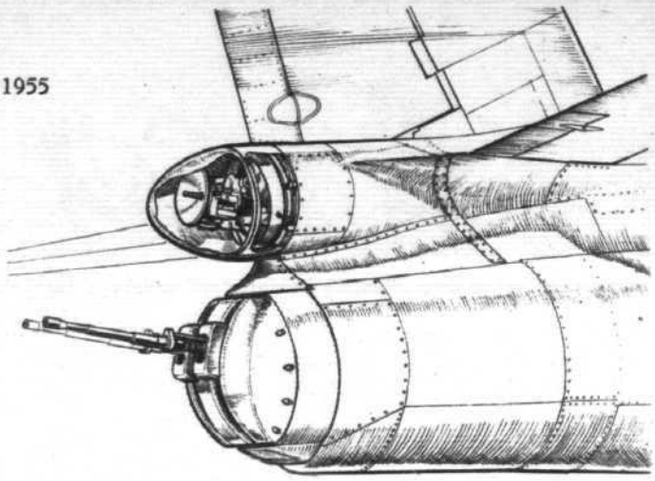
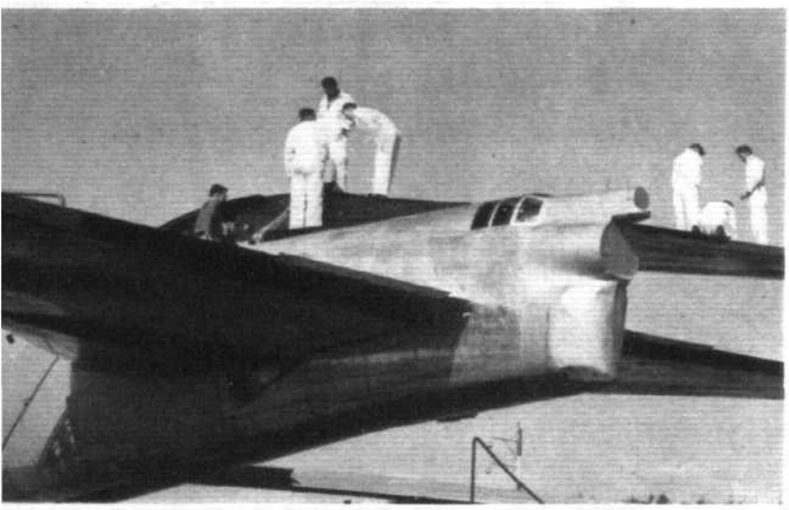
AIRCRAFT ARMAMENT PART 2

MISSILES AND PROJECTILES

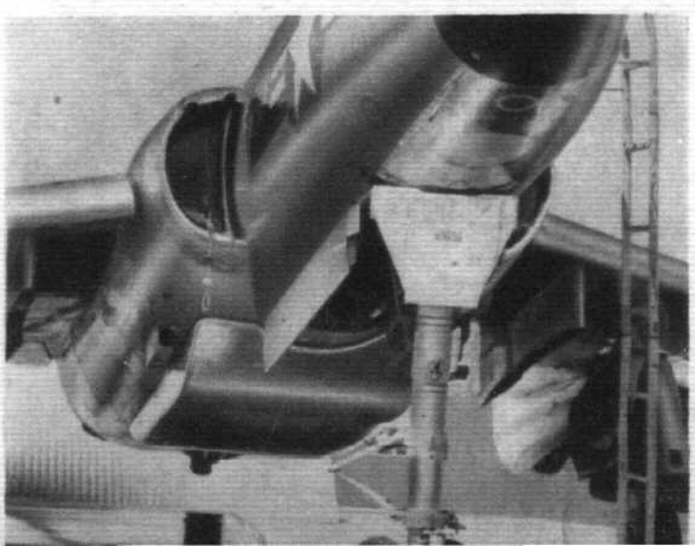


General Electric tail turret, with two 20 mm guns, on Boeing B-47. (Search-radar housing shown sectioned.)



Incomplete tail-gun emplacement of the Boeing B-52 Stratofortress—the world's largest bomber. (Intended armament is four 20 mm guns.)

(Above) Retractable launcher for Mighty Mouse R.P.s on the North American F-86D. (Below) Mighty Mouse pack on Chance Vought F7U-3.



THOUGH the shadow of the hydrogen bomb lies grimly across the political and social scene, the technical particulars of this weapon are still obscure. Indeed, little of a definite nature is known of even the earliest forms of "special weapon," and in consequence the present section of our review is necessarily out of balance. It must, however, be appreciated that more-or-less conventional air armament will hold a place for years to come, and with that in mind we have assimilated available information under these headings:—

Gun turrets	Guided bombs
Air-to-air-rocket projectiles	"Special weapons"
Air-to-air guided missiles	Torpedoes
Air-to-surface rocket projectiles	Sea mines
Guided anti-tank missiles	Depth charges
Air-to-under-water missiles	Napalm
Unguided bombs	Anti-personnel darts

Readers seeking a general survey of guided missiles and their evolutionary background are confidently referred to *Development of the Guided Missile*,* by Kenneth W. Gatland, F.R.Ae.S.

Gun Turrets. Though the U.S.A.F. and U.S. Navy have retained defensive gun turrets on their post-war multi-engined bombers, and Russian policy is likewise conservative, defensive guns on British bombers have been entirely—and, it seems, finally—abandoned. This policy, initiated with the Mosquito, is rendered possible on the Canberra, Valiant, Vulcan and Victor not by high speed alone, but by very high operational ceilings and exceptional standards of manœuvrability at altitude—these last qualities being the dividends paid by moderate wing and thrust loadings. Tail-warning radar is mandatory on all bombers pretending to the title "modern," while countermeasures continue in demand.

Standard defensive armament of the Boeing B-47 Stratojet medium bomber is a remotely controlled, unmanned General Electric tail turret mounting two 20 mm guns. Associated with this turret is a search-radar installation, which is switched on in a danger zone so that, when a pursuing fighter shows itself on the screen, it is automatically tracked. Having approached within range, it is engaged, again automatically, by the B-47's guns. The more massive B-52 heavy bomber has a somewhat similar arrangement (though, in this case, allowing for the position to be manned), and the armament consists of four 20 mm guns.

The U.S. Navy's Douglas A3D and its U.S.A.F. counterpart, the B-66, is defended, like the B-47, by two remotely controlled 20 mm guns in a tail installation, and emp'acements of a generally similar pattern have been identified on Russia's I1-28 straight-wing, twin-jet bomber, on the swept-wing, twin-jet Badger, and on the four-jet, swept-wing Bison.

Some years ago it was reported that experiments were to be made with defensive guided-missile installations on a Convair B-36 heavy bomber, but the outcome of trials (if, indeed, they proceeded as planned) has not been divulged.

Air-to-air Rocket Projectiles. Under this heading are considered those weapons which have stemmed from the 2in R4/M, developed by the Germans in the late war. The R4/M was the first specialized air-to-air rocket and weighed 7¾ lb, with an explosive head of 1 lb.

Before the war's end, brief though remarkable successes were achieved against Boeing B-17 bombers.

The post-war American counterpart is the 2.75in folding-fin Mighty Mouse, developed by the Naval Ordnance Test Station, Inyokern, California. Generally similar is the Aeromite, developed by the Aerojet Corporation, but no corresponding weapon is

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