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MIKOYAN MIG-23 USSR(U) FOREIGN TECHNOLOGY DIV  
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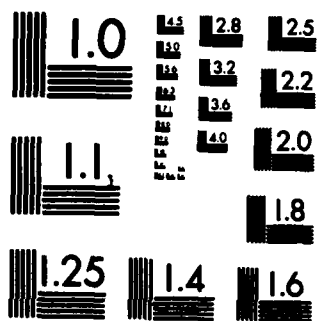
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# FOREIGN TECHNOLOGY DIVISION



MIKOYAN MIG-23, USSR



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# EDITED TRANSLATION

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## MIKOYAN MIG-23, USSR

Single-seat fighter and fighter-bomber aircraft.

### Construction

Single engine shoulder-wing jet monoplane with variable plane geometry and metal structure.

### Plane

Crescent spar wing construction. Immovable triangular parts of the wing near the fuselage have a sweep-back of  $72^{\circ}$ . The sweep-back of movable parts, adjusted in flight and on the ground, is  $16^{\circ}$  for spread wings,  $45^{\circ}$  in intermediate position and  $72^{\circ}$  in the most rearward position. The external parts are connected with the middle part of the plane by means of a vertical articulated joint and power jacks provided for changing the sweep-back. The leading edge with a forward oriented setoff, visible when the wings are set in the rearward position. The mechanization of the wing movable part consists of rear flaps, spoilers and front flaps. No ailerons. Rear flaps single-slotted, three-part on their whole span. At the maximum sweep-back of the wings, the independent drive actuates only the external parts of the flaps. Two part spoilers located in front of the middle and inner part of the flap are provided for transverse steering and are coupled with the elevator; they participate, moreover, in braking during the landing run and increasing the pressure of the aircraft on the runway. At  $2/3$  of the movable wing leading edge are located nose flaps collaborating with the rear flaps.

### Fuselage

Conventional semi-monocoque construction of circular cross section, flattened at the cockpit sides, in front of the air intakes. In front of the air intakes, close to the fuselage, are also the separators of the boundary layer. Rectangular air intakes with adjustable cross section of the inlet

opening. Air outlet openings behind the main undercarriage recesses in the lower rear part of the fuselage. In the fuselage rear part four-plate air brakes. Fuselage front part made of plastic transparent to electromagnetic rays, houses the electronic equipment. Windshield with armored glass. Cockpit canopy lifted upward and rearward. Pressure cockpit. Pilot's ejection seat. Behind the cockpit are located the fuel tanks, the main undercarriage recesses and the engine. The rear part of the fuselage is removable in order to facilitate the exchange of the engine.

#### Control Surfaces

Trapezoidal plate tailplane with leading edge sweep-back 57° and concomitant as well as opposite half displacement provides the tasks of the elevator and ailerons. The vertical tail unit with leading edge sweep-back of 65° and large fin in front of the stabilizer. Control surface without balance and trim tabs. Under the fuselage, a stabilizer, unfolded during flight and folded under the fuselage prior to landing because it would touch the ground.

#### Undercarriage

Three part assembly with front wheel. Front undercarriage controllable, rocker-arm type, with a shock absorber in the leg, with double wheels and mudguards, retractable in the rear of the fuselage. Assemblies of the main undercarriage single-wheeled, with folding horizontal leg, retractable in the fuselage. Main wheels provided with brakes and antislip arrangements. Brake parachute in the shield below the rudder.

#### Propulsion

Tumansk R-29B jet engine with maximum thrust (when using the exhaust reheater) of 12,200 daN. Propelling nozzle with variable geometry. Fuel tank capacity 5700 liters. An additional fuel tank with 800 liter capacity can be suspended under the fuselage.

#### Equipment

Reconnaissance and directional radar. ILS antenna; in front of the windshield a sideslip indicator; at the right side of the windshield an angle of incidence indicator. Above the rudder and under the left wing root an IFF reconnaissance device. Under the front of the fuselage a heat-

direction finder or a laser rangefinder. "Syrena" warning device and Doppler radar.

#### Armament

One double-barrel GSz-23 gun, 23-mm caliber, with a muzzle-flash damper. Armament suspension: one outrigger (beam) under the fuselage, one under each air intake channel and one under each wing root immovable part. Suspended armament: air-to-air rockets or containers with uncontrolled rockets or a different kind of armament.

#### Development of the Construction

The prototype of the MIG-23 aircraft with variable plane geometry was presented for the first time shortly after its test flying during the Aviation Day on July 9, 1967, at Domodedovo Airport in Moscow. The series of the MIG-23 was deployed by the air force in 1970. Since 1973 this aircraft has been used in large numbers of the Soviet fighter air force. Later it was given to the Warsaw Pact countries and exported to 9 countries in Asia and Africa. During the visit of the Soviet air force to France, Finland and Sweden, it was exhibited to the aviators of those countries and they performed get-acquainted flights on board it. After the death of Artion Mikoyan in 1970, the development work related to this aircraft continued under the direction of Rostislav Byelakov.

The first serial version was the MIG-23S propelled by an R-27 engine with 10,000 daN thrust. A variant of this aircraft was the MIG-23SM with four APU-13 beams for suspended armament. Both of these types are exhibited in the USSR Armed Forces Museum in Moscow. The next version is the MIG-23M, propelled by an R-29 engine. It differs from the first two in a shorter propelling nozzle of the engine and in a changed wing shape. The most widely used is the MIG-23M variant with the denomination MIG-23MF. It has the most up-to-date radar equipment and a heat direction finder under the fuselage. This aircraft has been used since 1978 by the Warsaw Pact countries. Its version with a simplified radar and electronic equipment has been exported to Algeria, Cuba, Iraq and Libya. The modified version of the MIG-23MF aircraft was introduced in 1978 and presented in the same year in France and Finland. It has a smaller fin in front of the vertical stabilizer and more modest radar equipment.



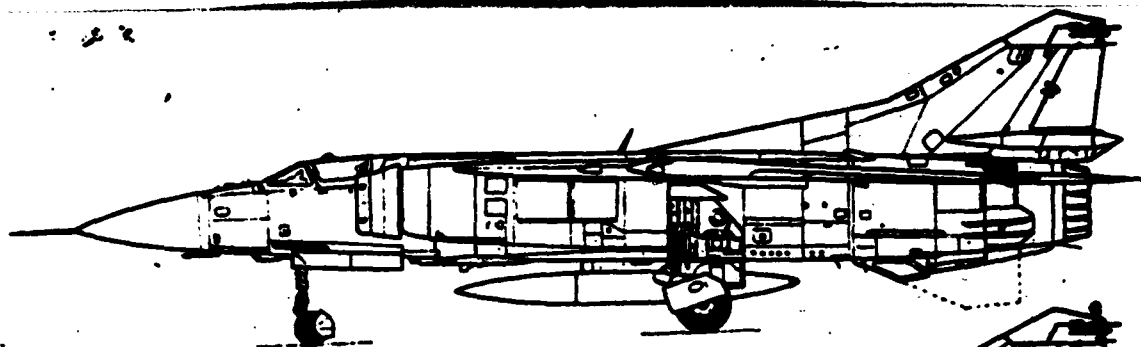
In the second half of the 1970's the MIG-27 aircraft entered into service; it is a further development of the MIG-23. Its characteristic features are: a short, downward-bevelled fuselage front in front of the cockpit and changed air intakes with no inlet cross-section adjustment, as well as different armament. The next version was the fighter-bomber MIG-23BN with a similar fuselage front to that of the MIG-27. This version has no radar sight, but is provided with a laser rangefinder. It is used by the air forces of Algeria, Czechoslovakia, Egypt, Ethiopia, India, Iraq, Cuba, Lebanon, Syria and Vietnam.

The MIG-23 aircraft also has a two-seater training and combat version, which is a variant of the MIG-23MF. It may be used as well for combat tasks. The two cockpits are provided with separate canopies. The rear seat of this aircraft has an extensible periscope sight. This aircraft is propelled by an R-27 engine. It is used by the USSR, Warsaw Pact countries, Egypt, India, Libya and Cuba.

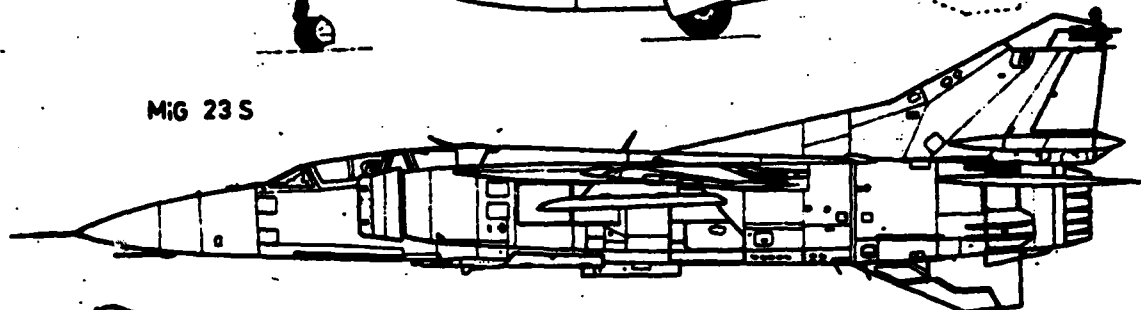
The MIG-27, a further development of the MIG-23 aircraft, is propelled by an engine adjusted to flights at lower altitudes. It achieves a lower maximum speed and lower ceiling than the MIG-23 because these performances are not essential for its flight. The aircraft is equipped with low pressure wheels to facilitate landing and takeoff from dirt airfields. Its armament: one six-round gun and rocket missiles.

Technical Data (approximate):

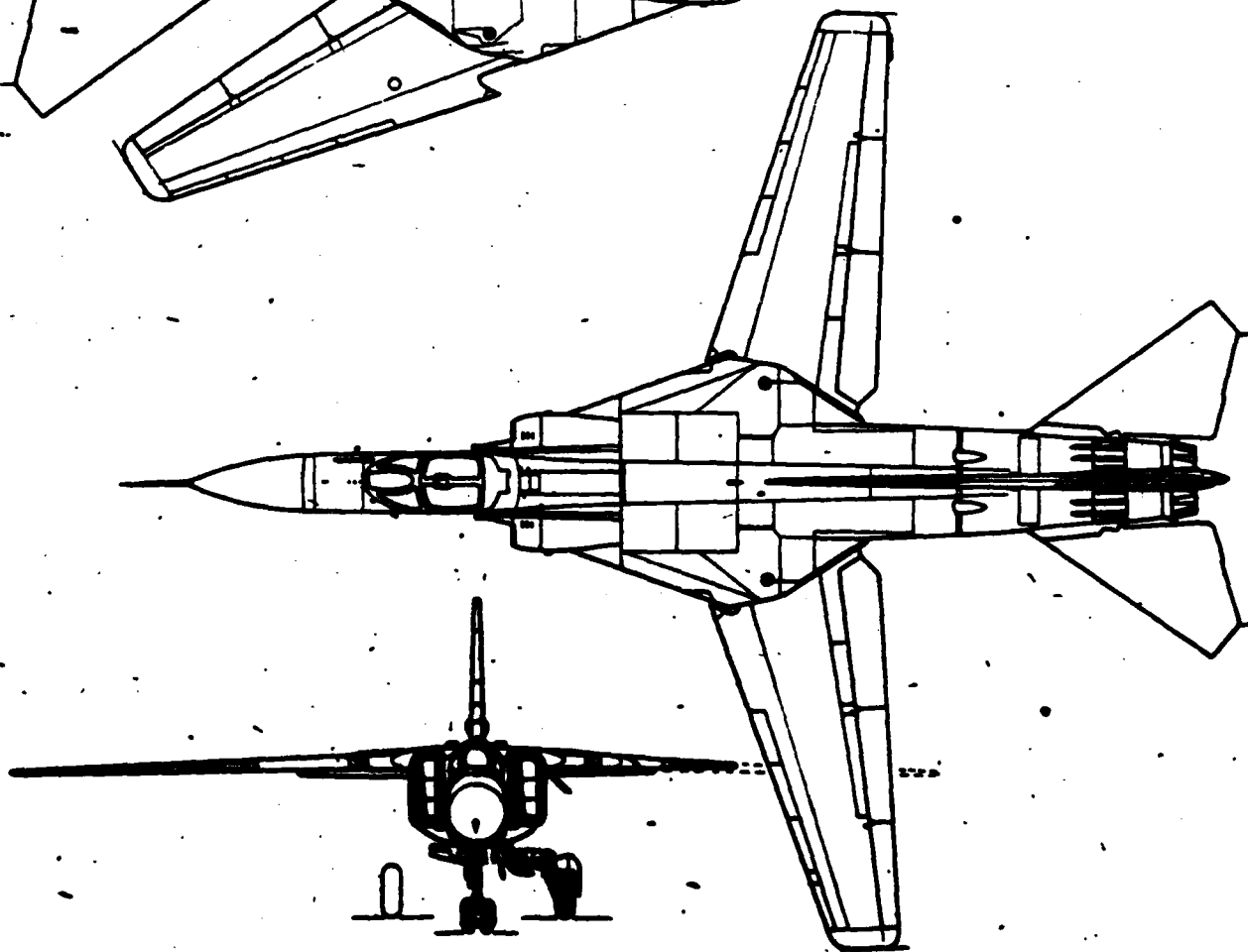
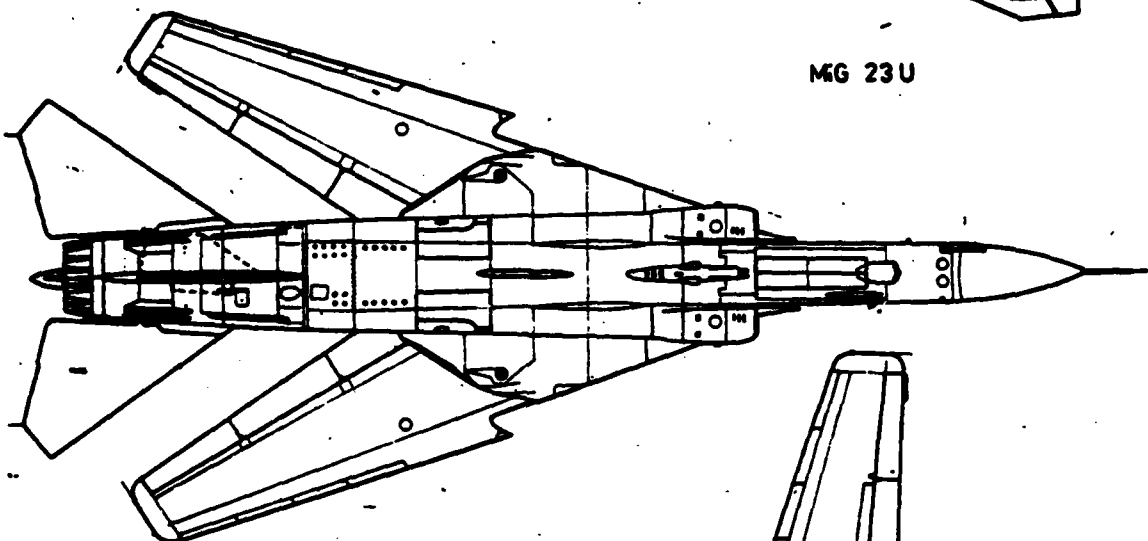
Wing span (spread wings)	14.2 m
Wing span (wing max. sweep-back)	8.2 m
Total length	16.8 m
Lifting surface	28 m <sup>2</sup>
Takeoff weight (max.)	20,000 kg
Service ceiling	18,000 m
Max. speed (high altitude)	2500 km/h, M = 2.3
Takeoff and landing run	900 m
Max. flying range	3000 km



MIg 23 S



MG 23 U



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