

ARSENAL ORDNANCE

THE ULTIMATE JIG INSTRUCTION MANUAL

IT IS EXTREMELY IMPORTANT THAT YOU READ ALL INSTRUCTIONS AND WARNINGS SET FORTH IN THIS MANUAL PRIOR TO USING THE PRODUCT. DO NOT USE THIS PRODUCT WITHOUT CLEAR UNDERSTANDING OF INSTRUCTIONS AND WARNINGS. FAILURE TO COMPLY WITH INSTRUCTIONS AND WARNINGS COULD RESULT IN DAMAGE TO PROPERTY, SERIOUS INJURY TO YOU AND OTHERS OR EVEN DEATH.

This manual should always accompany your jig and be transferred with it upon the event of change of ownership. A copy of the manual can be downloaded for free from <http://www.theultimatejig.com> or by contacting Arsenal Ordnance.

Note: Using the Ultimate Jig on an 80% lower will modify the 80% lower into a firearm. Even is not fully milled out or completed, the lower may still be subject to being legally considered a firearm. It is your responsibility to comply with all federal, state and local laws and regulations pertaining to ownership, possession, and transportation of a firearm. Certain configurations of the lower machined by the end-user with an upper receiver, may result the firearm to classification under the National Firearms Act, which establishes registration, taxes, and other requirements on the owners of such firearms. For more information regarding the Nation Firearms Act and other federal firearm laws and regulations you can visit <https://www.atf.gov/resource-center/docs/atf-p-5300-4pdf/download>. For state and local laws and regulations please contact your state and local authority.

Warning: Proceed at your own risk. Working with power tools and cutting metal can be extremely dangerous. Follow all safety instructions provided by the power tool's manufacturer. **Proper hearing and impact resistant eye protection must be worn at all times when operating any power tools required to finish the 80% lower.** Open style safety glasses do not work as they do not fully protect the users eyes from flying debris. When cleaning out any shaving or chips from your jig and lower, use a Shop-Vac to suck them out. **Never use compressed air to blow or clear metal chips.** This is a serious health and safety hazard!

By using this product, you agree that you are aware of the risks and agree to not hold Arsenal Ordnance liable for any property damage or injuries resulting from the use of our product. This includes agreeing to not hold Arsenal Ordnance liable for any property damage, injury or death that results from use of any firearm(s) created with our products. If you do need agree to these terms & conditions, please do not use this product, and contact Arsenal Ordnance at customerservice@arsenalordnance.com to return the unused product for a refund.

Warning: As any firearm is potentially dangerous, we urge all users of our product to exercise extreme caution in the handling of any firearm. We also strongly suggest that the user should successfully complete a recognized firearms safety course prior to handling any firearm. **BEFORE** attaching the lower receiver to an upper receiver, ensure the safety and trigger mechanisms are properly functioning before attaching the lower receiver is an upper receiver. It is recommended that the user take the complete lower receiver to a licensed gunsmith to have the lower checked for safe and proper functioning of **ALL** components of the lower receiver. Remember, as the operator, you are the most important safety device in regards to handling a firearm.

Under no circumstances shall Arsenal Ordnance be responsible for incidental or consequential damages with respect to injury, death, property damage or economic loss, whether as a result of breach of warranty, negligence or other-wise.

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IMPORTANT MESSAGE FROM ARSENAL ORDNANCE

Congratulation user, you will never have to buy another jig for each separate calibers again! Having purchased The Ultimate Jig® you have just purchased the only jig on the market that works with Ar15, **DPMS/LR308** and 9mm **Glock or Colt type AR lowers**. Using common household tools, you will be able to mill out your own 80% lower receiver right at home. Our jig is made with a heavy duty steel construction with key reinforced aspects ensuring the completion of many lowers before needing any replacement parts. Along with the construction, the LED light component included as part of the jig is another great feature, ensuring an easier way of seeing your milling work as well.

For best results, we strongly recommend that you read the entire instruction manual before starting any aspect of your build. It is extremely important that as the user, you are very familiar with all steps needed to use this product and complete your lower. By familiarizing yourself with the instructions you minimize the chances of making a mistake. If you have any questions regarding the instruction, process or tools after reading the manual please contact Arsenal Ordnance, we would be happy to assist you.

ROUTER INFORMATION

Most good quality small laminate router with a 1/4" collet can be used with The Ultimate Jig®. Fixed or variable speed is fine. For best results use a small laminate router (which we recommend) although full size routers along with a spacer, to provide clearance for the buffer tube when milling the trigger slot, can be used.

Set your router speed to 24,000 to 30,000 RPM for best results. For a smoother finish and to extend the life of both the end mill and drill bit life, cutting fluid is recommended. Clear out chips after each pass for longer tool life and a smoother finish.

INCLUDED/REQUIRED PARTS & TOOLS

INCLUDED PARTS

- #01: Right Jig Wall (1 pc)
- #02: Left Jig Wall (1 pc)
- #03: Drilling Pocket Plate (1pc)
- #04: Router Pocket Plate (1 pc)
- #05: Trigger Pocket Plate (1 pc)
- #06: Buffer Tube Alignment Tool
with LED light component inside
- #07: Depth Gauge Tool

INCLUDED BOLT SET

- #08: Jig Wall Bolts 2.5" (4 pcs)
- #09: Top Plate Bolts 1.75"(4 pcs)

REQUIRED TOOLS

- Router (w/ 5/16" collet)
- Drill Press or Hand Drill
- Table Vise or 2 Table Clamps
- 5/32" Allen Wrench (for template bolts)
- 3/16" Allen Wrench (for jig bolts)
- 3/32" Allen Wrench (for stop collar on drill bit)
- Cutting fluid or motor oil
- Masking tape
- Eye and hearing protection

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* THE ULTIMATE JIG TOOLING KIT SOLD SEPARATELY

You can purchase this complete tool kit, with all the drill bits and the end mill, where you originally bought our Ultimate Jig.

The kit includes:

- 5/16" x 4 long Solid Tungsten Carbide End Mill with 0.75" flute cut length
- 3/8" Drill Stop Collar
- 5/16" Drill Stop Collar
- 3/8" Drill Bit
- 5/32" Jobber Length Drill Bit

We highly recommend using The Ultimate Jig® tooling kit. If you choose to use other drill bits it is very important to use sharp, high quality bits used for drilling aluminum.

THE ULTIMATE JIG INSTRUCTIONS

These instructions cover the use of the jig for the Ar15 which also generally covers those of the Ar10 and 9mm lowers. Any instructions above or beyond those of the general Ar15 (meaning those specific to either the Ar10 or 9mm lowers) will be * highlighted as such, as not to confuse the user.

STEP 1

Attach side plates and to the lower receiver. Use the Jig Wall Bolts, tightening in an alternating pattern. Snugly tighten bolts with Allen wrench. Do not over tighten bolts. Use masking tape to mask all areas of the lower receiver that will not be machined. Do not place tape between mating surfaces.

Note! Remember to match the side plates to the caliber of lower you are machining.

STEP 2

Loosely attach Drilling Pocket Plate to the top of the jig using the #09 bolts. Ensure the walls of your jig are evenly spaced by alternately tightening the top bolts like you did in Step 1.

Step 3

Thread the Buffer Tube Alignment Tool #06 into the buffer tower on the lower receiver, and match the Tool #06 with the rounded notch on the end of the pocket drill block #03. This will ensure that the drill pocket will be properly aligned with the buffer tube assemble and bolt carrier group. When the Tool #06 and the drill pocket #03 are aligned, tighten the #09 bolts. Then, unthread alignment Tool #06 5 or 6 turns out of the buffer tower, and turn on the LED light to help illuminate the work area inside the pocket.

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STEP 4

Using the Ultimate AR Jig depth template, prepare the 5/16” Drill bit and 5/16” Drill Stop to the appropriate length. Solidly tighten the drill stop collar. The drill bit should be touching the bottom of the depth gauge. Make sure the Drilling Pocket Plate is fixed to the jig assembly and the jig assembly is secure in your vise **PRIOR** to beginning to drill the pilot holes. Repeat this step using the 5/32” Drill Bit and 5/32” Stop Collar on the 1/4” pilot holes.

STEP 5

Begin to drill out the pilot holes **checking the drill bit length with the Ultimate AR Jig depth template every time**. It is very important to **drill straight down** – if using a hand drill. Make sure not to lean at any angle as this could possibly damage your progress on your lower irreparably. Ease up on the applied pressure as your drill collar gets close to the Drilling Pocket Plate. This will prevent the drill collar from slipping and over-drilling.

Note: As stated previously, it is strongly recommended to use cutting fluid while drilling and the shop-vac to suck up metal shavings throughout the drilling process.

STEP 6

Remove the top rear jig bolt so you do not drill through it during the next step. Drill the two rear pilot holes for the rear shelf. (Disregard this if your lower receiver already has these holes drilled out and proceed to Step 7.). Using the Ultimate AR Jig depth template, prepare the 5/16” Drill Bit and 5/16” Drill Stop to the appropriate length. Repeat this step using the 5/32” Drill Bit and 5/32” Stop Collar on the 5/32” pilot holes.

Note: By removing the top rear jig bolt it can cause the lower to slip downward if the vise is not tight enough. To counteract this, thread the tip of the bolt into the left wall of the jig. This will help hold the lower and jig together but not getting in the way of the bit. Remove the Drilling Pocket Plate and suck the lower clean of metal shavings using the shop-vac.

STEP 7

Place the Router Pocket Plate with notched end towards buffer tube hole. Repeat Step 3 using the Buffer Tube Alignment Tool.

STEP 8

Take the 5/16” End Mill and install into your router. Make sure the end mill is secured very tightly in the collet. This is crucial in preventing the end mill from moving out while in the process of milling. Using the Ultimate AR Jig depth template, adjust the depth of the router. Re-insert and tighten down the top rear Jig Bolt through the lower receiver if it was loosened during Step 5.

STEP 9

Turn router off, and insert the end mill into the center of the furthest hole from you. The tip of the end mill should come to just below the top of the 5/16” hole. Maintain solid grip on router when turning it on. **Only focus on removing the material between holes until all holes are connected.**

Warning: Always turn off the router and wait until it has completely stopped moving before removing or inserting into the jig or lower receiver. Irreparable damage to your jig and lower can happen if this warning is not followed.

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STEP 10

Once all the holes have been connected, starting from the middle and working your way outwards in a clockwise direction, you may mill out the rest. Keep milling until the end mill shank is riding against the template. When the first pass is complete, move router to the center of the pocket, waiting until the end mill completely stops moving, before lifting it out of the jig.

Note: Use **cutting fluid with the end mill** and continue to use the shop-vac to clear away metal shavings.

STEP 11

Proceed with taking deeper cuts by adjusting the end mill using the Ultimate AR Jig depth template. Follow the depth gauge notches based on the caliber of lower you are milling in the jig.

Warning: On the final two cutting passes before reaching the bottom, the end mill will not have any pre-drilled hole to begin in. To avoid the end mill from shaking or twitching when powering on the router, hold the router slightly above the template and power on the router. **Do so without the mill touching the lower.** Very slowly, with a solid grip on the router, lower the router. For the final pass the Ultimate AR Jig depth template is set up so the end mill is past the last notch and touching the top of the depth gauge. Once completed you should be left with a milled out main trigger pocket and drilled out rear shelf holes.

STEP 12

Note: If your lower already had the rear shelf milled out, proceed to step 14.

Remove the Router Pocket Plate. Place the Trigger Pocket Plate so that the longer hole is closer to the buffer tube hole. Repeat Step 3 using the Buffer Tube Alignment Tool. Next, pull out the top rear Jig Bolt so you do not mill through it. Removing the jig bolt completely can cause the lower to slip downward if the vise is not tight enough. Re-insert and thread the tip of the bolt through the top jig wall threaded hole. The tip will go into the edge of the lower and keep the lower from slipping without getting in the way of the end mill.

STEP 13

Using the Ultimate AR Jig depth template, adjust the end mill to mill out the rear shelf. End mill should come to the first hash mark on the depth template. It is the same process as before. **Do not mill out the trigger slot (smaller hole) of the Rear Shelf Template.** Reinsert and tighten jig bolt if you either loosened or removed the top rear Jig Bolt in Step 12.

STEP 14

Remove Trigger Pocket Plate. At this point use the shop-vac to clear any metal shavings and chips from the lower and side plates. Afterwards reinsert and tighten the Trigger Pocket Plate. Place the Trigger Pocket Plate on the jig and attach to jig side plates, repeating Step 3. Use the two jig wall screw holes furthest away from the buffer tube to secure the template. Secure the jig into the vise.

Warning: Use very little downward force when drilling the pilot hole. **Overdoing this step may cause damage your lower irreparably.** Go very slowly and control the downward pressure at all times. This applies to using both a mill and a hand drill. *As stated before when using a hand drill down very straight. Make sure you are not drilling at an angle.

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Tip: If a punch is available, use it to prevent the drill from moving around while drilling. **Again, use very little downward force when drilling the pilot hole.**

STEP 15

Next, the trigger slot. Adjust the router depth setting so the end mill is slightly inside the drilled out trigger slot pilot hole. With the end mill centered in the hole, turn on the router while keeping a firm grip on the router. Mill back and forth in a clockwise motion. Turn off the router and increase the depth by 1/2 hash mark and repeat the process. Continue until the trigger slot is fully milled out.

STEP 16

Remove all of the top plates to drill the trigger, hammer and safety holes. Clear out chips and reposition the jig and lower on its side. Insert the 5/32" Drill into your drill press or hand drill and drill out the trigger hammer pin holes on the right side. Next install 3/8" Drill and drill out the safety selector hole on the right side. Do not drill all the way through one plate into the other.

Warning: To ensure proper function, use a paperclip to clear out any chips from the safety selector detent hole. It's common to have chips stuck in the selector detent hole. Keep it Clean! It's a good idea to push a small object through the safety selector detent hole even if you don't see any chips in there to clear out hidden chips.

FINISHING TIPS

- Clean marks sometimes left from metal shaving rubbing against the lower receiver by gently rubbing a soapy sponge across the marks.
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- **Raw lowers – install lower parts kit and make sure your lower functions properly before having a fishing coat applied to your lower receiver. We recommend the Arsenal Ordnance Milspec/Enhanced Lower Parts Kits.**

CONTACT INFORMATION

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Other Locations:

Location in Texas coming soon!

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