

## MACCHI MC-205 VELTRO



L'entrée en guerre des Américains en décembre 1941 et les carences des chasseurs italiens par rapport à leurs adversaires alliés forcèrent le régime fasciste de Mussolini à rechercher un avion de chasse moderne. A ce moment précis, les seuls avions capables de tenir tête aux meilleurs appareils anglo-américains sont les quelques [Messerschmitt Bf-109](#) ainsi que les [Dewoitine D-520](#) saisis par la *Luftwaffe* et cédés gratuitement à la *Régia Aeronautica*. La plupart des appareils italiens sont alors incapables de soutenir un combat aérien face aux [Supermarine Spitfire](#) de la *RAF*. C'est dans ce contexte que la firme Macchi va réaliser ce qui sera probablement le meilleur chasseur italien de toute la Seconde Guerre mondiale : le **Macchi MC-205 Veltro**. Le constructeur utilisa la même méthode que celle qui avait conduit à la conception du [MC-202](#), à savoir la modernisation en profondeur d'un avion existant déjà. Pour cela les ingénieurs italiens prélevèrent un Folgore des chaînes de montage et remplacèrent son moteur Alfa-Roméo par un Fiat RA-1050, une copie assemblée sous licence du Daimler-Benz DB-605A du Messerschmitt Bf-109. Les premiers essais statiques démontrèrent la nécessité de revoir les systèmes hydrauliques ainsi que les volets et la gouverne de profondeur de l'avion. Après quelques modifications le nouvel avion, désigné **MC-205V Veltro** (lévrier en français), prit l'air pour la première fois. C'était le 19 avril 1942. Le **Macchi MC-205V** est un monoplan monomoteur monoplace reprenant quasiment la même disposition que le Folgore. Ses seuls points de distinctions sont sa motorisation et ses nouveaux volets. Par rapport à son prédécesseur le Veltro vole plus haut et plus vite. Des difficultés d'approvisionnement en pièces détachées des moteurs DB-605A conduisirent la *Régia Aeronautica* à ne recevoir ses **Veltro** qu'à partir de juin 1943. Dès leur entrée en service, ces avions firent merveille. Les services de renseignement alliés ne voyaient en cet avion qu'une nouvelle série de Folgore et non un appareil plus moderne. Les premières confrontations, notamment celle qui eut lieu contre les [Fulmar](#) du *Squadron 807* de la *RAF* en août 1943 tournèrent à l'avantage des Italiens. Une patrouille de cinq Veltro et trois Folgore tombèrent par surprise sur les chasseurs anglais au-dessus de la Tunisie. Quatre chasseurs Fairey furent envoyés au tapis tandis qu'un seul Folgore était perdu. Tous les coups au but italiens venaient des Veltro. Rapidement la *RAF* et l'OSS (services secrets américains) comprirent qu'ils avaient affaire à une machine totalement nouvelle. Après le 29 septembre 1943, date de l'armistice italo-américain, une demi-douzaine de **Veltro** rejoignit les forces cobelligérantes pour former l'embryon de l'*Aeronautica Nazionale Repubblicana* (ANR) pro-américaine. Ces Veltro volèrent de concert avec les [Bell P-39](#) et les Spitfire offerts par les Alliés. Les Alliés eurent de nouveau l'occasion de se frotter aux **Veltro** en janvier 1944 lors du débarquement sur Anzio. En effet, plusieurs [North American P-51D](#) de l'*USAAF* engagèrent le combat contre deux *Squadriglia* de Veltro restées fidèles au régime fasciste. A la grande surprise des américains les chasseurs italiens se montrèrent à la hauteur de leurs homologues d'outre-Atlantique. Les combats furent acharnés et huit chasseurs Macchi furent détruits contre cinq Mustang.

Dès lors les pilotes alliés reçurent l'ordre d'engager le combat en premier contre ces avions de plus en plus redoutés. Les qualités de l'avion commencèrent à éveiller l'intérêt de la *Luftwaffe* qui récupéra un lot de 45 avions afin d'équiper divers unités, principalement en Afrique du Nord et dans les Balkans, ayant perdus des avions contre les Alliés. De plus, un nombre grandissant de pilotes de la *Régia Aeronautica* faisaient défection avec leurs **MC-205V** pour rejoindre l'*ANR*. La production totale de **Veltro** atteignit le modeste nombre de 262 exemplaires, la fin des hostilités et les bombardements alliés ayant raison des chaînes de montage. Néanmoins, le Veltro avait fait plus que sa mission première, il avait réussi à redonner du courage aux excellents pilotes transalpins. Il est indéniable que cet avion est une des meilleures machines de la guerre en combat aérien, rivalisant même avec les stars que sont le Mustang ou le Spitfire. Le **MC-205V** a donné naissance à plusieurs sous-versions améliorées n'ayant pas dépassés le stade du prototype ou de la table à dessins. Les derniers Veltro italiens ont volé jusqu'en 1948, notamment sous les couleurs d'*Alitalia* la compagnie aérienne nationale. Ils remplissaient des missions d'entraînement avancé.





The **Macchi C.205 Veltro** (Italian: *Greyhound*) (also known as **MC.205**, "MC" standing for "Macchi Castoldi") was an Italian [World War II fighter aircraft](#) built by the [Aeronautica Macchi](#). Along with the [Reggiane Re.2005](#) and [Fiat G.55](#), the Macchi C.205 was one of the three "Serie 5" Italian fighters built around the powerful [Daimler-Benz DB 605](#) engine. The C.205 was a development of the earlier [C.202 Folgore](#). With a top speed of some 640 km/h (400 mph) and equipped with a pair of 20 mm cannon as well as 12.7 mm Breda machine guns, the Macchi C.205 *Veltro* was highly respected by Allied and Axis pilots alike. Widely regarded as one of the best Italian aircraft of World War II, it proved to be extremely effective, destroying a large number of Allied bombers.<sup>[2]</sup> The Macchi C. 205 proved capable of meeting fighters such as the [North American P-51D Mustang](#) on equal terms, which encouraged the [Luftwaffe](#) to use a number of these aircraft to equip one *Gruppe*.<sup>[3]</sup> While the C.205 was able to match the best Allied opponents in speed and maneuverability, it was introduced late in the conflict.<sup>[4]</sup> Due to the limitations of the Italian war economy, only a small production run was delivered before the end of the war. Like the Spitfire, the *Veltro* was tricky in its construction and slow to build.<sup>[4]</sup> Italy's highest-scoring ace, [Adriano Visconti](#), achieved 11 of his 26 credited victories in the few weeks he was able to fly the *Veltro*, with the top-scoring *Sergente Maggiore pilota* [Luigi Gorrini](#) shooting down 14 enemy aircraft plus six damaged with the C.205.<sup>[5]</sup>

### Design and development

In 1941, seeking to further improve the performance of the C.202 fighter, the [Regia Aeronautica](#) decided to license-build the German DB 605 1,100 kW (1,475 hp) liquid-cooled [supercharged](#) inverted V-12 engine in Italy, which Fiat produced as the RA.1050 R.C.58 *Tifone* (Typhoon). Fighter manufacturers were invited to enter versions of their designs using this engine as the *caccia della serie 5* ("series-5 fighter") and were provided with imported DB 605s for prototype use. All of the designs used the number 5 in the name, with the Macchi becoming the C.205 (instead of C.202bis or C.203). Macchi had used a licence-built [DB 601](#) engine in the C.202, an engine which was closely comparable in size to the later, more powerful DB 605. This meant that the C.202 airframe could be easily adapted for the DB 605. The C.205V *Veltro* first flew on 19 April 1942, and was considered a stop-gap measure with the definitive variant being the 205N *Orione* (N stood for "new").<sup>[6]</sup> In testing, the Fiat G.55 *Centauro* and Re.2005 *Sagittario* proved to be better performers at high altitude due to their larger wing area. In fact, the *Veltro* used the same wing as the earlier *Folgore* but its weight had increased from 2,350 kg (5,180 lb) to 2,581 kg (5,690 lb) and the [wing loading](#) from 140 kg/m<sup>2</sup> to 153.6 kg/m<sup>2</sup>. The *Veltro*'s performance was similar to German designs with their higher wing loading, and was at its best at medium altitudes where it could reach 642 km/h (399 mph). The C.205 *Veltro* was placed in production until the G.55 and the Re.2005 could become available.<sup>[6]</sup> The first 100 *Veltro Serie I* were only machine-gun-armed, but many were also fitted with the 20 mm [MG 151 cannon](#). There were no *Serie II* built, but 150 *Serie III* were ordered, which were fitted with wing cannons as a standard.<sup>[6]</sup> The necessity to re-engineer the forward fuselage was time-consuming but, after several months of delays, the "205N" was ready. The C.205N1 first flew on 1 November 1942, with armament consisting of a 20 mm cannon firing through the propeller hub, and four cowl-mounted 12.7 mm (.5 in) [Breda-SAFAT machine guns](#) for which it carried 300–400 and 1,400 rounds of ammunition respectively. This configuration allowed a higher ceiling but lower speed [629 km/h (391 mph)]. The better aerodynamics (with a longer and more streamlined rear fuselage) provided an advantage over the Macchi C.205V/MG151 [620 km/h (390 mph)].<sup>[6]</sup> The maiden flight of the second prototype, the C.205N2, took place on 19 May 1943, reaching 628 kilometres per hour (390 mph) during testing, which was marginally slower than the C.205N1 with a correspondingly longer time to reach its operational altitude. It was equipped with one engine-mounted 20 mm cannon, two wing-mounted 20 mm cannon and two fuselage-mounted 12.7 mm (.5 in) machine guns. The ammunition load comprised 600 or more 12.7 mm (.5 in) rounds and a maximum of around 900 20 mm rounds which was much heavier than that carried by the C.205N1 and more than that of the Reggiane and the Fiat which carried 490–550 and 650 20 mm rounds respectively. Although 1,200 aircraft were ordered, the design was abandoned due to the [Italian armistice](#). The N-series aircraft should have performed better than the C.205V but Macchi test pilot Guido Carestiato noted that their flying characteristics were inferior to the lighter and more agile C.205 *Veltro*. The later series also experienced overheating while climbing.<sup>[7]</sup>

## Design

The C.205, known initially as the C.202bis, was generally similar to the previous *Folgore*, although there were numerous differences in the [fuselage](#): the tail was larger, the [cockpit](#) and its hump were redesigned, the antenna mast was bigger and some modifications were made to the wings. Both the C.202 and C.205 had the port wing 8" longer than the starboard to compensate lift for engine torque. The C.205 was a single-seat, all-metal, [monoplane](#) fighter, intended primarily as an interceptor but with [ground attack](#) and escort capabilities. The long nose housed the DB605 engine which drove a three-blade, [constant-speed metal propeller](#), with the main [fuel tank](#) situated between the engine and the [cockpit](#). The [radiator](#) was located under the centre section of the fuselage beneath the cockpit while the short rear section housed the radio equipment, [oxygen](#) cylinder and an 80 L (20 US gal) reserve fuel tank. The wings were made of light aluminium alloys and steel, having two [spars](#) and three sections, housing two additional fuel tanks, and the fully retractable wide-set main [undercarriage](#) gear. Apart from the all-metal [flaps](#) in the inner wing, all the other control surfaces were metal-framed and fabric-covered. *Veltros* had [self-sealing fuel tanks](#), an armoured seat, and armoured windscreen as standard. The cramped cockpit possessed a limited field-of-view, but some examples were fitted with a rear-view mirror. The 827 kg/1,823 lb (normal) payload consisted of the fully equipped pilot (85 kg/187 lb), fuel (307 kg/677 lb), two Breda machine guns and two Mauser [MG 151/20 cannon](#) (60 and 84 kg/130 and 185 lb respectively), 740 rounds of 12.7 mm (.5 in) ammunition (76 kg/168 lb), 500 rounds of 20 mm ammunition (100 kg/220 lb), and other sundry items such as oil (33 kg/73 lb), oxygen cylinder (12 kg/26 lb) and radio equipment. Additionally, 100 L (30 US gal) fuel tanks or 160 kg (350 lb) of bombs could be carried on two underwing hardpoints.<sup>[6]</sup> Due to a lack of passenger transport aircraft, modifications were made to a C.205 to enable it to carry eight passengers in the belly of the fuselage and, among others, three pilots of 51° Wing (including Adriano Visconti) made the journey from Sardinia to Italy after the Armistice in this manner. *Veltros* originally had "tropical" pattern camouflage, with a sand brown base coat and irregular black-green lines all over their surface (referred to as "smoke rings"). Those in service with [Aeronautica Nazionale Repubblicana](#) were painted an overall dark green (nearly black), while others adopted a variation of the "tropical" pattern or carried a camouflage pattern based on the German "Splinter Pattern" consisting of RLM 74 and 75, Grey/Green over RLM 76 Blue.<sup>[8]</sup>

## Production

At the end of evaluation tests, the C.205 began series production, with a first order of 250 aircraft. The first C.205 left the factory in September 1942. Speed of production was very slow (about 12 machines per month),<sup>[9]</sup> because of shortage of engines and [strategic materials](#), and only in June 1943 did Macchi manage to complete the first batch of 100 fighters. It took until September before production reached 177 examples, of which 146 were delivered to [Regia Aeronautica](#) units.<sup>[10]</sup>

## Operational history



An Italian Macchi C.205 Veltro aircraft found on Catania airfield, Sicily (Italy)

The C.205 entered production only five months after its maiden flight and began reaching front line units in February 1943. At the end of April, the 1° *Stormo*, based in [Pantelleria](#), is the first unit to enter action with the C.205, on Mediterranean, escorting maritime and aerial convoys to and from [Tunisia](#). During their first sortie, 22 C.205 clashed with very good results against more numerous formations of [Curtiss P-40s](#) and [Supermarine Spitfires](#).<sup>[11]</sup> During the next few months, C.205s of the *Regia Aeronautica* were involved in several major engagements with some of the 4,000 Allied aircraft that were stationed in the Mediterranean at that time. At the end of May, because of the vulnerability of [Pantelleria](#), the 1° *Stormo* was moved to [Sigonella](#) airfield in [Sicily](#) and the minor airstrip of Finocchiaro, 15 km south-east of [Ragusa](#). On 8 June 1943, 15 C.205s of 1° *Stormo* escorted three torpedo bombers attacking Allied ships which were shelling Pantelleria's defenses.<sup>[11]</sup> At the end of June, the *Stormo* had no more serviceable *Veltros*. On 24 June, 1° *Stormo* left Sicily for [Osoppo](#), then later [Ronchi dei Legionari](#), and was replaced by 4° *Stormo*.<sup>[11]</sup> Few pilots returned to [Udine](#), while the remaining aircraft joined other units.<sup>[6]</sup> 4° *Stormo*, which had left Africa in January 1943, was re-equipped with Macchi C.202s and C.205s on the airfields of Campoformido (10° *Gruppo*) and [Bresso](#) (9° *Gruppo*). It was then moved to Rome-[Ciampino](#) airport. On 9 July 1943 (the eve of the [Allied invasion of Sicily](#)), 4° *Stormo* was based on the [Catania](#) plain, with a complement of 10 *Veltros* and 38 *Folgore*s (no Italian unit was equipped with *Veltros* alone). Later it received a batch of a further 10 C.205s. The Italian pilots flew as many as six sorties per day, but on 14 July, with the first Allied paratroopers landing on the Catania plain, 4° *Stormo* was forced to retreat to [Crotona](#) airfield in [Calabria](#) after setting fire to four or five damaged C.205s that could not be repaired in time.<sup>[11]</sup> 51° *Stormo* fought with some success over Sardinia (apart from the battle of 2 August), but sustained heavy losses, especially at the end of July and the beginning of August. 3° *Stormo* C.T., commanded by *Tenente Colonnello* Tito Falconi, also had the opportunity to fly the *Veltro* in combat. At the time it was based at [Cerveteri](#) airstrip, with the task of defending Rome, 83<sup>a</sup>, 85<sup>a</sup> and 95<sup>a</sup> *Squadriglia*, 18° *Gruppo* (of 3° *Stormo*) all received a number of C.205s.<sup>[11]</sup> Commander Falconi assigned them to the most eminent pilots: *Sergente Maggiore* [Luigi Gorrini](#), *Tenente* [Franco Bordini-Bisleri](#) and *Maresciallo* [Guido Fibbia](#).<sup>[12]</sup> 3° *Stormo* used the new type effectively to intercept American bombers and fighters in the skies over Latium.<sup>[11]</sup> "The Macchi fighter possessed some excellent qualities, and the Italian pilots made optimum use of the aircraft which had a maximum speed of 644 km/h (400 mph)."<sup>[13]</sup> One of the greatest British fighter pilots of World War II, Group Captain [Duncan-Smith](#) DSO DFC respected both the Macchi and the Italian airmen: In general the standard of flying of the Italian pilots was very high indeed, and in encounters with Macchi 205s particularly we were up against aircraft that could turn and dog-fight with our Spitfires extremely well.<sup>[14]</sup> Like its predecessors, the first *Veltros* were insufficiently armed, but the aircraft often performed well in combat. Guido Carestiatto said the C.205 was the "best Italian fighter that he knew". The C.205 ace Luigi Gorrini<sup>[15]</sup> scored 19 or 24 victories (in return, he was downed four or five times). Gorrini claimed 12 victories in July 1943, several of them with the *Veltro*.<sup>[16]</sup>

### Battle of Pantelleria



Regia Aeronautica C.205V with a North Africa dust filter.



1° Stormo received the first *Veltros* in time to fight over the southern Italian air base. In free-ranging patrols, the wing fielded 24 *Veltros* (around 1/10 of all those produced) and nine *Folgores* in an attempt to intercept enemy aircraft in the area. While patrolling between Cap Bon and Cap Mustafà on 20 April 1943, Italian fighters spotted a large enemy formation 35 km (22 mi) west of Pantelleria. The Italians started to close in to the aircraft of Nos. 1, 92, 417, and 601 SAAF Squadrons, which were flying at low level, but were surprised by six Polish pilots of 145 Squadron flying high cover. These were joined by other Spitfires, and the 33 Macchis found themselves in combat with up to 60 Spitfires (mainly Mk VCs, and possibly Mk VIIIs and IXs). The Italian pilots claimed 15 victories (one by *Maresciallo* Baschiroto, who fired 500 rounds), with 14 Spitfires downed in the sea and another over African soil. However, another analysis of this combat shows that the *Regia Aeronautica* pilots claimed a total of 17 aircraft on 20 April and claimed to have downed 15 Spitfires in this engagement; although Italian ground observers claimed to have seen 14 aircraft crash into the sea or onto land, only one Spitfire, flown by Flg Off Drecki of [145 Sqn](#), was heavily damaged. In return, three C.205Vs were lost. There is also a possibility that Bf 109s of I./JG77 were involved in this engagement.<sup>[17]</sup> Allied records report only two C.205Vs downed (*Tenenti* Andreoli and Fanelli), while another made an emergency landing near Cap Bon, and explains why some sources quote two losses and others three, but there is some doubt as to whether this aircraft, the only one to touch down on African soil, was a *Veltro* or a *Folgore*. At least one other Macchi was damaged, and the pilot wounded. Similarly, the Italian claims did not match any losses recorded in Allied squadron reports.

### Battle of Capo Pula

On 2 August 1943, two British [Beaufighters](#) were downed and the Italians sent a [CANT Z.506 Airone](#) aircraft escorted by four C.205Vs on a search-and-rescue mission. A group of P-40s attacked the Z.506, but despite the defence put up by the *Veltros*, one American fighter crashed into the Z.506 and both fell into the sea.<sup>[18]</sup> A USAAF search and rescue [PBY Catalina](#) mission was also mounted, escorted by 12 [P-38s](#). C.202 and C.205s of 51° Stormo, led by Ennio Tarantola, intercepted this flight. The Catalina was taken by surprise on the surface near the Sardinian coast, having broken a propeller blade in the heavy sea conditions. The Italians also claimed to have downed all 12 P-38s, whereas the Americans claimed three or four victories over the Axis fighters with no losses. Later records showed that only the Catalina and the C.202 of *Maresciallo* Bianchi, a close friend of Tarantola, had been shot down.<sup>[18]</sup> The two or three victories over P-38s claimed by Tarantola are not supported by any data available; however, no further SAR missions were made by Americans to search for the downed pilots. Except for a crewman killed by strafing, the crew of the Catalina was saved, thanks to a fast vessel of the [Royal Navy](#) whose captain was awarded the [DSC](#) for battling adverse sea conditions, coastal battery fire and enemy aircraft while rescuing the survivors.<sup>[18]</sup>

### Defence of Rome

In mid 1943, Gorrini obtained one of the three C.205s delivered to the 3° Stormo (the other two were assigned to other aces, *Tenente* [Franco Bordini Bisleri](#) and *Maresciallo* Guido Fibbia). In six weeks, during the *Difesa di Roma*, Gorrini became the top scoring C.205 pilot; by the Armistice, he had claimed three [Consolidated B-24 Liberators](#), three [Lockheed P-38 Lightnings](#) (three damaged), two [B-17s](#) and two Spitfires.<sup>[19]</sup> Given the shortage of modern aircraft, more advanced combat aircraft like the *Veltros* were usually given to the best flyers and most experienced pilots like Vittorio Minguzzi.<sup>[20]</sup>

### After the Armistice

At the time of the [Armistice between Italy and Allied armed forces](#) on 8 September 1943, the *Regia Aeronautica* had received 177 *Veltros*, but only 66 were still usable. Six of these flew to Allied airfields to serve with the [Italian Co-Belligerent Air Force](#).

### Aeronautica Nazionale Repubblicana

A total of 29 C.205s reached northern airfields and were used by the Italian Social Republic Air Force (ANR – *Aeronautica Nazionale Repubblicana*). Macchi produced the remaining 72 aircraft of the third series for the ANR before production was shut down by Allied bombing in May 1944. Statistics on aircraft production post-Armistice are unclear and incomplete. In general, C.205s fought well in RSI service: they were attached to units that had homogeneous equipment, or at least of comparable quality, and were guided by German radar stations. Though few in number, they achieved success in inflicting losses on Allied bombers and fighters.<sup>[6]</sup> The first air battle of the *Aeronautica Nazionale Repubblicana* – still with German insignia – took place on 3 January 1944.

The C.205s, guided by Italian ace *Capitano* Adriano Visconti, intercepted a formation of Boeing B-17 Flying Fortresses and their escort of Lockheed P-38 Lightnings bombing RIV factories in [Villar Perosa](#). On 24 January, the Macchi 205 were transferred to two bases in [Friuli](#). On 28 January, the C.205s, now with Italian markings, succeeded in shooting down a B-24 Liberator, their first four-engined American bomber. This air victory was credited to *Sergente* Marconcini, wingman of the ace Visconti.<sup>[21]</sup>

1° Gruppo, based in [Udine](#), was equipped with a few *Veltros*. According to one author:

At the start of February 1944, 1° Gruppo was transferred to a base on the outskirts of Reggio Emilia, with the task of attacking Allied four-engined bombers and the P-51s that escorted them. Dogfights with the aircraft that could be considered the best fighter of the time meant that the Italian pilots were hard pressed; however they were able to claim 58 Mustangs, though at a high price. At the end of May 1944, the number of C.205s of the ANR was so low that the unit had to be re-equipped with Fiat G.55.<sup>[22][23]</sup>

A few *Veltros* were also delivered to 3° Gruppo, based in [Vicenza](#), while further *Veltros* were scattered throughout other small units. *Regia Aeronautica* also had a poor opinion about the Macchi C.205N, plagued by overheating in the climb. The 1° Gruppo C.T. of the ANR, based at the Campoformido airfield, was equipped with C.205. Its first operation, on 3 January, began with a surprise blow right away: the Italian fighter pilots shot down four P-38 Lightnings. By 25 February, 1° Gruppo C.T. had reported 26 victories for nine losses. An extremely bitter aerial combat took place on 11 March. The Italians claimed 12 victories for themselves, but lost three of their own pilots, including 1st Lt Boscutti, who was killed by an American P-38 Lightning pilot after he had bailed out from his stricken fighter and was hanging from his parachute. On 18 March, 30 C.205s from 1° Gruppo C.T. and 60 Bf 109 from JG.77 joined combat with about 450 Allied bombers and their escorts, shooting down at least four enemy aircraft, but Corp. Zaccaria was killed while hanging from his parachute again by a P-38 pilot who fired at him from close range.<sup>[24]</sup> Allied bombing in April 1944 destroyed most of the Macchi and Fiat facilities bringing fighter production to an end. With the interruption of production, the Italians were forced to re-equip their three groups almost fully with Bf 109s, largely because the Germans were quick to offer some of their best models, including Bf 109G-6s and Bf 109K-4s. The Allies were less generous with the [Italian Co-Belligerent Air Force](#) (ICAF), and *Veltros*, including some upgraded C.202s, were slowly replaced with worn-out [P-39s](#) and Spitfires, but not before summer 1944.<sup>[25]</sup>

### In Luftwaffe service

Luftwaffe II. Gruppe of [JG 77](#) operated with requisitioned C.205Vs for two months, from October until December 1943,<sup>[26]</sup> when the German unit was re-equipped with new Bf 109s. Thus there are photos of C.205s with black crosses painted over the mid-fuselage Italian white stripe markings. The Germans were less enthusiastic about the C.205Vs, nor were they really impressed by the early evaluations in spring of 1943. There is mention in the KTB (History diary) on 25 November 1943 page: "the group has 23 Macchi, 11 are ready to fight. Macchi is fast and had a good flying characteristics, except for the tendency to lose control in sharp turns. The fighter is disadvantaged because its radio, while powerful, is far from reliable in action. Refueling and rearming process is slow and difficult, it takes much time to make the fighters ready. Today's mission was made with 17 Macchis, radio control problems caused delays, and the mission concluded without intercepting the enemy."<sup>[27]</sup> In the brief German use, *Veltros* had at least five losses by accidents, often caused by the inverted throttle used on Italian aircraft (In German and Allied fighters the "open throttle" position was forward, not back, and this was the source of several errors). The first losses occurred on 27 September 1943 near [Albenga](#). Two German pilots were killed and other wounded in these accidents. On the other side, it was recorded only one aerial combat in which Germans claimed at least one P-38 and two probable (1 December 1943).<sup>[27]</sup> After II.JG 77 was equipped with new Bf 109s, the C.205s were sent to Italian units. Some *Veltros* were ferried by [JG 53](#).

### In Croatian Service

A small batch of C.205s were in service with the [Air Force of the Independent State of Croatia](#), *Zrakoplovstvo Nezavisne Države Hrvatske* (ZNDH) in 1944, but the Croatian "Veltros" flew few sorties and were soon overwhelmed by the waves of Allied fighters that swarmed over Yugoslavian skies.

On 30 June 1944, three recently arrived Macchi C.205s, flown by Eastern Front veterans (Major Josip Helebrant, Oberleutenant Ljudevit "Lujo" Bencetic<sup>[28]</sup> and Feldwebel Bozidar "Bosko" Bartulovic<sup>[29]</sup>), along with three inexperienced pilots in Macchi C.202s, took off to intercept USAAF Fifteenth Air force bombers heading to bomb [Blechhammer](#), location of [Nazi Germany](#) chemical plants, prisoner of war (POW) camps, and [forced labor](#) camps. The Macchis attacked the USAAF bombers and their escorting fighters, 5th FS/52nd FG P-51 Mustangs over [Bjelovar](#), but five of the Italian-built aircraft were shot down both by the bomber's defensive fire and by the Mustangs. Only Bencetic – an ace with a final score of 15 kills<sup>[28]</sup> and his "Veltro" succeeded in returning to base at [Zagreb](#).<sup>[30]</sup> Helebrant and Bartulovic bailed out and survived the war, with a final score of, respectively, 11 and eight kills.<sup>[31]</sup>

## Postwar



Macchi C.205 Veltro in service with the postwar [Aeronautica Militare](#), around 1960.

During 1948–1949, Egypt received 62 refurbished C.205Vs,<sup>[32]</sup> of which 41 were converted from C.202 airframes. In May 1948, eight C.205V and 16 C.202 were upgraded and in February 1949, three brand new and 15 ex-MC.202, and in May another 10 MC.205 and 10 MC.202 were upgraded. This last contract was not finalized and, given the end of the [1948 Arab Israeli War](#) (1948–49), the fighters were delivered to [Aeronautica Militare Italiana](#) (AMI). Egypt also ordered 19 G.55s and Syria another 16, all new-built. The new *Veltros* were fully equipped, while the *Folgore* conversions were armed with only two 12.7 mm Breda machine guns. They were the lightest series of the entire production, and consequently had the best performance, but were seriously under-armed. A total of 15 Macchis were delivered to Egypt before the end of the [1948 Arab-Israeli War](#), seeing brief combat against the [Israeli Air Force](#).<sup>[33]</sup> Some Veltros, equipped with underwing bomb racks were used in ground-attack sorties against Israeli targets.<sup>[34]</sup> On 7 January 1949, a C.205 claimed an Israeli P-51D Mustang.<sup>[35]</sup> In return two or three Veltros had been claimed by IAF fighters by the end of the war in July, with another six under repair.<sup>[36]</sup> Israeli secret services reacted with a bombing in Italy, which at the time was supplying both Israel and the Arab states. On 15 February 1947, an SM.95 airliner was destroyed, possibly by sabotage, soon after takeoff from Rome. On board were an Egyptian princess, several politicians and an Italian intelligence officer. A subsequent bombing was at Venegono on 18 September 1948; one hangar was damaged by several explosive devices, destroying three MB.308 and one MC.205 in Macchi facilities. The hangar, not totally demolished, contained several Veltros destined for Egypt.<sup>[37]</sup> All the G.55s ordered by Egypt were armed with four Breda (12.7 mm) machine-guns, and they were brand new; 16 were single-seaters and three were twin-seaters. Syria ordered sixteen G.55A (all single-seaters). The last Veltros were delivered in 1951, the fighter serving mainly with No.2 Sqn until the mid-1950s.



The last batch, 20 Veltros (10 ex-MC.202, six Veltro sr.III and 4 sr.I) were assigned to AMI with deliveries continuing until 29 May 1951. The phasing out process was however swift, because the new Anglo-American jet fighters were available at a surprisingly low cost at the time of the official phasing out of the Veltro (around 1951), although the last MC.205 was phased out in 1955. The "Folgore" was stricken off register in 1948, with the exception of those C.202 airframes transformed into Veltros.<sup>[38]</sup>

### An Allied test pilot's opinion

Captain [Eric Brown](#), Chief Naval Test Pilot and commanding officer of the [Royal Aircraft Establishment](#)'s Captured Enemy Aircraft Flight, remembered how they were impressed when they tested the Veltro. "One of the finest aircraft I ever flew was the Macchi MC. 205. Oh, beautiful. And here you had the perfect combination of Italian styling and German engineering. I believe it was powered by a Daimler Benz DB 605. It was really a delight to fly, and up to anything on the Allied programme. But again, it came just before the Italians capitulated so it was never used extensively. And we did tests on it and were most impressed. The cockpit was smallish but not as bad as the Bf 109."<sup>[39]</sup>

### Survivors



Macchi C.205 at Vigna di Valle



Macchi M.C.205V Veltro (Greyhound)

Three Veltros survive today, one of which was restored to flying condition and participated in numerous aerial displays until the end of 1986.<sup>[42]</sup> All C.205s that are preserved are hybrids made up of parts of C.202s mixed with those of C.205s.<sup>[43]</sup> One, *MM.91818* (bearing the registration *MM 9327*<sup>[44]</sup>), is on display at the [National Museum of Science and Technology](#) in [Milan](#). Restoration was completed in 1981 by the Italian Air Force together with Fiat and Aermacchi.<sup>[45]</sup> Another two are on display at the [Museo storico dell'Aeronautica Militare](#) in [Vigna di Valle](#). *MM.9546* is displayed as a MC.205 and *MM.92166* is displayed as a MC.202.<sup>[43]</sup> In November 2006 the engine and cockpit of a crashed C.205 were found 8 meters underground, with the pilot still in his seat, in [Correzzola](#).<sup>[46]</sup> A C.205 replica can be seen outside Rome's [Palazzo dell'Aeronautica](#),<sup>[47]</sup> and another in Volandia Park and Museum of Flight at [Vizzola Ticino](#).<sup>[48]</sup>

## Specifications (C.205V)

### General characteristics

- **Crew:** 1
- **Length:** 8.85 m (29 ft 0 in)
- **Wingspan:** 10.58 m (34 ft 9 in)
- **Height:** 3.04 m (10 ft 0 in)
- **Wing area:** 16.8 m<sup>2</sup> (181 sq ft)
- **Airfoil:** root: [NACA 23018 \(modified\)](#); tip: [NACA 23009 \(modified\)](#)<sup>[50]</sup>
- **Empty weight:** 2,581 kg (5,690 lb)
- **Gross weight:** 3,408 kg (7,513 lb)
- **Max takeoff weight:** 3,900 kg (8,598 lb)
- **Powerplant:** 1 × [Fiat RA.1050 R.C.58 Tifone](#) V-12 inverted liquid-cooled piston engine, 1,100 kW (1,500 hp)
- **Propellers:** 3-bladed constant-speed propeller

### Performance

- **Maximum speed:** 642 km/h (399 mph, 347 kn) at 7,200 m (23,600 ft)
- **Cruise speed:** 400 km/h (250 mph, 220 kn)
- **Range:** 950 km (590 mi, 510 nmi)
- **Service ceiling:** 11,500 m (37,700 ft)
- **Time to altitude:** 3,000 m (9,800 ft) in 2 minutes 40 seconds
- **Wing loading:** 202.9 kg/m<sup>2</sup> (41.6 lb/sq ft)

### Armament

- **Guns:**
  - 2 × 12.7 mm (.5 in) [Breda-SAFAT](#) machine guns, 400 rpg, in the nose
  - 2 × 20 mm [MG 151 cannon](#), 250 rpg, in the wings
- **Bombs:**
  - 2 × 160 kg (350 lb)

Source : [https://en.wikipedia.org/wiki/Macchi\\_C.205\\_Veltro](https://en.wikipedia.org/wiki/Macchi_C.205_Veltro)