

**WR MUZZLE BRAKE: GAS MONGREL (& MAGNUM) & ULTRA-COMP.**

Your WR muzzle brake has been designed to offer the competitive rifle shooter an optimal balance between recoil reduction and shooter comfort. Precision cut from 7075 aluminium and hard anodised, the lightweight design offers excellent heat dissipation rates without impacting balance and performance.

VARIANTS: refer to www.watersrifleman.com for item details, and any other products...

- **Ultra Comp (UC)**, for typical practical target competition (due to smaller size), for calibres 30 cal and under.
- **Gas Mongrel (GM)**, for shooting where maximum recoil reduction is required (best to watch trace &/or impacts).
- **Gas Mongrel Magnum (GMM)**, simply the Gas Mongrel design but oversize for large barrels, cartridges and calibres.

OPTIONS: - Bore sizes for 22cal up to 40 cal (depending model).

- Threads for barrels 1/2x28, 5/8x14, 3/4x24, 7/8x24, M14x1, M18x1. (GMM in 3/4 & 7/8 only)

SPECIAL FEATURES: Reverse porting to maximise recoil reduction (degree depends on brake design).

EQUIPMENT NEEDED:

- Shims, jam nuts, file or other items to index the brake to the correct rotational position. See positioning...
- Measuring tool to accurately measure the bore and thread sizes.

KNOW THE ITEM: Like any muzzle brake, gas is redirected to act against recoil. There are consequences to this – sound direction, possible particles directed with velocity, concussion pressure, etc. All issues need to be aware of and allowed for before use. A muzzle brake must fit the throat of the barrel and be concentrically bored to the correct size for the projectile. Every muzzle brake must have (and be checked regularly) its bore axis aligned with the bore axis of the barrel at the muzzle. Safety, first, last and always – no exceptions. AGAIN: Check this concentricity regularly.

DESCRIPTION: A muzzle brake captures the direction of the gas and changes its direction to counteract the energy of the projectile leaving the barrel. If this process is done correctly, it will reduce the felt recoil of the firearm. The better the brake is designed, the less felt recoil, and preferably all other undesired issues are minimised also.

EQUIPMENT NEEDED: The muzzle must be threaded, and done so correctly and accurately, by a competent gunsmith.

POSITIONING: Position the brake over the muzzle thread, then lightly screw on until the narrow flat surface is pointing up, to ensure there is more gas blowing out the sides and upwards, to reduce both reward recoil and muzzle lift.

FITTING and TIMING: Threads should be suitable to the brake, and there should be industry standard tolerances used. Length of thread should be around 15mm. There are many methods used to index the brake to the correct position at lockup. Options might be a jam nut, crush washers, shims, perfect shoulder machining, brake metal removal after threading, or a simple O-ring. Regularly check the brake has not come loose. Keep clocked on the barrel during use.

***FITTING METAL TO METAL:** Simply screw on the brake, and check how much more turn is required to have the brake correctly clock. 1 turn is approx 1mm in length. If the brake is within a quarter turn from clocking home, a simple method to fully clock could be to remove the brake and use a large flat file, and simply file the approx required length off the rear shoulder of the brake. Test fitting regularly - better to go less than more, bit by bit, to be sure the material taken away is not excessive (easy to remove, hard to add).*

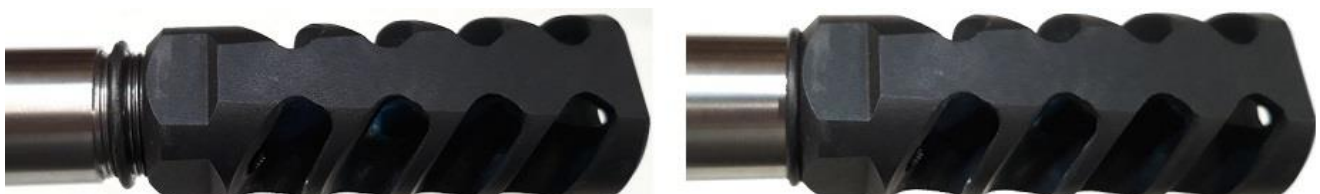
ADJUSTMENTS: Simply fit the brake as correct fitting, ensuring it is safe to use and that safety is exercised during use.

TESTING & USING: Be sure the brake is free of foreign objects and blockages and installed correctly for safe operation before use. After fitting, test for impact zero change. Zero change is perfectly normal due to many reasons, such as resonance, harmonics, gas bumping, dead air pressures, etc, all changes due to the added object/weight to the muzzle.

SUGGESTIONS: Document your live fire impact zeros with and without the brake.

SERVICING & MAINTENANCE: Keep the brake clean from foreign objects and blockages. The brake should be cleaned with a suitable solvent regularly after use (a jar of petrol and an old tooth brush can do a lot of good work).

NEVER clean your barrel with the brake installed. Remove the brake, then clean your barrel. Crush washers should not be re-used. (See below an O-ring setup – slip on O-ring, gently touch up to it, then index to top).



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