FERMILAB Technical Division

QUALITY CONTROL REPORT

DATE=9/23/2009 TIME=11:46:05 AM

PART NAME : PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR

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' : TB9ACC013
' ' : 0909230830

Datum Discs

MM	DIM LOC1= LOCATION OF CIRCLE 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	26.701	1.701	10.000	10.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.914	-0.086	0.050	0.050	0.036
RN	0.000	0.013	0.013	0.050	0.000	0.000

MM	DIM LOC2= LOCATION OF CIRCLE 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	-1027.574	4.810	10.000	10.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.940	-0.060	0.050	0.050	0.010
RN	0.000	0.016	0.016	0.050	0.000	0.000

Datum Disc planes

MM	DIM LOC3= LOCATION OF PLANE PLNC_DD_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	27.000	28.800	1.800	10.000	10.000	0.000
FL	0.000	0.018	0.018	0.100	0.000	0.000

MM	DIM LOC4= LOCATION OF PLANE PLNC_DD_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1034.384	-1029.749	4.635	10.000	10.000	0.000
FL	0.000	0.036	0.036	0.100	0.000	0.000

Distance between Datum Disc planes

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:05 AM

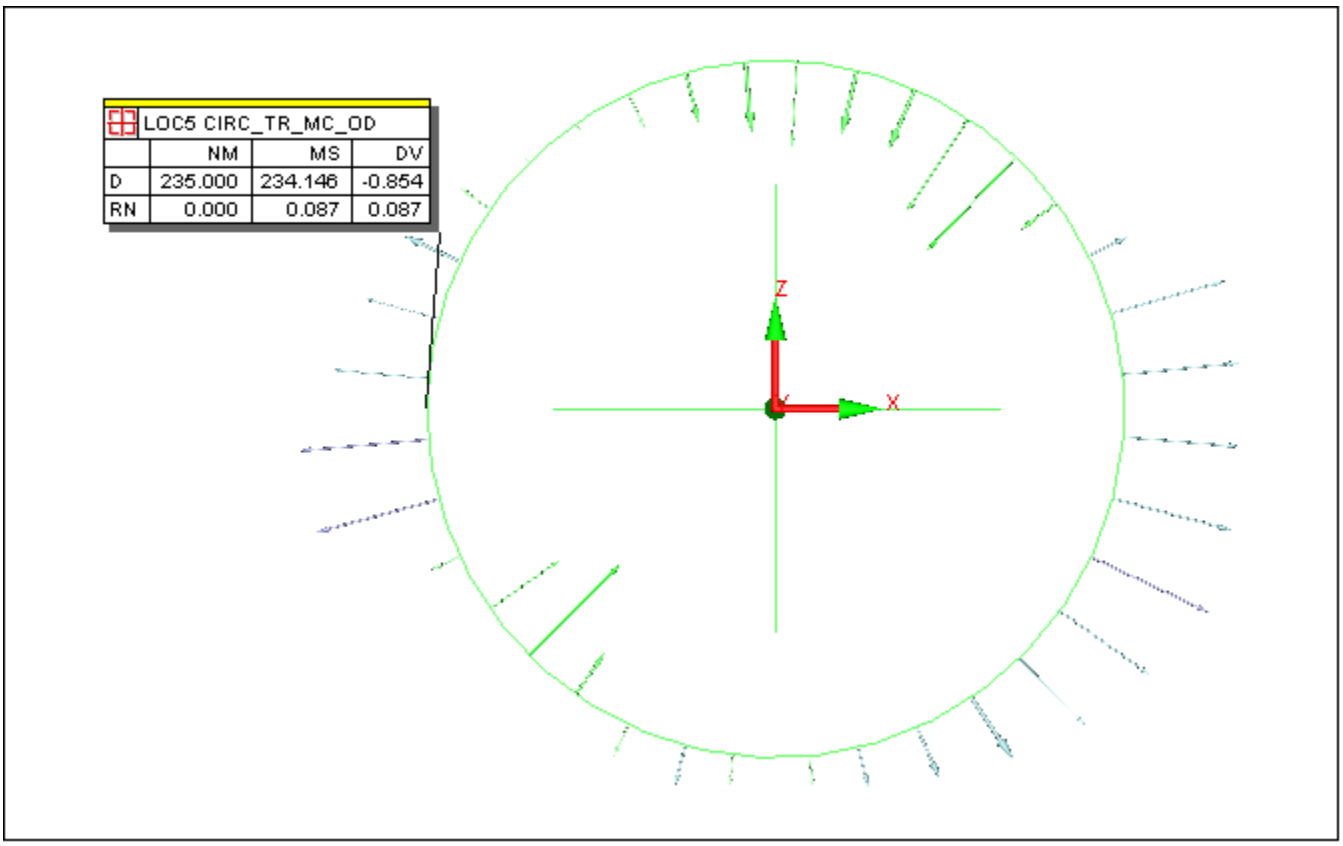
MM	DIM DIST1= 2D DISTANCE FROM PLANE PLNC_DD_FP TO PLANE PLNC_DD_MC PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1061.060	1058.550	-2.510	0.200	0.200	2.310	

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:06 AM
Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D.

MM	DIM LOC5= LOCATION OF CIRCLE CIRC_TR_MC_OD					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.111	0.111	0.250	0.250	0.000
Z	0.000	-0.053	-0.053	0.250	0.250	0.000
D	235.000	234.146	-0.854	0.250	0.250	0.604
RN	0.000	0.087	0.087	0.250	0.000	0.000

MM	DIM RND1= ROUNDNESS OF CIRCLE CIRC_TR_MC_OD					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.087	0.087	0.250	0.000	0.000

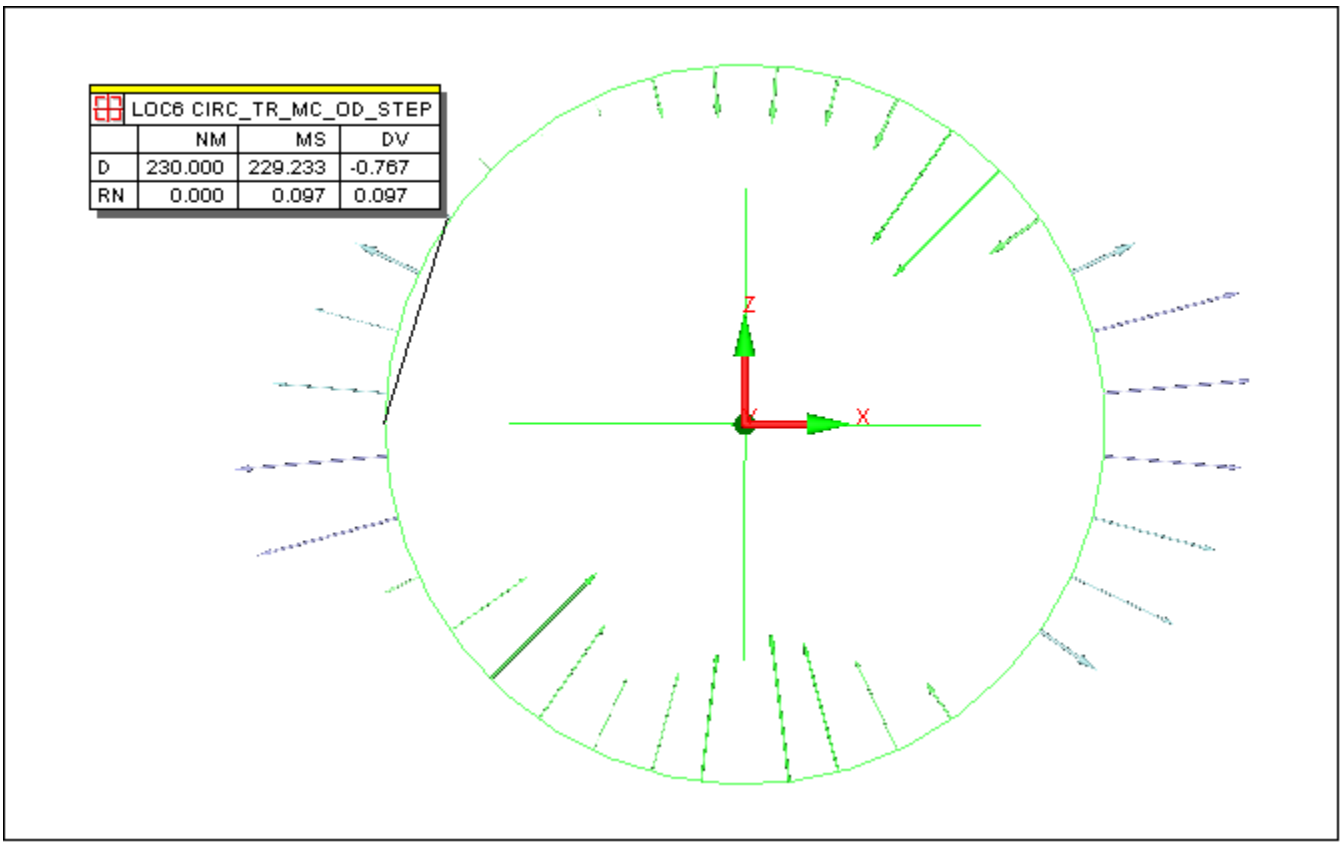


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D. x1000

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:06 AM
Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step

MM	DIM LOC6= LOCATION OF CIRCLE CIRC_TR_MC_OD_STEP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.107	0.107	0.250	0.250	0.000
Z	0.000	-0.090	-0.090	0.250	0.250	0.000
D	230.000	229.233	-0.767	0.000	0.250	0.517
RN	0.000	0.097	0.097	0.250	0.000	0.000

MM	DIM RND2= ROUNDNESS OF CIRCLE CIRC_TR_MC_OD_STEP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.097	0.097	0.250	0.000	0.000

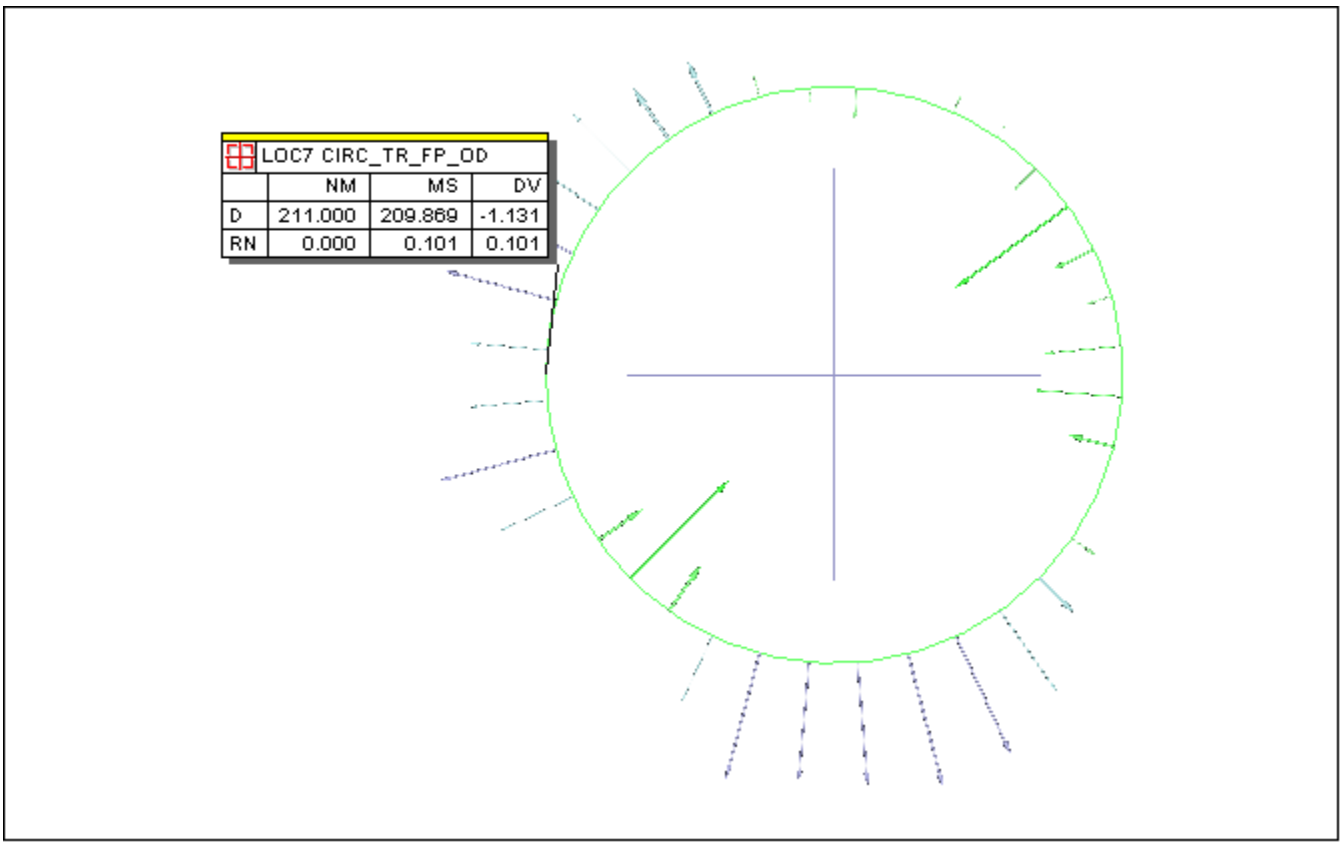


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step x1000

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:06 AM
Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D.

MM	DIM LOC7= LOCATION OF CIRCLE CIRC_TR_FP_OD					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.022	0.022	0.250	0.250	0.000
Z	0.000	-0.056	-0.056	0.250	0.250	0.000
D	211.000	209.869	-1.131	0.250	0.250	0.881
RN	0.000	0.101	0.101	0.250	0.000	0.000

MM	DIM RND3= ROUNDNESS OF CIRCLE CIRC_TR_FP_OD					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.101	0.101	0.250	0.000	0.000

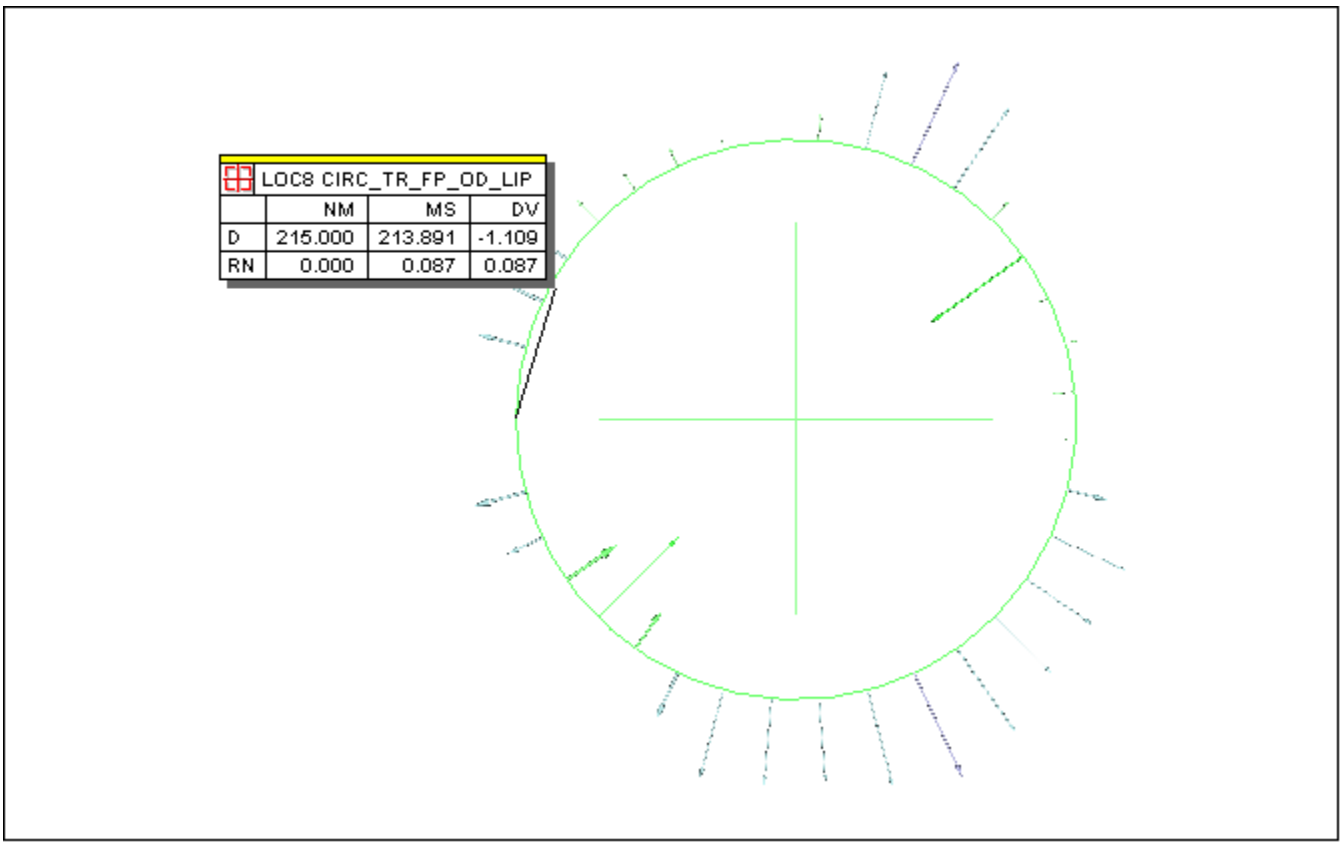


Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D. x1000

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:06 AM
Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
215.0 O.D. lip

MM	DIM LOC8= LOCATION OF CIRCLE CIRC_TR_FP_OD_LIP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.010	-0.010	0.250	0.250	0.000
Z	0.000	-0.084	-0.084	0.250	0.250	0.000
D	215.000	213.891	-1.109	0.250	0.250	0.859
RN	0.000	0.087	0.087	0.250	0.000	0.000

MM	DIM RND4= ROUNDNESS OF CIRCLE CIRC_TR_FP_OD_LIP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.087	0.087	0.250	0.000	0.000



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

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:06 AM

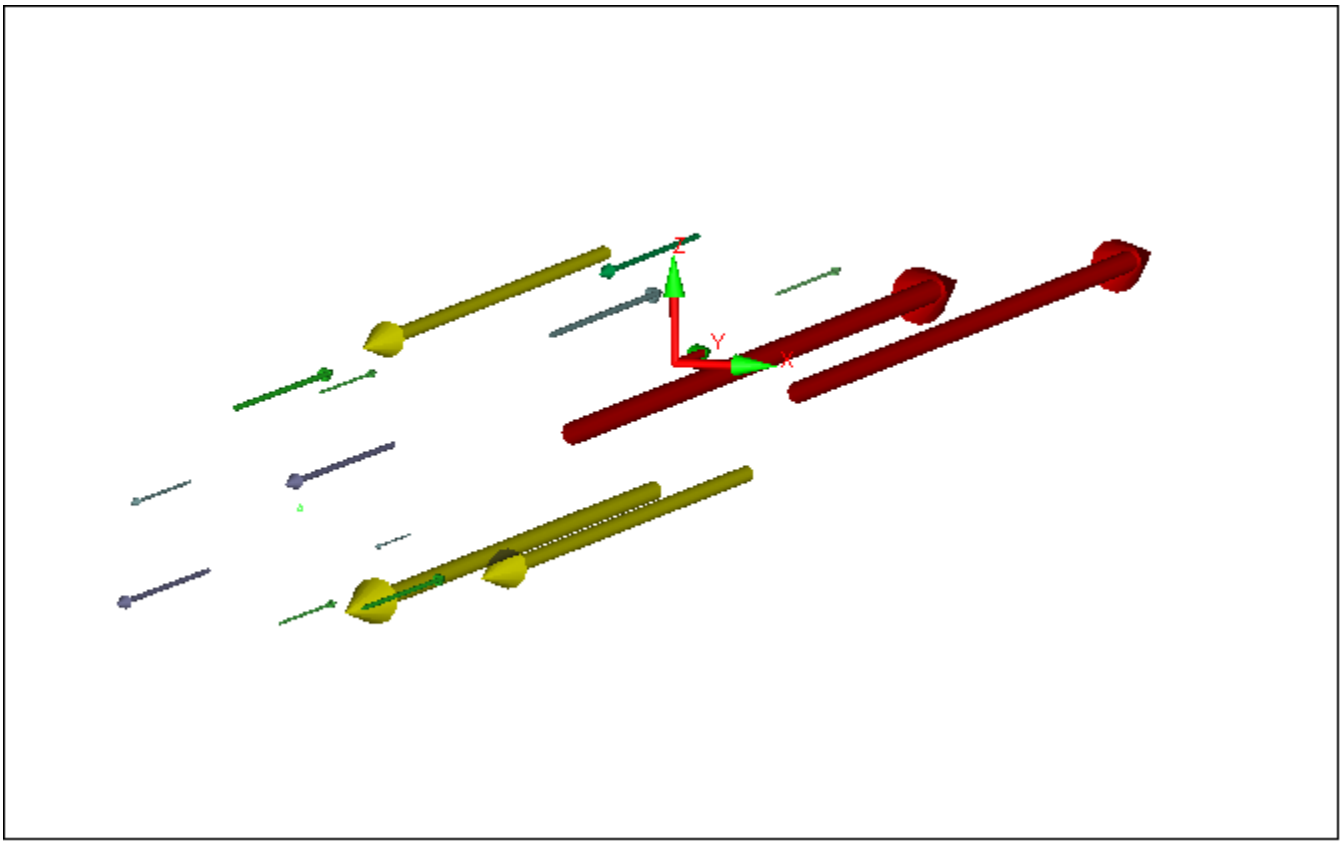
Transition Ring planes

MM	DIM LOC9= LOCATION OF PLANE 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	0.374	0.374	0.200	0.000	0.174

MM	DIM LOC10= LOCATION OF PLANE PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.307	4.193	10.000	10.000	0.000
FL	0.000	0.110	0.110	0.200	0.000	0.000

MM	DIM FLAT3= FLATNESS OF PLANE PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.374	0.374	0.250	0.000	0.124

MM	DIM FLAT4= FLATNESS OF PLANE PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.110	0.110	0.250	0.000	0.000



Flatness of Transition Rings
x5000

PART NUMBER=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DATE=9/23/2009 TIME=11:46:06 AM
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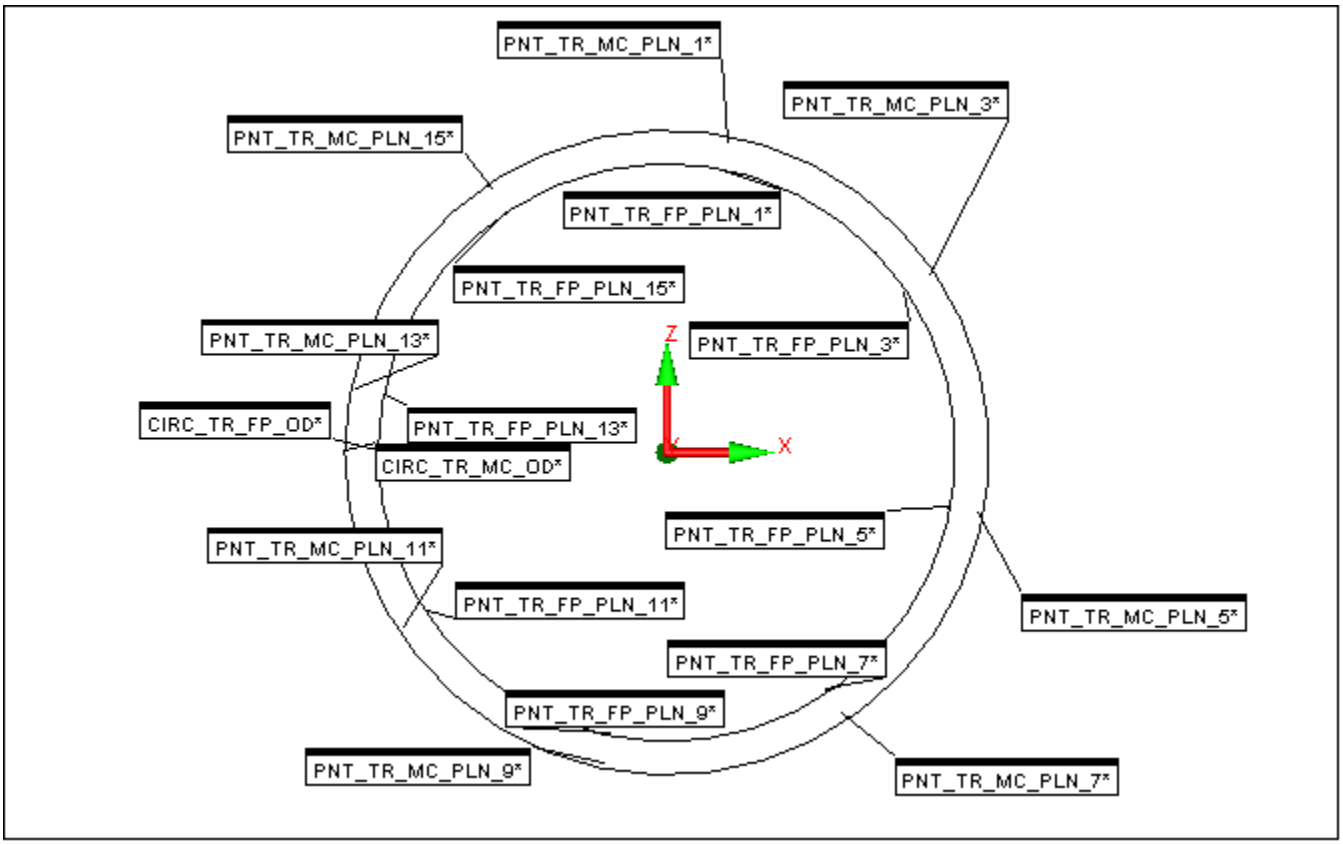

Transition Ring points Main Coupler end

MM	DIM LOC11= LOCATION OF POINT PNT_TR_MC_PLN_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.311	-0.311	1.000	1.000	0.000
PR	115.000	114.962	-0.038	1.000	1.000	0.000
PA	101.250	101.257	0.007	1.000	1.000	0.000

MM	DIM LOC12= LOCATION OF POINT PNT_TR_MC_PLN_3					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.090	0.090	1.000	1.000	0.000
PR	115.000	114.975	-0.025	1.000	1.000	0.000
PA	146.250	146.272	0.022	1.000	1.000	0.000

MM	DIM LOC13= LOCATION OF POINT PNT_TR_MC_PLN_5					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.527	0.527	1.000	1.000	0.000
PR	115.000	115.008	0.008	1.000	1.000	0.000
PA	-168.750	-168.724	0.026	1.000	1.000	0.000

MM	DIM LOC14= LOCATION OF POINT PNT_TR_MC_PLN_7					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.277	0.278	1.000	1.000	0.000
PR	115.000	115.034	0.034	1.000	1.000	0.000
PA	-123.750	-123.726	0.024	1.000	1.000	0.000

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MM	DIM LOC15= LOCATION OF POINT PNT_TR_MC_PLN_9					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.092	0.093	1.000	1.000	0.000
PR	115.000	115.051	0.051	1.000	1.000	0.000
PA	-78.750	-78.749	0.001	1.000	1.000	0.000

MM	DIM LOC16= LOCATION OF POINT PNT_TR_MC_PLN_11					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.153	0.153	1.000	1.000	0.000
PR	115.000	115.022	0.022	1.000	1.000	0.000
PA	-33.750	-33.757	-0.007	1.000	1.000	0.000

MM	DIM LOC17= LOCATION OF POINT PNT_TR_MC_PLN_13					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.276	-0.276	1.000	1.000	0.000
PR	115.000	115.003	0.003	1.000	1.000	0.000
PA	11.250	11.231	-0.019	1.000	1.000	0.000

MM	DIM LOC18= LOCATION OF POINT PNT_TR_MC_PLN_15					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.549	-0.550	1.000	1.000	0.000
PR	115.000	114.966	-0.034	1.000	1.000	0.000
PA	56.250	56.237	-0.013	1.000	1.000	0.000

Transition Ring points Field Probe end

MM	DIM LOC19= LOCATION OF POINT PNT_TR_FP_PLN_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1002.989	4.511	1.000	1.000	3.511
PR	104.000	103.957	-0.043	1.000	1.000	0.000
PA	101.250	101.260	0.010	1.000	1.000	0.000

MM	DIM LOC20= LOCATION OF POINT PNT_TR_FP_PLN_3					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.222	4.278	1.000	1.000	3.278
PR	104.000	103.988	-0.012	1.000	1.000	0.000
PA	146.250	146.273	0.023	1.000	1.000	0.000

MM	DIM LOC21= LOCATION OF POINT PNT_TR_FP_PLN_5					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.413	4.087	1.000	1.000	3.087
PR	104.000	104.015	0.015	1.000	1.000	0.000
PA	-168.750	-168.722	0.028	1.000	1.000	0.000

MM	DIM LOC22= LOCATION OF POINT PNT_TR_FP_PLN_7					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.528	3.972	1.000	1.000	2.972
PR	104.000	104.028	0.028	1.000	1.000	0.000
PA	-123.750	-123.732	0.018	1.000	1.000	0.000

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MM DIM LOC23= LOCATION OF POINT PNT_TR_FP_PLN_9

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.565	3.935	1.000	1.000	2.935
PR	104.000	104.080	0.080	1.000	1.000	0.000
PA	-78.750	-78.736	0.014	1.000	1.000	0.000

MM DIM LOC24= LOCATION OF POINT PNT_TR_FP_PLN_11

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.498	4.002	1.000	1.000	3.002
PR	104.000	104.067	0.067	1.000	1.000	0.000
PA	-33.750	-33.759	-0.009	1.000	1.000	0.000

MM DIM LOC25= LOCATION OF POINT PNT_TR_FP_PLN_13

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1003.251	4.249	1.000	1.000	3.249
PR	104.000	104.021	0.022	1.000	1.000	0.000
PA	11.250	11.209	-0.041	1.000	1.000	0.000

MM DIM LOC26= LOCATION OF POINT PNT_TR_FP_PLN_15

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1002.990	4.510	1.000	1.000	3.510
PR	104.000	103.950	-0.049	1.000	1.000	0.000
PA	56.250	56.219	-0.031	1.000	1.000	0.000

Distances between matching points on Transition Rings

MM DIM DIST_PA_11.25= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_13 TO POINT PNT_TR_FP_PLN_13 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1002.976	-4.524	1.000	1.000	3.524

MM DIM DIST_PA_56.25= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_15 TO POINT PNT_TR_FP_PLN_15 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1002.440	-5.060	1.000	1.000	4.060

MM DIM DIST_PA_101.25= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_1 TO POINT PNT_TR_FP_PLN_1 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1002.678	-4.822	1.000	1.000	3.822

MM DIM DIST_PA_146.25= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_3 TO POINT PNT_TR_FP_PLN_3 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1003.312	-4.188	1.000	1.000	3.188

MM DIM DIST_PA_-168.75= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_5 TO POINT PNT_TR_FP_PLN_5 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1003.940	-3.560	1.000	1.000	2.560

MM DIM DIST_PA_-123.75= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_7 TO POINT PNT_TR_FP_PLN_7 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1003.805	-3.695	1.000	1.000	2.695

MM DIM DIST_PA_-78.75= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_9 TO POINT PNT_TR_FP_PLN_9 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1003.657	-3.843	1.000	1.000	2.843

MM DIM DIST_PA_-33.75= 2D DISTANCE FROM POINT PNT_TR_MC_PLN_11 TO POINT PNT_TR_FP_PLN_11 PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1003.651	-3.849	1.000	1.000	2.849

MM DIM DIST_BETWEEN_PLANES= 2D DISTANCE FROM PLANE PLNC_TR_MC TO PLANE PLNC_TR_FP PAR TO YAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1007.500	1003.307	-4.193	1.000	1.000	3.193

LOCATIONS OF CONSTRUCTED CIRCLES
ON 18 HALF CELLS

MM DIM LOC_CC3= LOCATION OF CIRCLE CIRC_CAV_1_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.053	-0.053	0.200	0.200	0.000
Y	0.000	-966.390	-966.390	2000.000	2000.000	0.000
Z	0.000	0.009	0.009	0.200	0.200	0.000
D	210.300	210.693	0.393	0.200	0.200	0.193
RN	0.000	0.061	0.061	0.200	0.000	0.000

MM DIM LOC_CC4= LOCATION OF CIRCLE CIRC_CAV_1_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.085	-0.085	0.200	0.200	0.000
Y	0.000	-955.016	-955.016	2000.000	2000.000	0.000
Z	0.000	-0.022	-0.022	0.200	0.200	0.000
D	210.300	210.533	0.233	0.200	0.200	0.033
RN	0.000	0.052	0.052	0.200	0.000	0.000

MM DIM LOC_CC5= LOCATION OF CIRCLE CIRC_CAV_2_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.324	-0.324	0.200	0.200	0.124
Y	0.000	-852.520	-852.520	2000.000	2000.000	0.000
Z	0.000	-0.219	-0.219	0.200	0.200	0.019
D	210.300	210.618	0.318	0.200	0.200	0.118
RN	0.000	0.221	0.221	0.200	0.000	0.021

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MM DIM LOC_CC6= LOCATION OF CIRCLE CIRC_CAV_2_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.323	-0.323	0.200	0.200	0.123
Y	0.000	-839.850	-839.850	2000.000	2000.000	0.000
Z	0.000	-0.228	-0.228	0.200	0.200	0.028
D	210.300	210.531	0.231	0.200	0.200	0.031
RN	0.000	0.172	0.172	0.200	0.000	0.000

MM DIM LOC_CC7= LOCATION OF CIRCLE CIRC_CAV_3_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.392	-0.392	0.200	0.200	0.192
Y	0.000	-736.276	-736.276	2000.000	2000.000	0.000
Z	0.000	-0.375	-0.375	0.200	0.200	0.175
D	210.300	210.634	0.334	0.200	0.200	0.134
RN	0.000	0.172	0.172	0.200	0.000	0.000

MM DIM LOC_CC8= LOCATION OF CIRCLE CIRC_CAV_3_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.356	-0.356	0.200	0.200	0.156
Y	0.000	-723.952	-723.952	2000.000	2000.000	0.000
Z	0.000	-0.423	-0.423	0.200	0.200	0.223
D	210.300	210.515	0.215	0.200	0.200	0.015
RN	0.000	0.185	0.185	0.200	0.000	0.000

MM DIM LOC_CC9= LOCATION OF CIRCLE CIRC_CAV_4_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.190	-0.190	0.200	0.200	0.000
Y	0.000	-621.249	-621.249	2000.000	2000.000	0.000
Z	0.000	-0.398	-0.398	0.200	0.200	0.198
D	210.300	210.651	0.351	0.200	0.200	0.151
RN	0.000	0.135	0.135	0.200	0.000	0.000

MM DIM LOC_CC10= LOCATION OF CIRCLE CIRC_CAV_4_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.174	-0.174	0.200	0.200	0.000
Y	0.000	-609.610	-609.610	2000.000	2000.000	0.000
Z	0.000	-0.412	-0.412	0.200	0.200	0.212
D	210.300	210.516	0.216	0.200	0.200	0.016
RN	0.000	0.197	0.197	0.200	0.000	0.000

MM DIM LOC_CC11= LOCATION OF CIRCLE CIRC_CAV_5_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.198	-0.198	0.200	0.200	0.000
Y	0.000	-506.141	-506.141	2000.000	2000.000	0.000
Z	0.000	-0.320	-0.320	0.200	0.200	0.120
D	210.300	210.586	0.286	0.200	0.200	0.086
RN	0.000	0.164	0.164	0.200	0.000	0.000

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MM DIM LOC_CC12= LOCATION OF CIRCLE CIRC_CAV_5_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.178	-0.178	0.200	0.200	0.000
Y	0.000	-493.607	-493.607	2000.000	2000.000	0.000
Z	0.000	-0.299	-0.299	0.200	0.200	0.099
D	210.300	210.521	0.221	0.200	0.200	0.021
RN	0.000	0.169	0.169	0.200	0.000	0.000

MM DIM LOC_CC13= LOCATION OF CIRCLE CIRC_CAV_6_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.247	-0.247	0.200	0.200	0.047
Y	0.000	-391.527	-391.527	2000.000	2000.000	0.000
Z	0.000	-0.262	-0.262	0.200	0.200	0.062
D	210.300	210.597	0.297	0.200	0.200	0.097
RN	0.000	0.221	0.221	0.200	0.000	0.021

MM DIM LOC_CC14= LOCATION OF CIRCLE CIRC_CAV_6_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.234	-0.234	0.200	0.200	0.034
Y	0.000	-379.276	-379.276	2000.000	2000.000	0.000
Z	0.000	-0.272	-0.272	0.200	0.200	0.072
D	210.300	210.487	0.187	0.200	0.200	0.000
RN	0.000	0.151	0.151	0.200	0.000	0.000

MM DIM LOC_CC15= LOCATION OF CIRCLE CIRC_CAV_7_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.271	-0.271	0.200	0.200	0.071
Y	0.000	-275.586	-275.586	2000.000	2000.000	0.000
Z	0.000	-0.285	-0.285	0.200	0.200	0.085
D	210.300	210.540	0.240	0.200	0.200	0.040
RN	0.000	0.278	0.278	0.200	0.000	0.078

MM DIM LOC_CC16= LOCATION OF CIRCLE CIRC_CAV_7_2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.267	-0.267	0.200	0.200	0.067
Y	0.000	-263.133	-263.133	2000.000	2000.000	0.000
Z	0.000	-0.221	-0.221	0.200	0.200	0.021
D	210.300	210.543	0.243	0.200	0.200	0.043
RN	0.000	0.242	0.242	0.200	0.000	0.042

MM DIM LOC_CC17= LOCATION OF CIRCLE CIRC_CAV_8_1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.128	-0.128	0.200	0.200	0.000
Y	0.000	-160.453	-160.453	2000.000	2000.000	0.000
Z	0.000	-0.224	-0.224	0.200	0.200	0.024
D	210.300	210.611	0.311	0.200	0.200	0.111
RN	0.000	0.192	0.192	0.200	0.000	0.000

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MM	DIM LOC_CC18= LOCATION OF CIRCLE CIRC_CAV_8_2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.174	-0.174	0.200	0.200	0.000
Y	0.000	-148.303	-148.303	2000.000	2000.000	0.000
Z	0.000	-0.228	-0.228	0.200	0.200	0.028
D	210.300	210.511	0.211	0.200	0.200	0.011
RN	0.000	0.204	0.204	0.200	0.000	0.004

MM	DIM LOC_CC19= LOCATION OF CIRCLE CIRC_CAV_9_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.086	0.086	0.200	0.200	0.000
Y	0.000	-46.140	-46.140	2000.000	2000.000	0.000
Z	0.000	-0.144	-0.144	0.200	0.200	0.000
D	210.300	210.588	0.288	0.200	0.200	0.088
RN	0.000	0.124	0.124	0.200	0.000	0.000

MM	DIM LOC_CC20= LOCATION OF CIRCLE CIRC_CAV_9_2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.059	0.059	0.200	0.200	0.000
Y	0.000	-34.273	-34.273	2000.000	2000.000	0.000
Z	0.000	-0.123	-0.123	0.200	0.200	0.000
D	210.300	210.609	0.309	0.200	0.200	0.109
RN	0.000	0.148	0.148	0.200	0.000	0.000

Location of End Flanges

MM	DIM LOC_23= LOCATION OF CIRCLE CIR_END_FLANGE_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.200	0.200	0.000
Y	0.000	116.503	116.503	2000.000	2000.000	0.000
Z	0.000	0.165	0.165	0.200	0.200	0.000
D	140.000	140.074	0.074	0.300	0.300	0.000
RN	0.000	0.009	0.009	0.200	0.000	0.000

MM	DIM LOC_24= LOCATION OF CIRCLE CIR_END_FLANGE_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.039	0.039	0.200	0.200	0.000
Y	-1153.884	-1116.075	37.809	2000.000	2000.000	0.000
Z	0.000	0.461	0.461	0.200	0.200	0.261
D	140.000	140.066	0.066	0.300	0.300	0.000
RN	0.000	0.006	0.006	0.200	0.000	0.000

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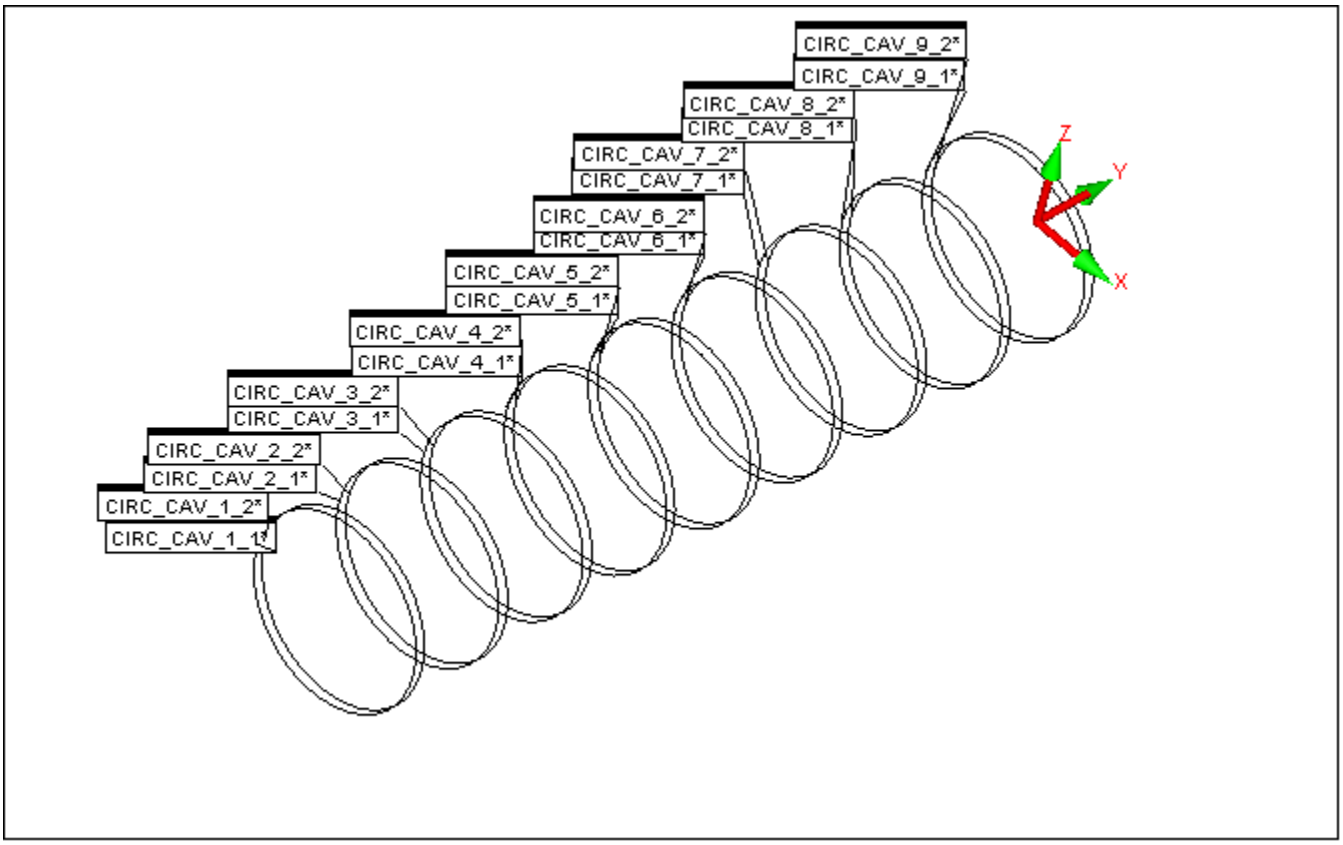

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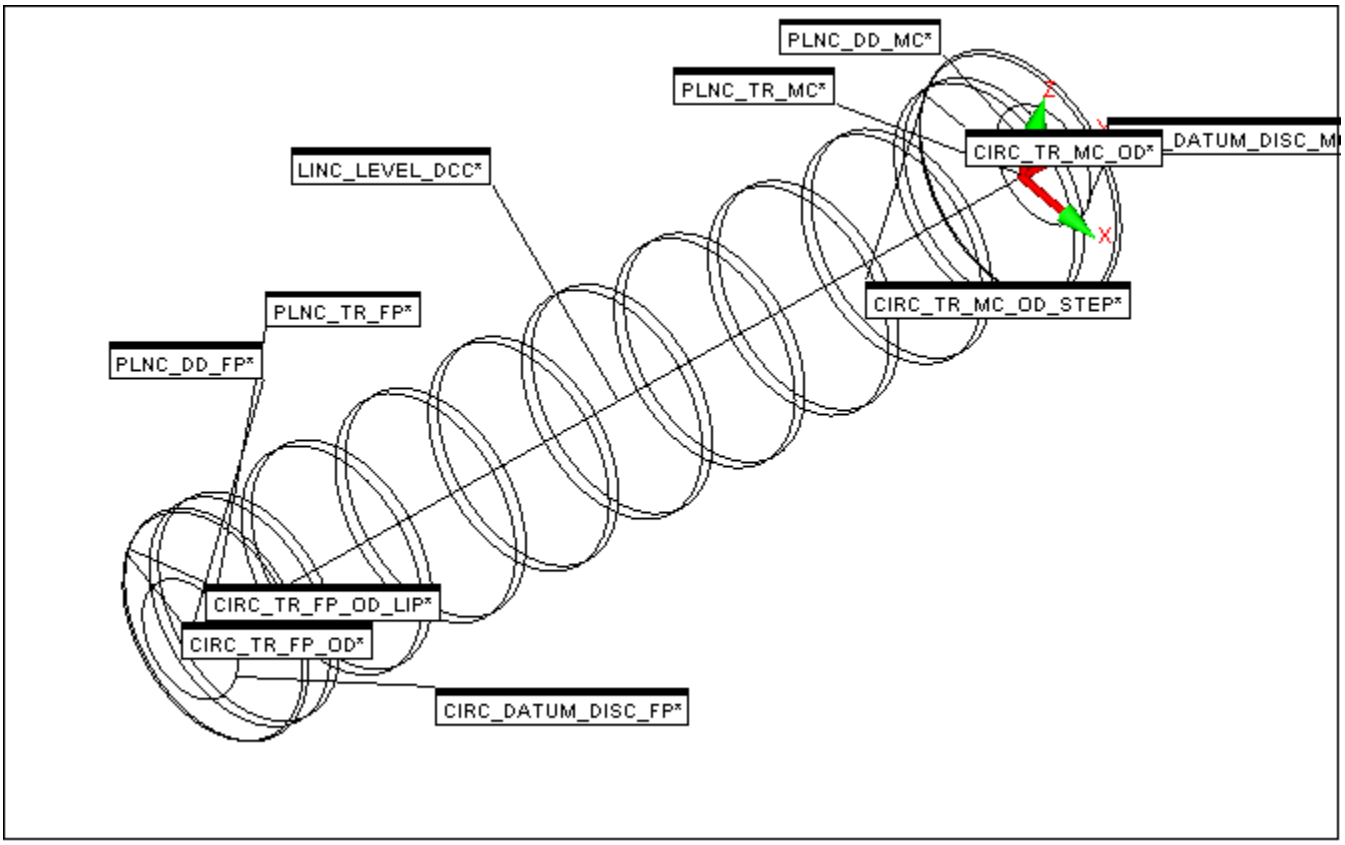

END OF MEASUREMENT FOR
PN=PN440004-n-Trans-Rings-000-TB9ZCC013-v2-IR DWG= SN
=

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