

THE RYAM VFR-1 VF-66 "FIREBALL'

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Ryan Fireball FR-1

HISTORY & DEVELOPMENT

In 1942 the U.S. Navy was investigating the possibilities of the then very new turbine powered aircraft. In Europe the British had flown the Gloster E28/39 and we had the Bell YP-59 "Airacomet" aircraft. Both required very long runways for takeoff and had high touch-down speeds as well. The Navy wanted an aircraft for carrier operation and decided upon a composite-powered aircraft. A proposal by the Ryan Aircraft Co. won the bid and in the first test aircraft was finished in 1943. The design was the first carrier based aircraft to use a laminar flow airfoil and used a retractable tail-hook with large flaps for carrier landings.

The XFR-1 "Fireball" had a 40 foot span and 32 foot length powered by a Wright R-1820 "Cyclone" 1350 HP reciprocating engine up front and a G.E. I-16 jet engine in the rear of the fuselage. Both burned the high- octane gasoline available on carriers of the day. This simplified the fuel system and allowed the aircraft to be flown using either, or both, engines. Because it was a multi-engine aircraft the XFR-1 had an electrically controlled full-feathering prop.

As a fighter the Fireball was armed with four 50 cal. Machineguns with 300 rounds each and could carry two 1000 pound bombs, or four wing mounted rockets. Max speed with both engines was about 425 MPH at 18,000' altitude and about 325 MPH on the recip. engine only while the max speed on the jet only was approximately 300 MPH. Jet inlets were on each wing root near the fuselage, and the outlet was in the tail.

This airframe design and the high max speed could cause compressibility problems in a dive and one Fireball broke up in flight killing the test pilot.

Although contracts for 100 aircraft were let, only 66 aircraft were completed before the contract was canceled in 1946.

OPERATIONS

The Fireball's unique configuration and ability to feather the prop in-flight led to many amusing and/or amazing stories.

An amusing story occurred when an Army P-38 spotted a single engine Navy plane at a lower altitude and he nosed over to try and identify the strange Navy plane. After a short inspection the Army P-38 feathered one engine and began a series of slow rolls around the Fireball, whereupon the Fireball pilot feathered his prop, advanced the throttle of the jet and proceeded to roll around the P-38.

Since the Fireball was so new very few pilots had any information about it and the P-38 pilot was left to return to base with a really strange encounter to talk about.

On one flight a lone VF-66 Fireball pilot was flying along the beach off the Camp Pendelton Marine base where amphibious beach training was going on. The pilot decided to give the Marines a thrill and, at very low altitude, he flew towards the beach with his prop feathered.

The Marines seeing a plane with a 'dead' engine thought the plane was heading for a crash landing on the beach and ran for their lives as the plane flew over them and climbed away with a 'dead' engine.

The Fireball proved to be too lightly built for repeated carrier landings and after some operation from land based runways was withdrawn from service in 1947.



The last existing Ryan Fireball was destroyed in a fire at the San Diego Aerospace Museum in 1977 where the aircraft was on display.

AS A MODEL

A couple of Fireball models have been done as competitive scale models by Hal Parenti at about 1:5 scale. The twin-engine points, easy engine-out characteristics, and tricycle gear make an easy to fly model.

At 1:5 scale the span would be 96 inches and the cowl would accommodate a 26 cc gas engine and an electric ducted fan (EDF) motor for the rear engine. It would not be necessary to use an EDF large enough to maintain flight. It might be

neat to be able to show single engine flight and restart the EDF before landing as a maneuver.

Wing area would be about 1,516 Sq “, or, 10.5 sq. Ft. At 35 Oz/Sq Ft a target weight would be about 23-25 pounds. A 30 pound model would still be flyable.

The single drawback is the small selection of color schemes. Most were all-over shiny dark blue. The accompanying photos show the only significant variation.

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