

Muzzle Brake (PN 04.107) for

- **AR-9 / AR-15 carbines in the calibre 9x19 (9x21) with 1/2" – 36 muzzle thread**

Thank you for choosing a high-quality **TECTAL** product!

The muzzle brake is 100% "Made in Austria" and was developed with a considerable amount of research and practical testing in the IPSC - PCC class. As a result, the muzzle brake offers the following benefits:

- ✓ Reduced wandering of the muzzle during strings of fire due to a combination of the brake's effectiveness and the additional weight at the muzzle end.
- ✓ Compact (overall length +25 to +30mm)
- ✓ Made from high-quality stainless steel which is also used for barrel manufacturing.



Supplied Parts:

- 1 pc. *TECTAL Muzzle Brake PN 04.107*

It is recommended to have the muzzle brake installed by a gunsmith!

Required tools:

- Bench vice
- Protective vice inserts (braces) made from plastic with prismatic openings
- Spanner 19mm (SW19) or a torque wrench with a 19mm spanner attachment

INSTALLATION - PREPARATION

1. **Before maintaining or working on any firearm always ensure that it is unloaded and safe!**

While pointing the firearm in a safe direction remove any magazine from the firearm and ascertain it is unloaded by locking the slide to the rear and visually inspecting the chamber before working on or cleaning it! If loaded follow the proper procedures to unload the firearm safely!



Firearms Safety is your responsibility!

2. If required remove the handguard and then clamp the barrel securely in the vice with the protective inserts so that 1.) the weapon may not be damaged and 2.) the required torque can be applied safely to remove existing muzzle devices and to install the muzzle brake.
3. Remove any muzzle devices and spacer shims or crush washers.
4. Clean the muzzle thread and barrel end thoroughly to remove any dirt and powder residue which may impair the installation procedure and apply a light coat with a suitable, high temperature resistant (gun-)oil.

INSTALLATION

This muzzle brake does not come with shims or a crush washer as often these are already on hand. If required, shims are available separately.

The installation of the muzzle brake always follows the same principle although different executions of the muzzle thread will require the use of shims of varying width.

The use of shims is recommended to achieve a solid, parallel contact surface:

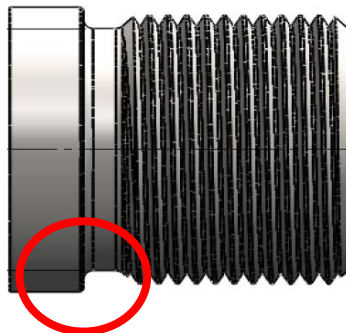


In most cases threads will remain visible following installation. This has no impact on the effectiveness of the muzzle brake.

For installation the execution of the muzzle thread must be considered. Two versions are commonly used and require a different approach during the installation:

A. Muzzle thread with a relief groove

This execution of the muzzle thread features a relief groove at its end towards the barrel. The muzzle brake PN 04.115 is designed to accommodate the full muzzle thread length of 0,625" (15,9mm) typical for this execution.



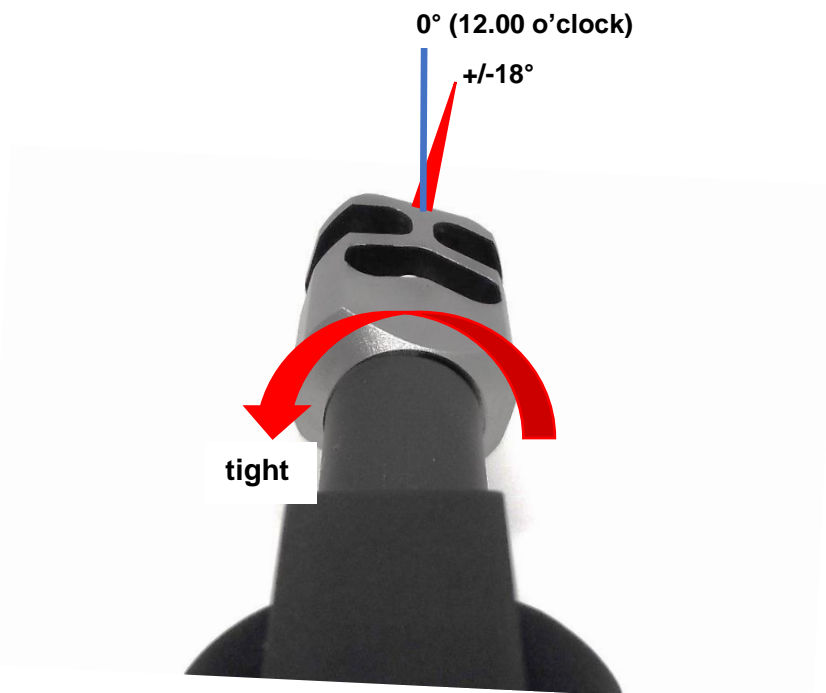
The muzzle brake with a muzzle thread execution „A“ (with relief groove) can theoretically be threaded on until in full contact with the barrel. However, to achieve the correct orientation the use of shims of varying thickness may be required.

Installation for muzzle thread „A“ / with relief groove

1. Install the muzzle brake at first without shims, tighten by hand only and verify its orientation. Then add shims resp. vary the thickness of the shim pack as required and check the orientation repeatedly.

Orientation of the muzzle brake after tightening by hand:

An imaginary indicator located on the top surface of the *muzzle brake* points towards $\pm 18^\circ$ when viewed from behind.



2. Once the correct orientation is achieved tighten the muzzle brake with the appropriate tool until it is a.) tight and b.) the top surface of the muzzle brake is oriented towards the 0° / 12.00 o'clock position.

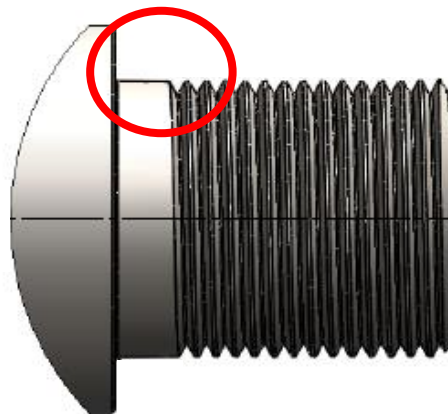
Note for tightening:

- The maximum recommended tightening torque is 40Nm.
- For final tightening of the muzzle brake ensure that the barrel is securely clamped in a bench vice with suitable protective vice inserts. No mounting forces shall act on handguards, receivers (lower and upper), etc. to avoid damage!
- If the „12.00 o'clock position“ is exceeded during tightening without achieving a sufficiently tight fit or if attaining the „12.00 o'clock position“ would involve undue force which may cause damage to the weapon, it is mandatory to correct this by readjusting the thickness of the shims used!

- The use of a permanent / high strength thread locker is not recommended as the removal of the muzzle brake e.g. for maintenance purposes is severely hampered and possible only with excessive effort and an increased risk of damaging the gun! A routine check of the proper and tight fit of the muzzle brake is however required!

B. Muzzle thread with an unthreaded shoulder portion

This execution the muzzle thread retains an unthreaded portion (= shoulder) of typically 1,5 mm to 2 mm without a relief groove. The total length of the unthreaded shoulder and the thread most often is 0,625" (15,9mm) as well.



The muzzle brake cannot be threaded on fully due to the unthreaded shoulder portion of the muzzle thread execution "B".

The unthreaded shoulder portion must be bridged with a combination of shims while the orientation of the muzzle brake is considered at the same time.

Failure to account for the unthreaded shoulder portion may lead to damage to the muzzle brake and the barrel!



Installation for muzzle thread „B“ / unthreaded shoulder

The installation follows the instructions for the of "Installation for muzzle thread „A“ / with relief groove" (→ see p. 4 / 5) except that a combination of shims of sufficient thickness must be added to bridge the unthreaded portion.

NOTES ON INSTALLATION AND USE

INSTALLATION



It is highly recommended to have the muzzle brake installed by a gunsmith!



The muzzle brake 04.107 is to be used exclusively for pistol calibre carbines in the calibre 9x19 (9x21) with a muzzle thread of 1/2" – 36!



The maximum recommended tightening torque is 40Nm.



For final tightening of the muzzle brake ensure that the barrel is securely clamped in a bench vice with suitable protective vice inserts. No mounting forces shall act on handguards, receivers (lower and upper), etc. to avoid damage!



If the „12.00 o'clock position“ is exceeded during tightening without achieving a sufficiently tight fit or if attaining the „12.00 o'clock position“ would involve undue force which may cause damage to the weapon, it is mandatory to correct this by readjusting the thickness of the shims used!



The use of a permanent / high strength thread locker is not recommended as the removal of the muzzle brake e.g. for maintenance purposes is severely hampered and possible only with excessive effort and an increased risk of damaging the gun! Routine checks of the proper and tight fit of the muzzle brake are however required!

MAINTENANCE AND USE

- Check of the *muzzle brake*:



- During routine maintenance of the rifle
- Before shooting
- In any case at the latest after every 100 rounds fired

check the proper and tight fit of the *muzzle brake* and its overall condition!



In case of any visible damage to the muzzle brake it must not be used!



No shotgun-, sabot- or other non-standard ammunition shall be used in conjunction with the muzzle brake!



Wearing eye and ear protection is mandatory! The propellant gas with particles contained therein is partly diverted upwards, sideways and back by the muzzle brake.

**In case of any questions please contact us at
office@tectal.at**

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