

TDC Bracket Converter Kit- Installation Guide

Designed for the VFC M4 – Hop-up Rotary Chamber



The TDC Kit is designed to fit onto the existing VFC rotary chamber in relation to a R-HOP build which required a perfect top-down hop for the best consistency in accuracy and distance. Since the stock chamber is designed specifically for your model of rifle, it will prevent the risk of BB jamming and will hold the best air compression, compared to third party chambers in the market.

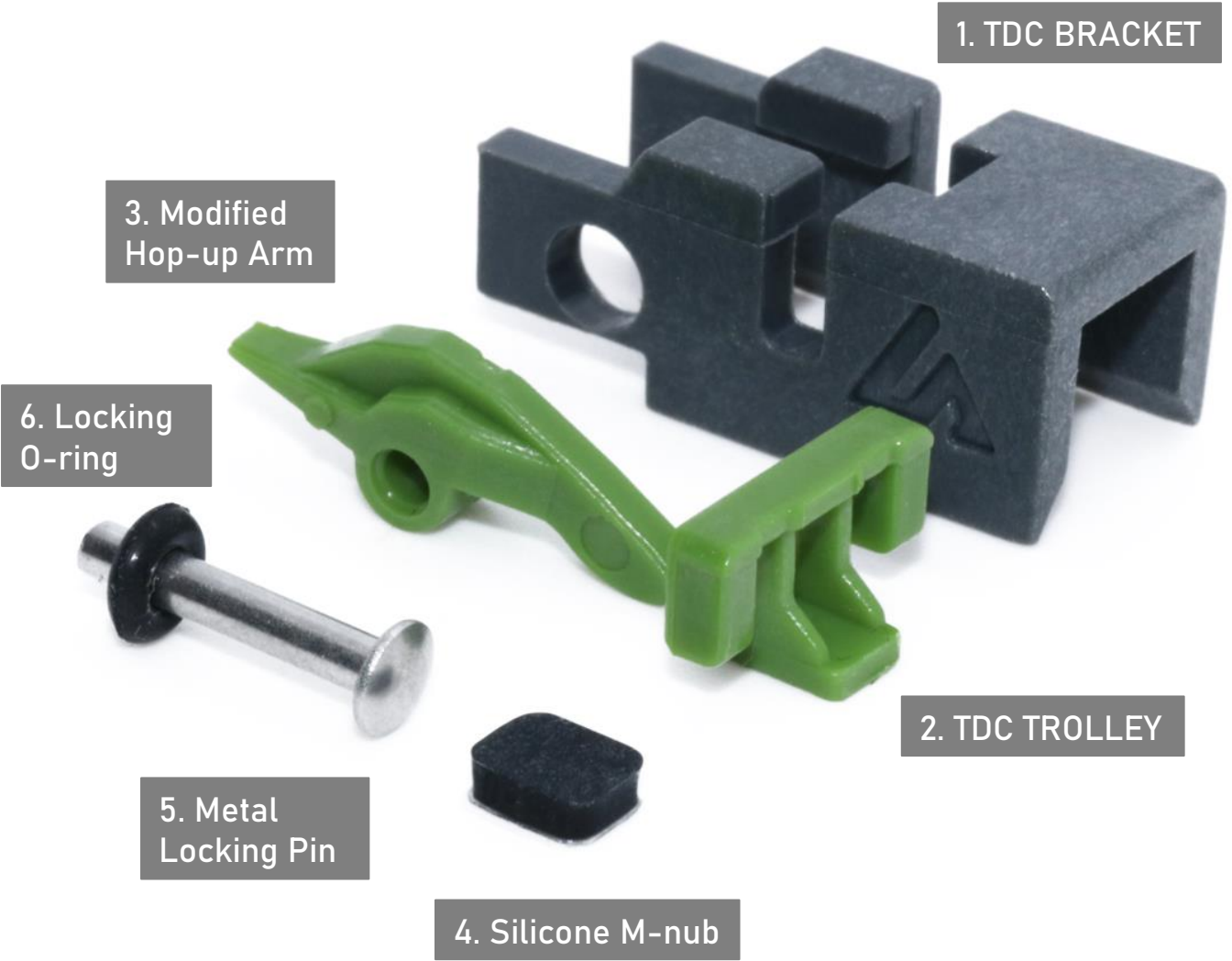
Please take your time to follow each of the installation steps and instruction to ensure it installed the correct way. Failure to so may ruin the setup altogether and may require replacements. The time may take 1-2 days to complete as some steps do require you glue some parts together.

We would recommend skilled technicians with a good degree and aptitude for modifying parts within the rifle. We strongly recommend to seek out your local gun tech to help in the installed were required.

Once all is installed, you can expect a great difference in performance! Have fun teching!

TDC Trolley Converter Kit – For VFC M4 Rotary and MCX Virtus (All are included in the purchased kit)

- 1. TDC Bracket
- 2. TDC Trolley
- 3. Modified Hop-up arm
- 4. Silicone M-nub
- 5. Metal locking pin
- 6. Silicon Lock O-ring
- 7. Zip Tie (not in Demo Photo)



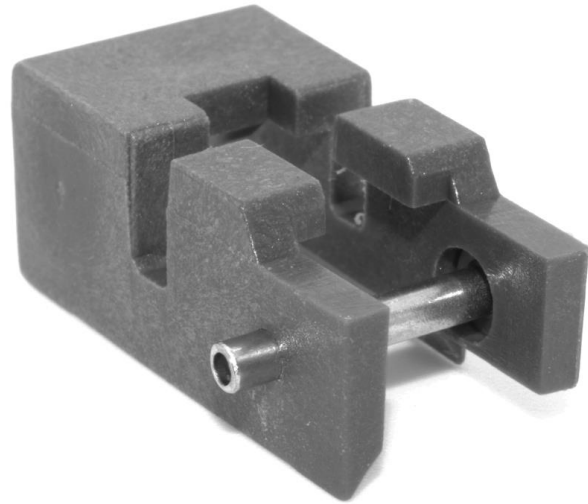
What Else Will You Require For the Installation? Below are highly recommended and will make the process much easier.

- 1. Scalpel or Sharp Knife 
- 2. Perm Marker Pen 
- 3. Super Glue or Strong Adhesive 
- 4. Handsaw 
- 5. Hobby Tweezers 
- 6. Sandpaper (Fine Grit 400+) 

PREPARATION – TEST THE MESHING

1

Test that the locking pin inserts into the hop-up bracket comfortably. Not too tight, not too loose. If too tight, fit it more times until it loosens. Use sanding tool if required slowly.



4

Test the front hop-up arm fits into the Trolley slot without resistance.

Test that the locking pin inserts into the hop-up arm correctly. This should fit through without issues. If the hole is too tight, use a rolled-up sandpaper to lightly sand until it fits nicely.



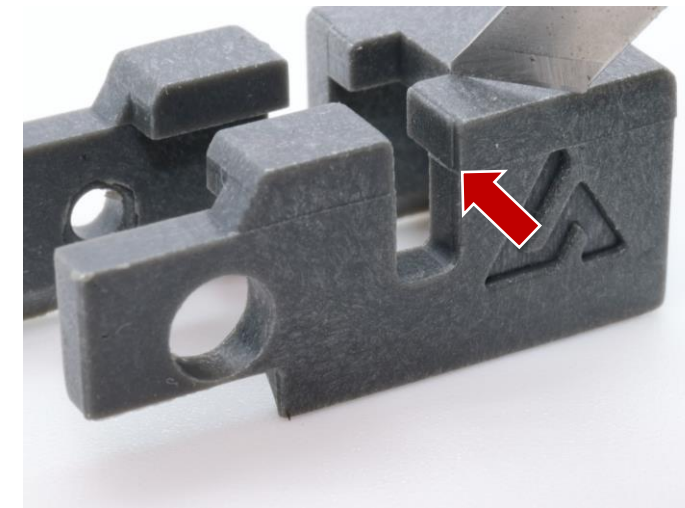
2

Test the trolley fits on to the wall of the hop-up chamber. As standard it should be able to move up and down without resistance. Use gear grease to smoothen the motion.



5

Likely there will be manufacturing burs and part-lines that can be found on the BRACKET that can affect the smooth downward movement of the trolley. Use a sharp knife/ Scalpel to cut them off. Sandpaper can be used to remove the lines.



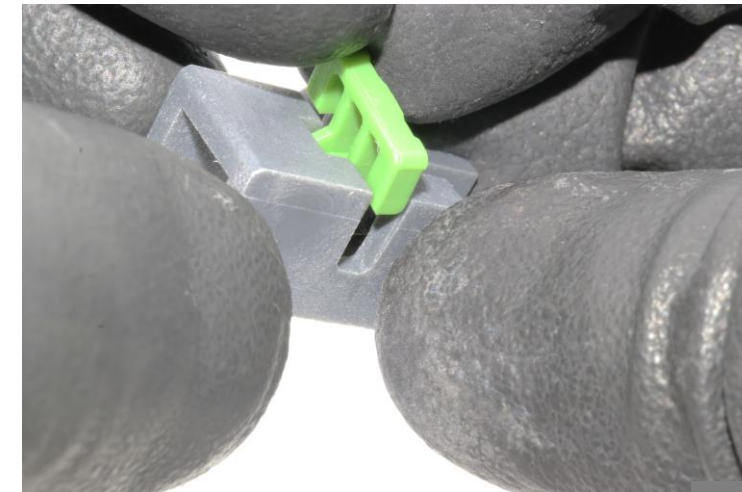
3

Test the Arm fits in between the hop chambers walls without being too tight – snug is acceptable. Lightly sand the sides of the arm on each side. Test incrementally back into the chamber until it fits nicely.



6

Place the Trolley into the Bracket slots. Test it can move up and down without resistance. Apply gear grease to smoothen the sliding action.



TDC INSTALLATION

7 Remove everything from the hop-up chamber. Install the Inner barrel with the R-HOP patch already installed, bucking and C-clip, and Brass O-ring



10 While holding the bracket in place to prevent movement, install the TDC trolley into the two slits found on the TDC bracket. Press down so the foot of the trolley is stuck firmly onto the M-nub.



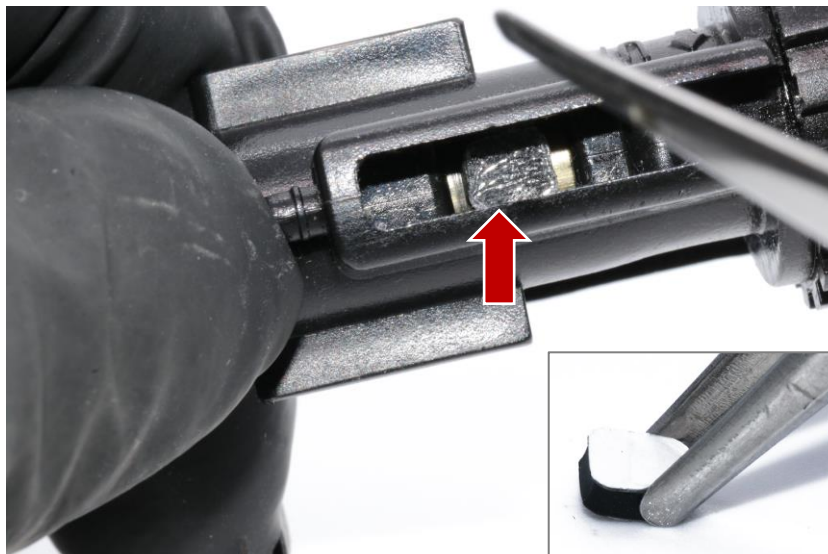
8 Place the bracket over the hop-up unit chamber



11 Install the new modified arm. Fit it through the trolley first the back into the adjustment wheel. Line up the holes ready for step 12



9 Remove the sticker paper from the M-nub and place onto the hop-up window. Ensure it is directly above the R-HOP patch to achieve a unison amount of hop force applied right across the patch.



12 Insert the locking pin and then the mini locking O-ring to keep the pin in place.



TDC KIT INSTALLATION

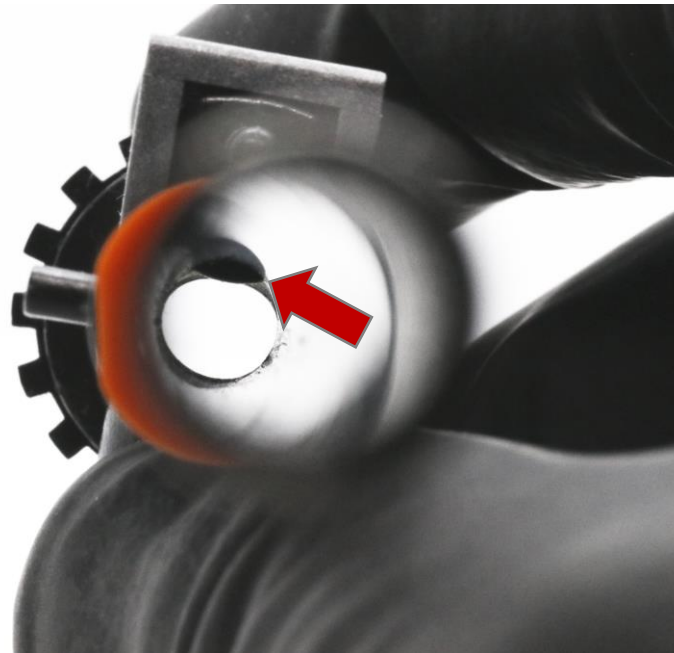
13

Adjust the dial to the max on the chamber to apply the hop fully.



14

Look through the inner barrel, you should see the R-HOP patch protruding downwards to verify the kit is functioning. Adjust the dial back to 0 (neutral) when done.



15

Once you are happy, next will be to permanently stick the TDC bracket in place. Apply a thin layer of super-glue on foot of the bracket – do this for BOTH sides. Do not over do it with the glue, careful not to have glue on the trolley and slot it travels down.



16

Use the Zip tie (supplied with the kit), to lock the TDC kit into place. Do not over tighten – a firm amount is only required. Leave for 12 minimum and/or 24 hours to fully cure (dry).



Next step depends if your rifle is the VFC M4 Variant or Sig Sauer MCX Virtus.

If Sig Sauer MCX Virtus – go to page 5

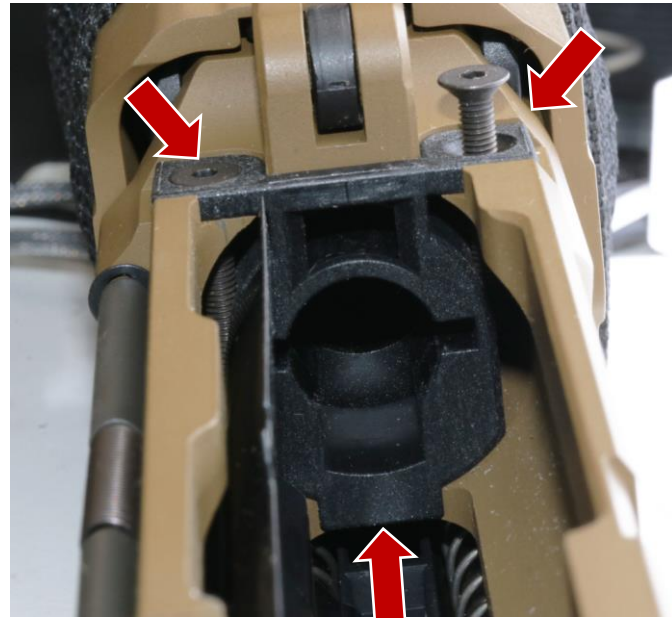


VFC M4 Variant – Skip to page 6

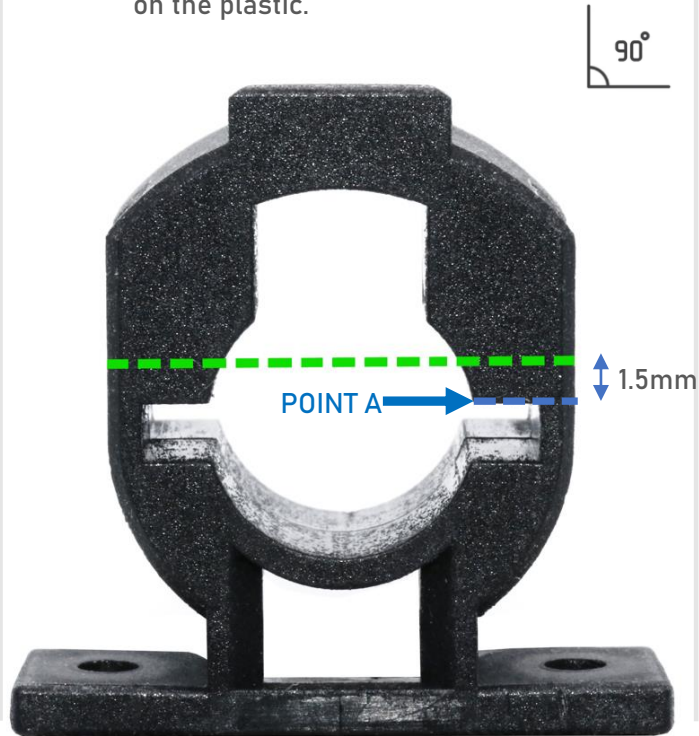


OUTER BARREL MODIFICATION (Sig Sauer MCX Virtus Models Only)

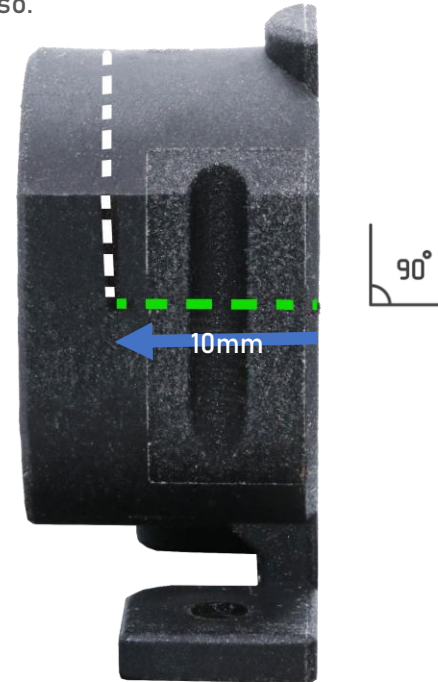
17A Take out the upper receiver and unscrew the two screws holding the Barrel Holder. This will now be modified.



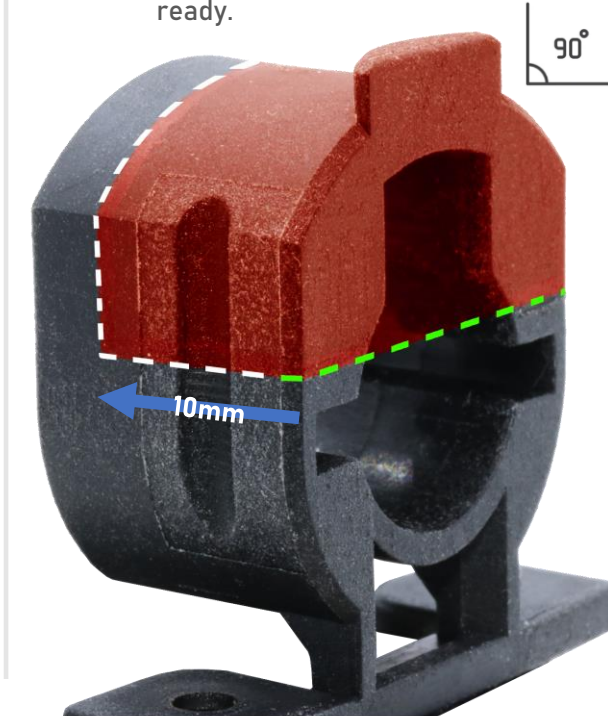
18A The green line is 1.5mm from point A. Measure this and clearly mark the line on the plastic.



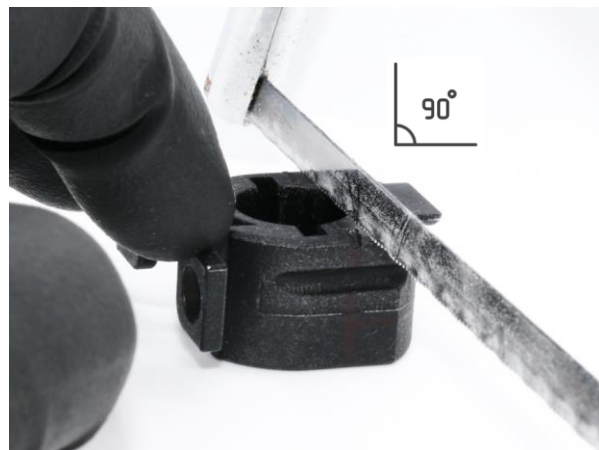
19A Mark the next green line on your barrel holder. This is a 10mm cut required to be removed. The white dotted line is 90 degrees perpendicular - mark this also.



20A Once marked, the red part highlighted will be required to be removed. Get a handsaw ready.



21A Take your time to hacksaw to cut out the marked piece at right angles (90 degrees). Be careful to keep things straight



22A Take a knife to remove any bit or burs. Use sandpaper to clean up the edges. Once completed it will look like demonstration below. The part on the right will not be required.



23A Remove the zip tie and insert the hop-up chamber careful into the Outer barrel holder. Ensure there is no friction or blockages at the foot of the TDC bracket (shown with arrow). Keep sanding until it fits perfect. Install back to the handguard when its completed

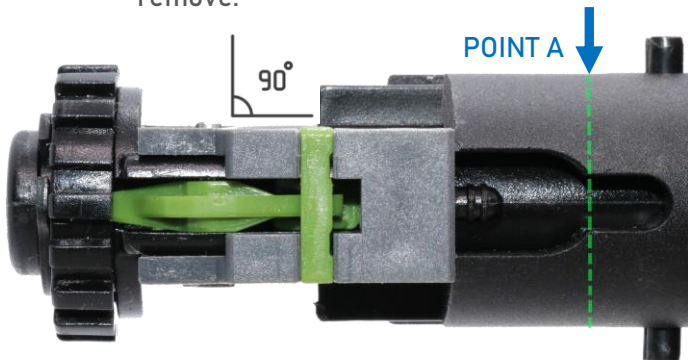


OUTER BARREL MODIFICATION (VFC M4 VARIANTS)

17B

Take out the outer barrel from the upper receiver. There are some videos on youtube to show you how to take this out. The outer must be modified in order for the TDC kit to fit properly.

Insert the hop-up unit into the outer barrel. You will see it will not fit just yet as there are pieces of metal we must remove.



On Point A draw a line that is perpendicular (90 degree) to the unit. You could use masking tape also to indicate this green line

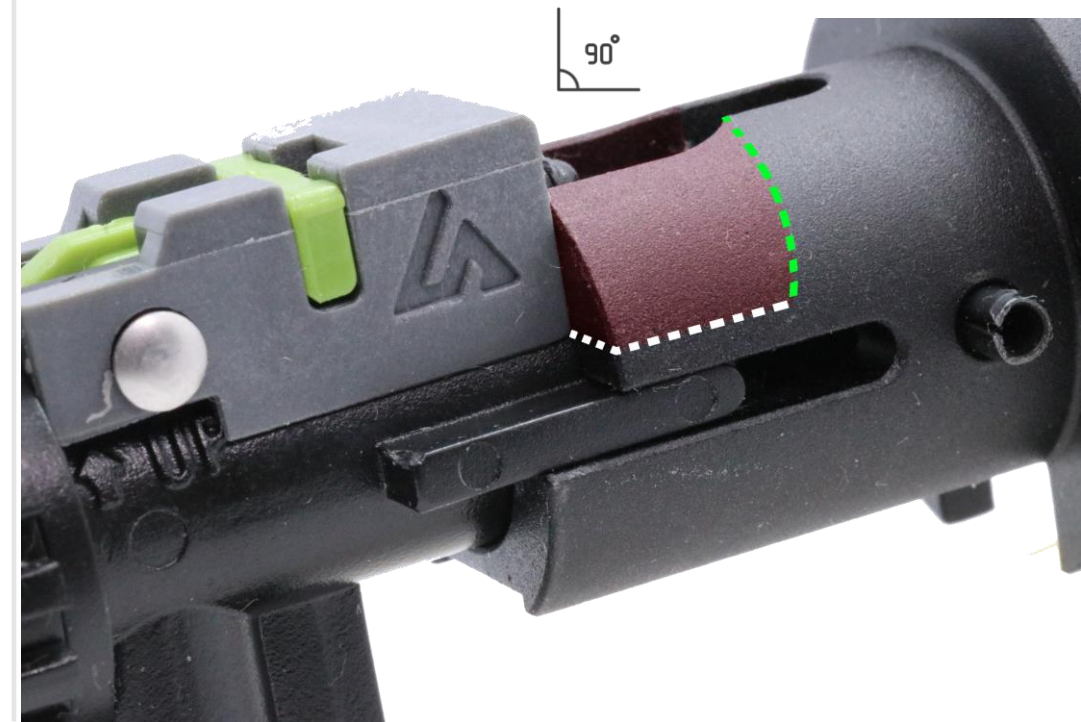
18B

On the foot of the TDC Bracket (Point B), follow the line from the bracket onto the outer barrel. Use a marker or masking tape to indicate this line, until crosses the line from the green line from step 17. This all at right angles (90degrees to each other) and the dotted lines will need to be removed.



19B

Once marked, the highlighted part (in red) will be required to be removed. Prepare your handsaw, and move to the next setup



20B



Take your time to hacksaw to cut out the marked piece at right angles (90 degrees). Be careful to keep things straight

21B

Take a sanding tool to remove any bit or burrs. Use sandpaper to clean up the edges and smoothen sharp edges. Wipe out with wet paper to clean out bits of metal and shavings.



22B

Once completed, try testing the TDC kit & Chamber into the outer barrel. Repeat 20 and 21 incrementally until it fits in nicely like the demo below. When complete install the outer barrel back into the handguard followed by the hop-up unit.



R-HOP vs FLAT-HOP Setup?

The TDC Kit is designed to work with R-HOP and Flat-hop set ups. Below are the different brands we recommend that will work well and are proven to perform well for superior accuracy, longer distance and consistency of BB shots. You can choose either of them with confidence depending on availability and preference for each type of setup.

R-HOP Patches

Recommended R-HOP Patches that are considered a “drop-in” patch. Each brand have tailored sizes to fit the hop-up window perfectly for the particular inner barrel intended to be used. These can be easily found in retailers worldwide or bought directly from them. Once installed superior BB travel distance of 70m+ and with tight accuracy and grouping.

Psionic R-HOP Patches (Kit)
<https://psionic-upgrades.com>



Elvish R-HOP Patches
<http://www.elvishtac.com>



Sniper Upgrades RHOP
<https://sniperupgrades.com/>

**SNIPER
UPGRADES**



R-HOP Drop-in Bucking's

Maple Leaf MR Bucking's now offer a R-HOP performance bucking's that are a completely new drop-in without the need for the patches. You just insert it into the inner barrel and you're good to go. For the average player who wishes to gain RHOP-like performance with out the need to tech or modify these are perfect and you could gain the distance and accuracy to of RHOP however over the longer distance, the groupings are normally not as accurate compared to the original setup above however still impressive.

Maple Leaf MR Hop-up Bucking (Drop in R-HOP)



FLAT-HOP Build

For Flat-Hop, all you is a bucking that does not have mound on the inside. You can cut it off yourself DIY, or purchase a manufactured version by companies like Prometheus or Modify.

If you have any question on this product or installation process, feel free to email us at info@airtechstudios.com