



— Reflex Suppressors™ —

User's Manual: MX/MG Sound Moderators for 9mm and 7.65mm Pistols

MX Minireflex Moderators are light and small all-steel devices primarily intended for reduction of environmental grievances and defects of hearing, caused by noisy reports of 9x19mm and 7.65mm pistols. The basic model MX12 weighs ca. 140g and adds ca. 140mm to the length of a pistol. MX12 is an extra durable pistol moderator best suited for very active shooters using primarily full power 9mm ammo.

If the pistol is shot primarily with subsonic ammo, the Minireflex Moderator MG16 is the best choice with its added number of baffles. Dimensions of MX12 and MG16 are chosen to compromise between silencing effect and automatic function of self-loading pistol, loaded with full power supersonic or heavy bullet subsonic cartridges.

Properly mounted Minireflex Moderator does not affect bullet speed or precision. Standard finish of Minireflex moderators is military grade parkerizing. Diameter of a Minireflex Moderator is small enough to enable use with pistol's standard sights. Very best silencing effect is possible by shooting subsonic 9x19mm cartridges. However, all steel Minireflex Moderators endure shooting with full power rounds of 9x19mm Para/Luger ammunition. Shooting noise is then comparable to noise level of an unsilenced .22 LR target pistol.

Recoil action pistols are suitable for use with a moderator. Most recoil action pistols require shortening the recoil spring, for compensating the moderator's extra mass on the recoiling barrel. Glock is particularly sensitive to any mass on its muzzle, and it requires its very own extra light moderator version, the "MG12". Even then, both recoil and striker springs of Glock need to be shortened for reliable cycling. Users report, that the striker spring of Glock can be shortened by 25 to 30 % without getting misfires. The recoil spring tolerates 10 - 30 % shortening before causing feeding problems. Cut one turn at a time from the spring and try the pistol. Use spare unshortened recoil spring for shooting without a moderator to avoid stressing the action of the pistol. Striker spring needs not to be replaced for unsuppressed shooting. Straight or delayed blowback pistols, like Walther PP and HK P7, will cycle normally with a sound moderator without modifications to recoil spring.

Fastening and unfastening of a Minireflex Moderator is easily done by winding on/off, tightening firmly by just one hand. **Note:** Never use tools; over-tightening is unnecessary, and may lead to eccentric mounting. Use heat protective glove or cloth for unwinding, if rapid firing has heated up the jacket of the Moderator. Along with noise reduction, the Moderator acts as a muzzle brake or a compensator of recoil and muzzle jump. Additional weight ahead of the pistol renders also steady aim and enhanced accuracy of shooting.

Minireflex Sound Moderator is primarily a muffler of excessive noise; also known as "semi-silencer". Silencing effect is, however, available in full extent just by use of subsonic cartridges. For extra silencing effect, Minireflex Moderators are strong enough to be used also as a "wet" suppressor, by applying about a spoonful of grease inside the moderator from its back and spreading it with a stick among the baffles and away from the bullet path. Grease or liquid inside a sound moderator absorbs muzzle blast energy by its immediate vaporization. The effect stays for 3 to 20 shots after each refilling, depending on the properties of the absorbing substance. Ordinary lithium based lubricating grease is one of the most easily available absorbers. Caution! Do not over-fill the moderator, as it will raise the inside pressure beyond a risk of suppressor damage!

Functioning of recoil action pistols is inherently sluggish or deficient, because of extra weight attached to recoiling barrel. A great many pistols will eject and/or feed reliably only loads with extra heavy bullets. A makeshift trick is to obtain an extra recoil spring, and cut it short enough to reduce spring tension 20 to 25 per cent. This method may, however, result in feed jams - especially when the magazine of the pistol is crammed till it's nominal capacity. Shooting with reduced tension recoil spring and without Sound Moderator may curtail life of pistol, if powder charge of cartridges (behind standard weight bullet) is not reduced along with spring tension (20 to 25 %). Use of heavy bullet and reduced charge is the most advisable way to get reliable autoloading of the pistol, along with reduction of shooting noise. Some brands of 9x19mm Subsonic cartridges with heavy bullets are available factory loaded. Recommended bullet weight is 147 grains. Bullets with round point are best, if reliable functioning of pistol is of vital importance.

Does it need an extra barrel for mounting? No - most centerfire pistols have thick enough barrel wall (2 millimeters or more) so a threaded barrel extension can be mounted to them by soldering with regular silver alloy. The extension is made by a gunsmith or a suppressor manufacturer and it is a very economic alternative to purchasing a new extra long barrel. Internal thread in the muzzle is in principle also possible but the barrel wall thickness may not be sufficient for it and the thread is prone to heavy fouling. It is

also possible to "sink" the Minireflex suppressor thread end extension inside the slide by enlarging the slide bushing around the muzzle (a recess with 15 mm diameter on the front end of slide around the muzzle, deep enough to expose muzzle thread and relief cut).

Not always even muzzle extensions are needed. Some pistols with long muzzles like Beretta need just thread cut on the muzzle. However, most models - like Browning Hi-Power need a muzzle extension.

Mounting of a Moderator may cause need to re-adjust the sights. Pistols may shoot too low due to decreased "jump" of muzzle. Knowledge of this effect is important especially when pistol is equipped with fixed sights. A Moderator is not as "foolproof" device as the Telescopic Reflex Suppressors are, because of its thread mounting at the muzzle only. **Check frequently the tightness of mounting thread.**


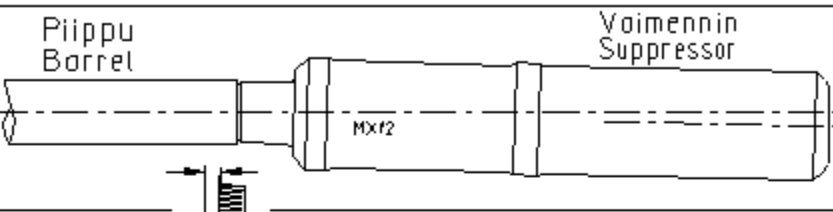

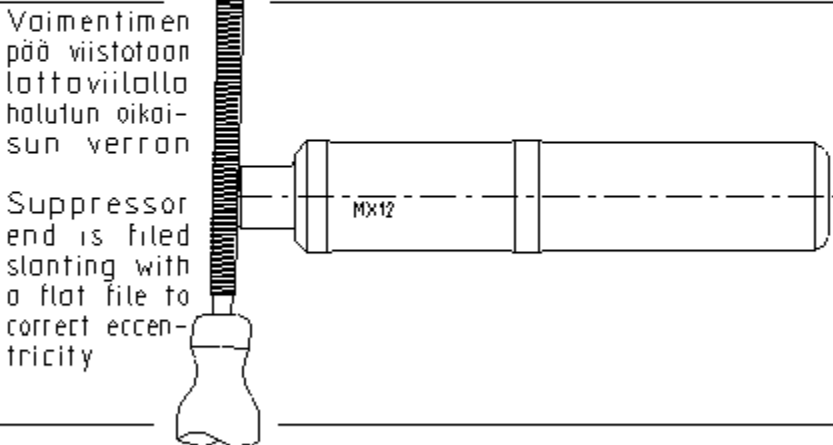

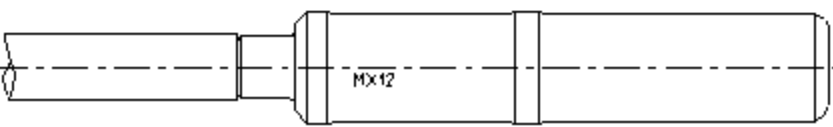
Maintenance: The Reflex Suppressor is a practically maintenance free device. **The suppressor should be cleaned after each shooting session.** Remove the suppressor or leave the action of the rifle open after use. This helps avoid corrosion by letting condensation from powder gases evaporate away. **A small amount of Break Free, Rig #2 or other light gun oil sprayed into the suppressor will prevent corrosion.** WD40 can also be used but tactical operators are advised that WD40 will cause a large smoke signature when the suppressor is next used. Normal fouling from powder and primers do not have an effect on the suppressor's functioning. Loose solid impurities like powder grains and carbon chips are easily removed by shaking the suppressor, while keeping it vertical, front end down. **Washing with liquids or solvents is inadvisable.**

Mounting Directions: Competent gunsmith is needed for mounting. **Thread must absolutely be lathe-turned; not cut with hand die.** Barrel must be unfastened from pistol, centered between three-jaw chuck (or four-jaw, if necessary due to odd shape). Muzzle must be centered with a conical point of tailstock in the bore.

Length of thread (M12x1, M13x1, M14x0.75, 1/2"x28G) is about seven millimeters or more including relief cut, which is usually 1.5 mm wide and no more deep than the nominal inner diameter of the thread, or smallest diameter of female thread in Moderator's mounting sleeve. If the thread length on a pistol barrel is too short, the Moderator's mounting sleeve can be shortened until the pistol's slide does not contact the moderator mount.

Fit of male (muzzle) and female (sleeve) thread must be loose enough for easy winding on/off with three fingers of hand, but excessive slackness must be avoided. Aligning of mounted moderator and bore of barrel must be checked by looking through the bore from the chamber. If the bore and holes of diaphragms (silencing baffles) are not in line, it is possible to correct slight eccentricity by filing or grinding very carefully rear end of mounting sleeve slanting, until aligning is achieved. See aligning instructions below.

Note: The moderator should NOT contact the slide when mounted on a pistol. If the pistol barrel is too thin for a proper shoulder to be cut behind the threading, the moderator mount has a small internal shoulder that the end of the pistol barrel butts up against for secure mounting. The moderator's mounting sleeve should be shortened so that the sleeve does not contact the pistol slide when the moderator is mounted tightly and the slide is fully forward in battery.

Etuvoimentimen keskitys		Centering of a forward mounting suppressor	
1	<p>Epäkeskeinen voimennin piipun läpi katsottuna edestäpäin: Front view through bore with eccentric suppressor mounted:</p> 	<p>Piippu Barrel</p>  <p>Voimennin Suppressor</p> <p>MX12</p>	
2	<p>Kiinnityskierre piipunsuussa Voimennin keskittyy pöäteuroa vasten Piippu Barrel Suppressor aligns itself against the relief cut end Mounting thread on muzzle</p> 	<p>Voimentimen pää viistotaan lattaviilalla halutun oikaisun verron Suppressor end is filed slanting with a flat file to correct eccentricity</p>  <p>MX12</p>	
3	<p>Voimennin ja piippu samankeskeiset: Correctly mounted concentric suppressor:</p> 	 <p>MX12</p>	

Warning:

- Do not shoot shotshells, unstable projectiles or discarding sabot ammunition through a suppressor.
- Check frequently the tightness of the mounting thread.
- Suppressors tend to increase the powder gas blowback through the ejection port. Use shooting glasses to prevent eye damage.

Internet Owner's Manual: <http://www.canadiantactical.ca/Docs/MG16OwnersManual.PDF>

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