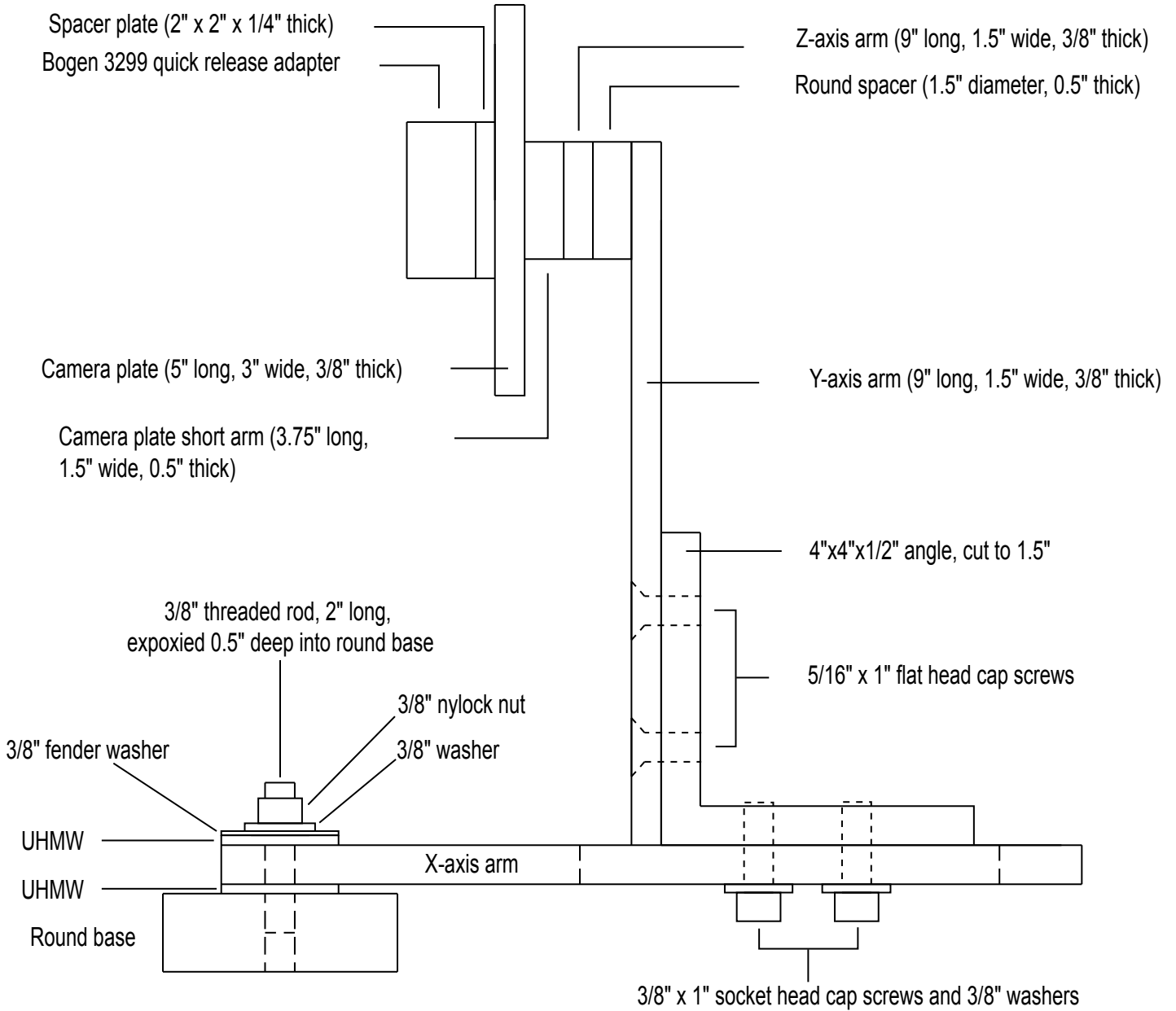
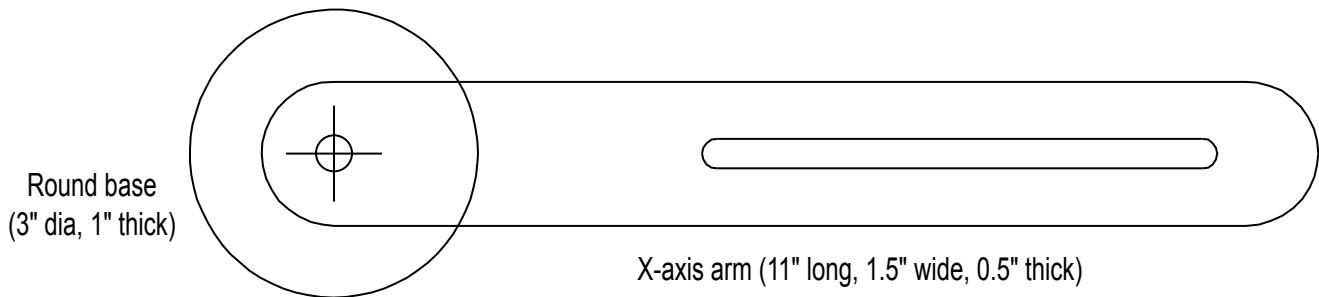


# Plan for Home-built Adjustable Spherical Panorama Bracket: Page 1

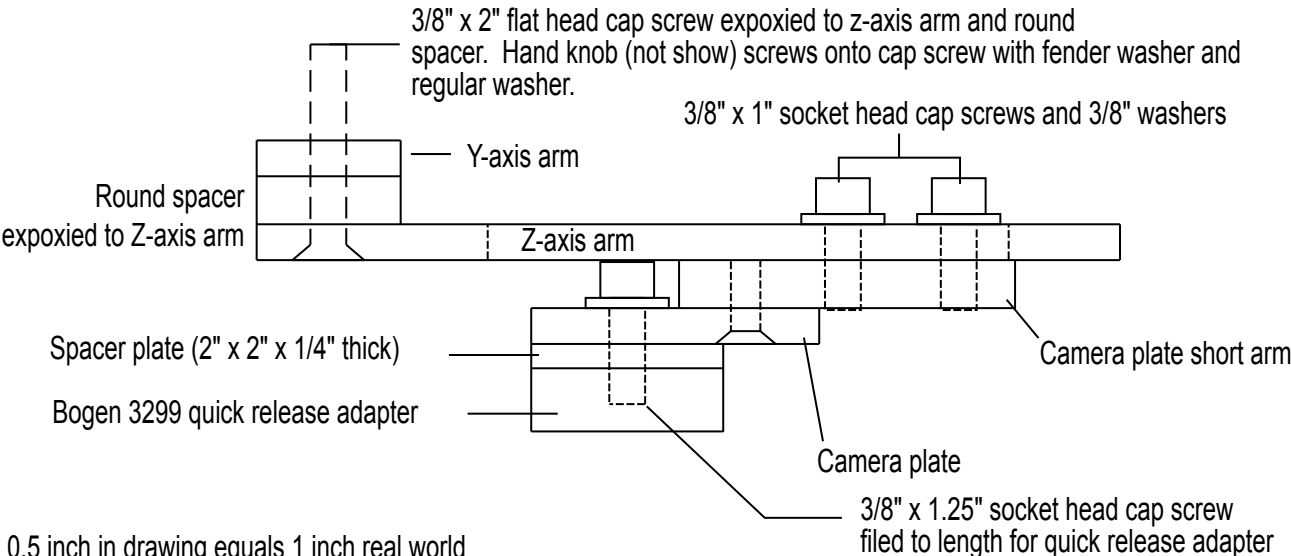
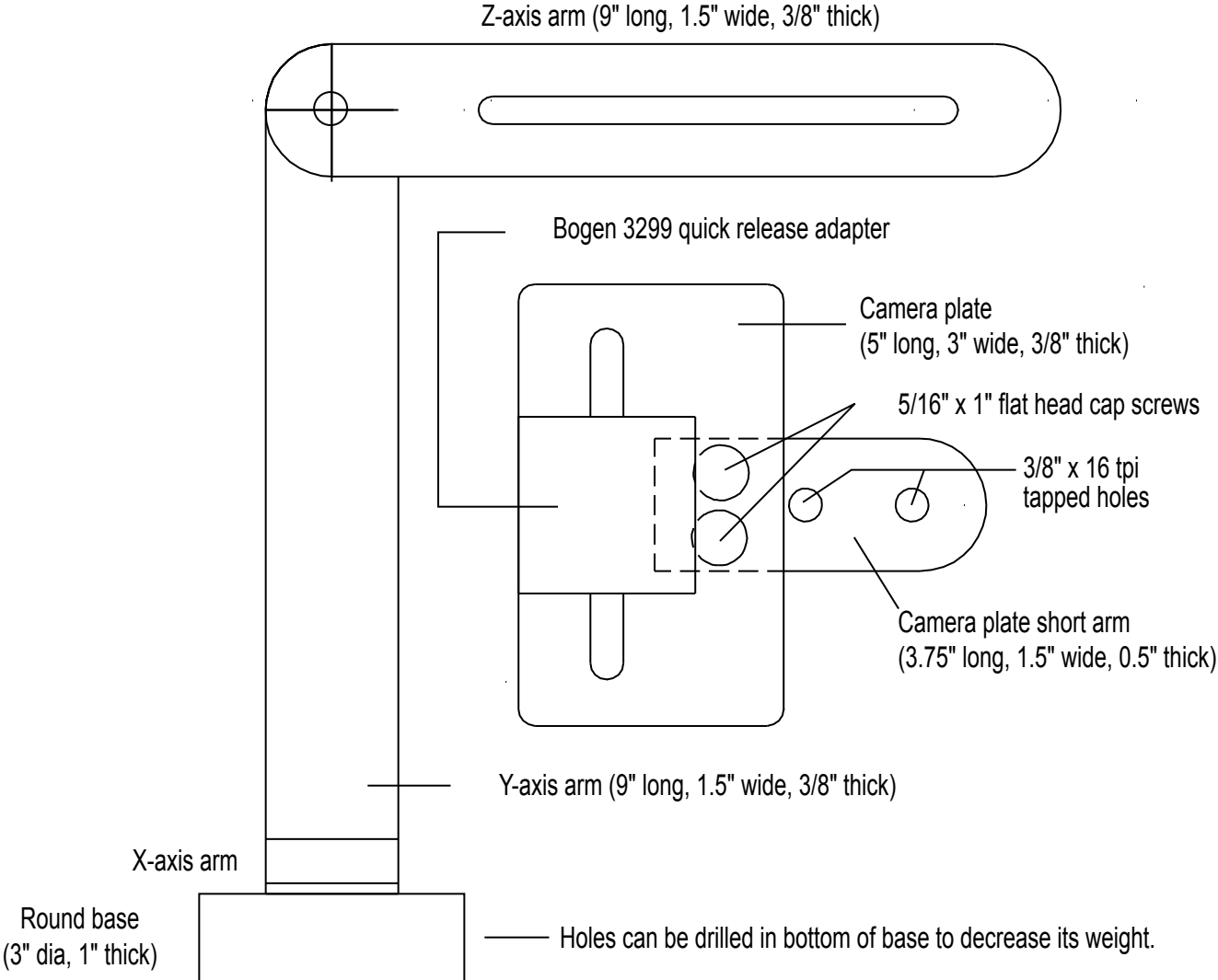


UHMW = 1/8" thick, 1.5" diameter washer fabricated from ultra high molecular weight (UHMW) plastic.



Scale: 0.5 inch in drawing equals 1 inch real world

# Plan for Home-built Adjustable Spherical Panorama Bracket: Page 2



Scale: 0.5 inch in drawing equals 1 inch real world

# Home-built Adjustable Spherical Panorama Bracket

## Materials:

From Onlinemetals.com ( [www.onlinemetals.com](http://www.onlinemetals.com) , approx \$42 with shipping)

- 1 Aluminum 6061 Angle 4"x4"x0.5" cut to 1.5"
- 1 Aluminum 6061 Rectangle 1"x3" cut to 3"
- 1 Aluminum 6061 Rectangle 0.5"x1.5"x24"
- 1 Aluminum 6061 Rectangle 0.375"x1.5"x24"
- 1 Aluminum 6061 Rectangle 0.375"x3" 10-12" random length
- 1 Aluminum 6061 Rectangle 0.25" x 2" 10-12" random length

From B&H Photo ( [www.bhphotovideo.com](http://www.bhphotovideo.com) , \$27.95 w/o shipping)

- 1 Bogen 3299 Quick Release Adapter with 3157N Plate

From woodworking supply store (e.g. [www.woodcraft.com](http://www.woodcraft.com) , \$10 w/o shipping)

- 1/8" thick Ultra High Molecular Weight (UHMW) plastic sheet
- 1 hand-knob with 3/8" x 16 threaded hole

From Local Hardware Store (approx \$10)

- 4 5/16" x 18 tpi flat-head socket screws, 1" long
- 1 3/8" x 16 tpi flat-head socket screw, 2" long
- 4 3/8" x 16 tpi socket-head cap screws, 1" long
- 1 3/8" x 16 tpi socket-head cap screw, 1.25" long
- 1 3/8" x 16 tpi nylon insert nut
- 7 3/8" washers
- 2 3/8" fender washers
- 1 3/8" x 16 hex-head bolt, 0.75" long
- 1 5/16" hex wrench (allen wrench)
- 2-part epoxy glue
- 2" length of 3/8"x16 threaded rod

## Tools:

- Center punch
- Hammer
- Try square
- Pair of dividers
- Scratch awl or scribe
- Drill Press
- 5/16", (F, G, or 17/64"), and 3/8" inch drill bits
- 3/4" or larger, 82-degree, high-speed-steel countersink (single flute recommended)
- Router
- 3/8" router bit (high-speed-steel 2-flute spiral upcut bit recommended)
- 3/8"x16tpi tap (taper or plug)
- 5/16"x18tpi tap (taper or plug)
- tap wrench
- Aluminum tapping fluid (like Tap Magic Aluminum from [www.msdirect.com](http://www.msdirect.com))
- Non-ferrous metal cutting blade in a bandsaw or jigsaw
- Stationary disk sander with 180-grit sanding disk
- Mill file
- 9/16" wrench or 9/16" socket and ratchet