

# MANCRAFT

AIRSOFT ENGINEERING & MACHINING

**The High Refresh Rate Regulator** is a device to decrease and regulate the output pressure of HPA tank. It is designed to work with SLP, LP, HPA tanks and Mancraft Co2 adaptors. The output pressure of HRR can be set between 60psi to 250psi. Pressure is in range of Airsoft applications.

HRR is a high flow, high refresh rate regulator suited to use with HPA lines, QD fittings pistol lanyards, PDIK gen1, PDIK gen2 and SDIK Mancraft products. It also can be used with other manufacturer's products.

## Unboxing

The Box contains:

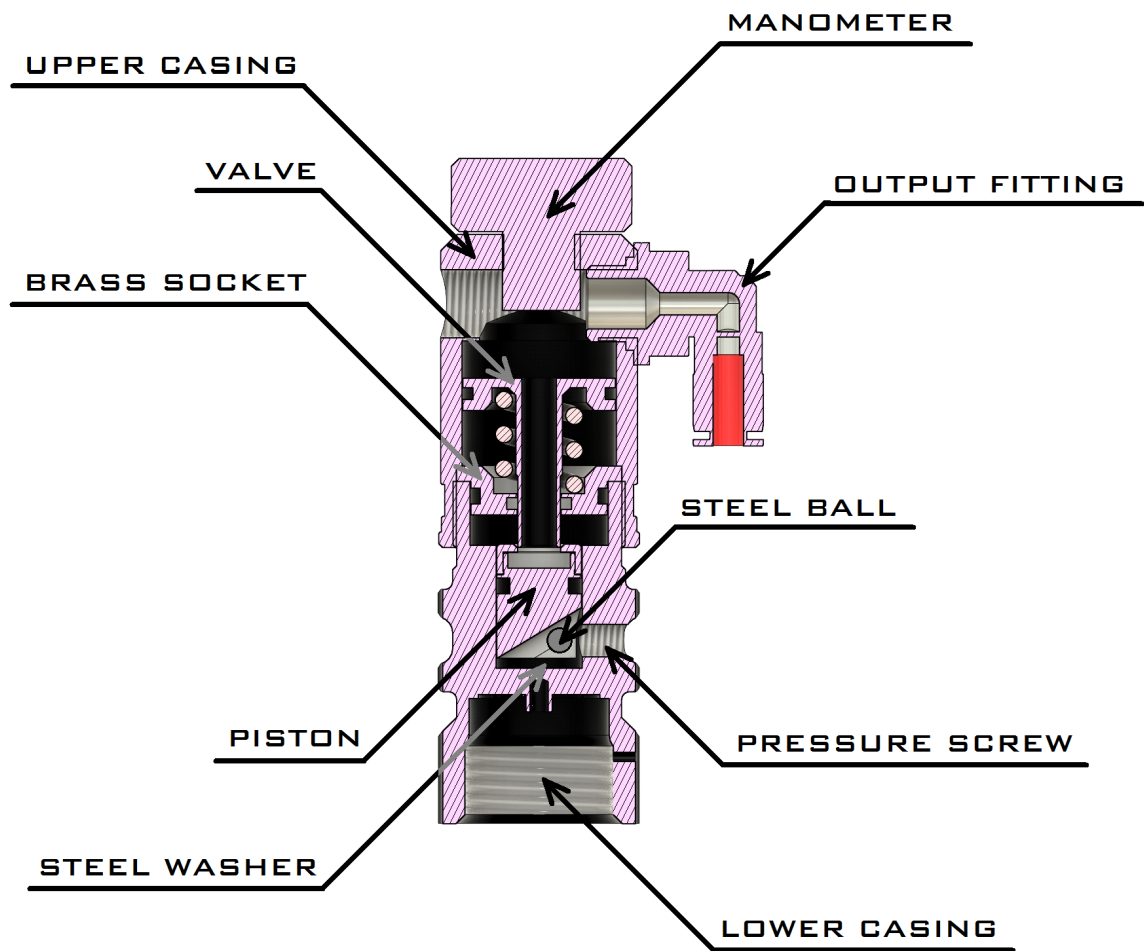
- HRR Regulator
- Regulating screw for lower pressures (M5x10)
- Soft spring for lower pressure
- Packing foam

## Installation

To install HRR onto a tank you need to align thread on regulator with thread on tank and turn it clockwise until it's set. To prevent the thread from wear-out use grease.

If you need to remove the regulator unscrew turning it counter-clockwise while holding by gripped **Lower Casing**. To prevent from damage or unintentional disassembly of HRR don't hold it by **Output Fitting** or **Upper Casing**. Built-up pressure between regulator and HP tank can be released after half a turn by detach of an HP line (or releasing QD fitting). If you have trouble to turn and detach the regulator put an Allen key into a Pressure Screw and use it as a lever.

Warning: If your HRR Regulator is installed with QD fitting or is connected to the conversion there is still pressure inside a regulator.



## Pressure adjustment

Pressure adjustment is made by turning the **Pressure Screw** (M5x8). Use a size 2.5mm Allen key and turn it counter-clockwise to increase pressure and clockwise to decrease pressure. When screw goes too deep into the body of regulator change it for a longer one (from parts attached).

If you need to lower a pressure range you can unscrew the **Upper Casing** from **Lower Casing** (right turn thread) pull out spring and put a softer one from parts attached to your regulator.

Hard dark spring pressure range is 60psi to 250psi (4bar to 17bar)

Softer shiny spring pressure range 40psi to 115psi (3bar to 8bar)

## **Tournament lock**

To secure the **Pressure Screw** from access tie a zip tie around the **Lower Case** of a regulator inside a groove. It prevents from intentional or unintentional pressure changes. The tournament lock may be required in some Airsoft fields.

## **Maintenance**

The Mancraft HRR Regulator may require maintenance when output pressure has become less consistent or when you noticed leaks. This may occur due to high cycle rates or by dirt/oil inside the regulator. To disassemble, clean and put together do as follows:

1. Unscrew **Upper Case** from **Lower Case** turning one of them counter-clockwise.
2. Pull out a spring.
3. Use small soft pliers (you can wrap them with insulation tape) to pull aluminium **Valve** from **Upper Casing**. Be careful not to scratch or damage the nozzle of this part as it is crucial for proper gas flow.
4. Detach the **Brass Socket** from the **Lower Case**. It sits on o-ring only.
5. Turn **Pressure Screw** clockwise all ways in, catch the steel **Piston** with pliers and pull it out. You can also put some rubber pad on a table and tap this part out.
6. Unscrew the **Pressure Screw** and pour the **Steel Washer** and **Steel Ball**.

To put all parts together:

1. Put the **Steel Washer** into the **Lower Casing**.
2. Put **Steel Ball** inside.
3. Tilt **Lower Casing** slightly and turn it around to let the **Steel Ball** fall into screw a hole.
4. Put the **Piston** in groove side first. The **Piston** groove has to be in-line with the **Steel Ball**.

5. Install the **Pressure Screw**. If you put these parts correctly the **Piston** will go up when you turn **Pressure Screw** clockwise.
6. Put the **Brass Socket** onto the **Lower Casing**.
7. Put the spring and **Piston** on the **Lower Casing**.
8. Carefully assemble **Upper Casing** and screw it turning clockwise.

O-rings of the HRR regulator have to be lubricated. We strongly recommend the use of Gun Sav Tech grease. The only part you need to keep clean of grease is the beige coloured seal on the **Piston** part.

Don't remove the large Allen screw on the **Upper Casing** as it is a sealing plug.

All fix parts are sealed using Loctite 542 sealant. To replace these parts use original Loctite 542 following the manufacturer's instructions.

We are not responsible for damage caused by use of Mancraft Regulator with products of other manufacturers.

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