

HAWKER HURRICANE



Many People insist that the real *hero* of the Battle of Britian was The Hurricane

PETE CHAPUT

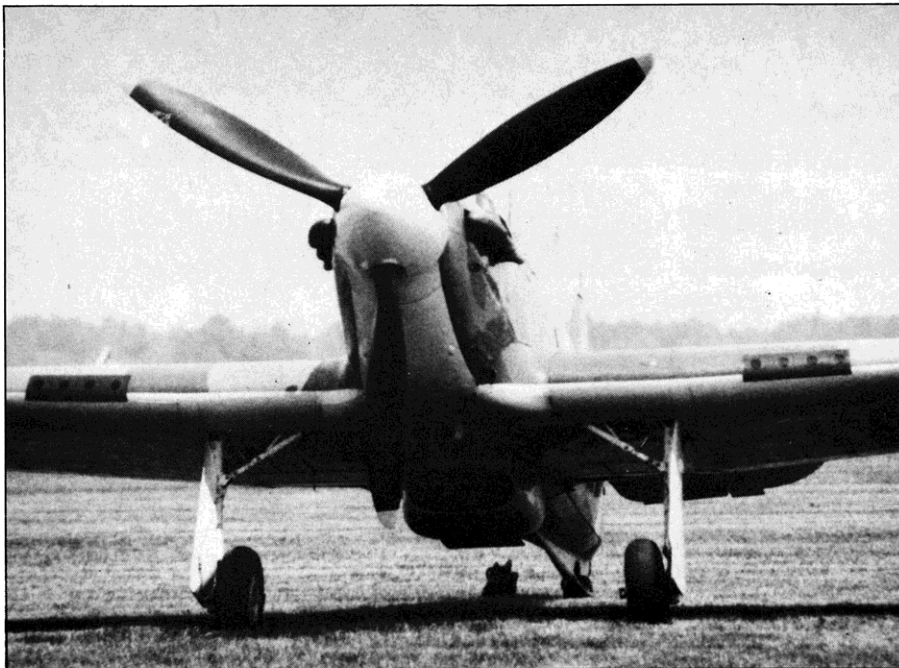
Even as the Hawker Fury I biplane began its distinguished career with the Royal Air Force, Sydney Camm and his advanced design team started work on their preliminary drawings for Hawker's new *monoplane* Fury, in spite of the fact that most aircraft manufacturers were still clinging to the biplane concept. To hedge their bets, Camm was also designing a much larger biplane using the Fury planform. The bigger Fury had four Vickers machine guns, and was powered with the new Rolls-Royce Goshawk evaporative-cooled engine which was thought to be the universal power source for *all* future English fighters and bombers. This proposed biplane was named the Hawker PV-3, but even then, Hawker designers knew that

The Hurricane was one of the great heroes of the Battle of Britain. It fought alongside the Supermarine Spitfire.

the era of the biplane fighter was almost over, when speeds of the much more powerful PV-3 were matched by those of the older Fury II.

The monoplane which evolved from Camm's design team was a low-wing fighter with the same construction techniques as the Fury biplanes, but with a tapered wing. Its fixed gear was similar to that of the Spanish Fury, with Dowty internally-sprung wheels. Speed was expected to reach around 280 mph, and the aircraft's armament were two 30 caliber machine guns. As design proceeded on the new Fury Monoplane,



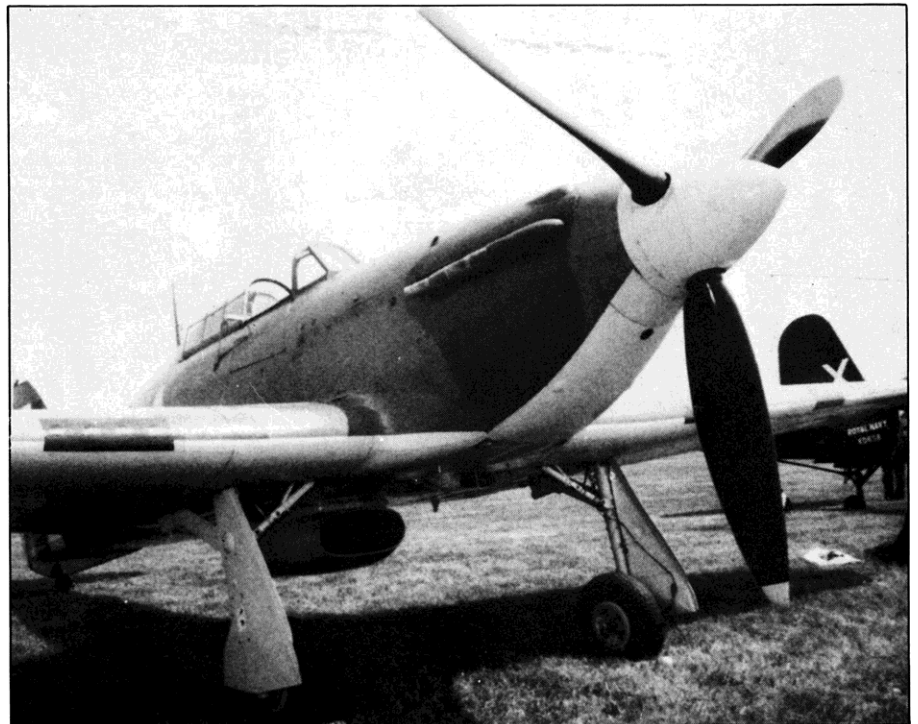
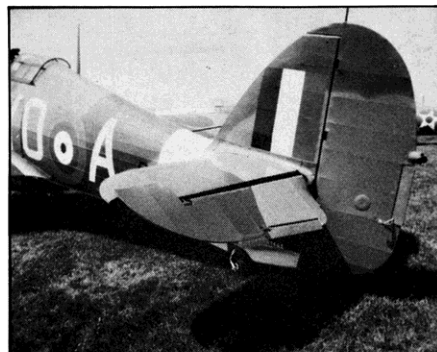
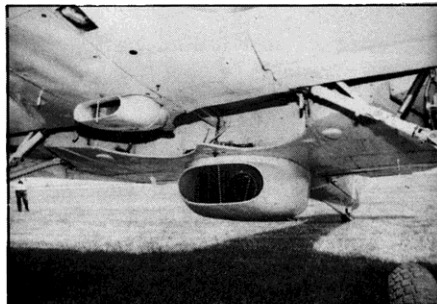


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The Hurricane was a formidable weapon, with eight machine guns aboard.

The Hurricane was much easier to fly than the Spitfire, and it had a better landing and takeoff survival record as well.



news reached Hawker that a new 12-cylinder Rolls Royce engine had been perfected by Merlin. The first production Merlin weighed 1,177 pounds, put out 625 hp at 2500 rpm, and 790 hp at 12,000 feet. When news of this engine reached Camm and his team, they immediately halted work on their current plan, and the Fury Monoplane was redesigned to incorporate the new Merlin powerplant.

In spite of the fact that, in 1934, retractable landing gear were not commonplace, Camm knew that he must employ every available new technology he could find, in an effort to boost the aircraft over the 300 mph mark. Although this was

Camm's first experience in designing a retractable gear for a fighter, he certainly made the right choice in selecting the wide-track, inward-retracting mechanism which even permitted operation from unimproved landing fields. Indeed, it was during the Battle of Britain that this choice proved invaluable, when, because of the destruction of many regular British airfields by the Luftwaffe, Hurricanes were forced to operate out of alternate, much rougher fields, and they did so quite successfully because of that gear.

One of the big puzzles, effectively solved by Camm, was devising the method by which to fabricate the Hurricane's retract landing gear, a problem

which sometimes confounds today's modelers of that aircraft. Because of the design of the wing, the gear must retract a few degrees *to the rear* in order to miss the front spar. A series of rear stays, pivot points and universal joints keep the gear level, but also shifts it backward slightly to miss that thick spar.

Another good decision made by Camms was that of staying with his choice of a fabric-covered rear section, a feature which allowed men in the field to make simple emergency repairs quickly and easily.

Another modification was made when Britain's Air Arm (their Air Force) suggested that, if Hawker were to earn the contract, they must increase the aircraft's armament to *eight* machine guns, and so it was done. The Hurricane showed such promise that the military allowed the plane to compete in the trials while still equipped with the old wing.

By 1936, teething problems on the prototype had finally been solved, and Hawker received orders to start full production on the Hurricane. Orders for the excellent fighter eventually came to over 12,780 aircraft from England alone, not counting those requisitions received by other countries who were also building them, under contract. Rolls continued to improve their Merlin, and the large, two-bladed wooden prop was ultimately discarded in favor of a new constant-speed, three-bladed, all-metal version.

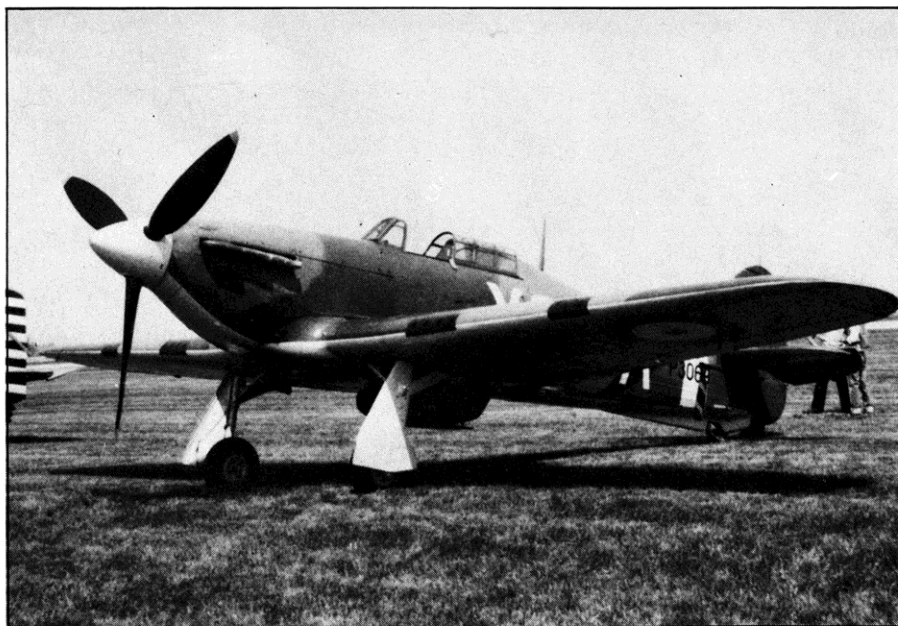
It was the combination of fabric-covered airframe, wide-track landing gear and gentle landing manners which endeared the Hurricane to its pilots. Even when a combat pilot had been wounded and partially disabled, he was usually able to save himself and his aircraft because of the slow, gentle landings which the Hurricane was capable of making.

Then the Spitfires came aboard and the two best fighters in England began to work as a team. The faster, higher-climbing Spitfires would intercept the enemy fighters at altitude, then chase them down to a lower altitude, where the Hurricanes with their eight machine guns were waiting to engage and destroy the German aircraft.

Had the military powers ordered only Spitfire fighters to be produced, there might have been a very serious problem. Because they were a more complex aircraft, the Spitfire required much more "down" time for repairs. On the other hand, because of its more simple construction, a larger number of Hurricanes were able to be built more quickly. In operation, they seemed to hold up bet-



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ter; they suffered far fewer landing accidents, and those occasional ones they did, required the labor of less-skilled workers to repair. The Hurricane may have emerged in history as only a back-up to the complicated Spitfire, but it was one which was simple to build, maintain and repair, as well as amazingly reliable for a World War II fighter.

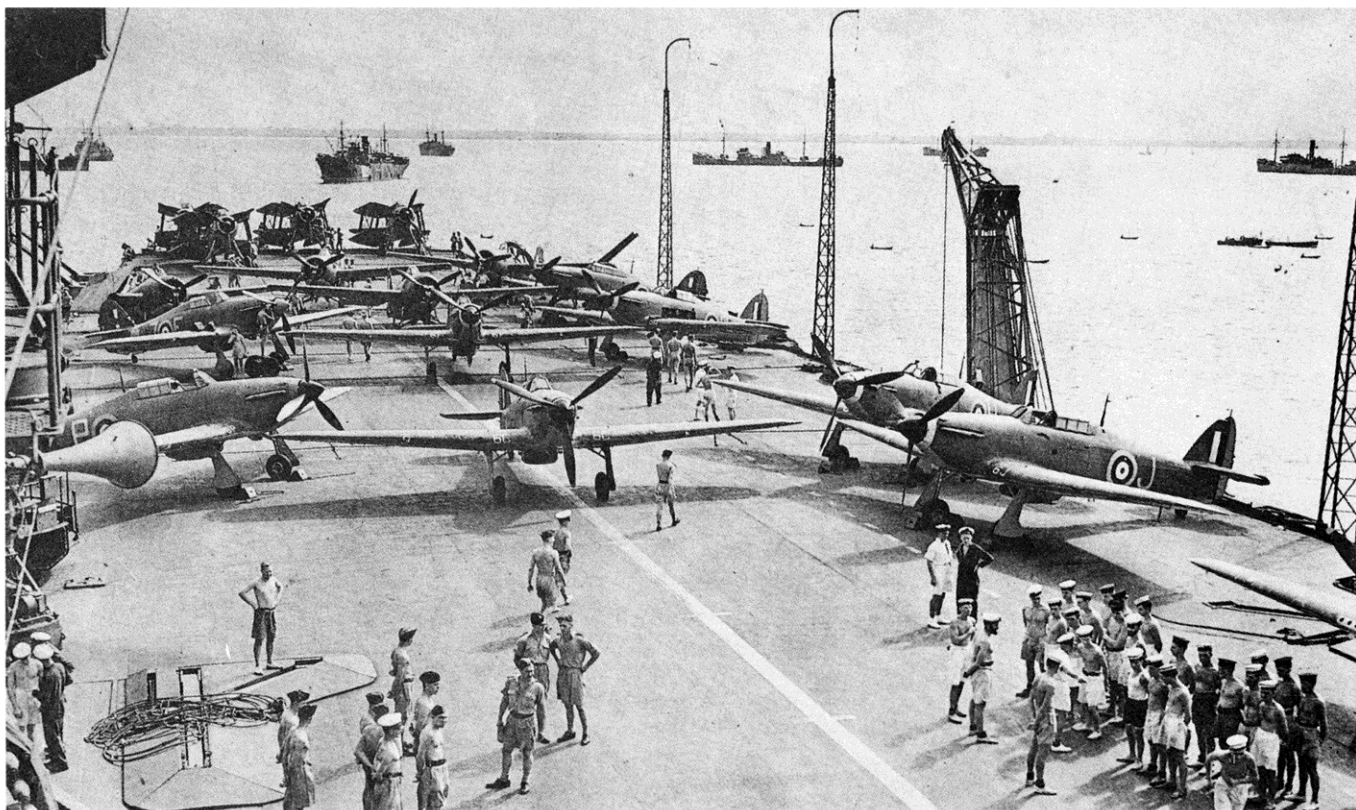
I've often wondered why Spitfires have been much more popular models than the Hurricanes. It may be the notion that, during the war, Spitfire pilots had a certain mystique and were thought to be dashing, romantic and daring, as opposed to Hurricane pilots who seemed safe, reliable and less interesting — so every R/C builder of fighter aircraft fancied himself a Spitfire pilot. Then again, it might just be the fact that Spitfire kits were widely available. Other possible reasons for the Hurricane's relative lack of

popularity (which come to my mind) could be the real or imagined difficulty in building its fabric-covered wings and fuselage (in this day of fiberglass and balsa-covered foam construction), and its somewhat intricate retracts.

I must admit that fact about the retracts, but it *is* possible to build them to scale — in fact, our contributing editor from Margate, Florida, Greg Namey, has already designed a set for *his* award-winning Hurricane, and I believe that he has also produced a *kit* for that great World War II fighter.

Pilot Kits also sells its Hurricane kit, which is a small one, while Hobby Barn, in Tucson, Arizona, is ready with a larger "Hurri," scaled up from an early English award-winning scale model.

Plans for Brian Taylor's Hurricane are available from Bob Holman Plans Service of San Bernardino, California, and our

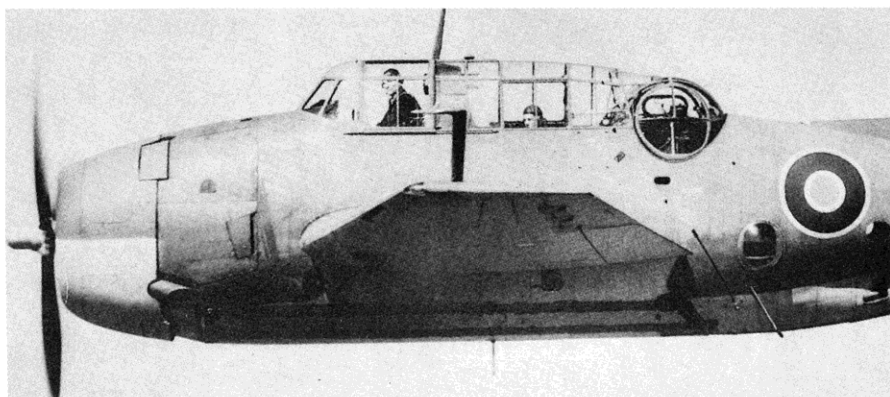


Sea Hurricanes and Wildcats aboard the HMS Indomitable.

Some Sea Hurricanes were launched with rockets.



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other good friend, Dr. Jim Pepino of Scale Plans and Photo Service, Greensboro, North Carolina, can provide you with a very nice set of plans for a larger Hurricane.

Because, fortunately, there are still several full-scale Hurricanes now being flown in the airshow circuit, both Bob Banka of Scale Model Research, and Jim Pepino of Scale Plans and Photo Service also carry photo documentation packs for a number of different models of these air-worthy or museum-bound Hurricanes. After having seen three beautiful Hurricane models, which were flown this past fall at the Canadian Scale Rally in Kitchener Ontario, I think more and more modelers will soon be building their scale versions of the very attractive, historic, docile, maneuverable Hawker Hurricane — the real *hero* of the "Battle of Britain." ●