

ARCHIVED REPORT

For data and forecasts on current programs please visit

www.forecastinternational.com or call +1 203.426.0800

Mil Mi-34

Outlook

- The Mi-34C1 made its first flight in 2011
- A new engine may be selected for production models
- No forecast is issued at the present time

Orientation

Description. Family of four-seat, single-main-rotor, piston-powered light multipurpose utility helicopters.

Sponsor. The Mi-34 is sponsored by Russian Helicopters, the parent firm of Mil and Progress Arsenyev.

Status. Development of the Mi-34C1 was suspended in 2012, but may be resumed in the future.

Total Produced. Through 2013, a total of 26 Mi-34s were produced.

Application. Civil applications include aerobatics, pilot training, police patrol, media reporting, and pipeline observation. Military applications include training, forward observation, and target spotting.

Price Range. Mi-34C1, \$600,000 in 2009 U.S. dollars.

Contractors

Prime

Mil Moscow Helicopter Plant	http://www.russianhelicopters.aero , 26/1 Ulitsa Garshina, Tomilino, Lyuberetsky District, 140070 Moscow Region, Russian Federation, Tel: + 7 495 669 7054, Fax: + 7 498 553 8002, Prime
Progress Arsenyev Aviation Company	http://www.russianhelicopters.aero , 5 Ploshchad Lenina, Arsenyev, 692335 Primorsky Krai, Russian Federation, Tel: + 7 42361 45232, Fax: + 7 42361 45591, Prime

Comprehensive information on Contractors can be found in Forecast International's "International Contractors" series. For a detailed description, go to www.forecastinternational.com (see Products & Services; Companies, Contractors, Force Structures & Budgets) or call + 1 (203) 426-0800.

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Mil Mi-34

Technical Data

(Mi-34C1)

Design Features. Semi-monocoque fuselage constructed of light alloys. Side-mounted engine air intakes are located on either side of the fuselage directly below the main rotor. The tailboom features an unswept T-tailplane. Landing gear are fixed skid type. The four main rotor blades and two tail rotor blades are made of composites. The main rotor is reinforced with flapping and cyclic pitch hinges. The cabin is configured for one or two pilots and an additional bench seat for two passengers.

	<u>Metric</u>	<u>U.S.</u>
Dimensions		
Length, rotors turning	11.42 m	37.45 ft
Height	2.75 m	9.02 ft
Main rotor diameter	10.0 m	32.81 ft
Tail rotor diameter	1.48 m	4.86 ft
Weight		
Empty	1,150 kg	2,535 lb
Maximum takeoff weight	1,450 kg	3,196 lb
Performance		
Maximum speed	220 km/h	119 kt
Cruise speed	180 km/h	97 kt
Operational ceiling	4,450 m	14,600 ft
Maximum range with main fuel tanks	450 km	243 nm
Propulsion		
Mi-34C	(1)	Vedeneyev M-14V-26V nine-cylinder piston engine rated 239 kW (320 hp).
Mi-34C1 (prototypes)	(1)	VMP M9FV nine-cylinder piston engine rated 272 kW (365 hp).

Variants/Upgrades

Mi-34C. Previous standard production version. Compliant with U.S. and Russian airworthiness standards.

Mi-34L. Proposed version equipped with a Textron Lycoming TIO-540J piston engine rated 261 kW (350 hp).

Mi-34P. Mi-34C variant equipped with dual controls, rear seats, and a fuselage-mounted loudspeaker for police operations.

Mi-34UT. Dual-control trainer version. In 2001, the Mi-34UT lost a Russian military training helicopter competition to the Kazan Ansat.

Mi-34A. This turbine-powered Mi-34 version was to have been equipped with the 450-shp Rolls-Royce 250-C20R turboshaft engine. However, it later evolved into the Mi-34C2, which was to be powered by the Turbomeca Arrius 2F (see **Forecast Rationale**).

Program Review

Background. The Mi-34 was designed to replace the Mil Mi-1 light helicopter. It first flew in November 1986. Two flying prototypes and one structural test airframe were constructed. At a 1988 flight demonstration of the Mi-34 in the United States, Mil officials anticipated a production run of 1,000 aircraft starting in 1990.

Mi-34 production, however, was subsequently delayed, at least partly due to some redesign work. Consideration was given to powering the helicopter with either the Textron Lycoming TIO-540J piston engine or the Allison 250-C20B turboshaft engine.

Mil Mi-34

Ultimately, production Mi-34s were fitted with the M-14V piston engine. The first production helicopter flew in November 1993.

In mid-2003, Mi-34 production was suspended to allow manufacture of the helicopter to move to a fully constituted production line. Plans called for Mi-34s manufactured after the break to have an uprated 276-kW (370-hp) M-14V-26V piston engine, increased fuel capacity, and optimization for inverted flight. However, production of this model never occurred, and program attention eventually turned to development of the new Mi-34C1.

The Mi-34C1 features a redesigned main rotor, a composite nose section, new avionics, and an enhanced interior. UTC Aerospace Systems provides the main rotor actuator and the hydraulic power supply for the helicopter.

Two Mi-34C1 prototypes were completed in 2011, and the first of these made its initial flight in August of that year. The two prototypes were equipped with the 365-horsepower M9FV piston engine from Voronezh Mechanical Plant (VMP). Should the Mi-34C1 program proceed, however, production helicopters may be equipped with a different engine.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Nov	1986	First flight of initial prototype
Nov	1993	First flight of initial production Mi-34
Mid-Aug	2003	Production suspended for production line improvement
Aug	2011	First flight of Mi-34C1
	2012	Mi-34C1 development suspended

Forecast Rationale

Development of the Mi-34C1 was suspended in 2012. The two Mi-34C1 prototypes had been equipped with M9FV piston engines from Voronezh Mechanical Plant (VMP). However, Russian Helicopters and VMP were unable to reach an agreement on a plan for the launch of M9FV production.

Subsequently, Russian Helicopters began looking for a non-Russian engine to power the Mi-34C1, with an eye to resuming development of the helicopter. By May 2013, the company was in discussions with an undisclosed piston engine manufacturer. In addition, negotiations were ongoing at that time with a potential investor that could place a launch order for the Mi-34C1. As of March 2014, though, no further announcements appear to have been made regarding either deal.

Should the Mi-34C1 program proceed, the helicopter's main sales competitor would be the Robinson R44, which is a popular item on the Russian domestic market.

Pending further developments, we are not presently issuing a production forecast for the Mi-34C1.

Meanwhile, Russian Helicopters had once considered development of a turbine-powered Mi-34 version, called the Mi-34C2 Sapsan. To be equipped with a 504-shp Turbomeca Arrius 2F engine, the C2 would have been the first turbine-powered variant in the Mi-34 series. However, the C2 has been shelved, as Russian Helicopters is now working with AgustaWestland on development of a new, single-engine, 2.5-metric-ton helicopter.

* * *