HERTZ Sound Moderator Owner's Manual

A-TEC HERTZ sound moderators are lightweight over-barrel sound suppressors designed for centre-fire bolt-action rifles. Thanks to their small size and weight, HERTZ sound moderators offer sporting shooters a practical way to comply with European noise exposure regulations. The use of a sound moderator also reduces environmental noise pollution.

HERTZ sound moderators do not affect bullet velocity or trajectory and are suitable for centre-fire cartridges up to 6.5 mm or .30" calibre, depending on the baffle hole diameter.

Weighing only 360 g (12½ oz), HERTZ-119 sound moderators are also very compact, extending the rifle by only 119 mm (4¾"). Other A-TEC sound moderators are available for rim-fire rifles, and the ultra-lightweight CMM-4-AL moderator is available for non-magnum sporting/hunting rifles.

A-TEC HERTZ-119 sound moderators are available with a variety of internal threads to fit directly onto the rifle barrel. Standard threads include ½"-20 UNF, ½"-28 UNEF, $^{5}/_{8}$"-18 UNF, M14x1, M15x1, M17x1 and M18x1 to suit most centrefire rifles.

HERTZ sound moderators typically reduce sound emissions by 25 to 29 dB (depending on calibre and ammunition type), and significantly reduce recoil and muzzle flash. All rifles up to 308 Winchester tested with HERTZ-119 sound moderators comply with the latest personal noise exposure limit set by European Directive 2003/10/EC (140 Pa or 137 dB(C)).

NOTE: no sound moderator can eliminate the ballistic "crack" of a supersonic bullet, but the report from a HERTZ-119 sound moderator as heard by the shooter is usually no louder than the unsuppressed snap of a .22 rim-fire rifle shooting high-velocity .22 LR cartridges.

Maintenance

Remove the sound moderator from the rifle after each shooting session - this allows any vapour which might cause corrosion in the rifle barrel to disperse. Spray a little light oil into the sound moderator and keep the rifle barrel thread and silencer thread clean and lightly greased.

A-TEC sound moderators are designed to be self-cleaning and require minimal maintenance. Any loose powder kernels or carbon chips can be shaken out of the sound moderator before and after use. Do not try to take the sound moderator apart to "clean" it.

Unauthorised disassembly or washing with liquids or solvents is not recommended and may shorten the life of the sound moderator and/or reduce its performance.

In normal use, we recommend annual inspection of light alloy sound moderators by a suitably experienced armourer or gunsmith. For commercial or other heavy use, the inspection period should be shorter.

Fitting

The initial fit and alignment of any sound moderator must be checked by a suitably experienced armourer or gunsmith - even if the rifle barrel is already screw-cut for a silencer. Please see the attached fitting instruction sheet for details and ensure that your gunsmith has signed the attached warranty form. After initial fitting as above, the sound moderator should always screw easily onto the muzzle thread and come to a distinct "stop", in full and even contact with the shoulder – if not, check that the threads are clean and lightly greased. Do not over-tighten the sound moderator on the muzzle thread – hand-tight is sufficient.

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Shooting with a sound moderator

The HERTZ sound moderator is a highly efficient muzzle brake, due to the containment and deceleration of the muzzle blast inside the sound moderator. When properly fitted, a sound moderator does not usually increase the group size - it often tightens the group. The additional weight on the barrel may shift the location of the group centre, but any such point of impact shift is easily corrected by sight adjustment. The extent of any POI shift is usually less than 4 Minutes of Angle (approximately 1 Mil or 10 centimetres at 100 metres), depending on the type of rifle and ammunition.

Warnings

Overheating by sustained or rapid fire may cause premature erosion and internal damage, shortening the service life of the product.

Do not shoot shotshells, unstable projectiles (see note below) or discarding sabot bullets through a sound moderator, as they may damage it.

Check regularly for the latest version of this manual at www.jacksonrifles.com

Safety

- This manual is intended to complement, but not to vary or replace, instructions issued by the manufacturer of the rifle to which the sound moderator is fitted.
- Please observe all usual firearm safety precautions – just because most of the noise and recoil have gone doesn't mean that a suppressed rifle is any less lethal.
- The pressure in a full-bore sound moderator momentarily reaches several hundred p.s.i. – do not fire a suppressed rifle with the muzzle any closer to any person than you would without the sound moderator, and do wear suitable eye and ear protection.

Accessories and spares for A-TEC sound moderators

- a thread protector sleeve for the standard barrel muzzle threads;
- spare baffle modules for outright purchase or service exchange (please call us for details).

Bullet stability and rifle sound moderators

When shooting with a sound moderator, it is important that the bullet should be sufficiently stable on leaving the muzzle so that it will not yaw or "wobble" and risk touching the sound moderator baffles. If a bullet does touch the baffles of a sound moderator, accuracy is usually severely impaired and the sound moderator may also be permanently damaged.

Most textbooks recommend a bullet stability factor of about 1.5 for reliable accuracy from a rifle with no sound moderator, and we also recommend this as the lower limit for any rifle fitted with a sound moderator.

Most factory ammunition does meet this requirement, but there are some notable exceptions including ammunition loaded with some 55 grain and heavier .224 calibre plastic-tipped bullets, some 100 grain .243 calibre boat-tail bullets, and most "non-toxic" or lead-free bullets. Whether a particular bullet can be used reliably with a sound moderator depends primarily on the length of the bullet and the rifling twist of the barrel. **If in doubt, please call us for specific advice**.

For more technical details about bullet stability, we recommend "A Ballistics Handbook" by Geoffrey Kolbe, and "Rifle Accuracy Facts" by Harold R. Vaughn.

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Warranty

All A-TEC sound moderators are fully guaranteed against defects in materials or workmanship for two years from date of purchase. In the event of a warranty claim, the sound moderator must be returned to Jackson Rifles, carriage paid, together with proof of date of purchase and this warranty claim form, duly completed. Jackson Rifles' sole responsibility under this warranty shall be the repair or replacement of the sound moderator.

This warranty does not cover wear and tear, or any damage caused by unauthorised disassembly of the product.

This warranty does not affect your statutory rights.

Limited Lifetime Guarantee

Any A-TEC sound moderator of current manufacture, regardless of age or condition, will be replaced or reconditioned to new, including a new Warranty, if returned to Jackson Rifles with payment equal to 60% of the current retail price.

Please phone us for a returns number before sending your sound moderator!

Returns No.: .....

Name: .....

Address: .....

.....

City: ..... Postcode: .....

Telephone No.: .....

FAC No.: ..... Issued by: .....

Moderator Model: ..... Calibre: .....

Purchased from: ..... Purchase date: .....

Fitting checked by: ..... Signature & date: .....

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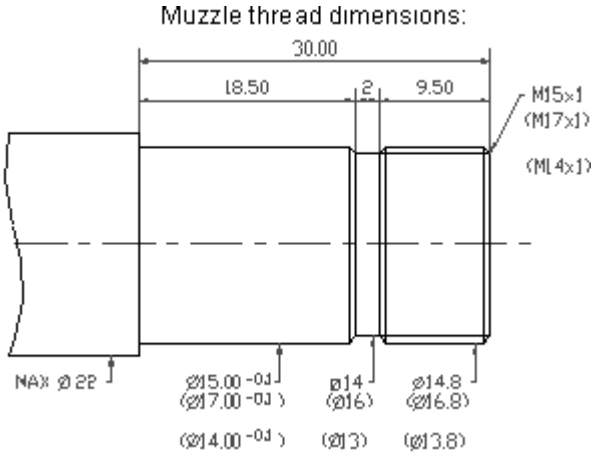
Fitting Instructions



Standard mounting threads include ½"-20 UNF, M14x1 No Spigot (Sako etc.), M15x1 with spigot (Blaser) and M18x1 No Spigot. Select the thread to suit the barrel diameter of the rifle. HERTZ-119 sound moderators can be supplied with other threads on request.

1. Remove the front sight, if any.
2. Hold the barrel in a lathe and indicate the bore to ensure that it is running true (see advice note below).
3. Make an ISO metric or American (Unified) thread with a relief cut and, if required, a cylindrical "spigot" between the thread and the shoulder (see sketch, above).

   PLEASE NOTE: for all Unified threads and for all "No Spigot" threads there is no "spigot" between the thread and shoulder - only a 2 mm wide relief cut.
4. The thread should be slack enough to allow the sound moderator to freely align itself against the shoulder (see note "Muzzle thread tolerance" below).
5. After thread cutting, check the muzzle and re-crown if necessary.
6. Measure the diameter of the barrel at the back of the sound moderator (typically 80 mm from the muzzle).
7. Enlarge the barrel bushing hole in a lathe to the measured barrel diameter + 0.2 mm. A tight fit on the barrel is not required and not recommended.

Additional muzzle-threading advice

There are several "correct" ways to hold a barrel in the lathe for muzzle threading; the barrel may be held between centres, between chuck and tailstock centre, or through the headstock. Most rifle-smiths use a similar set-up to the one they use for re-barrelling work.

It is important to make sure the muzzle is centred and well-supported for thread-cutting. Unsupported thread cutting will lead to poor sound moderator alignment and bullets grazing baffles. If necessary, take a light cut with a tight-fitting live-pilot 60-degree centre reamer to correct any eccentricity in the muzzle crown and ensure adequate bearing surface for a rotating centre.

Muzzle thread tolerance

The muzzle thread should have just enough play to allow the sound moderator freely to align itself against the thread shoulder. The thread should NOT be dragging tight, and it should NOT be longer than 15 mm (ideally 11.5 to 13 mm) including the relief cut.

Correct thread tolerance is easily checked by first screwing the sound moderator completely onto its thread and then unscrewing it half a turn. Then swing the front end of the sound moderator sideways back and forth. The thread should allow some "play" to be felt. If there is no play, the thread is too tight and it should be cut looser.

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