HUMA-AIR.COM

Market Leader In Accuracy

Welcome to Huma-Air. We design and manufacture brand- and model specific precision regulators for PCP air rifles.

By using only the highest quality materials such as aircraft grade aluminum, aluminum-bronze, chrome-moly steel and precision belleville springs, our ultra-compact regulators are high performing with less than 1% fluctuation.

Huma-Air regulator installation guide BSA Ultra CLX <12ft.lbs

For adjustment tips, frequently asked questions and a complete list of installation manuals and instructions on how to adjust your Huma-Air regulator

https:/www.huma-air.com/Fitting-instructions

Or go there directly by scanning the QR code

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Before you you start, realize this;

- Working on a high pressure rifle could potentially be harmful or lethal to you or bystanders if you do not know what you are doing.
- The pictures of the rifleparts in this manual are universal and mend as an example to explain the working principle. They might not be equal to the parts in your rifle.
- Do not attempt to install this regulator yourself if you do not have a clear understanding of how these pcp rifles and regulators work.
- Do not attempt to install this regulator if you are not skilled to work on an airrifle; contact your local gunsmith to do the fitting.
- Installation and operation is done completely at your own risk.
- Installing this regulator might void your rifle's factory warranty.
- Your rifle may never be filled higher in pressure as stated in your rifle's manual.
- Do not attempt to fit this regulator in another rifle as mentioned in our order conformation.
- These regulators are not suitable to use as a CO2 to HPA conversion, this could potentially be harmful or lethal to you or bystanders.
- We cannot be held liable for any accidents in relation to this regulator and its installation.

Before you start, make sure that the rifle is unloaded, remove the magazine and make absolutely sure ALL the air is drained from the pressure tube. If there is a pressure gauge, it will give you just an indication. Dry fire the rifle or follow the manufactures instructions and double check to make sure all the air is out of the rifle

If the regulator is fitted and there is no output pressure after filling the pressure tube, something might be wrong causing the airflow to block totally.

Please beware even though there is no output pressure, the pressure tube is fully charged with high pressure air!!
If you are not able to relieve the pressure of the pressure tube according to the manufacture instructions or by dry firing the rifle then:

Contact a professional gunsmith to retrieve a solution!

- **DO NOT try to unscrew or to open the pressure tube in any way.**
- **DO NOT try to pierce/drill or to use force to open the pressure tube or unscrew parts in an attempt to relieve the blocked pressure.**
- **These actions can cause serious injury or death to you or bystanders**

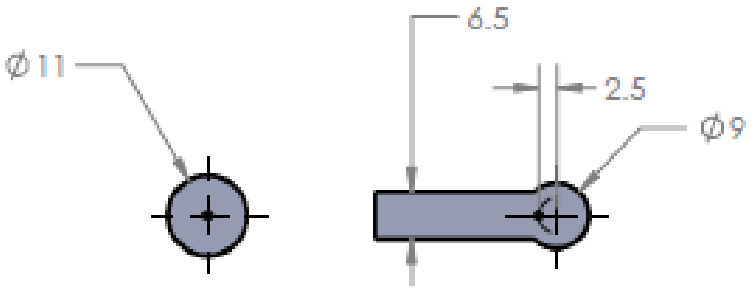
Installation of a regulator to the CLX can be done in two ways.

1. By just installing the regulator without removing restrictions in the action
2. Installation with removal of restrictions in the breech block. This will require the removal of the anti-tamper. Consider that after removal of the restrictions your gun can potentially exceed 12ft.lbs and for some countries could mean your exceeding the legal limit!

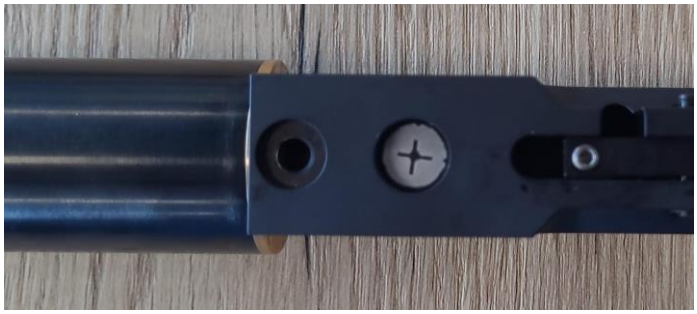
Let us cover the simple installation first

Drain the rifle by shooting it empty. Unfortunately it does not let you drain the air otherwise, and remove the action out of the stock.

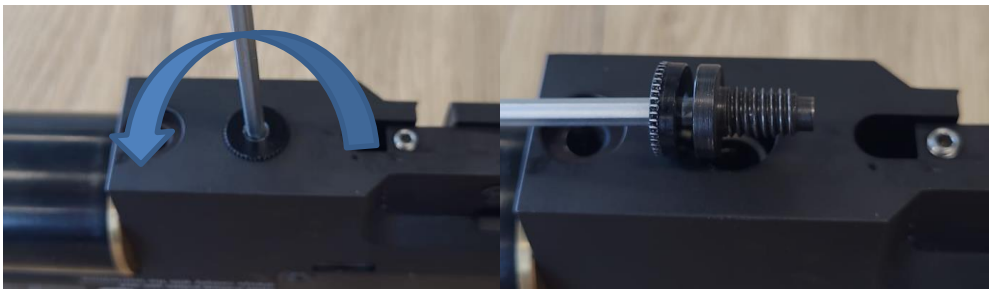
Now best to print the two figures below. Removing of this anti tamper isn't strictly necessary but it will make handling the parts much easier. They are a centering help. If they do not print completely to size you can scale your print. In our printer settings with 100% scale they are as close as needed. Cut them out with a pair of scissors.



First start out with the 11mm circle. Cut it out and lay it in the plug hole. Find the centermark and use a centerpunch to create a stable base for drilling.

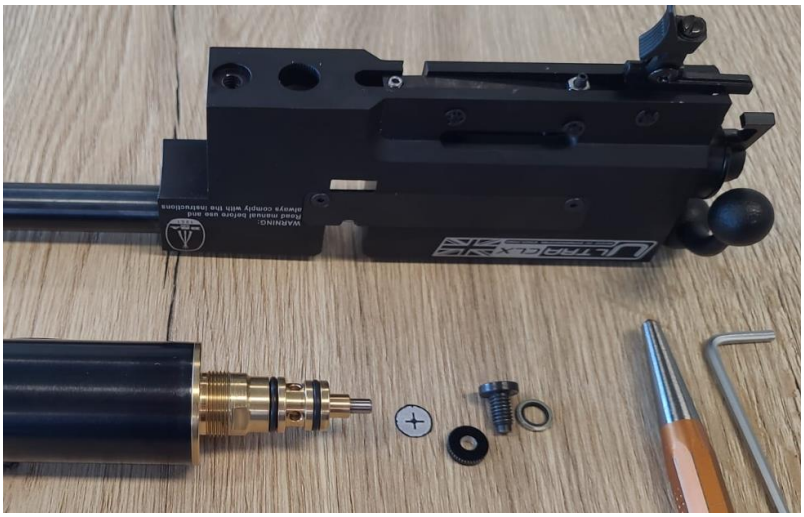


Now take a drill of around 4,5mm and drill through the aluminium plug trying to avoid marring the screw underneath. Try to avoid getting swarf in the trigger parts by masking it with a plastic bag and some tape.



Now using a 3mm hexkey unscrew the screw. The plug will be forced out by the screw. Take note that under the screw is a bonded seal. Avoid losing that 😊.

You can now unscrew the complete valve assembly from the breechblock



This will give you easy access to the valvehousing and you'll have the option of using the flats in case the valvehousing is tighter than our example.

Remove the the valvehousing from the tube, remove the oring and unscrew the aluminium plug from it.

Here are the parts in succession. You will need to remove the brass restrictor. After removal of the restrictor reassemble the valve again.

In this installation type you will need to set the regulator to a relatively high setting.

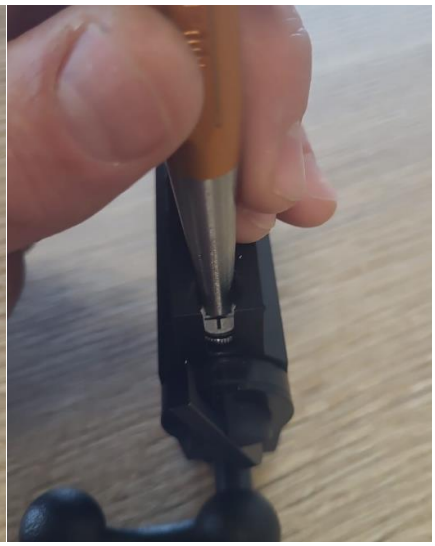
Approximately 105 bar for .22 and around 115 bar for .177.

Assemble the regulator as shown above. Using a coat of silicone grease for installation.

Next thing we will do is get access to the hammer spring adjustment.

Start of with removing the circlips on the front and back pin.

Then push out the pin making sure nothing springs from it’s place. You should get the above parts out.

Cut out the 2nd centering help and place it on the 2nd plug. And center the slight off center place. Start with a 1mm drillbit and just drill the aluminium plug. Then follow that one with a 3mm drillbit making sure you only drill the aluminium and don't damage the hex connection of the screw underneath it.

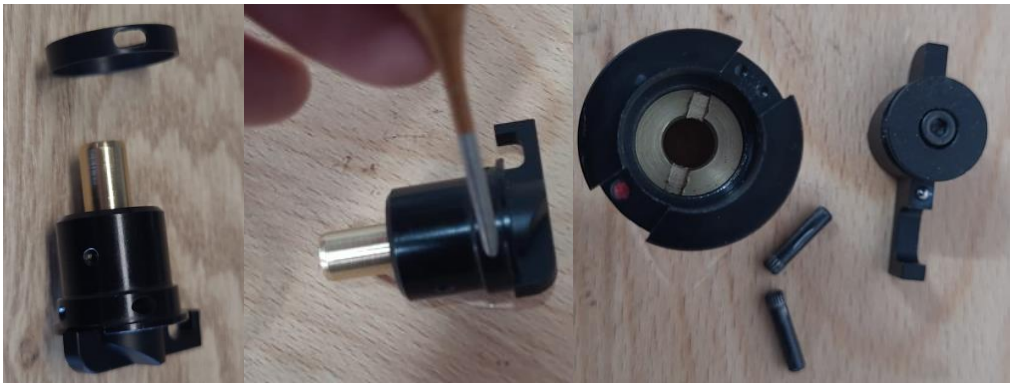
Now using a 2mm hexkey start unscrewing the screw under the plug. Due to the location of the screw being slightly off center, you might need to help the right side of the plug a little with a screwdriver. After a couple of mm you should be able to pull the plug out with a pair off needlenose pliers.

Now unscrew the plug that covers the top with a 3mm hexkey

Using the same 3mm hexkey remove the bolthandle.

Remove the screw that holds the safety assembly. Be sure to put some pressure on it, otherwise it will come flying out of the breechblock.

In order to reach the adjuster you will need to the safety assembly from this plug. This will be shown below.



Remove the Delrin collar that covers the pins holding the safety, tap out the pins which will free the safety lever. Watch out you will not loose thesmall ball detent and spring.

Now clean and reassemble the rifle without the safety so you can adjust everything for the best setup.

Our advice for adjusting the pelletspeed.

If you follow these steps you will have pretty much a optimal balance between air-usage and shotcount.

Remember the regulator will determine the maximum pelletspeed.

- Fill the rilfe with air.
- Turn in hammerspring to the maximum tension.
- Do some shots and measure the pelletspeed.
- If the speed is near to what you want then continue. If not, see below.

If you get way to much speed, then lower the reg pressure a bit.

If you do not get enough pelletspeed then increase the reg pressure a bit.

You can in- or decrease it by setting the screw on top of the regulator according to the pressure scale.

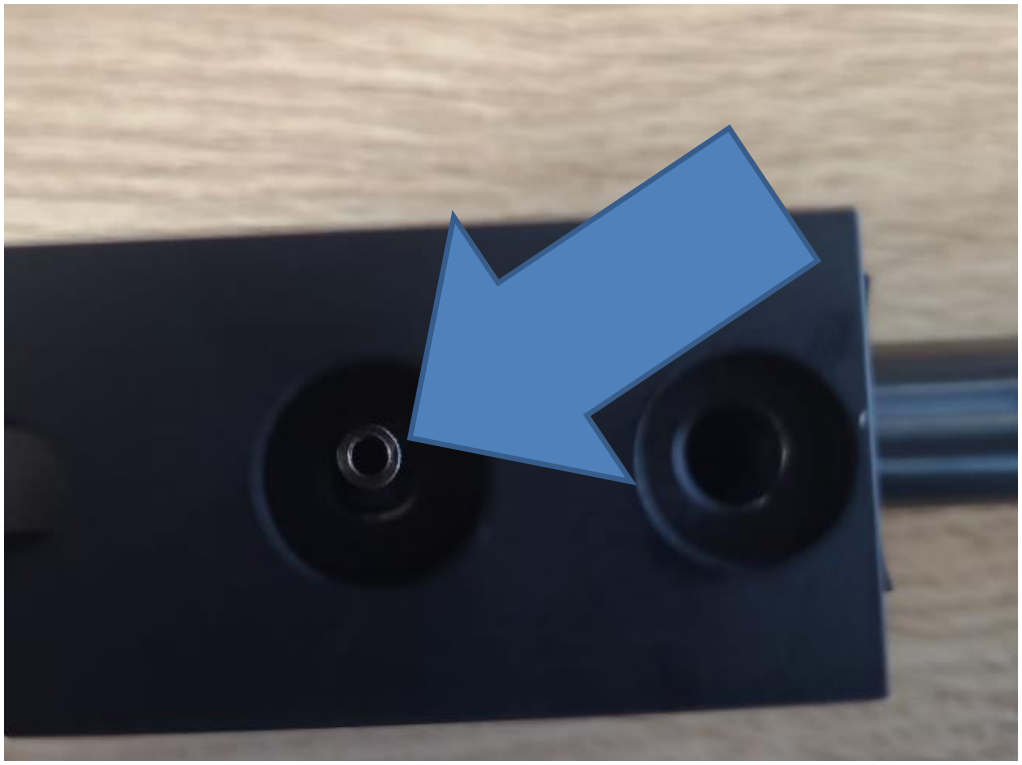
- Turn back the hammerspring tension and shoot and measure the speed. Keep doing this until you see the pelletspeed decreasing.
- Now you should have a pretty well balance.

After fitting the regulator, most type of rifle's won't need the factory hammerspring guide/weight anymore.

After everything is setup to your liking what rests is to reassemble the safety and your ready.

Next part of the instructions will cover the removal of the restriction in the transferport.

In order to do so will require a m3 tap.



Down the hole you will see the restrictor. In the centerhole you can tap M3. This sould give you enough purchase to pull it out.

Above you see the restrictor. This will free up the transfer port already considerably.

The last part is the porting in the barrel.
It reduces from about 4,5mm down to 3,5mm. To get the most efficiency from your rifle you can enlarge this as well. Don't go overboard with this to make sure the pellet will pass the port in the barrel smoothly. If you do drill it deburr it carefully so pellets don't get damaged.

After removal of the restrictor around 85bar for .22 should be enough and for .177 you should only need around 95bar. Re-adjust the hammerspring again to get optimal shotcount.

Reassemble your complete rifle and start enjoying your now regulated BSA Ultra CLX