

MAKING A PIG'S EAR FROM A SILK PURSE...?



'Anglicising' the McDonnell Douglas F-4 Phantom

In the latest in his ongoing series of articles looking at various aspects of Britain's post-war aviation industry, PROFESSOR KEITH HAYWARD FRAeS turns his attention to the troubled procurement of the F-4 Phantom for the Fleet Air Arm and RAF, described at the time by Denis Healey as "a clear example of why *not* to adapt foreign purchases . . ."



THE McDONNELL Douglas F-4 Phantom II has arguably never been one of the world's more aesthetically pleasing aircraft; but it was unquestionably the finest combat aircraft of its generation.

As an emergency "gap-filler" for the RAF at a time when it was missing a "supersonic Hunter" (which had been cancelled in the mid-1950s), and for the Fleet Air Arm (FAA) when it was looking for a generational leap into supersonic carrier aircraft, the F-4 was an inspired choice. However, the British government was determined to maximise domestic industrial returns from what would have been an expensive dollar purchase by "Anglicising" the Phantom with a Rolls-Royce supersonic Spey engine and a Ferranti nav/attack system, along with other British equipment including Martin-Baker ejection-seats.

It was a course of action that led to a massive cost escalation; ultimately the programme cost a staggering £500m. More than £110m of that eye-watering price-tag was for additional research and development (R&D) for the type, compared to the first "realistic" estimate of around £34m.

Moreover, with their "flyaway" price having doubled, the UK's F-4s initially seemed to be less capable than an equivalent "off-the-shelf" procurement. According to Denis Healey, the Secretary of State for Defence during 1964-70, the Phantom was a "clear example of why not to adapt foreign purchases".¹ As the archives reveal, procurement of the Phantom certainly caused problems for the Ministry of Defence (MoD), yet RAF and FAA pilots considered it to be a superior product. It also came to fill a critical gap in UK operational and industrial development at a time of considerable policy confusion.

An "Anglicised" Phantom

By the early 1960s both the RAF and Fleet Air Arm, as well as the UK aircraft industry, were hoping to recover from the effects of the "Sandys cuts" of 1957.² There was a renewed requirement for conventional military aircraft, with the BAC TSR.2 under development as a long-range bomber and the supersonic V/STOL Hawker Siddeley P.1154 destined initially for both RAF and naval deployment. By 1965 international collaboration, primarily with France, promised a package of combat aircraft and missiles including the Sepecat Jaguar strike/trainer and the advanced Anglo-French Variable Geometry (AFVG) aircraft.

The overall state of the British economy, however, and the affordability of defence equipment, was an increasing preoccupation for

the government, and the dollar-costs of overseas procurement would be an ever-present theme throughout the 1960s. The "Anglicisation" of a fine American design seemed a good option to satisfy the FAA's immediate needs, and appeared to be a comparatively cheap option. These needs were initially intended to be met by a joint procurement with the RAF of the P.1154 — an option that was stymied by rivalry between the junior and senior services. Early in 1964 the Royal Navy withdrew from the P.1154 project and moved to procure a new fleet of air-defence interceptors, ultimately selecting the McDonnell F-4 Phantom II (McDonnell merged with Douglas to become McDonnell Douglas in April 1967). Britain would be the first F-4 export customer. As a result, in June 1964 the Conservative government agreed in principle to buy the F-4 (designated F-4K for the FAA examples) with a large proportion of integrated British equipment. A "premium" of about 20 per cent was considered to be a reasonable price to pay for modifications, which would support some key British aerospace capabilities.³ This premium was essentially the extra cost over and above the "off-the-shelf" price of the aircraft, to be justified by the industrial benefits of incorporating UK technology.

Early cost estimates for the "Anglicisation" programme included £15m primarily for engine development and another £22m for modifications to the airframe (so-called "US" costs). At this point it was felt that there would be some savings from co-development with the RAF P.1154, but the selection of a Bristol Siddeley engine for the latter precluded any degree of commonality. By September 1964 the estimated cost of engine development had risen to £16m.⁴ This still seemed to be manageable, however, and acceptable given the importance of the order to UK industry. By the following summer, the situation had been transformed by more accurate data showing that estimates had more than doubled, calling into question the programme's viability. However, this was a problem to be faced by a new government.

Cancellations and industrial policy

In October 1964 the Labour Party won the General Election, and began a review of aircraft and defence programmes that continued until 1966. The new ministerial team was determined to cut the costs of defence, and to curtail what it regarded as an aviation industry out of control. The Plowden Report of 1965 committed the industry to a collaborative future, and both the P.1154 and TSR.2 were cancelled, the latter in

OPPOSITE PAGE, MAIN PICTURE *With both Spey afterburners roaring and the double-length nosewheel oleo fitted to the FAA's examples fully extended for a catapult launch, Phantom FG.1 XV591 of No 892 Sqn prepares to depart HMS Ark Royal.* OPPOSITE PAGE, TOP *Denis Healey, Secretary of State for Defence, 1964-70.* TAH ARCHIVE