

The YFM-1 Airacuda—a bomber plagued with problems from the start

Maybe you should put the Airacuda in the file folder titled, “Airplanes That Should Not have Entered Service.” The Bell YFM-1 Airacuda was an American heavy fighter aircraft, developed by the Bell Aircraft Corporation during the mid-1930s. It was the first military aircraft produced by Bell. Originally designated the “Bell Model 1,” the Airacuda first flew on September 1, 1937. The Airacuda was marked by bold design advances and considerable flaws that eventually grounded the aircraft. More about that later.

The Airacuda was Bell Aircraft’s answer for a “bomber destroyer” aircraft. Although it did see limited production, and one fully operational squadron was eventually formed, only one prototype and twelve production models were ultimately built, in three slightly different versions.

In an effort to break into the aviation business, Bell Aircraft created a unique fighter concept touted to be “a mobile anti-aircraft platform” as well as a “convoy fighter.” Created to intercept enemy bombers at distances beyond the range of single-seat fighter interceptors, the YFM-1 was an innovative design incorporating many features never before seen in a military aircraft, *as well as several never seen again*. Using a



The YFM-1 Airacuda was equipped with a door which formed a stairway for climbing into the cabin. My interest in the Airacuda was piqued when the above photo appeared unidentified in the September 2016 ORVIS Outdoor Clothing catalog.

streamlined, “futuristic” design, the Airacuda appeared to be “unlike any other fighters up to that time.”

The crew of five included the pilot and gunners, with the co-pilot and navigator doubled as a fire control officer.

The Airacuda was plagued with problems from the start. The lofty performance estimates were unobtainable despite its sleek looks.

The Airacuda was heavy and was slower than most bombers. In the event of interception by enemy fighters, the Airacuda was not maneuverable enough to dogfight. Even the 37mm cannons were of less value than predicted. The cannons had a tendency to fill the gun nacelles with smoke whenever fired and, additionally, fears persisted as to how the gunners would escape in an emergency, with the propellers directly behind them. An emergency bailout would have required both propellers to be feathered, though additional provision was made with the use of explosive bolts on the propellers to jettison them in the event of a bailout.

The Allison V-1710-41 engines, although they were relatively trouble free, had no additional cooling systems.

Like several pusher designs, they were vulnerable to overheating. When it was on the ground, the aircraft needed to be towed to and from the runway and could only be started when ready for takeoff immediately.¹

A certain unusual feature of the Airacuda had been the main door to enter the plane. The door was able to be opened and pulled down and the hinges folded in on three steps for the crew to be able to climb inside the aircraft.

Initial flight testing proved the Airacuda virtually impossible to control with only one engine, as the aircraft would go into an immediate spin. Problems with stability in pitch were also encountered, and had to be corrected by reducing power. Test pilot Erik Shilling described his experiences in a later book, “Destiny: A Flying Tiger’s Rendezvous with Fate” as:

“Flying the Bell Airacuda was a new experience for me, since it was the first pusher aircraft I’d ever flown. Its handling characteristics were foreign to anything I had ever had my hands on. Under power it was unstable in pitch, but stable with power off. While flying straight and level, if a correction in pitch was required, a forward push on the control resulted in the airplane wanting to pitch over even more. Pitch control became a matter of continually jockeying the controls, however slightly, even when the aircraft was in proper trim. The same applied if pulling back on the control. It would tend to continue pitching up, requiring an immediate corrective response. The same happened in a turn with power off, the Bell became stable in pitch. This was fortunate because during approach and landing, it was very stable, and a nice flying airplane.”

At the end of the Airacuda’s operational life, the aircraft had been flown mainly for photo opportunities and were followed by a chase plane for safety. By 1942, all nine surviving YFM-1 airframes had been flown by ferry crews to a training facility at Chanute Field, Illinois, where the aircraft were assigned to the 10th Air Base Squadron to be used for ground crew instruction. By March 1942, all Airacudas had been scrapped.

¹ www.vintagenews.com.

Article Sources: Wikipedia



This page is dedicated to my father, Major Homer L. Menzies (1920-2007) USAF Retired.

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