

# Fighter Armament

What is Wanted To-day—and What is Still  
Missing : A Critical Examination of Progress.

PART I : Important Lessons from the Past

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**J**UST before the close of hostilities, six experimental Me 262, each equipped with forty-eight R.4/M missiles attached beneath their wings, attacked a raiding party of B-17E Flying Fortresses, destroying fourteen and returning to base without loss. After this success, a priority order was placed for 25,000 R.4/M, just two-and-a-half weeks before the fighting ended. The results that might have been achieved with this weapon in a few more months are frightful to contemplate."

The foregoing passage is from *German Research in World War II*, by Col. L. E. Simon, U.S.A.F. To-day, a seeker after knowledge from official sources might, perhaps, be told (a) that no such weapon existed; (b) that it is known but absolutely uninteresting; (c) that enquirers belonging to air forces outside the Atlantic Pact will have a specimen handed over for study.

In the meantime, all this country's fighter aircraft possess armament which would have been adequate in 1938, and which might have rendered excellent service during the Battle of Britain. In A.D. 1950, however, such armament is antique and as effective as peashooters to fight riflemen. To-day, the weapons of interceptors are no longer the exclusive concern of those who have to fight with them: *the nation's existence depends on the effectiveness of air defence*. The threat of airborne atomic weapons, of nerve gases and other horrors have put a very definite stop to shilly-shallying in matters of air defence.

Four or five years ago, ex-Luftwaffe air-combat experts were amazed to find new British jet fighters still armed with 20 mm shell guns of a (modified) 1916 type; in vain they pointed out that already, in 1944, the installation of four 30 mm very modern shell-guns in the Me 262 had proved inadequate.

Modern vehicles are designed around the load or equipment they have to carry; so are modern aircraft. In military aeronautics, however, where armament always lagged centuries behind, it is too often the other way round, because armament technicians persistently produce weapons for the aircraft of yesterday. This leads to initially good aircraft being afflicted with the nightmares of official sleepers who exist in august but secretive isolation, away from the brutal exigencies of reality. It produced the cherished "flying christmas tree."

Aircraft for the interception and destruction of aerial intruders are simply weapon carriers, to place a weapon and its operator into position for attack at minimum risk. Interceptor development is, hence, a straightforward problem.

A ruthless enemy bent on offensive action with modern means of total destruction and general paralysis—instead of pottering about with a few tons of H.E. bombs or incendiaries—compels the country attacked to insist on a *total* air defence. Gone are the times in which soothing apologies like "the bomber will always come through," or, "a few intruders will occasionally manage to slip through the best air defence," could be tolerated. If any intruder can still come through, the defence is bad, and this is an admission of defeat before a war has even started. It also means the encouragement of potential enemies. Moreover, there will be no future sitting war, with dirty linen hanging from the Siegfried Line—and sufficient time for Beaverbrooks to instil some animation



"It is futile to derive comfort from the American worship of the 0.5 in calibre . . ." Armourers at work on a Republic Thunderjet, mounting six Colt (Browning) -type guns of half-inch calibre

In this outspoken article an aircraft designer who has closely studied military requirements over a long period contends that British fighters are still under-gunned, and alleges that even from the time of World War I our armament experts have been dangerously conservative and reluctant to profit by the experience of successful experimenters abroad. While not necessarily endorsing all Mr. Weyl's views, *Flight* considers them worthy of most serious study. It must, of course, be realized that new and efficient weapons may well be under development or even in production.

into departments responsible for the provision of air defence.

Within Britain's air defence, the manned interceptor aircraft claims priority. It may, at some future date, be superseded by other, perhaps fantastic, weapons. Against certain forms of attack, even now, other defence devices may provide the answer. But there is no replacement yet for the manned interceptor as main support of air defence.

Hence there is every need to insist that our armament technique provides the means to destroy any sort of aerial intruder. This science has to keep pace with aeronautical, tactical and strategical progress. Up to now, this has not been so. In the past, either the aircraft designer or the aircraft operator has had to take armament development in hand when there was immediate operational need. This is, unfortunately, no longer possible. There will be no Roumanian drill designer to solve an armament problem which the official gun experts had failed to recognize!

However justified the official regret may be that the cross-bow was given up in favour of gunpowder, the dire fact must be faced that all British fighter aircraft are underarmed; and Ministerial promises will not alter it.

It is futile to derive comfort from the American worship of the 0.5in calibre (hence the widely advertised fighter performances). In each of two world wars, American fighter equipment failed to impress the combatants when displayed on the scene of action. Moreover, the United States, had never to worry about home defence, whilst Britain was always in the front, taking the first blows besides. Recent news, in addition, indicates that U.S. interceptors will fight with small supersonic rocket missiles (probably developments of the German R.4/M).

The German Becker gun of 1916 (of which the British Hispano gun is but an adaptation of a modification) was designed for use against armoured ground targets such as tanks and submarines. Interceptors demand special weapons for aerial target. In the Luftwaffe, the corresponding shell-gun, the Oerlikon (different in ballistics) was discarded in 1941. Even disregarding the opinion—expressed by U.S. ordnance engineers—that the development of an automatic gun takes five to ten years, a modern air-combat weapon cannot be created by sleight-of-hand when the operational need reveals itself to those concerned.

The weapon specialist no longer has the excuse that his first duty is to provide for ground warfare; and that air-combat weapons should be adaptations only. The R.A.F. is now the *first line of defence*; thus special air-combat weapons for interceptors have a claim to development in their own right.

A disconcerting aspect in development is the experts'