

# E Series Gear Base Set Machine Mechanical Parts for Laser Engraving Cutting

<https://www.ebay.com/itm/126098698075?var=427080706851>

(\$15 x 2)



This item has the correct tooth count for the belts we have purchased.

## 2GT GT2 Timing Belt 10mm Width Rubber Toothed For CNC 3D Printer 10meters Length

<https://www.ebay.com/itm/226105335694> (\$30 x 2)



## 2pcs XL 20T Timing Belt Pulley Synchronous Wheel 10mm Bore For 10mm Width Belt

<https://www.ebay.com/itm/401963471491> (\$15.00)



This has the correct bore size, but the **INCORRECT TOOTH COUNT.**

## Naki Nintendo 64 N64 Controller Modified Plug for Arduino/ Robotics.

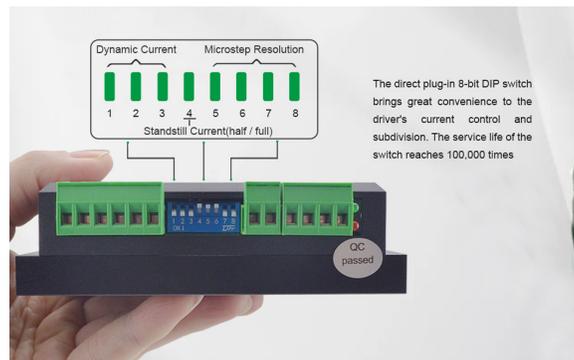
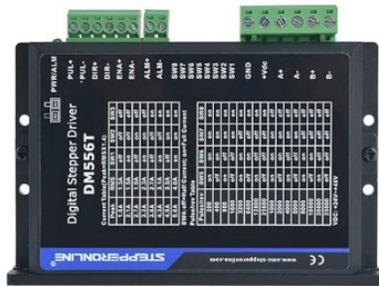
<https://www.ebay.com/itm/282155243913> (\$16.00)



## STEPPERONLINE DM556T Digital Stepper Driver 1.8~5.6A 20-50VDC for Nema 23, 24 Stepper Motor

[https://www.amazon.com/dp/B074TBMC7N?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B074TBMC7N?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$34 x 3 = 2 Y drivers and 1 X driver)



Brand: **STEPPERONLINE**

Model Name: **dm556t**

Voltage: **48 Volts, 24 Volts**

Horsepower: 200 Kilowatts

## ALITOVE 24V 25A 600W Power Supply Adapter

## 110V 220V AC to DC 24 Volt 25 Amp 20A Converter Transformer

[https://www.amazon.com/dp/B096D4R5KZ?ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details&th=1](https://www.amazon.com/dp/B096D4R5KZ?ref=ppx_yo2ov_dt_b_product_details&th=1)

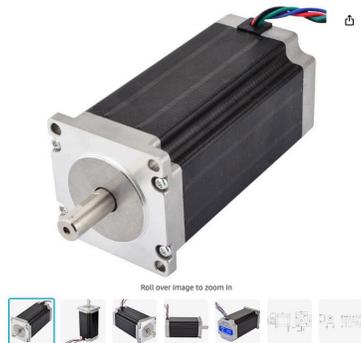
(\$55)



## STEPPERONLINE High Torque Nema 23 CNC Stepper Motor 114mm 425oz.in/3Nm CNC Mill Lathe Router

(\$39 x 2 for Y axis)

[https://www.amazon.com/dp/B00PNEPW4C?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B00PNEPW4C?psc=1&ref=ppx_yo2ov_dt_b_product_details)



Very Huge Torque

3Nm(425oz.in) holding torque

NEMA 23 bipolar 2.24"x2.24"x4.45" 4-wire

1.8 deg. step angle(200 steps/rev)

## FANDAMEI 50 Pack Shelf Pins, Metal Nickel Support Pegs Cabinet Support Pins for Furniture Shelves Bracket

[https://www.amazon.com/dp/B07TMKX499?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B07TMKX499?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$8 for rail picture mount to hold paintings on the rail cart)



## 5pcs 48" V Slot 2040 Aluminum Extrusion European Standard Anodized Linear Rail for 3D Printer Parts and CNC DIY Black(1220mm)

[https://www.amazon.com/dp/B08X4NN3ZC?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B08X4NN3ZC?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$99 per pack)



## Small Pulley Block Silent Wall Ceiling Mount Pulley with Bearing Fixed Pulleys Wheel Loading 176 lb for Cord, Material Handling and Moving (8 PCS)

[https://www.amazon.com/dp/B0B6NQQ8RW?ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details&th=1](https://www.amazon.com/dp/B0B6NQQ8RW?ref=ppx_yo2ov_dt_b_product_details&th=1)

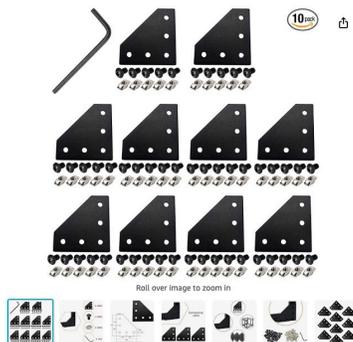
(\$23 x 3 sets)



## 10Pcs 2020 Corner Bracket Joint Plate L Shape 5 Hole Aluminum Extrusion Connector with 50Pcs T-Nuts, 50Pcs Screws and 1Pcs Wrench for 20 x 20mm Series Aluminum Extrusion Profile

[https://www.amazon.com/dp/B0B15L5YM1?ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details&th=1](https://www.amazon.com/dp/B0B15L5YM1?ref=ppx_yo2ov_dt_b_product_details&th=1)

(\$18 x 4 packs)



## Befenybay 2pcs Black Aluminium Alloy Handle Hole Distance 100mm for 20 Series Aluminum Extrusion Profile for 3D Printer

[https://www.amazon.com/dp/B0B3DJ67TQ?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B0B3DJ67TQ?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$10 x 2 sets)



We have found these to be super helpful in manually raising and lowering the bars and mounting and unmounting artwork for scanning.

## CfoPiryx Gantry Plate 20-80mm Durable V Slot 3D Printer Linear Rail Universal Aluminum

[https://www.amazon.com/dp/B089DHB6T8?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B089DHB6T8?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$12 each x 16 or so)



We've used a lot of ununiversal gantry plates. 8 plates for the horizontal bars, 2 plates for the counter balance boxes, 4 plates for the gantries that hold the artwork.

## SIMAX3D 53 PCS 3D Printer Wheel Polycarbonate Pulley (13 PCS Polycarbonate Wheels, 10 PCS Hexagonal eccentric spacer 6mm, 20 PCS Round Column 6mm, 10pcs Screws for 3D Printer Roller Replacement

[https://www.amazon.com/dp/B09CYJVX2B?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B09CYJVX2B?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$20 x 5 sets or so)



## BLCCLOY 10Pcs 2020 Series Aluminum Extrusion Profile Corner Bracket Straight Line Connector Extruded Aluminum Length Brackets with M5 Screw for 6mm T/V Slot 20 Extrusion Rail

[https://www.amazon.com/dp/B0CFVB9266?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B0CFVB9266?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$14 x several packs for rail extension)



**PAMAZY 12Pcs 2In Spring Snap Hooks, Carabiner Clip, Heavy Duty Rope Connector, Quick Link Carabiners Spring Snap Hooks for Indoor and Outdoor Activity, Camping, Climbing, Fishing, Hiking**

[https://www.amazon.com/dp/B0BY1T28ZD?psc=1&ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details](https://www.amazon.com/dp/B0BY1T28ZD?psc=1&ref=ppx_yo2ov_dt_b_product_details)

(\$8 x 2)



**Genmitsu 2PCS T-Track Mini Hold Down Clamp Kit, CNC Router Clamp for Woodworking and Metalworking, Compatible with 3018 CNC Router Machines, 3018-PRO/ 3018-PROVer/ MX3, 2.57"Lx 0.79"Wx 1.97"H**

[https://www.amazon.com/dp/B08V5CY416?ref=ppx\\_yo2ov\\_dt\\_b\\_product\\_details&th=1](https://www.amazon.com/dp/B08V5CY416?ref=ppx_yo2ov_dt_b_product_details&th=1)

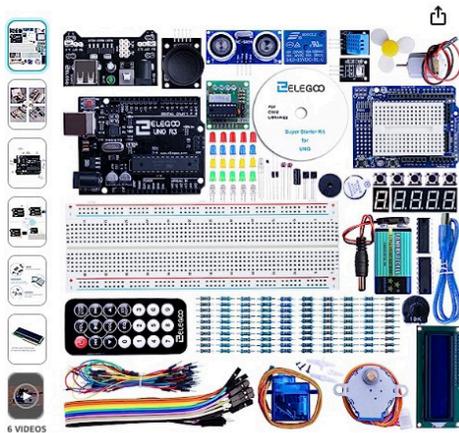
(\$20)



**ELEGOO UNO Project Super Starter Kit with Tutorial for Arduino**

<https://www.amazon.com/ELEGOO-Project-Tutorial-Controller...>

(\$44)



## 1/16 in. x 50 ft. Galvanized Vinyl Coated Steel Wire Rope

<https://www.homedepot.com/p/Everbilt-1-16-in-x-50-ft-Galvanized-Vinyl-Coated-Steel-Wire-Rope-811062/300019543>

(\$23 x 2)



## 3/16 in. Zinc-Plated Flush Type Wire Rope Clamp (2-Pack)

<https://www.homedepot.com/p/Everbilt-3-16-in-Zinc-Plated-Flush-Type-Wire-Rope-Clamp-2-Pack-42984/205883072>

(\$6 x 8)



## V-Slot NEMA 23 Linear Actuator Bundle (Belt Driven)

<https://openbuildspartstore.com/v-slot-nema-17-linear-actuator-bundle-belt-driven/>

(\$95)



On [Openbuildspartstore.com](https://openbuildspartstore.com) this was offered with a Nema 17, but we upgraded to a Nema 23 motor for higher torque as we felt with heavier paintings it might be needed.

# NEMA 23 Stepper Motor

<https://openbuildspartstore.com/nema-23-stepper-motor/>

(\$23 x 1 for X axis)



**Shaft Lock Collars for 8mm bar. We used this to create the idle sprockets at the top of the setup for #25 roll chain and sprocket assembly.**



Roll over image to zoom in

## Lock Ring Stainless Steel Material Isolation Apply for 3D Printer Accessories (8mm-Silver)

Visit the Zeberoxyz Store

4.6 ★★★★★ 135 ratings | Search this page

Amazon's Choice

50+ bought in past month

\$8.89

✓prime One-Day

FREE Returns

**Coupon:**  Apply 5% coupon Shop Items > | Terms

Save up to 13% with business pricing. Sign up for a free Amazon Business account

Style: 8mm-Silver

5mm-Silver \$8.89 (\$0.89 / Item) ✓prime	6mm-Silver \$8.89 (\$0.89 / Item) ✓prime	8mm-Black \$8.89 (\$0.89 / Item) ✓prime	<b>8mm-Silver</b> <b>\$8.89</b> ✓prime	10mm-Silver \$10.89 (\$1.09 / Item) ✓prime	12mm-Silver \$12.89 (\$1.29 / Item) ✓prime
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**Material**

Stainless Steel

**Drive System**

External Hex

**Head Style**

Hex

**Exterior Finish**

Stainless Steel

**Idler Bracket Assembly: We used a grinder to remove the sprocket shown and then drilled holes and mounted ball bearing mounted holders for an 8mm rod for the new sprocket.**



**ANSI # 35 Roller Chain Sprocket Adjustable Idler Bracket Assembly See Info**

Bullseye Industrial Sales (53970)  
99.7% positive · Seller's other items · Contact seller

**US \$26.86/ea**

or Best Offer  
List price ~~US \$43.99~~  
Save US \$17.13 (39% off)

Condition: **New - Open box**

Quantity:  6 available · 3 sold

Bulk savings:

Buy 1 <b>\$26.86/ea</b>	Buy 2 <b>\$25.52/ea</b>	Buy 3 <b>\$24.17/ea</b>	4 or more for <b>\$22.83/ea</b>
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[Buy another](#)  
[Add to cart](#)

**4pcs 8mm Inner Bore Ball Mounted Pillow Block Flange Micro Vertical Bearing**



Roll over image to zoom in

**4Pcs 8mm Inner Bore Ball Mounted Pillow Block Flange Micro Vertical Bearing**

Visit the Sydien Store  
4.3 ★★★★★ 364 ratings | Search this page

**\$9.49**

One-Day  
FREE Returns

Save up to 11% with business pricing. Sign up for a free Amazon Business account

Size: **8mm/0.31"**

<b>8mm/0.31"</b> \$9.49 	10mm/0.39" \$12.99 	12mm/0.47" \$13.99 	15mm/0.59" \$13.99 	20mm/0.79" \$13.99 
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<b>Brand</b>	Sydien
<b>Material</b>	Zinc Alloy
<b>Item dimensions L x W x H</b>	2.17 x 0.63 x 1.14 inches
<b>Bearing Type</b>	Ball Bearing
<b>UPC</b>	604213499424

**About this item**

- 👉 Two-bolt housing with ball bearing insert for ready-to-mount installation.
- 👉 Package Content:4Pcs Pillow Block Bearings.Bore Diameter:8mm/0.31".Total Size:55mm\*13mm\*28mm/ 2.16\*\*0.51\*\*1.10"(L\*W\*H).Mounting Hole Distance:40mm/1.57".Mounting Hole Size:5mm/0.2".
- 👉 Two-bolt housing with ball bearing insert for ready-to-mount installation.
- 👉 Self-aligning pillow block bearing. You can adjust or replace the bearing easily.Setscrew locking collar for secure attachment to guided shaft.
- 👉 Widely used in various of machinery, especially in food machine.

## 8mm Rod for modified idler sprocket assembly



Roll over image to zoom in



2Pcs 8mm x 350mm (0.315 x 13.78 inches) Vigorous Linear Motion Rods, Case Hardened Chrome Shaft Linear Rail Guide Shaft for 3D Printer, DIY, CNC - Metric h8 Tolerance

Brand: Vigorous

4.5 ★★★★★ 55 ratings | [Search this page](#)

\$10<sup>99</sup> (\$5.50 / Item)

✓prime Two-Day

FREE Returns

✓ Save 5% at checkout [Shop items](#)

Size:

D 8mm x L 350mm 2 Pcs

Number of Items: 2

1 2 4 6

Material	Carbon Steel
Brand	Vigorous
Color	Silver
Item Form	Rod

## #25 Roller Chain: Roller chain was used for the virtual lift



Roll over image to zoom in



PGN #25 Heavy Duty Roller Chain - 10 Feet + 2 Free Connecting Links - #25H - 480 Links

Visit the PGN Bearings Store

4.3 ★★★★★ 208 ratings | [Search this page](#)

Amazon's Choice In Power Transmission Roller Chains by PGN Bearings

\$16<sup>45</sup> (\$1.65 / Foot)

✓prime One-Day

FREE Returns

Save up to 3% with business pricing. Sign up for a free Amazon Business account  
May be available at a lower price from [other sellers](#), potentially without free Prime shipping.

Brand	PGN Bearings
Item Pitch	0.25 Teeth per Inch
Material	Carbon Steel
Strand Type	Single
Specification Met	Ansi

### About this item

- ANSI Chain No.: #25H
- Length: 10 feet
- Single Strand
- 1/4" Inch Pitch
- Carbon Steel

# Roller Chain Sprockets with 10mm Bore for the Nema 23 High Torque motors.



Roll over image to zoom in



uxcell #25 Chain Roller Sprocket, 10mm Bore 1/4" Pitch 10 Tooth Single Strand Chain Sprocket, C45 Carbon Steel 25 Roller Chain Sprocket with Set Screws for ISO 04C Chain, 2Pcs

Visit the uxcell Store

4.6 ★★★★★ 7 ratings | Search this page

\$9<sup>29</sup> (\$4.65 / Item)

prime One-Day  
FREE Returns

Size: 23.5mmx10mm

23.5mmx5mm \$9.89 (\$4.95 / Item) prime	23.5mmx6mm \$8.99 (\$4.50 / Item) prime	23.5mmx6.35mm \$11.99 (\$6.00 / Item) prime	23.5mmx8mm \$8.99 (\$4.50 / Item) prime
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**23.5mmx10mm**  
\$9.29  
(\$4.65 / Item)  
prime

- Specifications: Number of Teeth: 10, Outside Diameter: 23.5mm / 0.93-inch, Bump Width: 9.5mm / 0.37-inch, Total Width: 15mm / 0.59-inch, Bore Diameter: 10mm / 0.39-inch, Pitch: 1/4-inch / 6.35mm, Tooth Width: 3mm / 0.12-inch, Set Screw Size: M5, 2 x Chain Sprocket, 4 x Set Screws
- Chain Sprockets are normally mounted in a fixed position on a fixed shaft. Round hole with 2pcs Set Screws at 90 degrees. The shaft can be fixed well, which is convenient to use.
- The chain sprocket should not rotate at a greater speed than is allowable for drive sprockets of the same size. Every roller chain sprocket comes with strong teeth that can latch onto the chain. It is suggested that chain sprockets have at least three teeth in mesh with the chain.
- The product is made of c45 carbon steel, the tooth part high temperature quenching heat treatment, high hardness, wear resistance, long service life, easy to use. Fully black oxide coated, rust resistance.
- Widely used in milling machine, drilling machine or other machinery transmission occasions.

## 8mm bore sprockets for #25 roller chain



Roll over image to zoom in



2Pcs 8mm Bore 10 Teeth 10T Metal Pilot Motor Gear Roller Chain Drive Sprocket

Brand: Acxico

4.3 ★★★★★ 100 ratings | Search this page

Amazon's Choice in Mechanical Roller Chain Sprockets by Acxico

\$8<sup>99</sup>

prime One-Day  
FREE Returns

May be available at a lower price from other sellers, potentially without free Prime shipping.

### About this item

- Durable in use.
- High strength and hardness.
- Used in hardware, molds, and the occasion of the mechanical.
- Package Included: 2Pcs 8mm Bore 10 Teeth 10T Metal Pilot Motor Gear Roller Chain Drive Sprocket (If there are any problems with the product, please send us pictures. Tell us more details about this problem.)
- Thank you so much for your purchasing from our store. Any question, please feel free to contact us.

Report an issue with this product or seller

NB: This is a general parts list. We replaced the belts and gears in the end for the vertical lift with #25 roller chain and sprockets, so some of these parts weren't used in the end. But this list should provide a comprehensive shopping list of parts for your own system if you're trying to build such a thing.

Places we found useful: [www.ebay.com](http://www.ebay.com), [www.amazon.com](http://www.amazon.com), [www.openbuildspartstore.com](http://www.openbuildspartstore.com), USA roller chain and sprockets. [www.usarollerchain.com](http://www.usarollerchain.com).