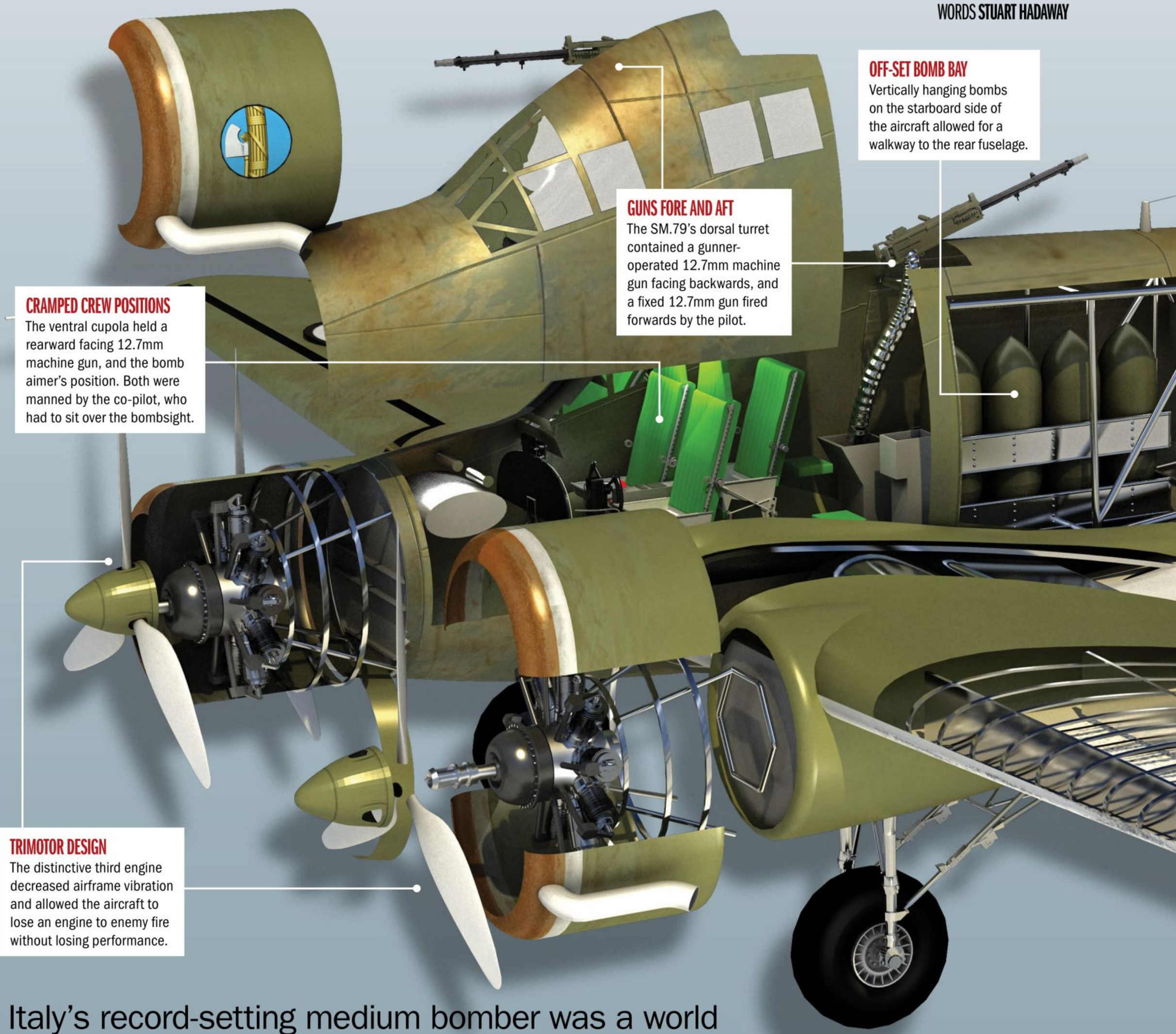
SAVOIA-MARCHETTI SM.79

WORDS **STUART HADAWAY**



Italy's record-setting medium bomber was a world leader in 1934, but was already outdated by 1940

The Savoia-Marchetti SM.79 'Sparviero' ('Sparrowhawk') was the Regia Aeronautica's premier bomber of the 1930s and 1940s. Built originally as a civil airliner, it was designed for speed and had a distinctive trimotor configuration. It set numerous world speed records in its first years of service, and then cut its teeth as a warplane with the Italian contingent fighting in the Spanish Civil War. It proved successful, as its high speed and manoeuvrability allowed it to evade most contemporary fighters.

However, by the time of the Second World War this advantage was fading, and the SM.79 was found to be under-powered and lacking defensive firepower. As a medium bomber it also had a light bomb load, and this small punch was further dissipated by the Regia Aeronautica's doctrine of high-level, and thus inaccurate, bombing. The mixed-material construction allowed little in the way of substantial development, but the engines were upgraded, and it was later converted into an effective torpedo bomber. Unusually able to carry two torpedoes, its speed and manoeuvrability gave it a great advantage in low-level anti-shipping strikes.

BEAM GUNS

A 7.7mm (.303 inch) Lewis machine gun could be fitted on a sliding mount to be used at hatches on either beam of the fuselage.

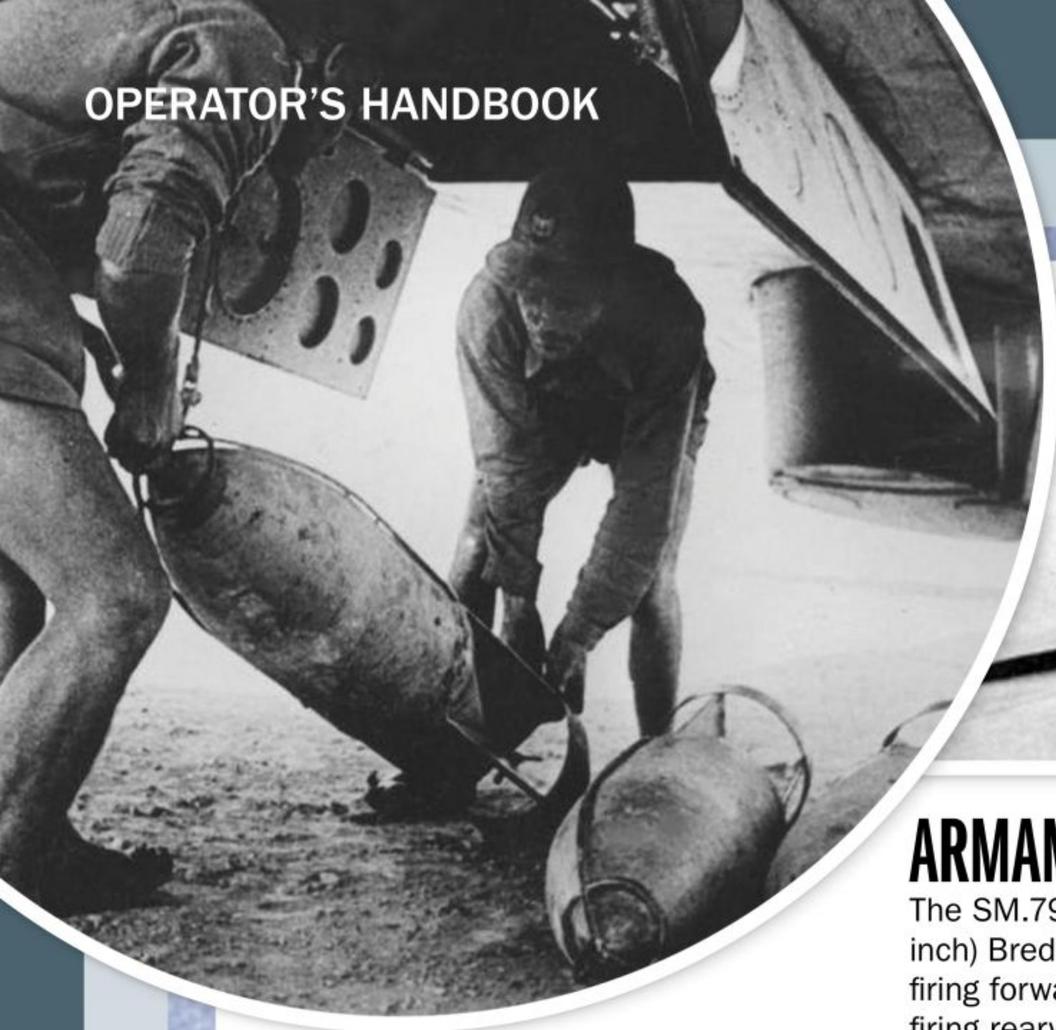
SAVOIA MARCHETTI SM.79 'SPARVIERO'

COMMISSIONED:	1934
ORIGIN:	ITALY
LENGTH:	16.2M (53FT 2IN)
WINGSPAN:	20.2M (66FT 3IN)
ENGINE:	3 X ALFA ROMEO 126 R.C. 34 582KW (780HP) ROTARY ENGINES
CREW:	4-5
PRIMARY WEAPON:	UP TO 1,247KG (2,750LB) OF BOMBS OR 2 X 450MM TORPEDOS

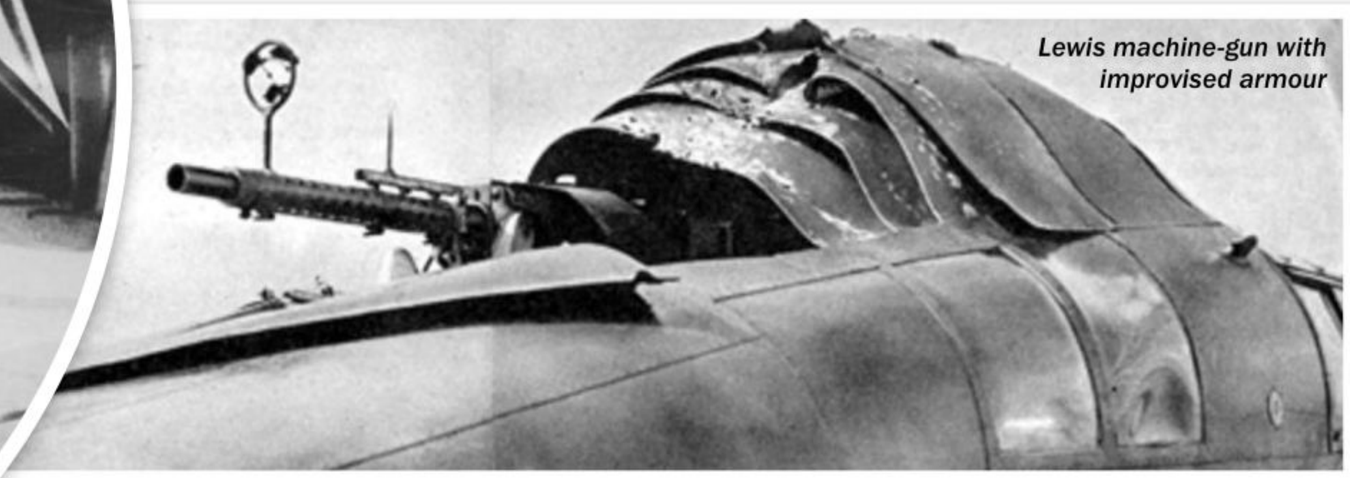
In 1940, SM.79s made up two-thirds of the Regia Aeronautica's front-line bomber force

"ABLE TO CARRY TWO TORPEDOES, ITS SPEED AND MANOEUVRABILITY GAVE IT A GREAT ADVANTAGE IN LOW-LEVEL ANTI-SHIPPING STRIKES"

Illustrations: Alex Pang



Above: Bombing up an SM.79: the bombs had to be hung vertically due to the small size of the bomb bay



Lewis machine-gun with improvised armour

ARMAMENT

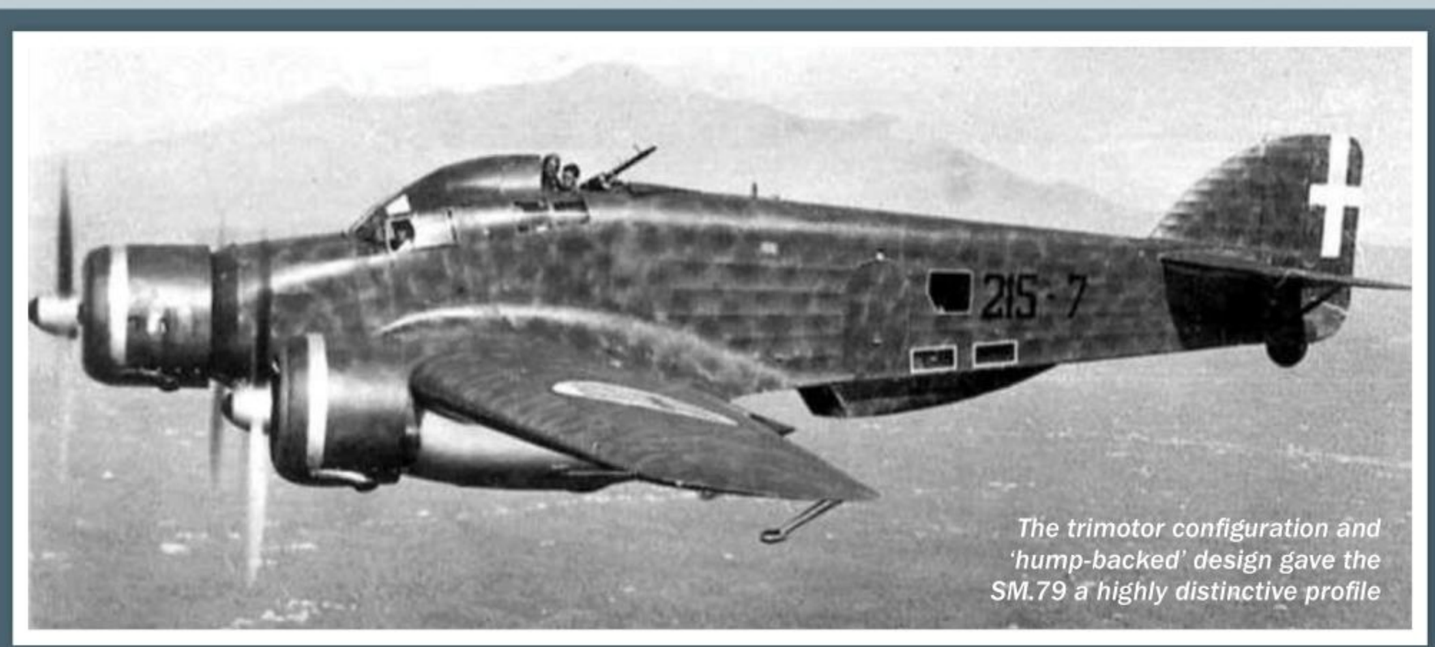
The SM.79 carried three 12.7mm (0.5 inch) Breda SAFAT machine-guns: one fixed firing forward and two gunner-operated firing rearwards. One 7.7mm (.303 inch) Lewis machine gun in the fuselage could fire on either beam, later replaced by two fixed 7.7mm Bredas, although the cramped fuselage meant only one could be operated at a time. The bomb load was limited to two 500kg (1,100lb) bombs or 1,250kg (2,750lb) of smaller bombs. The SM.79-II could carry two 450mm torpedoes with 170kg (375lb) warheads, increased to 180kg (440lb) versions in late 1941.

"THE ITALIAN ENGINE INDUSTRY ALWAYS LAGGED BEHIND THE MAJOR POWERS, AND LACKED MORE POWERFUL IN-LINE DESIGNS"

Loading a torpedo onto an SM.79

DESIGN

The SM.79 was of mixed-material construction. The fuselage was formed around a frame of steel tubing, with metal skin on the nose section, plywood over the main fuselage, and fabric covering the sides and underneath. Although light in weight, aiding speed, this insubstantial structure also limited the bomb load, and greatly inhibited its development potential. The wings were a one-piece cantilever wooden construction, with spruce and plywood spars covered in plywood skin. The wings had leading edge slats and trailing edge flaps, giving the aircraft a high wing-loading and impressive manoeuvrability.



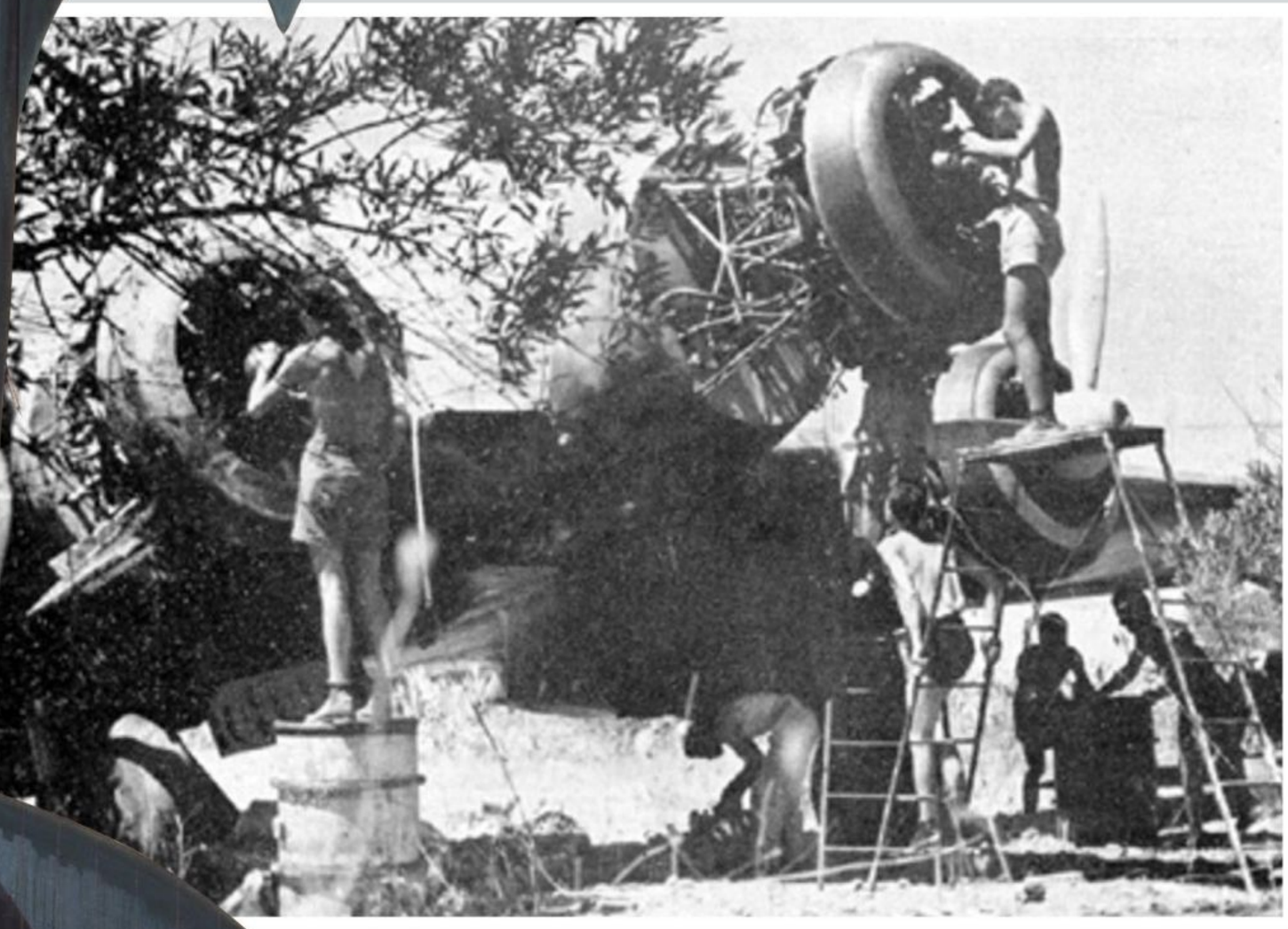
The trimotor configuration and 'hump-backed' design gave the SM.79 a highly distinctive profile

A drawing of the Savoia-Marchetti SM.79

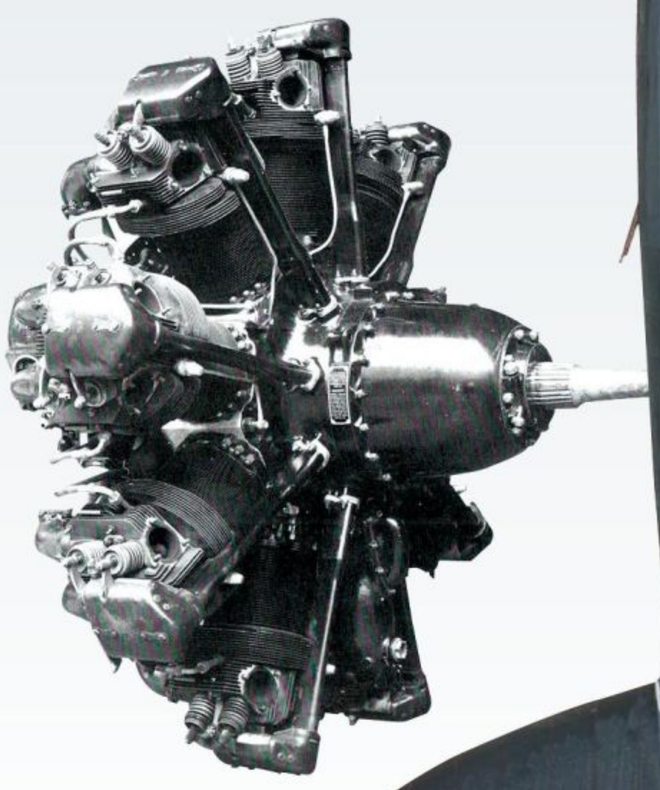
ENGINE

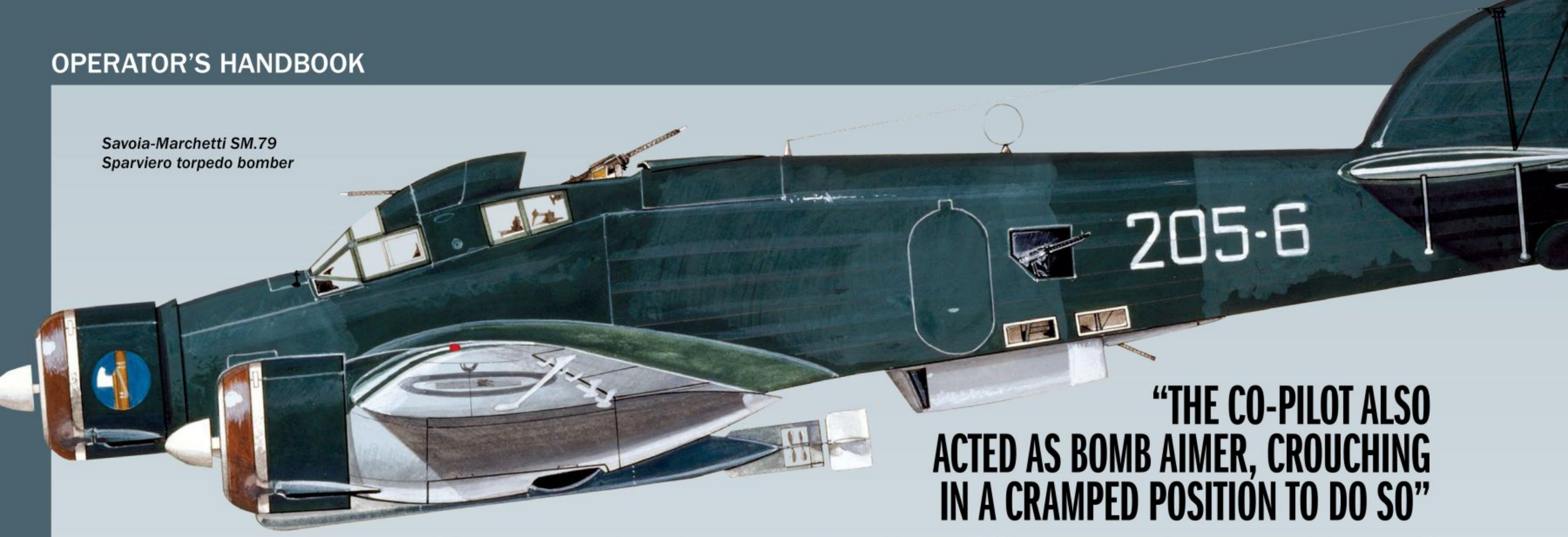
The SM.79 used three Alfa Romeo 126 R.C. 34 582kW (780hp), 9-cylinder air-cooled rotary engines, which were Bristol Pegasus engines built under licence. They were more reliable than most indigenous Italian engines (one of the reasons why the Italians favoured tri-motors was redundancy in case of mechanical failure), but by 1940 they were out-dated and under-powered. The Italian engine industry always lagged behind the major powers, and lacked more powerful in-line designs. Later, the SM.79-II torpedo variant received Piaggio PXI R.C. 40 14-cylinder radials, rated at 735kW (1,000hp).

***Below:** Working on the engines: Italy continually suffered from producing under-powered and unreliable engines*



***Below:** The Alfa Romeo was more reliable than most Italian engines, but rotaries were still inherently less powerful than inline engines*



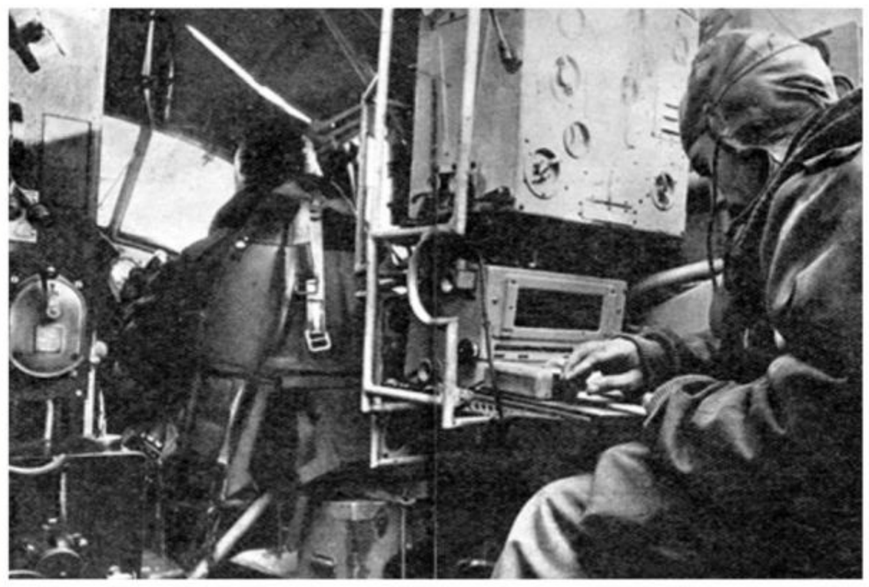


Savoia-Marchetti SM.79 Sparviero torpedo bomber

"THE CO-PILOT ALSO ACTED AS BOMB AIMER, CROUCHING IN A CRAMPED POSITION TO DO SO"

COCKPIT

The SM.79 had a comfortable cockpit with pilot and co-pilot side-by-side. Behind on the port side was the flight engineer's station, while the radio operator was on the starboard side. The latter also operated the rear-facing dorsal gun, while the co-pilot would have to walk back along the fuselage, past the bomb bay, to operate the rear ventral gun. The co-pilot also acted as bomb aimer, crouching in a cramped position to do so. From 1940, a fifth crew member was often carried to man the rear-fuselage positions.

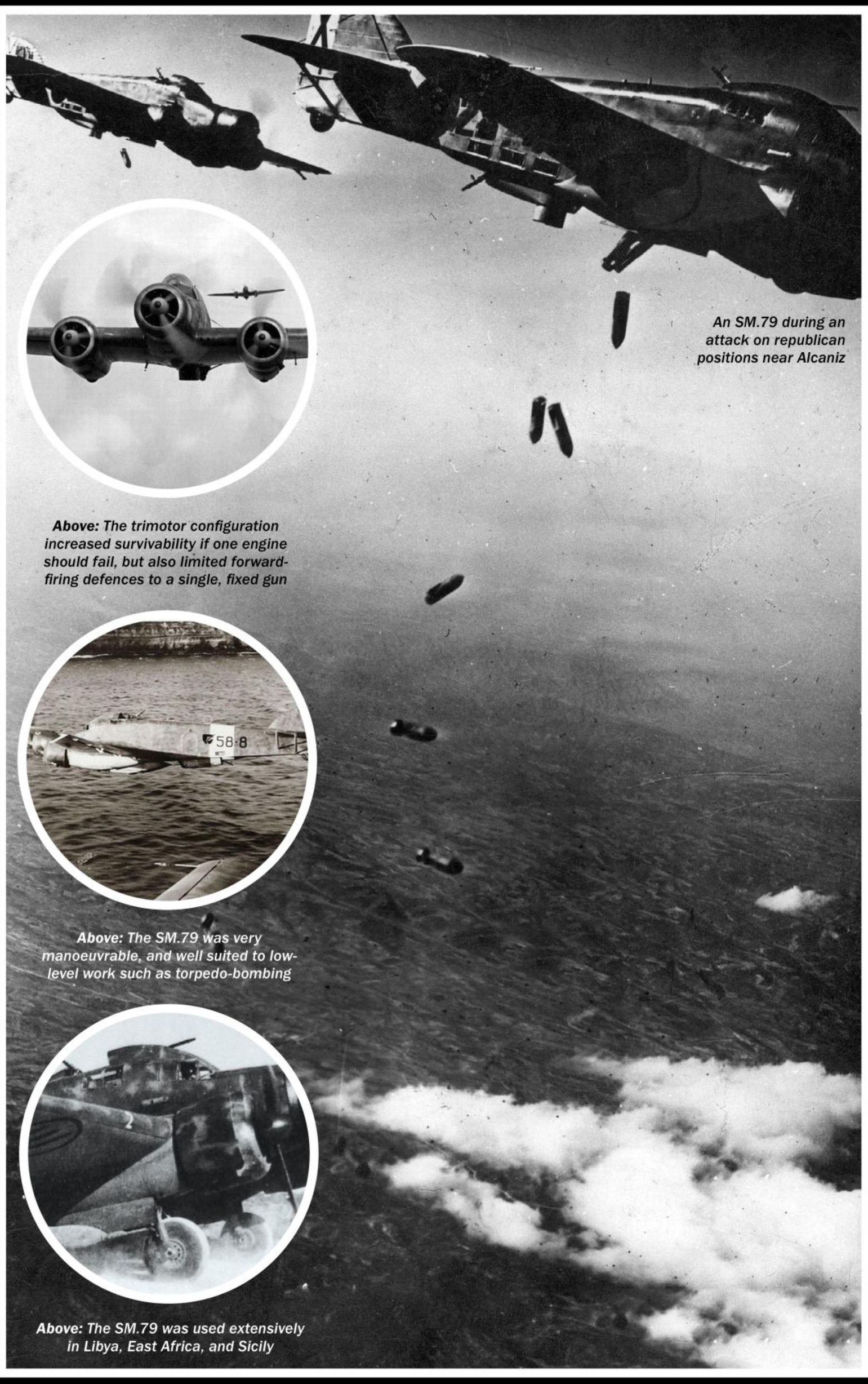


***Above:** The wireless operator's station, just behind the cockpit. He would need to stand and turn around to use the dorsal gun*

***Above:** In the cockpit of the SM.79 the pilot and co-pilot could sit comfortably side-by-side*

The cockpit of the SM.79: functional but comfortable

Image: Ennio Varani



An SM.79 during an attack on republican positions near Alcaniz

***Above:** The trimotor configuration increased survivability if one engine should fail, but also limited forward-firing defences to a single, fixed gun*

***Above:** The SM.79 was very manoeuvrable, and well suited to low-level work such as torpedo-bombing*

***Above:** The SM.79 was used extensively in Libya, East Africa, and Sicily*

Images: Alamy, Getty

SERVICE HISTORY

The SM.79 started as the SM.81 civil airliner in 1934. Fast, manoeuvrable, and with high-survivability due to its three engines, it was adopted for military use in 1936. Between 1937 and 1938, the SM.79 set some 26 different world speed records. In February 1937 a contingent deployed to Spain to support the Fascists in the Civil War, and proved very successful, taking part in raids on cities (including, infamously, Guernica), military targets, and docks and shipping. By the time Italy entered the Second World War in June 1940, the SM.79 (including the –II model, with improved engines) was their most numerous bomber, with 594 in service.

However, it proved sadly vulnerable to modern fighters over the Balkans, North Africa and Malta, although the torpedo bomber variant proved more successful. After Italy's surrender in September 1943, the type served with the Allies plus the small legacy contingent that stayed with the Germans.