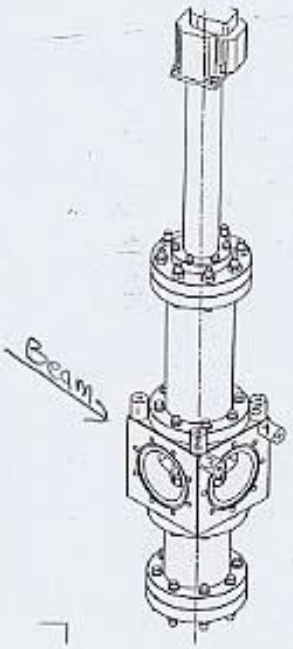
SXR Coupling MIRROR

11-25-09
HI, JM, MK
F.G.



	X	Y	Z
1	-1.861	+4.243	-1.877
2	-1.863	+4.241	+1.848
3	-1.838	+1.885	+4.238
4	+1.940	+1.879	+4.215
5	+1.913	+4.240	+1.849

ACCT # 96833380

Set Yagg Cube
SXR coil's SXR1 & SXR2

11/25/09
HI, FG

SXR SN1

y) Values

1) 3.346 ✓
4.562
7.908 ✓
1
8.908 ✓

3) -.066 ✓
7.974
7.908 ✓
1
8.908 ✓

HI = 8.908 ✓

SXR SN2

B) 3.341 ✓
4.567
7,908 ✓
1
8.908 ✓

D) 8.908
-.007 ✓
8.915 ✓
1
SLR 7.915 ✓
7.900 +15 ✓

17.382

8,908
2) 3.348 ✓
5.560 ✓
1
SLR 4,560 ✓
4,562 -2 ✓

8.908
4) .016 ✓
8.892 ✓
1
SLR 7.892 ✓
7.900 -8 ✓

8,908
A) 3.344 ✓
5.564 ✓
1
SLR 4.564 ✓
FND. 4561
+3 ✓

8.908
C) -.034 ✓
8.942 ✓
1
SLR 7.942 ✓
FND 7,926
+16 ✓

REF. BLADE 17.382
8.908
8.474 ✓ ℄
.187 RADIUS
8.287 ✓ REF @ BOTTOM OF YAGG
set to 0 ✓

YAG Ø = 0.374

SXR COUPLING MIRROR 400 NM 11/25/09

CUBE DIM. 4.486" ÷ 2 = 2.243 ✓ MR, JM, HI, FG

Y)

6.427
2.243
HI 8.670 ✓

LEVELED TOP OF CUBE ✓ R. GW

17.360
8.670
8.690 ✓

1) 3.427 / 1 / 4.427 ✓ / 8.670 / +4.243 ✓

2) 3.429 / 1 / 4.429 ✓ / 8.670 / +4.241 ✓

3) 5.785 / 1 / 6.785 ✓ / 8.670 / +1.885 ✓

4) 5.791 / 1 / 6.791 ✓ / 8.670 / +1.879 ✓

5) 3.430 / 1 / 4.430 ✓ / 8.670 / +4.240 ✓

X)

= U/S CUBE 2.243
/ D/S CUBE 2.243

17.
17.024

19.
18.910

17.421

LOS = 19.664 ✓

1) -16.807 / -1 / -17.807 ✓ / -19.664 / -1.857 ✓

2) -16.787 / -1 / -17.787 ✓ / -19.664 / -1.877 ✓

3) -16.802 / -1 / -17.802 ✓ / -19.664 / -1.862 ✓

4) -20.577 / -1 / -21.577 ✓ / -19.664 / +1.913 ✓

5) -20.560 / -1 / -21.560 ✓ / -19.664 / +1.896 ✓

5XR COUPLING MIRROR 400 NM 11/25/09

Z) D/S END OF CUBE 14.106
2.243
LOS + 16.349

1) 17.223
1
18.223
16.349
-1.874

2) 13.498
1
14.498
16.349
+1.851

3) 11.108
1
12.108
16.349
+4.241

4) 11.108
1
12.108
16.349
+4.241

5) 13.473
1
14.473
16.349
+1.876

X) Setting Mirror
LOS -19.664
Blades @ 20.000
℄ .336

9/25/09

SXR COUPLING MIRROR 400NM

X) LOS -19.664

BUCKED IN ON PIN THROUGH HOLE

1) -16.803
-1
-17.803 ✓
-19.664
+1.861 ✓

2) -16.801
-1
-17.801 ✓
-19.664
+1.863 ✓

3) -16.826
-1
-17.826 ✓
-19.664
-1.838 ✓

4) -20.604
-1
-21.604 ✓
-19.664
+1.940 ✓

5) -20.577
-1
-21.577 ✓
-19.664
+1.913 ✓

Z) D/S CUBE FACE
12.442
2.243
LOS +14.685 ✓

1) 15.562
1
16.562 ✓
14.685
-1.877 ✓

2) 11.837
1
12.837 ✓
14.685
+1.848 ✓

3) 9.447
1
10.447 ✓
14.685
+4.238 ✓

4) 9.470
1
10.470 ✓
14.685
+4.215 ✓

5) 11.836
1
12.836 ✓
14.685
+1.849 ✓

SXR Coupling Mirror for Differential Coupling Device

30 Nov 2009
J. McDougal
M. Rogers
H. Imfeld

Set Top Mirror
Establish TB values
Now, observe bottom mirror

(Y)

	TB3	TB4
VAL	1.885	1.879
READ	12.459	12.467
S/T	14.344 ✓	14.346 ✓
FT	1	1
HI	15.344 ✓	15.346 ✓

	TB1	TB2
VAL	4.243	4.241
READ	10.102	10.104
S/T	14.345 ✓	14.345 ✓
FT	1	1
HI	15.345 ✓	15.345 ✓

	TB5
VAL	4.240
READ	10.107
S/T	14.347
FT	1
HI	15.347 ✓

Ref = 24.043
HI = 15.345
℄ = 8.698 ✓

Monitor Shaft for dY to set bottom mirror

Gun set @ top of Shaft

New Gun @ ℄
Set Pin in Pitch by rolling target

U/S Top	U/S Bottom	D/S Top	D/S Bottom
+0.027	-0.054	+0.026	-0.054
+0.040	-0.040	+0.040	-0.040

Moved target up 0.014". So, dY = 2.756" + 0.014" = 2.770"
= 70.36mm

SXR Coupling Mirror
for Differential Coupling Device

30 NOV 2009

⊗ Set Gun @ 0.336 ⇒ LOS = 0

	TB4
LOS	0.000
VAL	1.940
SIT	1.940
FT	1
SIR	0.940
FND	0.937 ✓

U/S Pin +X	U/S Pin -X	D/S Pin +X	D/S Pin -X
+0.037	-0.043	+0.041	-0.042

SXR

30 NOV 2009

Yagg Cubes S/N 1 & S/N 2

Coupling Mirror for Differential Coupling Device

Set Package @ -27.7 mrad (up)

(9) Per Print SA-391-952-04

Top of stand to center of coupling mirror = 8.75"

	Ref Scale on table
VAL	-8.750
READ	24.043
HI	15.293

	SXR1 1		2		3		4		SXR2 A		B		C	
HI	15.293		15.293		15.293		15.293		15.293		15.293		15.293	
VAL	3.346		3.348		-0.066		0.016		3.344		3.341		-0.034	
S/T	11.947		11.945		15.359		15.277		11.949		11.952		15.327	
FT	1 —		1 —		1 —		1 —		1 —		1 —		1 —	
S/T	10.947		10.945		14.359		14.277		10.949		10.952		14.327	
Pitch	-0.398		-0.331		-0.398		-0.331		-0.233		-0.167		-0.233	
S/R	11.345		11.276		14.757		14.608		11.182		11.119		14.560	
SET	11.348	-3	11.280	-4	14.753	+4	14.606	+2	11.179	+3	11.119	0	14.533	+27

	SXR2 D		Cube 1		2		3		4		5	
HI	15.293		15.293		15.293		15.293		15.293		15.293	
VAL	-0.007		4.243		4.241		1.885		1.879		4.240	
S/T	15.300		11.050		11.052		13.408		13.414		11.053	
FT	1 —		1 —		1 —		1 —		1 —		1 —	
S/T	14.300		10.050		10.052		12.408		12.414		10.053	
Pitch	-0.167		-0.052		0.051		0.117		0.117		0.051	
S/R	14.467		10.102		10.001		12.291		12.297		10.002	
SET	14.440	+27	10.102	0	10.003	-2	12.292	-1	12.298	-1	10.002	0

30 NOV 2009

SXR
Set Yags + Coupling Mirror

(X)

Buck-in on Edge of Base

+5.13" per Jim Tracey (wrong side)

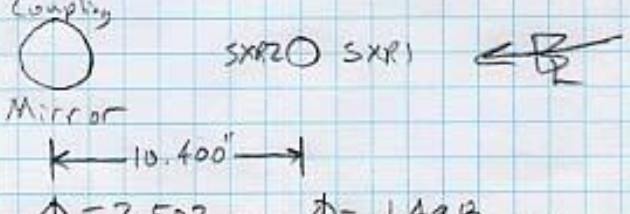
FAR VAL	~~-5.130~~	-2.613
NEAR VAL	~~-5.130~~	-2.613
1st F	-17.100	
1st N	-17.073	
2nd F	-15.500	
2nd N	-15.735	
S/R F	-16.935	
S/R N	-16.935	
LOS	-19.548 ✓	

total dist 7.743
5.130
other edge -2.613

	SXR1 1	2	3	4	SXR2 A	B	C
LOS	-19.548	-19.548	-19.548	-19.548	-19.548	-19.548	-19.548
VAL	-0.013	0.014	-3.353	-3.351	0.005	-0.009	-3.341
S/T	-19.535 ✓	-19.562 ✓	-16.195 ✓	-16.197 ✓	-19.553 ✓	-19.539	-16.207 ✓
FT	1	1	1	1	1	1	1
S/R	-18.535 ✓	-18.562 ✓	-15.195	-15.197 ✓	-18.553 ✓	-18.539	-15.207 ✓
SET	-18.535 [0]	[ ]	-15.193 [-2]	-15.192 [-5]	-18.569 [+16]	-18.554 [+15]	-15.205 [-2]

	SXR2 D	Coupling Mirror 1	2	3	4	5
LOS	-19.548	-19.548	-19.548	-19.548	-19.548	-19.548
VAL	-3.346	-1.861	-1.863	-1.838	1.940	1.913
S/T	-16.202 ✓	-17.687 ✓	-17.685 ✓	-17.710 ✓	-21.488 ✓	-21.461 ✓
FT	1	1	1	1	1	1
S/R	-15.202 ✓	-16.687 ✓	-16.685 ✓	-16.710 ✓	-20.488 ✓	-20.461 ✓
SET	-15.202 [0] ✓	-16.686 [-1]	-16.684 [-1]	-16.710 [0]	-20.487 [-1]	-20.457 [-4]

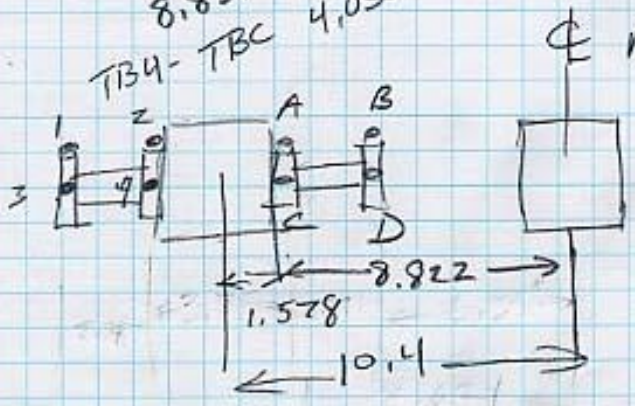
(2)



	10.400
Mirror	1.251
S/T	9.149 ✓
	0.749
S/R	8.400 ✓
SET	8.400 [0] ✓

Correct Y's For Pitch
(USE TABLE FOR HI)

2) TB3 - TBD 8.837"
TB4 - TBC 4.030
2 REF. 8.75" ABOVE TABLE



pitched @ .0277 R.

MIC'D TB3 - TBD = 8.837" TB4 - TBC 4.030
.5 .5
SXR 1 8.337 ΔH 3.530

			VALUES FROM TABLE
2) 1)		-.398 ✓	8.75 + 3.346 = 12.096
2)	11.94 x .0277 =	-.331 ✓	8.75 + 3.348 = 12.098
3)	(2.425+11.94) x .0277 =	-.398 ✓	8.75 - .066 = 8.684
4)	11.94 x .0277 =	-.331 ✓	8.75 + .016 = 8.766

2) SXR 2

A)	(8.822 - .422) x .0277 =	-.233 ✓	8.75 + 3.344 = 12.166
B)	(8.822 - 2.782) x .0277 =	-.167 ✓	8.75 + 3.341 = 12.091
C)	(8.822 - .412) x .0277 =	-.233 ✓	8.75 - .034 = 8.716
D)	(8.822 - 2.784) =	-.167 ✓	8.75 - .007 = 8.743

2) MIRROR CUBE

			To TABLE Y's
1	-1.877 x .0277 =	-.052 ✓	8.75 + 4.243 = 12.993
2	1.848 x .0277 =	+.051 ✓	8.75 + 4.241 = 12.991
5	1.849 x .0277 =	+.051 ✓	8.75 + 4.240 = 12.99
3	4.238 =	+.117	
4	4.215 =	+.117	