

ARCHIVED REPORT

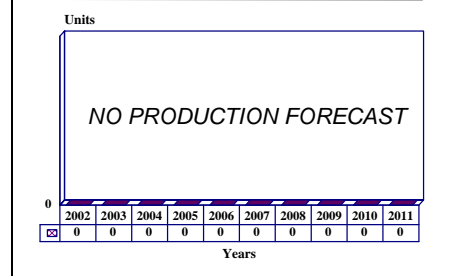
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SP2000 155 mm Self-Propelled Howitzer - Archived 4/2003

Outlook

- The development of this indigenous system was terminated in early 2001
- Licensed assembly/manufacture of the K9 will address the requirement

10 Year Unit Production Forecast
 2002 - 2011



Orientation

Description. A tracked 155 millimeter self-propelled artillery system.

Sponsor. The development of the SP2000 program was being supported by the Turkey Ministry of National Defense, Turkish Land Forces Command.

Contractors. The development of the SP2000 155 millimeter self-propelled artillery system was being undertaken by the state-owned Makina ve Kimya Endüstrisi Kurumu organization headquartered in Ankara. A major subcontractor was Motoren- und Turbinen-Union.

Licensees. None at this time and none expected.

Status. Before the program was terminated in early 2001, the fabrication of the initial prototype with a 39

caliber cannon had been completed; the testing and evaluation program was ongoing. The fabrication of the second prototype with a 52 caliber cannon had also been completed.

Total Produced. As of January 1, 2002, two prototypes of the SP2000 system (one mounting a 39 caliber cannon and the other a 52 caliber cannon) had been manufactured.

Application. Mobile fire support at the battalion and division levels.

Price Range. In equivalent 2002 United States dollars, the projected unit price of the serially produced SP2000 with a 52 caliber cannon was \$3.967 million in a 10-unit buy.

Technical Data

Design Features. The SP2000 was a modern design that likely incorporated a good deal of German technology, a 52 caliber cannon with a semi-automatic loading system, and advanced fire control components, possibly including an automatic laying system.

Crew. Four plus driver.

Muzzle Brake. Double-baffle.

Recoil Mechanism. Hydropneumatic

Breech Mechanism. Undetermined at this time.

Ammunition. The 52 caliber cannon of the SP2000 was able to fire all NATO-standard 155 millimeter

rounds plus possibly the Extended Range Full Bore types.

Dimensions. No detailed dimensional data were ever made available for the SP2000. One source stated that the system that would have been produced was broadly similar in size to the British Artillery System 90 in the Braveheart (52 caliber) version.

	<u>SI units</u>	<u>US units</u>
Ordnance caliber	155 millimeters	6.10 inches
Ordnance length	52 calibers/8.06 meters	52 calibers/26.44 feet

Performance. No performance data were ever made available for the SP2000. However, this system's automotive performance was generally considered on par with that of similar new systems of this type.

	<u>SI units</u>	<u>US units</u>
Maximum ordnance range	40,000 meters	43,744 yards

Engine. Motoren- und Turbinen-Union was to supply the MT 881 series four-stroke diesel engine for the SP2000.

Gearbox. An undetermined (probably German) automatic gearbox was to be used in the SP2000.

Suspension and Running Gear. The prototypes of this self-propelled artillery system were fitted with a hydropneumatic suspension system with six (possibly seven) dual-tired road wheels and an unknown number

of return rollers on each side. The drive sprocket is at the front, with the idler at the rear. An automatic track tensioner device was most likely incorporated in the system.

Fire Control. The SP2000 would normally be employed for indirect fires, with the targeting data provided by a forward observer through a fire direction center command post. The crew would receive the data via the onboard radio and lay the cannon in the appropriate manner.

Variants/Upgrades

Variants. There were no planned variants of the SP2000 at the time of its cancellation. However, there was a report of an ammunition resupply vehicle being developed from the base chassis of the SP2000.

Modernization and Retrofit Overview. None at this time, as the SP2000 never entered serial production. None were expected in the coming 10-year period.

Program Review

Background. From the early 1980s into the 1990s, Turkey undertook a number of modernization and retrofit programs for the self-propelled portion of its artillery park. These programs were for the 105 millimeter M52 and 155 millimeter M44 systems and involved integrating a new 39 caliber cannon, new powerpacks, fire and gun control components, and other features. Probably the most extensive program was the M52T program, in which the resulting system was retrofitted with a 39 caliber/155 millimeter cannon. However, both the M44 and M52 designs are close to half a century old and are not really amenable to further upgrades. As of early 2002, a total of 222 M44 systems had been upgraded to the M44T standard and 365 M52 systems to the M52T standard.

Seeing the limitations of the M44 and M52 even in upgraded form, Turkey began investing in the development of an indigenous 155 millimeter self-propelled artillery system. While details are still

lacking, it appears that this effort started around 1992 and that German expertise was used in the development of the new system. The extensive experience gained in the M44T and M52T programs has also proven of great value in the development of the new system, which is called the SP2000. While the contractor of the SP2000 was never disclosed, most sources indicated that it was the state-owned Makina ve Kimya Endüstrisi Kurumu organization headquartered in Ankara.

The first prototype of the SP2000 was publicly revealed in 1999. This system was fitted with a 39 caliber cannon, but the second prototype mounted a new 52 caliber cannon that conforms to NATO ballistics standards. The first prototype was most likely given a 39 caliber cannon because Turkey already has great familiarity with this cannon through the M44T and M52T programs. Fitting the 39 caliber cannon would have been an easy way to get the first prototype out to the field so that the rest of the components could be

tested. As the writing has long been on the wall for new artillery systems of any type with cannon shorter than 45 calibers, the second prototype mounted a 52 caliber cannon. Our research indicates that this would have been the production standard for the SP2000.

Description. Many of the details regarding the SP2000 were never released, and are still not known outside Turkey. From the illustrations released, the system appeared to be conventional in design, with the engine placed forward and the turret to the rear. The driver was seated to the right fairly close to the turret. The fighting compartment with turret and ammunition storage occupied the remainder of the vehicle to the rear. Reports indicate that an M2HB 12.7 millimeter machine gun was mounted on the turret roof.

Makina ve Kimya Endüstrisi Kurumu provided the 39 caliber cannon for the first prototype. It featured a hydropneumatic recoil system, fume extractor and double baffle muzzle brake. A flick ramming system was fitted, and all turret operations reportedly had manual backups. The manufacturer of the 52 caliber cannon used on the second prototype is not known, but some sources indicate that it came from Rheinmetall DeTec.

Program Canceled. Following a Turkish Army evaluation of the program which began in late 2000, the SP2000 program was canceled in early 2001. It was decided to adopt the Samsung K9 system and negotiations were initiated to that effect. That program is covered separately in this tab.

Funding

Funding for the development of the SP2000 program was being supplied by the Turkey Ministry of National Defense through the Turkish Land Forces Command.

Recent Contracts

This information is not released by the contractor, Makina ve Kimya Endüstrisi Kurumu, or the Turkish government.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1992	Development begun
November	1989	First prototype with 39 caliber cannon completed
late	1999	SP2000 prototype revealed
late	2000	Second prototype completed
early	2001	Program canceled as first and second SP2000 prototypes being tested

Worldwide Distribution

Export Potential. Although some of Turkey’s military products have been sold internationally, Turkey is still largely an unknown force in the military hardware market. In addition, the country needs to modernize the self-propelled portion of its park very soon. Therefore, prior to the cancellation of the SP2000, most observers believed that it would be some time before the system was released for export.

Countries. **Turkey** (two prototypes).

Forecast Rationale

This report on Turkey's SP2000 system has been maintained this year in order to provide clarity in the overall picture of the world's self-propelled artillery systems. As Turkey has terminated the development of

the SP2000 in favor of the procurement of the Korean (Samsung) K9 to address its self-propelled artillery requirement, no production of the SP2000 is forecast. The K9 program is covered separately in this tab.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Ordnance	(Engine)	through 01	High Confidence Level				Good Confidence Level				Speculative		Total 02-11
			02	03	04	05	06	07	08	09	10	11	
MAKINA VE KIMYA ENDUSTRISI KURUMU SP2000 (a)	MT 881	2	0	0	0	0	0	0	0	0	0	0	0
Total Production		2	0	0	0	0	0	0	0	0	0	0	0

(a) Production through 2001 is for the developmental and operational test systems, with the first one being completed with a 39 caliber barrel. Production systems were planned to have a 52 caliber barrel. This program was terminated in early 2001 in favor of procuring the K9 from the Republic of Korea.