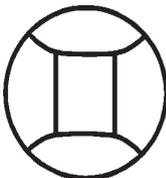


TM-VORTEX-9

OPERATION AND MAINTENANCE OF SOUND SUPPRESSOR MODEL VORTEX-9

**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

ISSUED: January 12, 2004

★ ★ ★ ★ ★ **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-VORTEX-9

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TM-VORTEX-9

OPERATIONAL MANUAL FOR
SOUND SUPPRESSOR MODEL
VORTEX-9™ (9mm)

Manufactured by

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WARNING:

**Never use any ammunition that does
not meet SAAMI specifications**

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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

The 9mm Luger VORTEX-9™ suppressor was designed to meet specific requirements. The primary design goals were:

- 1) The suppressor should be lightweight, reasonably compact, and mount easily on 9mm pistol barrels.
- 2) Sound reduction efficiency should be comparable to or better than any similar suppressor on the market, and the suppressor should obtain rated efficiency dry and without the use of internal liquids or greases.
- 3) Construction should be of corrosion resistant materials with no internal mesh packing, wipes, or replaceable materials.
- 4) Accuracy should not be affected adversely, and there should be no deflection of the projectile resulting from any cause, including internal gas turbulence or wipes.

The VORTEX-9™ meets and exceeds all of these standards. Designed specifically for the Beretta M9, it is a highly effective 9mm pistol sound suppressor system in a lightweight package that will cycle the majority of 9mm semi-automatic pistols.

Some Browning-design weapons may have difficulty cycling. For these, Gemtech offers our Linear Inertial Decoupler (patent pending). The L.I.D. is an accessory rear mount that permits cycling without damaging the host weapon.

OPERATIONAL NOTES

The already outstanding performance of the VORTEX-9™ suppressor can be significantly enhanced (over 9 dB) by adding a small amount of light oil in the rear chamber. The design of the suppressor is such that this small amount of oil will remain in place for over 72 hours, and will be effective for in excess of 2 magazines.

The amount of oil needed is less than 1/2 teaspoon (2.5 cc). The oil is added by spraying or squirting a small amount in the rear of the suppressor and then allowing it to drain. **DO NOT USE WATER**, as we have found that water can corrode aluminum.

The suppressor was designed to operate dry and meets its rated specifications absolutely dry.

PHYSICAL SPECIFICATIONS

Length (O.A.)	7 in (8¼ in with L.I.D.)
Diameter	1.25 in.
Weight	5.8 oz (7.9 oz with L.I.D.)
Degree of Suppression	31 dB (dry), 40+ dB (wet)*
Construction materials	High tensile aluminum alloys
Standard Finish	Matte, Black Anodize

*NOTE: Performance will vary slightly with ammunition, weapon, and atmospheric conditions.

★ ★ ★ ★ ★ 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.

☞ Before initiating Mount/Dismount Procedures, be absolutely certain that the weapon is unloaded, the magazine removed, and the slide locked in the rear position.

ATTACHMENT TO WEAPON

The VORTEX-9™ suppressor is designed to attach directly to a threaded barrel (either the standard or L.I.D. mount). It is of utmost importance to follow the mounting instructions exactly.

1. Be certain that the weapon is unloaded, the magazine removed, the safety on, and the bolt locked in the open position.

2. Screw the suppressor onto the barrel threads, being careful to not cross-thread the suppressor.
3. Tighten firmly hand tight. We advocate the use of Loctite 290 to inhibit unscrewing during firing, although this is not absolutely necessary with a semi-automatic weapon if the caution in the next paragraph is heeded.
4. Because silencers using single point thread mounting may unscrew during use, it is the shooter's responsibility to frequently check to be certain that the suppressor remains tightly screwed on the barrel at intervals not to exceed 1 magazine.

LINEAR INERTIAL DECOUPLER

Some Browning-design handguns have difficulty cycling with a suppressor. In these weapons, the rear of the barrel drops during the unlocking process, and the weight of a suppressor on the muzzle may prevent complete unlocking.

Historically, a recoil booster (referred to as the Neilsen Device) has been used to enhance the recoil enough to permit cycling. This device has a piston attached to the barrel, which is hammered backwards by the expanding gases at firing. If not tuned for a specific weapon, this hammering action can damage the host firearm.

The Linear Inertial Decoupler (L.I.D.) utilizes a different principle and isolates the mass of the suppressor from the barrel for a short period of time, permitting cycling initialization. It has no piston and cannot damage the host weapon.

The L.I.D. is an optional replacement rear mount for the standard Vortex-9 threaded mount. An original Vortex-9 can be upgraded to the L.I.D.

ALIGNMENT and USAGE NOTES

We guarantee alignment of this suppressor only on barrels threaded or modified by us. Do not use this suppressor on barrels threaded by other firms without first submitting the proposed barrel to us for alignment gauging. Special gauges must be used to insure proper alignment. Also, we can only guarantee barrel threading accuracy and thread strength integrity on original Beretta 92 series, Taurus 9mm, and Heckler & Koch P9S target barrels. Barrels requiring special welding and extension modifications cannot be covered under any warranty. **USE ON FIREARMS OTHER THAN 9MM SEMI-AUTO PISTOLS IS PROHIBITED AND EVIDENCE OF SUCH MISUSE WILL VOID THE WARRANTY.** If the suppressor is allowed to loosen during firing, internal damage can occur. Damage to the unit due to internal bullet strikes

will not be covered under warranty, and we deny liability for injury or damage caused by misalignment or unscrewing of the suppressor. Any repairs that are necessary due to user misuse or neglect will be invoiced to the user on a time and material basis.

★ ★ ★ ★ ★ **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

☞ 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.

ROUTINE CLEANING

There are no perfect solvents for cleaning the suppressor or removing the carbon deposited on the internal parts by the burning of the powder. The factory recommendation is for using "Ed's Red" (equal parts automatic transmission fluid, mineral spirits, kerosene, and acetone) is among the better solvents for suppressor cleaning. Never use solvents containing ammonia, which can damage aluminum parts. This includes Hoppe's, Sweets, and "GI" bore cleaner. Further, soap and water or water-based solvents can damage aluminum.

Always read the warning label on any cleaner or solvent. The unit can be allowed to soak for a convenient period of time and then simply drained on each end. Compressed air can be used to blow the interior dry. Remember, the suppressor likes moisture. Don't worry about getting the unit bone dry.

Cleaning by immersion should be performed every 2-3,000 rounds. Because of molten lead splattering from the heat generated by friction with cast bullets, we suggest against the use of non-jacketed ammunition.

Other than disassembly of the L.I.D., any attempt at disassembly of the suppressor (see below) will void the warranty. An immersion tank can be made from 1-1/4 inch PVC pipe with an end cap cemented in place. Some carburetor cleaners and the solvents used in "automotive parts degreasers" supposedly will dissolve caked-on carbon but may contain carcinogenic materials. An ultrasonic cleaner is of little value, as hydrocarbon-based solvents do not cavitate properly. Solvents can be removed by standing the

silencer base down or blowing it out with compressed air.

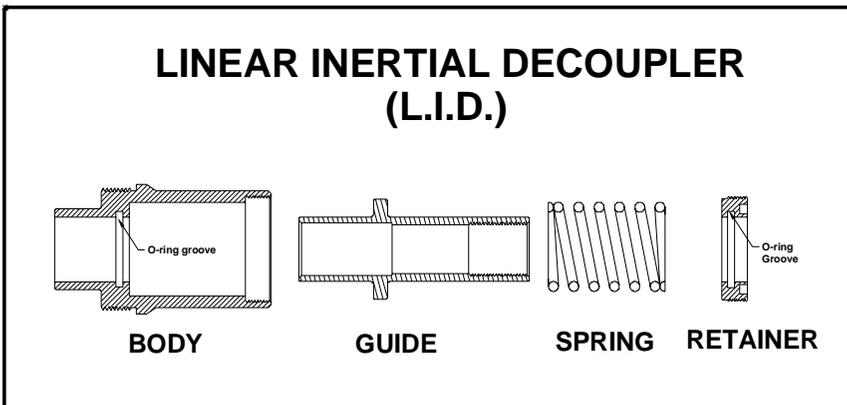
Following cleaning and drying, reassembly consists solely of replacing the Linear Inertial Decoupler, if it was removed.

We do suggest spraying (or even immersing) the inside with a Teflon based lubricant (such as Break Free) to decrease carbon build-up within the suppressor. Although it will generate some smoke on initial firing, it will also significantly enhance performance (by approximately 10 dB).

CLEANING THE LINEAR INERTIAL DECOUPLER

Disassembly of the L.I.D. does not require its removal from the suppressor. Cleaning is rarely necessary unless the mechanism becomes sticky.

1. Remove the suppressor from the weapon.
2. Unscrew the retaining plate in the rear of the L.I.D. Refer to the drawing below. This requires the use of a small pin-spanner wrench or a pair of needle-nosed pliers. The pin spanner wrench has two 3/32 inch pins spaced 0.825 inches on center and can be built fairly simply. One is available from the factory as an accessory.
3. Pull out the guide and spring.
4. The "O" rings can be replaced if damaged. Sets of Viton O-rings are available from Gemtech. Use only Viton O-rings, not neoprene.
5. Lubricate the guide and inside of the mount with a thin film of Permatex Super-Lube synthetic grease.
6. Reassembly is the reverse of disassembly. Do not use Loctite on the threads of the retaining plate.



AMMUNITION NOTES

Any commercially produced 9mm cartridge can be used with the VORTEX-9™. Since most cartridges will drive projectile speed to a supersonic velocity, the lowest operational sound signature will be obtained by using a subsonic cartridge. Because most 9mm semi-auto pistols are recoil operated, many weapon/cartridge combinations will not produce enough recoil to reliably cycle the action. We have found that the 147 gr. FMJ subsonic commercial ammunition by manufacturers such as Winchester, Black Hills, and CCI to be fairly reliable in the Beretta, Taurus, and Walther P5 9mm pistols. Other makes of pistols with the exception of the HK-P9S and P7 are very recoil sensitive and may not allow the semi-auto function with any type of sound suppressor not equipped with the Linear Inertial Decoupler.

The majority of 9mm ammunition is supersonic, and the projectile traveling at velocities above 1,050 fps will produce a ballistic “crack” or “sonic boom”. There are several commercial sources of specially loaded subsonic 9mm ammunition, and for maximum effectiveness, we suggest the use of this type ammunition. Although special 9mm subsonic ammunition has a bullet muzzle velocity below 1,050 fps, the higher bullet weight results in a significantly higher bullet kinetic energy. Subsonic 9mm ammunition is usually loaded utilizing bullet weights of 147 grain or heavier. Some ammunition utilizing bullet weights of 155 grain or more may be significantly over pressured in some weapons. 147 grain FMJ and JHP bullets for 9mm reloading are available from a variety of suppliers, including Hornady and Speer. We discourage the use of cast lead bullets, which will cause the condensation of lead vapors on the internal parts. Loading data for 9mm subsonic ammunition is available from a number of sources, including the Speer Supplement (available from Speer for their 147 grain TMC bullets), and from Accurate Arms for use with their powders. ***However, we caution against any attempt to hand load beyond recommended SAAMI specifications.***

We strongly suggest against the use of corrosive ammunition, and evidence of its use will void the warranty.

Some have suggested that the 9mm subsonic cartridge is “down-loaded”. Users should be aware that this is not an anemic load. This is a very effective cartridge. Do not direct it toward anything you do not wish to harm.

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.

REPAIR PROCESS

While BATFE has encouraged the use of the ATF Form 3 or 5 for return for repair, they have publicly stated on their web site that NFA weapons (which include suppressors) may be sent directly to a licensed manufacturer or licensed gunsmith for repair or modification without filing the forms 3 or 5.

Due to restrictions imposed by Public Law 99-308, replacement parts are no longer available for field installation. It is now necessary to return the suppressor to the manufacturer if repair parts should be necessary.

If repairs are necessary, contact Gemtech for shipping instructions.

**For latest product information, visit our complete on-line catalog at
www.gem-tech.com**

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

