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Mil Mi-54

Outlook

- Work on the Mi-54 appears to be suspended
- No forecast is being issued, pending further news

Orientation

Description. Single-main-rotor, twin-turboshaft-powered multipurpose helicopter.

Sponsor. The Mi-54 is sponsored by Russian Helicopters, the parent firm of Mil. Russian Helicopters holds a 74.8 percent stake in Mil.

Status. Mi-54 development work was suspended in 2010.

Total Produced. None to date.

Application. Passenger and cargo transport; utility; VIP/corporate transport; search-and-rescue; oil rig maintenance; border patrol.

Price Range. Estimated at \$3.0-\$6.0 million.

Contractors

Prime

Mil Moscow Helicopter Plant	http://www.mi-helicopter.ru , Sokolnichesky val, 2A, Moscow, 107113 Russian Federation, Tel: + 7 499 264 9083, Fax: + 7 499 264 5571, Prime
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Technical Data

Design Features. Single-main-rotor helicopter with a four-blade rotor, powered by a pair of turboshaft engines. The engines are mounted side-by-side on the

top of the fuselage. The main and tail rotors are composed of glass-fiber composites. The cockpit would feature modern Russian- or Western-designed avionics.

Mil Mi-54

Critical hydraulic and avionics systems are supported by auxiliary units. Excess power generated for optional equipment is provided by up to two auxiliary power units. Sliding doors on both sides of the fuselage provide easy access to the main cabin. The Mi-54

design emphasizes low-cost operations and on-condition maintenance. The Mi-54 is to be equipped with fixed tricycle landing gear, though skis and retractable gear could be made available on some variants.

	<u>Metric</u>	<u>U.S.</u>
Dimensions		
Fuselage length	13.13 m	43.08 ft
Main rotor diameter	13.50 m	44.29 ft
Tail rotor diameter	2.70 m	8.86 ft
Weight		
Maximum takeoff weight		
With internal load	4,500 kg	9,920 lb
With external load	4,700 kg	10,362 lb
Maximum internal payload	1,500 kg	3,307 lb
Maximum external payload	1,800 kg	3,968 lb
Performance (ISA)		
Maximum cruise speed	260 km/h	140 kt
Maximum speed	280 km/h	151 kt
Service ceiling	5,500+ m	18,040+ ft
Maximum range, 30-minute reserves	600 km	324 nm
Propulsion		
Mi-54	(2)	Klimov VK-800V turboshaft engines rated 588 kW (789 shp) each.

Variants/Upgrades

Mi-54. Medium transport helicopter with a cockpit configuration for a pilot and a copilot, and cabin accommodation for up to 13 passengers. The Mi-54 has been designed for compliance with U.S. FAR 29 and European JAR 29 rotary-wing aircraft standards. It has been planned as a replacement for the Mi-2 and the

Mi-8. Potential variants of the Mi-54 include VIP/corporate transport, search-and-rescue, oil rig maintenance, border patrol, and cargo transport versions. Production of the Mi-54 would probably be undertaken by Rostvertol.

Program Review

Background. The Mi-54 program began in the summer of 1992. The aircraft was originally conceived as a medium transport helicopter for operation in the Commonwealth of Independent States (CIS) and abroad. The Mi-54 has been designed to compete with the Kamov Ka-62 and the Sikorsky S-76 in the intermediate multipurpose helicopter market.

Preliminary Design Efforts

A model of the Mi-54 was displayed at the 1992 Moscow Air Show. Preliminary design was completed the following year. The design set forth a variant for CIS operations featuring twin Saturn/Lyulka AL-32 turboshafts, as well as a single-engine version for export to Asia. To improve export potential, the Mi-54 was conceived to be compliant with U.S. and European airworthiness and safety standards.

The most recent Mi-54 design is a twin-engine helicopter equipped with Klimov VK-800V turboshaft engines. The Pratt & Whitney Canada PW210 and the Turbomeca Arriel 2C could eventually be offered as powerplant options.

Progress Delayed

Initial flight of the Mi-54 was planned for 1998 but did not occur. A mockup of the helicopter was shown in Moscow in 2005. The mockup differed from the Mi-54 model displayed in 1993 in that some changes had been made to the airframe.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Mid-	1992	Development of Mi-54 announced
Aug	1992	Mi-54 model displayed at Moscow Air Show
Late	1993	Preliminary design completed
Mid-	2005	Mi-54 mockup (with changes) displayed in Moscow

Forecast Rationale

Work on the Mi-54 project appears to remain suspended. Mil General Designer Alexey Samusenko said in mid-2010 that, due to the lack of a sufficiently powerful engine, work on the helicopter had been suspended. A resumption of program activity has so far not been announced.

A twin-engine helicopter, the Mi-54 has been slated to be equipped with Klimov VK-800V turboshaft engines. However, Samusenko's comments seemed to indicate that other engine candidates might be considered. In the past, the Pratt & Whitney Canada PW210 and the

Turbomeca Arriel 2C had been mentioned as possible engines for the new helicopter.

Development costs for the Mi-54 have been estimated at \$300 million. Among Russian models, the Ka-62, the Mi-17, and the Mi-38 would provide the Mi-54 with some sales competition. Western competitors would include the AgustaWestland AW139, the Eurocopter EC 155, and the Sikorsky S-76D.

At the present time, we are not issuing a production forecast for the Mi-54. Further news regarding the program is awaited.

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