



THE FLYING BULLS

PRESS INFORMATION

BO 105 CB-4

Reg. D-HSDM / D-HTDM

In 1963, the company MBB (known today as Eurocopter) began thinking about building 2-ton-class helicopters. The Federal Republic of Germany indicated its willingness to provide financial support, and extensive project studies were begun at what was then known as Bölkow-Entwicklungen KG. The essential concept was not the helicopter, however, but rather a new type of rotor system around which a helicopter was to be developed. In 1966, promising tests began on a hingeless rotor system.

The BO-105 was the first light helicopter in the world to be equipped with twin engines, fully redundant hydraulics, fully redundant electronics and its fuel and oil supplies built into the engines. Compared with other craft at the time, this represented a major advance in flight safety. Another pioneering aspect was the use of new materials such as titanium for the rotor head and a glass-reinforced composite material for the rotor blades. The composite blades have a practically unlimited service life. Their enormously high degree of elasticity makes possible the construction of a hingeless rotor system in which the teeter and pitch hinges with stops and lead-lag dampers common on previous systems are made unnecessary. The advantages of this rotor system were easy maintenance thanks to the low number of moving parts, a low level of vibration, and—most importantly—a new ease of steering, still unsurpassed today, with a correspondingly high degree of maneuverability. Since the effects of material stress with a hingeless rotor were not yet known at the time, the rotor head was given very generous dimensions in order to prevent material fatigue. This makes for huge safety potential with regard to the rotor system.

From the very beginning, the idea existed of being able to do aerobatics with this helicopter. Demonstrated for years by the German military at air shows, it is to this day the only helicopter model capable of doing “true” aerobatics with nearly all the maneuvers known from winged aircraft.



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The model's maiden flight took place in February 1967, and in 1969 preparations began for the model to go into mass production. Germany's Federal Aviation Office certified the first BO-105 in 1970. The German Army received a BO-105 at its testing facility in Manching. In April 1971, the A-Version was certified in the USA. Maximum takeoff weight was raised to 2,300 kg in 1971. In 1972, the Bo-105 C was certified with 2,300 kg in the US and Great Britain. 1975 once more saw a switch to more powerful engines. In 1977, the helicopter's fuselage was lengthened by 25 cm, and this version was certified worldwide as the BO-105 CBS. In 1980, maximum takeoff weight of the BO-105 CB and CBS was raised to 2,400 kg; today it stands at 2,500 kg. In 1973, 10 BO-105 aircraft were chartered by the German Army and used as experimental carriers. In 1976 the Army bought these outright, and the decision was made to introduce the BO-105 as the "BO-105-P anti-tank helicopter" and as a reconnaissance and liaison helicopter. In 1978, the first helicopters were shipped. By 1997, 1,425 helicopters of the BO-105 model had been produced, and in 2001 production was finally ended.

The BO-105 flies worldwide in over 35 countries in civilian, paramilitary and military versions. It is particularly common in rescue activities and offshore operations.

The two RED BULL BO-105 models left the factory in 1974 and flew first for the police in Baden Württemberg, registered as D-HAYA (S-126) and D-HAYE (S-140). In 2002, the company Action Concept bought the S-140, and they followed up with the S-126 in 2004. Both helicopters were then used mainly for film shoots before being bought by Red Bull in 2005.



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Technical Specifications

BO 105 C

Registration	D-HSDM/D-HTDM
Manufacturer	Messerschmitt-Bölkow-Blohm (Airbus Helicopters)
Year of construction	1974
S/N	S 126 / S 140
Power plant	2x Rolls-Royce 250-C20B
Power	2x 420 HP/PS
Cruising speed	120 kts / 220 km/h
Max. speed	145 kts / 270 km/h
Service ceiling	17.000 ft / 5.182 m
Max. endurance	2h 30 min
Fuel on Board	570 l
Fuel Consumption	approx. 200 l/h
Length Airframe	28,2 ft / 8,6 m
Total length (incl. main rotor)	38,9 ft / 11,9 m
Height	9,9 ft / 3 m
Diameter main rotor	32,3 ft / 9,8 m
Diameter tail rotor	6,2 ft / 1,9 m
Empty Weight	3.090 lbs / 1.402 kg
MTOW	5.291 lbs / 2.400 kg
Seats	1 pilot / 4 passengers
Specials	First civil helicopter certified for Aerobatics