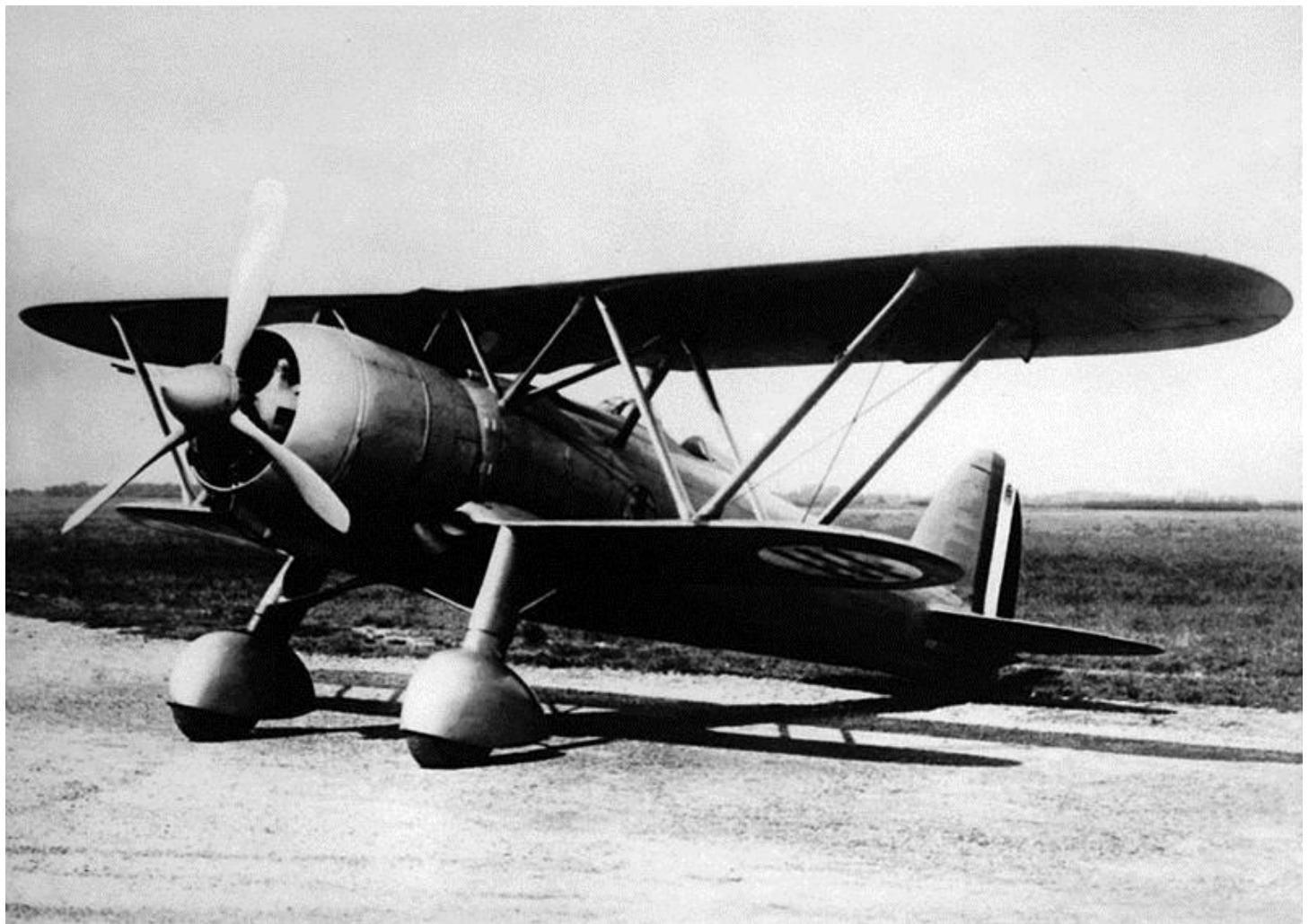


## Fiat CR.42 Falco



[Fiat CR.42 Falco de la Regia Aeronautica](#)

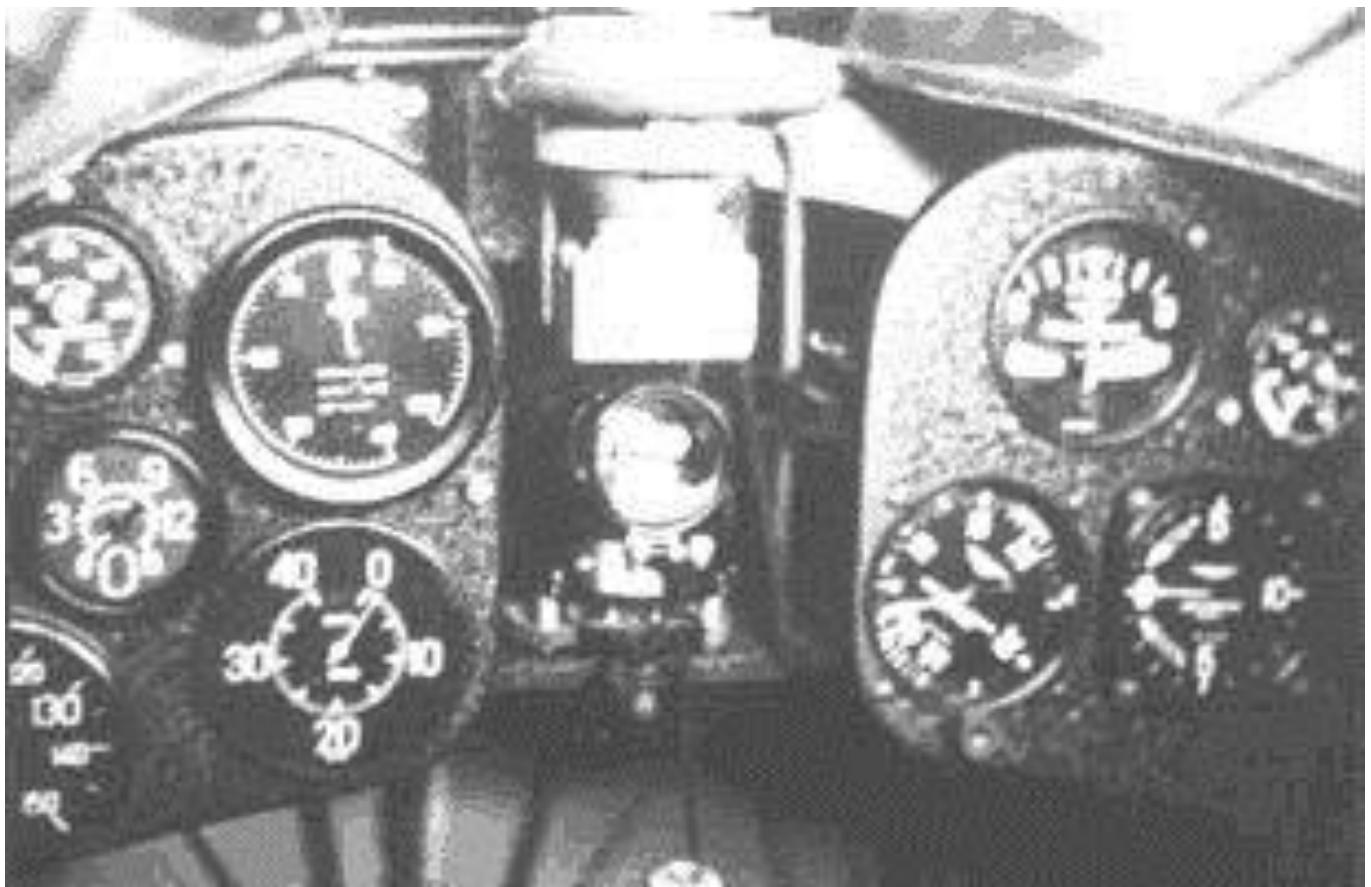
Le Fiat CR.42 fut un des rares chasseurs biplans engagés en première ligne au cours du conflit (en plus des Gloster Gladiator britanniques et norvégiens, et sans doute de Polikarpov I-15 soviétiques). Il symbolisait à lui tout seul le retard pris par l'aviation militaire italienne à la fin des années 1930. Le CR.42 était issu d'une longue lignée de chasseurs biplans, conçus par l'entreprise italienne Fiat. Son ancêtre immédiat était le Fiat CR.32, qui s'était révélé très efficace au cours de la guerre civile en Espagne, aux mains de pilotes italiens mais surtout nationalistes. Il fut développé par la Fiat afin de trouver un successeur au CR.32, et pour prospecter des marchés à l'exportation dans des pays ne pouvant ou ne voulant pas financer l'achat de chasseurs de dernière génération. Le développement fut relativement bref : après un premier vol en mai 1938, et des essais concluants, le CR.42 arriva dans les escadrilles de la Regia Aeronautica en novembre 1939. Il y reçut la désignation de Falco (faucon). A cette époque, le CR.42 apparaissait presque comme anachronique. Ce biplan à train fixe semblait dépareiller, tandis que les pays voisins lançaient dans le nouveau conflit mondial des chasseurs modernes tels que le Supermarine Spitfire ou le Dewoitine D.520. Mais il s'attira d'emblée la faveur des pilotes italiens. Le Falco avait de grandes qualités et on peut le considérer comme le chant du cygne des biplans militaires, qui sillonnèrent les cieux de l'Europe depuis les années 1900. Sa structure était majoritairement construite en métal (acier et duralumin). L'aile supérieure était plus large que l'aile inférieure : cette configuration était connue comme une voilure sesquiplane. Le train d'atterrissage fixe était caréné pour offrir un meilleur aérodynamisme. Les mats de voilure étaient de type treillis Warren, identiques aux mats des CR.32. Cependant, là où le CR.32 était équipé d'un moteur en ligne, le CR.42 reçut un moteur en étoile Fiat A74, d'une puissance de 840 ch, entraînant une hélice à trois pales. Ainsi motorisé, le Falco était un biplan très performant.



[Fiat CR.42 Falco aux couleurs de la Regia Aeronautica](#)

Robuste et très manœuvrant, avec un cockpit ouvert, il fut très vite apprécié de ses pilotes. Il remplaça même les Macchi C.200 Saetta du 4<sup>e</sup> Stormo, à la demande expresse des équipages. L'armement embarqué était cependant réduit à deux mitrailleuses frontales de calibre 7,7 mm (remplacées par la suite par des mitrailleuses de calibre 12,7 mm). En 1939, le Falco entrait à peine en service, mais le nombre d'appareils en service s'accrut progressivement. En juin 1940, 330 appareils étaient en service dans quatre stormi en Méditerranée et deux squadriglie en Afrique Orientale. Il constituait alors une part sensible du parc de chasseurs italiens en ligne. Les premiers combats aériens du Falco furent menés contre la chasse française, durant la dernière partie de la campagne de France, puis contre la Royal Air Force, lors de la bataille d'Angleterre. 50 Falco du Corpo Aereo Italiano furent envoyés effectuer des missions dans le sud de l'Angleterre. Mal préparés, mal équipés, les équipages italiens se firent décimer par les Hurricane. Trois squadriglie furent aussi engagés en Grèce. Au Moyen-Orient, les Falco obtinrent de meilleurs résultats, sur un terrain où les Britanniques n'avaient que des Gloster Gladiator à leur opposer. L'arrivée des Hurricane changea la donne. 51 Falco furent envoyés en caisse en Ethiopie, renforcer les 36 appareils des 212<sup>e</sup> et 213<sup>e</sup> Squadriglie. Ils furent assez vite détruits, non sans avoir causé des pertes sensibles à la RAF et à l'aviation sud-africaine. Dans le désert, les CR.42 furent équipés de filtre à sable, un équipement indispensable sur ce théâtre d'opération. Ces modèles particuliers reçurent la désignation Fiat CR.42AS. Ils demeurèrent en service dans les 5<sup>e</sup>, 15<sup>e</sup> et 50<sup>e</sup> Stormi Assalti jusqu'en novembre 1942. Face à des appareils alliés alourdis par leurs filtres, ils purent un temps obtenir quelques résultats. Certains appareils furent aussi engagés comme chasseurs de nuit, équipés de manière optimiste de projecteurs. Mais face à une chasse alliée de plus en plus efficace, les Falco furent rapidement relégués à des missions d'attaque au sol. Après l'armistice italien en septembre 1943, une partie des CR.42 encore en service fut saisi par les forces allemandes, et employés par la Luftwaffe, au sein des Nachtschlachtgruppen (NSGr.), et plus particulièrement du NSGr 9. Armés à cette occasion de bombes légères, ils effectuèrent de nombreuses opérations, notamment de nuit. On estime à 1780 appareils le nombre de CR.42 construits. D'autres pays ont engagés des Falco.

Au moins 34 CR.42 furent reçus par la Belgique, qui les perdit rapidement contre la Luftwaffe. La Hongrie les mit aussi en ligne sur le Front de l'Est. Enfin, la Suède en importa 72, désignés J 11, dont certains servaient encore en 1945 au remorquage de cibles.



The **Fiat CR.42 Falco** ("Falcon", plural: *Falchi*) is a single-seat [sesquiplane fighter](#) developed and produced by Italian aircraft manufacturer [Fiat Aviazione](#). It served primarily in the Italian [Regia Aeronautica](#) in the 1930s and during the [Second World War](#). The CR.42 was an evolution of Fiat's earlier [CR.32](#) fighter, featuring a more powerful [supercharged Fiat A.74R1C.38](#) air-cooled [radial engine](#) and aerodynamic improvements to its relatively clean exterior surfaces. The aircraft proved to be relatively agile in flight, a factor that had been attributed to its very low [wing loading](#) and a sometimes decisive tactical advantage. RAF Intelligence praised its exceptional manoeuvrability, further noting that "the plane was immensely strong",<sup>[4]</sup> though it was technically outclassed by faster, more heavily armed monoplanes.<sup>[5]</sup> While primarily used as a fighter, various other roles were adopted for some variants of the type, such as the *CR.42CN* night-fighter model, the *CR.42AS* ground-attack aircraft, and the *CR.42B Biposto* twin-seat trainer aircraft. During May 1939, the CR.42 entered service with the *Regia Aeronautica*; it was the last of the Fiat biplane fighters to enter front line service. By 10 June 1940, the date when Italy entered the Second World War, roughly 300 of the type had been delivered, which defended metropolitan cities and important military installations at first. By the end of 1940, the Falco had been involved in combat on various fronts, including the [Battle of France](#), the [Battle of Britain](#), [Malta](#), [North Africa](#), and [Greece](#). By the end of the war, Italian CR.42s had been used on further fronts, including [Iraq](#), the [Eastern Front](#) and the Italian mainland. Following the signing of the [Italian armistice with the Allies](#) on 8 September 1943, the type was relegated to use as a trainer by the [Italian Co-Belligerent Air Force](#), while some Italian CR.42s were seized by the Germans and used by the [Luftwaffe](#) to perform ground-attack operations. The CR.42 was produced and entered service in smaller numbers with the air forces of other nations, including Belgium, Sweden and Hungary. By the end of production, in excess of 1,800 CR.42s had been constructed, making it the most numerous Italian aircraft to be used during the Second World War.<sup>[6]</sup> Aviation author Przemyslaw Skulski has claimed that the fighter had performed at its best during its service with the Hungarian Air Force, specifically during its deployment against [Soviet](#) forces on the [Eastern Front](#) of the war, where it reportedly achieved a kill to loss ratio of 12 to 1.<sup>[7]</sup>

## Design and development

### Origins

During the late 1930s, while a new generation of [monoplane](#) fighter aircraft were already beginning to be introduced across the various air services of Europe, there was still a considerable time before they would be developed and available enough to assume total responsibility for strategic air power operations.<sup>[8]</sup> By the outbreak of the [Second World War](#) during September 1939, many powers still fielded biplanes amongst their air wings, such as the British [Gloster Gladiator](#) and the Italian CR.42. As such, even as the first flights of the latter were being conducted during 1939, despite an acknowledgement of its effective obsolescence, it was also recognised that such biplanes would likely make a valued contribution in plentiful second-line roles.<sup>[8]</sup> This pragmatic observation turned out to be correct as not only would the CR.42 be built in greater numbers than any other Italian fighter of the war, it would also see action on every front in which the [Regia Aeronautica](#) fought upon.<sup>[8]</sup> The CR.42 was basically an evolution of the design of the earlier [Fiat CR.32](#), which in turn had been derived from the [CR.30](#) series created in 1932.<sup>[8]</sup> During the [Spanish Civil War](#) of the mid-1930s, the *Regia Aeronautica* had employed the CR.32 and had reportedly accomplished significant successes using the fighter. The positive combat experience gave sufficient encouragement to the type's principal manufacturer, [Fiat Aviazione](#), for the company to produce a proposal for the development of a more advanced derivative of the design, incorporating the newly finalised [supercharged](#) Fiat A.74R1C.38 air-cooled [radial engine](#) and several other enhancements.<sup>[2]</sup> Key features of the fighter, which was designated as the CR.42, included its relatively clean aerodynamic exterior, a very strong structure, and a high level of maneuverability, a combination which had traditionally appealed to Italian pilots according to Cattaneo.<sup>[9]</sup> According to aviation author Gianni Cattaneo, both the proposal and the concept of a developed biplane was well received by the *Regia Aeronautica*, having placed a high value on the agility of the platform, confidence may have also been high due to prior wars in [Ethiopia](#) and Spain having been fought against relatively disorganised opposition, giving a somewhat deceptive impression of effectiveness.<sup>[10]</sup>

During its formal military evaluation, the prototype CR.42 was tested against the rival [Caproni Ca.165](#) biplane fighter, and was judged to be the superior design, although the Ca.165 was a more modern design which boasted a higher speed, albeit at the cost of maneuverability. During flight tests, it demonstrated its ability to reach a top speed of 438 km/h (272 mph) at 5,300 m (17,400 ft) and 342 km/h (213 mph) at ground level. Climb rate was 1 minute and 25 seconds to 1,000 m (3,300 ft) and of 7 minutes and 20 seconds to 6,000 m (20,000 ft).<sup>[2][11]</sup> During late 1939, by which time a major European war already seemed inevitable, the CR.42 was ordered for the *Regia Aeronautica*.<sup>[9]</sup> The type had been ordered as just a single element of the larger *R* plan, under which Italy was to procure 3,000 new fighter aircraft, such as the monoplane [Fiat G.50](#) and the [Macchi C.200](#), to equip and expand its air services. According to Cattaneo, at the outbreak of the Second World War, the CR.42 was considered to be the best biplane in service.<sup>[9]</sup> Although the age of the biplane was noticeably already coming to a close by this point, a number of other foreign air forces expressed considerable interest in the new fighter. Once quantity production had been established, a number of early Falcos were delivered to foreign customers, even to the extent of re-directing aircraft originally intended for delivery to the *Regia Aeronautica*; these customers included [Belgium](#), [Hungary](#) and [Sweden](#).<sup>[12][13]</sup>

### Further development

Soon after its introduction to service, Fiat developed a number of variants of the type. The *CR.42bis* and *CR.42ter* featured increased firepower, while the *CR.42CN* was a dedicated night fighter model, the *CR.42AS* was optimised for performing ground attack missions, and the *CR.42B Biposto* commonly served in a twin-seat trainer role.<sup>[14]</sup> Of these, the *Biposto*, which was furnished with a longer fuselage than other models to enable a second seat to be placed in tandem with the pilot, became the most extensively modified of all the CR.42 variants. Its length was increased by 68 centimeters over the standard fighter, to a total of 8.94 m; the height was 23 centimeters less. Empty weight was only 40 kilograms (88 lb) more, as the wheel fairings had been removed. Overall weight was 2,300 kg. Top speed was 430 km/h at 5,300 meters, only 8 km/h less. Up to 1945, a pair of machine guns were commonly fitted. About 40 aircraft were produced by Agusta and Caproni Trento.<sup>[15]</sup>



Fiat CR.42

In addition, various experimental configurations of the CR.42 was both studied and constructed for trial purposes. These included the *I.CR.42* (*Idrovolante*= seaplane) and the re-engined *CR.42DB*. Beginning in 1938, Fiat had worked on the *I.CR.42*, then gave the task to complete the project to CMASA factory in Marina di Pisa on the Tirreno sea coast. The only prototype was built in 1940. Tests started at the beginning of 1941, at the [Vigna di Valle](#) base, on [Lake Bracciano](#), north of Rome. Top speed was 423 km/h, range was 950 km while ceiling was reduced to 9,000 m. Empty weight went from 1,720 to 1,850 kilograms (3,790 to 4,080 lb), full weight from 2,295 to 2,425 kilograms (5,060 to 5,346 lb). The *CR.42DB* was an attempt to improve the type's performance by installing a [Daimler-Benz DB 601 V12 engine](#) of 753 kW (1,010 hp).<sup>[16]</sup> This prototype, MM 469, was flown by test pilot Valentino Cus in March 1941, over [Guidonia Montecelio](#), near Rome. During test flights, it demonstrated its ability to attain a top speed of 518 km/h (322 mph), as well as a maximum ceiling of 10,600 metres (34,777 ft) and a range of 1,250 kilometres (780 mi). The project was cancelled as the biplane configuration did not offer any advantages over contemporary monoplane fighter designs. Although this variant never went into production, to the present day, the *CR.42DB* has continued to hold the distinction of being the fastest biplane to have ever flown.<sup>[17]</sup> Historians are still not certain exactly how many *CR.42s* were manufactured. The most likely estimate is thought to be 1,819 aircraft in total, including the 63 *CR.42LWs* (51 according to some sources) produced under *Luftwaffe* control, and a further 140 fighters that were produced for the various export customers for the type.

## Design



A preserved Fiat CR.42

The Fiat CR.42 was a robust and relatively clean single-seat biplane [fighter aircraft](#); in spite of the biplane configuration of the aircraft, it was a modern, "sleek-looking" design, based around a strong steel and [alloy](#) structure. The CR.42 was furnished with fixed main [landing gear](#), the legs of which were attached to the underside of the lower wing stubs; both the legs wheels were enclosed within [streamlined fairings](#) for aerodynamic reasons.<sup>[18]</sup> The upper wing was larger than its lower wing, a configuration known as a [sesquiplane](#).<sup>[2]</sup> The aircraft proved to be exceptionally agile in flight, a characteristic which had been attributed to be a result of the fighter's very low [wing loading](#). The very strong structure of the fighter enabled pilots to perform virtually all manoeuvres.<sup>[11]</sup>

Shortcomings of the CR.42 included its slower speed in comparison to monoplanes, and a lack of armour, firepower and radio equipment.<sup>[9]</sup> The CR.42 was typically powered by a single [supercharged](#) Fiat A.74R1C.38 air-cooled [radial engine](#) which, via a gearing apparatus, drove a metal three-blade Fiat-[Hamilton Standard](#) 3D.41-1 propeller of 2.9 metres (9 ft 6 in) diameter.<sup>[2]</sup> During the aircraft's development, particular attention was paid to the design of the [NACA cowling](#) which accommodated the engine; the cowling featured a series of adjustable flaps for cooling purposes. The engine bay incorporated a [fire extinguisher](#) to be used in the event of a fire.<sup>[9]</sup> In terms of armament, the early CR.42s were outfitted with a single 7.7 mm and one 12.7 mm [Breda-SAFAT machine gun](#), which was installed in the decking of the upper fuselage and fired directly through the propeller. As per Italian tradition, a counter for the rounds fired was present amongst the cockpit's instrumentation.<sup>[9]</sup> The fuselage of the CR.42 was composed of a [welded steel](#)-tube triangulated framework built of [light-alloy](#) formers; while the forward fuselage was covered by metal panelling, fabric covered the exterior rear of the cockpit.<sup>[9]</sup> The rigidly-braced wings used a structure that was constructed mainly of light [duralumin](#) alloys and steel; the [leading edge](#) was metal-skinned while the rest of the wing's exterior was covered with fabric.<sup>[2]</sup> The upper wing, which was the only one to be furnished with [ailerons](#), was joined in the center and supported above the fuselage via an inverted 'V'-shaped cabane, while the lower wings were directly attached onto the [longerons](#) within the base of the fuselage. The tail unit used a [cantilever](#) arrangement, composed of a duralumin framework and fabric covering.<sup>[9]</sup>

### An Allied test pilot's opinion

Capt. [Eric Brown](#), RN, Chief Naval Test Pilot and C.O. of the Captured Enemy Aircraft Flight, tested the Falco of Sergente Pietro Salvadori that had landed on Orfordness beach, on 11 November 1940. He reported the CR.42 was "remarkably fast" for a biplane, with a top speed of 270 mph (430 km/h) at 12,500 ft (3,800 m). The Falco had a "marginal stability which is the mark of a good fighter". Moreover, it was "brilliantly manoeuvrable, an acrobatic gem, but under-gunned and very vulnerable to enemy fire".<sup>[18]</sup>

### Operational history

#### *Regia Aeronautica*



A Fiat CR.42 in [Regia Aeronautica](#) service.

During May 1939, the Fiat CR.42 entered operational service with the Regia Aeronautica; the 53° Stormo, based at [Turin Caselle Airport](#), was the first unit to be equipped with the type.<sup>[19]</sup> On 10 June 1940, the date on which Italy entered the Second World War on the side of Germany, roughly 300 aircraft had been delivered. Italy had delayed its entry into the war in order to better prepare itself for combat; through the period commonly known as the [Phoney War](#), the Regia Aeronautica activated many new squadrons and did all that was possible to speed up aircraft deliveries, including of the CR.42. Accordingly, further orders for the type were placed as a part of this expansion effort.<sup>[20]</sup> Upon Italy's entry into the conflict, the *Falchi* were principally tasked with the defense of Italy's cities and military installations alike, such as Regia Aeronautica airbases and [Regia Marina](#) (Italian Royal Navy) bases.

To some extent, the CR.42 continued to be used in this capacity right up until the signing of the [Italian armistice](#) with the [Allies](#). By 8 September 1943, the day on which Italy formally surrendered to the Allies, only around 60 of these aircraft were still in a flyable condition. By the end of the CR.42's production during 1942, a total of 1,784 fighters had been constructed. On numerous occasions, the *Falco* was engaged in dogfights against the British Gloster Gladiator, another biplane fighter, over [Malta](#), and later against the British [Hawker Hurricane](#) monoplane, sometimes resulting in unexpected successes. The maneuverability of the *Falco* was an aspect of particular concern to the RAF pilots that faced them. Aviation author Haining observed that: "A RAF Intelligence report in late October 1940 circulated to all pilots and their squadrons, with copies to Prime Minister, [Winston Churchill](#), and the War Cabinet, declared: 'The manoeuvrability of the CR.42s, in particular their capacity to execute an extremely tight half roll, has caused considerable surprise to other pilots and undoubtedly saved many Italian fighters from destruction.'"<sup>[21]</sup>

## Battle of France

On 13 June 1940, three days after entry of Italy into the war, 23 pilots from 23° *Gruppo* of 3° *Stormo* escorted a flight of ten [Fiat BR.20](#) bombers to bomb the French naval base of [Toulon](#). Later that day, they attacked French Air Force base of [Hyères](#), in the [Provence-Alpes-Côte d'Azur](#) region in southeastern France, hitting on the ground, approximately 50 enemy aircraft and destroying at least 20 of them.<sup>[22][23]</sup> Italian pilots from 151° *Gruppo* claimed the shooting down of a French [Vought V.156F](#). On the same day, a CR.42 from 82<sup>a</sup> *Squadriglia* (13° *Gruppo*) took off to intercept a reconnaissance aircraft, but it failed to make contact and crashed during its landing, killing the pilot.<sup>[22][24]</sup> On 15 of June, 67 CR.42s from the same units, plus 18° *Gruppo* (from 3° *Stormo*), attacked the airfields of Southern France. 27 biplanes from 150° *Gruppo* strafed the airfield of Cuers-Pierrefeu, between [Cuers](#) and Pierrefeu-du-[Var](#), with machine gun fire, causing around 15 V-156Fs to burst into flames.<sup>[22]</sup> Seven of the Fiats giving top-cover were intercepted by [Bloch MB.152s](#) (Bloch MB.151s, according to other sources) from A.C.-3 that shot down a *Falco* and forced another to land. Italian pilots claimed four French fighters.<sup>[25]</sup> Subsequently, Fiats attacked the airfields of [Le Cannet-des-Maures](#) and Puert Pierrefin, close to the border. This time the French fighter units reacted and the Fiats were attacked by [Dewoitine 520s](#) from G.C.III/6. *Regia Aeronautica* aviators claimed 8–10 air victories and many aircraft destroyed on the ground. Fiat pilots were credited with the downing of three Bloch and five Dewoitine fighters,<sup>[26]</sup> in exchange for the loss of five *Falchi*.<sup>[27][28]</sup> Following the Fall of France, an Italian air group of CR.42s and BR.20 bombers operated from Belgium during October and November 1940. This task force flew some offensive operations during the later stages of the [Battle of Britain](#), but incurred a high loss rate. Cattaneo speculated that the light losses experienced during the Battle of France had persuaded the *Regia Aeronautica* that the type was considerably more effective than it was against the modern frontline fighter aircraft that it would be coming up against, and thus had encouraged this brief deployment.<sup>[29]</sup> In the present day, the RAF Museum at Hendon, London has a CR.42 on static display from this time; this aircraft had reportedly force-landed in [Suffolk](#) with a broken oil pipe, with the pilot surviving.

## Malta

Over the skies of [Malta](#), the CR.42 encountered British Hurricanes for the first time on 3 July 1940. That day, Flying Officer Waters (P2614) shot down an [SM.79](#) bomber five miles (eight kilometers) off Kalafrana, but he was soon attacked in turn by the escorting *Falchi*, who badly shot up his aircraft. Waters crashed on landing and his Hurricane was written off.<sup>[30]</sup> The Hurricane pilots soon discovered that the Italian biplanes could often outmaneuver their aircraft and that this was a crucial factor in any dogfight against them. Pilot Officer Jock Barber remembered: "On my first combat, the 9 of July, I attacked the leader of a *Squadriglia* of *Falcos*, while [Flight Lieutenant] George Burges attacked an SM.79 bomber. When I shot the CR.42 at a range of 100 yards [91 meters], he did a flick-roll and went spinning down. I found myself engaged in dogfighting with the remaining CR.42s. This went down to about 10,000 feet [3,000 meters]; by then I had used up all my ammunition without much success, although I am convinced I got quite a few strikes on the leader in the initial combat. I realized pretty quickly that dogfighting with biplanes was just not on. They were so manoeuvrable that it was very difficult to get in a shot, and I had to keep diving and turning to keep myself from being shot down. George had by this time disappeared so I stuck my nose down and, with full throttle, was very thankful to get out of the way."<sup>[31]</sup> A week later, a dozen CR.42s from 23° *Gruppo* appeared in the sky over Malta for a reconnaissance.

Flight Lieutenants Peter Keeble and Burges scrambled to intercept them, and the resulting action greatly impressed the Malta defenders with the CR.42's maneuvering capability. Keeble attacked one CR.42 – probably the aircraft (MM4368) flown by *Sottotenente* Mario Benedetti of 74<sup>a</sup> *Squadriglia* that crashed, killing its pilot, but then came under attack himself by the *Falchi* of *Tenente* Mario Pinna and *Tenente* Oscar Abello. Keeble tried to dogfight with the Italians, but his engine was hit and his Hurricane dived into the ground at [Wied-il-Ghajnej](#), near [Fort Rinella](#), and blew up; he was the first pilot to be killed in action at Malta.<sup>[32]</sup> This was the first recorded air victory in the Second World War of the CR.42 against the Hurricane. Shortly after Keeble's loss, a meeting of all the pilots and senior staff was called to discuss the best ways of countering the agile CR.42. A suggestion was made that the Hurricane should put down a bit of flaps as this might enable it to turn with the CR.42, but the only realistic proposal was to climb above these aircraft to be in an advantageous position.<sup>[33]</sup> Nevertheless, Cattaneo noted that the Hurricane gradually proved itself to be superior to the CR.42.<sup>[34]</sup>

### Night fighter operations

As the war went on, the CR.42 had been superseded in the day fighter role by more advanced aircraft, but found a renewed niche performing the night fighter mission.<sup>[13]</sup> The *Falco* served as the main night fighter of the *Regia Aeronautica*, even though it was not equipped with [radar](#) and often lacked radio equipment. Some *Falco* night fighters were equipped with extended exhaust pipes to hide the exhaust flame. Additionally, 2 spotlights were fitted under the wings of some of the night fighters. The first night interception was performed on the night of 13–14 August 1940 by *Capitano* [Giorgio Graffer](#), when he located and opened fire on a British [Armstrong Whitworth Whitley](#) bomber that had been sent to attack [Turin](#). When his guns jammed, Graffer rammed the bomber before bailing out. The bomber had been badly damaged and subsequently crashed into the English Channel whilst attempting to return to its base.<sup>[35]</sup> One of the most successful night interceptions took place on the night of 25 August 1942. That day, in an attempt to oppose RAF night intruder missions that were hammering Italian airfields, the 4° *Stormo* borrowed four radio-equipped CR.42s, by 208<sup>a</sup> and 238<sup>a</sup> *Squadriglie* of the 101° *Gruppo Bombardamento a Tuffo*, based at [Abar Nimeir](#), to use them as night interceptors.<sup>[36][13]</sup> According to Cattaneo, the CR.42 achieved a degree of success as a night fighter, proving itself to be effective against RAF bombers that were bombing industrial targets throughout northern Italy during 1942.<sup>[13]</sup>

### Corpo Aereo Italiano



CR.42 fighter of 18° Gruppo, 56° Stormo after crash-landing near Lowestoft, Suffolk on 11 November 1940. The pilot successfully evaded three British [Hurricanes](#), but was forced down by a malfunction of his aircraft's [variable-pitch propeller](#)

In autumn 1940, *Regia Aeronautica* sent 18° Gruppo (of 56° Stormo) in Belgium with 83<sup>a</sup>, 85<sup>a</sup> and 95<sup>a</sup> *Squadriglia* equipped with CR.42s as part of the [Corpo Aereo Italiano](#), an independent air corps for operations against Great Britain.<sup>[37]</sup> On 11 and 23 November 1940, multiple CR.42s flew two raids against England. *Luftwaffe* aircraft frequently experienced difficulties in maintaining formation flight with the slower biplanes. Even though slower, with an open [cockpit](#), many units lacking radio, and armed with only a pair of machine guns (a pair of 12.7 mm/.5 in or a combination of former and a 7.7 mm/.303 in Breda-SAFAT), the *Falchi* could easily outturn the Hurricanes and the Spitfires opposing it and usually proved difficult to hit. "The CR 42 turned to fight using all the aeroplane's manoeuvrability. The pilot could get on my tail in a single turn, so tightly was he able to pull round."<sup>[38]</sup> As the RAF intelligence report stated, the *Falchi* were hard targets. "As I fired he half rolled very tightly and I was completely unable to hold him, so rapid were his manoeuvres. I attacked two or three more and fired short bursts, in each case the enemy aircraft half-rolled very tightly and easily and completely out-turned me. In two cases as they came out of their rolls, they were able to turn in almost on my tail and opened fire on me."<sup>[39]</sup> Against British monoplanes, the CR.42s were not always outclassed; one Italian pilot's account is as follows: "I engaged one of the British fighters from a range of between 40 to 50 metres (131 to 164 ft). Then I saw a Spitfire, which was chasing another CR.42, and I got in a shot at a range of 150 metres (492 ft). I realised that in a manoeuvred flight, the CR.42 could win or survive against Hurricanes and Spitfires, though we had to be careful of a sweep from behind. In my opinion, the English .303 bullet was not very effective. Italian aircraft received many hits which did no material damage and one pilot even found that his parachute pack had stopped a bullet."<sup>[40]</sup> During the winter of 1940/1941, the CR.42s were transferred back to the Mediterranean theatre.<sup>[41]</sup>

## East Africa



A CR.42, 82a Squadriglia 13° Gruppo 2° Stormo. C. T., [Gambut airfield](#), September 1940

While flying the Falco in Africa Orientale Italiana (A.O.I), [Mario Visintini](#) became the top biplane fighter ace of the Second World War (having achieved 16 kills) and [Luigi Baron](#) and [Aroldo Soffritti](#) became the second and third Fiat CR. 42 top scoring aces, having made 12 and 8 air victories respectively.<sup>[42]</sup> Moreover, during that short and difficult campaign, the Fiat fighters were responsible for the destruction of a large number of RAF and [South African Air Force](#) (SAAF) aircraft, both in the air and on the ground, including a number of Hurricanes.<sup>[43]</sup> During 1940, three *squadriglie* stationed in [Italian East Africa](#) — [Ethiopia](#), [Italian Eritrea](#), and [Italian Somaliland](#) — were equipped with CR.42s. The 412<sup>a</sup> — the most experienced *Squadriglia* — was based in Gura (with the 414<sup>a</sup> *Squadriglia*) and in [Massawa](#). The 413<sup>a</sup> *Squadriglia* was in [Assab](#). Fighting there began in June 1940 and lasted until the autumn of 1941. The Italians met mostly British bombers and reconnaissance aircraft, destroying many of them. On 12 June 1940, 412<sup>a</sup> *Squadriglia* attacked nine [Vickers Wellesley](#) bombers from 47 Squadron above [Asmara](#), and *Tenente* Carlo Canella claimed the first CR.42 victory in East Africa, a Wellesley that was heavily damaged and forced to crash-land.

Two days later, the 412<sup>a</sup> *Squadriglia* again intercepted a pair of Wellesleys, this time from 14 Squadron, that were trying to bomb Massawa. *Tenente* Mario Visintini, for the first of his 16 air victories in East Africa, shot down the Wellesley flown by Pilot Officer Plunkett.<sup>[44][45]</sup> Dogfights usually occurred when enemy airfields were being attacked. But fierce air battles took place at the beginning of November 1940, during the British offensive against the Italian forts of [Gallabat](#) and [Metemma](#), along the Sudan border. The *Regia Aeronautica* was dominant in these fights, sometimes even against more powerful opponents. The most successful day was on 6 November when the CR.42s achieved seven confirmed victories against the Gladiators, for no losses.<sup>[46]</sup> In the air duels fought during 1940, losses however were also suffered: at least six Fiats were destroyed and about a dozen damaged.<sup>[47]</sup> Operations involving the CR.42 were typically hampered by wider logistical issues; the Royal Navy had prevented Italian supplies reaching East Africa and aerial transportation alone proved to be insufficient.<sup>[48]</sup>

## North Africa

It was on the [North African](#) front that the CR.42 was most extensively used.<sup>[29]</sup> At the beginning of the war in [Italian North Africa](#), there were 127 CR.42s from the 13° *Gruppo* (2° *Stormo*) at [Castel Benito](#) and from the 10° and 9° *Gruppo* of 4° *Stormo* in [Benina](#), including reserve aircraft. According to some historians, it was in the North African theatre that the CR.42 performed at its best.<sup>[2]</sup> Experienced Italian pilots, the majority of them being veterans of the Spanish Civil War, employed the exceptional manoeuvrability of the CR.42 to great effect, enabling successful attacks against RAF Gladiators, Hurricanes and Spitfires and often forcing their opponents "...to adopt the tactic that Messerschmitt pilots had used against them: to avoid dogfights and to attack them with sudden dives."<sup>[49]</sup> Initially, the Falco was pitted against the contemporary Gloster Gladiator and [Hawker Hart](#) (the latter being operated by the South African Air Force) biplanes,<sup>[49]</sup> as well as the [Bristol Blenheim](#) fast bombers of the RAF, opposing which they were able to achieve a measurable level of success. On 29 June, a group of CR.42s from 2° *Stormo* scrambled to intercept an inbound formation of Blenheims, estimated as totalling nine aircraft, that were in the process of bombing the airfield of [Tobruk](#) T2. During the ensuing engagement, the Italian pilots claimed to have shot down six of the British bombers, probably from No.113 Squadron, which that day reported as having lost three aircraft.<sup>[50]</sup>



A wrecked CR.42 at Bardia, 1940

On 8 August 1940, in an aerial duel between comparable rivals, a flight of 16 CR.42s from 9° and 10° *Gruppi* of 4° *Stormo* were "bounced" by 14 Gladiators of [No.80 Squadron RAF](#) over Gabr Sàleh (about 65 kilometres southeast of [El Adem](#) and 35 kilometres east of Bir El Gubi). Four of the CR.42s were shot down while four more were force-landed and later recovered. In return, the Italian pilots claimed to have downed five Gladiators in the [dogfight](#) (three shared amongst the pilots of 10° *Gruppo* and two shared by the 73<sup>a</sup> *Squadriglia* pilots) along with two probables (the 90<sup>a</sup> *Squadriglia*'s Diary reported six victories), with two Gladiators actually lost (one pilot for each side was killed in action), but the combat was a nasty day for the best unit fielded in North Africa. 4° *Stormo* was the mainstay of Italian fighter force in Africa, and its 73<sup>a</sup> *Squadriglia* was the best unit, yet that day lost five CR.42s (included the ones eventually recovered).<sup>[51]</sup> That air combat highlighted the advantages of the Gladiator over the CR.42, especially radio equipment that could permit coordinated attacks, and the Gladiator's superior low altitude overall performance, with a markedly superior horizontal manoeuvrability over the *Falchi*.<sup>[51]</sup> The Gladiator was viewed as being superior to the Fiat in regards to its combat equipment also. The 12.7 mm Breda-SAFAT could fire an effective explosive bullet, but the Gladiator's Brownings were able to shoot 2.5 more rounds per second than the synchronized Italian machine guns. However, the CR.42 was capable of superior performance; it was much faster at about 3,000 feet (900 m) thanks to its smaller wing area, constant-speed propeller and the superior power of its engine, which could provide up to 960 horsepower (720 kW) for short periods at emergency rating.<sup>[52]</sup> The overall exchange ratio between CR.42 and Gladiator is difficult to assess, but Håkan Gustavsson and Slongo rated the Gladiator with an advantage about 1.2–1.9:1.<sup>[53]</sup>



Wrecked fighters in a destroyed hangar at [Tripoli-Castel Benito Airport](#), [Tripoli](#), [Libya](#), early 1943

Eventually, on 31 October 1940, the *Falchi* scored their first confirmed air victories in [North Africa](#) against the Hawker Hurricane. During the air battle over [Mersa Matruh](#) Sergente Maggiore Davide Colauzzi and Sergente Mario Turchi from 368<sup>a</sup> *Squadriglia*, while escorting SM.79 bombers, shot down the Hurricanes of [33 Squadron](#) that were flown by 26-year-old Canadian Flying Officer Edmond Kidder Leveille (RAF no. 40837) – who was forced to bail out but was killed when his parachute failed to deploy completely – and Flying Officer Perry St Quintin (Hurricane P3724), who made a forced landing at [Qasaba](#) with a holed fuel tank.<sup>[50]</sup> Notwithstanding these successes, it became increasingly evident that the Fiat CR.42 was unable to operate effectively against the more modern monoplanes of which increasingly larger numbers were being fielded.

Over time, the type was able to rely only on its considerable manoeuvrability and *Regia Aeronautica* piloting skills as potential advantages against its opposition. Italian losses were, however, stemmed when the more advanced [Macchi C.200](#) and the [Messerschmitt Bf 109](#) and [Messerschmitt Bf 110](#) of *Luftflotte 4*, arrived in the theatre during April 1941. The CR.42s were progressively relegated to performing ground-attack operations instead, leaving interception duties to the more capable monoplanes.<sup>[54]</sup>

### Greece

The Fiat CR.42 was the main *Regia Aeronautica* front-line fighter when the [Greco-Italian War](#) broke out during late 1940. Sixty-four *Falcos* (out of 179 fighters) were deployed in air bases in [Albania](#): in [Drenovë \(Korçë\)](#), with 160° *Gruppo* and in [Tirana](#), with 363<sup>a</sup>, 364<sup>a</sup> and 365<sup>a</sup> *Squadriglie* of 24° *Gruppo*.<sup>[55]</sup> In Greece, on the whole, the fighting was fairly difficult for the *Falco* pilots, despite an overinflated claim to have achieved a ratio kill/losses of 5.6 to 1. The *Regia Aeronautica* coped with [Royal Hellenic Air Force](#)'s (RHAF) obsolete reconnaissance aircraft, such as the [Breguet Br.19](#), without any problems, but had significant difficulties dealing with the Greek fighters such as the [PZL P.24](#), the [Bloch MB.151s](#) and the *Gloster Gladiator*, the Italians suffering losses at a higher rate than they were achieving themselves, losing over 68 aircraft and shooting down just 20 in return.<sup>[56][57]</sup> Two days after the start of the war, on 30 October, there was the first air battle. Some [Henschel Hs126s](#) of 3/2 Flight of 3 Observation *Mira* took off to locate Italian Army columns. But they were intercepted and attacked by Fiat CR.42s of 393<sup>a</sup> *Squadriglia*. A first Henschel was hit and crashed, killing its observer, [Pilot Officer](#) Evangelos Giannaris, the first Greek [aviator](#) to die in the war. A second Hs 126 was downed over [Mount Smolikas](#), killing Pilot Officer Lazaros Papamichail and [Sergeant](#) Constantine Yemenzis. The first CR.42 victories were credited to Fernando Zanni and Walter Ratticchieri.<sup>[58]</sup> On 4 November 1940, three CR.42s jumped three RHAF Breguet from 2 *Mira*, sent to attack the [3rd Julia Alpine Division](#) retreating from a mountain pass near [Metsovo](#). A Breguet was shot down, one crash-landed and the third returned to base, though badly shot up.<sup>[59]</sup> At the beginning of November, the Greeks received support by the Royal Air Force and on 4 November six [Vickers Wellingtons](#) from [70 Squadron](#) attacked [Valona](#). CR.42s pilots shot down two British bombers and damaged two more.<sup>[58]</sup> Fortunes started to reverse, on 18 November, the first day of Greek army counter-attack. While a CR.42 shot down a Greek [Bristol Blenheim](#), during a dogfight with Greek fighters, 393<sup>a</sup> *Squadriglia* damaged four PZL P.24s but lost three Fiats.<sup>[58]</sup> On the same day, a flight of 20 *Gladiators* from RAF [80 Squadron](#) landed in Athens.<sup>[60]</sup> While deployed in North Africa, the CR.42 pilots had been able to achieve a clear superiority over the *Gladiators* but in Greece, they suffered more heavy losses. The superiority of the *Gloster* was achieved in part as a result of its enclosed cockpit, which was an advantage when operating in the cold winter sky, while the R/T radio allowed for the adoption of more effective tactics that made it possible to ambush the Italian CR.42 formations, as well as the superior quality of the British aces of 80 Squadron, commanded by [Marmaduke Pattle](#). The majority of the Italian pilots shot down and killed in Greece were new arrivals, fresh from flying schools; these pilots frequently insisted on direct engagements against the more manoeuvrable British biplanes, leading to unfavourable dogfights.<sup>[61]</sup> In the Greco-Italian War, CR.42 pilots claimed 162 kills, for the loss of 29 aircraft. By July 1943, CR.42s were still equipped by 383<sup>a</sup> *Squadriglia Assalto* (Ground Attack Squadron) based in Zara and in September 1943, by 392<sup>a</sup> (in Tirana) and 385<sup>a</sup> *Squadriglie Autonome*.<sup>[62]</sup>

### Iraq

During April 1941, [Rashid Ali](#) led a [pro-Axis coup in Iraq](#). In response, British Army units began moving into the area to quell the rebellion, many of which made landfall near [Basra](#).<sup>[63]</sup> Germany and Italy dispatched support to Ali's forces in the form of [Messerschmitt Bf 110s](#), [Savoia-Marchetti SM.79s](#) and CR.42s, which were quickly put into action against the British. The *Regia Aeronautica* sent 155<sup>a</sup> *Squadriglia* (named *Squadriglia speciale Irak*) equipped with the improved CR.42 *Egeo* version, which was furnished with a radio set and a 100-litre auxiliary tank, the latter of which increased the fighter's operational range (typically 800 km at 380 km/h) up to 1,100 km at economical speed. In Iraq, the *Regia Aeronautica* was only operational for four days (28–31 May 1941), during which their aircraft were reportedly painted in Iraqi colours.<sup>[64]</sup> On 22 May 1941, a flight of CR.42s took off from [Alghero](#) and flew up to 900 km to [Valona](#) (one of which crashed on landing), [Rhodes](#), [Aleppo](#) and [Mosul](#).

A total of 11 Fiat biplanes flew together with a single SM.79 and a [SM.81](#), which served as "pathfinders" and transport aircraft, while a further three SM.82s transported weapons for the campaign. On 23 May, the Italian aircraft arrived in Iraq. Six days later<sup>[65]</sup> (on 28 May according to other sources), the CR.42s, in what was to prove the final air-to-air combat of the brief campaign, intercepted and engaged a formation of RAF Blenheims, [\[N.1\]](#) claiming two [No. 94 Squadron](#) Gladiators, with the loss of one CR.42 shot down by a Gladiator flown by Wg Cdr Wightman, close to Khan Nuqta.<sup>[65]</sup> Three of the CR.42s were damaged during combat and were subsequently abandoned in Iraq. The seven survivors of the engagement were withdrawn with great difficulty, since the SM.79 "pathfinder" had been destroyed on the ground by the RAF, despite being located further away at Aleppo airfield, Syria. The Axis effort to reinforce the Iraqi insurgents was insufficient and the coup had quickly been put down; however, this contributed to the decision to invade Syria that resulted in a substantial diversion during an already critical moment for the Allies. While retreating, 164<sup>a</sup> *Squadriglia* CR.42s were used to defend Pantelleria.<sup>[64]</sup>

## Royal Hungarian Air Force

The first foreign purchaser of the CR.42 was the [Royal Hungarian Air Force](#) (MKHL), which placed orders for 52 aircraft during mid-1938. The [Hungarians](#), while aware that the CR.42 was conceptually outdated in comparison to the newer generation of monoplanes, had considered the rapid re-equipment of their fighter component to be of vital importance.<sup>[66]</sup> Additionally, the Italian government had expressed its willingness to forgo CR.42 delivery positions in order to expedite the re-equipment of the Hungarian units. By the end of 1939, a total of 17 CR.42s had been delivered to Hungary, where they were promptly issued to 1. *Vadász Ezred* (1st Fighter Wing), which began conversion from the earlier CR.32. Its two groups of two squadrons, 1./I *Vadász Osztály* (Fighter Group) at Szolnok and the 1./II *Vadász Osztály* at Mátyásföld, Budapest, received their full complement of fighters during mid-1940.<sup>[67]</sup> Some of the CR.42s in Hungarian service were armed with a single 12.7 mm (0.50 in) [Gebauer GKM Machine Gun 1940.M](#) (*Gebauer Kenyszermeghajtású Motorgeppuska*, or "Gebauer Positive-Driven Motor-Machine Gun"); these were fixed twin-barrel guns that were driven via the crankshaft of the aircraft's engine. In total, the MKHL ordered 70 CR.42s but, through a barter which included the exchange of a captured [Yugoslavian Savoia-Marchetti SM.79](#), they received an additional two CR.42s during 1941. The Hungarian CR.42s were first used in combat against neighbouring Yugoslavia during April 1941.<sup>[68]</sup> During the short conflict in the Balkans, the MKHL reportedly lost two of their CR.42s.<sup>[69]</sup> In mid-June, CR.42 fighters equipped several MKHL units: 1/3. 'Kör ász' F.S. and 1/4. 'Szent György' F.S. both based in [Budapest-Mátyásföld](#); 2/3. 'Ricsi' F.S. (in Bustyaháza) and 2/4. 'Repülő tör' F.S. (in [Miskolc](#)).<sup>[70][71]</sup> On 27 June 1941, Hungary declared war on the Soviet Union and, on that same day, Hungarian CR.42s received their baptism of fire when 2/3. Squadron escorted bomber formations against [Stanislau](#), today Ivano-Frankivsk, in Ukraine.<sup>[66]</sup> Ensign László Kázár was hit by Soviet anti-aircraft fire while strafing, leading to his crash landing behind enemy lines. On the same day, Sergeant Árpád Kertész, from the same unit, claimed the first victory, shooting down a Soviet reconnaissance plane. The 2/3. Squadron flew many sorties until the middle of July escorting bombers and strafing enemy airfields. They claimed six additional kills, losing a single aircraft on 12 July, when 2nd Lieutenant Győző Vámos collided in a dogfight with a Polikarpov I-16 and bailed out, surviving.<sup>[72]</sup> On 11 August, Hungarian Fiats escorted six [Caproni Ca.135s](#), commanded by Sen Lt Szakonyi, on their way to bomb a 2 km (6,560 ft) bridge across the [Southern Bug River](#) in the city of [Nikolayev](#), on the [Black Sea](#). On the way back the Capronis were intercepted by a flight of Soviet [Polikarpov I-16](#) fighters. The escorting Hungarian CR.42s shot down five I-16s while sustaining no losses amongst their own.<sup>[66]</sup> After the German 11th Army captured Nikolayev on 16 August, the commander of [Luftflotte](#) 4, Col Gen Lohr, decorated the successful Hungarian crews at Sutyska.<sup>[73]</sup> The Hungarian CR.42s were later used in the ground attack role against [Soviet forces](#) until December 1941. Although typically outclassed by more modern types, the Hungarian CR.42s scored 25 destroyed, one probable, one damaged (according to other sources<sup>[7]</sup> they claimed 24 plus two Soviet planes in the air) and one aircraft destroyed on the ground,<sup>[74]</sup> losing two planes to Soviet fighters.<sup>[7]</sup> For a time, the surviving CR.42s were relegated to training roles. During spring 1944, a night assault CR.42 Squadron was formed. These aircraft were equipped with flame dampers and bomb racks for the carriage of four 50 kg bombs; however, these planes were reportedly not used operationally. The majority of Hungary's CR.42s were lost in training accidents and strafing attacks by U.S. aircraft during 1944. It is believed that a single Hungarian *Falco* survived the war.<sup>[7]</sup>

## Belgian Air Force

During 1939, a mission from [Belgium's Aéronautique Militaire](#) purchased a batch of 40 CR.42s for a total price of 40 million francs.<sup>[75]</sup> On 6 March 1940, the first of these arrived in Belgium but was destroyed in a landing accident. The CR.42s were mainly delivered to the *Evere Établissements Généraux de l'Aéronautique Militaire*, which were responsible for their assembly. The first operational squadron, *11ème Group de Chasse* (Fighter Group) based at [Nivelles](#), received its full complement of 15 while other units still awaited further deliveries.<sup>[76]</sup> The exact quantity of CR.42s delivered to Belgium prior to the German attack on 10 May 1940 has been estimated by historians to fall between 24 and 27 aircraft, the last of which having been transported to France and lost in the railway station at [Amiens](#). However, photographic evidence suggests that the total number of CR.42s delivered was 30. On 9 May, squadrons operating the *Falchi* were the 3rd "Cocotte rouge", with 14, and the 4th, "Cocotte Blanche", with 11 aircraft. In addition to those, the planes of Major Lamarche and two others (R.21 and R.27) in a hangar at [Nivelles](#) were not serviceable, while another was at Airfield Number 41 with mechanical trouble.<sup>[77]</sup> The Fiat CR.42s were first to be blooded in [Belgium](#); after their initial encounters with the vastly superior Messerschmitt Bf 109 fighters of the [Luftwaffe](#), the entire contingent of Fiats was quickly overwhelmed, although the Belgian pilots fought with great skill. The Belgian CR.42s fought from the first day of the invasion, when they attacked a formation of attacking Ju 52s (from 17/KGzbV 5) in the [Tongeren](#) area, forcing one to crash-land near [Maastricht](#).<sup>[76]</sup> The Fiats were then jumped by the escorting Bf 109s from I./JG.1 but, thanks to their superior agility, managed to safely return to base. That day, the Belgian pilots claimed to have downed a further four German aircraft: three Do 17 bombers and a single Bf 109, while the Stukas of I./St.2 destroyed no less than 14 CR.42s at Brustem airfield.<sup>[78]</sup> In a total of 35 missions flown, the CR.42s downed at least five and probably even eight<sup>[79]</sup> enemy aircraft including a [Dornier Do 17](#), [Junkers Ju 52](#) and the vaunted Bf 109 for a loss of two of their own. The only two confirmed Bf 109E losses were scored by Charles Goffin.<sup>[80]</sup> After capitulation, the five surviving Fiat CR.42s were brought into a French Air Force depot in Fréjorques, where they were later found by the Germans.<sup>[79]</sup> Their final fate is not known.<sup>[76]</sup> Overall, the total claims made by Belgian CR.42 pilots were: eight Do 17, four Bf 109 and a single Ju 52.<sup>[81]</sup>

## Swedish Air Force



Preserved CR.42 in Swedish Air Force markings

Sweden was the largest export customer for the CR.42.<sup>[13]</sup> The [Swedish Air Force](#) purchased various types of Italian combat aircraft during 1939–1941, as an emergency measure enacted in response to the outbreak of the Second World War. As a consequence of the war, no other nations were willing to supply fighter aircraft to a small neutral country, while Sweden's domestic production would be insufficient until at least 1943. Between February 1940 and September 1941, Sweden received a total of 72 CR.42s; these fighters were equipped with radio sets, 20-millimetre (0.79 in) armour plate behind the pilot and ski landing gear for winter operations. The Swedish aircraft were designated **J 11**.<sup>[82][83]</sup> The J 11s were initially assigned to the F 9 wing, responsible for the air defence of [Gothenburg](#), but were transferred to the newly established [Bråvalla Wing](#) (F 13) in [Norrköping](#) in 1943 when F 9 received more advanced [J 22](#) fighters. The J 11s operating from [Kiruna](#), in the north of [Sweden](#), were equipped with a ski undercarriage. During the spring of 1942, the J 11s of 1. Division were transferred to [Luleå](#) airfield. The J 11s scrambled several times to intercept German aircraft that violated Sweden's borders, but usually failed to make contact with intruders.<sup>[66][66]</sup> The J 11s of 2. and 3. Divisions based in Gothenburg managed to intercept intruders a few times, forcing them to leave Swedish airspace.<sup>[84]</sup>



A Swedish Air Force J 11

During their service in Swedish Air Force, the CR.42 suffered many accidents, sometimes because of the poor quality of materials that had been used by the Fiat factory. By the end of 1942, eight fighters had been lost, while 17 more had followed by the end of 1943. In total, in excess of 30 CR.42s were lost due to accidents and mechanical failure.<sup>[85]</sup> Swedish pilots appreciated the J 11's formidable close-in dogfighting abilities;<sup>[86]</sup> however, they would often complain about the type's low speed, insufficient armament and the open cockpits that were unsuited for the severe climate of [Scandinavia](#).<sup>[85]</sup> By 1945, the Swedish CR.42s were considered to be obsolete.<sup>[87]</sup> By 14 March 1945, the remaining J 11s of the F 13 wing were decommissioned for good by the Swedish Air Force. A total of 19 aircraft were sold to a civilian contractor, *Svensk Flygtjänst* AB, who used 13 of them as target tugs for at least one season,<sup>[66]</sup> although the type was not well suited for the role. Another six J 11s were delivered to *Svensk Flygtjänst* AB as a source for spare parts. Secondhand aircraft were given Swedish civil registrations. The last J 11 was removed from the register during 1949. A single surviving Swedish "Falco" was preserved.<sup>[85]</sup> It was stored at the F 3 wing; the aircraft had been deliberately "hidden away" with the intent of it being displayed in a future museum. Number NC.2453, marked as 9 9, is today on permanent static display in the Swedish Air Force Museum ([Flygvapenmuseum](#)) in [Linköping](#).<sup>[85]</sup>

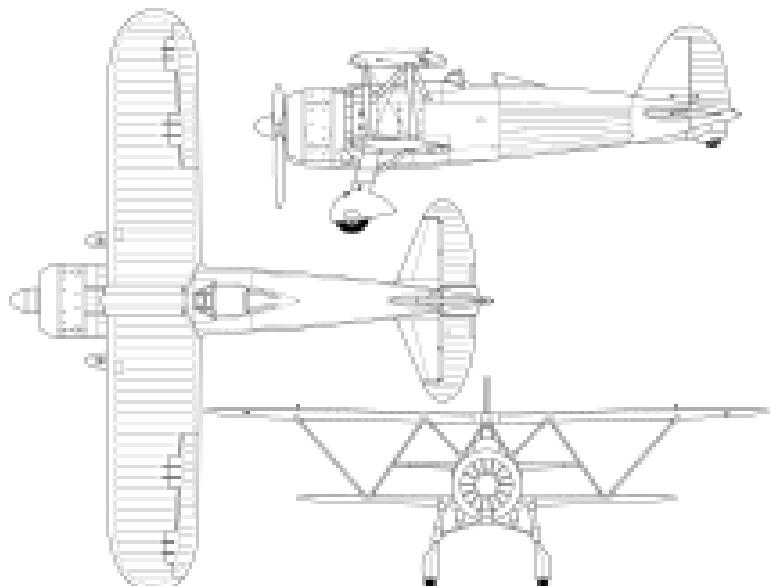
## **Luftwaffe**

Shortly following the announcement of the [Italian armistice](#) of 1943, the *Luftwaffe* took over the majority of Regia Aeronautica aircraft. Among these aircraft were a number of CR.42s.<sup>[88]</sup> German Rüstungs- und-Kriegsproduktion Stab took control of Italy's northern aircraft industry; consequently, an order for 200 CR.42LW (LW=*Luftwaffe*) was placed with Fiat for use by the *Luftwaffe*. In German service, the type was used to conduct nighttime harassment operations and anti-partisan roles.<sup>[66]</sup> A number of the captured Fiats were allocated to training divisions as well. The CR.42 was nicknamed "*Die Pressluftorgel*" or "the Pneumatic Organ" by *Luftwaffe* trainee pilots, presumably because of its profusion of pneumatic systems.<sup>[89]</sup> One of the German units to use the CR.42 was *Nachtschlachtgruppe* (NSGr.) 9, based in [Udine](#). It was tasked with fighting against partisans in the region of the [Alps](#), [Istria](#) and [Croatia](#). During November 1943, the 1. *Staffel* received its *Falchi* and, in January 1944, the unit was transferred to the airfield at [Caselle](#), near [Turin](#), to operate against partisan units in the vicinity of the Southern Alps. On 28 January, the 2. *Staffel* was also equipped with the CR.42. The training of German pilots took place at a school in [Venaria Reale](#).<sup>[90]</sup> During February 1944, after news of the Allies' landing at [Anzio](#), 1. *Staffel* and 2. *Staffel*, based at [Centocelle Airport](#) in Rome, attacked Allied units in southern [Latium](#), which were conducted mostly during moonlit night raids. NSGr9 attacked enemy troops in the [Monte Cassino](#) area. The CR.42 proved to be useful as a light bomber at night, but subsequently NSGr9 began to be equipped with the Ju 87D. 2. *Staffel* kept using the Fiat biplanes until mid-1944. On 31 May, the unit still had 18 *Falchi*, 15 of which were operational.<sup>[90]</sup> As a consequence of Allied raids that damaged the Fiat factory in Turin, only 150 CR.42LWs were ultimately completed, of which 112 would reach operational condition.<sup>[91]</sup> Another German unit that used the type, both in Southern Italy and the Balkans, was *Jagdgeschwader* JG 107, which flew them as night fighters, fighter-bombers and fighter-trainers.<sup>[citation needed]</sup>

## **Last claimed biplane kill of history**

The CR.42LWs equipped to the newly formed 3./NSGr 7 in Zagreb, Croatia, in April 1944. By September 1944, 2. *Staffel* was transferred in Croatia too (at [Pleso](#)) and the Fiats later equipped 1. *Staffel* also, in [Graz](#), [Austria](#).<sup>[89]</sup> On 8 February 1945, ten *Luftwaffe* CR.42LWs of Stab and 2. *Staffel* of *Nachtschlachtgruppe* 7, took off from their base in [Agram-Gorica](#), Croatia, to strafe the airfield at [Grabovica](#), used by partisan forces. At the last moment, they were diverted to attack partisans northwest of [Sisak](#), during which they were attacked by a flight of American [P-38 Lightnings](#) of the 14th Fighter Group. The American fighters shot down three Fiat biplanes, but two of the P-38s did not return to base. One of them was claimed by a German pilot, but this kill was not confirmed. According to authors Håkan Gustavsson and Ludovico Slongo, the unidentified German pilot's claim is the last known claimed victory of a biplane to occur.<sup>[52][89]</sup> There is doubt regarding the claim. The 14th Fighter Group's unit history does not record any losses on this date by the 37th Fighter Squadron, which reported the engagement with the biplanes. The two aircraft which failed to return to base were reported as lost to ground fire during a ground sweep near Vienna, and were in the 48th Fighter Squadron.<sup>[92]</sup>

## **Specifications (CR.42)**



3-view drawing of Fiat CR.42

## General characteristics

- **Crew:** 1
- **Length:** 8.25 m (27 ft 1 in)
- **Upper wingspan:** 9.7 m (31 ft 10 in)
- **Lower wingspan:** 6.5 m (21 ft 4 in)
- **Height:** 3.585 m (11 ft 9 in)
- **Wing area:** 22.4 m<sup>2</sup> (241 sq ft)
- **Empty weight:** 1,782 kg (3,929 lb)
- **Gross weight:** 2,295 kg (5,060 lb)
- **Powerplant:** 1 × [Fiat A.74 R.C.38](#) 14 cylinder air-cooled radial piston engine, 627 kW (841 hp) at 3,800 m (12,500 ft) and 2,400 rpm
- **Propellers:** 3-bladed variable-pitch propeller

## Performance

- **Maximum speed:** 441 km/h (274 mph, 238 kn) at 6,100 m (20,000 ft)
- **Cruise speed:** 399 km/h (248 mph, 215 kn) \* **Landing speed:** 128 km/h (80 mph; 69 kn)
- **Range:** 780 km (480 mi, 420 nmi)
- **Service ceiling:** 10,210 m (33,500 ft)
- **Rate of climb:** 11.8 m/s (2,320 ft/min)
- **Wing loading:** 102 kg/m<sup>2</sup> (21 lb/sq ft)
- **Power/mass:** 0.28 kW/kg (0.17 hp/lb)
- **Take-off run:** 210 m (690 ft)
- **Landing run:** 340 m (1,120 ft)

## Armament

- **Guns:** \* 1x [Breda SAFAT](#) 7.7 mm (0.303 in) and 1x Breda SAFAT 12.7 mm (0.500 in) machine gun
  - Later 2 × 12.7 mm (0.500 in) [Breda SAFAT](#) machine guns, 400 rpg (most common).
  - plus 2 × 12.7 mm (0.500 in) machine guns in underwing fairing on some.
- **Bombs:** 200 kg (440 lb) on 2 × wing hardpoints



Source : [https://en.wikipedia.org/wiki/Fiat\\_CR.42\\_Falco](https://en.wikipedia.org/wiki/Fiat_CR.42_Falco)