

GRUMMAN TBF/TBM "AVENGER"

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GRUMMAN/GM TBF/TBM "AVENGER" TORPEDO BOMBER

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Since most of the Mirimar RC Flyers are aware of our Marine Air Museum located on the base, they may have visited the TBM Avenger on display there. Like me, they must have been impressed with the massive size of this historic WWII torpedo bomber, the third most produced carrier aircraft behind the Corsair and Hellcat.

Since the Avenger was used in combat all through WWII and on until the early 1960's it is worth examining the history of this aerial brute and the brave crews that faced terrible odds as they bored in at low altitude to launch a single 2000 pound torpedo at a Japanese ship that could be firing thousands of rounds of bullets at them.

The Avenger was the first non-fighter aircraft designed and built by the Grumman "Iron Works" for the Navy when first flown in 1941. The plane was so successful that Grumman could not produce them fast enough while also building the Hellcat fighter, so GM was contracted by the government to build the torpedo bomber under license. The TBF is an Avenger built by Grumman and the TBM is the Avenger built by GM. Together they built 9,836 of these multi-task aircraft.

The first six production TBF aircraft were flown in the battle of Midway on Jun 4, 1941 where five of the six were shot down while attacking Japanese warships. That lone surviving

plane, flown by Ensign Albert Ernest, landed back on Midway Island with one crewman dead, another wounded, and only trim tabs for active controls.

Perhaps the most famous pilot of Avengers was President-to-be George H. W. Bush who, on September 2, 1944 was shot down over Chichi Jima, in the South Pacific. Bush was the only crewmember to survive and was picked up by a U. S. submarine. The future President was awarded the Distinguished Flying Cross for delivering his bomb load on target after being hit on that raid.

Another well-known Avenger crewmember is actor Paul Newman who was a gunner on an Avenger.

Avengers sank the Japanese aircraft carrier Yamato on April 7, 1945. The Yamato was the Japanese fleet flagship and its loss signaled the end of any Japanese dominance in the Pacific.

A flight of five Avengers played a part in a never solved aviation mystery when they disappeared somewhere in the infamous "Devil's Triangle" off the coast of Florida in December 1945.

STATISTICS

A three-man crew flew the Avenger, but there was only one set of flight controls located in the forward cockpit of the tandem cabin. A Navigator/bomber/radioman sat behind the pilot and as a part-time gunner climbed down and fired a .30 cal machine gun protecting the lower rear space behind the craft. An electric powered turret at the rear of the canopy mounted a single .50 cal machine gun and was manned by one crewman. Various versions of the TBM were armed with .30 cal. or .50 cal. Machine guns in the wings for strafing attacks.

Wingspan is 46 ft 5 inches and they folded for storage on a carrier. A retractable tailhook aided in short carrier landings. The early carriers did not launch aircraft with a catapult so the Avenger weighing up to 17,000 pounds had to accelerate to flying speed within a few hundred feet into the headwind created by the carrier's speed. I calculate the wing loading of a fully loaded Avenger to be about 585 Oz/sq. ft. as a modeler measures it

Power varied by model, but most had 1900 HP Wright Cyclone R-2600-10 radial engines. Fuel for up to 1,100 mile range was on board capacity and additional fuel could be carried in droppable wing tanks.

A 2000 pound torpedo could be carried in a cavernous bomb bay in the belly of the aircraft. Or, four 500 lb bombs could be dropped. Interestingly, the pilot aimed the bombs and the radioman released the torpedo gauging altitude, distance to target, and airspeed.

COMBAT RECORD

As mentioned, the first combat the TBF saw was at Midway at deadly cost. Service in other major battles continued in the South Pacific theatre.

In August 1942 seven TBF/TBM attacked in the Eastern Solomon Islands and sank several ships, including the Japanese light carrier Ryujo.

These tough planes and brave crews through WWII and were credited with sinking 30 enemy submarines along with many thousands of tons of supply and troop carrying ships. They aided in island attacks by strafing and bombing enemy troops.

The aircraft was withdrawn from frontline U. S. Military duty in 1944 and was used for reconnaissance, photography, target towing, and some anti-submarine warfare patrols. Most Avengers were out of military service by the early 1960's and soon pressed into service as fire fighters, or other civilian duties. It is estimated that some 75 to 100 TBF/TBM aircraft are still remaining. A fairly large number of these can be seen in air shows around the world having been completely restored, often to better than new condition.

AS A MODEL

ARF models are not readily available, but large scale modelers have at least a couple of plans to choose from and the author has built one 1:7.7 scale Skyshark TBM-3 laser cut kit. (www.skyshark.com). The kit is definitely not for a beginning builder.

Kellog Plans (www.kellogplans.com) and Zirol plans May be around on the web, but Zirol does not show TBM plans on his website now. The Kellog plans appear to build into a nice 1:5 scale model at around a 108 inch span. end