TM-OUTBACK-IID

OPERATION AND MAINTENANCE OF SOUND SUPPRESSOR MODEL

OUTBACK-IID

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 2015

✯ ✯ ✯ ✯ ✯ 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-OUTBACK

FIRST EDITION	July 2000
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TM-OUTBACK

OPERATIONAL MANUAL FOR
SOUND SUPPRESSOR MODEL
OUTBACK-IID (.22LR)

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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.

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✯✯✯✯✯ WARNING ✯✯✯✯✯

☞ **Failure to follow installation, maintenance, and use 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 Outback-IID is a highly advanced suppressor design featuring the most efficient baffle stack ever designed for this caliber and size suppressor. The Outback-IID is constructed of high tensile strength aluminum with a hard black anodize finish. No packing material or wipes are used in these units.

The design goal of the Outback-IID was to provide a .22LR suppressor that was the smallest, lightest, highest efficiency, and most affordable unit available. Considering all factors, it has not only achieved these goals, but it has become the most copied design in the industry.

The Outback-IID features a titanium thread insert to prevent thread wear occasionally possible with aluminum threads. Titanium does not gall on properly threaded steel barrels.

The Outback-II suppressor has been improved with the modification into the Outback-IID, which can be disassembled in the field for maintenance by the end user. This modification has not increased the cost to the customer.

The Outback-II/IID will achieve its rated sound reduction specification when dry. Althougn not considered of benefit, if an ablative is desired, use only oil -based mediums. Because of the already high suppression efficiency, ablatives have been found to have only minimal effect.

AMMUNITION RECOMMENDATIONS

Because this is a muzzle suppressor, there is no velocity control of the projectile. On rifles, HV ammunition will be accompanied by the "ballistic crack" of the bullet in flight. The ballistic crack cannot be addressed by the suppressor, simply because it is a supersonic shock wave generated outside the weapon system by the bullet in flight at supersonic velocities. For this reason, we suggest against the use of high velocity or hyper-velocity ammunition, including CCI Stinger® and Remington Yellow Jacket®.

For maximum suppression effect, we suggest the use of standard velocity target type .22 rimfire ammunition such as CCI Green Tag or standard velocity ammunition.

In 2011, Gemtech introduced their own specialty subsonic .22LR ammunition featuring a 42 grain projectile (to maximize terminal ballistics at standard velocities. This ammunition is also specifically designed for high accuracy.

This suppressor is designed only for .22 caliber rimfire ammunition. **It must not be used with any type of centerfire ammunition.**

The Aguilla SSS 60 gr. subsonic ammunition does not usually stabilize in barrel twists readily available and can yaw badly on exit from the rifling. This will seriously damage the internal components of your suppressor, and use of this ammunition is at the user's risk and will void the warranty.

☆☆☆☆☆ **WARNING** ☆☆☆☆☆

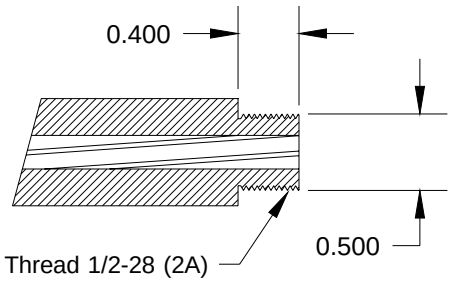
☞ Failure to follow installation instructions detailed in this manual can result in potential for serious injury to the user and damage to the weapon.

INSTALLATION

Before installing (or removing) the suppressor on the weapon, be certain to remove the magazine, open the action, and visually ascertain that the weapon is unloaded.

The suppressor mounts on conventional 1/2x28 (Class 2A) threads. Maximum thread length on the barrel is 4/10 inch. For proper alignment, the muzzle threads must be absolutely concentric with the bore and must have a 90° rear shoulder perpendicular to the bore. We cannot guarantee alignment on improperly threaded barrels. Threading specifications are on P. 4.

Barrel Threading Specifications
Gemtech Rimfire Suppressors



Screw on finger-tight only. **DO NOT overtighten**. There is no need to "monkey grip" it in place.

★★★★★ 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.

MAINTENANCE and CLEANING CONSIDERATIONS

Before first using the suppressor, the user must make the decision as to whether or not he wishes to clean his suppressor. If the choice is to disassemble and clean the Outback-IID, then disassembly must be performed at intervals to not exceed 150 rounds. Because of the high efficiency baffle design, delaying maintenance beyone 150 rounds will result in significant difficulty in disassembly with possible damage to the suppressor.

Rimfire ammunition (.22LR) is fairly dirty, and with time, the suppressor will accumulate significant deposits of carbon, partially burned powder particles, and condensed lead vapors. Some ammunition is dirtier than others, with CCI and Gemtech Subsonic having less powder residue than many others. Lead vaporizes by the heat of friction and condenses in the relatively cool environment of the suppressor.

There are valid arguments both for and against user disassembly and cleaning. The suppressor does trap and concentrate a significant amount of

lead that would otherwise be released into the atmosphere.

Should the user opt to disassemble and clean the Outback-IID, all used solutions and media for cleaning are lead contaminated, subject to HAZMAT regulations of the Environmental Protection Agency, and must be disposed of in accordance to EPA regulations. Simply dumping used cleaning materials can result in serious fines and prison terms.

It is also important that the user read and carefully follow disassembly and re-assembly instructions. Rotational orientation as well as baffle sequencing is important.

The other option is to not disassemble or clean the Outback-IID and treat it like the original Outback-II, which was sealed and not user servicable. Some carbon buildup has, in our testing, been shown to slightly enhance performance. However, after approximately 20,000 rounds, buildup in the suppressor does decrease performance. The factory has always maintained a service shop which can completely rebuild the suppressor with all new parts (except the serialized outer tube) at a reasonable cost.

As a general rule (and contrary to popular opinion), sealed 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 a number of the commonly used solvents can damage the suppressor or will create sludge that can decrease the lifespan. 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 in a sealed suppressor*.

DISASSEMBLY

Disassembly must be performed at intervals to not exceed 150 rounds. Failure to perform timely maintenance will allow carbon to plate on the inside of the outer tube through vents in the baffles. This will result in difficult removal of the baffles with possible damage. Damage to parts during disassembly or re-assembly are not covered under warranty.

1. Unscrew front end cap. There are several tools that can be used. Frequently bicycle repair shops have a simple adjustable 2-pin face spanner wrench with 1/8 inch pins. A suitable adjustable or fixed pin spanner can be fashioned or needle-nose pliers can be gently used. As an option, Gemtech has available an aluminum face spanner wrench for this hole pattern.

2. Push out the baffle stack from the rear with a 3/8 inch wood dowel. There are six baffles, two of which are different from the other four and from each other.

3. Do not attempt to unscrew the rear mount from the tube. Doing so will adversely affect alignment of the suppressor with the barrel of the firearm.

☆☆☆☆☆ 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.

CLEANING

There are no perfect solvents for carbon or lead. When disassembled, water-based agents may be used, because the parts can be thoroughly rinsed and dried before re-assembly. It is important to remember that many of these agents are alkaline (ph >8), which can strip the anodized finish on the external parts.

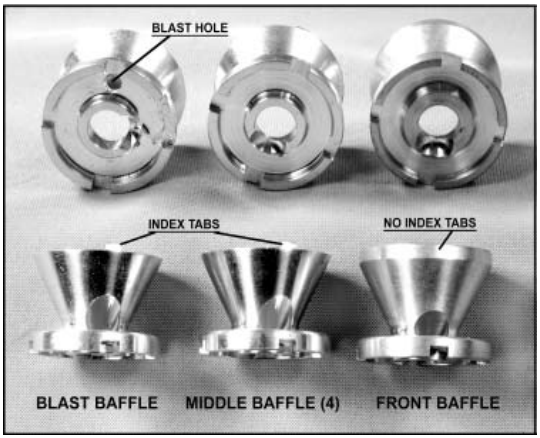
We have moderate experience with some of the carbon softening agents, such as LRM Carbon Cutter (352-317-5868), which is safe to use on both bare and anodized aluminum. Other suggested cleaning agents are automotive brake cleaning solution and Gunzilla. Limited immersion in an ultrasonic cleaning tank is of benefit. We suggest against bead or sand blasting, but soda blasting is acceptable. It is not necessary to have the internal parts bright and shiny.

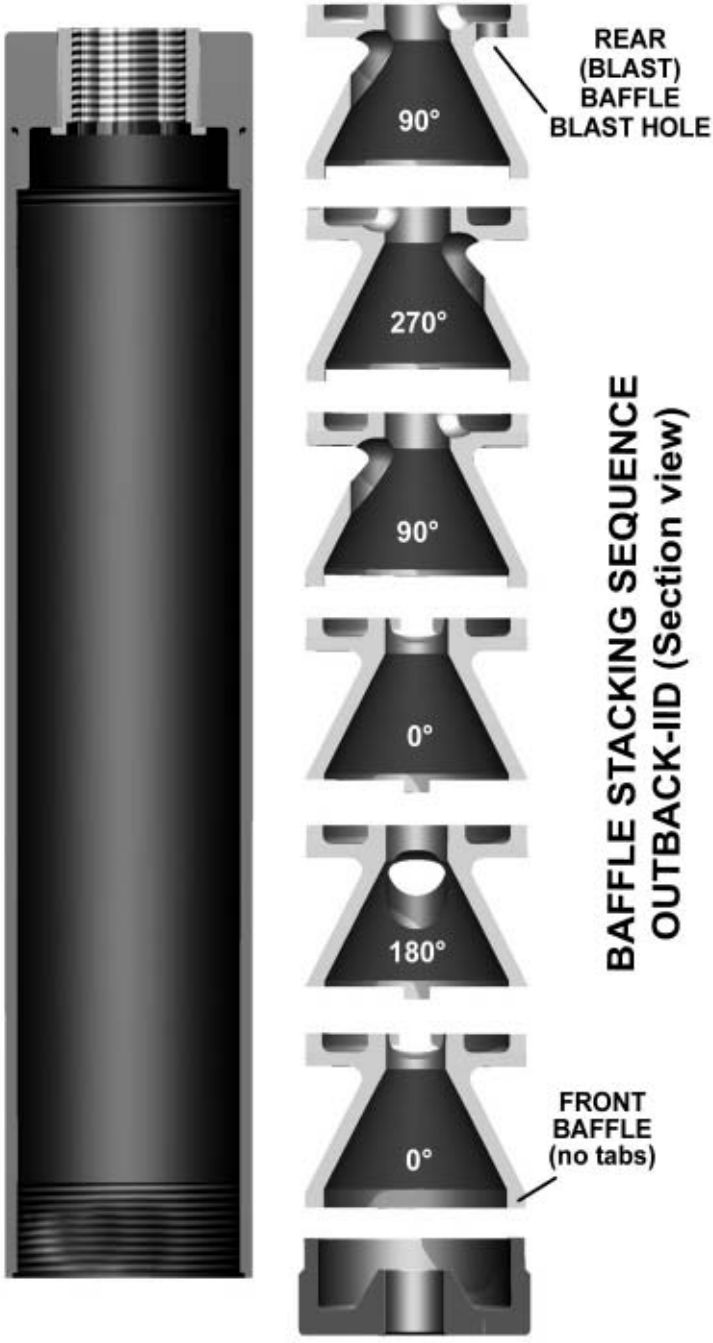
All parts should be thoroughly dried prior to reassembly.

REASSEMBLY

The only tool necessary for reassembly is a 1/4 inch diameter rod for stacking the baffles prior to insertion in the tube.

There are three different baffles (all K-type), and their stacking order is important. The four middle baffles have indexing tabs. The rear (blast) baffle differs from the others in that it has a hole in the flat portion of the “K.” The front baffle differs in that it does not have the locating tabs. (See photo at right).



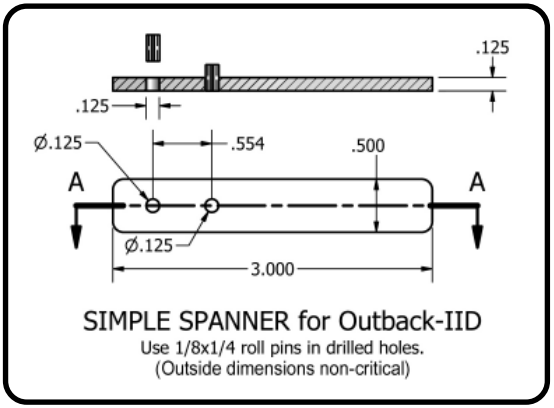

REAR
(BLAST)
BAFFLE
BLAST HOLE
90°
270°
90°
0°
180°
0°
FRONT
BAFFLE
(no tabs)
BAFFLE STACKING SEQUENCE
OUTBACK-IID (Section view)

The simplest method of reassembly is to stack the baffles in the proper sequence and orientation on a 1/4 inch diameter rod or dowel approximately 6 inches long. Please refer to the drawing on page 7.

1. Place the front baffle, cone down, on the rod. This is the baffle with no locating tabs on the end of the cone. Orient this baffle conveniently for reference. The easiest reference point is the port in the side of the baffle. Refer to this position as 0° (or 6 o'clock, if you prefer).
2. Stack the next two baffles on top of the front baffle, rotating each 180° to the one below. The tabs engage notches in the flat portion of the baffle below. At this point, these three baffles are oriented at 0°, 180°, and 0° (or 6, 12, 6 o'clock).
3. Stack the next two middle baffles followed by the blast baffle. As before, these three are oriented 180° to each other, but these three are rotated 90° to the first three.
4. Check baffle orientation. Starting at the front of the stack (bottom as stacked), the orientation is 0°, 180°, 0°, 90°, 270°, 90°. If you prefer, the stack orientation is 6, 12, 6, 9, 3, 9 o'clock.
5. Be sure the tabs engage in the notches and the baffles are stacked smoothly.
6. Without moving the stack, slide the outer tube with the mount over the stack until the blast baffle is firmly against the rear mount inside the suppressor outer tube.
7. Invert the suppressor and screw in the front end cap. Gently snug the end cap. It is neither necessary nor desirable to tighten it any more than light finger-tight.
8. If the front end cap will not screw flush with the outer tube, one of the baffle tabs is not engaged in the mating slot of the previous baffle. This will require disassembly and reassembly.

A drawing for a simple 2-pin spanner wrench is on the next page (P. 9). This can be made from almost any material, and the only important dimension is the distance between the holes (0.554 inches). 1/8 inch roll pins are the largest that can be used, but 3/32 inch roll pins are acceptable with appropriate holes. As an alternative, needle nose pliers can be used cautiously.

The Gemtech wrench is a circular, anodized spanner wrench and is available separately for $20 plus shipping.



PHYSICAL SPECIFICATIONS

Length	5.1 in. (130 mm)
Diameter	1 in. (25 mm)
Weight	2.5 oz. (75 gram)
Muzzle threads	1/2x28 (Class 2A), 0.4” long

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 insure 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.