2.007 Kit Part: Aluminum Bar Stock, Rod and Box Extrusions

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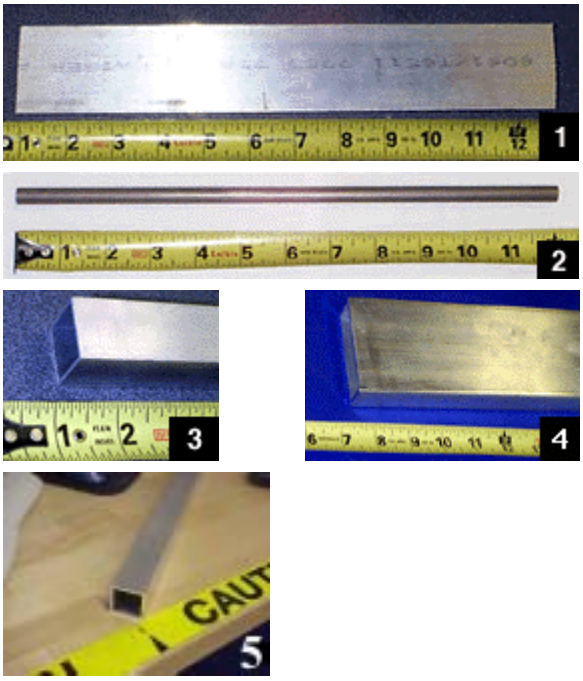


1: 1 aluminum bar	**2: 2 aluminum rods**	**3: 1" x 1" aluminum box extrusion**	**4: "1x3" aluminum box extrusion**	**5: 1.5" x 1.5" alum. box extrusion**
12" x 2" x 1/4"	3/8" dia x 12" long	1" x 1" x 12", 0.1" wall th.	1" x 3" x 12", 0.1" wall th.	1.5" x 1.5" x 18" x .125" wall th.
Weight - 10 oz.	Weight - 2 oz.	Weight - 4 oz.		
6061-T6 Aluminum Alloy	6061-T6 Aluminum Alloy	6061-T6 Aluminum Alloy	6061-T6 Aluminum Alloy	6063-T52 Aluminum Alloy
E: 10 E6 psi [69 GPa]	E: 10 E6 psi [69 GPa]	E: 10 E6 psi [69 GPa]	E: 10 E6 psi [69 GPa]	E: 10 E6 psi [69 GPa]
Y: 50 E3 psi [350 kPa]	Y: 50 E3 psi [350 kPa]	Y: 50 E3 psi [350 kPa]	Y: 50 E3 psi [350 kPa]	Y: 21,000 PSI

Possible uses:

1. Supports 1 2 3 4
2. Reinforcements 1 3 4
3. Arms & levers 1 3 4
4. Shaft collars 1
5. Shafting 2
6. Rollers 2
7. Columns & posts 2 3 4
8. Ball guides 2 4
9. Cable conduit 3 4
10. Wheel mounts 3 4
11. Trigger blocks 3 4

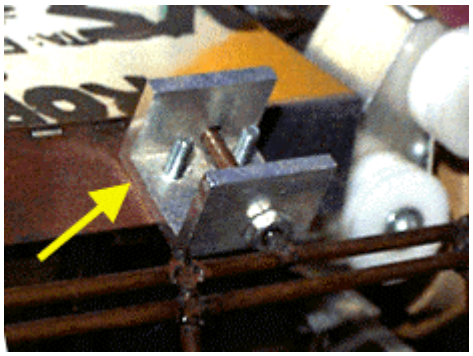
Tips:

Aluminum does not make a very good bearing surface. If your parts are going to slide relative to one another, you should consider using plastic or steel.
Aluminum is stiff and lightweight. Use it for cantilevered arms or other objects. If it is absolutely necessary, aluminum can be made thin and yet still quite strong, so if holes need to be made close to an edge, aluminum is a good choice. It is also a good choice for small delicate parts.
Aluminum is an excellent electrical conductor. Be careful not to short out any electrical wires by touching bare aluminum.

Tools:

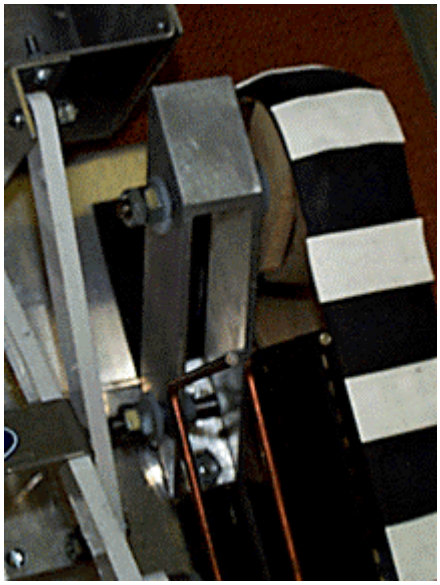
To modify, you can use the following tools: Drill 1 3 4, Bandsaw, Sander, Taps 1, Die 2, Lathe 2 Mill 1 3 4
You should be careful when using: Mill 2 Use V-blocks, Drill 2 Use V-blocks and see Machinist's Notes pg 11 ¶ 1.
You should not use: Brake, Punch, Shear, Roller, Grinder.

Examples:

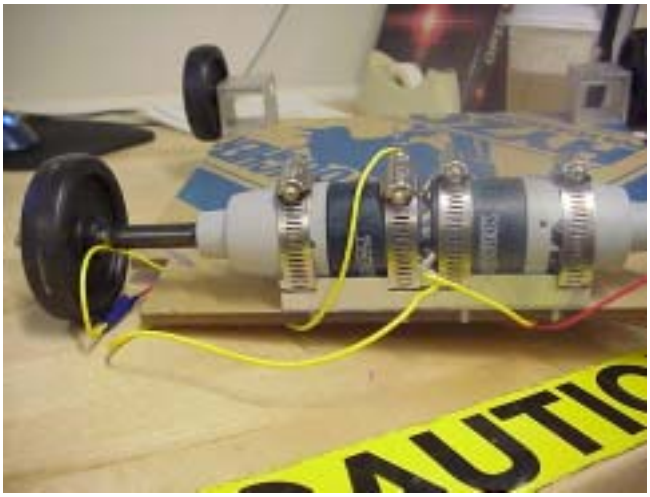


The 1" x 1" aluminum box beam cut to make a bracket.

The 1.5" x 1.5" Al. box extrusion used as a pillow block. Notice how nyliner bearings were used as actual bearing surface (good), not aluminum on aluminum (bad).



The 1" x 3" aluminum box beam cut in to parallelogram.



A clever way to mount the Black & Decker motors using the 1.5" Al. box extrusion and hose clamps. The only manufacturing required was 3 band saw cuts per mount. Simple and functional, the perfect combination.