not flown; laid up at Bedford. Wingtip parachute installation fitted February 1966 for small parachute towing.
1 Mar 66	Resumed flying, making ten flights that month.
Apr 66	Flying by WG777 restricted by weather and aircraft problems, so only five flights made totaling 2hrs 10 minutes flying time. Grounded by undercarriage faults from 25 April to 3 May.
9 May 66	Flown again, then grounded for inspection until 26 May; flew 2hrs 10 minutes total in May on four or five flights. Then prepared for pressure-plotting missions.
3 Jun 66	Flown for rear fuselage pressure plotting at 40,000ft.
8 Jun 66	Flew as supersonic chase aircraft for WG774, by then rebuilt as the BAC.221. Both aircraft flew in formation on the 10 and 13 June. Photo – Matthews & Davison p.130. Later in June, WG777 visited Cranfield and flew for pressure plotting, maximum heat acceleration, Dutch rolls and rudder kicks. Total flying for June 13 flights – 6hr 55min.
27 Jun 66	Released from trials use after 429 flights.
12 Jul 66	Having flown on the 1, 5 and 6 July, last working flight – 20 minutes, Mach 1.65, 3g decelerations. Pilot Rustin. The 6 July flight (No 427) was a high Mach conversion training flight by John Farley, with full reheat acceleration started at 40,000ft, reaching Mach 1.65.
13 Jul 66	Fifth flight in July -Last Flight (No 429) – pilot Dickie Millward.

Total flying time 198hrs 15 min.

- 29 Nov 66 RR Avon engine removed, spares recovered and airframe stored at R.A.E Bedford. Its useful life was ended by an official directive which decreed that all aircraft should be fitted with UHF radios, for which there was not room in the narrow fuselage.
- 8 Sep 67 By road to the station museum at RAF Finningley, North Yorkshire, and displayed at the Station's Battle of Britain open day the following week. Photos at Finningley at this time - Control Column July 1968 p.12; Air Enthusiast May/June 2001 p.25 (at BoB day, September 1968).
- 25 Oct 67 Allotted RAF ground instructional serial 7986M.
- c.1971 To storage at RAF Topcliffe, Yorks.
- Apr 73 To the Station Museum collection at RAF Cosford, Salop. Photos - Air Clues May 1976 p.195; Air Extra 13 p.15. Remains on display at the RAF Museum, Cosford.

For details and full flight log, see Matthews, H and Davison, P. The speed saga FD-2 and BAC221 The Complete History X-Planes Book 6 2006.

TEXT; ANDREW SIMPSON

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