
ClamArm

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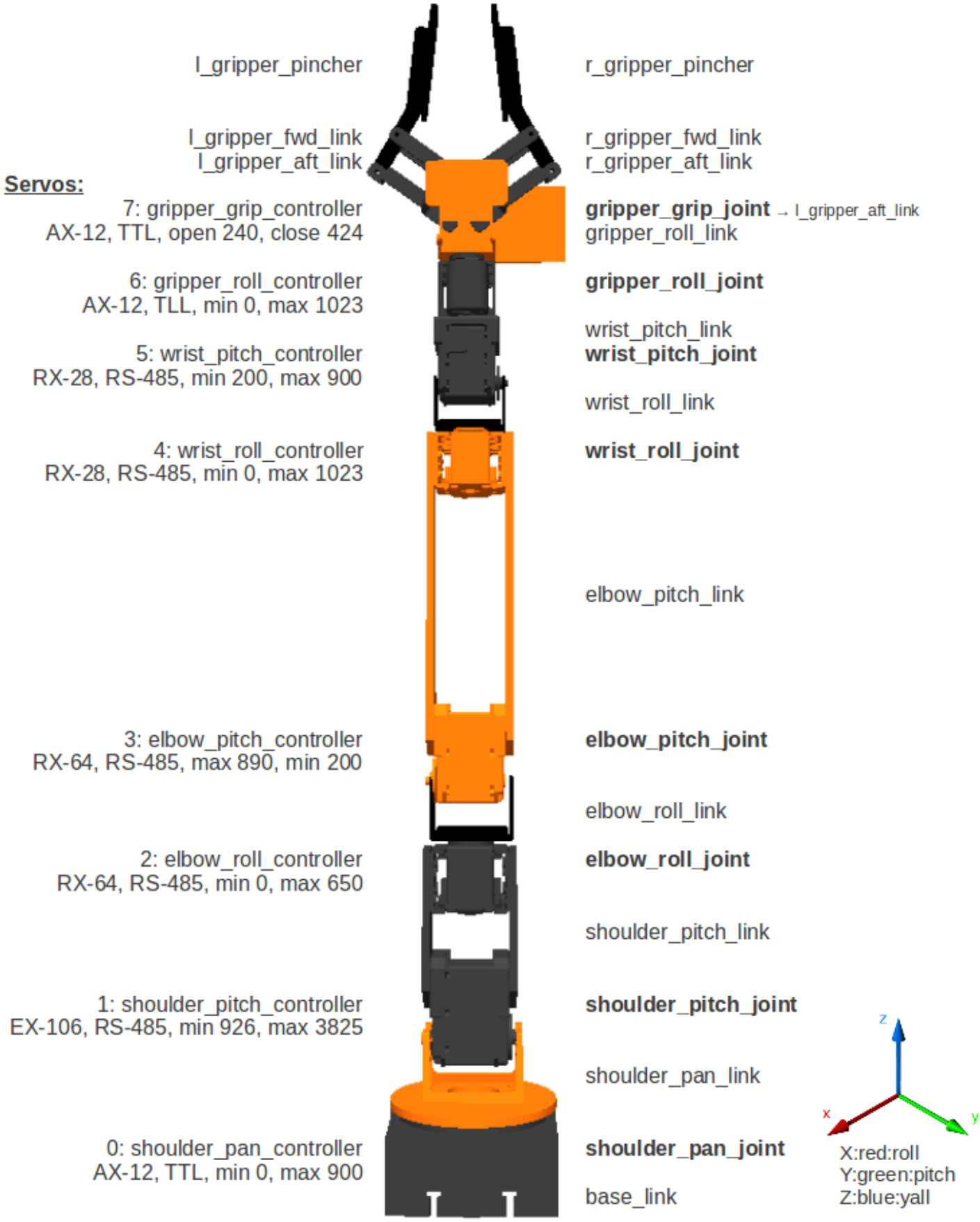
Build

The following diagram describes the dynamixel servos, communication protocols, joint limits and URDF names used for all joints and links:



ClamArm Technical Diagram

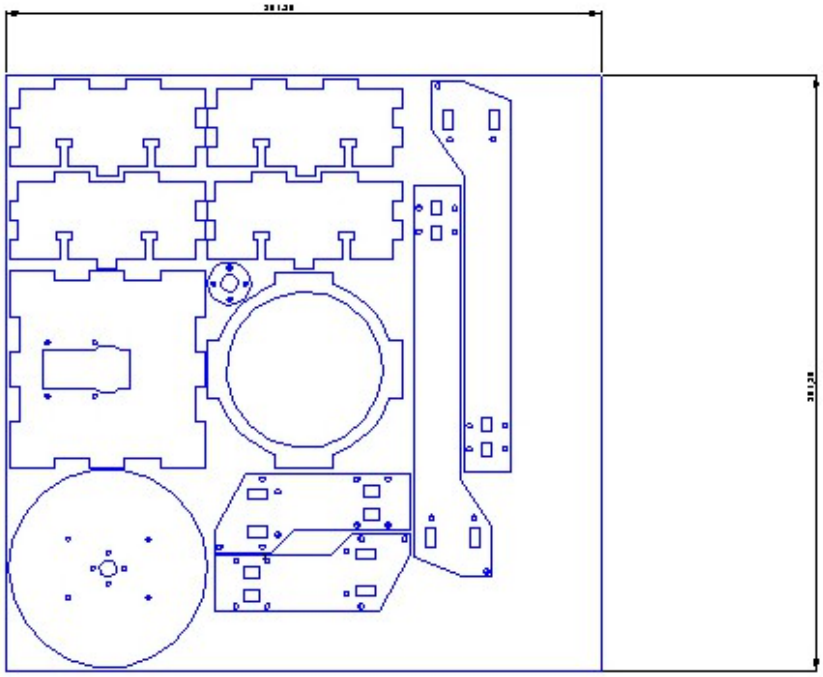
Bill of Materials Overview:

Bill of Materials Estimate	
RoadNarrows Dynamixel Servos Kit	$1,645.00
CrustCrawler SG-gripper	$129.00
Shapeways 3D Printed Parts	$144.00
McMaster-Carr Delrin	$24.00
Total	**$1,942.00**

A design guide written by RoadNarrows. Note – RoadNarrows no longer sells the servo kit (company restructuring).

To build the ClamArm, you need:

- Brackets from the shapeway shop. The brackets come in two kits, the five elements to the left in the drawing, and the camera-holder/gripper adapter shown to the right. You can order them in plastic or stainless steel.
- Laser cut all 2D parts from Delrin/Acetal. Don't use Acrylic, its too brittle.
  - 12×12 inch sheets with 3/16 inch thickness from McMaster
  - Download the DXF file shown below and import it into your laser cutter



2D parts that can be cut from from 3/6" Delrin

- Order the servos from Trossen Robotics or similar vendor
  - DYNAMIXEL AX-12A – Quantity: 3
  - DYNAMIXEL EX-106+ – Quantity: 1
  - DYNAMIXEL RX-64 – Quantity: 2
  - DYNAMIXEL RX-28 – Quantity: 2
- Order the SG-gripper from CrustCrawler (use an AX-12 servo)
- We power our arm using any cheap ATX power supply
- Mount the arm on a stable surface

The SolidWorks design files for use on a 3D printer can be found on GitHub.

Email for more build instructions help: davetcoleman@gmail.com

3 thoughts on “Build”

1.  *Sam Duffley* says:
   August 28, 2012 at 5:17 pm

   Your link to the DXF seems to be broken. Would you please fix it or send me the dxf?

   Thanks,
   Sam

   Reply

   -  *admin* says:
     September 10, 2012 at 4:13 pm

     Done.

     Reply

2.  *Vincent* says:
   December 31, 2012 at 7:56 pm

   I think you might want to change the Z-axis rotation description from “yall” to “yaw”.

   Reply

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Website

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You may use these HTML tags and attributes: `<a href="" title=""> <abbr title=""> <acronym title=""> <b> <blockquote cite=""> <cite> <code> <del datetime=""> <em> <i> <q cite=""> <strike> <strong>`

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RoadNarrows