

BENTO BOX

10/22 TD

QUICK START GUIDE

BY INSERTMEOW (IMA)



Design and Quality
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The AWCY? Bento Box-22

A DIY OEM compatible Ruger 10/22 Takedown Clone System

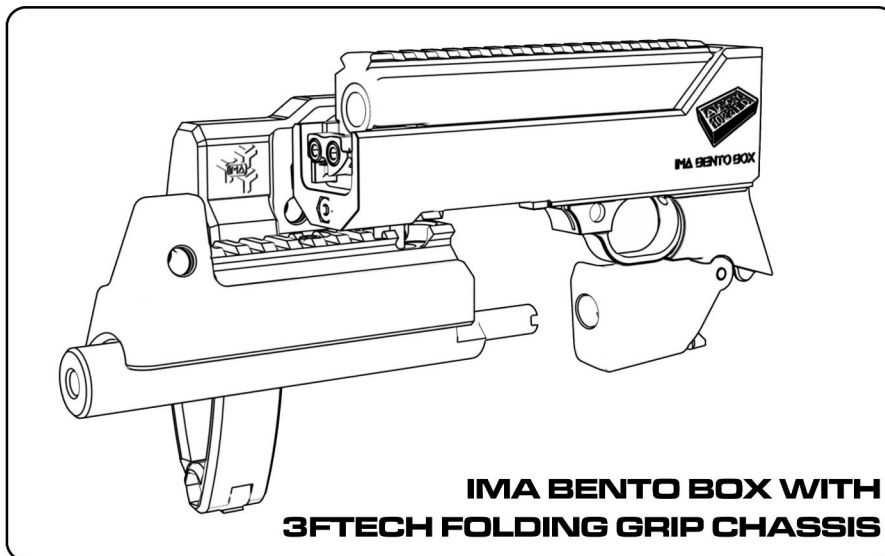
The Bento Box-22 recreates the Ruger 10/22 Takedown and improves on it by adding a high degree of customizability and modularity. This design is a modular platform that can create a variety of different builds based on what OEM components are available to the builder. While this package can be used to create a 10/22 using primarily factory parts with minimal printing, it can also create a rifle that utilizes only the OEM bolt assembly and trigger pack, with a fully functional printed takedown mechanism. This modularity allows the end user to craft a unique firearm based on aesthetics, parts availability, or printer access.

This quickstart guide will show the building process for a mostly printed variant utilizing the 3FTech Folding Grip Chassis, Skeleton Scorpion Evo Brace, and Printed Barrel Retainer.

Parts List:

Printed Parts:	
R	Bento Chassis Receiver (Flat Top or Railed)
BR	Bento Printed Barrel (Threaded or Unthreaded)
C1	Bento Rear Chassis
C2	Bento Front Chassis
G1	Bento Folding Grip
G2	Bento Folding Grip Latch
T1	Latch Pin Retainer
T2	Latch Pin
T3	Latch Handle
T4	Takedown Lock Retainer
B1	Skeleton Scorpion Evo Brace - Part A
B2	Scorpion Evo Stock Fold Button
B3	Skeleton Scorpion Evo Brace - Part B

OEM Ruger 10/22 Parts:	
CH	Charging Handle Assembly
BA	Bolt Assembly
TDP	Takedown pins and Bolt Stop pin
TP	Trigger Pack



Full Hardware Kits (Sans OEM Ruger Parts)
Are Also Available For Sale From Our Friends
Over At DB Firearms! www.db-firearms.com



Part numbers for McMaster-Carr are provided but many can be substituted with local hardware store parts if the specs are similar enough

Choice of Barrel Bushing Insert: (Pick One)		
I1	Heat Insert Drill Bushing for Plastic, 0.5" ID, 3/4" OD, 3/4" Long	McMC#3378A142
I2	Flanged Bronze Bearing, 1/2" Shaft, 5/8" Housing ID, 3/4" Long	McMC#9440T37
I3	Press-Fit Drill Bushing with Head, 0.5" ID, 3/4" OD, 3/4" Long	McMC#8492A284

Hardware: (all #12 screws can be substituted with #12-24 1" long Gun Screw available at some hardware stores)		
F1	2x #12-24 Socket Head Screw 1-1/2" Long	McMC#91864A051
F2	1x #12-24 Socket Head Screw 1" Long	McMC#91251A454
F3	1x #12-24 Socket Head Screw 7/8" Long	McMC#91251A461
N1	1-2x #8-32 Nut (can use any #8-32 nut as long as it fits into the inlay)	McMC#90480A009
S1	1x 1" Long, 0.3" OD, 0.236" ID Compression Spring	McMC#9434K59

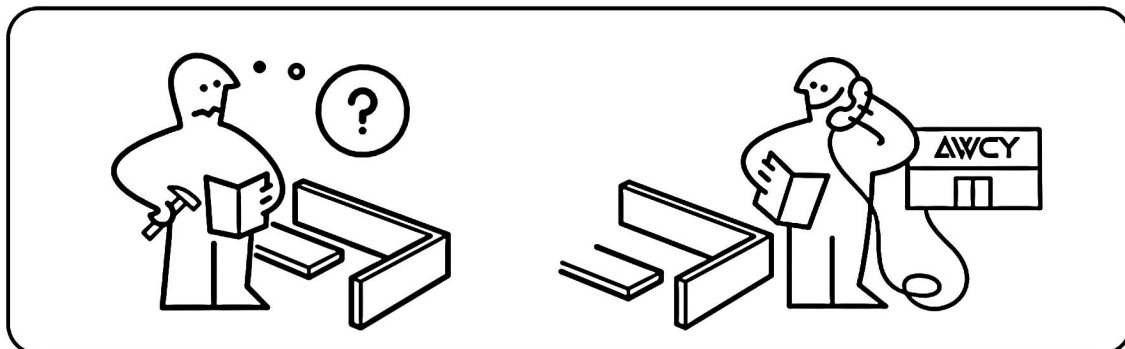
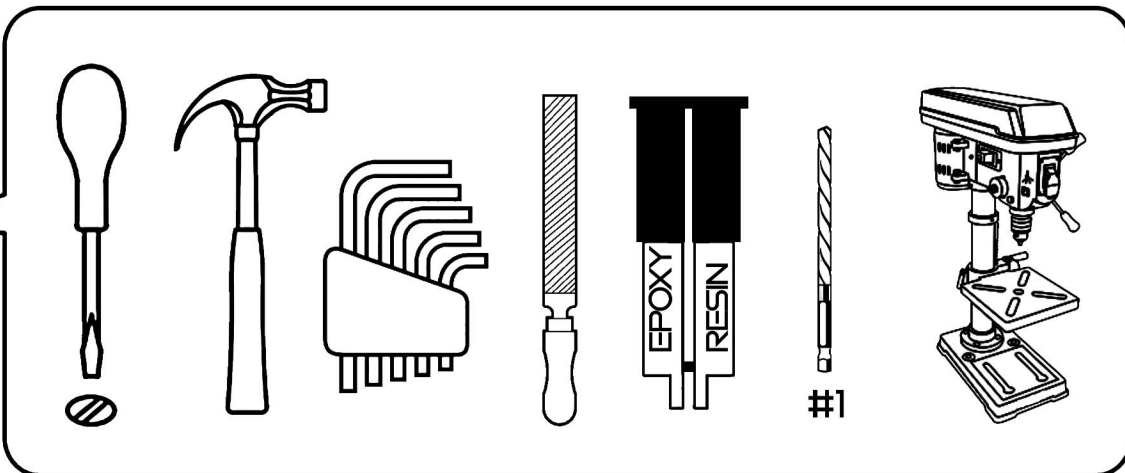
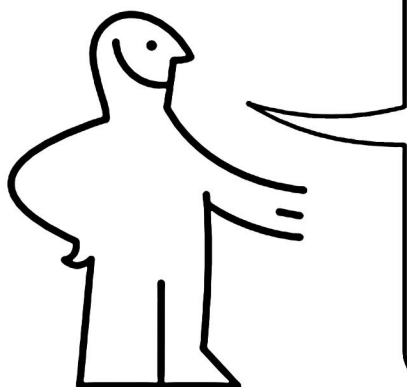
Misc Parts:	
BRL	22LR Barrel Liner (currently spec'd for Redmans 22LR liner from Brownells, other 22LR liner could be used but may require an ID change to the printed barrel)

Folding Grip Chassis additional hardware:	
P1	1x M5x12mm (or M5x15mm) Hex Set Screw (or roll pin, or rod, as the hinge pin)
M1	1x 6mm x 6mm Cylinder Neodymium Magnet (or 1/4"x1/4" Cylinder neodymium magnet) (https://www.apexmagnets.com/magnets/1-4-x-1-4-cylinder-neodymium-magnet)

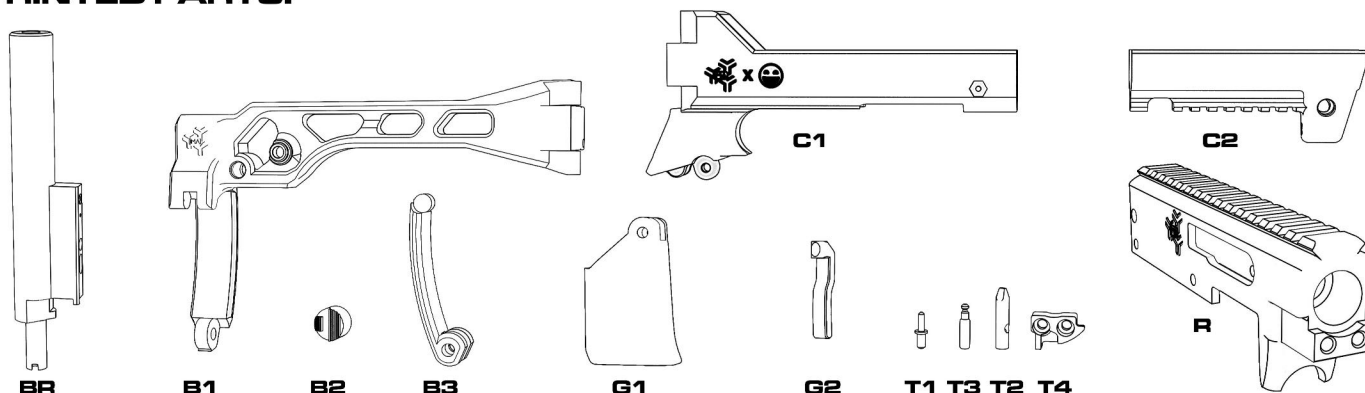
Stock/Brace Hardware:	
P2	1x 4mm OD Rod 54mm long (can be substituted with similar imperial sized rod or pin)
P3	1x 3mm OD Rod 30mm long (can be substituted with similar imperial sized rod or pin)
M1	1x 6mm x 6mm Cylinder Neodymium Magnet (or 1/4"x1/4" Cylinder neodymium magnet) (https://www.apexmagnets.com/magnets/1-4-x-1-4-cylinder-neodymium-magnet)
F5	1x 1/4"-20 Hex Head Screw 1-1/4" Long McMC#92979A126
N2	1x 1/4"-20 Locknut (Nylock) McMC#95615A120
S2	1x Compression Spring, 0.75" Long, 0.3" OD, 0.218" ID McMC#9657K287

M4 Heat Inserts and
Screws can also be
used to replace the
#12-24 screws!

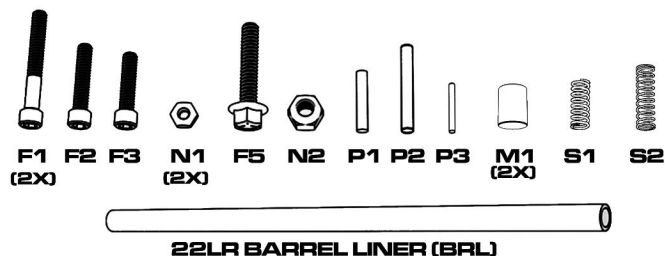
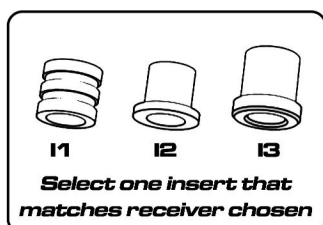




PRINTED PARTS:

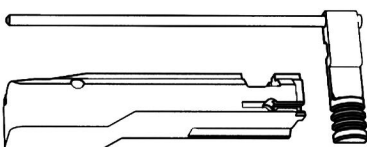


HARDWARE:



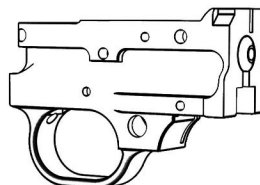
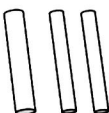
RUGER OEM PARTS:

CHARGING HANDLE (CH)



BOLT ASSEMBLY (BA)

TAKEDOWN PINS (TDP)



TRIGGER PACK (TP)



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Print Settings:

All components should be printed at a 50% or lower layer height to nozzle opening ration to maintain proper layer bonds.

(Example: 0.4 Nozzle – 0.2 Layer Height, 0.6 Nozzle – 0.3 Layer Height)

Material: PLA+ or Better

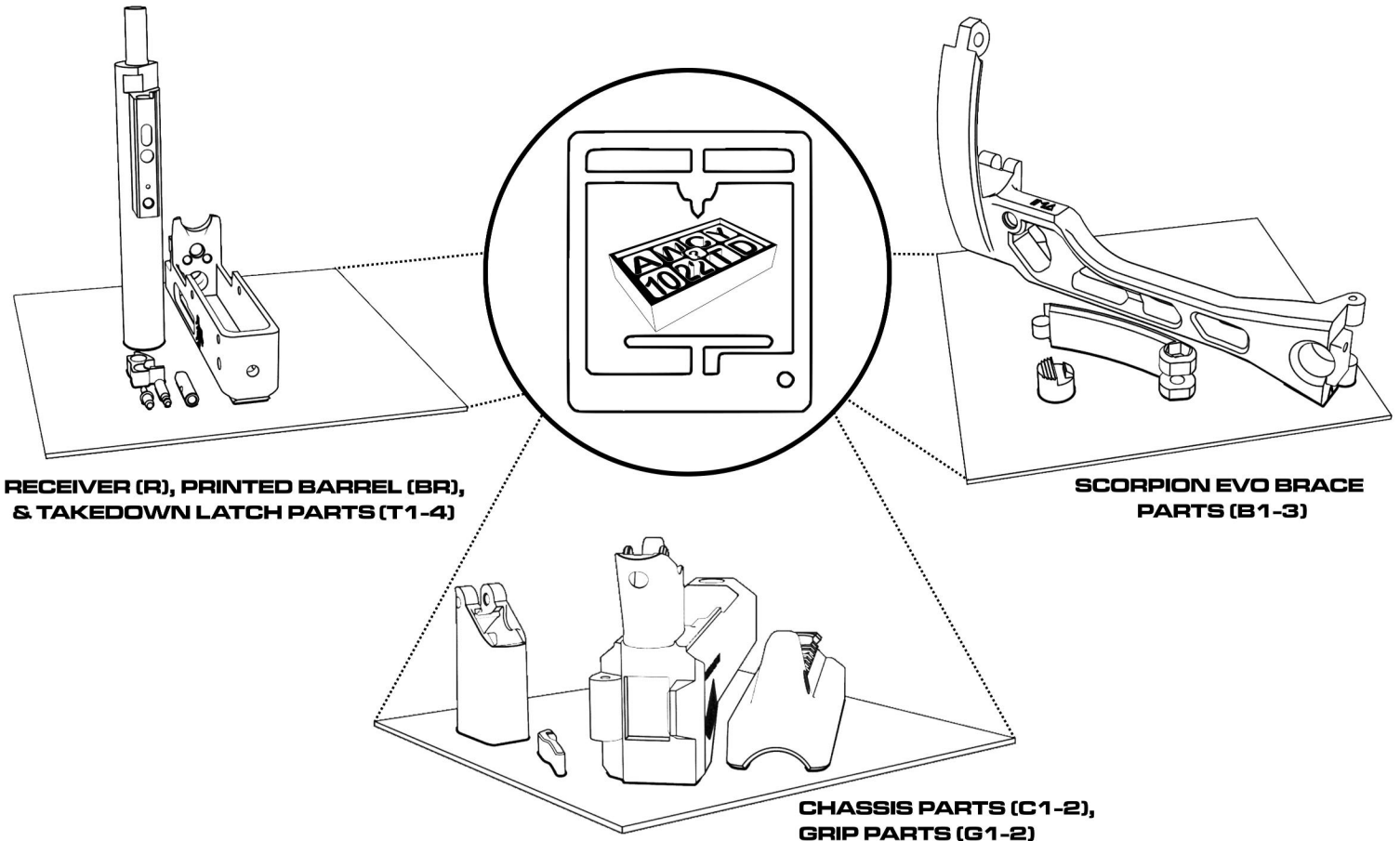
Wall Count: 8+

Infill: 80% or higher

Top and Bottom Thickness: 2.0mm

Supports: Tree Preferable, all parts with overhangs

Print Orientations:

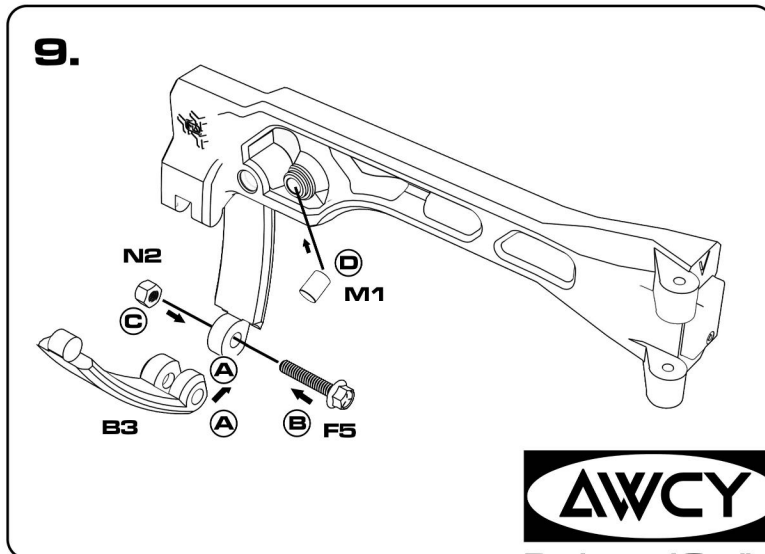
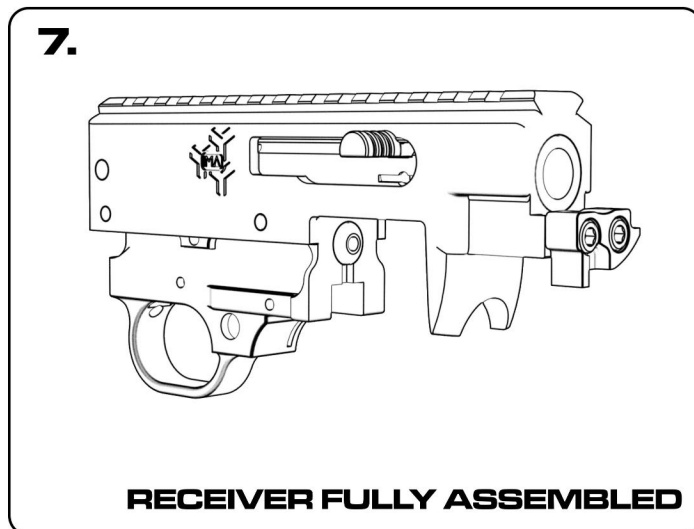
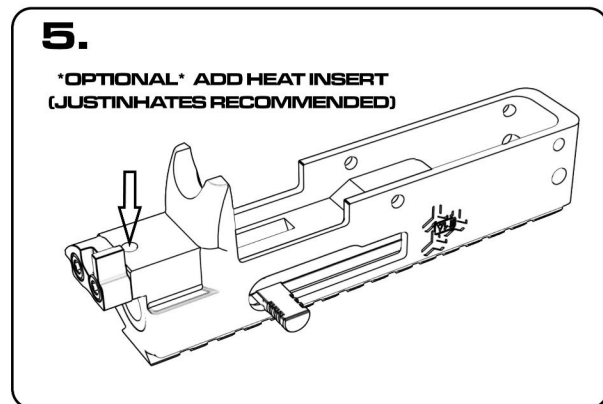
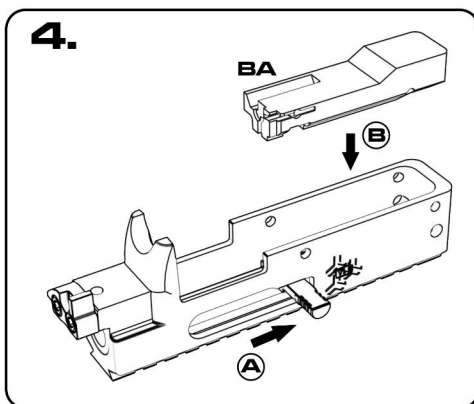
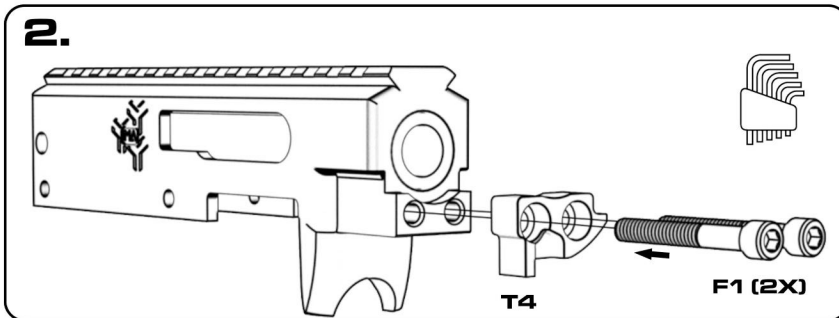


Additional Build Notes:

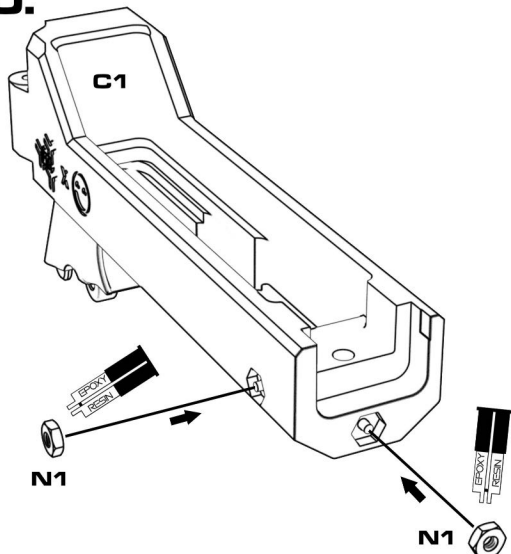
- **IMPORTANT. REMEMBER** to have the bolt locked open when utilizing the takedown function in either direction (installing barrel or breaking down for storage). Otherwise you may damage your printed barrel (BR) on the extractor.
- Due to fluctuations in printer calibration and print quality, some minor sanding or filing may be required to get the action operating smoothly.
- Remember to ream/file all of the pin holes, until the pin can be lightly tapped in/out.

If you have any questions not covered in this document or just need build help, visit us at **AWCY?** on Matrix
<https://matrix.to/#/#AWCYwaitingroom:matrix.org>

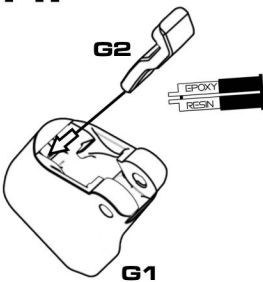
For a video guide of assembly, by AWCY? Beta-Tester Justinhates, visit: youtu.be/4mFJFruoDA8



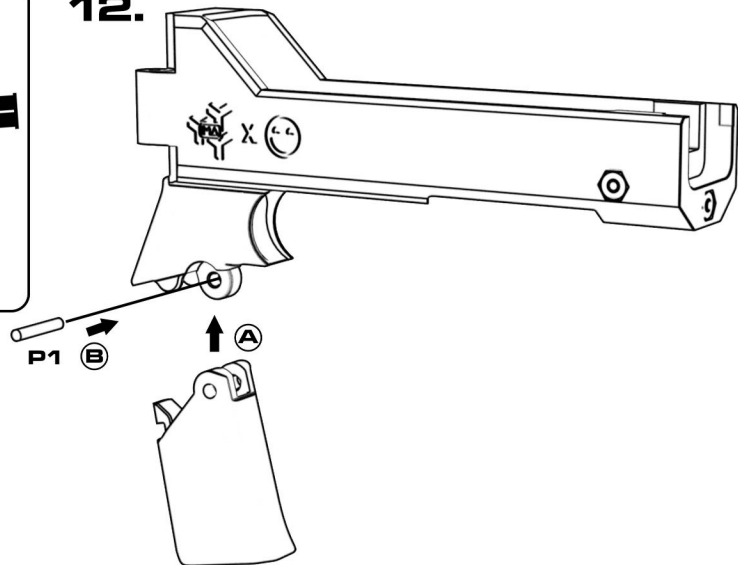
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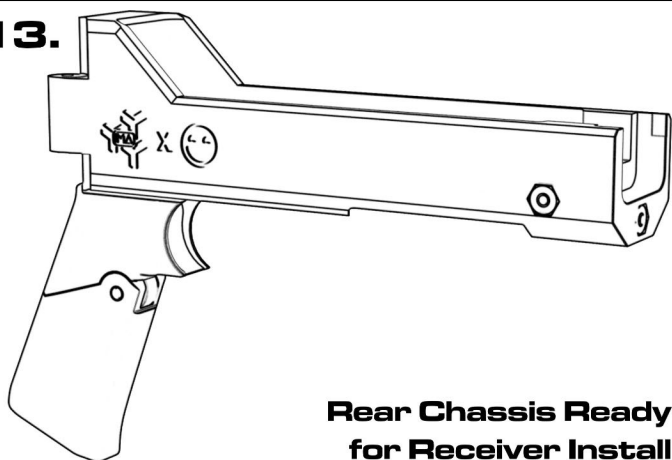
11.



12.

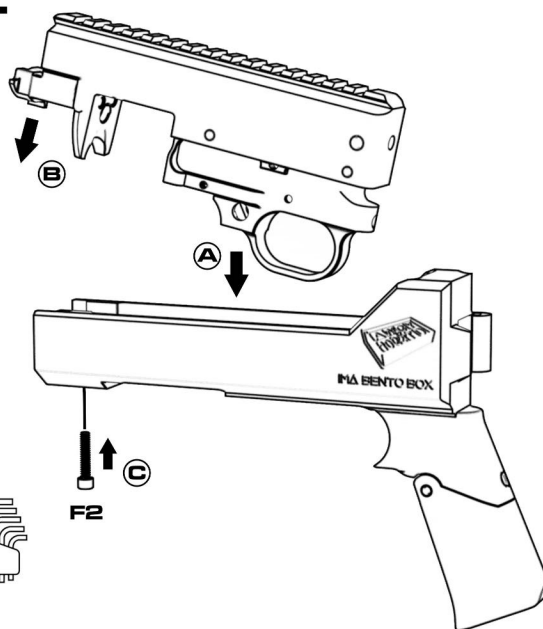


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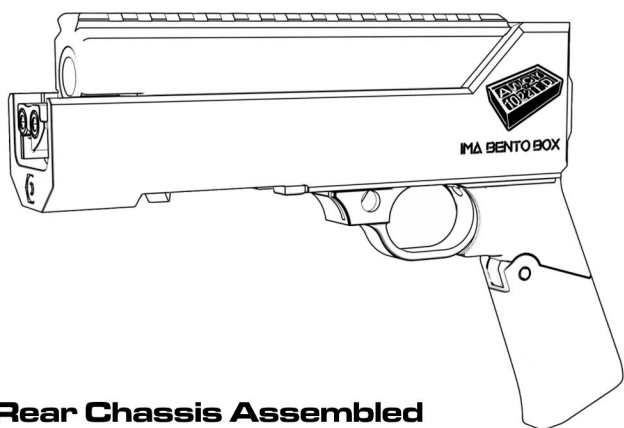


**Rear Chassis Ready
for Receiver Install**

14.

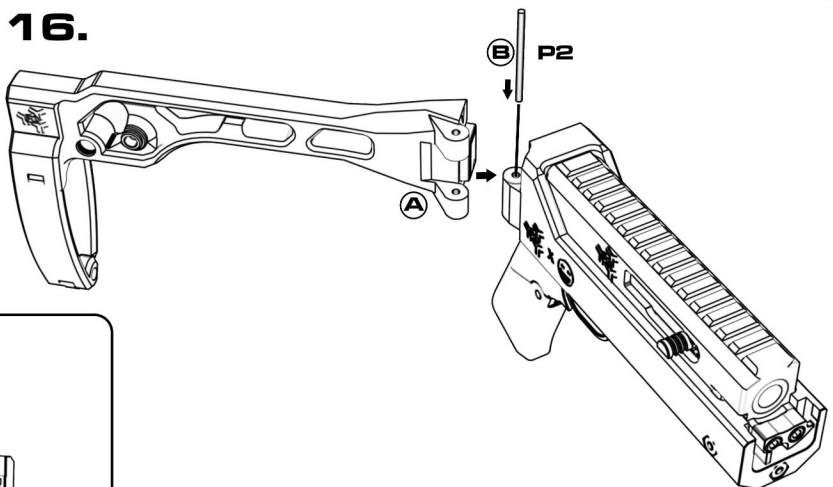


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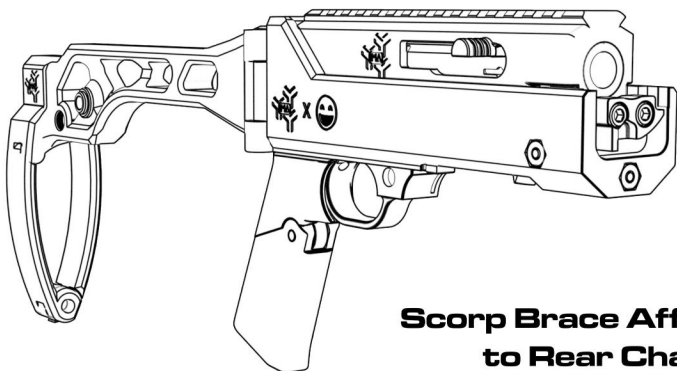


Rear Chassis Assembled

16.

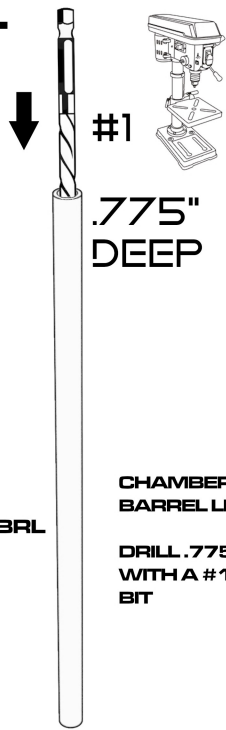


17.



**Scorp Brace Affixed
to Rear Chassis**

18.



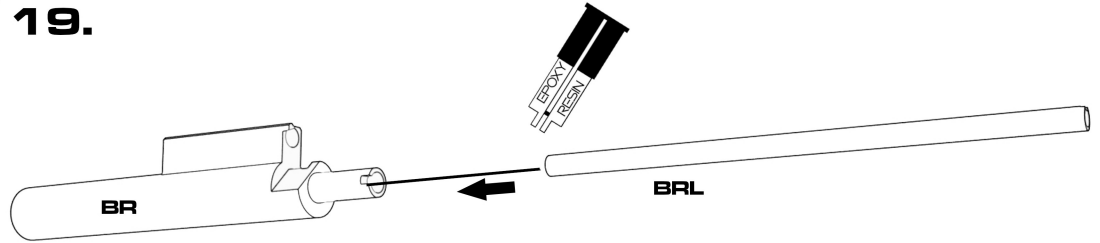
CHAMBERING
BARREL LINER

DRILL .775" DEEP
WITH A #1 DRILL
BIT



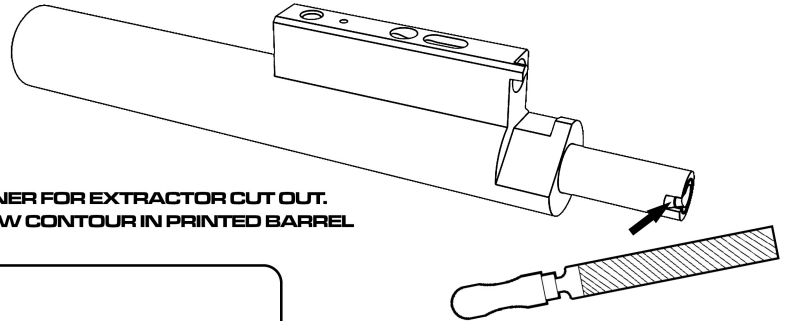
NEED ADDITIONAL INFORMATION ON CHAMBERING OR HEADSPACING?
CHECK OUT THE 22LR LINER CHECK THE AWCY? GALILEO-22 GUIDE

19.

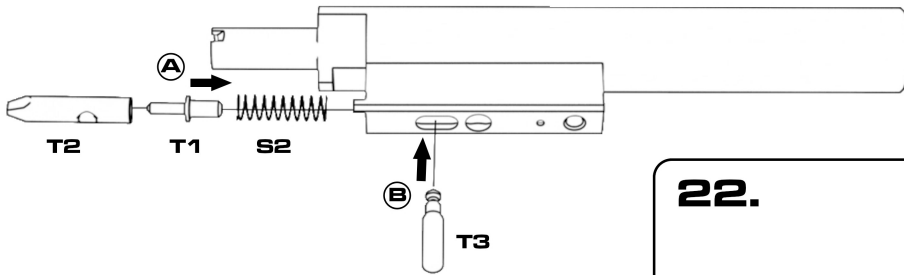


20.

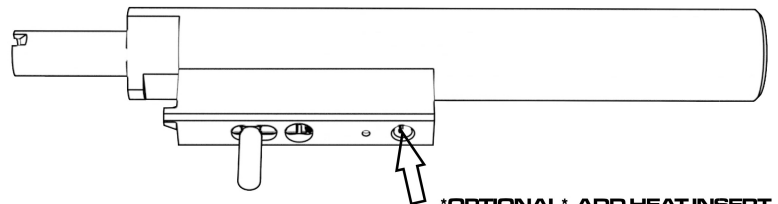
FILE LINER FOR EXTRACTOR CUT OUT.
FOLLOW CONTOUR IN PRINTED BARREL



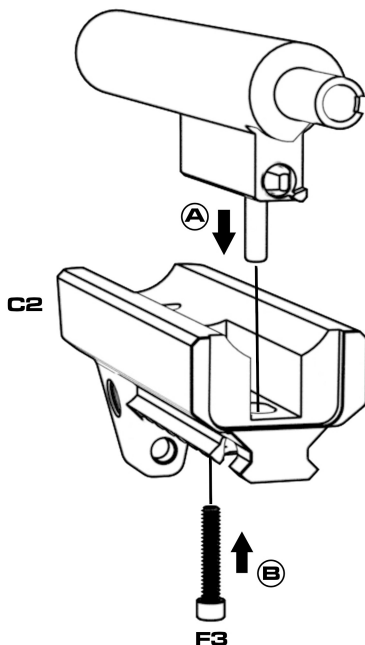
21.



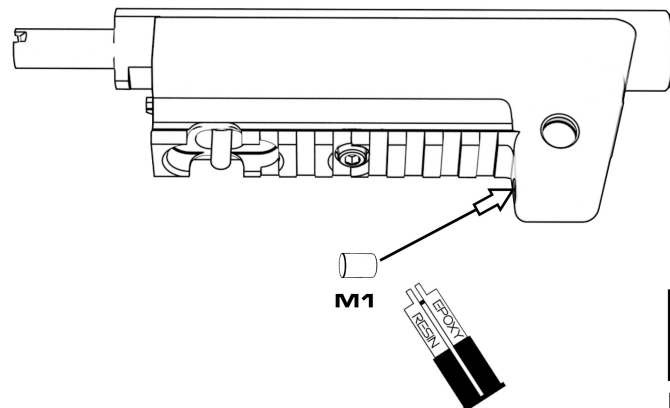
22.



23.



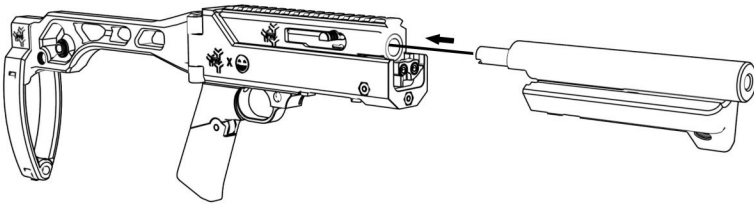
24.



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25.



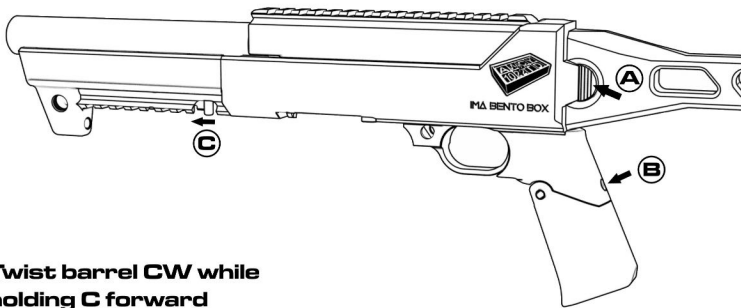
26.



Bento Box Complete

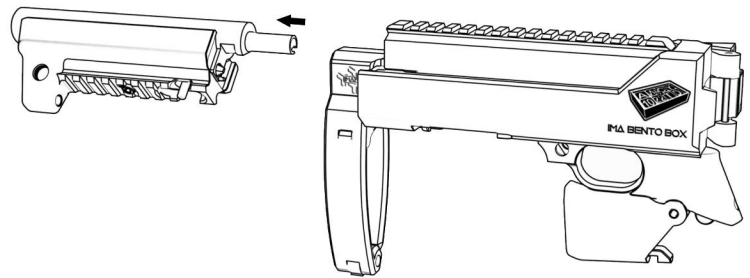
DISASSEMBLY FOR TRAVEL/STORAGE:

1.

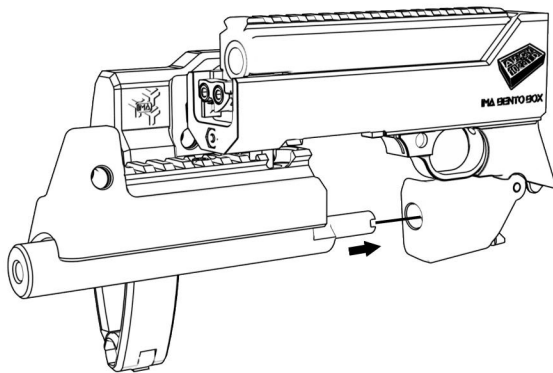


Twist barrel CW while holding C forward

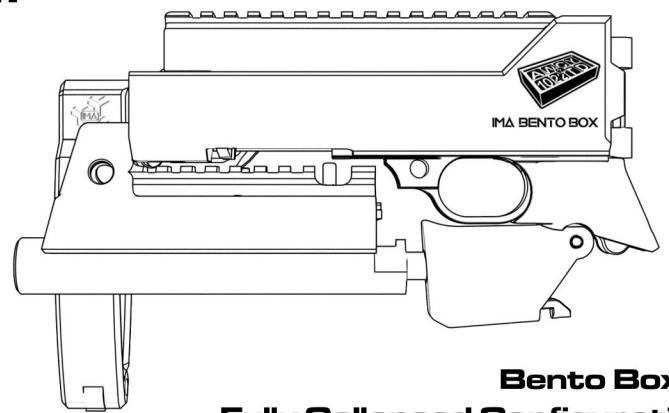
2.



3.



4.



Bento Box in Fully Collapsed Configuration

ACKNOWLEDGEMENTS:

- Thanks to V8vtwin, Justinhates, and Drunk for early testing during an ammo drought.
- 3Ftech for letting me modify (butcher) his grip and attach it to my chassis.
- Gummy23 for helping make the non-takedown version of the chassis.
- Notmyrealname1 for helping with the documentation.
- DanishBulldog for being a helpful fellow dev and selling hardware kits.
- Mussy for various reference models, help review early versions, and being a wonderful friend and boon to the guncad community.
- And the community at AWCY? for their support and putting up with me dragging out my release dates.



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