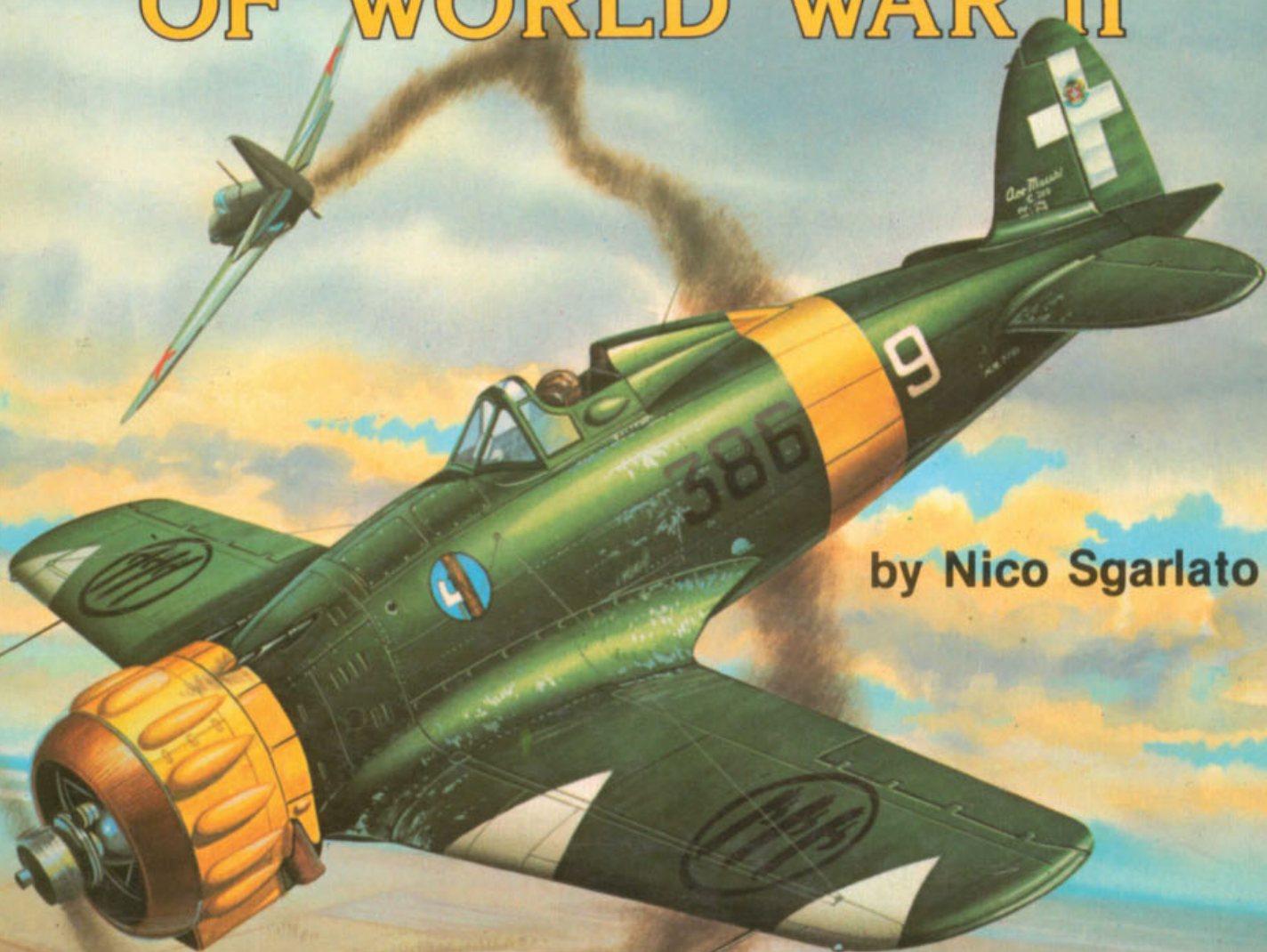


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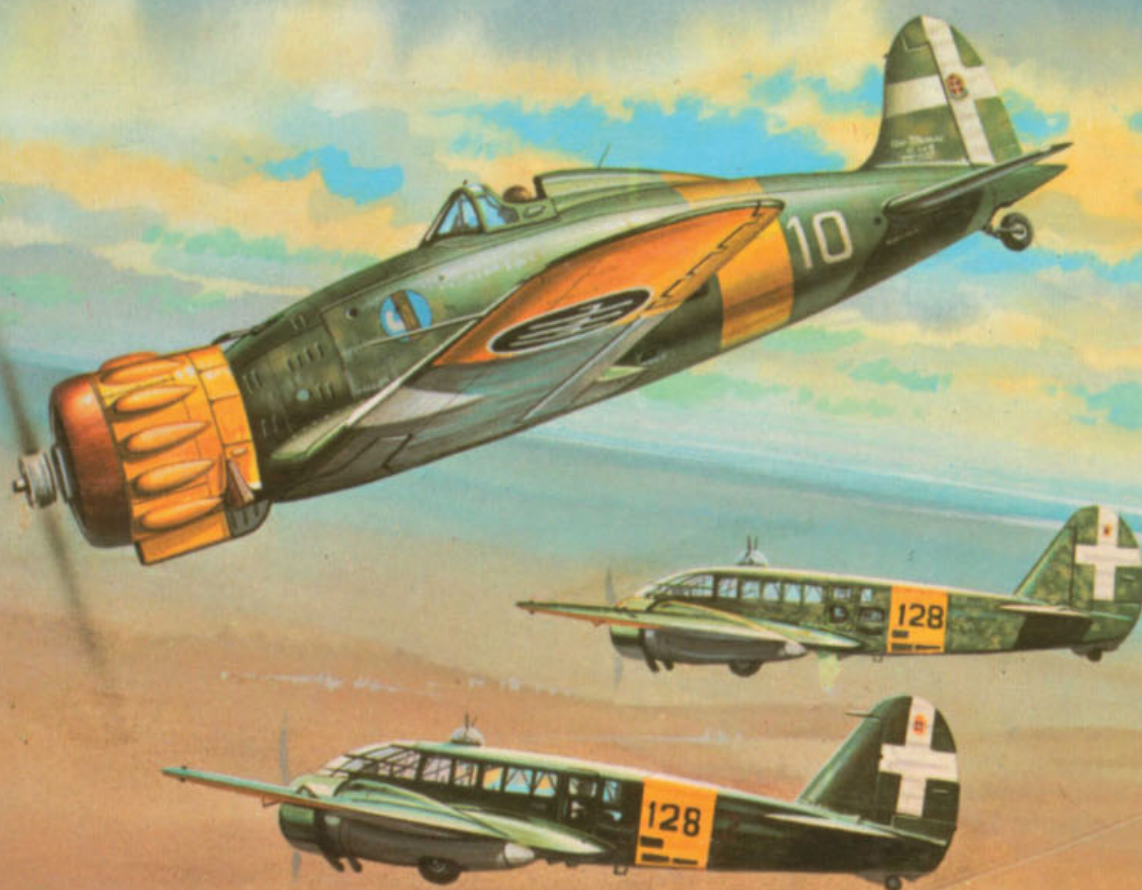
ITALIAN AIRCRAFT OF WORLD WAR II

by Nico Sgarlato



squadron/signal publications

ITALIAN AIRCRAFT OF WORLD WAR II — The Aircraft of the Regia Aeronautica, perhaps the most beautiful and fascinating of those of any combatant, are described in this unique volume. With color, drawings and numerous photographs, Nico Sgarlato tells the story of the Fiats, Macchis and others that carried Italian colors into the air over all European fronts.



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squadron/signal publications

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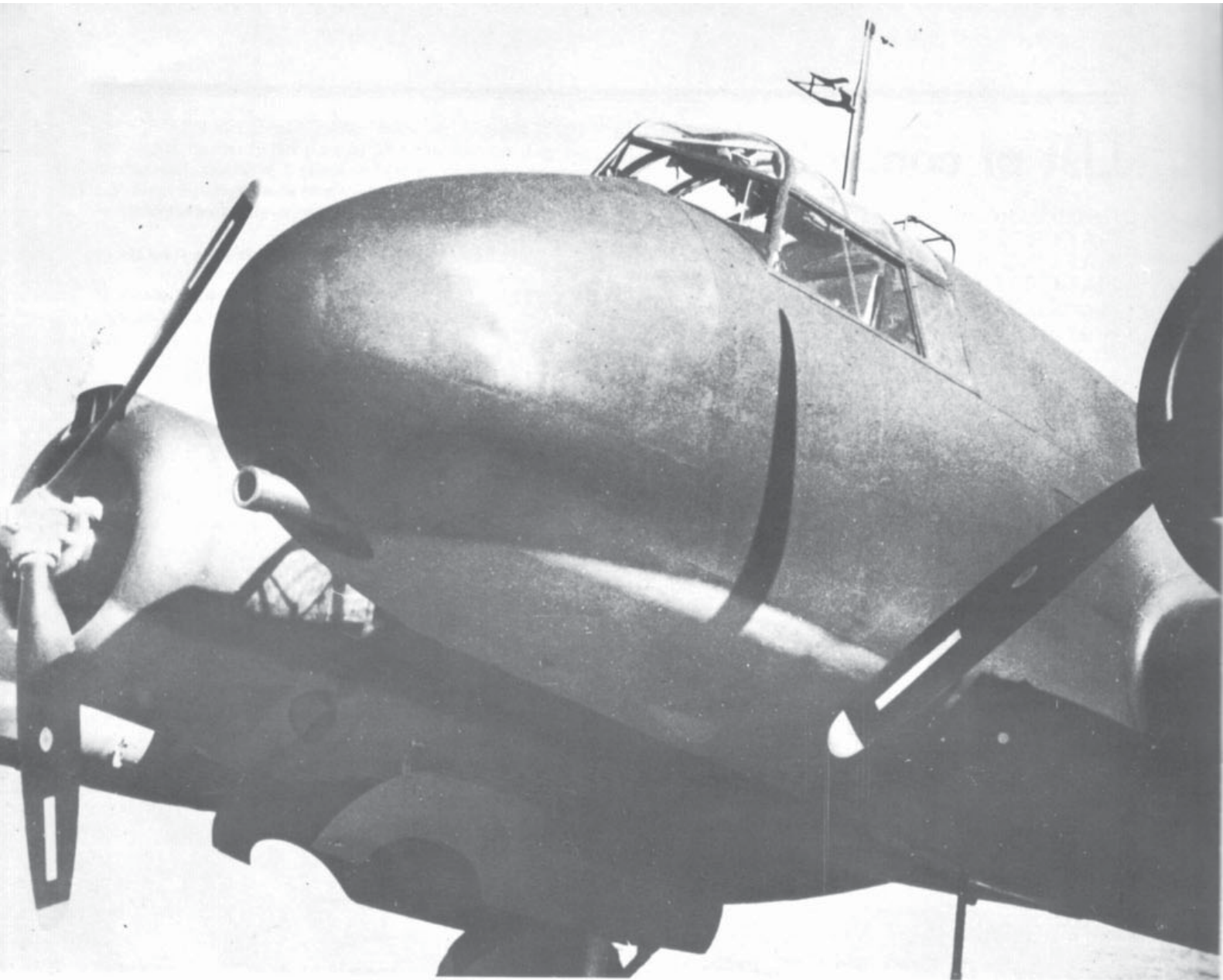
Alfonso Rigato

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The Piaggio P.108A, anti-ship version of the only Italian four-engined bomber.

INTRODUCTION

The *Regia Aeronautica* (Italian Air Force), which during the 1930's was one of the most powerful air forces in the world, entered the Second World War in the wake of its successes in the Spanish Civil War. The situation, however, had changed by the second half of the thirties, between the end of the Spanish war and the beginning of World War II. The United States, Great Britain and Germany began to design advanced aircraft such as the Lockheed P-38 'Lightning', the Supermarine 'Spitfire', and the Messerschmitt Bf 109, which were to be among the protagonists of the fighter battles during the following years.

The biplane fighters and three-engined bombers which had fought successfully in the skies over Spain thus found themselves rapidly outdated by later, more advanced aircraft.

The fighter units of the *RA*, then equipped with the agile FIAT CR.32 biplane designed by Rosatelli, were to be re-equipped with a new fighter, a low-wing all-metal monoplane with retractable landing gear, for which a competition was held in 1938. Participants in the competition were Gabrielli's FIAT G.50, Castoldi's Macchi C.200 and Galasso's IMAM Ro.51, with Rosatelli's FIAT CR.42 biplane as a backup design (which was also flown-off against the less known Caproni Ca.165). The Ro.51, originally with fixed landing gear and modified in order to take part in the competition, was immediately rejected. The other two (the G.50 and the C.200) were both judged to be the winners. Rather, the C.200 had better performance, but G.50 series production was ordered too, a serious mistake resulting in a lack of standardization in the fighter units. Through a decision which even today appears inexplicable, the number of the two newly selected fighters built was smaller than that of the CR.42s, which had been put into production only as a back-up in case one or both of the other types failed. In fact, about 880 FIAT G.50s were built, 1,343 Macchi C.200s and 1,885 FIAT CR.42s (of this last group no less than 1,554 joined the *Regia Aeronautica*).

The best design of all these types, as mentioned above, was the Macchi *Saetta*, but on the whole, all these fighters were second-rate aircraft, with a dangerous tendency to spin, poor take-off visibility, and open cockpits – during the *CAI* (*Corpo Aeronautico Italiano*, Italian Air Corps) operations against Great Britain, there were cases of frost-bite! It should be added that retractable landing gear and flaps were considered weird

contraptions that the pilots, being accustomed to fixed landing gear, sometimes forgot to use!

As well as these problems connected with outdated and conservative design and engineering, one must remember that the Italian fighters entered the war with an armament consisting of two 12.7 mm machine-guns, which were adequate in the 1936-40 war, but definitely outdated in the following years. The engines of these first fighters, called *Serie 0* (0 Series), were the radial air-cooled FIAT A.74 RC.38s, of original design, but based on the experience FIAT had gained producing the Pratt and Whitney 'Hornets' on license.

There were successive series of fighters conceived to take part in the 1938 competition, but for various reasons they arrived late. They were powered by engines like the Piaggio P.XI RC.40 (fitted on Reggiane RE 2000s and Aeronautica Umbra T.18s) which were more powerful but less reliable than the FIAT 'sewing-machines'. Of these aircraft, the only up-to-date one regarding design was Longhi's RE 2000 which had interested numerous foreign air forces. It was not, however, accepted by the *Regia Aeronautica*, and only a small number was produced and used.

When, with these aircraft, the *RA* managed to stand up to the RAF and the *Armée de l'Air* during the later phases of the war, it was due entirely to the courage and ability of the pilots who, however, usually managed to fly only a few missions before being shot down.

Moreover, the Italian *Regia Aeronautica* was unable to equip its units with large numbers of combat aircraft. The causes of the low output of the Italian aircraft industry were many and are already known to aviation enthusiasts; it is worthy of note that a closely comparable situation affected the French *Armée de l'Air* on the other side of the front.

Nevertheless, the *Regia* was able to rely on some types of very efficient aircraft, some of which compared favorably with foreign types of the time, enemy or allied. Perhaps foremost among them was the family of in-line liquid-cooled engine fighters developed by Mario Castoldi of Macchi, the C.202 *Folgore* and the following C.205V *Veltro*.

By far the most important among the Italian combat aircraft were the FIAT CR.42 'bipe' fighters (the Italian combat aircraft built in largest number), the SIAI Marchetti S.79 three-en-

gined bombers (over 1,300 built) and the Macchi C.202s. From the engineering and performance points of view, the *Folgore* was undoubtedly the best of them all, and possibly the best Italian fighter ever built. The C.202 was for the Italians something like the 'Mustang' or the 'Corsair' for the USA, or the 'Spitfire' for the RAF.

The bulk of the Italian fighters were the Macchi *Saettas* and the FIAT *Freccias* and *Falcos* all powered by the FIAT A.74 RC.36 fourteen-cylinder radial air-cooled engine, which developed only 870 HP for take-off and 840 HP at 3,800 m, and was aerodynamically bulky. A more modern liquid-cooled engine fighter was badly needed.

Furthermore, the Italian fighters were unable to carry heavy armament, primarily because their empty weight was comparatively high. For a long period, self-sealing tanks, radio sets, armor glass windshields and armored seats were classified as non-essential luxuries. No Italian fighter had an all-round vision canopy (the fully-enclosed cockpit became standard later in the war) or retractable tailwheel, two features always present on prototypes and deleted as 'costly and complicated' from series production machines.

The situation improved considerably with the so-called *Serie 5* fighters powered by German Daimler DB-605 engines, but these machines (Reggiane Re 2005 *Sagittario*, Macchi C.205V *Veltro* and FIAT G.55 *Centauro*) came into service too late and in too small numbers to have much influence on the outcome of the war.

The bomber units of the *Regia Aeronautica* entered WW II with machines such as the SIAI Marchetti S.81 *Pipistrello* which, although not very modern, was in no way inferior to its English, French or Soviet contemporaries, and the FIAT BR.20 *Cicogna* and the SIAI Marchetti S.79 *Sparviero*.

Of the latter two, the first was a relatively modern twin engine design with only fair performance while the other was an excellent three-engined aircraft.

As was the case for prewar Italian fighters, however, the bomber designs did not progress either, and the nearly general adoption of the three-engine layout resulted in an inefficient arrangement for the bombardier and limited the field of fire of the guns when aimed forward.

The technological gap was filled by two interesting machines: the four-engined Piaggio P.108B, conceptually somewhat more advanced than the American B-17, and the twin-engined CRDA Cant.Z.1018 *Leone* which was just as good as the US twin-engined mediums, and the German *zerstoerers*. The first however, was afflicted by engine and systems trouble and very few examples were built, while the second arrived too late, its development slowly continuing for too many years.

On June 10, 1940, the *RA* had four *stormi* (roughly comparable to US 'groups') with BR.20s, two with Cant.Z.1007s, 14 with S.79s (one of which was mixed with S.81s), four *stormi* and 4 *gruppi* (roughly comparable to US 'squadrons') (of which one was mixed with Ca.133s) with S.81s, two groups of the very poor Breda 88 attack aircraft, and a group of equally useless SIAI Marchetti SM.85 dive bombers.

On September 7, 1943 (the day before the armistice with the allies), this force was reduced to 4 *stormi*, 6 *gruppi* and a *squadriglia* (a six-aircraft unit) in Cant.Z.1007 bis, one *stormo* and one *gruppo* in SM.84s, one *gruppo* in Breda 88s, one *stormo* in Ju.88A-4s, 5 *gruppi* of S.79 torpedo-bombers, one *squadriglia* of P.108Bs, one *gruppo* in German Junkers Ju.87 *Stukas*, and some minor units. All these units had reduced strength and were only partially operational.

Even from the production point of view, the numbers of aircraft delivered are certainly not comparable to those of the other combatant powers.

The *Regia Aeronautica* actually received 535 S.81s, over 1,300 S.79s, 514 FIAT BR.20s, 324 Cant.Z.506s, 36 SM.85s and SM.86s, 561 Cant.Z.1007s, 309 SM.84s, 25 Piaggio P.108Bs, 17 Cant.Z.1018s, 201 Breda 65s, and 149 Breda 88s, for a total of about 4,000 bombers, torpedo-bombers and ground attack aircraft, which was only about the total number of B-29s built in America during the war.

To make up for the lack of Italian-produced aircraft, the Italian *Ministero della Difesa Aeronautica* (Ministry of Air Defence), turned to the German *RLM* to purchase German-produced aircraft. In particular, it acquired about 150 Junkers Ju.87B, R, and D *Stuka* dive-bombers, about 50 Junkers Ju.88A-4 and A-7 *schnellbombers*, 14 Dornier Do.217J-1 and 2 night fighters, three Messerschmitt Bf 110C-3s (these being adapted as night fighters), and about 110 Messerschmitt Bf 109F and G fighters, while in addition, a certain number of fighters and bombers were captured after the victory over France and used sporadically.

Of course, the reader may disagree with the choice made by the author, but to deal with *all* the types of aircraft taken in line by the *RA* would have made it necessary to go way beyond the usual dimensions of the volumes in our series. Similarly, the concept of 'combat aircraft' is personal, and can go from just the fighters right up to the reconnaissance aircraft, with or without offensive capability. We have included fighter-bombers, attack aircraft and armed reconnaissance aircraft.

The Author

Fiat CR. 32 Freccia

Fighters



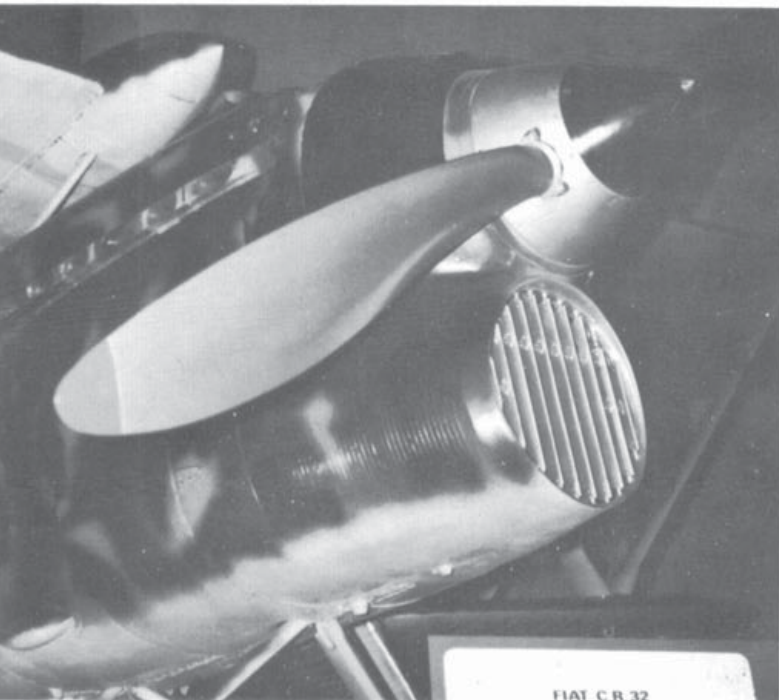
The presence of the FIAT CR.32 Freccia (Arrow-the same name later was given to the G.50) was an anachronism during World War II. In the wake of the CR.32's successes during the Spanish Civil War, but particularly because of the difficulty of placing an adequate number of more modern fighters in service, the Regia Aeronautica entered the war with 294 CR.32s available in the Mediterranean area and 34 in AOI (Africa Orientale Italiana, Italian East Africa). Rosatelli's old fighters were used in the front line up until the spring of 1941, and during 1943 the Freccia disappeared from the second line units too. After September 1943 about ten examples served in Northern Italy in training and liaison duties with the ANR (Aeronautica Nazionale Repubblicana).



Above: the Cr.32's moment of glory was the Aviacion del Tercio Legionario during the Spanish Civil War. During this period of operations, the Italian fighters carried colors and markings which were not dissimilar to those later used in AOI. On the left: this is the cross of St. Andrew which characterized the white identification band of the CR.32s (on the left) and the CR.42s in AOI.



Left: a FIAT CR.32 quater (the last version — 337 examples built) belonging to the 167a Squadriglia, 16.o Gruppo taking off from an airfield in Libya. Armed with only two 12.7 mm machine-guns, this version of the CR.32 could carry small wing bombs and was used for attack missions. The aircraft in the photograph probably belonged to the squadriglia's CO, and the white identification band had not yet been painted on.



Left: the characteristic nose of the FIAT CR.32 quater kept at the Aeronautica Militare's Historical Museum at Vigna di Valle (Rome). It is actually a Hispano HA 132L Chirri, which was the version of the CR.32 quater built on license in Spain.

FIAT CR.32 Freccia Serie I

Day interceptor fighter, single seat

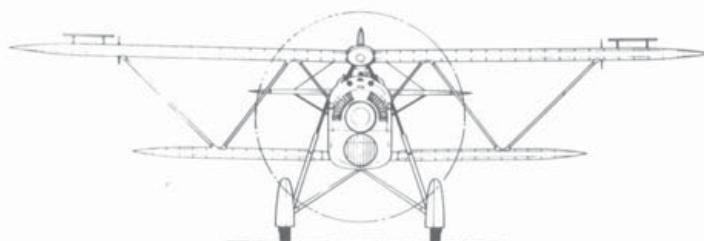
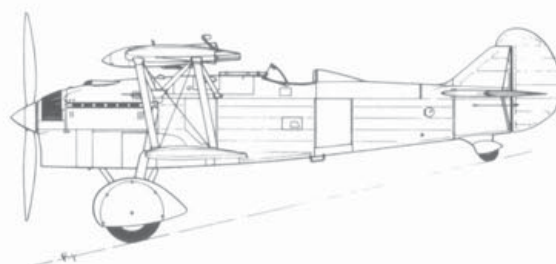
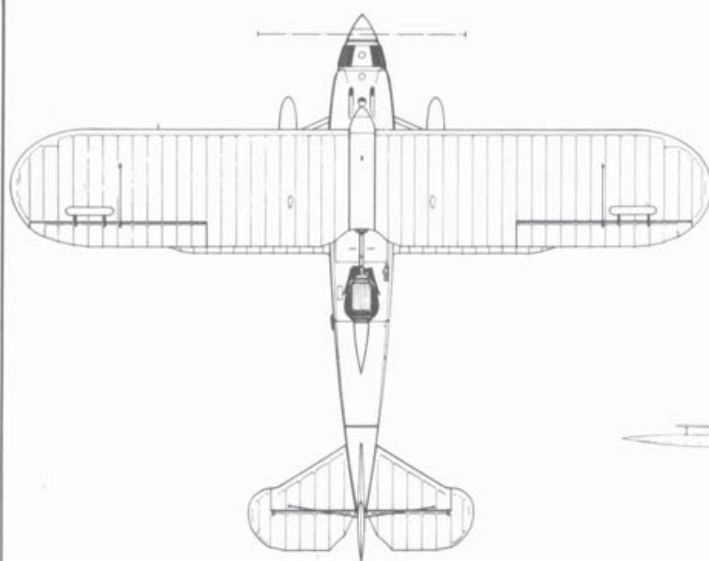
Power plant: one FIAT A.30 RA (RA bis mark on late production Serie I aircraft), twelve-cylinder Vee liquid-cooled engine rated at 650 HP for take-off.

Dimensions: wing span 9,50 m; length 7.45 m; height 2.71 m; wing area 22.10 sq m.

Weights: empty 1,325 kg; loaded 1,865 kg.

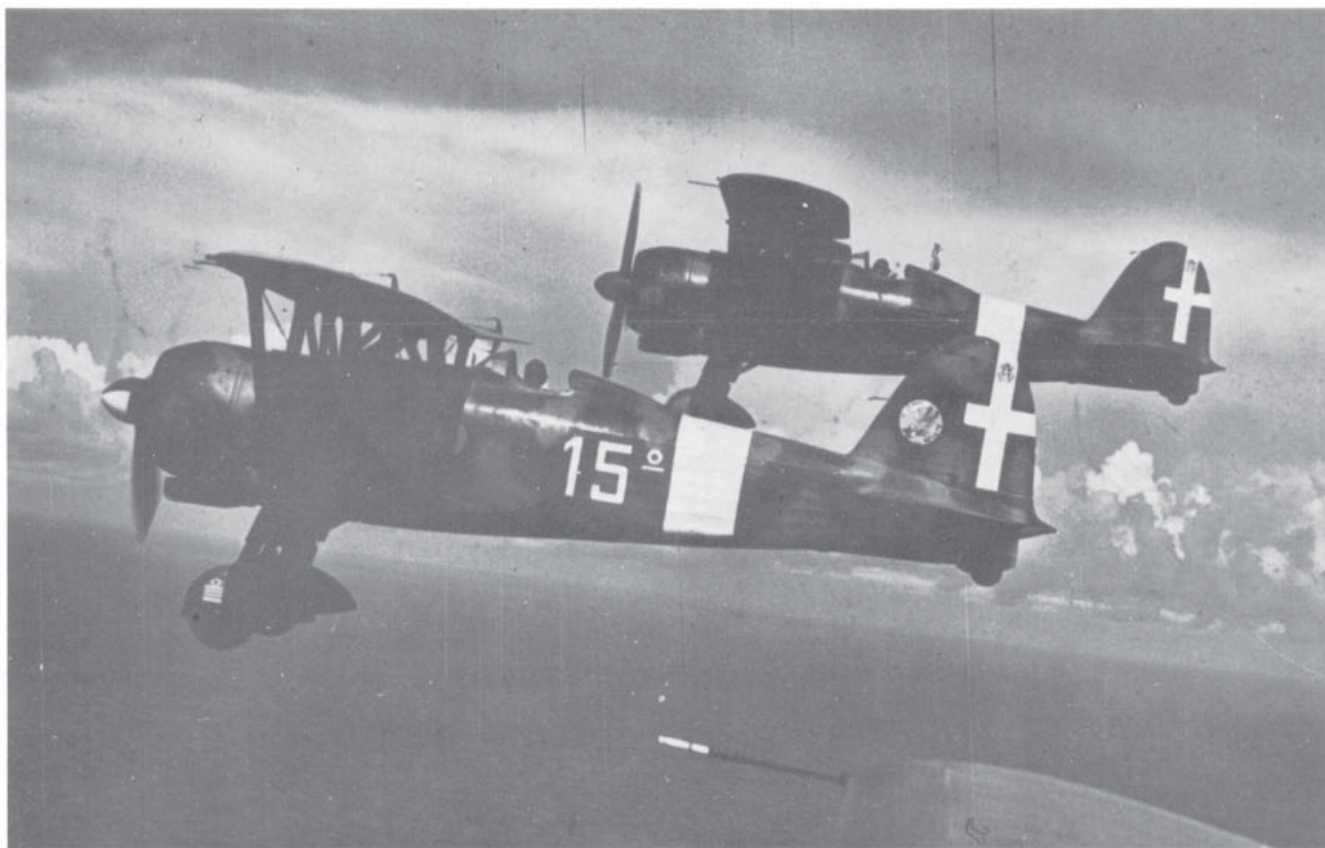
Performance: max. speed 375 kmh at 3,000 m; climb to 6,000 m in 14 min 25 sec; service ceiling 8,250 m; range 780 km.

Armament: two 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 350 rpg.

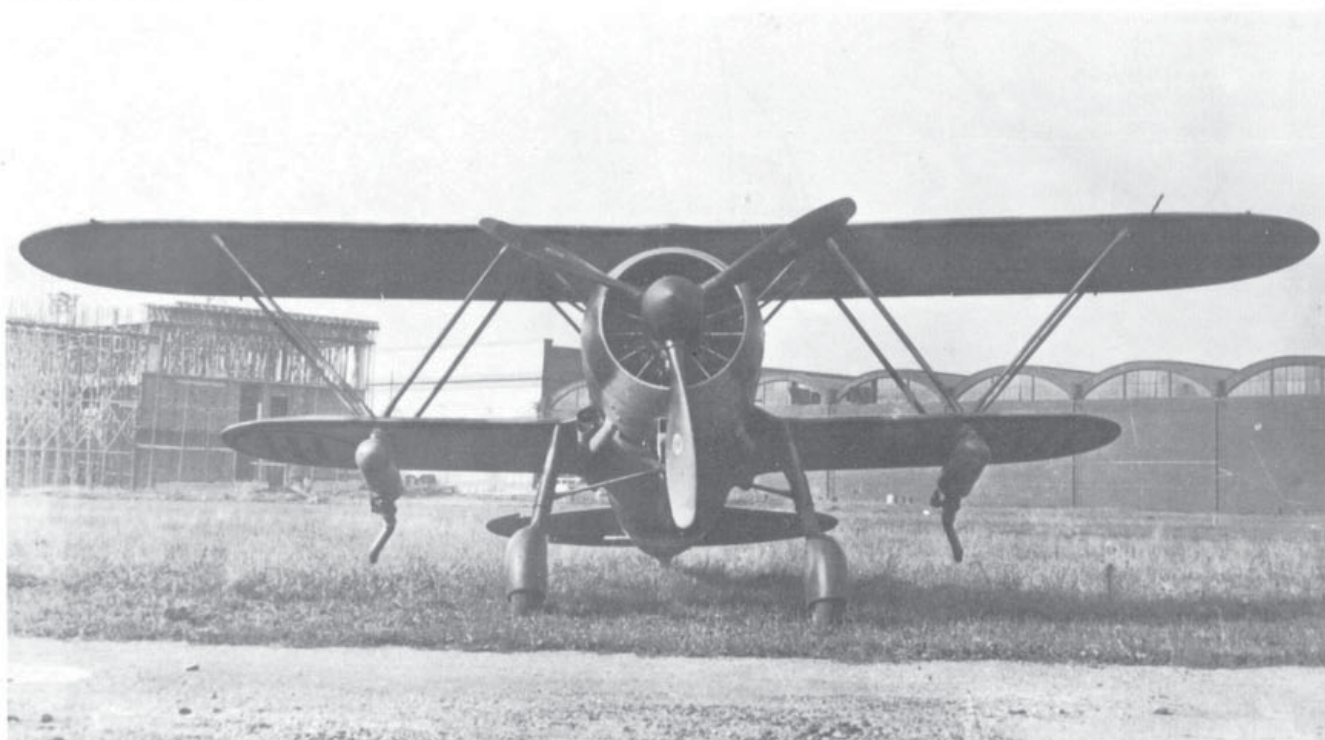


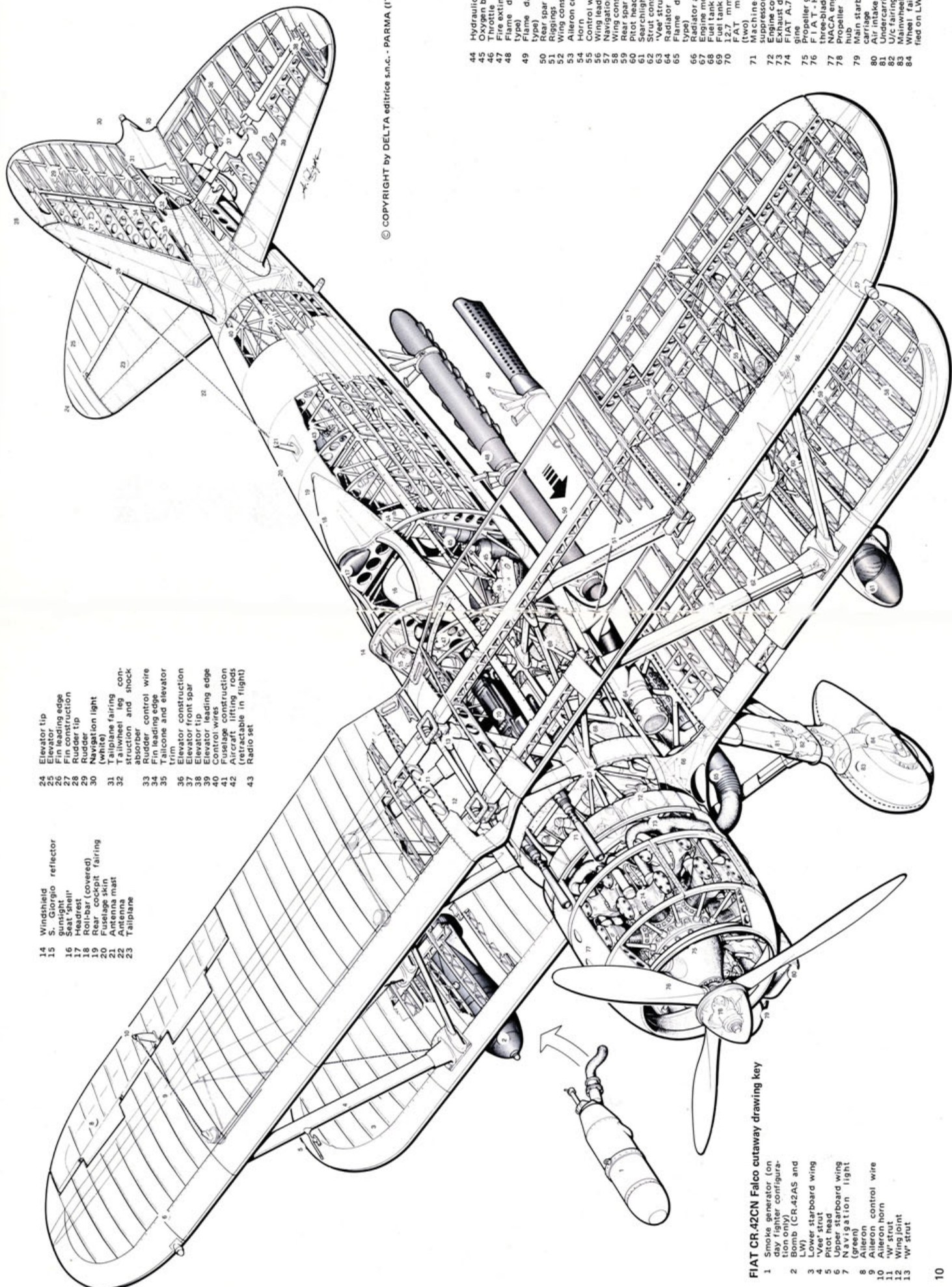
Fiat CR. 42 Falco

Fighters



Last of the series of Rosatelli's biplane fighters, the CR.42 Falco (Falcon) represented the epitome of biplane designs. Although it was a biplane with fixed landing gear and an open cockpit, large numbers were built and operated throughout W.W.II, at first as fighters, then as attack aircraft, and later still as night fighters. The RA also used it over the Channel with the CAI (Corpo Aeronautico Italiano, Italian Air Corps) and the Luftwaffe used it after September 8, 1943 as a night ground attack aircraft. Above: CR.42AS bombe alari (wing bombs) of the 15.o Stm. Assalto. Below: a CR.42 fitted with smoke generators.





- 14 Windshield
- 15 S. Giorgio reflector
- 16 gunlight
- 17 Heat shield
- 18 Roll-bar (covered)
- 19 Rear cockpit fairing
- 20 Fuselage skin
- 21 Antenna mast
- 22 Tailplane
- 23

- 24 Elevator tip
- 25 Elevator
- 26 Fin leading edge
- 27 Fin construction
- 28 Rudder tip
- 29 Rudder
- 30 Navigation light (white)
- 31 Tailplane fairing construction and shock absorber
- 32
- 33 Rudder control wire
- 34 Fin leading edge
- 35 Tailcone and elevator
- 36 Elevator construction
- 37 Elevator front spar
- 38 Elevator tip
- 39 Elevator leading edge
- 40 Control wires
- 41 Fuselage construction
- 42 Interconnecting cord (retractable in flight)
- 43 Radio set

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- 44 Hydraulic reservoir
- 45 Oxygen bottles
- 46 Fire extinguisher
- 47 Fire extinguisher
- 48 Flame damper (3rd type)
- 49 Flame damper (2nd type)
- 50
- 51
- 52 Wing construction
- 53 Aileron construction
- 54 Horn
- 55 Control wires
- 56 Wing leading edge
- 57 Navigation light (red)
- 58 Wing construction
- 59 Rear spar
- 60 Pitot head
- 61 Searchlight
- 62 Strut construction
- 63 Vee strut
- 64 Radiator
- 65 Flame damper (1st type)
- 66 Radiator air intake
- 67 Engine mount
- 68 Fuel tank
- 69
- 70 12.7 mm Breda-SAFAT machine-gun (two)
- 71 Machine-gun flash suppressor
- 72
- 73
- 74
- 75
- 76
- 77
- 78
- 79
- 80
- 81
- 82
- 83
- 84

FIAT CR.42CN Falco cutaway drawing key

- 1 Smoke generator (on day fighter configuration only)
- 2 Bomb (CR.42AS and LW)
- 3 Lower starboard wing
- 4 Vee strut
- 5 Pitot head
- 6 Upper starboard wing
- 7 Navigation light (green)
- 8 Aileron control wire
- 9 Aileron horn
- 10
- 11 W strut
- 12 Wing joint
- 13 W strut



Above: a *FIAT CR.42 Falco* biplane fighter taking off from an airstrip in the Mediterranean battle zone.

FIAT CR.42 Falco Serie I

Day interceptor fighter, single seat

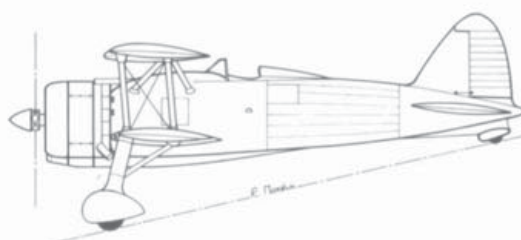
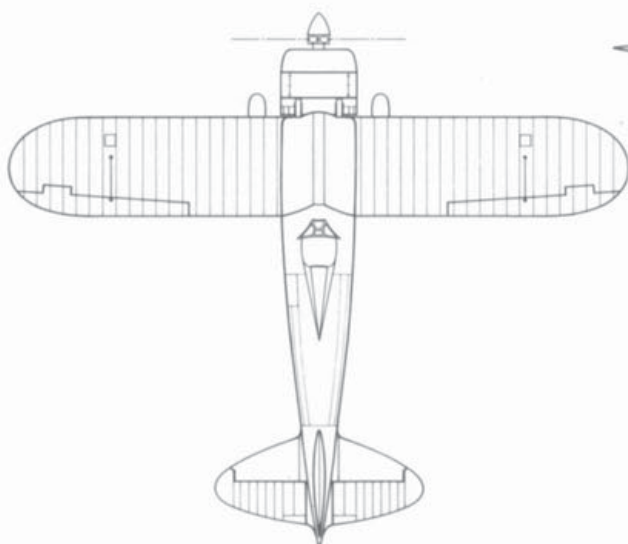
Power plant: one FIAT A.74 R1C.38, 14-cylinder air-cooled engine rated at 840 HP at 3,800 m.

Dimensions: wing span 9.70 m; length 8.26 m; height 3.58 m; wing area 22.40 sq m.

Weights: empty 1,720 kg; max. take-off weight 2,295 kg.

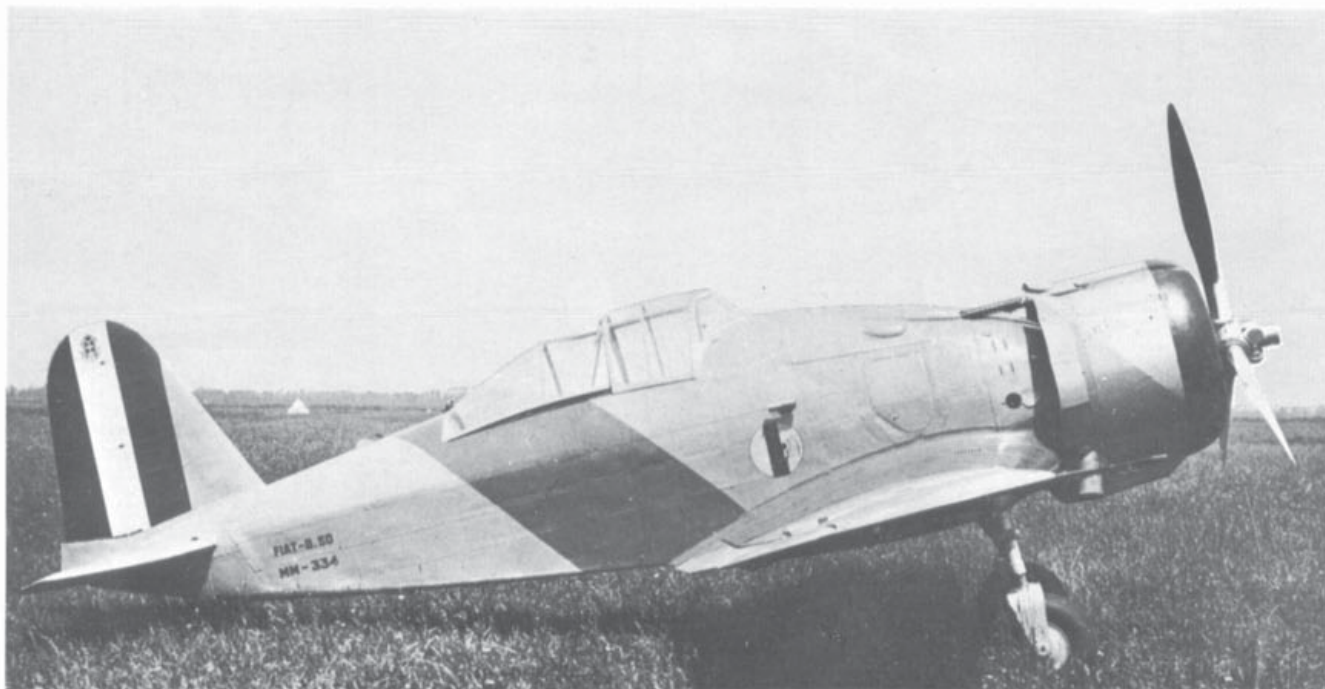
Performance: max. speed 438 kmh at 5,300 m; climb to 6,000 m in 9 min; absolute ceiling 10,050 m; range 775 km.

Armament: two 12.7 mm Breda SAFAT MC.12,7 machine-guns with 400 rpg.

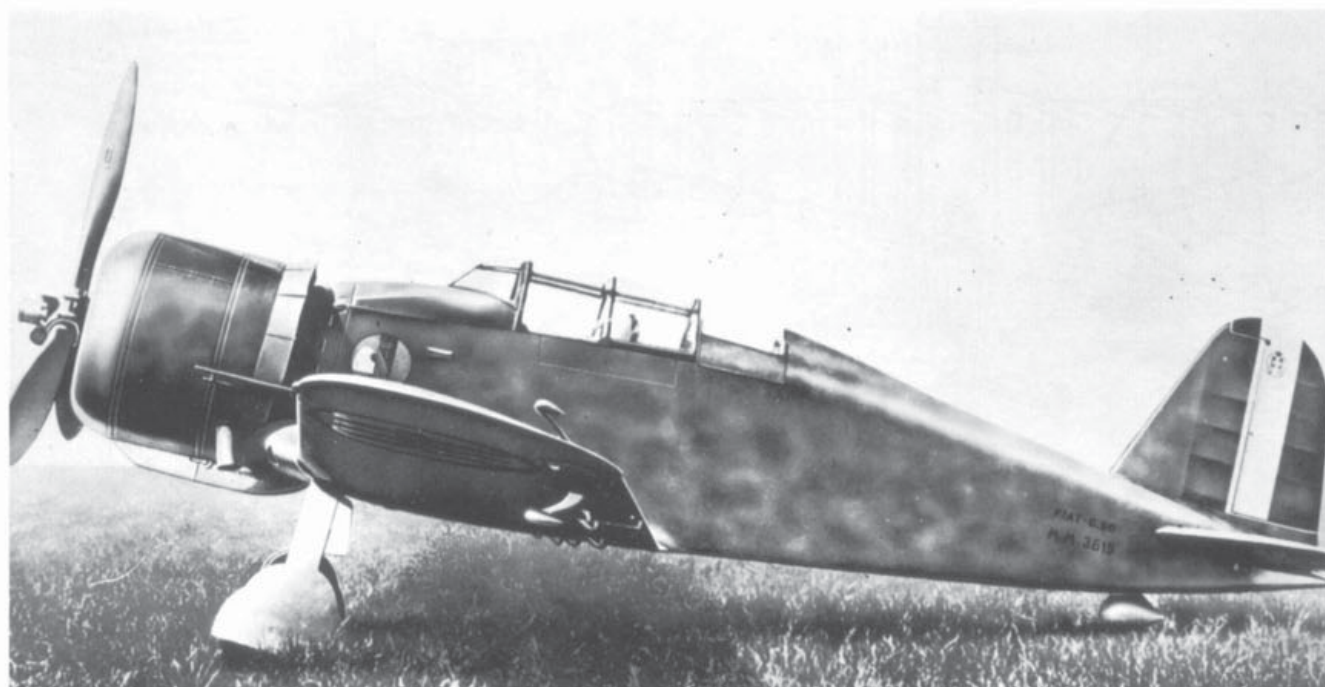
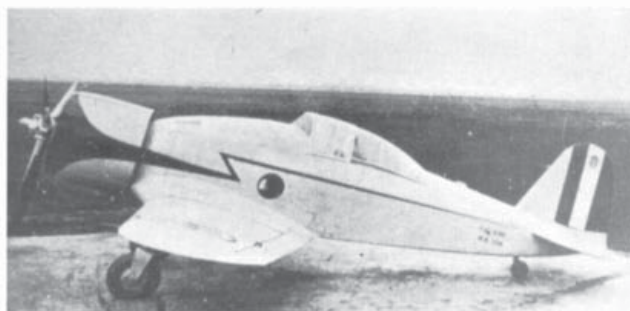


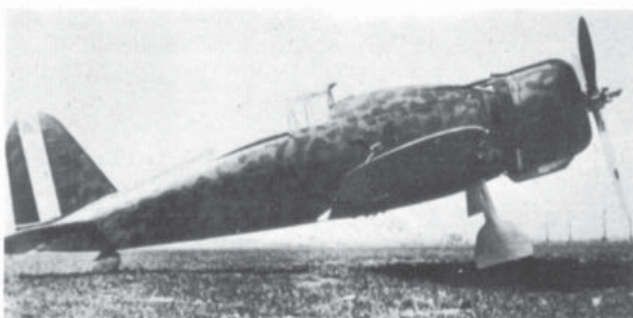
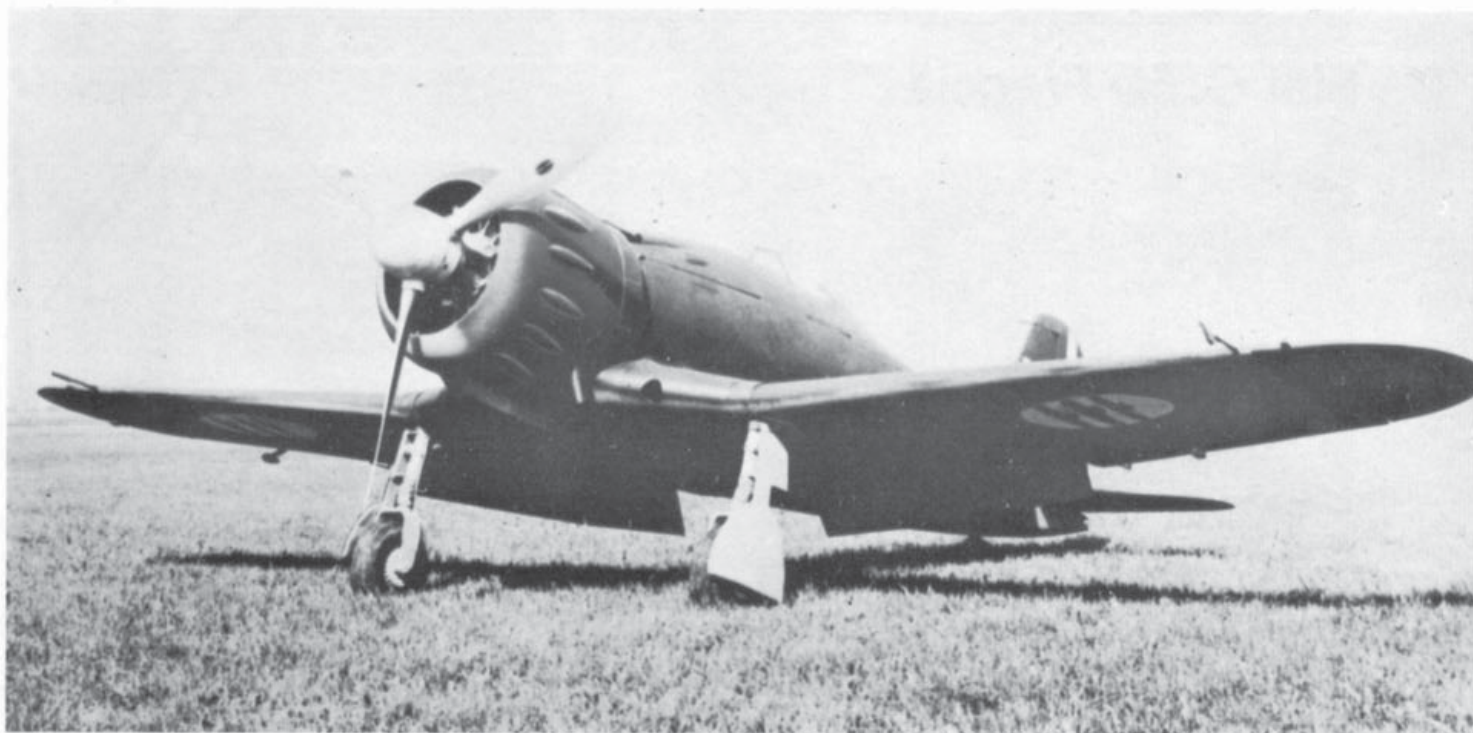
Fiat G. 50 Freccia

Fighters

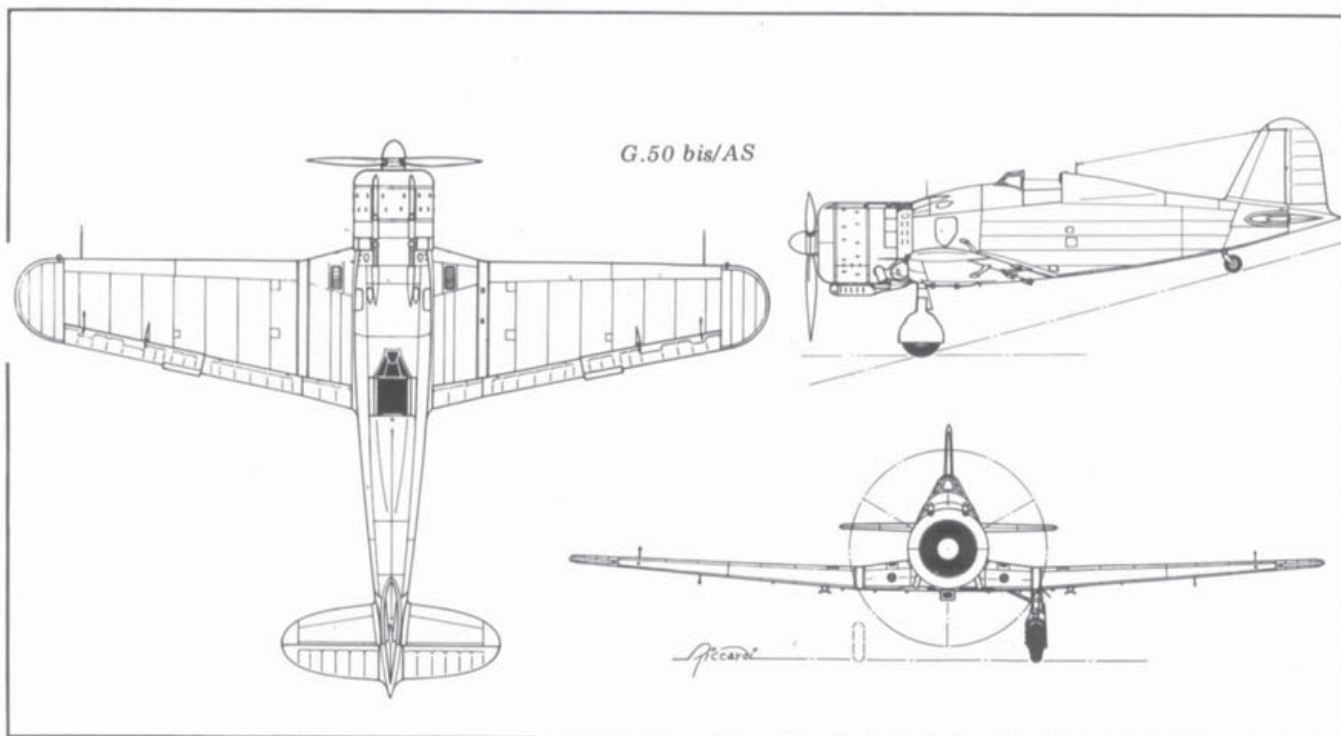


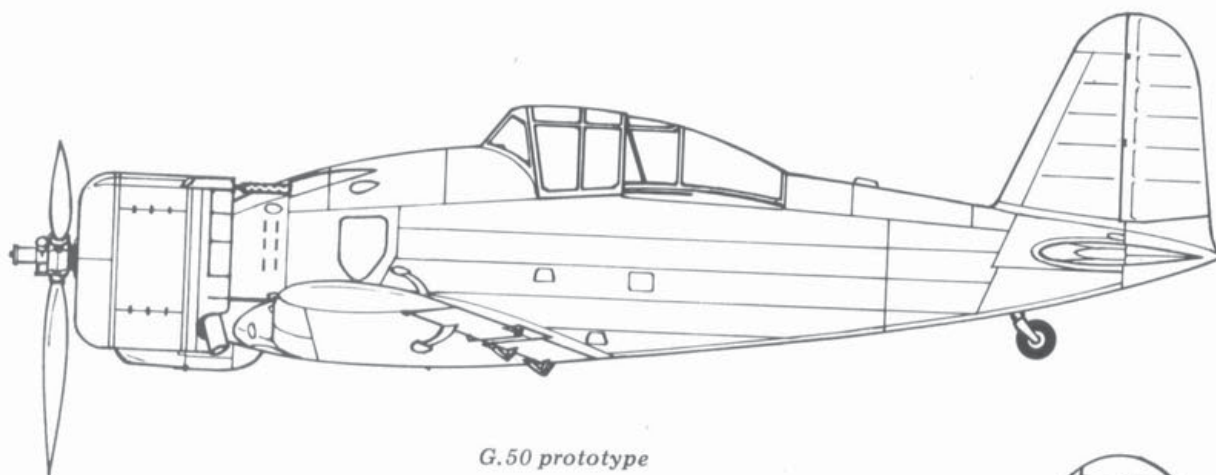
This was the first modern RA fighter created by Gabrielli according to the specifications set by the Ministero dell'Aeronautica. A metal monoplane with retractable landing gear, it initially had an enclosed cockpit which was not, however, satisfactory to the pilots, and this was replaced by a cutdown open canopy. The Freccia (Arrow) was also built in the bis (improved) and two-seat trainer versions; furthermore, the ter and the G.50V versions with a Daimler-Benz engine were designed. It should be noted that a suitable variant of this fighter was scheduled to be based on the carrier Roma. The G.50 was operated on all fronts (including Africa and the English Channel), and in Spain and Finland. From top to bottom: The first prototype (MM.334) after application of camouflage, and before; the first G.50B (MM.3615) two-seat operational trainer.



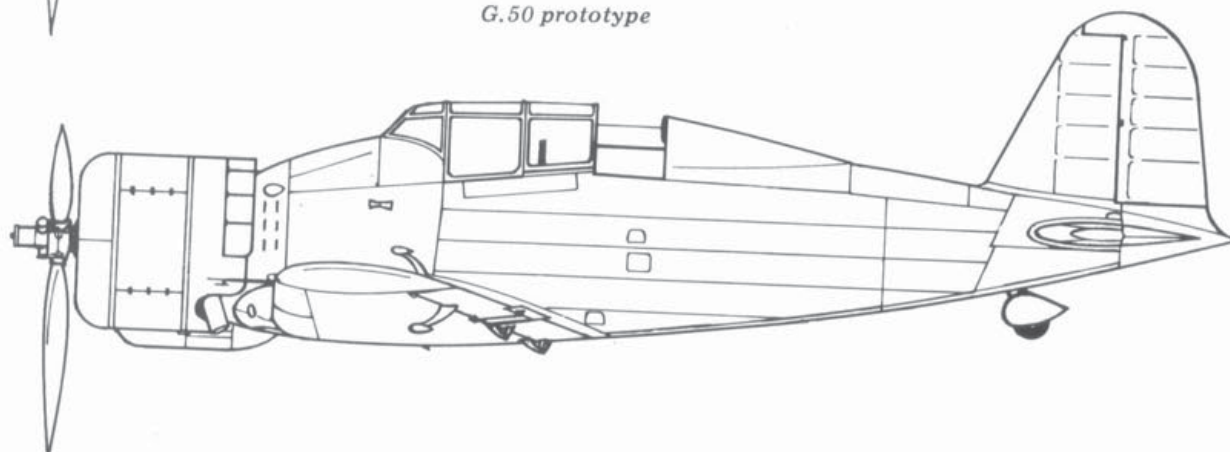


Above: the only completed example of the G.50 ter. It is not known whether photo is of the actual prototype, or whether it was simulated by retouching a photo of another version. The G.50 ter was developed from a G.50 bis (the series production version) by modifying the wing, landing gear, and armament, and giving it a FIAT A.76 RC.40S 14 cylinder two-row radial aircooled engine, rated at 1,000 HP at 2,400 revs./min. The project provided for the installation of two 20 mm cannon, but for weight reasons this reverted to the usual two 12.7 mm machine-guns. Left: one of the first series G.50s with fully enclosed glass cockpit.

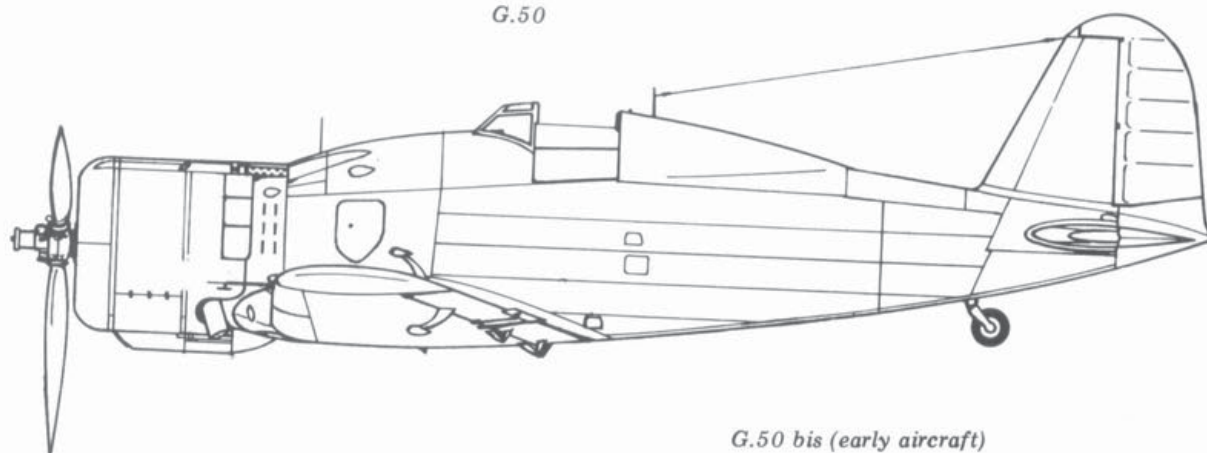




G.50 prototype

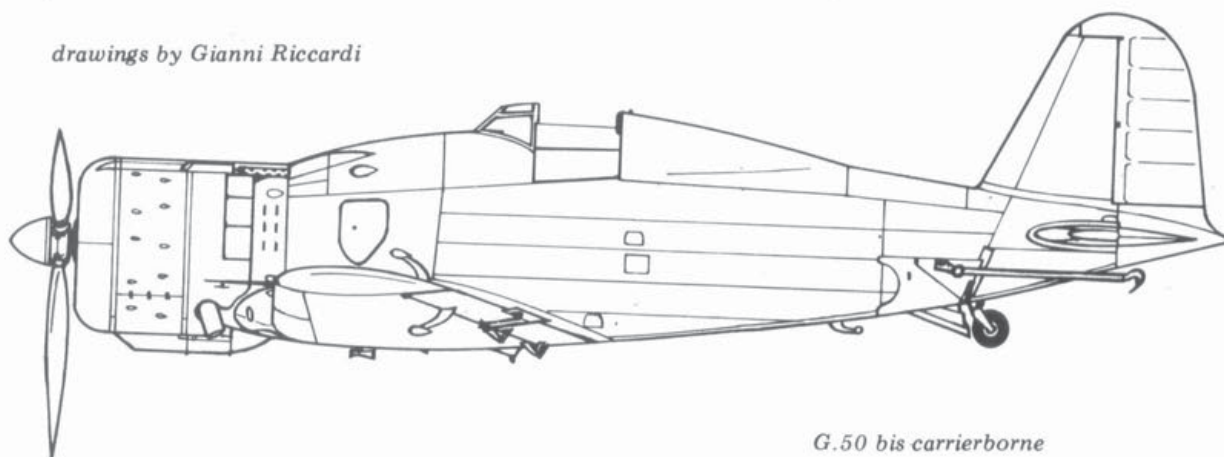


G.50

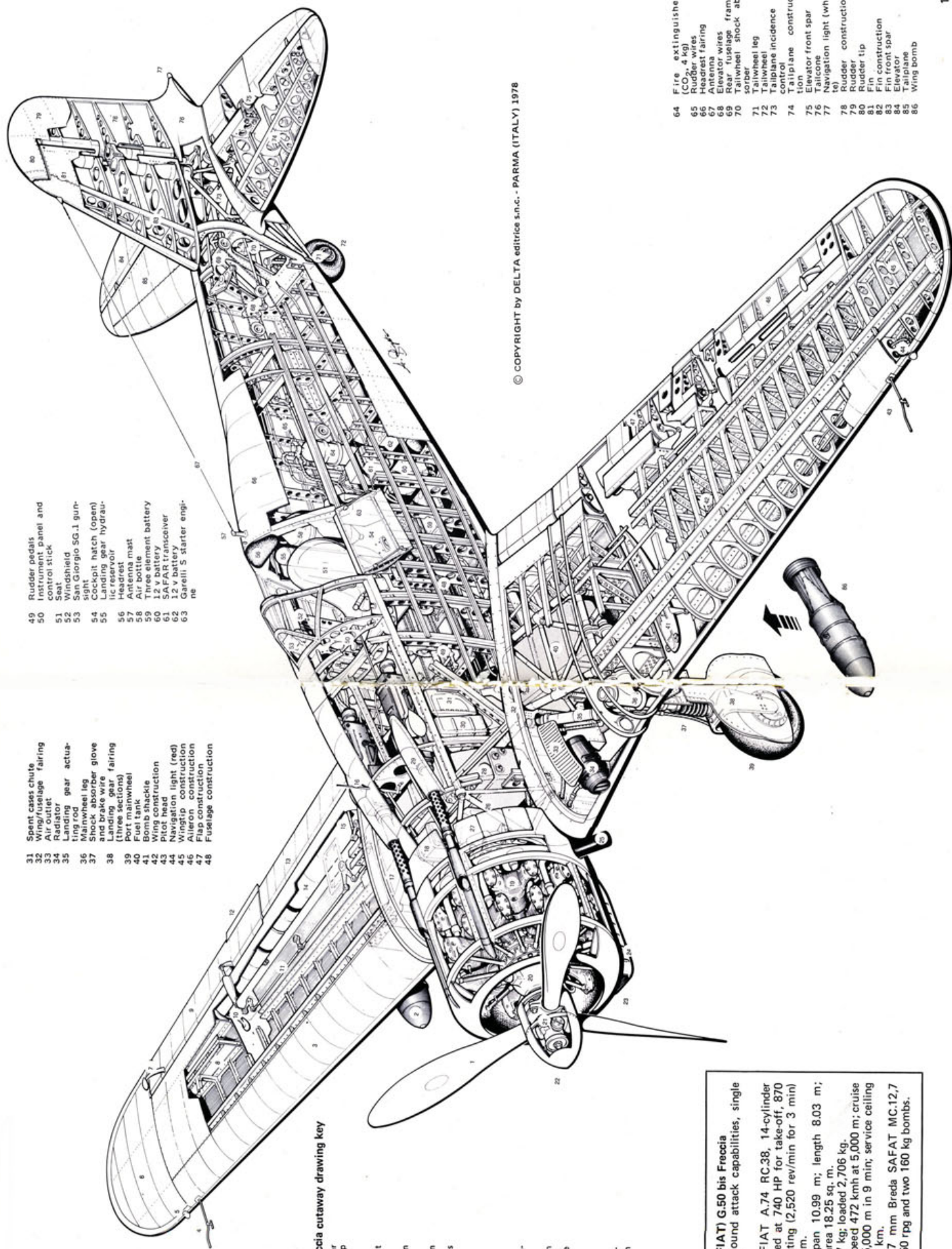


G.50 bis (early aircraft)

drawings by Gianni Riccardi



G.50 bis carrierborne



FIAT G.50 bis/AS Freccia cutaway drawing key

- 1 Three-blade propeller
- 2 Underwing bomb (up to 120 kg)
- 3 Wing leading edge
- 4 Pitot head
- 5 Navigation light (green)
- 6 Wingtip balance horn
- 7 Rear air intake
- 8 Aileron
- 9 Aileron balance horn and hinge
- 10 Aileron control rods
- 11 Aileron trim tab
- 12 Flap leading edge
- 13 Flap actuating rod
- 14 Fixed sight
- 15 Machine-gun barrel
- 16 Fiat A.74 RC.38 engine
- 17 Propeller gearbox
- 18 Pitch variation system
- 19 Spinner
- 20 Carburettor air intake
- 21 Sand filter
- 22 Engine nose
- 23 Engine mount
- 24 Oil tank
- 25 Fuel tank
- 26 Red a - S A F A T
- 27 RC.27 machine-gun fairing box
- 30 Ammo box

- 31 Spent cases chute
- 32 Wing/fuselage fairing
- 33 Air outlet
- 34 Radiator
- 35 Landing gear actuator
- 36 Mainwheel leg
- 37 Shock absorber glove and brake wire
- 38 Landing gear fairing (three sections)
- 39 Fuel mainwheel
- 40 Bomb shackle
- 41 Wing construction
- 42 Pitot head
- 43 Navigation light (red)
- 44 Wingtip construction
- 45 Aileron
- 46 Flap construction
- 47 Fuselage construction

- 49 Rudder pedals
- 50 Instrument panel and control stick
- 51 Seat
- 52 Windshield
- 53 San Giorgio SG.1 gun
- 54 Cockpit hatch (open)
- 55 Landing gear hydraulic reservoir
- 56 Headrest
- 57 Antenna mast
- 58 Instrument panel
- 59 Three element battery
- 60 12 v battery
- 61 SAFAR transceiver
- 62 12 v battery
- 63 Garelli S starter engine

- 64 Fire extinguisher (CO₂, 4 kg)
- 65 Rudder wires
- 66 Headrest fairing
- 67 Landing gear
- 68 Elevator wires
- 69 Rear fuselage frame
- 70 Tailwheel shock absorber
- 71 Tailwheel leg
- 72 Tailwheel
- 73 Tailplane incidence control
- 74 Tailplane construction
- 75 Elevator front spar
- 76 Aileron
- 77 Navigation light (white)
- 78 Rudder construction
- 79 Rudder tip
- 80 Rudder
- 81 Fin construction
- 82 Fin front spar
- 83 Elevator
- 84 Tailplane
- 85 Wing bomb
- 86

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CMASA (FIAT) G.50 bis Freccia

Day fighter with ground attack capabilities, single seat

Power plant: one FIAT A.74 RC.38, 14-cylinder air-cooled engine rated at 740 HP for take-off, 870 HP in emergency rating (2,520 rev/min for 3 min) and 840 HP at 3,800 m.

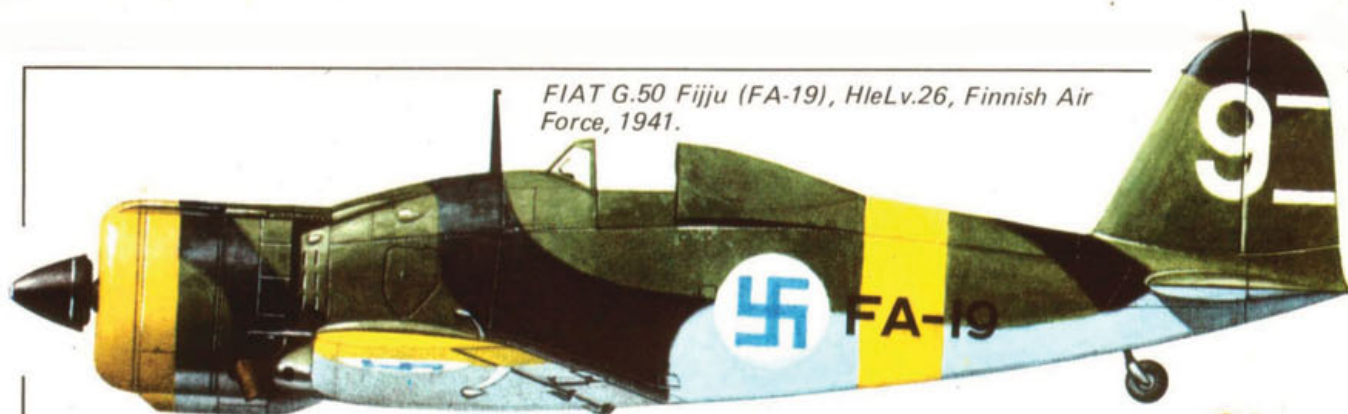
Dimensions: wing span 10.99 m; length 8.03 m; height 2.96 m; wing area 18.25 sq. m.

Weights: empty 2,077 kg; loaded 2,706 kg.

Performance: max. speed 472 kmh at 5,000 m; cruise 415 kmh; climb to 5,000 m in 9 min; service ceiling 9,900 m; range 1,000 km.

Armament: two 12.7 mm Breda SAFAT MC.12.7 machine-guns with 350 rpg and two 160 kg bombs.

FIAT G.50 Fijju (FA-19), HleLv.26, Finnish Air Force, 1941.



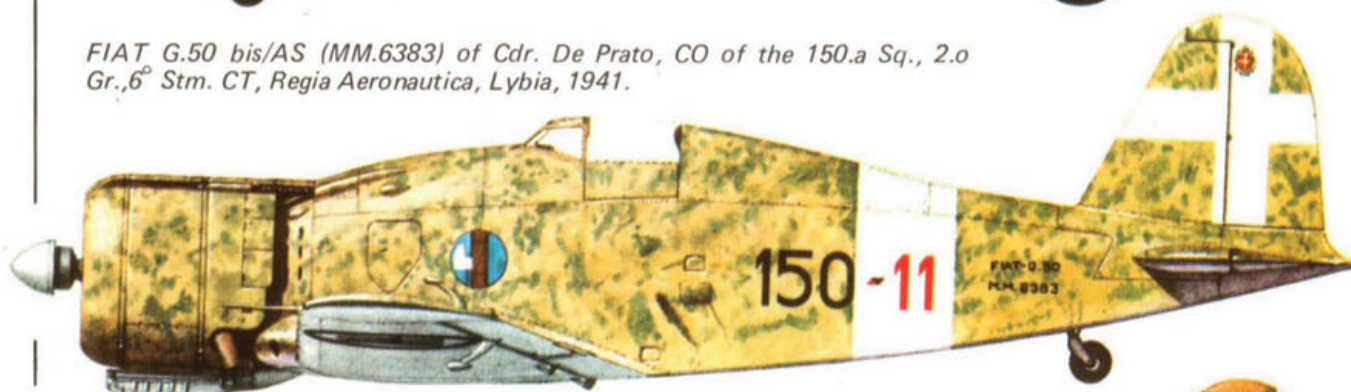
FIAT G.50 Freccia, 351.a Sq., 20.o Gr., 56.o Stm. CT, Corpo Aeronautico Italiano, Regia Aeronautica, Ursel (Belgium), late 1940.



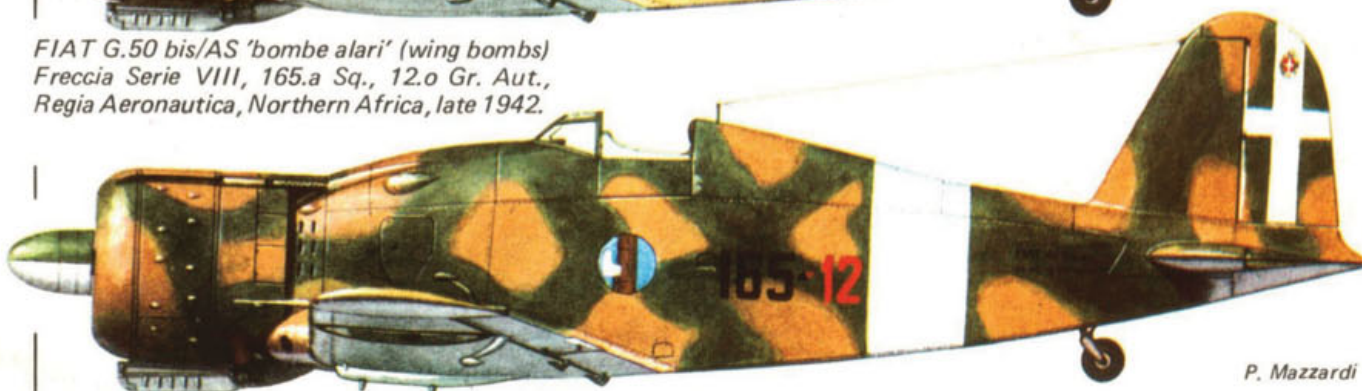
FIAT G.50B, Squadriglia Complementare Caccia, Regia Aeronautica, Northern Africa, February 1941.



FIAT G.50 bis/AS (MM.6383) of Cdr. De Prato, CO of the 150.a Sq., 2.o Gr., 6° Stm. CT, Regia Aeronautica, Lybia, 1941.



FIAT G.50 bis/AS 'bombe alari' (wing bombs) Freccia Serie VIII, 165.a Sq., 12.o Gr. Aut., Regia Aeronautica, Northern Africa, late 1942.



P. Mazzardi

Macchi C. 200 Saetta

Fighters



Designed by Castoldi, this aircraft was entered in and winner (together with the G.50) of the contest promoted by the RA for a new fighter in 1938. Of similar design, the two aircraft had many drawbacks in common, and often fought side by side. The Saetta (Dart) never flew over Spain or the English Channel, but incredibly (considering its open cockpit), it was sent to fight in the Russian winter! (Bottom right) Unlike its Italian contemporaries, the Saetta was not sold abroad and was soon replaced on the assembly line by the better C.202 Folgore. An example of the C.200 fighter is preserved in perfect condition in the Aeronautica Militare's Historical Museum (bottom left).

Macchi C.200 Saetta Serie XXI (built under license by SAI Ambrosini)

Day fighter with ground attack capabilities, single seat

Power plant: one FIAT A.74 RC.38, 14 cylinder air-cooled engine rated at 740-870 HP (3 min contingency) and 840 HP at 3,800 m.

Dimensions: wing span 10.68 m; length 8.19 m; height 3.51 m; wing area 16.81 sq m.

Weights: empty 2,020 kg; loaded 2,339 kg.

Performance: max. speed 503 kmh at 5,000 m; cruise 450 kmh; climb to 6,000 m in 6 min 30 sec; service ceiling 8,900 m; normal range 570 km, with two 250-litres external tanks (seldom installed) 870 km.

Armament: two 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 370 rpg and two 50, 100 or 160 kg bombs. Some aircraft had also two wing-mounted 7.7 mm Breda-SAFAT MC.7,7 with 500 rpg.

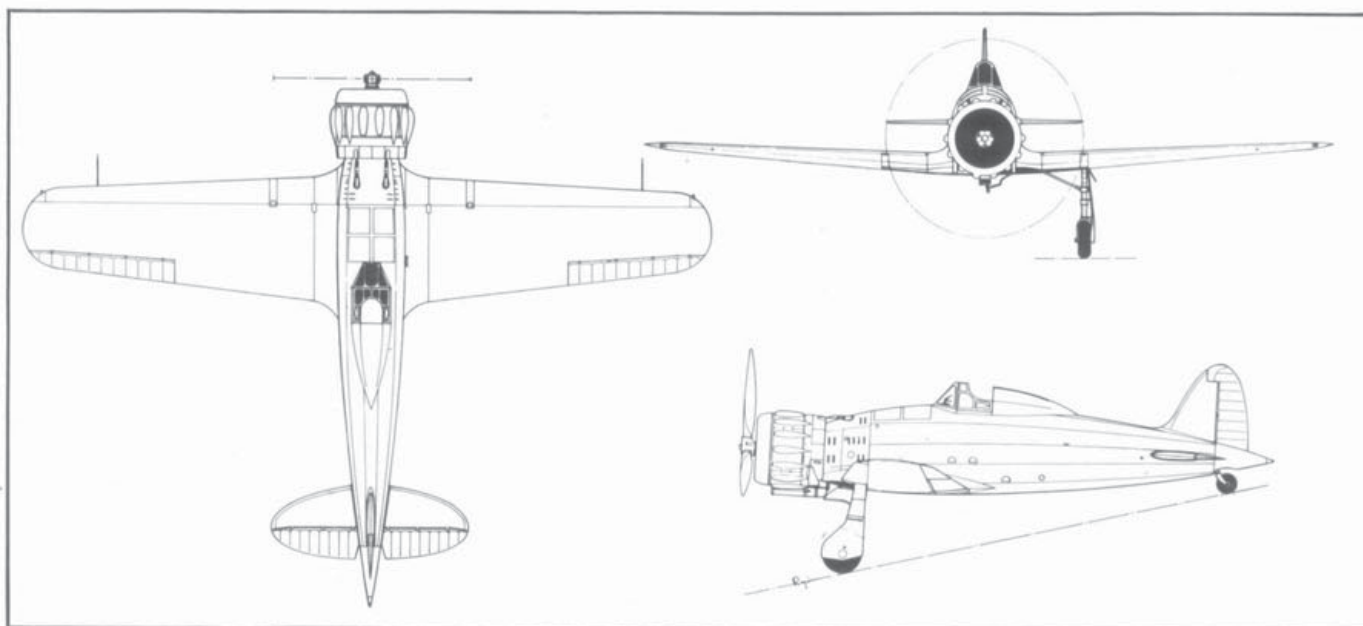




American soldiers, after the formation of the Italian Co-belligerent A.F., are shown a parachute by an Italian fighter pilot. Behind them are some Macchi C.200 fighters built on license by Breda belonging to the 92.a, 93.a and 94.a Squadriglia, 8.o Stormo Autonomo CT (Caccia Terrestre, Land-Based fighters). The aircraft in the foreground is MM.5830.

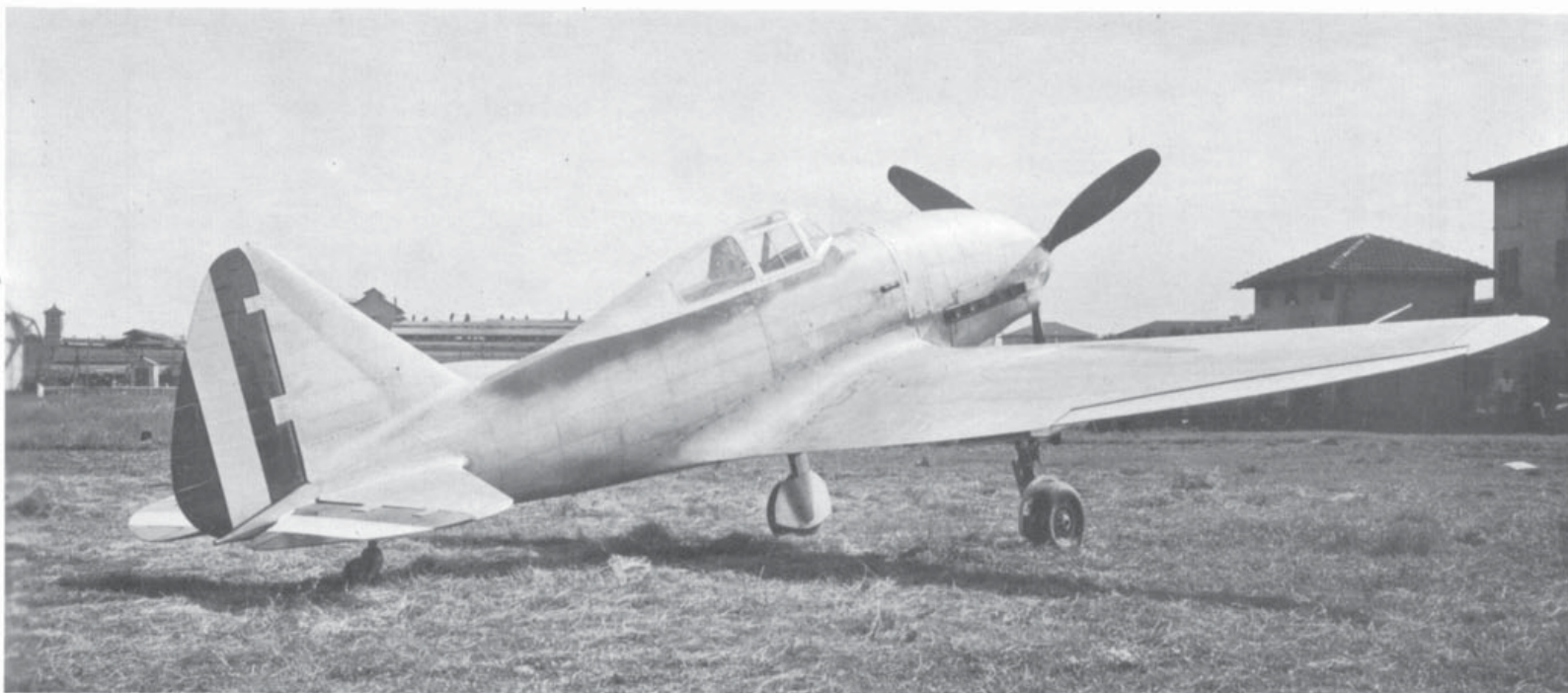


A Macchi C.200 Saetta Serie I of the 369.a Squadriglia, 152.o Gruppo, 54.o Stormo CT taken during a training flight over the Venetian Countryside just before France entered the war. The pilot is Capt. Giorgio Jannicelli, later a hero of the Russian front. On the right of the unit code is the insignia of the Cucaracha ('cockroach') in Spanish).

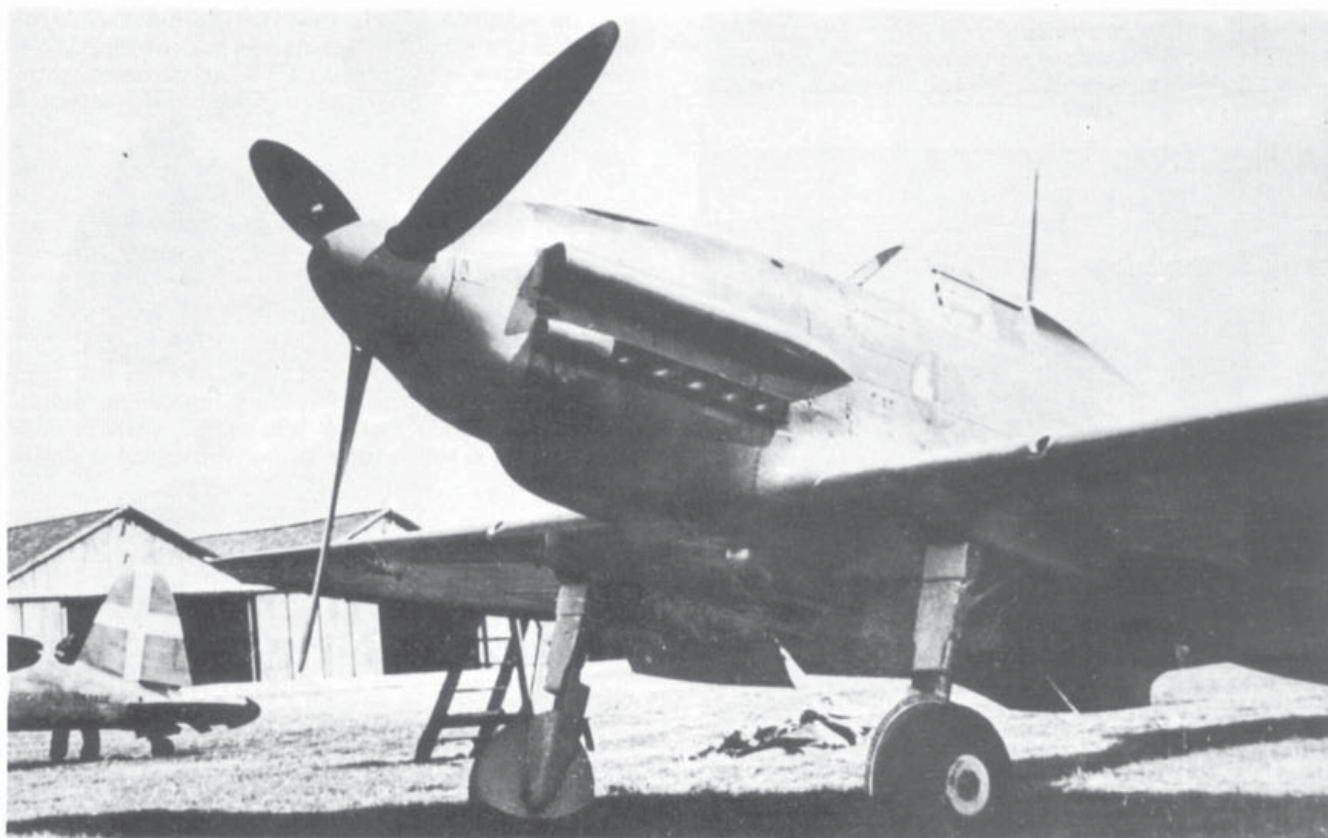


Reggiane RE. 2001 Falco II

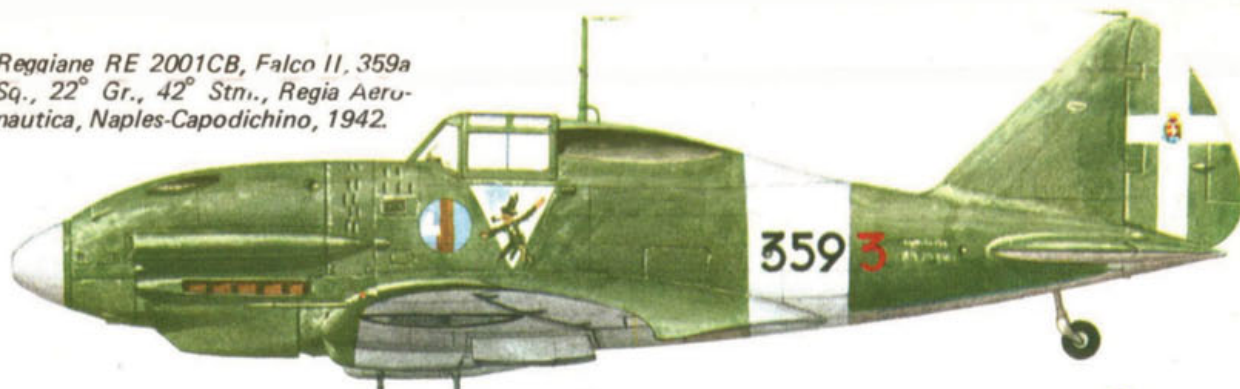
Fighters



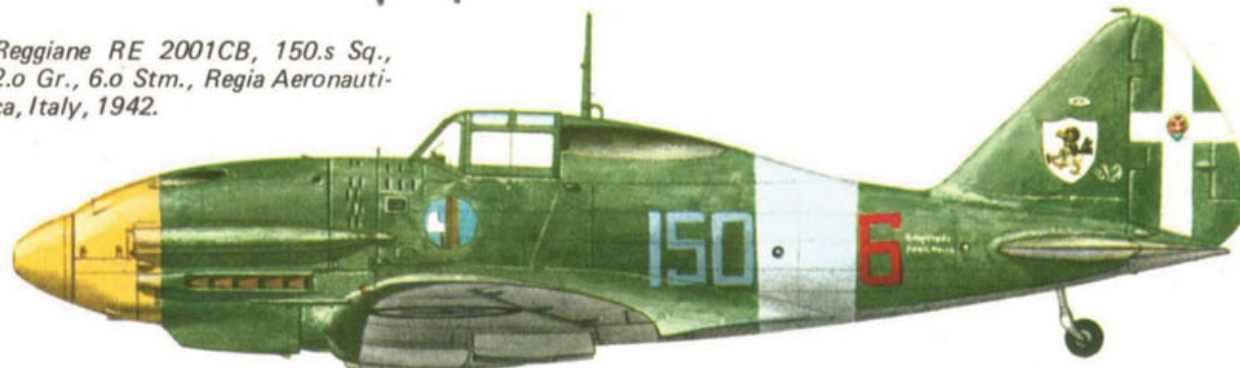
The Reggiane RE 2001 Falco II (Falcon II) fighter was the first successful attempt to marry the airframe of a Serie 0 fighter to a German-produced liquid-cooled engine. The combination of the RE 2000 airframe and the Daimler-Benz DB-601 (later produced under license by Alfa Romeo as RA.1000 RC.41 Monson - monsoon) produced a tough and stable fighter-bomber. The Falco II was comparable to the Curtiss P-40C but was more agile and had a better climb. Compared to the C.202, the RE 2001 was slower but more stable with a lower wing-loading, which allowed the installation of two 20 mm wing guns. Above: the MM.409 prototype, and below, a Serie 0 RE 2001.



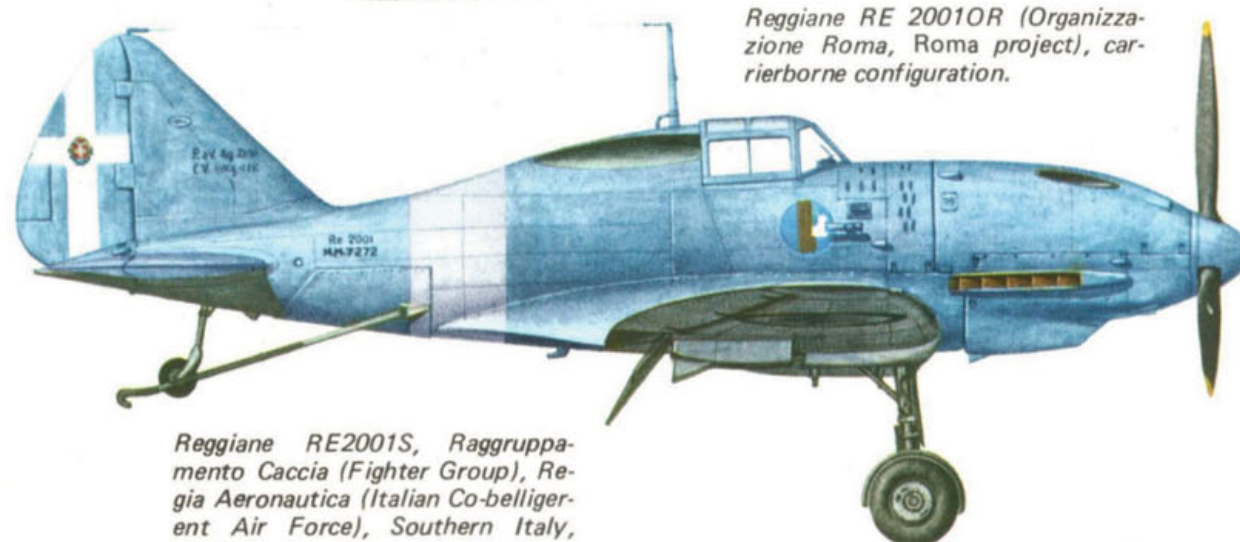
Reggiane RE 2001CB, Falco II, 359a Sq., 22° Gr., 42° Stm., Regia Aeronautica, Naples-Capodichino, 1942.



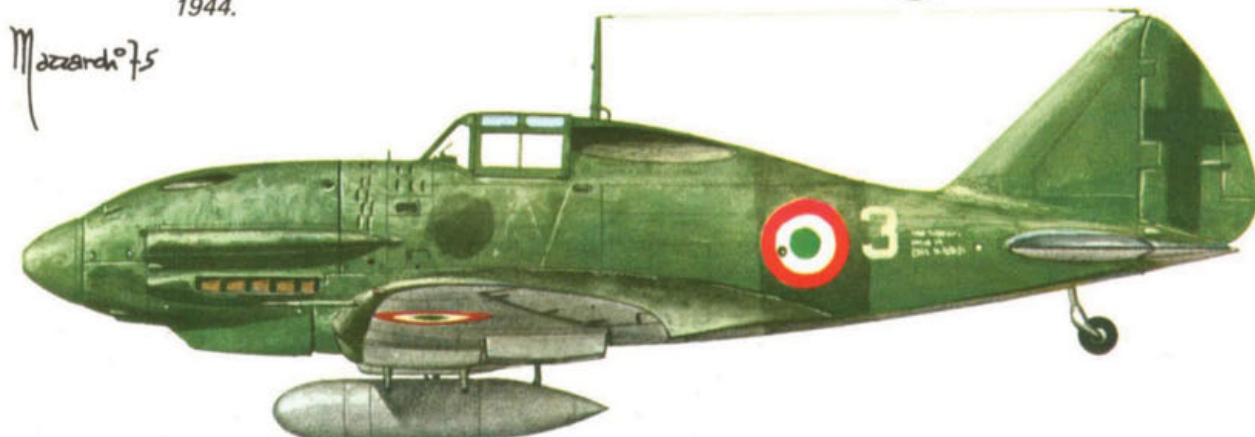
Reggiane RE 2001CB, 150.s Sq., 2.o Gr., 6.o Stm., Regia Aeronautica, Italy, 1942.



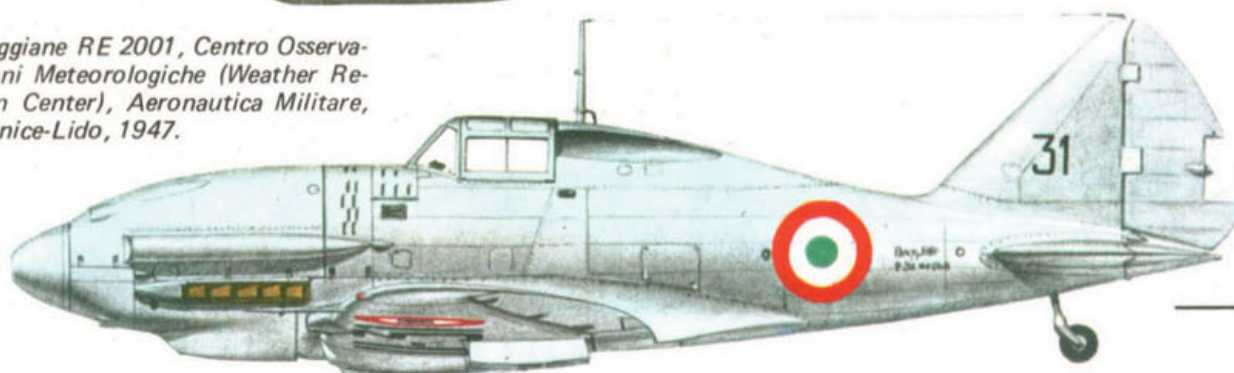
Reggiane RE 2001OR (Organizzazione Roma, Roma project), carrierborne configuration.

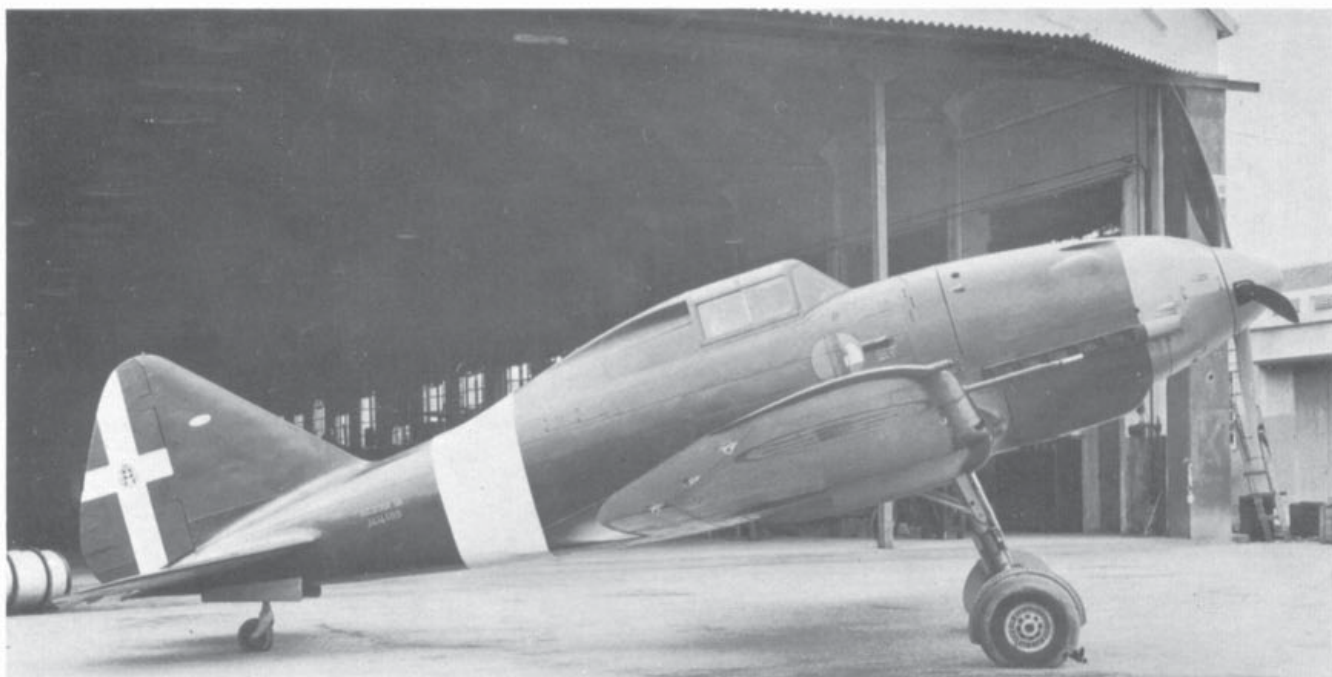


Reggiane RE2001S, Raggruppamento Caccia (Fighter Group), Regia Aeronautica (Italian Co-belligerent Air Force), Southern Italy, 1944.



Reggiane RE 2001, Centro Osservazioni Meteorologiche (Weather Recon Center), Aeronautica Militare, Venice-Lido, 1947.





Above: the RE 2001 bis (MM.408, a modified RE 2000 prototype) with a redesigned wing, which reached 600 km/h but was not produced in series. Right: an RE 2001CN Falco II Serie IV (MM.90000) with exhaust flame dampers, 20 mm Mauser MG151 wing guns, a belly shackle for a bomb weighing up to 250 kg, painted entirely in semi-gloss black.



Right: The tenth 2001CN Serie II (MM.90760), ordered as RE 2001OR for the aircraft carrier Aquila and converted during construction. This photo of the aircraft before painting was taken during a test flight.



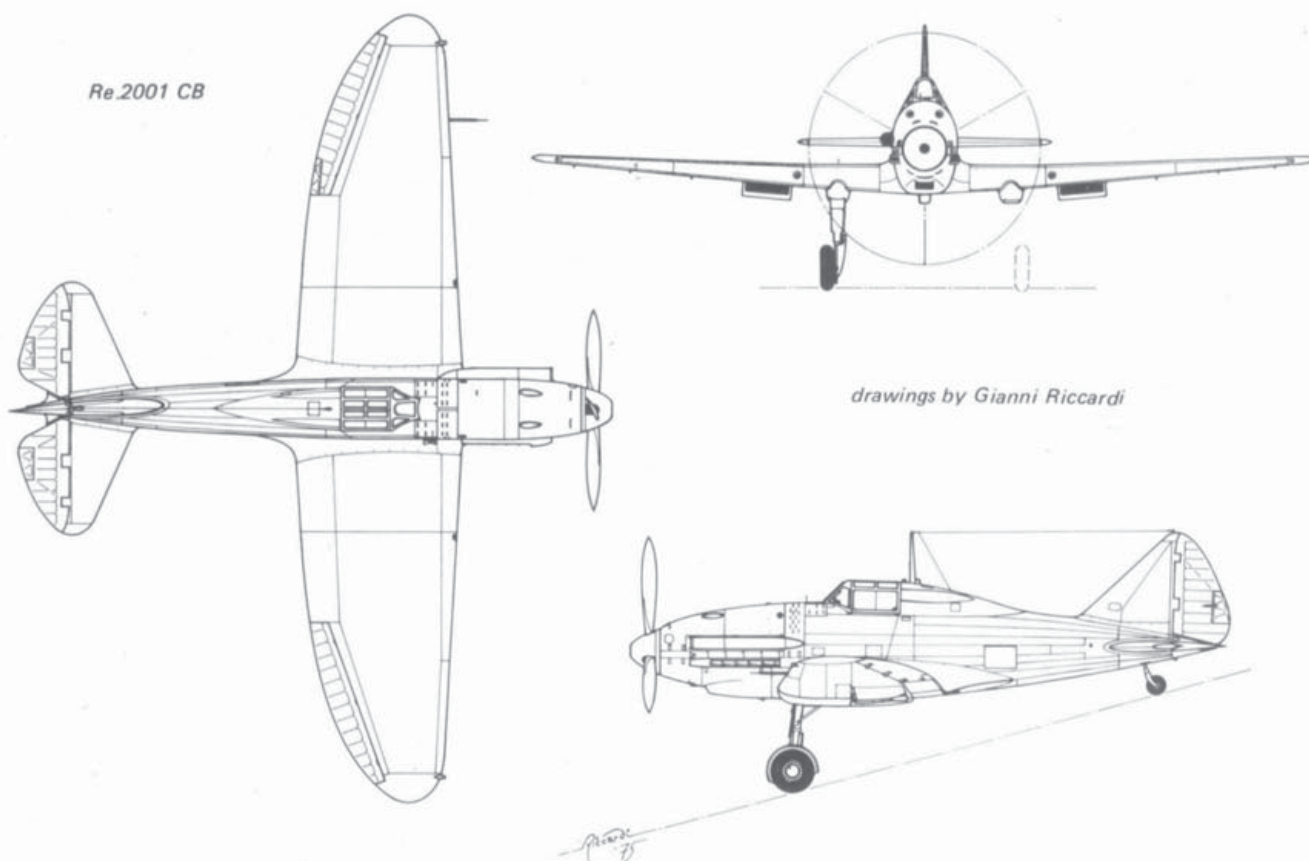
Right: RE 2001CB fighter-bombers of the 369.a Sq., 22.o Gruppo at Naples-Capodichino in June-July 1943. The white triangle behind the cockpit contained the unit insignia (a scarecrow), which is not visible in this picture.



Right: The RE 2001CN night fighters did not produce impressive results — a fate shared by all the Regia Aeronautica's night fighters. 124 of them were built.



Re.2001 CB



drawings by Gianni Riccardi

Reggiane RE 2001CB Falco II Serie I

Day fighter-bomber, single seat

Power plant: one Alfa Romeo RA.1000 RC.41-la Monzone (license-built Daimler-Benz DB-601A-1) 12-cylinder inverted Vee, liquid-cooled, rated at 1,175 HP for take-off and 1,050 HP max continuous power at 4,100 m.

Dimensions: wing span 11.00 m; length 8.36 m; height 3.15 m; wing area 20.40 sq m.

Weights: empty 2,640 kg; loaded 3,240 kg.

Performance: max speed 545 kmh at 5,470 m; cruise 469 kmh; minimum speed 120 kmh; climb to 6,000 m in 7 min 59 sec; service ceiling 11,000 m; range 1,040 km.

Armament: two 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 350 rpg and two 7.7 Breda-SAFAT MC.7.7 machine-guns with 600 rpg and one 100, 160 or 250 kg bomb.

Comparison among the RE 2001CB and foreign fighters of the same class and period

Type	Re.2001/1	Bf.109 F-3	Hurri.IIB	Spit. VC	P-40C
Rating, HP	1,175	1,300	1,460	1,470	1,150
Wing span, m	11.00	9.86	12.19	11.23	11.37
Length, m	8.36	8.85	9.82	9.12	9.66
Height, m	3.15	2.59	2.66	3.45	3.23
Empty weight, kg	2,460	1,963	2,500	2,300	2,635
Loaded weight, kg	3,240	2,750	3,175	3,070	3,655
Max. speed, kmh	545	627	550	600	555
at, m	5,470	6,700	6,700	4,000	6,800
climb to m	6,000	3,000	6,100	6,100	3,050
in	7'59"	2'36"	8'24"	7'30"	5'6"
Service ceiling, m	11,000	11,300	11,200	11,200	9,000
Range, km	1,100	700	770	760	1,175
Armament, mm	2x12.7	1x15	12x7.7	2x20	2x12.7
	2x7.7	2x7.9	—	4x7.7	—
Bombload, kg	250	—	450	450	—

Macchi C. 202 Folgore

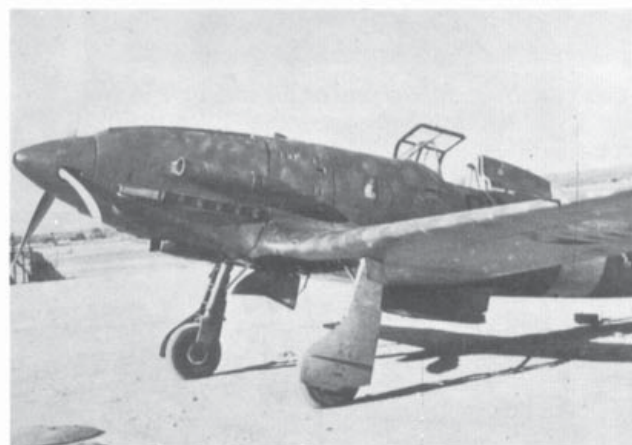
Fighters



Sometimes identified by U.S. pilots in the heat of battle as an RE 2001 or a Messerschmitt Bf. 109, the Macchi C.202 Folgore (Thunderbolt) was the best Italian fighter, and second only to the FIAT CR.42 in total numbers built. Despite a rather heavy, complex structure (it was much more expensive than the USAAF's P-40), it could easily match the 'Spitfire' Mk. VC, and in many situations, even beat it. Above: a C.202 of the 374.a Sq., 153.o Gr., 51.o Stm. CT in Sicily. Right: the prototype, MM.445, at the rollout in May 1940.



Right: The Folgore Serie III belonged to one of the last series produced without sand filters on the supercharger air intake. This aircraft, in fact, was intended for use on the eastern front, as can also be seen from the 'metropolitan' camouflage. The aircraft, of the 4.o Stm., was photographed at Comiso in Sicily in the Autumn of 1941.

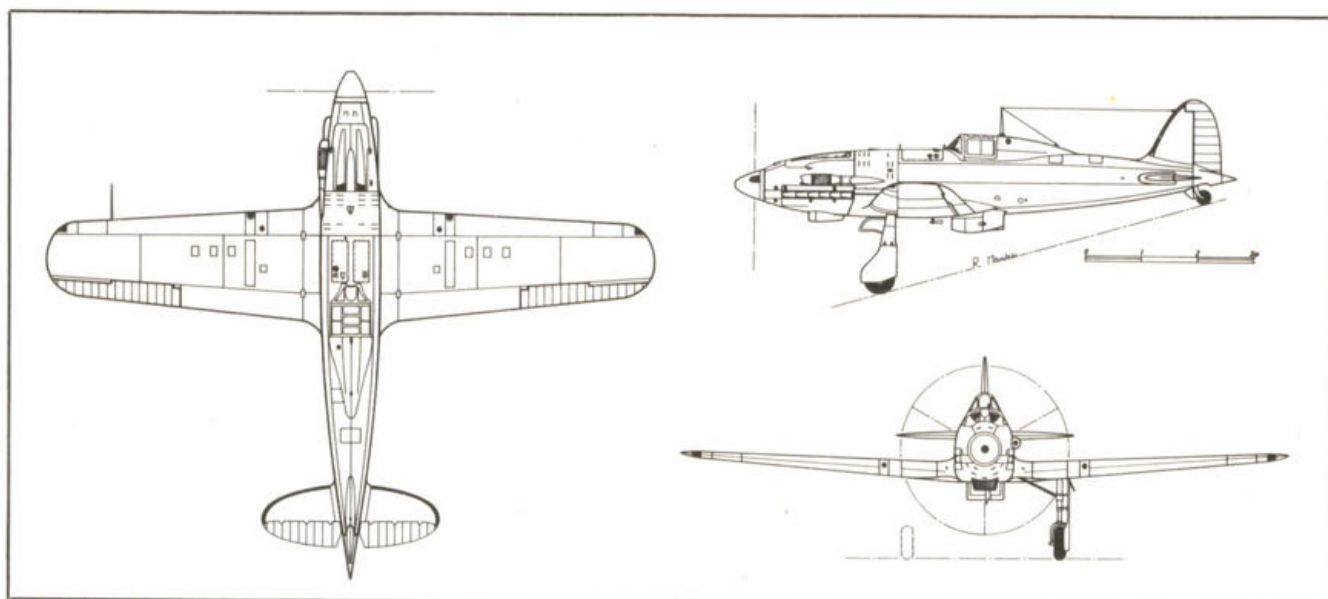


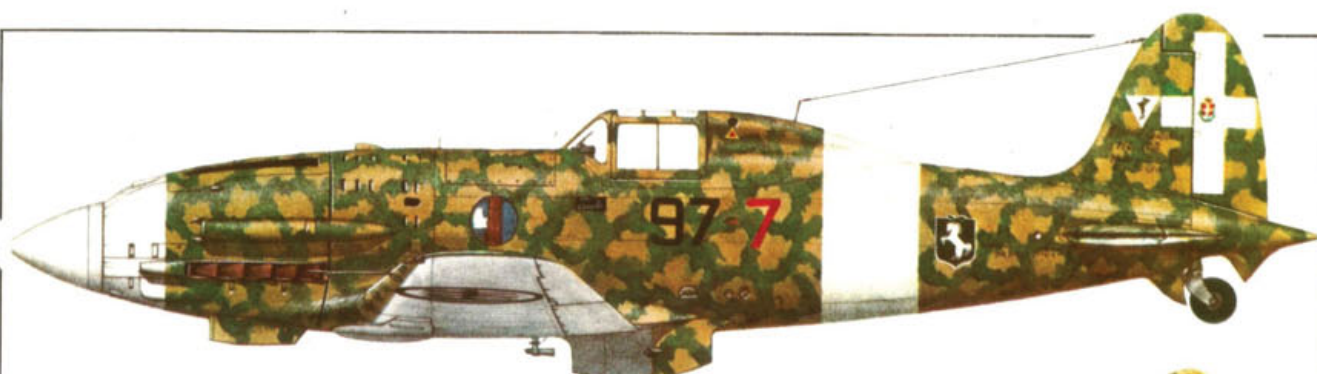
Right: the Folgore of the CO of the 153.o Gruppo CT, (the code CLIII on the fuselage stands for 153rd), 53.o Stm. 'Ace of Spades', identified by the vertical red stripe on the white identification band. Autumn 1942.



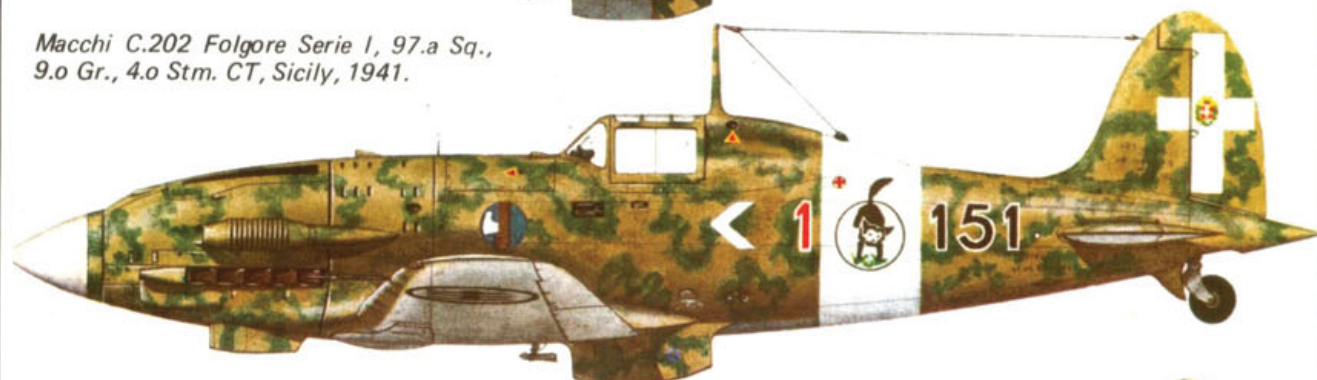


Two Macchi C.202 Folgore of the scramble section of the 73.a Squadriglia (named after Francesco Baracca, the top scoring WW I Italian ace) on an airstrip in Northern Africa. Barely visible in the background is a SIAI Marchetti SM.82 logistic transport.





*Macchi C.202 Folgore Serie I, 97.a Sq.,
9.o Gr., 4.o Stm. CT, Sicily, 1941.*



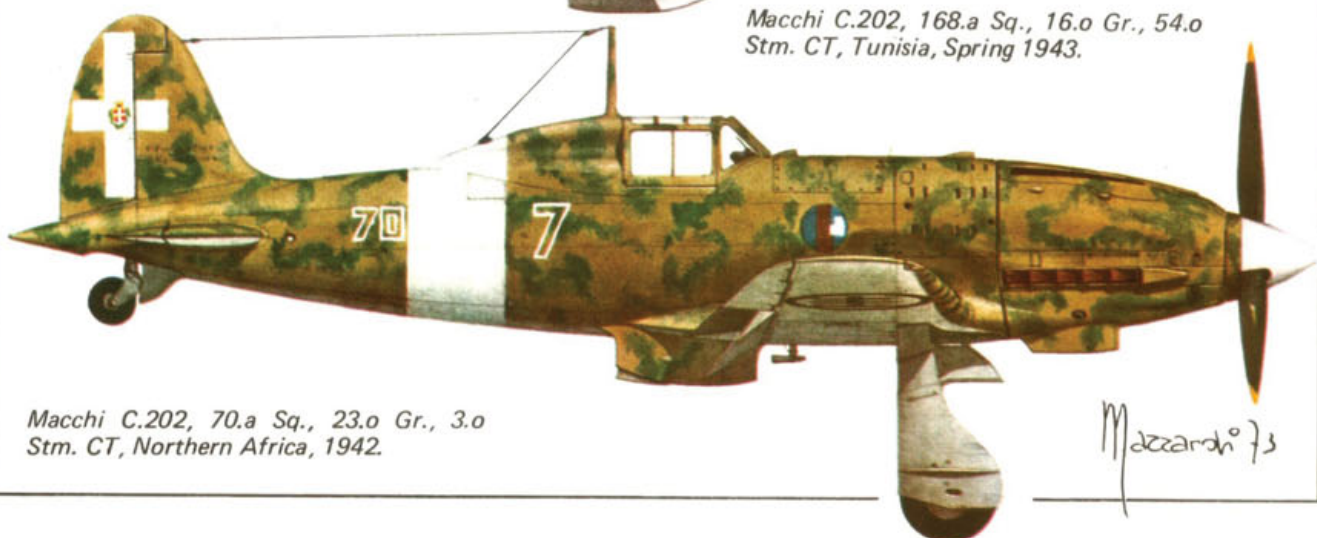
*Macchi C.202, of the CO of the 151.a
Sq., 20.o Gr., 51.o St. CT, Sardinia, 1942.*



*Macchi C.202, 386.a Sq., 22.o Gr. Aut.
CT, USSR, Spring 1942.*



*Macchi C.202, 168.a Sq., 16.o Gr., 54.o
Stm. CT, Tunisia, Spring 1943.*



*Macchi C.202, 70.a Sq., 23.o Gr., 3.o
Stm. CT, Northern Africa, 1942.*

Mazzardini 73

Macchi C.202AS/CB Folgore Serie XI

(built under license by Breda)
Day interceptor fighter with ground attack capabilities, single seat

Power plant: one Alfa Romeo RA.1000 RC.41-1 license-built Daimler-Benz DB-601Aa) 12-cylinder inverted Vee, liquid-cooled, rated at 1,175 HP for take-off and 1,030 HP max. continuous power at 4,100 m.

Dimensions: wing span 10.58 m; length 8.85 m; height 3.03 m; wing area 16.08 sq m.

Weights: empty, equipped 2,515 kg; loaded 3,069 kg. **Performance:** max. speed 599 at 5,600 m; climb to 6,000 m in 5 min 55 sec; service ceiling 11,500 m; range 765 km.

Armament: two 12.7 mm Breda-SAFAT MC.12.7 machine-guns with 400 rpg, two 7.7 mm Breda SAFAT MC.7.7 machine-guns with 500 rpg and two 50, 100 or 160 kg bombs (underwing bombs were very seldom used operationally).

Macchi C.202AS/CB Folgore Serie IX cutaway drawing key

- 1 Paggio P.1001 metal
- 2 Radiator propeller
- 3 Propeller shaft
- 4 Pitch control system
- 5 Propeller hub
- 6 Pitch control unit

- 7 Cooling air inlets (two)
- 8 Starboard wing
- 9 Electric wiring
- 10 Aileron rods
- 11 Navigation light (green)
- 12 Aileron
- 13 Flaps
- 14 Alfa Romeo RA.1000 RC.41-1 Monson engine
- 15 Engine mount
- 16 Machine-gun slots (two)
- 17 Zenit compressor
- 18 Water tank
- 19 Machine-gun barrel
- 20 Oil tank
- 21 Fixed sight
- 22 RC.12.7 machine-gun
- 23 Battery (two)
- 24 Air inlet and battery
- 25 Port machine-gun
- 26 Breach feed
- 27 Instrument panel
- 28 Fixed sight
- 29 Additional armored glass windshield
- 30 Sunlight
- 31 Head armor
- 32 Rearview indent
- 33 Fuel filler cap
- 34 Antenna mast
- 35 Antenna
- 36 Roll-bar
- 37 Fuel tank
- 38 B.30 radio set
- 39 Rear cockpit fairing

- 91 Pilot tube
- 92 Radiator assembly
- 93 Cooling duct from the engine
- 94 Flap (air exit door)
- 95 Water cooler
- 96 Venturi tube
- 97 Cooling duct to the engine
- 98 Cooler assembly
- 99 Port mainwheel
- 100 Wheel and brake
- 101 Mainwheel fork
- 102 Brake line

- 66 Tailwheel fork
- 67 Struts
- 68 Compressed air bottle
- 69 Pressurized vessel
- 70 Hydraulic reservoir
- 71 Footstep
- 72 Wing/fuselage fairing
- 73 Rear spar joint
- 74 Wing trailing edge
- 75 Wing construction
- 76 Landing gear position
- 77 Indicator
- 78 Landing gear axle
- 79 Breda-SAFAT MC.7.7 machine-gun
- 80 7.7 mm ammo (500 rounds)
- 81 Wing leading edge
- 82 Bombing
- 83 Flap (lowered)
- 84 Aileron
- 85 Wingtip
- 86 Wing construction
- 87 Navigation light (red)

- 42 Radio compartment
- 43 Inspection hatch
- 44 Fuselage construction
- 45 Horizontal tailplane
- 46 Elevator
- 47 Fin fairing
- 48 Rudder horn
- 49 Rudder construction
- 50 Tailcone
- 51 Navigation light
- 52 Elevator construction
- 53 Tailplane construction
- 54 Tailwheel
- 55 Tailwheel front fairing
- 56 Fuselage lifting point
- 57 Tailplane incidence device
- 58 Fixed strut
- 59 Fixed leg
- 60 Floating leg

- 105 Firing (three sections)
- 106 Shock absorber
- 107 Mainwheel leg
- 108 Retraction jack
- 109 Fuel tank
- 110 Landing gear lock
- 111 Landing gear doors
- 112 Seal
- 113 Bomb boxes (three with 400 rounds)
- 114 Compressor air intake with sand filter
- 115 Exhaust pipes
- 116 Oil cooler
- 117 Starboard mainwheel

Macchi C. 205 Veltro

Fighters



Externally identical to the C.202 except for the two oil coolers below the engine and the different tailwheel assembly, the Macchi C.205V Veltro (Greyhound) was essentially a Folgore with a Daimler-Benz DB-605A-1 engine rated at 1,475 HP. Above: The C.205V/AS Veltro Serie III, MM.9215, in August 1943. Left: the prototype of the C.205N Orione (Orion) version, MM.499, with greater wing area.

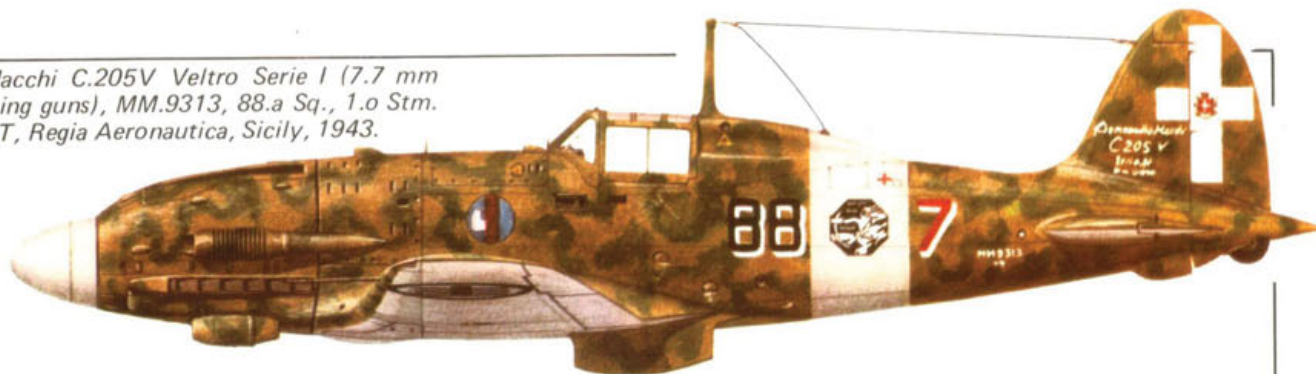


Left: The C.205N-2 Orione, MM.500, had a powerful armament of three 20 mm cannons and two 12.7 mm machine-guns. Extensively redesigned from the Veltro it was not produced.



Left: the prototype of the Veltro, MM.9287, in the summer of 1942. The Veltro Serie I had a maximum speed of 642 km/h, comparable to that of the 'Spitfire' Mk.IX and the Bf.109G, but it had a better climb rate than all the other fighters in the same class. About 380 were produced.

Macchi C.205V Veltro Serie I (7.7 mm wing guns), MM.9313, 88.a Sq., 1.o Stm. CT, Regia Aeronautica, Sicily, 1943.



Macchi C.205V Veltro Serie III, 85.a Sq., 18.o Gr., 3.o Stm. CT, Regia Aeronautica, Cerveteri (Rome), July-August 1943.



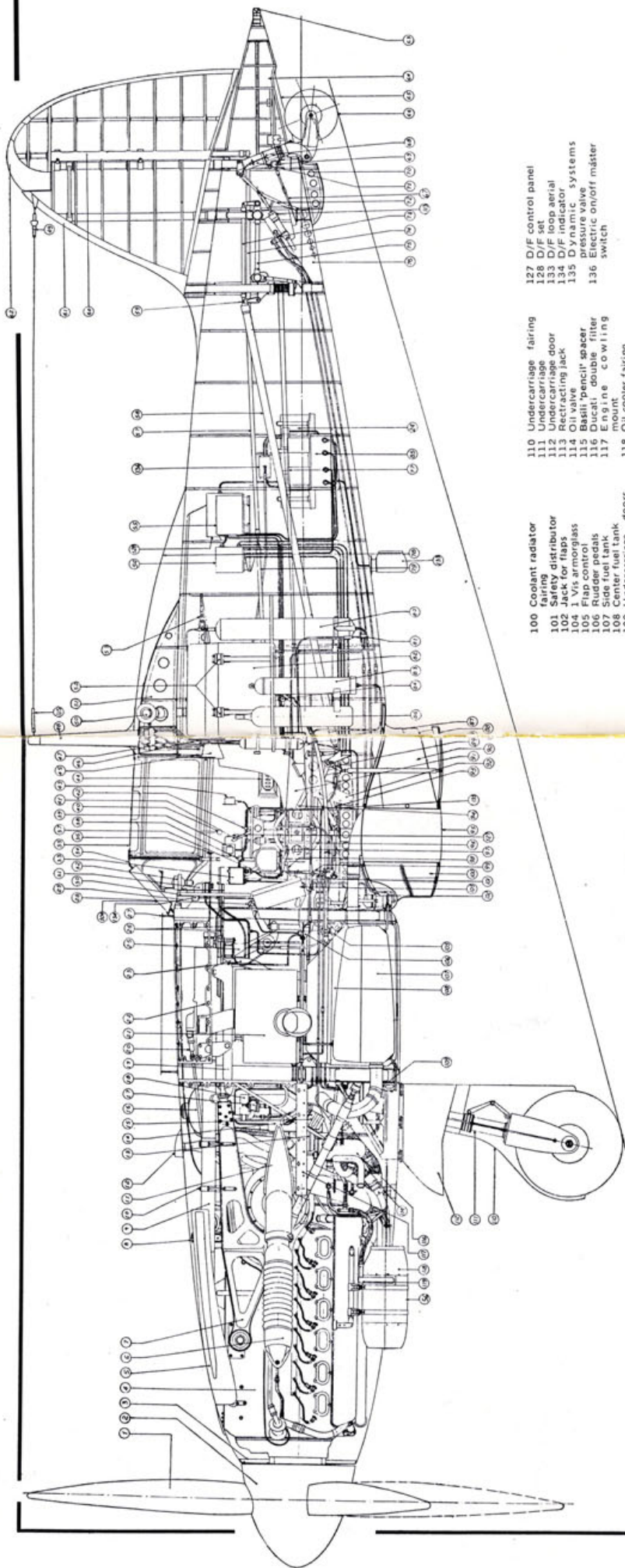
Macchi C.205V Veltro Serie III, MM. 92266, 1.a Sq. 'Asso di bastoni' (Ace of Spade), 1.o Gr. CT, Aeronautica Nazionale Repubblicana, Campoformido (Venetia), 1944. This aircraft was used by M.Ilo Magnaghi who on 30 January 1944 shot down two USAAF P-47.



Macchi C.205V Veltro Serie III, MM.92214, 4° Stm., Raggruppamento Caccia, Regia Aeronautica/Italian Co-belligerent Air Force, Lecce, October 1943.

Macchi C.205V Veltro (with C.202 tail), Royal Egyptian Air Force, Cairo, 1949. Later to be repainted silver-aluminum.





Macchi C.205V/AS Veltro Serie I side section key
(from the assembly and maintenance handbook, 1st edition, 1944)

- | | | | | | | | | | |
|----|-----------------------|----|----------------------|----|--------------------------|----|------------------------|-----|------------------------|
| 1 | Piaaggio P-2001 pro- | 25 | Main instrument | 49 | Basilis anti-ice insula- | 75 | Tailplane incidence | 100 | Coolant radiator |
| 2 | Prop spinner | 26 | Panel | 50 | Rail fuel tank filler | 76 | regulation rod | 101 | fairing |
| 3 | Front disc | 27 | Fixed sights | 51 | Roll-bar | 77 | strengthening structu- | 102 | Jack for flaps |
| 4 | DB-605A RC-58 | 28 | Landing gear unlock | 52 | Fuel tank mount | 78 | control wire | 103 | Oil pump |
| 5 | Engine | 29 | Control | 53 | Fuel tank mount | 79 | Cockpit rear fairing | 104 | Oil pump |
| 6 | Guns slots | 30 | Gunsight and compass | 54 | Frequency modulator | 80 | Rudder control rod | 105 | Basili "pencil" spacer |
| 7 | Compressor air intake | 31 | Mount | 55 | Radio receiver | 81 | Rudder control rod | 106 | Basili "pencil" spacer |
| 8 | FAST Type 2 turbo- | 32 | Mount | 56 | Radio receiver | 82 | Rudder control rod | 107 | Basili "pencil" spacer |
| 9 | charger | 33 | OMI 0.3 compass | 57 | Rudder control rod | 83 | Rudder control rod | 108 | Basili "pencil" spacer |
| 10 | Blast tube | 34 | OMI 0.3 compass | 58 | Elevator control rod | 84 | Rudder control rod | 109 | Basili "pencil" spacer |
| 11 | Blast tube mount | 35 | gunsight | 59 | Elevator control rod | 85 | Rudder control rod | 110 | Basili "pencil" spacer |
| 12 | Generator distributor | 36 | Auxiliary panel | 60 | Rudder | 86 | Rudder control rod | 111 | Basili "pencil" spacer |
| 13 | Generator distributor | 37 | Vis armored glass | 61 | Rudder | 87 | Rudder control rod | 112 | Basili "pencil" spacer |
| 14 | Generator distributor | 38 | Vis armored glass | 62 | Rudder | 88 | Rudder control rod | 113 | Basili "pencil" spacer |
| 15 | Generator distributor | 39 | Gun synchro control | 63 | Rudder | 89 | Rudder control rod | 114 | Basili "pencil" spacer |
| 16 | Generator distributor | 40 | Engine controls | 64 | Rudder | 90 | Rudder control rod | 115 | Basili "pencil" spacer |
| 17 | Generator distributor | 41 | Prop pitch control | 65 | Rudder | 91 | Rudder control rod | 116 | Basili "pencil" spacer |
| 18 | Generator distributor | 42 | Antenna voltage me- | 66 | Rudder | 92 | Rudder control rod | 117 | Basili "pencil" spacer |
| 19 | Generator distributor | 43 | Canopy release | 67 | Rudder | 93 | Rudder control rod | 118 | Basili "pencil" spacer |
| 20 | Generator distributor | 44 | Oil cooler control | 68 | Rudder | 94 | Rudder control rod | 119 | Basili "pencil" spacer |
| 21 | Generator distributor | 45 | Oil cooler control | 69 | Rudder | 95 | Rudder control rod | 120 | Basili "pencil" spacer |
| 22 | Generator distributor | 46 | Door control | 70 | Rudder | 96 | Rudder control rod | 121 | Basili "pencil" spacer |
| 23 | Generator distributor | 47 | Headset socket | 71 | Rudder | 97 | Rudder control rod | 122 | Basili "pencil" spacer |
| 24 | Generator distributor | 48 | Electric panel | 72 | Rudder | 98 | Rudder control rod | 123 | Basili "pencil" spacer |
| | | | Rear seat armor | 73 | Rudder | 99 | Rudder control rod | 124 | Basili "pencil" spacer |
| | | | Fuel vent | 74 | Rudder | | | 125 | Basili "pencil" spacer |
| | | | Saren antenna mast | | | | | 126 | Basili "pencil" spacer |

Main instrument panel drawing key

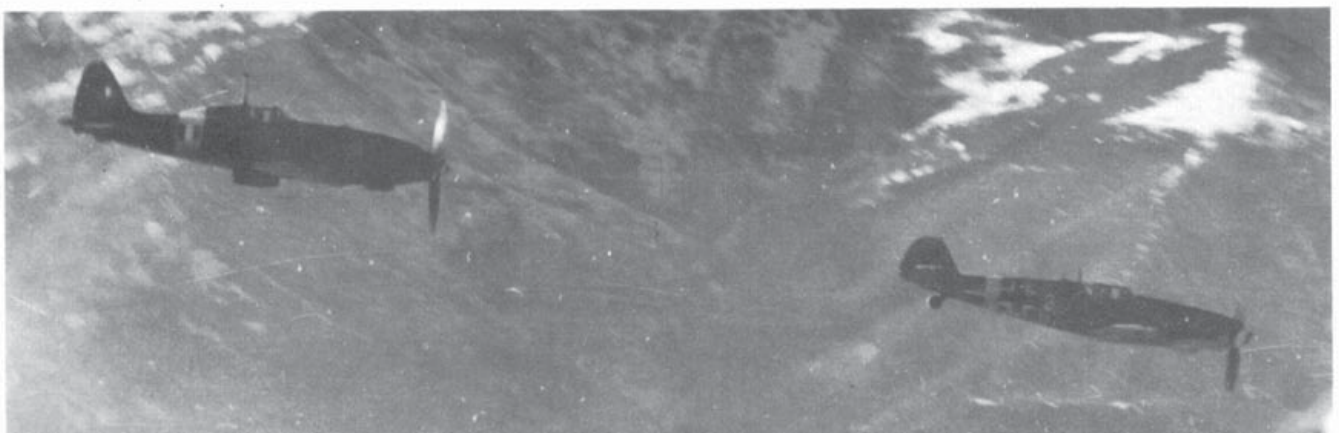
- | | | | |
|----|------------------------|----|-------------------------|
| 1 | Type altimeter | 28 | Compressed air bottle |
| 2 | Altitude indicator | 29 | Pilot heating warning |
| 3 | Turn-and-bank indica- | 30 | C.R-2 ammeter for |
| 4 | tor | 31 | 12.7 mm rounds |
| 5 | Rate of climb indica- | 32 | Provision for 7.7 mm |
| 6 | tor | 33 | rounds ammeters |
| 7 | OMI artificial horizon | 34 | Generator warning |
| 8 | OMI indicator | 35 | light |
| 9 | OMI 0.8 compass | 36 | Main electric on/off |
| 10 | Flight hours clock | 37 | switch |
| 11 | Turbo-charger pres- | 38 | Magnet delay control |
| 12 | sure gauge | 39 | switch |
| 13 | RPM indicator | 40 | Throttle off switch |
| 14 | Oil pressure gauge | 41 | gun re-cocking machine- |
| 15 | Fuel pressure pump | 42 | gun re-cocking machine- |
| 16 | Electric fuel pump | 43 | gun re-cocking machine- |
| 17 | Warning light | 44 | gun re-cocking machine- |
| 18 | Electric fuel pump | 45 | gun re-cocking machine- |
| 19 | on/off switch | 46 | gun re-cocking machine- |
| 20 | Double water temper- | 47 | gun re-cocking machine- |
| 21 | ature indicator | 48 | gun re-cocking machine- |
| 22 | Double oil temper- | 49 | gun re-cocking machine- |
| 23 | ature indicator | 50 | gun re-cocking machine- |
| 24 | Undercarriage indica- | 51 | gun re-cocking machine- |
| 25 | tor | 52 | gun re-cocking machine- |
| 26 | Undercarriage on/off | 53 | gun re-cocking machine- |
| 27 | switch | 54 | gun re-cocking machine- |
| | | 55 | gun re-cocking machine- |
| | | 56 | gun re-cocking machine- |
| | | 57 | gun re-cocking machine- |
| | | 58 | gun re-cocking machine- |
| | | 59 | gun re-cocking machine- |
| | | 60 | gun re-cocking machine- |
| | | 61 | gun re-cocking machine- |
| | | 62 | gun re-cocking machine- |
| | | 63 | gun re-cocking machine- |
| | | 64 | gun re-cocking machine- |
| | | 65 | gun re-cocking machine- |
| | | 66 | gun re-cocking machine- |
| | | 67 | gun re-cocking machine- |
| | | 68 | gun re-cocking machine- |
| | | 69 | gun re-cocking machine- |
| | | 70 | gun re-cocking machine- |
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| | | 97 | gun re-cocking machine- |
| | | 98 | gun re-cocking machine- |
| | | 99 | gun re-cocking machine- |



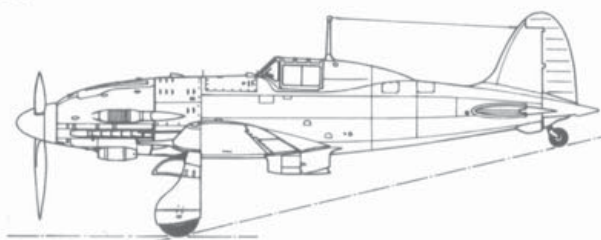
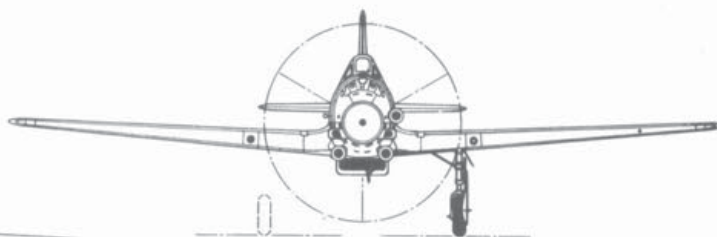
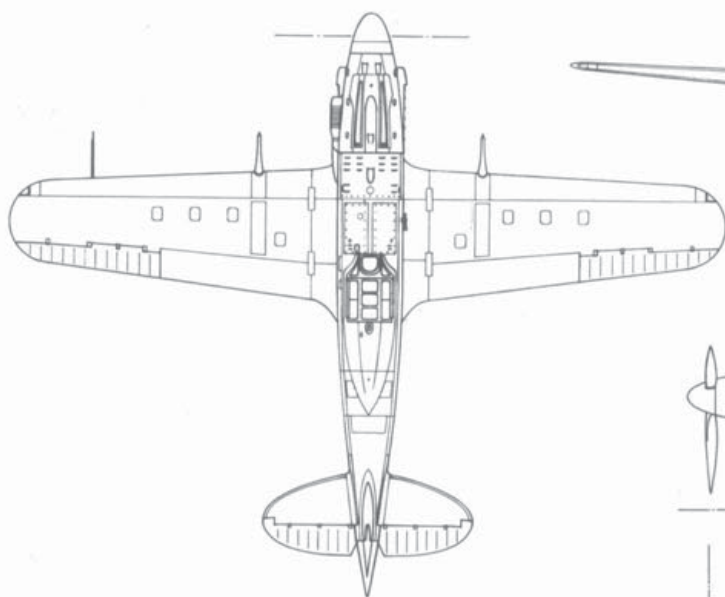
Above: C.205V/AS Veltro Serie I, MM.9291, of the 360.a Squadriglia, 51.o Stormo ('Black Cat') at Trapani-Chinisia (Sicily) during the days of the Allied landing. Left: the same aircraft about to take off to attack enemy escort fighters. Note the 'ring' camouflage, one of several variations in Italian camouflage.



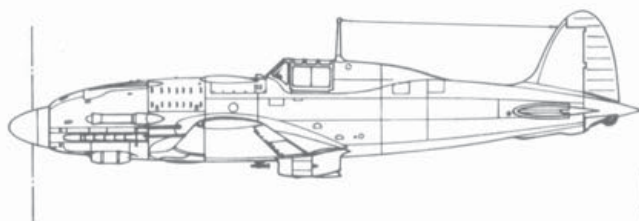
Left: Catania, Sicily, June 1943. The Veltros of the 79.a Sq. 1o Stm at rest between fighting. After the fall of the Fascist regime on July 25, 1943, all the 'fasces' devices were removed from the aircraft. Below: one of the ANR's C.205s patrolling in the Alps with a Bf. 109 of the Luftwaffe's 3/JG77.



Macchi C.205V Veltro Serie III
(drawings by Gianni Riccardi)



C.205V Serie I (with 7.7 mm wing guns)



C.205N



C.205N-1

Riccardi
75

Macchi C.205V/AS Veltro Serie I
Day fighter, single seat

Power plant: one FIAT RA.1050 RC.58 Tifone (license-built Daimler-Benz DB-605A-1) 12-cylinder, inverted Vee, liquid-cooled engine rated at 1,475 HP for take-off and 1,250 HP at 5,700 m.

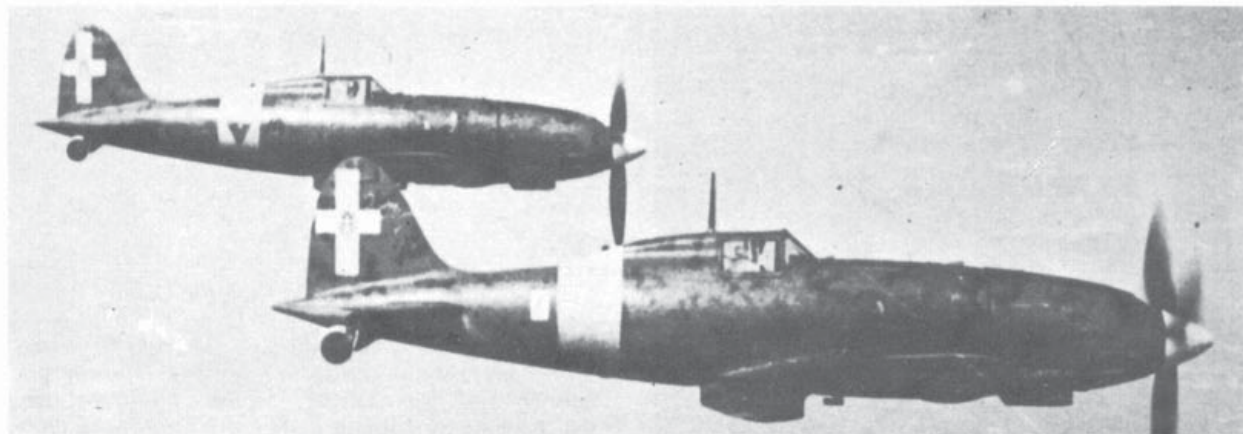
Dimensions: wing span 10.58 m; length 8.84 m; height 3.03 m; wing area 16.80 sq m.

Weights: empty 2,581 kg; loaded 3,408 kg.

Performance: max. speed 642 kmh at 7,200 m; climb

to 6,000 m in 5 min 3 sec, to 8,000 m in 9 min 9 sec; service ceiling 11,000 m; range 1,050 km.

Armament: two 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 370 rpg and two 7.7 mm Breda-SAFAT MC.7,7 machine-guns with 500 rpg (early aircraft) or two 20 mm Mauser MG-151/20A guns. CB configuration has underwing racks for two 160 kg bombs.

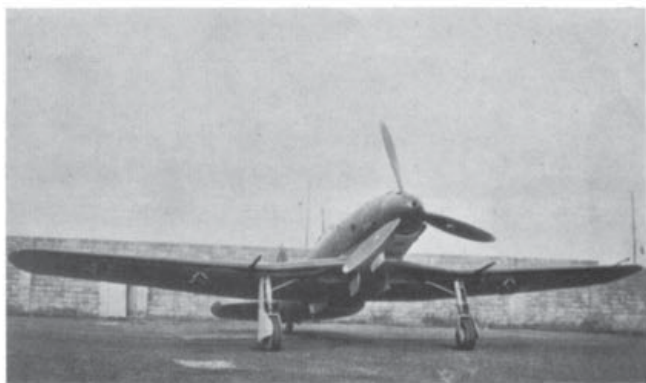


Fiat G. 55 Centauro

Fighters



The Fiat G.55 Centauro (Centaur) was one of the three Serie 5 fighters to enter service, and, like the others was powered by a 1,475 HP Daimler-Benz engine produced under license by FIAT. Among its better characteristics were high altitude manoeuvrability and heavy armament. Above: the Centauro MM.91058, which belonged to the 353.a Sq., was later requisitioned by the Luftwaffe, and eventually assigned to the 2.o Gr. CT of the ANR. Left: one of the prototypes with characteristic FIAT 'lizard camouflage'.



Left: The G.55 Centauro Sottoserie 0 MM.091066, updated to Serie 1 standard and fitted with a DB-603 engine, acquired together with two other aircraft by the Luftwaffe and ferried to Rechlin in the summer of 1943. The RLM was interested in the series. Production of the G.55, begun during the war, was continued afterward, and finished G.55s were delivered to the Regia Aeronautica and foreign customers in the late 1940's.



Left: a Centauro Sottoserie 0 of the Diavoli Rossi ('Red Devils') Sq., 2.o Gr. of the ANR on the field at Cascina Vaga in Lombardy in 1943. Sgt. Rolando Ancillotti and, on his left, the crew chief, in flight gear. The aircraft has a light-colored camouflage, inspired by the Luftwaffe, which was later painted darker. In front of the supercharger air-intake is the 'Red Devil' insignia.

FIAT G.55 Centauro Serie I

Day fighter, single seat

Power plant: one FIAT RA.1050 RC.58 Tifone (license-built Daimler-Benz DB-605A) 12-cylinder inverted Vee, liquid-cooled engine rated at 1,475 HP for take-off, 1,250 HP at 5,800 m and 1,080 max. continuous power at 5,500 m.

Dimensions: wing span 11.85 m; length 9.37 m; height 3.13 m; wing span 21.11 sq m.

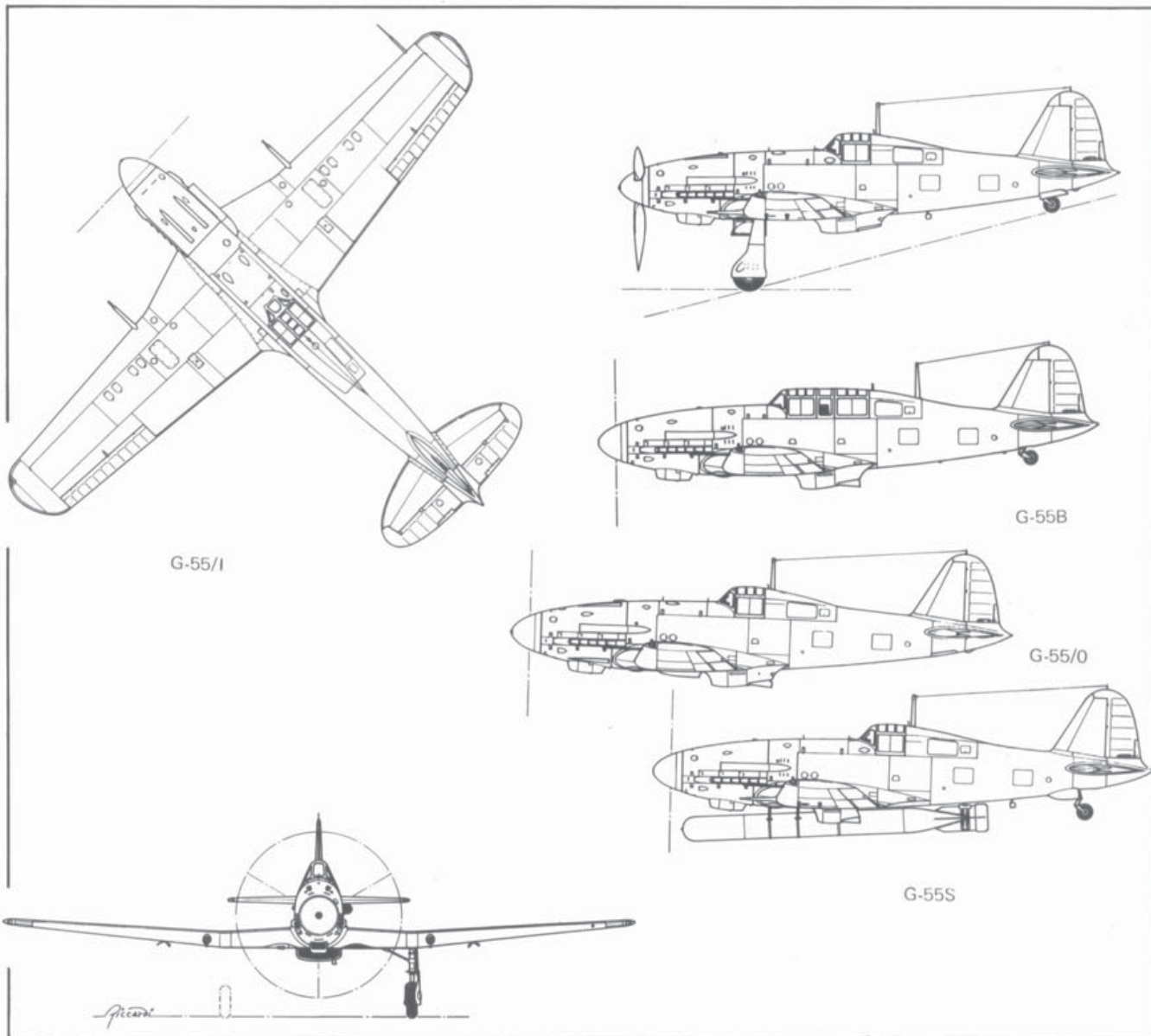
Weights: empty, equipped 2,630 kg; loaded 3,520 kg; max. take-off weight 3,718 kg.

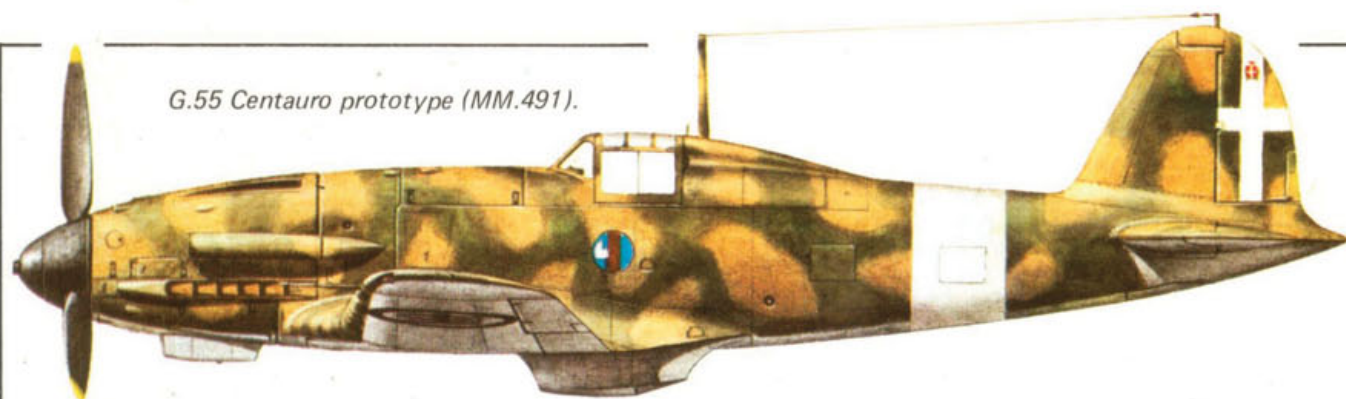
Performance: max speed 620 kmh at 7,100 m; climb to 6,000 m in 7 min 12 sec, to 8,000 m in 10 min 11 sec; service ceiling 12,000 m; absolute ceiling 12,750 m; range 1,010-1,200 km; max. still air range 1,650 km or 2 h 30 min (with two 100-litres auxiliary tanks).

Armament: three 20 mm Mauser MG-151/20A guns with 650 rounds (250 rounds for the engine-mounted one) and two 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 300 rpg plus two 160 kg bombs.

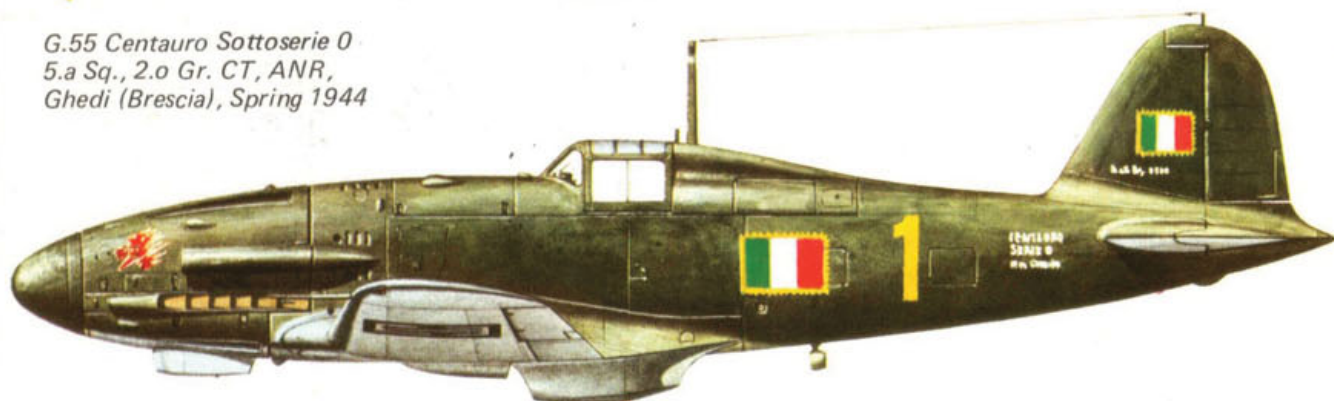


A G.55 Centauro of the 2.o Gr. CT of the ANR, the largest use of this fighter.





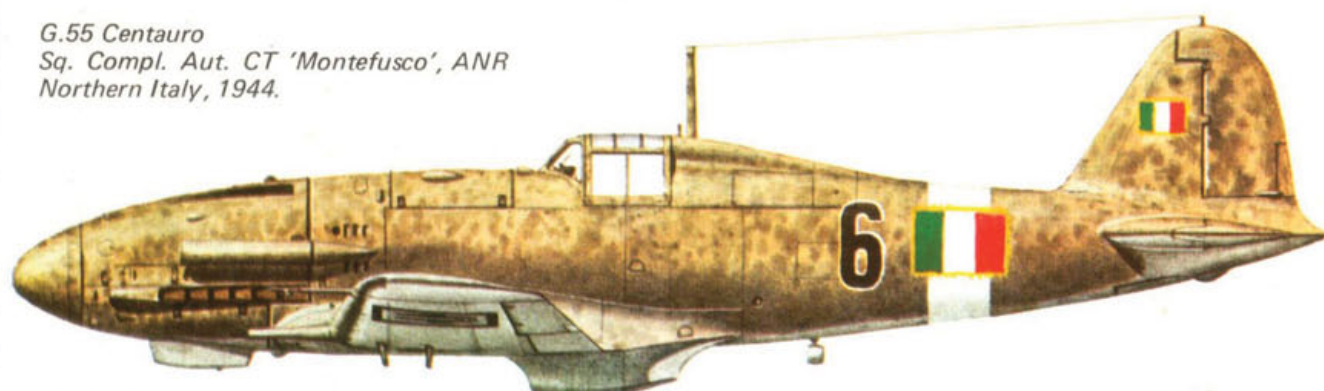
G.55 Centauro prototype (MM.491).



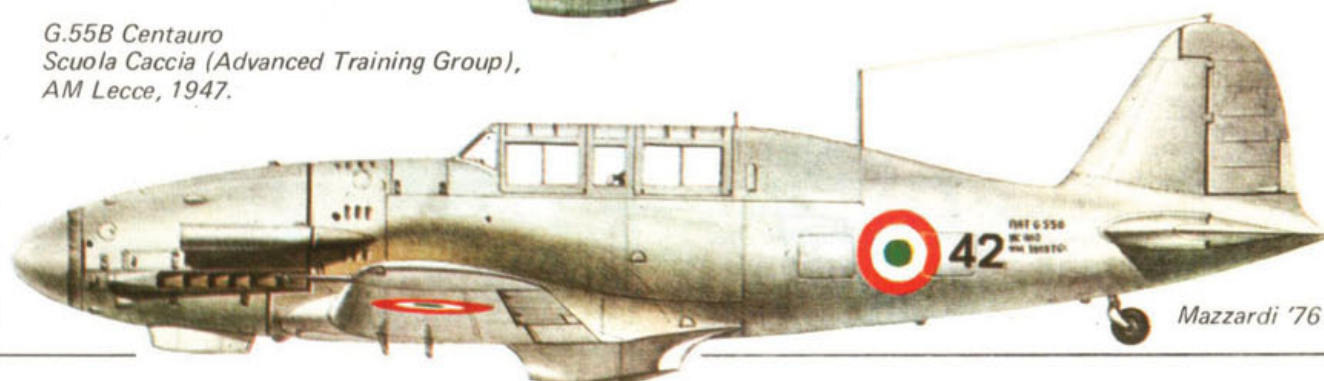
*G.55 Centauro Sottoserie 0
5.a Sq., 2.o Gr. CT, ANR,
Ghedi (Brescia), Spring 1944*



*G.55 Centauro
Sq. Complementare Aut. CT 'Montefusco',
ANR Venaria Reale (Turin), March
1944.*



*G.55 Centauro
Sq. Compl. Aut. CT 'Montefusco', ANR
Northern Italy, 1944.*

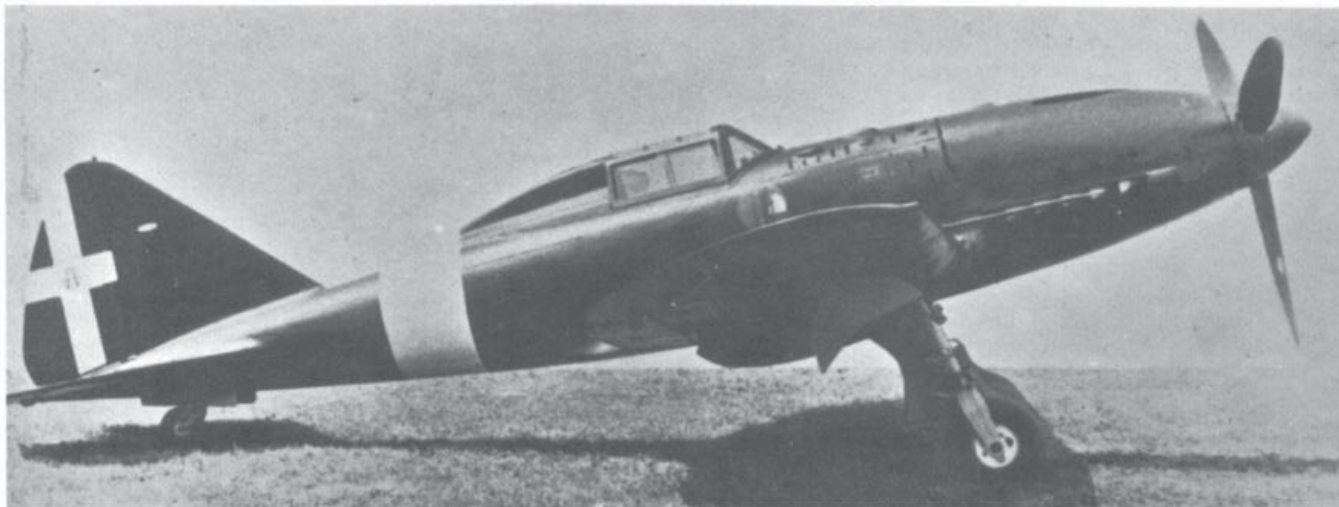


*G.55B Centauro
Scuola Caccia (Advanced Training Group),
AM Lecce, 1947.*

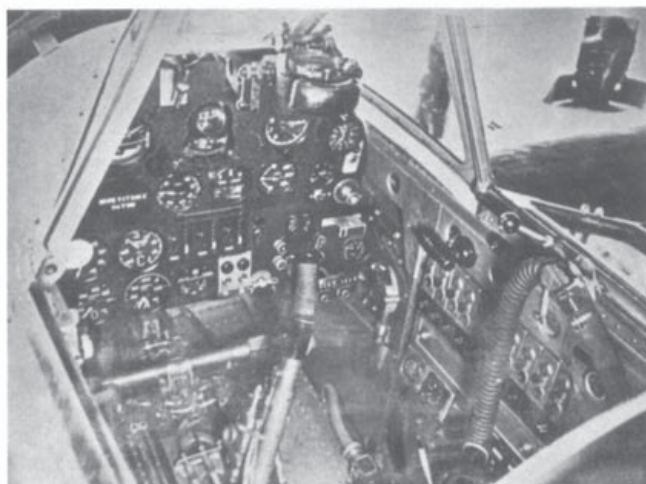
Mazzardi '76

Reggiane RE. 2005 Sagittario

Fighters

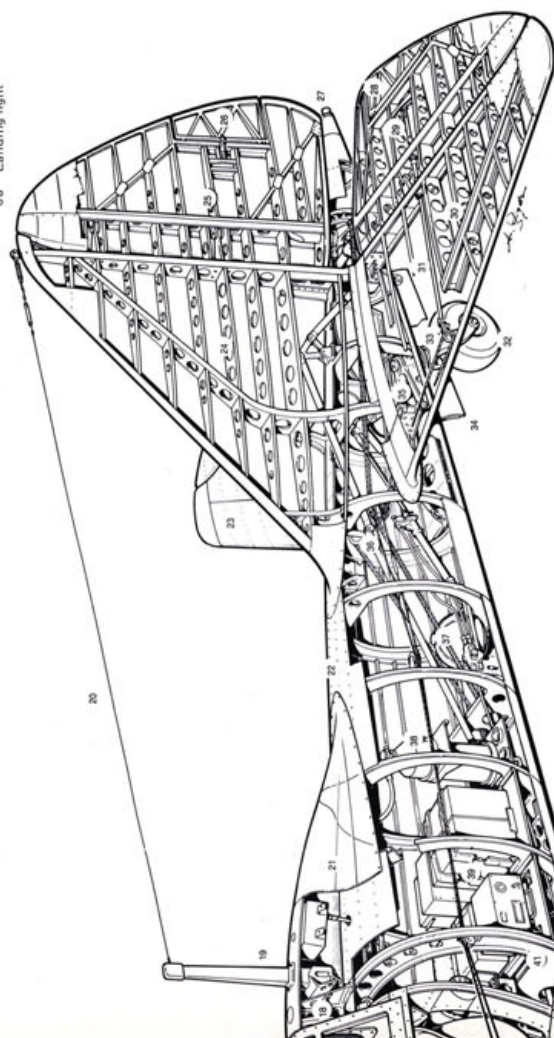


The Reggiane RE 2005 Sagittario (Sagittarius-Archer) was the best of the Serie 5 fighters, but was also produced in the fewest numbers, only 34 being built (two prototypes, 16 Sottoserie 0s and 16 Serie 1s). The Sagittario, well armed and highly manoeuvrable, took part in a number of missions as an interceptor fighter with the 362.a Sq., based at Naples-Capodichino. After the armistice, the ANR had three of them in service used as fighter trainers and the RA (Co-belligerent) had only three, grounded because of the lack of spare parts. One example captured at Sigonella in Sicily was taken to the US, but nothing has been heard of it for many years. The photos on this page show the MM.494 prototype (above, and below, after a belly-landing), one example of the 362.a Sq. at Naples-Capodichino and another aircraft, still of Sottoserie 0 at Milan-Bresso, belonging to the RAC (liaison detachment) of the ANR. Bottom left: the cockpit.

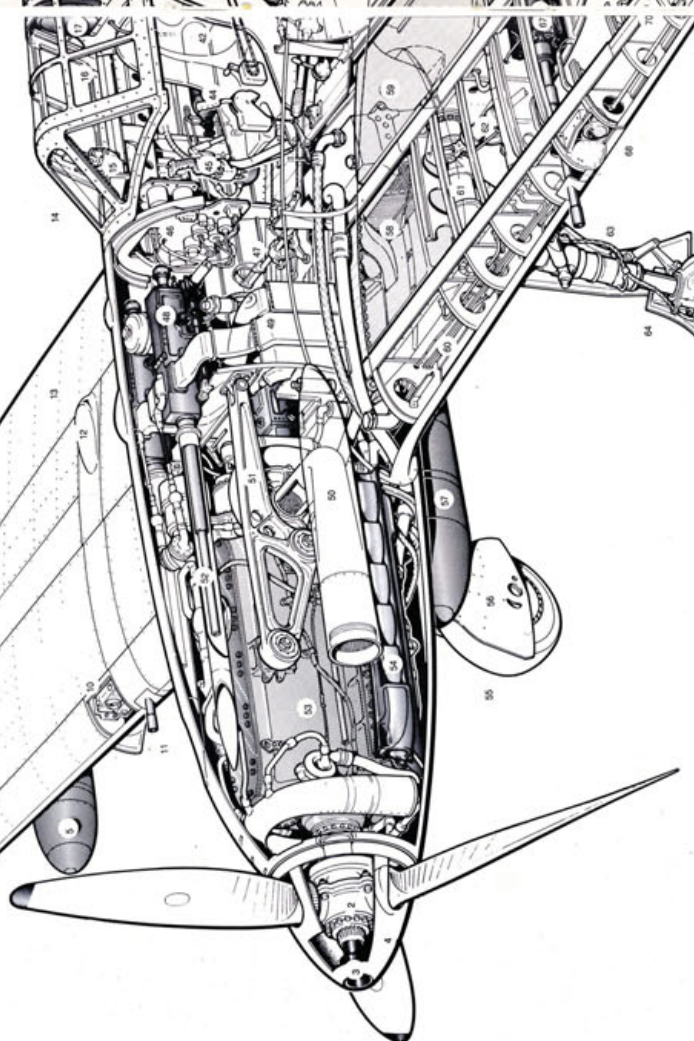


Reggiane RE 2005 Sagittario cutaway drawing key

- 1 Piaggio P.6001 three-blade propeller
- 2 Propeller hub and pitch control gear
- 3 20 mm MG-151/20 gun muzzle
- 4 Prop spinner
- 5 160 kg bomb or auxiliary fuel tank
- 6 Starboard wing
- 7 Navigation light (green)
- 8 Wingtip
- 9 Aileron
- 10 Leica Motor gun camera
- 11 20 mm Mauser MG-151/20 gun



- 62 Undercarriage actuator
- 63 Undercarriage leg
- 64 Undercarriage fairing
- 65 Main wheel fork
- 66 Main wheel
- 67 20 mm MG-151/20 gun
- 68 Landing light



- 12 Gun breech fairing
- 13 Fin
- 14 Windshield
- 15 S. Giorgio reflector
- 16 Cockpit canopy
- 17 Headrest
- 18 Antenna mast (under the fairing the injection fuel tank can be seen)
- 19 Antenna
- 20 Fuselage skin
- 21 Cockpit fairing
- 22 Fuselage skin
- 23 Tailplane
- 24 Fin construction
- 25 Rudder trim tab
- 26 Navigation light (white)
- 27 Control stick
- 28 Tailplane trim tab construction
- 29 Elevator construction
- 30 Tailplane construction
- 31 Trim tab control rod
- 32 Tailwheel tire
- 33 Tailwheel door
- 34 Retracting rod
- 35 Control runs
- 36 Patin master compass
- 37 Compressed air bottle
- 38 Radio set
- 39 D/F antenna
- 40 Fuselage frame
- 41 Pilot seat
- 42 Wing/fuselage fairing
- 43 Throttle and pitch
- 44 Control stick
- 45 Instrument panel
- 46 Radiator panel
- 47 Radiator
- 48 Fiat RA.1050 RC.58 Tifone engine
- 49 Exhaust pipes
- 50 Starboard mainwheel
- 51 Undercarriage fairing
- 52 250 kg bomb
- 53 Fuel tank
- 54 Fuel tank
- 55 Fuel tank
- 56 Fuel tank
- 57 Fuel tank
- 58 Fuel tank
- 59 Fuel tank
- 60 Fuel tank
- 61 Fuel tank
- 62 Fuel tank
- 63 Fuel tank
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- 75 Fuel tank
- 76 Fuel tank
- 77 Fuel tank
- 78 Fuel tank
- 79 Fuel tank

Reggiane RE 2005 Sagittario

Multipurpose day fighter, single seat

Power plant: one FIAT RA.1050 RC.58 Tifone (license-built Daimler-Benz DB-605A-1) 12-cylinder inverted Vee liquid-cooled engine rated at 1,475 HP for take-off, 1,355 HP emergency power at 5,700 m, and 1,250 HP at 5,800 m.

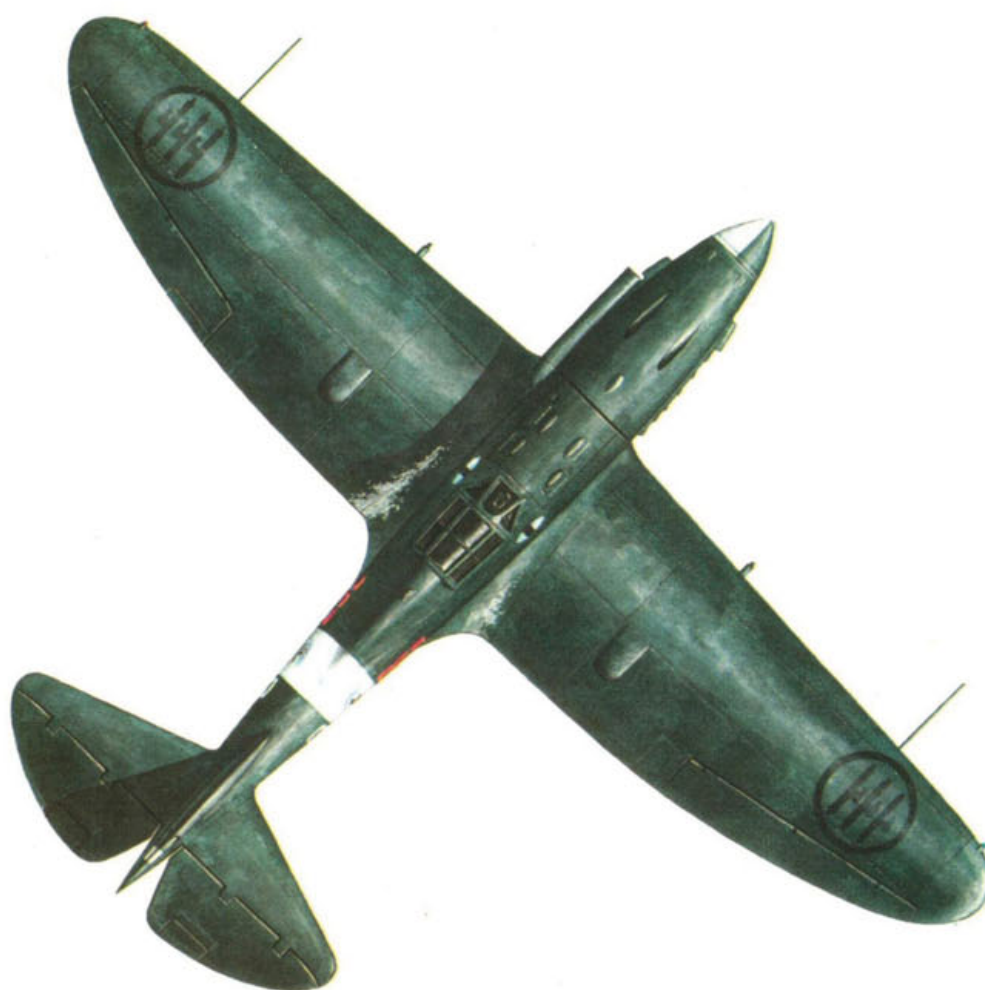
Dimensions: wing span 11.00 m; length 8.73 m; height 3.15 m; wing area 20.40 sq m.

Weights: empty 2,600 kg; loaded 3,574 kg; max. take-off weight 3,610 kg.

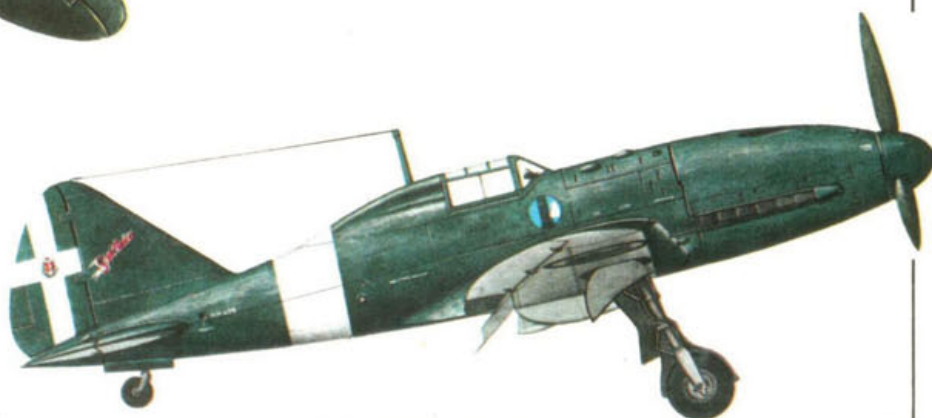
Performance: max. speed 628.5 kmh at 6,950 m; stalling speed 136 kmh; climb to 6,000 m in 5 min 30 sec, to 8,000 m in 7 min 50 sec; service ceiling 12,000 m; range 1,090-1,250 km.

Armament: three 20 mm Mauser MG-151/20A guns with 550 rounds (150 rounds for the engine-mounted one) and two 12.7 mm Breda-SAFAT MC.12.7 machine-guns with 350 rpg plus a 1,000 kg bombload.

- 69 Main spar
- 70 Front spar
- 71 Pilot tube
- 72 160 kg bomb (or auxiliary tank)
- 73 Multi-spar wing construction
- 74 Navigation light (red)
- 75 Wingtip
- 76 Aileron construction
- 77 Aileron trim tab construction
- 78 Fuel tank
- 79 Flap skin



Three-view drawing: Reggiane RE 2005 Sagittario Serie 0, MM.92350, 362.a Sq., 22.o Gr. Aut. CT, 3.a Squadra Aerea (Air Force), Aeronautica Militare, Naples-Capodichino, June 1943. Lower profile: Sagittario 2nd prototype, MM.495.



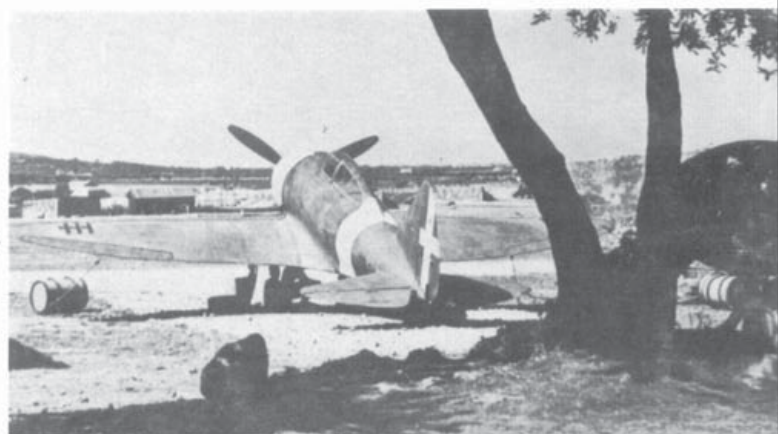
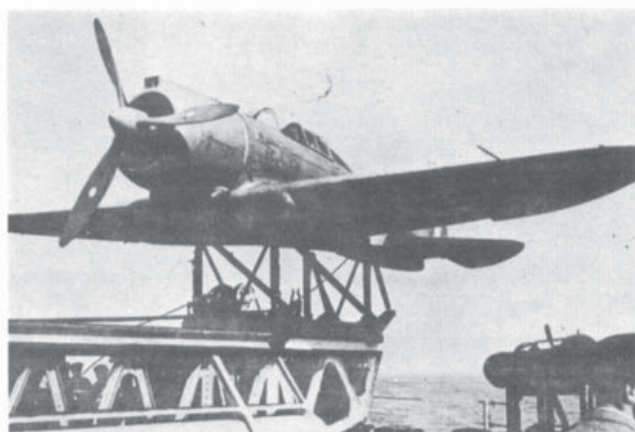
Other types

Fighters

Reggiane RE. 2000 Falco



Among the Series 0 fighters, the Reggiane RE 2000 Falco (Falcon - curiously, it had the same popular name as its rival, the CR.42) was of very advanced conception, but the Regia Aeronautica not appreciate its possibilities and made limited use of it. Right: the prototype MM.408, which may be considered equivalent to the first generation of the US monoplane fighters with retractable landing gear, and in particular the Seversky P-35A. Center right: primarily because of its range, the RE 2000 was built in a catapult launch version, destined to be taken aboard the Italian Navy's battleships. Below: the Regia Aeronautica in the Mediterranean used the long range version RE 2000 GA (Grande Autonomia, extended range), and the picture shows an aircraft with the characteristic canopy of the Serie I based at Comiso, Sicily, in April 1941. The RE 2000 was series produced in Hungary and ordered by Great Britain, France, Portugal and Sweden but, for political reasons and the outbreak of the war, only Sweden managed to use the type in service.



Reggiane RE 2000 Falco Serie I

Day interceptor fighter

Power plant: one Piaggio P.XI RC.40 14-cylinder two row radial air-cooled engine rated at 1,000 HP for take-off.

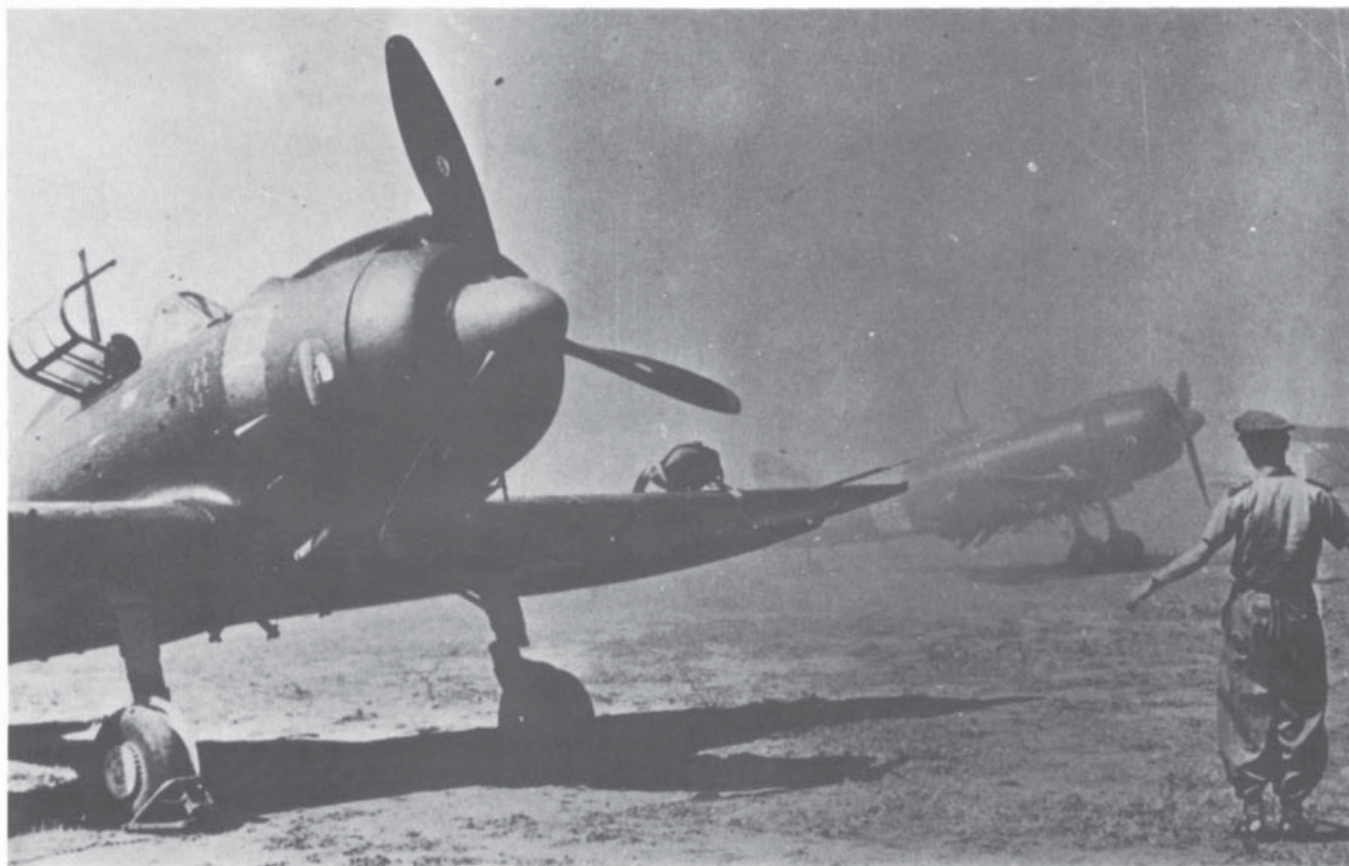
Dimensions: wing span 11.00 m; length 7.99 m; height 3.20 m; wing area 20,40 sq m.

Weights: empty 2,080 kg; loaded 2,540 kg.

Performance: max speed 530 kmh at 5,000 m; climb to 6,000 m in 6 min 10 sec; service ceiling 10,500 m; range 840 km.

Armament: two 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 300 rpg.

Reggiane RE. 2002 Ariete



The Reggiane RE 2002 Ariete (Aries-Ram) was a development of the RE 2001 powered by a Piaggio P. XIX RC.45 radial engine to get around the low production and availability of the in-line DB-601s. The RE 2002 was an excellent machine, but its Piaggio engine seized easily and this produced a number of fatal accidents. The photos on this page show the MM.454 prototype and examples from the 239.a Squadriglia before and after the Armistice with the Allies. The RE 2002 was similar in many ways to the Republic P-43 'Lancer'.

Reggiane RE 2002 Ariete Serie I

Day fighter-bomber, single seat

Power plant: one Piaggio P.XIX RC.45 Turbine B 14-cylinder two row radial air-cooled engine rated at 1,175 HP at 4,500 m.

Dimensions: wing span 11.00 m; length 8.16 m; height 3.15 m; wing area 20.40 sq m.

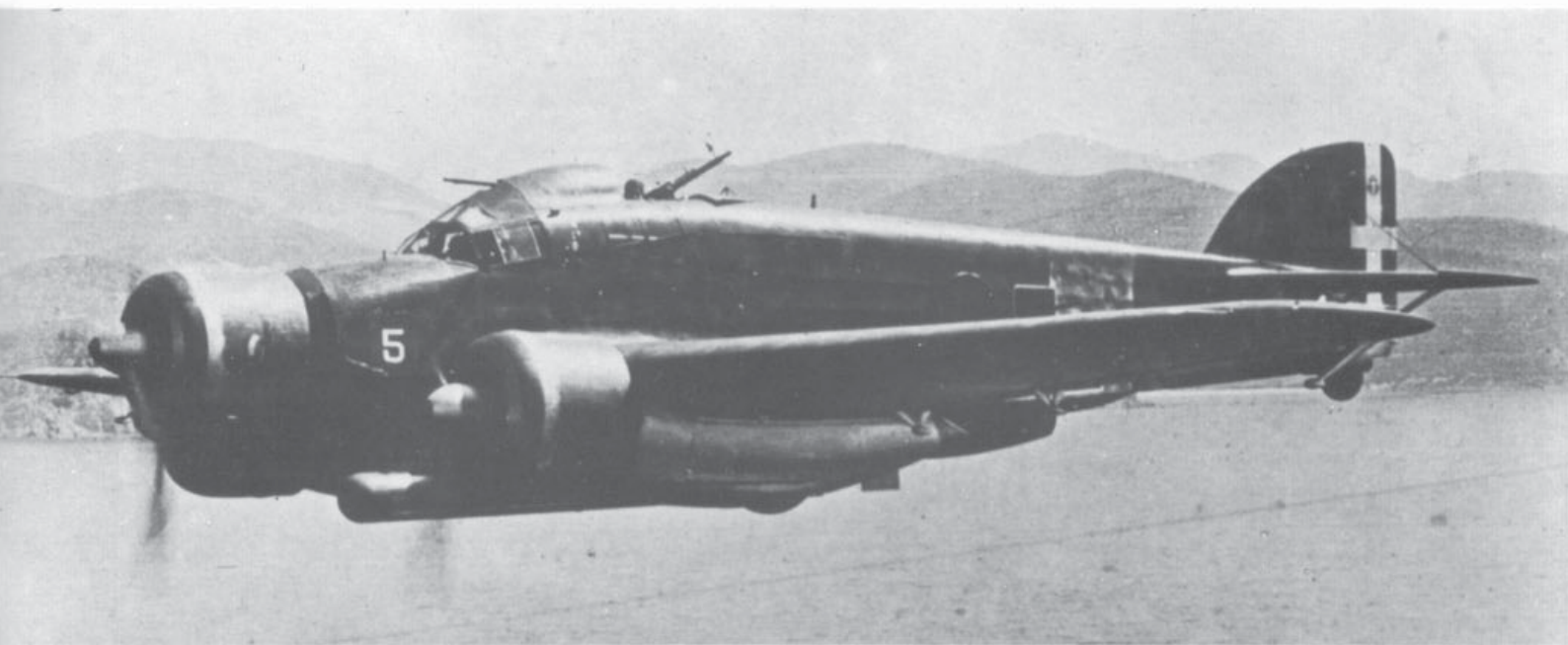
Weights: 2,390 kg; loaded 3,240 kg.

Performance: max speed 530 kmh at 5,500 m, 430 kmh at sea level; climb to 6,000 m in 8 min 48 sec; service ceiling 11,000 m; range 1,100 km.

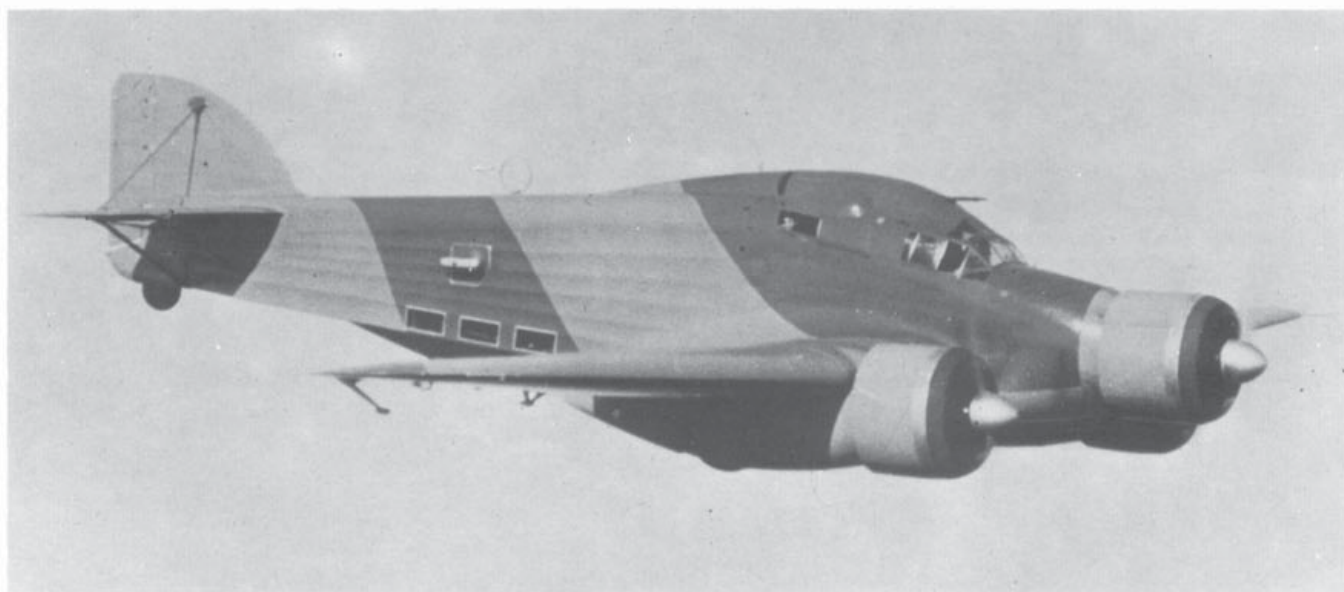
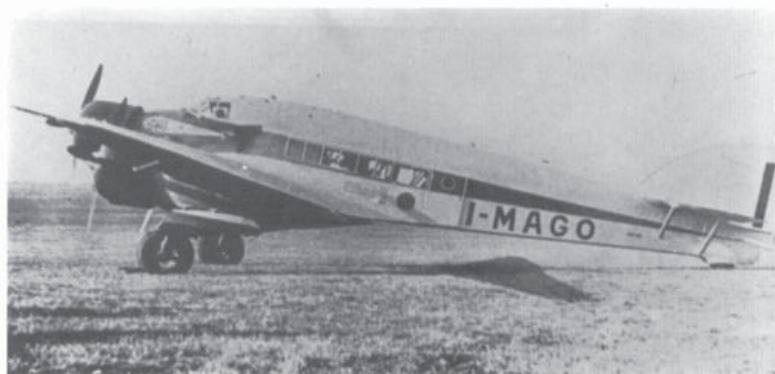
Armament: two 12.7 mm Breda-SAFAT MC.12,7 machine-gun with 840 rounds (390 port and 450 starboard), two 7.7 mm Breda-SAFAT MC.7,7 machine-guns with 640 rpg and a 970 kg bombload.

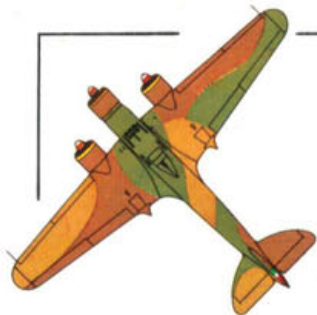
SIAl Marchetti S. 79 Sparviero

Bombers

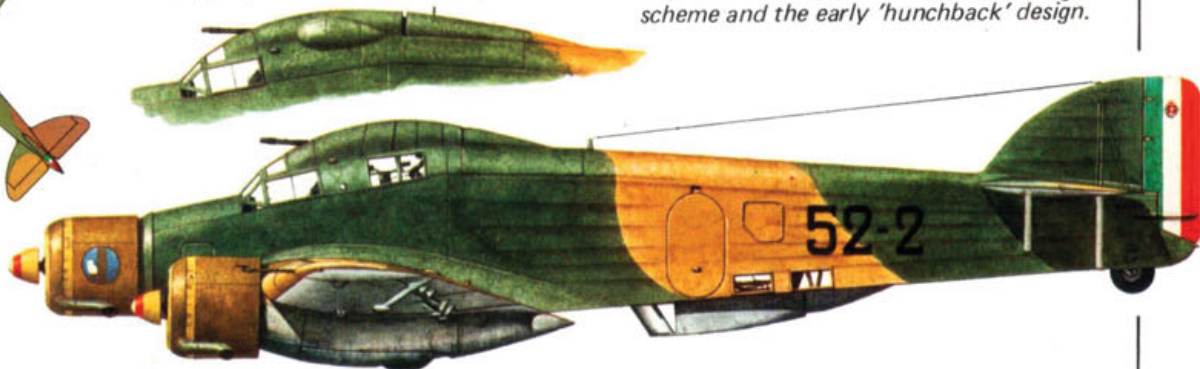


This is probably the best-known Italian aircraft of W.W. II and one of the most famous planes of all time. Born as a commercial passenger transport and converted into a bomber, this three-engined machine captured over 30 world records in the pre-war period, excelling also in contests such as the Istres-Damascus-Paris race where the S.79s of the Sorci Verdi ('Green Mice') gained first, second and third place. It then took part in the Spanish Civil War, operating undisturbed without a fighter escort (it was faster than most opposing fighters) and during W.W.II it was a true multi-purpose machine: land and maritime bomber, tactical and strategic reconnaissance aircraft, torpedo-bomber, transport aircraft, and even radio-controlled bomb. At the end of the war the Sparviero (Sparrowhawk) ended its career by returning to its original role transporting passengers with the Corrieri Aerei Militari. In the photos: three different models of the S.79, torpedo-bomber, airliner, and bomber.

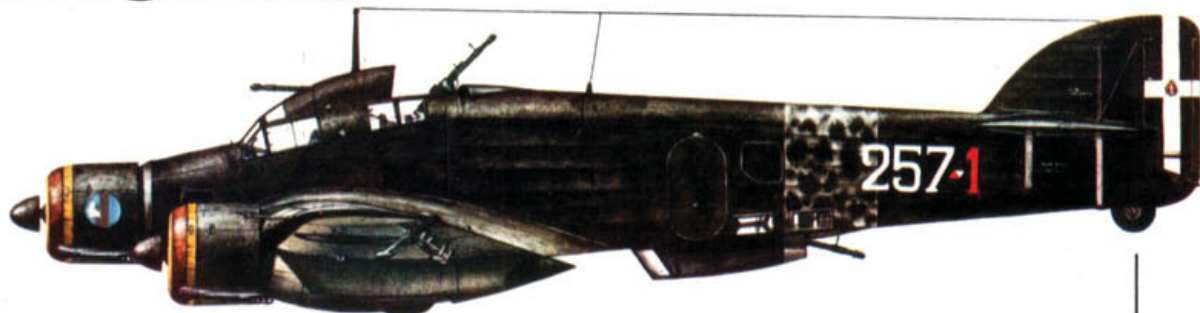




S.79 (bomber configuration), 52.a Sq., 27.o Gr., 8.o Stm. BT, RA, Bologna-Borgo Panigale, Summer 1937. The detail sketches represent the upper surfaces camouflage scheme and the early 'hunchback' design.

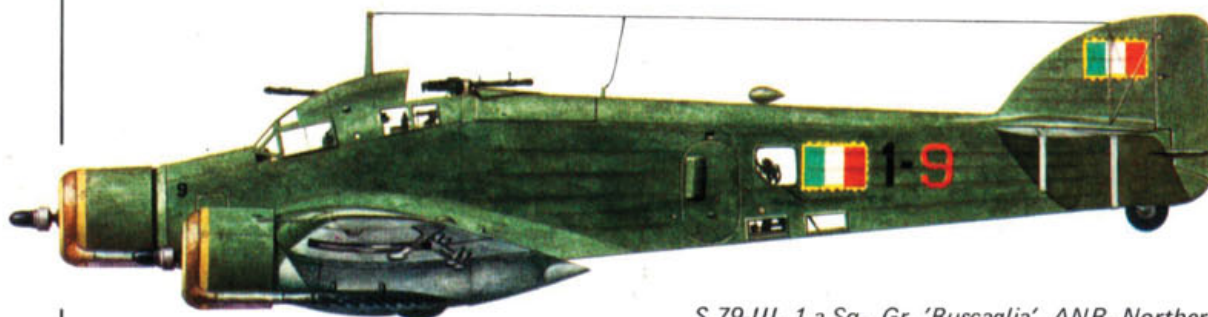


S.79 (torpedo-bomber configuration), 278.a Sq., 132.o Gr. AS (for Aero-Silurante, torpedo-bomber), RA, Mediterranean area, Summer 1942.

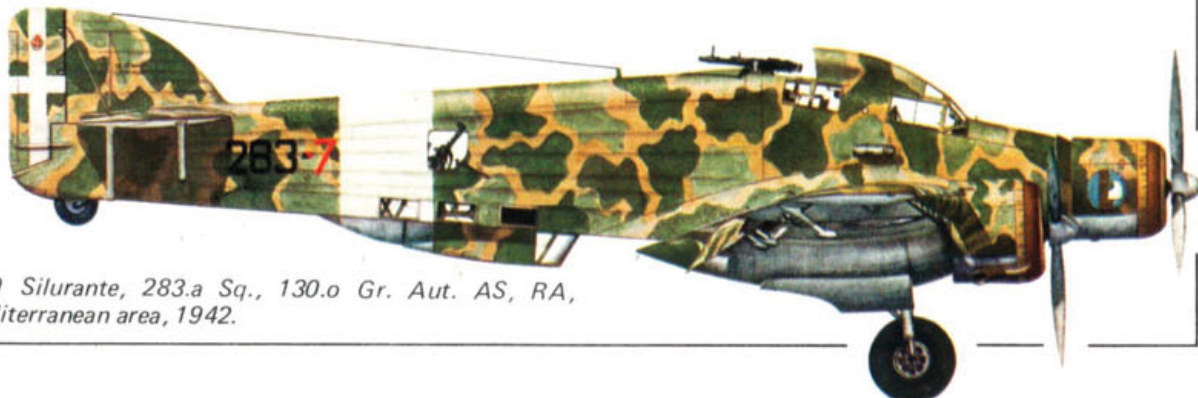


S.79 Silurante, 257.a Sq., 108.o Gr., 36.o Stm. AS, Field 604 at Decimoimannu (Cagliari, Sardinia), March 1942, aircraft of Capt. Zucconi.

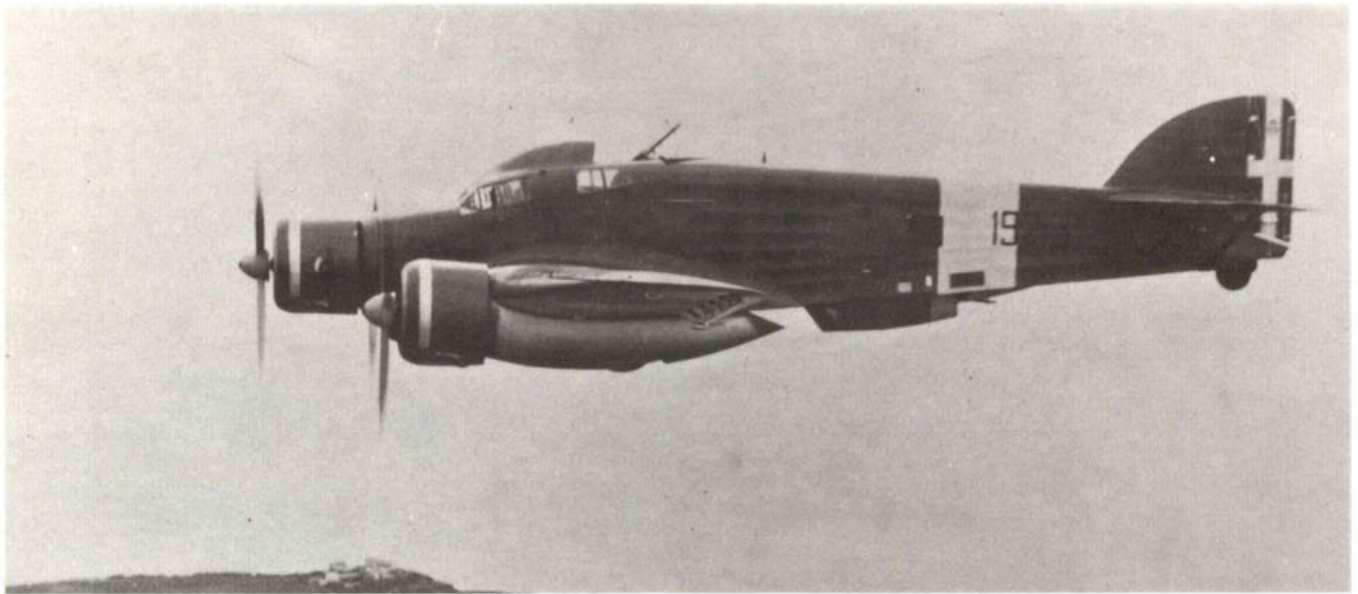
Mazzardi' 74



S.79-III, 1.a Sq., Gr. 'Buscaglia', ANR, Northern Italy, 1944.

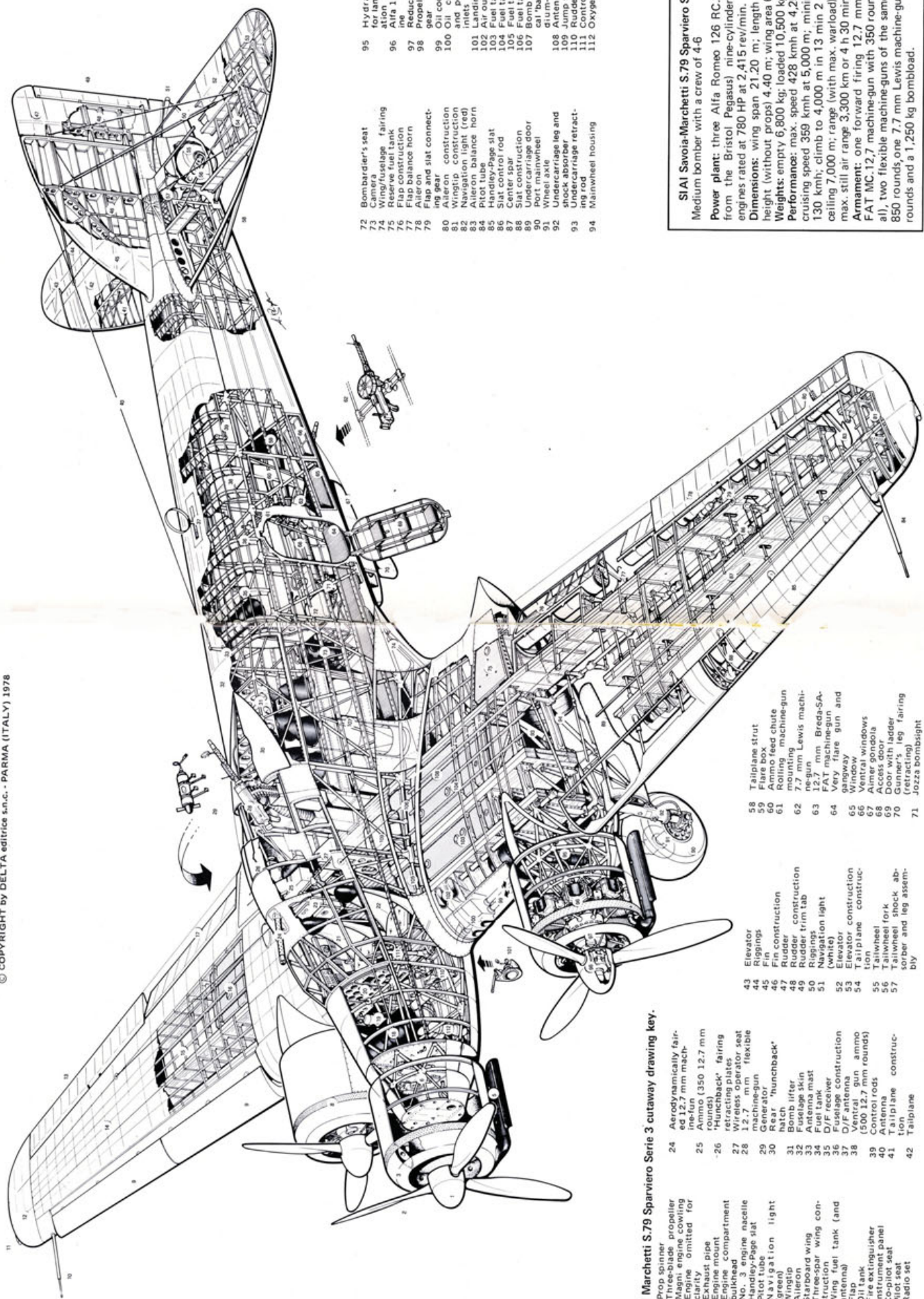


S.79 Silurante, 283.a Sq., 130.o Gr. Aut. AS, RA, Mediterranean area, 1942.



Pictures of the operational career of the three-engined SIAI S.79. From top to bottom and from left to right: A good picture of an S.79 Silurante of the 192.a Sq., 30.o Stm. An S.79 of the 281.a Sq. about to take off. The Siluranti only carried one 930 kg torpedo in an asymmetrical position on the left. Again the S.79 of the 281.a Sq. An S.79 of the 283.a Sq., 130.o Gr., Aut. AS, returning from a mission in the Mediterranean in the summer of 1942.





SIAI Marchetti S.79 Sparviero Serie 3 cutaway drawing key.

- 1 Prop spinner
- 2 Three-blade propeller
- 3 Magni engine cowling
- 4 Engine omitted for clarity
- 5 Empty place
- 6 Engine compartment
- 7 Engine mount
- 8 No. 3 engine nacelle
- 9 Handley-page slat
- 10 Navigation light (green)
- 11 Wingtip
- 12 Wingtip
- 13 Starboard wing structure
- 14 Spar wing construction
- 15 Wing fuel tank (and antenna)
- 16 Flap
- 17 Flap
- 18 Fuel tank
- 19 Extinguisher
- 20 Instrument panel
- 21 Co-pilot seat
- 22 Pilot seat
- 23 Radio set
- 24 Aerodynamically faired 12.7 mm machine-gun
- 25 Ammo (350 12.7 mm rounds)
- 26 'Hunchback' faired retractable seat
- 27 Wireless operator seat
- 28 12.7 mm flexible machine-gun
- 29 Generator
- 30 Bomb 'hunchback'
- 31 Bomb lifter
- 32 Fuselage skin
- 33 Antenna mast
- 34 Fuel tank
- 35 J/F receiver
- 36 D/F antenna
- 37 Ventral gun construction
- 38 Ventral gun ammo (500 12.7 mm rounds)
- 39 Control rods
- 40 Antenna
- 41 Tailplane construction
- 42 Tailplane
- 43 Elevator
- 44 Rudder
- 45 Fin
- 46 Fin construction
- 47 Rudder trim tab
- 48 Rudder
- 49 Rudder trim tab
- 50 Rudder
- 51 Navigation light (white)
- 52 Elevator
- 53 Tailplane construction
- 54 Tailplane
- 55 Tailwheel
- 56 Tailwheel fork absorber and leg assembly
- 57 Tailwheel
- 58 Tailplane strut
- 59 Flare box
- 60 Rolling machine-gun mounting
- 61 7.7 mm Lewis machine-gun
- 62 7.7 mm Breda-SAFAT machine-gun
- 63 Very flare gun and doorway
- 64 Window
- 65 Ventral windows
- 66 Amer gondola
- 67 Door with ladder (retracting)
- 68 Gunner's leg fairing
- 69 Jozza bombsight

- 72 Bombardier's seat
- 73 Camera
- 74 Ring/wing fuel tank
- 75 Flap construction
- 76 Flap balance horn
- 77 Aileron
- 78 Flap and slat connecting gear
- 79 Wingtip construction
- 80 Navigation light (red)
- 81 Aileron balance horn
- 82 Pitot tube
- 83 Handley-page slat
- 84 Slat construction
- 85 Undercarriage door
- 86 Port mainwheel
- 87 Wheel axle
- 88 Undercarriage leg and retracting rod
- 89 Undercarriage retracting rod
- 90 Mainwheel housing
- 91 Bombardier's seat
- 92 Camera
- 93 Ring/wing fuel tank
- 94 Flap construction
- 95 Flap balance horn
- 96 Aileron
- 97 Flap and slat connecting gear
- 98 Wingtip construction
- 99 Navigation light (red)
- 100 Aileron balance horn
- 101 Pitot tube
- 102 Handley-page slat
- 103 Slat construction
- 104 Undercarriage door
- 105 Port mainwheel
- 106 Wheel axle
- 107 Undercarriage leg and retracting rod
- 108 Undercarriage retracting rod
- 109 Mainwheel housing
- 95 Hydraulic reservoir for landing gear operation
- 96 Alfa 126 RC.34 engine
- 97 Reduction gearbox
- 98 Propeller pitch control gear
- 99 Oil cooling ducts
- 100 Oil cooling (central and port engine) air inlets
- 101 Landing and taxi light
- 102 Air outlet
- 103 Fuel tank
- 104 Fuel tank
- 105 Fuel tank
- 106 Fuel tank
- 107 Bomb bay with vertical 'baskets' for medium-caliber bombs
- 108 Antenna
- 109 Rudder pedals
- 110 Control wheel
- 111 Oxygen bottles

SIAI Savoia-Marchetti S.79 Sparviero Serie III

Medium bomber with a crew of 4-6

Power plant: three Alfa Romeo 126 RC.34 (derived from the Bristol Pegasus) nine-cylinder air-cooled engines rated at 780 HP at 2,415 rev/min.

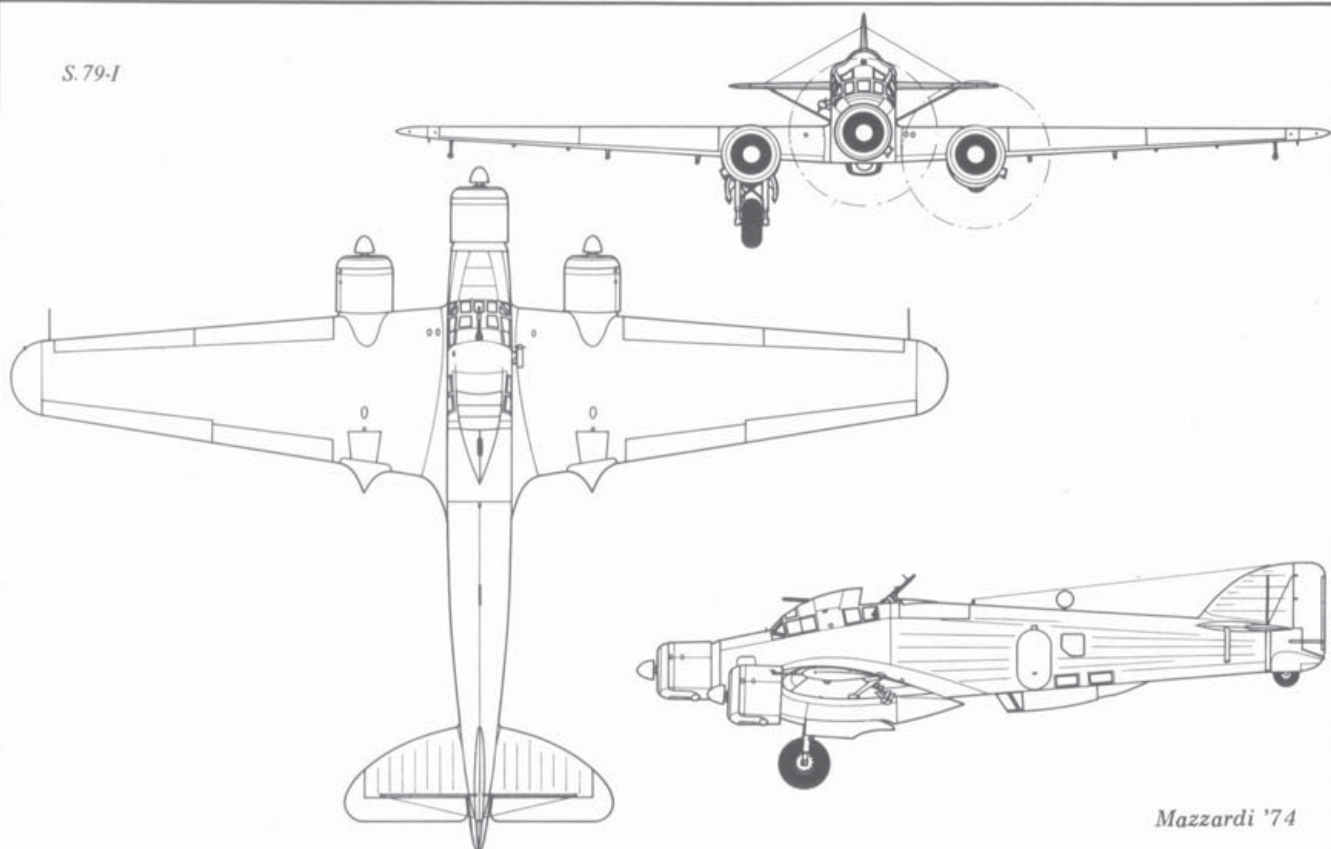
Dimensions: wing span 21.20 m; length 15.625 m; height (without props) 4.40 m; wing area 61.70 sq m.

Weights: empty 6,800 kg; loaded 10,500 kg.

Performance: max. speed 428 km/h at 4,250 m; economical cruising speed 359 km/h at 5,000 m; minimum speed 130 km/h; climb to 4,000 m in 13 min 2 sec; service ceiling 7,000 m; range (with max. warload) 1,900 km; max. still air range 3,300 km or 4 h 30 min.

Armament: one forward firing 12.7 mm Breda-SAFAT MC.12.7 machine-gun with 350 rounds (optional), two flexible machine-guns of the same type with 850 rounds, one 7.7 mm Lewis machine-gun with 350 rounds and a 1,250 kg bombload.

S.79-I

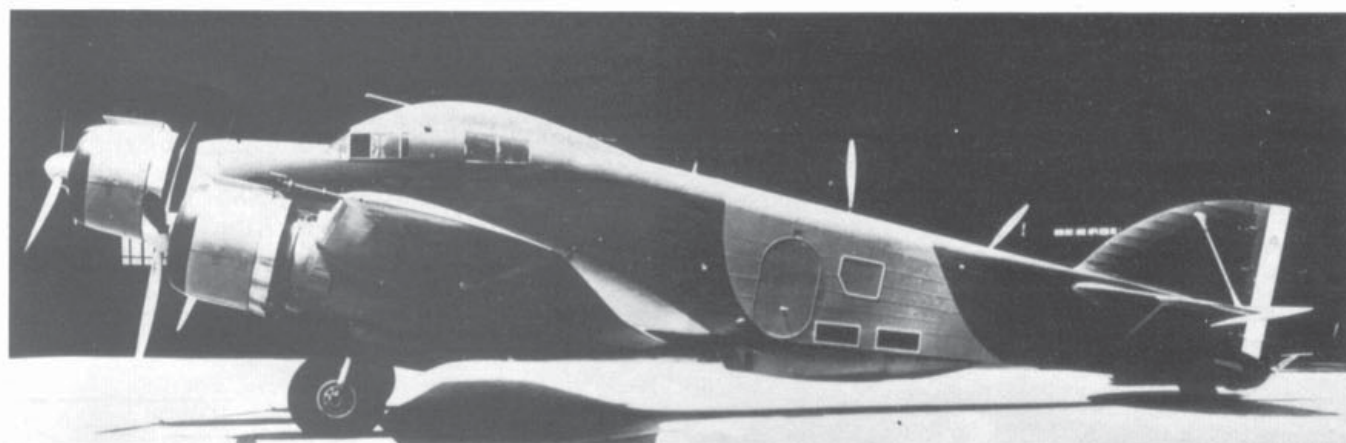


Mazzardi '74

SIAI Marchetti S. 79 versions comparison chart

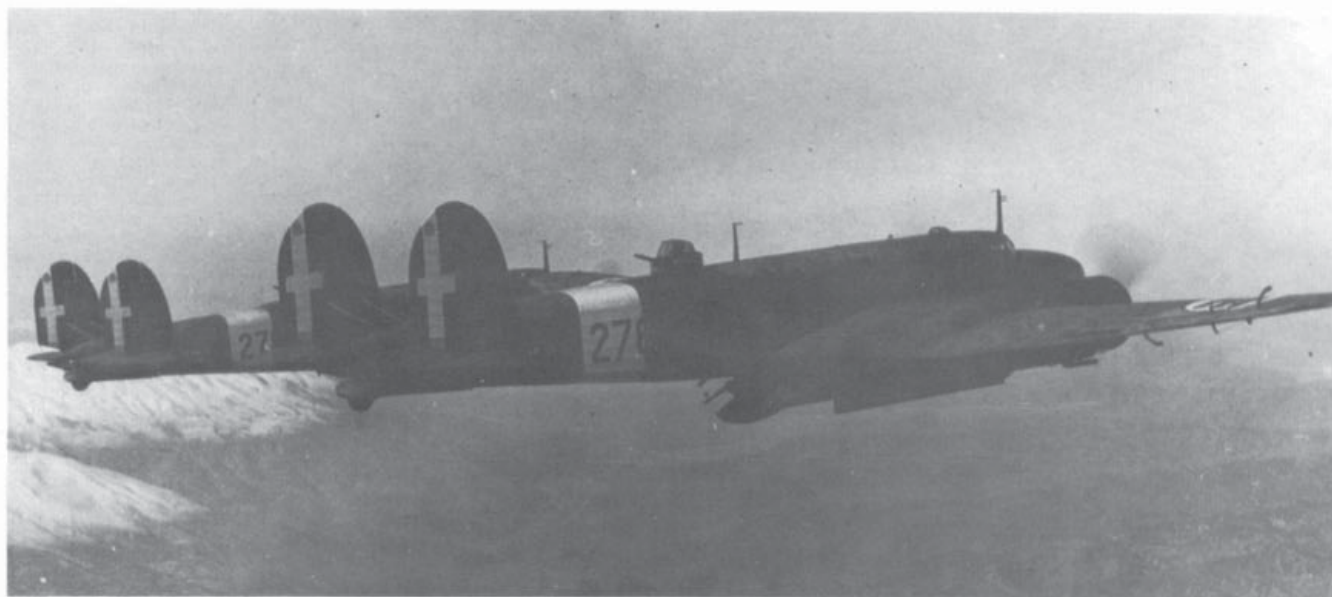
	S.79 Sr.III (bomber)	S.79 (S) (torpedo)	S.79-III	S.79JR (IAR-built)
Engines	AR.126 RC.34	AR.127 RC.55	AR.128 RC.18	Jumo 211Da (two)
Rating, HP	780	750	860	1,220
Wing span, m	21.20	21.20	21.20	21.20
Length, m	15.62	15.62	16.20	
Height, m	4.60	4.60	4.60	
Empty weight, kg	6,800	6,800	7,700	
Loaded weight, kg	10,500	10,750	11,400	
Max. speed, kmh	428	430	460	444
at, m	4,250	4,000	4,000	5,000
Service ceiling, m	7,000	7,000		7,300
Range, km	1,900	2,000	2,300	1,600
Armament, mm	3x12.7	2x12.7	1x20	3x12.7
	1x7.7	1-2x12.7	3x12.7	
Bombload, kg	1,250	1 torpedo	1 torpedo	1,175

The Sparviero, known to both the Italians and the RAF as 'Hunchback', 'The Big Hunchback' or 'The Cursed Hunchback', was powered by many different types of engines. Among these were Piaggio P.IX Stellas (inspired by the Bristol Jupiter), and the P.XIs, the Alfa Romeo AR.125 Pegasus (Bristol Pegasus built under license), AR.126, AR.127, AR.128 (all derived from the AR.125) and the AR.135 Tornado (made up of two coupled Bristol Mercuries). In the twin-engine versions, the powerplants were either the Junkers Jumo 211Da, the Gnome-Rhone 14K or the FIAT A.80. Bottom photo: the only known photo of an S.79 with 1,000-HP Piaggio P.XI RC.40 engines, used only for experimental and record flights.

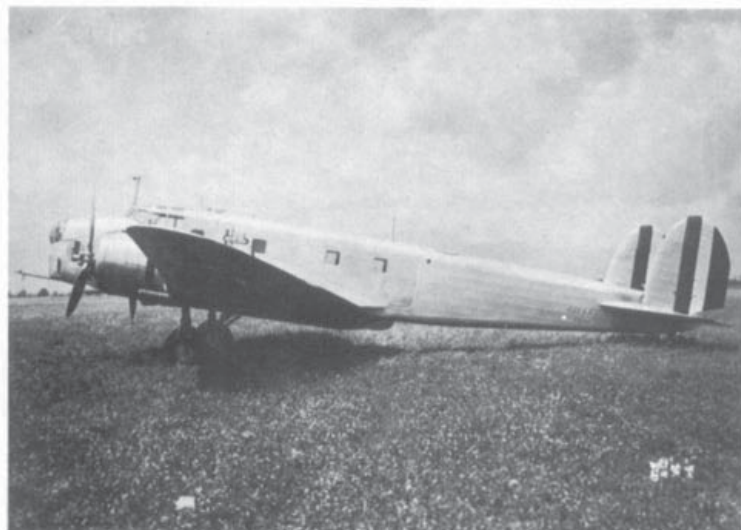
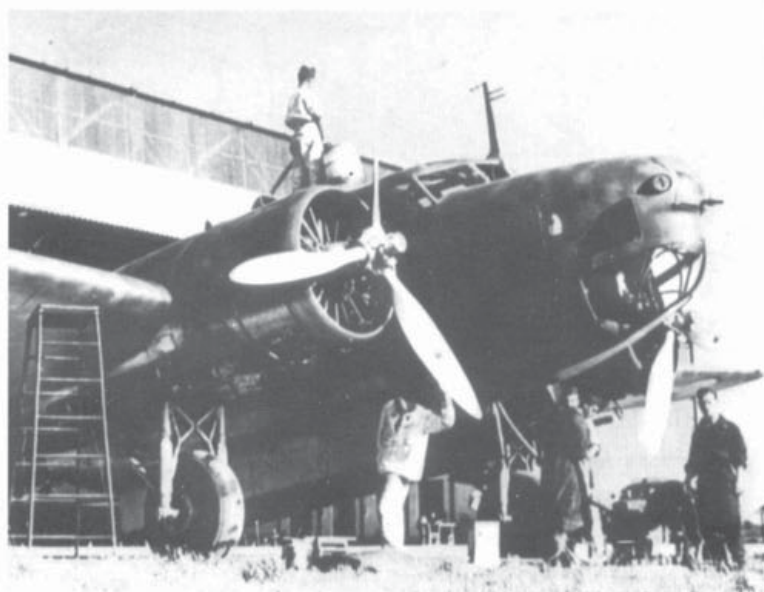


Fiat BR. 20 Cicogna

Bombers

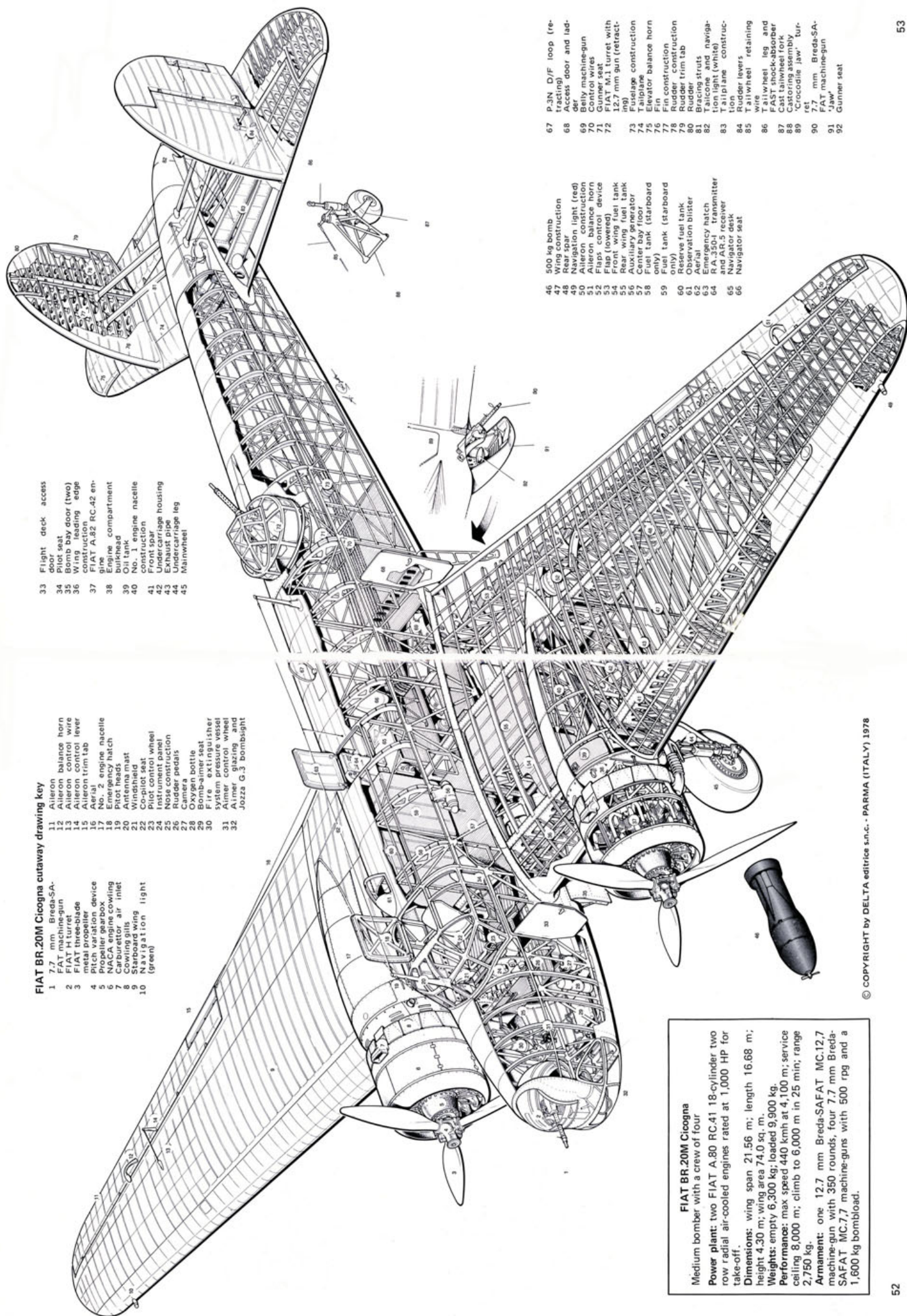


This was the only mass-produced Italian twin-engine aircraft. It had several good features (an all metal structure, sufficient engine power, bombardier positioned in the nose, good defensive layout, and respectable performance) as well as some poor features (typical Italian design weaknesses, such as limited bomb load capacity and a defensive armament of single 7.7 mm weapons). The Cicogna (Stork) operated in Spain during the Civil War, then against France, over the Channel, in the Balkans, over Malta, in Africa, and in Russia. A modified version (BR.20M) was built, and also a small batch of the bis version (with more powerful engines and armament). Special versions carried out raids and record flights. Japan purchased 72 of them and used them in Manchuria and China (the Americans gave it the code-name 'Ruth'). Photos on this page: the first series BR.20 MM.20305 (bottom left) and the BR.20M during its operational life.



FIAT BR.20M Cicogna cutaway drawing key

- 1 7.7 mm Breda-SA-
- 2 FAT machine-gun
- 3 FIAT H turret
- 4 metal propeller device
- 5 pitch variation device
- 6 NACA engine cowling
- 7 Carburettor air inlet
- 8 Cowling gills
- 9 Starboard wing
- 10 Navigation light (green)
- 11 Aileron
- 12 Aileron balance horn
- 13 Aileron control wire
- 14 Aileron control lever
- 15 Aileron trim tab
- 16 Aileron trim tab
- 17 No. 2 engine nacelle
- 18 Emergency hatch
- 19 Pilot heads
- 20 Antenna mast
- 21 Windshield
- 22 Co-pilot seat
- 23 Instrument panel
- 24 Instrument panel
- 25 Noise construction
- 26 Rudder pedals
- 27 Camera
- 28 Oxygen bottle
- 29 Bomb-aiming seat
- 30 Fire extinguisher system pressure vessel
- 31 Aimer control wheel
- 32 Aimer glazing and Jozza G.3 bombsight



- 33 Flight deck access door
- 34 Pilot seat
- 35 Bomb bay door (two)
- 36 Wing leading edge construction
- 37 FIAT A.82 RC.42 engine
- 38 Engine compartment bulkhead
- 39 Oil tank
- 40 No. 1 engine nacelle construction
- 41 Fuel tank
- 42 Undercarriage housing
- 43 Exhaust pipe
- 44 Undercarriage leg
- 45 Mainwheel

- 67 P.3N D/F loop (retracting)
- 68 Access door and ladder
- 69 Belly machine-gun
- 70 Control wires
- 71 Gunner seat
- 72 FIAT M.11 turret with 12.7 mm gun (retracting)
- 73 Fuselage construction
- 74 Tailplane
- 75 Elevator balance horn
- 76 Fin
- 77 Fin construction
- 78 Rudder trim tab
- 79 Rudder
- 80 Bracing struts
- 81 Tailcone and navigation light (white)
- 82 Tailplane construction
- 83 Rudder levers
- 84 Tailwheel retaining wire
- 85 Tailwheel leg and tailhook
- 86 Cast tailwheel fork
- 87 Casting assembly
- 88 'Crocodile jaw' turret
- 89 7.7 mm Breda-SAFAT machine-gun
- 90 7.7 mm Breda-SAFAT machine-gun
- 91 Gunner seat
- 92 Gunner seat

- 46 500 kg bomb
- 47 Wing construction
- 48 Navigation light (red)
- 49 Aileron construction
- 50 Aileron balance horn
- 51 Flap (lowered)
- 52 Flap (lowered)
- 53 Reserve fuel tank
- 54 Auxiliary generator
- 55 Fuel tank (starboard only)
- 56 Fuel tank (starboard only)
- 57 Reserve fuel tank
- 58 Observation blister
- 59 Emergency hatch
- 60 Aerial
- 61 Transmitter and A.R.5 receiver
- 62 Navigator seat
- 63 Navigator seat
- 64 Navigator seat
- 65 Navigator seat
- 66 Navigator seat

FIAT BR.20M Cicogna

Medium bomber with a crew of four

Power plant: two FIAT A.80 RC.41 18-cylinder two row radial air-cooled engines rated at 1,000 HP for take-off.

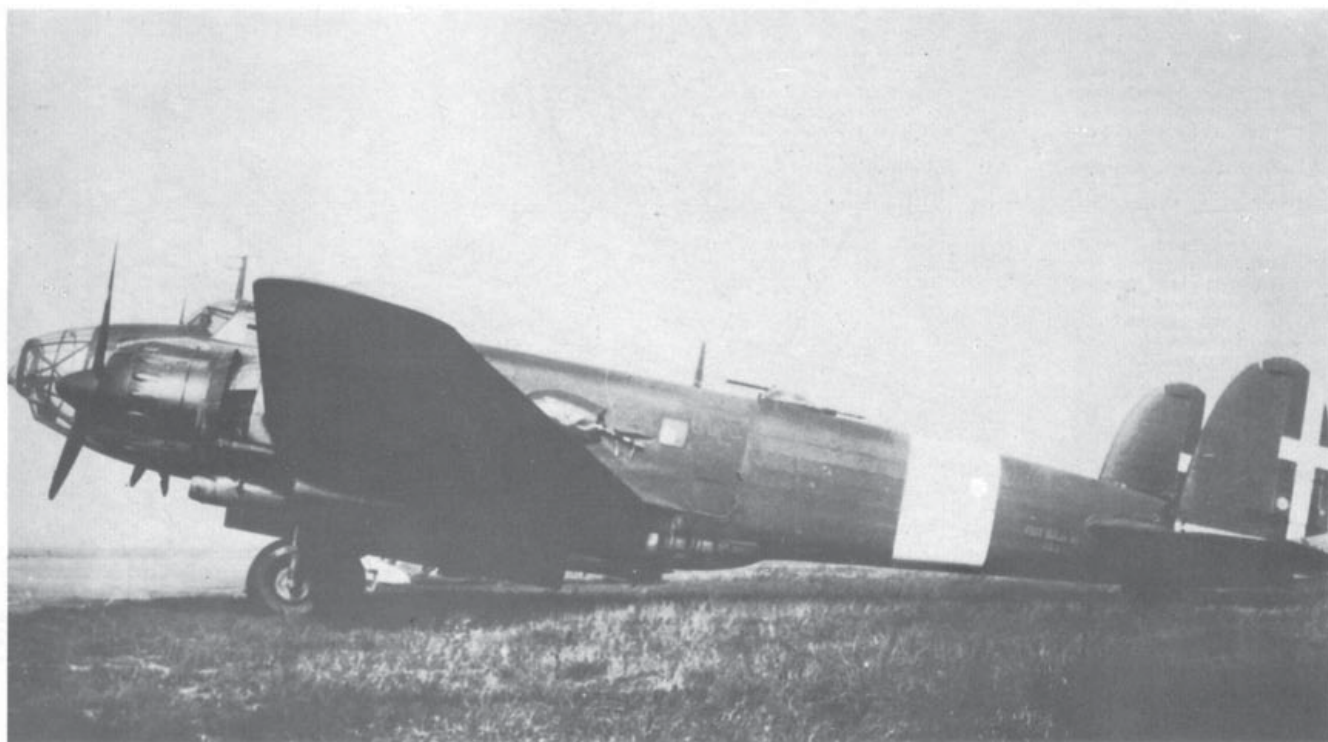
Dimensions: wing span 21.56 m; length 16.68 m; height 4.30 m; wing area 74.0 sq. m.

Weights: empty 6,300 kg; loaded 9,900 kg.

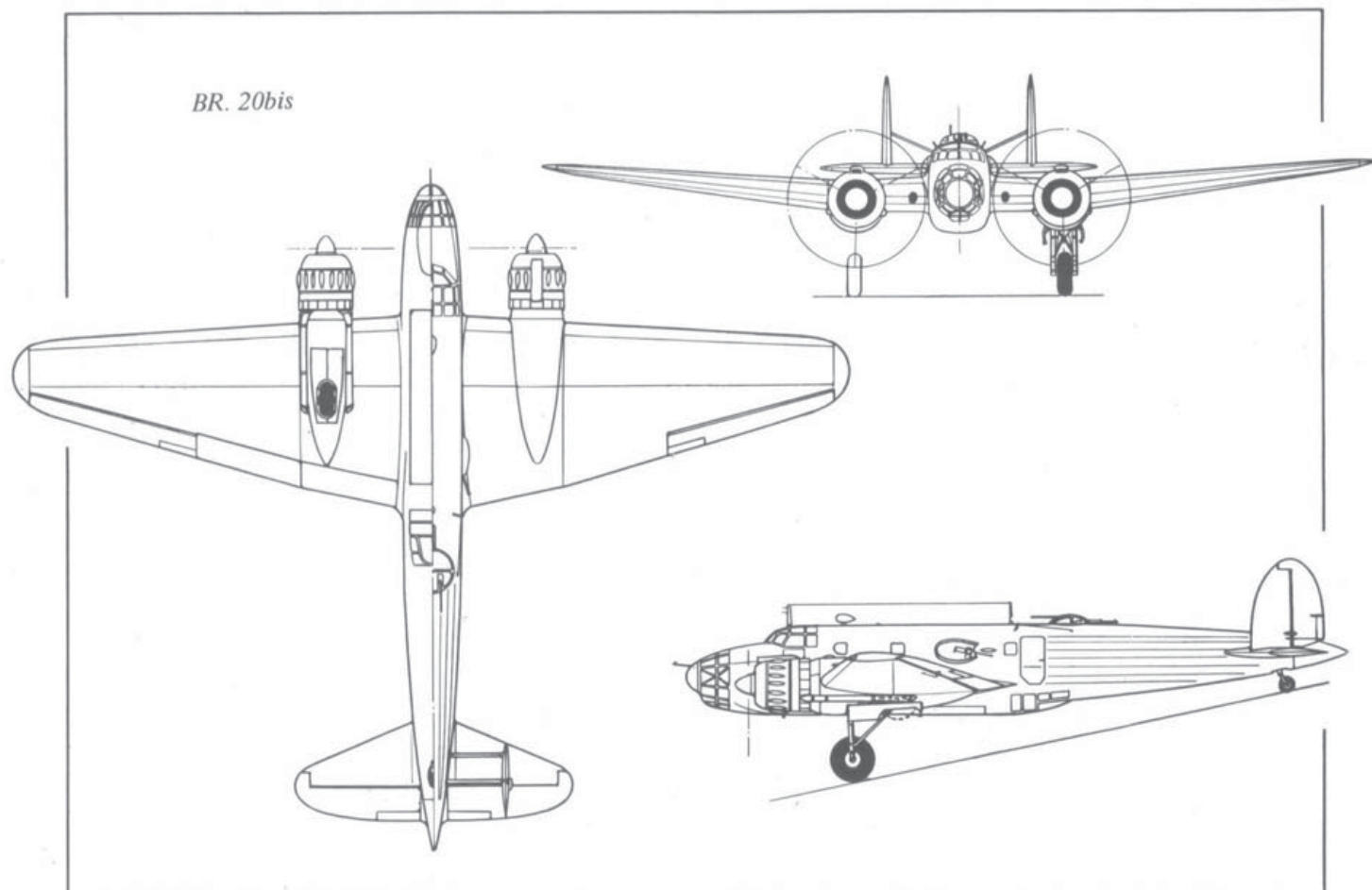
Performance: max speed 440 kmh at 4,100 m; service ceiling 8,000 m; climb to 6,000 m in 25 min; range 2,750 km.

Armament: one 12.7 mm Breda-SAFAT MC.12.7 machine-gun with 350 rounds, four 7.7 mm Breda-SAFAT MC.7.7 machine-guns with 500 rpg and a 1,600 kg bombload.

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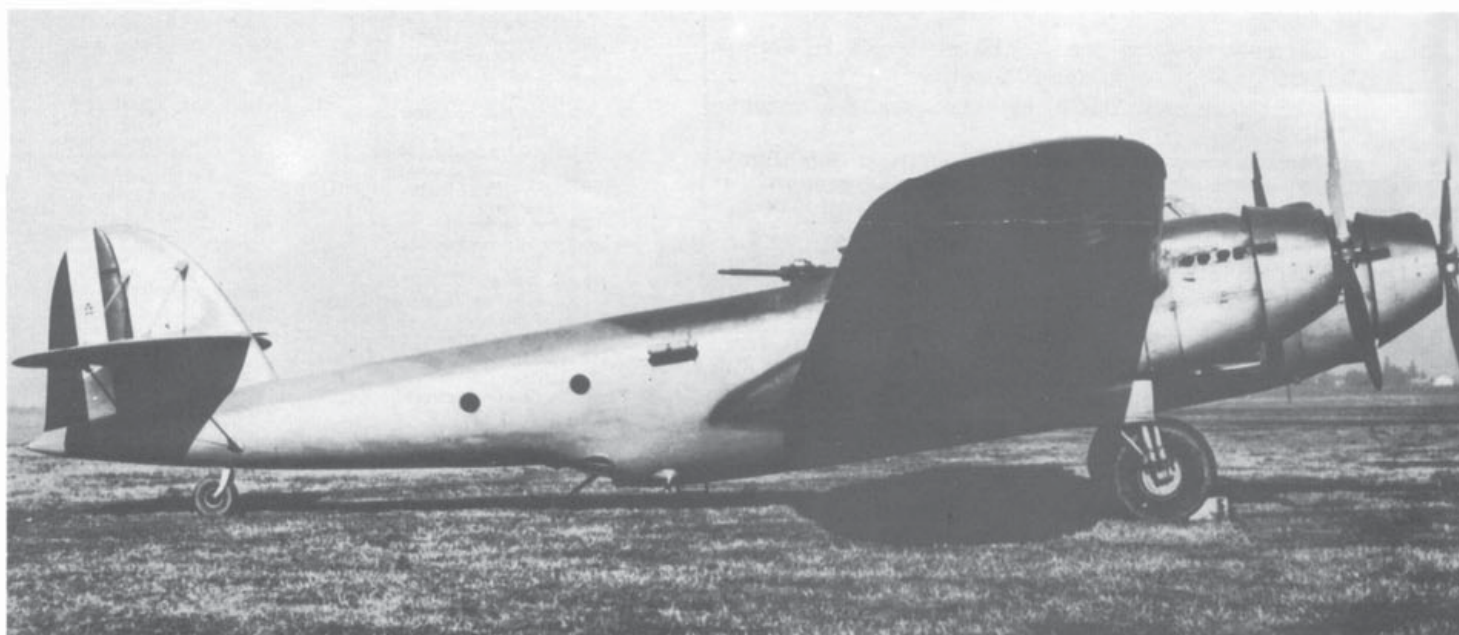


In order to try and repeat the production success of the BR.20, FIAT proposed the BR.20 bis of which one or two prototypes were built (MM.453 and/or 456). With respect to the standard BR.20M, the new version had a more streamlined, completely redesigned nose, 1,250-HP FIAT A.82 RC.42 engines and other modifications. Its performance was clearly superior to the standard BR.20. The development of the BR.20 bis dragged out slowly because the RA preferred the Cant.Z.1018 Leone. Despite this, a series of 15 examples was ordered and produced from March 1943 onwards (photo above: the MM.456 prototype).

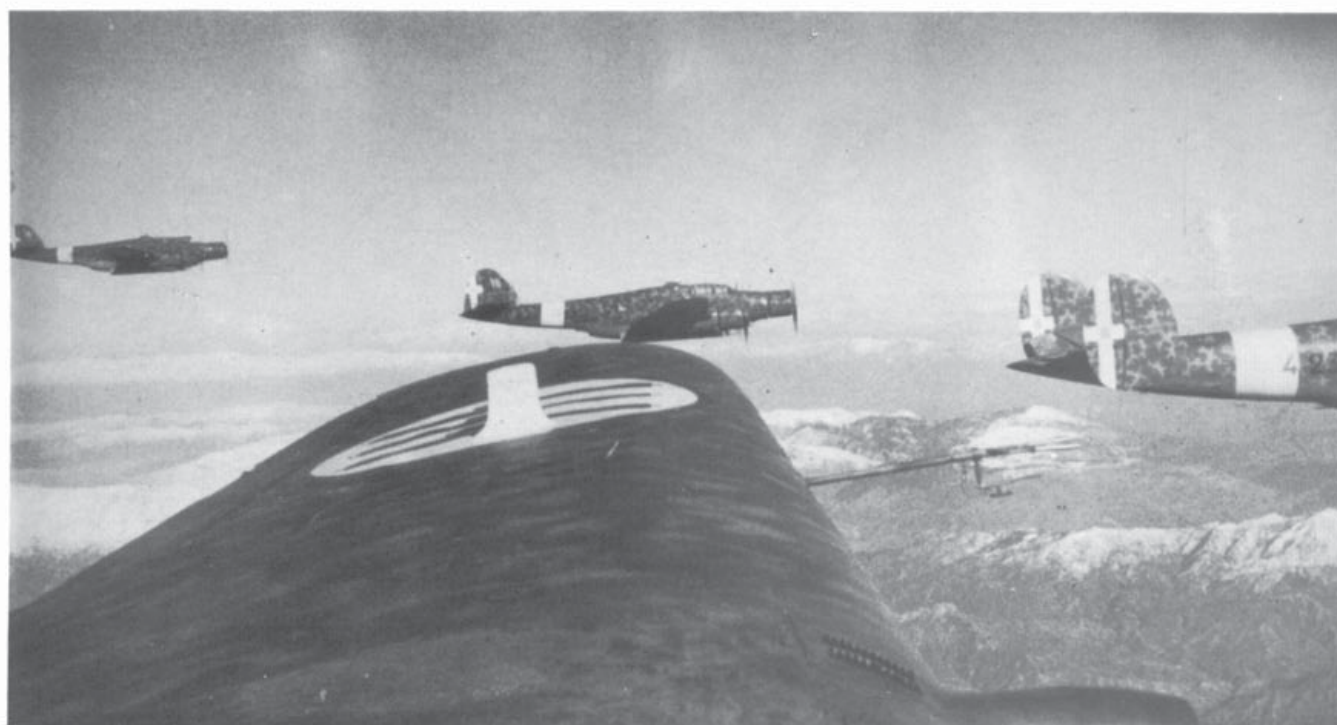
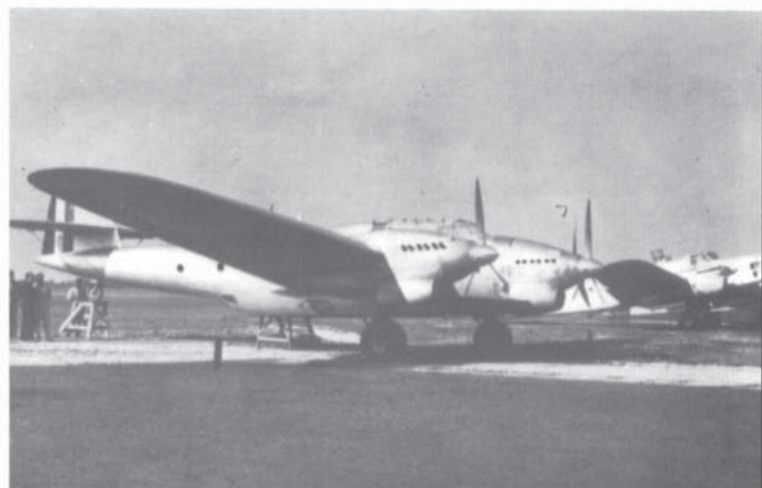


CRDA CANT. Z. 1007 Alcione

Bombers



Considered by many to be the best Italian bomber at the time, and denigrated by others who maintained that its wooden structure suffered from deforming and separated joints because of the climate, the Alcione (Halcyon) feature a clean aerodynamic design which promised excellent performance. This was frustrated unfortunately by the lack of an adequate engine. After the first 34 examples, the bis was produced and operated with success as a bomber and reconnaissance aircraft over Malta, the Channel, in the Balkans, the Aegean Sea and in Africa. As well as service with the Italian forces, the Alcione flew with the Luftwaffe. One example, captured in North Africa and put back into use with US engines, bore the cockades of Free France. Above: one of the first Cant. Z.1007 Alcione Serie Is. Right: the prototype with Isotta-Fraschini Asso engines. Below: a formation of Cant.Z.1007 bis with single and twin fin-and-rudder assemblies of the 230.a Sq.



CRDA Cant.Z.1007 bis Alcione

Medium bomber with a crew of five

Power plant: three Piaggio P.XI bis RC.40 14-cylinder two row radial air-cooled engines rated at 1,000 HP at 4,000 m.

Dimensions: wing span 24.80 m; length 18.47 m; height 5.22 m; wing area 70.0 sq m.

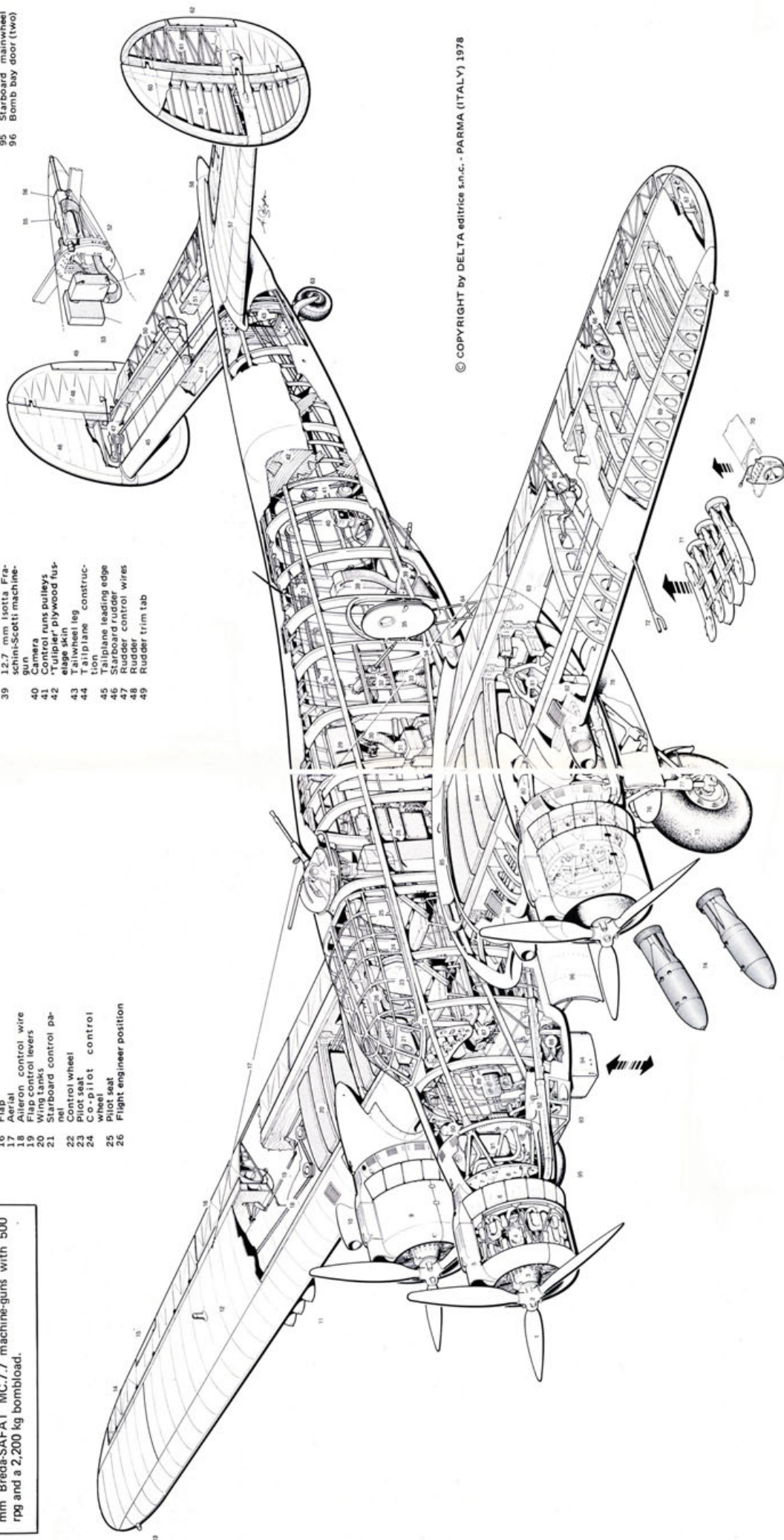
Weights: empty 9,386 kg; max. take-off weight 13,621 kg.

Performance: max. speed 456 km/h at 4,600 m; service ceiling 8,400 m; range 1,800-2,000 km.

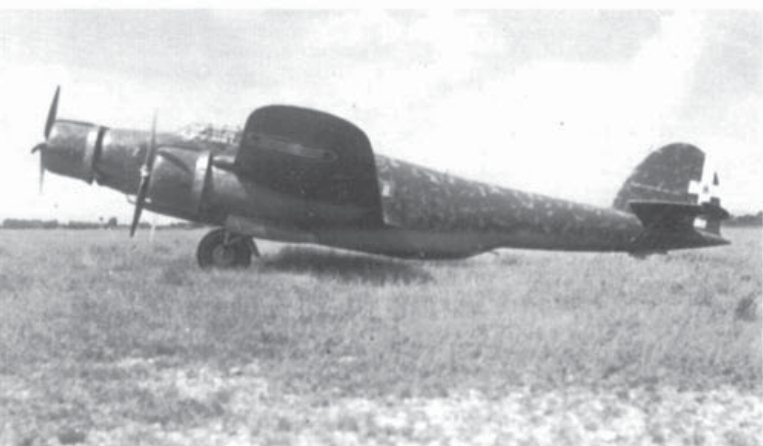
Armament: two 12.7 mm machine-guns of various type (Scotti or Breda-SAFAT) with 350 rpg, two 7.7 mm Breda-SAFAT MC.7.7 machine-guns with 500 rpg and a 2,200 kg bombload.

CRDA Cant.Z.1007 bis Alcione cutaway drawing key

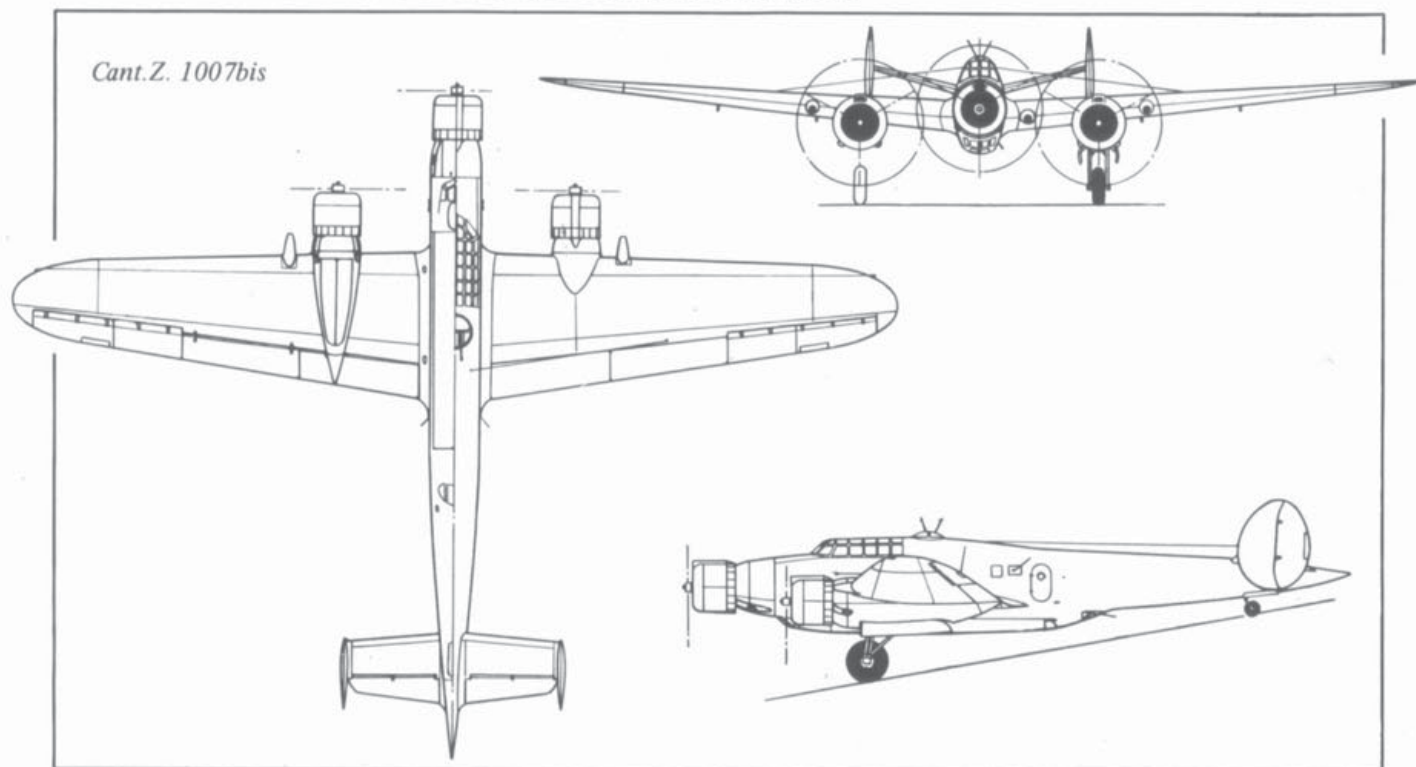
- 1 Three-blade metal propeller
- 2 Pitch control device
- 3 Propeller gearbox
- 4 Piaggio P.XI RC.40 engine
- 5 Engine cowling flaps
- 6 Engine mounting
- 7 Engine housing bulkhead
- 8 Oil cooler
- 9 Oil tank
- 10 Oil cooler
- 11 50 kg bombs (six)
- 12 Starboard wing
- 13 Navigation light (green)
- 14 Aileron trim tab
- 15 Flap
- 16 Aileron control wire
- 17 Flap control levers
- 18 Wing tanks
- 19 Starboard control panel
- 20 Control wheel
- 21 Pilot seat
- 22 Co-pilot control wheel seat
- 23 Flight engineer position
- 24 Bomb bay door
- 25 Bomb bay door
- 26 Bomb bay door
- 27 Caproni-Lanciani Delta E turret with 12.7 mm Isotta Fraschini-Scotti machine gun
- 28 Turret and other radios
- 29 Ammo box
- 30 7.7 mm Breda-SAFAT machine-gun (AT) and spent cases
- 31 Case box
- 32 Waist machine-gun (as 30)
- 33 Spent cases chute
- 34 Aerial
- 35 Parachute door
- 36 Parachute racks
- 37 Parachute racks and control runs
- 38 Ammo box
- 39 12.7 mm Isotta Fraschini-Scotti machine-gun
- 40 Camera
- 41 Control runs pulleys
- 42 "Tulipier" plywood fuselage skin
- 43 Tailplane leading edge
- 44 Tailplane construction
- 45 Tailplane leading edge
- 46 Starboard rudder
- 47 Rudder control wires
- 48 Rudder
- 49 Rudder trim tab
- 50 Elevator construction
- 51 Tailplane construction
- 52 Tail defense 12.7 mm machine-gun (seldom installed)
- 53 Spent cases box
- 54 Ammo box chute
- 55 Spent cases chute
- 56 12.7 mm machine-gun
- 57 Tailplane
- 58 Tailcone and navigation light (white)
- 59 Fin construction
- 60 Rudder construction
- 61 Rudder trim tab
- 62 Tailwheel
- 63 Tailwheel
- 64 Ladder and antenna
- 65 Flap hinge
- 66 Aileron construction
- 67 Wing tank
- 68 Navigation light (red)
- 69 Wing leading edge
- 70 Folding landing light (two)
- 71 Bomb racks
- 72 Pilot tube
- 73 Port mainwheel
- 74 250 kg bombs
- 75 Engine mount
- 76 Mudguard
- 77 Undercarriage leg (two)
- 78 Bomb bay door
- 79 Oil cooler
- 80 Oil tank
- 81 Landing gear retraction
- 82 Front spar construction
- 83 Wing tanks
- 84 Wing fairing
- 85 Wing fuselage fairing
- 86 Oil tank
- 87 Rudder pedals
- 88 Bombardier instrument panel
- 89 Bombardier instrument panel
- 90 Oil extingisher
- 91 Exhaust pipe
- 92 Bombardier glazing and bombardier
- 93 Bombardier legbox (retractable)
- 94 Bombardier legbox (retractable)
- 95 Starboard mainwheel
- 96 Bomb bay door (two)



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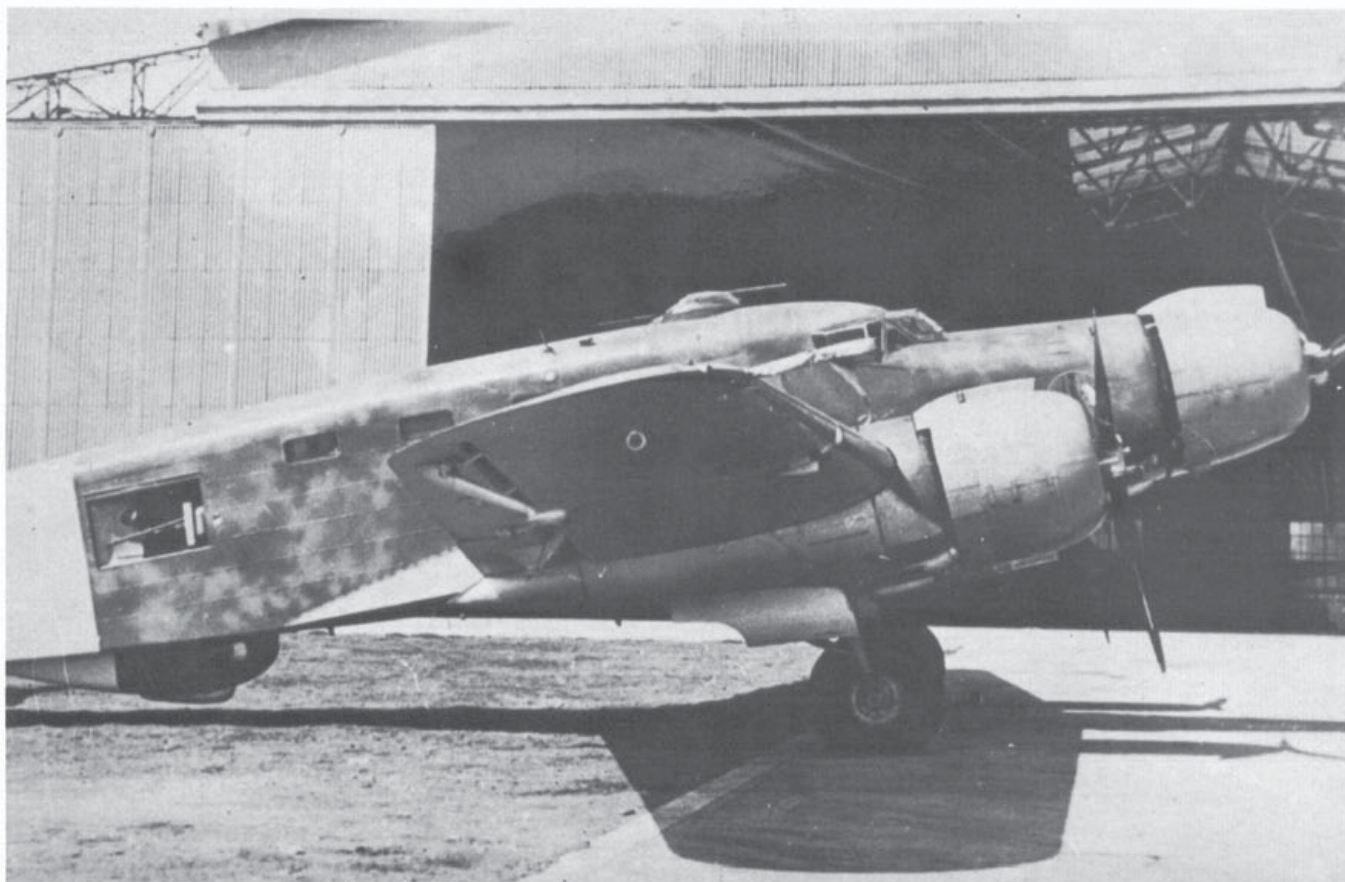


From left to right and from top to bottom: the first Cant.Z.1007 bis, MM.21221. A Cant.Z.1007 bis produced in 1941-42. The Cant.Z.1007 ter of which only 50 examples were produced.

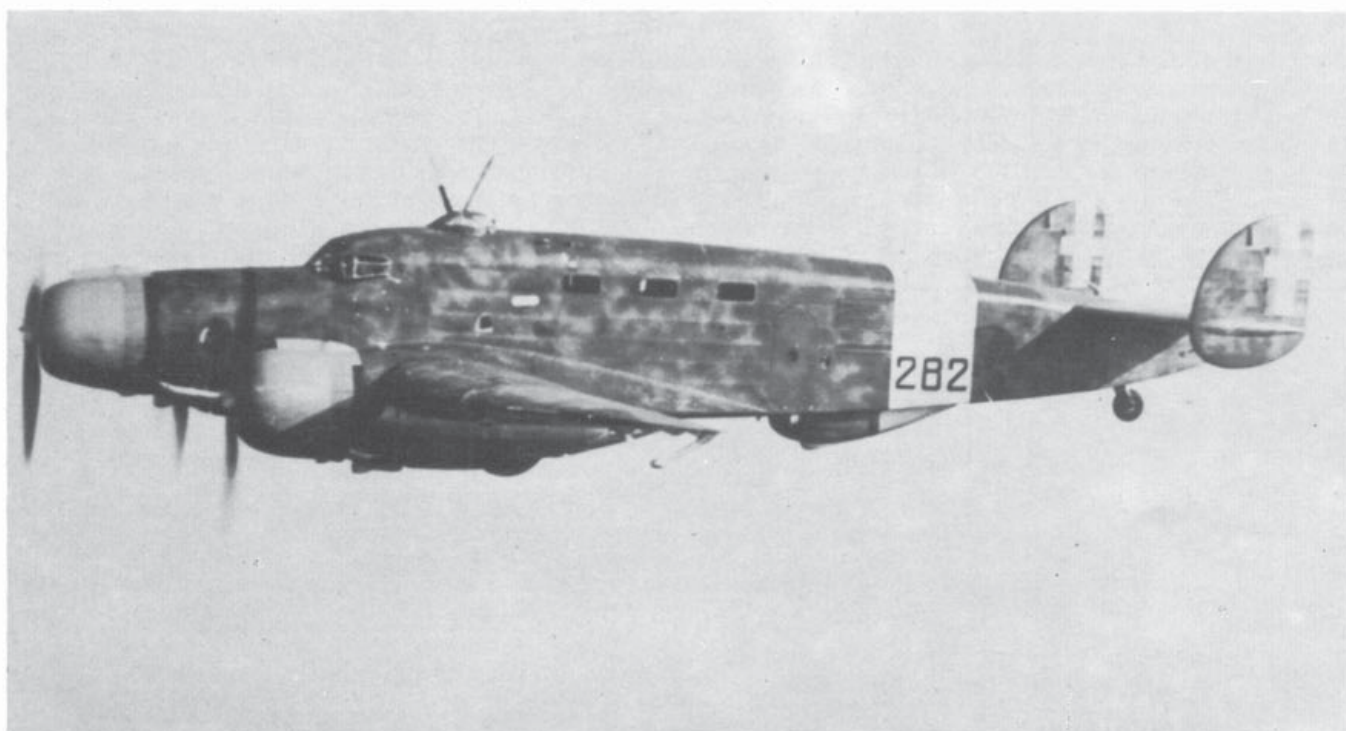


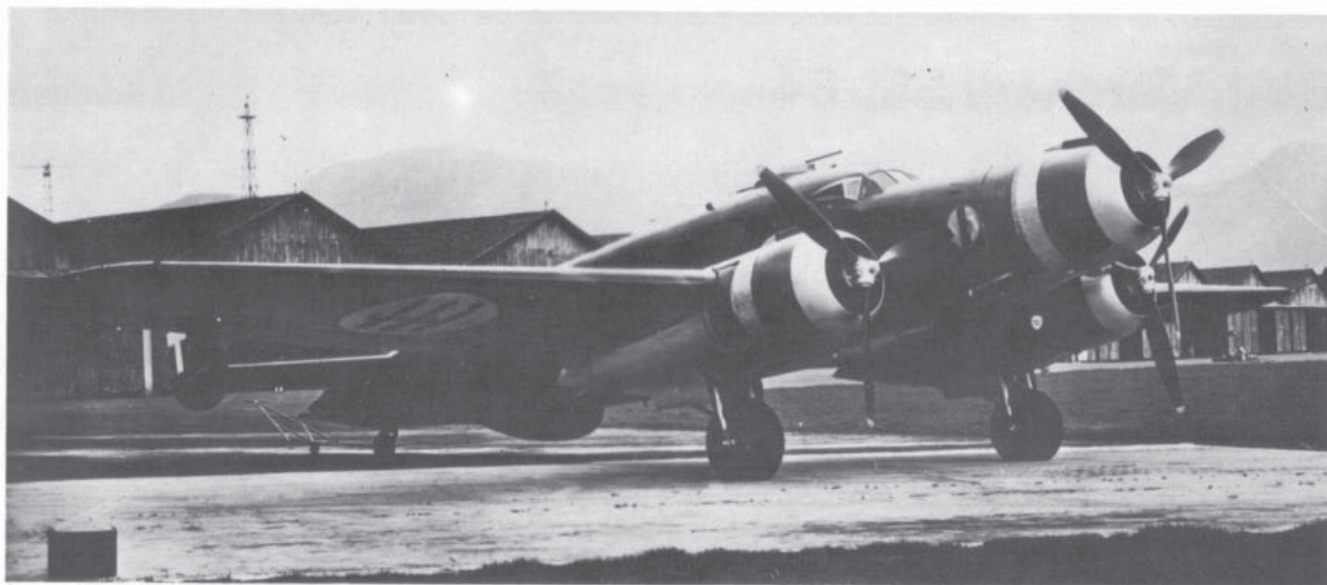
SIAI Marchetti SM. 84

Bombers



When it was realized that the S.79 could no longer measure up to foreign medium bombers, SIAI Marchetti designed a version initially called the SM.79 bis and then SM.84. With respect to the S.79, the SM.84 featured a different and more rational internal fuselage design and had twin fins to improve the gunner's field of fire to the rear. But the aircraft suffered from various difficulties and never equalled the brilliant performance of its predecessor. Above: on this SM.84, note the projecting prismatic window in the windshield to improve visibility, and the waist mount with a 12.7 mm machine-gun. Below: an SM.84 of the 282.a Squadriglia used as a torpedo-bomber with less success than the S.79.





SIAI Marchetti SM.84 bis

Medium level and torpedo-bomber with a crew of five

Power plant: three Piaggio P.XI bis RC.40 14-cylinder two row radial air-cooled engines rated at 1,000 HP at 4,000 m.

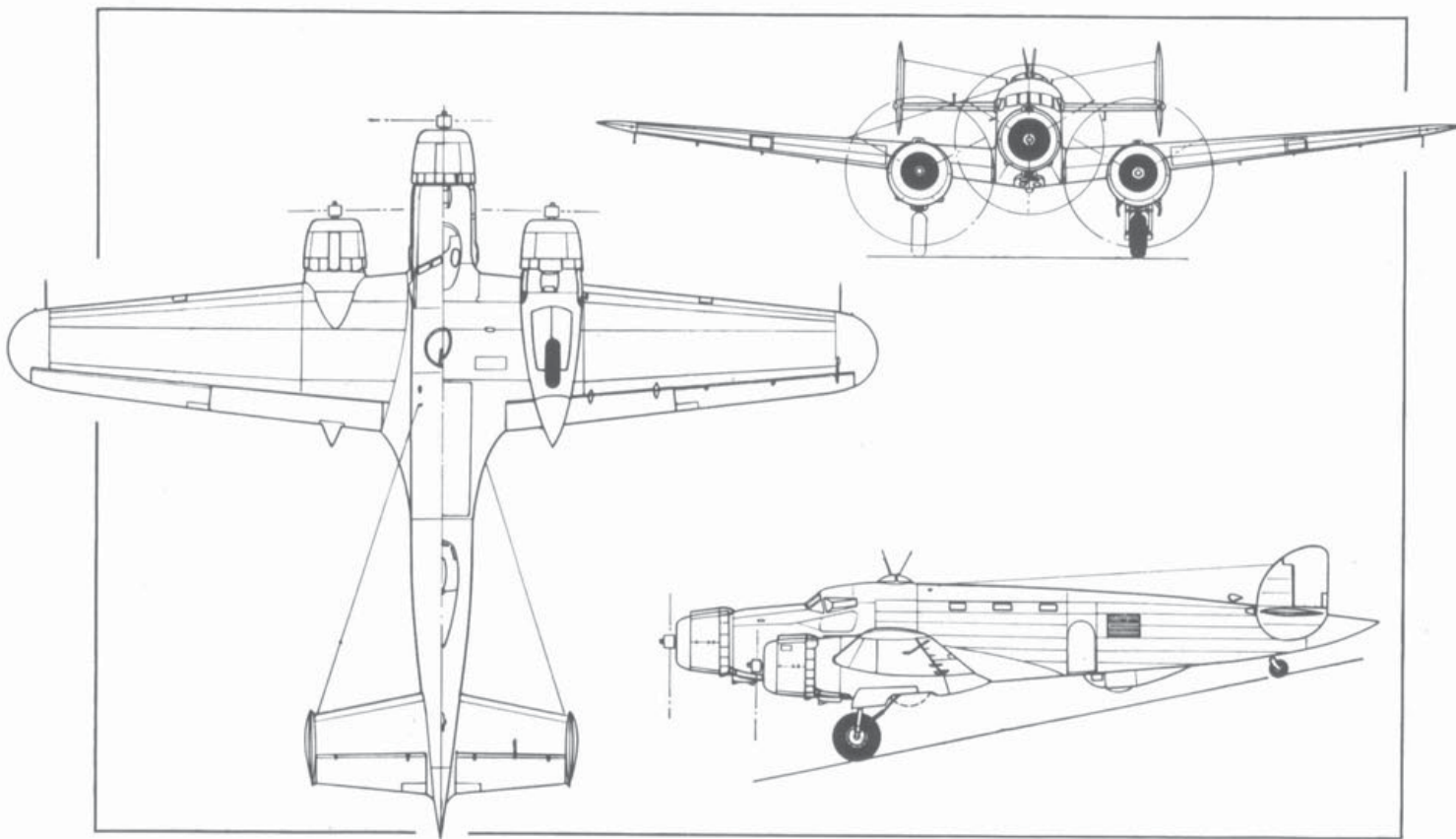
Dimensions: wing span 21.13 m; length 17.93 m; height 4.59 m; wing span 61.00 sq m.

Weights: empty 8,847 kg; loaded 13,288 kg.

Performance: max. speed 432 kmh at 4,600 m; cruise 397 kmh; minimum speed 140 kmh; climb to 4,000 m in 12 min 20 sec; service ceiling 7,900 m; range 1,830 km.

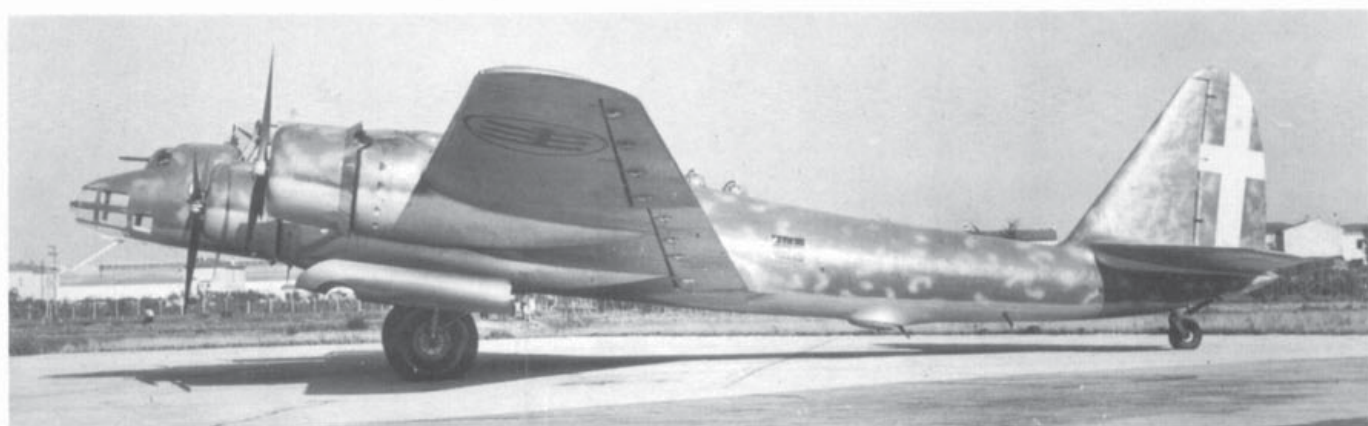
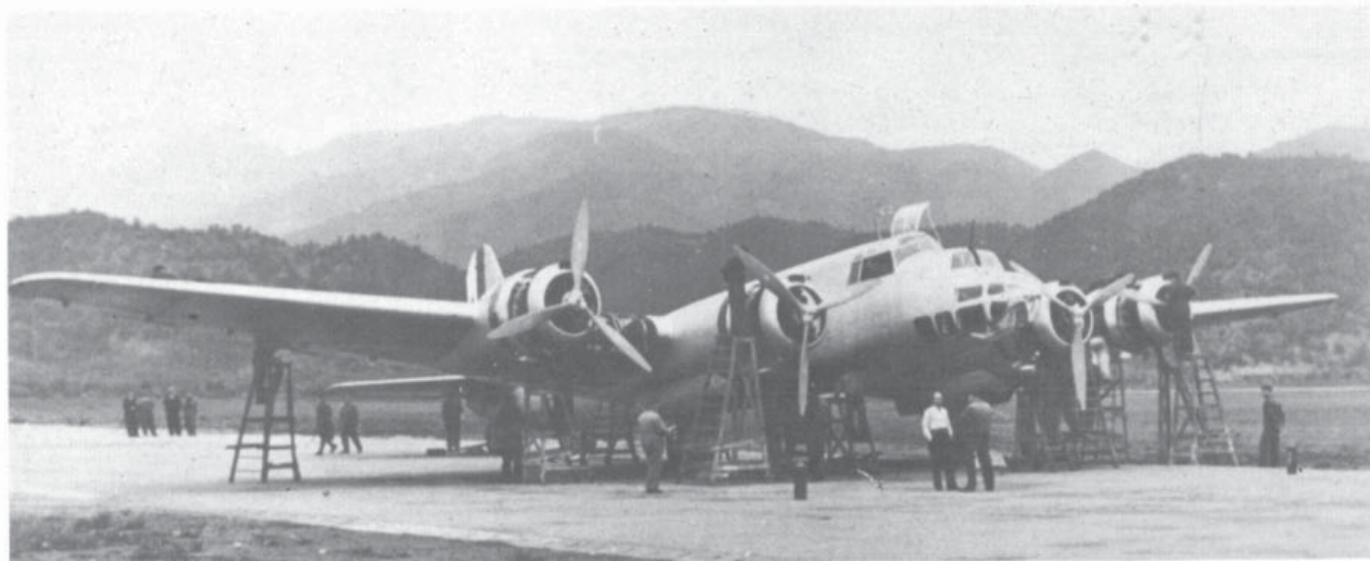
Armament: four 12.7 Scotti/Isotta-Fraschini machine guns with 350 rpg and a 2,000 kg bombload or two WM-41 900 kg torpedoes.

An SM.84 Serie I with a three-section windshield and angle-shaped blisters for observation. Because of its mediocre results, the SM.84 was reclassified as a transport aircraft.



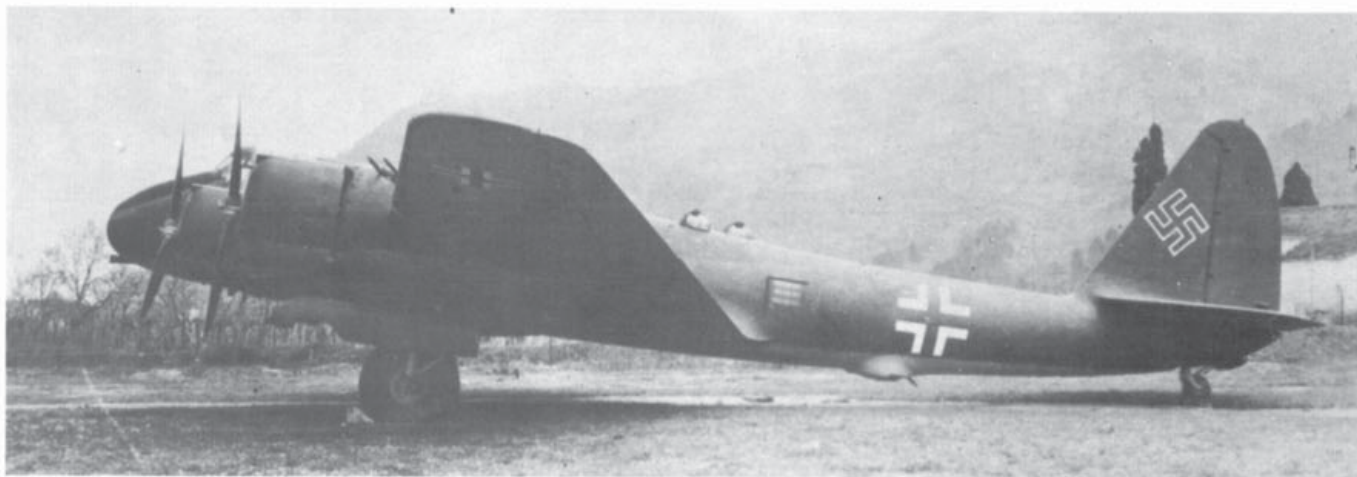
Piaggio P. 108 B

Bombers



In 1938 the RA issued a request for proposal for a BGR (Bombardiere a Grande Raggio, long range bomber); proposals came from Caproni with their Ca.204 and Ca.211 projects, CRDA with Cant.Z.1014 (built only in mock-up form), Piaggio with the P.108B (a private venture project, offered as an additional entry) and the P.112. Also considered was the purchasing of a production license for the Boeing B-17C 'Fortress', but this idea was later discarded for reasons of autarchia (national self-sufficiency). The competition was won by the Cant.Z.1014, but since the development of the P.108B was already at an advanced stage, this aircraft was chosen to be produced in quantity. Designed by Casiraghi, who had worked in the USA and was familiar with B-17 technology, it was certainly a sophisticated machine, although slower and heavier than the Fortress. From top to bottom: the MM.22001 prototype being prepared for its first flight in October 1939; the prototype again in the operational configuration; on February 15, 1940, the first P.108B crash-landed on a rough riverbed in Albenga in the Ligurian region.





One of the various versions of the Piaggio four-engine aircraft was the P.108A ('A' stood for Artigliere, gunner). It was built by modifying a P.108B, MM.24318. The aircraft was armed with a modified 102/40 mm naval cannon set in the nose, carrying 47 rounds. It was intended to attack enemy naval convoys from long range. The modification was done between December 1942 and February 1943. The aircraft completed its evaluation trials in the spring of 1943, but did not take part in any operational missions. In September 1943 it was requisitioned by the Luftwaffe and transferred to the Rechlin test range where it was destroyed by Allied bombing.

P.108B and same class strategic bombers comparison chart

	Piaggio P.108B (all entries in the RA competition)	Caproni Ca.204	CRDA C.Z.1014	Boeing B-17C
Rating, HP	4x1,500	4x1,350	4x1,350	4x1,200
Wing span, m	32.00	29.0	36.00	31.40
Length, m	22.92	23.2	24.36	20.42
Height, m	7.70	5.6	5.27	4.57
Wing span, sq m	135.34	110	135	132
Empty weight, kg	17,320	12,460	14,350	12,542
Loaded weight, kg	26,820	23,235	25,000	21,160
Max. TO weight, kg	29,885	—	—	—
Max. speed, kmh	419	521	516	468
at, m	3,900	4,100	4,100	7,620
Cruise, kmh	—	456	452	372
Climb to m	4,000	4,000	4,000	3,150
in	15'51"	12'10"	10'	7'6"
Service ceiling, m	—	6,400	8,800	10,975
Range, km	3,520	4,360	4,000	3,860
Armament, mm	8x12,7	5x12,7	6x12,7	6x12,7
Bombload, kg	3,500	2,000	2,400	1x7,62
Crew	6	8	9	4,760
				9



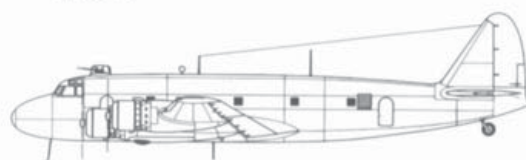
P.114



P.108A



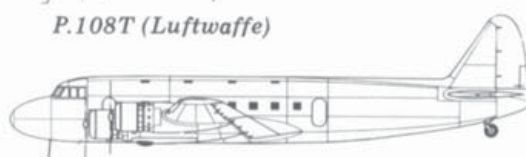
P.108B/I



P.108T (Luftwaffe)

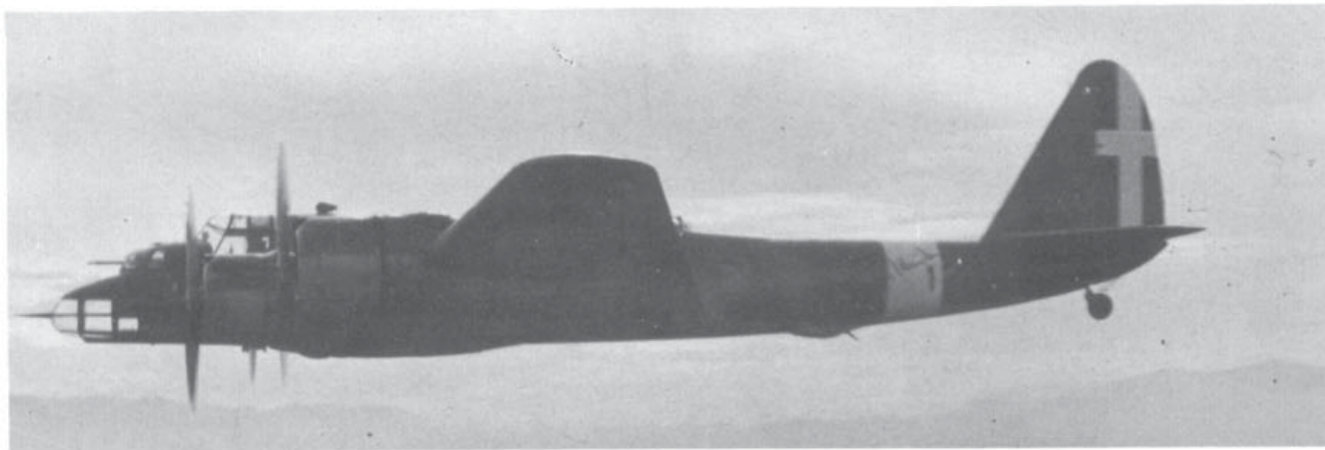


P.108B prot.



P.108 C

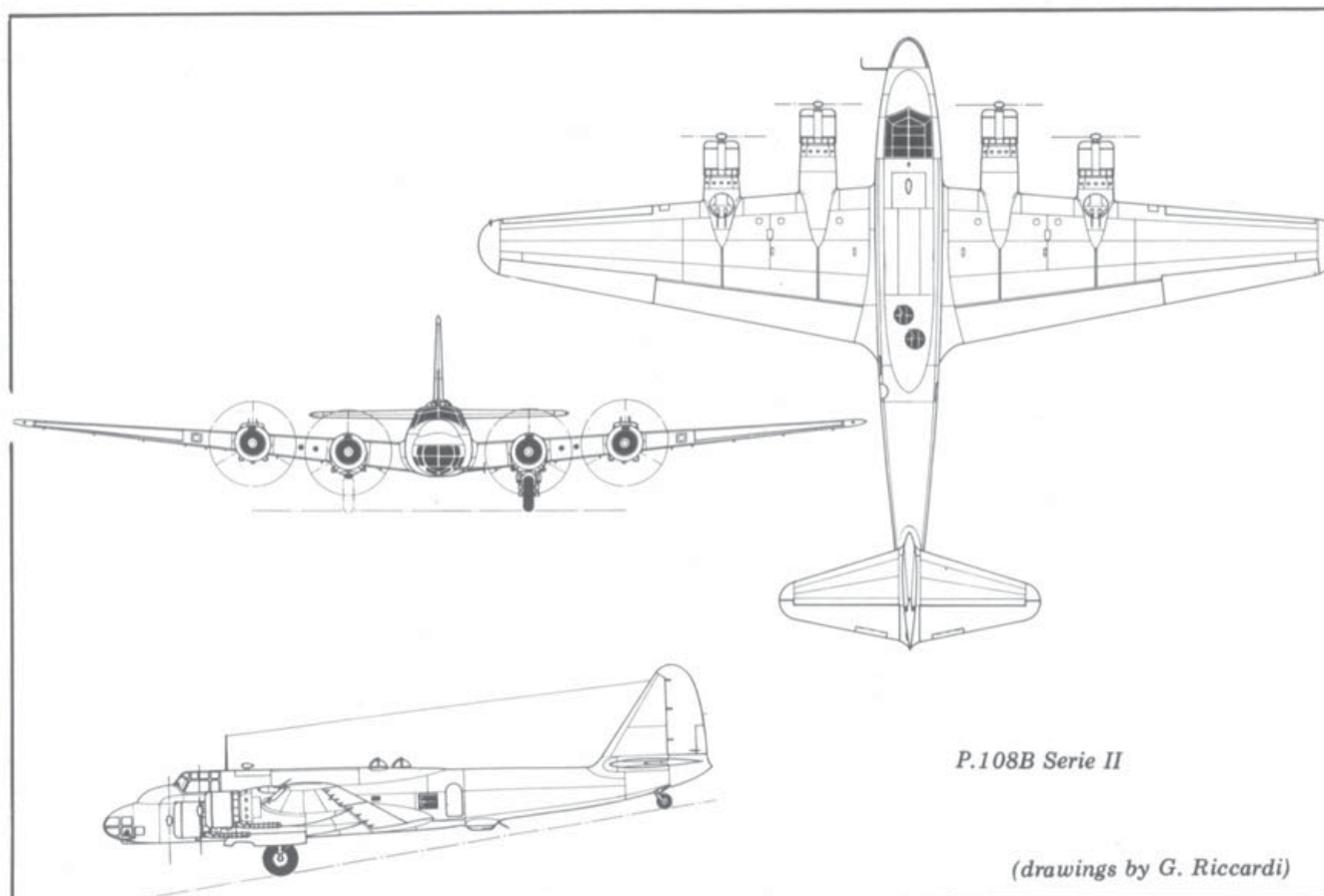
(drawings by G. Riccardi)



Above: the third P.108B MM.22004 in flight at the beginning of 1942. Right: one of the first aircraft photographed at Pisa in 1941. The Piaggio P.108B was the only Italian four-engine strategic bomber to enter service. Though heavier and slower than the B.17, it had a more advanced armament. Its greatest sources of trouble were the systems and engines.



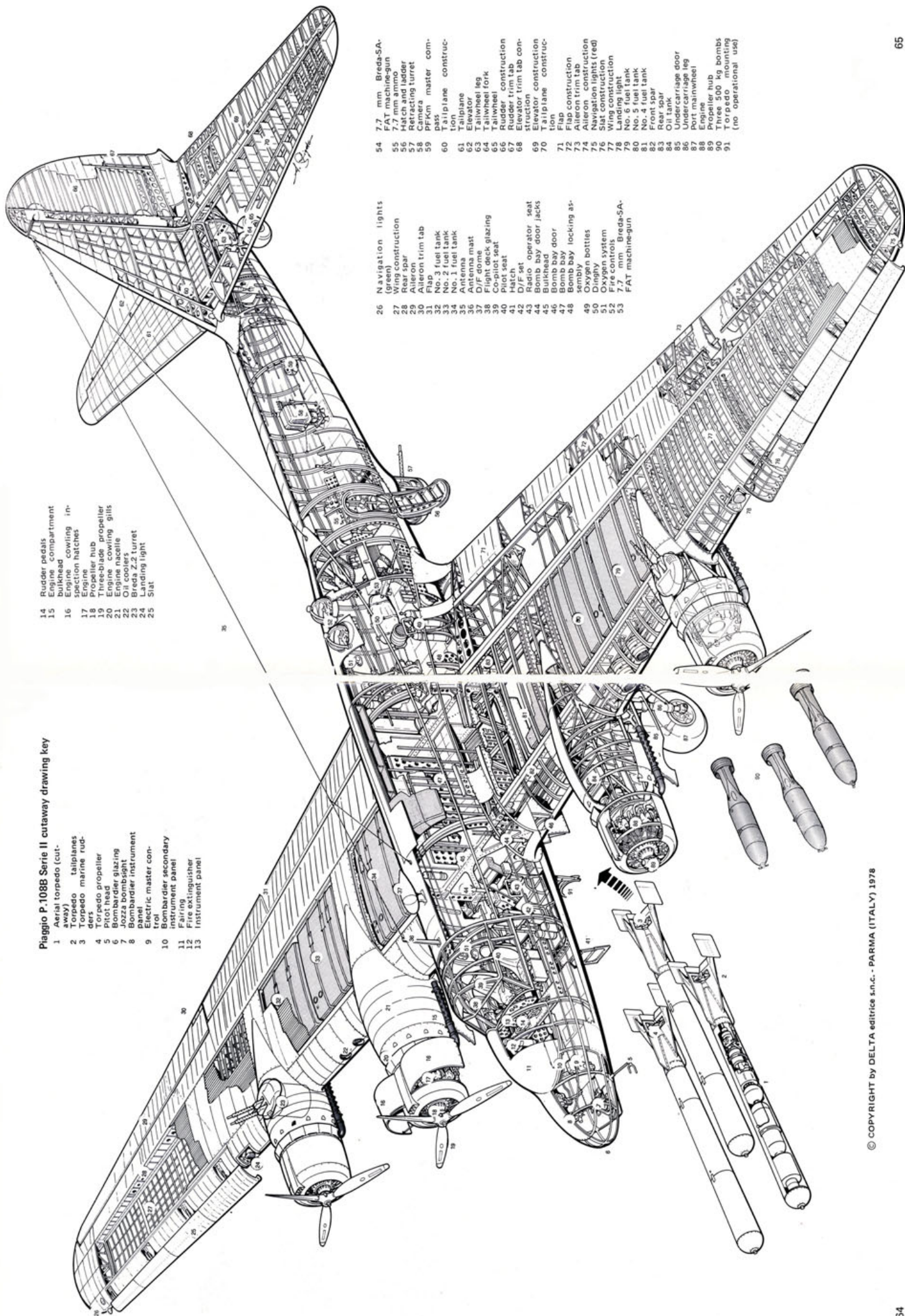
Right: the third P.108B, MM.22003, during tests. Transport versions (P.108C and P.108T) were developed from the Piaggio P.108. The RA ordered 15 P.108Ts in 1941 and the first aircraft were delivered to the 248.a Sq. Aut. Trasporti (transport), in April 1943. Almost all the P.108 freighters were captured by the Germans and used during the evacuation of the eastern front. During these flights the Luftwaffe's P.108Ts transported up to 125 troops apiece.



Piaggio P.108B Serie II cutaway drawing key

- 1 Aerial torpedo (cut-away)
- 2 Torpedo tailplanes
- 3 Torpedo marine rudders
- 4 Torpedo propeller
- 5 Torpedo cowling gills
- 6 Jozza bombsight
- 7 Bombardier instrument panel
- 8 Bombardier master console
- 9 Bombardier secondary instrument panel
- 10 Bombardier fire extinguisher
- 11 Bombardier instrument panel
- 12 Bombardier fire extinguisher
- 13 Bombardier instrument panel

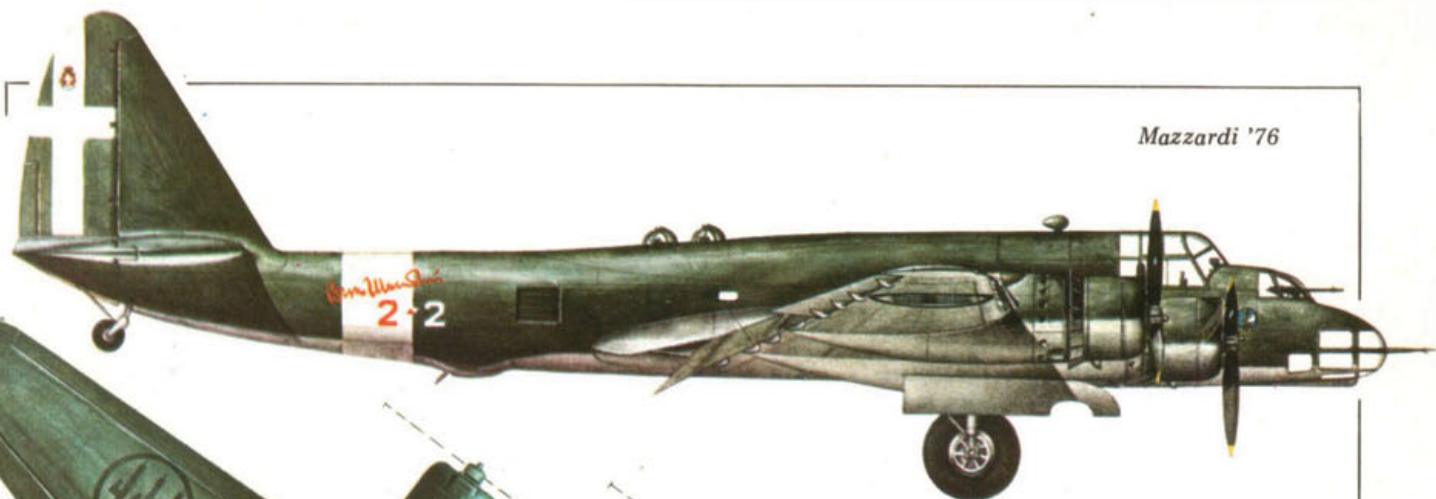
- 14 Rudder pedals
- 15 Engine compartment bulkhead
- 16 Engine cowling inspection hatches
- 17 Engine
- 18 Propeller hub
- 19 Three-blade propeller
- 20 Engine cowling gills
- 21 Oil cooler
- 22 Oil cooler
- 23 Breda 2.2 turret
- 24 Landing light
- 25 Slat



- 26 Navigation lights (green)
- 27 Wing construction
- 28 Wing spar
- 29 Aileron trim tab
- 30 Aileron trim tab
- 31 Flap
- 32 No. 3 fuel tank
- 33 No. 2 fuel tank
- 34 No. 1 fuel tank
- 35 Antenna mast
- 36 D/F dome
- 37 Flight deck glazing
- 38 Co-pilot seat
- 39 Pilot seat
- 40 D/F set
- 41 Radio operator seat
- 42 Bomb bay door jacks
- 43 Bomb bay door
- 44 Bomb bay locking assembly
- 45 Bulkhead
- 46 Bomb bay door
- 47 Bomb bay locking assembly
- 48 Oxygen bottles
- 49 Oxygen system
- 50 Oxygen system
- 51 Fire control
- 52 Breda-5A
- 53 7.7 mm Breda-5A machine-gun

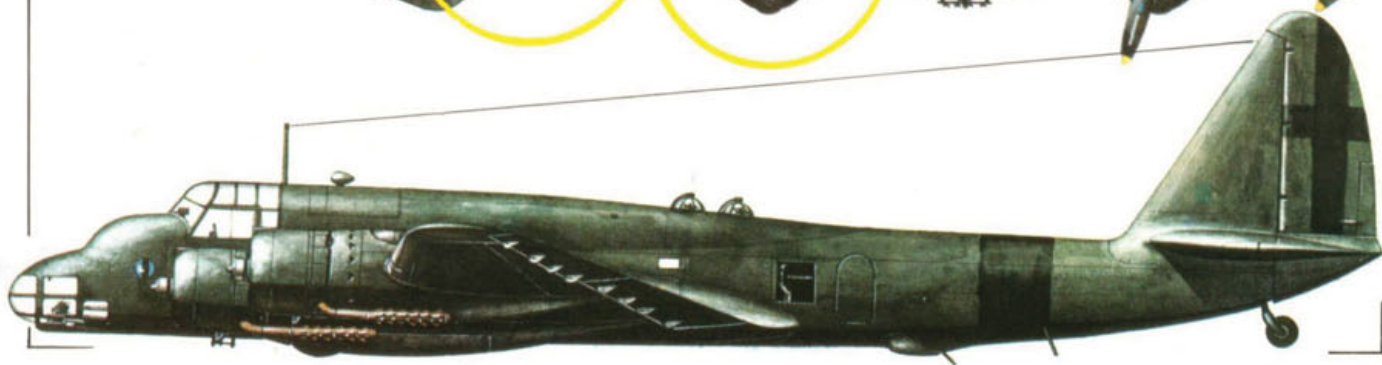
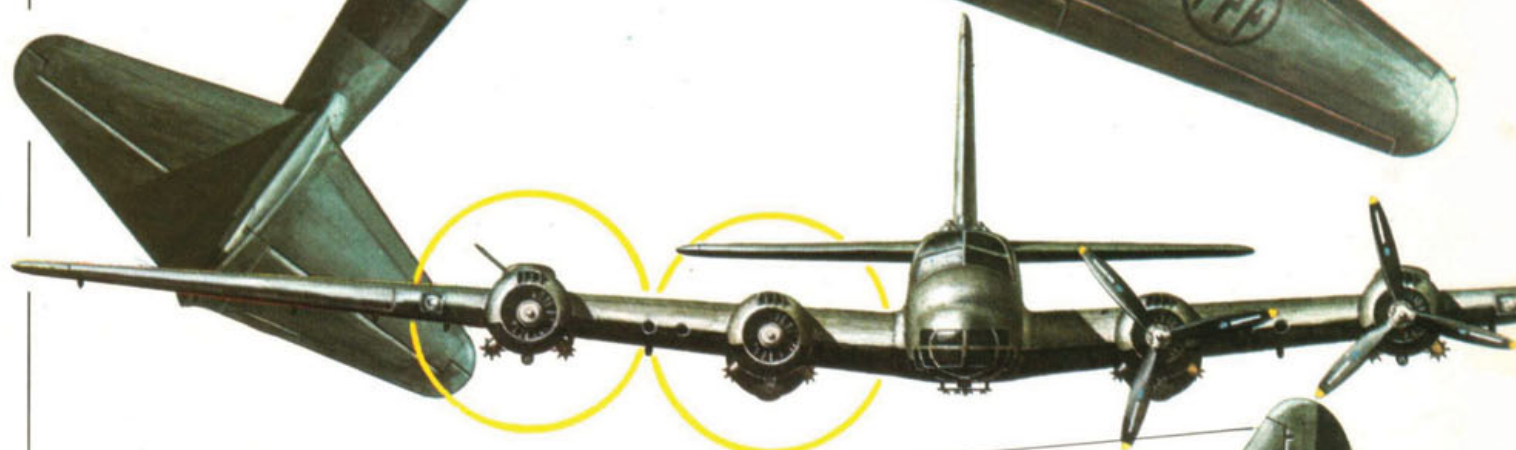
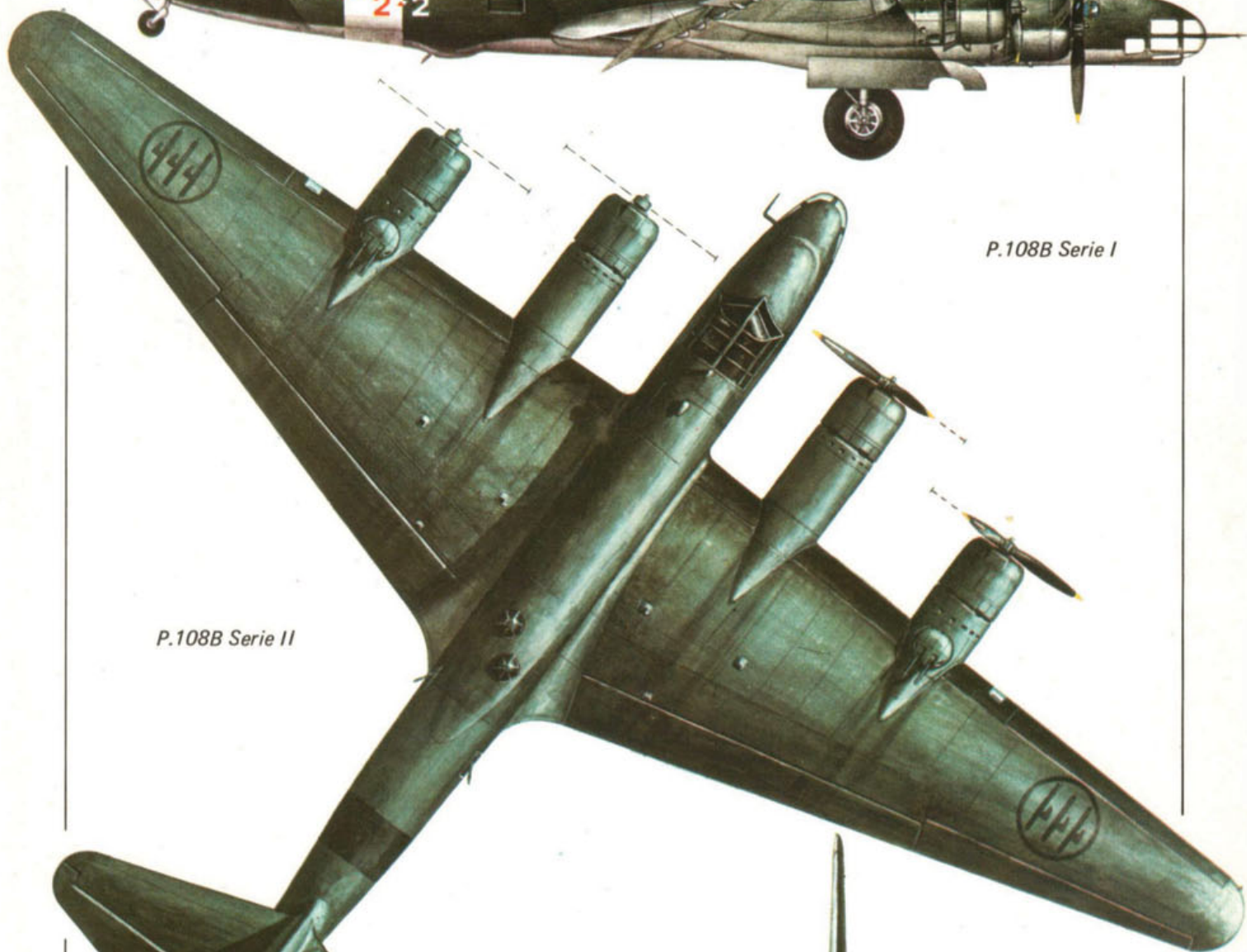
- 54 7.7 mm Breda-5A machine-gun
- 55 7.7 mm Breda-5A machine-gun
- 56 Retracting turret
- 57 Camera
- 58 PFKm master compass
- 59 Tailplane construction
- 60 Elevator
- 61 Tailplane
- 62 Tailwheel fork
- 63 Tailwheel fork
- 64 Tailwheel fork
- 65 Rudder trim tab construction
- 66 Rudder trim tab construction
- 67 Elevator trim tab construction
- 68 Elevator trim tab construction
- 69 Elevator trim tab construction
- 70 Tailplane construction
- 71 Flap
- 72 Flap construction
- 73 Aileron trim tab
- 74 Aileron trim tab
- 75 Navigation lights (red)
- 76 Slat construction
- 77 Wing construction
- 78 Landing light
- 79 No. 6 fuel tank
- 80 No. 5 fuel tank
- 81 No. 4 fuel tank
- 82 Front spar
- 83 Undercarriage door
- 84 Oil tank
- 85 Undercarriage door
- 86 Port mainwheel
- 87 Engine hub
- 88 Engine hub
- 89 Three 500 kg bombs
- 90 Torpedo mounting
- 91 (no operational use)

Mazzardi '76



P.108B Serie I

P.108B Serie II



SIAI Marchetti S. 81 Pipistrello

Bombers



A predecessor of the S.79 despite its higher manufacturer's designation, the S.81 had some inferior features compared to the S.79 (such as fixed landing gear) and some good features (such as the location of the bombs in the fuselage). Reliable and sturdy, and admired by the pilots, it was operated initially as a bomber (a career already begun in Spain and Africa in the 30's) and was then used as a transport aircraft, thanks to its large load capacity and reliability, which enabled it to operate under almost prohibitive conditions. It served with the RA in Italy, Africa, Yugoslavia and Russia. After September 8, 1943 it carried not only the Aeronautica Cobelligerante's roundels, but also the ANR badge and the Luftwaffe balkenkreuz. Mussolini used an S.81, named La Tartaruga (the Tortoise) as his personal aircraft. The Pipistrello (bat) was not sold abroad, but Spain kept the Aviacion Legionaria's aircraft. Unfortunately, no example was preserved and today none exist.

Above: a Pipistrello with Piaggio engines. Below: an S.81 of the 222.a Sq. At the bottom of the page: a Pipistrello in North Africa; in the foreground are a Luftwaffe zugkraftwagen and an Italian pick-up truck. Above the right wing note the paint discolored by engine exhaust.



SIAI Marchetti S.81 Pipistrello

Medium bomber with a crew of six

Power plant: three Alfa Romeo 125 RC.35 Pegaso (license-built Bristol Pegasus) nine-cylinder radial air-cooled engine rated at 680 HP for take-off).

Dimensions: wing span 24.0 m; length 18.30 m; height 4.30 m; wing area 92.2 sq m.

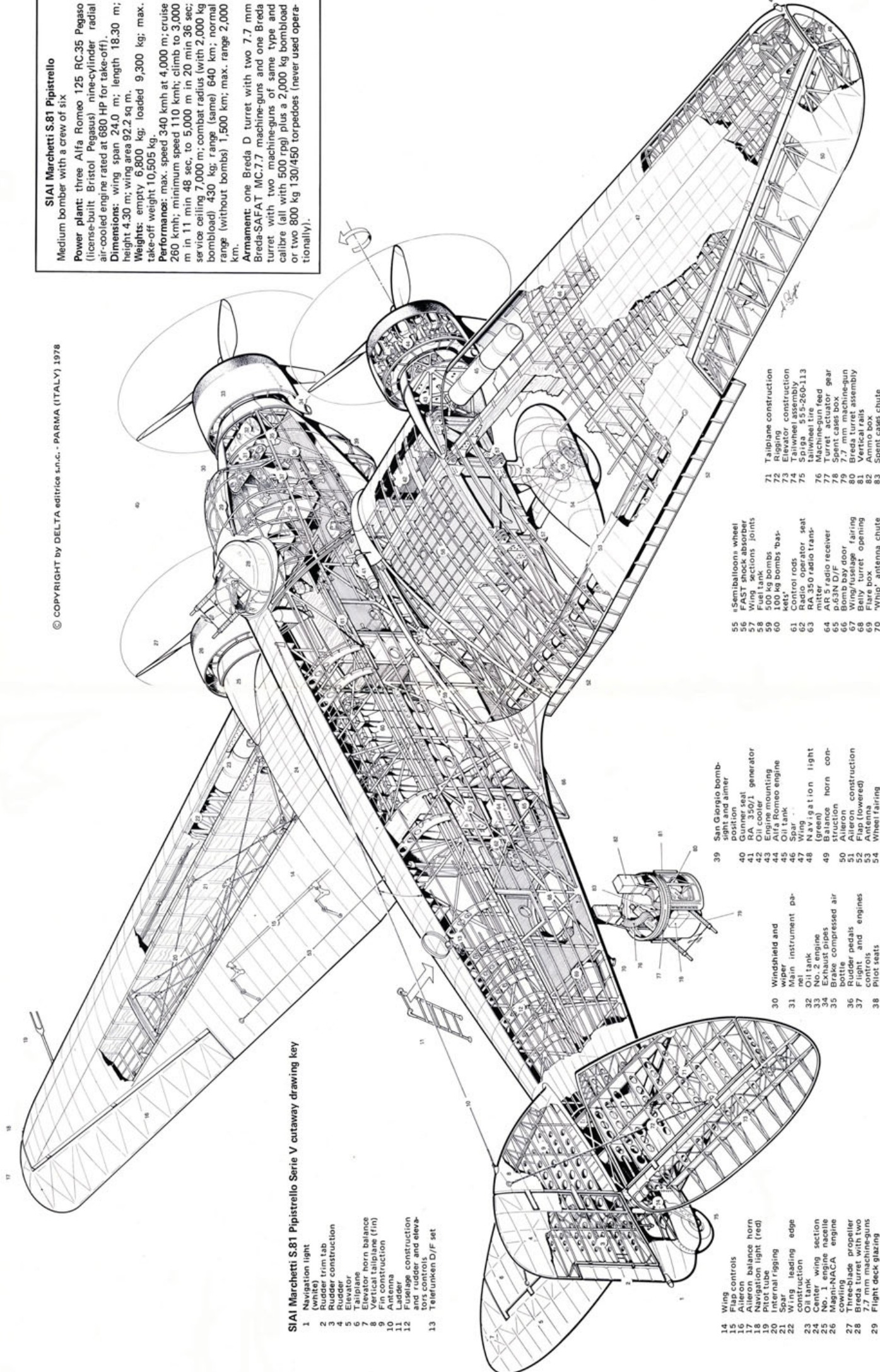
Weights: empty 6,800 kg; loaded 9,300 kg; max. take-off weight 10,505 kg.

Performance: max. speed 340 kmh at 4,000 m; cruise 260 kmh; minimum speed 110 kmh; climb to 3,000 m in 11 min 48 sec; to 5,000 m in 20 min 36 sec; service ceiling 7,000 m; combat radius (with 2,000 kg bombload) 430 km; range (same) 640 km; normal range (without bombs) 1,500 km; max. range 2,000 km.

Armament: one Breda D turret with two 7.7 mm Breda-SAFAT MC.7.7 machine-guns and one Breda turret with two machine-guns of same type and calibre (all with 500 rpg) plus a 2,000 kg bombload or two 800 kg 130/450 torpedoes (never used operationally).

SIAI Marchetti S.81 Pipistrello Serie V outaway drawing key

- 1 Navigation light (white)
- 2 Rudder trim tab
- 3 Rudder construction
- 4 Elevator
- 5 Tailplane
- 6 Elevator horn balance
- 7 Vertical tailplane (fin)
- 8 Fin construction
- 9 Antenna
- 10 Fuselage construction and rudder and elevators controls
- 11 Telefunkon D/F set

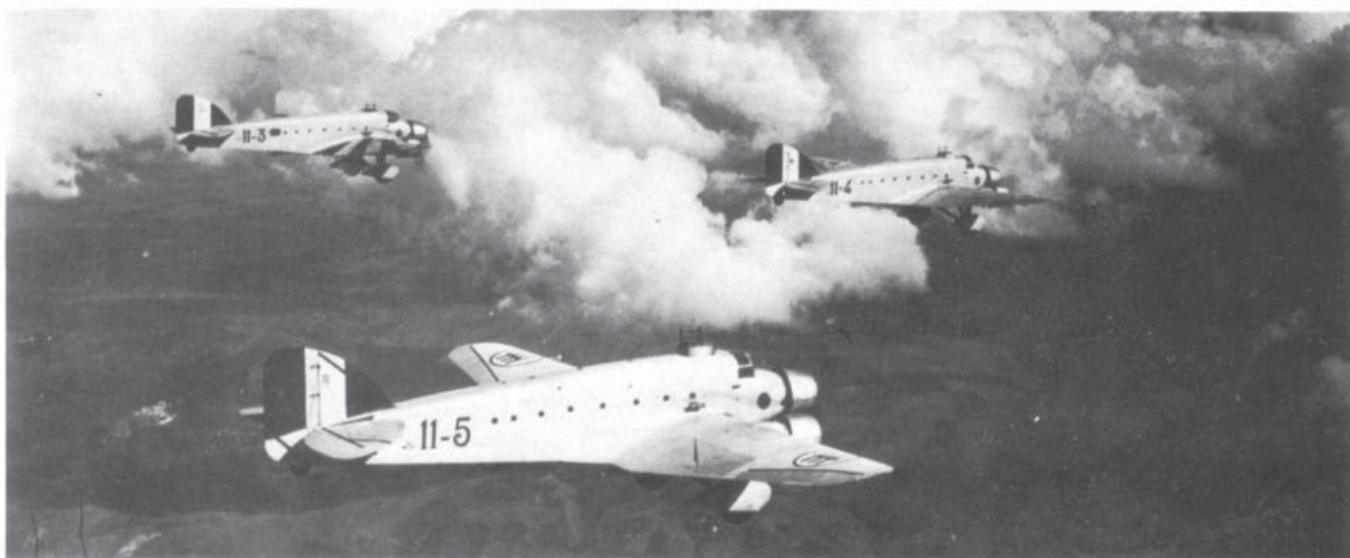


- 14 Wing
- 15 Flap controls
- 16 Aileron
- 17 Balance horn
- 18 Navigation light (red)
- 19 Pitot tube
- 20 Internal rigging
- 21 Spar
- 22 Wing leading edge
- 23 Oil tank
- 24 Center wing section
- 25 No. 1 engine nacelle
- 26 Magni-NACA engine cowlings
- 27 Propeller
- 28 Breda turret with two 7.7 mm machine-guns
- 29 Flight deck glazing

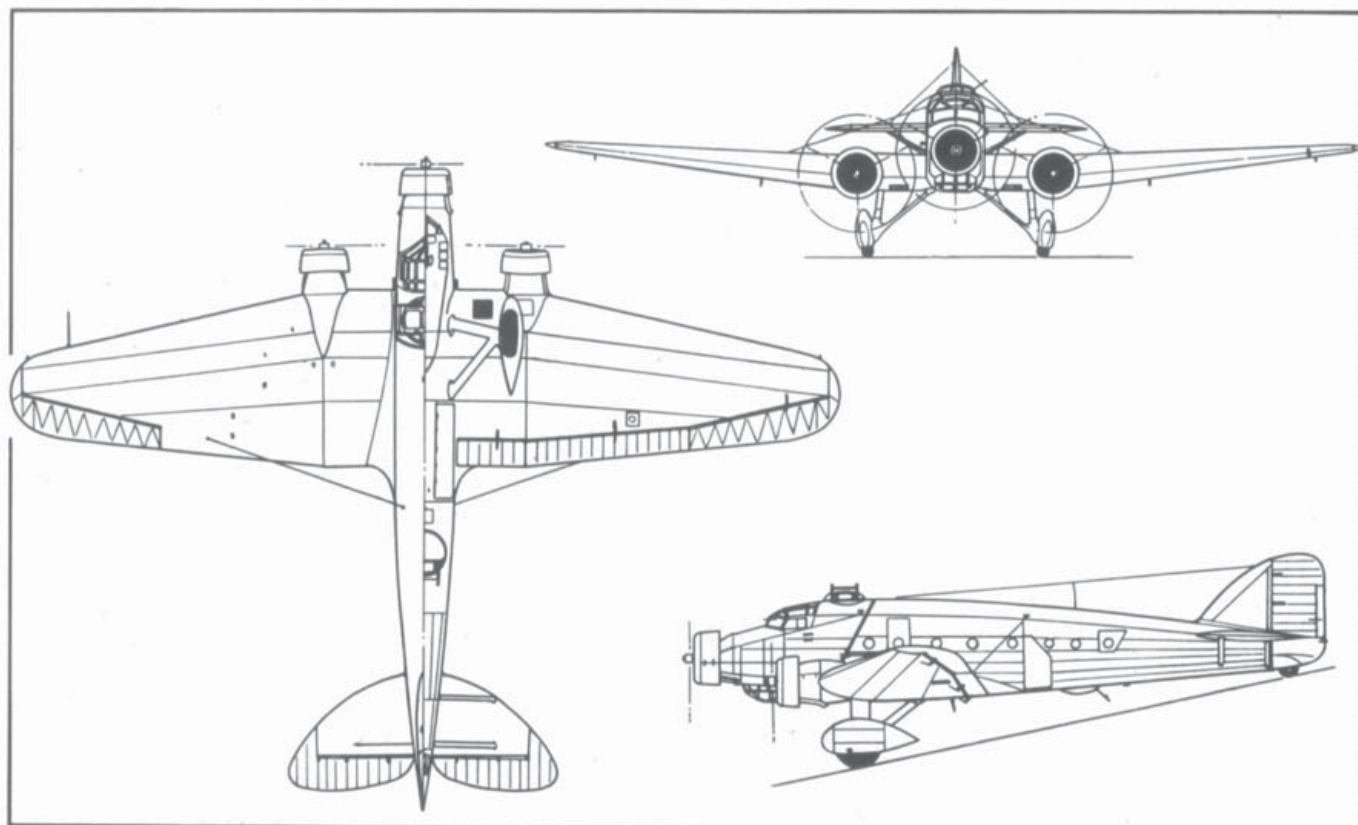
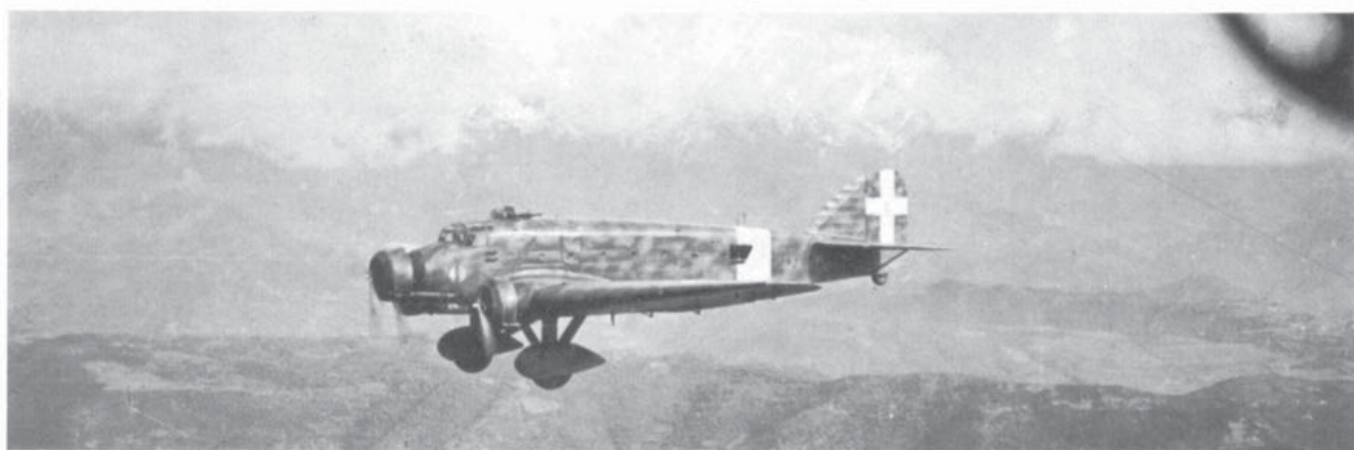
- 30 Windshield and wiper
- 31 Main instrument panel
- 32 Oil tank
- 33 No. 2 engine
- 34 Exhaust pipes
- 35 Brake compressed air bottle
- 36 Rudder pedals
- 37 Fuel and engine controls
- 38 Pilot seats
- 39 San Giorgio bomb-sight and aimer position
- 40 Gunner seat
- 41 GA 350/1 generator
- 42 Oil tank
- 43 Engine mounting
- 44 Alfa Romeo engine
- 45 Oil tank
- 46 Spar
- 47 Wing
- 48 Navigation light (green)
- 49 Balance horn construction
- 50 Aileron
- 51 Aileron construction (lowered)
- 52 Antenna
- 53 Wheel fairing

- 55 'Semballoon' wheel
- 56 FAST shock absorber
- 57 Wing sections joints
- 58 Oil tank
- 59 500 kg bombs
- 60 100 kg bombs 'baskets'
- 61 Control rods
- 62 Radio operator seat
- 63 GA 350 radio transmitter
- 64 AR 5 radio receiver
- 65 Bomb bay door
- 66 Bomb bay door fairing
- 67 Wing/rudder fairing
- 68 Breda turret opening
- 69 Flap fairing
- 70 'Whip' antenna chute

- 71 Tailplane construction
- 72 Rigging
- 73 Elevator construction
- 74 Tailwheel assembly
- 75 Spiga - 555-260-113
- 76 Main wheel feed
- 77 Turret actuator gear
- 78 Spent cases box
- 79 7.7 mm machine-gun
- 80 Breda turret assembly
- 81 Vertical rails
- 82 Antenna
- 83 Spent cases chute

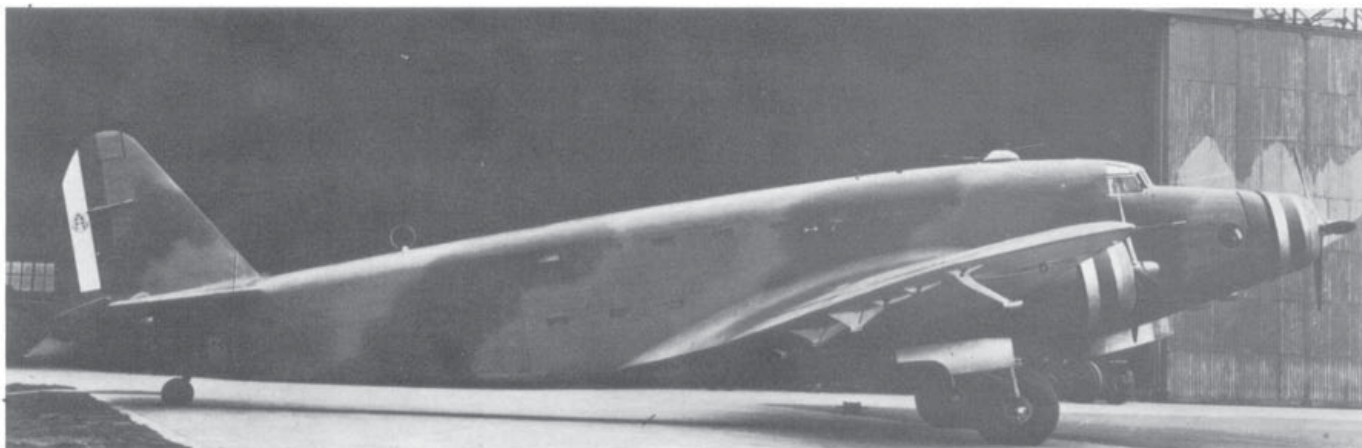


Above: an S.81 formation of the 11.a SQ. BT (Bombardamento Terrestre, land-based bombers). In particular, aircraft 11-3 (in the background) shows the colors used in the Italian colonies in North Africa and East Africa. Below: an S.81 with the standard camouflage used by the Regia Aeronautica during the first part of the war.

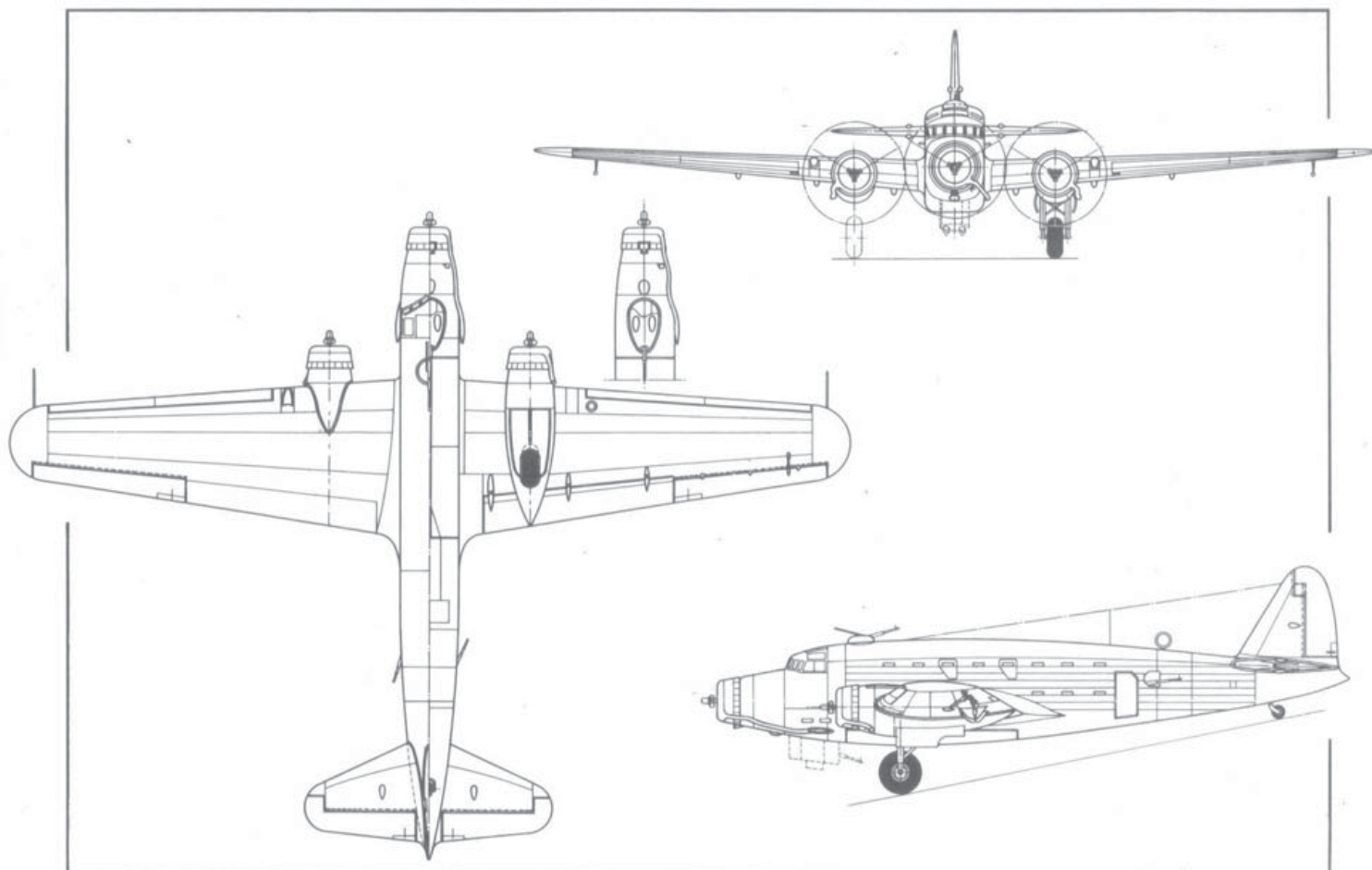
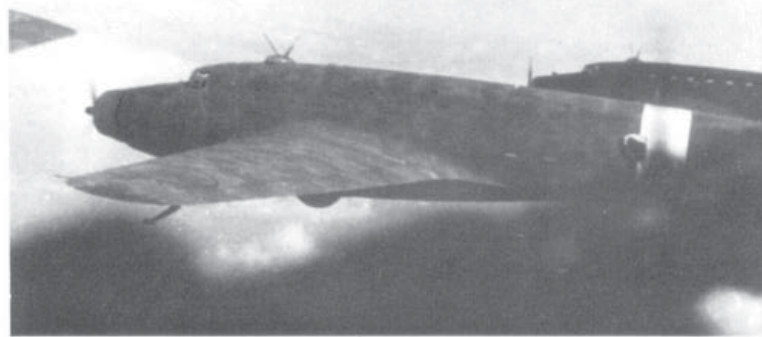


SIAI Marchetti S.M. 82 Marsupiale

Bombers



This three-engined aircraft of exceptional capacity was the best Italian transport aircraft during W.W.II, valued for its manoeuvrability, load capacity, and range. Some examples converted into bombers, carried out the only strategic action performed by the RA in the course of the fighting. Many aeroplanes of this type survived the war and were flown in the postwar Italian Aeronautica Militare as transport aircraft and for paratroop dropping. Above: the prototype of the Marsupiale (Marsupial) in bomber configuration, MM.414. Right: a formation of SM.82 transport aircraft.



SIAl Marchetti SM.82 Marsupiale Serie VII

Long range heavy bomber and strategic transport aircraft with a crew of four.

Power plant: three Alfa Romeo AR.128 RC.18 nine-cylinder radial air-cooled engines rated at 860 HP at 2,000 m.

Dimensions: wing span 29.68 m; length 22.90 m; height (raised tail) 7.86 m, (excluding props, with lowered tail) 6.00 m; wing area 118.6 sq m.

Weights: (bomber configuration) empty 11,200 kg; loaded 16,200 kg; max. take-off weight 18,410 kg.

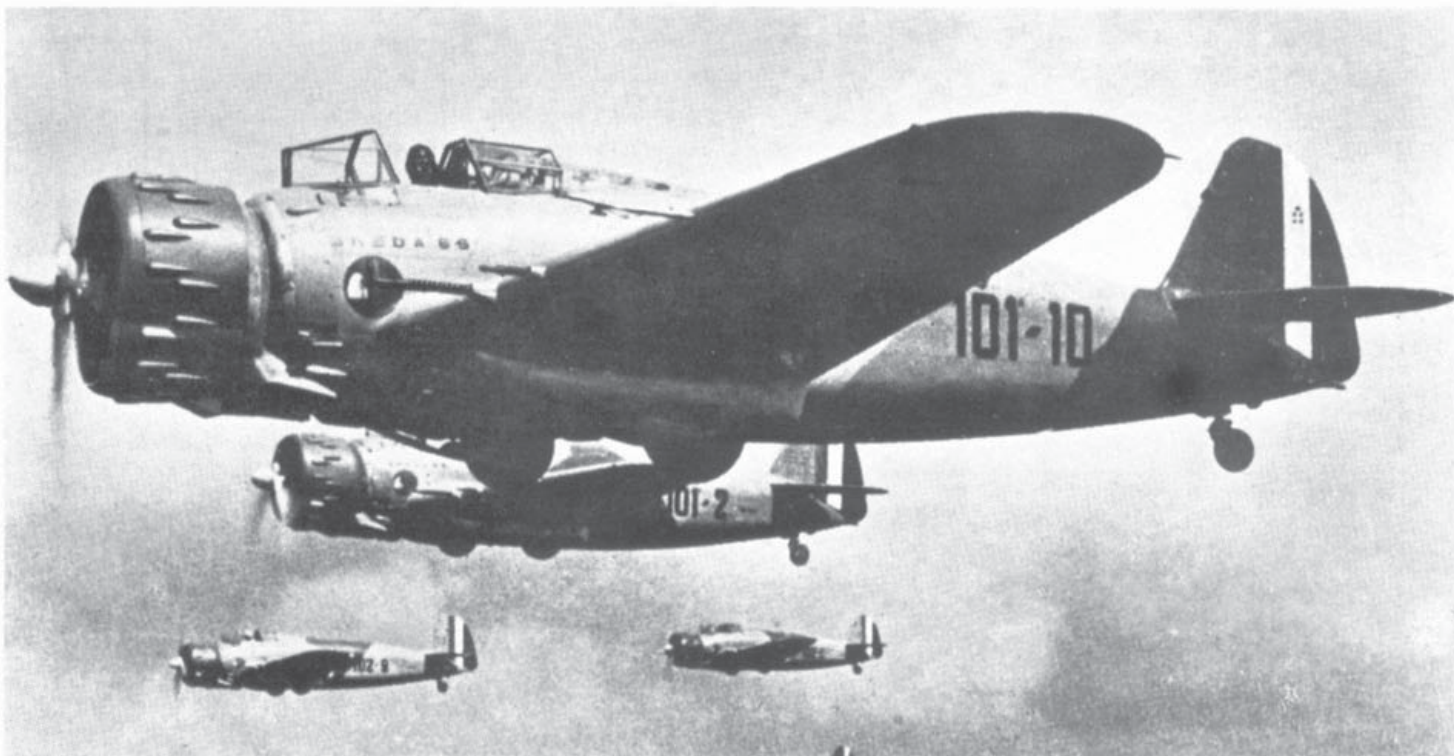
Performance: max. speed 347 kmh at 3,000 m; cruise

250 kmh at 3,670 m; climb to 3,000 m in 18 min; service ceiling 5,150 m; absolute ceiling 6,000 m; range (at max. TO weight and 250 kmh) 1,676 km; max. range 2,190 km.

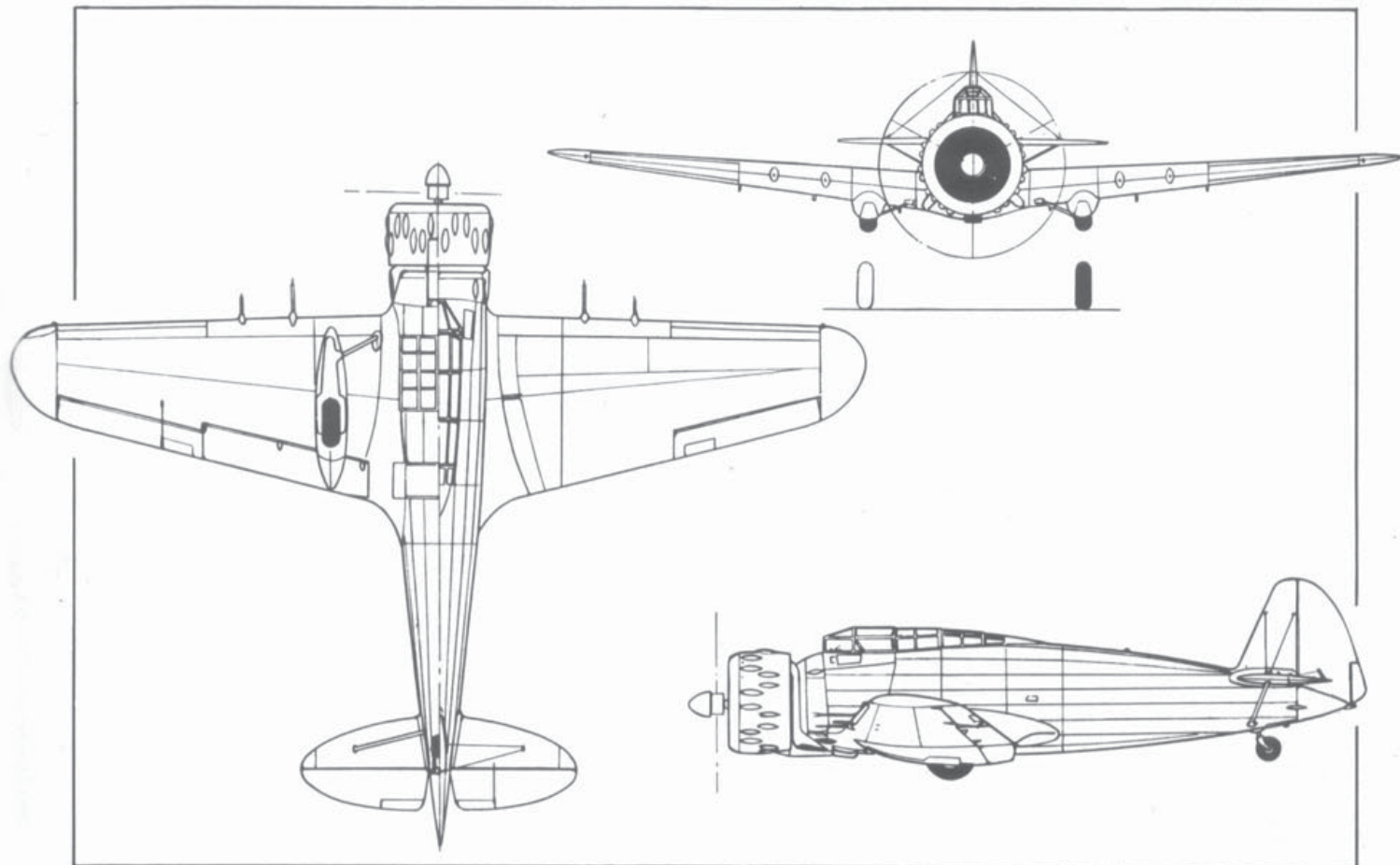
Armament: one Caproni-Lanciani turret with one 12.7 mm Breda-SAFAT MC.12,7 machine-gun and three flexible 7.7 mm Breda-SAFAT MC.7,7 machine guns plus a short range 4,000 kg bombload (standard 1,350-2,700 kg).

Breda 65

Attack



With very few exceptions, in the RA, the ground attack category was seriously handicapped with utterly inefficient aircraft. Among these was the Breda 65, which can be seen in the picture above, in a formation of the 101.a Squadriglia. 160 examples of the Breda 65 were produced before the war, but only 11 of them were serviceable at the start of hostilities in June 1940, and by December of the same year they were no longer used. Left: the aircraft coded 1-167 and 9-160 were the first Breda 65s to enter service; the others lined up are Breda 64s and Caproni AP.1s.



Breda 65

Close support aircraft, single seat

Power plant: one FIAT A.80 RC.41 18-cylinder two row radial air-cooled rated at 1,000 HP for take-off.

Dimensions: wing span 12.10 m; length 9.30 m; height 3.20 m; wing area 23.50 sq m.

Weights: empty (Isotta-Fraschini K.14-engined version) 2,400 kg; loaded 3,490 kg (Breda 65 bis).

Performance: max. speed 430 kmh at 4,300 m; climb to 6,000 m in 11 min 30 sec; service ceiling 8,300 m; range 550 km.

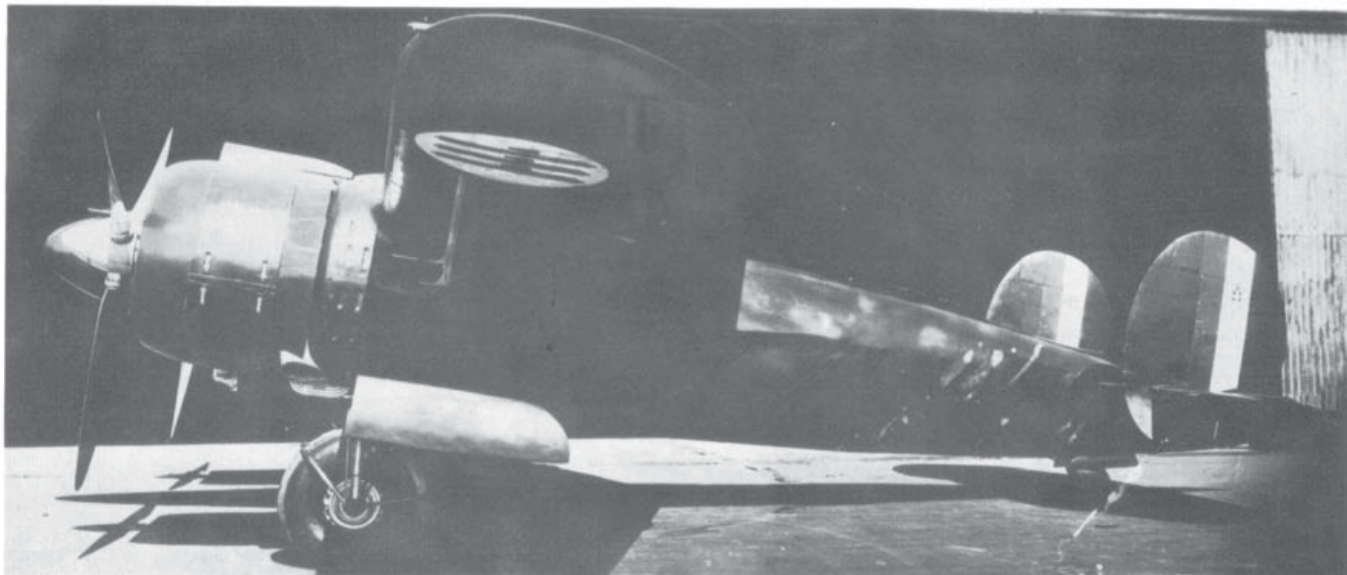
Armament: two 12.7 mm machine-guns with 350 rpg and two 7.7 mm machine-guns with 500 rpg plus a 1,000 kg bombload.

Breda 88 Lince

Attack

The same handicap of ineffective aircraft which afflicted the attack aircraft units of the RA also plagued the so-called aerei da combattimento (combat aircraft) units, including (in the Regia Aeronautica's classification) heavy fighters and close air support aircraft. The twin-engined Breda 88 Lince (Lynx) was another inferior design used in this unfortunate category. It recorded overwhelming successes during peace time, but had a poor combat record during the war.





BREDA 88 Lince

Day fighter-bomber and attack aircraft, two seat.

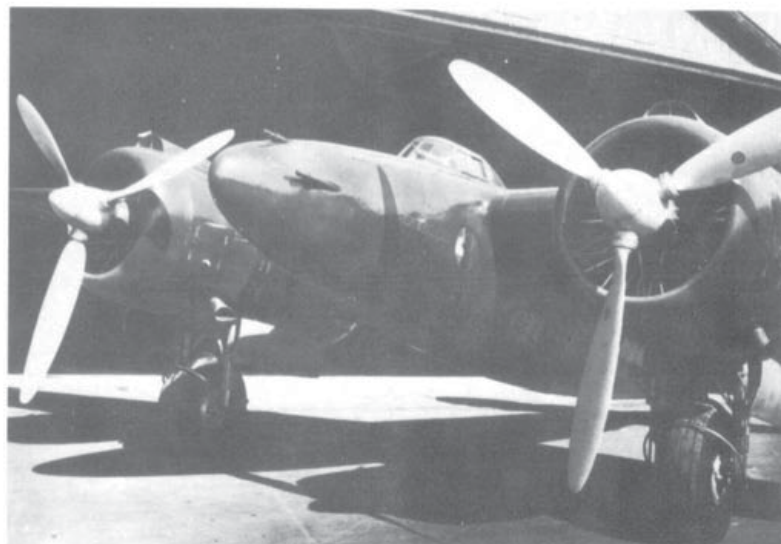
Power plant: two Piaggio P.XI RC.40 (14-cylinder two row radial air-cooled engines rated at 1,000 HP at 4,000 m (short time contingency power).

Dimensions: wing span 15.60 m; length 10.75 m; height 3.60 m; wing area 33.3 sq m.

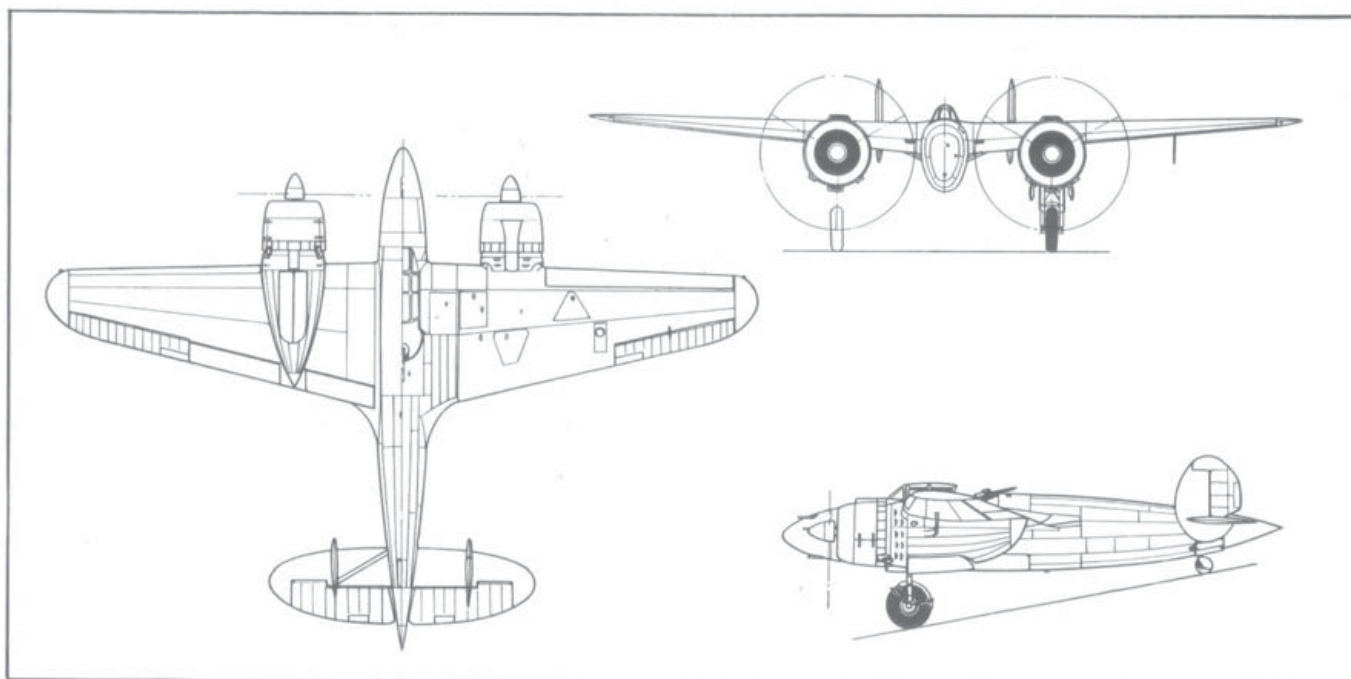
Weights: empty 4,650 kg; loaded 6,750 kg.

Performance: max. speed 490 kmh at 4,500 m; cruise 440 kmh at 4,500 m; landing speed 220 kmh; minimum speed 140 kmh; climb to 4,000 m in 9 min; service ceiling 8,000 m; absolute ceiling 8,300 m; range 1,640 km or 3 h.

Armament: three 12.7 mm Breda-SAFAT MC.12,7 machine-guns with 1,250 rounds, one 7.7 mm Breda-SAFAT MC.7,7 machine-guns with 250 rounds (and 250 rounds reserve) and a 1,000 kg bombload.

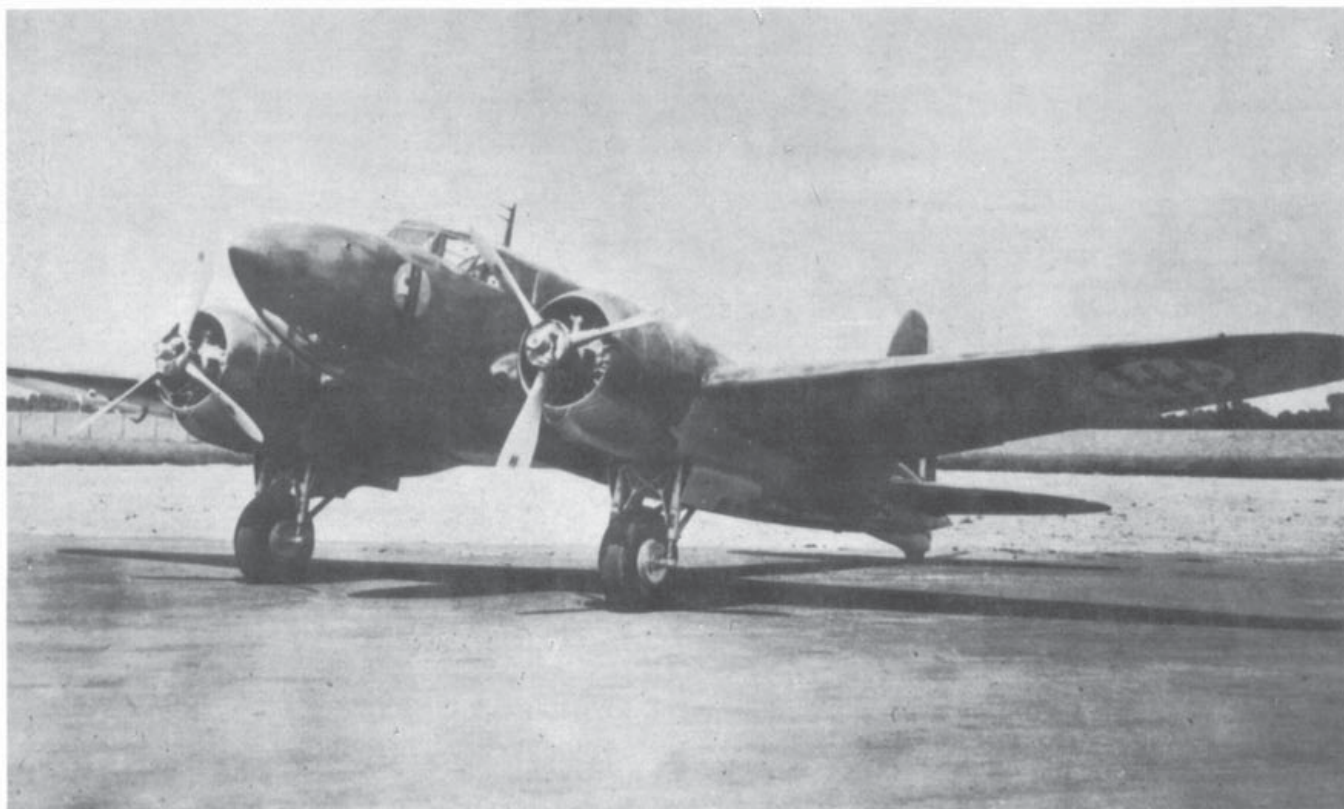


Top: the second series example of the Breda 88. Above: a rear three-quarter view of the same aircraft, MM3963.



Fiat CR. 25

Attack



The FIAT CR.25 also fell within the category of multi-engined multi-purpose combat aircraft, but had several good features and was not a major failure like other types. The CR.25 was intended as a light bomber and long range reconnaissance aircraft, and ten examples of the Sottoserie O were ordered in 1940. In July 1941 the CR.25s were delivered to the 173.a Squadriglia RS. (Ricognizione Strategica, strategic reconnaissance) and remained in service until January 1943. Two derivatives were designed: the CR.25 quater, which never got off the drawing-board, and the FC.20 built by CANSA.

FIAT CR.25

Reconnaissance aircraft and escort fighter with a crew of three

Power plant: two FIAT A.74 RC.38 radial air-cooled engines rated at 840 HP at 3,800 m.

Dimensions: wing span 16.00 m; length 13.56 m; height 3.40 m; wing area 39.20 sq m.

Weights: empty 3,900 kg; loaded 6,180 kg.

Performance: max. speed 490 kmh at 5,500 m; climb to 6,000 m in 16 min 40 sec; absolute ceiling 9,600 m; range 2,100 km.

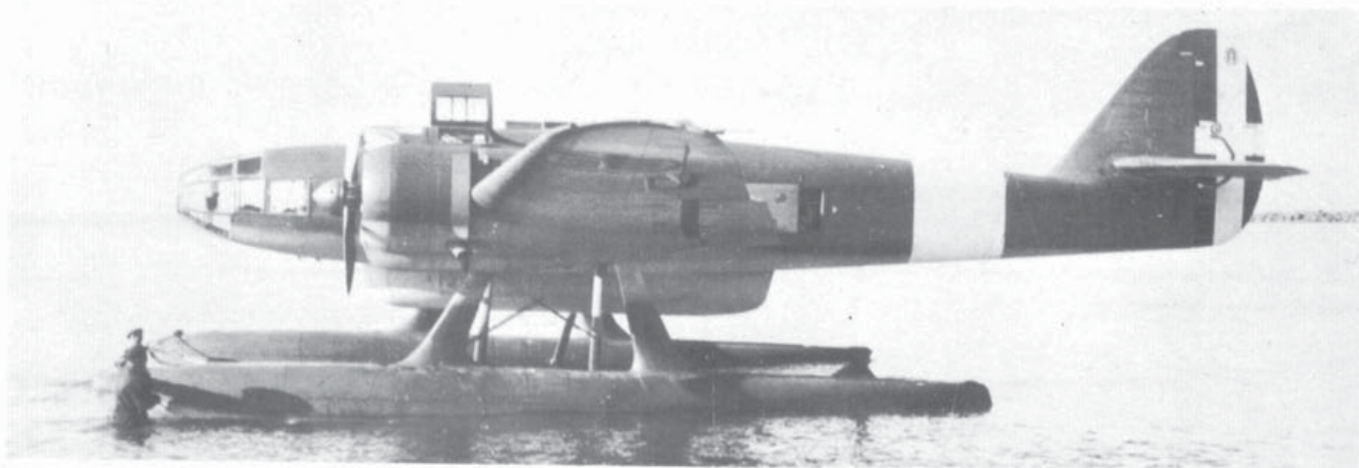
Armament: three 12.7 mm machine-guns.

Fiat RS. 14

Reconn.

On receiving a joint requirement from the air force and the navy, CMASA, a FIAT subsidiary, developed the RS.14 a floatplane for maritime reconnaissance. 152 examples were produced (including the prototypes), and were used with great success. The aircraft could also be converted for attack missions by fitting a canoe-shaped belly pod able to carry 400 kg of bombs.





Top: an RS.14 Serie I (the various series differed in detail modifications). Above: Summer 1943: MM. 35703 (Serie III) at Augusta with its tailplanes smashed with a pick-axe to prevent the enemy using them.

Above: after the war, sunken RS.14s were recovered from Augusta harbor in Sicily. Below: This view of a war-weary example shows the plexiglass panels which close the waist doors of the machine-guns.



FIAT-CMASA RS.14 Serie I

Maritime reconnaissance floatplane with a crew of five

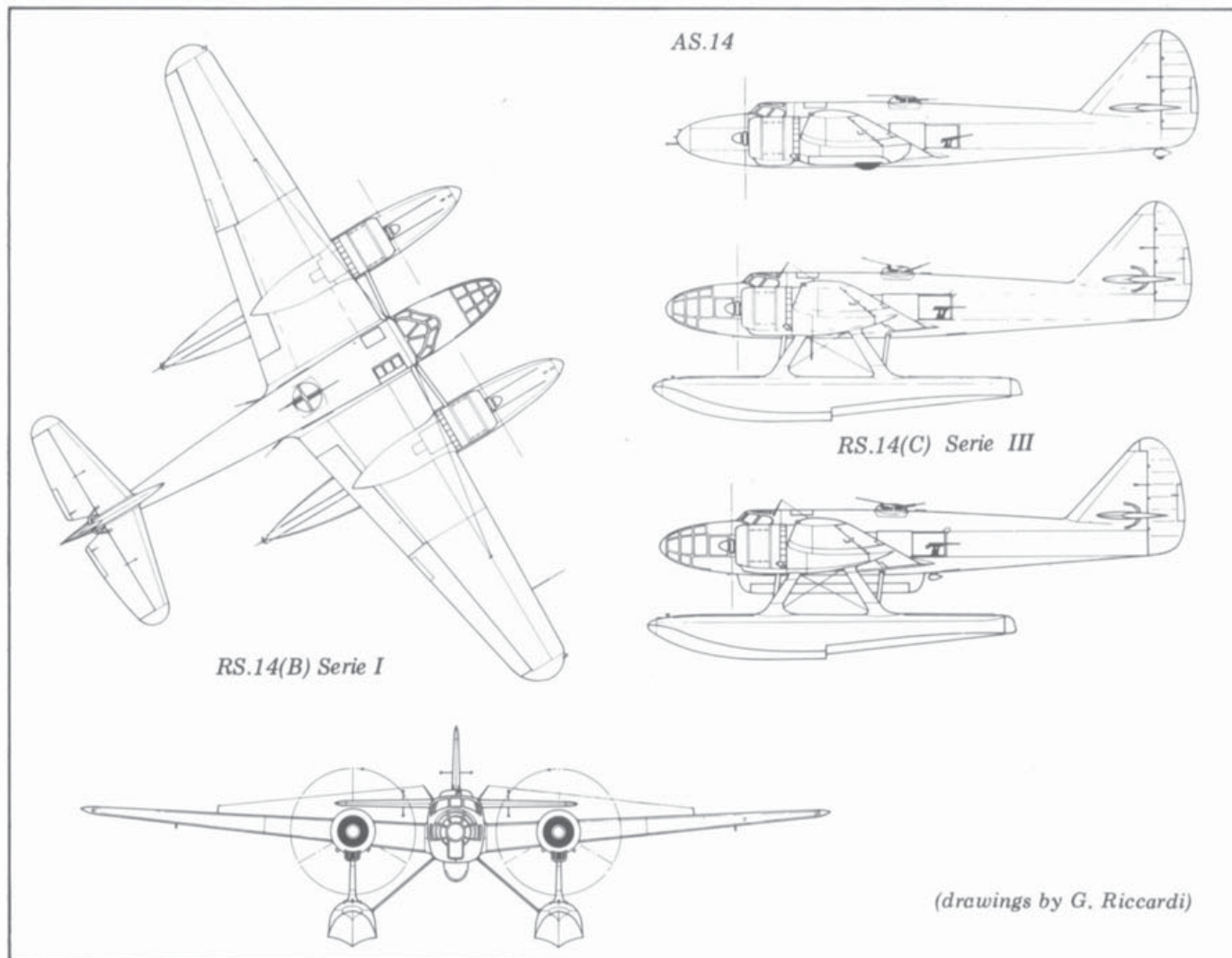
Power plant: two FIAT A.74 RC.38 14-cylinder two row radial air-cooled engines rated at 840 HP at 3,800 m.

Dimensions: wing span 19.540 m; length 14.100 m; height 5.511 m; wing area 50.0 sq m.

Weights: empty 5,410 kg; loaded 8,200 kg; max. take-off weight 8,470 kg.

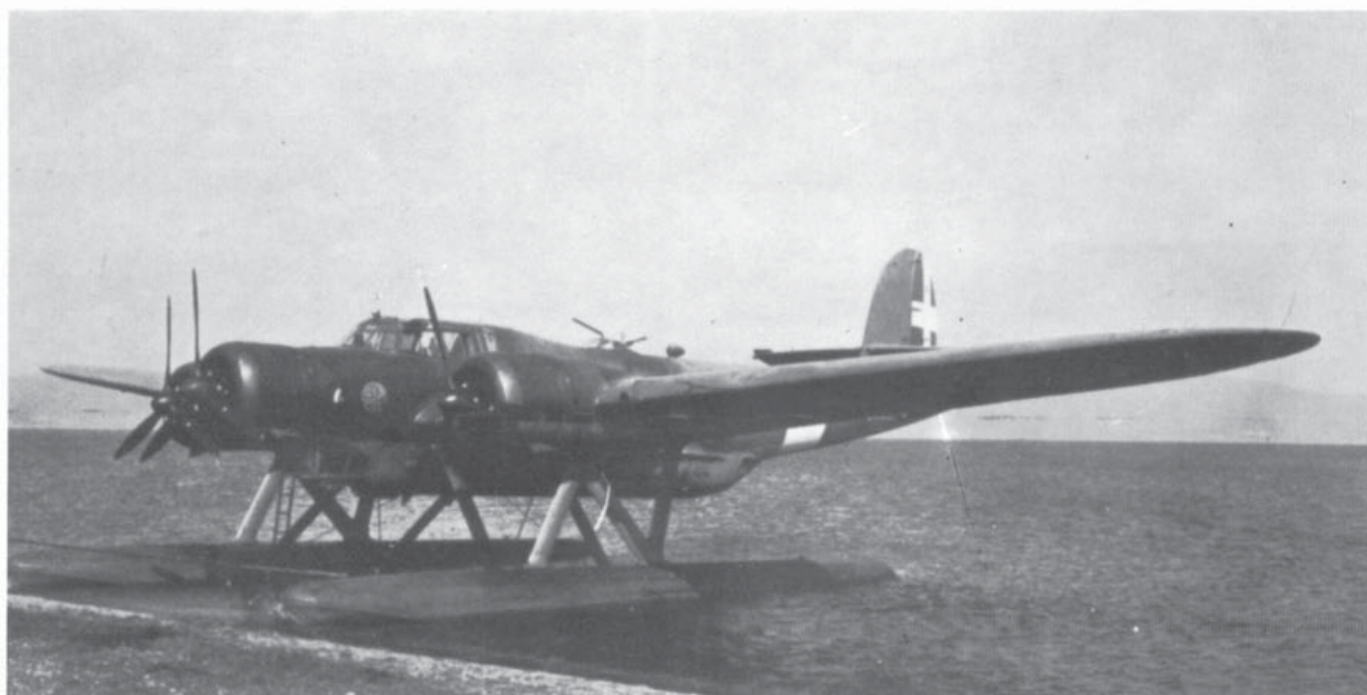
Performance: max. speed 382 kmh at 4,500 m; minimum speed 115 kmh; climb to 3,000 m in 8 min 30 sec; service ceiling 6,000 m; absolute ceiling 6,400 m; range 1,900 km; max. range 2,500 km.

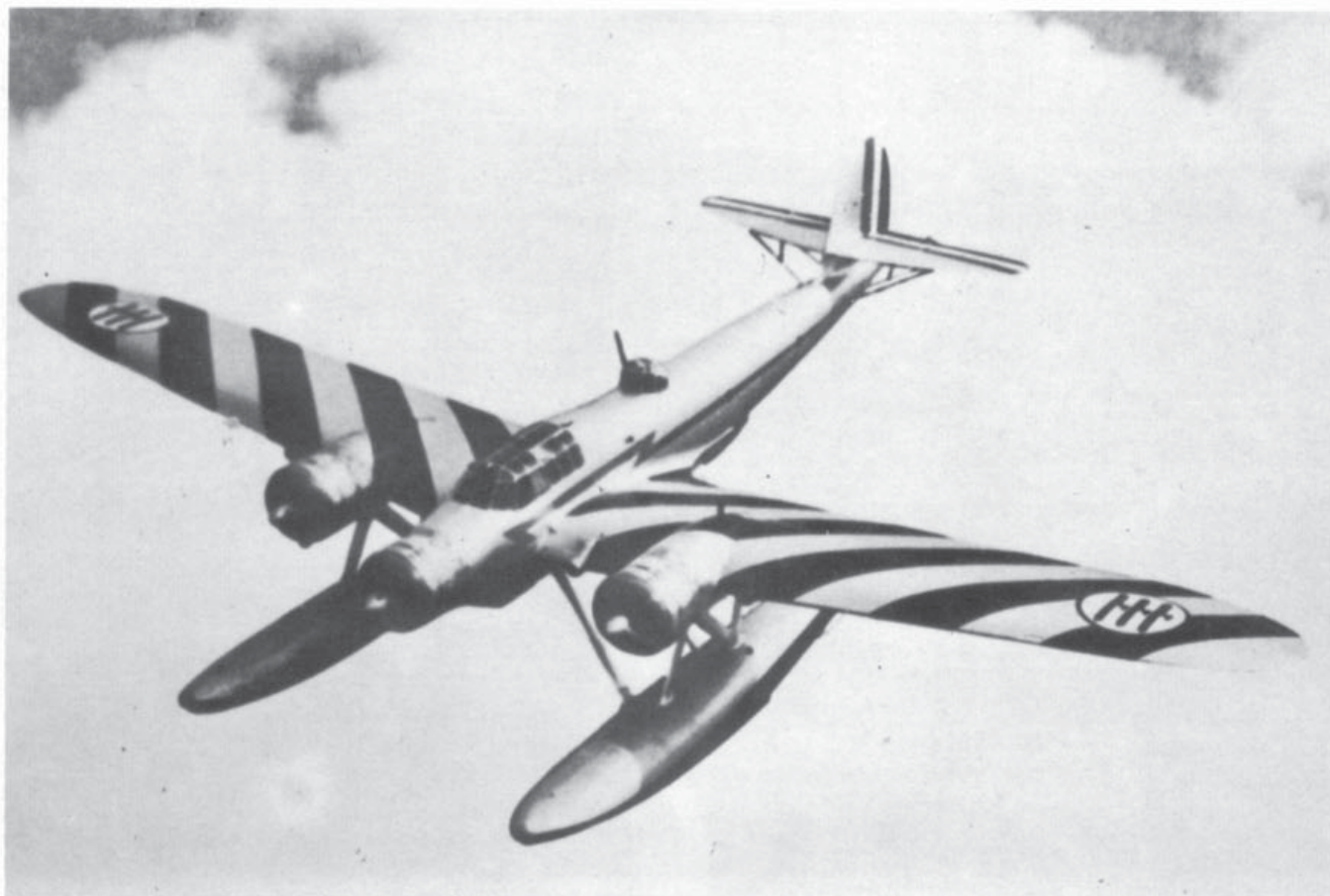
Armament: one Caproni-Lanciani Delta E turret with a 12.7 mm Isotta-Fraschini/ Scotti machine-gun with 350 rounds (and 300 spare rounds), two 7.7 mm Breda-SAFAT MC.7,7 machine-guns with 500 rpg and a 400 kg bombload.



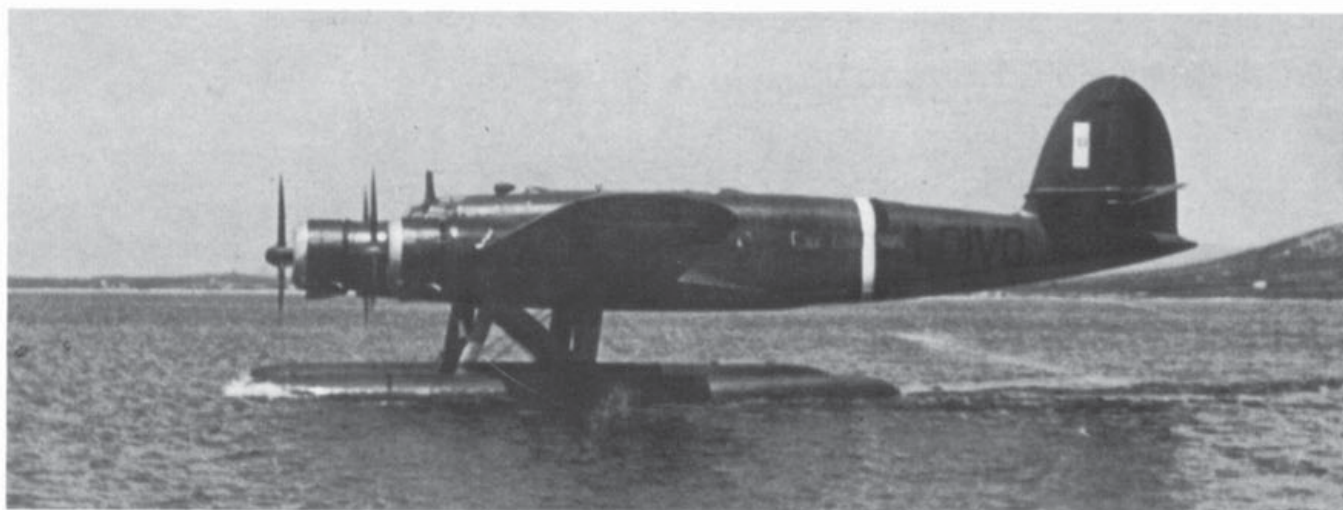
CRDA CANT Z.506 Airone

Reconn.





The CRDA Cant.Z.506 Airone (Heron) was the first standard Italian float-plane for maritime reconnaissance and sea search and rescue. Initially built as a mail and passenger aircraft, it was followed by the Cant.Z.506B version maritime bomber and reconnaissance aircraft able to carry 1,200 kg of bombs. The last version was the Cant.Z.506S for rescue work. On the previous page: a Cant.Z.506B. Above: the Cant.Z.506S; the so-called 'anticamouflage' of diagonal red stripes was first adopted by colonial aircraft to facilitate discovery after a crash-landing, and then by all the SAR seaplanes even after the war. Below: the Cant.Z.506 transport aircraft of the Nucleo Comunicazioni Ala Littoria which carried both the civilian registration I-DIVO and the military serial number MM.60644.



CRDA Cant.Z.506B Airone

Maritime reconnaissance-bomber floatplane with a crew of five.

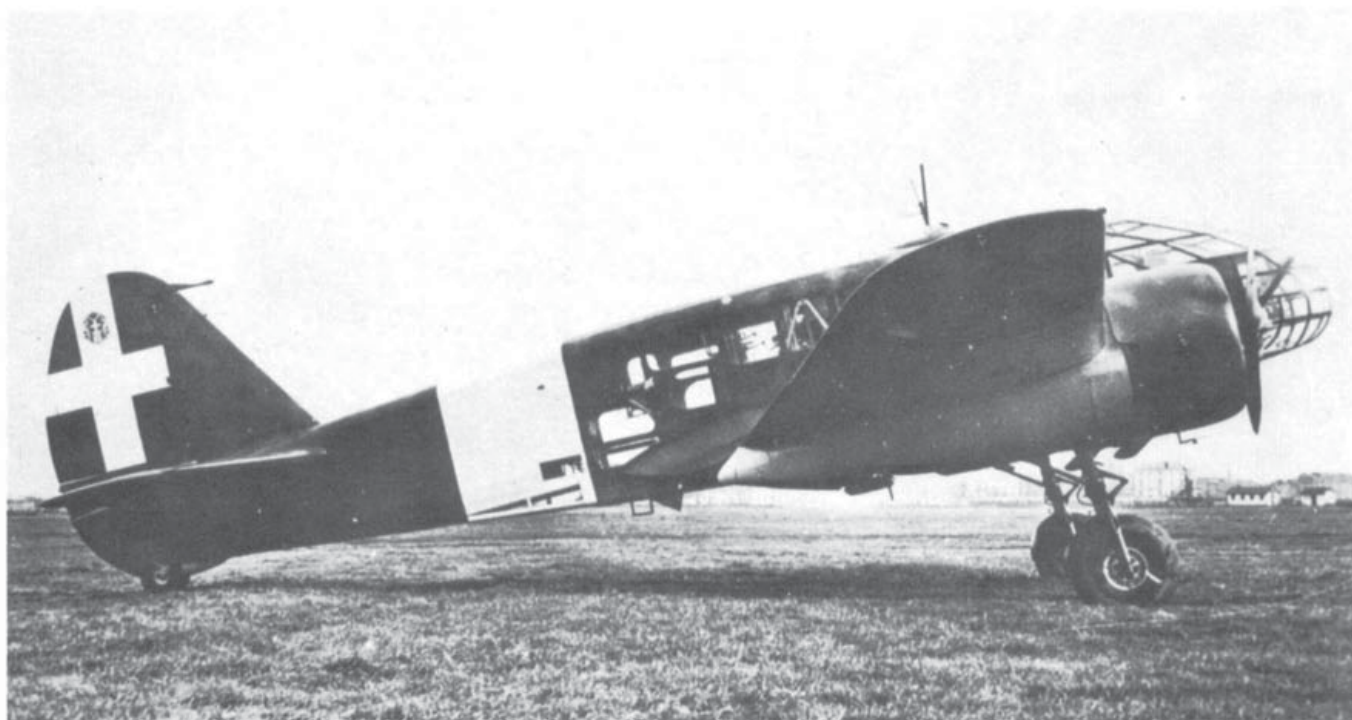
Power plant: three Alfa Romeo AR.126 RC.34 nine-cylinder radial air-cooled engines rated at 740 HP.

Dimensions: wing span 26.50 m; length 19.24 m; height 7.46.

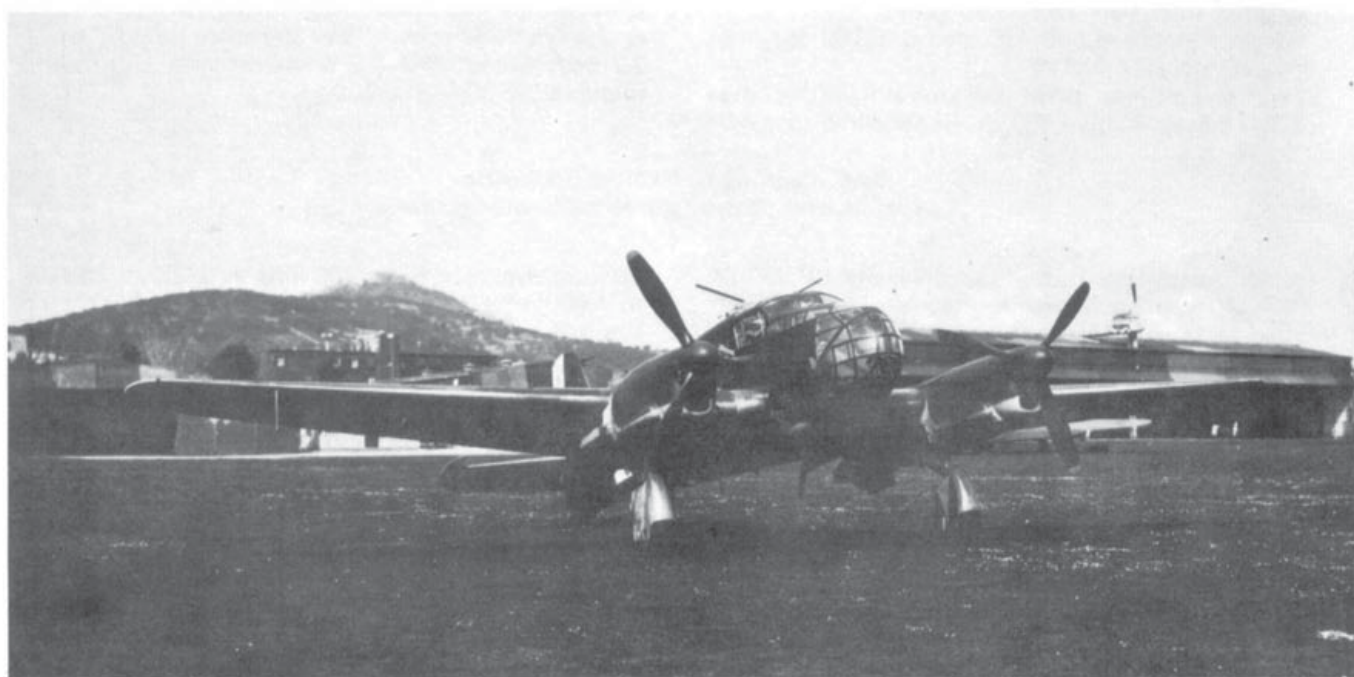
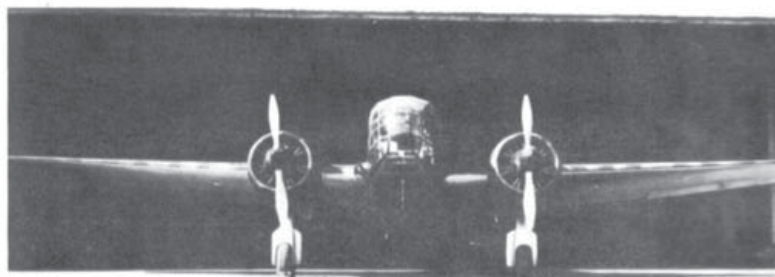
Weights: loaded 12,400 kg.

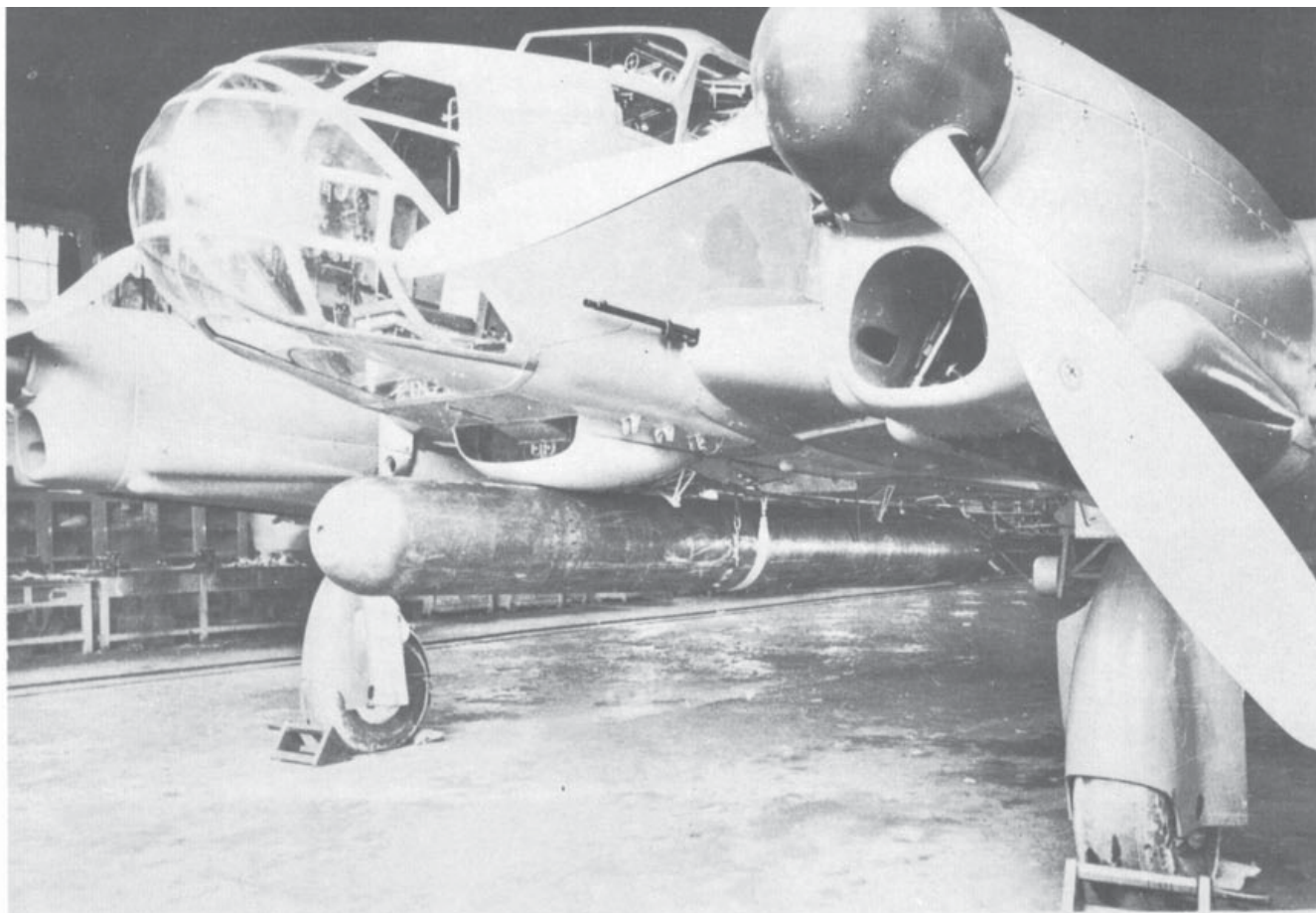
Performance: max. speed 364 kmh at 4,000 m; max. operational ceiling 7,500 m; range 2,745 km.

Armament: four various type and calibre machine-guns and a 1,200 kg bombload.



Among the various combat, reconnaissance, and liaison twin-engined aircraft used by the Regia Aeronautica was the Libeccio (South-west wind) family produced by Caproni-Bergamo. The series originated from the Ca.308 Borea (North wind), a colonial mail and passenger aircraft, and the Ca.309 Ghibli (Gibleh) a colonial aircraft for training, liaison and close air support. Other models were the Ca.310, Ca.311, Ca.312 (modified Ca.310) Ca.313, and Ca.314, all reconnaissance aircraft bearing the name Libeccio, and the Ca.316 floatplane. Top: a Ca.312. Right: the Ca.311. Below: the Ca.314C RPB.2.





Above: the Ca.314 RPB1 torpedo-bomber. These aircraft had more success in export service than in Italy. Their greatest defects were poor reliability and the lack of a precise role for them. Compared to the Beechcraft 18, they had neither the power nor the reliability of the US twin. Despite this, the Italian Ministry of Defence purchased 256 Ca.311s, 39 Ca.312s, 182 Ca.313s, 407 Ca.314s and 14 Ca.316s to a total of 898 aircraft, very few of which were put to any profitable use.

CAB (Caproni) Ca.314A Libeccio

Observation and convoy escort aircraft with a crew of three-four

Power plant: two Isotta-Fraschini Delta RC.35 I-DS Serie II twelve-cylinder inverted Vee air-cooled rated at 730 HP at sea level for take-off and 700 HP at 3,500 m.

Dimensions: wing span 16.65 m; length 11.80 m; height 3.70 m; wing area 38.90 sq m.

Weights: empty 4,560 kg; loaded 6,160 kg; max. take-off weight 6,618 kg.

Performance: max. speed 395 kmh at 4,000 m; cruise 320 kmh at 4,200-4,500 m; initial climb rate 4.05

m/sec; climb to 4,000 m in 14 min 41 sec; service ceiling 6,400 m; absolute ceiling 6,700 m; range 730-1,690 km (depending on fuel).

Armament: two 12.7 mm Isotta Fraschini-Scotti machine-guns with 300 rpg, one Caproni-Lanciani Delta E turret with one machine-gun of the same type and calibre with 350 rounds (and 300 spare rounds), one 7.7 mm Breda-SAFAT 7.7 machine-gun with 500 rounds and a 384 kg bombload.

CAB (Caproni) Ca.313RPB.2 Libeccio

Observation and light attack aircraft with a crew of three

Power plant: two Isotta-Fraschini-Delta RC.35-I-DS Serie II twelve-cylinder inverted Vee air-cooled engines rated at 730 HP for take-off, 640 HP at sea level and 700 HP at 3,500 m.

Dimensions: wing span 16.65 m; length 11.80 m; height 3.70 m; wing span 38.90 sq m.

loaded 5,672 kg; max. take-off weight 5,900 kg.

Weights: empty 4,072 kg; empty equipped 4,300 kg;

Performance: max speed 435 kmh at 3,500 m; climb to 4,000 m in 8 min 14 sec; service ceiling 7,300 m; absolute ceiling 8,000 m; range 800 km; ferry range 1,200 km.

Armament: one 12.7 mm Isotta Fraschini-Scotti with 320 rounds and two Caproni-Lanciani Delta E turrets with one machine-gun of the same type and caliber each (the upper one with 350 rounds and the lower one with 500 rounds) plus a 400 kg bombload.