BAC TSR.2

History: In 1956 the Royal Air Force issued General Operational Requirement 339 for an ambitious replacement for the English Electric Canberra. It would have supersonic all-weather aircraft that could deliver nuclear weapons over long range, either at high altitude at over Mach 2 or at low level at Mach 1.2 and could take off from rough airstrips.

This Requirement was issued in a period when British air defence needs were going through some radical rethinking. In 1957 the Sandys Report said that manned aircraft were a thing of the past and that air warfare in the future would be fought by guided missiles. The result was the cancellation of several important project that left Britain's air forces without modern equipment when the Report was discredited within a decade. Politics were an important factor in the development of an aircraft to meet GOR 339 and Sidney Camm commented that aircraft development had four dimensions; span, length, height and politics. The TSR.2, he said, got the first three right.

The RAF considered a proposal for a supersonic version of the Blackburn Buccaneer but it was not able to achieve the Mach 2 or short air-strip performance the RAF wanted. Several other proposals were submitted and, from them, the BAC proposal, named TSR.2 (nobody is sure what the 2 means), was selected in 1959. The design featured blown flaps to meet the short take-off and landing requirement, which was preferable to the more complex 'swing-wing' that had become fashionable, would have highly sophisticated avionics and a narrow span wing with high loading so it could fly at very high speeds with great stability at low level.

The first TSR.2 flight occurred on 27 September 1964. A second prototype was also completed but not flown. The TSR.2 easily met the required specifications and was aerodynamically trouble free. There were, however, problems with the undercarriage and the engines - the engines originally delivered for the first aircraft didn't even fit. As a result the first flights were all performed with the undercarriage down and engine power restricted, and the undercarriage was only retracted on the tenth flight. The first supersonic flight occurred on the fourteenth test, and then with only one afterburner due to troubles with the other. Over a period of six months many test flights were conducted but without the complex electronics that were not yet ready. The biggest problem with the project was major cost overruns, and that made it politically vulnerable.

The Labour Party came to power in Britain in 1964 and announced, in the 1965 Budget, that the TSR.2 project would be cancelled and the RAF would acquire American F-111s instead. The main reason for project cancellation was given as the high cost overruns of the project. As it turned out, cost overruns were even higher for the F-111 and eventually the RAF acquired McDonnell Phantoms and Hawker Siddeley Buccaneers instead. The first prototype, the only

TSR.2 to fly, was used as a target to test the vulnerability of modern airframes and systems to gunfire. The following two TSR.2s ended up in museums and other airframes, tooling and components were destroyed. When the Conservatives returned to government in 1980 a study was made into resurrecting the TSR.2, but starting again from scratch would have been very expensive and, by then, the TSR.2 was no longer cutting edge.

Data: supersonic strike and reconnaissance aircraft. *Engines* two Bristol-Siddeley Olympus B.01.22R turbojet engines of 136.7 kN (30,610 lb) thrust each. *Wing span* 11.27 m (37 ft 1¾in). *Length* 27.12 m (89 ft ½in). *Maximum take-off weight* 46,357 kg (102,200 lbs). *Maximum speed* Mach 2.15. *Combat range* 1850 km (1150 miles). *Armament* one nuclear or six 450 kg (1000 lb) conventional bombs in internal bomb bay and rocket packs or nuclear weapons on underwing pylons.

The kit: Airfix 1:72

I saw one of the surviving TSR.2s at Duxford a few years back, a memorable experience because it was such an elegant and large aircraft. However, like many aviation enthusiasts, I'd liked the look or this aircraft long before that and had even struggled with the Contrails vacform kit, which I finally threw away in disgust. I read that Airfix were planning to release a TSR.2 kit at the time when it was flying but cancelled it when the project itself was cancelled, and some of the features of this kit make me wonder if it was not designed then. Like many other modellers, I hoped that since the moulds were being made overseas in the 21st Century, they might be up to contemporary standards, but in many ways this kit harks back to the days before Airfix released some of its best kits.

You had to order this kit in advance if you wanted any of the 10,000 that were released and, for some unknown reason, I ended up with two of them. That's alright, I thought, I'll be able to get rid of the second one in a few years time. When I opened the box I found a lot of white plastic and numerous little bits and pieces. I soon discovered that was because Airfix had made the kit with every conceivable canopy, air brake and undercarriage door as a separate piece. In reality this is a very simple kit that could have been better and more simply made, and it would have been better if some of the pieces had fitted properly. For example, I had to spend a lot time getting the join between the fuselage and wings even adequate, the canopies don't fit very well without a lot of work, and the tailing edges on the wings were so thick I thought at first the wings on the original must also be like that. There are more, believe me. I guess that most modellers would have taken the top off their precious kit and been as aghast as I. But, unlike most of them, I foolishly started work.

Finally I'd solved most of the problems and the model was ready for painting. I thought I'd experiment with using acrylic white paint from a spray can and the result looked spectacular, this was going to be one beautiful looking model, I thought. I put on the decals, a time consuming business with all the stencilling, and then a sealing coat. Holy Mother Of Jesus!! It made the white coats semi transparent so you could see all the working underneath. Suffice to say I would have gone grey, if that hadn't already happened, and I had a disaster on my hands. Still, I managed to solve some of the problems and mine is probably not the worst TSR.2 to be made from a kit. If you don't look at it closely it still has the size and elegance of the real thing. Perhaps I'll have to make my second kit instead of selling it, when I can work up the nerve.