

# ARCHIVED REPORT

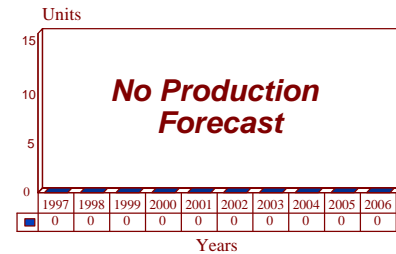
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## Centurion - Dropped 1/97

### Outlook

- Long out of production but still in service in a number of nations
- Several modernization and retrofit programs in various stages of implementation
- Continued trading on the international market expected for some time

10 Year Unit Production Forecast  
1997 - 2006



### Orientation

**Description.** A tank.

**Sponsor.** The development and British Army procurement of the Centurion was sponsored by the United Kingdom Ministry of Defence, Ministry of Defence Procurement Executive and Ordnance Board through the Ministry of Defence Army Department.

**Contractors.** This tank was developed by the British Army Department of Tank Design and was manufactured by the Royal Ordnance Factories at Leeds and Woolrich, by Vickers at Elswick, and Leyland Motors at Leyland; all facilities are located in the United Kingdom. Morris, Merrit-Brown and Rolls Royce (now Perkins) acted as subcontractors.

**Licensees.** None

**Status.** The serial production of the Centurion ended in 1962, but the tank remains in service with a number of

nations around the world. A number of modernization and retrofit programs are in various stages of development or integration for this tank.

**Total Produced.** A total of 4,423 Centurion tanks in all production models were manufactured.

**Application.** A tank for the projection of power as well as defensive operations.

**Price Range.** Late production Centurions had a unit price of \$261,000 in equivalent 1962 United States dollars. A Centurion brought up to late 1980s standards by Vickers had a unit price of \$580,000 in equivalent 1995 United States dollars. In 1986, ten Centurion Mark 5 tanks in as-is but operational condition were offered on the open market by a principal for the equivalent of 401,000 United States dollars each.

## Technical Data

**Crew.** Four: commander, gunner, loader, driver.

**Armor.** Conventional steel alloy with a maximum thickness of 15.2 centimeters (5.98 inches) on the turret face.

**Dimensions.** The following data are for the Centurion Mark 5, with the Mark 13 following where different.

	<b>SI units</b>	<b>US units</b>
Length	9.83/9.85 meters	32.25/32.31 feet
Width	3.39 meters	11.12 feet
Height	2.94/3.01 meters	9.65/9.88 feet
Fuel capacity	458/1037 liters	121.81/275.8 gallons
Weight	50.73/51.82 tonnes	55.92/57.12 tons

**Performance.** The maximum speed and range figures are on a metalled road.

Maximum speed	35 kilometers per hour	21.73 miles per hour
Maximum range	102/190 kilometers	63.34/117.99 statute miles
Step	91.4 centimeters	35.98 inches
Trench	3.35 meters	10.99 feet
Slope	30%	30%
Gradient	60%	60%
Fording	1.45 meters	4.76 feet

**Engine.** The Centurion Mark 5 and Mark 13, as well as most of the remaining Centurions in service today, use the Perkins (Rolls-Royce) Mark IVB 12 cylinder, liquid-cooled, spark-ignition engine rated at 484.9 kilowatts (650 horsepower) at 37.5 revolutions per second (2,250 revolutions per minute). The power-to-weight ratio of the Mark 5 with this engine is 9.56 kilowatts per tonne (11.62 horsepower per ton); for the Mark 13, the power-to-weight ratio is 9.36 kilowatts per tonne (11.38 horsepower per ton). A Morris model USHNM four-cylinder spark-ignition engine rated at 14.92 kilowatts (20 horsepower) is used as an auxiliary power unit. A 24-volt electrical system with four six-volt batteries is the standard electrical fit.

**Gearbox.** Merrit-Brown provided the model Z51R manually operated unit with four forward and two reverse gear ratios. This gearbox is transversely mounted in the tank.

**Suspension and Running Gear.** The suspension system used on the Centurion is the Horstman-type with three units mounted on each side of the tank. Each unit in turn mounts two pair of rubber-tired road wheels sprung by concentric type springs, with the first and last units being provided with hydraulic shock dampers. Six track return rollers are fitted with the front and rear rollers supporting the inside of the track only.

**Armament.** The Mark 1 and Mark 2 Centurions used the 17 Pounder (76.2 millimeter) tank cannon; none remain in

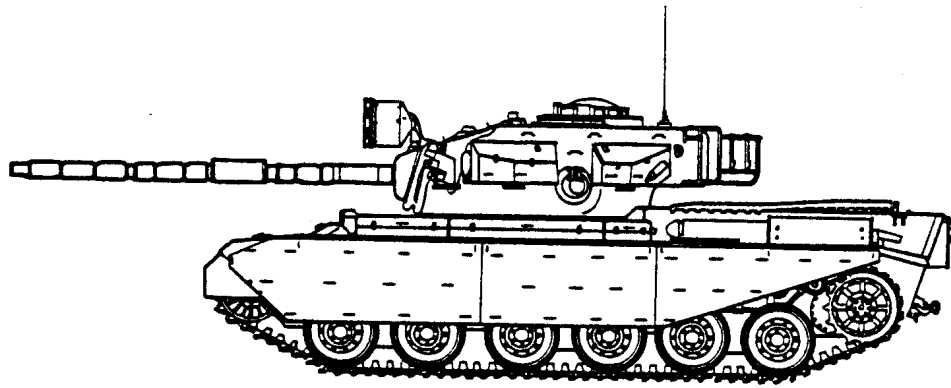
service. The Mark 3 and original Mark 5 were armed with the 20 Pounder (83.4 millimeter) tank cannon. All the subsequent models, including the Mark 5/2, use the Royal Ordnance L7 105 millimeter rifled tank cannon. Secondary armament of the Centurion varies widely but is usually composed of a 7.62 millimeter machine gun coaxially mounted, and another 7.62 millimeter machine gun for anti-aircraft use. The ammunition storage for the machine gun range from 4,250 to 5,000 rounds. The Mark 13 and some other models mount a 12.7 millimeter ranging machine gun; a total of 600 rounds of ammunition for this weapon is carried. Six electrically operated smoke grenade launchers are mounted on each side of the turret.

**Fire Control.** The fire control suite of all models of the Centurion, while far from modern technology, was certainly adequate for the tasks imposed upon it; it has proven itself many times in battle. The basic suite consists of a periscopic sight with a ballistic pattern graticule linked to a range drum. This equipment is effective for ranges of 3,000 to 8,000 meters (3,280.8 to 8748.8 yards). The gunner's and commander's sights are mechanically linked. As it was originally manufactured, the Centurion had no infrared vision equipment; the British Army retrofitted their tanks with this equipment beginning in 1964. An infrared searchlight is usually placed at the commander's station to the left of the main armament, infrared driving lights are fitted as are infrared sights for the commander and gunner.

## Variants/Upgrades

**Variants.** The Centurion has proven to be a remarkably adaptable design; this tank has been manufactured and retrofitted into more models and variants than any other Western tank following the Second World War. A brief description of these models and variants follows: (The original armament fit is listed).

<b>Model/Variant</b>	<b>Armament</b>	<b>Remarks</b>
Centurion Mark 1	17 Pounder	100 manufactured; none remain in service
Centurion Mark 2	17 Pounder	250 manufactured; none remain in service
Centurion Mark 3	20 Pounder	2,833 manufactured; none remain in service
Centurion Mark 4	95 millimeter	None manufactured; proposed close support howitzer
Centurion Mark 5	20 Pounder	221 manufactured in several sub-models
Centurion Mark 5/1	20 Pounder	Additional armor
Centurion Mark 5/2	L7	L7 105 millimeter cannon integrated
Centurion Mark 6	L7	Additional armor and fuel capacity
Centurion Mark 6/1	L7	Mark 6 with infrared vision and bustle storage
Centurion Mark 6/2	L7	Mark 6 with ranging machine gun
Centurion Mark 7	20 Pounder	Additional ammunition; designated FV4007
Centurion Mark 7/1	20 Pounder	Additional armor; designated FV4012
Centurion Mark 7/2	L7	Modified turret
Centurion Mark 8	20 Pounder	Modified mantlet, rotating commander's cupola
Centurion Mark 8/1	20 Pounder	Additional armor
Centurion Mark 8/2	L7	Modified turret and mantlet
Centurion Mark 9	L7	Mark 7 with additional armor; designated FV4015
Centurion Mark 9/1	L7	Mark 7 with infrared vision and bustle storage
Centurion Mark 9/2	L7	Mark 7 with ranging machine gun
Centurion Mark 10	L7	Mark 8 uparmored; designated FV4017
Centurion Mark 10/1	L7	Mark 10 with infrared vision and bustle storage
Centurion Mark 10/2	L7	Mark 10 with a ranging machine gun
Centurion Mark 11	L7	Mark 6 with ranging machine gun, infrared vision
Centurion Mark 12	L7	Mark 9 with ranging machine gun, infrared vision
Centurion Mark 13	L7	Mark 10 with ranging machine gun, infrared vision
Centurion AVLB	-	Based on the Centurion Mark 5; designated FV4002
Centurion AVLB	-	Based on the Centurion Mark 5; designated FV4016
Centurion ARV	-	Based on the Centurion Mark 2; designated FV4006
Centurion AVRE	L9A1	Demolition gun, dozer, winch; designated FV4003
Centurion BARV	-	No turret; for amphibious use; designated FV 4018
Centurion Target	-	Additional armor; for training



Centurion Mark 13

Source: Forecast International

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