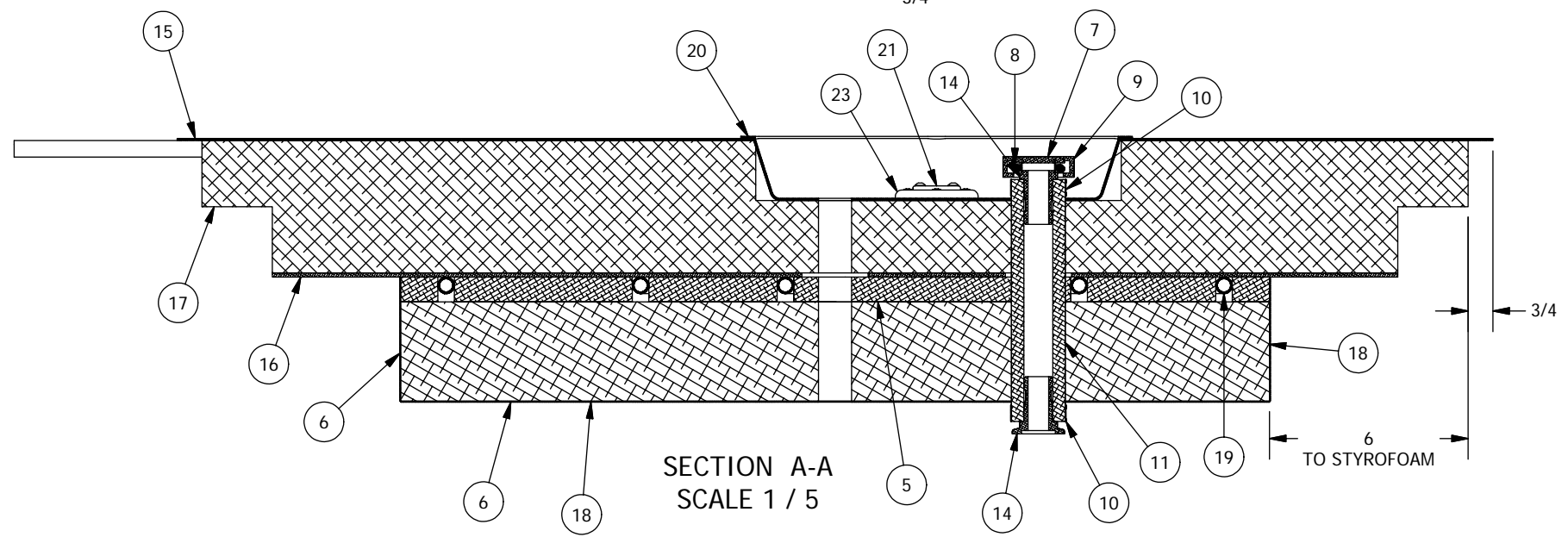


**NOTES**

1. Use riveted copper pipe straps to hold pipe to heat sink. Apply Devcon metal-filled epoxy or putty along edge of interface between pipe and aluminum sheet.
2. Use Liquid Nails construction adhesive to cement all metal sheets and styrofoam together.
3. Use contact adhesive to cement formica to Styrofoam, or Liquid Nails if necessary.
4. Dry fit all parts before using adhesive.
5. Rivets and pipe straps not shown
6. Rivet cake pan to outer sheet

23	1	Vacuum Valve Access Mount	PFS03034
22	1	Vacuum Valve Access Plug 2	PFS03033
21	1	Vacuum Valve Access Cap	PFS03031
20	1	Cake Pan	PFS03030
19	1	Insulation End Water Jacket	PFS03028
18	1	Insulation Side 3" Foam	PFS03024
17	1	Insulation End 4" Foam	PFS03021
16	1	Insulation End 2 Heat Sink	PFS03012
15	1	Insulation End 2 Outer Sheet	PFS03011
14	2	Nor-Cal NW Full Nipple 2N-NW-25B	-
13	2	Button Head, Hex, 8-32 UNC x 0.375	-
12	4	1/8 X .313 Std Pop Rivet	-
11	1	Vacuum Hose, rubber	-
10	2	Stainless Worm Drive Hose Clamp, Ø1.625	-
9	1	Nor-Cal NW 25 Nut Clamp	-
8	1	Nor-Cal NW Centering Ring NW-25-CR-SV	-
7	1	Nor-Cal NW Blank Off Cap NW-25B	-
6	5	Formica, black	-
5	1	Styrofoam 3/4" Layer	-
4	1	Liquid Nails construction adhesive	-
3	1	Devcon metal-filled epoxy #19770	-
2	60	Aluminum blind rivets, 1/8", 3/16" grip	-
1	25	Copper pipe straps MSC# 36892123	-
ITEM	QTY	DESCRIPTION	PART NUMBER



Bill of Material

**THE OBSERVATORIES  
OF THE CARNEGIE INSTITUTION OF WASHINGTON**  
813 Santa Barbara Street  
Pasadena, CA 91101

MATERIAL	UNLESS OTHERWISE SPECIFIED FRACTIONAL DECIMAL ANGULAR +/- 1/32 .XX +/- 0.01 +/- 0.1 DEG .XXX +/- 0.002 GOAL .XXX +/- 0.005 REQD		
EST WEIGHT	51 lb		
SCALE	1:10		Planet Finder Spectrograph
DWN CRANE 10/5/2007			
APVD		SHEET B	DRAWING NUMBER PFS00031
BY DATE		SHT 1 OF 1	REV