

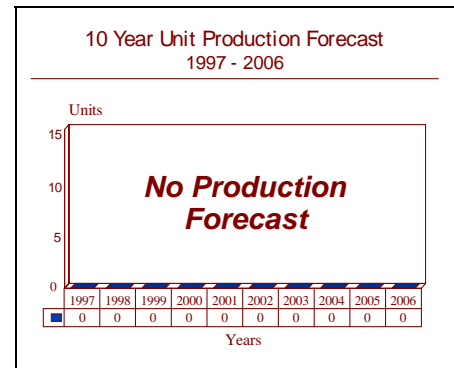
ARCHIVED REPORT

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SO.152 (2S3) Akatsiya 152 mm Self-Propelled Howitzer - Archived 4/98

Outlook

- The serial production of SO.152 (2S3) Akatsiya is complete
- A total of 10,721 SO.152 (2S3) systems was manufactured
- Some additional modernization and retrofit potential exists for the remaining systems



Orientation

Description. A tracked 152 millimeter self-propelled artillery system

Sponsor. The development and production of the SO.152 (2S3) was sponsored by the Ministry of Defense of the former Soviet Union through the Soviet Army. Continued support is by the Ministry of Defense of the Russian Federation.

Contractors. The SO.152 (2S3) was developed and manufactured by the Uraltransmash facility of the former Soviet State Arsenals (now the Uraltransmash State Association) located at Yekaterinburg in the Russian Federation.

Licensees. None

Status. Production of the SO.152 (2S3) Akatsiya terminated in 1988. The system is in service in the Russian Federation as well as several other nations.

Total Produced. A total of 10,721 SO.152 (2S3) artillery systems was manufactured.

Application. Mobile fire support for the field army at the division and division levels.

Price Range. In equivalent 1988 United States dollars, the unit price of the SO.152 (2S3) was \$971,000. Used but in "as new" condition SO.152 (2S3) systems are now being offered on the open market by the Russian Federation for around half a million United States dollars.

Technical Data

Design Features. The Akatsiya is a conventional system with manual storage and loading of the ammunition. It is noted for its rugged construction and reliable operation.

Crew. Four: commander, gunner, loader and driver plus two additional men in the accompanying ammunition truck.

Muzzle Brake. Double-baffle

Recoil System. Hydropneumatic

Breech Mechanism. Semiautomatic vertical sliding wedge

Ammunition. This artillery system fires the same range of 152 millimeter ammunition types as used for the D.20 and other Russian pattern 152 millimeter cannon. The types include High Explosive/Fragmentation OF-540, Rocket Assisted High Explosive Projectile, Fin Stabilized High

Explosive Anti-Tank BP-540, Armor Piercing High Explosive BR-540, Smoke D-540, unspecified chemical, 0.2 kiloton nuclear, beehive and illumination. The 2A22 cannon of the SO.152 (2S3) is compatible with the Krasnopol laser guided artillery projectile.

Armor. The SO.152 (2S3) is fabricated from conventional welded steel alloy armor with a maximum thickness of 2.0 centimeters (0.78 inch) on the hull and 1.5 centimeters (0.59 inch) on the turret.

Dimensions. The SO.152 uses the 2A33 ordnance of the D.20 towed artillery system. The following data are for the last production examples from the former Soviet Union. Late production SO.152 (2S3) systems, designated 2S3M and 2S3M1, feature increased (12 additional) ammunition storage of 40 rounds; the increased storage includes a loading carousel. These vehicles also have modified storage compartment covers at the rear of the hull. The 2S3M1 also has data terminal in which the fire commands are automatically displayed.

	<u>SI units</u>	<u>US units</u>
Length overall	8.42 meters	27.62 feet
Width	3.25 meters	10.66 feet
Height	3.05 meters	10.01 feet
Combat weight	27.51 tonnes	30.32 tons
Fuel capacity	830 liters	220.74 gallons
Ordnance caliber	152 millimeters	5.98 inches

Performance. The maximum 2A33 cannon range figure is with the High Explosive projectile; with an assisted projectile, it is 24 kilometers (26,246 yards). The maximum speed and vehicle range data are for a metalled road.

Maximum speed	58 kilometers per hour	36.1 miles per hour
Maximum range	509 kilometers	316.1 statute miles
Step	70 centimeters	2.3 feet
Trench	3.0 meters	9.84 feet
Slope	30%	30%
Gradient	61%	61%
Fording	1.2 meters	3.94 feet
Elevation	+60°	+60°
Depression	-4°	-4°
Traverse (total)	360°	360°
Maximum ordnance range	17.3 kilometers	18,919.3 yards
Maximum rate of fire	3.5 rounds per minute	3.5 rounds per minute
Sustained rate of fire	1 round per minute	1 round per minute

Engine. The SO.152 (2S3) uses the V-59 diesel of V-12 configuration; this liquid cooled engine is rated at 387.9 kilowatts (520 horsepower); this engine is provided by the Russian State Factories. The power-to-weight ratio is 14.1 kilowatts per tonne (17.15 horsepower per ton).

Gearbox. The SO.152 (2S3) uses an unidentified manually operated constant mesh type gearbox with six forward and two reverse gear ratios. This unit is provided by the Russian State Factories.

Suspension and Running Gear. The SO.152 (2S3) uses a torsion bar type suspension with six dual-tired road wheels on each side; the drive sprocket is at the front while the idler is at the rear. There are four track return rollers on each side and the second, and sixth road wheel stations are fitted with hydraulic shock dampers.

Fire Control. The gunner is provided with a PG-4 panoramic sight with 3.7 power and a OP5-38 telescope with 5.5 power; this latter unit is normally used for direct fire engagements.

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