pc-dmis	PART NAME : PN440004-n-Trans-Rings-000-TB9XXX000-v4-IR		March 20, 2013	16:24
	REV NUMBER :	SER NUMBER :	STATS COUNT :	1

440004-n
FNAL 1.3GHZ TESLA
RF CAVITY
ASSEMBLY
measurement of Transition Rings
@ 000 rotational orientation

'Inspected by ' : Robert Riley
'Cavity Number' : TB9NR013
' ' : 1303201525

Datum Discs

#	MM	LOC1 - CIRC_DATUM_DISC_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.000	0.000	0.000
Y	25.000	25.887	0.887	10.000	10.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.852	-0.148	0.050	0.050	0.098
RN	0.000	0.040	0.040	0.050	0.000	0.000

#	MM	LOC2 - CIRC_DATUM_DISC_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.000	0.000	0.000
Y	-1032.384	-1036.318	-3.934	10.000	10.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.856	-0.144	0.050	0.050	0.094
RN	0.000	0.029	0.029	0.050	0.000	0.000

Datum Disc planes

#	MM	LOC3 - PLNC_DD_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	27.000	27.879	0.879	10.000	10.000	0.000
FL	0.000	0.026	0.026	0.100	0.000	0.000

#	MM	LOC4 - PLNC_DD_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1034.384	-1038.238	-3.854	10.000	10.000	0.000
FL	0.000	0.032	0.032	0.100	0.000	0.000

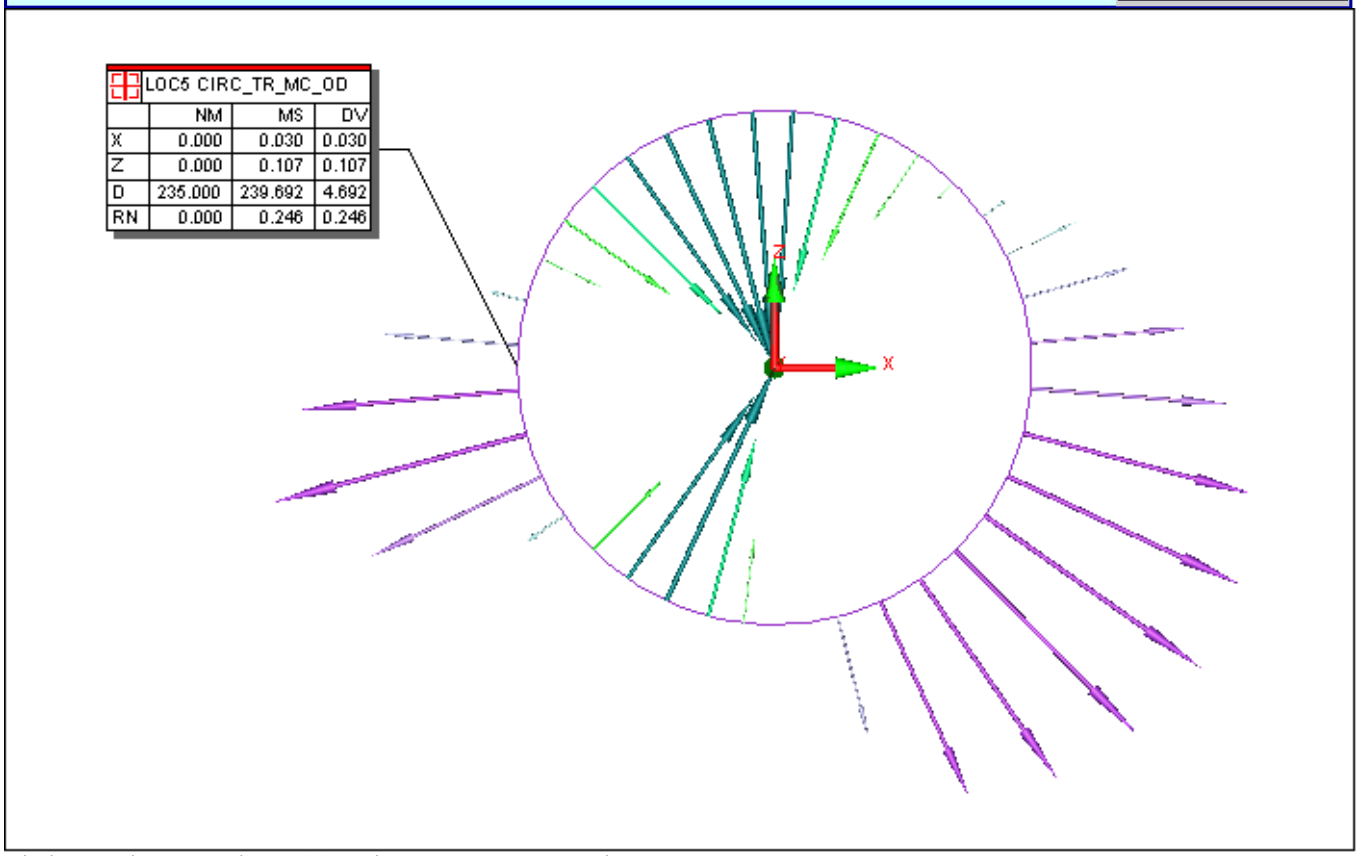
Distance between Datum Disc planes

↔	MM	DIST1 - PLNC_DD_FP TO PLNC_DD_MC (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1061.060	1066.117	5.057	0.200	0.200	4.857

Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D.

⌗	MM	LOC5 - CIRC_TR_MC_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.030	0.030	0.250	0.250	0.000
Z	0.000	0.107	0.107	0.250	0.250	0.000
D	235.000	239.692	4.692	0.250	0.250	4.442
RN	0.000	0.246	0.246	0.250	0.000	0.000

○	MM	RND1 - CIRC_TR_MC_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.246	0.246	0.250	0.000	0.000

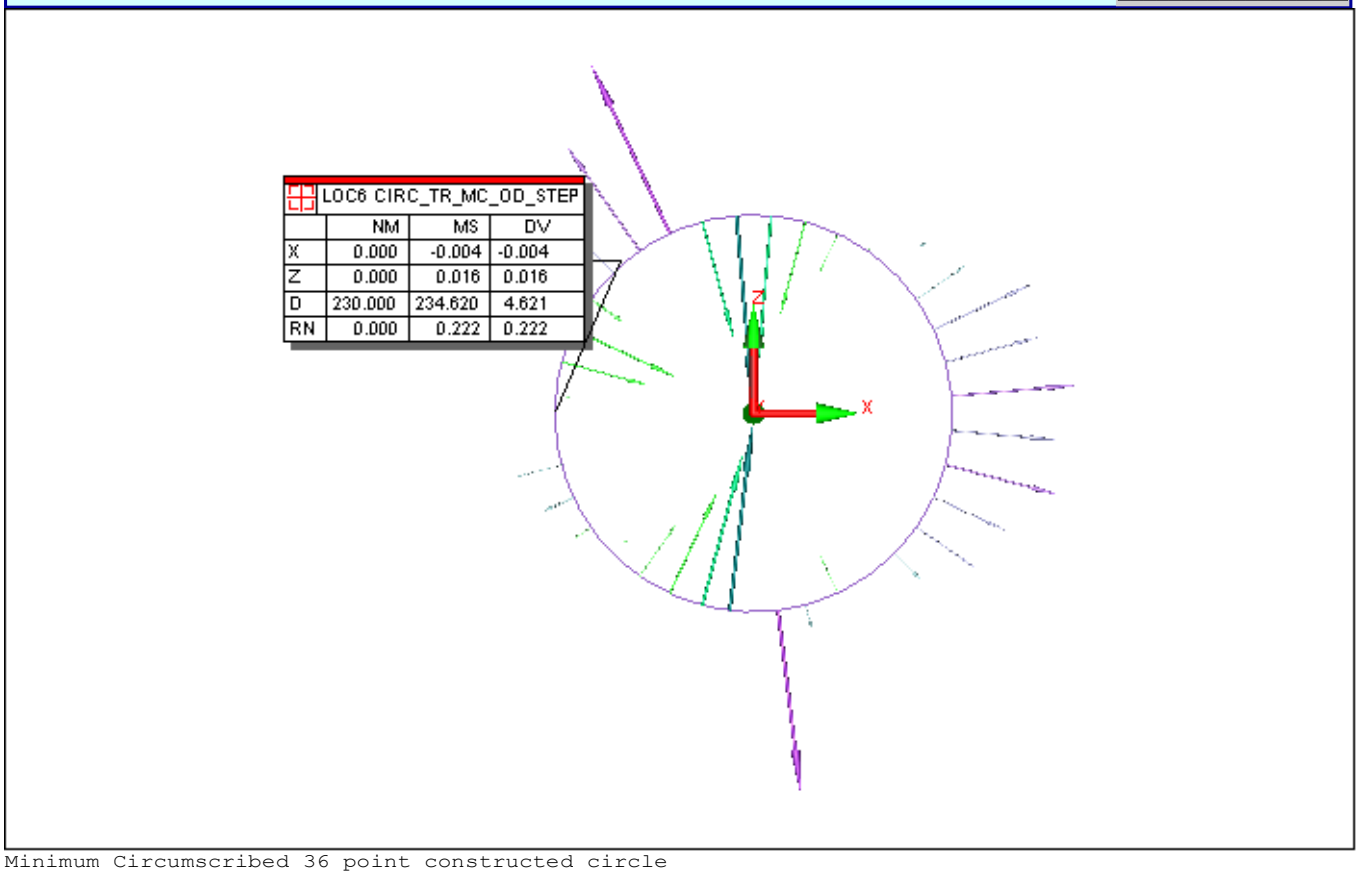


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D. x1000

Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step

⌗	MM	LOC6 - CIRC_TR_MC_OD_STEP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.004	-0.004	0.250	0.250	0.000
Z	0.000	0.016	0.016	0.250	0.250	0.000
D	230.000	234.620	4.621	0.000	0.250	4.621
RN	0.000	0.222	0.222	0.250	0.000	0.000

○	MM	RND2 - CIRC_TR_MC_OD_STEP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.222	0.222	0.250	0.000	0.000

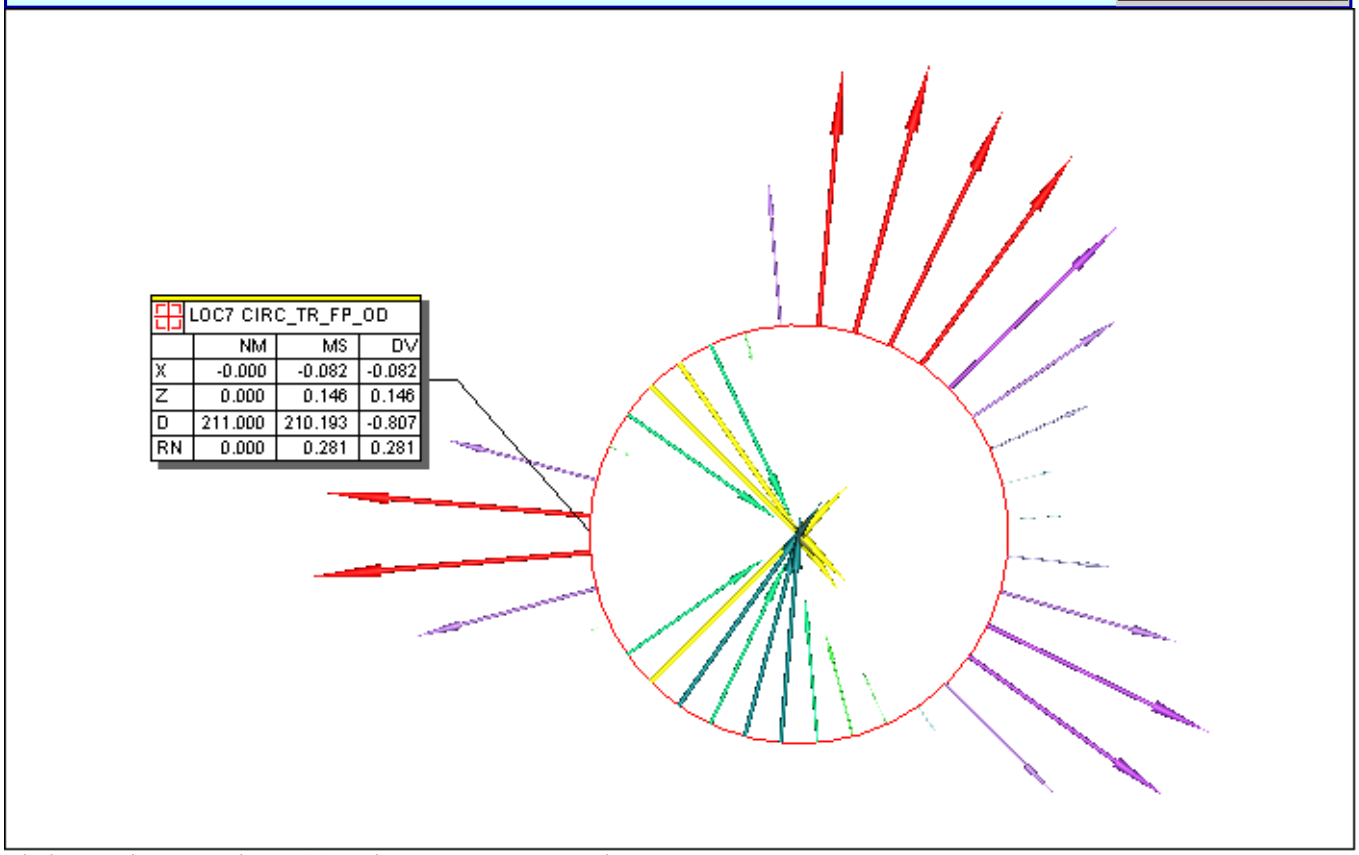


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step x1000

Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D.

⌗	MM	LOC7 - CIRC_TR_FP_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.082	-0.082	0.250	0.250	0.000
Z	0.000	0.146	0.146	0.250	0.250	0.000
D	211.000	210.193	-0.807	0.250	0.250	0.557
RN	0.000	0.281	0.281	0.250	0.000	0.031

○	MM	RND3 - CIRC_TR_FP_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.281	0.281	0.250	0.000	0.031

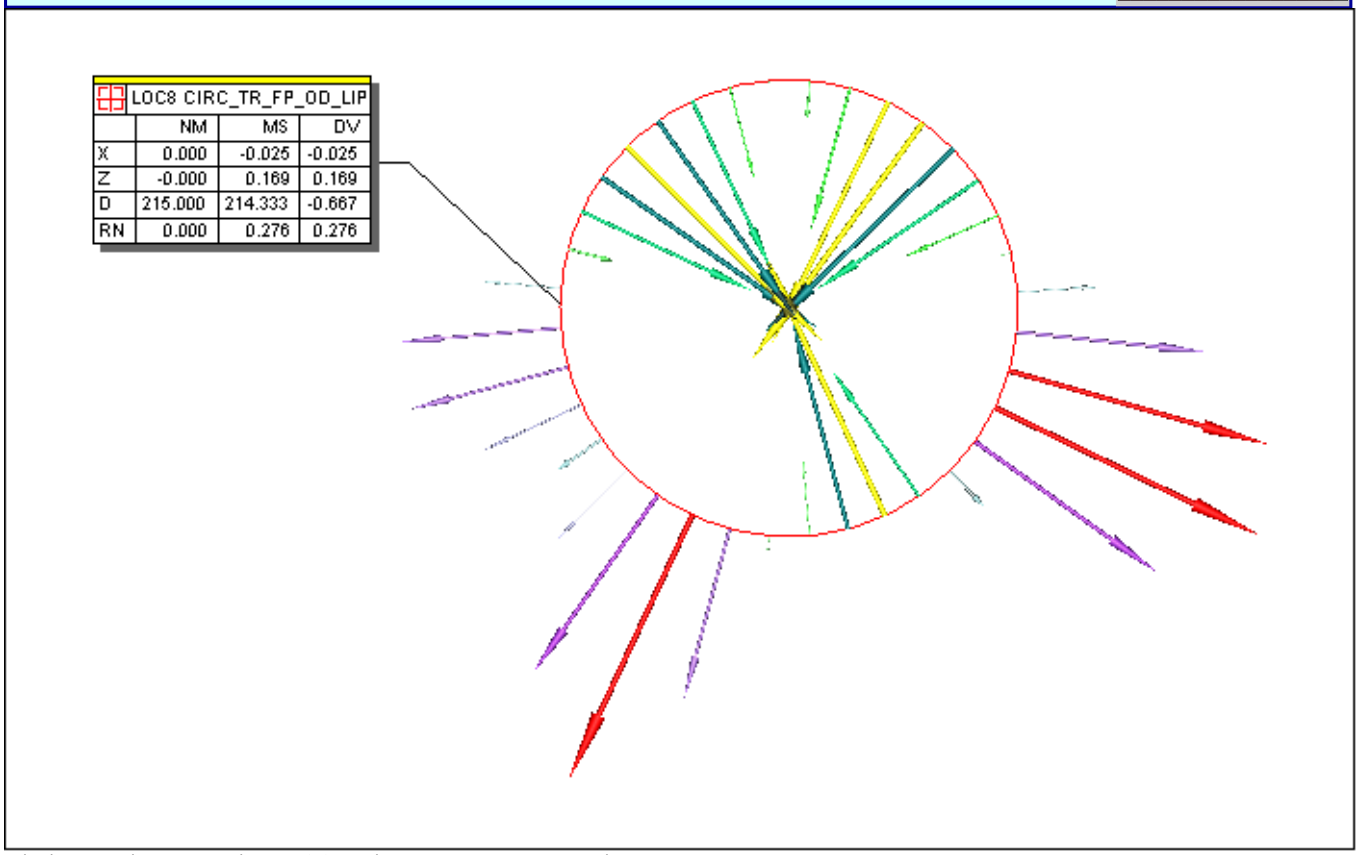


Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D. x1000

Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
215.0 O.D. lip

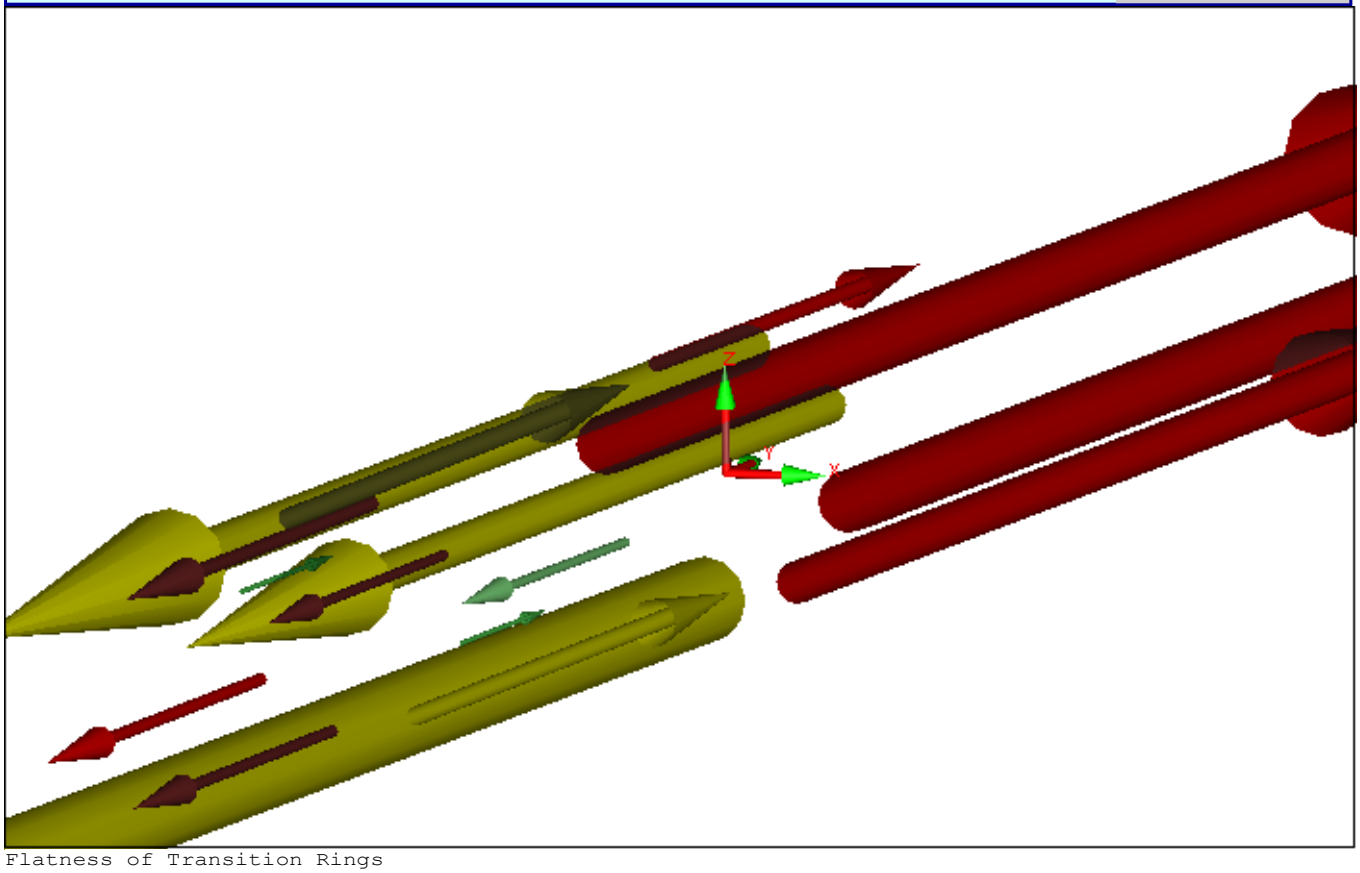
	MM	LOC8 - CIRC_TR_FP_OD_LIP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.025	-0.025	0.250	0.250	0.000	
Z	0.000	0.169	0.169	0.250	0.250	0.000	
D	215.000	214.333	-0.667	0.250	0.250	0.417	
RN	0.000	0.276	0.276	0.250	0.000	0.026	

	MM	RND4 - CIRC_TR_FP_OD_LIP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	0.276	0.276	0.250	0.000	0.026	



Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
215.0 O.D. lip x1000

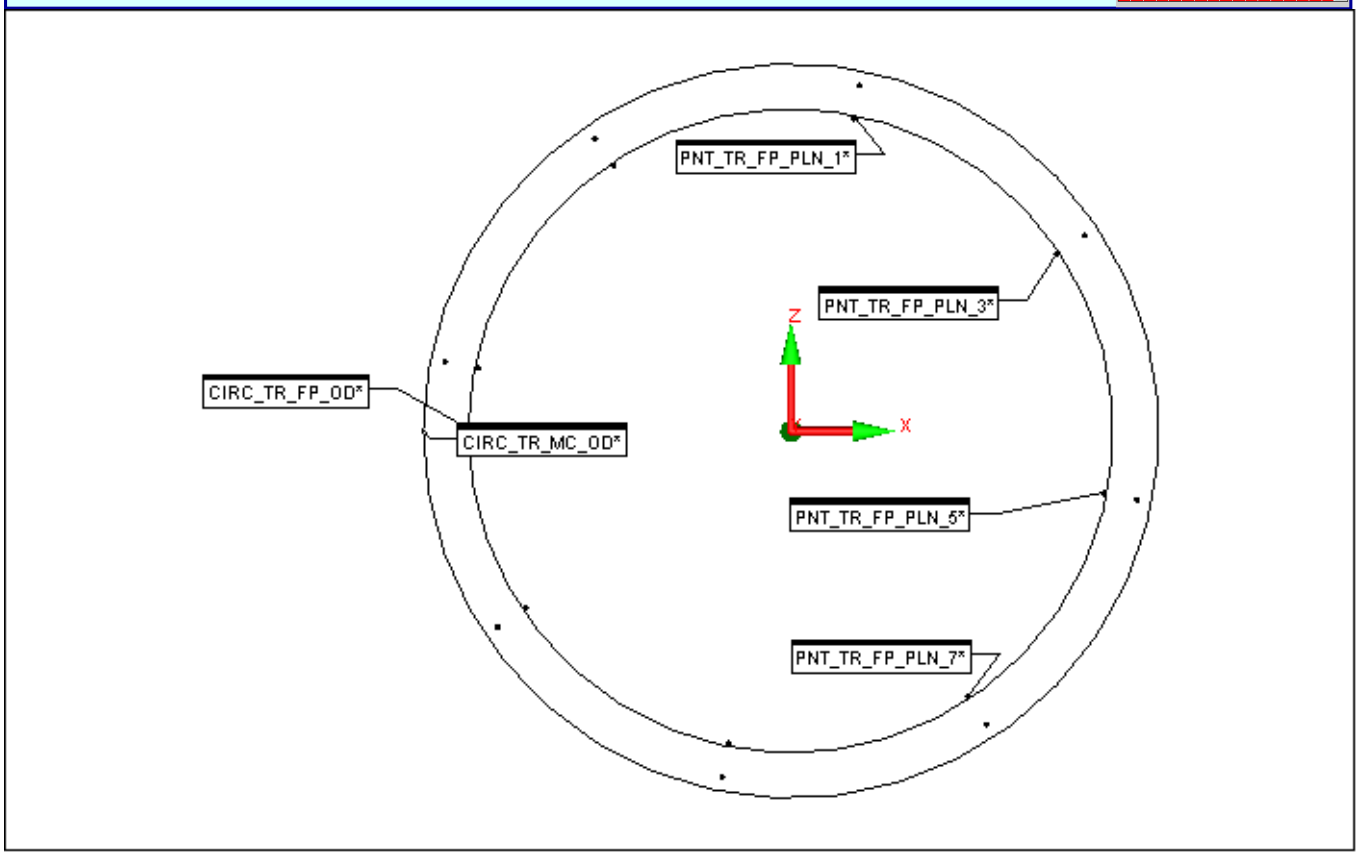
	MM	LOC9 - PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	0.000	0.000	0.000	0.000	0.000	0.000	
FL	0.000	1.326	1.326	0.200	0.000	1.126	
AX		I		J		K	
V		-0.001		1.000		-0.002	
	MM	LOC10 - PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.008	-4.508	10.000	10.000	0.000	
FL	0.000	0.320	0.320	0.200	0.000	0.120	
AX		I		J		K	
V		0.001		-1.000		-0.002	
	MM	FLAT3 - PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	1.326	1.326	0.200	0.000	1.126	
	MM	FLAT4 - PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	0.320	0.320	0.200	0.000	0.120	



Flatness of Transition Rings
x5000

⊥	MM	PERP1 - PLNC_TR_MC TO LINC_LEVEL_DCC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0	1.638	1.638	0.200	0	1.438

⊥	MM	PERP2 - PLNC_TR_FP TO LINC_LEVEL_DCC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0	0.676	0.676	0.200	0	0.476



Transition Ring points Main Coupler end

#	MM	LOC11 - PNT_TR_MC_PLN_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.156	-0.156	1.000	1.000	0.000
PR	115.000	115.001	0.001	1.000	1.000	0.000
PA	101.250	101.236	-0.014	1.000	1.000	0.000

#	MM	LOC12 - PNT_TR_MC_PLN_3				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.126	-0.126	1.000	1.000	0.000
PR	115.000	114.988	-0.012	1.000	1.000	0.000
PA	146.250	146.239	-0.011	1.000	1.000	0.000

#	MM	LOC13 - PNT_TR_MC_PLN_5				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.609	0.609	1.000	1.000	0.000
PR	115.000	114.981	-0.019	1.000	1.000	0.000
PA	-168.750	-168.755	-0.005	1.000	1.000	0.000

⌗	MM	LOC14 - PNT_TR_MC_PLN_7				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.229	0.229	1.000	1.000	0.000
PR	115.000	114.986	-0.014	1.000	1.000	0.000
PA	-123.750	-123.748	0.002	1.000	1.000	0.000

⌗	MM	LOC15 - PNT_TR_MC_PLN_9				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-1.030	-1.029	1.000	1.000	0.029
PR	115.000	114.998	-0.002	1.000	1.000	0.000
PA	-78.750	-78.745	0.005	1.000	1.000	0.000

⌗	MM	LOC16 - PNT_TR_MC_PLN_11				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.310	-0.310	1.000	1.000	0.000
PR	115.000	115.012	0.012	1.000	1.000	0.000
PA	-33.750	-33.747	0.003	1.000	1.000	0.000

⌗	MM	LOC17 - PNT_TR_MC_PLN_13				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.492	0.492	1.000	1.000	0.000
PR	115.000	115.019	0.019	1.000	1.000	0.000
PA	11.250	11.246	-0.004	1.000	1.000	0.000

⌗	MM	LOC18 - PNT_TR_MC_PLN_15				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.292	0.292	1.000	1.000	0.000
PR	115.000	115.013	0.013	1.000	1.000	0.000
PA	56.250	56.239	-0.011	1.000	1.000	0.000

Transition Ring points Field Probe end

⌗	MM	LOC19 - PNT_TR_FP_PLN_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1012.291	-4.791	1.000	1.000	3.791
PR	104.000	104.012	0.012	1.000	1.000	0.000
PA	101.250	101.237	-0.013	1.000	1.000	0.000

⌗	MM	LOC20 - PNT_TR_FP_PLN_3				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1012.094	-4.594	1.000	1.000	3.594
PR	104.000	103.997	-0.003	1.000	1.000	0.000
PA	146.250	146.236	-0.014	1.000	1.000	0.000

⌗	MM	LOC21 - PNT_TR_FP_PLN_5				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1011.799	-4.299	1.000	1.000	3.299
PR	104.000	103.985	-0.015	1.000	1.000	0.000
PA	-168.750	-168.763	-0.013	1.000	1.000	0.000

⌗	MM	LOC22 - PNT_TR_FP_PLN_7					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1011.615	-4.115	1.000	1.000	3.115	
PR	104.000	103.986	-0.014	1.000	1.000	0.000	
PA	-123.750	-123.752	-0.002	1.000	1.000	0.000	
⌗	MM	LOC23 - PNT_TR_FP_PLN_9					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1011.967	-4.467	1.000	1.000	3.467	
PR	104.000	103.781	-0.219	1.000	1.000	0.000	
PA	-78.750	-78.705	0.045	1.000	1.000	0.000	
⌗	MM	LOC24 - PNT_TR_FP_PLN_11					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.135	-4.635	1.000	1.000	3.635	
PR	104.000	103.913	-0.087	1.000	1.000	0.000	
PA	-33.750	-33.636	0.114	1.000	1.000	0.000	
⌗	MM	LOC25 - PNT_TR_FP_PLN_13					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.123	-4.623	1.000	1.000	3.623	
PR	104.000	104.090	0.090	1.000	1.000	0.000	
PA	11.250	11.364	0.114	1.000	1.000	0.000	
⌗	MM	LOC26 - PNT_TR_FP_PLN_15					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.044	-4.544	1.000	1.000	3.544	
PR	104.000	104.214	0.214	1.000	1.000	0.000	
PA	56.250	56.293	0.043	1.000	1.000	0.000	

Distances between matching points on Transition Rings

↔	MM	DIST_PA_11.25 - PNT_TR_MC_PLN_13 TO PNT_TR_FP_PLN_13 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.615	5.115	1.000	1.000	4.115	
↔	MM	DIST_PA_56.25 - PNT_TR_MC_PLN_15 TO PNT_TR_FP_PLN_15 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.336	4.836	1.000	1.000	3.836	
↔	MM	DIST_PA_101.25 - PNT_TR_MC_PLN_1 TO PNT_TR_FP_PLN_1 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.136	4.636	1.000	1.000	3.636	
↔	MM	DIST_PA_146.25 - PNT_TR_MC_PLN_3 TO PNT_TR_FP_PLN_3 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1011.967	4.467	1.000	1.000	3.467	
↔	MM	DIST_PA_-168.75 - PNT_TR_MC_PLN_5 TO PNT_TR_FP_PLN_5 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.407	4.907	1.000	1.000	3.907	

↔	MM	DIST_PA_-123.75 - PNT_TR_MC_PLN_7 TO PNT_TR_FP_PLN_7 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1011.844	4.344	1.000	1.000	3.344	

↔	MM	DIST_PA_-78.75 - PNT_TR_MC_PLN_9 TO PNT_TR_FP_PLN_9 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1010.938	3.438	1.000	1.000	2.438	

↔	MM	DIST_PA_-33.75 - PNT_TR_MC_PLN_11 TO PNT_TR_FP_PLN_11 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1011.824	4.324	1.000	1.000	3.324	

↔	MM	DIST_BETWEEN_PLANES - PLNC_TR_MC TO PLNC_TR_FP (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.008	4.508	1.000	1.000	3.508	

LOCATIONS OF CONSTRUCTED CIRCLES
ON 18 HALF CELLS

⌖	MM	LOC_CC3 - CIRC_CAV_1_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.140	-0.140	0.200	0.200	0.000	
Y	0.000	-974.563	-974.563	2000.000	2000.000	0.000	
Z	0.000	-0.048	-0.048	0.200	0.200	0.000	
D	210.300	210.948	0.648	0.200	0.200	0.448	
RN	0.000	0.232	0.232	0.200	0.000	0.032	

⌖	MM	LOC_CC4 - CIRC_CAV_1_2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.349	-0.349	0.200	0.200	0.149	
Y	0.000	-964.298	-964.298	2000.000	2000.000	0.000	
Z	0.000	0.086	0.086	0.200	0.200	0.000	
D	210.300	211.266	0.966	0.200	0.200	0.766	
RN	0.000	0.125	0.125	0.200	0.000	0.000	

⌖	MM	LOC_CC5 - CIRC_CAV_2_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.190	-0.190	0.200	0.200	0.000	
Y	0.000	-859.069	-859.069	2000.000	2000.000	0.000	
Z	0.000	0.000	0.000	0.200	0.200	0.000	
D	210.300	211.170	0.870	0.200	0.200	0.670	
RN	0.000	0.330	0.330	0.200	0.000	0.130	

⊞	MM	LOC_CC6 - CIRC_CAV_2_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.272	-0.272	0.200	0.200	0.072
Y	0.000	-848.701	-848.701	2000.000	2000.000	0.000
Z	0.000	-0.131	-0.131	0.200	0.200	0.000
D	210.300	211.280	0.980	0.200	0.200	0.780
RN	0.000	0.227	0.227	0.200	0.000	0.027

⊞	MM	LOC_CC7 - CIRC_CAV_3_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.041	-0.041	0.200	0.200	0.000
Y	0.000	-742.726	-742.726	2000.000	2000.000	0.000
Z	0.000	-0.282	-0.282	0.200	0.200	0.082
D	210.300	211.212	0.912	0.200	0.200	0.712
RN	0.000	0.343	0.343	0.200	0.000	0.143

⊞	MM	LOC_CC8 - CIRC_CAV_3_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.207	-0.207	0.200	0.200	0.007
Y	0.000	-732.403	-732.403	2000.000	2000.000	0.000
Z	0.000	-0.246	-0.246	0.200	0.200	0.046
D	210.300	211.207	0.907	0.200	0.200	0.707
RN	0.000	0.334	0.334	0.200	0.000	0.134

⊞	MM	LOC_CC9 - CIRC_CAV_4_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.165	0.165	0.200	0.200	0.000
Y	0.000	-626.224	-626.224	2000.000	2000.000	0.000
Z	0.000	-0.301	-0.301	0.200	0.200	0.101
D	210.300	211.326	1.026	0.200	0.200	0.826
RN	0.000	0.259	0.259	0.200	0.000	0.059

⊞	MM	LOC_CC10 - CIRC_CAV_4_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.406	0.406	0.200	0.200	0.206
Y	0.000	-616.115	-616.115	2000.000	2000.000	0.000
Z	0.000	-0.354	-0.354	0.200	0.200	0.154
D	210.300	211.264	0.964	0.200	0.200	0.764
RN	0.000	0.188	0.188	0.200	0.000	0.000

⊞	MM	LOC_CC11 - CIRC_CAV_5_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.363	0.363	0.200	0.200	0.163
Y	0.000	-509.792	-509.792	2000.000	2000.000	0.000
Z	0.000	-0.542	-0.542	0.200	0.200	0.342
D	210.300	211.367	1.067	0.200	0.200	0.867
RN	0.000	0.266	0.266	0.200	0.000	0.066

⊞	MM	LOC_CC12 - CIRC_CAV_5_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.324	0.324	0.200	0.200	0.124
Y	0.000	-499.697	-499.697	2000.000	2000.000	0.000
Z	0.000	-0.550	-0.550	0.200	0.200	0.350
D	210.300	211.228	0.928	0.200	0.200	0.728
RN	0.000	0.322	0.322	0.200	0.000	0.122

⊞	MM	LOC_CC13 - CIRC_CAV_6_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.466	0.466	0.200	0.200	0.266
Y	0.000	-393.757	-393.757	2000.000	2000.000	0.000
Z	0.000	-0.628	-0.628	0.200	0.200	0.428
D	210.300	211.252	0.952	0.200	0.200	0.752
RN	0.000	0.282	0.282	0.200	0.000	0.082

⊞	MM	LOC_CC14 - CIRC_CAV_6_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.351	0.351	0.200	0.200	0.151
Y	0.000	-383.973	-383.973	2000.000	2000.000	0.000
Z	0.000	-0.546	-0.546	0.200	0.200	0.346
D	210.300	211.268	0.968	0.200	0.200	0.768
RN	0.000	0.328	0.328	0.200	0.000	0.128

⊞	MM	LOC_CC15 - CIRC_CAV_7_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.550	0.550	0.200	0.200	0.350
Y	0.000	-277.244	-277.244	2000.000	2000.000	0.000
Z	0.000	-0.392	-0.392	0.200	0.200	0.192
D	210.300	211.295	0.995	0.200	0.200	0.795
RN	0.000	0.276	0.276	0.200	0.000	0.076

⊞	MM	LOC_CC16 - CIRC_CAV_7_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.432	0.432	0.200	0.200	0.232
Y	0.000	-268.052	-268.052	2000.000	2000.000	0.000
Z	0.000	-0.405	-0.405	0.200	0.200	0.205
D	210.300	211.292	0.992	0.200	0.200	0.792
RN	0.000	0.349	0.349	0.200	0.000	0.149

⊞	MM	LOC_CC17 - CIRC_CAV_8_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.673	0.673	0.200	0.200	0.473
Y	0.000	-161.572	-161.572	2000.000	2000.000	0.000
Z	0.000	-0.137	-0.137	0.200	0.200	0.000
D	210.300	211.223	0.923	0.200	0.200	0.723
RN	0.000	0.244	0.244	0.200	0.000	0.044

⌗	MM	LOC_CC18 - CIRC_CAV_8_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.540	0.540	0.200	0.200	0.340
Y	0.000	-151.033	-151.033	2000.000	2000.000	0.000
Z	0.000	-0.106	-0.106	0.200	0.200	0.000
D	210.300	211.216	0.916	0.200	0.200	0.716
RN	0.000	0.301	0.301	0.200	0.000	0.101

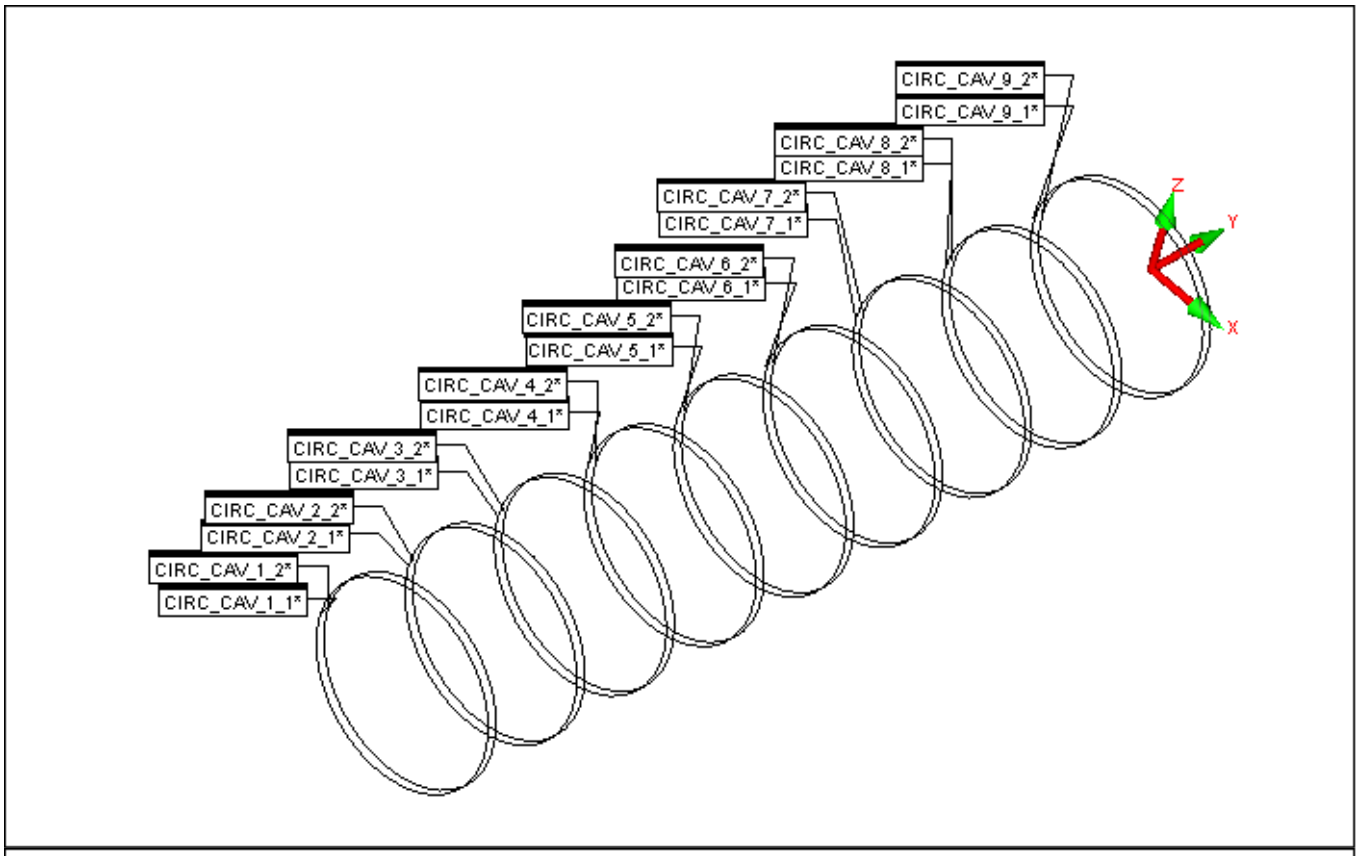
⌗	MM	LOC_CC19 - CIRC_CAV_9_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.370	0.370	0.200	0.200	0.170
Y	0.000	-45.099	-45.099	2000.000	2000.000	0.000
Z	0.000	-0.010	-0.010	0.200	0.200	0.000
D	210.300	211.260	0.960	0.200	0.200	0.760
RN	0.000	0.205	0.205	0.200	0.000	0.005

⌗	MM	LOC_CC20 - CIRC_CAV_9_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.243	0.243	0.200	0.200	0.043
Y	0.000	-34.817	-34.817	2000.000	2000.000	0.000
Z	0.000	-0.202	-0.202	0.200	0.200	0.002
D	210.300	210.780	0.480	0.200	0.200	0.280
RN	0.000	0.395	0.395	0.200	0.000	0.195

Location of End Flanges

⌗	MM	LOC_23 - CIR_END_FLANGE_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.354	-0.354	0.200	0.200	0.154
Y	0.000	115.679	115.679	2000.000	2000.000	0.000
Z	0.000	-0.163	-0.163	0.200	0.200	0.000
D	140.000	140.198	0.198	0.300	0.300	0.000
RN	0.000	0.021	0.021	0.200	0.000	0.000

⌗	MM	LOC_24 - CIR_END_FLANGE_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.028	-0.028	0.200	0.200	0.000
Y	-1153.884	-1124.826	29.058	2000.000	2000.000	0.000
Z	0.000	-0.165	-0.165	0.200	0.200	0.000
D	140.000	139.925	-0.075	0.300	0.300	0.000
RN	0.000	0.030	0.030	0.200	0.000	0.000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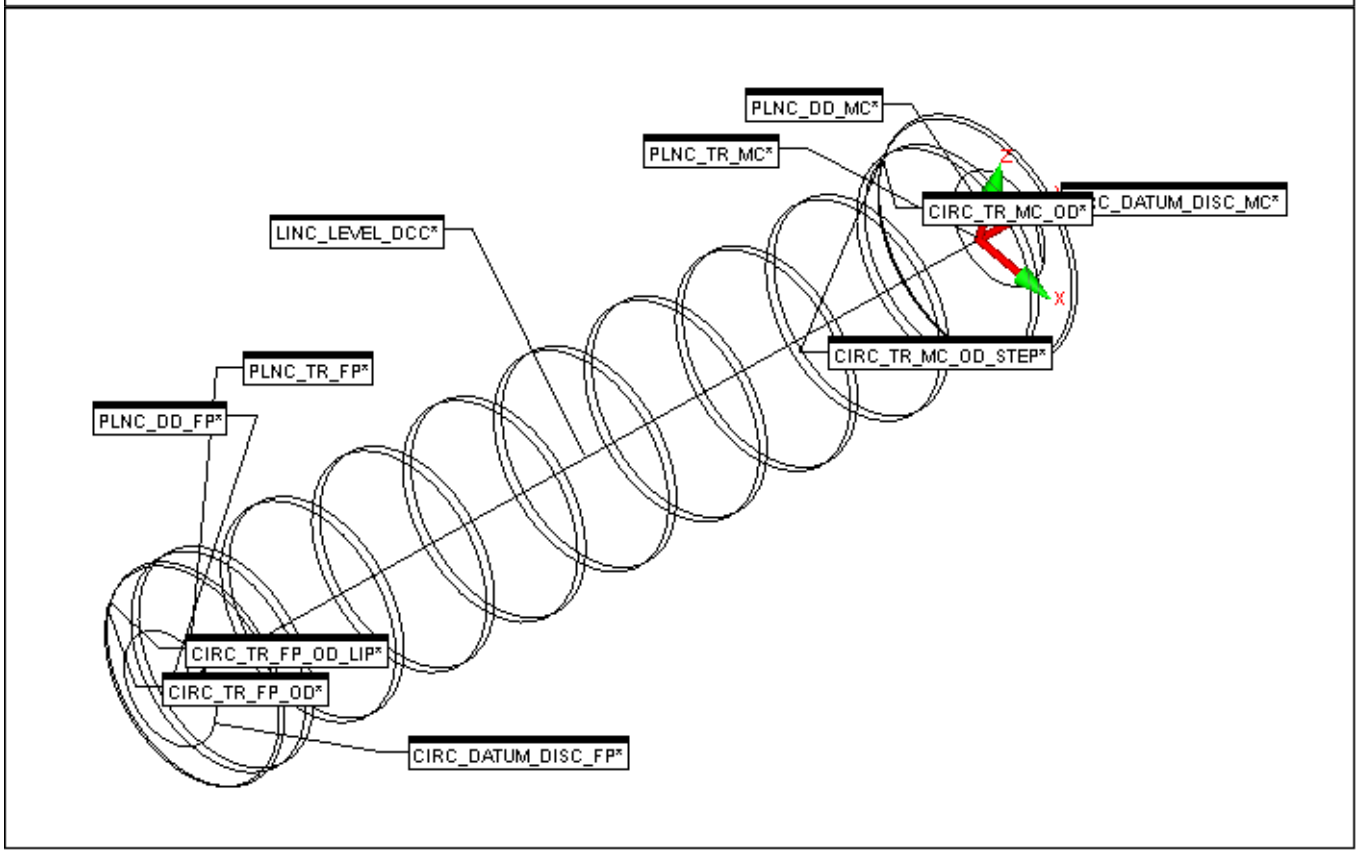
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