

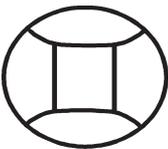
# TM-M4-02

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## OPERATION AND MAINTENANCE OF SOUND SUPPRESSOR MODEL M4-02

**Before using this suppressor,  
be certain you have read and  
understand this manual.**

Manufactured by



**GEMTECH**  
Div. of Gemini Technologies, Inc.  
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Boise, Idaho 83714

ISSUED: February 6, 2009

★ ★ ★ ★ ★ **WARNING** ★ ★ ★ ★ ★

☞ **Because sound suppressed weapons make less noise than non-suppressed weapons, it is easy to forget that they are still firearms. It is of vital importance to remember that a sound suppressed firearm is just as dangerous as a non-suppressed one, and the same safe handling requirements apply.**

TM-M4-02

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SOUND SUPPRESSOR MODEL  
M4-02

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☆☆☆☆☆ **WARNING** ☆☆☆☆☆

☞ **Failure to follow installation and maintenance instructions detailed in this manual can result in potential for serious injury to the user and damage to the weapon.** Firearm sound suppressors are user-attached firearm muzzle devices, and as such are subject to improper attachment unless the proper procedures outlined in this manual are followed.

**MANUFACTURER'S DISCLAIMER**

The manufacturer is not responsible for improper usage of this product. This product is potentially dangerous, and as such it is the user's responsibility to understand and implement its proper use. If you do not understand the instructions in this manual, please contact the manufacturer for further clarification.

**GENERAL DESCRIPTION**

Designed specifically to fill the needs of the law enforcement user, the M4-02 is a compact, durable and lightweight sound suppressor for the 5.56x45 mm centerfire cartridge. The M4-02 suppressor meets all OSHA and MIL-SPEC requirements for shooting without the use of hearing protection.

This suppressor markedly reduces the sound of the muzzle blast, making it difficult for an observer to determine the origin of the shot and eliminating the need for shooter hearing protection. There is no way to eliminate the ballistic crack (or sonic boom) of the projectile traveling downrange. As well as being a superior recoil and flash reducer, the M4-02 masks the far field perception of gunfire.

The M4-02 is designed to operate completely dry, and the introduction of liquids into the suppressor prior to use may result in damage from erratic pressures. The suppressor was specifically engineered for semi-automatic fire and limited fully automatic fire. Manufactured from series 300 stainless steel and Inconel, the M4-02 suppressor is engineered to give a lifetime of service if these simple instructions are followed. Please take a few minutes to read this instruction manual and keep it in a safe place.

The M4-02 is a small volume suppressor that was designed specifically around the M4 carbine with a 14.5 inch barrel. The user should be aware that shorter barrels are associated with significantly increased pressure in the entrance chamber. While it may be used on barrels shorter than the M4, it should not be used on barrels shorter than 11 inches.

The M4-02 sound suppressor fits a variety of .223 caliber centerfire rifles which utilize 1/2"x28 tpi muzzle threads, including the M16, AR15, AR-18 and AR-180. It is well suited for mounting on the *original* CAR-15, Colt Com-

mando or XM-177 series of weapons for use as an entry weapon. A variety of other .22 centerfire rifles can be adapted to accept this suppressor by threading the barrel 1/2"x28 tpi. The suppressor warranty is voided by installation on threads cut by anyone other than the original manufacturer or Gemtech.

## HEAT BUILDUP

Although designed to withstand limited fully automatic fire, heat buildup with fully automatic fire can reach levels that can cause severe burns and ignite flammable materials. Temperature increases average 7.5°F per round, and a 30 round magazine will raise the suppressor approximately 225°F above ambient air temperature. The suppressor must be allowed to cool before handling. After 60-80 rounds full auto, the suppressor and barrel should be allowed to cool to room temperature.

Further, because of the large copper jacket surface area and small mass of lead in the bullet core, after 100 rounds the heat of friction in the bore has raised the bore temperature above the melting point of lead, causing the bullet core to soften or melt. This results in serious bullet instability with baffle damage.

## OVERALL EFFECTIVENESS

The real limiting factor on the effectiveness of centerfire rifle suppressors is related to the sound of the bullet in free flight. The free flight bullet noise is related to the general bullet shape and is also directly proportional to the bullet velocity. The M4-02 suppressor is capable of reducing the sound of the muzzle blast to approximately that of a .22 rifle shooting .22 short ammunition.

To minimize bullet noise as well as eliminate the "sonic crack" of the supersonic bullet, many have suggested using "subsonic" ammunition. The majority of commercially available 5.56mm subsonic ammunition does not stabilize in the M16 barrel and will yaw while in the suppressor. Damage caused by this ammunition is not covered under warranty.

If it is desired to reduce the bullet flight noise and sonic crack, we suggest that a .22 rimfire adapter be used with standard velocity .22LR ammunition. If subsonic .223 ammunition is a requirement, Gemtech recommends only subsonic ammunition manufactured by Engel Ballistic Research, Inc.

Besides sound suppression, there are two additional added benefits of a sound suppressor, which are seldom mentioned. The first is that a sound suppressor is also an exceptionally effective recoil reducer, often reducing recoil to less than one fourth of its original magnitude. The second is that a sound suppressor is an effective flash suppressor, preventing "blooming" on a night vision device sight and reducing the possibility of igniting surrounding combustible materials.

Although the suppressor may alter the point of impact slightly as compared to the non-suppressed weapon, the added weight of the suppressor on the barrel changes barrel vibrations, which usually improves grouping.

## PHYSICAL SPECIFICATIONS

Length: 6.25 inches  
Diameter: 1.375 inches

Weight: 16 ounces  
Suppression: 29 dB

## AMMUNITION

Because many of the partially jacketed bullets used in 5.56mm (.223) ammunition can have jacket separation, we recommend that only full metal jacketed bullets be used with the suppressor. Jacket separation will cause the bullet to tumble while in the suppressor which can seriously damage the internal baffles and lead to suppressor failure. Damage resulting from use of ammunition with bullets other than full metal jacket types will not be covered under the warranty if there is jacket separation. The ultra-frangible ammunition is most apt to have jacket separation in the suppressor.

**★★★★★ WARNING ★★★★★**

☞ **Failure to follow installation instructions detailed in this manual can result in potential for serious injury to the user and damage to the weapon.**

## INSTALLATION

The suppressor is attached to the rifle with ease. The flash hider must first be removed from the rifle, and the suppressor screwed on to the end of the barrel.

Because the suppressor aligns on the muzzle threads and against the shoulder at the rear of the muzzle threads, it is of utmost importance to be certain that the suppressor is at all times screwed tightly onto the muzzle of the weapon. We recommend the use of "Blue" Loctite on the threads when mounting the suppressor.

**Do not use any type lockwasher or the factory crush washer. Lockwashers or the crush washer will cause misalignment.**

It is possible that with firing, the suppressor will unscrew, which can create misalignment. Therefore it is imperative that the shooter periodically check to be certain that the suppressor remains screwed tightly onto the weapon.

**★★★★★ DANGER ★★★★★**

☞ **Before performing any maintenance operation, always remove the magazine from the firearm, open the action, and visually ascertain that the chamber is empty and the weapon unloaded. Failure to do so can result in potential for serious injury to the user and others in the vicinity**

## CLEANING

Because of the high flame temperatures, there is no need whatsoever to clean this suppressor when used on weapons chambered for the 5.56x45 cartridge. There is no need to disassemble the suppressor, and any evidence of an attempt to do so will void the warranty.

If used on weapons chambered for the .22 rimfire cartridges, it is necessary to flush out unburned powder residues by immersion in solvents such as WD-40 or a mixture of mineral spirits and automatic transmission fluid (3:1). **Do not use water-based solvents, such as SLIP-2000, Simple Green, or MP7.** They will create a residue that is corrosive and which cannot be removed. Because ultrasonic cleaners do not cavitate properly with hydrocarbon-based solvents, they have little or no use in suppressor cleaning.

**★★★★★ CAUTION ★★★★★**

☞ **Always read the warning label on any cleaner or solvent, and remember that virtually all solvents are inherently dangerous and potentially toxic. Always use adequate ventilation and both skin and eye protection when using organic solvents.**

After soaking in solvent, the suppressor is then drained by standing first on one end and then the other for a few minutes. Before use, it is of utmost importance that the suppressor be blown out with a high pressure air hose to remove any residual liquid.

## WARRANTY STATEMENT

Our "warranty" has been practiced since our personnel started in the suppressor business in 1976, in a time before legalese and when a handshake and this simple statement sufficed: "If a Gemtech product breaks and it's your fault, we'll fix it for a fair price in a timely manner. If it's our fault, we'll fix it quickly at no charge." This policy born of pride in craftsmanship and honor has served us and our clients well for over two decades and will continue in Gemtech's future. The small print follows:

The Magnuson-Moss Act (Public Law 93-637) does not require any seller or manufacturer of a consumer product to give a written warranty. It does provide that if a written warranty is given, it must be designated as "full" or as "limited" and sets minimum standards for a "full" warranty.

As do all major firearms manufacturers, Gemtech has elected not to provide any written warranty, either "limited" or "full," rather than to attempt to comply with the provisions of the Magnuson-Moss Act and the regulations issued thereunder.

There are certain implied warranties under state law with respect to sales of consumer goods. As the extent and interpretation of these implied warranties varies from state to state, you should refer to your state statutes.

Gemtech certifies that all sound suppressors manufactured by them are free of defects in materials or workmanship, and that they meet manufacturing specifications at the time of manufacture.

It is our intent that the customer be completely satisfied with the product. Certain Gemtech products may be classified as ordnance and/or implements of war and are sold by us with the specific understanding that Gemtech has taken every reasonable precaution in providing our customers with inherently safe merchandise, and that we assume no liability whatsoever for unsafe handling by the purchaser or his agents. Gemtech assumes no responsibility whatsoever and we will honor no claims for damages, regardless of

nature, for physical injury or property damage resulting from careless and/or irresponsible handling, adjustments to equipment, neglect or abuse.

Gemtech reserves the right to make changes at any time and without notice, in prices, to change specification or design, to add or remove accessory materials, and to add or delete items without incurring any obligation.

Use of ammunition that does not meet SAAMI specifications will void all warranties, as will failure to follow the instructions in this manual.



All Gemtech products are  
100% manufactured in the  
United States of America.