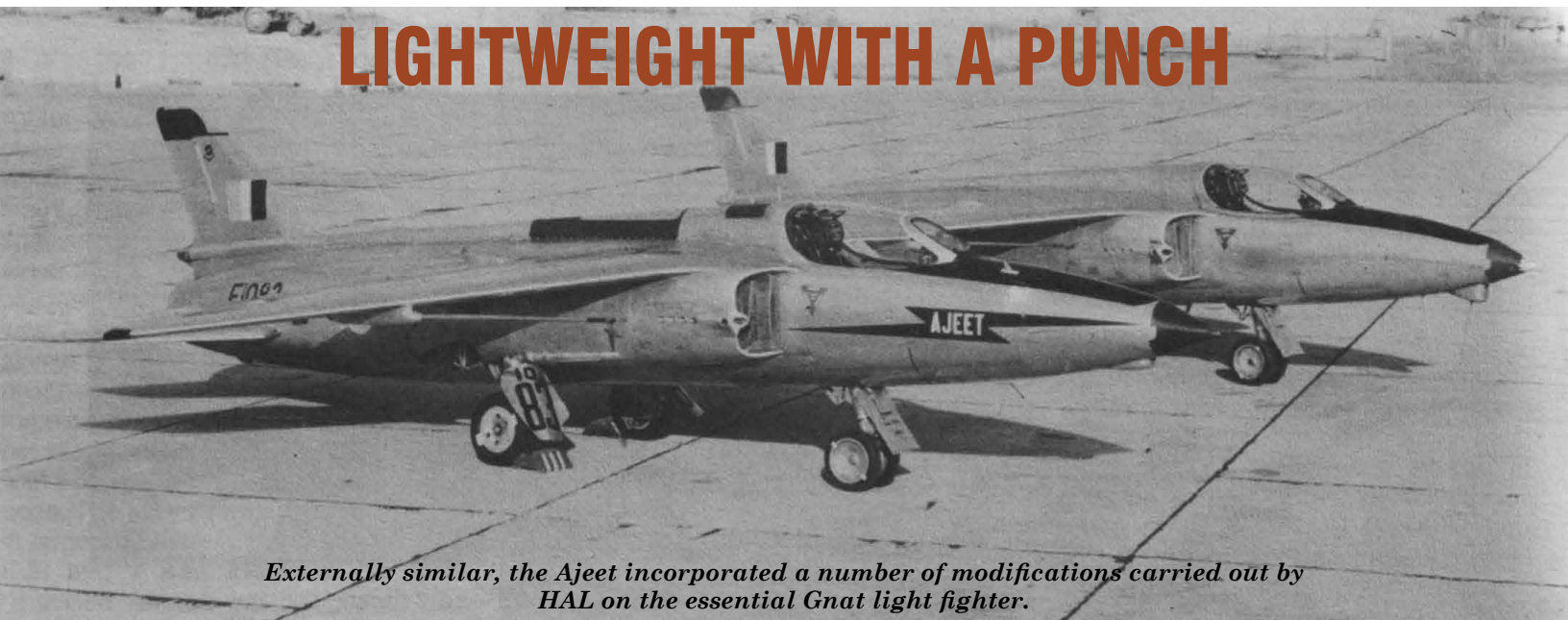


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LIGHTWEIGHT WITH A PUNCH



Externally similar, the Ajeet incorporated a number of modifications carried out by HAL on the essential Gnat light fighter.

THE GNAT AND AJEET IN IAF SERVICE

By the late eighties, when the last of the Ajeets are phased out of frontline service with the Indian Air Force, the world's first—and only—true lightweight jet fighter will have completed nearly three decades of operation with the country's air arm. In these thirty years, over three hundred of these fighters have sported the IAF's roundals, almost all of which were built by HAL at Bangalore.

Genesis of the Indian Air Force's interest in the lightweight fighter can be traced to the mid-fifties when expansion and modernisation of the IAF was being planned as well as the Government of India's resolution to attain self reliance in the field of defence production. HAL's technical and financial resources were limited and the concept of a light fighter (and one relatively inexpensive by implication) was attractive and practical.

William Edward Willoughby Petter in England, whose genius was to give form to the light fighter conception, first envisaged, in September 1951, a design which was the direct ancestor of the Gnat as it was to be eventually known. The British Defence Research Policy Committee had approved the basic concept of the aircraft, to be

powered by a Bristol BE.22 Saturn jet engine but the latter was a non-starter and the Ministry of Supply dropped the programme in the autumn of 1952. Undeterred, the concept was nurtured by Folland Aircraft at Hamble who continued to develop the aircraft as a private venture. While construction of the Viper-powered machine, then called the Midge, was proceeding during 1953, a Bristol engine project was revived, also as a private venture, and the larger and more powerful Orpheus emerged. In their crusade to arrest the upward size-weight-complexity-cost spiral, Mr. Petter and Follanos were certainly encouraged by the interest eventually shown by overseas Governments, notably India. To the Indian air staff, straining under a skin tight budget, the Gnat lightweight fighter with its outstanding economics and simplicity, appeared at the right time on the horizon. The IAF, which had been reduced to seven fighter squadrons in August 1947, was involved in a shooting war a few months after and a veneer of modernity was only really introduced in 1950 with the formation of Vampire squadrons and, in 1954, Ouragan units. Even so, by 1955, the IAF could boast of no more than a dozen

fighter Squadrons, two still equipped with the Spitfire XVIII and XIX. About the same time, Hindustan Aircraft Limited at Bangalore were assembling Vampire F.B.52s and HT-2s and the Indian Government were looking for a manufacturing programme to fit in with the limitations that existed. If the law of diminishing returns was applicable to aircraft manufacturers in advanced countries, progress would all together cease at HAL because of the galloping complexity in producing advanced combat aircraft that could fly faster, higher and possess greater hitting power.

WEW Petter has since admitted that the conception of the lightfighter was at the time due more to the limited conditions existing at Folland's both in terms of skill and financial resources, than the suggestion by Air Commodore Baker-Carr, RAF, that large numbers of rocket firing "expendable" light fighters be manufactured to neutralise the Tu-4 bombers then being produced in large numbers in the Soviet Union.

At any rate, HAL with its less elaborate manufacturing facilities could well handle the production of this advanced fighter, make more numbers available at a quicker rate.