

EASTERN PROMISE

It took World War II to get the Indian aerospace industry moving – now it is gliding into full-scale development with both fixed and rotary wing aircraft

by GROUP captain Kapil Bhargava

In the 1930s, Seth Walchand Hirachand, a shipping magnate, visited the USA to explore making cars in India. His secretary told him about William Douglas Pawley, who was planning production of aircraft in China near Chunking. At the time, China was at war with Japan, and before work could begin, the intended site was bombed by the Japanese.

With shrewd planning, Seth traveled in the same aircraft seated next to Pawley. The two businessmen got down to brass tacks and soon agreed to start aircraft production in India. With the Maharaja of Mysore State joining in and financing it, Hindustan Aircraft Ltd (HAL) was registered on December 23, 1940. The Maharaja gave HAL rights to large areas of land to create an airfield and set up the factory. This was located 10km from the city of Bangalore, near a lake usable by flying boats.

Pawley moved the machinery from China to Bangalore and added to it as needed. He also organized trained manpower to begin assembly of Harlow Trainers and Curtiss Hawk aircraft. He brought in 22 American technicians, selected 300 Indian engineers, and inducted 2,000 skilled local workers. The seed for an aeronautical industry had been firmly planted.

The company soon had a chief designer and a small design bureau. It designed the G-1 glider with 10 seats, including two for the pilots. The G-1 was air-towed by a Vultee Vengeance aircraft and flown for VIPs on August 12, 1941. It was the first locally designed aircraft, made of local plywood, and with indigenous know-how and labor. But eight soldiers would hardly have made a huge shock impact in any battle area and the government of India wanted a glider to carry 25 soldiers and one pilot. Concurrently, it warned Walchand Hirachand of the possible destruction of HAL by Japanese bombers, which had already dropped bombs over Calcutta. The company was sold to the government soon afterward.

For the war effort, assembly and testing of Harlow Trainers and Curtiss Hawk fighters had already commenced. The Hawks were brought to Madras by sea and unloaded at the beach. These were made just flyable by HAL personnel and ferried to Bangalore for installation of its equipment and completion of production. However by December 1942, the US Army's 10th Air Force felt that support from units in China was inadequate. After due negotiations, the US Air Force took over the factory on September 15, 1943. HAL did laudable work repairing and overhauling several aircraft types and engines of the US Air Force and the RAF Walrus and Catalina amphibious aircraft belonging to the RAF landed in the adjacent Bellandur Lake, taxied to cement pads on shore, and



were then towed to HAL's hangars. Control of HAL was handed over to the RAF after VJ Day and there-on to the independent Indian government in 1947.

Post-independence, HAL produced Percival Prentice aircraft under license – in fact, license production became its permanent mainstay. HAL produced Vampire 52 and 55; Gnat; Jaguar; MiGs 21, 27, 29; Sukhoi 30 MKI fighters; and Hawk trainers. Avro 748 and Dornier 228 have also been made under license. Aeronca Super Chief and Aeronca Sedan were copied and produced as air OP aircraft by the army. The Jet Provost Mk 2 was copied and adapted to become the Kiran, HJT-16 (Hindustan Jet Trainer). HAL resurrected 48 B-24 Liberator bombers left behind as scrap. These were inducted into the Air Force from 1949 onward.

HAL's first indigenous powered trainer was the HT-2, flown in August 1951. This was the world's second all-metal monoplane, following the success of Canada's DH Chipmunk. In the West, snide remarks were made that HT-2 was a copy of the Chipmunk; in fact it was substantially different from it, but did follow the concept.

Some indigenous designs followed, namely the Basant for crop spraying, the HPT-32 to replace the HT-2, the Ajeet adapted from Gnat, and the Ajeet trainer.

The first fighter aircraft designed in India, and which saw service in the Indo-Pakistani War of 1971, was the HF-24 Marut. Its design team was led by Kurt Tank, famous for the FW-190 of World War II. A long period of more than 20 years saw almost no original design work emerging into hardware. The fault lay, most likely, with a generalist bureaucratic control of HAL as a public sector undertaking. Fortunately, with nominal help from Germany, HAL designed the Advanced Light Helicopter (ALH - Dhruv). Several versions and types have now evolved and more will follow; work is also now in hand to develop a new intermediate jet trainer. Meanwhile, the light combat aircraft named Tejas, the design and development of which was taken over by the MoD's Aeronautical Development Agency, is being produced by HAL almost under licensed production. Steady but slow progress from the Indian aeronautical industry will surely follow over time. ■



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