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## Ordnance Notes -- by Bob Stoner GMCM(SW) Ret.

### XM-21 7.62mm NATO Sniper Rifle with Sionics Suppressor



Photo: US Army

XM-21/M-21 Sniper's rifle as used in Viet Nam. The photo shows the Leatherwood 3X to 9X Adjustable Ranging Telescope (ART) sight. The Leatherwood ART has a ballistic cam that is calibrated for the trajectory of the 7.62mm M-118 Special Ball cartridge. The M-118 uses a full metal jacket, 173-grain, .308 inch diameter boattailed bullet that leaves the barrel of the M-21 at 2,550 feet per second. When fitted with the Sionics suppressor, the front sight/flash suppressor of the rifle is replaced. The Sionics suppressor uses a pressure relief valve to permit the semi-automatic action of the M-21 to function without any modifications to the gas system.

(More photos at bottom of page.)

The XM-21 or M-21 7.62mm NATO sniper's rifle is an accurized M-14 rifle. The M-14 rifle is a product-improved version of the venerable M-1 Garand rifle of World War 2 and Korea. The major improvements of the M-14 over the M-1 were a 20-round magazine vs. an 8-shot clip; no more "last round" twang as the clip ejected; a charger or stripper clip guide which allows the magazine to be "topped-off" from 5-round clips while still in the rifle; a selector switch that allows semi-automatic or full-automatic fire; a redesigned gas system; a gas cutoff for launching rifle grenades; an efficient flash suppressor.

The M-21 7.62mm Rifle (Sniper's) is derived from the M-14 7.62mm Rifle (National Match). The M-14 NM has its selector shaft welded to permanently convert it to semi-automatic fire only. The action of the M-14 NM is bedded and its barrel is free-floated so that none of the operating parts contact the stock at any point. The trigger pull is adjusted to 4-1/2 pounds. The flash suppressor is reamed to prevent "flyers" (that is, bullets which are deflected from the normal path) caused by rain drops in the suppressor. The wooden stock is impregnated with epoxy resin to make it warp-free in high or low humidity conditions (a shrunken or swelled stock changes the

rifle's zero). New 1/2-minute rear sights replace the 1-minute of angle rear sights and the front sight blade is reduced to 0.062 inch in width for long range shooting. The front band is permanently attached to the gas cylinder. The barrel is modified to prevent gas cylinder and operating rod sloppiness which would affect accuracy. The operating rod spring guide is changed from a stamping to a tapered rod so the spring will stack uniformly. The M-14 becomes an M-21 rifle with the addition of a scope mount and an adjustable ranging telescopic (ART) sight or AN/PVS-2 or AN/PVS-4 starlight scopes.

The ART sight is a 3 to 9 power, Parkerized steel, nitrogen-filled telescopic unit that has a ballistic cam matched to the 7.62mm M118 Special Ball. The M118 Special Ball has a muzzle velocity of 2,550 feet/second and a 173-grain, full metal jacket boat tailed bullet. The M118 is effective out to 1,100 yards.

The Sionics suppressor was designed and manufactured by Military Armament Company of Alpharetta, GA. The Sionics suppressor replaces the standard M-14 flash suppressor. Once the M-14 flash suppressor is removed, the Sionics suppressor nut and split bushing are installed and suppressor is screwed onto the barrel. The purpose of the Sionics suppressor is to moderate the muzzle blast of the rifle (to make it hard to locate) and hide the muzzle flash at night. It is not a "silencer" in the classic sense, but it so reduces the muzzle blast that the noise made by the rifle extracting, ejecting, reloading, chambering, and locking is VERY apparent. The Sionics suppressor has a bleed valve to exhaust the gas from the suppressor after firing.

Snipers or other users of the M-21 who were firing at night would fire one round into the ground and then apply tape over the muzzle of the suppressor. The combustion gases would be trapped and there would be no oxygen available to support a muzzle flash when the rifle was fired in anger that night. Snipers would use the gas cutoff to make the M-21 a manually-operated rifle to eliminate the now noisy semi-auto action.

M-21 maximum effective range with the AN/PVS-2 or AN/PVS-4 starlight scopes is about 400 meters (440 yards). Maximum effective range with the ART scope in daylight is 1,000 meters (1,100 yards). The sight mount can accommodate either the ART or starlight scopes without any loss of zero. Weight of the M-21 with ART scope, Sionics suppressor, and a 20-round magazine is approximately 12.5 pounds. Changing from day to night optics adds another 2.5 pounds to the weight.

The M-21 sniper rifle has been product improved into the M-25 sniper rifle. The M-25 adds a receiver lug to further minimize shifting in the stock. The scope mount is changed to a Brookfield Precision 5-point type; the inverted T-lug on the receiver (3 points), the charger guide (1 point), the forward receiver ring (1 point). The ART scope is replaced by a 10-power Leupold M3, M3A, or Mk4 scope with Mil-Dot reticle. Naval Special Warfare units use both M-21 or M-25 sniper rifles today.



Photo: ATT Inc

A Sionics-type suppressor (assembled, background) and its component parts (foreground). Installation was very simple (after the front sight/flash suppressor of the M-21 was removed. The cap nut and split rubber bushing were removed from the rifle and installed over its muzzle. The suppressor was screwed onto the muzzle of the M-21 and the split rubber bushing inserted into its base. The cap nut was screwed onto the rear end of the suppressor to compress the rubber split bushing and seal off any gas that might bleed back. This particular suppressor is for the MAC-11 9mm submachine gun; the suppressor for the M-21 is very similar except that it is longer.

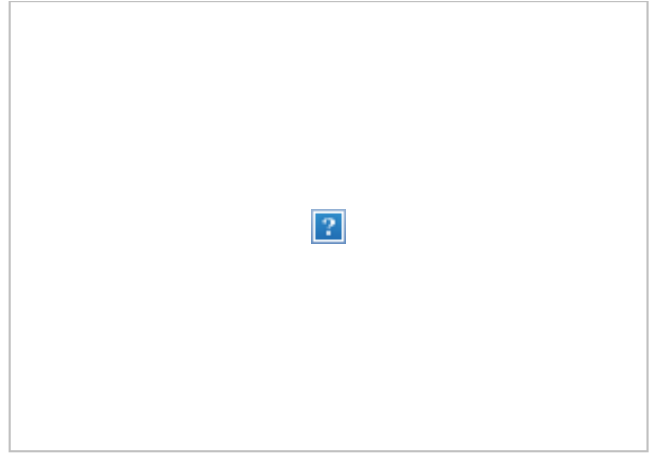


Photo: Sniper Country

The new M-25 Sniper's rifle as used by today's Naval Special Warfare units. Note the adjustable stock comb to help position the sniper's eye directly behind the sight. The scope is a 10X Leupold Mk 4. This camouflaged rifle is equipped with a Harris bipod.

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