

Lance/Extended Range Lance (XMGM-52B/XRL)

USA

Surface-to-surface artillery missile. In production.

Prime contractor: LTV Aerospace Corporation.

Powered by: Rocketdyne dual-thrust storable liquid-propellant (UDMH and IRFNA) rocket engine. Improved Rocketdyne liquid-propellant engine in XRL.

Airframe: Cylindrical body, with small cruciform tail-fins and ogival nose-cone.

Guidance and Control: Simplified inertial guidance system, developed by US Army Missile Command.

Warhead: Alternative nuclear or high-explosive.

Length: 20ft 0in (6.10m).

Body diameter: 1ft 10in (0.56m).

Launch weight: 2,850lb (1,293kg).

Range limits: 3-30 miles (4.8-48km).

Development and Service

Known originally as Missile B, Lance has been under development since 1962 as a replacement for the US Army's Sergeant and Honest John. It is a divisional support weapon, intended to be transported normally on an XM-667 tracked erector/launcher vehicle produced by FMC Corporation, with a further vehicle of the same type to carry two spare

missiles and a reloading hoist. Alternatively, Lance can be fired from a lightweight wheeled launcher, produced by Orenda in Canada, which is helicopter-transportable and can be air-dropped by parachute. Each launcher is manned by a six-man firing crew.

Firing trials began in March 1965, leading up to successful climatic trials in Alaska in 1969. Production was deferred to take advantage of improved performance offered by the slightly enlarged Extended Range Lance (XRL), which is now the standard version. It uses the same guidance system and ground equipment as earlier models but is said to offer an increase of at least 80 per cent in range. The Rocketdyne engine is interesting in that it consists of two concentrically-mounted stages. The high-thrust outer stage operates only as a launch booster. The inner stage fires simultaneously, but continues operation as the sustainer, at reduced thrust, when the booster has burned out.

Lance production began under a US Army contract awarded in January 1971, with initial delivery of the complete weapon system for evaluation three months later.

