

10S Elliptical Chamber Align

SA-444-338-15-1

Date:

9/17/03

Ser. No.:

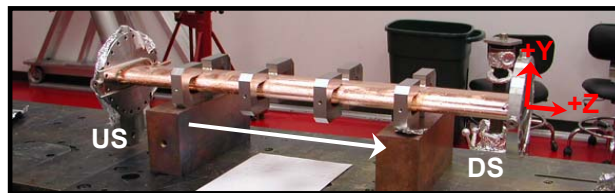
1 (eg. 1)

Operator(s):

F. Gaudreault

L. Griffin

Notes:



Step 1: Datum Defined Through Downstream Flange

Flange Plane Scanned

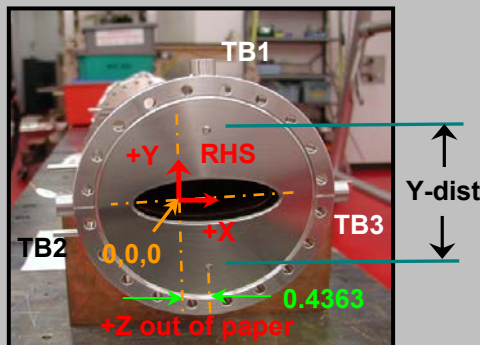
=== gives ===>

yaw, pitch

Measure Two Pins

=== gives ===>

roll, origin



DS Flange Pin-to-Pin	
	Y-dist
Measured	4.566
Nominal	4.564
Difference	0.002

inches

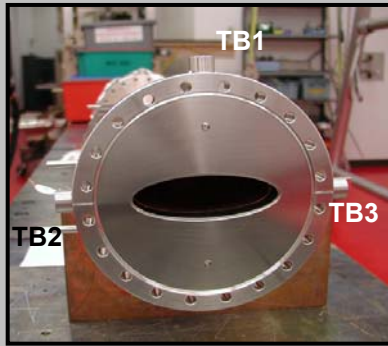
DS Flange Circle Scan Check	Dia	X	Y
Measured (Flange circle scan + SMR)		0.435	0.001
Reduced (Minus 2 X 0.750" for SMR)			
Nominal	8.000	0.436	0.000
Difference (inches)	-----	-0.001	0.001

Description:

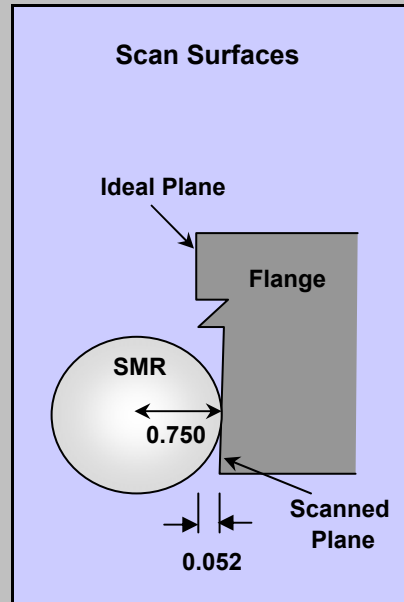
Downstream flange form chamber datum. The face scan of the flange defines yaw and pitch while the two pins hold roll fixed. The split between the two pins in the flange plane define origin. A scan of the flange edge is a check for diameter and the X & Y of the origin.

DS Flange TB Positions and Chamber Length

Step 2: Tooling Ball Fiducial Values on Downstream Flange and Chamber Length



Fiducial	Z	X	Y
TB1 2	-0.602	-5.046	0.019
TB2 1	-0.604	0.420	5.488
TB3	-0.604	5.920	-0.016
	inches	inches	inches



Chamber Length

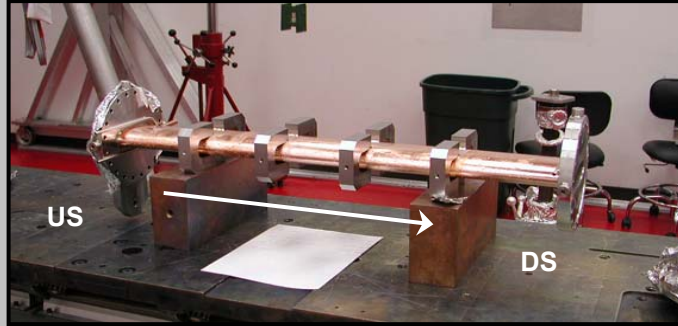
Uncorrected measured distance between DS and US flanges	35.619
Chamber Length (Ideal Plane to Ideal Plane)	34.223
Nominal (Ideal)	34.250
Difference	-0.027
	inches

Description:

Fiducial values based on established datum in step 1.

Upstream Flange Position (Based on DS Datum)

Step 3: Upstream Flange Position and Checks



US Flange Position Information

	Z *	X	Y
Top Pin	-34.561	0.400	2.334
Bot Pin	-34.542	0.405	-2.229
	inches	inches	inches

US Flange Roll	
Measured	
Nominal	0.000
Difference	-----
	mrاد

	Z *	X	Y
Avg	-34.552	0.403	0.053
Ideal		0.436	0.000
Diff	N/A	-0.034	0.053
	inches	inches	inches

* Note: Z is arbitrary

US Plane Scan:

US Flange Attitude		
	yaw	pitch
Measured	4.2	-4.0
Nominal	0.0	0.0
Difference	4.2	-4.0
	mrاد	mrاد

US Flange Circle Scan Check	Dia	X	Y
Measured (Flange circle scan + SMR)		0.403	0.048
Reduced (Minus 2 X 0.750" for SMR)			
Nominal	8.000	0.436	0.000
Difference (inches)	-----	-0.033	0.048

Description:

Measured vs. nominal values for US flange based on DS datum.

