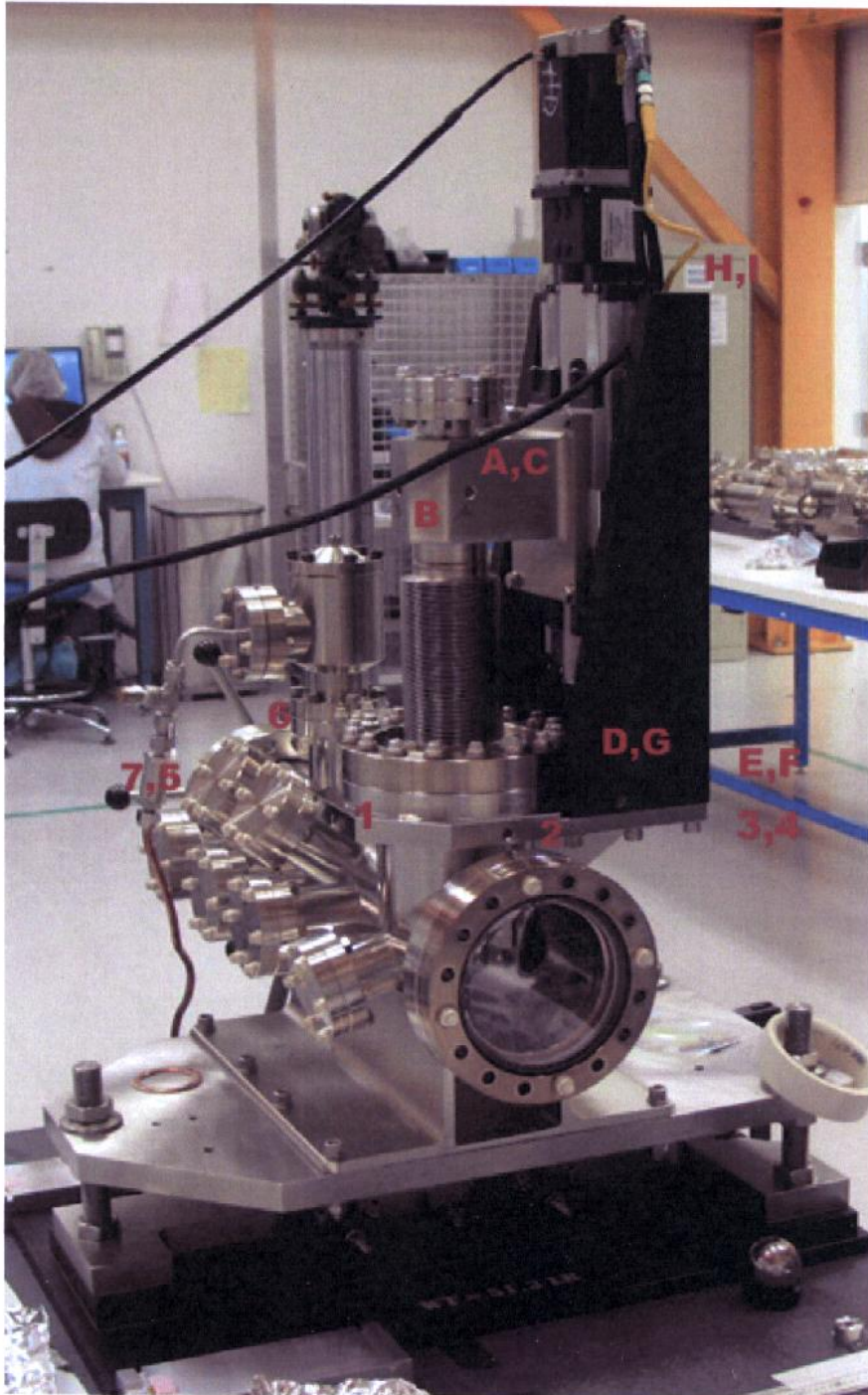


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3-30-2010

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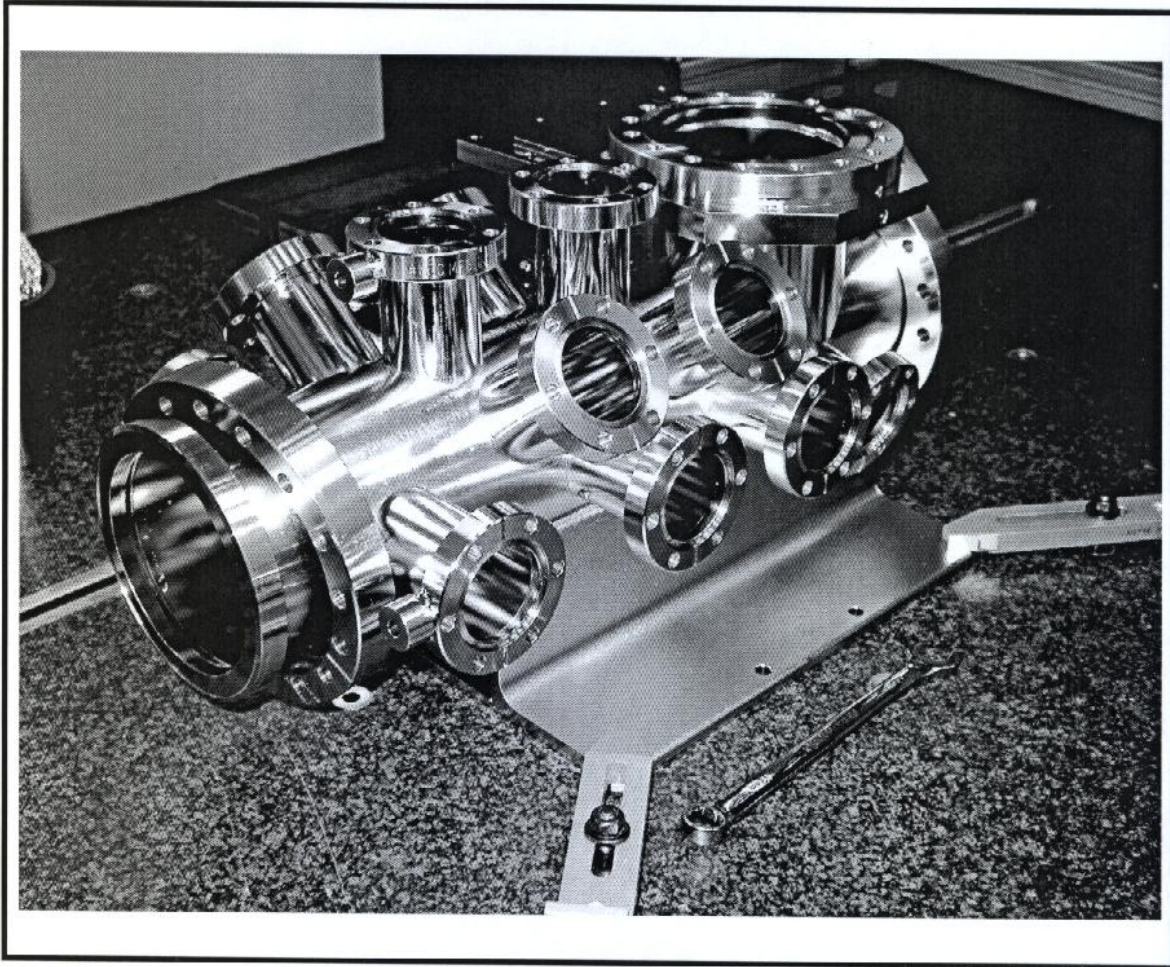
PULSE PICKER SN 001

TOOLING BALL	X	Y	Z
1	4.258	3.304	4.507
2	-0.006	3.301	0.260
3	-6.502	3.306	2.026
4	-6.494	3.308	7.030
5	-3.914	0.042	18.300
6	0.020	3.846	16.029
7	3.836	0.027	18.297
A	0.004	11.447	2.192
B	2.327	11.443	4.505
C	0.011	11.451	6.817
D	-3.011	3.836	0.263
E	-6.523	3.844	2.034
F	-6.513	3.843	7.030
G	-2.992	3.837	8.779
H	-5.175	17.288	1.590
I	-5.165	17.289	7.466

Tooling balls 1-7 were done on the CMM, TB's 3 & 4 can't be used with the mover support in place. Tooling balls A, B & C values are with the Shield opening center on the beamline.



VAC CHMBR, PLS PICK / ATTEN FIDUCIALIZATION REPORT



Inspector: Keith Caban
Customer: Marc Campell
Date: Wednesday, November 11, 2009
Work Order/Charge No.: 9120547
Serial Number: 001
Drwg. #: SA-391-900-10 Rev 1
URL of Fiducial Report: <\\Web002\www-group\met\Quality\FIDUCIAL REPORTS\SA-391-900-10\SA 391 900 10 SN 001.pdf>

Part Set-up – Coordinate System Set-up

Used Datums A, B, & C for CSY.

Planar Alignment

- Axis of Port 1 flange to Port 17 flange is the Z axis in which positive Z is pointing towards Port 17.

Spatial Alignment

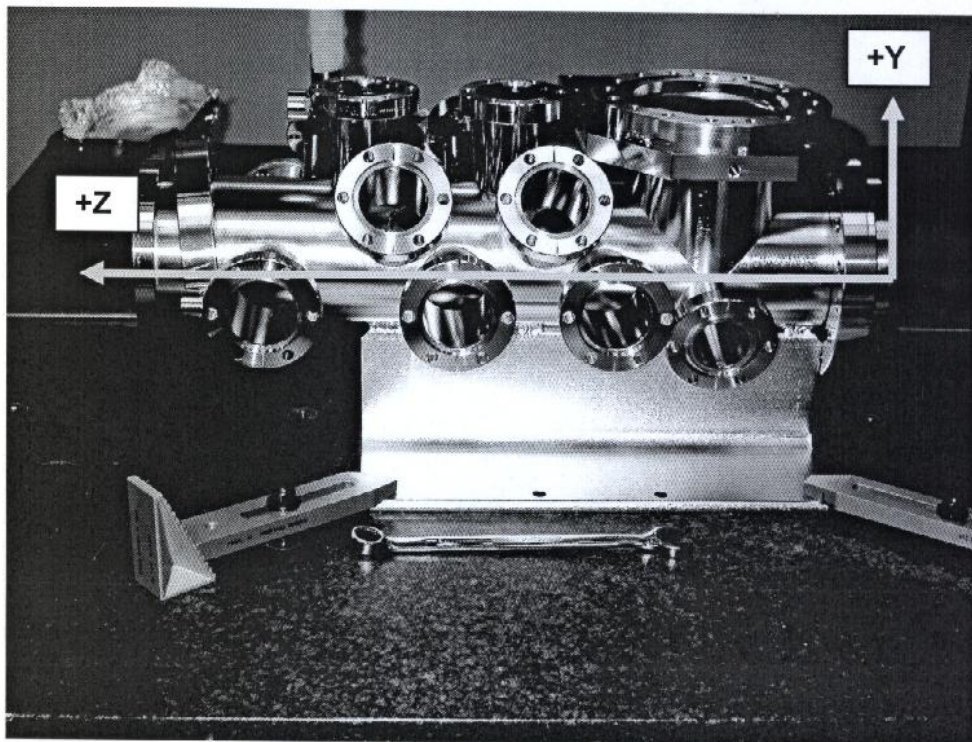
- Plane of Datum –A- (Port 3), which points in the positive Y direction.

“Z” Zero

- Plane of Datum –C- (Port 1) which sets zero in Z.

“X” & “Y” Zero

- X, Y zero is the axis created by Port 1 & 17 flanges (see planar alignment)



Tooling Ball Measurements/Locations

Using 1/2" Diameter Tooling Balls with 1" extension

TB's are scribed on Part located near TB Holes and/or TB Adapters (welded)

Tooling Ball	Form	Diameter	X	Y	Z
TB 1	0.00027	0.49992	4.25791	3.30361	4.50664
TB 2	0.00021	0.49655	-0.00618	3.30087	0.25995
TB 3	0.00022	0.50003	-6.50180	3.30599	2.02562
TB 4	0.00190	0.49441	-6.49424	3.30814	7.02965
TB 5	0.00182	0.48940	-3.91437	0.04167	18.29950
TB 6	0.0240	0.49375	0.02023	3.84614	16.02870
TB 7	0.00108	0.49029	3.83553	0.02708	18.29666

Port Locations (Polar distance from centerline (XY) & Z Location

PORT	NOMINAL POLAR	ACTUAL POLAR	ACT-NOM	NOM Z	ACT Z	ACT - NOM Z
2	3.709	3.72631	0.01731	4.500	4.51477	0.01477
3	4.300	4.29824	-0.00176	4.500	4.51172	0.01172
4	3.709	3.73522	0.02622	3.924	3.92698	0.00298
5	4.300	4.31073	0.01073	7.185	7.20303	0.01803
6	4.300	4.31691	0.01691	7.935	7.95974	0.02474
7	4.300	4.30178	0.00178	8.685	8.68880	0.00380
8	4.300	4.29795	-0.00205	9.435	9.44073	0.00573
9	4.300	4.30620	0.00620	10.185	10.21384	0.02884
10	4.300	4.31526	0.01526	10.935	10.94121	0.00621
11	4.300	4.30522	0.00522	11.685	11.70357	0.01857
12	4.300	4.30848	0.00848	12.435	12.42441	-0.01059
13	4.300	4.30628	0.00628	13.185	13.15205	-0.03295
14	4.300	4.30319	0.00319	13.935	13.92571	-0.00929
15	4.300	4.30910	0.00910	15.435	15.43720	0.00220
16	4.300	4.30841	0.00841	15.435	15.42639	-0.00861

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(X) $12.289 = 4$
 3.700

 $+ 8.589$ LOS

2) 8.589
 $- 1.006$

 8.595
 $1. \text{---}$

 7.595 S/R
 7.602

7) 8.589
 3.836

 4.753
 $1. \text{---}$

 3.753 S/R
 3.761

SLOP
 3.748

A) 7.585
 $1. \text{---}$

 8.585
 8.589

 $+ 1.004$

B) 5.262
 $1. \text{---}$

 6.262
 8.589

 $+ 2.327$

C) 7.578
 $1. \text{---}$

 8.578
 8.589

 $+ 1.011$

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SNOO1

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JM, LG

(X)

6) +.020

2) -.006

-10.000+1

-9.515+1

-5.000+1

-5.217+1

-7.731-1

-7.705-1

-7.711 LOS

5) 7.711

-3.914

3.797

1

2.7975/R

2.796

-001



BLACK MOTOR SUPPORT

D) 3.700

1
4.700
7.711

-3.011

E) 0.188

1
1.188
7.711

-6.523

F) 0.198

1
1.198
7.711

-6.513

G) 3.719

1
4.719
7.711

-2.992

H) 1.536

1
2.536
7.711

-5.175

I) 1.546

1
2.546
7.711

-5.165

REF. 20.000
7.711 LOS
12.289 = ϕ

SHUTTER BLADE (.238")

(+)
12.289

1.119
12.1703/R

(-)
12.289

1.119
12.408 5/R

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(Y)

3.301	1.042	3.846	1.027
2) 16.025	5) 19.286	6) 15.480	7) 19.299
$\begin{array}{r} \hline 17.025 \\ \hline 3.301 \\ \hline 20.326 \end{array}$	$\begin{array}{r} \hline 20.286 \\ \hline 1.042 \\ \hline 20.328 \end{array}$	$\begin{array}{r} \hline 16.480 \\ \hline 3.846 \\ \hline 20.326 \end{array}$	$\begin{array}{r} \hline 20.299 \\ \hline 1.027 \\ \hline 20.326 \end{array}$

M = 20.326 HI

A) 7.879

$$\begin{array}{r} \hline 8.879 \\ \hline 20.326 \\ \hline \boxed{11.447} \end{array}$$

B) 7.883

$$\begin{array}{r} \hline 8.883 \\ \hline 20.326 \\ \hline \boxed{11.443} \end{array}$$

C) 7.875

$$\begin{array}{r} \hline 8.875 \\ \hline 20.326 \\ \hline \boxed{11.451} \end{array}$$

H) 2.038

$$\begin{array}{r} \hline 3.038 \\ \hline 20.326 \\ \hline \boxed{17.288} \end{array}$$

I) 2.037

$$\begin{array}{r} \hline 3.037 \\ \hline 20.326 \\ \hline \boxed{17.289} \end{array}$$

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$$\begin{array}{r} 19.782 \\ 10.000 = \text{HI} \\ \hline 9.782 \text{ HI} \end{array}$$

2) $\begin{array}{r} 9.782 \\ 3.301 \\ \hline 6.481 \\ 1 \text{ ---} \\ \hline 5.481 \text{ s/r} \\ 5.481 \\ \hline \emptyset \end{array}$

5) $\begin{array}{r} 9.782 \\ .042 \\ \hline 9.740 \\ 1 \text{ ---} \\ \hline 8.740 \text{ s/r} \\ 8.740 \\ \hline \emptyset \end{array}$

6) $\begin{array}{r} 9.782 \\ 3.846 \\ \hline 5.936 \\ 1 \text{ ---} \\ \hline 4.936 \text{ s/r} \\ 4.936 \\ \hline \emptyset \end{array}$

7) $\begin{array}{r} 9.782 \\ .027 \\ \hline 9.755 \\ 1 \text{ ---} \\ \hline 8.755 \text{ s/r} \\ 8.753 \\ \hline +.002 \end{array}$

D) $\begin{array}{r} 4.946 \\ 1 \text{ ---} \\ \hline 5.946 \\ 9.782 \\ \hline \boxed{3.836} \end{array}$

E) $\begin{array}{r} 4.938 \\ 1 \text{ ---} \\ \hline 5.938 \\ 9.782 \\ \hline \boxed{3.844} \end{array}$

F) $\begin{array}{r} 4.939 \\ 1 \text{ ---} \\ \hline 5.939 \\ 9.782 \\ \hline \boxed{3.843} \end{array}$

G) $\begin{array}{r} 4.945 \\ 1 \text{ ---} \\ \hline 5.945 \\ 9.782 \\ \hline \boxed{3.837} \end{array}$

GUN 2
 HI = \emptyset

+ .060 TOP SLIT
 - .061 BOT SLIT

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(Z)

7) 18.297
 5) 18.300

2.000+1
 2.001+1
 4.560+1
 4.070+1
 3.023-1
 3.020-1

21.320 LOS

6) 21.320
 16.029
 5.291
 1
 4.291 1/2

A I

A)

B) 15.815

C) 13.503

16.815
 21.320
 4.505

14.503
 21.320
 6.817

D)

E) 18.286

F) 13.290

G)

19.286
 21.320
 2.034

14.290
 21.320
 7.030

H) 18.730

I) 12.854

19.730
 21.320
 1.590

13.854
 21.320
 7.466

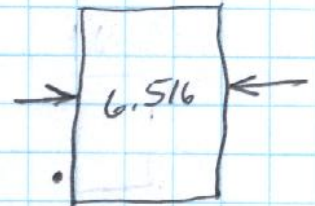
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(Z)

- 1) 4.507
- E) 2.034
- 8.000 + 1
- 5.803 + 1
- 5.000 + 1
- 3.392 + 1
- 10.406 + 1
- 7.933 + 1
- 5.899 LOS

$$\begin{array}{r}
 2) 5.899 \\
 \quad .260 \\
 \hline
 \quad 6.159 \\
 \quad \quad 1. \\
 \hline
 \quad 5.159 \text{ S/R} \\
 \hline
 \quad 5.160
 \end{array}$$



$$\begin{array}{r}
 A) 7.091 \\
 \quad 1 \\
 \hline
 \quad 8.091 \\
 \quad -5.899 \\
 \hline
 \quad 2.192
 \end{array}$$

$$\begin{array}{r}
 D) 5.162 \\
 \quad 1 \\
 \hline
 \quad 6.162 \\
 \quad -5.899 \\
 \hline
 \quad .263
 \end{array}$$

$$\begin{array}{r}
 G) 6.516 \text{ M.S. FRAME} \\
 \quad 2.000 \text{ T/A - T/B} \\
 \hline
 \quad 8.516 \\
 \quad 1263 \text{ VALID} \\
 \hline
 \quad 8.779
 \end{array}$$