



DRO MOUNT INSTALLATION GUIDE

Thank you for purchasing Katya Ironworks Precision Mount. With this device you will rigidly couple your WR510 DRO to your DW735 or DW735X planer. It is precision CNC machined from billet aircraft grade aluminum, and comes with quality steel socket hardware.

Please follow the instructions on this document to the letter to get the best performance out of it. If you have any questions, please contact us at katya.ironworks@gmail.com





INSTALLATION VIDEO

If you prefer to watch our installation video, please scan the QR code above with your phone to access the installation video.

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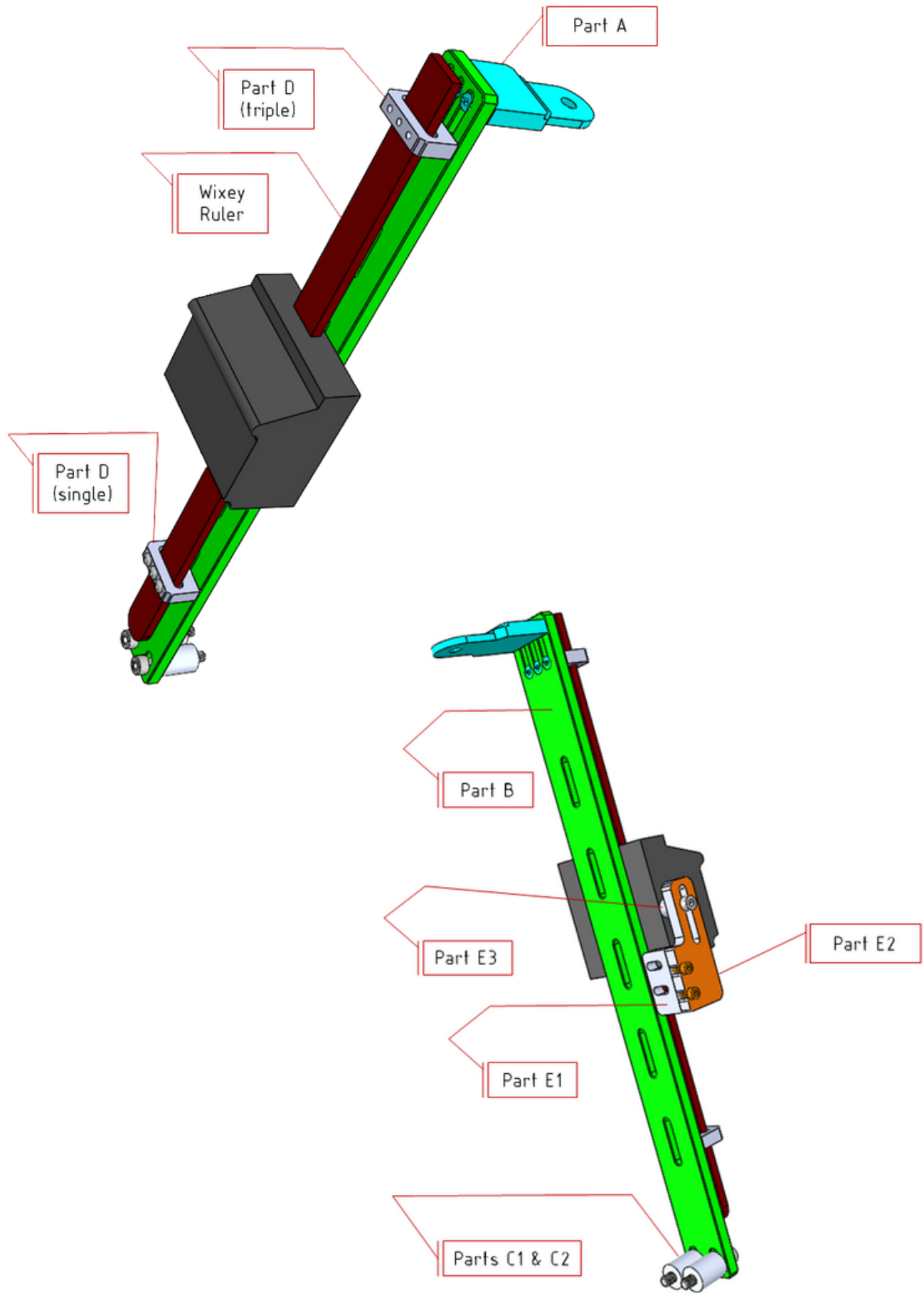
We are a small American family, running an employee owned business. Customer satisfaction is our top priority. If you enjoy this product, please consider giving it a 5-star review, it really helps us. And tell your friends. If we can make your experience any better, please let us know.

NEED A CUSTOMIZED SOLUTION?

Do you like these parts? Do you have other machines that need parts? We design and machine custom parts. Check our website www.katyaironworks.com, or email us at katya.ironworks@gmail.com

BASIC TOOLS YOU'LL NEED

- Metric Allen keys sizes 2 mm, 2.5 mm, 3 mm. and 4 mm. Please use exact sizes.
- Small tube of Permatex Blue Threadlocker. Other quality brands will also work.
- Manual Phillips screwdriver. Avoid electric screwdrivers; DeWalt factory hardware is soft and easily stripped.
- Small needle nose pliers or tweezers.
- Your DeWalt DW735 planer.
- Your WR510 DRO and fresh batteries. We recommend Duracell or Energizer. (Not sponsored.)
- Two large zip-top bags.
- Sharpie.
- Machinist square or carpenter triangle.
- Digital calipers.



INSTRUCTIONS

01

Unplug your planer.

Unplug your planer from power outlet. Never work on the planer while it is plugged in. Set the planer on a sturdy desk or similar flat, well-lit working surface. Remove extension tables from your planer if it has them.

02

Organization is key.

With the sharpie, mark one of your zip-top bags KEEP bag and the other DISCARD bag. Keep your blue thread locker nearby: every screw must have a small dab of thread locker applied on the first 3 threads.

03

Rise the planer gantry about halfway.

Rise the planer gantry about halfway. From this point when we say "riser", we mean the lead shown by arrow in the figure. With planer wood feeding side facing you, the riser is the big leadscrew closest to your right hand is.





04

Remove the red position dial.

Carefully remove the red position dial by loosening the two Phillips screws. Put these screws in the DISCARD bag, and the red dial also in the DISCARD bag.

Remove bottom screws.

At the bottom there are two Phillips screws mounted to your planer's base. Remove these screws both and put them in the DISCARD bag.

05



06



Remove riser bolt cap.

Carefully remove the riser bolt cap using 4 mm Allen. Both the cap, washer, and the bolt, should go to your KEEP bag.

07

Remove the scale.

Carefully remove the scale from your planer, and put it in your DISCARD bag. This is a good time to note how flimsy it is versus our product. WR510 instructions will tell you to reuse this black part you removed; you don't need to, don't worry about it.



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Install Part E1.

Using the supplied stainless steel M4 bolts, install part E1 in the orientation shown (M3 holes to your left and long side towards the planer table). Do not tighten these bolts yet. Allow for movement.

Install screws for E1.

Install two M3x12 pan screws on the left side of E1, but do not fully thread them in. Leave them about 6 mm (1/4 inch) out.



09

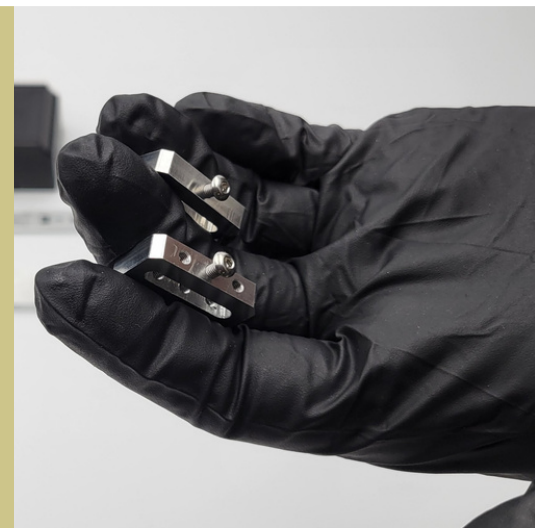


Prepare D parts.

Now we begin assembling the DRO mount. Insert one M3x6mm pan screw into each of the D parts (your kit comes with 2 D parts). Use middle hole in the front (chamfered) side. Do not thread it all the way in -this will be done later.

Verify D-parts.

When you are done, the D parts should look like in the picture. The D part with 3 holes will install towards the topside of your planer.



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(i) Install top D-part (with 3 holes).

Hold the part B (longest part) engraving facing you, and triple pockets up. Mount the triple D link here using three M3x10 mm countersunk screws. Do not tighten yet; allow movement.

When the top D link is installed it should look like in the picture. Use a machinist square or carpentry triangle to make sure D link is 90 degrees to the part B.



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Install Part A.

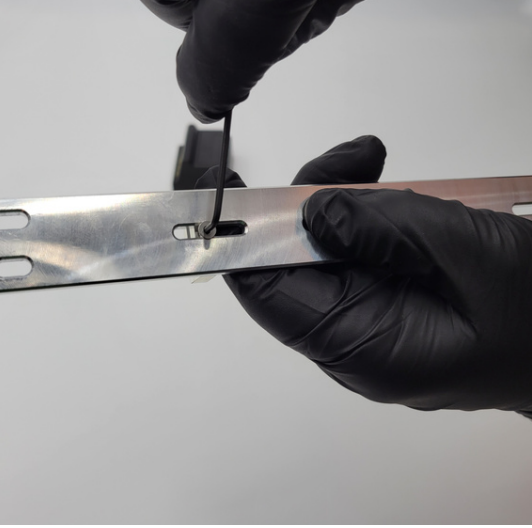
Part A (topmost part) installs on the opposite side of part-B. Our logo must be facing up, as shown in image. Use 3 M3x10 mm countersunk screws to secure it. Do not tighten it yet.

(i) Install bottom D-part (with 1 hole).

Hold the part B (longest part) engraving facing you. Mount the single hole D part to the last pocket from bottom using 1 M3x10 mm countersunk screw. Do not tighten yet; allow movement.

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Use a machinist square or carpentry triangle to make sure the last D part is 90 degrees to the part B. Keep it approximately in the middle of the pocket. Tighten until fingertight, then a 1/8 turn.

13

Install Wixey ruler.

Hold the part B engraving facing you, and triple pockets up. Slide the Wixey ruler through the triple D part, circular end first, and scale numbers facing front.



14



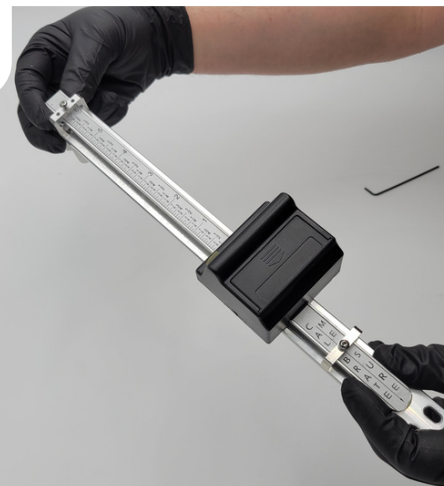
Install DRO.

Stop inserting the ruler about halfway between D parts and push it through the DRO. The LCD screen of your DRO should face towards the triple pockets.

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Tighten the ruler.

Use a machinist square or carpentry triangle to make sure the triple D part is 90 degrees to the part B, and ruler and part A is parallel to part B, and centered to D parts. Tighten all bolts until fingertight plus 1/8 turn.



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Reinstall riser bolt cap.

Pay attention to align the black plastic riser bolt cap such that the cutout is facing front of the machine and lines up with part A's tongue, and the M6 bolt goes through the hole of part A.

Adjust riser bolt cap.

Turn the screw until the part A is flush with the lead screw, but not so tight the assembly cannot rotate. You will finish tightening it later. If you tighten it now you can bend things in the next step!



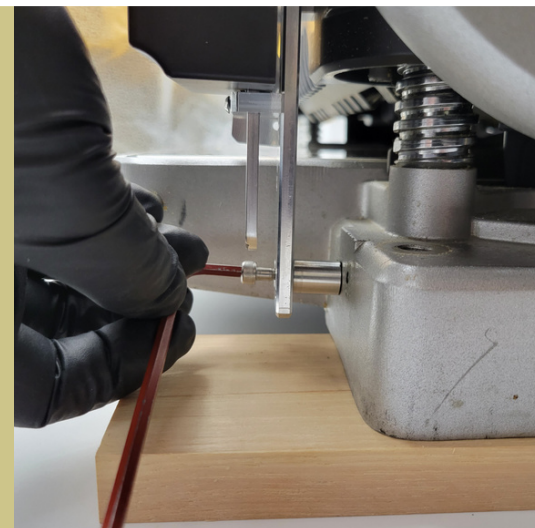
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Install Spacers C1 and C2.

Find the two stainless steel M5x30 mm socket bolts in your kit, and two CNC turned spacers. These are used to secure the bottom side of your DRO mount.

We recommend you start with the inner spacer (closer to planer table) first. Chamfered face of the spacer must touch the part B. Do not tighten these M5 bolts yet: just make them close but allow movement.





The pockets were machined to allow variations in planers. The bolts can be anywhere within the pocket, but they should not be rubbing against the very ends of pockets. If they are, adjust this from opposite side.

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Move the DRO down.

Bring the DRO unit as low as it goes, touching the lower D link.



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Install E2 part.

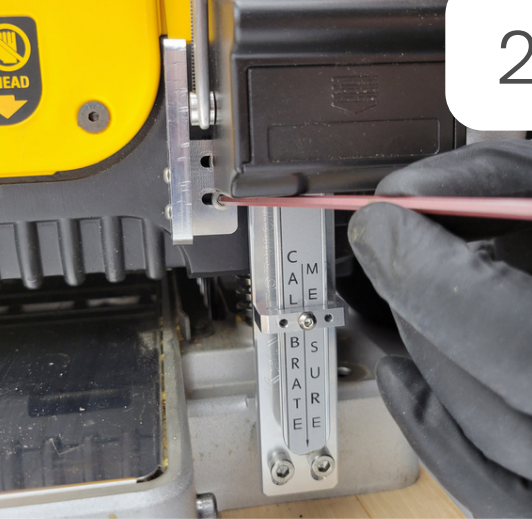
Install the part E2 as shown, long side up, and the two open pockets biting the M3 screws. Tighten the M3 pan screws you installed on E1 earlier until E2 is flush but allow for it to move.

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Install E3 (small spacer).

Part E3 is the spacer between E2 and your DRO. Install it using a M3x20 mm pan screw, and an M3 washer. Washer must be on the outside of E2.





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Adjust E1 and E2 for E3.

Use a tweezers to hold E3 while moving parts E1 and E2 such that the space between DRO and E3 is taken up. Then tighten M4 bolts to secure E1 to the planer.

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Secure DRO to E3.

Your DRO has a plastic case, but inside, a few millimeters (about 1/8 inch) deep, there is a metal M3 nut. You need to thread the M3x20 mm pan screw into this nut. Do not fully tighten yet.



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Tighten E2 to E1.

Tighten the M3 pan screws on E1 to secure E2 in position. Then tighten M3x20 mm pan screw to secure the DRO, about halfway in E2's pocket. Tighten until snug then 1/8 turn. There is a metal M3 nut in the DRO; you have no risk of stripping the DRO.

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Finishing Up ...

Working from bottom to top, tighten all screws that are loose. Make sure the DRO ruler is parallel to the mount. Do not forget to add threadlocker! The planer's vibration can shake things loose.

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Check down travel.

CAREFULLY lower the planer all the way down, while watching the DRO is not going to hit the lower D link. If it may hit, stop, and move the D link lower to compensate.

Check up travel.

CAREFULLY raise the planer all the way up, while watching the DRO is not going to hit the upper D link. If it may hit, stop, and move the D link higher to compensate.



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Pre-calibration 1:

Lower the planer all the way down (again) until the machine reaches lower detent and stops. Power up your DRO. It should show zero (0.00). If not, long press the ON/CAL key and release.

Pre-calibration 2:

Raise the planer all the way up (again) as high as the machine can go. Your DRO should read somewhere around 5.8 inches. While the DRO measures over 6 inches, your machine cannot travel that far.



Final calibration 1:

Get a piece of scrap wood (2x4 works) that is at least 12" long, that is clean, and has no nails / staples. Joint (or plane) one face of this wood flat. Feed it to the planer flat side down. Take at least 3 cuts 1/16" each. Cut until the top face is completely shaved flat.

Final calibration 2:

STOP and do not move the planer's crank: this is your calibration position. Clean and zero your calipers. Then measure wood's thickness. Do NOT pinch the wood with the caliper jaws! Hold lightly as if picking up an egg. Take 3 measurements and use the majority number.

Final calibration 3:

Set your DRO to input mode (long press ON/CAL) until it reads zero. Then using +/- buttons, set the readout to the value on your calipers as close as possible. Do not move the crank while doing this or you will have to start over.

Maintenance

You are ready to enjoy your new system. It requires very little maintenance: if you change/rotate/sharpen your planer blades/carbides, your batteries are dead/removed/replaced, or your plank hits the DRO when planing, make sure to re-calibrate the DRO.