

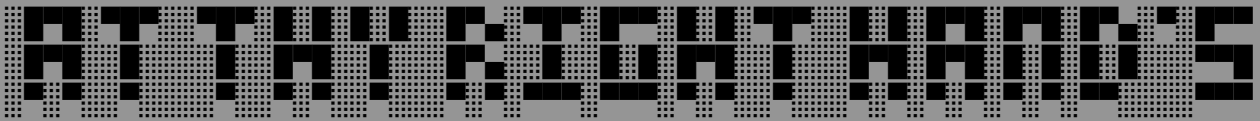
U-BOLT BATTLE PASS

**A HOME FOR
EVERY MAGAZINE,
AND
EVERY MAGAZINE
IN IT'S HOME**



[HTTPS://T.ME/ARMTHYRIGHTHAND](https://t.me/armthyrihand)

INCLUDES ESSENTIAL INFORMATION FOR TODAY'S MORE COMPLEX FIREARMS



U-BOLT BATTLE PASS

PRINTING AND ASSEMBLY

MOST OF THE LOWERS CAN WORK WITH ANY MODEL UPPER / BOLT COMBO AVAILABLE IN THE RESPECTIVE CALIBER EXCEPT THE EVO AND THE MP5, BOTH OF THOSE LOWERS REQUIRE A SPECIFIC UPPER AND THE EVO REQUIRES A SPECIFIC BOLT WHICH ARE MENTIONED LATER IN THIS README.

EACH LOWER REQUIRES DIFFERENT HARDWARE DUE TO SMALL CHANGES IN MAG RETENTION AND EJECTOR SHAPES. BUT ALL LOWERS REQUIRE A 1/4-20 x 1 1/8 ID U-BOLT COMMONLY AVAILABLE IN HARDWARE STORES AND TWO 1/4" CLEVIS PINS.

I RECCOMEND U-BOLTS WITH A MINIMUM LENGTH OF 2 3/4", THIS ALLOWS CROSS COMPATIBILITY WITH MY DPMS LOWER AND ALLOWS YOU TO MANUALLY CUT THE U-BOLT TO FIT EACH INDIVIDUAL LOWER WITH A DREMEL AFTER ASSEMBLY.

THE SPECIFIC U-BOLT I USE FOR ALL MY BUILDS IS:
[HTTP://FASTENERMART.COM/HR127-8692.HTML](http://FASTENERMART.COM/HR127-8692.HTML)

WHERE TO BEGIN

ALL LOWERS HAVE BEEN TESTED USING THE FOLLOWING SETTINGS IN PLA+ 235C/70C PRINT TEMPERATURES.

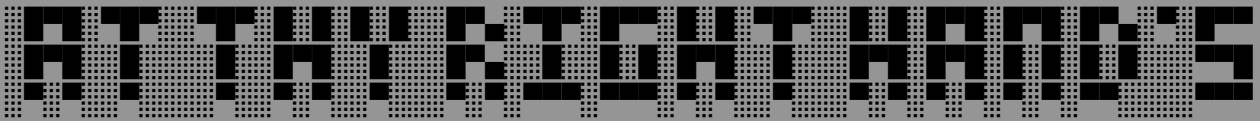
100% INFILL.

6 WALLS

0.18MM LAYER HEIGHT

THE ANNOYING BITS

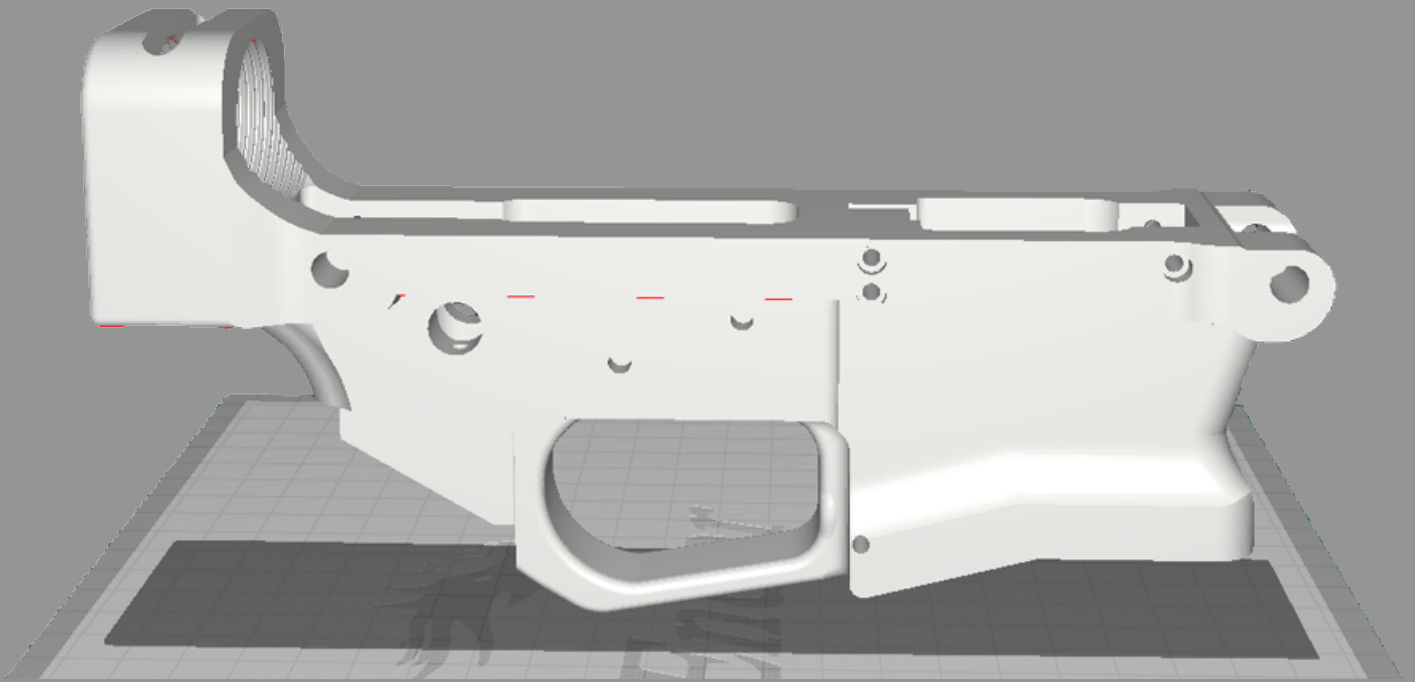
- 1.) REMOVE SUPPORTS.
- 2.) GRIND THE INNER THREADS OF THE U-BOLT JUST ENOUGH SO THAT IT CAN SLIDE FREELY PAST THE BUFFER TUBE.
- 3.) INSTALL BUFFER TUBE, BUFFER RETAINER SPRING AND RETAINER AS USUAL.
- 4.) INSTALL THE U-BOLT (JUST PLACE IT DOWN OVER THE TUBE).
- 5.) INSTALL THE TWO NUTS ON THE U-BOLT, ENSURING YOU DON'T OVER TIGHTEN ONE.
- 6.) MARK THE PART OF THE U-BOLT THAT STICKS UP ABOVE THE BUFFER TOWER.
- 7.) GRIND OR FILE THAT SECTION FLAT. REINSTALL THE U-BOLT IF YOU REMOVED IT TO GRIND THE TOP OFF.
- 8.) MARK THE PART OF THE U-BOLT THAT STICKS BELOW THE BUFFER TOWER.
- 9.) CUT OFF THE EXCESS. REINSTALL THE U-BOLT IF YOU REMOVED IT TO CUT THE EXCESS OFF.



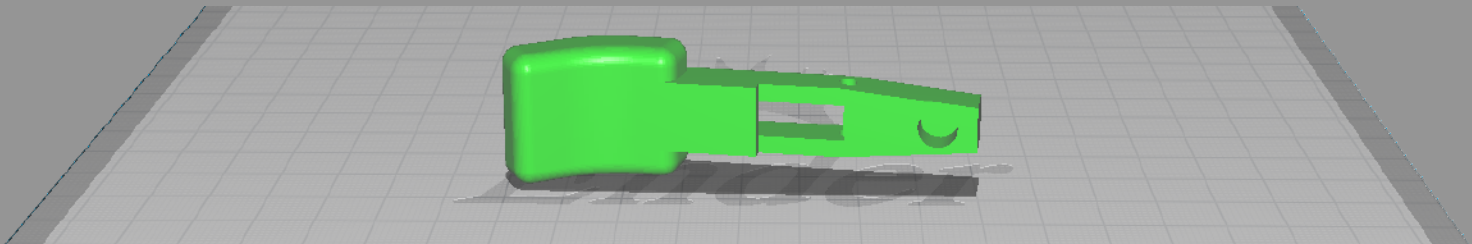
U-BOLT BATTLE PASS

PRINTING AND ASSEMBLY

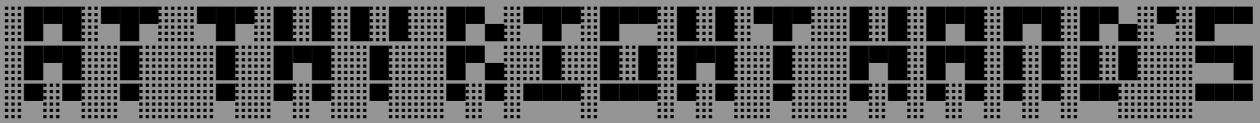
PRINT ORIENTATION



RECCOMENDED PRINT ORIENTATION FOR THE LOWER IS AS ILLUSTRATED ABOVE, WITH THE MAGWELL DOWN, ALTHOUGH THE INVERSE SHOULD ALSO RESULT IN A STRONG PRINT. I KNOW SOME PEOPLE LIKE TO ANGLE THEIR LOWERS BUT MAGWELL DOWN ALLOWS THE ENTIRE SURFACE AREA OF THE LOWER TO AID IN HOLDING THE BUFFERTUBE IN PLACE WITH THE U-BOLT



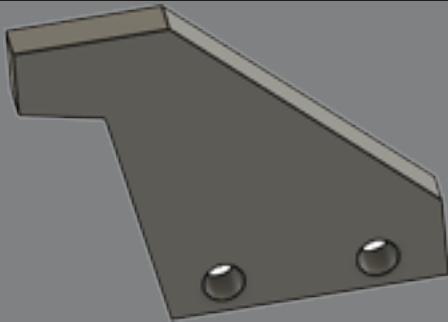
PIVOT MAG CATCHES SHOULD BE PRINTED WITH THE LAYER LINES PERPENDICULAR TO THE PIN HOLE TO PREVENT LAYER SEPARATION AT THE PIN WHEN OPERATING THE MAG CATCH.



U-BOLT BATTLE PASS

PRINTING AND ASSEMBLY

EJECTOR TYPES



GLOCK STYLE

WORKS ON ALL VERSIONS OF THE GLOCK MAG LOWERS.

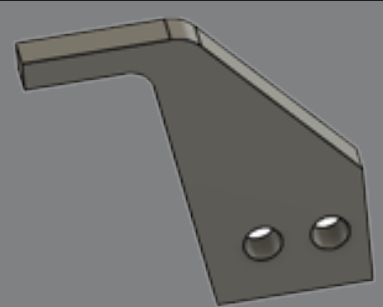
AVAILABLE FOR SALE AT EPARMORY.COM



UNIVERSAL STYLE

DESIGNED FOR ALL NON GLOCK & PPS-43 LOWERS

SAME EJECTOR AVAILABLE WITH THE ARK DLC



PPS-43

NYET PPS-43 IS FINE

SAME EJECTOR AVAILABLE WITH THE ARK DLC

THIS PACK CONTAINS BOTH PRINTABLE AS WELL AS LASER CUTTABLE EJECTOR MODELS IF YOU WANT TO HAVE YOUR EJECTOR MADE OUT OF METAL, YOU CAN UPLOAD THE .DXF FILES TO SENDYCUTSEND.COM AND HAVE THEM CUT IN .119" THICK METAL.

BOTH THE UNIVERSAL AND PPS-43 EJECTORS ARE ALSO THE SAME AS THE ONES WE RELEASED ALONG SIDE THE ARK DLC

PRINTING THE EJECTORS WORKS JUST AS WELL AS HAVING THEM CUT OUT OF METAL, AND PRINTED EJECTORS HAVE STOOD UP TO FULL AUTO ABUSE DURING TESTING. BUT SINCE THEY ARE PLASTIC, AND SOME PREVENT THE OVER INSERTION OF MAGS, THEY CAN BE BROKEN IF YOU SLAM A MAG IN WHEN THE BOLT IS OPEN AND LOCKED BACK. SO MY PERSONAL RECCOMENDATION IS TO ONLY INSERT MAGS ON CLOSED BOLTS IF USING PRINTED EJECTORS.



EACH EJECTOR REQUIRES TWO 3MM PINS TO HOLD IT IN PLACE. SOME CAN BE INSERTED FROM BOTH SIDES, WHILE OTHER LOWER DESIGNS ARE SINGLE DIRECTIONAL ONLY



U-BOLT BATTLE PASS

PRINTING AND ASSEMBLY

MAG CATCH TYPES

THE MAG CATCHES COME IN ONE OF TWO TYPES:
AR15 MAG CATCHES OR PRINTED MAG CATCH

AR15

COLT

MP5

MACON

M3 GREASE GUN*

STEN*

AR10/AR15

PRINTED

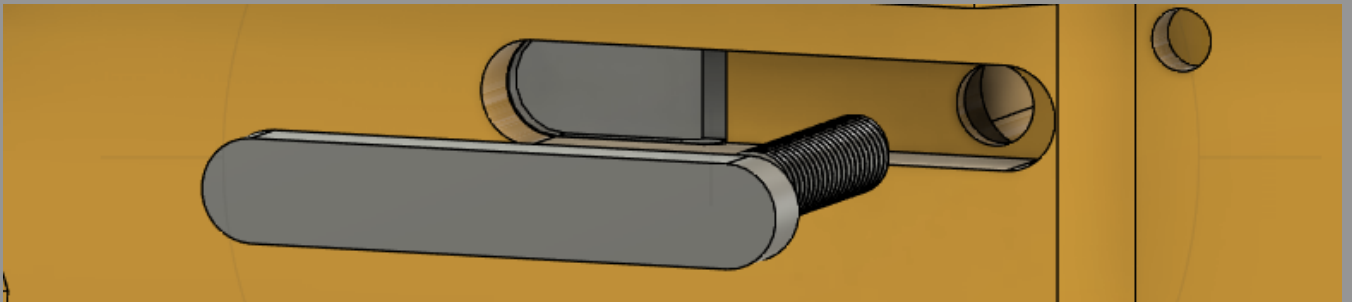
VITYAZ

PPS-43

GLOCK

EVO

THE AR15, AR10, COLT, MACON AND MP5 USE STANDARD AR15 MAG CATCHES AND WONT BE DISCUSSED IN DEPTH.



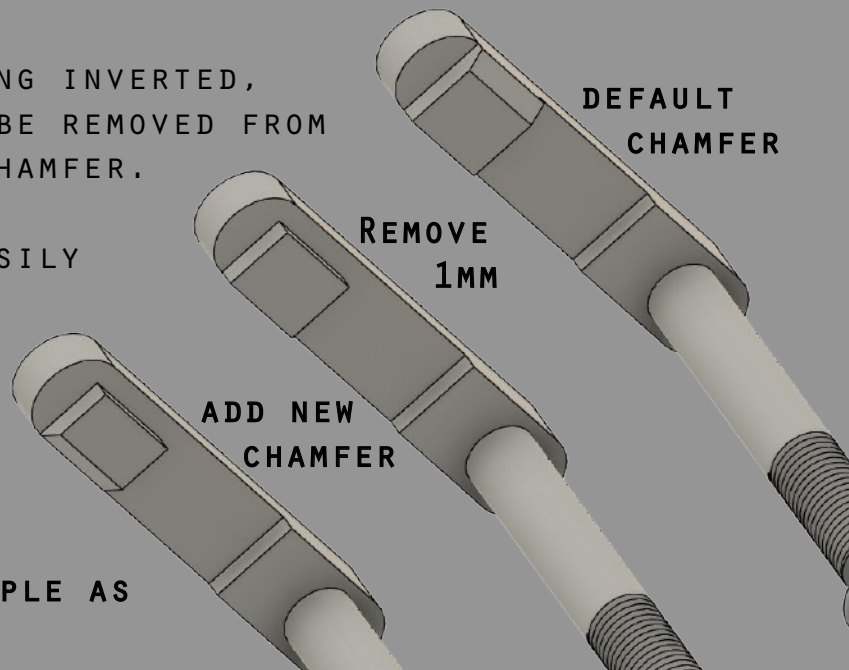
BOTH THE STEN AND THE M3 GREASE GUN MAGS HOWEVER REQUIRE A SLIGHT MODIFICATION TO THE AVERAGE AR15 MAG CATCH TO ALLOW THEM TO SEAT WELL.

THE MODIFICATIONS REQUIRED FOR THE STEN AND M3 GREASE GUN MAGS CAN BE SEEN BELOW.

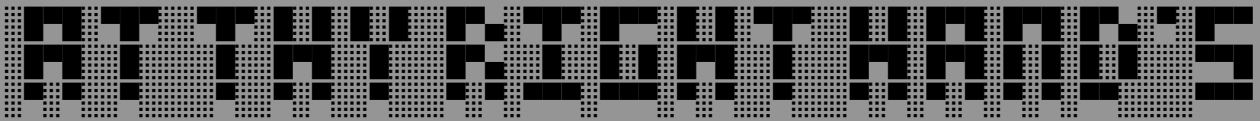
DUE TO THE AR15 MAG CATCH BEING INVERTED, ROUGHLY 1MM OF MATERIAL MUST BE REMOVED FROM WHAT IS NORMALLY THE BOTTOM CHAMFER.

A METAL FILE OR DREMEL CAN EASILY REMOVE THE REQUIRED AMOUNT.

ONCE REMOVED, A NEW CHAMFER CAN BE ADDED TO EASE IN LOADING, BUT IS NOT REQUIRED.



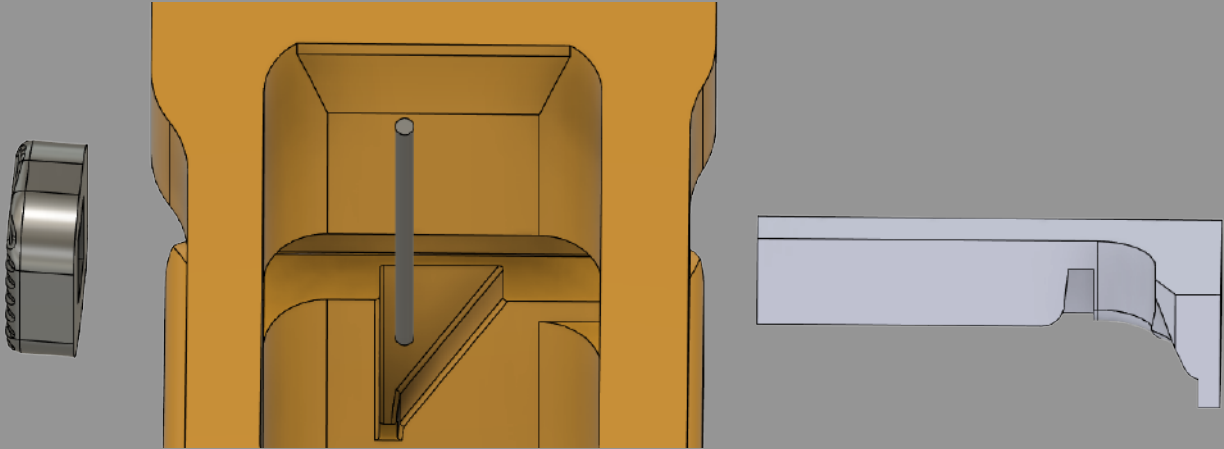
SIMPLE AS



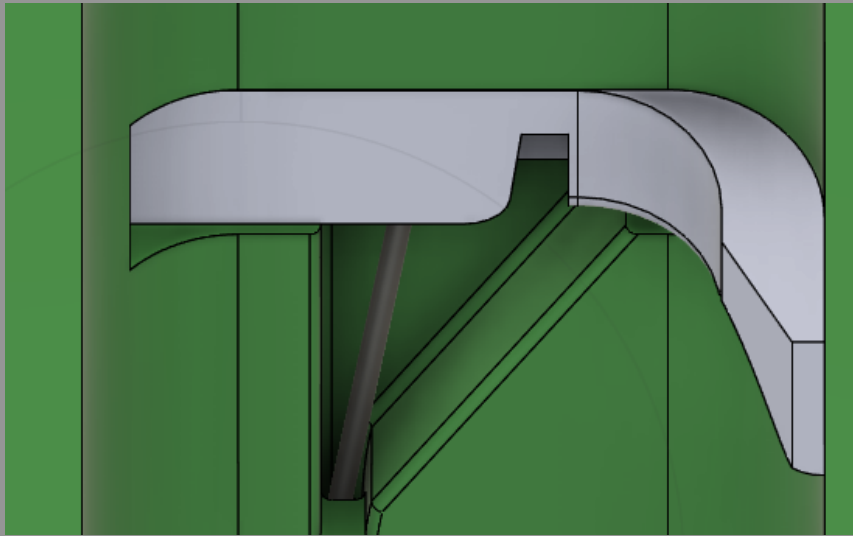
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PRINTING AND ASSEMBLY PRINTED MAGAZINE CATCHES

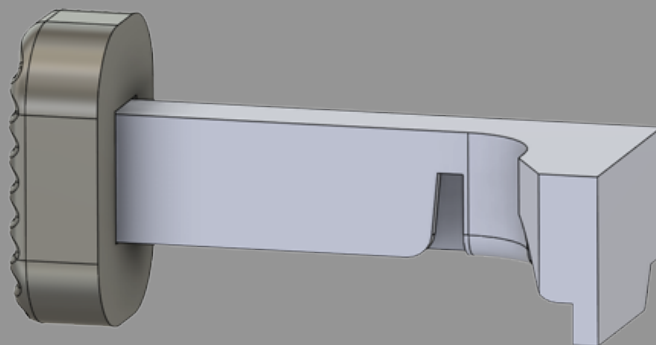
ALL GLOCK LOWERS USE A MODIFIED HANDGUN STYLE PRINTED PUSH BUTTON.
GLOCK SPRINGS, ALLEN KEYS, OR SPRING STEEL IS REQUIRED FOR THESE TO
FUNCTION.



THEY'RE INSTALLED EXACTLY HOW YOU WOULD ON A GLOCK HANDGUN
LOWER, BUT WILL HAVE TO BE CUT TO SIZE.



THE BUTTON SHOULD BE GLUED ON WITH SUPER GLUE, BUT CAN JUST LEFT ON BY
FRICTION TO ALLOW YOU TO EASILY REMOVE THE MAG CATCH IF YOU WANT.





U-BOLT BATTLE PASS

PRINTING AND ASSEMBLY PRINTED MAGAZINE CATCHES

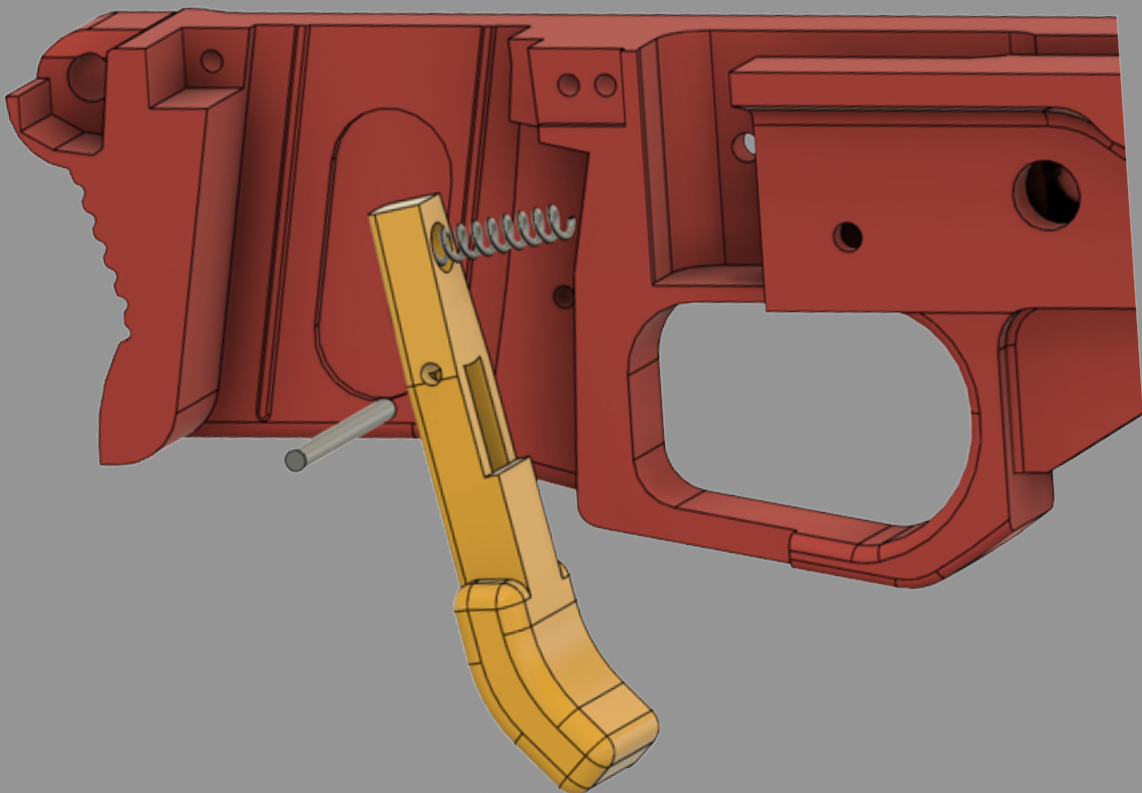
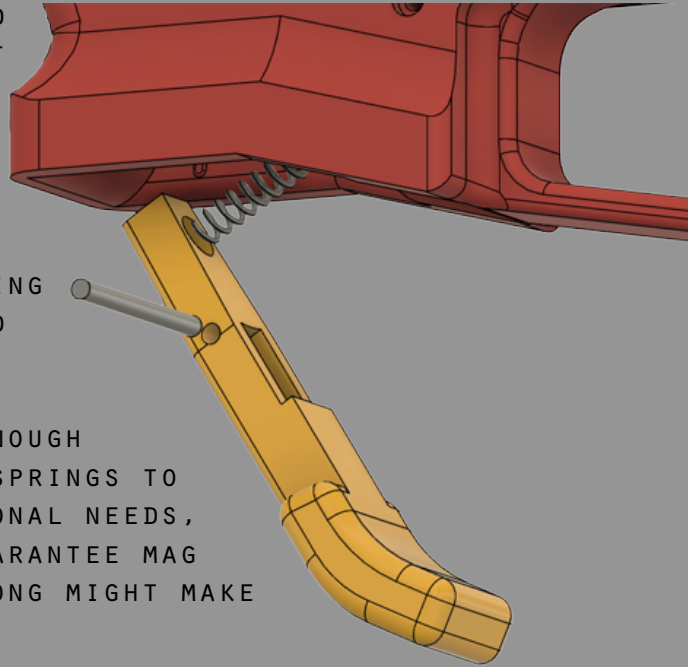
THE VITYAZ AND PPS-43 USE A SIMPLE PRINTED PIVOT STYLE MAG CATCH. THE SUGGESTED PRINT ORIENTATION FOR THEM IS ON ITS SIDE SO LAYER LINES ARE PERPENDICULAR TO THE PIN HOLE.

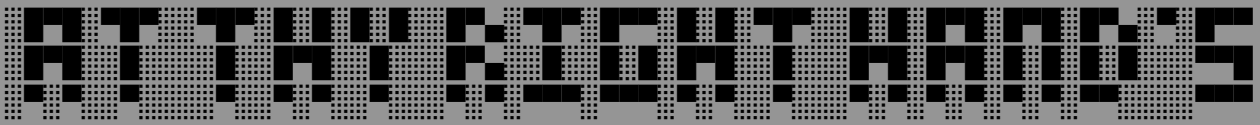
A 3MM PIN OR 3MM BOLT AND NUT COMBO AND A 6MM OD SPRING. THE CHEAPEST WAY OF GETTING 3MM PINS IS BY SAVING OLD DREMEL TOOLS AND USING THE STEMS AS PINS.

JUST ABOUT ANY 6MM OD SPRING THATS LONG ENOUGH WILL WORK, IVE USED EVERYTHING FROM AR15 SPRINGS TO PEN SPRINGS. IT REALLY COMES DOWN TO PERSONAL NEEDS, AND PREFERENCE. A STRONGER SPRING WILL GUARANTEE MAG RETENTION DURING EXTREME USE, BUT TOO STRONG MIGHT MAKE CHANGING MAGS MORE DIFFICULT.

A GOOD STARTING POINT WOULD BE THE FOLLOWING SPRING:
[HTTP://MCMASTER.COM/9657K298/](http://mcmaster.com/9657K298/)

THERE IS ALSO THE OPTION OF GRABBING ONE OF THE ARK DLC PARTS KITS AVAILABLE AT [HTTP://INVADERZIP.COM/STORE](http://invaderzip.com/store) FOR THESE LOWERS





U-BOLT BATTLE PASS

MP5 AND EVO SPECIAL UPPERS



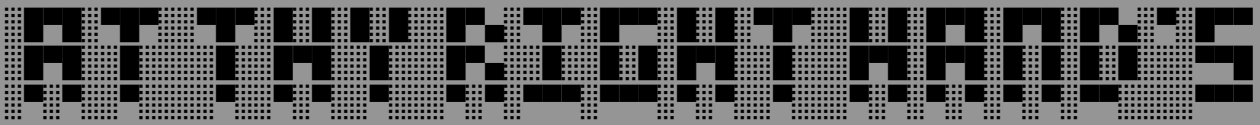
THE EVO AND MP5 LOWER BOTH REQUIRE A SPECIAL UPPER. THE NEW FRONTIER ARMORY C-5 BILLET UPPER IS DESIGNED FOR METAL MP5 MAGS, AND FEATURES AN ENLARGED MAGWELL. SOME FITMENT MIGHT STILL BE REQUIRED FOR POLYMER MP5 MAGS AND FOR ALL EVO MAGS



TO ACCOMMODATE POLYMER MP5 MAGS AND EVO MAGS THE UPPER NEEDS TO BE WIDENED WHERE THE MAG SITS (AREA IN YELLOW BELOW). SIMPLY SAND THE INSIDE OF THE UPPER WITH A DREMEL UNTIL THE MAGS CAN SLIP IN AND OUT EASILY.

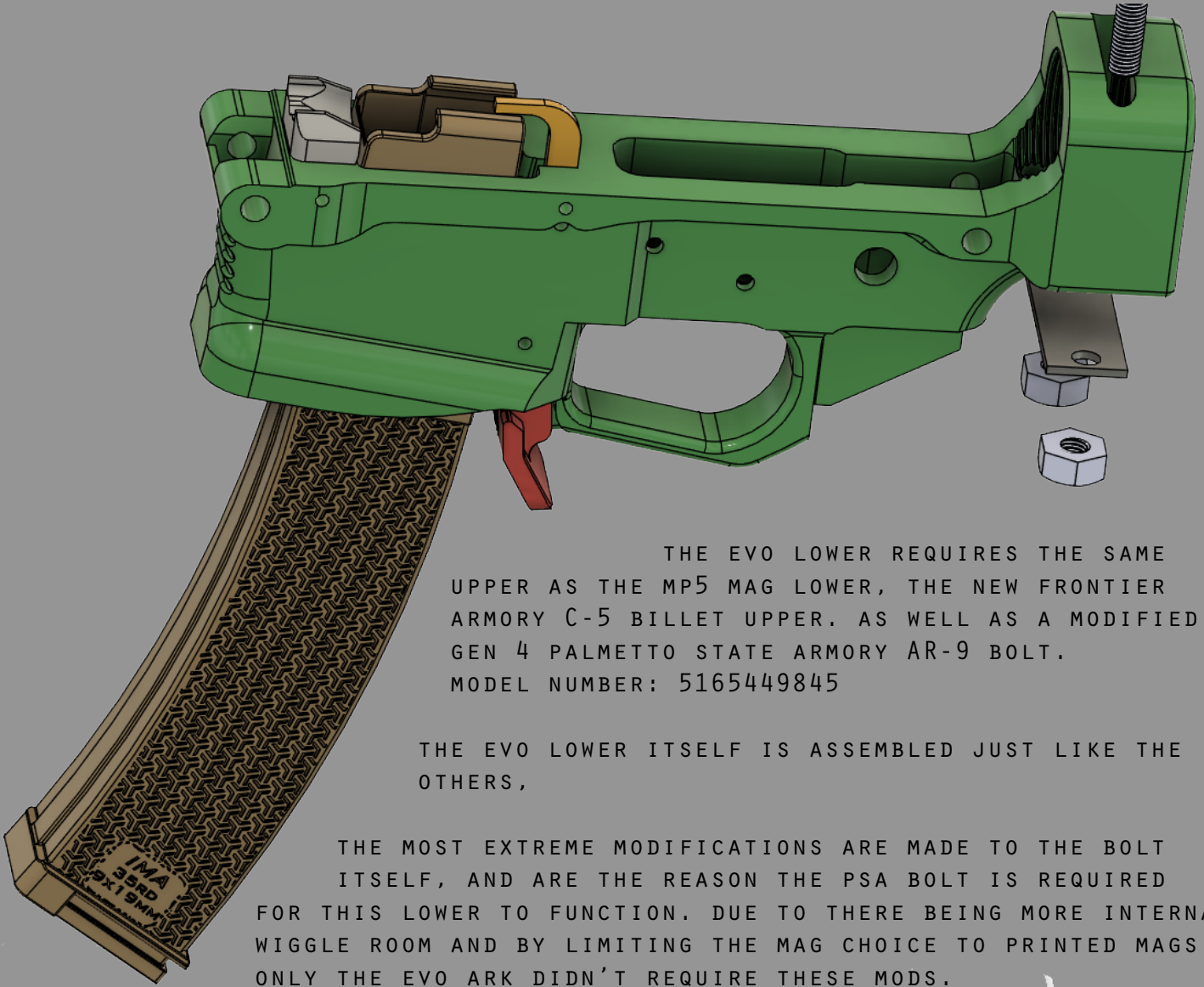


TAKE YOUR TIME WHEN REMOVING ANY MATERIAL.



U-BOLT BATTLE PASS

THE EVO GET YOUR DREMELS READY



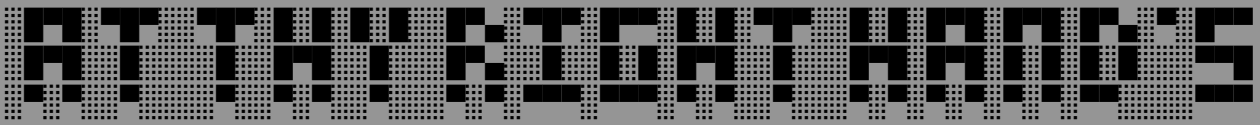
THE EVO LOWER REQUIRES THE SAME UPPER AS THE MP5 MAG LOWER, THE NEW FRONTIER ARMORY C-5 BILLET UPPER. AS WELL AS A MODIFIED GEN 4 PALMETTO STATE ARMORY AR-9 BOLT. MODEL NUMBER: 5165449845

THE EVO LOWER ITSELF IS ASSEMBLED JUST LIKE THE OTHERS,

THE MOST EXTREME MODIFICATIONS ARE MADE TO THE BOLT ITSELF, AND ARE THE REASON THE PSA BOLT IS REQUIRED FOR THIS LOWER TO FUNCTION. DUE TO THERE BEING MORE INTERNAL WIGGLE ROOM AND BY LIMITING THE MAG CHOICE TO PRINTED MAGS ONLY THE EVO ARK DIDN'T REQUIRE THESE MODS.

ALUMINUM AR UPPERS AREN'T SO FORGIVING.

THE BOLT MODS SHOULD ONLY TAKE A FEW MINUTES. THESE MODIFICATIONS CAN SERIOUSLY DAMAGE THE BOLT IF DONE INCORRECTLY. THEY DON'T WORK WHEN DONE ON BOLTS OF A DIFFERENT SHAPE. ATTEMPTING THIS ON A CHEAP TRIANGLE STYLE BOLT WILL LEAD TO YOUR BOLT JAMMING AND POSSIBLY WORSE.



U-BOLT BATTLE PASS

THE EVO

GUNSMITH 101

THESE MODIFICATIONS ARE TO FACILITATE THE WIDE FEED LIPS OF AN EVO MAGAZINE. WITHOUT THESE MODIFICATIONS A STANDARD AR-9 BOLT WILL JAM UP ON THE REAR OF THE MAGAZINE.

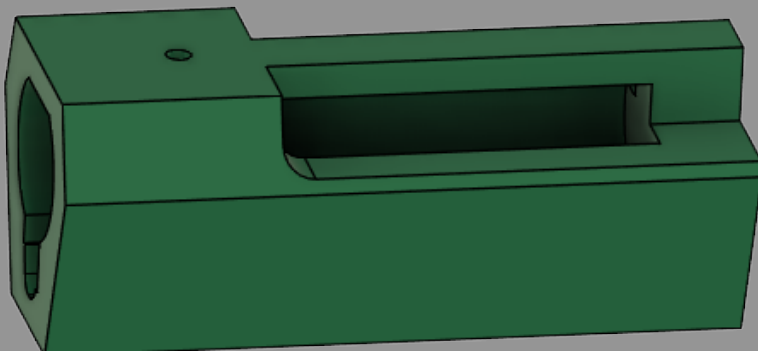


THE ONLY MATERIAL THAT NEEDS TO BE REMOVED IS THE OUTER MOST POINTED EDGES OF THE AR9 BOLT HIGHLIGHTED IN YELLOW ABOVE AND SHOWN REMOVED ON THE LIGHT GRAY BOLT.

ONLY THE POINTS THEMSELVES NEED TO BE REMOVED AND CAN JUST BE GROUND FLAT TO THE NEXT LOWEST SECTION.

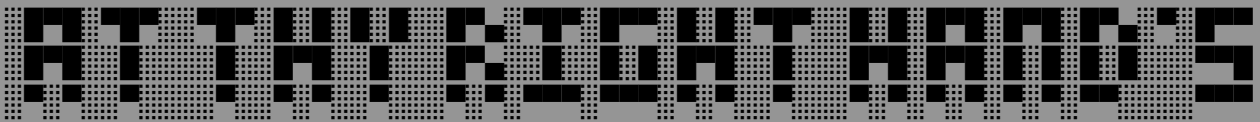
IF ALL THIS SEEMS TOO HARD, AND YOU'RE AFRAID OF FUCKING IT UP

DON'T WORRY THERES A JIG!



SLIDE THE BOLT IN
REMOVE THE EXPOSED MATERIAL
AND ITS GOOD TO GO.

ASSUMING YOU DON'T SLIDE IT
IN BACKWARDS, OR UPSIDE DOWN
SOMEHOW.



U-BOLT BATTLE PASS

TOKAREV CHAMBERED THE GOOD, THE BAD, AND THE UGLY

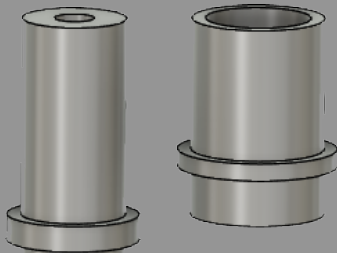
LETS TALK AMMO

NOW BEFORE YOU RUN OFF TO PURCHASE TINS OF THOUSANDS OF ROUNDS OF YUGOSLAVIAN TOKAREV MILSURP AMMO.

THEY WON'T WORK, DON'T WASTE YOUR MONEY.

THE FIRING PINS DONT HAVE ENOUGH POWER TO SET OFF THE HARD PRIMERS OF MILSURP TOKAREV AMMO. SO YOU NEED TO STICK TO CURRENT PRODUCTION, SOFT PRIMER 7.62x25 FROM COMPANIES LIKE PPU

THE SECOND ISSUE CONCERNING TOKAREV IS BARREL AVAILABILITY. AR STYLE BARRELS IN TOKAREV DON'T EXIST



THERE ARE HOWEVER TWO WORKAROUNDS FOR THIS LACK OF AR BARRELS IN TOKAREV.

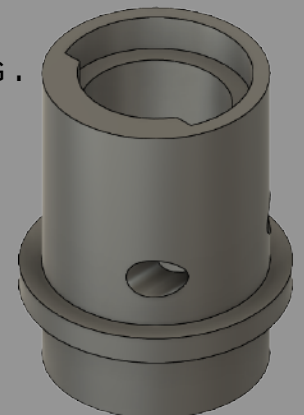
INCLUDED IN THIS PACK ARE TWO BARREL BUSHINGS ONE MADE FOR PPS43 BARRELS, THE OTHER FOR STG MACHINE GUN BARRELS.

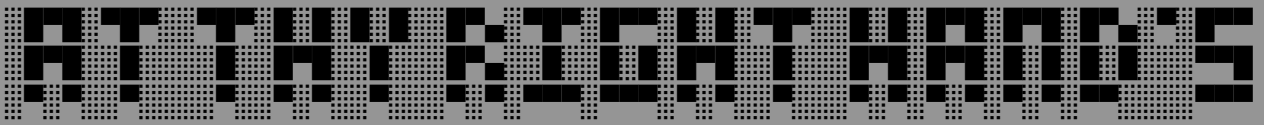
[HTTPS://BRPGUNS.COM/STG-UNIVERSAL-7-62X25-BARREL-9/](https://brpguns.com/stg-universal-7-62x25-barrel-9/)

THE PPS43 BUSHING CAN BE PRINTED, AND HAS SURVIVED SEVERAL FULL AUTO MAG DUMPS, BUT FOR A MORE PERMANENT SETUP TURNING DOWN A PPS43 TRUNNION IS THE BEST OPTION. THE BARREL CAN BE PINNED TO THE BUSHING, AND THEN THE WHOLE ASSEMBLY CAN BE INSERTED INTO THE AR UPPER LIKE A NORMAL BARREL WOULD.

THE SECOND OPTION IS THE STG BARREL BUSHING. YOU COULD TRY TO PRINT IT AS WELL AND PIN THE BARREL LIKE THE PPS43 BUT THERE IS NO PIN HOLE IN THE MODEL.

IF YOU LACK THE SKILLS OR EQUIPMENT TO MACHINE THESE I SUGGEST YOU MAKE FRIENDS AT YOUR LOCAL MACHINE SHOPS.





U-BOLT BATTLE PASS

JUST A LITTLE TEASE



STILL MORE YET TO COME

A SPECIAL THANKS TO THOSE WHO HELPED TEST
MY LOWERS AND MY MAGWELLS, BOTH BEFORE AND
DURING THE ARK DLC BETA.