



31	14	1/8 X .125 Std Pop Rivet	-
30	1	Knob MCM6091K41	-
29	2	Swage-Lok Elbow 1/2" to 1/4 NPT	-
28	2	Quick Disconnect Coupling MCM1077T17	-
27	2	1/4 NPT Ball Valve	-
26.5	12	1/8 X .313 Std Pop Rivet	-
26.4	4	Hex nut 1/4-20	-
26.3	4	Washer, ANSI A, Normal 0.25	-
26.2	2	Threaded Rod MCM98743A230	-
26.1	1	Insulation Handle Attachment Plate	PFS03035
26	4	Handle Assembly	-
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			
<b>THE OBSERVATORIES OF THE CARNEGIE INSTITUTION OF WASHINGTON</b> 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 BREAK SHARP EDGES MACHINED SURFACES 125	
EST WEIGHT		51 lb	
SCALE		1:10	
DWN		CRANE 5/20/2009	
APVD		BY DATE	
SHEET		DRAWING NUMBER	
B		PFS00031	
SHT 1 OF 1		REV 1	

**NOTES**

1. Use riveted copper pipe straps to hold pipe to heat sink. Apply Dow Corning SE 4486 conductive RTV along edge of interface between pipe and aluminum sheet.
2. Use 3M Scotch-Weld 2216 two part epoxy to cement all metal sheets and styrofoam together.

3. Use contact adhesive to cement formica to Styrofoam.
4. Dry fit all parts before using adhesive.
5. Rivets and pipe straps not shown.
6. Rivet cake pan to outer sheet.

**SECTION A-A  
SCALE 1 / 5**

**SECTION B-B  
SCALE 1 / 5**