

**DB FIREARMS PRESENTS**

**DB  
ALLOY**

**9MM / 5.7X28  
BUILD GUIDE**

# A QUICK OVERVIEW OF OPTIONS



**STEN**

**TAKES SURPLUS  
STEEL STEN MAGS\*,  
POLYMER STEN MAGS\*,  
3D PRINTED STRAIGHT  
MAGS, OR 3D PRINTED  
CURVED MAGS**

**\*STEN MAGS REQUIRE A  
PRINTED INSERT TO LOCK IN/  
INTERFACE WITH MAG RELEASE**



**GLOCK**

**TAKES GLOCK MAGS...  
AND THAT'S IT.**



**FN FIVESEVEN**

**MPA 57 UPPER THAT  
USES FN FIVESEVEN  
MAGAZINES (PROMAG  
VERSION AS WELL)**

## RAILED TOP



**IF YOUR MAC 11/9 DOES NOT HAVE A METAL RAIL, THIS OPTION WILL ALLOW YOU TO ADD AN OPTIC TO THE TOP/REAR OF RECEIVER**

## FLAT TOP



**IF YOUR MAC 11/9 HAS A METAL RAIL ON IT, THIS OPTION IS WHAT YOU WANT. MINIMAL PLASTIC SO YOU CAN SEE YOUR OPTIC.**

## QD BACK



**IF YOU PLAN TO NOT RUN A STOCK OR BRACE ON THE BACK, YOU CAN OPT FOR A QUICK DISCONNECT SOCKET ON THE BACK. THIS WILL LET YOU ATTACH A SLING AT THE REAR. AVAILABLE IN EITHER FLAT TOP OR RAILED TOP VERSIONS.**

### **OTHER THINGS TO CONSIDER:**

**1. THIS DESIGN TAKES A STANDARD AR PATTERNED GRIP. THE PREFERRED GRIP IS THE RIDGEBACK FOUND [HERE](#). BUT MOST GRIPS SHOULD WORK, EITHER COMMERCIAL OR PRINTED.**

**2. THERE ARE 'REINFORCED' LOWERS AVAILABLE THAT PROVIDE MORE MATERIAL AROUND THE TRIGGER AND HAMMER PINS.**

**IF YOU ARE USING ANTI-WALK PINS, DO NOT PRINT THE 'REINFORCED' LOWERS. THEY WILL NOT WORK.**

# WHAT YOU'RE GONNA NEED

## REQUIRED COMMERCIAL PRODUCTS

1. MAC 11/9 UPPER RECEIVER COMPLETE W/BOLT. EITHER SIDE OR TOP CHARGER OR MASTERPIECE ARMS MPA57 UPPER RECEIVER & BOLT (5.7X28 BUILD)
  - A. CHECK OUT VELOCITY FIREARMS, AVES RAILS, AND JC-ARMS.
2. AR-15 FIRE CONTROL GROUP AND SAFETY SELECTOR
  - A. FCG CONSISTS OF TRIGGER, DISCONNECTOR, HAMMER, AND SPRINGS
  - B. SAFETY SELECTOR SHOULD ALSO INCLUDE SELECTOR DETENT + SPRING
3. MAGAZINE - BASED ON YOUR SELECTED LOWER. GLOCK, STEN, OR FN 57
4. GLOCK MAG RELEASE SPRING IF YOU PICKED THE GLOCK OR 5.7 LOWER.
5. 1,000 ROUNDS OF AMMUNITION SO YOU CAN HAVE SOME FUN (SUGGESTION)

## REQUIRED METAL PLATES

THE METAL PLATES ARE DESIGNED TO BE LASER CUT. DXF FILES ARE INCLUDED FOR YOU. SENDCUTSEND WILL CUT THEM AND EVEN TAP THE LEFT SIDE HOLES FOR YOU. TO SAVE SOME MONEY YOU CAN ALSO DO THIS YOURSELF. ORDER THE PLATES WITH THE FOLLOWING SPECS:

**MATERIAL: 316 SERIES STAINLESS STEEL (CAN ORDER POWDERCOATED FOR \$10)**  
**THICKNESS: .125"**

**PLEASE NOTE: TITANIUM WILL ALSO WORK BUT WILL BE HARD TO TAP. ALUMINUM AND MILD STEEL ARE LIKELY TO BEND AND NOT WORK FOR YOU.**

IF YOU HAVE NEVER ORDERED FROM SENDCUTSEND BEFORE, YOU WILL FIND IT IS FAIRLY SIMPLE. TO MAKE IT EASIER [YOU CAN USE THIS LINK TO AUTOMATICALLY ADD TO CART](#). SCS WILL TAP THE LEFT PLATE FOR YOU. M3 HOLES FOR THE FRONT AND BOTTOM. M4 FOR THE BACK 4 HOLES. IT'S \$50.

## REQUIRED BOLTS, NUTS, AND HARDWARE

- 4X M3X35MM BUTTON HEAD BOLTS MCM#92095A201 side plates
- 4X M4X35MM BUTTON HEAD BOLTS MCM#92095A199 side plates
- 1X M5X25MM SOCKET HEAD BOLT MCM#90128A249 grip screw
- 1X M5 STEEL SQUARE NUT MCM#96887A331 grip screw nut
- 2X M6 SOCKET CAP NUTS <https://www.amazon.com/dp/Bo8CCKSDL1> trunnion bolts
- 1X M6X25MM THREADED ROD MCM#90435A111 trunnion connecting rod
- \*2X M4X25MM BUTTON HEAD BOLTS MCM#90910A579 front lower
- \*2X M4X30MM BUTTON HEAD BOLTS MCM#90910A580 rear lower
- 4X M4 LOCK NUTS MCM#90576A103 lower nuts
- \*\*1X .375" LONG COMPRESSION SPRING MCM#9657K623 sten mag release
- \*\*1X M4X22MM DOWEL PIN MCM# 91595A170 sten mag release pin
- \*\*\*1X M3X26MM DOWEL PIN MCM#91595A387 hand stop pin
- \*\*\*\* 1X M3X32MM DOWEL PIN MCM#91595A138 feed ramp pin

\*\*only required if you printed the sten lower

\*\*\*optional if you decide to print the hand stop

\*\*\*\*only required if you printed the glock lower

# PRINT SETTINGS

**MATERIAL:** PLA+, ABS, CF/GF NYLON, ASA

**PRINT TEMPS:** HIGHEST YOUR MATERIAL SUPPORTS

**LAYER HEIGHT:** SUGGESTED .2MM OR SMALLER

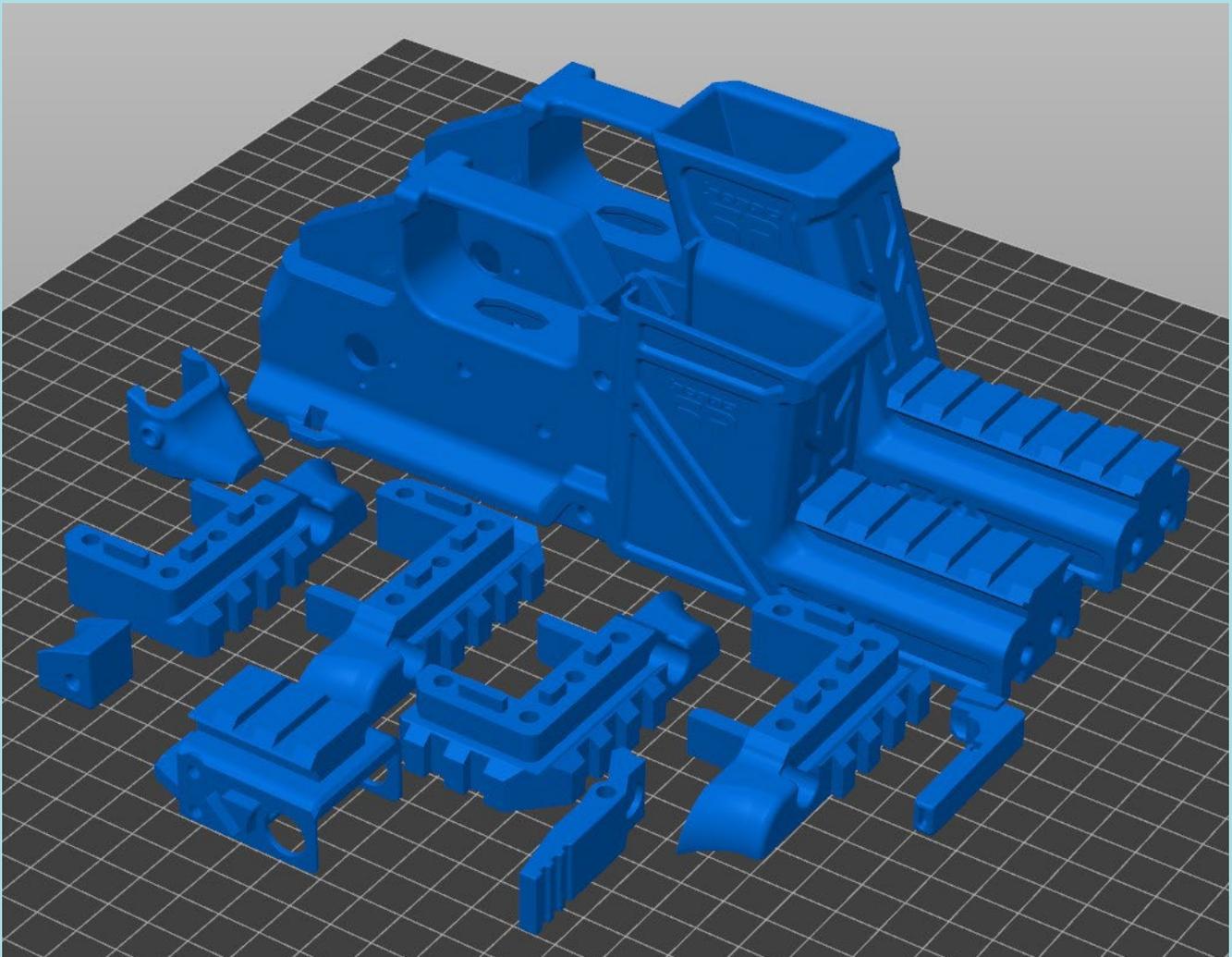
**INFILL:** 100% SOLID INFILL

**WALLS:** AT LEAST 6 OUTER WALLS

**TOP/BOTTOM LAYERS:** AT LEAST 3 TOP AND BOTTOM LAYERS

**SUPPORTS:** PREFERENCE IS ORGANIC/TREE SUPPORTS. THEY'RE REQUIRED FOR THE LOWER RECEIVERS, THE STEN MAG INSERT, AND THE FRONT INSERT. ALL OTHER PIECES SHOULD PRINT WITHOUT SUPPORTS.

**PRINT ORIENTATIONS:** FOR SIMPLICITY, ALL .STL FILES HAVE BEEN PRE-MADE IN THE CORRECT PRINT ORIENTATION. USE THIS QUICK VISUAL GUIDE IF YOU NEED TO REFERENCE FOR ACCURACY.



# ASSEMBLY INSTRUCTIONS

## LOWER RECEIVER

TO ASSEMBLE THE LOWER RECEIVER, FIRST CLEAR ANY SUPPORT MATERIAL. THEN INSTALL YOUR FIRE CONTROL GROUP. YOU MAY NEED TO LIGHTLY FILE THE FCG PIN HOLES BUT JUST CHECK QUICKLY TO MAKE SURE BEFORE INSTALLING. [HERE'S A LINK WITH MY MAIN MAN LARRY SHOWING YOU HOW.](#)

NEXT, INSTALL YOUR SAFETY SELECTOR. YOU MAY WANT TO PAINT THE DOTS FOR SAFE AND FIRE. I USE RED AND WHITE NAIL POLISH APPLIED WITH A TOOTHPICK. AT THIS STAGE, TEST YOUR TRIGGER FUNCTION AND VERIFY THE TRIGGER RESETS CORRECTLY BY HOLDING THE TRIGGER DOWN AND RESETTING THE HAMMER, THEN RELEASING THE TRIGGER. DO NOT LET YOUR HAMMER FALL AND STRIKE THE LOWER RECEIVER.

YOU SHOULD NOW INSTALL YOUR MAGAZINE RELEASE. FOR THE STEN MAG RELEASE, TEST THAT THE PIN FITS YOUR LOWER AND YOUR MAGAZINE RELEASE. IF NOT, YOU MAY PRE DRILL OR FILE THE HOLES TO ALLOW FOR A TIGHT FIT. PLACE YOUR SPRING IN THE LOWER, WITH THE FRONT OF THE LOWER POINTED UP. PLACE THE MAGAZINE RELEASE IN WITH THE INDENT FOR THE SPRING LOCATING ON THE TOP OF THE SPRING. GENTLY PRESS DOWN AND SLIDE IN YOUR PIN. TEST FUNCTION WITH MAGAZINE.

IF YOU PRINTED THE GLOCK OR 5.7 LOWER, YOU SHOULD VERIFY FITMENT OF THE MAGAZINE RELEASE BY INSERTING IT INTO THE LOWER. IF IT BINDS OR DOES NOT SLIDE FREELY, GENTLY FILE THE HOLE IN THE LOWER TO ALLOW FOR PROPER FUNCTION. THEN, REMOVE IT AND PRESS IN YOUR MAGAZINE RELEASE SPRING ROD. IF THE HOLE HAS COLLAPSED SLIGHTLY OR IF YOU HAVE ISSUES INSERTING, YOU CAN HEAT THE END OF THE SPRING WITH A LIGHTER AND GENTLY MELT IT INTO YOUR LOWER RECEIVER. IT SHOULD PROTRUDE ABOUT 2MM FROM THE BOTTOM OF THE MAGAZINE RELEASE CHANNEL WHEN FULLY INSERTED. INSERT YOUR MAGAZINE RELEASE AND THEN BEND THE SPRING INTO THE NOTCH IN YOUR MAGAZINE RELEASE. TEST FUNCTION WITH MAGAZINE. NOW, INSTALL THE FEED RAMP AND PIN INTO YOUR LOWER RECEIVER (GLOCK ONLY)

VERIFY THAT YOUR GRIP FITS THE LOWER. INSTALL THE SQUARE M5 NUT IN THE CUTOUT OF THE LOWER, AND INSTALL YOUR GRIP. ENSURE THAT YOU'VE INCLUDED THE SELECTOR DETENT AND SPRING IN THE LOWER/GRIP SO THAT YOUR SAFETY SELECTOR OPERATES. INSTALL YOUR M5X25MM BOLT AND TIGHTEN. YOU DON'T NEED TO TORQUE THIS DOWN TOO HARD. IF YOU DO IT WILL LIKELY BREAK SOMETHING.

## 5.7 UPPER MODIFICATION

IN ORDER FOR THE AR HAMMER TO WORK WITH THE 5.7 UPPER, YOU WILL NEED TO REMOVE 12MM OF MATERIAL FROM THE BOTTOM OF THE UPPER TO EXTEND THE BOTTOM CUTOUT AT THE BACK. USE A DREMEL WITH A CUTOFF WHEEL AFTER MARKING THE LOWER WITH MASKING TAPE.

## **SIDE PLATE INSTALLATION**

**AT THIS STAGE, YOUR SIDE PLATES SHOULD BE PREPPED FOR INSTALLATION BY HAVING THE LEFT PLATES TAPPED WITH THREADS (M4 BACK AND M3 FRONT AND LOWER HOLES) IF NOT, PROCEED WITH TAPPING THOSE HOLES. THE PLATES CLAMP YOUR REAR INSERTS AND FRONT INSERT.**

**PLACE YOUR TWO REAR INSERT PIECES TOGETHER AND THEN SLOT THE TWO SIDE PLATES INTO THE LOCATING LUGS. INSTALL THE 4 M4X35MM BOLTS AND SCREW INTO THE LEFT PLATE. DO NOT FULLY TIGHTEN AT THIS STAGE.**

**INSTALL THE FRONT INSERT IN THE LOCATING HOLES OF THE PLATES. YOU WILL NEED TO GENTLY BEND THE PLATES APART JUST A LITTLE TO SLOT THIS PIECE IN. INSTALL TWO OF YOUR M3X35MM BOLTS IN THE FRONT HOLES. SCREW INTO THE LEFT SIDE PLATE. DO NOT FULLY TIGHTEN AT THIS STAGE.**

**PUSH DOWN THE PLATE ASSEMBLY ONTO YOUR LOWER RECEIVER. THE WHOLE ASSEMBLY SHOULD SLOT OVER THE LOWER RECEIVER CLEANLY AND CLICK INTO PLACE. TAKE SPECIAL NOTE OF THE LOCATING CHANNEL IN THE FRONT AND THE TWO LOCATING CUTOUTS IN THE BACK SIDES. IF YOU ENCOUNTER RESISTANCE, PLEASE STOP AND CHECK WHERE IT'S COMING FROM. YOU MAY NEED TO GENTLY FILE AREAS IN ORDER TO MAKE THINGS FIT. IF YOU NEED TO REMOVE A LOT OF MATERIAL, THIS IS A SURE SIGN YOUR PRINTER NEEDS TO BE CALIBRATED OR YOUR SLICER SETTINGS NEED TO BE ADJUSTED.**

**YOU CAN NOW INSTALL THE TWO M4X25MM BOLTS IN THE FRONT, INSTALL THE NUTS, AND TIGHTEN DOWN THE BOLTS. THEN INSTALL THE TWO REMAINING M3X35MM BOLTS IN THE METAL PLATES FROM THE RIGHT PLATE TO THE LEFT. THESE BOLTS SHOULD GO THROUGH THE LOWER RECEIVER. DO NOT FULLY TIGHTEN AT THIS STAGE. YOUR TWO FINAL BOLTS ARE M4X30MM AND GO IN THE BACK, THROUGH THE REAR INSERTS AND INTO THE LOWER. INSTALL THE CORRESPONDING NUTS AND TIGHTEN. AT THIS STAGE YOU SHOULD BE READY TO INSTALL YOUR COMPLETE UPPER RECEIVER.**

## **FINAL ASSEMBLY**

**THERE IS A CHANCE THE METAL PLATES WILL RUB THE FINISH ON YOUR UPPER RECEIVER. IF THIS IS A CONCERN TO YOU, YOU MAY CHOOSE TO INSTALL SOME THIN MASKING TAPE ON THE SIDES OF YOUR UPPER RECEIVER AT THIS STAGE WHERE IT MAKES CONTACT WITH THE METAL PLATES, THEN TRIM THE EXCESS AFTER INSTALLATION.**

**MAKE SURE YOUR HAMMER IS COCKED, THEN SLIDE THE UPPER INTO THE LOWER AND PUSH BACK UNTIL THE FRONT TRUNNION HOLE LINES UP WITH THE HOLE IN THE SIDE PLATES. IF IT'S TOO TIGHT, YOU CAN LOOSEN THE SIDE BOLTS A LITTLE. ONCE THINGS LINE UP, INSTALL YOUR FRONT TRUNNION BOLT ASSEMBLY AND TIGHTEN. YOU CAN NOW FULLY TIGHTEN THE SIDE PLATES. CHARGE THE WEAPON, TEST FUNCTION AND ENSURE THE HAMMER DROPS. ADD THE FRONT HAND STOP AND PIN IF YOU PRINTED IT.**

# CREDITS

## SPECIAL THANKS TO:

**MPRTECH** FOR THE PERFECT FEED GEOMETRY FOR THE STEN LOWER, FOR THE NICE CURVED STEN MAGS AND SOLID RELOCATION OF THE MAGAZINE CATCH ON THE MAGS. HE HAS MADE THE STEN LOWER POSSIBLE. HE ALSO CREATED A BOLT BUFFER FOR TPU THAT IMPROVES PERFORMANCE.

**DANNYMEATBALL** FOR THE IMPROVED 3D PRINTED STEN MAGAZINES.

**FMDA** FOR THE ORIGINAL MAC DADDY. THE MAC DADDY PROVIDED THE FEEDING GEOMETRY FOR THE GLOCK MAGAZINES AND THE FEED RAMP IS DIRECTLY FROM HIS DESIGN

**JACKMNB** FOR PROVIDING A REMIXED CURVED MAGAZINE THAT IS REALLY EPIC ALONG WITH THE NICE GRIP TEXTURES

## ADDITIONAL THANKS TO THE FOLLOWING BETA TESTING MEMBERS:

OBSCURED, BACH37STRAD, BLBOYD, BRENTWALTERS86, CHIPPEWA KID, CPTPACKRAT45, DOGENADO, DRINKLBOT, GOOSEBOI, GUTTERCHEESE, JC\_ARMS, JDM07, KRRAWN, LOSDINSPACE, MAINEMIKE, NERFHERDER, NESTER, NIGHTALLIANCE, OA, OHDEE, PLASTICGAT. RAGE\_PANDA, RDYMAN, RUGER1022, SLOTH, VANDOLINI, WAZZAA25

## PREFERRED VENDORS:

### UPPER RECEIVERS:

[JC ARMS](#)

[VELOCITY FIREARMS](#)

[AVES](#)

[MASTERPIECE ARMS](#)

### HARDWARE KITS:

[DB FIREARMS](#)