FERMILAB Technical Division

QUALITY CONTROL REPORT

DATE=4/24/2008 TIME=4:42:02 PM

PART NAME : PN440004-n ILC 1p3GHZ RF CAVITY ASSEMBLY 180 v1 TB9ACC015-180 IR

REV NUMBER :

SER NUMBER :

STATS COUNT : 1

440004-n
FNAL 1.3GHZ TESLA
RF CAVITY
ASSEMBLY
@ 180 rotation
'Inspected by' : Robert Riley
'Cavity Number' : ACCEL TB9ACC015

BEAM PIPE FLANGE NEAR

MM	DIM LOC1= LOCATION OF PLANE PL-NEAR-END-FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.000	0.000	0.200	0.200	0.000
V	0.000	-1.000	-0.001			
FL	0.000	0.016	0.016	0.200	0.000	0.000

// MM	DIM PARL1= PARALLEL OF PLANE PL-NEAR-END-FLANGE,RFS TO WORKPLANE YMINUS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.130	0.130	0.200	0.000	0.000

DEG	DIM ANGL1= 3D ANGLE (COMPLEMENT) FROM PLANE PL-NEAR-END-FLANGE TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	0.061	0.061	0.100	0.100	0.000

MM	DIM LOC2= LOCATION OF CIRCLE CR-NEAR-END -FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.006	-0.006	0.200	0.200	0.000
Z	0.000	-0.005	-0.005	0.200	0.200	0.000
D	140.000	140.084	0.084	0.300	0.300	0.000
RN	0.000	0.007	0.007	0.200	0.000	0.000

BEAM PIPE FLANGE FAR

MM	DIM LOC3= LOCATION OF PLANE PL-FAR-END					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1247.400	1243.639	-3.761	3.000	3.000	0.761
V	0.004	1.000	-0.002			
FL	0.000	0.015	0.015	0.200	0.000	0.000

// MM	DIM PARL2= PARALLEL OF PLANE PL-FAR-END,RFS TO WORKPLANE YMINUS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.589	0.589	0.200	0.000	0.389

DEG	DIM ANGL2= 3D ANGLE (COMPLEMENT) FROM PLANE PL-FAR-END TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	0.277	0.277	0.100	0.100	0.177

MM	DIM LOC4= LOCATION OF CIRCLE CR-FAR-END					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.111	0.111	0.200	0.200	0.000
Z	0.000	-0.316	-0.317	0.200	0.200	0.117
D	140.000	140.081	0.081	0.300	0.300	0.000
RN	0.000	0.005	0.005	0.200	0.000	0.000

DATUM-1-PLANE

MM	DIM LOC-DATUM-1-PLANE= LOCATION OF PLANE PLC-DAT-1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	92.840	93.007	0.167	0.200	0.200	0.000
V	-0.000	-1.000	-0.000			
FL	0.000	0.036	0.036	0.200	0.000	0.000

// MM	DIM PARL5= PARALLEL OF PLANE PLC-DAT-1,RFS TO WORKPLANE YMINUS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.047	0.047	0.200	0.000	0.000

DEG	DIM ANGL7= 3D ANGLE (TRUE) FROM PLANE PLC-DAT-1 TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	0.013	0.013	0.100	0.100	0.000

DATUM-2-PLANE

MM	DIM LOC-DATUM-2-PLANE= LOCATION OF PLANE PLC-DAT-2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1154.600	1149.968	-4.632	0.200	0.200	4.432
V	-0.002	1.000	-0.003			
FL	0.000	0.024	0.024	0.200	0.000	0.000

// MM	DIM PARL6= PARALLEL OF PLANE PLC-DAT-2,RFS TO WORKPLANE YMINUS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.352	0.352	0.200	0.000	0.152

DEG	DIM ANGL8= 3D ANGLE (TRUE) FROM PLANE PLC-DAT-2 TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	0.191	0.191	0.100	0.100	0.091

MM	DIM DIST03= 2D DISTANCE FROM PLANE PLC-DAT-1 TO PLANE PLC-DAT-2 PAR TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1061.060	1056.961	-4.099	0.200	0.200	3.899

MM	DIM DIST04= 2D DISTANCE FROM PLANE PLC-DAT-2 TO PLANE PL-FAR-END PAR TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	93.500	93.671	0.171	0.200	0.200	0.000

PICKUP ANTENNA FLANGE NW8

MM	DIM LOC5= LOCATION OF PLANE PL-NW8-ANTENNA-FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-53.800	-53.864	-0.064	0.200	0.200	0.000
V	-1.000	-0.003	0.004			
FL	0.000	0.006	0.006	0.200	0.000	0.000

// MM	DIM PARL3= PARALLEL OF PLANE PL-NW8-ANTENNA-FLANGE,RFS TO WORKPLANE XMINUS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.124	0.124	0.200	0.000	0.000

DEG	DIM ANGL3= 3D ANGLE (TRUE) FROM PLANE PL-NW8-ANTENNA-FLANGE TO XAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	0.274	0.274	0.100	0.100	0.174

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MM	DIM LOC6= LOCATION OF CIRCLE CR-NW8-ANTENNA-FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	60.600	60.531	-0.069	0.200	0.200	0.000
Z	0.000	0.540	0.540	0.200	0.200	0.340
D	33.808	33.828	0.020	0.150	0.000	0.000
RN	0.000	0.008	0.008	0.150	0.000	0.000

MAIN COUPLER FLANGE NW40

MM	DIM LOC7= LOCATION OF PLANE PL-NW-40-FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	88.000	87.903	-0.097	0.200	0.200	0.000
V	1.000	0.002	0.000			
FL	0.000	0.034	0.034	0.200	0.000	0.000

// MM	DIM PARL4= PARALLEL OF PLANE PL-NW-40-FLANGE,RFS TO WORKPLANE XMINUS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.152	0.152	0.200	0.000	0.000

DEG	DIM ANGL4= 3D ANGLE (TRUE) FROM PLANE PL-NW-40-FLANGE TO XAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	0.131	0.131	0.100	0.100	0.031

MM	DIM LOC8= LOCATION OF CIRCLE CR-NW-40-FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1186.800	1183.198	-3.602	0.200	0.200	3.402
Z	0.000	0.000	0.000	0.200	0.200	0.000
D	76.000	75.987	-0.013	0.200	0.000	0.013
RN	0.000	0.010	0.010	0.200	0.000	0.000

MM	DIM DIST1= 2D DISTANCE FROM CIRCLE CR-NW-40-FLANGE TO PLANE PL-FAR-END PAR TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.441	-0.159	0.200	0.200	0.000

HOM-1 FLANGE NW12

MM	DIM FLAT1= FLATNESS OF PLANE PL-NW12-FLANGE-HOM1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.002	0.002	0.200	0.000	0.000

DEG	DIM ANGL16= 2D ANGLE (TRUE) FROM PLANE PL-NW12-FLANGE-HOM1 TO ZAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	15.000	14.393	-0.607	0.500	0.500	0.107

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MM	DIM DIST FORMTEIL1 POINT= 2D DISTANCE FROM POINT PT-FORMTEIL1 TO PLANE PL-NW12-FLANGE-HOM1 PERP TO PLANE PL-NW12-FLANGE-HOM1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	28.420	27.741	-0.679	0.100	0.100	0.579

MM	DIM DIST FORMTEIL1 PLANE= 2D DISTANCE FROM PLANE PL-FORMTEIL1 TO PLANE PL-NW12-FLANGE-HOM1 PERP TO PLANE PL-NW12-FLANGE-HOM1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	28.420	27.744	-0.676	0.100	0.100	0.576

DEG	DIM ANGL17= 2D ANGLE (COMPLEMENT) FROM PLANE PL-NW12-FLANGE-HOM1 TO ZAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	30.000	30.144	0.144	0.500	0.500	0.000

MM	DIM LOC= LOCATION OF CIRCLE CR-NW12-FLANGE-HOM1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	37.778	37.778	100.000	100.000	0.000
Y	0.000	57.257	57.257	100.000	100.000	0.000
Z	0.000	-62.681	-62.681	100.000	100.000	0.000
D	33.800	33.849	0.049	0.150	0.000	0.000
RN	0.000	0.047	0.047	0.150	0.000	0.000

HOM-2 FLANGE NW12

MM	DIM = FLATNESS OF PLANE PL-NW12-FLANGE-HOM-2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.005	0.005	0.200	0.000	0.000

DEG	DIM ANGL5= 2D ANGLE (COMPLEMENT) FROM PLANE PL-NW12-FLANGE-HOM-2 TO ZAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	15.000	15.462	0.462	0.500	0.500	0.000

DEG	DIM ANGL6= 2D ANGLE (TRUE) FROM PLANE PL-NW12-FLANGE-HOM-2 TO ZAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.371	0.371	0.500	0.500	0.000

MM	DIM LOC9= LOCATION OF CIRCLE CR-NW12-FLANGE-HOM-2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-73.063	-73.063	100.000	100.000	0.000
Y	0.000	1187.308	1187.308	2000.000	2000.000	0.000
Z	0.000	-7.574	-7.574	100.000	100.000	0.000
D	33.800	33.706	-0.094	0.150	0.000	0.094
RN	0.000	0.035	0.035	0.150	0.000	0.000

HOM 1 LOCATION

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MM	DIM LOC-HOM1= LOCATION OF CYLINDER CY-HOM-1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	68.509	68.509	100.000	100.000	0.000
Y	60.600	60.436	-0.164	0.200	0.200	0.000
Z	0.000	-40.072	-40.072	100.000	100.000	0.000
D	44.000	43.775	-0.225	0.000	0.100	0.125
RN	0.000	0.188	0.188	0.100	0.000	0.088
V	-0.863	0.002	0.505			

DEG	DIM ANGL9= 2D ANGLE (TRUE) FROM CYLINDER CY-HOM-1 TO XAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	30.000	30.308	0.308	0.500	0.500	0.000

DEG	DIM ANGL10= 3D ANGLE (TRUE) FROM CYLINDER CY-HOM-1 TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.877	-0.123	0.500	0.500	0.000

DEG	DIM ANGL11= 2D ANGLE (TRUE) FROM CYLINDER CY-HOM-1 TO ZAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	60.000	59.692	-0.308	0.500	0.500	0.000

MM	DIM LOC-HOM3= LOCATION OF POINT PT-RT-HOM-1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	116.080	0.080	0.200	0.200	0.000

INTERSECTION OF HOM1 & YZ PLANE

MM	DIM LOC-HOM1 X PLANE= LOCATION OF POINT PTC-HOM1 X YZ PLANE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.200	0.200	0.000
Y	60.600	60.606	0.006	0.200	0.200	0.000
Z	0.000	-0.026	-0.026	0.200	0.200	0.000

HOM 2 LOCATION

MM	DIM LOC-HOM2= LOCATION OF CYLINDER CY-HOM-2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-64.261	-64.261	100.000	100.000	0.000
Y	1186.800	1182.831	-3.969	3.000	3.000	0.969
Z	0.000	-45.798	-45.798	100.000	100.000	0.000
D	44.000	43.830	-0.170	0.000	0.100	0.070
RN	0.000	0.094	0.094	0.100	0.000	0.000
V	-0.819	-0.001	-0.574			

MM	DIM DIST2= 2D DISTANCE FROM POINT PT-HOM-2 TO PLANE PL-FAR-END PAR TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.354	-0.246	0.200	0.200	0.046

DEG	DIM ANGL12= 2D ANGLE (TRUE) FROM CYLINDER CY-HOM-2 TO XAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.043	0.043	0.500	0.500	0.000

DEG	DIM ANGL13= 3D ANGLE (COMPLEMENT) FROM CYLINDER CY-HOM-2 TO YAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	90.062	0.062	0.500	0.500	0.000

DEG	DIM ANGL14= 2D ANGLE (TRUE) FROM CYLINDER CY-HOM-2 TO ZAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	55.000	54.957	-0.043	0.500	0.500	0.000

MM	DIM LOC-HOM4= LOCATION OF POINT PT-HOM-2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	116.000	0.000	0.200	0.200	0.000

INTERSECTION OF HOM2 & YZ PLANE

MM	DIM LOC-HOM2 X PLANE= LOCATION OF POINT PTC-HOM2 X YZ PLANE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.200	0.200	0.000
Y	1186.800	1182.916	-3.884	3.000	3.000	0.884
Z	0.000	-0.730	-0.730	0.200	0.200	0.530

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LOCATIONS OF CONSTRUCTED CIRCLES
ON 18 HALF CELLS & 2 DATUM SURFACES & 2 VACUUM SURFACES

MM DIM LOC-CC1= LOCATION OF CIRCLE CRC-DAT-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.200	0.200	0.000
Y	0.000	95.088	95.088	2000.000	2000.000	0.000
Z	0.000	0.000	0.000	0.200	0.200	0.000
D	111.000	110.905	-0.095	0.050	0.050	0.045
RN	0.000	0.019	0.019	0.050	0.000	0.000

MM DIM LOC-CC2= LOCATION OF CIRCLE CRC-VAC-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.009	-0.010	0.200	0.200	0.000
Y	0.000	122.618	122.618	2000.000	2000.000	0.000
Z	0.000	-0.001	-0.001	0.200	0.200	0.000
D	191.200	191.216	0.016	0.200	0.200	0.000
RN	0.000	0.024	0.024	0.200	0.000	0.000

MM DIM LOC-CC3= LOCATION OF CIRCLE CRC-CAV-1-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.023	-0.023	0.200	0.200	0.000
Y	0.000	155.952	155.952	2000.000	2000.000	0.000
Z	0.000	0.230	0.230	0.200	0.200	0.030
D	210.300	210.689	0.389	0.200	0.200	0.189
RN	0.000	0.180	0.180	0.200	0.000	0.000

MM DIM LOC-CC4= LOCATION OF CIRCLE CRC-CAV-1-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.062	-0.062	0.200	0.200	0.000
Y	0.000	167.648	167.648	2000.000	2000.000	0.000
Z	0.000	0.276	0.276	0.200	0.200	0.076
D	210.300	210.543	0.243	0.200	0.200	0.043
RN	0.000	0.178	0.178	0.200	0.000	0.000

MM DIM LOC-CC5= LOCATION OF CIRCLE CRC-CAV-2-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.318	-0.318	0.200	0.200	0.118
Y	0.000	270.394	270.394	2000.000	2000.000	0.000
Z	0.000	0.672	0.672	0.200	0.200	0.472
D	210.300	210.688	0.388	0.200	0.200	0.188
RN	0.000	0.221	0.221	0.200	0.000	0.021

MM DIM LOC-CC6= LOCATION OF CIRCLE CRC-CAV-2-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.295	-0.295	0.200	0.200	0.095
Y	0.000	282.370	282.370	2000.000	2000.000	0.000
Z	0.000	0.738	0.738	0.200	0.200	0.538
D	210.300	210.551	0.251	0.200	0.200	0.051
RN	0.000	0.166	0.166	0.200	0.000	0.000

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MM DIM LOC-CC7= LOCATION OF CIRCLE CRC-CAV-3-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.467	-0.467	0.200	0.200	0.267
Y	0.000	385.720	385.720	2000.000	2000.000	0.000
Z	0.000	1.033	1.033	0.200	0.200	0.833
D	210.300	210.569	0.270	0.200	0.200	0.070
RN	0.000	0.270	0.270	0.200	0.000	0.070

MM DIM LOC-CC8= LOCATION OF CIRCLE CRC-CAV-3-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.505	-0.505	0.200	0.200	0.305
Y	0.000	397.564	397.564	2000.000	2000.000	0.000
Z	0.000	1.058	1.058	0.200	0.200	0.858
D	210.300	210.542	0.242	0.200	0.200	0.042
RN	0.000	0.216	0.216	0.200	0.000	0.016

MM DIM LOC-CC9= LOCATION OF CIRCLE CRC-CAV-4-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.526	-0.526	0.200	0.200	0.326
Y	0.000	500.451	500.451	2000.000	2000.000	0.000
Z	0.000	1.199	1.199	0.200	0.200	0.999
D	210.300	210.618	0.319	0.200	0.200	0.119
RN	0.000	0.227	0.227	0.200	0.000	0.027

MM DIM LOC-CC10= LOCATION OF CIRCLE CRC-CAV-4-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.497	-0.498	0.200	0.200	0.298
Y	0.000	513.023	513.023	2000.000	2000.000	0.000
Z	0.000	1.152	1.152	0.200	0.200	0.952
D	210.300	210.503	0.204	0.200	0.200	0.004
RN	0.000	0.248	0.248	0.200	0.000	0.048

MM DIM LOC-CC11= LOCATION OF CIRCLE CRC-CAV-5-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.445	-0.445	0.200	0.200	0.245
Y	0.000	616.125	616.125	2000.000	2000.000	0.000
Z	0.000	1.126	1.126	0.200	0.200	0.926
D	210.300	210.598	0.299	0.200	0.200	0.099
RN	0.000	0.216	0.216	0.200	0.000	0.016

MM DIM LOC-CC12= LOCATION OF CIRCLE CRC-CAV-5-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.444	-0.444	0.200	0.200	0.244
Y	0.000	627.983	627.983	2000.000	2000.000	0.000
Z	0.000	1.101	1.101	0.200	0.200	0.901
D	210.300	210.525	0.225	0.200	0.200	0.025
RN	0.000	0.173	0.173	0.200	0.000	0.000

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MM DIM LOC-CC13= LOCATION OF CIRCLE CRC-CAV-6-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.356	-0.356	0.200	0.200	0.156
Y	0.000	731.094	731.094	2000.000	2000.000	0.000
Z	0.000	1.020	1.020	0.200	0.200	0.820
D	210.300	210.587	0.287	0.200	0.200	0.087
RN	0.000	0.168	0.168	0.200	0.000	0.000

MM DIM LOC-CC14= LOCATION OF CIRCLE CRC-CAV-6-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.362	-0.362	0.200	0.200	0.162
Y	0.000	743.089	743.089	2000.000	2000.000	0.000
Z	0.000	1.029	1.029	0.200	0.200	0.829
D	210.300	210.498	0.198	0.200	0.200	0.000
RN	0.000	0.193	0.193	0.200	0.000	0.000

MM DIM LOC-CC15= LOCATION OF CIRCLE CRC-CAV-7-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.300	-0.300	0.200	0.200	0.100
Y	0.000	845.717	845.717	2000.000	2000.000	0.000
Z	0.000	0.836	0.836	0.200	0.200	0.636
D	210.300	210.602	0.302	0.200	0.200	0.102
RN	0.000	0.194	0.194	0.200	0.000	0.000

MM DIM LOC-CC16= LOCATION OF CIRCLE CRC-CAV-7-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.246	-0.246	0.200	0.200	0.046
Y	0.000	858.376	858.376	2000.000	2000.000	0.000
Z	0.000	0.793	0.793	0.200	0.200	0.593
D	210.300	210.587	0.287	0.200	0.200	0.087
RN	0.000	0.177	0.177	0.200	0.000	0.000

MM DIM LOC-CC17= LOCATION OF CIRCLE CRC-CAV-8-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.146	-0.146	0.200	0.200	0.000
Y	0.000	960.505	960.505	2000.000	2000.000	0.000
Z	0.000	0.557	0.556	0.200	0.200	0.356
D	210.300	210.698	0.398	0.200	0.200	0.198
RN	0.000	0.087	0.087	0.200	0.000	0.000

MM DIM LOC-CC18= LOCATION OF CIRCLE CRC-CAV-8-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.171	-0.171	0.200	0.200	0.000
Y	0.000	973.369	973.369	2000.000	2000.000	0.000
Z	0.000	0.507	0.507	0.200	0.200	0.307
D	210.300	210.635	0.335	0.200	0.200	0.135
RN	0.000	0.104	0.104	0.200	0.000	0.000

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MM DIM LOC-CC19= LOCATION OF CIRCLE CRC-CAV-9-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.020	0.019	0.200	0.200	0.000
Y	0.000	1075.922	1075.922	2000.000	2000.000	0.000
Z	0.000	0.182	0.182	0.200	0.200	0.000
D	210.300	210.705	0.405	0.200	0.200	0.205
RN	0.000	0.074	0.074	0.200	0.000	0.000

MM DIM LOC-CC20= LOCATION OF CIRCLE CRC-CAV-9-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.033	-0.033	0.200	0.200	0.000
Y	0.000	1088.297	1088.297	2000.000	2000.000	0.000
Z	0.000	0.181	0.180	0.200	0.200	0.000
D	210.300	210.674	0.374	0.200	0.200	0.174
RN	0.000	0.064	0.064	0.200	0.000	0.000

MM DIM LOC-CC21= LOCATION OF CIRCLE CRC-VAC-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.057	0.057	0.200	0.200	0.000
Y	0.000	1117.752	1117.752	2000.000	2000.000	0.000
Z	0.000	0.082	0.082	0.200	0.200	0.000
D	200.000	200.082	0.082	0.200	0.200	0.000
RN	0.000	0.044	0.044	0.200	0.000	0.000

MM DIM LOC-CC22= LOCATION OF CIRCLE CRC-DAT-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.200	0.200	0.000
Y	0.000	1147.782	1147.782	2000.000	2000.000	0.000
Z	0.000	0.000	0.000	0.200	0.200	0.000
D	111.000	110.959	-0.041	0.050	0.050	0.000
RN	0.000	0.031	0.031	0.050	0.000	0.000

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TRUE POSITIONS OF CONSTRUCTED CIRCLES
ON 18 HALF CELLS & 2 DATUM SURFACES & 2 VACUUM SURFACES

⊕ MM DIM LOC-TP-CC1= TRUE POSITION OF CIRCLE CRC-DAT-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	0.000	0.000				
Z	0.000	0.000	0.000				
TP	RFS		0.000	0.200		0.000	0.000

⊕ MM DIM LOC-TP-CC2= TRUE POSITION OF CIRCLE CRC-VAC-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.009	-0.010				
Z	0.000	-0.001	-0.001				
TP	RFS		0.019	0.200		0.000	0.000

⊕ MM DIM LOC-TP-CC3= TRUE POSITION OF CIRCLE CRC-CAV-1-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.023	-0.023				
Z	0.000	0.230	0.230				
TP	RFS		0.462	0.200		0.000	0.262

⊕ MM DIM LOC-TP-CC4= TRUE POSITION OF CIRCLE CRC-CAV-1-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.062	-0.062				
Z	0.000	0.276	0.276				
TP	RFS		0.566	0.200		0.000	0.366

⊕ MM DIM LOC-TP-CC5= TRUE POSITION OF CIRCLE CRC-CAV-2-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.318	-0.318				
Z	0.000	0.672	0.672				
TP	RFS		1.487	0.200		0.000	1.287

⊕ MM DIM LOC-TP-CC6= TRUE POSITION OF CIRCLE CRC-CAV-2-2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.295	-0.295				
Z	0.000	0.738	0.738				
TP	RFS		1.589	0.200		0.000	1.389

⊕ MM DIM LOC-TP-CC7= TRUE POSITION OF CIRCLE CRC-CAV-3-1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.467	-0.467				
Z	0.000	1.033	1.033				
TP	RFS		2.268	0.200		0.000	2.068

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⊕ MM	DIM LOC-TP-CC8= TRUE POSITION OF CIRCLE CRC-CAV-3-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.505	-0.505				
Z	0.000	1.058	1.058				
TP	RFS		2.344	0.200		0.000	2.144

⊕ MM	DIM LOC-TP-CC9= TRUE POSITION OF CIRCLE CRC-CAV-4-1						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.526	-0.526				
Z	0.000	1.199	1.199				
TP	RFS		2.619	0.200		0.000	2.419

⊕ MM	DIM LOC-TP-CC10= TRUE POSITION OF CIRCLE CRC-CAV-4-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.497	-0.498				
Z	0.000	1.152	1.152				
TP	RFS		2.510	0.200		0.000	2.310

⊕ MM	DIM LOC-TP-CC11= TRUE POSITION OF CIRCLE CRC-CAV-5-1						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.445	-0.445				
Z	0.000	1.126	1.126				
TP	RFS		2.422	0.200		0.000	2.222

⊕ MM	DIM LOC-TP-CC12= TRUE POSITION OF CIRCLE CRC-CAV-5-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.444	-0.444				
Z	0.000	1.101	1.101				
TP	RFS		2.374	0.200		0.000	2.174

⊕ MM	DIM LOC-TP-CC13= TRUE POSITION OF CIRCLE CRC-CAV-6-1						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.356	-0.356				
Z	0.000	1.020	1.020				
TP	RFS		2.161	0.200		0.000	1.961

⊕ MM	DIM LOC-TP-CC14= TRUE POSITION OF CIRCLE CRC-CAV-6-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.362	-0.362				
Z	0.000	1.029	1.029				
TP	RFS		2.181	0.200		0.000	1.981

⊕ MM	DIM LOC-TP-CC15= TRUE POSITION OF CIRCLE CRC-CAV-7-1						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.300	-0.300				
Z	0.000	0.836	0.836				
TP	RFS		1.777	0.200		0.000	1.577

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⊕ MM	DIM LOC-TP-CC16= TRUE POSITION OF CIRCLE CRC-CAV-7-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.246	-0.246				
Z	0.000	0.793	0.793				
TP	RFS		1.660	0.200		0.000	1.460

⊕ MM	DIM LOC-TP-CC17= TRUE POSITION OF CIRCLE CRC-CAV-8-1						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.146	-0.146				
Z	0.000	0.557	0.556				
TP	RFS		1.150	0.200		0.000	0.950

⊕ MM	DIM LOC-TP-CC18= TRUE POSITION OF CIRCLE CRC-CAV-8-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.171	-0.171				
Z	0.000	0.507	0.507				
TP	RFS		1.071	0.200		0.000	0.871

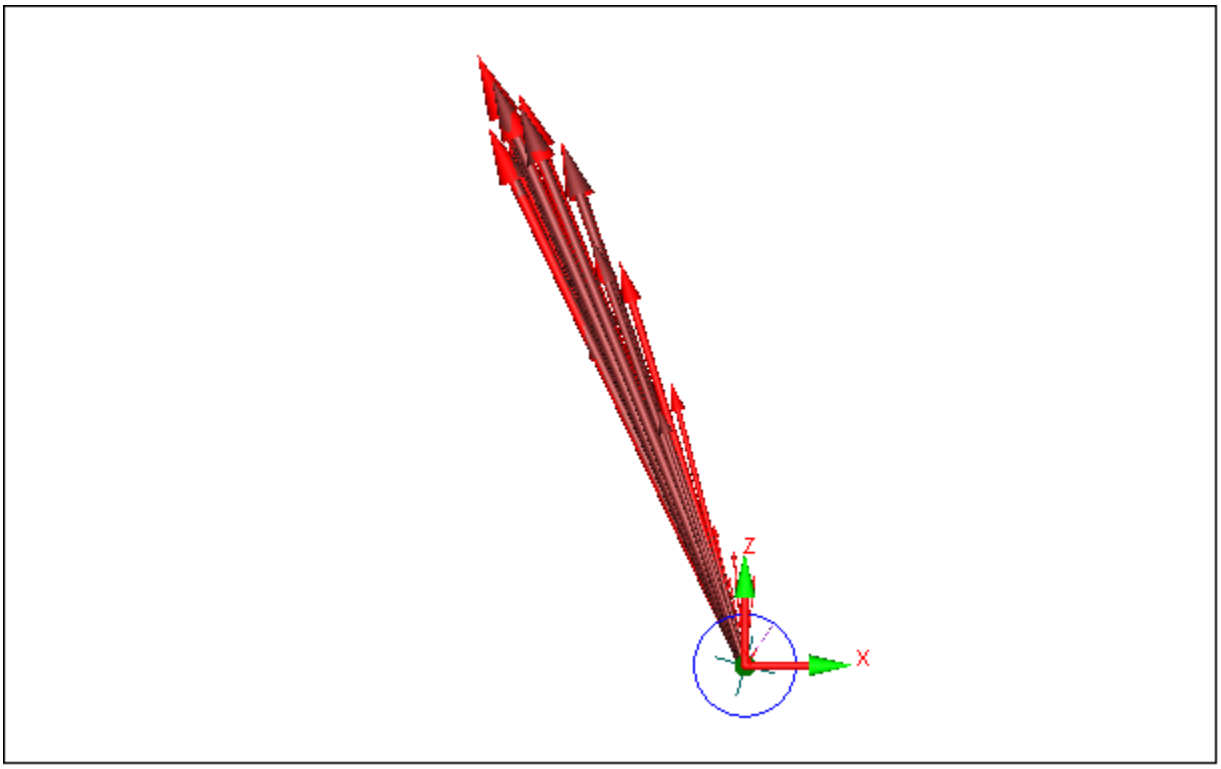
⊕ MM	DIM LOC-TP-CC19= TRUE POSITION OF CIRCLE CRC-CAV-9-1						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	0.020	0.019				
Z	0.000	0.182	0.182				
TP	RFS		0.366	0.200		0.000	0.166

⊕ MM	DIM LOC-TP-CC20= TRUE POSITION OF CIRCLE CRC-CAV-9-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	-0.033	-0.033				
Z	0.000	0.181	0.180				
TP	RFS		0.367	0.200		0.000	0.167

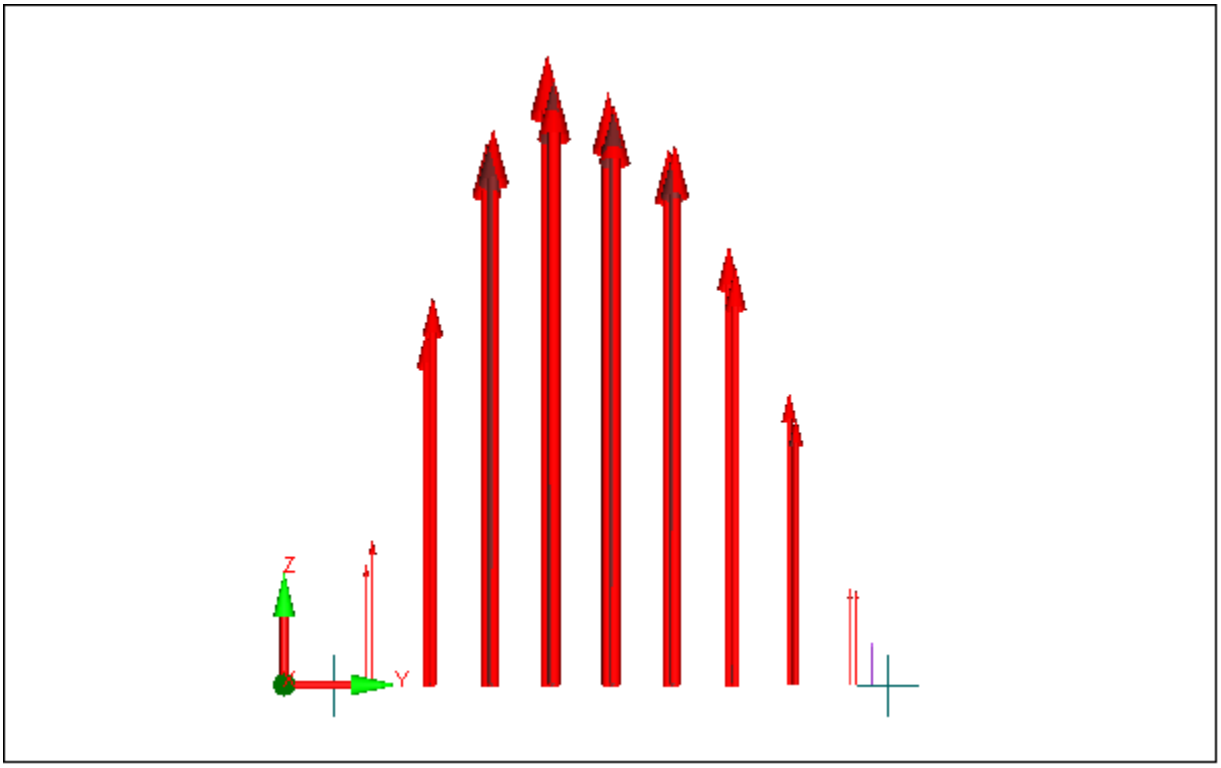
⊕ MM	DIM LOC-TP-CC21= TRUE POSITION OF CIRCLE CRC-VAC-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	0.057	0.057				
Z	0.000	0.082	0.082				
TP	RFS		0.199	0.200		0.000	0.000

⊕ MM	DIM LOC-TP-CC22= TRUE POSITION OF CIRCLE CRC-DAT-2						
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	BONUS	OUTTOL
X	0.000	0.000	0.000				
Z	0.000	0.000	0.000				
TP	RFS		0.000	0.200		0.000	0.000

True Position plots from 3 views
x1000



-Y View
x1000



+X View
x1000

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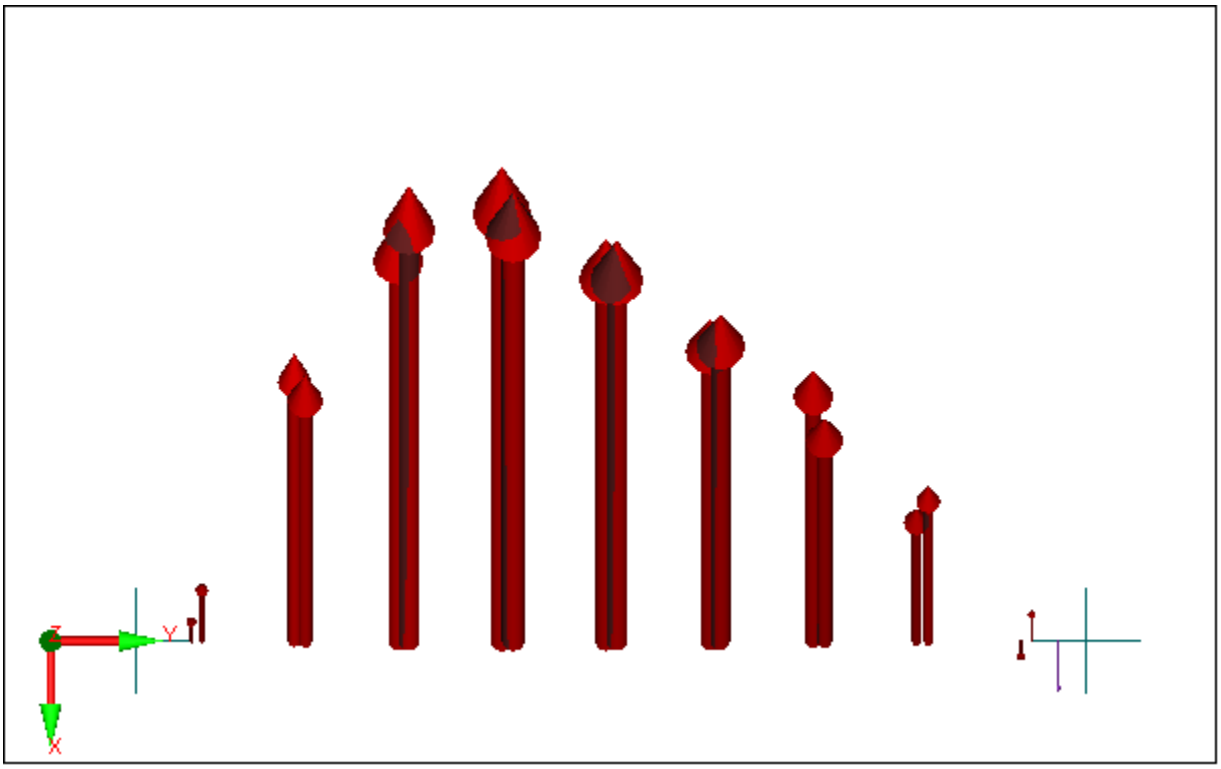

+Z View
x1000

MM	DIM LOC-BEST FIT CONSTRUCTED LINE= LOCATION OF LINE LNC-BEST-FIT					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.233	-0.233	0.200	0.200	0.033
Y	0.000	621.675	621.675	2000.000	2000.000	0.000
Z	0.000	0.626	0.626	0.200	0.200	0.426
ST	0.000	1.368	1.368	0.200	0.000	1.168

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SUPPORT RING CIRCLE LOCATIONS

MM	DIM LOC-SUPPORT RING-1= LOCATION OF CIRCLE CR-SUPPORT-RING-T12					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.179	-0.179	0.200	0.200	0.000
Y	0.000	218.012	218.012	2000.000	2000.000	0.000
Z	0.000	0.429	0.429	0.200	0.200	0.229
R	56.500	56.405	-0.095	0.200	0.200	0.000
RN	0.000	0.003	0.003	0.200	0.000	0.000

MM	DIM LOC-SUPPORT RING-2= LOCATION OF CIRCLE CR-SUPPORT-RING-T23					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.434	-0.435	0.200	0.200	0.235
Y	0.000	333.149	333.149	2000.000	2000.000	0.000
Z	0.000	0.958	0.958	0.200	0.200	0.758
R	56.500	56.435	-0.065	0.200	0.200	0.000
RN	0.000	0.010	0.010	0.200	0.000	0.000

MM	DIM LOC-SUPPORT RING-3= LOCATION OF CIRCLE CR-SUPPORT-RING-T34					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.520	-0.520	0.200	0.200	0.320
Y	0.000	448.476	448.476	2000.000	2000.000	0.000
Z	0.000	1.172	1.172	0.200	0.200	0.972
R	56.500	56.396	-0.104	0.200	0.200	0.000
RN	0.000	0.001	0.001	0.200	0.000	0.000

MM	DIM LOC-SUPPORT RING-4= LOCATION OF CIRCLE CR-SUPPORT-RING-T45					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.540	-0.540	0.200	0.200	0.340
Y	0.000	563.814	563.814	2000.000	2000.000	0.000
Z	0.000	1.082	1.081	0.200	0.200	0.881
R	56.500	56.376	-0.124	0.200	0.200	0.000
RN	0.000	0.010	0.010	0.200	0.000	0.000

MM	DIM LOC-SUPPORT RING-5= LOCATION OF CIRCLE CR-SUPPORT-RING-T56					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.385	-0.385	0.200	0.200	0.185
Y	0.000	678.913	678.913	2000.000	2000.000	0.000
Z	0.000	1.070	1.070	0.200	0.200	0.870
R	56.500	56.390	-0.110	0.200	0.200	0.000
RN	0.000	0.029	0.029	0.200	0.000	0.000

MM	DIM LOC-SUPPORT RING-6= LOCATION OF CIRCLE CR-SUPPORT-RING-T67					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.293	-0.293	0.200	0.200	0.093
Y	0.000	794.102	794.102	2000.000	2000.000	0.000
Z	0.000	0.886	0.886	0.200	0.200	0.686
R	56.500	56.399	-0.101	0.200	0.200	0.000
RN	0.000	0.046	0.046	0.200	0.000	0.000

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MM	DIM LOC-SUPPORT RING-7= LOCATION OF CIRCLE CR-SUPPORT-RING-T78					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.225	-0.225	0.200	0.200	0.025
Y	0.000	909.004	909.004	2000.000	2000.000	0.000
Z	0.000	0.686	0.686	0.200	0.200	0.486
R	56.500	56.413	-0.087	0.200	0.200	0.000
RN	0.000	0.000	0.000	0.200	0.000	0.000

MM	DIM LOC-SUPPORT RING-8= LOCATION OF CIRCLE CR-SUPPORT-RING-T89					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.070	-0.070	0.200	0.200	0.000
Y	0.000	1024.304	1024.304	2000.000	2000.000	0.000
Z	0.000	0.255	0.255	0.200	0.200	0.055
R	56.500	56.400	-0.100	0.200	0.200	0.000
RN	0.000	0.026	0.026	0.200	0.000	0.000

SUPPORT RING POINT LOCATIONS

SUPPORT RING CIRCLES IN Z

MM	DIM LOC Z SUPPORT RING CIRCLES 1= LOCATION OF CIRCLE CR-SUPPORT-RING-T1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	0.429	0.429	0.200	0.200	0.229

MM	DIM LOC Z SUPPORT RING CIRCLES 2= LOCATION OF CIRCLE CR-SUPPORT-RING-T2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	0.958	0.958	0.200	0.200	0.758

MM	DIM LOC Z SUPPORT RING CIRCLES 3= LOCATION OF CIRCLE CR-SUPPORT-RING-T3					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	1.172	1.172	0.200	0.200	0.972

MM	DIM LOC Z SUPPORT RING CIRCLES 4= LOCATION OF CIRCLE CR-SUPPORT-RING-T4					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	1.082	1.081	0.200	0.200	0.881

MM	DIM LOC Z SUPPORT RING CIRCLES 5= LOCATION OF CIRCLE CR-SUPPORT-RING-T5					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	1.070	1.070	0.200	0.200	0.870

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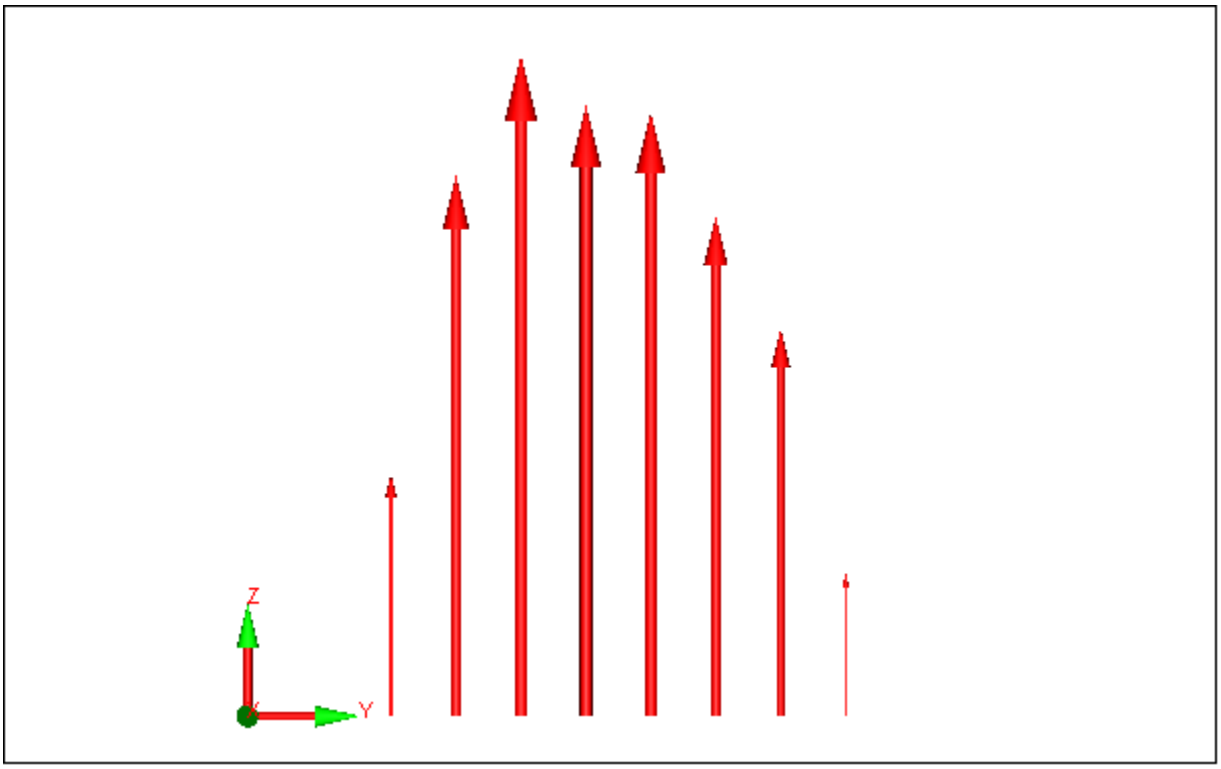
MM	DIM LOC Z SUPPORT RING CIRCLES 6= LOCATION OF CIRCLE CR-SUPPORT-RING-T6					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	0.886	0.886	0.200	0.200	0.686

MM	DIM LOC Z SUPPORT RING CIRCLES 7= LOCATION OF CIRCLE CR-SUPPORT-RING-T7					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	0.686	0.686	0.200	0.200	0.486

MM	DIM LOC Z SUPPORT RING CIRCLES 8= LOCATION OF CIRCLE CR-SUPPORT-RING-T8					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Z	0.000	0.255	0.255	0.200	0.200	0.055



SUPPORT RING CIRCLES IN Z
x1000

SUPPORT RING POINTS IN X

MM	DIM LOC Z SUPPORT RING POINTS 1= LOCATION OF POINT PT-SUPPORT-RING-T12					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.551	-0.551	0.200	0.200	0.351

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MM	DIM LOC Z SUPPORT RING POINTS 2= LOCATION OF POINT PT-SUPPORT-RING-T23					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.547	-0.547	0.200	0.200	0.347

MM	DIM LOC Z SUPPORT RING POINTS 3= LOCATION OF POINT PT-SUPPORT-RING-T34					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.544	-0.544	0.200	0.200	0.344

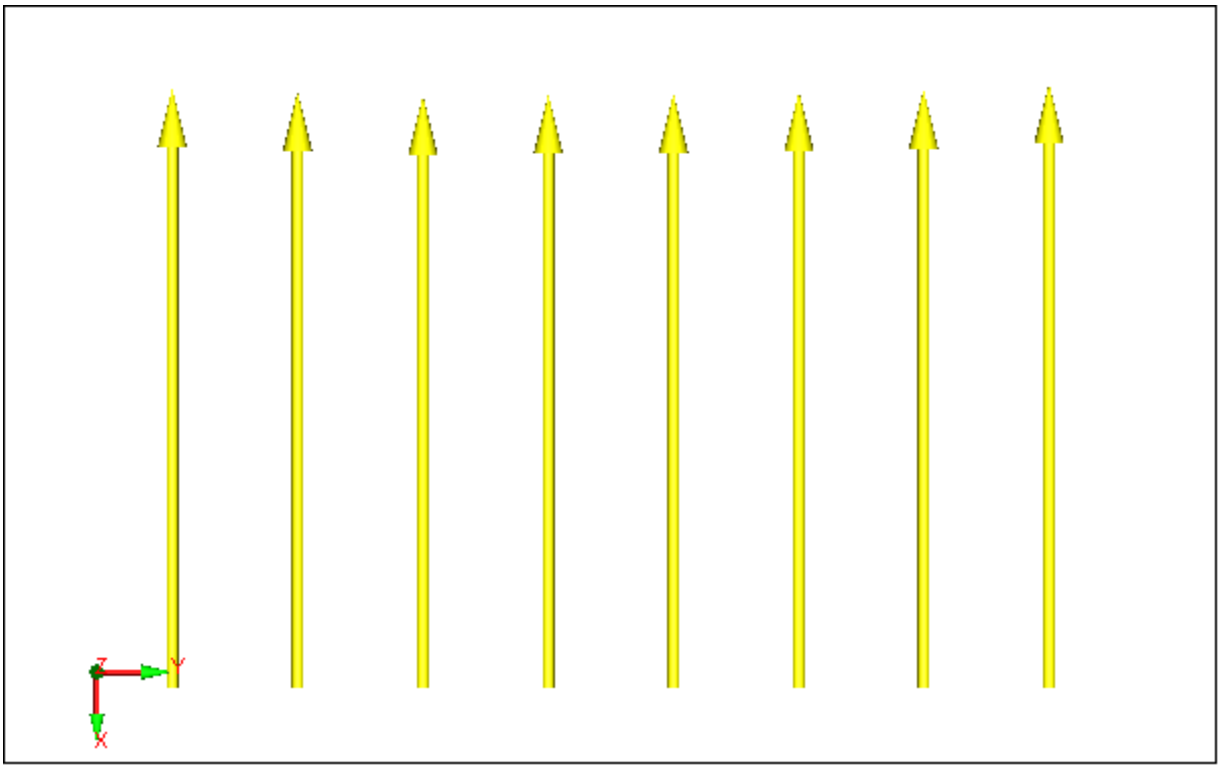
MM	DIM LOC Z SUPPORT RING POINTS 4= LOCATION OF POINT PT-SUPPORT-RING-T45					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.545	-0.545	0.200	0.200	0.345

MM	DIM LOC Z SUPPORT RING POINTS 5= LOCATION OF POINT PT-SUPPORT-RING-T56					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.546	-0.546	0.200	0.200	0.346

MM	DIM LOC Z SUPPORT RING POINTS 6= LOCATION OF POINT PT-SUPPORT-RING-T67					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.548	-0.548	0.200	0.200	0.348

MM	DIM LOC Z SUPPORT RING POINTS 7= LOCATION OF POINT PT-SUPPORT-RING-T78					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.550	-0.550	0.200	0.200	0.350

MM	DIM LOC Z SUPPORT RING POINTS 8= LOCATION OF POINT PT-SUPPORT-RING-T89					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.555	-0.555	0.200	0.200	0.355



PART NUMBER=PN440004-n ILC 1p3GHZ RF CAVITY ASSEMBLY 180 v1 TB9ACC015-180 IR DATE=4/24/200
SUPPORT RING POINTS IN Z
x1000

END OF MEASUREMENT FOR
PN=PN440004-n ILC 1p3GHZ RF CAVITY ASSEMBLY 180 v1 TB9ACC015-180 IR
DWG= SN=
TOTAL # OF MEAS =279 # OUT OF TOL =128