

# XM8 Lightweight Modular Weapon System



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 Weapon 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 select 5.56x45mm weapons in the US Army arsenal beginning as early as the fourth quarter of FY05.

Once adopted, the XM8 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 XM8 Carbine will be up to 20% lighter than a comparably equipped U.S. 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 XM8 Carbine will share a high degree of common parts, reducing training and maintenance procedures required for the support of the "family" of XM8 weapons. Three XM8 variants, including a baseline carbine, a designated marksman/ automatic rifle (DMAR) variant, and an ultra-small compact carbine variant are being developed.

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, a new quick detachable single-shot 40mm grenade launcher with side-opening breech and the new MASS (Modular Accessory Shotgun System) 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, to an optional folding or retractable buttstock 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 including 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 PCAP 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 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 rezeroing in the field like current rail-mounted targeting devices. The sight's function is controlled by a small wired or wireless dual function activation switch that can be positioned at various locations on the carbine. 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. 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 rifles and carbines.

## ONE WEAPON — MANY VARIANTS

The XM8 is designed as a modular weapon that fires 5.56 x 45mm NATO ammunition. Different barrels and other modules can be swapped quickly depending on operational requirements. The XM8 will be lighter and more reliable than existing U.S. issue rifles and carbines. If approved, the Army could field 900,000.

### XM8 BASELINE CARBINE



- 12.5" barrel
- common modular assemblies
- Integrated Sighting Module (1/1)



- side-loading add-on optional 40mm grenade launcher
- Integrated Sighting Module (1/1)

**XM8 Carbine with add-on 40mm grenade launcher**

### XM8 COMPACT CARBINE

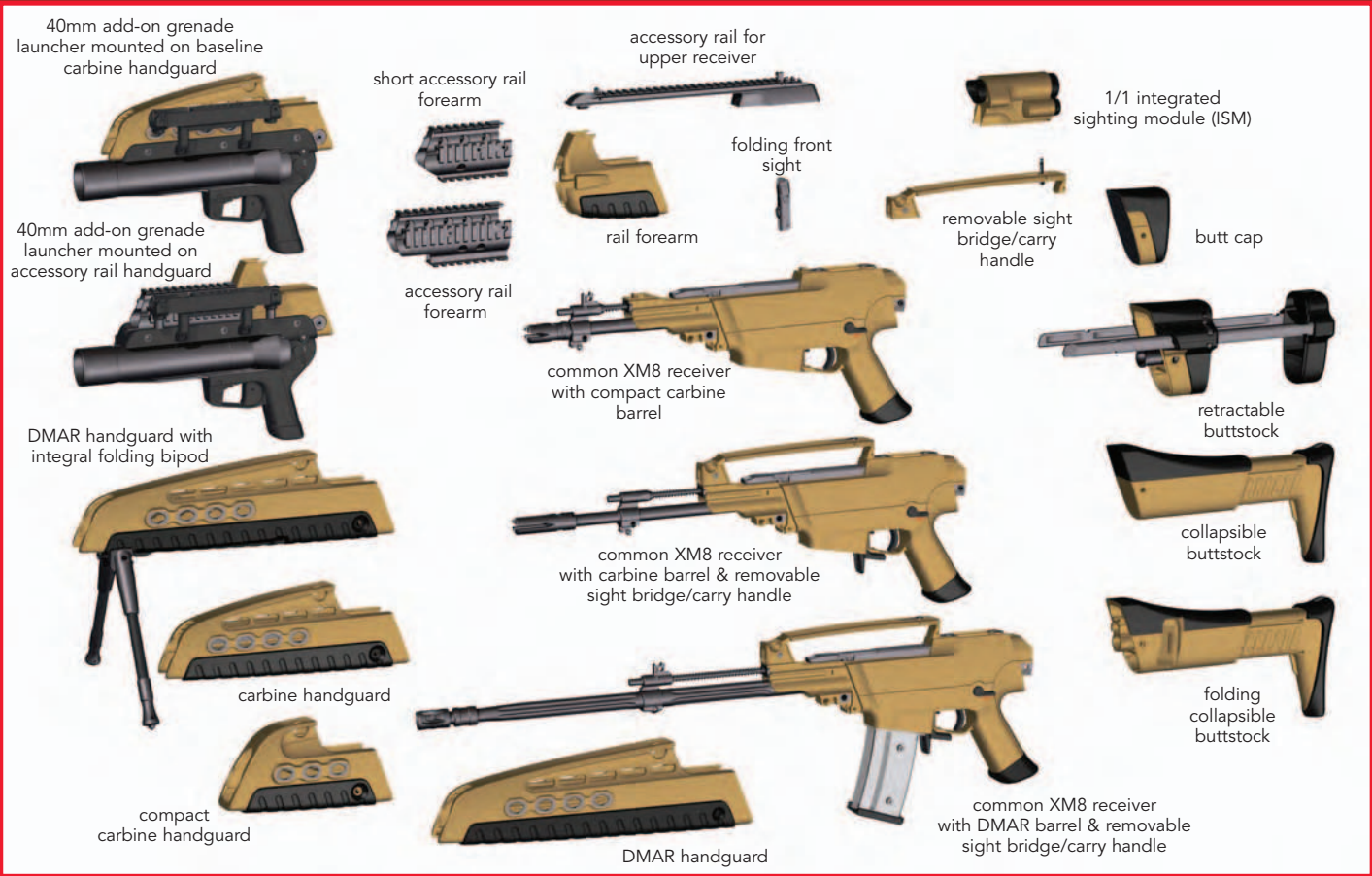


- short 9" barrel
- personal defense applications
- optional folding, retractable stock, or buttcap options
- Integrated Sighting Module (1/1)



- Advanced Magnified Optic (4x)
- integral folding bipod
- heavy fluted 20" barrel for sustained fire
- 30 round magazine or 100 round drum magazine





● XM8 Compact Carbine  
● XM8 Baseline Carbine  
● XM8 Designated Marksman/Automatic Rifle



## XM8 HIGHLIGHTS

- **Multi-functional**  
one weapon, many variants
- **Integrated Sight/Lasers**
- **Ambidextrous Controls**
- **Reconfigurable at unit level**  
one platform for all variants
- **Backup Mechanical Sight**
- **Greater Accuracy**  
≤ 2 MOA
- **Greater Reliability**  
3X increase  
>20,000 rounds without stoppages
- **Longer Weapon Service Life**  
2–3X increase  
20,000 rounds minimum barrel life
- **Reduced Cleaning Time**  
70% reduction
- **Reduced Training Time**  
2X reduction
- **Lower System Weight**  
15% reduction
- **Lower System Cost**  
30% reduction
- **Zero Drain Time**

# XM8

## LIGHTWEIGHT MODULAR WEAPON SYSTEM



## XM8 Lightweight Weapon System

### 5.56 x 45mm NATO

XM8 SPECIFICATIONS	
<b>Operating System</b> <b>Modes of Fire</b> <b>Magazine</b>	Short stroke piston, gas operated. Firing from a closed bolt. Rotary locking 6-lug bolt head Semi-auto and full automatic fire (cyclic rate of fire approximately 825 rounds/minute) 10 or 30 round capacity, 100 round drum also available (30 round magazines can be nested together with or without accessory dual magazine clamp)
<b>Sighting System</b>	<b>XM8 Carbine and XM8 Compact Carbine</b> 1/1 Integrated Sight Module (ISM) with red dot reflex sight adjustable for windage and elevation with IR laser illuminator and pointer. Flip-up mechanical back up sights  <b>XM8 Designated Marksman/Automatic Rifle (DMAR)</b> 4X Advanced Magnified Optic (AMO) with red dot, etched ranging reticle sight with IR laser illuminator and pointer, adjustable for windage and elevation. Flip-up mechanical back up sights
XM8 DIMENSIONS	
<b>Overall Length</b>	<b>Carbine:</b> 30.30 in (buttstock retracted), 33.30 in (buttstock extended) <b>Compact Carbine:</b> 22.4 in (buttstock retracted), 30.00 in (buttstock extended) <b>Compact Carbine with buttcap:</b> 21.10 in <b>DMAR:</b> 37.60 in (butt stock retracted), 40.60 in (buttstock extended)
<b>Height</b> <b>Width</b>	11.25 inches 2.25 inches
<b>Barrel Length</b>	<b>Carbine:</b> 12.50 inches <b>Compact Carbine:</b> 9.00 inches <b>DMAR:</b> 20.00 inches 1 turn in 7 inches > 20,000 rounds
<b>Rifling</b> <b>Barrel Life</b>	
<b>Stock</b>	Collapsible, 5 position adjustable for length, optional retractable buttstock, folding collapsible, and buttcap also available
WEIGHTS	
	<b>Carbine:</b> 7.51 lb <b>Compact Carbine:</b> 7.10 lb (with collapsible stock) <b>DMAR:</b> 10.18 lb <b>Sling:</b> .485 lb <b>Magazine (with 30 rounds):</b> 1.08 lb <b>Empty Magazine:</b> .30 lb  <b>Magazine (with 100 rounds):</b> 4.80 lb <b>Empty 100 Round Magazine:</b> 2.20 lb
BALLISTICS	
<b>Muzzle Velocity (M855 Ball)</b>	3005 feet/second with 20 inch barrel 2695 feet/second with 12.5 inch barrel 2425 feet/second with 9.0 inch barrel  Specifications and models subject to change



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