

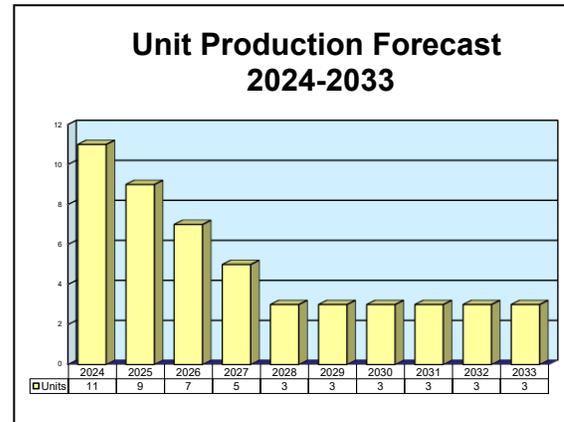
ARCHIVED REPORT

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LAG 40 SB

Outlook

- Production of LAG 40 SB continues on as-needed basis
- Beyond Spain and Portugal, the LAG 40 SB has reportedly scored export sales to Brazil, Colombia, and the Philippines
- LAG 40 SB still suffers from direct competition with the popular Mark 19
- Forecast reflects limited potential for export orders



Orientation

Description. A medium-caliber automatic grenade launcher.

Sponsor. Santa Barbara Sistemas developed the LAG 40 SB as a private venture in response to Spanish Ministry of Defense requirements.

Licensees. None.

Status. Development through serial production.

Total Produced. Through 2023, we estimate the contractor produced at least 450 LAG 40 SB automatic grenade launchers.

Application. Ground- or vehicle-mounted fire support at the infantry company level for both offensive and defensive operations. The LAG 40 SB can also mount a variety of naval patrol craft.

Price Range. In 2024 U.S. dollars, the LAG 40 SB carries an estimated unit price of \$33,681.

Contractors

Prime

General Dynamics European Land Systems, Santa Bárbara Sistemas

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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

LAG 40 SB**Technical Data**

Crew. One.

Muzzle Brake. None.

Recoil System. Long recoil.

Breech Mechanism. Semi-closed bolt.

Carriage Type. None. The weapon fires from a pedestal (pintle) or tripod mount.

Shield. None.

Ammunition. The LAG 40 SB fires 40x53mm semi-rimmed high-velocity (HV) ammunition from 24- or 32-round linked belts. The primary ammunition types include:

- SB 993 (M430) High-Explosive, Dual-Purpose (HEDP)
- M383 High Explosive (HE)
- SB 991 (M384) HE
- SB 990 (M385) Target Practice

The LAG 40 SB also fires the new line of 40x53mm HV ammunition by FN Herstal. Several nations – including Germany, Romania, Singapore, and South Africa – are developing compatible 40x53mm HV ammunition.

Note: *The LAG 40 SB is not compatible with the 40x46mm low-velocity ammunition for shoulder-fired grenade launchers such as the M79 and M203.*

Dimensions. The following data reflect the latest production-standard LAG 40 SB. The weight of the complete weapon, including the tripod mount and ammunition, is approximately 77 kilograms (169.4 lb).

	<u>SI Units</u>	<u>U.S. Units</u>
Caliber	40 mm	1.57 in
Length	99.6 cm	39.21 in
Width	35 cm	13.78 in
Height	25 cm	9.84 in
Weight	34 kg	74.8 lb

Performance. The range data reflect firing the M430 High-Explosive round.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum range	2,200 m	2,405.94 yd
Maximum effective range	1,500 m	1,640.41 yd
Muzzle velocity	240 m/sec	787.39 ft/sec
Rate of fire	215 rds/min	215 rds/min



40mm LAG 40 SB Grenade Launcher

Source: General Dynamics Santa Barbara Sistemas

Variants/Upgrades

Variants. None.

Modernization and Retrofit Overview. There is essentially no modernization and retrofit potential for

this weapon other than the integration of image intensification technology or other sights with the weapon.

Program Review

Background. In the mid-1960s, the U.S. Navy developed the Mark 19 automatic grenade launcher for employment on riverine patrol boats in Vietnam.

Mark 19: The Trail Blazer

The Mark 19, firing high-pressure/high-velocity versions of the 40mm grenade, remained virtually the only operational weapon system of its kind through the mid-1970s. The U.S. Army and U.S. Marine Corps have been the largest users of the Mark 19, in the ground- and vehicle-mounted fire support role.

In 1975, the Soviet Union introduced the 30mm AGS-17 automatic grenade launcher. In 1980, the performance of the AGS-17 in Afghanistan generated considerable international interest in the ground- and vehicle-mounted automatic grenade launcher. At that time, the Mark 19 was out of production; the U.S. government (which owned the rights to the Mark 19) was also reluctant to approve export of the Mark 19. (For more information on the Mark 19 and AGS-17, see the "Mark 19" and "Russian Automatic Grenade Launchers" reports.)

Carpe Diem

This growing interest in automatic grenade launchers, combined with the lack of available weapons on the international market in the mid-1980s, spurred the design of a number of automatic grenade launchers to fill the gap. In 1984, Empresa Nacional Santa Barbara (Madrid, Spain) began development of what it originally called the SB40 LAG 40mm automatic grenade launcher.

Following the production run for the Spanish Army, which began in 1989, Portugal selected the SB40 LAG. In 1996, Santa Barbara redesignated the weapon the LAG 40 SB-M1; more recently, the weapon has carried the designation LAG 40 SB.

Under the General Dynamics Umbrella

In 2002, Santa Barbara Sistemas became a component of the General Dynamics European Land Systems group.

General Dynamics is also the prime contractor for the Mark 19.

Description. The LAG 40 SB consists of five major assemblies:

- Main receiver
- Breech mechanism
- Recuperating recoil mechanism
- Feed tray cover
- Feed chute/mechanism

While the launcher's firing mechanism is mechanical, the weapon can be fired by remote control via a solenoid mechanism.

Modular, Long-Recoil Design

The LAG 40 SB exhibits a modular design in which the operator can easily switch the feed mechanism between right- or left-hand feed as desired. The operator can field-strip the weapon in less than one minute, without any special tools.

The LAG 40 SB employs the long-recoil operating principle, making the weapon more manageable at a slower cyclic rate. Further, the long-recoil principle allows employment of a much lighter bolt than possible with the blowback-operated Mark 19. However, the Spanish weapon system exhibits no significant weight savings – less than 3 kilograms (6.6 lb) – over the Mark 19.

Facing the Mark 19

Since 1990, the U.S. government has authorized export and licensed production of the Mark 19. This has severely affected the sales potential of weapons such as the LAG 40 SB, which was to fill the gap left by an earlier lack of Mark 19 automatic grenade launchers on the international market.

LAG 40 SB

Funding

Santa Barbara Sistemas funded development of the LAG 40 SB as a private venture.

Worldwide Distribution/Inventories

Export Potential. Until 1990, the reluctance of the U.S. government to approve export of the Mark 19 left the door open for competing designs, such as the LAG 40 SB. Recent open-source reporting reveals the LAG 40 SB has scored sales with at least three countries beyond the Iberian Peninsula.

Worldwide Distribution. Brazil, Colombia, the Philippines, Portugal and Spain.

Forecast Rationale

Although the LAG 40 SB has been in service for 25 years, FI has only been able to confirm sales to three other customers beyond the Iberian Peninsula. Making matters worse in terms of sales, the defense budgets of both identified customers— Spain and Portugal — remain fragile.

Budget Woes

Since the Spanish economy began melting down in 2008, the government has looked to defense as a means of achieving savings. Approximately 76 percent of Spain's defense budget is absorbed by personnel costs, leaving little remaining for capitalization and modernization programs.

Within the leadership of the Portuguese armed forces, there are reportedly fears that defense cuts will be severe enough to threaten Portugal's military viability.

Slim Prospects

In such an environment, the prospects for follow-on orders from either Spain or Portugal are decidedly slim. Thus far, the LAG 40 SB has reportedly scored limited export sales to Brazil, Colombia, and the Philippines. Even the war in Ukraine has apparently had no effect on LAG 40 SB sales prospects.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program	High Confidence					Good Confidence			Speculative			Total
	Thru 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
General Dynamics European Land Systems												
LAG 40 SB -M1												
	450	11	9	7	5	3	3	3	3	3	3	50
Total	450	11	9	7	5	3	3	3	3	3	3	50