NOTES:

1. REDUCED DIMENSION DRAWING: INTERPRET PER ASME Y14.41-2012 EXCEPT AS FOLLOWS:
   - ALL UNDIMENSIONED FEATURES ARE MODELED AT MEAN VALUE. ARE BASIC AND ARE CONTROLLED WITH THE BILATERAL TOLERANCE OF ⌓ .005 A B C

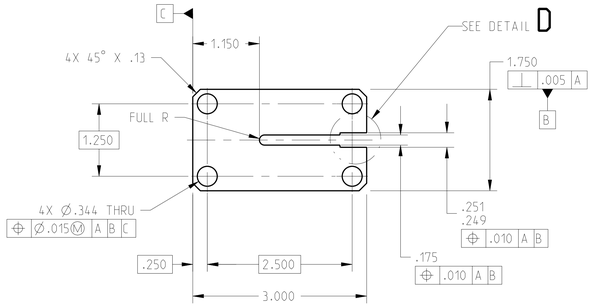
2. RAKE BODY AND FILLER TO BE MACHINED FROM ELECTRONIC MODEL.
   FILENAME: 170601MRA109-1-2.STP
   OR APPROVED EQUIVALENT.

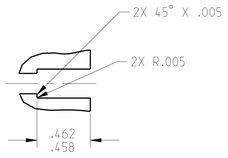
3. MATERIAL: PROBE BODY AND TRAILING EDGE:
   FLEXOR 'M' STEEL (OR APPROVED EQUIVALENT)
   PENNSYLVANIA STEEL CORP.
   HARDNESS = Rc 38-42
   TENSILE STRENGTH = 183 KSI
   YIELD STRENGTH = 171 KSI
   CERTIFICATES OF CHEMICAL AND MECHANICAL PROPERTIES ARE REQUIRED.

4. 63 Ra ALL OVER UNLESS OTHERWISE NOTED.

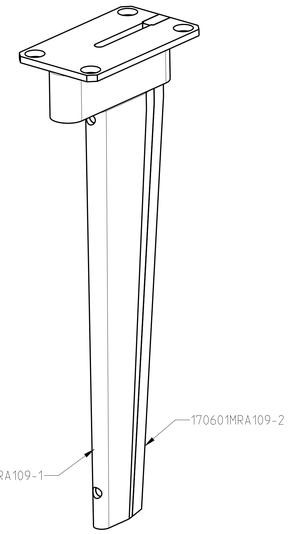
5. IDENTIFY BY BAGGING AND TAGGING WITH DRAWING PART NUMBER 170601MRA109 PER SAE-AS478. METHOD 35D.

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

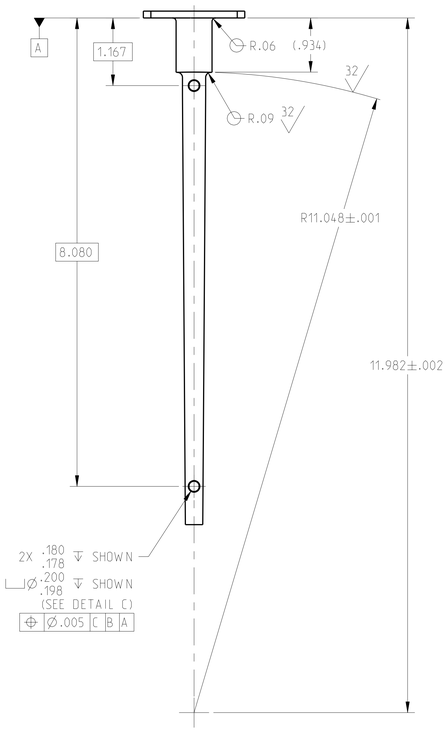


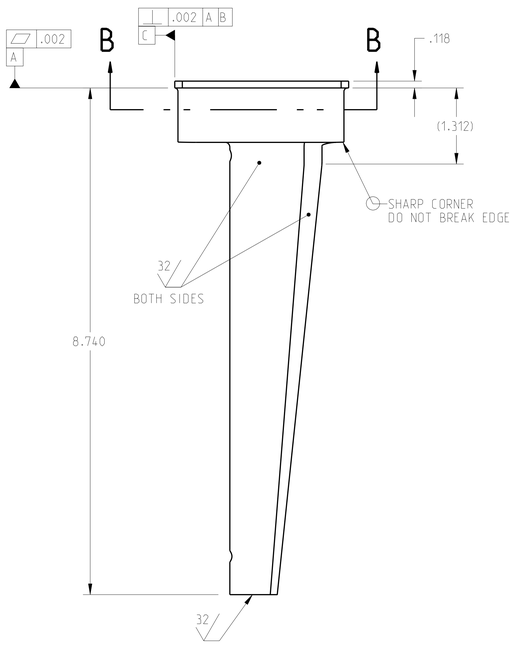


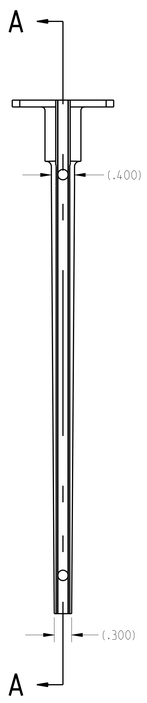
DETAIL D
SCALE 2/1

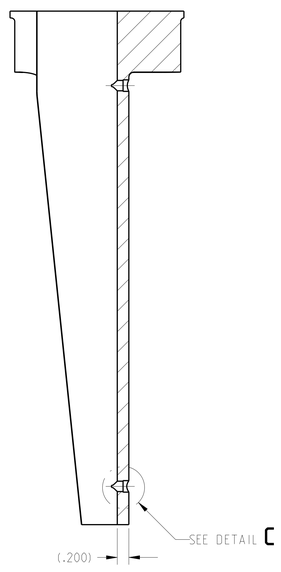


170601MRA109-1-2 (FOR STP FILE) △2

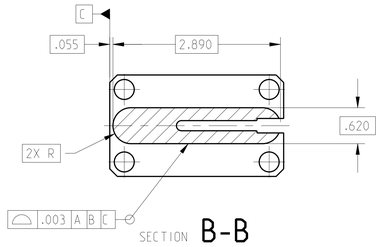




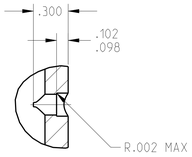




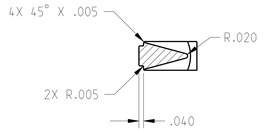
SECTION A-A



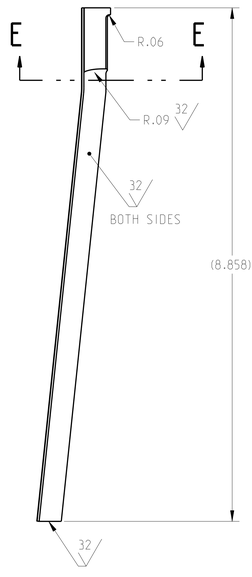
SECTION B-B



DETAIL C
SCALE 2/1
2 PLACES



SECTION E-E
SCALE 2/1



170601MRA109-2 △2
PROBE TRAILING EDGE

170601MRA109-1 △1
PROBE BODY

REDUCED DIMENSION DRAWING

170601MRA113	STREAM VANE	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES X.X ± 0.03 X.XXX ± 0.005 X.XX ± 0.01 ANGLE ± 0° 30' BREAK EDGES: .01-.02 INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994	RELEASE DATE	2017/10/02
NEXT ASSY	USED ON	THIRD ANGLE PROJECTION	MODELER	ZIN/D. ROOT
APPLICATION			ENGINEER	VPL/J. BUCKLEY
CONTRACTOR:	GESS3 TEAM		STATE	Released
CONTRACT NO:	NNC12BA01B		WINDCHILL PRODUCT	170601_W.B._Stream_Vane_Research
			MODEL	170601MRA109-1-2

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE
FLOW ANGULARITY PROBE 1 & 5

SIZE	CAGE CODE	DWG NO	REV
E	1GFP5	170601MRA109	-

SCALE: 1/1.8 NOTED SHEET 1 OF 1

REV - | SH 1 | 170601MRA109 | DWG NO

NOTES:

1. REDUCED DIMENSION DRAWING: INTERPRET PER ASME Y14.41-2012 EXCEPT AS FOLLOWS:
   - ALL UNDIMENSIONED FEATURES ARE MODELED AT MEAN VALUE. ARE BASIC AND ARE CONTROLLED WITH THE BILATERAL TOLERANCE OF ⌓ .005 A B C

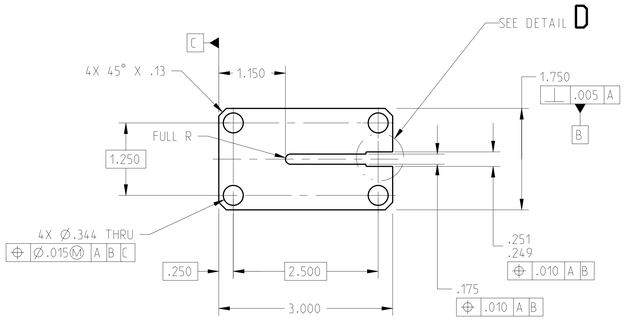
2. RAKE BODY AND FILLER TO BE MACHINED FROM ELECTRONIC MODEL.
   FILENAME: 170601MRA110-1-2.STP
   OR APPROVED EQUIVALENT.

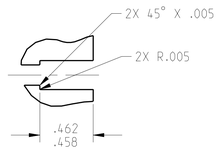
3. MATERIAL: PROBE BODY AND TRAILING EDGE:
   FLEXOR 'M' STEEL (OR APPROVED EQUIVALENT)
   PENNSYLVANIA STEEL CORP.
   HARDNESS = Rc 38-42
   TENSILE STRENGTH = 183 KSI
   YIELD STRENGTH = 171 KSI
   CERTIFICATES OF CHEMICAL AND MECHANICAL PROPERTIES ARE REQUIRED.

4. 63 Ra ALL OVER UNLESS OTHERWISE NOTED.

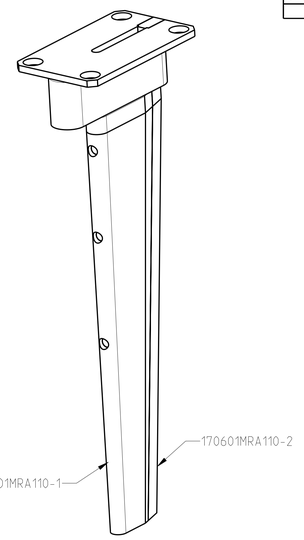
5. IDENTIFY BY BAGGING AND TAGGING WITH DRAWING PART NUMBER 170601MRA110 PER SAE-AS478. METHOD 35D.

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

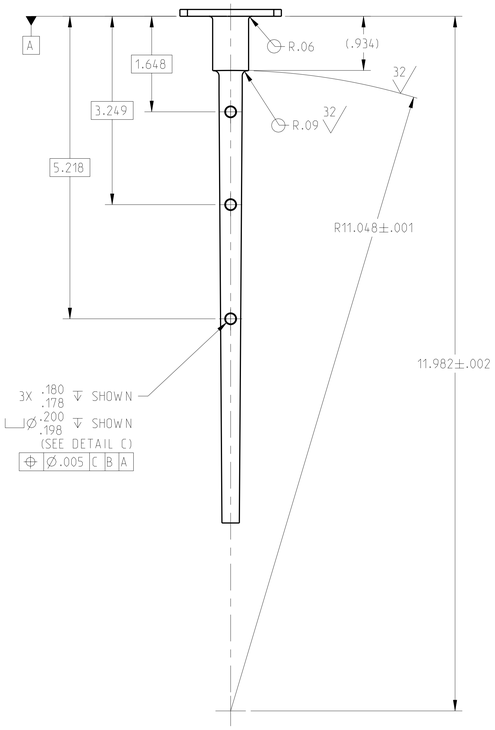


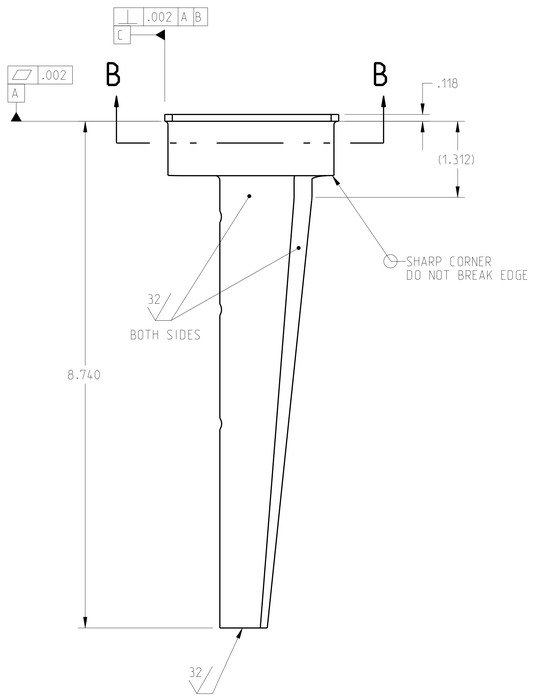


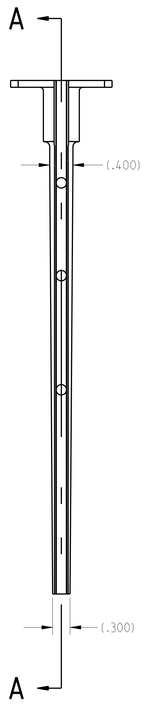
DETAIL D
SCALE 2/1

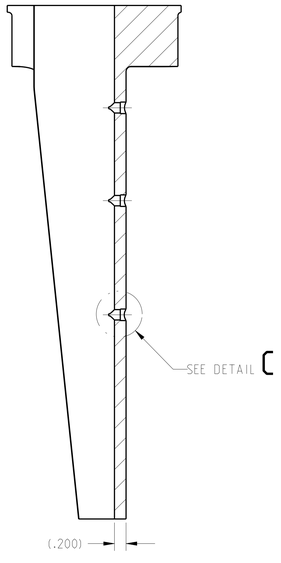


170601MRA110-1-2 (FOR STP FILE) 2

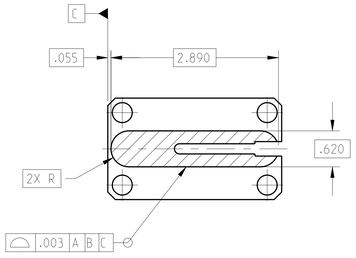




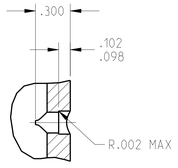




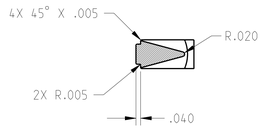
SECTION A-A



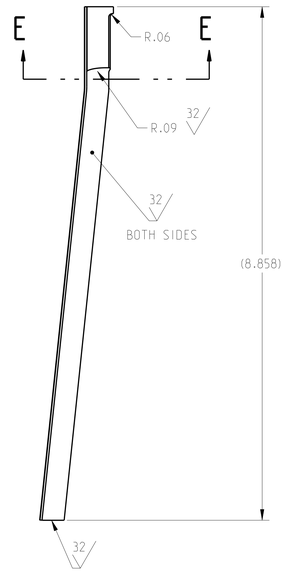
SECTION B-B



DETAIL C
SCALE 2/1
3 PLACES



SECTION E-E
SCALE 2/1



170601MRA110-2 ⚠
PROBE TRAILING EDGE

REDUCED DIMENSION DRAWING

170601MRA110-1 ⚠2
PROBE BODY

		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES X.X ± 0.03 X.XXX ± 0.005 X.XX ± 0.01 ANGLE ± 0° 30' BREAK EDGES: .01-.02 INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994	RELEASE DATE	2017/10/02
			MODELER	ZIN/D. ROOT
			ENGINEER	VPL/J. BUCKLEY
170601MRA114	STREAM VANE		STATE	Released
NEXT ASSY	USED ON	THIRD ANGLE PROJECTION	WINDCHILL PRODUCT	170601_W.B_Stream_Vane_Research
APPLICATION			MODEL	170601MRA110-1-2
CONTRACTOR:	GESS3 TEAM			
CONTRACT NO:	NNC12BA01B			

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE: FLOW ANGULARITY PROBE 2

SIZE	CAGE CODE	DWG NO	REV
E	1QFP5	170601MRA110	-

SCALE: 1/1 & NOTED SHEET 1 OF 1

SH 1 REV -
DWG NO 170601MRA110

NOTES:

1. REDUCED DIMENSION DRAWING: INTERPRET PER ASME Y14.41-2012 EXCEPT AS FOLLOWS:
   - ALL UNDIMENSIONED FEATURES ARE MODELED AT MEAN VALUE. ARE BASIC AND ARE CONTROLLED WITH THE BILATERAL TOLERANCE OF ⌓ .005 A B C

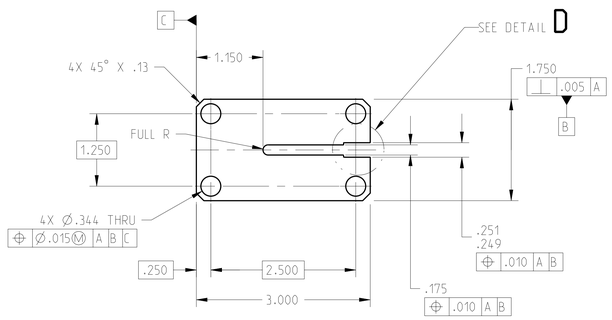
2. RAKE BODY AND FILLER TO BE MACHINED FROM ELECTRONIC MODEL.
   FILENAME: 170601MRA111-1-2.STP
   OR APPROVED EQUIVALENT.

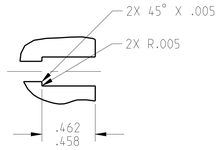
3. MATERIAL: PROBE BODY AND TRAILING EDGE:
   FLEXOR 'M' STEEL (OR APPROVED EQUIVALENT)
   PENNSYLVANIA STEEL CORP.
   HARDNESS = Rc 38-42
   TENSILE STRENGTH = 183 KSI
   YIELD STRENGTH = 171 KSI
   CERTIFICATES OF CHEMICAL AND MECHANICAL PROPERTIES ARE REQUIRED.

4. 63 Ra ALL OVER UNLESS OTHERWISE NOTED.

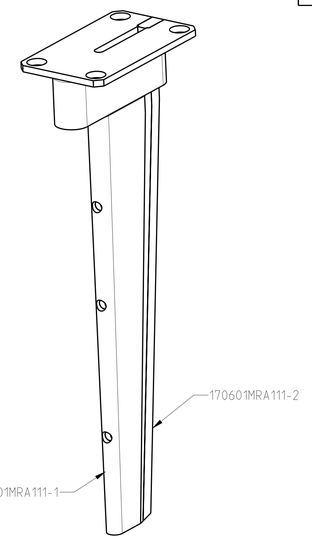
5. IDENTIFY BY BAGGING AND TAGGING WITH DRAWING PART NUMBER 170601MRA111 PER SAE-AS478. METHOD 35D.

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

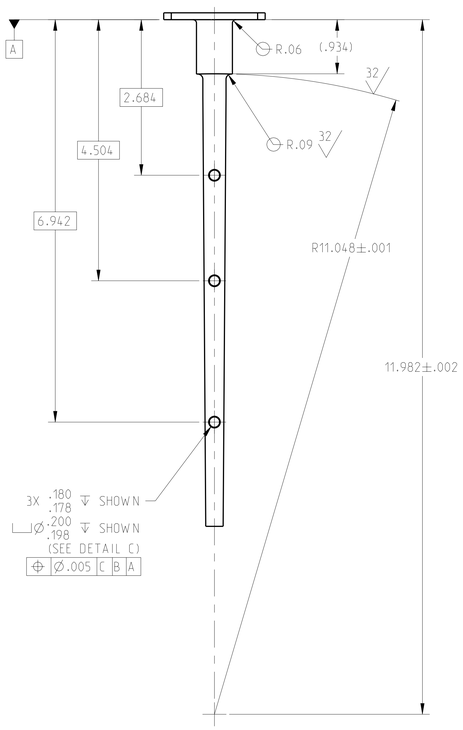


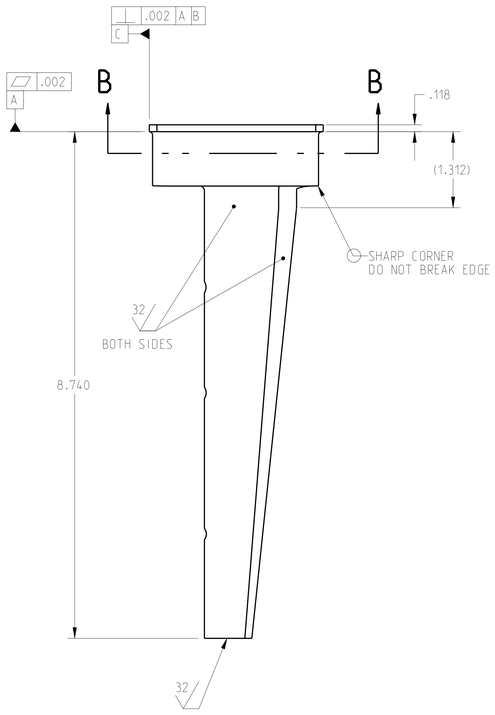


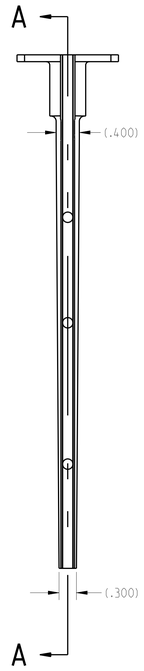
DETAIL D
SCALE 2/1



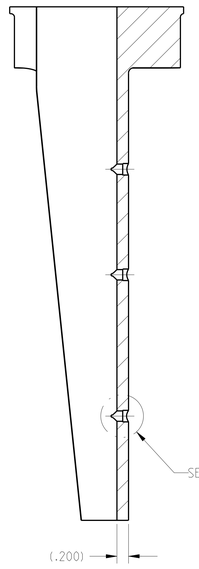
170601MRA111-1-2 (FOR STP FILE) ⚠2

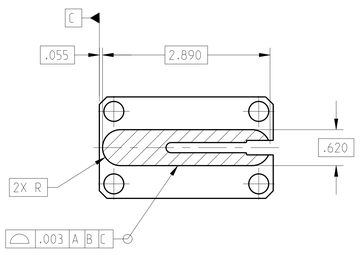




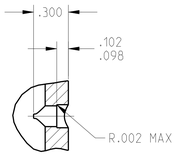


SECTION A-A

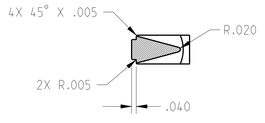




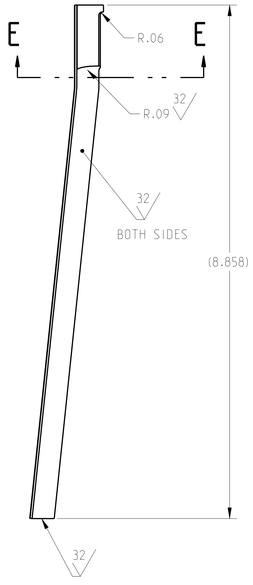
SECTION B-B



DETAIL C
SCALE 2/1
3 PLACES



SECTION E-E
SCALE 2/1



170601MRA111-2 ⚠2
PROBE TRAILING EDGE

REDUCED DIMENSION DRAWING

170601MRA111-1 ⚠1
PROBE BODY

170601MRA115	STREAM VANE
NEXT ASSY	USED ON
APPLICATION	
CONTRACTOR:	GESS3 TEAM
CONTRACT NO:	NNC12BA01B

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
X.X ± 0.03 X.XXX ± 0.005
X.XX ± 0.01 ANGLE ± 0° 30'
BREAK EDGES: .01-.02
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994
THIRD ANGLE PROJECTION

RELEASE DATE	2017/10/02
MODELER	ZIN/D. ROOT
ENGINEER	VPL/J. BUCKLEY
STATE	Released
WINDMILL PRODUCT	
170601_W.B_Stream_Vane_Research	
MODEL	
170601MRA111-1-2	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE
FLOW ANGULARITY PROBE 3

SIZE	CAGE CODE	DWG NO	REV
E	1QFP5	170601MRA111	-

SCALE: 1/1 & NOTED SHEET 1 OF 1

DRAW NO 170601MRA111 SH 1 REV

NOTES:

1. REDUCED DIMENSION DRAWING: INTERPRET PER ASME Y14.41-2012 EXCEPT AS FOLLOWS:
   - ALL UNDIMENSIONED FEATURES ARE MODELED AT MEAN VALUE. ARE BASIC AND ARE CONTROLLED WITH THE BILATERAL TOLERANCE OF ⌓ .005 A B C

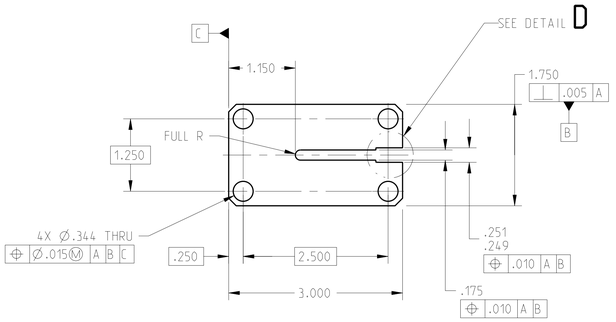
2. RAKE BODY AND FILLER TO BE MACHINED FROM ELECTRONIC MODEL. FILENAME: 170601MRA112-1-2.STP OR APPROVED EQUIVALENT.

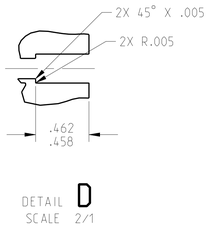
3. MATERIAL: PROBE BODY AND TRAILING EDGE: FLEXOR 'M' STEEL (OR APPROVED EQUIVALENT) PENNSYLVANIA STEEL CORP.
   HARDNESS = Rc 38-42
   TENSILE STRENGTH = 183 KSI
   YIELD STRENGTH = 171 KSI
   CERTIFICATES OF CHEMICAL AND MECHANICAL PROPERTIES ARE REQUIRED.

4. 63 Ra ALL OVER UNLESS OTHERWISE NOTED.

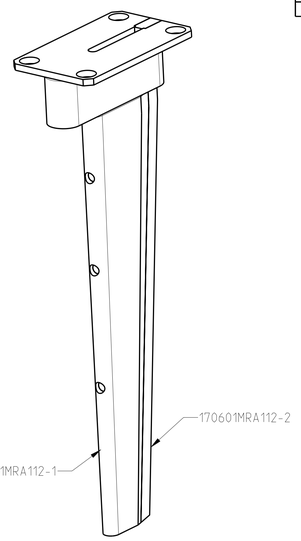
5. IDENTIFY BY BAGGING AND TAGGING WITH DRAWING PART NUMBER 170601MRA112 PER SAE-AS478. METHOD 35D.

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

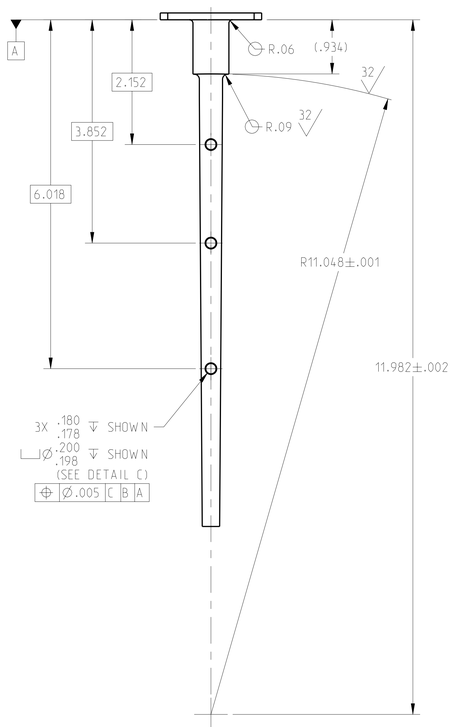


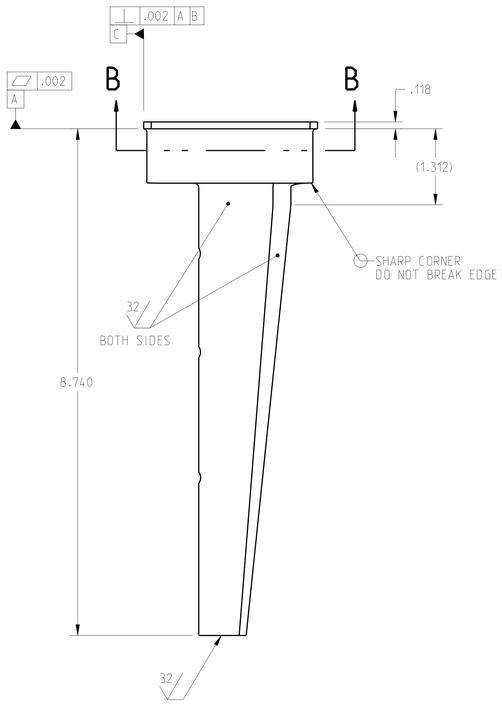


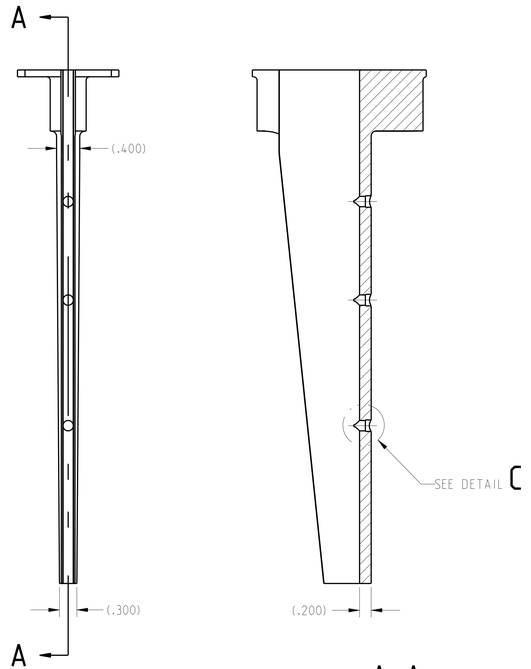
DETAIL D
SCALE 2/1



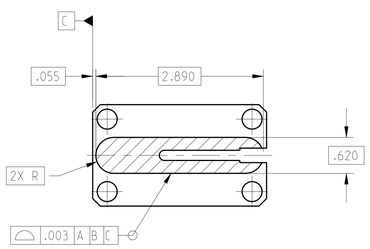
170601MRA112-1-2 (FOR STP FILE) ⚠2



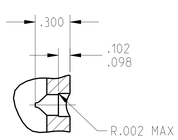




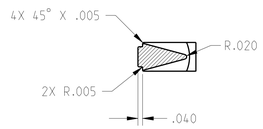
SECTION A-A



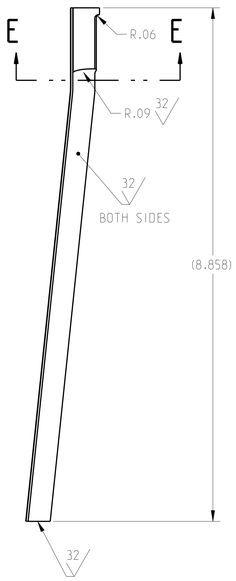
SECTION B-B



DETAIL C
SCALE 2/1
3 PLACES



SECTION E-E
SCALE 2/1



170601MRA112-2 ⚠2
PROBE TRAILING EDGE

170601MRA112-1 ⚠2
PROBE BODY

REDUCED DIMENSION DRAWING

		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES X.X ± 0.03 X.XXX ± 0.005 X.XX ± 0.01 ANGLE ± 0° 30' BREAK EDGES: .01-.02 INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994	RELEASE DATE	2017/10/02
			MODELER	ZIN/D. ROOT
			ENGINEER	VPL/J. BUCKLEY
170601MRA116	STREAM VANE		STATE	Released
NEXT ASSY:	USED ON:	THIRD ANGLE PROJECTION	WINDCHILL PRODUCT:	170601_W8_Stream_Vane_Research
APPLICATION:			MODEL:	170601MRA112-1-2
CONTRACTOR:	GESS3 TEAM			
CONTRACT NO:	NNC12BA01B			

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE: FLOW ANGULARITY PROBE 4

SIZE	CAGE CODE	DWG NO	REV
E	1QFP5	170601MRA112	–

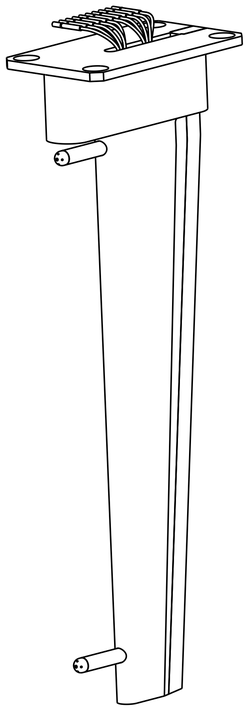
SCALE: 1/1 & NOTED | SHEET 1 OF 1

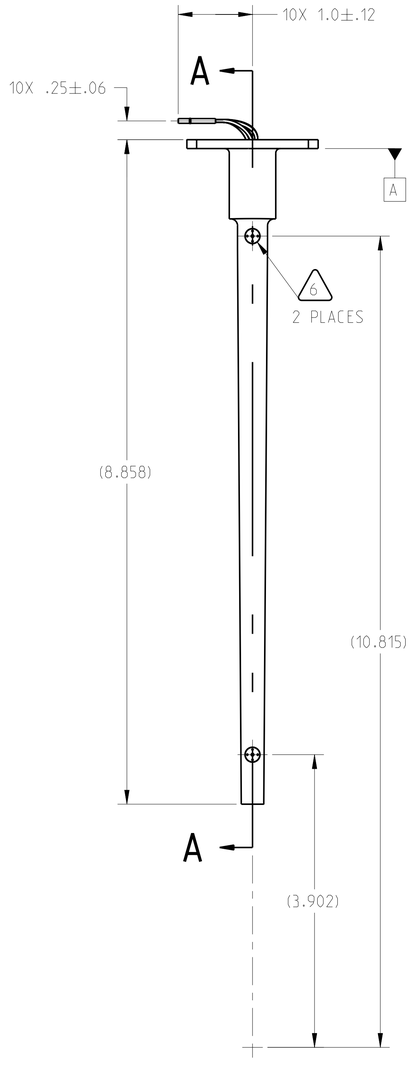
REV –
SH 1
DWG NO 170601MRA112

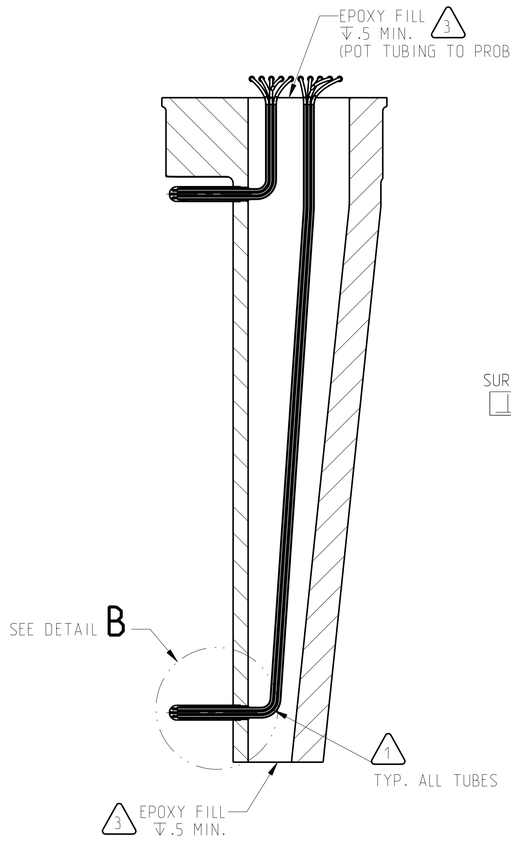
NOTES:

1. TUBING CENTERLINE BEND RADII SHALL BE 2 TO 4 TIMES THE TUBE O.D.
2. DEGREASE COMPONENTS WITH 190 PROOF ETHYL ALCOHOL BEFORE ASSEMBLY.
3. EPOXY USING COTRONICS DURALCO 4525 OR APPROVED EQUIVALENT.
4. ELECTRON-BEAM WELD PER AMS 2681.
5. WELDS TO BE VISUALLY INSPECTED PER AWS-B2.1
6. EACH PROBE CENTER, ALONG ITS STRAIGHT LENGTH, SHALL BE WITHIN Ø.010 OF TRUE POSITION.
7. THE FACE OF EACH PROBE SHALL BE WITHIN .010 OF TRUE POSITION OF THE SURVEY PLANE.
8. ELECTROCHEMICAL ETCH DRAWING PART NUMBER 170601MRA113 ON SPECIFIED SURFACE PER SAE-AS478, METHOD 7A (ZONE D3).

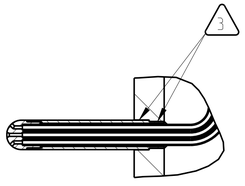
REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED



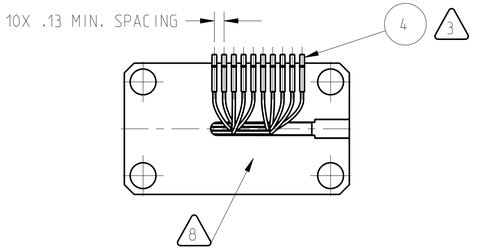


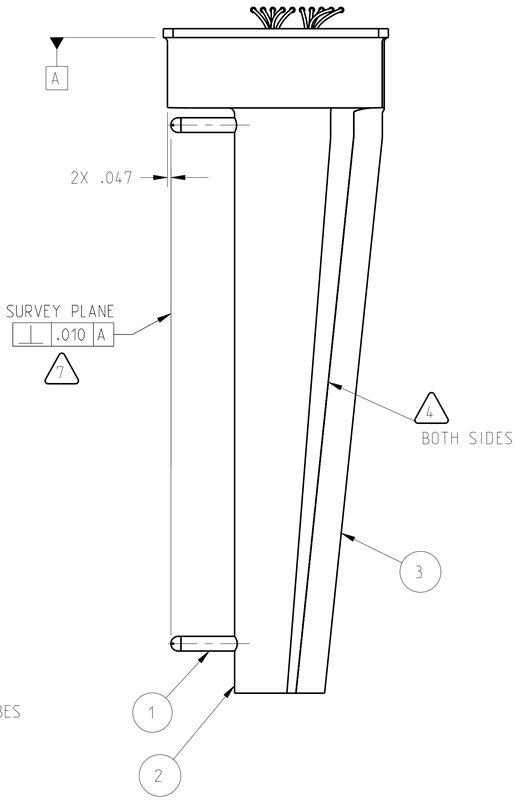


SECTION A-A



DETAIL B
SCALE 2/1
2 PLACES





FIND NO	QTY REQD	CAGE CODE	PART OR IDENT NO	NOMENCLATURE OR DESCRIPTION	NOTES OR REMARKS
4	10		0988-063-.50 SS	.063 OD TUBULATION, SCANI CORP	
3	1	1QFP5	170601MRA109-2	ANGULARITY PROBE TRAILING EDGE	
2	1	1QFP5	170601MRA109-1	ANGULARITY PROBE BODY 1 & 5	
1	2	1QFP5	120702MRB813	FLOW ANGULARITY PROBE	

PARTS LIST

170601MRA150	STREAMVANE
NEXT ASSY	USED ON
APPLICATION	
CONTRACTOR:	GESS3 TEAM
CONTRACT NO:	NNC12BA01B

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
X.X ± 0.03 X.XXX ± 0.005
X.XX ± 0.01 ANGLE ± 0° 30'
BREAK EDGES: -
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994
THIRD ANGLE PROJECTION

RELEASE DATE	2017/10/05
MODELER	ZIN/D. ROOT
ENGINEER	VPL/J. BUCKLEY
STATE	Released
WINDCHILL PRODUCT	
170601_W8_Stream_Vane_Research	
MODEL	
170601MRA113_ANG_PROBE_1_5_ASSY	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE
FLOW ANGULARITY PROBE 1&5 ASSEMBLY

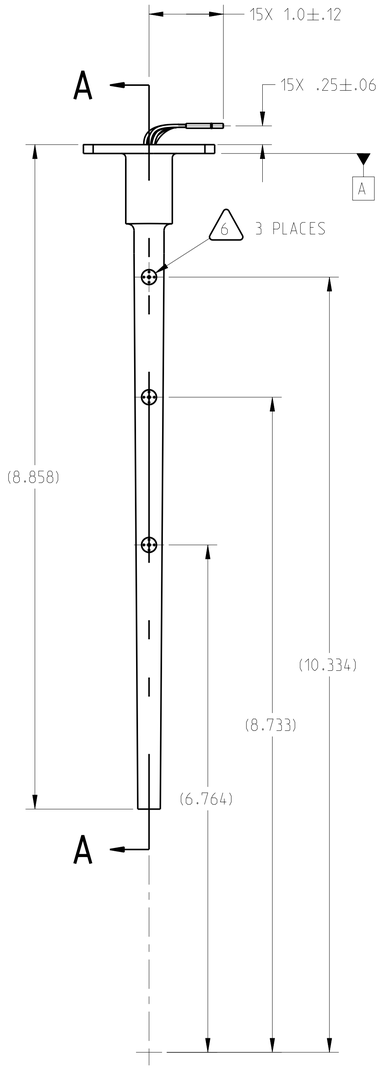
SIZE	CAGE CODE	DWG NO	REV
D	1QFP5	170601MRA113	-
SCALE: 1/1 & NOTED			SHEET 1 OF 1

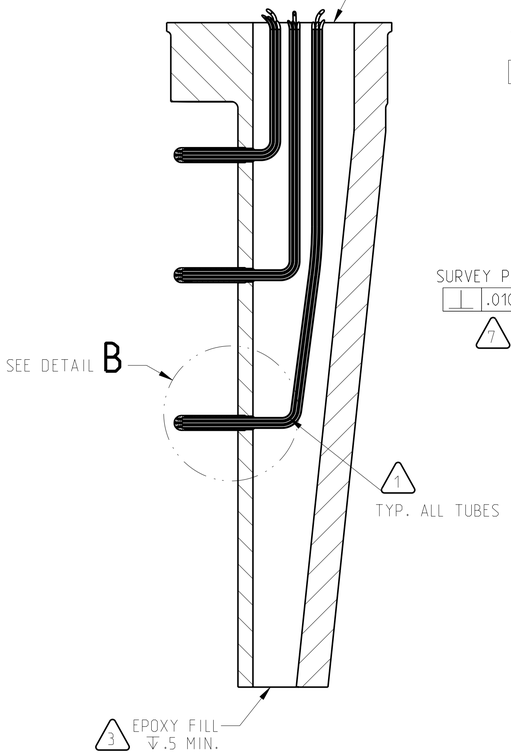
DWG NO 170601MRA113 SH 1 REV -

NOTES:

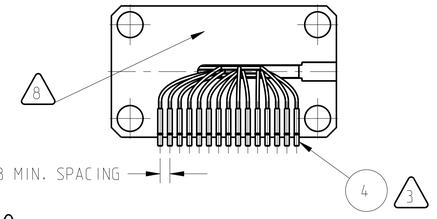
1. TUBING CENTERLINE BEND RADII SHALL BE 2 TO 4 TIMES THE TUBE O.D.
2. DEGREASE COMPONENTS WITH 190 PROOF ETHYL ALCOHOL BEFORE ASSEMBLY.
3. EPOXY USING COTRONICS DURALCO 4525 OR APPROVED EQUIVALENT.
4. ELECTRON-BEAM WELD PER AMS 2681.
5. WELDS TO BE VISUALLY INSPECTED PER AWS-B2.1
6. EACH PROBE CENTER, ALONG ITS STRAIGHT LENGTH, SHALL BE WITHIN Ø.010 OF TRUE POSITION.
7. THE FACE OF EACH PROBE SHALL BE WITHIN .010 OF TRUE POSITION OF THE SURVEY PLANE.
8. ELECTROCHEMICAL ETCH DRAWING PART NUMBER 170601MRA114 ON SPECIFIED SURFACE PER SAE-AS478, METHOD 7A (ZONE D3).

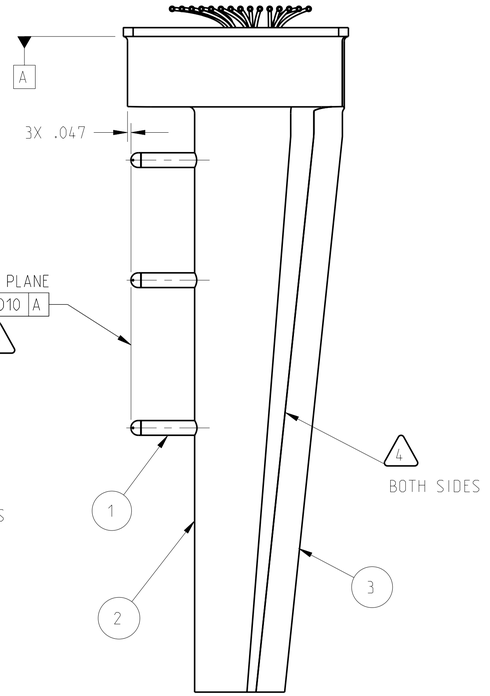
REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

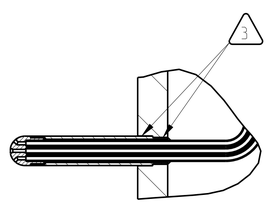




SECTION A-A







DETAIL B
SCALE 2/1
3 PLACES

FIND NO	QTY REQD	CAGE CODE	PART OR IDENT NO	NOMENCLATURE OR DESCRIPTION	NOTES OR REMARKS
4	15		0988-063-.50 SS	.063 OD TUBULATION, SCANI CORP	
3	1	1QFP5	170601MRA110-2	ANGULARITY PROBE TRAILING EDGE	
2	1	1QFP5	170601MRA110-1	ANGULARITY PROBE BODY	
1	3	1QFP5	120702MRB813	FLOW ANGULARITY PROBE	

PARTS LIST

170601MRA150	STREAMVANE
NEXT ASSY	USED ON
APPLICATION	
CONTRACTOR:	GESS3 TEAM
CONTRACT NO:	NNC12BA01B

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
X.X ± 0.03 X.XXX ± 0.005
X.XX ± 0.01 ANGLE ± 0° 30'
BREAK EDGES: -
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994
THIRD ANGLE PROJECTION

RELEASE DATE	2017/10/05
MODELER	ZIN/D. ROOT
ENGINEER	VPL/J. BUCKLEY
STATE	Released
WINDCHILL PRODUCT	
170601_W8_Stream_Vane_Research	
MODEL	
170601MRA114_ANG_PROBE_2_ASSY	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE
FLOW ANGULARITY PROBE 2 ASSEMBLY

SIZE	CAGE CODE	DWG NO	REV
D	1QFP5	170601MRA114	-

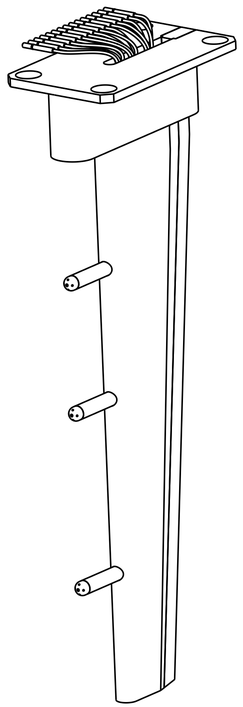
SCALE: 1/1 & NOTED SHEET 1 OF 1

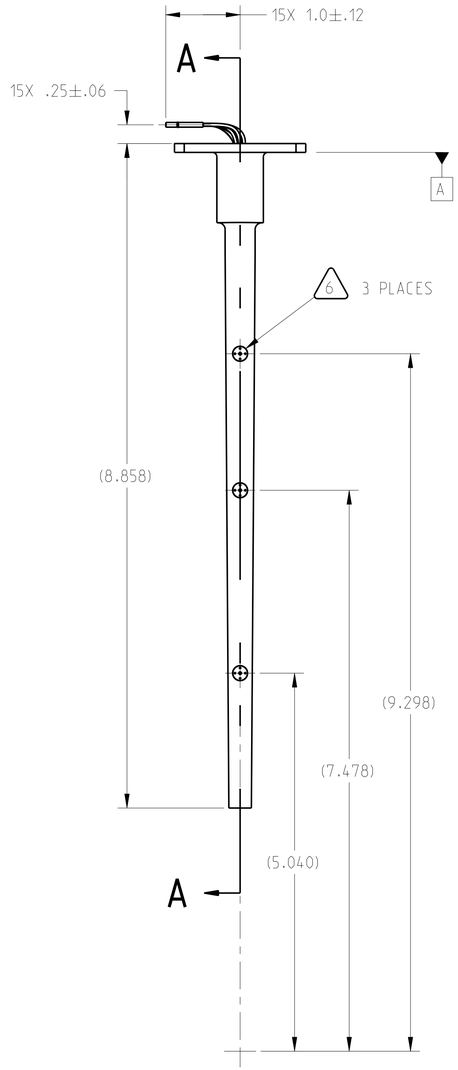
DWG NO 170601MRA114 SH 1 REV -

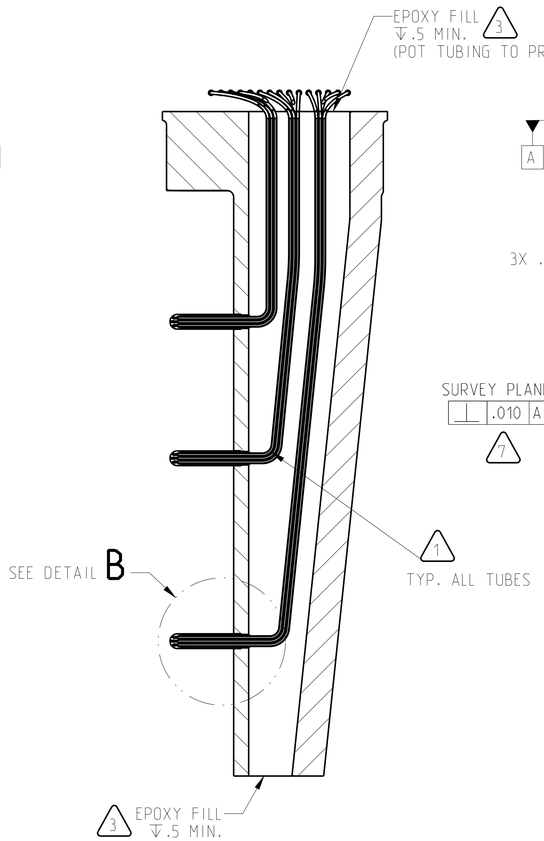
NOTES:

1. TUBING CENTERLINE BEND RADII SHALL BE 2 TO 4 TIMES THE TUBE O.D.
2. DEGREASE COMPONENTS WITH 190 PROOF ETHYL ALCOHOL BEFORE ASSEMBLY.
3. EPOXY USING COTRONICS DURALCO 4525 OR APPROVED EQUIVALENT.
4. ELECTRON-BEAM WELD PER AMS 2681.
5. WELDS TO BE VISUALLY INSPECTED PER AWS-B2.1
6. EACH PROBE CENTER, ALONG ITS STRAIGHT LENGTH, SHALL BE WITHIN Ø.010 OF TRUE POSITION.
7. THE FACE OF EACH PROBE SHALL BE WITHIN .010 OF TRUE POSITION OF THE SURVEY PLANE.
8. ELECTROCHEMICAL ETCH DRAWING PART NUMBER 170601MRA115 ON SPECIFIED SURFACE PER SAE-AS478, METHOD 7A (ZONE D3).

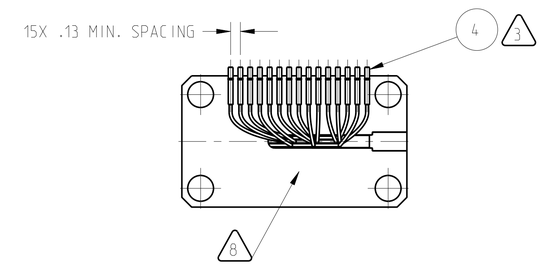
REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

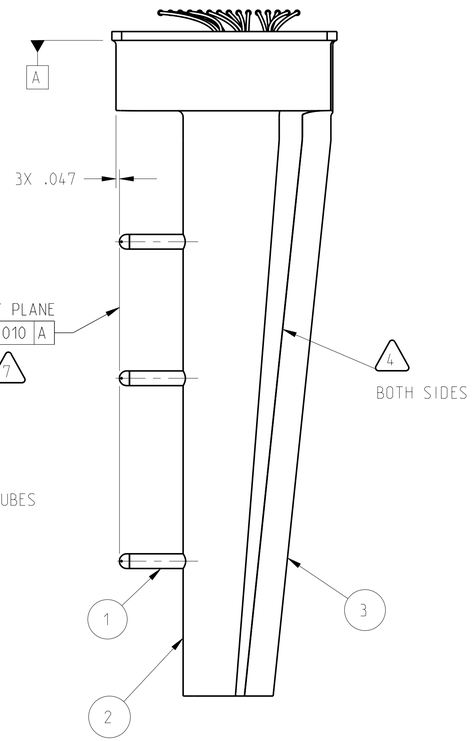


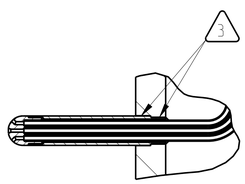




SECTION A-A







DETAIL B
SCALE 2/1
3 PLACES

FIND NO	QTY REQD	CAGE CODE	PART OR IDENT NO	NOMENCLATURE OR DESCRIPTION	NOTES OR REMARKS
4	15		0988-063-.50 SS	.063 OD TUBULATION, SCANI CORP	
3	1	1QFP5	170601MRA111-2	ANGULARITY PROBE TRAILING EDGE	
2	1	1QFP5	170601MRA111-1	ANGULARITY PROBE BODY	
1	3	1QFP5	120702MRB813	FLOW ANGULARITY PROBE	

PARTS LIST

170601MRA150	STREAMVANE
NEXT ASSY	USED ON
APPLICATION	
CONTRACTOR:	GESS3 TEAM
CONTRACT NO:	NNC12BA01B

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
X.X ± 0.03 X.XXX ± 0.005
X.XX ± 0.01 ANGLE ± 0° 30'
BREAK EDGES: -
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994
THIRD ANGLE PROJECTION

RELEASE DATE	2017/10/05
MODELER	ZIN/D. ROOT
ENGINEER	VPL/J. BUCKLEY
STATE	Released
WINDCHILL PRODUCT	
170601_W8_Stream_Vane_Research	
MODEL	
170601MRA115_ANG_PROBE_3_ASSY	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE
FLOW ANGULARITY PROBE 3 ASSEMBLY

SIZE	CAGE CODE	DWG NO	REV
D	1QFP5	170601MRA115	-

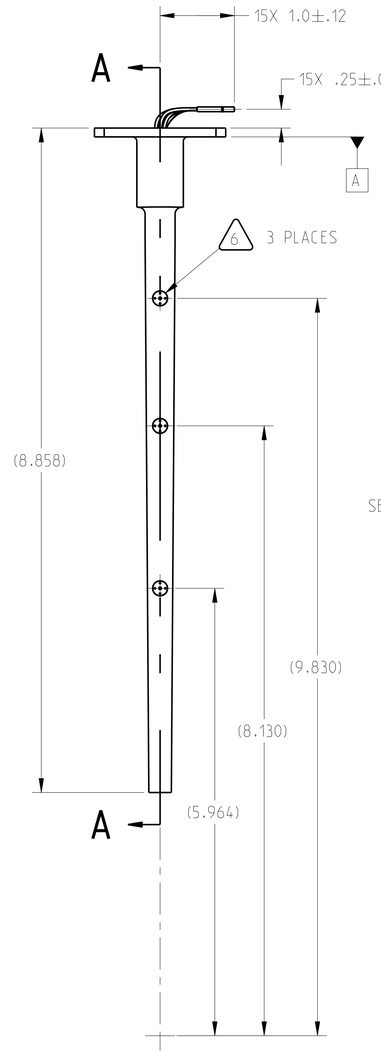
SCALE: 1/1 & NOTED SHEET 1 OF 1

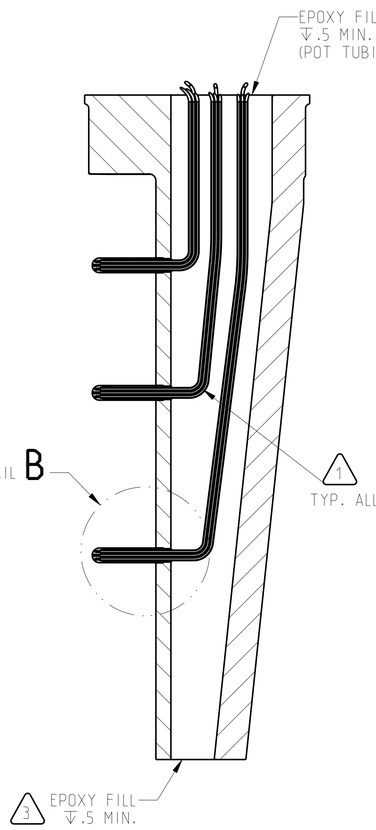
DWG NO	SH	REV
170601MRA115	1	-

NOTES:

1. TUBING CENTERLINE BEND RADII SHALL BE 2 TO 4 TIMES THE TUBE O.D.
2. DEGREASE COMPONENTS WITH 190 PROOF ETHYL ALCOHOL BEFORE ASSEMBLY.
3. EPOXY USING COTRONICS DURALCO 4525 OR APPROVED EQUIVALENT.
4. ELECTRON-BEAM WELD PER AMS 2681.
5. WELDS TO BE VISUALLY INSPECTED PER AWS-B2.1
6. EACH PROBE CENTER, ALONG ITS STRAIGHT LENGTH, SHALL BE WITHIN Ø.010 OF TRUE POSITION.
7. THE FACE OF EACH PROBE SHALL BE WITHIN .010 OF TRUE POSITION OF THE SURVEY PLANE.
8. ELECTROCHEMICAL ETCH DRAWING PART NUMBER 170601MRA116 ON SPECIFIED SURFACE PER SAE-AS478, METHOD 7A (ZONE D3).

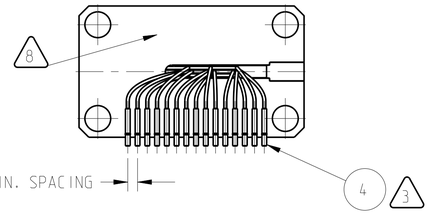
REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

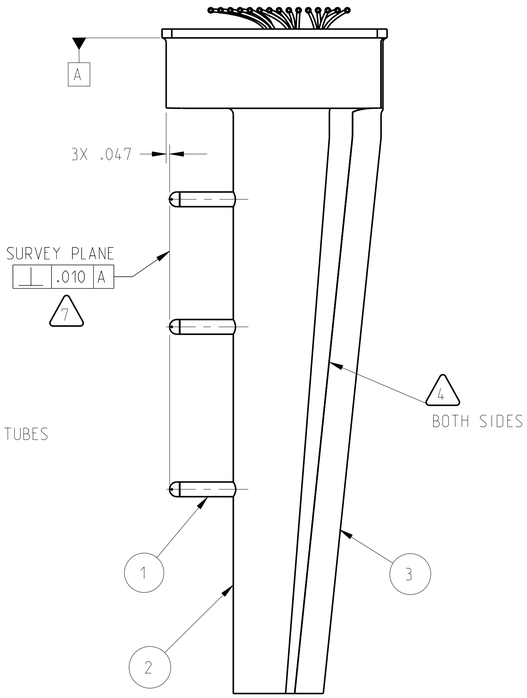




SECTION A-A

DETAIL B
SCALE 2/1
3 PLACES





FIND NO	QTY REQD	CAGE CODE	PART OR IDENT NO	NOMENCLATURE OR DESCRIPTION	NOTES OR REMARKS
4	15		0988-063-.50 SS	.063 OD TUBULATION, SCANI CORP	
3	1	1QFP5	170601MRA112-2	ANGULARITY PROBE TRAILING EDGE	
2	1	1QFP5	170601MRA112-1	ANGULARITY PROBE BODY	
1	3	1QFP5	120702MRB813	FLOW ANGULARITY PROBE	

PARTS LIST

170601MRA150	STREAMVANE
NEXT ASSY	USED ON
APPLICATION	
CONTRACTOR:	GESS3 TEAM
CONTRACT NO:	NNC12BA01B

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
X.X ± 0.03 X.XXX ± 0.005
X.XX ± 0.01 ANGLE ± 0° 30'
BREAK EDGES: -
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994
THIRD ANGLE PROJECTION

RELEASE DATE	2017/10/05
MODELER	ZIN/D. ROOT
ENGINEER	VPL/J. BUCKLEY
STATE	Released
WINDCHILL PRODUCT	
170601_W8_Stream_Vane_Research	
MODEL	
170601MRA116_ANG_PROBE_4_ASSY	

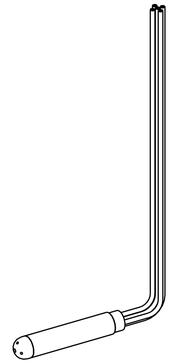
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD, CLEVELAND, OHIO

TITLE
FLOW ANGULARITY PROBE 4 ASSEMBLY

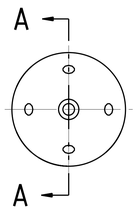
SIZE	CAGE CODE	DWG NO	REV
D	1QFP5	170601MRA116	-
SCALE: 1/1 & NOTED			SHEET 1 OF 1

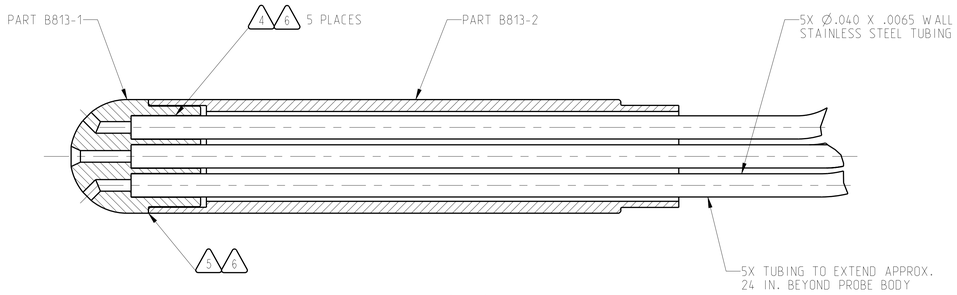
DWG NO 170601MRA116 SH 1 REV -

1. MATERIAL: 304 STAINLESS STEEL PER ASTM A276.
2. 63 Ra ALL OVER.
3. PASSIVATE PER ASTM-A967.
4. TORCH BRAZE USING AWS-A5.8 BAg-21 (AMS 4774) PER AWS-B2.2 (1275°F-1475°F)
5. TORCH BRAZE USING AWS-A5.8 BAg-24 (AMS 4788) PER AWS-B2.2 (1220°F-1305°F)
6. BRAZE JOINTS SHALL BE CONTINUOUS WITH NO CRACKS OR POROSITY DETECTABLE UNDER 20X MAGNIFICATION.
7. IDENTIFY BY BAGGING AND TAGGING WITH DRAWING PART NUMBER 120702MRB813 PER SAE-AS478, METHOD 35D.

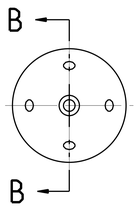


SCALE: 2/1

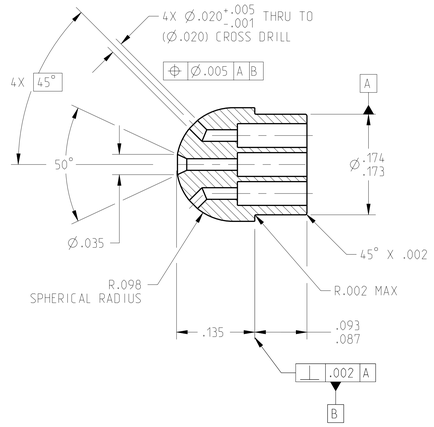




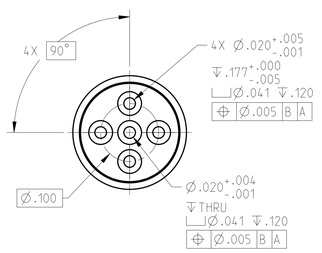
SECTION A-A

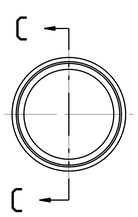


PART B813-1

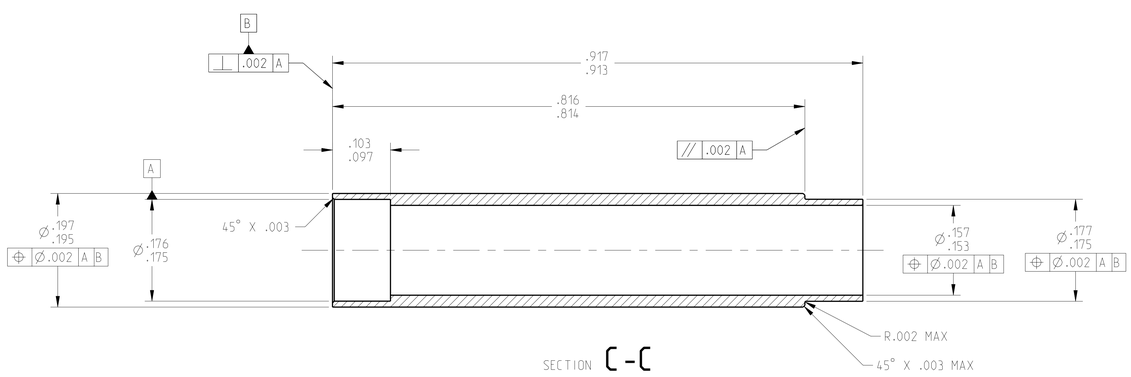


SECTION B-B





PART B813-2



SECTION C-C

REV	ZONE	DESCRIPTION	APP/DATE
A	E4	CHG TOLERANCE TO +.005/.001	DG/2-9-16

REVISIONS

PRIOR TO USE VERIFY THE INTENDED PURPOSE IN PDM ('FOR' ATTRIBUTE)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCE ON

.X	± 0.03
.XX	± 0.01
.XXX	± 0.005
FRACTION	± -
ANGULAR	± 0.50°
BREAK EDGES	.002 MAX

DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994

CONTRACT	NNC12BA01B
CONTRACTOR	GESS3 TEAM
TASK ORDER	0412
DRAFTER	VPL/K. SUKEL
ENGINEER	VPL/D. GUBICS
DESIGNER	VPL/D. ROOT

PDM REL LEVEL: Released PDM REVISION: A

PDM DATABASE: „120702 Boundary Layer Ingestion-

MODEL NAME: 120702_FLOW_ANG_PROBE

CHECK FOR ANY OUTSTANDING ECO'S PRIOR TO USE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD
CLEVELAND, OHIO

CORNER RAKE ASSEMBLY

120702MRB802 A

B813 FLOW ANGULARITY PROBE

SIZE	DRAWING NUMBER	REV	BLDG	AREA
E	120702MRB813	A	54	8X6

UNITS: INCH

SCALE:	INITIAL REL DATE	SHEET	DISCIPLINE
10/1 & NOTED	12/4/2015	1 OF 1	MECHANICAL

PRO/E VERSION: Creo 2.0

SIZE E DRAWING NUMBER 120702MRB813 REV A

NAME:DGUBICS OBJECT:120702_STUBE_FLOW_ANG_TIP DATE:09-Feb-16 15:02:18