

Gloster Gladiator

in action



Aircraft Number 187



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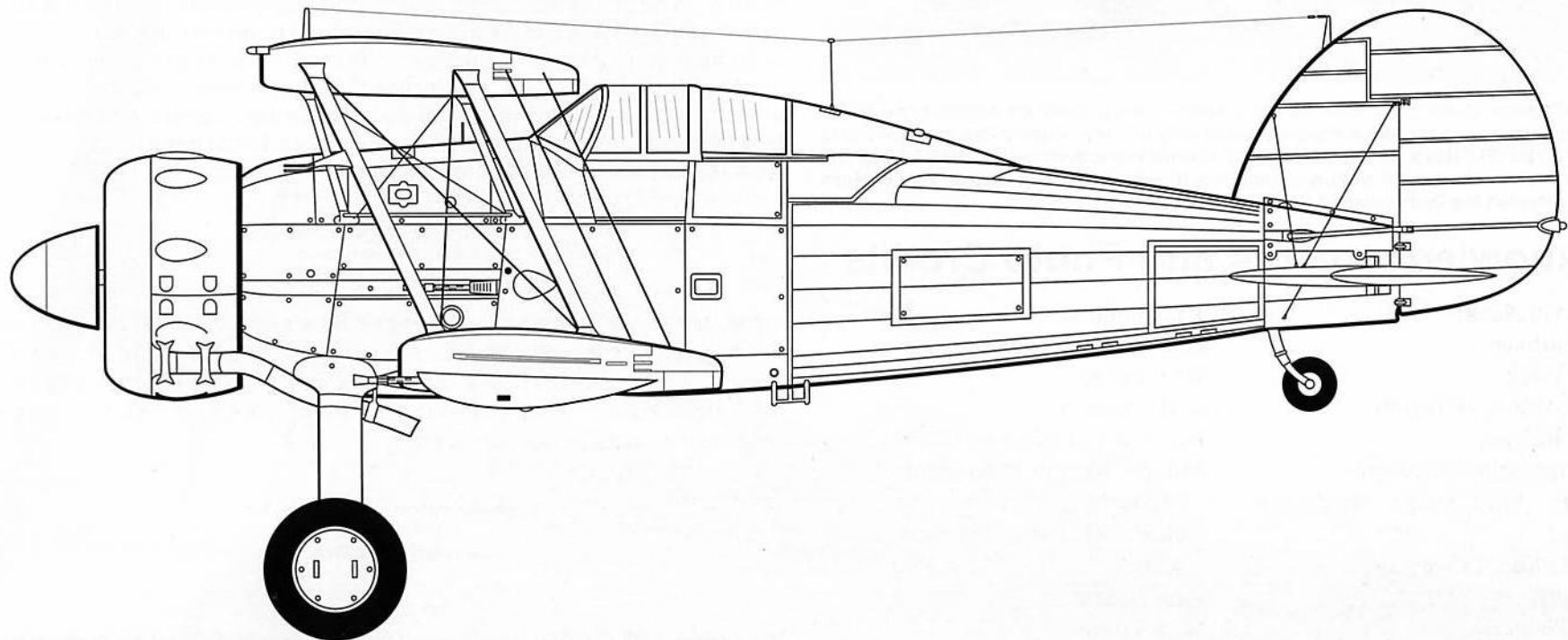
Gloster Gladiator

in action

By W.A. Harrison

Color by Don Greer

Illustrated by Darren Glenn and Dave Gebhardt



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A Sea Gladiator (6-A/N5517) flown by Cdr Charles L. Keighly-Peach engages two Italian SM.79 bombers over the Mediterranean Sea in July of 1940. Keighly-Peach commanded Fighter Flight, 813 Naval Air Squadron (NAS) aboard the aircraft carrier HMS EAGLE. He had 3.5 confirmed victories and one probable 'kill' while flying Sea Gladiators, for which he was awarded the Distinguished Service Order (DSO).

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Dedication:

To the fighter pilots everywhere who flew the Gladiator in peace and war.

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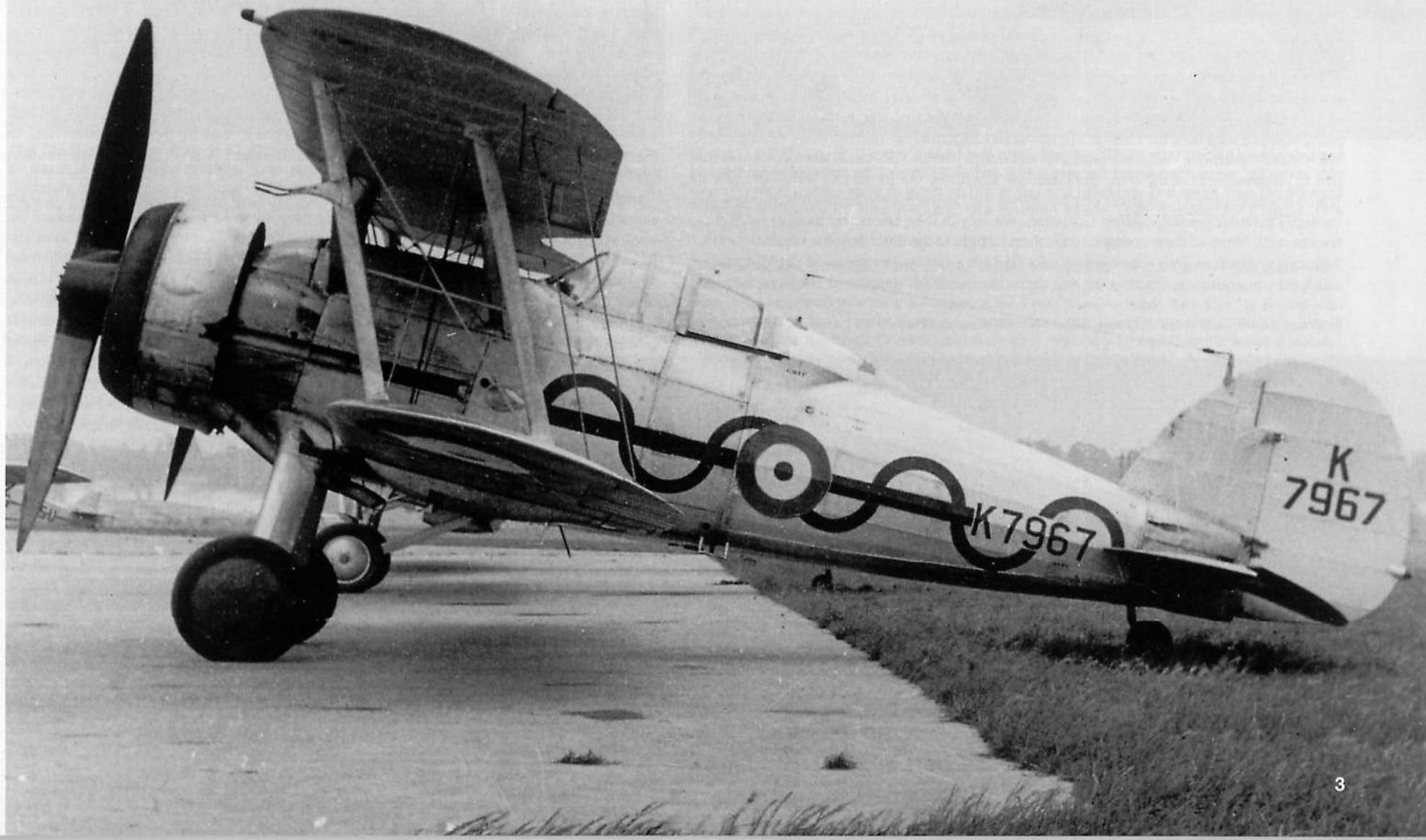
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This Gladiator Mk I (K7967) was delivered to No 87 Squadron, Royal Air Force (RAF) at RAF Station Debden, England in June of 1937. This unit had 19 Gladiators on strength by 1938. Before the fall of 1938, RAF aircraft were finished in overall Aluminum (FS17178). No 87 Squadron's aircraft had a horizontal black stripe on the fuselage with a wavy Bright Green (FS14187) line intersecting the black stripe. Gladiators fitted with Watts two-bladed wooden propellers often discarded the small spinner while in service. The pitot tube mounted on the front port interplane strut collected airspeed data for the cockpit instruments. (A.J. Jackson Collection)



Introduction

"I think that of all the military aircraft that I flew, the Gloster Gladiator was the most memorable. This biplane was a delight to fly, from the captivating rumble of the Mercury engine, to its capacity to barrel roll all day if one so desired – it was like winding it around a large corkscrew with the ailerons! Another endearing feature was its stability and docile acceptance of tucking its wing in behind the flight commander's in formation flying, a distance of around six feet – but you had to keep your eye in line with the end of his moustache!" The comments of AA Quigley, who served with the Irish Army Air Corps (now Irish Air Corps) just before World War Two.

The **Gladiator** was the last of a long line of British biplane fighters designed by the Gloster Aircraft Company, Ltd¹ and the last biplane fighter to serve with the Royal Air Force (RAF). Its predecessor and similar stablemate, the Gauntlet, had entered RAF service in May of 1935. The mid-1930s had seen biplane fighter designs reaching their pinnacle, with the likes of the Hawker Fury, Fairey Fantome, Armstrong Whitworth Scimitar, and the Gladiator. Design requirements limited the maximum speed and loads, but all were highly maneuverable and a delight to fly. These biplanes marked the end of an era; the first single-seat, multi-gun monoplane fighters, including the Hawker Hurricane and Supermarine Spitfire, made them all obsolete virtually overnight. What the industrial and military authorities could not foresee was that, due to circumstances at the time, the Gladiator would see out its service life in the role for which it was designed – air-to-air combat. When the Germans overran much of Europe, their modern Luftwaffe came up against Gladiators, not only in RAF colors, but those of other countries as well. Many of these countries used them to fight to the bitter end; the Gladiator's small rifle-caliber machine guns were no match for Bf 109s armed with cannon. In the Middle East, Gladiators provided essential fighter cover for the island of Malta until Hurricanes arrived.

¹This firm was originally named the Gloucestershire Aircraft Company, Ltd when it was formed in 1915. Its name was changed to Gloster Aircraft Company, Ltd in 1926.

They operated in the Western Desert and covered themselves in glory protecting Greece. Fitted with arresting hooks, the Royal Navy took their Gladiators to sea. Apart from Great Britain, Gladiators served with the air forces of 13 other nations, many of them seeing air-to-air combat.

Always overshadowed by its successor, the Gladiator, the Gloster SS.19 (Gauntlet) prototype (J9125) emanated from a 1926 British Air Ministry specification for a new RAF fighter. It was not until 1932 that a suitable powerful engine became available for the proposed fighter. J9125 was fitted with a 536 HP Bristol Mercury VIS nine-cylinder, air-cooled, radial engine. It was then sent to the Aircraft & Armament Experimental Establishment (A&AEE) at Martlesham Heath, England for service evaluation in February of 1933. Its performance figures included a rate of climb of over 2000 feet (609.6 M) per minute at sea level where it attained a speed of 163 MPH (262.3 KMH). The speed rose to 210 MPH (338 KMH) at 14,000 feet (4267.2 M). The Gauntlet's performance was only marginally improved by fitting a 570 HP Mercury VIS2, removing the wheel spats, and replacing the tail skid with a wheel. Its maximum speed only increased to 214 MPH (344.4 KMH) at 15,000 feet (4572 M). These figures included the weight of two .303 caliber (7.7MM) Vickers Mk V machine guns with 600 rounds per gun, a radio, and oxygen and night flying equipment.

The RAF ordered 24 Gauntlet Mk Is (K4081-K4104), with the first 19 being delivered to No 19(F) Squadron at Duxford, England. The 204 similar Gauntlet Mk IIs (K5264-K5367, K7792-K7891) followed and equipped several RAF squadrons. Twenty-five Gauntlets went to Finland, four to South Africa, and three to Rhodesia. Denmark built 17 Gauntlet Mk IIs under license.

Gloster's interest was only lukewarm when the Air Ministry issued specification F.7/30 for a new fighter in 1930. The company was already fully involved with the Gauntlet and did not want to begin work on another new design. This new specification was a major and most significant change in Air Ministry thinking. The Ministry wanted something considerably more advanced than the stultified types following the First World War. The F.7/30 specification called for a maximum speed above 250 MPH (402.3 KMH), improved rates of climb, low wing loading, a higher ceiling, and better maneuverability. Provision was to be made for four .303 caliber Vickers Mk V machine guns and under-wing bomb racks. F.7/30 required the use of

Rolls-Royce's Goshawk evaporatively-cooled engine², which – despite being a development of its successful Kestrel liquid-cooled engine – was doomed to be a failure. This evaporative cooling system was impractical, due to its complexity, heavy weight, and vulnerability to enemy gunfire. The Air Ministry received eight company tenders (formal offers) for F.7/30, which included 12 design proposals. Six of these designs were for biplanes and six others for monoplanes. Four informal proposals remained as paper designs. Three companies received contracts for prototypes, while six other prototypes were completed as private ventures.

²An evaporative cooling system uses the latent heat of evaporation to allow coolant to boil before it is condensed and recycled in the system.

Three No 19(F) Squadron Gloster Gauntlets – from top, K4088, K4084, and K4090 – cruise in a loose 'Vee' formation after departing RAF Duxford, England. RAF fighter squadrons were divided into three-aircraft flights prior to World War Two. The Gauntlet entered RAF service in 1935 and was replaced in 1939. It was the basis for the later Gladiator. (Richard Riding)





The Gloster SS.37 prototype (G.37) was rolled out of the Gloster factory at Hucclecote, England in September of 1934. This aircraft retained several features from the earlier Gauntlet, including an open cockpit and spatted tail wheel. The SS37 was originally powered by a 530 hp Bristol Mercury IV radial engine. (Via Richard Riding)

Gloster decided to submit their SS.37 design, a private venture development of the Gauntlet, as a late response to the F.7/30 specification. The SS.37 design was an effort to improve the Gauntlet's performance with the least number of technical changes. The basic airframe was retained with only minor modifications. The starboard forward fuselage decking was altered to incorporate a large oil cooler, while a streamlined headrest was added to the fuselage decking behind the cockpit. The wing spar material was changed to a thicker gauge steel to support a single bay wing, which allowed removing two sets of drag inducing interplane struts. The rigging was also simplified. It was powered by a 530 hp Bristol Mercury IV nine-cylinder, air-cooled, radial engine. The aircraft had cantilever landing gear struts and Dowty internally-sprung wheels, which offered less drag and were easier to maintain than the Gauntlet's landing gear.

First flown on 12 September 1934, the SS.37 was later fitted with a 645 hp Mercury VIS radial engine and allocated the serial K5200 for trials at the A&AEE, Martlesham Heath. Flight tests at an All-Up Weight (AUW) of 4339 pounds (1968.2 kg) revealed a maximum speed of 236 MPH (379.8 kmh) at 10,000 feet (3048 m). This speed was actually 14 MPH (22.5 kmh) below the 250 MPH quoted for the specification. In June of 1935, Gloster offered an improved version of SS.37. It was equipped with a more powerful 830 hp Mercury IX engine, a redesigned tail unit and landing gear, .303 caliber Vickers Mk. V machine guns, and a fully enclosed cockpit. The new fighter was the first to introduce enclosed cockpits into the RAF, although the prototype (K5200) was flown without a canopy. The Air Ministry's consensus was that they still did not like totally enclosed cockpits, but recognized that all new fighter designs on the drawing boards had this innovation. Consequently, the Ministry selected the new Gloster biplane and issued specification F.14/35, ordering 23 production aircraft with the serial numbers K6129 through K6151. From 1 July 1935, these aircraft were to be known as **Gladiator Mk Is**.



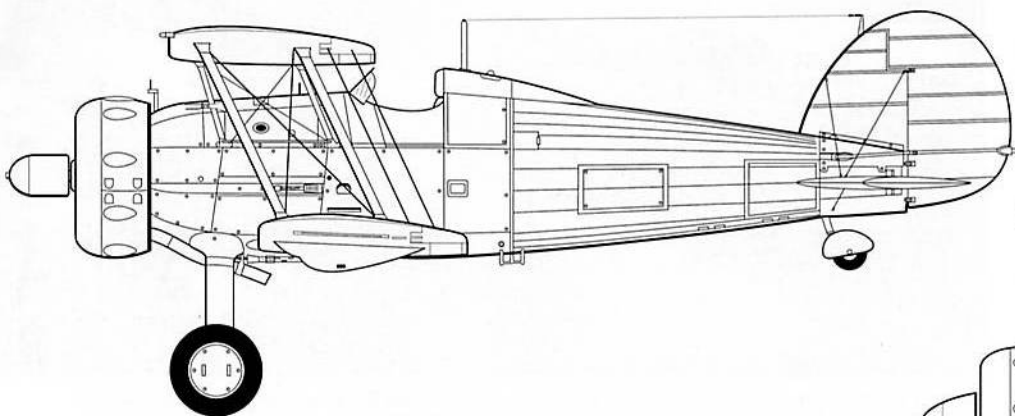
Flight Lt P.E.G. Sayer, Gloster's chief test pilot, flies the SS.37 after the RAF accepted the aircraft for evaluation on 3 April 1935. The RAF assigned the serial number K5200 to this aircraft and roundels were painted on the wings and fuselage. The black 1 on the forward fuselage indicated its New Aircraft Park location at the 1936 Hendon Air Display. (Via Richard Riding)

The RAF retained the SS.37 prototype (K5200) for trials in 1935. A Fairey-Reed three-bladed metal propeller for testing replaced the Watts two-bladed wooden propeller. This propeller was later adopted for the Gladiator Mk II and Sea Gladiator. The SS37 is armed with .303 caliber (7.7mm) Lewis machine guns under the lower wings and Vickers Mk III weapons in the fuselage. (Via Richard Riding)

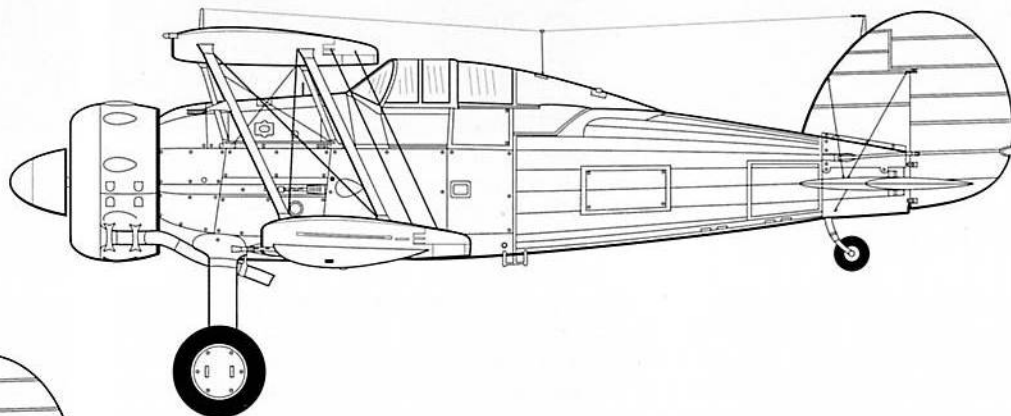


Development

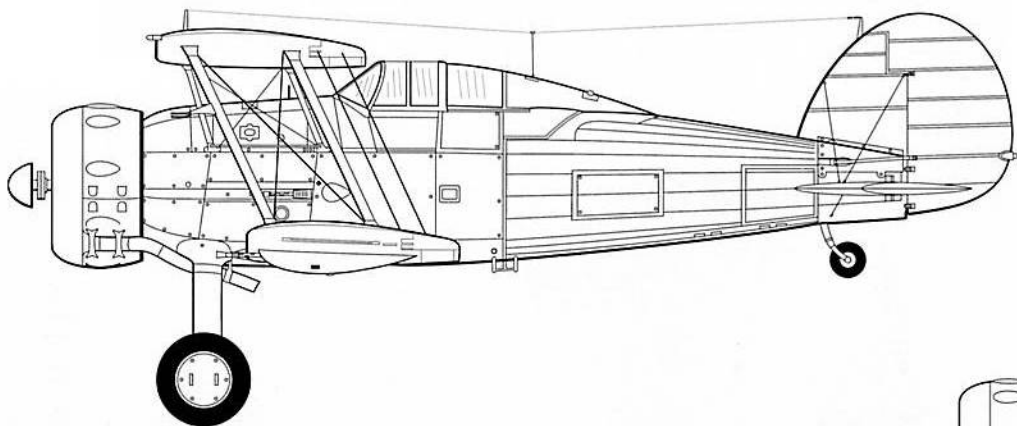
Gloster SS.37



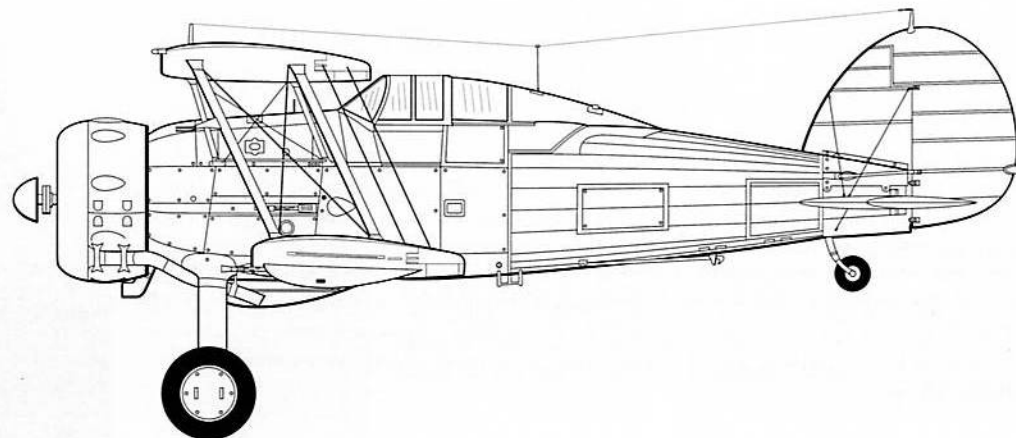
Gladiator Mk I



Gladiator Mk II



Sea Gladiator



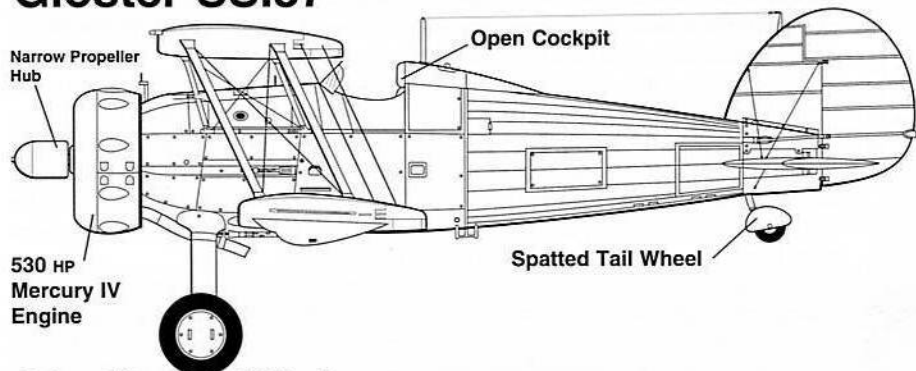
Gladiator Mk I

The Gladiator's structure consisted of an all-metal airframe with a fabric covering and light alloy skin panels. The 830 HP Bristol Mercury IX nine-cylinder, air-cooled, radial engine was secured to a hexagonal ring on the front of the engine mounting bay structure using eight bolts. The Mercury IX turned a two-bladed Watts fixed pitch wooden propeller, which had a diameter of 10 feet 9 inches (3.3 M). The engine's exhaust collector ring was incorporated into the leading edge of the cowling. A fireproof bulkhead was located behind the engine and separated the engine from the fuel system. The fuel system consisted of a 20 Imperial Gallon (24 US Gal/90.9 L) gravity tank attached to the upper fuselage longerons, with the 63 Imperial Gallon (75.7 US Gal/286.4 L) main fuel tank below. Both were filled via filler caps on the port upper fuselage cowling. A five Imperial Gallon (6 US Gal/22.7 L) oil tank and oil cooler were mounted beneath the starboard upper front fuselage decking.

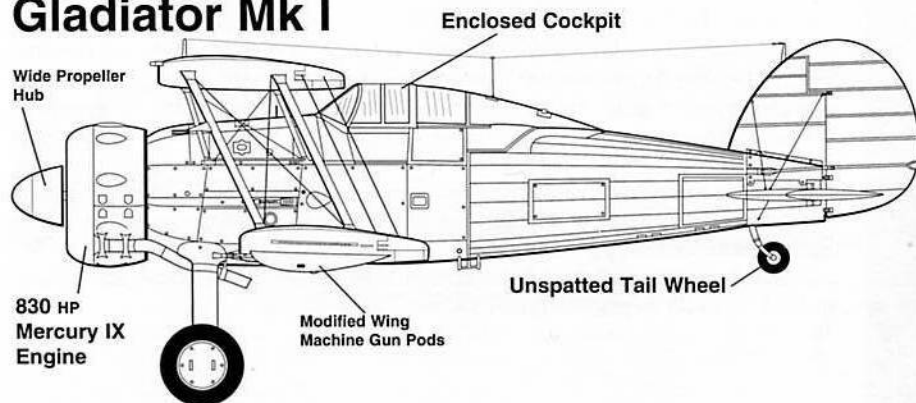
The Gladiator Mk I had a wingspan of 32 feet 3 inches (9.8 M), with a length of 27 feet 5 inches (8.4 M) and a height of 11 feet 9 inches (3.6 M). It weighed 3450 pounds (1564.9 KG) empty and 4592 pounds (2082.9 KG) fully loaded. The Gladiator Mk I had a maximum speed of 253 MPH (407.2 KMH) at 14,500 feet (4419.6 M), a service ceiling of 32,800 feet (9997.4 M), and a range of 428 miles (688.8 KM).

The fuselage was built as four units – the engine mounting, front fuselage section, rear fuselage section, and the tail bay. These sections consisted of a Warren truss fabricated with round

Gloster SS.37



Gladiator Mk I



The first production Gladiator Mk I (K6129) is parked outside Gloster's Hucclecote factory. It was powered by an 830 HP Mercury radial engine turning a Watts propeller. Production Gladiators differed from the SS.37 prototype in having a more powerful engine, an enclosed cockpit, and an uncovered tailwheel. The RAF accepted K6129 into service on 16 February 1936. (Via Richard Riding)

The second Gladiator Mk I (K6130) warms up its engine prior to a check flight. The RAF used this aircraft to qualify the first service Gladiator pilots before assigning it to No 72 Squadron – the first operational unit. A red propeller spinner, wheel discs, and vertical and horizontal stabilizers indicated 'A' Flight Leader's aircraft. The oil cooler mat is mounted on the upper fuselage, directly under the upper wing. (A.J. Jackson Collection)





K6130 prepares for its next flight while other pilots and ground crews stand beside its port fuselage. Pre-World War Two RAF aircraft were overall Aluminum, with black serial numbers. The .303 caliber fuselage machine guns were removed, but the weapons were retained under the wings. (A.J. Jackson Collection)

A Gladiator Mk I (K6133) temporarily assigned to No 2 Ferry Pool is parked outside its hangar at Hucknall, Nottinghamshire in the late 1930s. It was issued to the newly formed No 72 Squadron at RAF Tangmere, England in February of 1937. The open panel aft of the cockpit provided access to the radio and the compressed air bottle that supplied the pneumatic wheel brakes. A large F is painted on the rear fuselage for an unknown reason.



steel and aluminum tubes swaged to rectangular sections at the joints, which were made up of fish plates and bolts. Each bay was joined to the next using heavy gauge fish plates. The double-sided Warren trusses were spaced by ball-ended compressive struts that butted into cupped bolts passing through the truss joints. Light metal formers were attached to the primary structure with slots to carry tightly spaced alloy stringers. The entire structure was braced using cables that were tensioned by turn-buckles. Metal panels covered the front fuselage section back to the cockpit, while the remainder was largely fabric covered.

The wings had a pronounced positive stagger, but no sweepback. Each wing had two high tensile steel spars in a riveted dumb-bell section and braced by drag struts, ribs, and stringers. Made up of a polygon section, the top and bottom booms were joined by a single corrugated drawn steel web. Internal liners meeting at the interplane strut joints reinforced the spar booms. The lower wing spars were attached to heavy-duty tubular members passing below the bottom fuselage longerons in the forward fuselage bay. All four wings had Frise-type ailerons. These ailerons were connected by tie rods and operated through cables and tie rods connected to chain and sprocket assemblies in the lower wings. Aileron trim tabs were not fitted. Simple split flaps were mounted in both the upper and lower wings.

The single-seat cockpit was equipped with standard instrumentation, a spade-grip control column, and pivoting rudder bar. The pilot sat in a pressed metal seat with a deep pan to hold a seat pack parachute, which also served as a cushion. The fuselage-mounted machine guns protruded into the cockpit and flanked the pilot's legs. The cockpit was covered by a simple rearward sliding canopy activated by a hand crank and chain mechanism. The canopy was often left open in flight because engine fumes often entered the cockpit and pilots needed to ventilate the cockpit.

The variable incidence horizontal stabilizer (tail plane) was made up of tubular spars with a horn-balanced elevator mounted to the rearmost spar. Longitudinal steel torque tubes and fabricated aluminum ribs between the spars provided torsional stiffness. The vertical stabilizer (fin) was attached to the fuselage by sliding the lower end of the tubular fin post into the sternpost of the rear bay. Twin external wires between the fin and tail plane then braced it. The rudder was attached to the vertical stabilizer using three hinges – one to the fin post and two to the sternpost.

The main undercarriage consisted of fixed cantilever legs with Dowty internally sprung wheel units and pneumatic Dunlop wheel brakes. The Dunlop or Palmer tail wheel was fitted to an oil and spring shock absorber and was fully self-castoring.

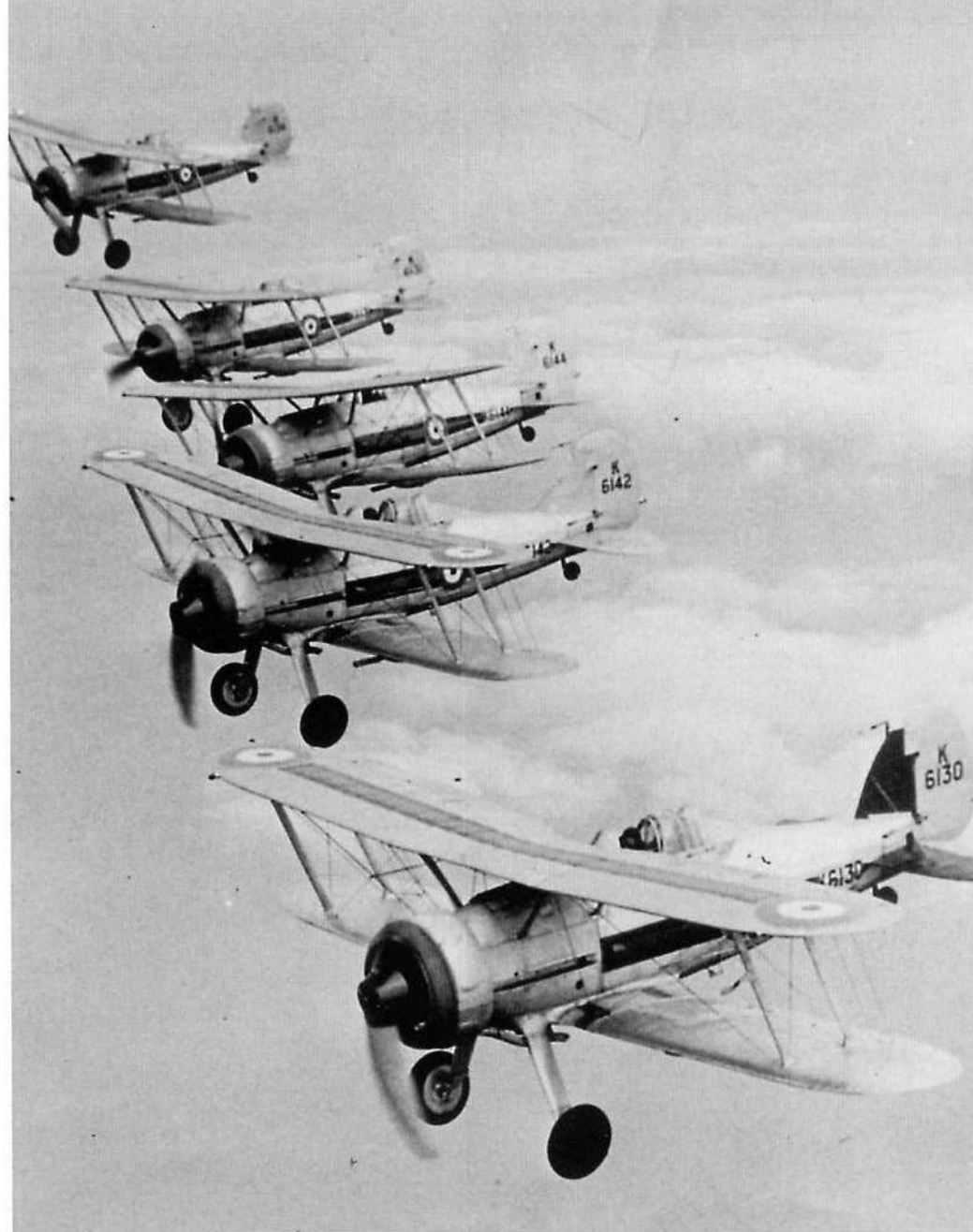
The Gladiator Mk I was armed with two .303 caliber (7.7mm) Vickers Mk V machine guns mounted in the fuselage. These weapons fired through troughs in the front fuselage bay before the bullets passed through the engine cylinders inside the cowling. Two .303 caliber Lewis machine guns with 97 round drums were initially mounted beneath the lower wings, but these were replaced by a pair of Vickers 'K' guns with 100 rounds mounted in streamlined fairings. Later production aircraft were fitted with four .303 caliber Browning machine guns, which were retrofitted to earlier airframes. The fuselage-mounted Browning weapons were belt fed from 600 round ammunition boxes, while the wing-mounted guns had 400 round boxes. The weapons were aimed using a Mk II reflector gun sight in the cockpit.

Gloster built 378 Gladiator Mk Is between 1936 and 1937. These saw service with the RAF and with several foreign customers.

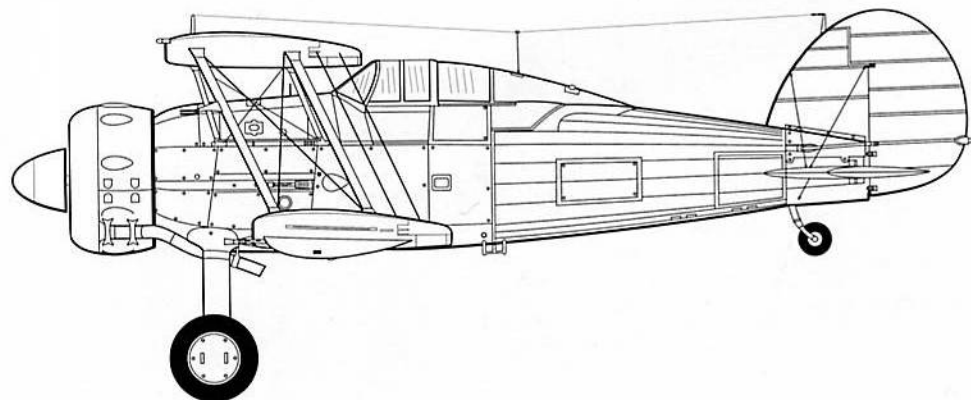
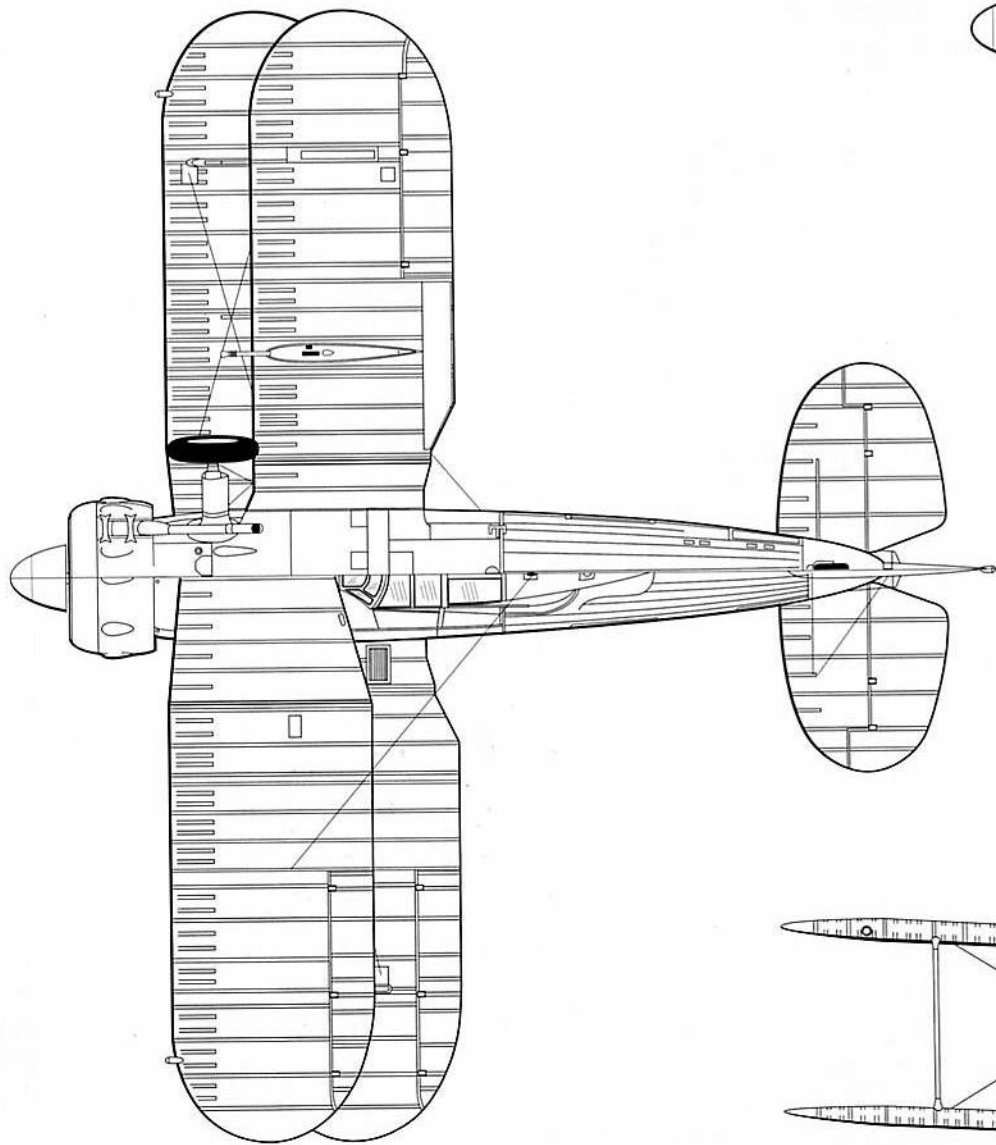


The third production Gladiator (K6131) makes a Gloster test flight over England. This fighter lacks the four .303 caliber machine guns, which were not required for these tests. K6131 was used for early RAF evaluation before assignment to No 72 Squadron at RAF Tangmere in February of 1937. The following year, it was reassigned to No 9 Flying Training School.

No 72 Squadron Gladiator Mk Is are lined up at Farnborough, England for a 1937 exercise. The first aircraft in line is K6143 and is followed by K6144, K6141, K6137, K6140, K6136, K6142, K6135, and K6139. The small spinners were removed from their Watts propellers. The exhaust collector ring on the cowling's front was left in burnt metal. (Via Ray Sturtivant)



Five No 72 Squadron Gladiator Mk Is together in a somewhat ragged formation in 1937. They are painted in their new red and blue squadron markings on the top wing upper surfaces and along the fuselage sides. K6130, the flight leader's aircraft, has red wheel discs, horizontal stabilizers, and vertical stabilizer. This aircraft appears to be unarmed, while the four other Gladiators have their wing gun pods.



Gloster Gladiator Mk I Specifications

Wingspan:.....32 feet 3 inches (9.8 m)

Length:.....27 feet 5 inches (8.4 m)

Height:.....11 feet 9 inches (3.6 m)

Empty Weight:.....3450 pounds (1564.9 kg)

Maximum Weight:..4592 pounds (2082.9 kg)

Powerplant:.....One 830 hp Bristol Mercury IX nine cylinder, air-cooled, radial engine.

Armament:.....Two .303 caliber (7.7mm) Browning machine guns with 600 Rounds Per Gun (RPG) in the forward fuselage and two .303 caliber machine guns with 400 RPG in the lower wings.

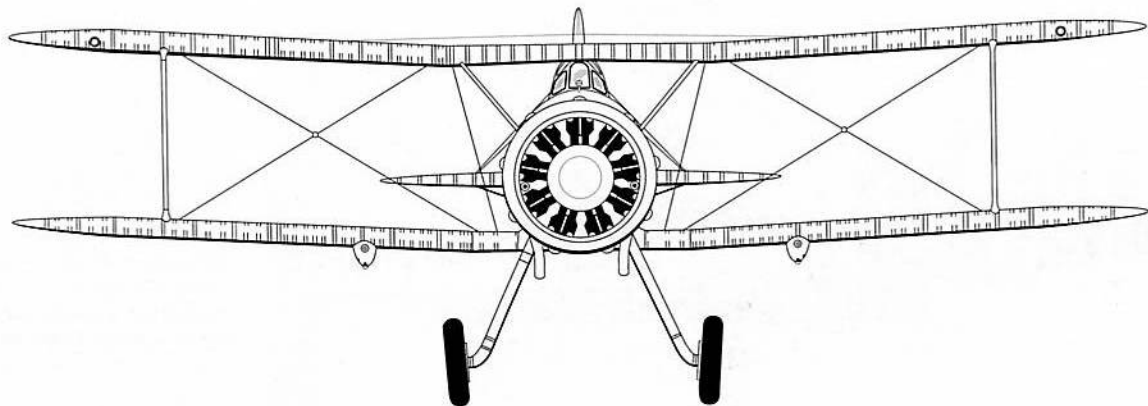
Performance:

Maximum Speed:..253 MPH (407.2 kmh) at 14,500 feet (4419.6 m)

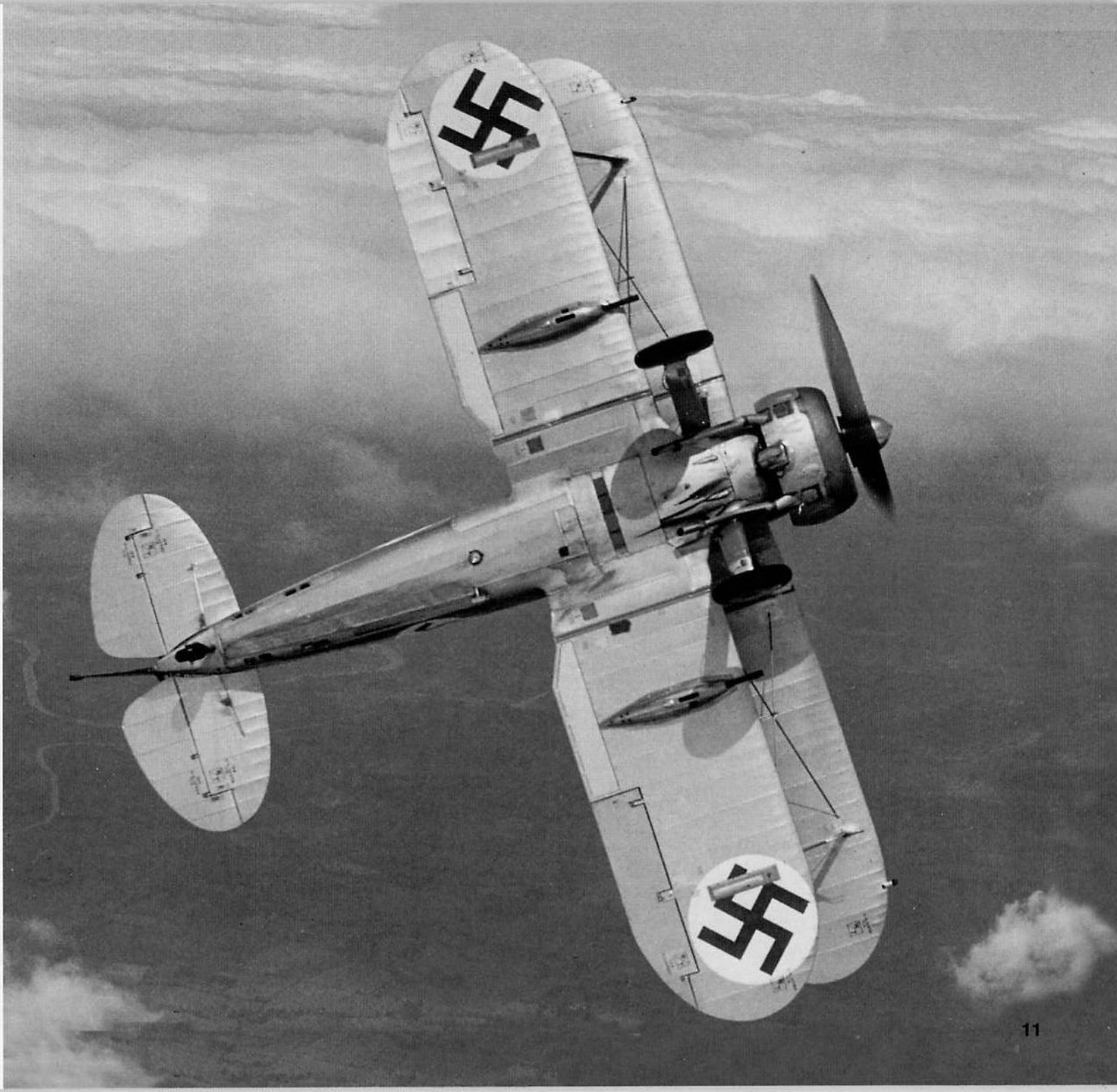
Service Ceiling:.....32,800 feet (9997.4 m)

Range:.....428 miles (688.8 km)

Crew:.....One



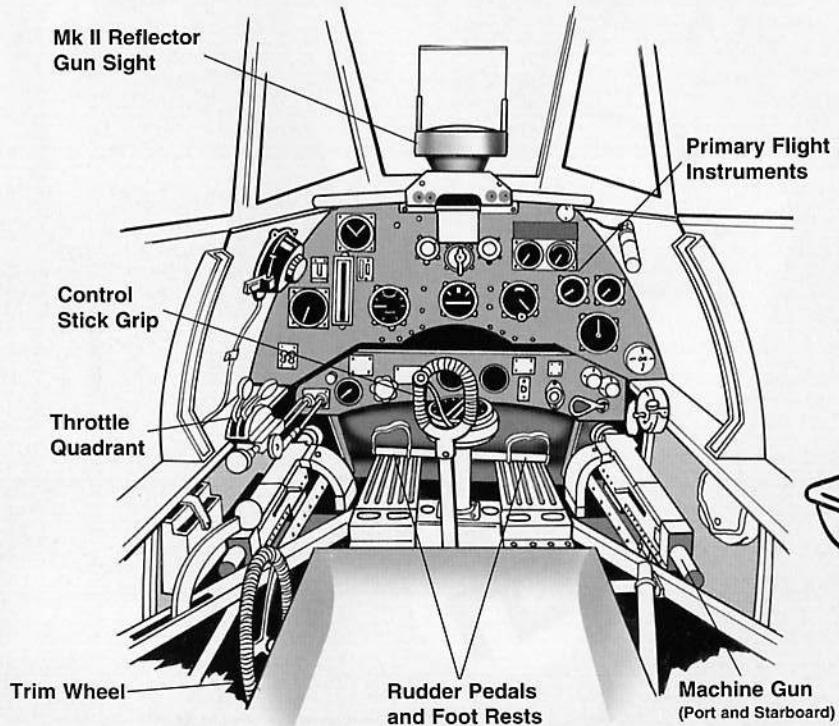
Gloster test pilot Flt Lt 'Peg' Sayer flies a Latvian Gladiator Mk I away from the camera during a pre-delivery test flight in 1937. Port and starboard engine exhaust pipes ran from the cowlings along the lower fuselage, past the main landing gear struts. A carburetor air intake is mounted on the aft cowling section. This intake was mounted on some, but not all Gladiator Mk Is. Each wing-mounted machine gun is mounted in a streamlined pod on the lower wing's undersurface. Metal flaps are mounted on the wing trailing edge, inboard of the ailerons. The metal interplane strut base partially obscures the maroon and white Latvian national insignia on the lower wings. Navigation lights – red to port, green to starboard – are mounted on the upper wing's leading edge. A white tail light is fitted to the rudder's trailing edge.





Several factory-fresh Gladiator Mk Is assigned to No 54 Squadron sit on the grass at RAF Hornchurch, England in 1937. Two ground crewmen chat in front of the lead aircraft (K7917) while awaiting the pilots' arrival. Two of these Gladiators (K7917 and K7924) have the pilot's leather helmet and parachute resting on the port horizontal stabilizer. The pilot put these items on prior to flight. The port cockpit door is open to aid the pilot in entering and exiting the aircraft. A similar door was located on the Gladiator's starboard side, but this was normally only used in emergency situations. (Via Richard Riding)

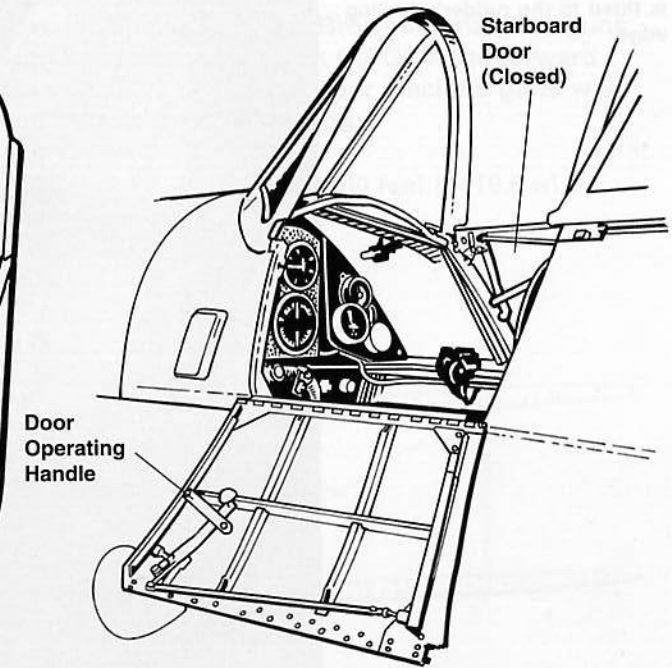
Gladiator Mk I Instrument Panel



Seat



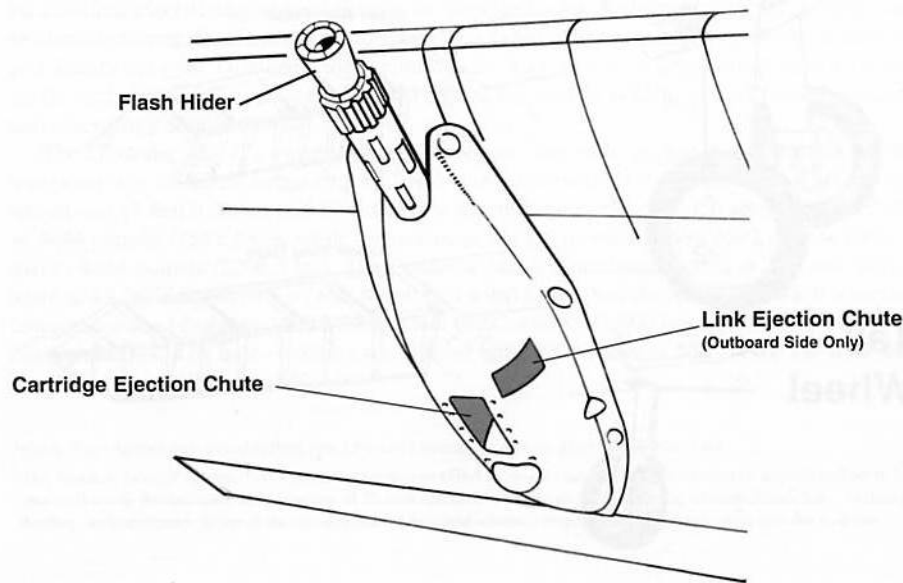
Cockpit Door





An armorer checks the .303 caliber (7.7mm) machine guns fitted in the Gladiator's forward fuselage and wing gun pods. The large fuselage panel was removed for servicing the two guns and their 600 round ammunition boxes. These weapons were synchronized to fire through the propeller arc. The wing guns and their 400 round ammunition boxes were semi-recessed into the lower wing surface outside of the propeller arc. The streamlined fairing is removed from the starboard wing gun for servicing. (Eino Ritaranta)

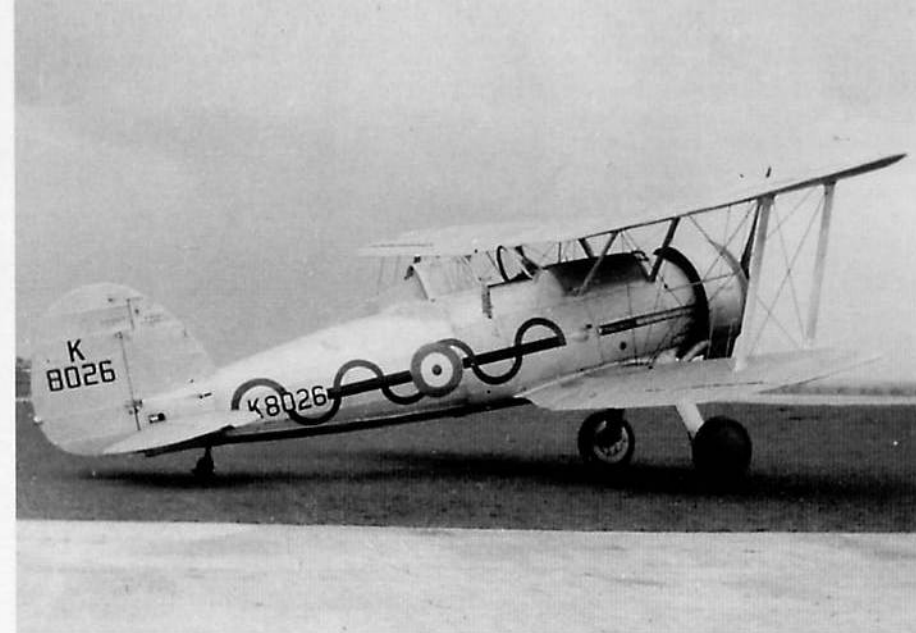
Wing-Mounted .303 Caliber Browning Machine Gun



This No 87 Squadron Gladiator Mk I (K8027) lacks the Squadron's usual green and black fuselage markings. Flying Officer Feeney piloted this aircraft while demonstrating tied-together aerobatics with three other Gladiators in 1938. A Type G.22 gun camera is mounted above the starboard wing gun. (A.J. Jackson Collection)

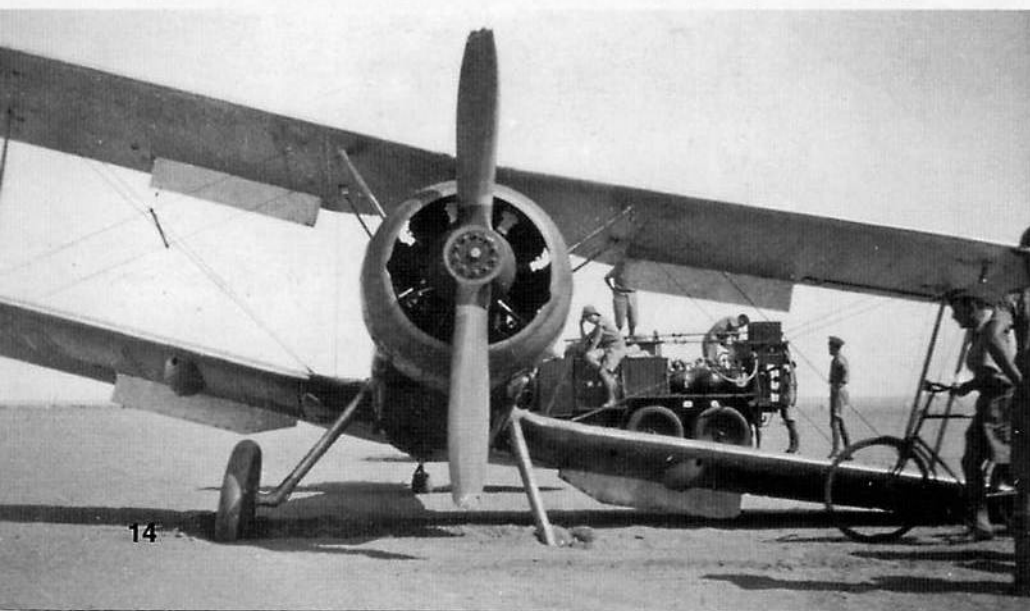
Only a few Gladiators were equipped with the Type G.22 gun camera on the starboard wing. The camera had a ten inch (25.4 cm) focal length lens with an f-stop (diameter) of f/7.7. It recorded the Gladiator's gun fire for post-mission study on 120 size film. The system was powered by a four volt battery and operated by remote control. (RAF Museum)





Pilot Officer E.J. 'Cobber' Kain flies this No 73 Squadron Gladiator Mk I (K7985) from RAF Digby in 1937. He has opened the canopy, which was preferred by most pilots used to the open cockpits of earlier fighters. Kain's aircraft lacked the fuselage and wing-mounted machine guns, which is believed to be due to a pre-war weapons shortage. Kain became the RAF's first ace of World War Two before he died in an accident on 5 June 1940. (Via Ray Sturtivant)

This No 80 Squadron Gladiator Mk I (K8009) struck the ground during aerobatics at Ismailia, Egypt. The pilot, future ace 'Pat' Pattle, lost his port main wheel and had propeller tip damage; however, he successfully landed his aircraft. Both pairs of flaps are fully lowered on the wings' trailing edges. The Gladiator was the first British fighter equipped with flaps for increased lift at takeoff and reduced landing speed. (Arthur Phillips)



This Gladiator Mk I (K8026) was delivered from the Gloster factory to No 87 Squadron in April of 1938. Part of the seat harness is draped over the starboard cockpit sill. The Gladiator is fitted with one .303 caliber machine gun in the starboard fuselage. This weapon fired through a trough with the rounds exiting between two engine cylinders. The aircraft later flew with No 607 Squadron from Merville, France during 1939-40. (A.J. Jackson Collection)

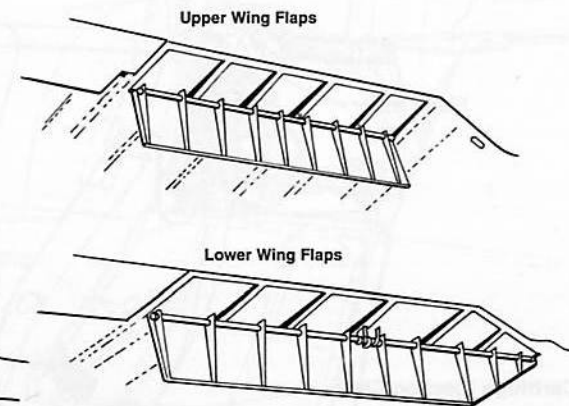
Main Landing Gear



Tail Wheel



Wing Flaps



Gladiator Mk II

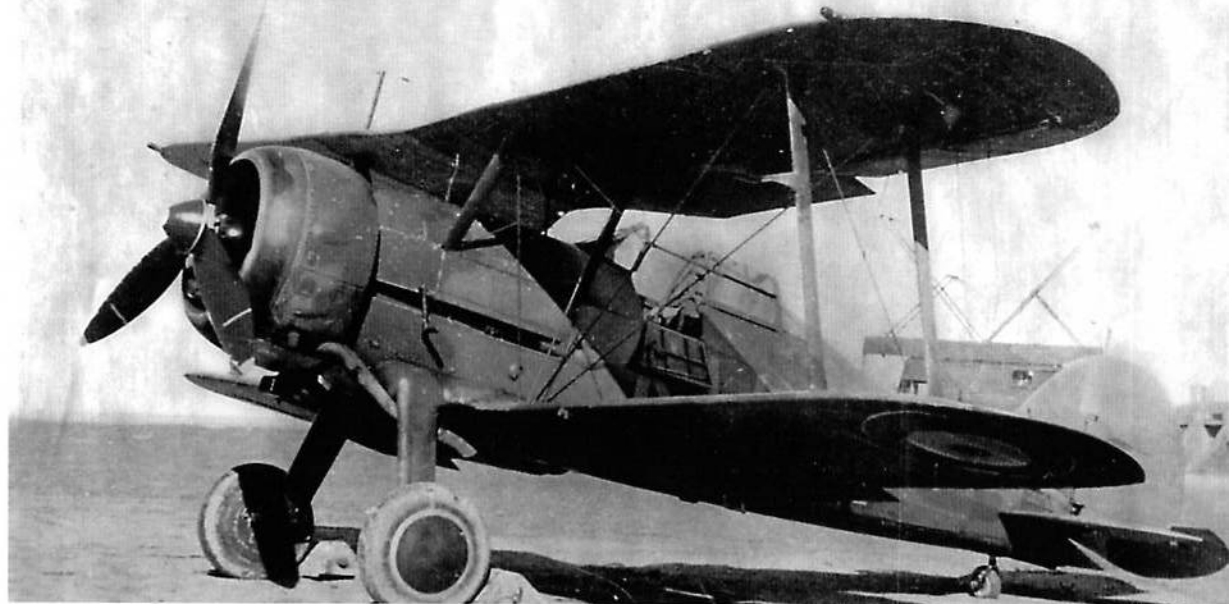
The Air Ministry issued Specification F.36/37 to cover late production Gladiator Mk Is and the introduction of the **Gladiator Mk II** in February of 1938. Expanding British interests in the Middle East meant there was a requirement for more fighters. Initially, this requirement was covered by early Gladiator Mk Is, but the need for more aircraft steadily increased. Plans were made to send new aircraft straight from the factory to No 27 Maintenance Unit (MU) at RAF Shawbury, Salop to incorporate new modifications and make them more suitable for operations in hot, humid, and dusty conditions. A new version of the Bristol Mercury nine-cylinder, air-cooled, radial engine was one major change. This was the 830 HP Mercury VIII A incorporating a revised 0.572 gear ratio. It turned a three-bladed Fairey-Reed fixed pitch metal propeller, with a diameter of 10 feet 6 inches (3.2 m). In May of 1937, a Gladiator Mk I (K7922) was used to test both wooden and metal propellers. Performance trials were conducted at Filton, Brockworth, and Martlesham Heath. This aircraft was also sent with the Fairey-Reed propeller to Fairey's Great West Aerodrome¹ west of London, where it was test flown by Fairey pilots C.S. Staniland and F.H. Dixon. Another Gladiator Mk I (K7964) joined the trials program with the new 0.572 ratio reduction gear. Fairey tested this aircraft between June and November of 1937. The Mercury VIII A also featured a manual boost override, which provided another 10 HP at its rated altitude. There was also a Mercury VIII AS version built in the 'shadow factory'² scheme introduced in 1938. The latter differed from the standard VIII A in having Hobson mixture control boxes and semi-automatic boost control carburetors, which in theory provided optimum automatic fuel consumption.

Gloster also decided to fit more advanced cockpit instrumentation to the Gladiator Mk II. Factory flight trials with a converted Mk I (K7919) were successful; the improvements included a cockpit electric engine start, Smiths airspeed indicator, Kollsman altimeter, Hughes rate of climb indicator, Reid and Sigrist turn and bank (slip) indicator, and Sperry artificial horizon and directional gyro. Gladiators used in the Middle East were also fitted with Vokes air filters on the carburetor intake and a bracket just behind the cockpit holding a small water container and emergency desert rations.

The Gladiator Mk II's external dimensions were the same as for the earlier Mk I. The wingspan was 32 feet 3 inches (9.8 m), while the length was 27 feet 5 inches (8.4 m) and the height was 11 feet 9 inches (3.6 m). Its empty weight decreased from 3450 pounds (1564.9 kg) to 3444 pounds (1562.2 kg), while its maximum weight increased from 4592 pounds (2082.9 kg) to 4864 pounds (2206.3 kg). The Gladiator Mk II's maximum speed of 257 MPH (413.6 km/h) at 14,500 feet (4419.6 m) was 4 MPH (6.4 km/h) faster than the Mk I. The Mk II's service ceiling increased from the Mk I's 32,800 feet (9997.4 m) to 33,500 feet (10,210.8 m), while its range remained 428 miles (688.8 km). Gloster built 270 Gladiator Mk IIs for the RAF and export between 1938 and 1940.

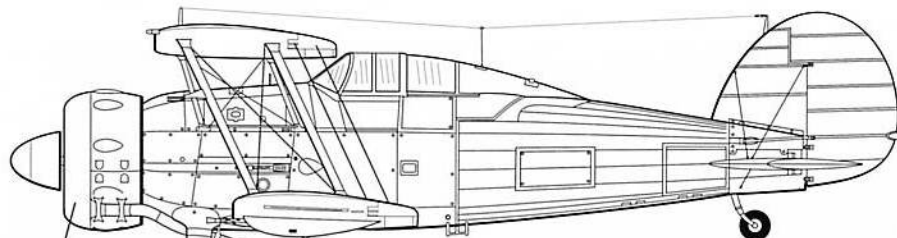
¹Great West Aerodrome was absorbed into London's Heathrow Airport after World War Two.

²The 'shadow factory' scheme was a British government effort to rapidly increase the production of aircraft and other war materiel using the facilities and expertise of British industry. The government paid for, or subsidized, land, buildings, tooling, and personnel. Most of the civilian automobile and related companies were incorporated into the scheme.



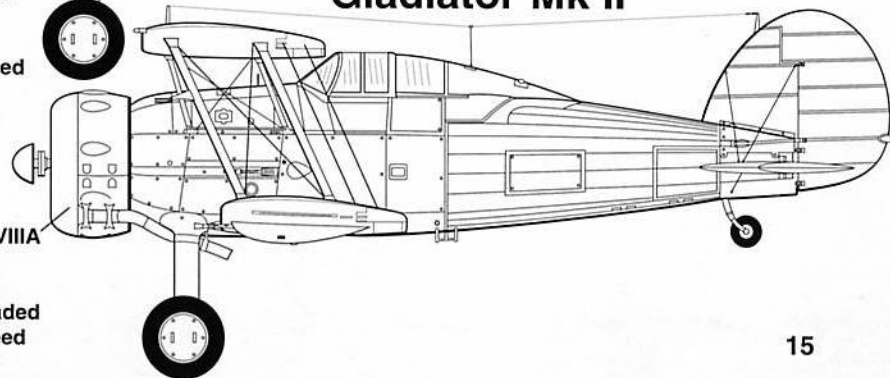
This Gladiator Mk II is believed to be assigned to No 615 'County of Surrey' Squadron at Merville, France in early 1940. It is equipped with the three-bladed Fairey-Reed metal propeller standard for this variant. The auxiliary engine starter crank is fitted to the port forward fuselage, immediately above the machine gun trough. All Gladiators had internal electric engine starters. Undersurfaces of the starboard wings were white, while port undersurfaces were black, called Night (FS37038) by the RAF. No 615 personnel brushed red dope over the aft fuselage serial number in France. (A.J. Jackson Collection)

Gladiator Mk I



830 HP
Mercury IX
Engine,
Turning
Two-Bladed
Watts
Propeller

Gladiator Mk II

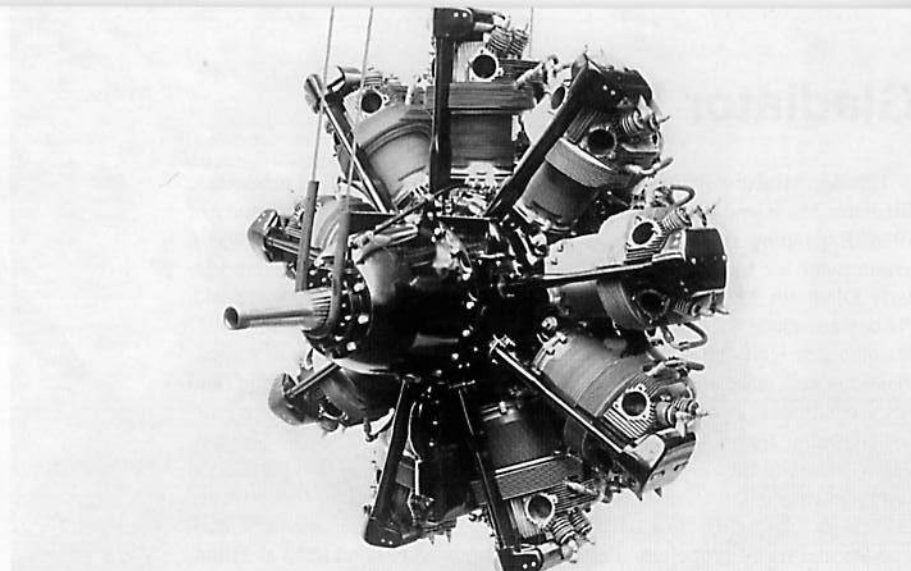
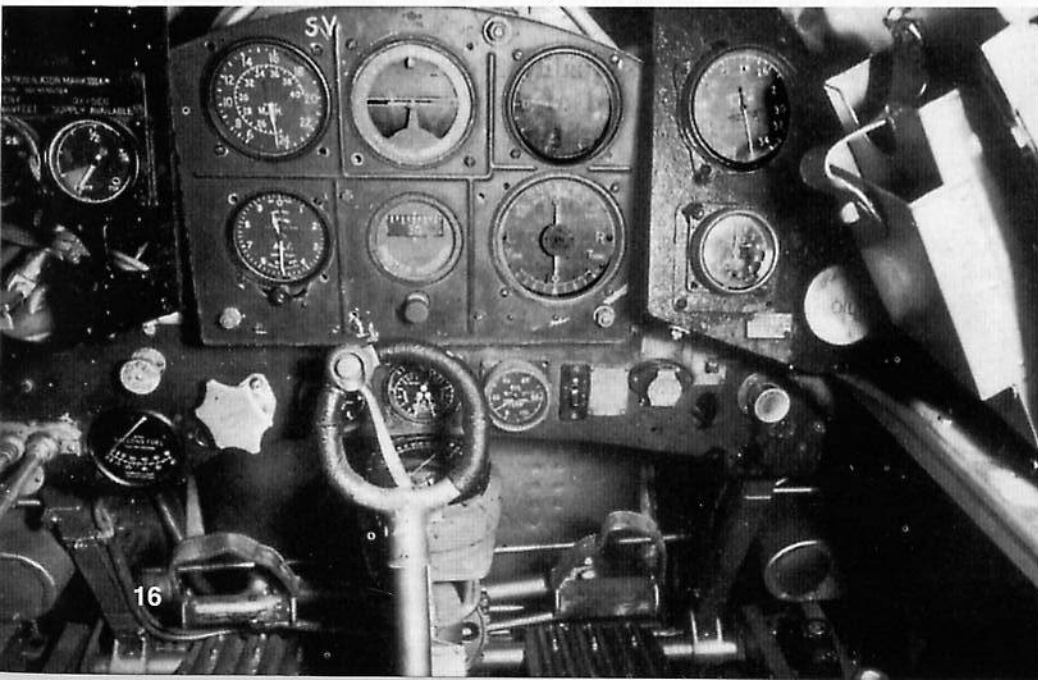


830 HP
Mercury VIII A
Engine,
Turning
Three-Bladed
Fairey-Reed
Propeller



This Gladiator Mk II was assigned to 1411 Meteorological (Met) Flight at Heliopolis, Egypt during World War Two. This RAF weather data-gathering unit was manned and operated by Royal Egyptian Air Force (REAF) personnel. Green and white Egyptian insignia are painted on the Gladiator. The Vokes air filter mounted under the engine cowling reduced sand and dust ingestion. (Mr. Tinkler via Dr David Nicolle)

The Gladiator Mk II instrument panel featured an altered instrument panel from the earlier Mk I. The six major flight instruments were clustered at the panel's center section for easier reading. Instruments on the upper center were (from left) air speed indicator, artificial horizon, and climb/descend indicator. Immediately below were the altimeter, directional indicator, and the slip and skid (turn and bank) indicator. A tachometer is mounted to the upper starboard side panel. Gladiator instrument panels were semigloss black, while cockpit interiors were Grey Green (FS34226).

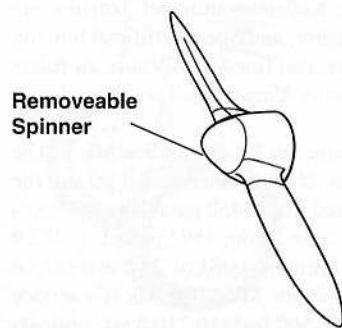


The 830 HP Bristol Mercury VIII nine-cylinder, air-cooled, radial engine powered the Gladiator Mk II. It is externally similar to the Gladiator Mk I's 830 HP Mercury IX. Two openings on the front of each cylinder were exhaust ports, which were connected to the collector ring on the cowling. Two spark plugs were fitted atop each cylinder. The Mercury had a black crankcase with aluminum cylinders. (John Heaven/RRHT Bristol Branch)

Propeller Development

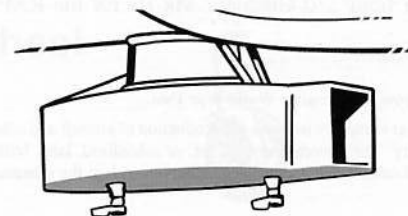
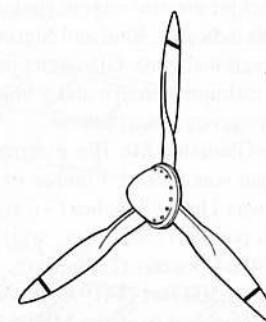
Watts Wooden Propeller (Gladiator Mk I)

Diameter: 10 feet 9 inches (3.3 m)



Fairey-Reed Metal Propeller (Gladiator Mk II)

Diameter: 10 feet 6 inches (3.2 m)



Vokes Air Filter (Gladiator Mk I/II, Desert Areas)

RAF Service

The Air Ministry was in something of a quandary in 1934. The RAF still flew the Bristol Bulldog as its front line fighter, although it was due to be replaced by the Gloster Gauntlet during 1935/36. It was hoped that the Gauntlet would be the last biplane fighter, but fundamental changes to the Rolls-Royce Merlin engine – the chosen powerplant for the new Hawker Hurricane and Supermarine Spitfire monoplane fighters – resulted in delivery delays on the newer aircraft. The published expansion for the new fighters' introduction was six new squadrons in 1936 and eight more in 1937. A slightly panicked Air Ministry reacted to the worsening situation in Europe by ordering 180 Gladiators as a stop-gap measure – with the stipulation that they would all be delivered by the end of 1937!

On 22 February 1937, Flight Lt E.M. Donaldson (later Air Commodore E.M. Donaldson, CB, CBE, DSO, AFC) and four other pilots collected five Gladiator Mk Is (K6130-K6134) from Gloster's Brockworth airfield and delivered them to RAF Church Fenton, Yorkshire. These pilots had been serving with No 1 Squadron at RAF Tangmere, but were tasked with forming No 72 Squadron and moving to their new base, where they soon received ten more Gladiators. No 3(F) Squadron at Kenley was the next to re-equip with the Gladiator on 2 April 1937. Squadron Leader H.L.P. Lister took off from Brockworth in the first machine (K6145), only to suffer an engine cut due to fuel starvation. He quickly switched to the gravity fuel tank and managed to turn in for a successful crosswind landing.

These Gladiator Mk Is from the first production batch were all armed with the .303 caliber (7.7MM) Vickers Mk V machine guns in the upper fuselage, but .303 caliber Lewis guns had been fitted under the lower wings until approval was received for the Vickers. The first 37 aircraft in the next batch were also fitted with underwing Lewis weapons and the next ten with Vickers 'K' gas-operated guns. All subsequent Gladiators were fitted with .303 caliber Browning weapons and the first 47 aircraft were later retrofitted with the new weapons. In order to accommodate the eventual weapons changes and shorten the turn around time, the second production batch had a universal gun mounting under each wing. This mounting accommodated either Vickers, Lewis, or Browning machine guns.

During April and May of 1937, Nos 54 and 74 Squadrons at Hornchurch became the first units to receive the modified aircraft. Additionally, No 80 Squadron at Henlow collected its first Gladiators in May – a bit of a puzzle since they had only received their Gauntlets at Debden in March

A No 3 Squadron Gladiator Mk I (K6149) is parked at RAF Kenley in 1937. The metal spinner is removed from the Watts propeller hub and was a common occurrence among Gladiator Mk I units. The fighter's canopy and port cockpit doors are open and part of the seat harness is draped outside the cockpit. All four machine guns are mounted on this aircraft. The Squadron insignia is painted inside a triangle on the vertical stabilizer. K6149 failed to recover from a spin and crashed on 24 January 1938; however, its pilot, Sgt E.H. Lomas, parachuted safely from the Gladiator.

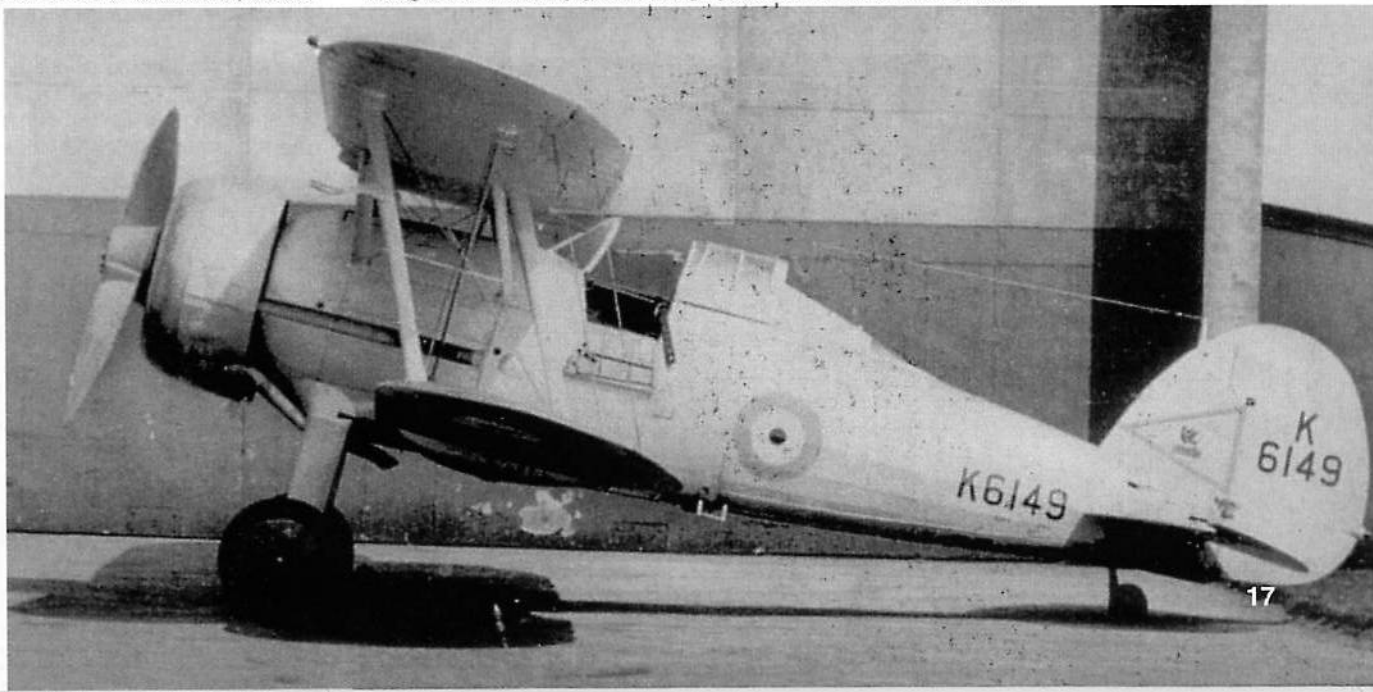
under S/Ldr C.F.H. Grace. Nevertheless, the Squadron was transferred to Ismailia, Egypt in May of 1938. It fought the Axis over five countries before transitioning to the Hurricane in February of 1941. No 65 Squadron, based at Hornchurch, sent ten of its pilots to collect Gladiators from Brockworth on 1 June. One week later, 29 pilots assigned to 73 and 87 Squadrons at Debden collected the first Gladiator Mk Is (K7951-K7963, K7965-K7975, K7977-K7981) totally equipped with Browning guns.

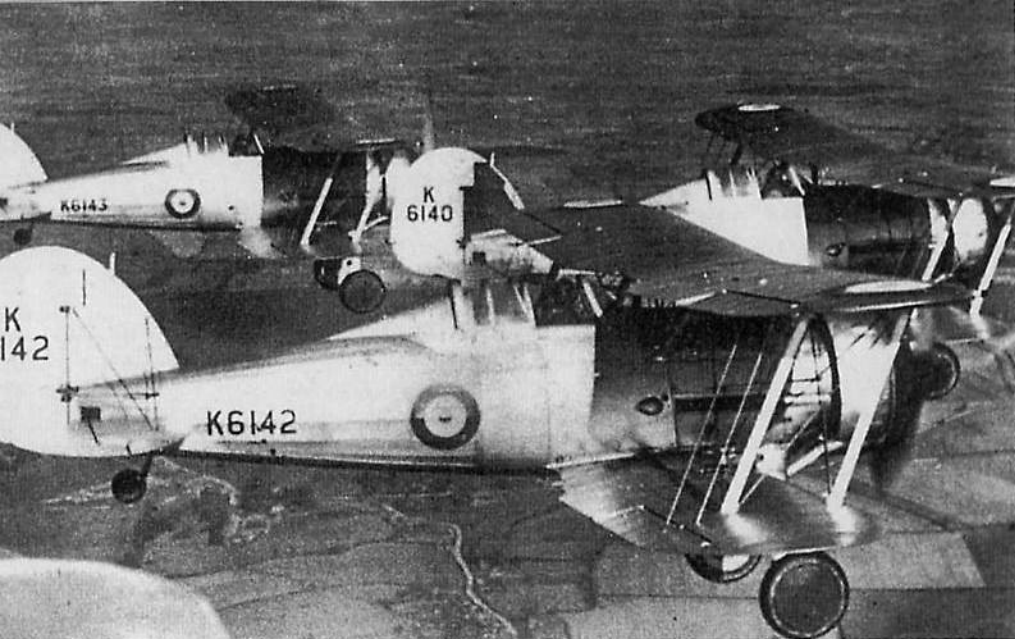
No 56 Squadron at North Weald was the last unit to receive the Gladiator in 1937. This meant that Gloster had fulfilled its obligation by delivering 202 Gladiator Mk Is (K7976 crashed on a test) by the end of 1937. Allowing for the introduction of the new type, a further batch of 28 Gladiator Mk Is (L8005-L8032) were ordered, with most finding their way to the Middle East in early 1939.

The Squadrons receiving the Gladiator found it more demanding than its Gauntlet stablemate. The higher wing loading meant it was less sensitive on the controls, it stalled more abruptly, and flapless landings had to be watched or it would drop a wing with a resultant damaged wingtip. During the winter of 1937-38, eight Gladiators were lost due to accidents. Recovery from a full spin needed care and a deft hand. On 24 January 1938, Sgt E.H. Lomas was serving with No 3(F) Squadron at Kenley; indulging in some air work he tried a safe spin, but it suddenly went into a flat spin. Unable to recover, Lomas baled out. RAE Farnborough¹ was asked to investigate; since there had been a number of cases of Gladiators failing to recover from spins. One of the RAE pilots, Johnny Kent, remarked, "*I found myself taking part in spinning trials of this aircraft under a wide variety of load conditions. Although at times I was quite dizzy from the spinning, I never experienced any difficulty at all and recovery was always immediate.*" Pilots who flew both the Gauntlet and the Gladiator said they preferred the Gauntlet's lighter and gentler response. Technically, there were few problems and both the air and ground crews soon settled in with their new machines.

One problem that caused concern in 1937 was a series of complaints from several early

¹The Royal Aircraft Establishment (RAE) was based at Farnborough, England and was responsible for more thorough testing of RAF aircraft, equipment, and flight procedures. Its mission continues today.





A three-aircraft flight (from top, K6143, K6140, and K6142) from No 72 Squadron practice formation flying near RAF Church Fenton. All three aircraft has the same colored wheel covers, but K6140 has the vertical stabilizer painted in the flight's colors. Early in World War Two, the British abandoned three-aircraft flights in favor of tactically superior four-aircraft flights.

One of No 73 Squadron's Gladiator Mk Is (K7957) sits near a hangar at RAF Digby, Lincolnshire in 1938. The Squadron's colors – yellow flashes with blue trim – were painted on the fuselage and upper wings. The blue vertical stabilizer indicated a flight leader's aircraft. Doors were fitted to both sides of the cockpit, although normal entry and exit was to port.



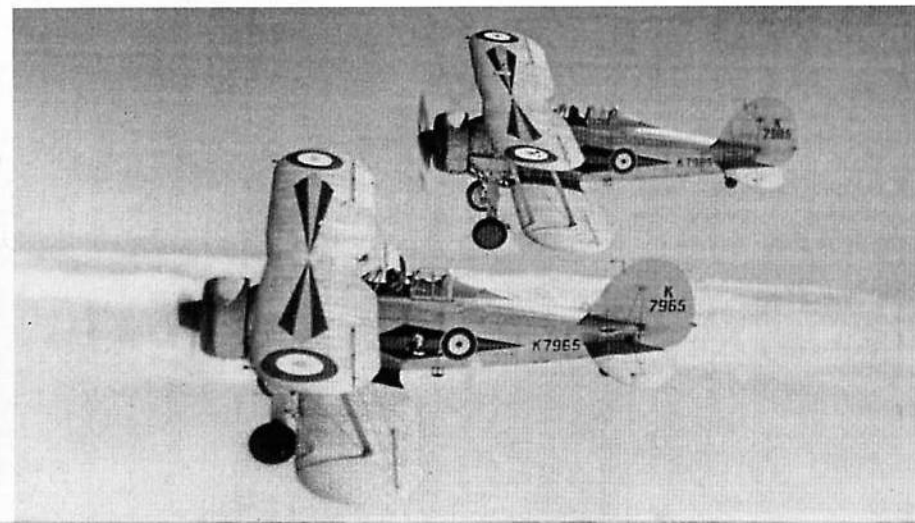
squadrons about severe vibration when the guns were fired in a dive. The large, two-blade Watts wooden propeller was prone to overspeeding, making it almost impossible to keep the sights on the target. A change of pitch to reduce the overspeeding only caused another problem – both take-off performance and climb rate were reduced. Trial installations were made on K5200, K7964, and K8049 with the heavier, three-blade Fairey-Reed metal propeller. Initial results were disappointing, but Bristol suggested a different propeller reduction gear and this solved the problem.

By September of 1937, all eight squadrons were fully operational and four of these, alongside some Gauntlet squadrons, took part in the annual defense exercises. On 23 October, a party of Luftwaffe officers – including General Erhard Milch, Maj General Ernst Udet, and Lt General H.J. Stumpff – visited the RAF and inspected Nos 54 and 65 Squadrons with their Gladiators at Hornchurch. The pilots had all been briefed not to say anything about the new Mk II reflector gun sights fitted to their aircraft. One pilot from 65 Squadron, Pilot Officer Robert Tuck² (later to achieve fame during the Battle of Britain) fumed when one of the Luftwaffe generals asked about the gun sight and a helpful Air Ministry officer promptly jumped up and explained how it worked! Tuck was interested to note that when he flew a captured Messerschmitt Bf 109 later in the war, the gun sights were similar!

The set up of the new Fighter Command structure resulted in orders for more modern fighters. Early in 1938, the Gladiator squadrons were informed they would be re-equipping with either Hurricanes or Spitfires. When Prime Minister Neville Chamberlain returned from Munich and his talks with Adolf Hitler on 30 September 1938, only two Hurricane squadrons were operational. Two other Hurricane units were working up to operational status. Some 25 other home defense fighter squadrons were still equipped with biplanes – Gauntlets, Gladiators, Hawker Fury's, and Hawker Demons. When the Gladiators were replaced by Hurricanes, they were issued to Auxiliary Air Force squadrons. The first (K6137) was assigned to No 607 (County of Durham) in September, with others following in early 1939.

²On 17 January 1938, Tuck survived a mid-air collision with another Gladiator from the same squadron.

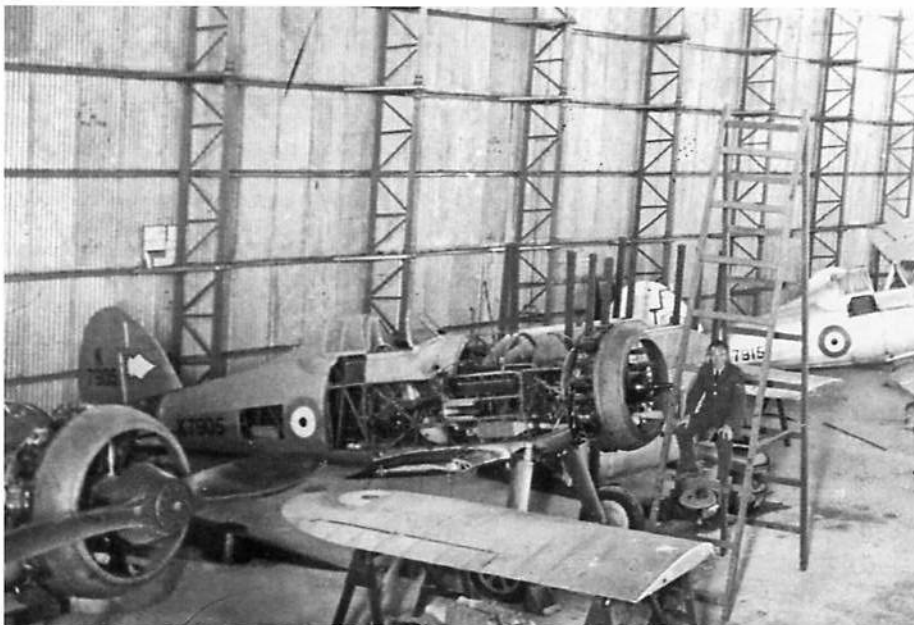
Two No 73 Squadron Gladiator Mk Is (from top, K7985 and K7965) display their new unit markings while flying near RAF Digby in 1938. Neither aircraft appears to be armed for this flight, which was a common peacetime practice in the RAF. Gladiator pilots usually flew with the canopies open, due to engine fumes entering the cockpit. (RAF Digby)





This Gladiator Mk I (K7920) was originally assigned to No 54 Squadron at RAF Hornchurch in 1937. The unit insignia is painted on the vertical stabilizer. This aircraft was transferred to No 603 Squadron at Turnhouse, Scotland in September of 1939, then reassigned to 152 Squadron at RAF Acklington one month later. The Gladiator last operated with No 2 Army Aircraft Co-Operation Unit (AACU) in Egypt during 1940-41. (MAP)

Both wings and the fuselage panels are removed from this No 80 Squadron Gladiator Mk I (K7905) at Ismailia, Egypt prior to World War Two. Mechanics removed the panels to service various components inside the fuselage, including the machine guns, fuel and oil tanks, and flight controls. No 80 Squadron was redeployed from Debden, England to Ismailia in May of 1938. (Arthur Phillips)



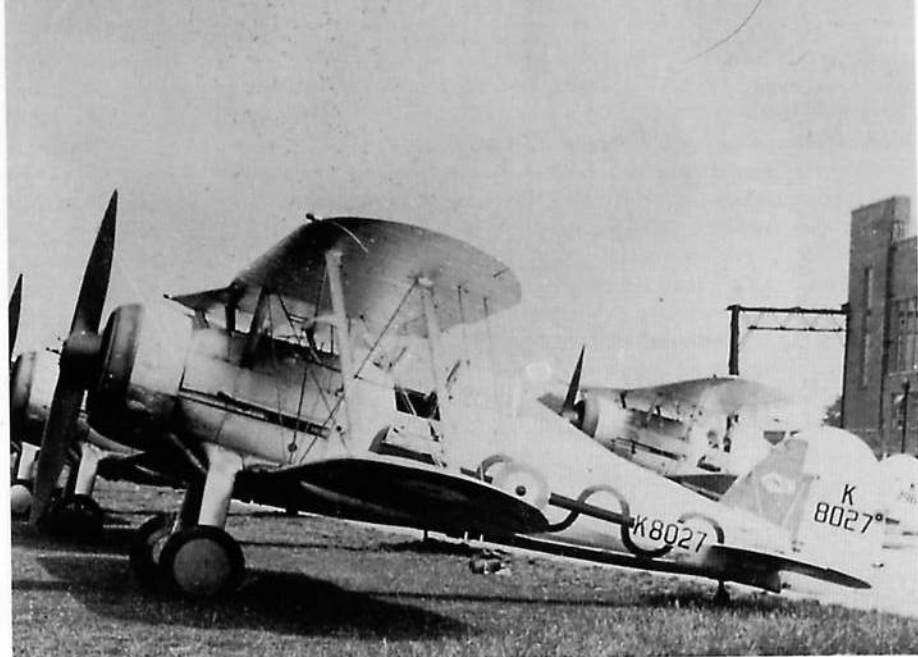
No 54 Squadron pilots race to their Gladiators during an exercise in 1938. Their seat parachutes were later found to be cumbersome and were left in the cockpit or on the wing for the pilots to put on before flight. The parachute's pack nestled into the seat pan and acted as a cushion. These Gladiators display a variety of flight leader fin markings.

Gladiator Mk Is assigned to No 73 Squadron warm up their engines at RAF Digby in 1938. Mechanics stand near each aircraft to ensure proper engine start before pulling the wheel chocks. Pilots then taxied their Gladiators off the concrete apron onto the grass airfield for takeoff. No 73 was one of five UK-based Gladiator squadrons in RAF service by the fall of 1938. (RAF Digby)



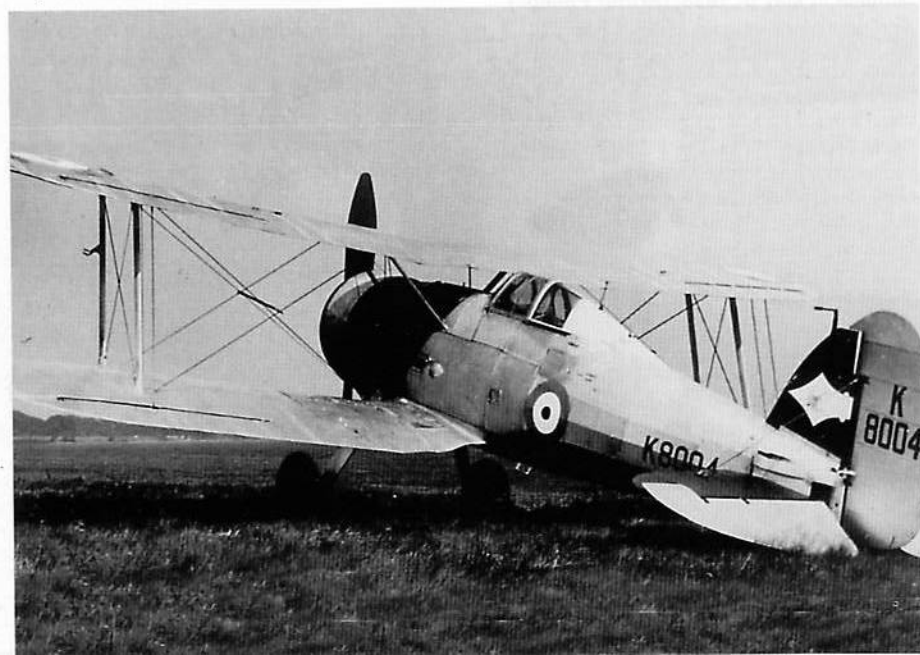


A trio of No 87 Squadron Gladiator Mk Is (from bottom, K7972, K8027, and K7967) rehearse formation aerobatics in mid-1938. A short tether line on the wingtips connected these aircraft. The Gladiators were flown by Flying Officer Feeney (K8027), Pilot Officer Lorimer (K7972), and Sgt Dewdney (K7967). They performed at the Hendon Air Pageant in England and at Villacoublay, France in July of 1938. (Charles E. Brown)



A No 87 Squadron Gladiator Mk I (K8027) ends a line of aircraft parked near a hangar at RAF Debden in 1938. The blue wheel discs and fin indicate its assignment to the B Flight Commander. The Squadron's emblem – a snake inside a spearhead – is painted on the vertical stabilizer. (MAP)

This Gladiator Mk I (K8004) was delivered from a RAF Maintenance Unit (MU) to No 72 Squadron in January of 1938. It was transferred to No 615 Squadron by May of 1939, then reassigned to No 605 Squadron the following August. This aircraft was sent to No 263 Squadron at Filton in October of 1939, but was lost in the 1940 Norwegian Campaign. (Via Ray Sturtivant)





A No 80 Squadron Gladiator Mk I (K7901) is parked at Ismailia, Egypt after the unit moved there from RAF Debden, England in May of 1938. This flight leader's aircraft has two-colored wheel covers and vertical stabilizer; however, the colors are unknown. The aircraft was transferred to No 3 Squadron, Royal Australian Air Force in 1940. (Arthur Phillips)



A pilot enters the cockpit of his No 80 Squadron Gladiator Mk I (K7914) at Ismailia in 1940. Two mechanics prepare the aircraft for a mission to patrol the nearby Suez Canal. It retained the overall Aluminum finish before RAF units in Egypt swiftly adopted camouflage in 1940. K7914 later served with 1413 Met Flight at Ramleh, Palestine until at least 1942.

This Gladiator Mk I (LW-D) was assigned to No 607 'County of Durham' Squadron at Usworth in mid-1939. The serial number was overpainted, which was a common feature of the time. From the fall of 1938, RAF Gladiators were camouflaged and their markings were toned down. Upper surfaces were Dark Green (FS34079) and Dark Earth (FS30118). The port undersurfaces were Black (FS37038) – called Night by the RAF – and the starboard undersurfaces were White (FS37778). Type B roundels of Red (FS30109) and Blue (FS35044) were painted on the upper wings and fuselage. Medium Sea Grey (FS36270) code letters (two for the squadron, one for the individual aircraft) flanked the fuselage roundel. No 607 Squadron flew most of their Gladiators from Merville, France during the 'Phony War' of September of 1939 until May of 1940. (Andy Thomas)





No 615 'County of Surrey' Squadron pilots pose before their Gladiator Mk IIs at Merville, France during the 'Phony War.' This variant was equipped with three-bladed Fairey-Reed metal propellers, which were black with yellow tips. Nos 615 and 607 Squadrons saw brief action during the German invasion of Western Europe in May of 1940. (IWM)

F/O Anthony Eyre flew this No 615 Squadron Gladiator Mk II (KW-T/N2308) from France on 22 May 1940. He landed at Redhill after the surviving Gladiators in France were evacuated ahead of the advancing Germans. The serial number was overpainted on this aircraft, which previously served with Nos 65, 54, and 141 Squadrons. (Via Ray Sturtivant)



Gladiators in Combat France 1939/40

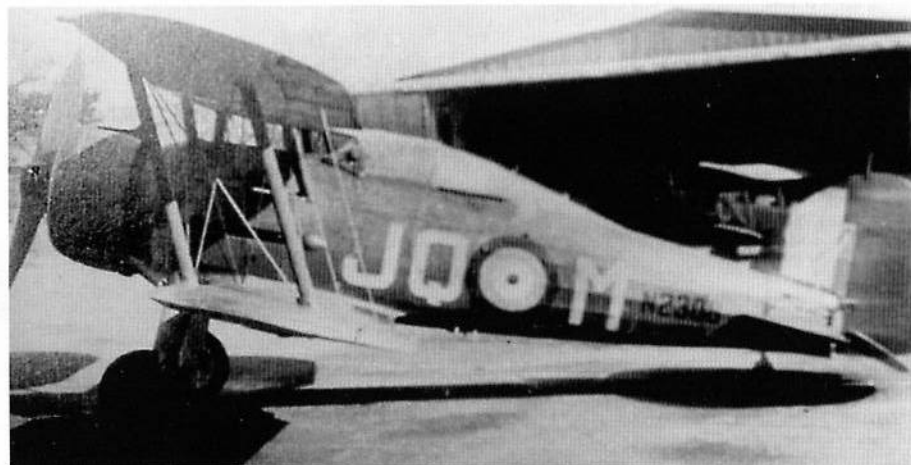
The RAF still had eight fighter squadrons operating 114 Gladiators with another 38 aircraft in reserve when Britain declared war on Germany on 3 September 1939. The colorful pre-war Aluminum finishes and squadron markings had given way to drab wartime camouflage. Although some squadrons operated the Mk II, others still had the earlier Mk I and it was not unusual for a squadron to fly a mix of these marks. Following the war's outbreak, the French Government asked the British Air Ministry to deploy several bomber and fighter squadrons for basing in France.

Two Gladiator squadrons, Nos 607 and 615, with 32 aircraft were flown to Merville on 15 November 1939. They became part of the Northern Air Component of the British Expeditionary Force (BEF). Poor weather during the early days resulted in a move to Vitry-en-Artois and/or the satellite field at St. Ingelvert. This resulted in several accidents and both squadrons saw little of the Luftwaffe. All that changed on 10 May 1940, when the Germans invaded the Low Countries.¹ The Gladiators were quickly in action with 607 Squadron claiming seven enemy machines before breakfast. Unfortunately, both Squadrons' records for this period were lost in the withdrawal from France and the figures were drawn in good faith from the pilots involved. No 607 did state their pilots claimed 72 German aircraft, with another 56 damaged between 10 and 20 May. Since a number of pilots were lost in action over the next few days, the figures can only be speculative.

On 18 May, Gladiators clashed with Messerschmitt Bf 109 and Bf 110 fighters over Arras, France with some of the enemy reportedly being shot down. Most of the Gladiators were on the ground at Vitry to re-fuel and re-arm when the Luftwaffe bombed the base. Most of the aircraft were destroyed; what few Gladiators remained were burned where they were parked before the British withdrew.

¹Belgium, the Netherlands, and Luxembourg.

This Gladiator Mk II (JQ-M/N2308) was assigned to No 247 Squadron at Roborough in August of 1940. The Squadron was the only UK-based RAF Gladiator unit during the Battle of Britain. This aircraft previously flew with No 615 Squadron, which flew from Merville and Vitry, France in late 1939. Its fin flash of red (leading), white, and blue covers the entire vertical stabilizer. This aircraft has the two-bladed propeller associated with Gladiator Mk Is.



Norway 1940

The British responded to the Soviet invasion of Finland on 30 November 1939 by sending 30 Gladiator Mk IIs to Vipuri, Finland. These aircraft joined the Gauntlets already in *Ilmavoimat* (Finnish Air Force) service against the Soviet forces. In early 1940, No 263 Squadron at Filton, England was alerted to prepare to deploy to Finland with their 22 Gladiator Mk IIs. This move was cancelled when the Russo-Finnish War ended on 12 March 1940.

German forces attacked Norway on 8 April 1940, which prompted No 263 Squadron to send 18 of their Gladiator Mk IIs from Filton to Scapa Flow in the Orkney Islands on 20 April. The next day, Fleet Air Arm (FAA) pilots flew the aircraft aboard the aircraft carrier HMS *GLORIOUS*.¹ The Squadron's pilots were ferried to the ship by launch and *GLORIOUS* sailed out on 22 April. Two days later, the Gladiators were launched from the carrier and flew to frozen Lake Lesjaskog, 50 miles (80.5 km) southeast of Aandalsnes in central Norway. This deployment was troubled from the beginning, including the Arctic cold weather and lack of ground crewmen and support equipment. Two Gladiators took off the next morning and shot down a Heinkel He 115 floatplane. Three Heinkel He 111 bombers bombed the lake later that day. The raid destroyed four Gladiators and wounded three pilots without loss to the attackers. Further patrols that day resulted in three He 111s shot down and a fourth damaged, but later German attacks left only four Gladiators at day's end. On 27 April, fuel stocks ran out and the British burned the three Gladiators left before evacuating Lake Lesjaskog. No 263 Squadron had six confirmed and eight probable victories during this brief deployment; however, all 18 Gladiators were lost on the ground to German attacks or accidents.

The RAF assembled a second expedition to support British forces fighting around Narvik in northern Norway. No 263 Squadron received 18 more Gladiator Mk IIs and flew onto the carrier *FURIOUS* off Scapa Flow on 14 May. One week later, two sections of Gladiators launched in both sleet and high winds. One section of eight aircraft returned to *FURIOUS*, while the second section of ten Gladiators and a Fairey Swordfish navigation assistance aircraft flew onto Bardufoss airfield near Narvik. Two of the Gladiators crashed into a mountain at Soreisa, killing one pilot and injuring the other. The Swordfish also crashed into this peak, killing all three crewmen. The eight surviving Gladiators flew their first missions

¹One Gladiator suffered an engine failure and ditched approximately 200 yards (182.9 m) astern of the ship.

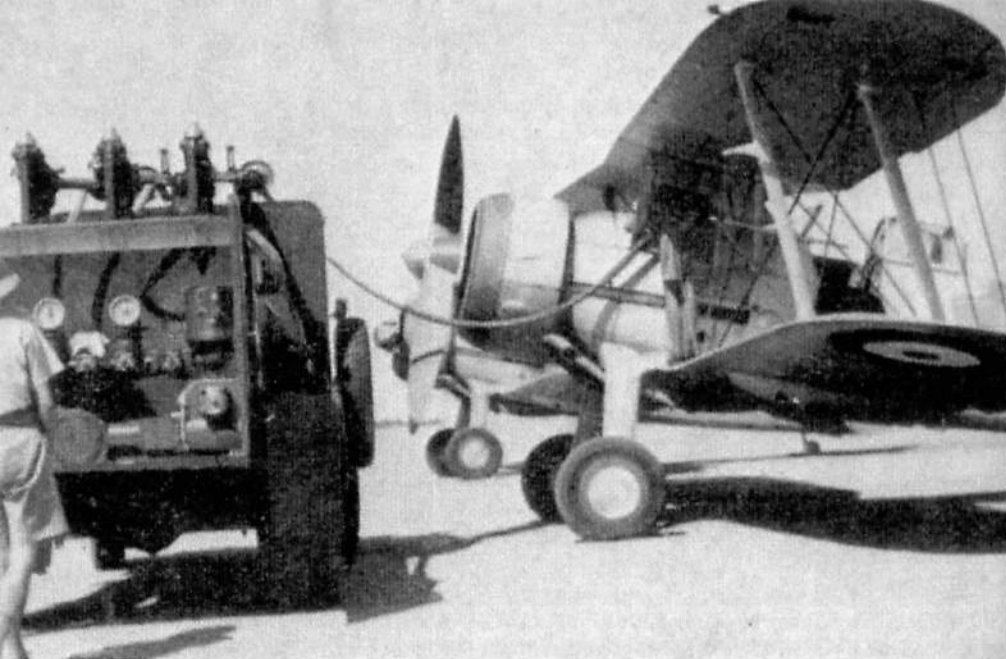
One of No 263 Squadron's Gladiator Mk IIs was this aircraft (HE-G/N5641). The aircraft was among the machines lost in action during the Norwegian Campaign in 1940. The Type A.1 fuselage roundel featured a wide Yellow (FS33538) ring around the Blue section. Unusually, the serial number is painted just above and slightly forward of the horizontal stabilizer. Upper surfaces of the lower wings, the lower fuselage sides, and the vertical tail sides were camouflaged Light Green (FS34096) and Light Earth (FS30257). These colors produced a shadow effect compared to the Dark Green (FS34079) and Dark Earth (FS30118) upper surface colors. A step mounted on the port lower fuselage – under the roundel – aided the pilot in entering and exiting the aircraft. Radio antenna masts were mounted atop the upper wing and the rudder. These supported the wire antenna, which ran between these masts. (MAP)

from Bardufoss on 22 May and were joined by the remaining eight aircraft from *FURIOUS* one day later. No 263 Squadron soon saw action against the Luftwaffe, flying 54 sorties the first day – more than in the entire first expedition to Lake Lesjaskog. Between 22 and 27 May, the Gladiators shot down 14 German aircraft and damaged two others. The Squadron also damaged a German destroyer near Harstadt on 25 May. Six Gladiators were lost in operations during that period.

There was a lull in German air raids from 28 May until 2 June. This allowed No 263 Squadron's personnel to service their remaining Gladiators and fly some ground attack missions against German ground forces. On 2 June, two Gladiators intercepted 15 He 111s flying to Bardufoss and downed three of these aircraft. The British fighters also downed a Ju 87 Stuka dive-bomber and another He 111 on the same patrol. That afternoon, two other Gladiators engaged a pair of Junkers Ju 88 bombers. One Ju 88 was shot down, while a Gladiator was lost to the bombers' gunners. The surviving fighter pilot damaged three He 111s before flying his damaged Gladiator back to Bardufoss.

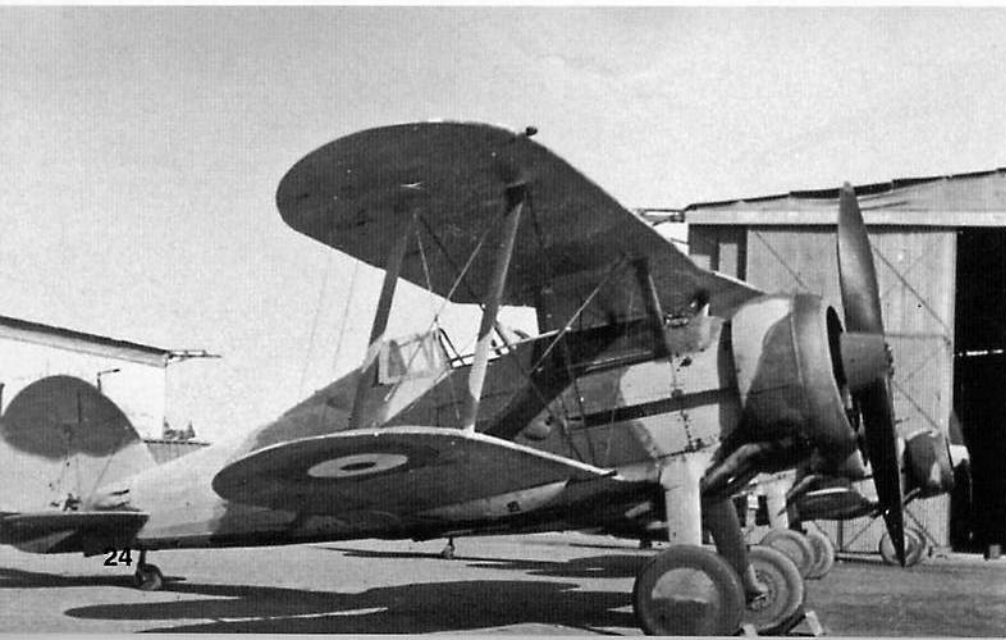
On 7 June, ten Gladiators attacked a German bomber formation and shot down three of the raiders. Later that day, No 263 Squadron was evacuated from Bardufoss and their ten surviving Gladiators took off for *GLORIOUS*. None of the pilots had ever landed aboard a carrier and these aircraft lacked arresting hooks. Nevertheless, all ten pilots safely recovered aboard *GLORIOUS*. On 8 June, the German battlecruisers *SCHARNHORST* and *GNEISENAU* intercepted and sank *GLORIOUS* and her escorts. All ten Gladiator pilots were among the 1519 men lost with the carrier. Six other No 263 Squadron pilots joined the British ground forces and were safely evacuated on other ships to Britain. The Squadron's pilots downed 23 German aircraft and damaged five others during their deployment to Norway from 22 May until 7 June 1940.





Groundcrews refuel No 112 Squadron's Gladiators at Ismailia, Egypt before World War Two. A pressure bowser (refueling truck) supplies aviation gasoline to the aircraft. These Gladiators are still equipped with two-bladed Watts propellers, although many of the fighters were later refitted with three-bladed Fairey-Reed propellers.

This anonymous Gladiator Mk I is believed to be assigned to No 80 Squadron at Ismailia in 1940. The upper surfaces were camouflaged in Dark Green (FS34079) and Light Earth (FS30257), while the undersurfaces remained Aluminum. The serial number was painted out from the fuselage and wing undersurfaces. This unit began camouflaging its Gladiators after Italy declared war on Britain on 10 June 1940. (Arthur Phillips)



Middle East and Mediterranean

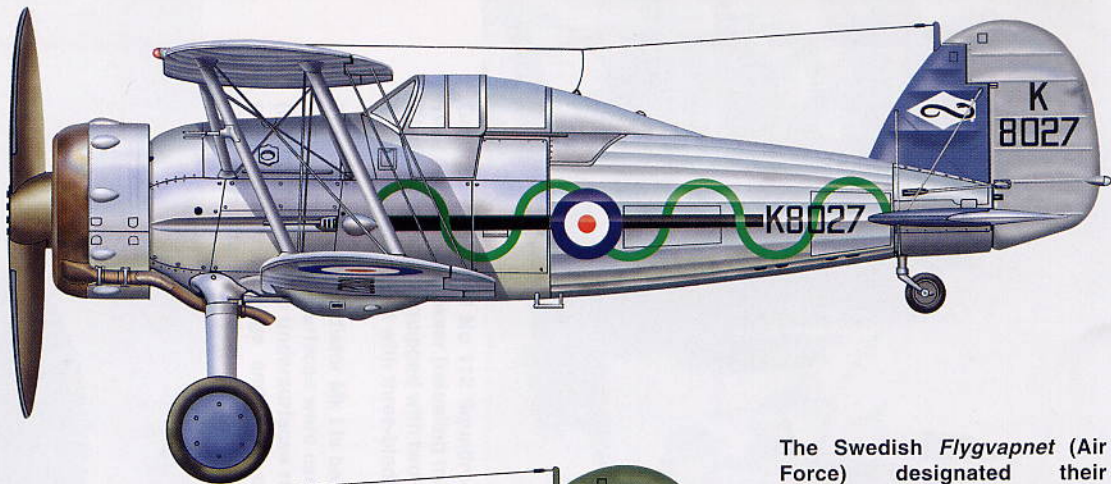
Since World War One, Great Britain maintained military forces in the Middle East with a twofold purpose. One purpose was policing vast tracks of land bounded by local tribes. These tribes often requested British aid in suppressing insurgencies or uprisings. The distances involved in these tasks usually meant action by the RAF. Additionally, Britain had important trade routes running through the Mediterranean Sea and out to Singapore. Oil interests in the Middle East also required protection. When Italy expanded its colonial policy in the mid-1930s, additional RAF squadrons were deployed to Malta, Egypt, and the Persian Gulf area. The introduction of Hurricanes and Spitfires into RAF Fighter Command released Gladiators for duty outside of Britain.

The first such unit was No 33 Squadron, which deployed to Ismailia, Egypt in March of 1938. Their first task was to fly their Gladiator Mk Is to Abu Sueir, Egypt, where their wing-mounted Lewis machine guns were replaced by Browning weapons. No 33 Squadron was joined at Ismailia by No 80 Squadron that May. These units were tasked with air protection of British interests from Mersah Matruh, Egypt to Palestine (now Israel and the West Bank). Early in 1939, the RAF formed No 94 Squadron in Aden. This unit had eight **Sea Gladiator** navalized fighters, with eight Gladiator Mk Is in reserve. The British needed to protect Aden's deep port and refueling station for ships plying the trade routes to and from the Far East from nearby Italian East Africa (now Ethiopia, Eritrea, and part of Somalia). The Royal Navy sent the Sea Gladiators to Aden as replacement aircraft for the carrier *GLORIOUS*, but the RAF 'borrowed' them to provide a fighter force for this area. The fourth Gladiator unit formed in this region was No 112 Squadron at Helwan, Egypt in May of 1939.

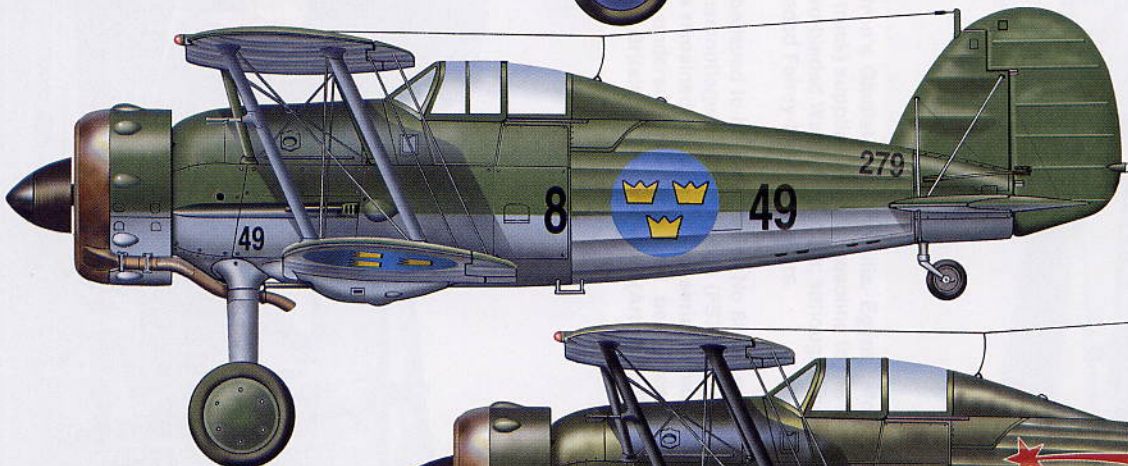
No 33 Squadron's Gladiators were in action soon after Italy declared war on Britain on 10 June 1940. These aircraft deployed from Ismailia to Mersah Matruh in western Egypt. Four days later, seven Gladiators intercepted a Caproni Ca.310 bomber and its three escorting Fiat CR.32 fighters. The British downed the Ca.310 and two CR.32s without any losses to themselves. On 19 June, four Gladiators and a Hurricane engaged 12 CR.32s, downing two of the Italian biplanes. By the end of June, No 33 Squadron pilots shot down seven Italian aircraft. Six No 33 Squadron Gladiators flew from Mersah Matruh to Garawara, Egypt on 4 July, while the same number of No 112 Squadron Gladiators flew from Helwan to Mersah Matruh. That day saw two Garawara-based Gladiators down two Fiat CR.42 fighters. All six Gladiators from that base raided Menastir airfield in Libya that night, while nine Italian aircraft were taking off. The British downed all nine aircraft without loss to themselves. On 24 July, Flt Lt Marmaduke St.J. 'Pat' Pattle – detached from No 80 Squadron – led a No 33 Squadron patrol against 18 Italian bombers and fighters over Sollum, Egypt. His Gladiators downed four of the enemy aircraft. The next day, Pattle shot down three of five Italian aircraft engaged by his flight of four Gladiators.

No 33 Squadron's Gladiators downed 38 Italian aircraft in the air and another 20 on the ground in six weeks of combat. Their remaining Gladiators were turned over to No 3 Squadron, Royal Australian Air Force (RAAF), then No 33 Squadron was sent back to Helwan and replaced by No 80 Squadron from Ismailia. Most of their 17 Gladiators were Mk Is, while others were Mk IIs commandeered from the Royal Egyptian Air Force. This unit's initial tasks included escorting No 208 Squadron's Westland Lysander reconnaissance aircraft. On 4 August, Pattle's four Gladiators were escorting a Lysander when they were intercepted by 17 CR.42s and ten Breda 65 attack aircraft near Bir Taleb el Esem, Libya. Pattle destroyed one

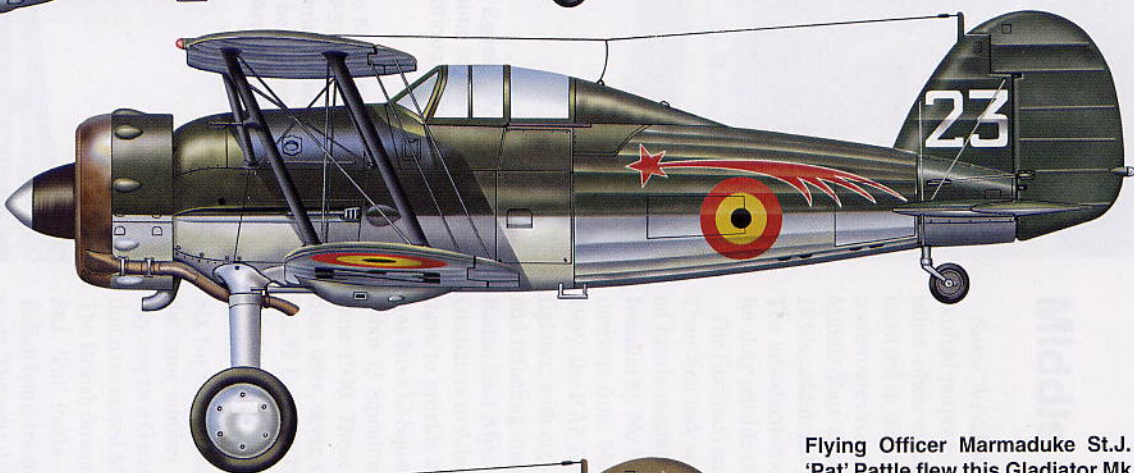
This Gladiator Mk I (K8027) was assigned to No 87 Squadron, Royal Air Force (RAF) at Debden, England in October of 1937. Blue wheel discs and tail surfaces indicated this was the 'B' Flight Commander's aircraft. The Squadron insignia is painted on the vertical stabilizer.



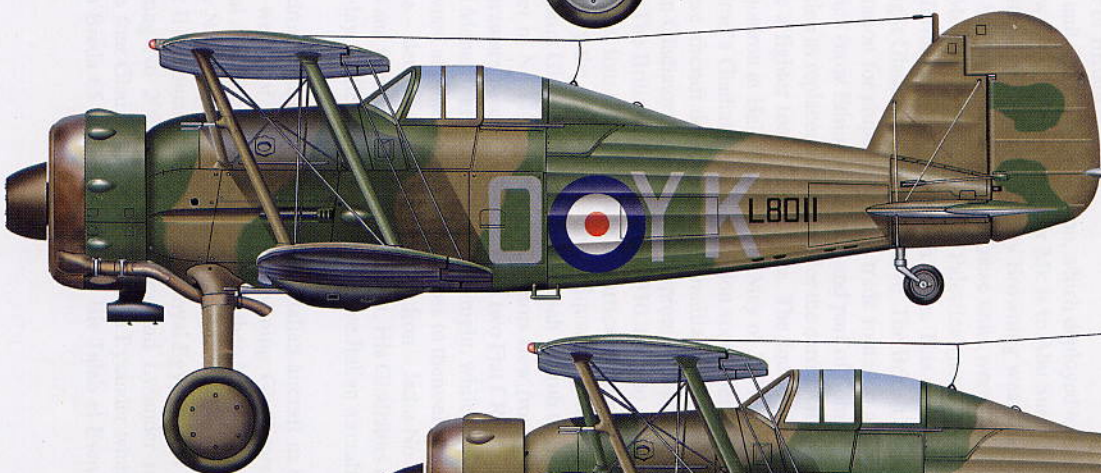
The Swedish *Flygvapnet* (Air Force) designated their Gladiator Mk I aircraft as J-8s. This aircraft (8-49/279) was assigned to *Flottilj* (Wing) 8 at Barkaby, Sweden in late 1937.



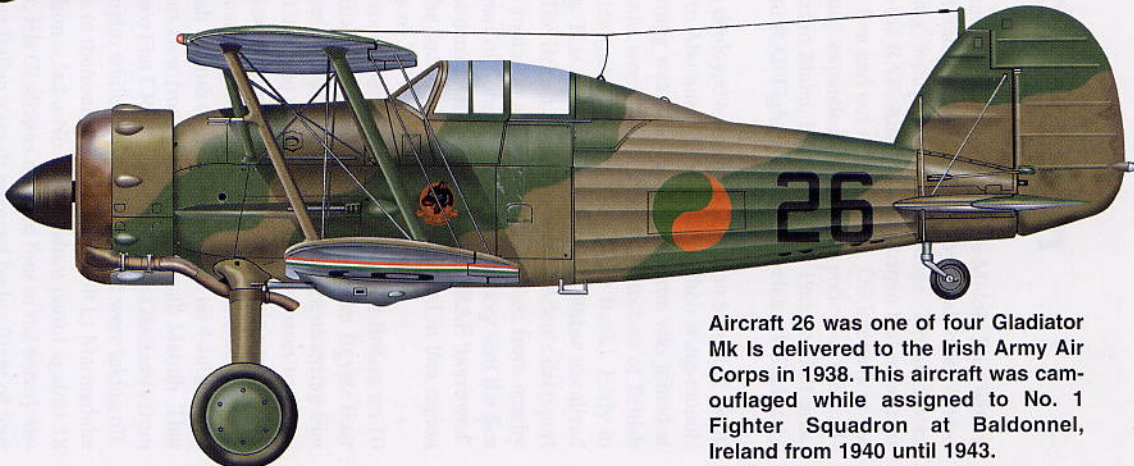
Aircraft G 23 was a Gladiator Mk I assigned to *1^{ere} Escadrille de Chasse* (Fighter Squadron) 'Le Comete' (Comets) of the Belgian Army Air Service. The unit was based at Schaffen-Diest, Belgium from 1938 until it was destroyed in the German invasion in May of 1940.



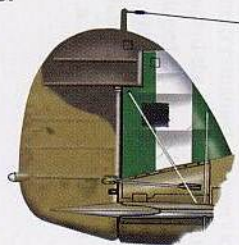
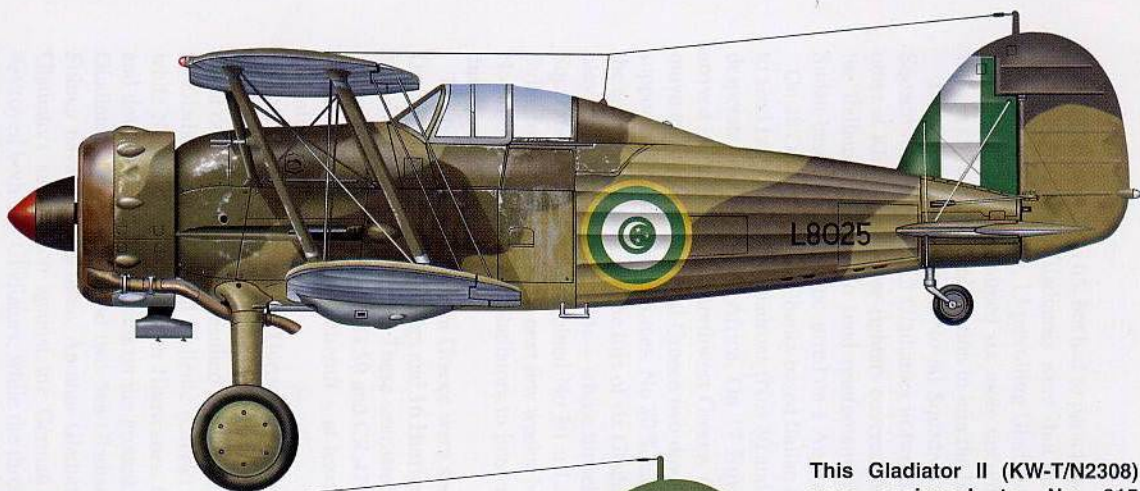
Flying Officer Marmaduke St.J. 'Pat' Pattle flew this Gladiator Mk I (YK-O/L8011) while assigned to No 80 Squadron, RAF at Amriya, Egypt in 1940. Pattle shot down 15.5 Axis aircraft while flying Gladiators and downed at least 50 enemy aircraft overall before he was killed in action over Greece on 20 April 1941.



Aircraft 26 was one of four Gladiator Mk Is delivered to the Irish Army Air Corps in 1938. This aircraft was camouflaged while assigned to No. 1 Fighter Squadron at Baldonnel, Ireland from 1940 until 1943.



This ex-RAF Gladiator Mk I was modified to Mk II standard before delivery to the Royal Egyptian Air Force (REAF). It was assigned the REAF serial number L8025 and flew with No 5 Squadron at Dekalia, Egypt in 1939.



This Gladiator II (KW-T/N2308) was assigned to No 615 Squadron, RAF at St Inglevert in northern France in December of 1939. The aircraft damaged a German He 111 on 29 December 1939 for the only RAF Gladiator combat claim in France. N2308 was evacuated to Britain the following May.



HE-G (N5641) of No. 263 Squadron was among the Gladiator Mk IIs deployed to Norway in the spring of 1940. This RAF unit flew from Bardufoss, Norway during the Allied campaign against invading German forces.



This Gladiator Mk II (459) was flown by Portuguese Army Aviation. It was assigned to the *Esquadilha de Caca Expedicionaria No. 1 dos Acores* (1st Expeditionary Fighter Squadron of the Azores) at Rado de Peize in the Azores Islands in August of 1941. The Squadron's insignia is painted on the aft fuselage.



Sub-Lt J.W. Sleigh flew this Sea Gladiator (G/N2272) while assigned to 804 Naval Air Squadron (NAS), Fleet Air Arm in July of 1940. This Squadron was based at Hatston in the Orkney Islands, near the vital British naval base at Scapa Flow. Sleigh's personal art is painted under the aft canopy windows.



CR.42 and one Breda 65, but had to parachute from his Gladiator after it was attacked by other CR.42s. Two other Gladiators were shot down, with one of the British pilots killed in this action. Four days later, 13 patrolling Gladiators engaged 27 CR.42s. The British downed nine Italian fighters and claimed six more unconfirmed 'kills,' while losing two Gladiators. The Italians showed little inclination to join the battle after this engagement.

The RAF then replaced No 80 Squadron with No 112 Squadron on 7 September. No 80 Squadron maintained 13 Gladiators in two detachments in Sudan: one at Port Sudan and the other at Khartoum. These fighters covered the approaches to the southern desert area, in case the Italians attempted to send reinforcements to East Africa. The only engagement by the Sudan-based Gladiators occurred on 1 August, when one downed a Caproni Ca.113 bomber.

On 28 October 1940, Albania-based Italian forces invaded Greece. This prompted the British to send two Gladiator squadrons (Nos 80 and 112) to Greece in support of its ally, despite the desperate need in North Africa. On 17 November, No 80 Squadron's 16 Gladiator Mk IIs arrived at Paramythia in northwest Greece. Overcrowded field conditions soon necessitated a move to Trikkala in central Greece two days later. This unit patrolled the route to Athens and supported British ground forces. No 80 Squadron downed approximately 40 Italian aircraft by the end of December, for the loss of six Gladiators. Rainy conditions required this unit to redeploy from Trikkala to Larissa – whose airfield had better drainage – on 5 December. No 112 Squadron's 12 Gladiators joined No 80 at Larissa in the same month. Bad weather curtailed flying for both sides for the next few weeks, but the Italians raided Larissa on 9 February 1941. No 80 Squadron sent 14 Gladiators to intercept 40 CR. 42s and claimed four confirmed and three probable victories.

The two Gladiator units in Greece were soon joined by the Hurricanes of No 33 Squadron. On 28 February, 12 Gladiators and 16 Hurricanes on patrol intercepted a formation of approximately 50 Italian aircraft. These consisted of Fiat BR.20 and Savoia-Marchetti SM.79 *Sparviero* bombers and Fiat G.50 and CR.42 fighters. The British took the Italians by surprise and downed 27 confirmed aircraft – at least 17 by the Gladiators – while also claiming 11 unconfirmed 'kills.'

The arrival of additional Hurricanes allowed the RAF to assign them to Nos 80 and 33 Squadrons, while consolidating the remaining Gladiators into No 112 Squadron. The imminent threat of German invasion resulted in No 112's recall to Egypt in March of 1941. This unit left its Gladiators to the Royal Hellenic (Greek) Air Force's 21 *Mira* (Squadron) at Paramythia, while No 112 re-equipped with Hurricanes. On 19 April, the Luftwaffe attacked Paramythia and destroyed every Gladiator on the ground. The British were withdrawn to Crete, with four Gladiators (two Mk IIs and two Sea Gladiators) joining seven Hurricanes and three Fairey Fulmar naval fighters there. Another Gladiator Mk II soon arrived from Egypt and the five Gladiators saw action against the German invasion of Crete in May. A Luftwaffe raid destroyed both Sea Gladiators, while the three remaining Gladiator Mk IIs were withdrawn to Egypt as the Germans overran the island.

The RAF had no remaining Gladiator squadrons in the Middle East by April of 1941; however, several aircraft remained in unserviceable condition in Egypt. The pro-Axis revolt in Iraq that month prompted the RAF to send forces to that country. This became more urgent when Iraqi forces besieged the large RAF base at Habbaniya, west of Baghdad, on 19 April. The RAF ordered No 94 Squadron in Egypt to collect five Gladiators from a maintenance unit and send them to Habbaniya. On 7 May, these refurbished fighters joined the 'Habbaniya Air Striking Force,' a scratch unit of British aircraft that included three Gladiators already at the base.



Another Gladiator assigned to No 112 Squadron was this Mk II (RT-Z/N5853). The RAF hastily camouflaged this and other Gladiators in Egypt after war broke out. Cans filled with either sand or concrete were used as mooring weights on this aircraft. The control column was fastened fully back using the pilot's harness, resulting in the up elevator on this Gladiator. (D.M. Hannah via Ray Sturtivant)

Groundcrews in the desert routinely covered cockpits to reduce the heat. Engines were shrouded to keep out the sand and dust. The nearest Gladiator (N5812) and the others in line were assigned to No 80 Squadron, which deployed from Ismailia to Amriya, Egypt in 1940. All are camouflaged with Dark Green and Dark Earth upper surfaces, but the lower wings have a single coat of thin white paint. The aft fuselage serial number is just visible through the paint. This Gladiator was later passed to the Royal Hellenic (Greek) Air Force and subsequently lost in Luftwaffe air raids. (David Birch)





Mechanics rigged this No 112 Squadron Gladiator Mk I (L7619) for maintenance in Sudan in early 1941. The fuselage side panels were removed for easy access to interior compartments. Exposure to constant wind and blowing sand took its toll on the hastily applied camouflage finish. (RAF Museum)

This No 6 Squadron Gladiator Mk II (N5821) had her propeller and cowling removed and the engine covered in preparation for the trip back to the maintenance area. It was recovered after going down in Egypt's Western Desert in mid-1941. Both the British and Axis forces attempted to recover as many of their aircraft as possible. Four small bomb racks were fitted beneath each wing in a field modification. (RAF Digby)



German aircraft in Iraqi markings attacked Habbaniya on 16 May. A Gladiator downed one of the He 111s, but gunners from other He 111s shot down the British fighter. Two other Gladiators each shot down a Messerschmitt Bf 110 fighter the next day. A Gladiator downed one of two CR.42s intending to attack British forces assaulting Khan Nuqta. The Iraqi revolt ended on 30 May and the surviving Gladiators remained at Habbaniya.

Four of these Gladiator Mk Is soon formed 'X' Flight for patrolling the coast of Syria, which was held by pro-Axis Vichy France. This flight became No 127 Squadron in June of 1941 and flew from Tahoune Guemac, Syria in support of Allied forces. The Gladiators saw combat against Vichy-flown Dewoitine D.520 fighters. Several Gladiators delivered to Ismailia were used to form No 261 Squadron, which briefly saw action from Shaibah, Iraq. The final RAF Gladiator unit in the Middle East was No 6 Squadron, which temporarily flew 11 Gladiator Mk IIs in Libya – seven from Wadi Halfa and four from Kufra – while their Hurricanes were undergoing modification. By 1942, only a handful of Gladiators remained for second-line duties.

The RAF assigned Gladiators to its Meteorological (Met) Flights beginning in 1939. These aircraft flew twice daily to record weather data for mission planners. Three of these flights were based in the United Kingdom (UK): No 1401 at Bircham Newton, England; No 1402 at Aldergrove, Northern Ireland; and No 1403 at Mildenhall, England. All three units were later redesignated as squadrons. Nine other Met Flights in Africa and the Middle East flew Gladiators. Additional Gladiators flew with station flights for communications duties. Airframe wear and lack of spare parts forced the RAF to retire the last Gladiators from service in 1944.

A truck carries another recovered Gladiator Mk II through hilly North African terrain. The aircraft appeared relatively intact, which indicated the pilot made a controlled landing. The split flaps on both the upper and lower wings were lowered. Those machines not restored to combat status were cannibalized for parts. (RAF Digby)





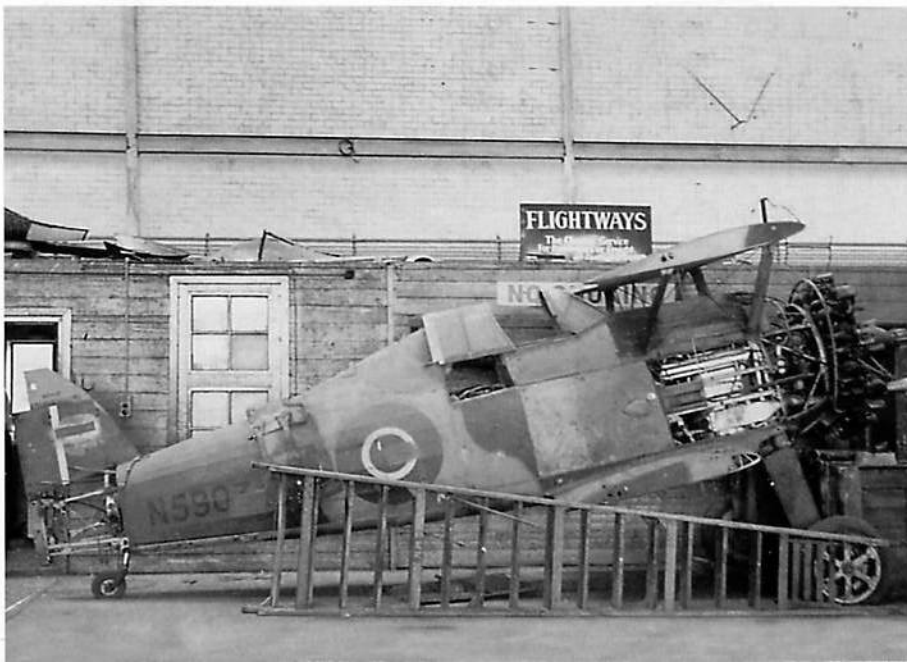
Propeller manufacturer Rotol used this Gladiator Mk I (believed to be K8040) for tests in 1939. The firm evaluated paint and wood blade coverings on a variable pitch propeller. JABLO painted on the uppermost propeller blade tip referred to the blade-covering supplier. (A.J. Jackson Collection)

The fuselage of a Gladiator Mk II (N5903) is parked in Viv Bellamy's Flightways hangar in England in 1951. Bellamy acquired this and a Gladiator Mk I (L8032) from Air Service Training the previous year. He used parts of this aircraft in restoring L8032 during the early 1950s. Bellamy registered the latter aircraft as G-AMRK and flew it during the 1950s. There is no further information regarding the fate of N5903 (A.J. Jackson Collection)



From 1939, Gladiators were assigned to RAF Meteorological (Met) Flights for weather reconnaissance missions. This Gladiator Mk II (B/N2309) was assigned to No 1401 Met Flight at Bircham Newton, England in 1943. Met Flight Gladiators were equipped with a long antenna mast on the starboard fuselage just aft of the canopy and a second antenna under the aft fuselage. The RAF flew Gladiators on weather reconnaissance duties until 1944. (Via Ray Sturtivant)

Viv Bellamy sold his restored Gladiator Mk I (G-AMRK/L8032) to Gloster in 1953. This aircraft flew in civil markings until 1956, when it was restored to full military specification with guns, gun sight, and radio equipment. Gloster painted it in No 72 Squadron pre-war markings before presenting it to the Shuttleworth Trust Collection at England's Old Warden Airfield on 7 November 1960. The Trust still flies this Gladiator, entertaining large crowds on their open days. (A.J. Jackson Collection)





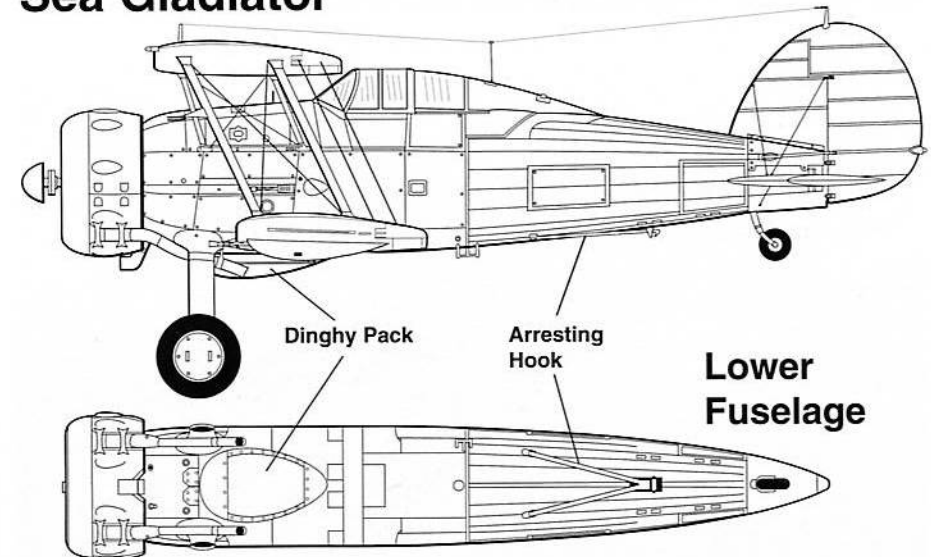
Sea Gladiator

Before World War Two, the British Fleet Air Arm (FAA)¹ had two masters. One was the Air Ministry, who ordered all aircraft, and provided a mix of air and ground crews aboard aircraft carriers. The other master was the Admiralty, who believed that any aircraft they needed to use should be capable of delivering a torpedo, be a dive-bomber, and carry an observer/navigator. The latter helped the pilot carry out reconnaissance duties and find his carrier. During the 1930s – apart from the excellent little Fairey Flycatcher and the Hawker Nimrod, a naval version of the RAF's Hawker Fury – the Admiralty saw little use for a single-seat fighter. By 1937, the FAA found itself with an approaching war and no suitable fighter with which to protect its carriers from air attack. The so-called interim Fairey Fulmar two-seat fleet fighter would not be available until 1940. The FAA needed a suitable fighter *now*. Fighter squadrons had to be formed and the pilots trained and ready. The Gladiator, still in production, but being replaced in RAF service by new monoplane fighters, was chosen for shipboard service.

The first 38 Gladiator Mk IIs off the production line at Brockworth (N2265-N2302) were retained at the factory for modification to Sea Gladiator (Interim) standard in 1938. Apart from updating to full Mk II standard, the fuselage incorporated a rigid cross member between the lower longerons and the anchoring of a V-shaped arrestor hook at the junction. The Airspeed Indicator (ASI) was recalibrated from miles per hour to knots and a naval TR.9 radio added to complete fleet requirements. Some of these first aircraft were quickly passed to units to allow training, while others were shipped overseas for use on carriers in the Indian Ocean. Meanwhile, the FAA and Gloster discussed other ways of improving the breed. An order was quickly placed for 60 new Mk IIs (N5500-N5549, N5565-N5574) and these were to include catapult points and dinghy stowage. The dinghy was mounted in a teardrop fairing beneath the

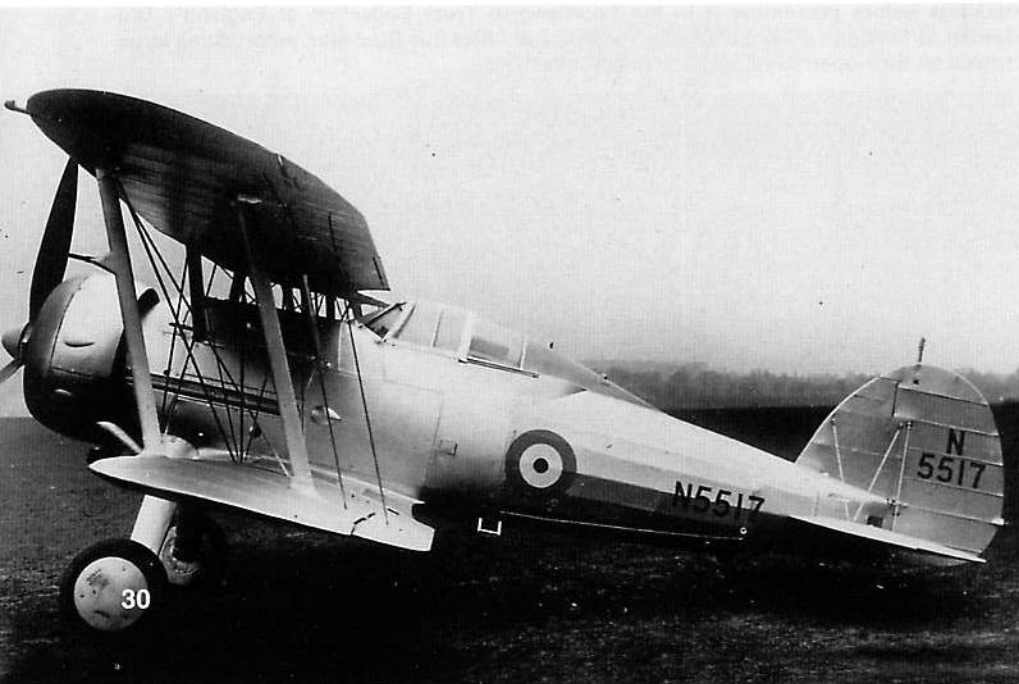
¹For a more detailed look at this service, see Fleet Air Arm (6085), from Squadron/Signal Publications.

Sea Gladiator



An early production Gladiator Mk I (K6129) conducts deck landing trials from the aircraft carrier HMS COURAGEOUS in 1938. The year before, it was used for naval clearance trials at Martlesham Heath and Worthy Down. These successful evaluations led to full development trials for the Sea Gladiator in 1939. (Dick Smurthwaite via Ray Sturtivant)

This Gladiator Mk II (N5517) was modified to Sea Gladiator standard in 1939. Admiralty-specified equipment included a dinghy pack under the forward fuselage, catapult attachment points, and an arresting hook under the aft fuselage. The aircraft was assigned to No 801 Squadron on 21 March 1939. (MAP)



fuselage, which replaced the ammunition case collector tanks. The link chutes were lengthened to eject spent cases overboard.

The first production Gladiator Mk I (K6129) was used to test the new equipment and layout at the A&AEE, Martlesham Heath and at Worthy Down. An interesting anomaly emerged. The FAA was looking for a greater take-off performance and considered the Fairey-Reed three-blade metal propeller to be inferior to their needs. Trials with a Gladiator Mk I (K8039) equipped with the Watts two-blade wooden propeller and weighted hub provided better performance, but a decrease in the pitch of the Fairey-Reed propeller gave a markedly better take-off performance. The authorities then decided that the revised pitch Fairey-Reed propeller should be standardized for RAF and FAA Gladiators.

The Sea Gladiator had a wingspan of 32 feet 3 inches (9.8 M), a length of 27 feet 5 inches (8.4 M), and a height of 11 feet 9 inches (3.6 M). These were the same as for the earlier Gladiator Mk I and II. The Sea Gladiator's empty weight of 3554 pounds (1612.1 KG) was 110 pounds (49.9 KG) heavier than for the Gladiator Mk II, due to the additional naval equipment. Its loaded weight of 5020 pounds (2277.1 KG) was 156 pounds (70.8 KG) heavier than for the Mk II. The Sea Gladiator's fuel was stored in a 20 Imperial Gallon (24 US Gal/90.9 L) gravity tank attached to the upper fuselage longerons and a 63 imperial gallon (75.7 US Gal/286.4 L) main fuel tank below the gravity tank.

The powerplant was an 830 HP Bristol Mercury VIII A nine-cylinder, air-cooled, radial engine, which was the same engine used by the Gladiator Mk II. The Sea Gladiator had a maximum speed of 253 MPH (407.2 KM/H) at 14,500 feet (4419.6 M), which was 4 MPH (6.4 KM/H) slower than the Gladiator Mk II. The Sea Gladiator service ceiling was 32,300 feet (9845 M) – 1200 feet (365.8 M) lower than the Gladiator Mk II – while its range of 428 miles (688.8 KM) was the same as the previous Gladiator variant.

The Sea Gladiator's armament consisted of two .303 caliber (7.7MM) Browning machine guns with 600 Rounds Per Gun (RPG) in the fuselage and two .303 caliber Browning machine

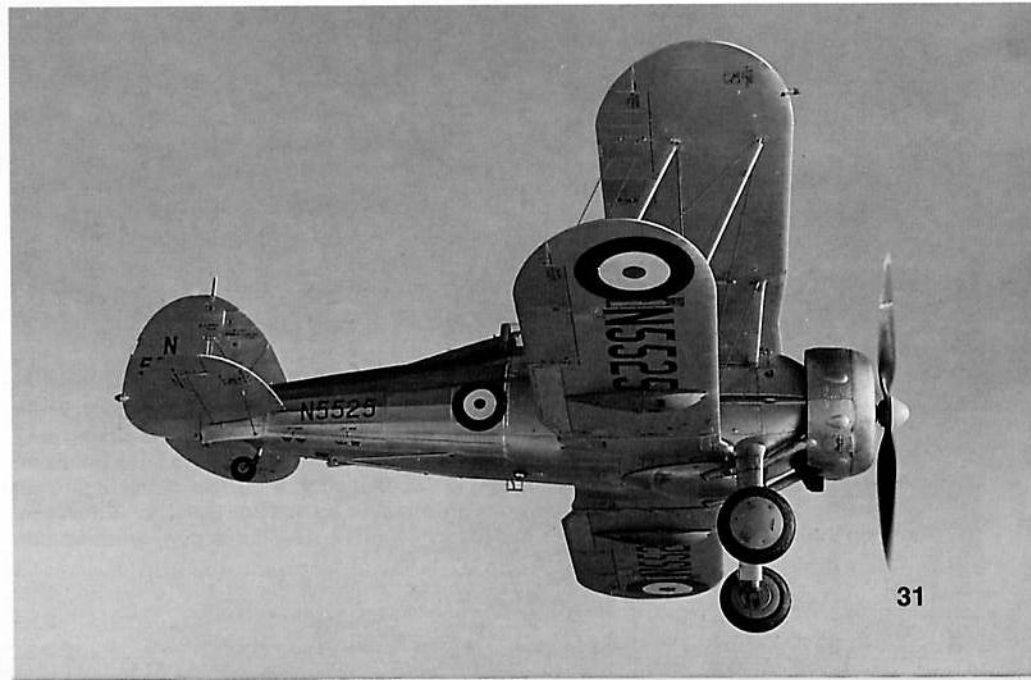
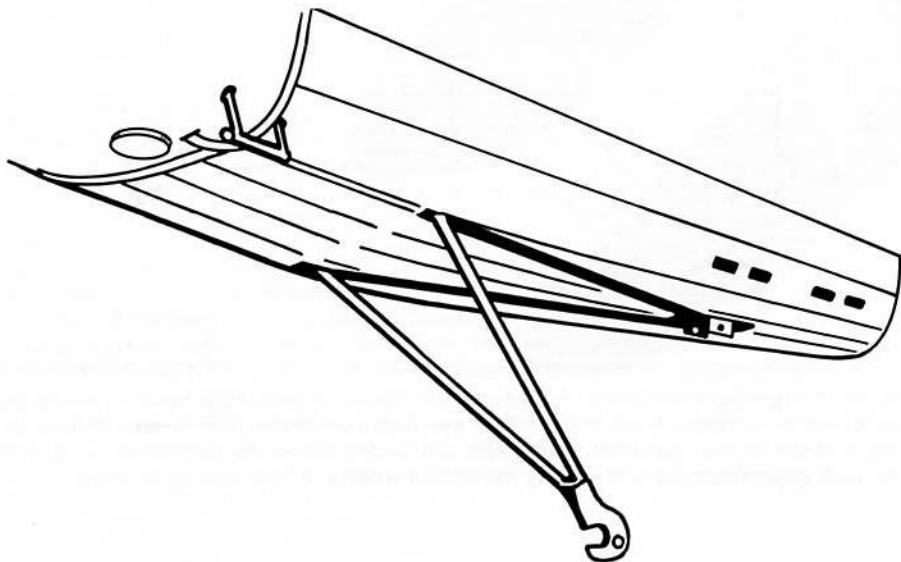
guns with 400 RPG in the lower wings. These weapons were aimed using the same Mk II reflector gun sight fitted to RAF Gladiators.

No 801 Squadron was the FAA's first operational Sea Gladiator unit and flew their aircraft aboard the carrier HMS COURAGEOUS in May of 1939. After Squadron pilots made 204 uneventful deck landings, their Sea Gladiators were sent ashore for storage! When war was declared on 3 September 1939, the Admiralty had on charge 12 Sea Gladiators (Interim) plus 42 full standard Sea Gladiator IIs. Apart from No 801, the only other front line squadron operating Sea Gladiators was No 802 with nine aircraft embarked on GLORIOUS. The Luftwaffe's uncontested arrival over the Scapa Flow naval base in the Orkney Islands prompted the Admiralty to deploy four Sea Gladiators from No 769 (Training) Squadron to nearby Hatston. Six additional Sea Gladiators soon joined the four aircraft there and formed No 804 Squadron under Lt Cdr J.C. Cockburn. Lack of suitable radar gave less than ten minutes warning on some raids; however, it was enough when six Sea Gladiators shot down an He 111 and damaged a Dornier Do 17 on 10 April 1940. On 18 April, GLORIOUS arrived at Scapa Flow from the Mediterranean and disembarked No 802 Squadron's nine Sea Gladiators. Pilots of Nos 802 and 804 Squadrons ferried the Gladiator Mk IIs of No 263 Squadron, RAF for the Norwegian Campaign. Sailing for Norway, GLORIOUS embarked 17 RAF Gladiators, 19 Sea Gladiators, and nine Blackburn Skua fighter/dive-bombers. On 1 May, the Luftwaffe tried to attack the convoy with a mixed formation of Ju 87s, He 111s, and an He 115. Sea Gladiators from Nos. 802 and 804 were scrambled and shot down one of the Ju 87s and the He 115.

GLORIOUS' departure from the Mediterranean in April of 1940 left the British fleet without fighter protection. Four Sea Gladiators were embarked on HMS EAGLE to join the Swordfish of No 813 Squadron. Operating from the eastern Mediterranean, EAGLE was in

A fully standard Sea Gladiator (N5525) makes a test flight in early 1939. Pre-war Fleet Air Arm (FAA) aircraft were overall Aluminum (FS17178) dope on fabric-covered surfaces. Sea Gladiator metal surfaces were Aluminum, instead of the FAA's standard Cerrux Grey (FS16440) finish. In May of 1939, N5525 was shipped to Kalafrana, Malta and cannibalized to keep other Gladiators flying. It never saw operational service.

Tailhook (Lowered)





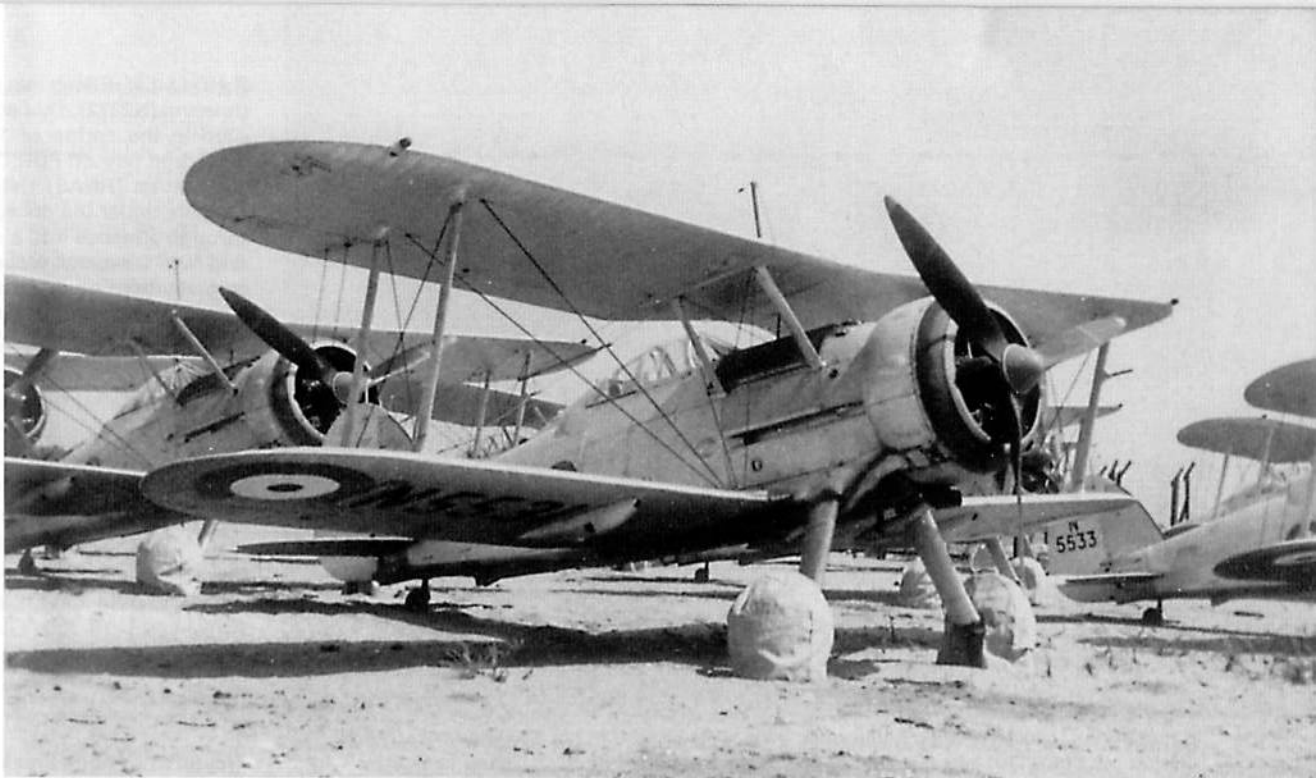
The same test Sea Gladiator (N5525) rolls away from the camera aircraft. The dinghy pack fairing is located between the landing gear struts. The V-shaped arresting hook on the aft fuselage lowered to engage the arresting cables aboard aircraft carriers. None of the four .303 caliber (7.7mm) Browning machine guns are installed on this Sea Gladiator. Small blisters on the upper wing leading edges house navigation lights – red to port, green to star-

board. A signal light housing is located on the fuselage undersurface, between the dinghy pack and the arresting hook. Pre-war RAF and FAA aircraft had their serial numbers facing forward on the starboard lower wing and facing aft on the port lower wing. This allowed ground observers to identify the aircraft whether it was coming or going.

The FAA assigned 18 Sea Gladiators to Kalafrana, Malta in 1938. These aircraft were used as spare aircraft to replenish either visiting squadrons or Malta-based units. The near aircraft was N5531, which was one of six Sea Gladiators assembled for the Hal Far Fighter Flight in mid-1940. This fighter almost certainly saw action against the *Regia Aeronautica* (Royal Italian Air Force) during June and July of 1940. Main wheels are covered to prevent sun damage to the rubber tires. Sea Gladiators retained the three-bladed Fairey-Reed propeller fitted to Gladiator Mk IIs. This propeller caused less vibration than the two-bladed Watts propeller used on Gladiator Mk Is. (Via Phil Spencer/Ray Sturtivant)

constant action with its four Sea Gladiators providing air cover. While EAGLE escorted a convoy from Alexandria, Egypt to Malta on 27 July, her Sea Gladiators shot down an SM.79 bomber and damaged several other Italian aircraft. Sea Gladiators flew air cover during the naval bombardment of Bardia, Libya in August. When the *Regia Aeronautica* (Royal Italian Air Force) tried to interfere, the fighters shot down eight of the 12 SM.79s without loss. This was the Sea Gladiator's last major action, since they were being steadily withdrawn and replaced by later types. No 885 Squadron was the only other front-line unit to fly Sea Gladiators, taking over No 813's old aircraft and three Brewster Buffaloes (F2As) in March of 1941. The Squadron was hurriedly formed to provide air cover for EAGLE; however, No 885 returned after one week and it was disbanded.

A No 804 Squadron Sea Gladiator (H/N2276) launches from HMS FURIOUS while in Norwegian waters in the spring of 1940. During this campaign, No 804 Squadron pilots shot down a Heinkel He 111 and damaged a Dornier Do 17. Carrier pilots usually left their canopies open for launching and recovering, in case the aircraft had trouble and the pilot had to quickly exit the aircraft. The FAA camouflage for Sea Gladiators had top wing upper surfaces, upper fuselage, and horizontal tail upper surfaces in Extra Dark Sea Grey (FS36118) and Dark Slate Grey (FS34096). Lower wing upper surfaces were Dark Sea Grey (FS36173) and Light Slate Grey (FS34159). Sides and under-surfaces were painted Sky Grey (FS36463), which was replaced by Sky (FS34504) in August of 1940. The code letter H aft of the fuselage roundel is believed to be Light Slate Grey. An eagle painted on the fuselage side was the pilot's personal emblem. (Chaz Bowyer via Ray Sturtivant)





(Left) Lt J.W. Sleigh sits on the opened cockpit door of his No 804 Squadron Sea Gladiator (Interim) (N2272). This aircraft was one of 38 Gladiator Mk IIs Gloster modified to this standard in the spring of 1939, prior to beginning full Sea Gladiator production. No 804 Squadron flew off FURIOUS in September of 1940, after being shore based at Royal Naval Air Station (RNAS) Hatston in the Orkney Islands off northern Scotland. Lt Sleigh's insignia under the cockpit depicts a pilot's fist in a Royal Navy uniform punching a hole through a fasces into a swastika. The fasces and swastika were emblems of Fascist Italy and Nazi Germany, respectively. Mounted on the lower fuselage were the pilot's step that was standard on all Gladiators. The arresting hook is retracted along the lower aft fuselage. Standing beside the Sea Gladiator were (from left) Sub-Lt Balme, Sub-Lt R. Paterson, and Sub-Lt N.H. Patterson. (PRO)

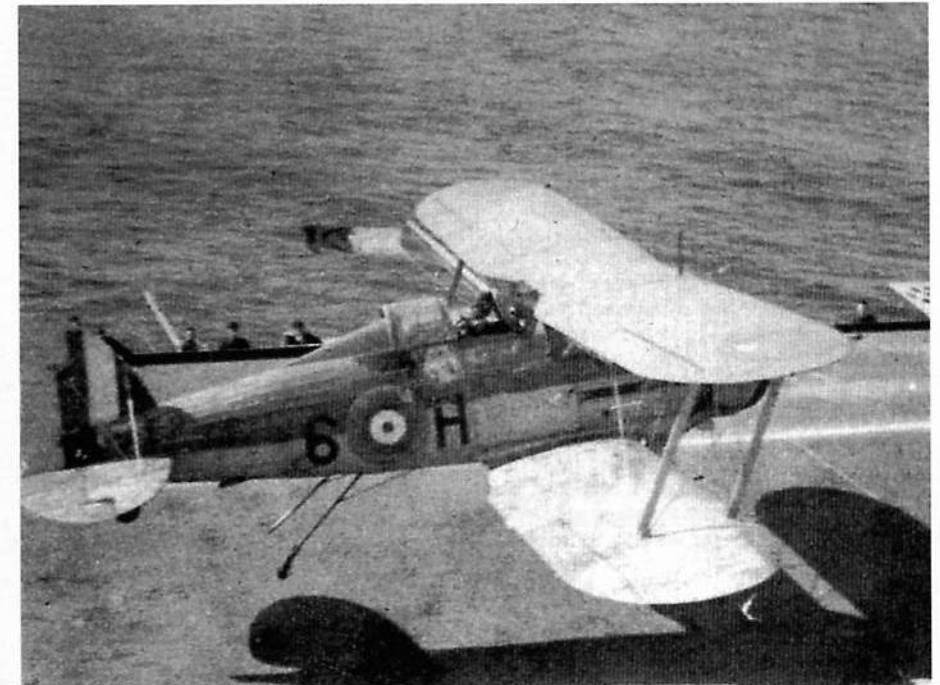
Malta

The Mediterranean island of Malta will be forever associated with the Sea Gladiator. The story of the three Gladiators, 'Faith', 'Hope,' and 'Charity,' is a real 'Boy's Own' story.¹ It is doubtful that any of the three Gladiators actually had these names applied, but it lent hope to the beleaguered garrison and islanders. Although the Sea Gladiator did not join FAA squadrons until 1939, they did embark on carriers and visited Malta. On 24 May 1939, the British sent 18 Sea Gladiators (N5518-N5535) to Kalafrana to provide spare aircraft. Recognizing Malta's strategic significance to an enemy, Britain made plans to base four fight-

¹Magazine serials and adventure novels for boys published from the 1800s to the present day.

The arrestor hook breaks apart while Lt T.H. Touchbourne's Sea Gladiator (6-H) recovers aboard EAGLE in mid-1940. It is unknown whether or not this aircraft crashed or was safely recovered despite the hook malfunction. This Sea Gladiator was assigned to No 813 Squadron's Fighter Flight. While painting the camouflage finish, mechanics overpainted the serial number usually located on the aft fuselage, near the horizontal stabilizer.

Cdr Charles L. Keighly-Peach launches from HMS EAGLE in his Sea Gladiator (6-A/N5517) in July of 1940. This aircraft was one of three Sea Gladiators assigned to Fighter Flight, No 813 Squadron aboard the carrier. Keighly-Peach scored 3.5 confirmed victories over Italian aircraft in July of 1940, while also credited with a probable victory. The top wing upper surface is believed to be Aluminum, which indicated a possible replacement wing was installed from a stored Sea Gladiator.



er squadrons on the island. Events in Europe dictated the relocation of these squadrons elsewhere. Consequently, Air Officer Commanding (AOC) the RAF in the Mediterranean, Air Commodore F.H.M. Maynard, AFC, asked Admiral Sir Andrew Cunningham if he could assemble some of the Sea Gladiators at Kalafrana to form a fighter flight. (Cunningham was Commander-in-Chief of the British Mediterranean Fleet.) Six Sea Gladiators had already been taken from the 18, but Cunningham agreed. Four machines (N5519, N5520, N5524, and N5531), were assembled, later followed by two others (N5523 and N5529). Since they were going to be shore-based and used by the RAF, the Sea Gladiators lacked arrestor hooks, sea markers, and dinghies. They were armed with the standard four .303 caliber Browning machine guns, but Gloster modifications allowed the option of two additional guns in the upper wings.

When Italy entered World War Two on 10 June 1940, there were four Sea Gladiators at Hal Far and two more at Luqa. Seven pilots, with varying degrees of flying experience, joined what was euphemistically titled the Hal Far Fighter Flight. Only one pilot had any real experience flying Gladiators. The *Regia Aeronautica* first raided Malta on 11 June and were surprised when two Gladiators intercepted them. Thereafter, CR.42 fighters escorted the Italian bomber formations. The SM.79s and BR.20s could fly faster than the Sea Gladiators; any action would have to be lucky or the Sea Gladiators already at height to dive on the incoming bombers. Sea Gladiators operating under these restrictions did manage to shoot down several Italian bombers in the first few weeks of the campaign. This success combined with the sight of Sea Gladiators climbing to engage the enemy heartened the Maltese people.

The daily flights and need to be above any enemy bombers began telling on the Sea Gladiator airframes and engines. Although there were plenty of spares by cannibalizing reserve aircraft, maintaining the biplanes in good condition was difficult. Both N5519 and N5520 had engine problems around mid-June and were fitted with spare Bristol Mercury VIII radial engines from

This Sea Gladiator rolled onto the deck edge catwalk aboard EAGLE in 1940. The mishap twisted the wings and caused both sets of wing flaps to fully deploy. This and some other Sea Gladiators had narrow fin flashes painted on the vertical stabilizers. Other aircraft had this flash painted over the entire stabilizer surface.

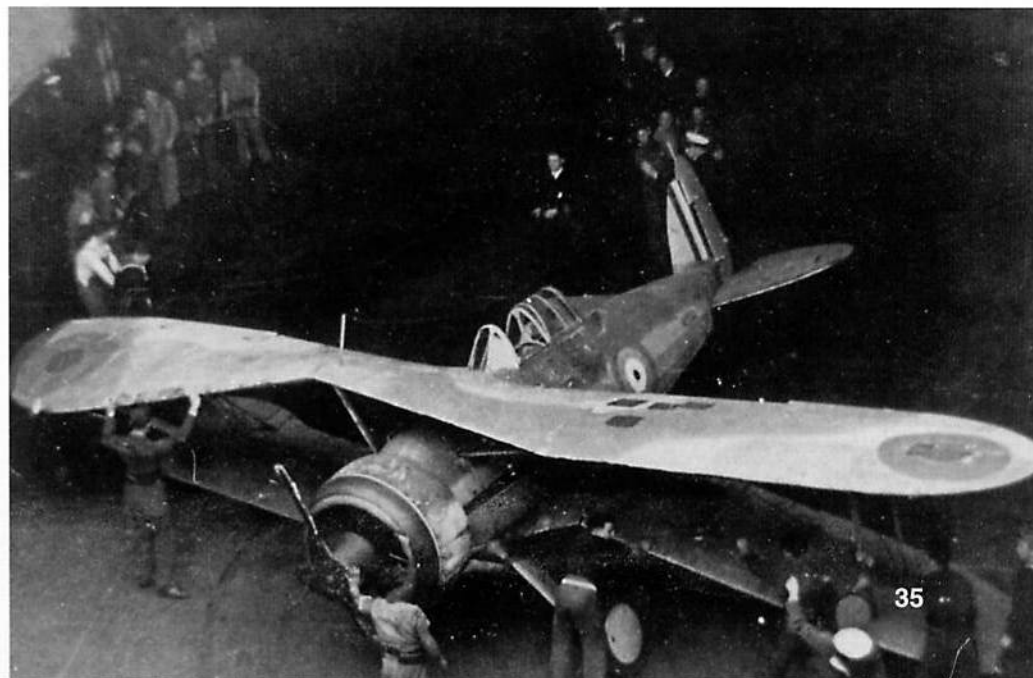


Bristol Blenheim bombers. This change was not without some difficulty and ingenuity by the groundcrews. The Mercury turned a Hamilton-de Havilland three-blade variable pitch metal propeller. This gave a slighter lower performance, but made maximum power available across a broader range of altitudes. N5519 previously used the fixed-pitch Fairey-Reed three-blade propeller, but several other Sea Gladiators flew with Watts two-blade wooden propellers. There was no aircraft equipment standardization – if it could be made to fly, it was used! One of these Sea Gladiators (serial number unknown) was also fitted with two additional .303 caliber Browning machine guns on the upper wings, which increased the battery from four weapons to six. These weapons' added weight hampered performance. This Sea Gladiator was destroyed in a bombing raid before it could be brought to action. N5529 suffered an engine failure on 23 June and was out of action until it could be repaired several days later. Two other Sea Gladiators were damaged in accidents and the three reserve aircraft were assembled and brought into use. Despite the additional aircraft, only two airworthy Sea Gladiators were available by 21 June. One of these aircraft shot down an SM.79 on a reconnaissance mission over Malta that day.

Hurricanes became available towards the end of June and thereafter the Sea Gladiators rarely saw action. The remaining Sea Gladiators acted more as a token force and morale raiser than as primary combat assets. No 261 Squadron flew the four surviving aircraft until they were replaced by Hurricanes. One Sea Gladiator, believed to be N5529, was still to be seen flying in January of 1941.

There has always been some controversy about the names given to the three Gladiators usu-

The same damaged Sea Gladiator is lowered onto EAGLE's hangar deck for replacement of both its wings. It had the two-bladed Watts wooden propeller instead of the normal three-bladed Fairey-Reed metal propeller. FAA aircraft had Type B (red and blue) roundels on the upper wing surface and Type A (red, white, and blue) roundels on the lower wing undersurface. Both wing roundel types were 32 inches (81.3 cm) in diameter on the Sea Gladiator. Hawker Sea Hurricanes replaced Sea Gladiators in FAA front line service in March of 1941.



ally seen climbing into action or on the ground. British authorities never officially recognized the names of 'Faith,' 'Hope,' and 'Charity' and these were never painted on the aircraft. One unidentified Gladiator wreck was found in the scrap yard at Kalafrana in 1943 and the RAF decided to present it to the People of Malta, GC.² On 3 September 1943, the AOC RAF Malta, Air Vice Marshall Sir Keith Park, presented a Gladiator fuselage to Sir George Borg, the Chief Justice of Malta. This airframe – restored as N5520 'Faith' – still resides at the National War Museum at Fort St. Elmo in Valetta, Malta.

Aden

Aden's air defense largely rested on approximately 14 Gladiator Mk Is and IIs of No 94 Squadron at Sheik Othman, Aden (now part of Yemen). Several Hawker Hart biplane bombers and Vickers Vincent biplane bomber-reconnaissance aircraft, plus a few more modern Blenheims and Vickers Wellesley bombers were also based there. *Regia Aeronautica* assets in nearby Italian East Africa included CR.32 and CR.42 biplane fighters, Savoia-Marchetti SM.79 and SM.81 bombers, Meridionali Ro.44 seaplanes, and Cant Z.501 flying boats. The *Regia Aeronautica* saw its role as defending their colony and did not deliberately seek conflict with British forces in Aden. Nevertheless, an SM.81 bombed Aden's port in a show of pride on 13 June 1940. All 14 Gladiators were scrambled and shot the bomber down. Otherwise, the

²GC: George Cross, Britain's highest award for civilian bravery in the face of extreme danger. In April of 1942, King George VI awarded this decoration to the people of Malta.

An FAA squadron commander delivers a mission briefing using the lower wing of a shore-based Sea Gladiator. Other pilots huddle around their leader, while mechanics work in the cockpit and on the wing. The cockpit canopy was removed from this aircraft for an unknown reason. Sea Gladiators were relegated to advanced training and other second-line duties after the spring of 1941.

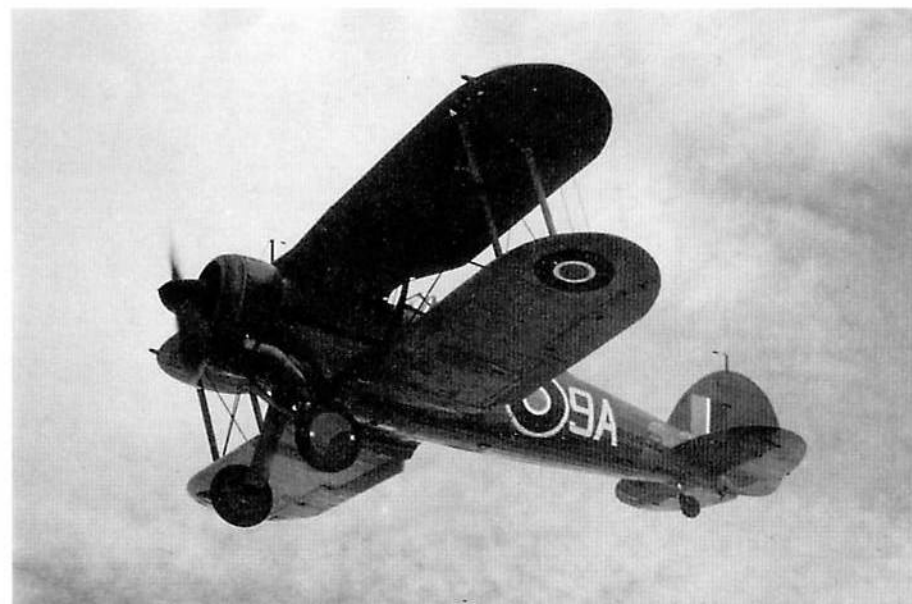


Gladiators primarily flew coastal and sea patrols and policed the area.

On 18 June, Flying Officer G. S. K. Haywood, flying Gladiator N2279, discovered the Italian submarine GALILEO GALILEI some miles off the coast. A Blenheim sent to attack the submarine missed it with all four bombs it dropped. A Vincent dropped its depth charge, which just missed GALILEO GALILEI and nearly blew up the aircraft. Haywood then strafed the surfaced vessel with his machine guns, which caused little damage. The next day, the ancient dockyard tug MOONSTONE sortied from Aden Harbor to attack the submarine. The tug fired a single shot from its bow-mounted four-pounder gun, which hit the enemy vessel's conning tower. GALILEO GALILEI's crew surrendered and MOONSTONE towed the disabled submarine into Aden Harbor on 20 June.

The Italians attempted several unsuccessful night bombing missions against Aden. The RAF responded to this threat by deploying two Gladiators (N2278 and N2294) to an improvised airstrip on Perim Island off the Arabian Peninsula's southwest tip on 27 June. The next day, these aircraft attacked and destroyed the Italian fuel dumps at Macaaca (Massala), near Assab, Eritrea. On 2 July, six Gladiators attacked Macaaca's airfield, destroying seven CR.42s on the ground. Italian forces attacked French Somaliland (now Djibouti) and British Somaliland (now part of Somalia) in late July. On 24 July, six Gladiators flew to Berbera, British Somaliland on a three-week deployment. They provided air cover for withdrawing British troops. Several Italian raids on Berbera forced the Gladiators to withdraw back to Aden. The Italians failed to press their advantage and mounted only light nuisance raids on the British in Aden. Gladiators saw little action against these attacks until 24 November. Sqdn Ldr W.T.F. Wightman, Commander of No 94 Squadron, shot down an attacking SM.81 in his Gladiator (N5627) on that day. The Squadron flew from Sheik Othman to Ismailia, Egypt to reequip with Hurricanes in April of 1941.

A Sea Gladiator (9A/K8052) takes off from RNAS Inskip, England in 1942. It was assigned to the Station Flight for weather reconnaissance and 'hack' duties. K8052 was originally assigned to the No 12 Group Pool at Andover and Aston Down in early 1940, then was transferred to Elmden's Station Flight later that year. RNAS Elmden is now Birmingham Airport. (J.D. Kelsall via Ray Sturtivant)



Gloster test pilot Flt Lt P.E.G. 'Peg' Sayer flies the first Latvian Gladiator Mk I (114) over England in mid-1937. After Gloster pilots evaluated the aircraft's performance, it was disassembled and packed for shipment to Latvia. Upper surfaces and interplane struts were Dark Green (FS34079), while undersurfaces were Aluminum (FS17178). The Latvian national insignia of a maroon swastika on a white disc was painted on the fuselage and lower wings. A polished metal spinner was fitted to the Watts wooden propeller. Latvia's *Armijas Aviaciona* (Aviation Regiment) was the first Gladiator export customer.



Gladiators in Foreign Colors

Latvia

Gloster's first export customer for the Gladiator was the Baltic State of Latvia, who ordered 26 Gladiator Mk Is in May of 1937. The Latvian order included three Hawker Hind light bombers and was apparently paid for with public lottery funds. This order specified that the four .303 caliber (7.7MM) Vickers Mk VM machine guns be modified to fire rimless 7.92MM Latvian ammunition, instead of the British rimmed cartridge. Latvia's national insignia consisted of a maroon swastika, which was painted directly onto the upper wing and on a white circle on the lower wing and fuselage. The aircraft were assigned serial numbers 114 to 126 and 163 to 175.

The British delivered the Gladiators by ship to Riga between August and November of 1937. The aircraft were assembled and test flown before being assigned to two Latvian *Armijas Aviaciona* (Aviation Regiment) fighter squadrons. The first unit was No 123 Squadron, which was formed to defend Riga in April of 1938. The other Squadron was No 124, which was activated the following October.

Six of the 26 Gladiators were lost in accidents before 17 June 1940, when the Soviet Union invaded Latvia. The *Voyenno-Vozdushniye Sily* (VVS; Soviet Red Air Force) took over the Latvian Gladiators, overpainting the maroon swastikas with Soviet red stars. When German forces overran the Baltic States in June of 1941, the Germans sent the surviving Latvian Gladiators to Germany for use by the Luftwaffe.

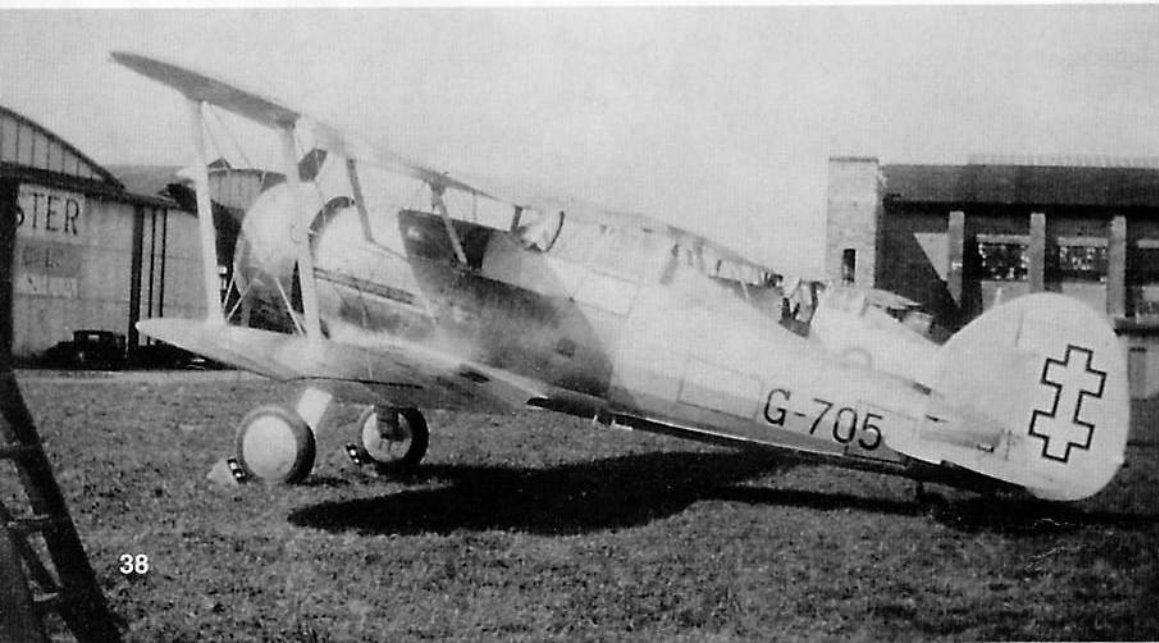
Ten Gladiator Mk Is assigned to the Latvian *Armijas Aviaciona* are neatly lined up at their airfield. Proceeds from a state lottery paid for the 26 Gladiators ordered in May of 1937. The British delivered the aircraft by sea to Riga, Latvia between August and November of 1937. (P.E. Branke via Robert J. Ruffle)





A Latvian pilot poses with his Gladiator Mk I (123). This aircraft was the tenth aircraft Latvia ordered from Gloster. The black serial number is outlined white in a style similar to fuselage numbers painted on Luftwaffe aircraft in World War Two. Just over the pilot's left shoulder is the first aid compartment, which was in a different location from Gladiators flown by other operators. (P.E. Branke via Robert J. Ruffle)

A Lithuanian Gladiator Mk I (G-705) is parked at Gloster's Hucclecote, England factory before delivery. It was overall Aluminum, with a black fuselage number and white and black national markings on the rudder. This Gladiator was one of 14 aircraft Lithuania ordered in May of 1937. After test flights, the Lithuanian Gladiators were disassembled and shipped by sea during October and November of 1937. A RAF Gladiator is parked in the background. (A.J. Jackson Collection)



Several Latvian *Armijas Aviācija* (Aviation Regiment) pilots line up before one of their Gladiators, while a second aircraft is parked nearby. Approximately 20 of Latvia's 26 Gladiators fell into the hands of the Soviets when they annexed the Baltic States of Latvia, Lithuania, and Estonia in 1940. (P.E. Branke via Robert J. Ruffle)

Lithuania

The Lithuanian Government ordered 14 Gladiator Mk Is in May of 1937. They also requested modified 7.92MM Vickers machine guns, which fired standard Lithuanian ammunition. The British delivered the aircraft by ship in October and November of 1937. They were marked with the Lithuanian national insignia – a white double cross trimmed in black – and assigned the serial numbers G-701 to G-714. The Gladiators were issued to No 5 *Eskadrilia* (Squadron) of II *Nailintuva Grupe* (2nd Fighter Group). This Squadron originally flew from Kaunas and Vilnius, but later relocated to Shiauliai

The Soviets captured 12 Gladiators after invading Lithuania on 15 June 1940. The other two aircraft are believed to have been lost in accidents prior to that time. Soviet forces used these and other captured aircraft on internal security duties, but one Gladiator was known to be on strength of the *Tautine Eskadrilia* (National Squadron). This Squadron was an air component of the 29th Territorial Army Corps, which was formed with the Red Army's agreement. German aircraft destroyed most of the Lithuanian Gladiators on the ground when they invaded the Soviet Union in 1941. Several aircraft were captured at Schaulen airfield and sent to Germany. Among the Gladiators captured by both the Soviets and the Germans was G-709.

Norway

In June of 1937, the Norwegian Government – alarmed at German rearmament and expansion plans – ordered 12 Gladiator Mk Is. The first six aircraft (serial numbers 413, 415, 417, 419, 421, and 423) were delivered to Oslo two months later. By then, Norway saw the improved Gladiator Mk II for the RAF and revised their order to obtain six Gladiator Mk IIs. RAF deliveries of this variant had priority, due to the Spitfire's late service introduction. Norway's six Gladiator Mk IIs (425, 427, 429, 431, 433, and 435) were diverted from a 1939 RAF order. The Gladiators were assigned to the *Jagevingen* (Fighter Wing), *Haerens Flygevapen* (Norwegian Army Air Service) at Fornebu airfield near Oslo. These aircraft comprised Norway's only regular fighter defense.

Ten of the twelve Gladiators (four Mk Is and six Mk IIs) were operational when German forces invaded Norway on 8 April 1940. The other two aircraft were unserviceable, due to a lack of spark plugs. Early the next morning, two Gladiators were scrambled to intercept incoming German bombers. The fighters shot down one Luftwaffe aircraft that morning. Norwegian Gladiator pilots claimed six more aircraft shot down on 9 April, including two He 111s, two Bf 110s, and two Junkers Ju 52/3m transports. German raids destroyed six Gladiators on the ground. A rough running engine forced one Gladiator to land on frozen Lake Bogstad northwest of Oslo; however, one wheel went through the ice and the pilot abandoned this aircraft.

Two more Gladiators were moved to frozen Lake Mjosa north of Oslo; however, one aircraft's landing gear went through the ice and was also abandoned. The Germans later captured this Gladiator, which was believed to have been shipped to Germany with parts recovered from other Gladiators. The remaining Gladiator (421) at Lake Mjosa became the sole surviving Norwegian fighter. Its pilot was ordered to drain oil from its engine for use on a Norwegian bomber. The Gladiator was left behind when Norwegian forces withdrew north, but was collected later in April and flown to Vangsmjosa to join the surviving Norwegian aircraft. On 21 April, Sgt Per Waaler took off in this Gladiator to attack any Luftwaffe aircraft found at Gardermoen airfield. His engine began misfiring and he struck the top of a row of trees. A branch was forced between the engine and propeller, which sheered off a wing tip. Waaler managed to restart the engine and struggled back to Vangsmjosa, but this aircraft was declared unserviceable and the Norwegian Gladiators' fight had ended.

Sweden

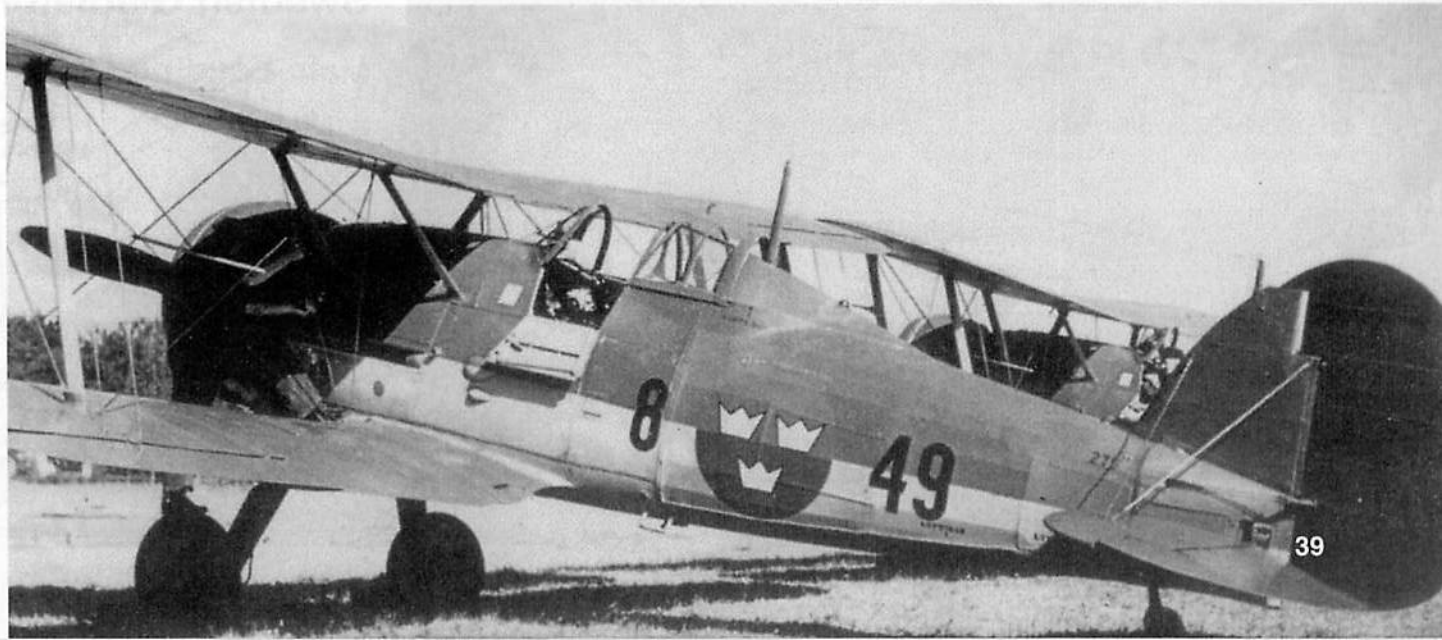
In 1936, the Swedish Government conducted a defense review. This review called for one new fight-

Sweden ordered 37 Gladiator Mk Is in 1937 and 18 Gladiator Mk IIs one year later. The *Flygvapnet* (Royal Swedish Air Force) locally designated these fighters as the J-8 and J-8A, respectively. This J-8 (8-49/279) was assigned to F8 at Barkaby, near Stockholm, during 1937-40. Upper surfaces were Olive Green (FS34086), while undersurfaces were Light Blue Gray (FS36152). The roundel on the fuselage and wings consisted of three yellow crowns on a blue disc. The fuselage codes were black, while the black serial number was painted near the base of the vertical stabilizer.



Luftwaffe pilot Helmut Lent shot down this Royal Norwegian Army Air Service Gladiator Mk II (427) on 9 April 1940. Sgt Kristian Frederik Schye, the Gladiator's pilot, force-landed his aircraft at Kolsaas in Baerum, just west of Oslo, suffering only slight injuries. Gunners from passing Junkers Ju 52 transports fired on it as they passed. Norway's Gladiators were overall aluminum, with black fuselage numbers. Rudder and wing bands were red, with white and blue stripes. (Via Cato Guhnfeldt)

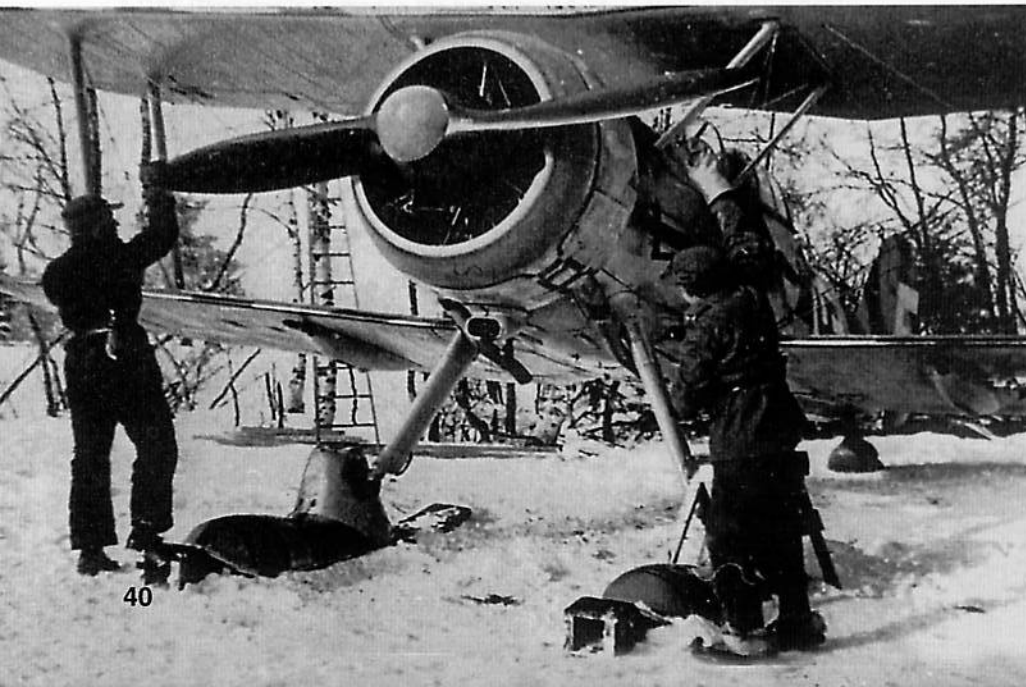
er wing for the defense of the Stockholm area, plus four new bomber wings. The *Svenska Flygvapnet* (Swedish Air Force) selected the Gladiator as best suited to its fighter needs and ordered 55 Gladiators (37 Mk Is and 18 Mk IIs) in late 1936. The aircraft were delivered to Sweden between April of 1937 and June of 1939 and assigned the serial numbers 231 to 285.





Capt A. Soderberg prepares to take off in his J-8 from snow-covered Veitsiluoto air base on the Gulf of Bothnia in early 1940. This was one of 12 Gladiators assigned to F19, a Swedish volunteer unit deployed to Finland during its Winter War against the Soviet Union. The aircraft had Finnish national insignias on the fuselage and silver bands painted over the upper surfaces. (Eino Ritaranta)

F19 mechanics prepare a J-8 (F) for engine start during the Winter War. The propeller was manually pulled to loosen engine oil before the engine was started. Swedish Gladiators were equipped with ski undercarriages for operating off snow-covered airfields in the winter. F19's aircraft had yellow individual letters painted on the rudders. (Eino Ritaranta)



The *Flygvapnet* designated the Gladiator Mk I J-8¹ and the Gladiator Mk II J-8A. The J-8s were powered by 645 HP Bristol Mercury VI nine-cylinder, air-cooled, radial engines, while the J-8As had 830 HP Mercury VIII engines. The J-8 entered service with F8² at Barkaby, near Stockholm. Ten of the 55 Gladiators delivered were placed in reserve.

Squadron pilots received the Gladiators with mixed feelings, viewing the aircraft as an old-looking (although newly built) biplane in a rapidly expanding monoplane fighter era. By late 1939, the *Flygvapnet* declared the J-8/J-8A obsolete as a front-role fighter, while the survivors were reassigned to F20, the Air Cadet School at Uppsala, for advanced training. The Swedes retired one Gladiator in 1944, ten in 1945, seven in 1946, and four in 1947. The *Flygvapnet* lost 29 Gladiators to crashes in service, which ended in 1947. The longest serving aircraft had approximately 700 to 800 flight hours.

After the Winter War between the Soviet Union and Finland began on 30 November 1939, the *Flygvapnet* formed a volunteer air unit to aid the Finns. The unit was designated F19 and was formed with 12 Gladiators and four Hawker Hart light bombers. Silver bands were painted over the Gladiators' dark green upper surface camouflage to help blend in with the snow-covered terrain. The blue and yellow Swedish national insignia was replaced with the light blue and white Finnish insignia, while yellow aircraft identification numbers were painted on the rudders. The conventional landing gear was replaced by skis for operation from snow-covered airfields.

F19 deployed to Kemi in northern Finland on 10 January 1940 and flew its first combat missions two days later. In two months, F19's Gladiators flew 464 sorties and engaged more than 500 Soviet aircraft. The Swedes shot down ten Soviet aircraft for the loss of two Gladiators. After the cease fire was signed on 13 March 1940, F19 turned their ten surviving Gladiators over to the Finns and returned to Sweden.

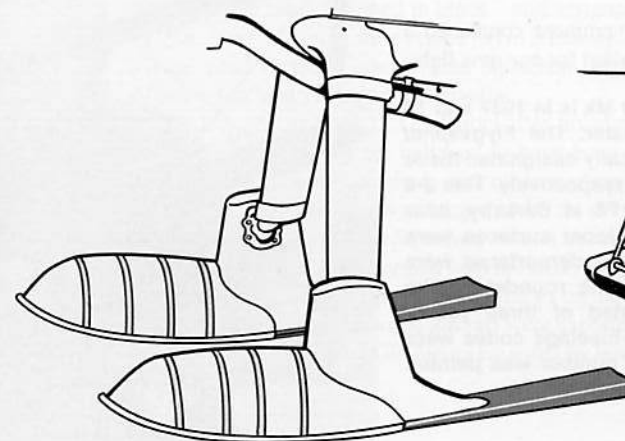
One Swedish Gladiator (J-8, serial number 278) is on display at the Swedish Air Force Museum at Malmslätt. It is marked as F19's aircraft H during the Winter War.

¹J: *Jaktplan* (Fighter).

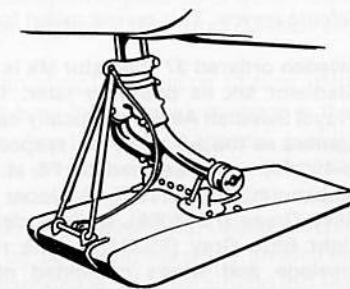
²F: *Flottilj* (Wing).

Swedish Gladiator Snow Landing Gear

Main Landing Gear



Tail Ski



Belgium

During the summer of 1937, Belgium ordered 22 Gladiator Mk Is. Deliveries began in September of 1937, with the first aircraft assigned to *1^{ere} Escadrille de Chasse* (1st Fighter Squadron) '*Le Comete*' (Comet), at Schaffen-Diest. This Squadron was part of *1^{eme} Groupe* (Group), *2^{eme} (Fighter) Regiment (1/1/2)*, *Aeronautique Militaire Belge* (Belgian Army Air Service).

When Germany invaded the Low Countries on 10 May 1940, 1/1/2 had 14 serviceable Gladiators at Schaffen-Diest; two other Gladiators were under repair. These fighters shared the airfield with 12 Hurricanes and two squadrons of Fairey Fox biplane fighters. The Belgian aircraft were neatly lined up in rows, grounded by early morning mist. The commander of 1/1/2 launched his Gladiators against orders, soon after 5/III/2's Foxes took off for Vissenacken and immediately ahead of a low-level German air raid. Three sections of Gladiators (three aircraft per section) were airborne when the He 111s attacked, while the remaining Gladiators nearly collided with the German bombers while climbing through the mist. Two Gladiators and ten Hurricanes were destroyed in this raid. The remaining fighters flew from Stefan to Beauvechain during a lull in the German attacks. The Belgians were left with 12 Gladiators and two Hurricanes by 0900 hours on 10 May.

The Gladiators were refueled and rearmed at Beauvechain before taking off to meet the Luftwaffe. Five of these fighters were lost in air combat with German Bf 109s that day. On 11 May, six Gladiators escorted nine Fairey Battle light bombers of 5/III/3 to bomb bridges across the Albert Canal in eastern Belgium. The Gladiators tangled with Bf 109s and four Belgian fighters were shot down. Bf 109s strafed Beauvechain that afternoon, destroying the three remaining Gladiators and two Hurricanes there. This action effectively ended the Belgian fighter force's war against Germany.

China

Desperate for fighter aircraft to use against invading Japan, the Chinese Central Government ordered 36 Gladiator Mk Is in October of 1937. The first 20 aircraft of this order were sent by sea to Hong Kong and arrived in November and December of 1937. The crated Gladiators were delivered to Hong Kong's Kai Tak Airport; however, Japanese diplomatic pressure caused the British authorities to deny the Chinese permission to assemble the Gladiators at the airfield. Instead, the aircraft were sent by rail to Canton (now Guangzhou), then put on junks and ferried up the Pearl River to their assembly points. Gloster technicians aided the Chinese in assembling these aircraft. Japanese harassing air attacks resulted in these fighters being assembled at a variety of places, including Shougouling Air Base and a cemetery! Most of the aircraft were assembled over several weeks and then dispersed to safe locations until their pilots completed training. The remaining 16 aircraft on order arrived in China soon afterward.

The Gladiators were assigned to the 17th, 28th, and 29th Fighter



Five of Belgium's 22 Gladiator Mk Is (from top, G5-7, G5-14, G5-12, G5-10, and G5-13) fly over the Gloucestershire countryside on a pre-delivery test flight in 1937. The white Class B fuselage serials were used on British-built aircraft prior to the customer's acceptance. Belgian Gladiators had Khaki (FS20040) upper surfaces and Aluminum undersurfaces.

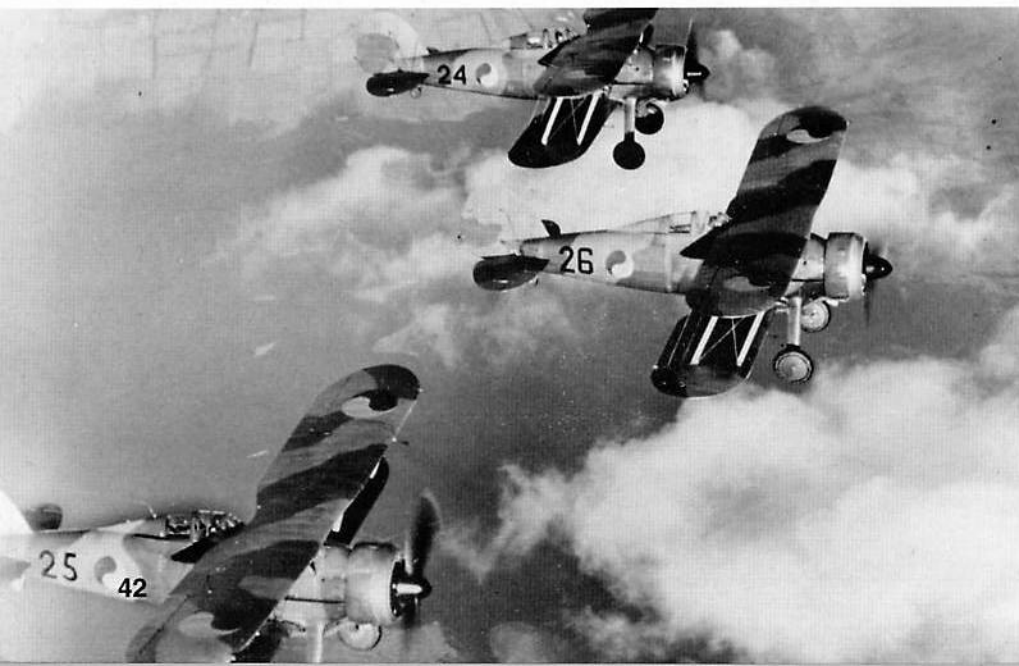
A Belgian *Aeronautique Militaire* (Army Aviation) Gladiator Mk I (23) sits on the ramp at Diest-Schaffen in early 1940. It was assigned to *1^{ere} Escadrille 'Le Comete,' 1^{ere} Groupe, 2^{eme} Regiment* at this base. The Squadron's red and white comet insignia was painted on the upper fuselage, while the white serial number appeared on the vertical stabilizer. The full serial number (G 23) was black on the lower wing undersurfaces. Interplane struts on Belgian Gladiators were gloss black. Belgium's 16 operational Gladiators were destroyed or rendered unserviceable by Luftwaffe attacks on 10-11 May 1940.





Mechanics prepare to start up a Gladiator Mk I assigned to No 1 Fighter Squadron, Irish Army Air Corps (IAAC) at Baldonnell, Ireland in the late 1930s. The aircraft had Light Green (FS14258) fuselages and tails, with Aluminum wings and engine cowlings. The rudders and wing bands were striped (from inboard) green, white, and orange. The wing bands were 8 inches (20.3 cm) wide. (IAC)

No 1 Fighter Squadron's three remaining Gladiators (from top, 24, 26, and 25) fly in V-formation over Ireland in November of 1940. The aft fuselage serial numbers were changed from white to black when the aircraft were camouflaged in 1940. Green (left) and orange (right) Celtic bosses were painted on the fuselage and upper wings. (IAC via Patrick Cummins)



Squadrons (FS) of the 5th Fighter Group. The 17th FS received four Gladiators to fly alongside Polikarpov I-15s from Hankou, Zian, and Xinyang. Sixteen aircraft each were assigned to the 28th and 29th FS for operations from Changsha, Gunzhou, Hengyang, Kanko, and Nanchang. Most of these Gladiators were either lost in action or became unserviceable due to combat damage by the end of August of 1938. It is believed that three Chinese pilots continued to fly Gladiators against the Japanese in the Kwangsi area from August through December of 1939. The last three Gladiators flew in the training role until the early 1940s.

Eire (Ireland)

In 1937, the Irish Government ordered four Gladiator Mk Is for the Irish Army Air Corps (IAAC). These were delivered on 2 June 1938 and allocated the serial numbers 23 to 26. The Gladiators were assigned to 'B' Flight, First Army Co-Operation Squadron at Baldonnell in eastern Ireland. One year later, this Squadron was redesignated No 1 Fighter Squadron.

The Irish ordered four more Gladiators (serials 27 to 30), but the pressing need for Gladiators by both the RAF and FAA prompted Gloster to cancel this transaction. The British Air Attaché in Dublin ordered a third batch of Gladiators (serials 57 to 60) for Ireland's Ministry of Defense. This order was also unfulfilled, due to a temporary British arms embargo on companies selling military hardware to Ireland (*Eire* in Irish).

One Gladiator (23) was damaged beyond repair in a landing accident on 23 October 1938. The three survivors continued their service, but experienced serviceability and spare parts problems by 1943. Gladiator No 25 was retired in August of 1943, followed by No 26 a few months later. No 24 was destroyed in a crash in January of 1944. By that date, the British supplied several Hurricanes to the IAAC to replace the Gladiators.

Two IAAC Gladiators and a Westland Lysander reconnaissance aircraft are parked at Baldonnell in 1941, while ground crews await the pilots' command to start the engines. From 1940, Irish Gladiators were camouflaged with Dark Green and Dark Earth upper surfaces and Aluminum undersurfaces. Tri-colored bands were retained on the wing undersurfaces, but the rudder striping was eliminated. (IAC)



Greece

The *Elleniki Vassiliki Aeroporia* (EVA; Royal Hellenic Air Force) was introduced to the Gladiator in an unusual manner. In 1938, a Greek businessman purchased two Gladiators from Gloster for 9200 pounds and presented them to the EVA. These aircraft (serialled Delta Epsilon 1 and 2) were in service when Italy invaded Greece via Albania on 28 October 1940.

The RAF's No 112 Squadron at Helwan, Egypt transferred eight Gladiator Mk Is to Greece on 2 December 1940. This was soon followed by six more ex-RAF Gladiators: one from No 112 Squadron and five from No 80 Squadron. Two No 33 Squadron Gladiators were later transferred to Greece.

The EVA assigned the Gladiators to 21 *Mira* (Squadron), which moved from Eleusis to Yanina on 23 December 1940. Their first victory occurred on 8 January 1941, when a Gladiator shot down an Italian CR.42 over northwestern Greece. The Gladiators claimed seven more Italian aircraft shot down over the next three months, with five Gladiators lost. The last claim was a Cant Z1007bis bomber shot down near Ptolemais on 2 April 1941. The 21 *Mira* moved from Yanina to Paramythia by 2 April, then to Kalambaka/Vassiliki when German forces invaded Greece four days later.

On 16 April, the 21 remaining Greek fighters – eight Gladiators, 11 PZL P.24s, and two Bloch 151s – flew from Kalambaka/Vassiliki to Amphiklia/Lodi. German Bf 109s strafed Amphiklia/Lodi on 19 April, destroying 18 of these fighters. The three surviving Greek aircraft redeployed to Eleusis, but strafing Bf 109s destroyed two of them on 20 April. This ended any effective Greek fighter opposition to the invading Axis forces.

Egypt

In March of 1939, the RAF transferred 18 Gladiators (L8005 and L8012 to L8028) to the Royal Egyptian Air Force (REAF) under the 1936 Anglo-Egyptian Defense Agreement. The RAF's No 27 Maintenance Unit (MU) at RAF Shawbury, Salop upgraded these late production Gladiator Mk Is to Mk II standard in January of 1939. The Egyptians assigned these aircraft the serial numbers K1331 to K1348. The British transferred 18 ex-RAF Gladiator Mk IIs (N5875 to N5892) to Egypt in 1940. The REAF reserialled these aircraft L9030 to L9047. It is believed that other Gladiators were sent between RAF and REAF units; however, their serials are unknown. Both forces operated from the same bases and sometimes maintained the same aircraft.

REAF Gladiators were assigned to a pair of fighter squadrons. One was No 2 Squadron, which was originally based at Helwan before later transferring to Almaza. The other unit was No 5 Squadron, first based at Dekhalia before moving to Heliopolis. The REAF retired their Gladiators from active duty in 1945 and were seen in airfield graveyards as late as 1946.

Iraq

The Royal Iraqi Air Force (RIAF) purchased 15 Gladiator Mk Is from surplus RAF stocks in the late 1930s; the exact date is unknown. Although based at Mosul and Raschid, the RAF maintained them at their base at Habbaniya. Several Gladiators were later returned by Iraq to the RAF. The nine Gladiators of the RIAF's No 2 Squadron at Kirkuk flew against British forces at Habbaniya during the German-inspired Iraqi revolt in May of 1941. The RIAF Gladiators claimed one victory during this revolt. The RAF transferred five Gladiator Mk IIs to Iraq in March of 1944, which served to replace those aircraft returned to the RAF by early 1941. At least two Gladiators still flew at Mosul in 1949.



Royal Egyptian Air Force (REAF) personnel pose before No 2 Squadron Gladiators for a publicity photograph. This was taken at the Squadron's Helwan, Egypt base soon after World War Two began. Egypt's Gladiators were equipped with Vokes air filters under the engine cowling and either Watts or Fairey-Reed propellers. The REAF was equipped with 32 ex-RAF Gladiators on 3 September 1939. They included several Gladiator Mk Is modified to Mk II standard by No 27 Maintenance Unit at RAF Shawbury, Salop.

REAF officers pose with a Gladiator Mk II (L9036) assigned to No 5 Squadron at Dekheila, Egypt. The white pre-war flying suits worn by two of the pilots and the blue-gray dress uniforms worn by the other three officers showed the RAF influence. The REAF roundel was green and white, with a white crown sometimes placed on the green outer ring. (Abu Zaid via Dr David Nicolle)





This well-worn Gladiator II (L9033) was assigned to No 5 Squadron, REAF from 1940 until 1942. It is equipped with a Vokes air filter under the engine cowling, which kept sand out of the carburetor. Machine guns are not fitted to the lower wing pods. The aircraft were camouflaged in Dark Earth (FS30118) and Light Earth (FS30257), with Aluminum undersurfaces. (A.J. Jackson Collection)

This overall Aluminum Gladiator Mk I (L8017) is believed to be assigned to an REAF flying school in 1946. Underwing roundels were painted on REAF aircraft soon after World War Two ended in 1945. The aft fuselage serial number was repeated in Arabic characters above the English lettering. Egypt retired its Gladiators from active service in 1945 and scrapped the last aircraft one year later. (A.J. Jackson Collection)



A well-worn No 5 Squadron Gladiator Mk II (L8025) is parked at Heliopolis, Egypt on 14 March 1943. This Mk II has the two-bladed Watts propeller instead of the three-bladed Fairey-Reed propeller normally fitted to this variant. A thin Yellow (FS33538) outer ring was added to the fuselage roundel, while the aft fuselage serial number was black. (Howard Levy)

Gloster painted this Gladiator Mk I in Royal Iraqi Air Force (RIAF) markings at the Hucclecote factory in late 1937. This was believed to be a publicity display for a visiting Iraqi delegation. Iraq ordered 15 Gladiator Mk Is, which came from RAF surplus. The British also supplied five Gladiator Mk IIs to the RIAF in 1944.



Portugal

The Portuguese Government ordered 15 Gladiator Mk IIs for the Portuguese *Aeronáutica Militar* (Army Aviation) in July of 1938. Gloster supplied them as kits to Alverca, Portugal, where OGMA¹ assembled the Gladiators in September of 1938. They were allocated the serial numbers 450 to 464 and formed one half of an *Escadrihla de Caca* (EC; Fighter Squadron) at Ota. Ten Junkers Ju 52/3m g3e bombers comprised the rest of this Squadron. Portugal attempted to purchase more modern fighters, but RAF orders took precedence. Instead, the Portuguese ordered 15 more Gladiator Mk IIs, which were diverted from an RAF contract. They were assigned serials 465 to 479 and formed a new EC at Tanco (BA3)².

In early 1941, US President Franklin Roosevelt stated that the Azores Islands “represented the eastern frontier of the United States.” The Portuguese-held islands were an ideal operating base for Allied surface ships and maritime reconnaissance aircraft. From the Azores, these forces could combat German U-boats (submarines) operating in the mid- to south Atlantic Ocean. Portuguese concerns about an Allied takeover prompted them to deploy air and naval units to the Azores. The *Aeronáutica Militar* formed *Escadrihla de Caca Expedicionara No.1 dos Acores* (1st Expeditionary Fighter Squadron of the Azores) in June of 1941. Their 15 Gladiators were immediately deployed to Rado de Peize (BA4) on San Miguel Island in the Azores. Soon afterward, *Escadrihla de Caca Expedicionara No.2 dos Acores* was formed to fly Gladiators from Tejas (BA5) on Terceira Island.

By late 1943, the Gladiators were obsolete as front line aircraft and were replaced in the Azores by Curtiss Mohawks (P-36s). British-supplied Hurricanes and Spitfires replaced Gladiators in Portugal-based fighter units. In 1948, several Gladiators returned to the Azores as *Escadrihla de Caca No. 3* at Lajes (now BA4). The seven remaining aircraft were returned to Portugal two years later and served as advanced training aircraft at Tanco.

Finland

Finland was short of fighters when the Russo-Finnish Winter War began on 30 November 1939. The Finnish Government ordered 20 Gladiator Mk IIs (with Britain adding ten more aircraft to this order) in December. The partially assembled Gladiators were shipped to Gothenburg, Sweden between December of 1939 and January of 1940. They were completed and test flown at the *Centrala Flygverkstaden* in Malmslätt before they were flown to Finland between 18 January and 16 February. The *Suomen Ilmavoimat* (Finnish Air Force) assigned these Gladiators the serials GL-251 to GL-280.

Lentolaivue (LLv; Flying Squadron) 26 was originally intended to receive Fiat G.50 monoplanes to replace their obsolete Bristol Bulldog biplanes. Germany would not allow the G.50s to transit through their country from Italy to Finland; thus, the Squadron temporarily received 13 Gladiators in January of 1940 and 17 more in February. These fighters joined the Gladiators already flying combat missions with the Swedish volunteer unit F19. LLv 26 pilots claimed 34 victories in the Winter War, beginning with a Polikarpov I-153 *Chaika* biplane fighter shot down near Hanko, Finland on 2 February. The Gladiator had greater maneuverability than the Soviet I-15 and I-153 biplanes it faced; however, its four rifle-caliber weapons required

¹OGMA: *Oficinas Gerais de Material Aeronautico* (General Aeronautical Material Workshops)

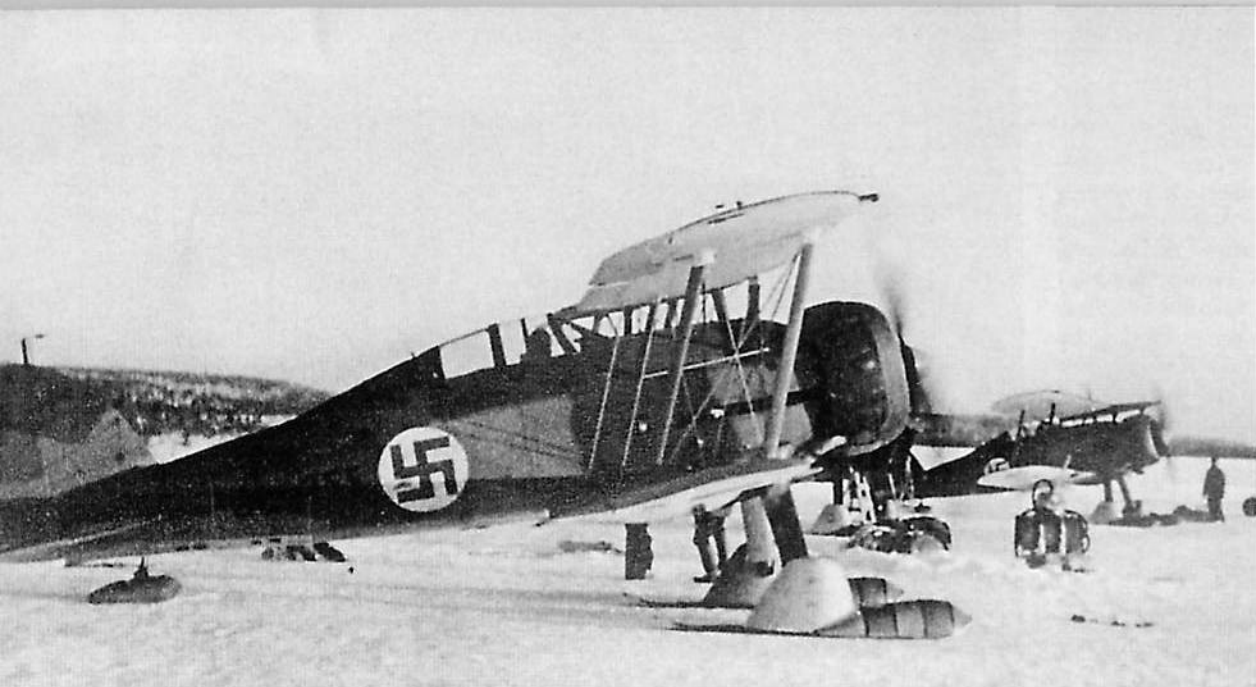
²BA: *Base Aerea* (Air Base)



One of Portugal's 15 Gladiator Mk IIs (G5) sits on the ramp at Martlesham Heath, England in 1939. A thermometer was taped to the rear port interplane strut for the aircraft's pre-delivery test flights. Portuguese Gladiators had Dark Green (FS34097) upper surfaces and Light Gray (FS36373) undersurfaces. After test flights in Britain, the aircraft were disassembled and shipped to Portugal, where they were reassembled. (RAF Museum)

Capt A. Maunula warms up prior to a mission in a Gladiator II (GL-270) of 1 Flight, LLv 12 (*Lentolaivue*; Flying Squadron) at Karhusjarvi in March of 1940. There was no difficulty operating Gladiators on skis. The camouflage was standard RAF green/brown with the undersides of both port wings in black and the starboard wings in white. (Eino Ritaranta)





Two Gladiator IIs – including GL-255 in the foreground – warm up their engines on 1 March 1940. They were assigned to LLv 2, one of three *Ilmavoimat* (Finnish Air Force) Gladiator-equipped units during the 1939-40 Winter War. The Gladiators were fitted with Finnish-design ski undercarriages for flying off snow-covered airfields. (Eino Ritaranta)



Gladiator pilots to be accurate or at close range to their opponents. Two of the Squadron's pilots became aces on the Gladiator: Oiva Tuominen with 6.5 victories and Paavo Berg with five 'kills.' These pilots increased their total scores to 44 and nine victories, respectively, during Finland's 1941-44 Continuation War with the Soviet Union. LLv 26 lost 11 aircraft in combat during over 600 Winter War sorties. This conflict ended with an armistice on 13 March 1940.

Two other *Ilmavoimat* fighter squadrons – LLv 12 and LLv 14 – flew Gladiators in the Winter War. LLv 12 received several aircraft from LLv 26 in February of 1940, after the latter unit finally began receiving G.50s. LLv 12 primarily flew over the Bay of Viipuri and the western part of the Karelian Isthmus in southeastern Finland. These Gladiators primarily supported Fokker C.Xs on reconnaissance missions and did not see aerial combat during their 67 wartime sorties. On 4 July 1941, LLv 12 began replacing their Gladiators with Curtiss Hawk 75As (export P-36s).

LLv 14 received its first six Gladiators from LLv 26 on 13 February 1940. These aircraft saw action over the eastern section of the Karelian Isthmus. The Squadron flew 34 missions during the Winter War, downing three Soviet aircraft. LLv 14 relinquished their Gladiators in favor of Hawk 75As in July of 1941.

The surviving Gladiators were concentrated with the 1st and 2nd Flights of LLv 16 (later LeLv 16) at Rissala and Hirvas. This was the only *Ilmavoimat* Gladiator squadron to fly in the Continuation War, which formally began on 26 June 1941. Accidents and air combat reduced I/LeLv 16 from six Gladiators to two by December of 1941. The 2nd Flight entered the renewed fighting with three Gladiators. LeLv 16's aircraft primarily flew on army cooperation duties in the Karelian sector. The Squadron's sole Gladiator victory occurred on 15 February 1943, when Lt H. Stromberg shot down a Polikarpov R-5 reconnaissance aircraft over the Maaselka Isthmus in northwest Russia.

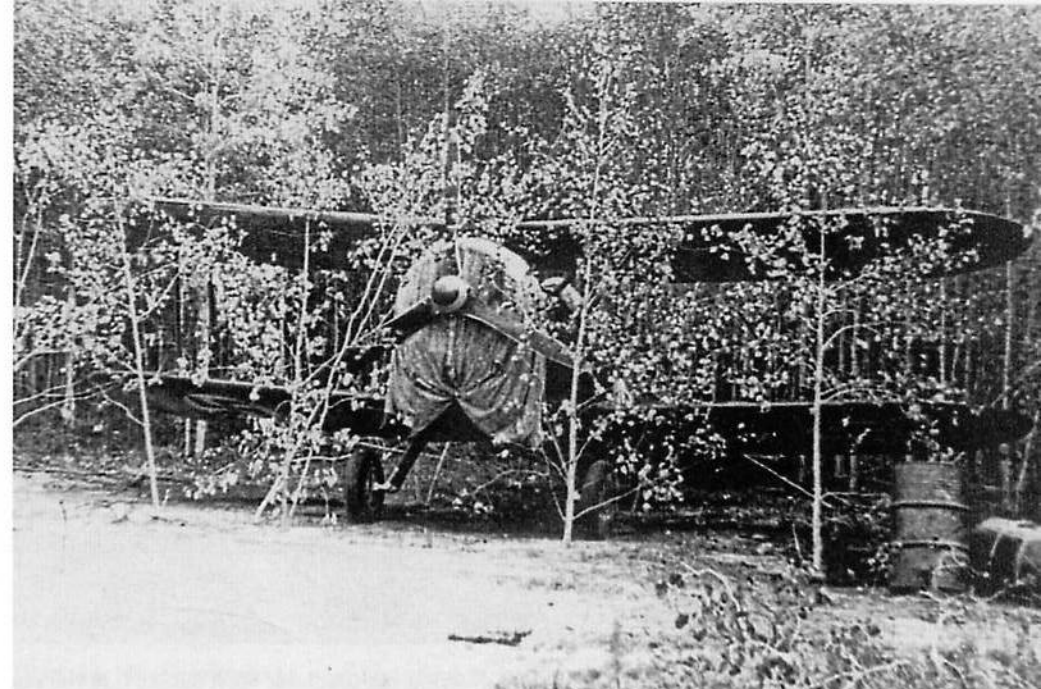
The obsolete Gladiators flew their last mission on 31 July 1944, before they were withdrawn from service. The *Ilmavoimat*'s last two Gladiators (GL-253 and GL-275) were scrapped in February of 1945. LeLv 16 flew 2000 Gladiator sorties during the Continuation War and lost ten aircraft. Four of the Gladiators were shot down in combat, two others were lost in accidents, and four more aircraft succumbed to technical failure.

(Left) A somewhat worried looking Warrant Officer U. Ohokas stands by his Gladiator on 25 June 1941. He is just about to fly his first operational mission from Utti in the Continuation War of 1941-1944. *Ilmavoimat* Gladiators saw continuous frontline service throughout the conflict against the Soviet Union, but were relegated to second line duties after mid-1941. (Eino Ritaranta)



Ground crews attend to a Gladiator II (GL-272) being operated from a sandy beach on Finland's Lake Hoytiainen in June of 1941. The lower wing undersurface tips and aft fuselage band were Yellow (FS33538) for Axis aircraft operating on the Eastern Front. Yellow was painted over the last digit of the lower wing serial number. (Eino Ritaranta)

This Gladiator Mk I (GL-273) flipped on its back while taxiing on soft ground at Haarajarvi, Finland on 12 August 1941. The fate of both the aircraft and its pilot is unknown. The Yellow aft fuselage band covered the first letters of the serial number. The lower wing flap extended upon the accident. Its inner surface appears to be in natural metal. (Eino Ritaranta)



This Finnish Gladiator Mk II is hidden among some birch trees in the Karelian sector early in the Continuation War. Several leafy branches were propped against the wing leading edges while the Gladiator was parked at its forward base. These measures reduced the risk of Soviet aircraft destroying the Gladiator on the ground. A canvas cover keeps foreign objects out of the engine. (Eino Ritaranta)

A Gladiator Mk II (GL-275) of LeLv (formerly LLv) 16 taxis out in the winter of 1941. It retained the RAF camouflage of Dark Green, Dark Earth, Light Green (FS34096), and Light Earth (FS30257) on the upper surfaces. The wing undersurfaces were black to port and white to starboard. Finland's national insignia during World War Two consisted of a pale blue *hakristi* (swastika) on a white disc. Apart from its shape, the Finnish insignia had no relationship to the swastika used by Nazi Germany. (Eino Ritaranta)





A pilot (left) salutes his mechanic before entering his Gladiator Mk II (GL-264) at Hervas on 28 June 1942. The fighter was assigned to 2nd Flight, LeLv 16, whose alligator insignia is painted on the rudder. By 1942, Finnish Gladiators were repainted Olive Green (FS34096) and black, with Light Blue (FS35414) undersurfaces. (Eino Ritaranta)

German forces captured this Gladiator Mk I (NJ+BO/Werk Nr. 45829) in Latvia in September of 1941. It was sent back to Germany for evaluation and general use before allocation to Egr.Gr.(S) 1 in 1942. The Gladiator was painted overall RLM 02 RLM Gray (FS36165), while the engine cowling was left in a dark green. Standard German markings were painted on the aircraft, which towed training gliders. (Willis)



An *Ilmavoimat* recovery team pose before the Gladiator Mk II (GL-276) they recovered from Sidorova, Russia. The aircraft force landed there after it had engine trouble on 4 September 1943. The pilot, Sgt O. Kuuluvainen, was unhurt in the landing. The recovery team removed the Gladiator's outer wings before towing the aircraft towards the Finnish rear area. (Eino Ritaranta)

Soviet Union

The Soviet Union invaded the Baltic States (Estonia, Latvia, and Lithuania) in July of 1940. Soviet forces took over all military equipment then in use by those countries, including the Gladiators of Latvia (approximately 20) and Lithuania (12). The Latvian Gladiators were dispersed around different airfields, with five stored at Krustpils. Any survivors were taken over by the VVS (Soviet Red Air Force) and used for training, most eventually being painted with Soviet markings.

Germany

Germany began its invasion of the Soviet Union (Operation BARBAROSSA) on 22 June 1941. Luftwaffe air attacks destroyed most of the remaining Latvian aircraft on the ground; however, several Gladiators were found intact and these were dismantled and sent to Germany. In September of 1941, German quartermaster documents showed that at least 13 and possibly 15 Gladiators were on Luftwaffe strength. Eleven of these aircraft were recorded as either airworthy or with minimal damage, while the others were repairable at the unit level. All these Gladiators had their Soviet markings replaced with German ones. It is believed that all of the German captured Gladiators were ex-Latvian Gladiator Mk Is.

The possibility exists that German forces captured surviving RAF Gladiators from No 263 Squadron in Norway in 1940. These aircraft were subsequently sent to Germany along with

any usable spare parts, including Mercury engines and Watts two-bladed propellers.

The Luftwaffe assigned the captured Gladiators to *Ergänzungsgruppe* (S) 1 (Erg.Gr.(S) 1)¹ at Langendiebach, near Hanau, during 1942-43. Erg.Gr.(S) 1 provided primary and operational training for assault glider pilots and primarily employed DFS 230 assault gliders. Ten Gladiators were among the variety of captured aircraft this Group employed for glider towing duties. The four *Staffeln* (Squadrons) within Erg.Gr.(S) 1 used a range of captured aircraft, rather than standardize on one type. The Group was originally assigned the code NJ, which was later changed to 1E. Known Gladiator codes included NJ+BO and 1E+DK. The Germans assigned *Werke Nummern* (Factory Numbers) to the Gladiators; for example, Gladiator NJ+BO had the *Werke Nummer* 45829. Lack of spare parts caused the Luftwaffe to scrap their remaining Gladiators by the end of 1943.

Australia

No 3 Squadron, Royal Australian Air Force (RAAF) operated at least 36 Gladiators from Helwan and Gambut, Egypt between September of 1940 and January of 1941. This Squadron was under RAF control and flew Gladiators formerly operated by the RAF's No 33, 80, and 112 Squadrons. Although these aircraft were well used, the Australian pilots claimed 18 Axis aircraft by the end of 1940. This run began on 19 November, when four Gladiators shot down six of 18 Fiat CR.42s for the loss of one Australian aircraft. Flying Officer Alan Boyd scored three of these 'kills' en route to six victories on the type, making him the sole Australian Gladiator ace. No 3 Squadron began replacing their Gladiators with more modern Hurricanes in late January of 1941.

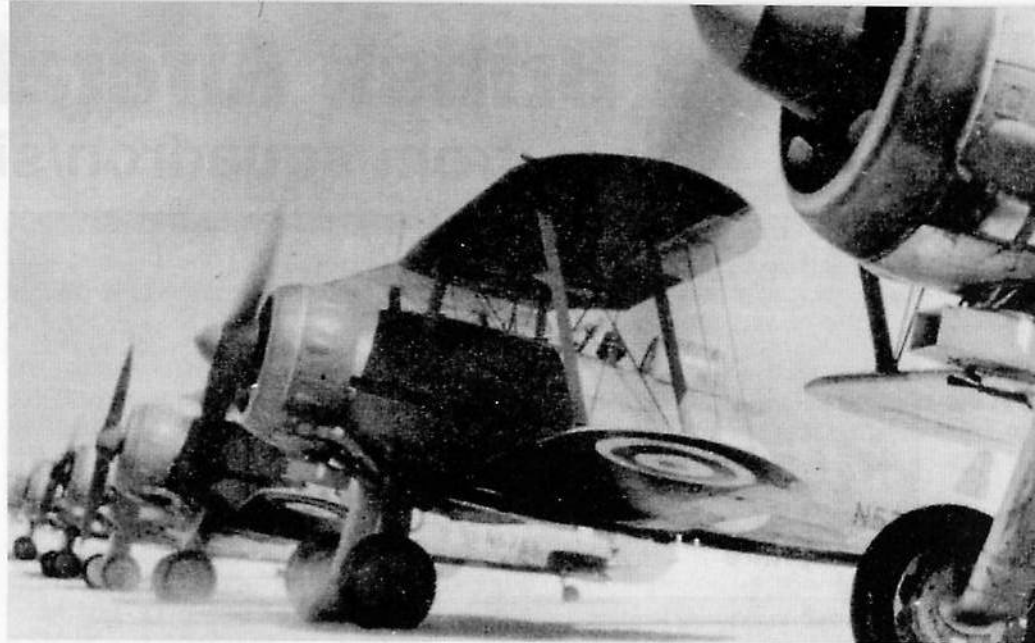
Free French

A Gladiator Mk I (K7939) of No 80 Squadron, RAF force-landed at Assuit, Egypt on 26 June 1942. The Free French *Groupe de Chasse* (Fighter Group) 'Alsace' took over this aircraft and painted '1' in black on the vertical tail. The desert camouflaged Gladiator was later repainted in overall aluminum with non-standard French roundels that substituted aluminum for the usual white inner ring. French blue, white, and red rudder stripes were painted on this aircraft, while the RAF serial K7939 appeared atop the rudder's white section. A light blue Cross of Lorraine – insignia of the Free French forces – was painted aft of the fuselage roundel and under the wings. This Gladiator is not known to have seen combat, but was believed to have been used for training.

South Africa

The RAF transferred 11 Gladiators to the South African Air Force (SAAF) in April of 1941. The majority of these aircraft came from the RAF's No 94 Squadron at Ismailia, Egypt. The SAAF deployed their Gladiators to North East and East Africa, where they saw action against Italian forces. Several of these aircraft later ended up with second-line RAF units, including No 1412 Meteorological Flight at Khartoum, Sudan.

¹*Ergänzungsgruppe*; Replacement Group. (S) stood for *Schlepp* (Towing).



Gladiator Mk Is assigned to No 3 Squadron, Royal Australian Air Force (RAAF) warm up their engines before a mission from Helwan, Egypt on 3 November 1940. These ex-RAF aircraft equipped A and B Flights of this Squadron. A yellow border was added to the port lower wing roundel, which was painted on a black wing surface. Flying Officer Boyd of No 3 Squadron shot down three Italian CR.42 fighters in one day while flying a Gladiator.

A No 3 Squadron Gladiator Mk I rests at Helwan between missions in 1940. A Vokes air filter was standard equipment on Gladiators based in North Africa during the war. The Squadron's pilots claimed 18 victories over Italian aircraft by the end of 1940. Early the next year, Hawker Hurricane monoplanes replaced the Gladiator in this Australian unit.





(Above) This overall Aluminum Gladiator Mk I (K6130) was assigned to No 72 Squadron, Royal Air Force (RAF) at RAF Church Fenton, England in 1937. Its red wheel discs, vertical stabilizer, and horizontal stabilizer indicated the 'A' Flight Commander's aircraft. No 72 was the RAF's first Gladiator squadron.

(Below) One of the Gladiator Mk IIs supplied to Finland in late 1939 was this aircraft (GL-270). It was later assigned to 1st Flight, *Lentolaivue* (LeLv; Flying Squadron) 16, which flew from Solomanni, Finland in August of 1942. This unit saw action against Soviet forces in the Karelian sector of the Eastern Front.



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