



AVIONICS AND SURVEILLANCE DIVISION

End to end avionics
and covert surveillance
solutions



DEFENCE SYSTEMS DIVISION

Critical technology
for network
centric operations



MISSION SYSTEMS DIVISION

Complete 'nose to tail'
refuelling and 'wingtip
to wingtip' mission
systems capability



AVIATION SERVICES DIVISION

Operates, modifies and
maintains more than
150 fixed and rotary wing
aircraft around the world

Supplier Quality Assurance First Article Inspection IAW QC813 and QC814

- **FAI forms shall be completed IAW either QC form 813A or QC814 (AS9102) as required by purchase order:**
- **Suppliers may use their own format for FAI's completed IAW QC813 provided the supplier form is equivalent. For FAI's prepared IAW QC814, the use of Carleton's version AS9102 is preferred.**
- **All forms shall be completed either electronically or in permanent ink.**
- **A numeric result is required for measurable attributes.**
- **For non numeric responses, the terms "accept", "complies with", "compliant" are preferred. A response expressed as "OK" is not an acceptable response.**
- **If a lapse of production exceeds a period of 12 months, a full FAI is required to be completed.**

- **Revision Changes:** When a part revision level changes, a “delta” or “partial” FAI is required . Only the characteristic (s) that have been revised, added or amended shall be recorded on the partial FAI.
- **Characteristic Accountability:** The organization shall verify every design characteristic during FAI and record the results. Every design characteristic shall have its own unique number.
- **GD&T characteristics and their measured/calculated values must be recorded in the FAI.** Basic dimensions may be omitted from the FAI.
- **Reference dimensions may be omitted from the FAI report.**
- **Control of records:** All FAI documentation shall be considered a quality record and shall be submitted and/or retained on record IAW PO requirements.

- **Suppliers shall record the results in the same units specified on the drawing or specification.**
- **When the same characteristic has multiple locations, the FAI results may be expressed as a low to high range of the measurements taken.**
- **CMM reports may be referenced on the FAI form as an attachment. Each page of CMM reports must be identified and traceable to FAI report. The CMM report shall be provided in a way such that the characteristics in the FAI are identifiable and the results are clearly expressed.**

1. Part Number (Required) B51306-1	2. Part Name (Required) Spacer	3. Serial Number (Conditionally Required)	4. FAI Report Number (Optional)
5. Part Revision Level (Conditionally Required) B	6. Drawing Number (Conditionally Required) B51306-1	7. Drawing revision level (Conditionally Required) B	8. Additional Changes (Conditionally Required)
9. Manufacturing Process Reference (Required) Job 37018	10. Organization Name (Required) ACME MACH	11. Supplier Code (Optional)	12. P.O. Number (Optional)
13. Detail FAI X	14. Full FAI X	Baseline Part Number Including revision level Enter details of the part changes that are covered in the Partial (Delta) FAI	
Assembly FAI	Reason for Partial FAI:		
a) if above part number is a detail part only, go to Field 19 b) if above part number is an assembly, go to the "INDEX" section below.			
INDEX of part numbers or sub-assembly numbers required to make the assembly noted above.			
15. Part Number (Conditionally Required)	16. Part Name	17. Part Serial Number	18. FAI Report Number
1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition. 2) Also indicate if the FAI is complete per Section 5.4:			
(Required)	X FAI complete		FAI not Complete
19. Name and Signature (Required) Dave Pastor		20. Date (Required) 9/26/11	
21. Reviewed By (Optional)			22. Date (Optional)
23. Customer Approval (Optional)			24. Date (Optional)

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

1. Part Number (Required) B51306-1		2. Part Name (Required) Spacer		3. Serial Number (Conditionally Required)	4. FAI Report (Optional)		
Inspection / Test Results							
Optional Fields							
5. Char No. (Required)	6. Reference Location (Conditionally Required)	7. Characteristic Designator (Conditionally Required)	8. Requirement (Required)	9. Results (Required)	10. Designed Tooling (Conditionally Required)	11. Non-Conformance Number (Conditionally Required)	14. [Insert columns, etc, as required by Organization or Customer] (Optional)
1	D8		Note 1	Accept			
2	D8		Note 2	Accept			
3	D8		Note 3	As Noted			
4	D6		1.990 +/- .005	1.991			
5	B8		.09 +/- .01 4X	.09 4X			
6	B8		.173 +/- .003 4X	.173 4X			
7	B8		Position .002 M AD S B	0.003			
8	C5		1.570 +/- .005	1.572			
9	C5		Circular Runout .002	0.0001			
10	D5		1.494 +/- .005	1.495			
11	D5		.0865 +/- .0025	0.087			Accept with bonus tolerance
12	D4		63√	< 63			
13	D4		63√	<63			
14	D4		.010 2x	.005 2x			
15	D4		16√	12√			
16	D4		.052 +/- .001	0.051			
17	D4		.100 +/- .005	0.139		MDR 12345	
18	D3		.198 +/- .005	0.199			
19	D3		Parallelism .005 A	0.001			
20	D3		1.325 +/- .005	1.326			
21	C3		Circular Runout .002	0.001			
22	C3		1.188 +/- .005	1.189			
23	C3		Circular Runout .002	0.001			
24	C4		1.259 +/- .005	1.258			
25	C5		Circular Runout .002	0.001			
26	C4		1.076 +/- .005	1.077			
27	C5		Position .014 S ABC	0.01			
28	D1		.0175 +/- .0025	0.015			

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

1. Part Number (Required) B51306-1		2. Part Name (Required) Spacer		3. Serial Number (Conditionally Required)	4. FAI Report (Optional)		
Characteristic Accountability				Inspection / Test Results			
5. Char No. (Required)	6. Reference Location (Conditionally Required)	7. Characteristic Designator (Conditionally Required)	8. Requirement (Required)	9. Results (Required)	10. Designed Tooling (Conditionally Required)	11. Non-Conformance Number (Conditionally Required)	14. [Insert columns, etc, as required by Organization or Customer] (Optional)
29	D2		.030 +/- .005	0.031			
30	C2		32√	<32			
31	C1		.007/.002	0.005			
32	C1		.0425 +/- .0025	0.041			
33	C2		32√	<32√			
34	C1		.007/.002 2X	.005, .006			
35	C2		32√	<32√			
36	C1		.007/.002 2X	.005, .006			
37	B2		32√	<32√			
38	B1		.007/.002	0.004			
39	A2		MATERIAL	ACCEPT			
40	A5		NO BURRS	ACCEPT			
41	A5		125√	<125√			
42	A4		250√ DRILLED	<250√			
43	A3		.035 MAX Fillet	<.035			
44	A3		BRK .020 MAX	<.020			
45	A3		Coaxial Features Runout within .006	.005 MAX			
The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition. 12. Prepared By (Required) Dave Pastor							
13. Date (Required) 9/15/2011							

Deutsche Nickel AG, Postfach 18 40, D-58213 Schwerte
Messrs.
Criterion Metals, Inc.
279, Jenckes Hill Road
Smithfield, RI 02917
USA

No.: R 25869
Order-No.:
M0511385/01-09
Confirmation-No.:
220/80093174/004

HALBZEUG

Material: Silverin 400
Mat.-No.: UNS N04400
Form of delivery: bars

Specification: QQN-281 D, Class A,
Amendment 2, Oct. 23, 1985, form 1;
ASTM B 164-1998;
ASME SB 164-1998;
AMS 4675B;
BS:3076: 1989, NA13

Dimension: dia. 3.0" x 10-12 ft
dia. 76,2 x 3048 - 3657mm

Condition: cold drawn, stress relieved

Net weight: No. of pieces:
1168,00 kg 9
2574,97 lbs.

Heat-No.:
64372/2

MEASURED VALUES

Composition (weight-%):

NI	Cu	Fe	Mn	S	Si	C
66,23	bal.	1,98	1,17	0,001	0,22	0,15
Al	Ti	Co				
0,036	0,022	0,019				

Hardness (HB) 235/239
Yield strength at 0,2 % offset (KSI) 79.3
Tensile strength (KSI) 92.8
Elongation AL=2" (%) 30.5
Reduction of area (%) 77

The material supplied is free from contamination of mercury and no weld.
The a.m. material has been sampled, tested and inspected in accordance with the specification
and meets all specification requirements.
"Our Silverin 400 bars and rods have not been weld repaired."

The above mentioned material was manufactured to QA-Manual Rev. 5 and complies with the terms of the order.
The DN-QA-System is certified to ISO 9002 by LRQA, Certificate-No. 922 141.

Schwerte, 31.10.2001

Ralf Kowalski
QC Manager

Page 1

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Vorsitzender des Aufsichtsrates
Dr. Wolfgang Knop
Sitz Schwerte HRB 17 65

Vorstand
Dipl.-Kfm. Daniel Sheffer
Dipl.-Ing. Jan Siebert
Dipl.-Ing. Ok. Stefan Wolff

DEUTSCHE
NICKEL

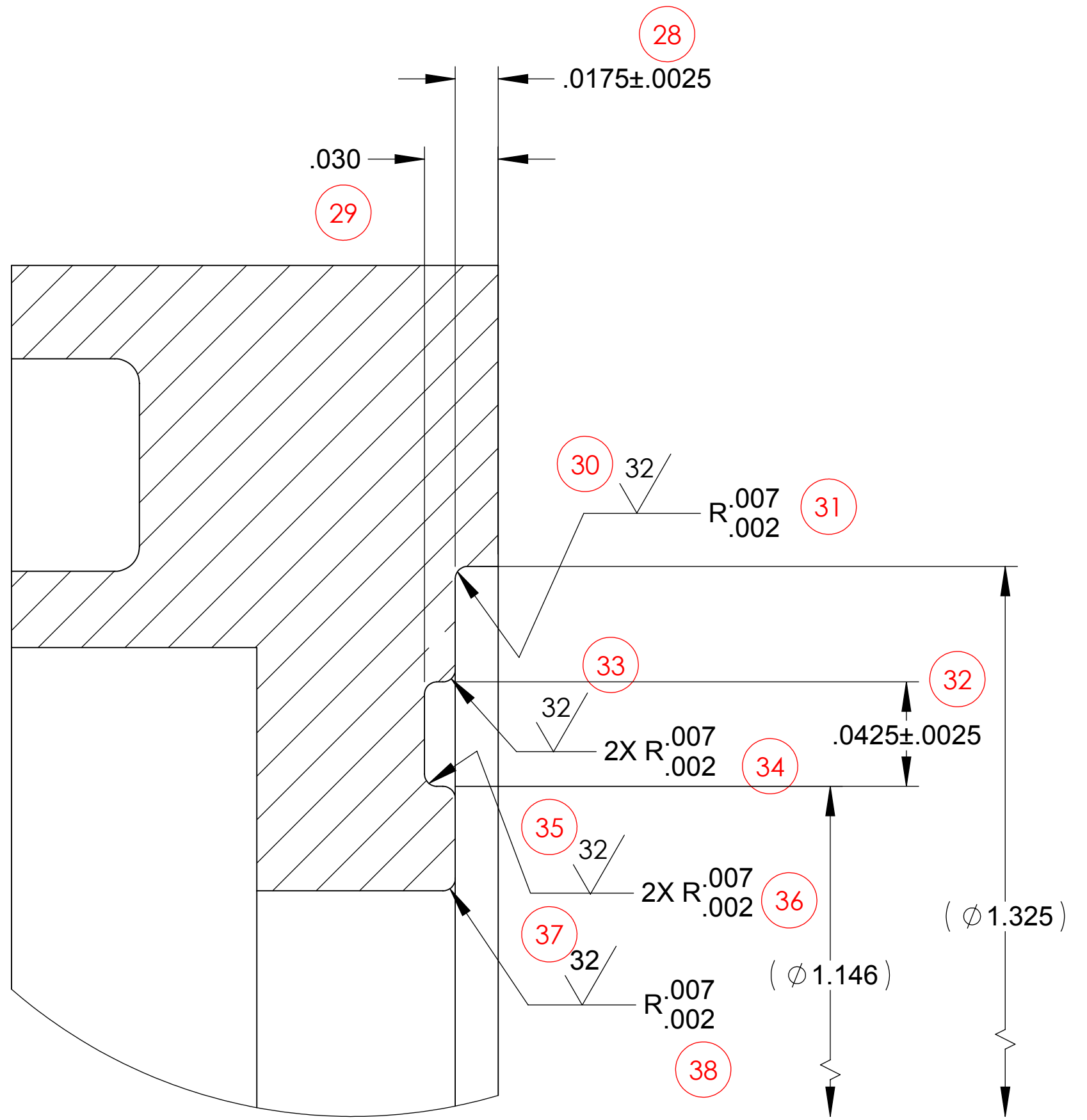
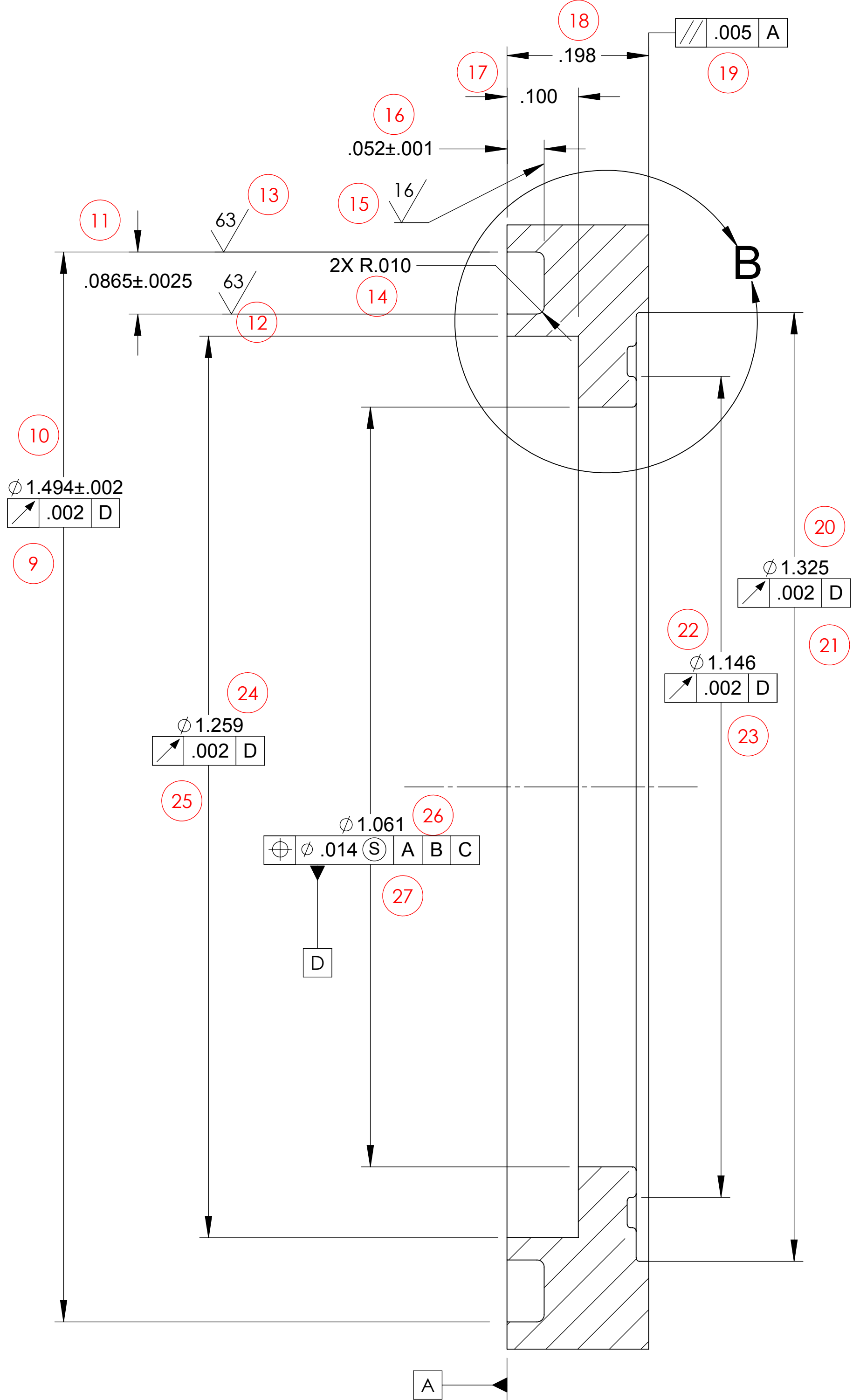
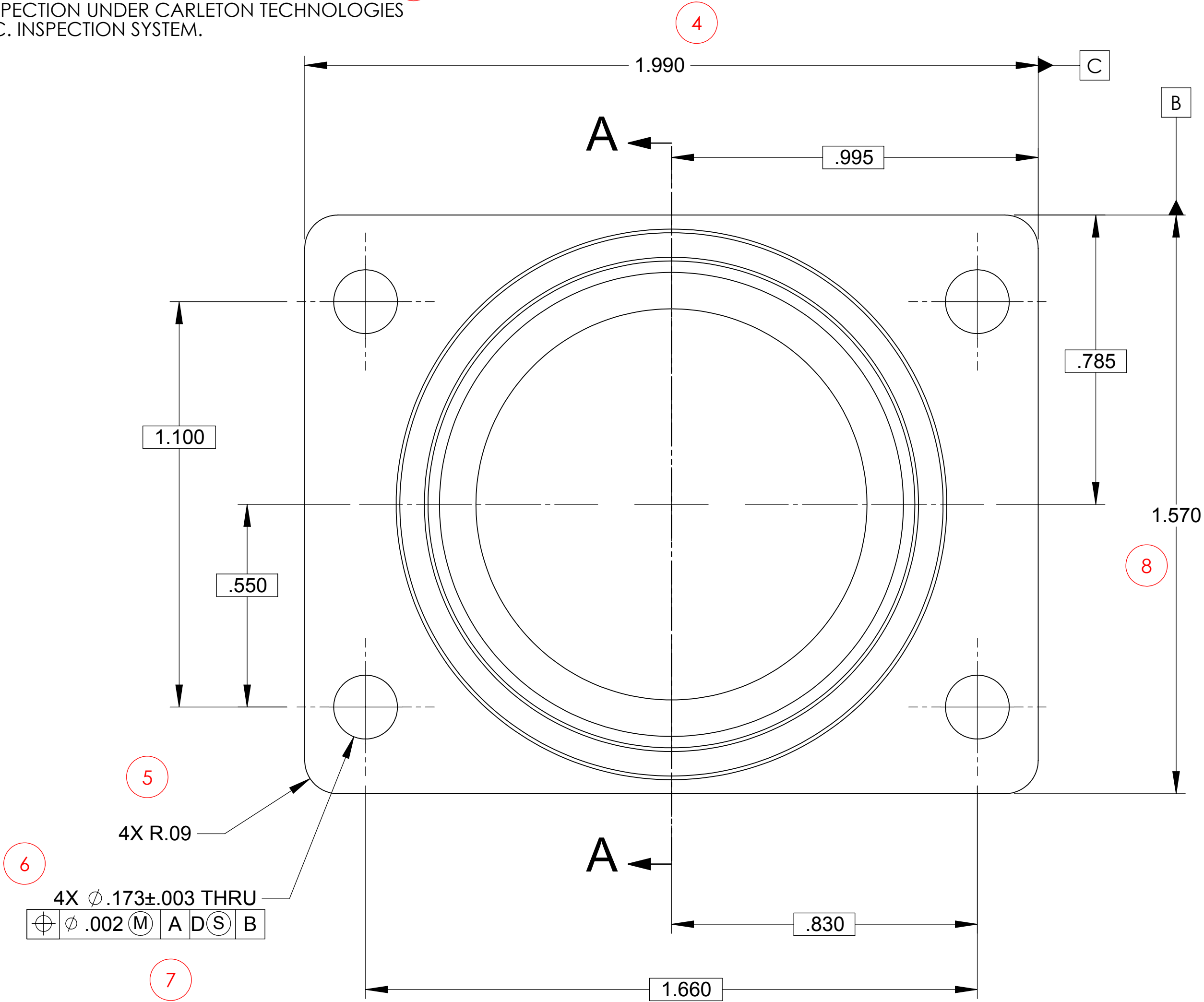


990-03

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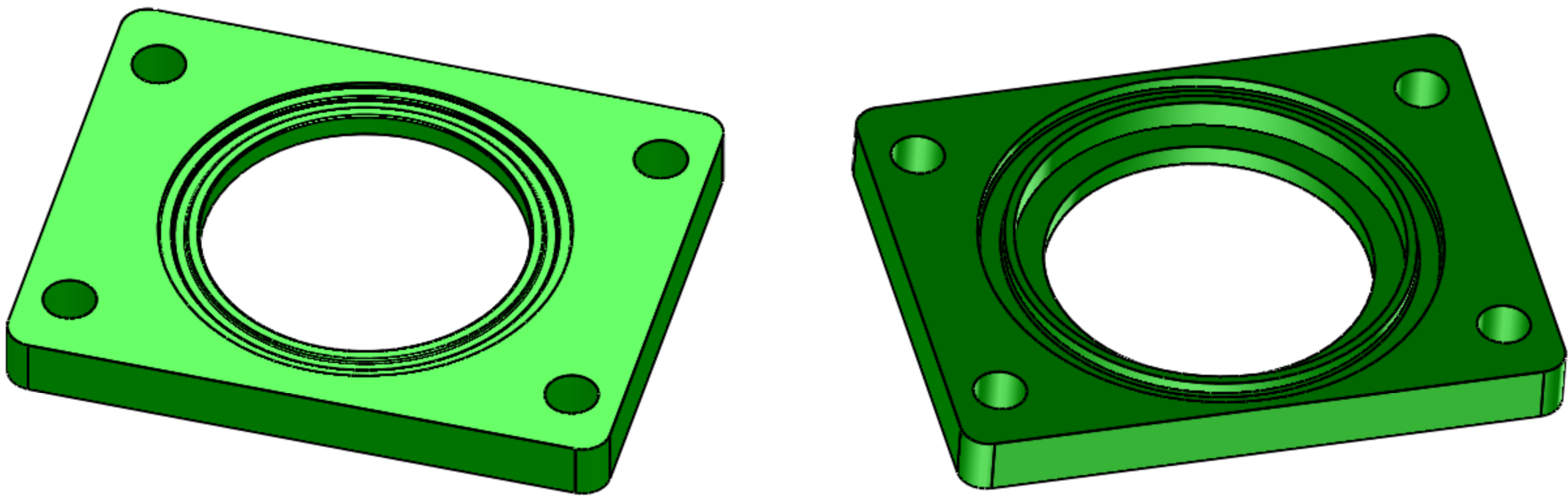
NOTES:

1. TRACEABILITY REQUIRED BY LOT NUMBER.
2. IDENTIFY PART IAW MIL-STD-130, (BAG/LABEL) AS FOLLOWS:
PN 04577/B51306-1
REV _____
LOT NO. _____
3. QUALITY ASSURANCE PROVISIONS:
ALL CHARACTERISTICS ARE SUBJECT TO INSPECTION UNDER CARLETON TECHNOLOGIES INC. INSPECTION SYSTEM.



DETAIL B
SCALE: 20 / 1

SECTION A-A
SCALE: 8 / 1



B51306-1		SPACER		UNSN04400 (MONEL 400) /CLASS A OR B/FORM 1 (BAR/ROD) /COLD DRAWN (STRESS RELIEVED) /ASTM DS-56/SAE HS-1086.			
PART NUMBER		DESCRIPTION		MATERIAL AND SPECIFICATION		SURFACE TREATMENT	
UNLESS OTHERWISE SPECIFIED:				CONTRACT NO.		DATE	
<div>- INTERPRET DRAWING IAW ASME Y14.100-2004.</div> <div>- DIMENSIONS ARE IN INCHES.</div> <div>- DIMENSIONS AND TOLERANCES IAW ASME Y14.5M-1994.</div> <div>- DIMENSIONS APPLY AFTER PLATING OR COATING.</div> <div>- THREADS IAW FED-STD-H28A</div> <div>- PART TO BE FREE OF BURRS.</div> <div>- SURFACES: 125 ✓ DRILLED HOLES: 250 ✓</div> <div>- FILLETS: R .035 MAX</div> <div>- EDGES: BRK .020 MAX</div> <div>- TOLERANCES: .XX ± .01 .XXX ± .005</div> <div>ANGLES: ±1° CHAMFERS: ±5°</div> <div>DRILL POINTS: 90° TO 180° INCL</div> <div>- COAXIAL FEATURES TO BE RUNOUT WITHIN .006</div>				DWN C. CONNELLY		2010-07-09	
				CHK C. NOWAK		2010-07-09	
				ENGR C. NOWAK		2010-07-09	
				QA D. PASTOR		2010-07-09	
				MFG T. MCKEEVER		2010-07-09	
				Carleton Technologies Inc. 10 Cobham Drive Orchard Park, New York 14127-4195		CARLETON	
				TITLE SPACER			
SIZE D		CAGE CODE 04577		DRAWING NUMBER B51306		REV. D	
SCALE 4:1		WEIGHT 0.114		SHEET 1 OF 1			

INFORMATION ON THIS DRAWING IS SUBJECT TO US ITAR AND EXPORT REGULATIONS. DISCLOSURE TO ANY FOREIGN PERSON OR ENTITY IS PROHIBITED WITHOUT THE SPECIFIC WRITTEN APPROVAL OF CARLETON TECHNOLOGIES INC.

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
B		RLSE IAW ECO OP7636	CPC	10-11-20 C NOWAK
C		REV IAW ECO OP8185	ELC	11-06-23 J.OWCZARCAK
D		REV IAW ECO OP8194	ELC	J.OWCZARCAK