

Tuning guide for airgun



ALTAROS M24



This rifle uses a patented system of dosing air into a barrel, which is unique in the world and fundamentally different from conventional systems. For this reason, it is necessary to pay special attention to the information contained in this manual

1. The most important information in this manual.

1. Never readjust the output pressure on the regulator unless both manometers show the same value, which is also lower than the required new pressure. If you don't do it right, the plastic seat of the regulator will be damaged and significantly reduce muzzle velocity consistency. For more detailed information, see **Point 2**
2. Never set higher muzzle power than the current legislation in your country allows.
3. The power change of the tuned rifle is performed only by changing the output pressure from the regulator.
4. Do not set the output pressure from the regulator to a value **higher than 180 bar**. Higher pressure can cause increased wear leading to irreversible damage to the rifle.
5. For maximum accuracy and consistency of muzzle velocity, use for shooting an **external regulator**, such as the Altaros brand, set it to a pressure 20 bar higher than the output pressure from the regulator.
6. You will get the highest accuracy and consistency of muzzle velocity by using high-quality ammunition. We achieved the best results when using **Altaros** slugs type **ATP KING** (5.50mm), **ATP** (5.5-5.49 mm) and **ATP Smooth** (5.51-5.52 mm), 250-280 m/s.
7. To get the most of the rifle's potential for long-range shooting, use adjustable riflescope mounts that allow you to adjust the riflescope angle to the rifle, such as Mount FX No Limit.

2. Setting of output pressure from regulator

The setting of the output pressure directly affects the performance of the rifle, where a higher output pressure means higher power and vice versa. Tuning of preload of the firing pin spring is not necessary and it is not even possible.

The nut for changing the output pressure is located between the **manometer B** and the **filling pin**.
See. key position:



Important: The output pressure can only be changed when both manometers show the same value, which is also lower than the required new output pressure.

Before changing the pressure, it is necessary to reduce the pressure in the cartridge to a value lower than the one you want to set the new output pressure with by real firing (firing a projectile from the barrel). Example: for the required output pressure of 160 bar, it is necessary that both manometers show 150 bar and less.

The pressure change itself is performed using a 7 mm spanner, supplied with a rifle, which rotates the nuts on the regulator. **By turning counterclockwise (in the direction the barrel is pointing upwards), the output pressure increases and clockwise the output pressure decreases.** The movement of the key is limited by the space in the stock and it is necessary to always turn the flat head of the key by 180 °, which will allow access to the next rotation of the nut.

One turn of the key from side to side approximately corresponds to a change in output pressure of **3.33 bar. Thus, a whole revolution of the nut corresponds to a change of approximately 40 bar.**

Example: To increase the pressure by 10 bar, it is necessary to make 3 turns with the key.

For regulators of other brands, it is forbidden only to reduce the outlet pressure when the regulator is under pressure. It is not forbidden to increase the output pressure from the regulator.

With the **M24 regulator**, it might seem that it is also possible to increase the pressure (turn the nut) even at a higher cartridge pressure. It is physically possible, but if the outlet pressure on the regulator increases when the pressure in the cartridge is higher than on the regulator, this action can slightly damage the regulator and impair consistency. The following rule applies, the higher the pressure difference, the greater is the probability and extent of the damage.

Therefore, we generally strongly recommend following only the rule above and to change the pressure only in cases where both manometers show a lower pressure than the desired future output pressure.

Average values of the pressure-power relationship for a suitably tuned rifle according to point 3 (caliber. 22)

35-45 bar = 16 J

90-100 bar = 44 J

165-175bar = 75 J

3. Valve spring preload adjustment

In addition to tuning the outlet pressure, it is possible to tune the preload of the valve spring on the M24 rifle. This tuning can be performed using a No. 3 Allen key (3mm), which is inserted through the head of the bolt in the bolt handle cap - see:



By turning the key clockwise, the valve spring is preloaded more, thus shortening the time and duration of the valve opening, which reduces air consumption and more tightening even lowers the airgun power. But too much preload of the valve spring impairs the consistency of the muzzle velocity.

Turning the Allen key counterclockwise weakens the valve spring, which improves muzzle velocity consistency, but also increases air consumption and airgun noise.

The recommended optimal setting is to unscrew the valve spring pressure by approx. 3 turns from the state of complete screwing in and a possible minor correction of half a turn in both directions.

For precise tuning, it is also possible to unscrew the preloading screw by 4-5 turns from the maximum preload and then screw in the screw after ¼ turns and monitor the values on the chronometer (it is advisable to use an external regulator or air bottle permanently connected to the rifle). When the muzzle velocity drops by an average of 1-2 m / s, it is advisable to go back ¼ revolutions and leave this setting as the most optimal in terms of muzzle velocity consistency / air consumption ratio.

For maximum consistency, it is possible to unscrew the preloading screw by 1/2 to 3/4 turn more than this optimum, but it is necessary to take into account a slightly higher air consumption at the same power.

4. Use of the external regulator

The external regulator ensures a stable pressure inside the cartridge, which helps the main regulator to function more precisely and at the same time prevents a change in the pressure in the cartridge, which can partially affect the change of vibrations of the inner barrel. For maximum accuracy, it is therefore always advisable to use an external regulator connected to the rifle and bottle, which is set **to a pressure 20 bar higher** than the outlet pressure from the regulator on the rifle.

The second option, although less suitable but more accessible, is to use a filling bottle in which the pressure is 250 bar and less and which is permanently connected to the filling pin of the rifle during firing.

5. Barrel cleaning

In our experience, it is best to use **Ballistol universal oil**, which is sprayed into the barrel and spreads over the entire bore of the barrel with one pass of the **nylon brush**. It is then left to act for 3-5 minutes and then the barrel is cleaned by pushing through repeatedly the nylon brush and continuously cleaning it into cloth. Subsequently, it is possible to dry the bore with a felt brush and then make 5-7 shots without a bullet in the barrel, when the air itself sweeps away excess oil and dirt. The barrel should be cleaned regularly, especially when using slug-type ammunition, always at the moment when the fall of accuracy begins to show. When cleaning, it is especially important to focus on the condition of the first 3 cm of the muzzle of the barrel, where the choke is located and to which the lead residues adhere to an increased extent.

6. Conclusion

In case of ambiguity or unsureness, it is always better to contact our service department first and request additional information than to cause complications on the rifle by improper tuning without the correct information.

On behalf of the entire Altaros team, we would like to wish you many shooting successes and pleasant moments spent with this rifle.

The manufacturer is not liable for damages caused by unauthorized or inappropriate application of this manual, or for legal consequences caused by setting the rifle to a higher power than is allowed in the country where the rifle is used. All these risks lie solely with the operator. We strongly advise you to comply with all applicable legislation.



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