

TM-SHIELD

OPERATION AND MAINTENANCE OF SOUND SUPPRESSOR MODEL SHIELD

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

Manufactured by



GEMTECH
Div. of Gemini Technologies, Inc.
P.O. Box 140618
Boise, Idaho 83714

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GEMTECH

Division of Gemini Technologies, Inc.

P.O. Box 140618

Boise, Idaho 83714-0618

Phone: (208) 939-7222

FAX: (208) 939-7804

IMPORTANT

The manufacturer disclaims any liability for damages resulting from any unauthorized modification of this product. Any modification of this suppressor without prior express authorization from Gemtech's Engineering Department will void all warranties, both written and implied, and will result in the assumption of all liability by the person performing the unauthorized modification.

CONTENTS:

General Description	P. 2
Ablative Warning	P. 2
Ammunition Recommendations	P. 2
Safety Notes	P. 3
Physical Specifications	P. 3
Quickmount Installation and Barrel threading	P. 4
Suppressor Mounting/Dismounting	P. 4
Maintenance and Cleaning	P. 5
Warranty Statement	P. 5
Return Instructions	P. 6

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GENERAL INFORMATION

The SHIELD suppressor is one of the family of Gemtech Extreme Duty Silencers specifically designed to withstand the rigorous SOCOM military standards for today's harshest environments. Its lightweight titanium and inconel construction exhibits greater strength than regular stainless steel suppressors and will outlast most competitors' stamped baffles for prolonged engagements. For weight, durability, and performance, the SHIELD suppressor is unparalleled.

The model SHIELD sound suppressor is offered in Gemtech's patented Quickmount quick-detach mounting system. Quickmount flash hider and muzzle brake mounts are available in a wide variety of threads to fit a wide variety of weapons and muzzle threads.

All muzzle attachments, including suppressors, will change barrel harmonics and standing waves resulting in a slight change in point of impact with the device in place. Because of its light weight, there is less point-of-impact shift than most comparable sized suppressors for this caliber. The degree of change in the point of impact will vary with the specific weapon and both the rigidity and metallurgy of the barrel. When used with standard weight law enforcement or military grade barrels, there will be no deleterious effect on group size.

This suppressor is effective in markedly reducing the sound of the muzzle blast, making it difficult for an observer to determine the origin of the shot and reducing the need for shooter hearing protection. There is no way of eliminating the ballistic crack (or sonic boom) of the projectile traveling downrange.

This suppressor contains no expendable parts. We recommend against cleaning the interior of the suppressor. This instruction manual gives the necessary instructions for maintenance of this unit.

USE OF ABLATIVE AGENTS (ARTIFICIAL ENVIRONMENT)

Do not fire this suppressor with any foreign material inside. This suppressor is designed to operate completely dry. Introduction of liquids, greases, or other foreign materials can cause abnormal pressures and must **never** be used. Any resultant damage is not covered under warranty.

AMMUNITION

The SHIELD suppressor is designed to operate with NATO specification 5.56x45 NATO cartridges. It is not intended to be used with handloaded or foreign ammunition that exceed SAAMI or NATO pressure specifications.

The 5.56 cartridge is unique in that it contains a small mass of lead in

the core and a large surface area of copper jacket. After about 100 rounds fully automatic or rapid semi-automatic fire, the bore temperature will exceed 800°F and the bullet core will soften causing bullet instability, excessive yaw, and probable baffle strikes.

SAFETY NOTES

1. Always handle weapons in a safe manner and assume they are loaded until they have been cleared.
2. User installation or removal of the sound suppressor must be accomplished in accordance with the instructions contained in this book.
3. **Operating Temperatures:** During use, the SHIELD suppressor absorbs large quantities of heat from the burning propellant gases. **The elevated temperatures can pose a hazard to personnel and materials that may contact the suppressor when hot, and the suppressor must be allowed to cool to ambient temperature before handling.**
4. **Only use the suppressor completely dry.**
5. **Before performing any installation or 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.**

SPECIFICATIONS

Caliber:	5.56x45 NATO (.223 Remington)
Length:	7 inches
Diameter:	1.5 inches
Weight:	15.3 ounces
Materials:	Titanium and inconel alloys
Finish:	Black High Temperature Cerakote
Mount	QM Flash Hider or QM Muzzle Brake (not included)
Minumum Barrel Length:	10.3 inches
Duty Cycle	Limited Full Auto (see ammunition section)

MOUNTING THE QUICKMOUNT

The SHIELD suppressor was gauged for alignment and run-out on a precision test fixture before shipping from the factory. To ensure proper alignment, it is imperative that the Quickmount Flash Hider or Muzzle Brake be mounted correctly on the weapon to maintain concentricity.

Unthreaded barrels need to be threaded by a qualified machinist. Gemtech offers and warrants threading and Quickmount mounting services. To ensure concentricity, it is important that the barrel be threaded with the threads coaxial with the bore and the shoulder at the back of the barrel be exactly 90° to the bore axis. A small (0.06") thread relief is incorporated into the rear of the Quickmount. A thread relief in the barrel at the back of the threads is not recommended if shim or peel washers are to be used.

1. Thorough degreasing of the male threads on the barrel and the female threads in the Quickmount is essential. Acetone or TCE is the preferred solvent.
2. The Quickmount Muzzle Brake requires timing. The Quickmount Flash Hider ideally is tightened against the shoulder at the back of the threads.
3. If timing is required, fit using only a shim washer set (available from Gemtech) or a peel washer. **Never use a crush washer or lockwasher.** Use of a crush washer or lockwasher will guarantee misalignment, baffle damage, and void the warranty.
4. Once fitted, place 4 drops of Rocksett® ceramic adhesive on the threads and torque to 35-45 ft-lbs.

MOUNTING the SHIELD

Position the suppressor over the Quickmount and rotate until the lugs enter the rear portion of the suppressor. Compress the internal spring and rotate the suppressor body ¼ turn clockwise (as viewed from the front) until the lugs engage recesses in the rear of the suppressor locking it in place.

During use, suppressors will become extremely hot. Do not touch! Failure to comply may result in burns or melted clothing. With as few as 100 rounds fully automatic fire, the suppressor can reach 800°F and can melt or ignite flammable materials.

Removal is the reverse of installation: press the suppressor rearward compressing the spring, rotate ¼ turn counterclockwise, and remove.

CLEANING

The SHIELD suppressor is constructed of 100% corrosion resistant titanium and inconel. As such, there is no concern about corrosion from the products of combustion of the propellant gases. **We have found no need for cleaning the inside of the suppressor. We strongly advise against such efforts or immersion in solvents.** Solvents will not drain completely and residual liquid may cause unexpected pressure peaks which can damage the unit. The high flame temperature burns out the majority of any remaining powder residues.

All mounting/alignment surfaces should be inspected and remain clean. They may be cleaned with a brass brush or 3/4 inch copper pipe brush dipped in CLP.

Unlike firearms, it is neither necessary nor desirable to clean centerfire rifle suppressors. It is acceptable to blow out particulate matter with high pressure compressed air. Do not, under any circumstances, attempt to pass a cleaning patch through the suppressor.

HUNTING NOTICE

Although more states are permitting hunting with suppressors, it is suggested that the local state Fish & Game Department be consulted for the most recent changes in the law.

LIMITED WARRANTY STATEMENT

Gemini Technologies, Inc., dba Gemtech, warrants to the initial retail purchaser that Gemtech products will be free of defects in workmanship or material and that the product meets manufacturing specifications at the time of manufacture. This warranty is limited to the repair or replacement of the product. This express limited warranty is exclusive and no other express or implied warranty is otherwise provided.

GEMTECH MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

Product technical specifications and/or designs may be changed without notice. This warranty does not cover negligence, misuse, careless or improper handling and/or operation, abuse, unauthorized adjustments or modifications, improper mounting/installation, ordinary wear and tear, the failure to follow manufacturer instructions and/or the use of inappropriate or defective ammunition.

Gemtech shall have no liability for incidental or consequential damages and under no circumstances will Gemtech be liable for personal injury, property damage or economic loss.

This warranty and disclaimer is subject to all applicable laws some of which may limit these terms.

WARRANTY REPAIRS: Return of a Damaged Suppressor

If a suppressor is damaged due to a manufacturing defect once it has been fired, it may be returned to Gemtech for repair or replacement. Determination to repair or replace is made solely at our discretion and only after we have had the opportunity to examine and determine that the cause of the damage is due to a manufacturing defect. It is the responsibility of the customer to cover shipping costs and insurance to return the suppressor to Gemtech for inspection or repair. Gemtech will pay any reasonable shipping and insurance costs to return the unit to you.

To assure proper legal procedures for any repair returns, fill out and provide a copy of the **General Service Form** with any packages sent to us. (Visit gem-tech.com, navigate to *Customer Support/Return and Repair Policies* to download the fillable **General Service Form.pdf** or call 208.939.7222)

BATFE no longer requires transfer on a Form 5 to the manufacturer for repair. BATFE does require a letter accompanying the suppressor detailing the repairs or modifications required (satisfied by a completely filled out **General Service Form**). BATFE also requires proof of ownership satisfied by a photocopy of the front of the owner's Form 3, 4, or 5.

NOTE: BATFE prohibits transferring the serial number to a new outer tube in the case of damage to the tube. Tube damage rendering the suppressor unsafe will require a new suppressor.

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

