

Latest 2022 Manual / Assembly for Mancraft MMR/HRR Regulators



Regulator types and general differences



HRR- High Refresh Rate

It's taller and easier to maintain. The pressure is set with an allen key on the side. You can choose the manometer/fitting placement on the side or on the top.

75x25mm



MMR- Mancraft Micro Regulator

MMR is smaller and you set a pressure using build-in knob. Slide cover works as tournament lock.

56x28mm

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MMR regulator types

Standard MMR regulator for HPA tank only. Can be fitted with same fittings as the HRR regulator.



MMR for CO2 stock. Different casing with a 1-3/16"-16 thread for a Mil-Spec buffer tube. It's designed to be used with the CO2 expansion chamber.



MMR for the MASS stock. Different casing designed to fit the rest of the stock components. Casing has integral sling attachments.



QD Fittings

You can choose one of the 3 quick detachable connectors.



These connectors blocks the air when male part is disconnected. It's a good way to detach your replica under pressure and connect again when you need it.



HRR with a MICRO QD 4mm fitting. Choose this fitting to connect SDIK, GBB pistol or PDIK (slow, single fire only). This fitting requires MALE MICRO QD connector or MICRO HPA HOSE.



HRR with a QD EU fitting. Choose this fitting to connect any PDIK system. You will also need the MALE QD/6mm fitting or a QD EU HPA hose.



HRR with the universal QD US fitting. It's a simple, rowbust and high-flow connector for PDIK systems. It fits MALE QD or QD HPA hose.

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Plug- In Connectors

You can also choose one of 2 plug-in connectors. This type of fitting won't block the air when hose is detached. It's a cheap and reliable connection but you have to mix it with in-line QD connector.

4mm plug-in
L-shape



6mm plug-in
L-shape



This fitting is commonly used for rig carrying your HPA tank or with the U-shape chamber on your replica.

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HRR with a L-shape 4mm plug-in connector. You can directly connect SDIK, Pistol Lanyard or any 4mm hose.

The SDIK (or 4mm hose with QD) must be attached before you pressurise the system.



HRR with a L-shape 6mm plug-in connector. It's made for 6mm hose. You can connect PDIK directly or with the in-line EU/US fitting.

The PDIK (or 6mm hose with QD) must be attached before you pressurise the system.

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HRR layout



HRR assembly

Unscrew the top part by turning it counter-clockwise. If parts stuck please wrap them with towel or an electric tape (to secure the surface) and loosen using vice or wrench.



WARNING!

Be very careful with the aluminium piston's edge. Even the smallest dent will cause the lagging issues.

To remove the aluminium piston you need to prepare a tool. Take a pliers, tweezers or some tube and wrap the ends with the electric tape.



HARD spring
for 100- 240PSI
(thick coil)

SOFT spring
for 0- 100PSI
(thin coil)

New HRR/MMR regulator is assembled with a SOFT spring. It gives you higher resolution on low pressure (percise regulation) and locks regulator for max 100PSI. You can replace this spring with a HARD you find in a box. This springs lets you set a pressure 100- 240 PSI.



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Put the tweezers inside



Tilt the piston to one side

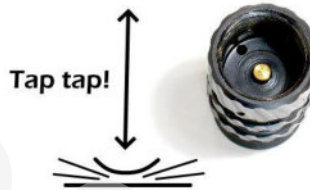


Grab and pull it wiggling left and right.

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Inspect the flat seal. It should be dry, clean and free of dust or indents. The circle imprint on the seal is ok until it's not puffed up- seal must be flat.



To remove the inner components you have to turn this part upside- down and tap them out. Tap against a rubber or a wooden surface.



Steel washer should be on the bottom

Use an 2.5mm Allen key to unscrew the M5 screw. You can replace it with a longer screw from set.

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Upper casing- all the parts here are glued with a Loctite 542. If you try to remove them the sealment will brake.



Aluminium piston
Seal: 15x2 NBR 90SHA



Spring



Brass disk
Inner seal: 5x1.5 NBR 90SHA
External seal: 15x1.5 NBR 60 SHA



Brass piston
External seal: 7.62x1.78 NBR 70 SHA



Steel ball



Steel washer



Lower casing



M5x8 or M5x10 screw for pressure regulation

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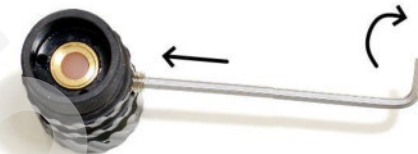
Put the steel washer at the bottom. Place the steel ball next to the threaded hole. You can use grease to lock it in place.



Steel ball should be located next to the regulation screw. Grease the walls inside with the Techt GunSav.



Grease the brass piston, align it with the groove facing the regulation screw. Slide it in carefully. Put a screw in a threaded hole and screw it clockwise- the brass piston should move up.



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MMR layout



Grease the seals on the brass disk.
Place the disk on top of black part
with the external seal facing down.

Place the spring on the brass disk
and carefully guide the aluminium
piston through.

Use Techt GunSav to grease the
seal on the aluminium piston.

Grease the inner walls of the upper part
and slide it on top. Try to keep the lower
part in line all the way. Screw the parts
together by turning upper part clockwise.

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Fitting connector (output)

Manometer 0- 400PSI

Sliding cover,
Tournament lock

Regulation knob
Turn right to increase
the pressure.

1/2 inch thread for
HPA tank or CO2 adaptor

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MMR disassembly



You can move the regulation cover. The regulation knob should be covered to prevent from dirt and dust getting inside.

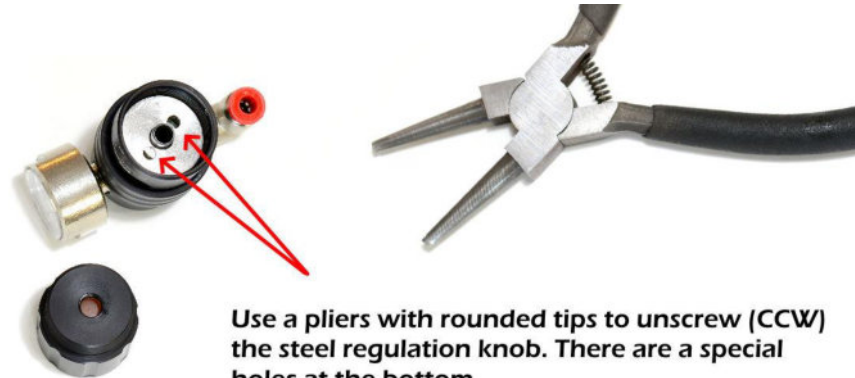


Use a 1.5mm Allen key to remove two small screws on both sides.

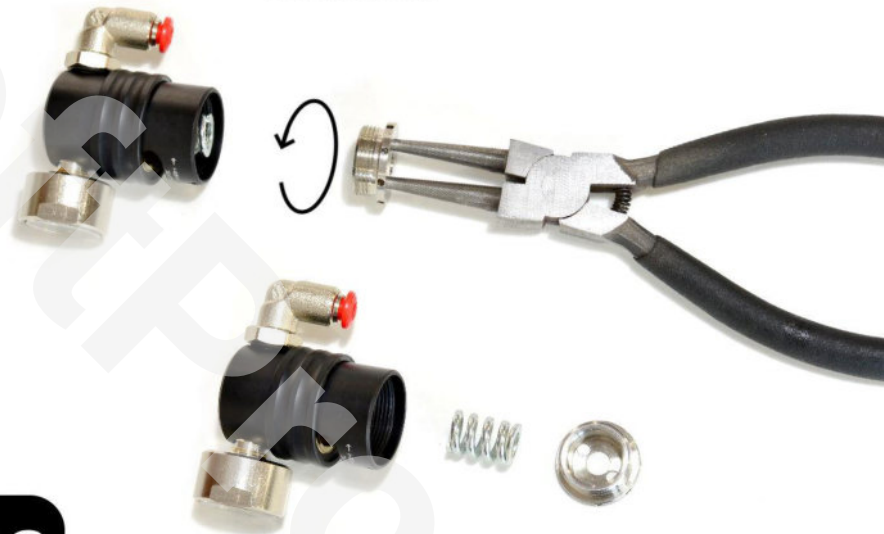


Unscrew the lower part turning it counter-clockwise.

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Use a pliers with rounded tips to unscrew (CCW) the steel regulation knob. There are a special holes at the bottom. Be careful with the aluminium piston in the middle- the sharp edge is very delicate, don't touch it.



Pull out the spring

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You can now replace your spring with the spare one.

To remove the aluminium piston you need to prepare a tool. Take a pliers, tweezers or some tube and wrap the ends with the electric tape.

SOFT dark spring
for 0- 100PSI



HARD silver spring
for 0- 240PSI



The dark spring is softer and gives you higher resolution (precise regulation) on lower PSI. It also locks the MMR to low pressure below 100PSI.

Use the same pliers to unscrew the bronze ring from the inside.

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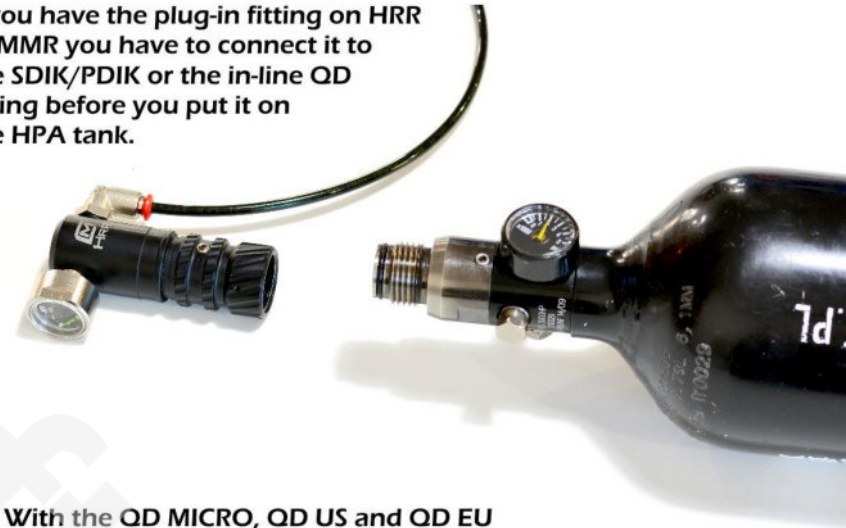


Connecting regulator to the HPA tank

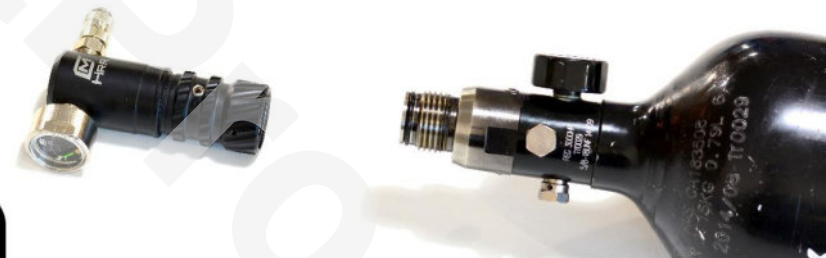


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If you have the plug-in fitting on HRR or MMR you have to connect it to the SDIK/PDIK or the in-line QD fitting before you put it on the HPA tank.

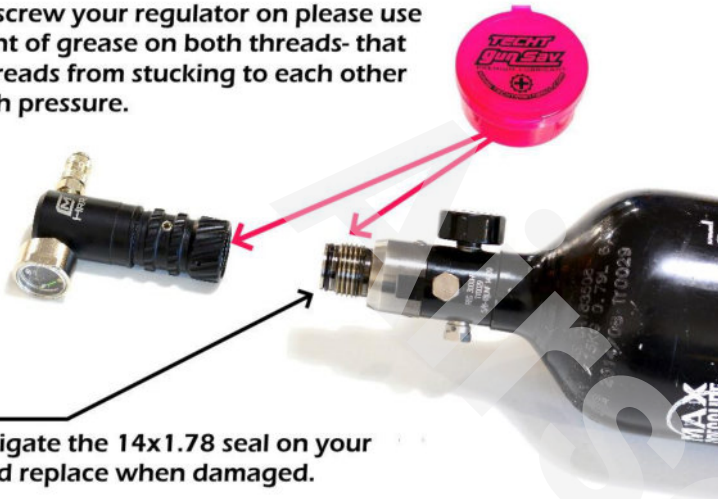


With the QD MICRO, QD US and QD EU .. you can put your regulator on HPA tank directly and then connect the supply line.



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Before you screw your regulator on please use a fair amount of grease on both threads- that prevents threads from sticking to each other under a high pressure.



Please investigate the 14x1.78 seal on your HPA tank and replace when damaged.

If the pin on your tank sticks out of the head profile it probably means the first- stage regulator needs regeneration/replacement.



Hold regulator in one hand and turn the whole HPA tank clockwise. Turn it until you hear a short hiss followed by click sound. You should stop tightening.

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To unscrew the regulator from HPA tank you need grab the the regulator by the lower half and turn it counter- clockwise.

The pressure from the inside of the regulator should be released to make it easier. The best way is to connect SDIK/PDIK to output, loosen the regulator, shoot, loosen again, shoot and repeat until you have no pressure.

Hold regulator here.

WARNING!

Never fill your tank with the regulator attached!

WARNING!

If you see this part begins to separate from the HPA tank STOP and contact us.

