

From Harry Davis – Aeromechanical Department Fuel Systems Engineer (in 1963 – 1965)

TSR.2 Memories

One of my most vivid memories of TSR.2 is that of Stage B Fuel System testing. (On-aircraft testing of refuel, defuel, transfer, cooling, engine feed and gauging).

TSR.2 fuel control system included a fuel computer – 64Kb memory if I recall correctly.

Aircraft final assembly was at Weybridge but system responsibility was with our Warton team so we travelled to Weybridge for the testing.

The fuel systems engineering team in those days consisted of an Engineer and a Senior Engineer. (Compare that with the Eurofighter Fuel systems team!) I was the Engineer. We could therefore only afford to send one of us (me) to Weybridge and the Senior Engineer (John C Oliver) stayed at Warton. John is sadly no longer with us. He was a great mentor to me.

Three Test Engineers from Mechanical Test Department completed the fuel system test team sent to Weybridge.

The political situation at the time seemed to indicate that if we could get the aircraft flying before the general election it would be less likely to be cancelled. (Although the local Labour MP had been to site campaigning and promised that Labour would not cancel TSR.2, even distributing leaflets saying exactly that!) (*see photo album page 503, editor*)

We were testing on a 24-hour basis. The Mechanical Test team worked on a rota and of course the fitters at Weybridge worked shifts but there was only one of me! I worked approximately 36 hours on and 6 hours off continuously for

the 10 days of testing. During my working periods I would take advantage of any occasions such as having to stop testing to change a faulty component or do some electrical circuit testing because something was not working. On these occasions I would get my head down and have a short sleep on the floor of a nearby Production Directors Office. He kindly invited me to do this because his office was the only one with a carpet on the floor! Sadly I do not recall his name.

I did a lot of the switching and recording in the cockpit during the tests and on one occasion there was a short break in the proceedings and when it was time to start again I was found fast asleep in the cockpit (on a seat made from Dexion, wood and a cushion, the ejection seat did not go in until later).

TSR.2 had a fuel balancing system which transferred fuel between the forward and aft fuel tanks in order to maintain the correct aircraft centre of gravity at different flight attitudes and Mach number.

At Warton we would ensure that tank pressures were not exceeded during fuel transfer or refuelling by checking on pressure gauges attached to tank filler caps provided for emergency ground refuelling. At Weybridge they had had a problem in the past when a gauge had not worked for some reason and a tank had been over pressurised and destroyed.

They therefore employed 'stack pipes' attached to the filler caps (which nearly reached the hangar roof).

During the fuel balancing checks on XR219 it was discovered that the valves controlling fuel balance transfer had been incorrectly wired. We had rear tank half full and forward tank full and selected transfer forward to rear. The valve opened to transfer rear to forward! Before we had time to realise the fault fuel was ejected from the stack pipe, hit the hangar roof and cascaded over the fwd fuselage, cockpit and me.

An AQD (MOD Aeronautical Quality Department) inspector had to sign off the test results for the MOD. This inspector annoyed us because when called to witness a test he would walk the 50yds or so from his office at a very slow pace and we were all rushing about like the proverbial flies. However when he was stood alongside the cockpit on the scaffold platform and he realised the fuel was about to rain upon him he moved! He was on the hangar floor clear of the 'fallout' before it hit.

We completed the tests and after a long sleep in the Oatlands Park Hotel I returned to Warton. I could not book all the overtime I had worked because, even in those days, it exceeded allowable working hours. However, Roland Coles authorised me to book it over several weeks.

John Oliver and I shared the Boscombe cover and John was lucky enough to be there for first flight. But I was at Boscombe for some of the later flights and then, of course it came to Warton. The cancellation, although not altogether unexpected, was a great blow and I left BAC to work at Pirelli Tyres and then English Electric - Steam Turbines. But when MRCA started John phoned me and I decided there really was not anything to compare with Aircraft Engineering. I spent the next 30 years doing just that.

Henry Davis