http://www.strategic-culture.org/pview/2016/06/22/new-russia-mig-35-conduct-test-flights.html

New Russia's MiG-35 to Conduct Test Flights

ANDREI AKULOV

6/22/2016

The Russian Aerospace Forces will start receiving the Mikoyan MiG-35 (NATO reporting name: Fulcrum-F) fighter jet in 2018 after the plane undergoes trials in 2017, Warplane Development Program Director at Russia's United Aircraft-Manufacturing Corporation Vladimir Mikhailov told TASS news agency in an interview. *«In 2018, the fighter jet will be delivered to Russian Aerospace Forces»*, he added.

The Mikoyan MiG-35 (Fulcrum-F) is a Russian fighter classified as a 4++ generation jet. Russia's RAC MiG company is set to deliver the planes to the Russian Defense Ministry for flight-testing this summer.

«We attribute the MiG-35 to the 4th++ generation aircraft, which means it has some features of the 5th generation fighter such as stealth technology and the ability to perform as a multipurpose platform», said Sergei Korotkov, the CEO of the MiG Aircraft-Manufacturing Corporation (RAC MiG).

According to Korotkov, the MiG-35 will be able to use the whole range of air-launched weapons in service with Russia's Armed Forces. The primary mission is air superiority. It is capable of all-weather precision ground strikes. The warplane can also be used for aerial reconnaissance.

The MiG-35 is an advanced derivative of the original MiG-29 (Fulcrum). While the airframe is similar, the aircraft is practically a new design. It adds a completely new fly-by-wire control system, a lighter airframe, more fuel capacity, more efficient engines and thrust-vectoring nozzles.

The single seat version is designated MiG-35 and the two-seat version is MiG-35D. Both versions are based on the same outer mold line to maximize commonality.

General characteristics and performance: crew – one or two, length – 17.3 m, wingspan – 12 m, height – 4.7 m, wing area – 38 m2. The aircraft weighs around 11,000 kg and its maximum take-off weight is 29,700 kg. The MiG-35 can climb at the rate of 330 m/s. The service ceiling is 17,500 m. The maximum speed is 2,400 km/h. The normal and ferry ranges of the aircraft are 2,000 km and 3,100 km respectively.

Armament: the aircraft's suite of guided weapons includes Kh-31A anti-ship missiles with active radar seekers, the Kh-31P anti-radar missiles, Kh-29TE missiles and KAB-500Kr TV-guided bombs. Equipped with an external optical/laser targeting pod, the fighter can use the Kh-29L air-to-surface missiles and KAB-500L laser-guided bombs.

The MiG-35 will add a completely new avionics suite.

The new jet incorporates Russia's first operational fighter-mounted active electronically scanned array radar – the Zhuk-MA. The radar is able to track fighter-sized air targets at ranges around 160 km (85 nautical miles) and naval ships at the distance of 300 km (162 nautical miles). The plane can lock on ten targets simultaneously and hit six of them.

The Optical Locator System (OLS) is a passive air-to-air electro-optical sensor that operates in both visual and infrared wavelengths. It relieves the aircraft from relying on ground-controlled interception (GCI) systems and enables it to conduct independent multi-role missions. The OLS includes a complex of powerful optics with infra-red (IR) vision that makes it impossible for any plane to hide, even if it's a US stealth aircraft. It solves the problem of blurred vision. At speed, each piece of dust can cause harm to the glass of the OLS. It uses leucosapphire, the next-hardest material after artificial diamonds, making the lifetime for such glass much longer. Leucosapphire is clear for all the OLS emissions and doesn't corrupt the signal, an important factor for the optical systems.

The MiG-35 is powered by two RD-33MKBs that can be fitted with KliVT swivel-nozzles and a thrust vectoring control (TVC) system. The MiG-35's combination of TVC and advanced missile-warning sensors gives it an edge during combat. One RD-33MK «Morskaya Osa» afterburning turbofan provides a thrust of 9,000 kgf. The new engine is smokeless and includes systems that reduce infrared and optical visibility. It may be fitted with vectored-thrust nozzles. The MiG-35 boasts a capability to fly at supercritical angles of attack at increased level of sustained and available g-loads and high turn-angle rate, which requires a greater thrust-to-weight ratio and improved wing aerodynamic efficiency. The plane can be refueled in flight. An

addition, a strap-on tank behind the cockpit has allowed MiG-35 to have a higher internal fuel capacity of 950 L. The capacity of the external fuel tank suspended under the fuselage has increased up to 2,000 L. Ferry range with three external fuel tanks has also been increased, rising to 3,100 km, and with one in-flight refueling the range will be 5,400 km. The fuel management system has also been digitized, and includes a new digital fuel metering system.

In April 2015, Egypt signed a contract, worth up to $2 billion, for 50 MiG-35 fighters.

Egyptian MiG-35s are to be equipped with high precision targeting pods. Russia has already received pre-payment from Egypt.

The dissolution of the Soviet Union led to a deep crisis for the defense aviation industry. The situation has significantly improved. Today Russian aircraft manufacturers offer a portfolio of internationally competitive military aircraft such as MiG-35 as the Russian Aerospace Forces demonstrate an unprecedentedly high level of combat and operational readiness in Syria. The MiG-35 will be a great contribution to Russia's military potential when it enters service soon.