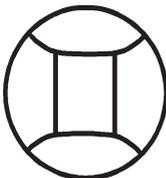


TM-TRINITY

OPERATION AND MAINTENANCE OF SOUND SUPPRESSOR MODEL TRINITY

**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: September 16, 2006

★ ★ ★ ★ ★ **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-TRINITY

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TM-TRINITY

OPERATIONAL MANUAL FOR SOUND SUPPRESSOR MODEL TRINITY™ (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 Trinity™ 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 threaded 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.
- 5) The suppressor should have multiple mounting options for increased versatility by means of user replaceable rear mounts.

The Trinity™ 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. The Trinity is a new design influenced by our highly successful Vortex-9 suppressor for 9mm handguns.

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.

In addition, mounting systems are available in two other configurations: (1) for the HK MP5 3-lug barrel and other similarly configured barrels and (2) as the suppression module of an integral 9mm upper receiver for the Colt 635 submachine gun.

OPERATIONAL NOTES

The performance of the Trinity™ suppressor can be significantly enhanced (over 9 dB) by adding a small amount of ablative agent, such as light oil, in the rear chamber. The design of the suppressor is such that this small amount of oil 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.

Some have suggested the use of water. Although a good ablative, we have found that water can corrode aluminum. For this reason, **we strongly suggest against the use of water in this suppressor.**

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

PHYSICAL SPECIFICATIONS

Length basic suppressor (O.A.)	6.5 in (8 in with L.I.D.)
Diameter	1.25 in.
Weight	5.8 oz (7.9 oz with L.I.D.)
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.

CHANGING THE MOUNT:

The rear mount of the Trinity suppressor is designed specifically for field replacement by the user. As such, it is important that no thread adhesive (such as Loctite) be used. Changing the mount is simply a matter of unscrewing one and screwing in the desired mount. We suggest a small dab of grease, nondrying anti-seize compound, or Vaseline be used on the threads to prevent seizing. It may be necessary to use a grip enhancer (such as a piece of inner-tube) for a better grip on the existing mount. During factory assembly no adhesives were used.

In the case of the Talon suppressed upper receiver, the Trinity simply screws onto the mount already attached to the barrel inside the floating handguard.

When there is no mount installed (as in when changing), dropping the suppressor could damage the threaded end of the suppressor and prevent installing the mount. This will necessitate returning the suppressor to the manufacturer for repair. ***Damage due to dropping the suppressor without a mount in place is not a warranty repair and the user will be invoiced for time and materials.***

Other than removing or replacing the mount, **DO NOT** attempt any further disassembly of the suppressor.

MOUNTING ON HK WEAPONS

Although some versions of the HK MP5 submachine gun have muzzle threads, we suggest utilizing the 3-lug mount whenever possible, as it is a superior and more stable mount than virtually all thread mounting systems.

The Trinity™ using the Tri-Lock coupler must never be mounted on a 3-lug “Navy” threaded barrel without a thread protector in place. The thread protector must have a diameter of 0.5905 (±0.0005) inches at the muzzle. Failure to observe this caution will void the warranty and will result in misalignment. If there is any question, we can provide a suitable thread protector.

We guarantee alignment of the Trinity™ suppressor only on original non-threaded German 3-lug H&K MP5 barrels and those manufactured to German Heckler & Koch specifications. Mounting on non-specification barrels or threaded barrels with non-Gemtech thread protectors is done at the operator's risk.

While the Trinity-3-lug configuration is suitable for 9mm fully automatic fire, it does not have the performance or longevity of the proven Raptor suppressor for the MP5. For abusive MP5 firing, we suggest using the Raptor.

ATTACHMENT TO WEAPON

The method of attachment varies with the mounting configuration.

A) Thread Mounting (Handgun)

The Trinity™ 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 semiautomatic 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.

B) 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 Trinity and can be installed by unscrewing the existing mount and screwing the L.I.D. in its place.

C) 3-lug Mount

The 3-lug mount is a simple push-and-twist mounting system similar in function to a child-proof medication bottle. It incorporates the Gemtech Tri-Lock mounting system (US Patent No. 5,559,302).

1. Be certain the weapon is unloaded, the magazine removed, the safety on, and the bolt locked in the open position.
2. Align the grooves in the silencer mount with the lugs on the barrel.
3. Pull the silencer onto the barrel against spring tension until the silencer can be rotated counter clockwise while holding the weapon in the firing position.
4. Rotate the silencer 60° until it stops and release pressure on the silencer. Rock the silencer to be certain that the lugs have engaged the pocket recesses in the mount.
5. Removal is the reverse of installation. It will be necessary to pull the silencer rearward in order to rotate it 60° clockwise.

D) Talon suppressed upper receiver

It is necessary to remove the existing upper receiver from the Colt 635 submachine gun prior to installing the TALON™ suppressed upper receiver.

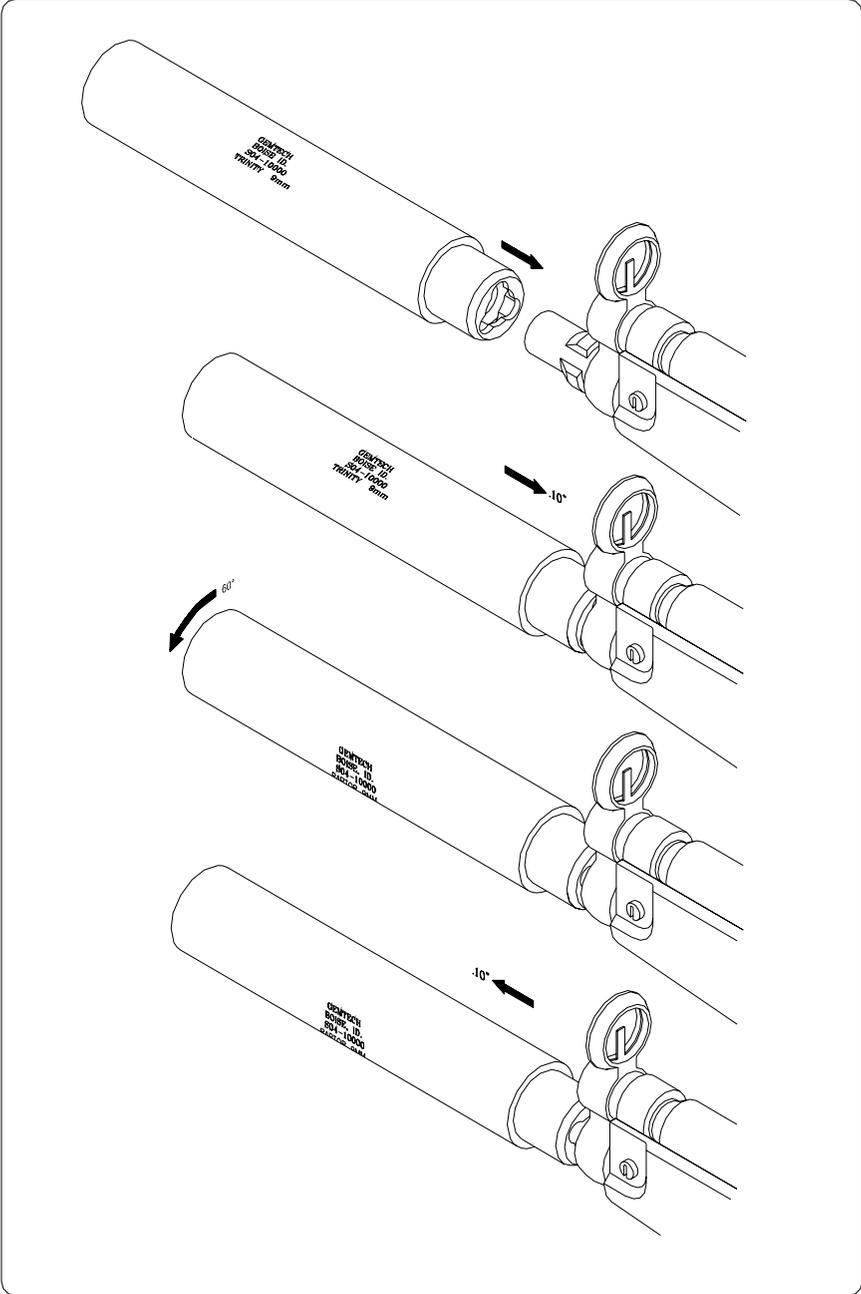
REMOVING THE EXISTING UPPER RECEIVER

1. Remove the magazine, open the bolt, and visually check to see that the weapon is both unloaded and the chamber empty. Close the bolt.
2. Push the rear takedown pin from the left side of the weapon as far as it will go. Pivot the upper receiver from the lower receiver.
3. Remove the bolt and charging handle.
4. Push the front takedown/hinge pin from the left as far as it will go and remove the upper receiver.

INSTALLING THE TALON™ SUPPRESSED UPPER RECEIVER

1. Install the charging handle and bolt in the TALON™ upper receiver and close the bolt.
2. Join the upper and lower receivers. Push the front takedown/pivot pin to the left.
3. Pivot the upper receiver to the lower receiver and engage the rear takedown pin.

HK MP5 MOUNTING



ALIGNMENT and USAGE NOTES

We guarantee alignment of this suppressor only on barrels threaded or modified by us, the weapon's original manufacturer, or barrel makers approved 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. Barrels requiring special welding and extension modifications cannot be covered under any 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

As a general rule (and contrary to popular opinion), suppressors have a longer life if no attempt is made at cleaning. There are no perfect solvents for the carbon deposited on the internal parts by the burning of the powder, and some carbon residues will slightly enhance performance. Field experience has shown that the suppressor will outlast a number of barrels.

The design of the TRINITY suppressor is such that any liquid introduced in a cleaning process may not drain completely, and its presence will generate more sludge and residue within the suppressor than not cleaning.

The suppressor is all aluminum, and many normal gun cleaning solvents will damage aluminum. These include Hoppe's, Sweets, GI Bore Cleaner, and all water-based agents (such as SLIP-2000, MP-7, Simple Green, etc.). Water should never be used.

What does have merit is to occasionally blow out the suppressor with dry compressed air to blow out loose powder granules. Blowing should be done first from the rear and second from the front.

Any other attempt at cleaning may well shorten the life of the suppressor. If it becomes necessary, the suppressor can be rebuilt to factory new condition at a reasonable cost.

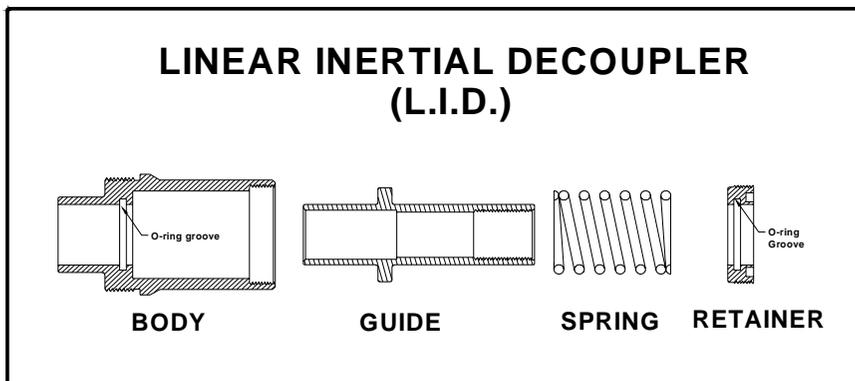
Other than disassembly of the L.I.D. or 3-lug mount, any attempt at disassembly of the suppressor (see below) will void the warranty.

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).

SERVICING 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.



SERVICING THE 3-LUG MOUNT

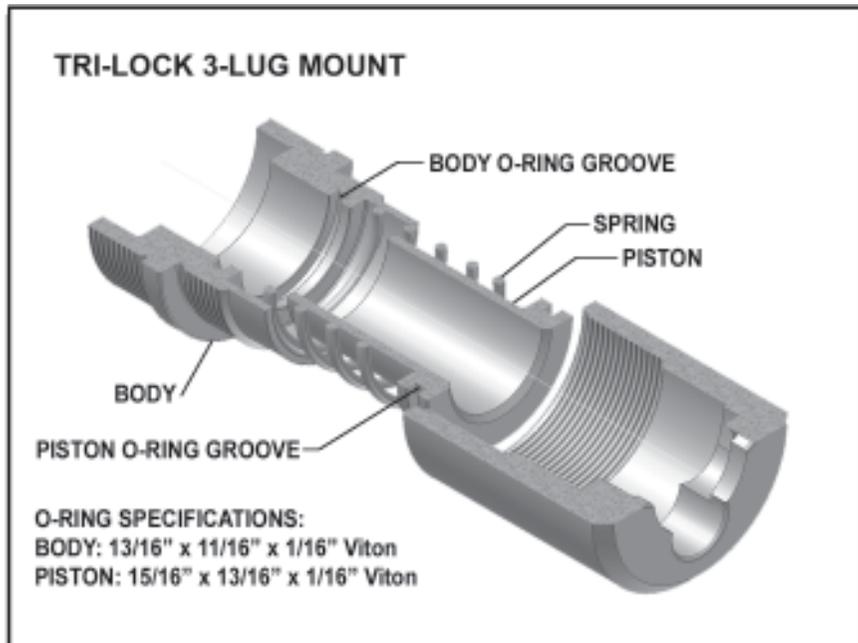
The Trinity 3-lug mount can be easily disassembled for servicing, either installed or removed from the Trinity suppressor.

1. Unscrew the knurled cap from the body.
2. Remove the spring-loaded piston from the mount body. Remove the spring.

Service consists of:

1. Replace the O-rings if necessary. The O-ring in the body can be removed with a dental pick.
2. Thoroughly clean the spring-loaded piston inside and out. Made of stainless steel, it can be cleaned with red Scotchbrite or fine steel wool moistened with WD-40.
3. Coat the outside of the piston with grease as well as the inside of the knurled cap. Lightly coat the inside of the mount body. Suitable greases include marine bearing grease, available at stores that sell boat trailers.
4. Insert the spring in the mount body followed by the piston (small end first). Replace the cap and screw hand tight. Do not use thread adhesives.

It is not unusual for a small amount of grease to be forced through the small vent hole in the knurled cap. This hole is to prevent pressurization of the mount.



AMMUNITION NOTES

Most commercially produced 9mm cartridges can be used with the TRINITY™ provided they meet SAAMI specifications. 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 most firearms chambered for the 9mm Luger cartridge. Other makes of pistols with the exception of the HK-P9S and P7 may be 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.

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