

Why the HK416 is the Best 5.56mm Carbine in the World

This is all fact and not conjecture or opinion. I was the U.S. PM and developer at HK for the HKM4 (the early HK416 project name) and HK416 development from Day 1 thru May 2006. I assigned Larry Vickers and later Tom Kivlehan the temporary duties of HK416 PM while they were with HK. I sat alone with Ernst Mauch, Managing Director at HK in Germany when the first idea of starting a "Mid-Life Improvement Program" for the US M16/M4 was envisioned by Ernst in 2001, this coming on the heels of the very successful SA80A2 Mid-Life Improvement Program conducted for the Brits. While many at H&K were involved with SA80A2 and HKM4/HK416 efforts and contributed to their eventual success, Ernst was the one who got these two programs started and fed each to successful completion and user fielding. He is the true and only "father" of HK416. This being said it is not just one person but a team of dedicated and capable men and women who made HK416 and other great weapons happen.

Background

HK first created and briefed the concept of an improved M4 as far back as 2001. The choice of the gas system was a no brainer based on the success of other piston operated weapons, like the HK G36. The first HKM4's were US M4A1 carbines loaned to HK which then had the first versions of the HK piston rod gas system installed in "Uncle Sam's COLT's" (not to be confused with Samuel Colt). The joint industry and user development of the HKM4, and then HK416, is considered by those in the know as they most successful rifle development program of its kind in recent history.

HK approached the user unit/our US Government partner on this effort with the idea for HKM4 after most every other US Government ordnance organization passed on it. After a legal review of the concept was conducted from the user side the program began basically on a hand shake and later a No Cost (0 dollar) contract for the development. HK developed the HKM4 for free in exchange for user involvement and prototype testing. In the end the users received a vastly improved 21st century AR-based rifle in less than 2 years from start to finish, including time wasted with the Colt law suit against the HKM4, with not a single US Government R&D dollar spent!

Those who know the current elite users of the HK416 will realize why they selected the HK416 over ALL other carbines available, to include the M4's they replaced with the HK416, and that these organizations only buy and use the very best available. They selected the HK416 after detailed comparative testing against other weapons, to include in some cases the M4A1 and even SCAR L.

Proven Better

What makes the HK416 better than most if not all other M4-style weapons? You can decide for yourself based on the list of proven capabilities provided below. All these statements are documented in actual testing. Can your M4-style weapon approach this degree of performance? Does it have these features? Since the debut of the HKM4 at the 2004 SHOT Show, the concept of the piston operated M4-style weapon has been included in a rash of more than 12 (to date) similar AR-based weapons. While not the first company to offer a "pusher rod" M4-style weapon, NO ONE but H&K can yet claim the success of a piston operated M4-style weapon in the elite user community that the HK416 has achieved in a very short period of time.

HK416 Advantages – Upper Receiver

●Piston Rod Gas System

*70% less fouling and cleaning time (< 4 minutes for an HK416, > 12 for an M4)

An almost total lack of carbon fouling is present within the weapon during even extended operation. 95% of all carbon fouling, debris and heat leaves the muzzle of the HK416 upon firing.

*Little or no heat transfer to the bolt parts which results in 3-4 times increased service parts life and little to no requirement to reapply lubricant

*Ability to fire the weapon w/o lubricant. A lack of lubricant attracts less sand and grit in harsh environments thus improving reliability.

*Weapon operation not effected by the presence of water in the gas system

*User removable without tools

*Same gas system components and gas port location for all barrel lengths (10.4-20")

●Cold Hammer Forged Barrel with Unique HK Tapered Bore Profile

*Improved Accuracy

*Long Barrel Service Life with less than 5% loss in muzzle velocity and accuracy in more than 20K rounds fired!

*Easily resists damage and/or reduces operator injury from an obstructed bore firing in the event of an obstructed bore (100% obstructed) occurrence (lodged projectile, water, mud, etc.) or excessive firing rates over 500-700 rounds (melt down)

*Bore and chamber chrome plated for improved corrosion resistance and reduced wear

●Improved Accuracy

10.4" barreled HK416's regularly out shoot 14.5" barreled M4's for accuracy - some HK416's with 10.4" barrels shoot @ 1 MOA with match ammo! A randomly selected HK416 with 10.4" barrel from a production lot of more than 300 guns fired multiple 1 inch groups at 100 meters from a rest with match ammo (IMI 55 grain BTHP) during USG acceptance testing.

●Increased Parts Service Life

*HK416's selected at random in USG testing have fired 15K rounds and more without a single stoppage or parts failure. In fact one gun was then tested to 30K rounds with no parts failures or stoppages recorded. M4 parts and barrel are expected to last only 6000 rounds or less as per the Army's MIL SPEC for the weapon. (These relatively low numbers are accurate as per numerous reports from M4 users and armorers).

*ALL HK416 parts are guaranteed for a minimum of 15K rounds.

*Increased service life helps eliminate failures in combat, time and costs for repeated parts replacement and weapon repair.

*HK416's have fired 30K rounds in testing without the replacement of a single part whereas an M4 to reach that round count will have replaced barrels and bolts at least 2 – 4 times, as well as various small parts (extractors, extractor springs).

●Increased Reliability

*HK416's have fired more than 20K rounds without stoppages or parts failures, with NO cleaning or lubrication applied during those 20K rounds

- Bolt Carrier "Bell" Design for increased function and reliability

- Bolt

- *Does not require extractor removal for cleaning

- *Has support lug on extractor (and barrel extension) to limit excess compression of extractor spring

- *Bolt head supports the cartridge case head

- *No gas rings required

- One-piece Piston Rod "Carrier Key"

- *Improved reliability and component service life

- Firing Pin Safety

- *Prevents slam or drop fires and primer indents during chambering

- Higher Cook Off Rate (> 250 rounds versus < 210 for an M4)

- Free-floating User Removable 4-Quadrant Rail System

- *100% return-to-zero/bore sight retention

- *Allows user attachment w/o tools of US Army/HK 40x46 mm XM320 Grenade Launcher Module (GLM)

- Barrel Exchange by Armorer in less than 4 minutes

- *Headspace automatically fixed with install

- Longer (10mm) Barrel Threads on Upper Receiver

- *Improved Barrel Retention

- *Improved Accuracy

HK416 Advantages – Lower Receiver

- Flared Magazine Well

- *Assists in the ease and speed of reloading

- Improved HK-style Buffer Retainer

- *Improved buffer retention for increased reliability

- HK Tungsten Granulate Buffer and Buffer Spring

- *Improves feeding and locking reliability and reduces bolt "bounce back" to eliminate "light strikes". One HK buffer and buffer spring is delivered with every HK416 and HK416 upper receiver.

- Improved HK High-Reliability Steel Magazine – up to 30% improvement in feed reliability over that with the standard aluminum USGI magazine. One HK magazine is delivered with every HK416 and HK416 upper receiver.

HK416 Advantages – Miscellaneous

- Special Order "Over the Beach" (OTB) Variant/Capability

- *Allows the HK416 to be safely fired and reliably, if need be, from the surf with it completely full of

water. This can be done repeatedly without ill effect to the shooter or weapon (an M4 blows the top of the receiver off).

- Unique HK Safety Blank Firing Adapter

*Will "catch" up to 3 live projectiles if accidentally mixed with blank ammunition during blank firing training

- Unit Price

The HK416 price includes a user removable free floating rail system with insured/proven return-to-zero, HK buffer and spring, sling, manual and 30-rd steel "high-reliability" magazine – US DoD cost \$1425 (qty of one). Current 2007 US DoD pricing for the US M4 with non-free floating rail system and USGI magazine is \$1300 (qty of 400K).

- System Lifecycle Cost

The M4 is a good gun and has served and continues to serve its users well. The HK416 is simply better, packed with the many features and capabilities described above and thus it does cost slightly more. If you have not experienced an HK416 for yourself you simply don't have it as a high water mark point of reference (a horse drawn carriage looks fine until you experience your first model T!)

The US military price, from the large quantity (10K+) US Government contract for an M4 w/o rail system is/was @ \$967. A KAC free-floating rail is \$200-\$400 and requires armorer installation and barrel removal to mount it. So that's @ \$1200-\$1400 for a comparably equipped M4 with free-floating rail system.

An HK416 with rail system costs @ \$1425. **More money yes but A LOT more gun.** Why do you think the M4's maker is improving (new op rod gas system, rail system, etc.) the M4 now (Colt's "M5") after so many years?

If you add up the cost and time to replace M4 bolt heads, extractors and springs and barrels to get to the service life of the HK416 parts (>20K rounds) you've already easily covered any price difference between the two weapons AND with the HK416 you have superior weapon performance and operator safety for the entire life cycle of the system.

That means a whole lot to the current users who are the most elite of the elite. They can also use the shorter 10" barreled HK416 in places where the 14.5" barreled M4 is simply too long, like from vehicles, and still not lose accuracy down range.

You can also get all these upgrades, except the flared mag well and HK buffer retainer, by simply adding a drop-on HK416 upper receiver "upgrade" kit to an M16 or M4 lower for just over \$1000. Oh, and don't forget the 7.62x51mm HK417. You can't get that from the M4's maker, and there is a 6.8mm SPC HK416 available as well.