

FEATURE **SCAR 17S**

The SCAR 17S is the semi-automatic-only 7.62x51 mm NATO version of the rifle SOCOM wanted all along. Its arrival is most welcome.

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HEAVY METAL

FNH-USA's SCAR 17S

BY GLENN M. GILBERT, Shooting Editor



At long last, the SCAR 17S is here. The new rifle is a semi-automatic-only version of the military's selective-fire MK17 Mod 0 or Special Operations Combat Assault Rifle (SCAR) Heavy. Chambered in .308 Win./7.62x51 mm NATO, the gun is bigger and more powerful than its .223 Rem./5.56x45 mm NATO predecessor, the SCAR 16S, but, thankfully, not objectionably so. No longer constrained by limitations of that gun's smaller receiver and chambering, the bigger SCAR 17S greatly expands the potential utility of the SCAR platform. One can argue that the SCAR Heavy was what Special Operations Command (SOCOM) wanted all along: a modern carbine chambered in 7.62x51 mm NATO that is lightweight, reliable and accurate.

SOCOM adopted both the SCAR Heavy and the SCAR Light in November 2004, and since that time both military and civilian shooting circles have taken to the new gun. Those who shoot AR-style rifles for service or sport will find themselves right at home. The bolt stop paddle, magazine-release button and safety lever are in the same places, and the latter two controls are now ambidextrous. The bolt stop

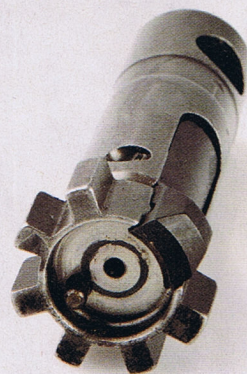
SCAR 17S

paddle is almost identical to that of the AR-15, but the circular magazine release button is taller and wider, so it is easier to find in a hurry. Major differences between the SCARs and ARs include the SCAR charging handle, which reciprocates with the bolt. The handle can be switched from the left to the right side, so both right- and left-handed shooters can choose whether they want to operate it with either their strong or weak hands. In addition, the safety lever has a short, 45-degree throw between the safe and fire positions, whereas that of the M16/AR-15 has a longer, 90-degree throw.

The seven-lug bolt has a deeply recessed face with a plunger ejector and a claw extractor. There are a number of mechanical features that help ensure the 17S's multi-lug bolt seats consistently into battery. The mass of the bolt assembly combined with the mechanical advantage of the SCAR's fixed charging handle eliminates any need for a forward assist plunger.

As one can imagine, these improvements greatly simplify the immediate action drill. In the event of a stoppage, there is no need to tap a separate forward assist after you pull and release the charging handle. Also, there is no charging handle to pull over the top of the stock, so one can keep his or her head on the stock when reducing a stoppage to get the gun back into action that much faster. The stock also has a

The seven-lug bolt of the FNH SCAR 17S has a claw extractor, a plunger ejector and a deeply recessed face. A kidney-shaped cut-out in the bolt carrier rotates the bolt in and out of battery.



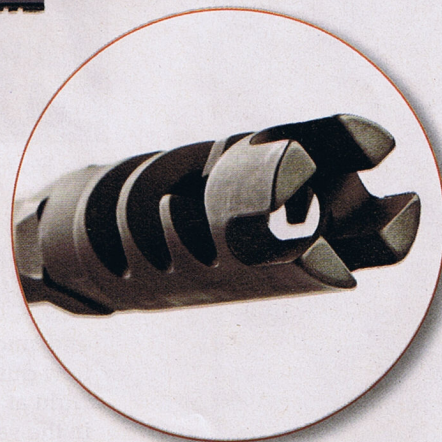
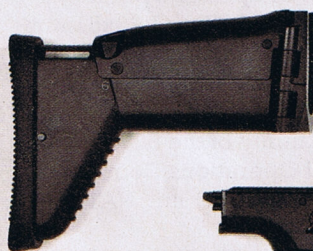
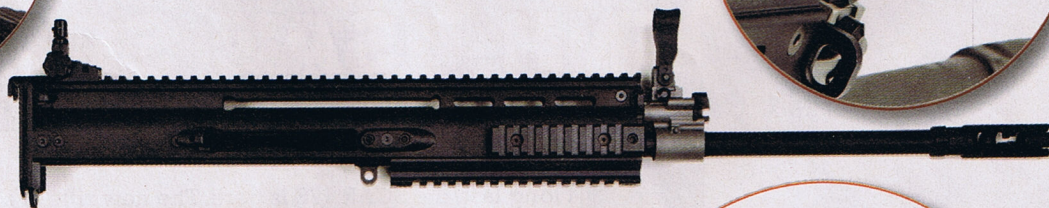
two-position adjustable comb. Given that many of the powerful optical sights currently available require the use of tall rings and bases, this is an important feature.

Its six-position collapsing stock is indexed on both sides. Compressing a metal release bar on the left-hand side of the stock allows the user to adjust length of pull, and depressing a half-moon-shaped button at the wrist folds the stock to the right side of the receiver. A stud on the comb locks into a hook at the rear of the ejection port that doubles as a shell deflector. The hook is just a friction lock, so a sharp pull on the butt of the stock will release it from the hook.

The SCAR 17S has a number of sling attachment points. At the stock's wrist are two vertical sling loops on the left-hand side and one on the right. Two more vertical sling loops are fixed to the mouth of the fore-end. Last, a horizontal slot runs through the stock's heel.

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As befits a rifle designed for hard use, the SCAR 17S disassembles quickly without tools. Folding front and rear sights are standard equipment. The rear aperture is finger-adjustable for windage and range. The front is detent-adjustable for elevation (r.). The PWS muzzle brake (below, r.) does much to dampen muzzle rise and aid controllability.



A 37-position M1913 Picatinny rail runs the full length of the aluminum alloy upper receiver. The rail runs all the way from the gas block to the wrist of the stock. The mounting points are indexed so it is easier to quickly reinstall optical sights without altering zero or eye relief. Also there is no slip ring on the one-piece upper receiver that can create steps and gaps to complicate scope mounting.

The polymer lower receiver has a larger magazine well to accommodate FNH-USA's proprietary double-column, detachable box magazine. The magazine, of which 10- and 20-round variants are available, has a stamped steel body and a polymer follower, and the floorplate has a wedge-shaped extension that gives the magazine the appearance of having a flat bottom.

Detachable flip-up iron sights are included. The rear aperture overlaps the circular shroud for the front sight—a system first seen on the G3/H&K-91 that aids rapid sight alignment. The front post is detent-adjustable for elevation. Vertical drums located on both sides of the rear sight base provide adjustment

for windage, and a horizontal wheel at the foot of the rear aperture indexed from 200 to 600 meters allows adjustment for range.

The cold-hammer forged barrel has a moderate profile. It measures 0.66" in diameter and is 16¼" long. The twist rate is 1:12". Fabrique Nationale chose a four-prong triple-baffle muzzle brake from Primary Weapon Systems. The free-floating barrel is attached to the receiver via six Torx-head machine screws. Swapping out a barrel requires a Torx wrench with a proper torque setting and takes about five minutes. FNH-USA states that when SCAR barrels are swapped, loss of zero should be limited to less than 1" at 100 yds.

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The operating handle on the SCAR 17S can be configured on either the left or right side. The folding buttstock (r.) allows adjustment of the length of pull and comb height.



FNH-USA SCAR 17S

IMPORTER: FNH-USA (DEPT. AR),
P.O. Box 697, McLean, VA 22101,
(703) 288-1730; www.fnhusa.com
CALIBER: .308 Win./7.62x51 mm NATO
ACTION TYPE: GAS-OPERATED,
SEMI-AUTOMATIC CENTER-FIRE RIFLE
RECEIVER: ALUMINUM UPPER
AND POLYMER LOWER
BARREL: 16¼", COLD-HAMMER FORGED,
CHROME-LINED
RIFLING: SIX-GROOVE, 1:12" RH TWIST
MAGAZINE: 10- OR 20-ROUND
DETACHABLE BOX
SIGHTS: FLIP-UP FRONT POST DETENT-
ADJUSTABLE FOR ELEVATION (1-MINUTE
CLICKS); FOLDING REAR APERTURE
FINGER-ADJUSTABLE FOR WINDAGE
(1/2-MINUTE CLICKS) AND RANGE
(200-600 METERS); PICATINNY RAIL
TRIGGER PULL: NON-ADJUSTABLE, SINGLE-
STAGE; 6 LBS., 5 OZS.
STOCK: FOLDING SYNTHETIC; LENGTH OF
PULL, SIX-POSITION ADJUSTABLE IN 1/2"
INCREMENTS FROM 14½" TO 11½";
DROP AT HEEL, 1¼"; DROP AT COMB,
1/8", 0" (COMB RAISED)
OVERALL LENGTH: 38½" (BUTTSTOCK
EXTENDED) 28½" BUTTSTOCK FOLDED
WEIGHT: 8 LBS.
ACCESSORIES: ONE 10- OR 20-ROUND
MAGAZINE, OWNER'S MANUAL
SUGGESTED RETAIL PRICE: \$3,349

SHOOTING RESULTS (100 YDS.)

.308 WIN. CARTRIDGE	VEL. @ 15' (F.P.S.)	ENERGY (FT.-LBS.)	GROUP SIZE IN INCHES		
			SMALLEST	LARGEST	AVERAGE
FEDERAL GM308M 168-GR. MK BTHP	2519 Avg. 20 Sd	2,367	0.92	1.43	1.18
HORNADY No. 8094 CUSTOM GMX 150-GR. BTHP	2652 Avg. 18 Sd	2,342	1.14	1.62	1.32
NOSLER CUSTOM COMPETITION 168-GR. BTHP	2541 Avg. 22 Sd	2,420	0.97	1.56	1.24
AVERAGE EXTREME SPREAD					1.24

MEASURED AVERAGE VELOCITY FOR 10 ROUNDS FROM A 16¼" BARREL. RANGE TEMPERATURE: 40° F. HUMIDITY: 57%. ACCURACY FOR FIVE CONSECUTIVE, FIVE-SHOT GROUPS AT 100 YDS. FROM SANDBAGS. ABBREVIATIONS: BTHP (BOATTAIL HOLLOW-POINT), MK (SIERRA MATCH-KING), GMX (GILDING METAL EXPANDING) Sd (STANDARD DEVIATION).



The single-stage trigger of our test gun broke at 6 lbs., 5 ozs. There was no creep, slack or stacking and overtravel was minimal. For testing I chose a Leupold Mark 8 CQBSS scope. With its 1.1-8X magnification range and precision reticle it was the right tool for exploring the accuracy potential of the SCAR 17S. (An evaluation of the new Leupold will appear in these pages next month). Results in the accompanying table compare favorably with every .308 Win. semi-automatic rifle I've tested in the past.


The SCAR 17S is about 1 lb. heavier, and the receiver is about 1/2" longer than a SCAR 16S. The extra bulk was noticeable when picking up one gun then the other, but much less than one would expect when stepping up from 5.56 mm NATO to 7.62 mm NATO. The stock is the same size as that of the lighter gun, as is the grip. Additionally, the size and placement of all of the controls, including the charging handle, selector lever, magazine release and bolt stop lever, are identical. The balance point of two guns is in the same place and the gun is anything but muzzle-heavy. In terms of handling and ergonomics, transitioning between the two guns was a snap. The extra weight was not readily apparent when the gun was first picked up, but after a dozen or more simulated action-style shooting stages there was no denying it was a bigger, heavier gun.

Unadorned, the gun is very svelte and handy for a .308 Win. semi-automatic carbine, but if you mount a heavy scope or drape the fore-end with a lot of accessories, I think you are going to find a vertical fore-grip

No longer constrained by limitations of the SCAR 16's smaller receiver and chambering, the bigger SCAR 17S greatly expands the potential utility of the SCAR platform.

an outright necessity. The mechanical rhythm of the gun (the lock time of the trigger system and the dwell time of the bolt) was similar to its lighter counterpart, but the extra recoil of the .308 Win. round required significantly greater recovery time. Just how much of a penalty this will exact in terms of engagement time will depend on the shooter's skill, body size and mindset. In short, the better the shooter is able to cope with the extra recoil, the more he will get out of the rifle.

I am a left-handed shooter, but I wanted to try shooting it without reversing the charging handle, thinking there might be some advantage to working with my strong hand. But I found that the charging handle kept brushing against my fingers as the bolt cycled. Naturally, that wouldn't be a problem if I used a vertical fore-grip or disciplined myself to keep my support hand glued to the front of the magazine well. In the end I switched the charging handle over to the right side of the gun. I felt like I had punted, but it really made more sense to work the bolt with my support hand since it was already in motion swapping magazines. It also kept my working hand in front of my face, rather than hidden by the receiver, which makes for smoother work in almost any endeavor conducted in a high-stress environment, whether that be a timed Heavy Metal match or a self-defense situation.

From my point of view, the arrival of the semi-automatic SCAR in .308 Win., though belated, is most welcome. Reliable and accurate, it is easy to see why it is the .308 Win. carbine of choice for our elite troops. When SOCOM originally wrote the specifications for the proposed SCAR, one of the main requirements was the ability to shoot a variety of calibers, up to and including .308 Win. One might say that the SCAR Heavy is what SOCOM's operators wanted all along. The arrival of the SCAR 17S greatly expands the potential of the SCAR platform. 

The SCAR 17S's gas block has a two-position gas regulator. The standard setting is for operation under normal conditions, but the second setting opens up the gas port to increase reliability when the gun is heavily fouled.



The U.S. Military SCAR Program Status: Present and Future

BY DAVID CRANE



On April 14, 2010, FN Herstal (FNH) received notification from the U.S. Special Operations Command (SOCOM) Program Executive Office that the FN SCAR (Special Operations Forces Combat Assault Rifle) program achieved the Milestone C phase, authorizing the production and deployment of the following: MK16 5.56x45 mm NATO SCAR-L (SCAR-Light) (Short Barreled Rifle); MK17 7.62x51 mm NATO SCAR-H (SCAR-Heavy); MK20 7.62x51 mm NATO SSR (Sniper Support Rifle); and 40x46 mm MK13 Enhanced Grenade Launcher Module (EGLM). According to an Aug. 16, 2010, FNH USA press release, SOCOM approved the SCAR systems for full-rate production on July 30, 2010. This created some confusion at the time, however, since SOCOM quickly let it be known that it would not be purchasing the MK16.

The approval on the rest of the SCAR systems was a long time coming, considering that SOCOM had awarded FNH the SCAR development contract in November 2004. The program was actually conceived in 2002, and SOCOM drafted the Joint Operational Requirements Document (JORD). The original objective of the SCAR program was to develop a modular, multi-caliber platform for Special Operations Forces (SOF). Six years later and after spending \$19 million on research, development and procurement, SOCOM is on the verge of achieving this end. SOCOM and FNH are presently developing the FN MK17 SCAR-H "common receiver," which takes the MK17 to the next level of modularity, past its quick-change barrel function. The MK17 common receiver will be capable of accept-

ing a 5.56 mm conversion kit, consisting of a trigger module, bolt, firing pin, magazine, and barrel. According to FNH USA's Marketing Director Combat Rifles & Technical Support Gabe Bailey that the recoil spring and guide remain the same, and there's no need to change the case deflector.

As of December 2010, FNH has been actively developing the SCAR common receiver platform/system for about the past year and a half, and it has been testing it for roughly the past six to eight months. The common receiver is currently approaching the final phase of government testing. Bailey informed me that they're looking at fielding the SCAR common receiver system sometime in 2011, most likely around the mid-year mark.

FNH made a wise choice in developing the common receiver, since SOCOM has decided not to purchase the MK16 variant. The reason for this is pretty straightforward: According to SOCOM Public Affairs Officer Maj. Wes Ticer, "The MK16 does not provide enough of a performance advantage over the M4 carbine to justify spending limited SOCOM funds when competing priorities are taken into consideration." This is a diplomatic way of saying that the MK16, although it is a capable weapon system that offers more than 80 percent parts commonality with, and identical ergonomics to, the MK17, it doesn't offer any measurable combat-relevant performance or lethality advantage over the M4 carbine. Put another way, there's nothing a military operator can

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Two developments of the SCAR program include the MK17 and MK13 EGLM.

The U.S. Military SCAR Program Status: Present And Future continued from p. 51

accomplish tactically or ballistically with a MK16 that he can't already accomplish just as well with an M4, i.e., putting rounds on target quickly, accurately, and reliably in a fight. Rifle on rifle, the two look pretty evenly matched.

The FN MK17 SCAR-H common-receiver platform is a very different story, however, as its light weight (7.91 lbs. in standard configuration with 16" barrel), multi-caliber capability, semi-quick-change barrel system, and monolithic upper receiver with integrated quad-rail system provide a new level of usability and mission adaptability/versatility over the M14. This allows the MK17 to "fill an existing capability gap for a 7.62 mm rifle," wrote Bailey. Right out of the box, the MK17 "adds no more than one m.o.a. over the ammunition at 100 meters; this is really more precision than accuracy. In regards to accuracy, with the MK16 and MK17, it is really tied to other factors, i.e., reliability and barrel life. In basic terms, the MK16 and MK17 had to fire a minimum of 15,000 rounds with a mean-rounds-between-stoppages better than in 2,000. I believe we came in around 1 in 3,600 on both weapons and maintain 70 percent of hits on an e-type target at 300 meters. Of the 15,000 rounds, 50 percent were full-automatic fire and 25 percent were suppressed."

The MK17 common receiver's caliber convertibility is arguably one of the most profound threats to the M4's survival with SOCOM, and potentially with U.S. infantry forces, since it provides long-term production and training cost advantages. Greater production increases absolute cost savings. A single SCAR common receiver can double as an assault rifle/carbine/SBR and battle rifle/carbine/SBR, as opposed to the M4, MK18 MOD 1, M16, MK12 MOD 1 and M14, which are all individual systems, and the AR-type arms and the M14 are completely different platforms. This may be one of the reasons Colt Defense has designed and developed the Colt CM901 7.62x51 mm NATO AR-10 type modular/multi-caliber battle rifle with a "universal" lower receiver, to match the capabilities of the SCAR series.

The MK17's reception by SOF warfighters has generally been positive. Operators enjoy the rifle's light weight and adaptability. The only controversial aspect of the system of which I am aware is its reciprocating charging handle, which some military operators find unwieldy. I am not a big fan of reciprocating charging handles either, and I would like to see a non-reciprocating charging handle developed for SCAR.

FNH's and SOCOM's goal with the MK20 SSR (Sniper Support Rifle) was originally to give military snipers a one m.o.a. gun that can fire 4,000 rounds between stoppages,

fire accurately on full-automatic, and be used as a full-capability battle rifle. However, it would appear that the MK20 is now a semi-automatic-only rifle with a 45-degree-throw safety/selector lever. The MK20 features a beefed-up barrel attachment system, utilizing more barrel retention and barrel extension screws; an extended receiver for mounting in-line night vision and thermal optics and standard day sniper optics; a modular single-stage/two-stage trigger; a non-folding adjustable precision buttstock; and a thicker, free-floating heavy barrel.

According to FNH, it is to be fielded in May 2011. The MK20 offers more than 60 percent parts commonality with the MK17. Its trigger-pull weight is 4 lbs. (+/- 0.5 lbs.) versus the MK16's and MK17's 6-lb. (+/- 1.5 lbs.) trigger-pull weight. Accuracy is a claimed 0.25 m.o.a. at 100 meters over baseline ammunition. The MK20's threshold barrel life is a claimed to be 7,000 rounds, but 15,000 rounds is the objective goal, while maintaining a group size under 2.5 m.o.a. SOCOM has deemed the MK20 "Operationally Effective /Operationally Suitable and Sustainable."

A bit lower down on most people's SCAR radar is the under-barrel-mounted/stand-alone 40 mm MK13 EGLM (Enhanced Grenade Launcher Module), which replaces the M203. Unlike the M203, the MK13 swivels left and uses new low-impulse 40 mm munitions that allow the operator to engage the enemy out to 800 meters.

In my opinion, the hands-down most interesting and ambitious SCAR variant is the aptly named FN Heat Adaptive Modular Rifle (HAMR), which is FN's Infantry Automatic Rifle (IAR). Where other IARs feature open-bolt, full-automatic/closed-bolt, semi-automatic operation to avoid cook-offs, the HAMR's thermal regulation system controls the bolt carrier position. The FN HAMR will initially fire from the closed-bolt position in both either semi-automatic or full-automatic. Once the chamber reaches a certain temperature, however, it will transition automatically to open-bolt operation before it reaches its cook-off threshold. Once the chamber's temperature comes back down below its cook-off threshold, the gun will return to closed-bolt operation. The HAMR hasn't landed any U.S. military contracts, yet.

SOCOM's Fiscal Year 2011 budget submission for all SCAR variants is \$3 million. According to SOCOM Public Affairs, "SOCOM will use the existing contract with the manufacturer to procure the weapons. SOCOM is in the process of determining the exact quantities of the MK17, MK13 and MK20 variants that will be purchased," said Maj. Ticer.



The semi-automatic-only MK20 Sniper Support Rifle in 7.62x51 mm NATO has a free-floated heavy barrel, a beefed-up method of barrel attachment, an extended receiver for mounting optics and a non-folding stock. Accuracy is said to be 1/4 m.o.a.