

XM8 Lightweight Modular Weapon System



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XM8 BASELINE CARBINE
5.56 x 45mm NATO
 (shown in optional color green)

Beginning life as the 5.56mm KE (kinetic energy) component of the 20mm air-bursting XM29 Objective Individual Combat Weapon (OICW), the XM8 Lightweight Modular Carbine System represents the state-of-the-art in 5.56x45mm NATO assault rifles.

Developed by the US Army's office of Project Manager for Soldier Weapons located at Picatinny Arsenal, New Jersey in conjunction with the US Army Infantry Center, the XM8 Future Combat Rifle is intended to replace existing M4 Carbines and select 5.56x45mm weapons in the US Army arsenal beginning as early as the fourth quarter of FY05.

Once adopted, the M8 Carbine will replace the aging M16/M4 family of weapons, which have been in service for nearly four decades, longer than any previous US service rifle. The M8 Carbine will be up to 20% lighter than a comparably equipped M4 Carbine MWS and yet offer additional features and performance unavailable currently in any assault rifle in the world.

As a direct development of the separable OICW (XM29) KE module, the M8 Carbine will share a high degree of common parts and training and maintenance procedures to lesson the required support for the "family" of XM8 weapons. Being developed are four XM8 variants, which include a baseline carbine, a sharpshooter variant, an automatic rifle variant, and the ultra-small compact carbine variant.

A unique feature of the XM8 modular weapon system is the ability to easily and quickly reconfigure the weapon from one variant to the other to meet changing mission requirements to include caliber conversion.

This modularity includes interchangeable assembly groups such as the barrel, handguard, lower receiver, buttstock modules and sighting system with removable carrying handle. In addition and in parallel the new XM320 quick detachable single-shot 40mm grenade launcher with side-opening breech and LSS lightweight 12 gauge shotgun module can be easily added to the XM8 by the user in the field in seconds without tools.

The unique buttstock system allows the operator to exchange buttstocks without tools from the standard collapsible multi-position version, to an optional butt cap for maximum portability or an optional folding or sniper buttstock with adjustable cheek piece for special applications.

Internally the XM8 employs a combat-proven robust rotary locking bolt system that functions and fieldstrips like that used in the current M16 rifle and M4 carbine. However, this bolt is powered by a unique gas operating system that employs a user removable

gas piston and pusher rod to operate the mechanism.

Unlike the current M4/M16 direct gas system with gas tube the XM8 gas system does not introduce propellant gases and the associated carbon fouling back into the weapon's receiver during firing. This greatly increases the reliability of the XM8 while reducing operator cleaning time by as much as 70%. This system also allows the weapon to fire more than 15,000 rounds without lubrication or cleaning in even the worst operational environments. A cold hammer forged barrel will guarantee a minimum of 20,000 round service life and ultimate operator safety in the event of an obstructed bore occurrence.

The XM8 has fully ambidextrous operating controls

to include a centrally located charging handle that doubles as an ambidextrous forward assist when required, ambidextrous magazine release, bolt catch, safety/selector lever with semi and full automatic modes of fire and release lever for the multiple position collapsible buttstock. The operating controls allow the operator to keep the firing hand on the pistol grip and the weapon in the firing position at all times while the non-firing hand actuates the charging handle and magazine during loading and clearing.

Major components of the weapon are produced from high-strength fiber reinforced polymer materials that can be molded in almost any color to include OD green, desert tan, arctic white, urban blue, brown and basic black. Surfaces on the XM8 that interface with the operator are fitted with non-slip materials to increase comfort and operator retention. The XM8 uses 10 or 30-round semi-transparent box magazines and high-reliability 100-round drum magazines for sustained fire applications.

Special integral flush mounted attachment points are located on the handguard and receiver to allow for the quick attachment of targeting devices. Unlike MIL STD 1913 rails the XM8 attachment points do not add additional weight, bulk and cost to the host weapon and will accept MIL STD 1913 adapters to allow for the use of current in-service accessories. The attachment points for the standard multi-function integrated red dot sight allow multiple mounting positions and insure 100% zero retention even after the sight is removed and remounted.

The battery powered XM8 sight includes the latest technology in a red dot close combat optic, IR laser aimer and laser illuminator with back-up etched reticle with capability exceeding that of the current M68 CCO, AN/PEQ-2 and AN/PAQ-4. This sight will be factory zeroed on the weapon when it is delivered and does not require constant zeroing in the field like current rail-mounted targeting devices. The sight's function is controlled by a small wireless activation switch that can be positioned at any location on the carbine selected by the operator. The XM8 will be fully compatible with future Land Warrior technology and components.

The US XM8 Carbine is being designed at the HK Defense design center in Sterling, Virginia and if adopted will be produced and assembled in the United States at the new Heckler & Koch manufacturing plant located in Columbus, Georgia. The unit cost of the XM8 will be less than that of the current M4 Carbine and will guarantee the American war fighter uncompromising performance far exceeding that of current in service M4 Carbines.

XM8 PROTOTYPE TECHNICAL DATA

Caliber	5.56 x 45mm NATO
Weight (with sight)	Carbine: 7.0 lbs. Compact Carbine: 6.2 lbs. Sharpshooter: 8.0 lbs. Automatic: 8.2 lbs.
Overall Length (stock in/out)	Carbine: 30.3"/33.3" Compact Carbine: 26.8"/29.8" Compact Carbine with buttcap: 21.1" Sharpshooter: 37.3"/40.2" Automatic Rifle: 37.3"/40.2"
Barrel Length	Assault: 12.5" Sharpshooter: 20.0" Compact: 9.0" Automatic Rifle: 20.0"
Rate of Twist	1 in 7 inches
Rate of Fire	cyclic – 750 rpm sustained – 85 rpm up to 210 rounds
Barrel Life	20,000 rounds minimum
Muzzle Velocity (M855 Ball)	3005 ft/sec with 20" barrel 2695 ft/sec with 12.5" barrel 2425 ft/sec with 9.0" barrel
Magazine Capacity	10 or 30 rounds (magazines can be nested together), 100 round drum available
Stock	5 position adjustable for length
Bayonet Lug	Yes (12.5 & 20" barrels)
Bipod Interface	Yes (20" only)
Sighting System	Fully integrated red dot with laser illuminator and pointer