



DATE=10/2/2024 TIME=10:29:03 AM
PART NAME : Lab-1-KevinDemo
REV NUMBER : 1
SER NUMBER :
STATS COUNT : 1
GD&T STANDARD : ASME Y14.5 - 2009/2018

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STARTUP =ALIGNMENT/START,RECALL:USE_PART_SETUP,LIST=YES
ALIGNMENT/END
MODE/MANUAL
MOVESPEED/ 300
FORMAT/TEXT,OPTIONS, ,HEADINGS,SYMBOLS, ;NOM,TOL,MEAS,DEV,OUTTOL, ,

$$ NO,
*****
****Load Probe
*****
LOADPROBE/MSU_PROBE_D_3X50MM
TIP/T1A0B0, SHANKIJK=0, 0, 1, ANGLE=0

$$ NO,
*****
****Define "Manual Alignment" DATUMs Features
(CMM to Part synchronization)
*****

PLN-MA =FEAT/PLANE,CARTESIAN,TRIANGLE
THEO/<4.2765,2.1159,0.95>,<0,0,1>
ACTL/<10.2228,14.9908,-24.948>,<0.013273,0.0000227,0.9999119>
MEAS/PLANE,4
HIT/BASIC,NORMAL,<1.9369,3.4228,0.95>,<0,0,1>,<7.7616,16.3746,-24.9156>,USE THEO=YES
HIT/BASIC,NORMAL,<1.6202,0.5412,0.95>,<0,0,1>,<7.8871,13.8627,-24.9168>,USE THEO=YES
HIT/BASIC,NORMAL,<6.645,0.8293,0.95>,<0,0,1>,<12.6213,13.8626,-24.9802>,USE THEO=YES
HIT/BASIC,NORMAL,<6.9037,3.6705,0.95>,<0,0,1>,<12.6212,15.8633,-24.9796>,USE THEO=YES
ENDMEAS/

LIN-MB =FEAT/LINE,CARTESIAN,UNBOUNDED
THEO/<1.4891,0,0.4306>,<1,0,0>
ACTL/<7.6899,13.0782,-25.1757>,<0.9997723,0.0213403,0>
MEAS/LINE,2,ZPLUS
HIT/BASIC,NORMAL,<1.4891,0,0.4419>,<0,-1,0>,<7.6899,13.0782,-25.1757>,USE THEO=YES
HIT/BASIC,NORMAL,<6.2101,0,0.4193>,<0,-1,0>,<12.8064,13.1874,-25.1758>,USE THEO=YES
ENDMEAS/

PNT-MC =FEAT/POINT,CARTESIAN
THEO/<0,0.9426,0.0865>,<-1,0,0>
ACTL/<6.1844,14.1328,-25.6924>,<-0.9993142,-0.0195114,-0.0314714>
MEAS/POINT,1,WORKPLANE
HIT/BASIC,NORMAL,<0,0.9426,0.0865>,<-1,0,0>,<6.1844,14.1328,-25.6924>,USE THEO=YES
ENDMEAS/

$$ NO,
*****
****Manual Alignment
*****
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A1 =ALIGNMENT/START,RECALL:STARTUP,LIST=YES
ALIGNMENT/LEVEL,ZPLUS,PLN-MA
ALIGNMENT/TRANS,ZAXIS,PLN-MA
ALIGNMENT/ROTATE,XPLUS,TO,LIN-MB,ABOUT,ZPLUS
ALIGNMENT/TRANS,YAXIS,LIN-MB
ALIGNMENT/TRANS,XAXIS,PNT-MC
ALIGNMENT/END

\$\$ NO,

****DCC Mode "ON"
****Define "Active Clear Plane"

MODE/DCC
CLEARP/ZPLUS,0.25,ZPLUS,0,OFF

\$\$ NO,

****Define "DCC Alignment" DATUMS Features
****(Precision Alignment)

PLN-A =FEAT/CONTACT/PLANE/DEFAULT,CARTESIAN,NONE,LEAST_SQR
THEO/<2.8895,2.5837,0>,<0,0,1>
ACTL/<2.8895,2.5837,0.001>,<-0.0002062,0.000801,0.9999997>
TARG/<2.8895,2.5837,0>,<0,0,1>
ANGLE VEC=<1,0,0>,SQUARE
SHOW FEATURE PARAMETERS=NO
SHOW CONTACT PARAMETERS=YES
NUMHITS=3,NUMROWS=3
SPACER=0
AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0,DISTANCE AFTER=0.3937,DIRECTION=ALONG FEATURE VECTOR
USE BOUNDARY OFFSET=YES,OFFSET=0.2394
SHOW HITS=NO

PLN-B =FEAT/CONTACT/PLANE/ADAPTIVE_FREE_FORM_PLANE_SCAN,CARTESIAN,NONE,LEAST_SQR
THEO/<4.6045,0,-0.4836>,<0,-1,0>
ACTL/<4.6983,0.0001,-0.4778>,<-0.0000205,-1,0.0000099>
TARG/<4.6045,0,-0.4836>,<0,-1,0>
ANGLE VEC=<1,0,0>,SQUARE
SHOW FEATURE PARAMETERS=NO
SHOW CONTACT PARAMETERS=YES
NUMHITS=2243,NUMROWS=3
SPACER=0
AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0,DISTANCE AFTER=0.3937,DIRECTION=ALONG FEATURE VECTOR
USE BOUNDARY OFFSET=YES,OFFSET=0.2394
SHOW HITS=NO

LIN-C =FEAT/CONTACT/LINE/ADAPTIVE_LINEAR_SCAN,CARTESIAN,UNBOUNDED
THEO/<0,0.1,-0.7>,<0,1,0>,<-1,0,0>,<0,0,1>,3
ACTL/<-0.0034,0.1656,-0.7>,<0.0036147,0.9999935,0>,<-0.9999935,0.0036147,0>,<0,0,1>,2.8664
TARG/<0,0.1,-0.7>,<0,1,0>,<-1,0,0>,<0,0,1>
SHOW FEATURE PARAMETERS=NO
SHOW CONTACT PARAMETERS=YES
NUMHITS=438,DEPTH=0.1394
SAMPLE METHOD=SAMPLE_HITS
SAMPLE HITS=0,SPACER=0,INDENT1=0,INDENT2=0
AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.2756,DISTANCE AFTER=0.4,DIRECTION=ALONG FEATURE VECTOR
SHOW HITS=NO
MOVE/POINT,NORMAL,<0,0,2>

\$\$ NO,

****DCC Alinement

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A2      =ALIGNMENT/START,RECALL:A1,LIST=YES
        ALIGNMENT/LEVEL,ZPLUS,PLN-A
        ALIGNMENT/TRANS,ZAXIS,PLN-A
        ALIGNMENT/ROTATE,YMINUS,TO,PLN-B,ABOUT,ZPLUS
        ALIGNMENT/TRANS,YAXIS,PLN-B
        ALIGNMENT/TRANS,XAXIS,LIN-C
        ALIGNMENT/END

$$ NO,
*****
*****Insert Feature(s)
*****
MOVE/CLEARPLANE
CIR1    =FEAT/CONTACT/CIRCLE/DEFAULT,CARTESIAN,IN,LEAST_SQR
        THEO/<1,1,0>,<0,0,1>,1
        ACTL/<0.9867,1.0131,0>,<0,0,1>,1.0009
        TARG/<1,1,0>,<0,0,1>
        START ANG=0,END ANG=360
        ANGLE VEC=<1,0,0>
        DIRECTION=CCW
        SHOW FEATURE PARAMETERS=NO
        SHOW CONTACT PARAMETERS=YES
        NUMHITS=4,DEPTH=0.1,PITCH=0
        SAMPLE METHOD=SAMPLE_HITS
        SAMPLE HITS=0,SPACER=0
        AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.3,DISTANCE AFTER=0.3,DIRECTION=ALONG FEATURE VECTOR
        FIND HOLE=DISABLED,ONERROR=NO,READ POS=NO
        SHOW HITS=NO
        MOVE/CLEARPLANE
CIR2    =FEAT/CONTACT/CIRCLE/DEFAULT,CARTESIAN,IN,LEAST_SQR
        THEO/<1,3,0>,<0,0,1>,1
        ACTL/<0.9947,3.013,0>,<0,0,1>,1.001
        TARG/<1,3,0>,<0,0,1>
        START ANG=0,END ANG=360
        ANGLE VEC=<1,0,0>
        DIRECTION=CCW
        SHOW FEATURE PARAMETERS=NO
        SHOW CONTACT PARAMETERS=YES
        NUMHITS=4,DEPTH=0.1,PITCH=0
        SAMPLE METHOD=SAMPLE_HITS
        SAMPLE HITS=0,SPACER=0
        AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.3,DISTANCE AFTER=0.3,DIRECTION=ALONG FEATURE VECTOR
        FIND HOLE=DISABLED,ONERROR=NO,READ POS=NO
        SHOW HITS=NO
        MOVE/CLEARPLANE
CIR3    =FEAT/CONTACT/CIRCLE/ADAPTIVE_CIRCLE_SCAN,CARTESIAN,IN,LEAST_SQR
        THEO/<8.008,1,0>,<0,0,1>,1
        ACTL/<7.9936,0.9835,0>,<0,0,1>,1.0009
        TARG/<8.008,1,0>,<0,0,1>
        START ANG=0,END ANG=360
        ANGLE VEC=<1,0,0>
        DIRECTION=CCW
        SHOW FEATURE PARAMETERS=NO
        SHOW CONTACT PARAMETERS=YES
        NUMHITS=419,DEPTH=0.1,PITCH=0
        SAMPLE METHOD=SAMPLE_HITS
        SAMPLE HITS=0,SPACER=0
        AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.3,DISTANCE AFTER=0.3,DIRECTION=ALONG FEATURE VECTOR
        FIND HOLE=DISABLED,ONERROR=NO,READ POS=NO
        SHOW HITS=NO
        MOVE/CLEARPLANE
CIR4    =FEAT/CONTACT/CIRCLE/ADAPTIVE_CIRCLE_SCAN,CARTESIAN,OUT,LEAST_SQR
        THEO/<7.75,2.95,-0.2>,<0,0,1>,2,0
        ACTL/<7.7524,2.986,-0.2>,<0,0,1>,1.9944,0
        TARG/<7.75,2.95,-0.2>,<0,0,1>
        START ANG=10,END ANG=45
        ANGLE VEC=<1,0,0>
        DIRECTION=CCW
        SHOW FEATURE PARAMETERS=NO
        SHOW CONTACT PARAMETERS=YES

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NUMHITS=10,DEPTH=0.1,PITCH=0
 SAMPLE METHOD=SAMPLE_HITS
 SAMPLE HITS=0,SPACER=0
 AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.3,DISTANCE AFTER=0.3,DIRECTION=ALONG FEATURE VECTOR
 FIND HOLE=DISABLED,ONERROR=NO,READ POS=NO

SHOW HITS=NO
 MOVE/CLEARPLANE

LIN-BACK =FEAT/CONTACT/LINE/DEFAULT,CARTESIAN,UNBOUNDED
 THEO/<6.3,3.95,0>,<-1,0,0>,<0,1,0>,<0,0,1>,3
 ACTL/<6.2999,3.8598,0>,<-1,-0.0001052,0>,<-0.0001052,1,0>,<0,0,1>,3
 TARG/<6.3,3.95,0>,<-1,0,0>,<0,1,0>,<0,0,1>

SHOW FEATURE PARAMETERS=NO
 SHOW CONTACT PARAMETERS=YES
 NUMHITS=3,DEPTH=0.1394
 SAMPLE METHOD=SAMPLE_HITS
 SAMPLE HITS=0,SPACER=0,INDENT1=0,INDENT2=0
 AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.2756,DISTANCE AFTER=0.4,DIRECTION=ALONG FEATURE VECTOR
 SHOW HITS=NO
 MOVE/CLEARPLANE

LIN-ANGLE =FEAT/CONTACT/LINE/DEFAULT,CARTESIAN,UNBOUNDED
 THEO/<1.2931,3.7473,0>,<-0.9612617,-0.2756374,0>,<-0.2756374,0.9612617,0>,<0,0,1>,0.6358
 ACTL/<1.2949,3.7403,0>,<-0.962013,-0.2730038,0>,<-0.2730038,0.962013,0>,<0,0,1>,0.6358
 TARG/<1.2931,3.7473,0>,<-0.9612617,-0.2756374,0>,<-0.2756374,0.9612617,0>,<0,0,1>

SHOW FEATURE PARAMETERS=NO
 SHOW CONTACT PARAMETERS=YES
 NUMHITS=3,DEPTH=0.1394
 SAMPLE METHOD=SAMPLE_HITS
 SAMPLE HITS=0,SPACER=0,INDENT1=0,INDENT2=0
 AVOIDANCE MOVE=BOTH,DISTANCE BEFORE=0.2756,DISTANCE AFTER=0.4,DIRECTION=ALONG FEATURE VECTOR
 SHOW HITS=NO
 MOVE/CLEARPLANE

\$\$ NO,

 *****Insert Dimensions(s)

DIM LOC4= LOCATION OF CIRCLE CIR1 UNITS=IN , \$
 GRAPH=OFF TEXT=OFF MULT=10.00 OUTPUT=BOTH HALF ANGLE=NO

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	1.0000	0.0020	0.0020	0.9867	-0.0133	0.0113 <-----
Y	1.0000	0.0020	0.0020	1.0131	0.0131	0.0111 ----->
D	1.0000	0.0020	0.0020	1.0009	0.0009	0.0000 -----#--

END OF DIMENSION LOC4
 DIM LOC1= LOCATION OF CIRCLE CIR2 UNITS=IN , \$
 GRAPH=OFF TEXT=OFF MULT=10.00 OUTPUT=BOTH HALF ANGLE=NO

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	1.0000	0.0020	0.0020	0.9947	-0.0053	0.0033 <-----
Y	3.0000	0.0020	0.0020	3.0130	0.0130	0.0110 ----->
D	1.0000	0.0020	0.0020	1.0010	0.0010	0.0000 -----#--

END OF DIMENSION LOC1
 DIM LOC2= LOCATION OF CIRCLE CIR3 UNITS=IN , \$
 GRAPH=OFF TEXT=OFF MULT=10.00 OUTPUT=BOTH HALF ANGLE=NO

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	8.0080	0.0020	0.0020	7.9936	-0.0144	0.0124 <-----
Y	1.0000	0.0020	0.0020	0.9835	-0.0165	0.0145 <-----
D	1.0000	0.0020	0.0020	1.0009	0.0009	0.0000 -----#--

END OF DIMENSION LOC2
 DIM LOC3= LOCATION OF CIRCLE CIR4 UNITS=IN , \$
 GRAPH=OFF TEXT=OFF MULT=10.00 OUTPUT=BOTH HALF ANGLE=NO

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	7.7500	0.0020	0.0020	7.7524	0.0024	0.0004 ----->
Y	2.9500	0.0020	0.0020	2.9860	0.0360	0.0340 ----->
D	2.0000	0.0020	0.0020	1.9944	-0.0056	0.0036 <-----

END OF DIMENSION LOC3
 DIM ANGL1= 2D ANGLE FROM LINE LIN-BACK TO LINE LIN-ANGLE SUPPLEMENTAL ANGLE=NO , \$
 GRAPH=OFF TEXT=OFF MULT=10.00 OUTPUT=BOTH

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
A	16.0000	0.0004	0.0004	15.8371	-0.1629	0.1625 <-----

*****Pobe & Angle Change Demo

COMMENT/OPER,NO,FULL SCREEN=NO,AUTO-CONTINUE=NO,OVC=NO,
Demo angle and probe change. Cancel to quite

LOADPROBE/MSU_PROBE_A_3X20MM
TIP/T1A90B-90, SHANKIJK=0.9999, -0.015, 0.0087, ANGLE=-90.1235
MOVE/POINT,NORMAL,<11.5237,2.0354,12.7042>
MOVE/POINT,NORMAL,<10.1592,2.0739,-0.2931>

PLN-RIGHT =FEAT/CONTACT/PLANE/ADAPTIVE_FREE_FORM_PLANE_SCAN,CARTESIAN,NONE,LEAST_SQR
THEO/<8.75,1.7516,-0.3433>,<1,0,0>
ACTL/<8.742,1.7566,-0.3381>,<0.9999912,-0.0041881,0.00036>
TARG/<8.75,1.7516,-0.3433>,<1,0,0>
ANGLE_VEC=<0,0,-1>,SQUARE
SHOW FEATURE PARAMETERS=NO
SHOW CONTACT PARAMETERS=YES
NUMHITS=781,NUMROWS=3
SPACER=0
AVOIDANCE_MOVE=BOTH,DISTANCE_BEFORE=0,DISTANCE_AFTER=0.3937,DIRECTION=ALONG FEATURE VECTOR
USE_BOUNDARY_OFFSET=YES,OFFSET=0.2394

SHOW_HITS=NO
MOVE/POINT,NORMAL,<9.1043,0.4994,10.766>
MOVE/POINT,NORMAL,<-4.8479,0.7082,10.6447>
TIP/T1A90B90, SHANKIJK=-0.9999, 0.015, -0.0087, ANGLE=90.1235
MOVE/POINT,NORMAL,<-1.4793,0.6146,10.5575>
MOVE/POINT,NORMAL,<-1.3636,2.0169,-0.3395>

PNT-LEFT =FEAT/POINT,CARTESIAN
THEO/<0.2372,1.9937,-0.3266>,<-1,0,0>
ACTL/<0.2372,1.9937,-0.3267>,<-1,0,0>
MEAS/POINT,1,WORKPLANE
HIT/BASIC,NORMAL,<0.2372,1.9937,-0.3266>,<-1,0,0>,<0.2372,1.9937,-0.3267>,USE THEO=YES
ENDMEAS/
MOVE/POINT,NORMAL,<-1.0945,2.0393,12.7347>
MOVE/POINT,NORMAL,<11.7606,1.847,12.8465>
TIP/T1A0B0, SHANKIJK=-0.0083, 0.0023, 1, ANGLE=1.2508
LOADPROBE/MSU_PROBE_D_3X50MM

END OF MEASUREMENT FOR

PN=Lab-1-KevinDemo DWG=1 SN=
TOTAL # OF MEAS =13 # OUT OF TOL =10 # OF HOURS =00:06:10