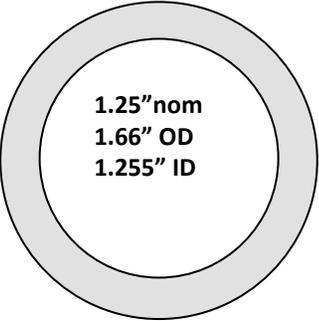
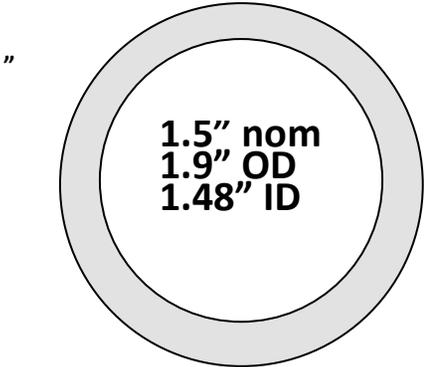


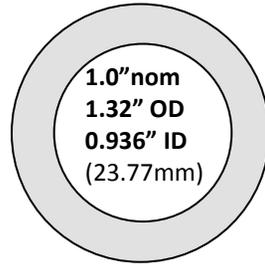
Spark Gap System (partial description)

Nominal	OD	ID	Wall
1-1/4"	1.66	1.255	0.191
1-1/2"	1.9	1.59	0.145



Standoff Insulator

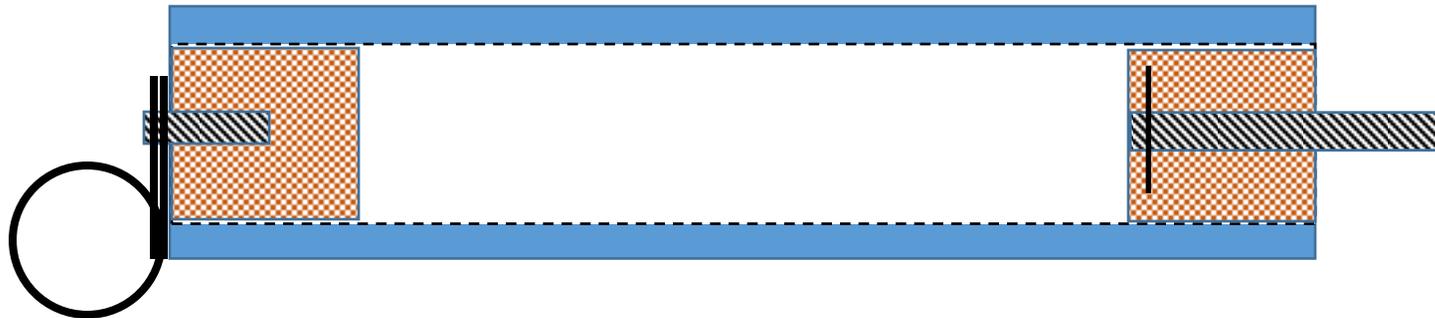
(actual size; 8 required)



Standoff is made from 1" Schedule 80 pipe, 6" length, with 1" x 0.958 OD hardwood dowel plugs at ends. One end has a #10x2" hex sheet metal screw (recessed) which screws into the tower frame. Inner surface of PVC is roughed up with the toothed edge of a hacksaw blade. Marine epoxy and a pin across the screw slot prevent the screw from rotating.

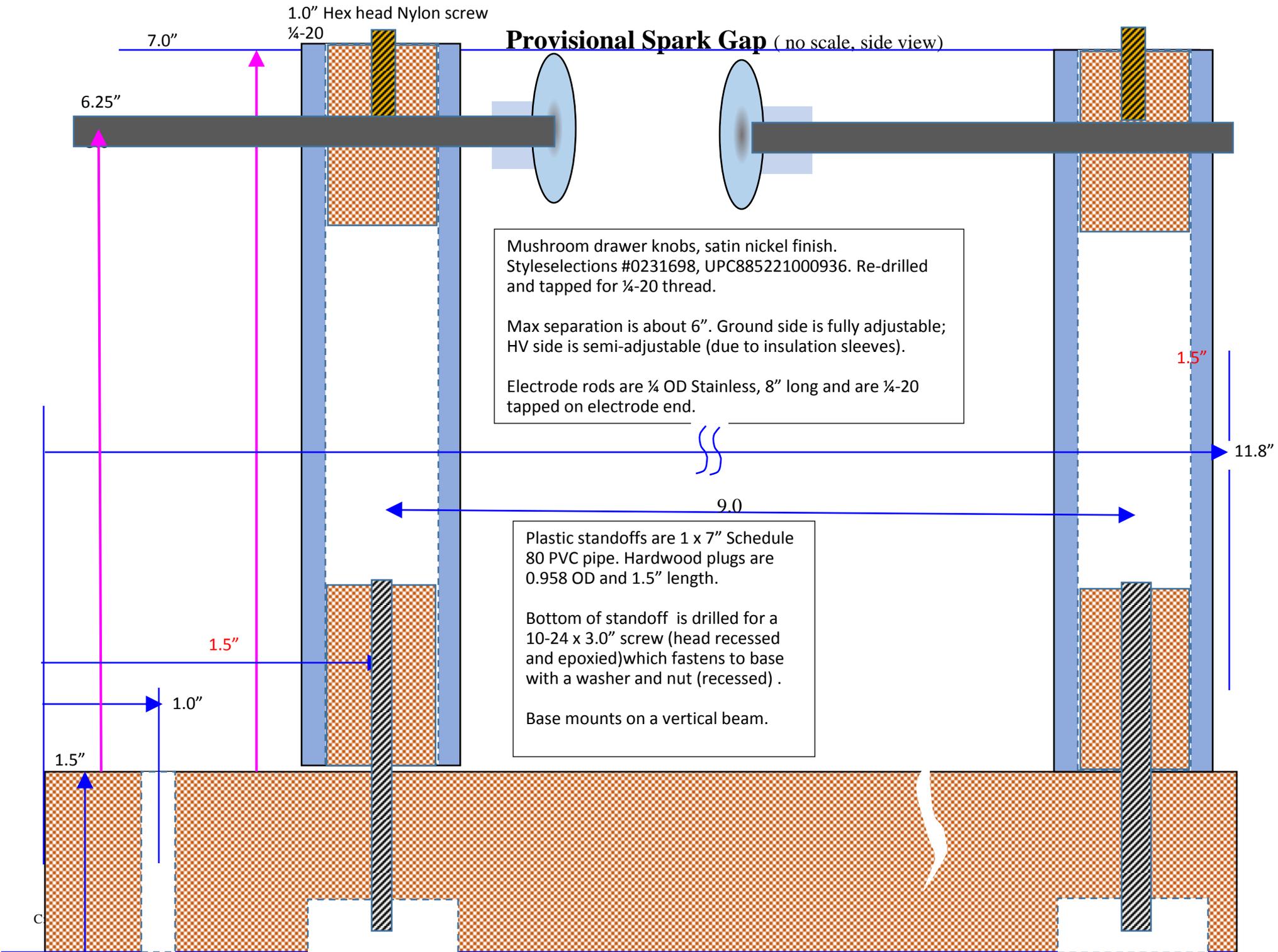
The top plug (hardwood) is drilled with 5/32" drill. Bottom plug is 3/16" to accommodate epoxy. Holes in tower (soft wood) are 1/8" ID

Holes in plugs are bored on the lathe. Holes in tower beams are drilled using a drill guide.



PVC Schedule 80 1" ID 6ft.
Nylon Clamps 3/4 ID
hardwood dowel 1" OD, 3 ft.
#10 x 2" wood screws, 8 each
#10 x 0.75" , wood screws, 8 each
Marine epoxy (2 syringes)

3/16" bore; 0.46" flat counterbore for screw head and epoxy



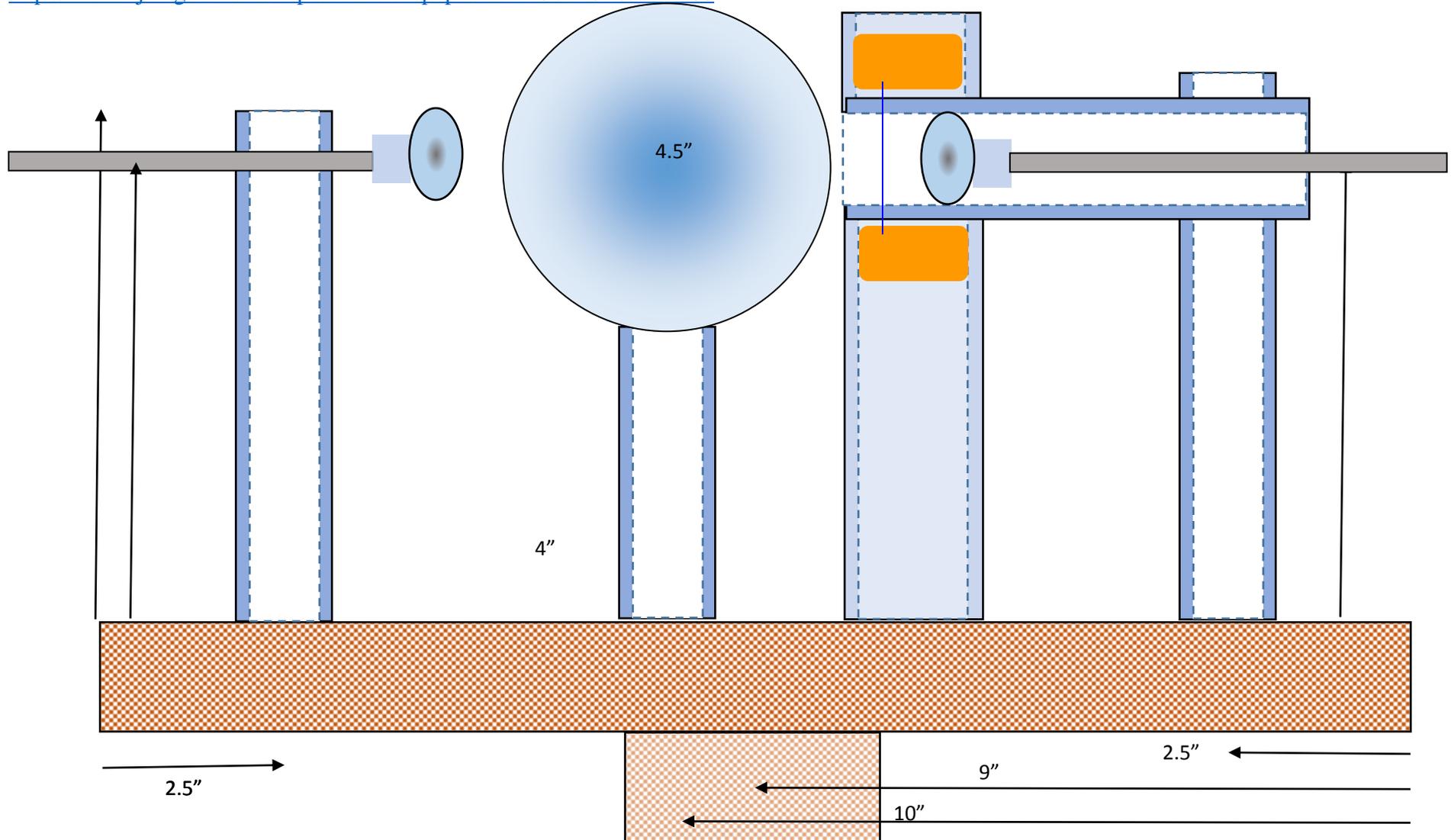
Scale 0.5" = 1" (half scale)

DX8C-N52 1 1/2" dia. x 3/4" thick, **very strong** neodymium magnets;
Pull Force, Case 1: 115.3 lbs
Pull Force, Case 2: 149.3 lbs
Surface Field: 5233 Gauss

<http://www.kjmagnetics.com/proddetail.asp?prod=DX8C-N52&cat=168>

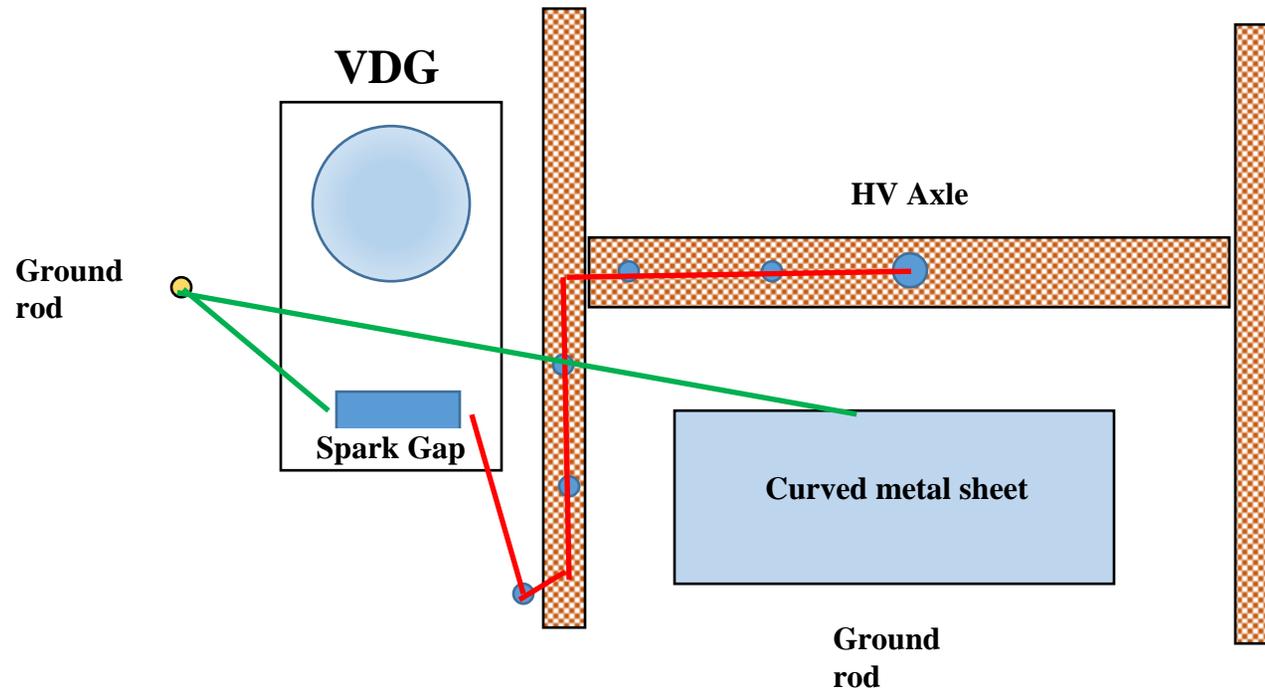
Spark tube top & bottom:
1.5" nom, 1.9" OD, 1.48" ID

Axis:
1.25" nom, 1.66" OD, 1.255" ID



Plan view of tower showing positions of standoffs.

(not to scale)



red wire, stranded, AWG 16 20 ft

Vinyl tubing 5/8 OD (to fit clamps; can be thin walled), 15 feet

ground clamp