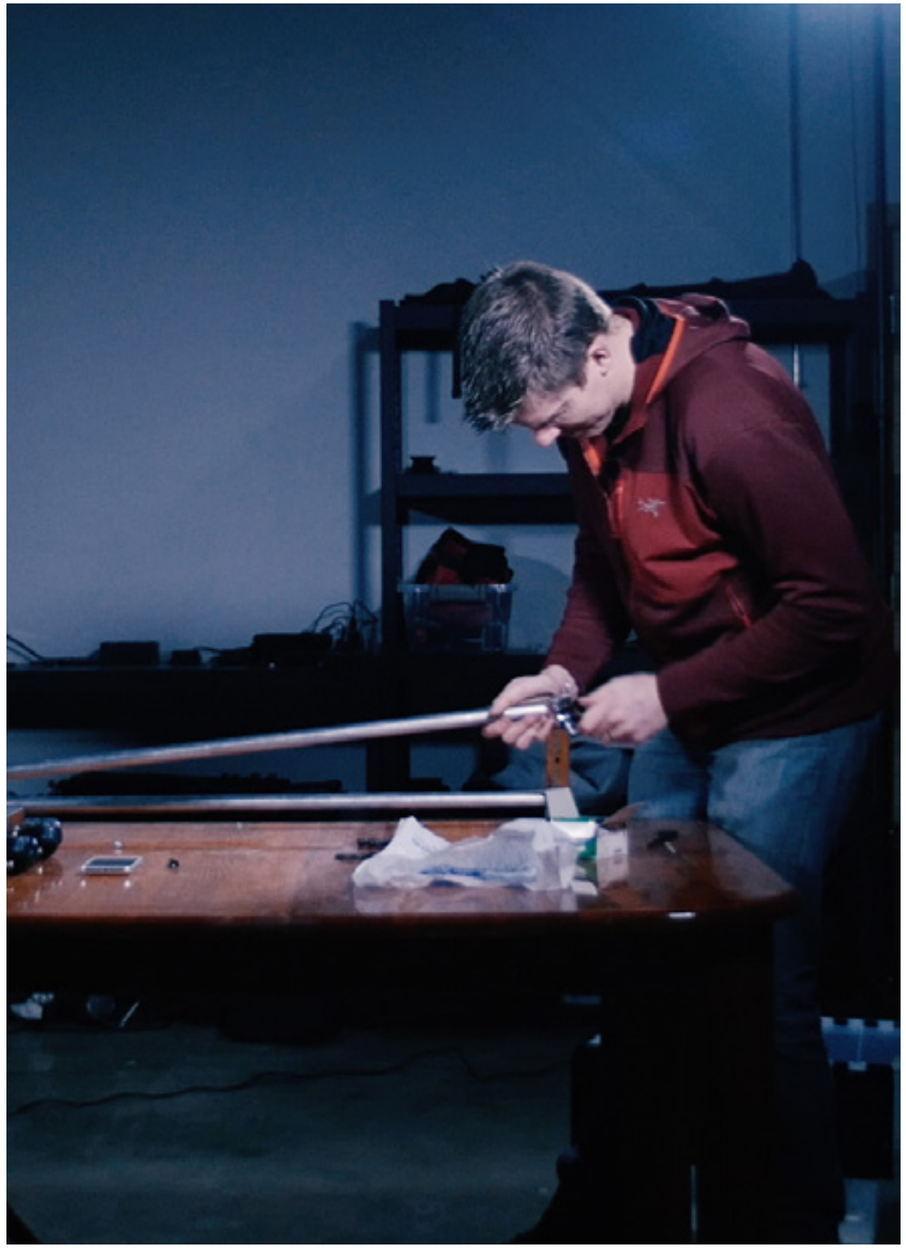
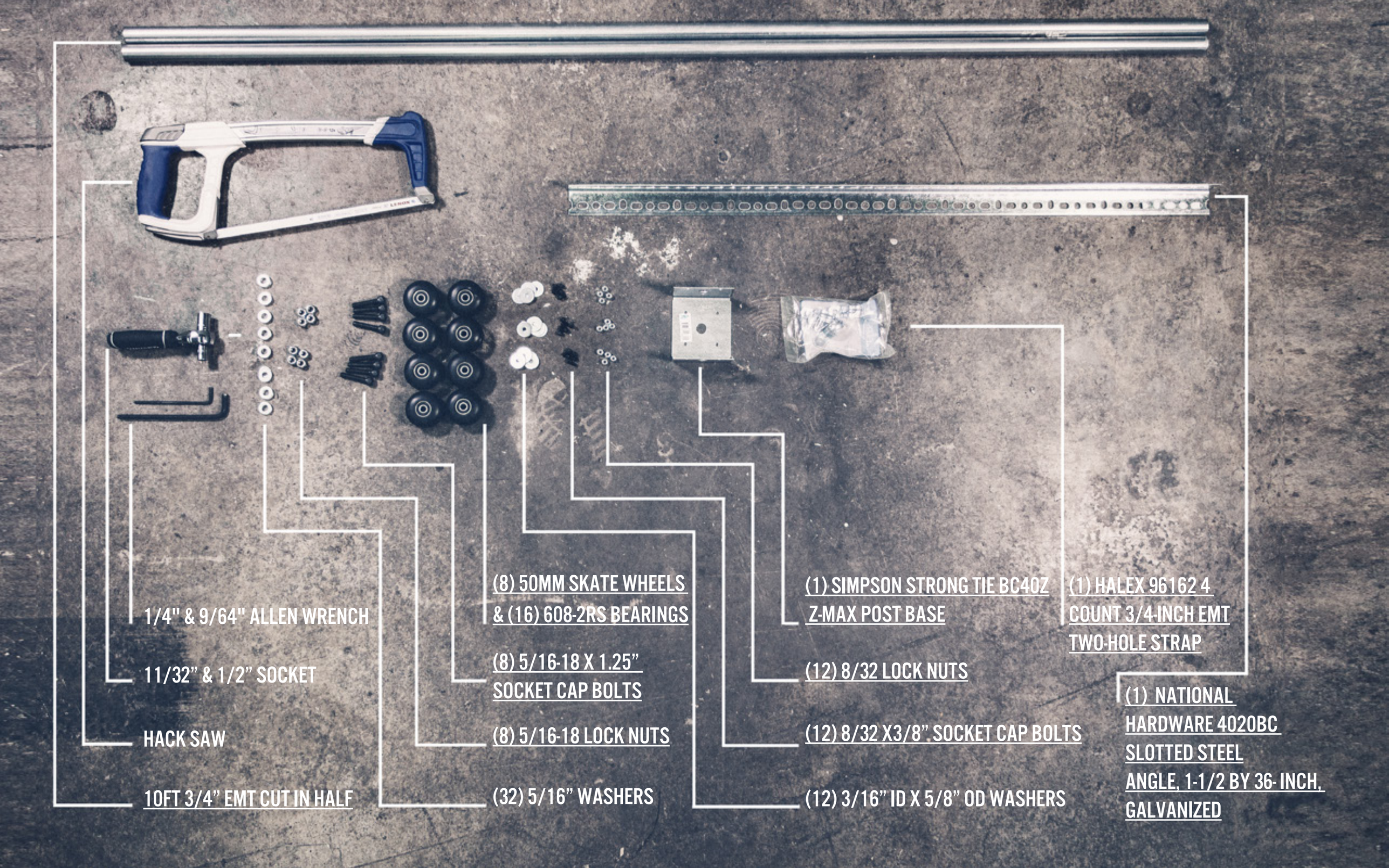
RHINO $75 DIY SLIDER



> We get questions all the time from amateur film makers asking how to get slider-like shots on the cheap. Often, they're saving for a Rhino Slider, but they want something cheap to get them by. Depending on the situation, we've suggested everything from skateboards to $10 DIY options online, but as a product designer I wanted to offer a more elegant solution. This is our attempt to offer an easy to build, affordable, and relatively smooth camera slider. You won't need to drill or tap any holes or buy any expensive tools.

Note: The shopping list on the next page shows you everything you need to build the slider. Some of it can be purchased though Amazon but you might find it cheaper elsewhere. We recommend buying the hardware locally, but we provided links to McMaster so you can have an accurate list of what parts we used.



1/4" & 9/64" ALLEN WRENCH

11/32” & 1/2” SOCKET

HACK SAW

10FT 3/4” EMT CUT IN HALF

(8) 50MM SKATE WHEELS & (16) 608-2RS BEARINGS

(8) 5/16-18 X 1.25” SOCKET CAP BOLTS

(8) 5/16-18 LOCK NUTS

(32) 5/16” WASHERS

(1) SIMPSON STRONG TIE BC40Z Z-MAX POST BASE

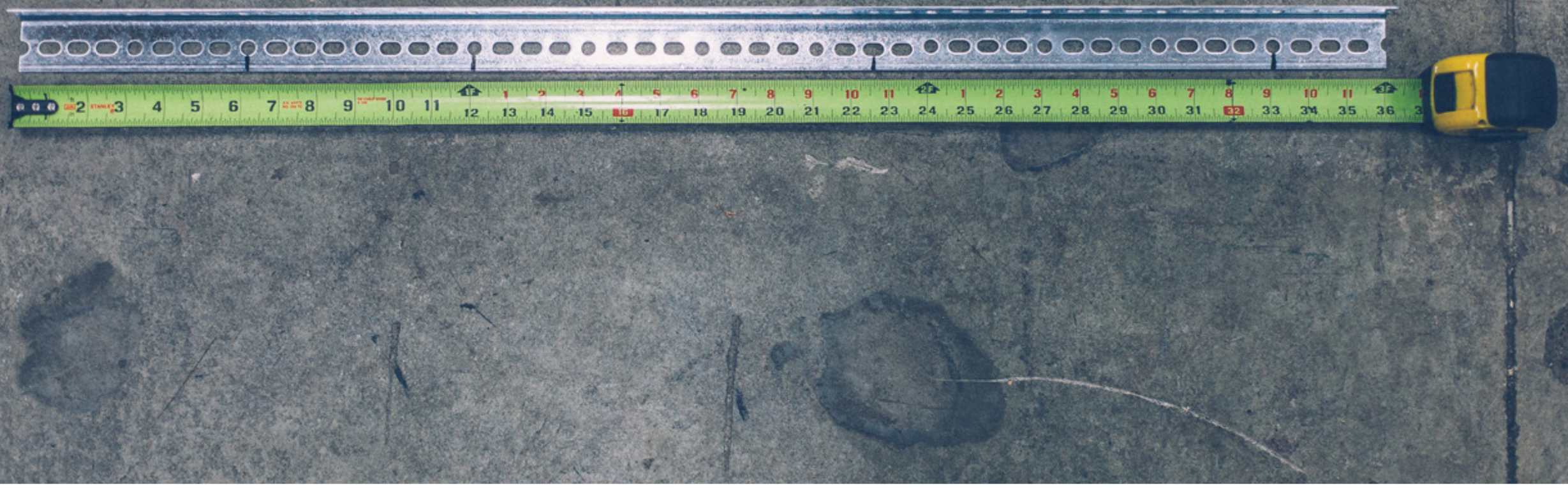
(12) 8/32 LOCK NUTS

(12) 8/32 X3/8” SOCKET CAP BOLTS

(12) 3/16” ID X 5/8” OD WASHERS

(1) HALEX 96162 4 COUNT 3/4-INCH EMT TWO-HOLE STRAP

(1) NATIONAL HARDWARE 4020BC SLOTTED STEEL ANGLE, 1-1/2 BY 36- INCH, GALVANIZED



STEP 1
Mark 4 lines on your piece of angle with a sharpie.
6 1/8” 12” 22 5/8” 33”. The two shorter pieces will be the sides of the carriage. The two longer pieces will be your end plates that the conduit bolt to.

STEP 2

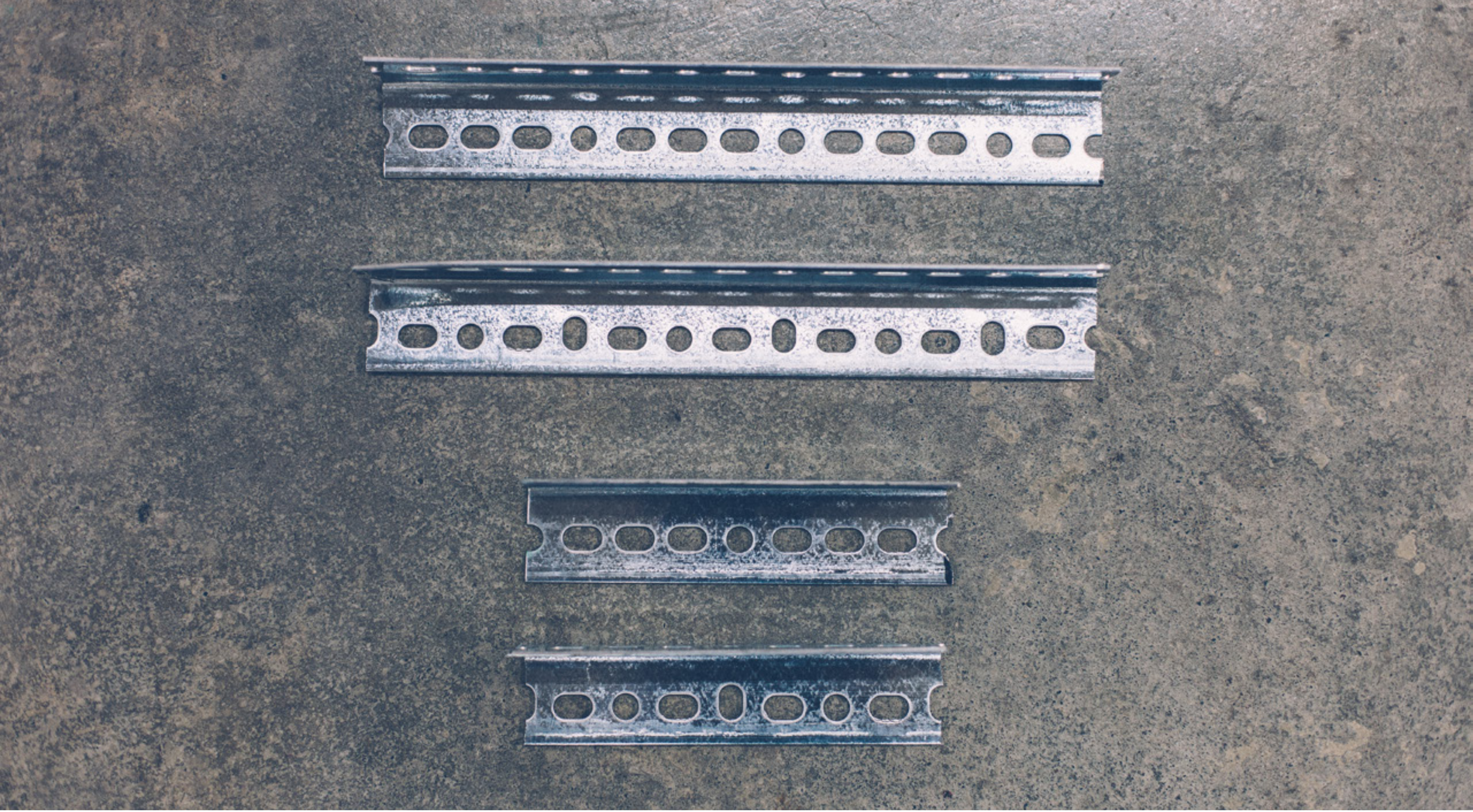
Next, you'll need to cut the angle. A hacksaw or a metal cutting saw work great. Ask the store you buy it at if they can cut it for you if you don't own a saw.

STEP 3
It’s much easier if you secure your angle in a vice. Line everything up and start cutting.


Forge

STEP 4
Now, you should have two short pieces and two longer pieces. Discard the scrap if you have any.

STEP 5
The edges will be really sharp so we’d recommed using a file or a sander to smooth them off.



STEP 6
That’s all the cutting you’ll need to do for this project. Now, we’re ready to prep the carriage

STEP 7

You'll need to bend both edges of the bracket to 45 degrees. You can do this on a table or a vice if you have one.

STEP 8

Fold a piece of paper over to get a benchmark for 45 degrees. Hold it up to your bracket and compare. Bend more as necessary.

STEP 9

Now, you’re ready to assemble the carriage. Place the bent bracket on top of one of your shorter cut angle pieces. Line up the holes and place your first 8/32” bolt through.

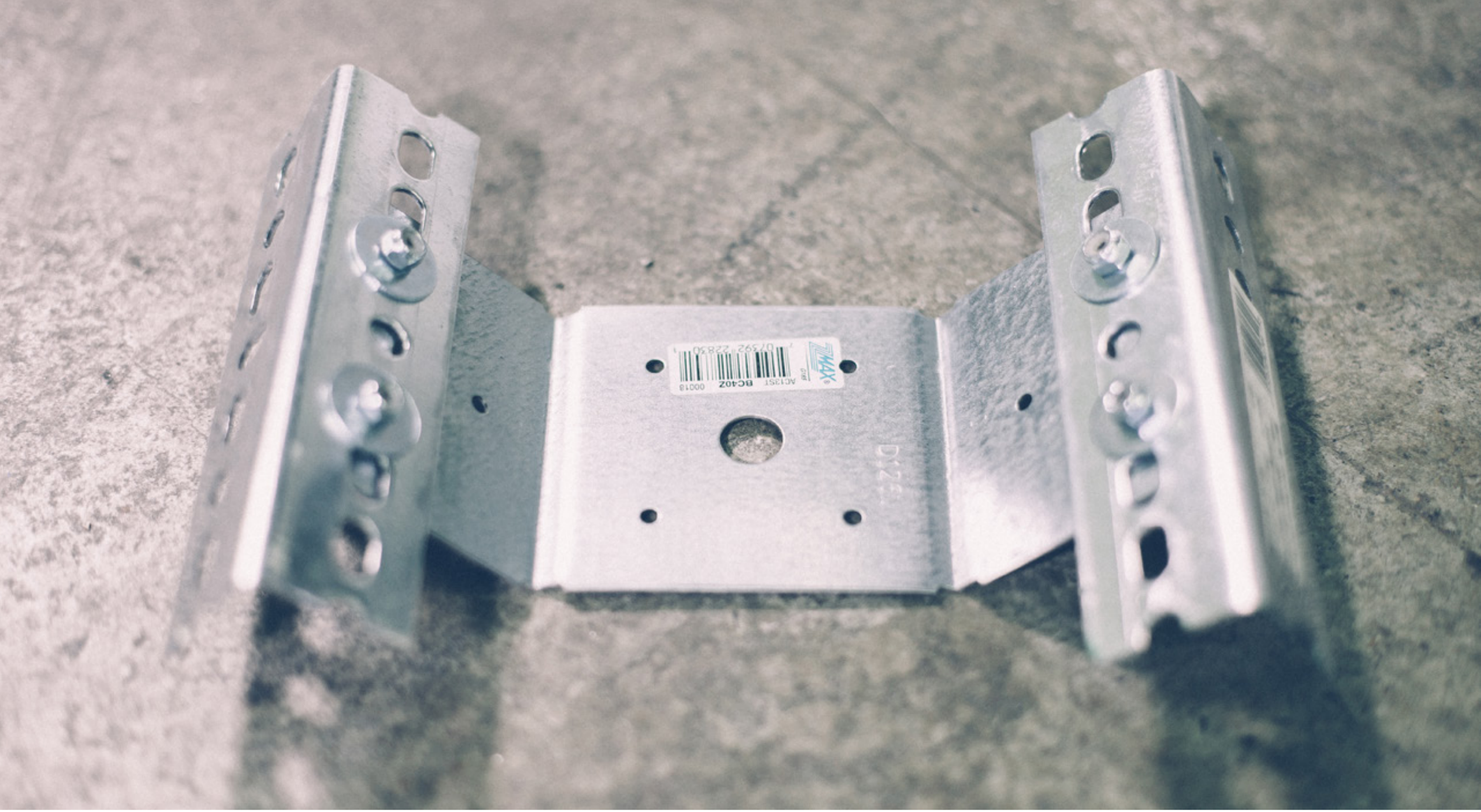

STEP 10

Turn over the assembly and place a washer over the bolt on the other side. Then, hand tighten the lock-nut to keep it in place.

STEP 11
Repeat the previous step until you have both bolts in place holding your piece of angle to the bracket.

STEP 12

Next, using your allen wrench and socket, snug up both of the bolts. Make sure the piece of angle is parallel to the bracket. Repeat this step with the other side.



STEP 13
After you have both sides bolted on your carriage should look like this from the bottom.

STEP 14
Press a bearing into both sides of the skateboard wheel.

STEP 15
Once it is pressed in completely, repeat the process with all 8 wheels.

STEP 16
Insert a 5/16 bolt through the outermost hole in your carriage.

STEP 17
Stack four washers on the backside of the bolt.

STEP 18
Place your assembled wheel on top of the washers.

STEP 19
Screw on a lock nut and hand tighten it in place.



STEP 20
Repeat the previous step on the opposite side of the piece of angle.

STEP 21
Once assembled, there should be a small gap between the angle and the wheel so it can roll freely.

STEP 22

Assemle the six remaining wheels on the outer holes of the angle. Once in place, tighten them down with the hex wrench and socket. Take care not to tighten them too much or the wheels will not spin.

STEP 23

After all of your wheels are assembled, they should lay flush on the ground and spin when you roll it. If they don’t, you can twist the carriage so they are better positioned.

STEP 24

The next step is to assemble your rail track. Lay the carriage on the track to get the correct spacing between the rails.

STEP 25

Snap the conduit straps to the end of your rails. Lay out your longer angle piece and place the conduit on top of it. Line up the holes of the conduit straps with the oblong holes in the angle.

STEP 26
Place one of the 8-32 bolts through the strap and the angle.

STEP 27
Place a washer over the bolt.

STEP 28
Next, hand tighten an 8-32 lock nut over the bolt.

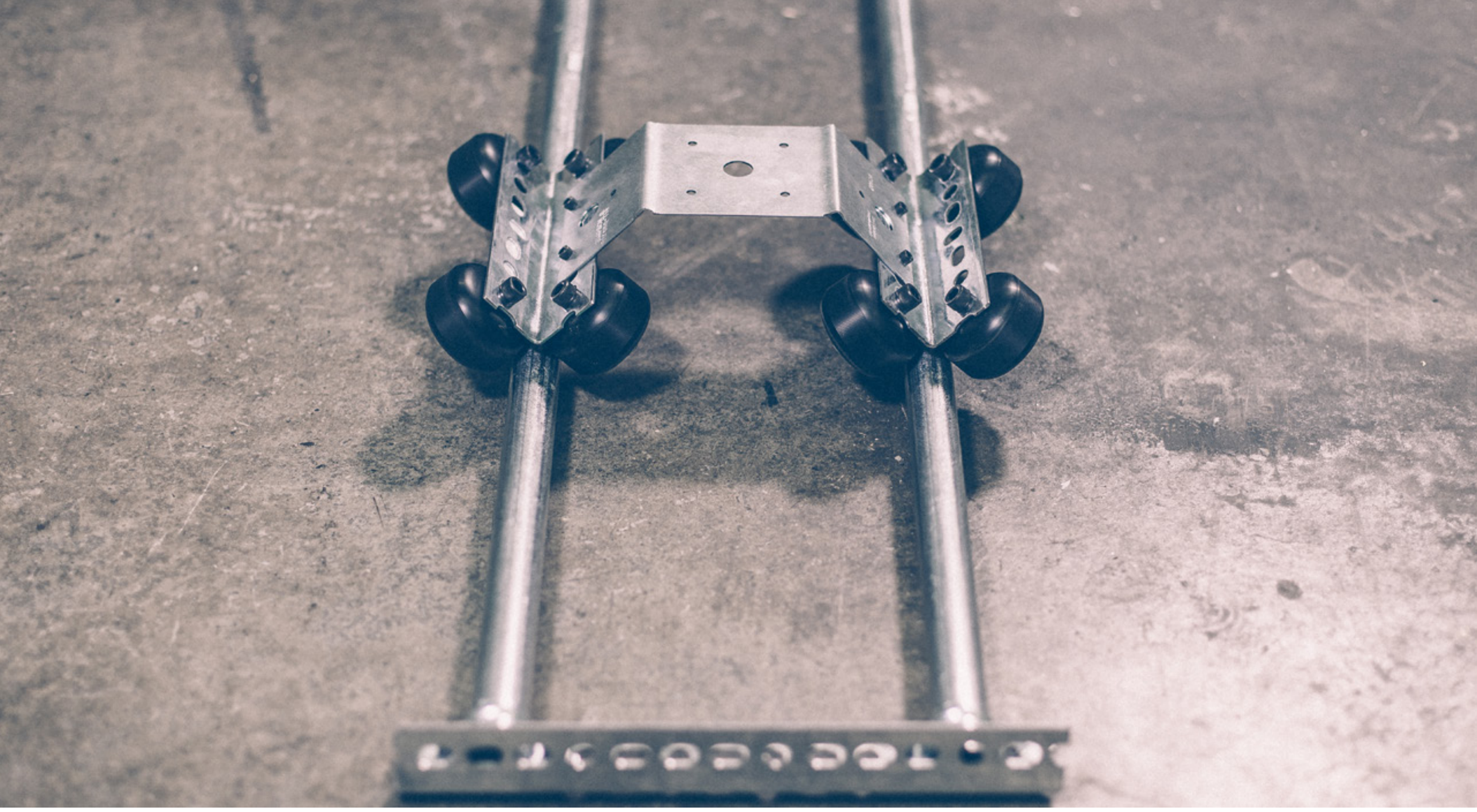
STEP 29
Repeat the previous steps with the other side of the conduit strap.

STEP 30
Repeat the previous steps with the second rail. Then, assemble the opposite end following the same process.

STEP 31
Place the carriage on the rails to determine proper rail spacing.

STEP 32
Tighten the bolt securely.

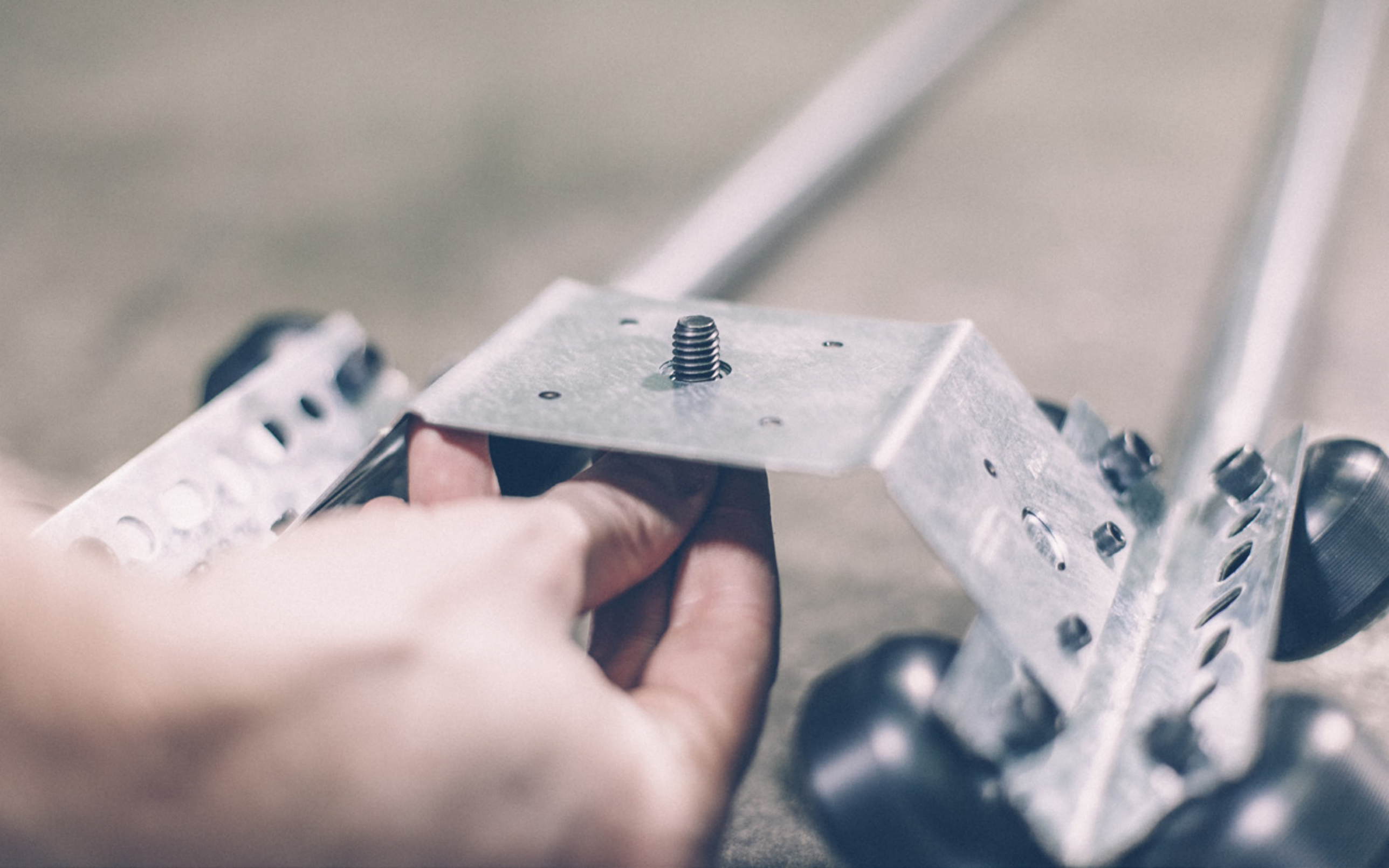
STEP 33
After both sides are tightened down, make sure the rails and the end plate are perpendicular.



STEP 34
Place the carriage on the rails and make sure the rollers contact the rails fully. If they don’t, you can loosen the conduit straps and reposition the rails.

STEP 35

To mount your camera, take a 3/8-16 bolt (if you’re using a fluid head) or a 1/4-20 bolt (if you’re mounting your camera directly to the carriage) and some fender washers and push it up through the carriage.



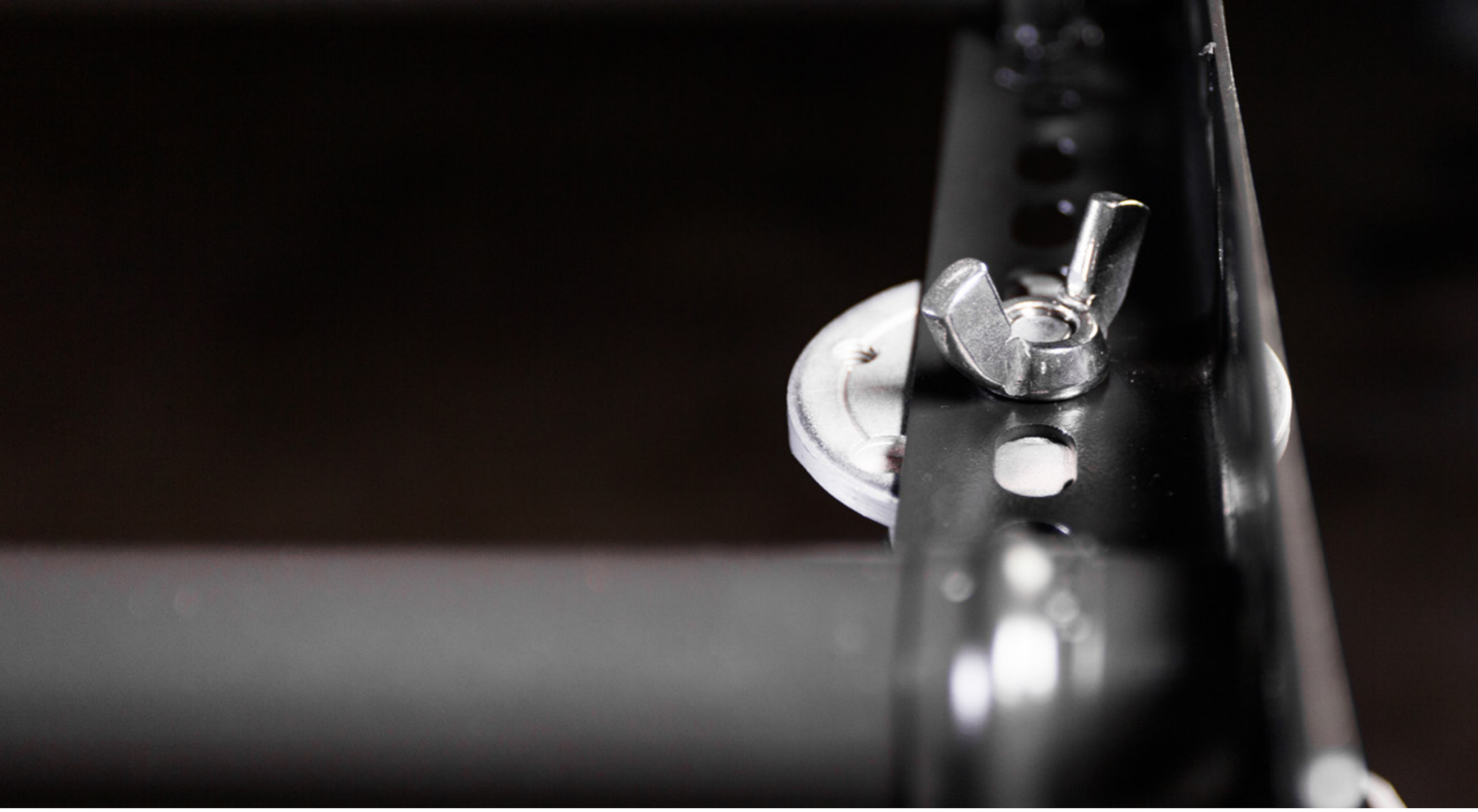
STEP 36
Tighten the bolt on to the ball or fluid head and you’re ready to film.


Blackmagicdesign

STEP 37

If you want to make you're DIY slider more presentable you can paint it. We used some Rust-Oleum Matte Black paint for our build. If you want the paint to stick well, we recommend using some primer.

STEP 38
Spray with smooth, even stokes about 8-10” away. 2 -3 coats will make it pretty durable.



STEP 39
If you want to mount it to a slider, lay the ends over the tripod stud and use a 3/8-16 wing nut to secure it.

STEP 40

Make sure both tripods are level and you’re ready to shoot!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