REVISIONS			
LTR	**DESCRIPTION**	**DATE**	**APPROVED**
A	Dimensional changes throughout.	13 Mar 91	Rick Brophy
B	Remove canceled references and editorial changes throughout.	4 Oct 11	Michael Radecki

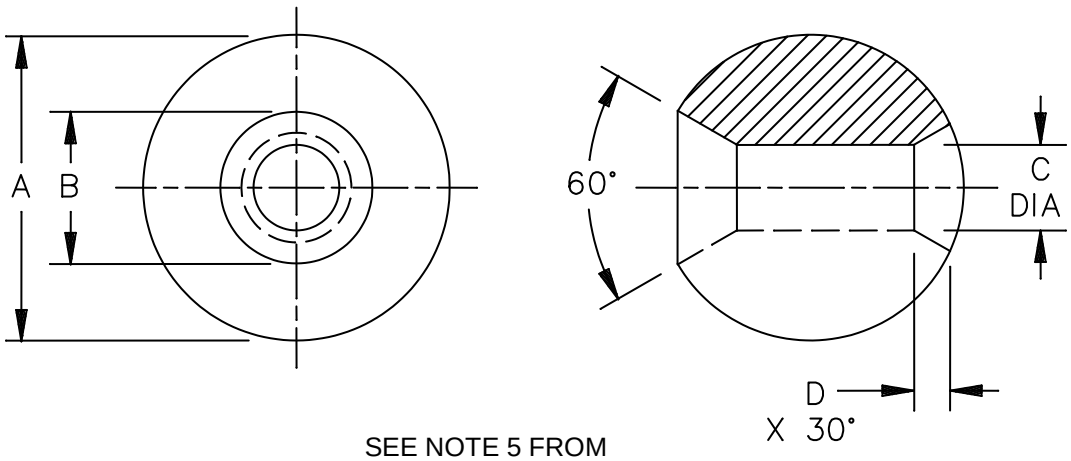
CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
DEFENSE LOGISTICS AGENCY
LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

Prepared in accordance with ASME Y14.100 Selected item drawing

REV STATUS OF PAGES																		
REV	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
PAGES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

PMIC N/A	**PREPARED BY** Ezekiel Ward	**DESIGN ACTIVITY** **DEFENSE ELECTRONICS SUPPLY CENTER** **DAYTON, OH 45444-5000**
Original date of drawing 15 March 1990	**CHECKED BY** Jack Niles	**TITLE**
	APPROVED BY Rick Brophy	**ANTENNA, WHIP AT-271B/PRC**
	SIZE A / **CODE IDENT. NO.** 14933	**DWG NO.** 90041
	REV B	PAGE 1 **OF** 17

AMSC N/A 5985-2011-E02



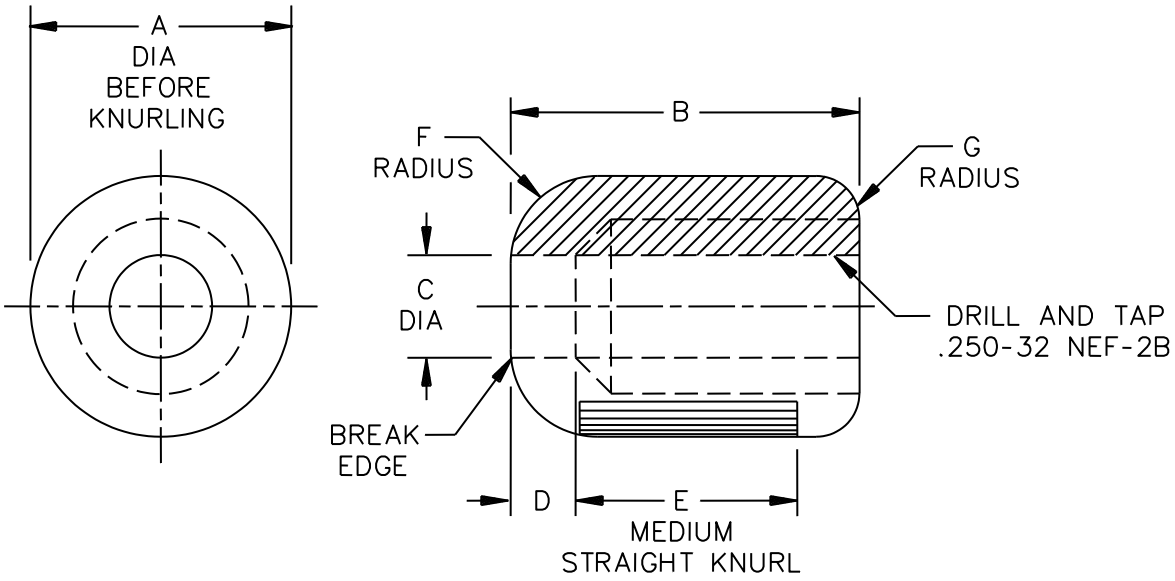
SEE NOTE 5 FROM
FIGURE 10

Ltr	Inches		mm	
	Min	Max	Min	Max
A	.245	.255	6.22	6.48
B	.120	.130	3.05	3.30
C	.065	.075	1.65	1.91
D	.026	.036	0.66	0.91

NOTES:

1. Remove all sharp edges.
2. Brass composition C35600 half hard, in accordance with ASTM B121/B 121M.
3. Finish P213.1 in accordance with MIL-DTL-14072 outside surface after assembly.
4. Dimensions are in inches.
5. Metric equivalents are given for general information only.
6. Unless otherwise specified, tolerances are ±.005 (0.13 mm) for three-place decimals and ±.5° for angles.

FIGURE 1. Tip end bead.

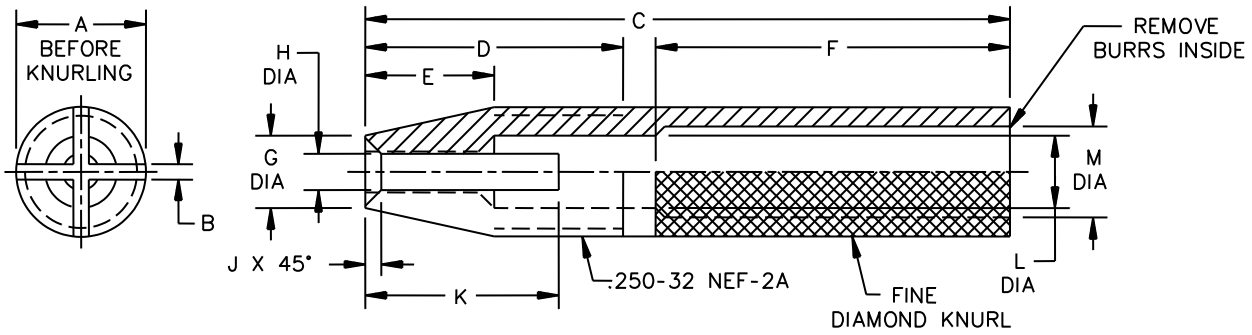


Ltr	Inches		mm	
	Min	Max	Min	Max
A	.365	.385	9.27	9.78
B	.490	.510	12.45	12.95
C	.142	.152	3.61	3.86
D	.083	.103	2.11	2.62
E	.302	.322	7.67	8.18
F	.115	.135	2.92	3.43
G	.052	.072	1.32	1.83

NOTES:

1. Remove all burrs.
2. Brass composition C35600 half hard, in accordance with ASTM B121/B 121M
3. Finish P213.1 in accordance with MIL-DTL-14072 outside surface after assembly.
4. Dimensions are in inches.
5. Metric equivalents are given for general information only.
6. Unless otherwise specified, tolerances are ±.010 (0.25 mm).

FIGURE 2. Cap tip nut.

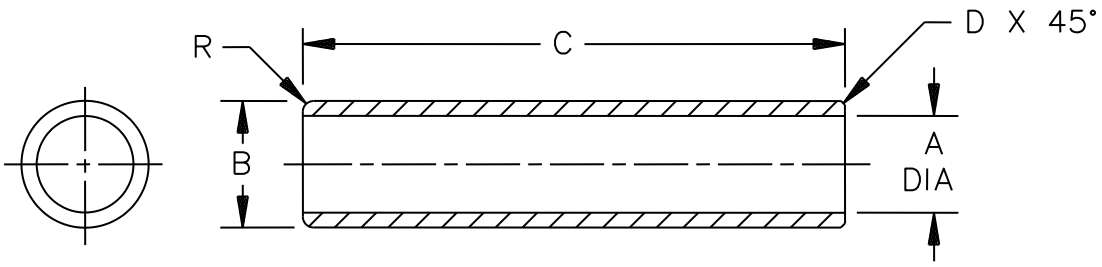


Ltr	Inches		mm	
	Min	Max	Min	Max
A	.240	.250	6.10	6.35
B	.025	.035	0.64	0.89
C	1.240	1.260	31.50	32.00
D	.490	.510	12.45	12.95
E	.245	.255	6.22	6.48
F	.657	.677	16.69	17.20
G	.135	.145	3.43	3.68
H	.065	.075	1.65	1.91
J	.026	.036	0.66	0.91
K	.365	.385	9.27	9.78
L	.135	.145	3.43	3.68
M	.176	.174	4.47	4.42

NOTES:

1. Remove all burrs.
2. Brass composition C35600 half hard, in accordance with ASTM B121/B 121M.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. Unless otherwise specified, tolerances are ±.005 (0.13 mm) for three-place decimals and ±.5° for angles.

FIGURE 3. Chuck.



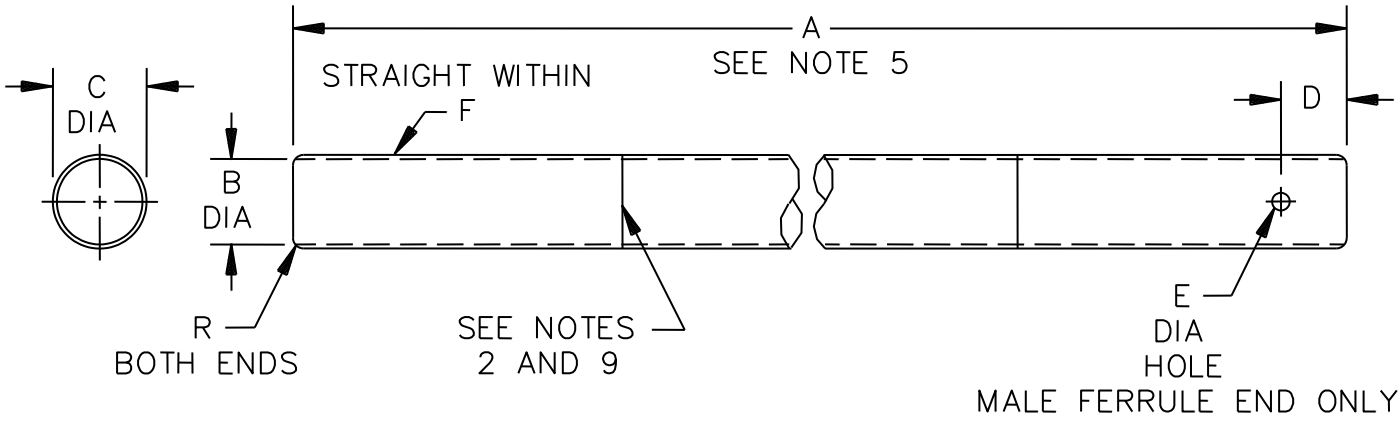
Dimensions		
Item	A (see note 6)	B ±.005
2A	.208 (5.28)	.281 (7.13)
3A	.238 (6.04)	.312 (7.92)
4A	.268 (6.80)	.343 (8.71)
5A	.298 (7.56)	.375 (9.52)
6A	.328 (8.33)	.406 (10.31)
7A	.358 (9.09)	.468 (11.89)

Ltr	Inches		mm	
	Min	Max	Min	Max
C	1.985	2.015	50.42	51.18
D	.015	.017	0.38	0.43

NOTES:

1. Remove all burrs.
2. Brass composition C35300 half hard, in accordance with ASTM B121/B 121M.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. Millimeters are in parentheses.
6. Unless otherwise specified, tolerances are +.002 (0.05 mm), -.000 and ±.5° for angles.

FIGURE 4. Female ferrule.



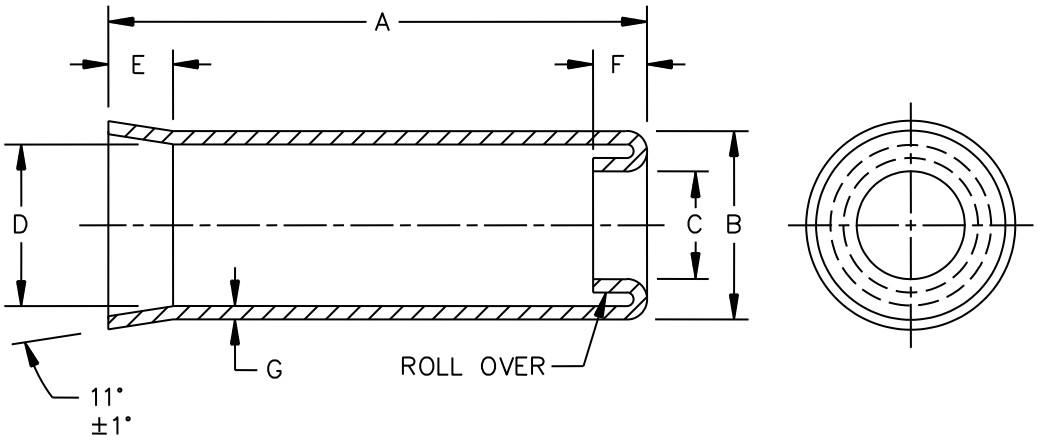
Dimensions			
Item	A	B	C
1	15.70 (398.8)	.151 (3.83)	.175 (4.44)
2	16.06 (408.0)	.181 (5.59)	.205 (5.20)
3	16.06 (408.0)	.211 (5.35)	.235 (5.96)
4	16.06 (408.0)	.233 (5.91)	.265 (6.73)
5	16.06 (408.0)	.263 (6.68)	.295 (7.49)
6	16.06 (408.0)	.293 (7.44)	.325 (8.25)
7	14.75 (374.6)	.324 (8.22)	.355 (9.01)

Ltr	Inches		mm	
	Min	Max	Min	Max
D	.010	.250	0.25	6.35
E	.062	.072	1.57	1.83
F	.005	.015	0.13	0.38

NOTES:

1. Prior to assembly, all tubes shall be hardened to meet the following requirements: Scale n-hardness reading 84 to 86 or Rockwell 48 to 52. Finish interior surfaces in accordance with MIL-DTL-14072.
2. Before soldering, all tubes shall be buffed approximately 1.25 (31.8 mm) on each end.
3. Parts are soldered together as detailed in section view B-B, figure 10.
4. Remove all burrs.
5. Cold drawn seamless tubing annealed temper steel SAE 4140 or equivalent. End may be annealed for rolling or spinning.
6. Dimensions are in inches.
7. Metric equivalents are given for general information only.
8. Millimeters are in parentheses.
9. Hot solder dip both ends .750 min (1.90 mm), exterior surface only. Solder alloy Sn50Pb50 in accordance with IPC J-STD-006.
10. Unless otherwise specified, tolerances are ±.005 (0.13 mm) for three-place decimals and ±.02 (0.5 mm) for two-place decimals.

FIGURE 5. Tubing.



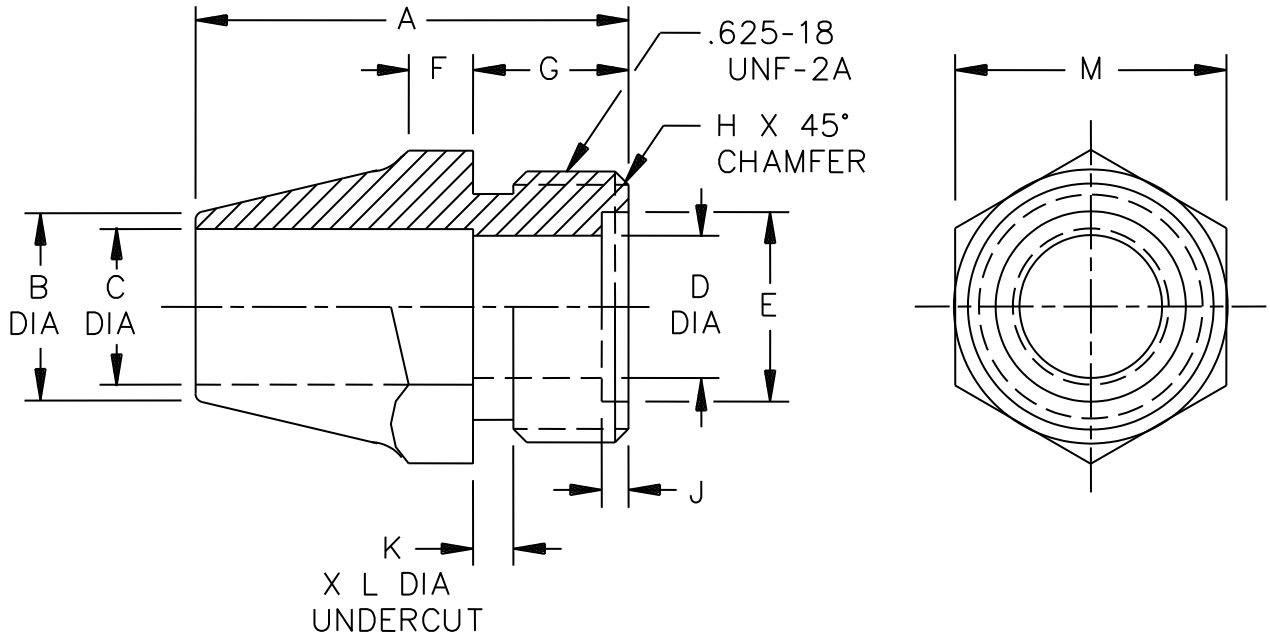
FERRULE (MALE)

Dimensions			
Item	B (see note 6)	C ±.005	D (See note 6)
1B	.204 (5.18)	.080 (2.03) .105 (2.67)	.176 (4.47)
2B	.234 (5.94)	.100 (2.54) .130 (3.30)	.206 (5.23)
3B	.264 (6.71)	.130 (3.30) .150 (3.81)	.236 (5.99)
4B	.294 (7.47)	.150 (3.81) .180 (4.57)	.266 (6.76)
5B	.324 (8.23)	.170 (4.32) .205 (5.21)	.296 (7.52)
6B	.354 (8.99)	.180 (4.57) .230 (5.84)	.326 (8.28)

Ltr	Inches		mm	
	Min	Max	Min	Max
A	.990	1.010	25.15	25.65
E	.075	.095	1.91	2.41
F	.031	.062	0.79	1.57
G	.014	.016	0.36	0.41

NOTES:
1. Remove all burrs.
2. Brass composition C35300 half hard, in accordance with ASTM B121/B 121M.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. Millimeters are in parentheses.
6. Unless otherwise specified, tolerances are +.002 (0.05 mm), -.000.

FIGURE 6. Male ferrule.

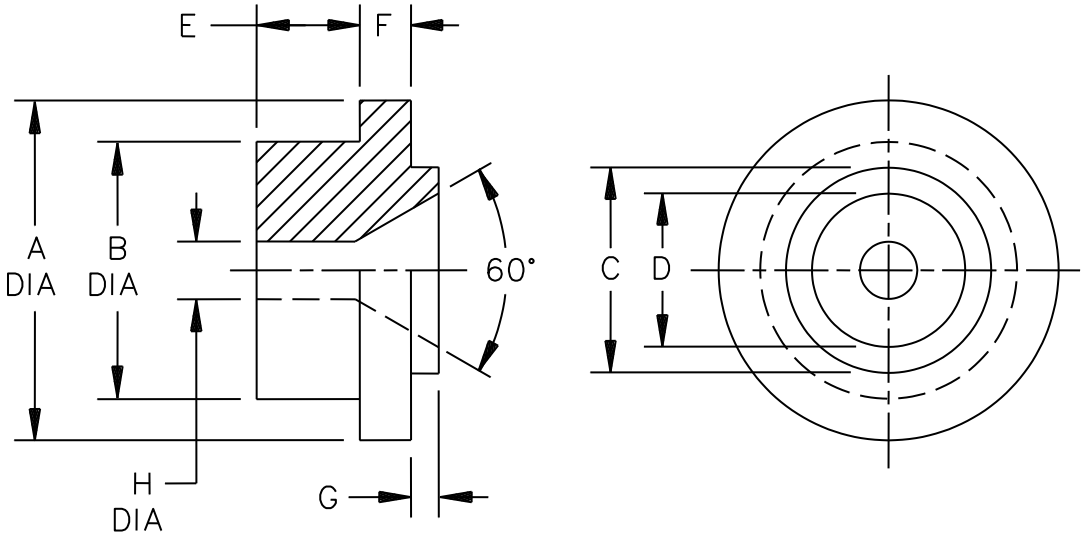


Ltr	Inches		Mm	
	Min	Max	Min	Max
A	.985	1.015	25.02	25.78
B	.432	.462	10.97	11.73
C	.357	.359	9.07	9.12
D	.318	.338	8.08	8.59
E	.427	.447	10.85	11.35
F	.177	.197	4.50	5.00
G	.359	.374	9.12	9.50
H	.021	.041	0.53	1.04
J	.057	.067	1.48	1.70
K	.093	.125	2.36	3.18
L	.521	.541	13.23	13.74
M	.615	.635	15.62	16.13

NOTES:

1. Remove all burrs.
2. Brass composition C35600 half hard, in accordance with ASTM B121/B 121M.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. Unless otherwise specified, tolerances are ±.010 (0.25 mm) for three-place decimals and ±.5° for angles.

FIGURE 7. Base nut.

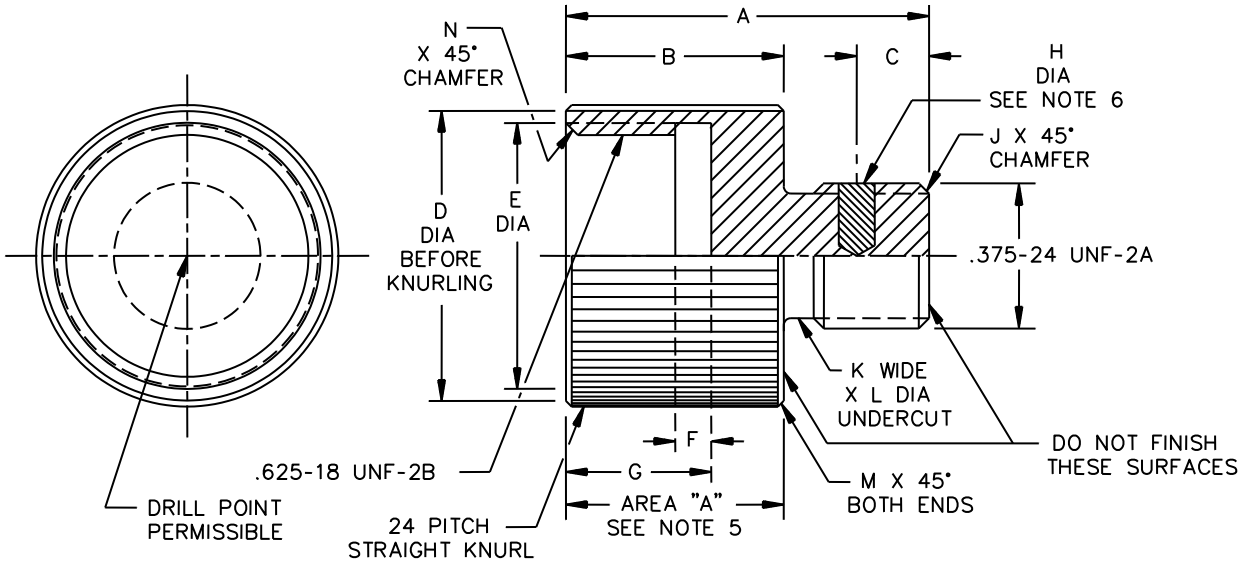


Ltr	Inches		mm	
	Min	Max	Min	Max
A	.402	.422	10.21	10.72
B	.302	.322	7.67	8.18
C	.240	.260	6.10	6.60
D	.177	.197	4.50	5.00
E	.115	.135	2.92	3.43
F	.052	.072	1.32	1.83
G	.020	.040	0.51	1.02
H	.060	.080	1.52	2.03

NOTES:

1. Remove all sharp edges.
2. Brass composition C35600 half hard, in accordance with ASTM B121/B 121M.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. Unless otherwise specified, tolerances are ±.010 (0.25 mm) for three-place decimals and ±1.5° for angles.

FIGURE 8. Plug wire retaining.



Ltr	Inches		mm	
	Min	Max	Min	Max
A	.927	.947	23.55	24.05
B	.552	.572	14.02	14.53
C	.177	.197	4.50	5.00
D	.740	.760	18.80	19.30
E	.630	.650	16.00	16.51
F	.083	.103	2.11	2.62
G	.360	.375	9.14	9.63
H	.083	.103	2.11	2.62
J	.052	.072	1.32	1.83
K	.062	.092	1.57	2.34
L	.312	.322	7.92	8.18
M	.005	.025	0.13	0.64
N	.021	.041	0.53	1.04

NOTES:

1. Remove all burrs.
2. Brass composition C35600 half hard, in accordance with ASTM B121/B 121M.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. Finish outside surfaces of area A only after assembly. P213.1 in accordance with MIL-DTL-14072.
6. Nylon pellet shall be inserted to give torque in a mating thread between the limits of 6 to 12 inch-pounds.
7. Unless otherwise specified, tolerances are ±.010 (0.25 mm) for three-place decimals and ±.5° for angles.

FIGURE 9. Adapter.

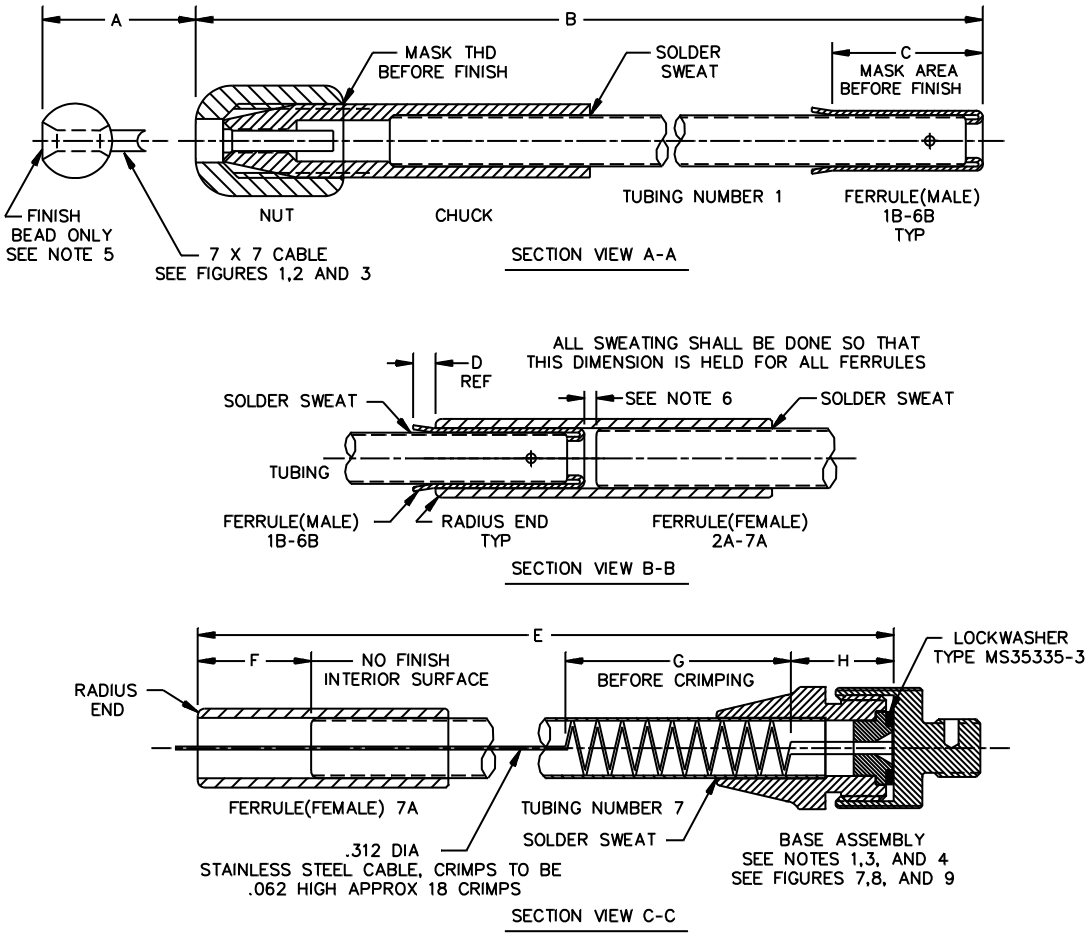


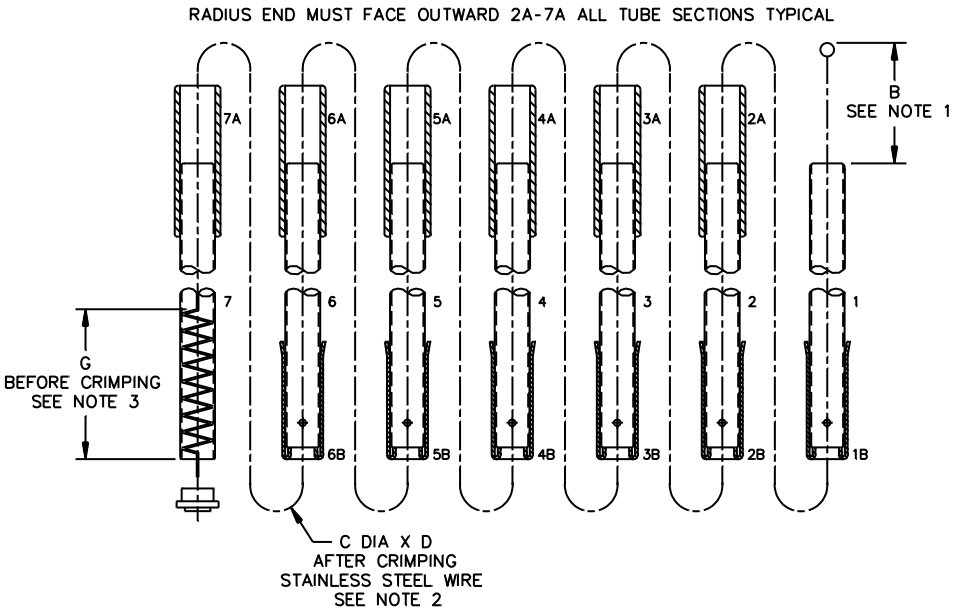
FIGURE 10. Tip end section connection, center sections, and base end detailed.

Ltr	Inches		mm	
	Min	Max	Min	Max
A	7.000	8.000	177.80	203.20
B	16.230	16.490	412.24	418.85
C	.927	.947	23.55	24.05
D	.052	.072	1.32	1.83
E	16.025	16.275	407.04	413.39
F	1.011	1.051	25.68	26.70
G	5.990	6.010	152.15	152.65
H	2.000	---	50.80	---

NOTES:

1. Exterior surfaces of parts: Antenna nut, chuck, adapter, and base, except where threaded, shall be chemically etched or sandblasted, or abrasively cleaned in accordance with MIL-DTL-14072, P213.1.
2. Finish (after assembly of each section) mast: Contact surface of adapter male ferrules over .750 (19.50 mm) length; then finish all exposed surfaces in accordance with MIL-DTL-14072.
3. Solder (after assembly) cable into plug retainer and do not allow solder to flow outside of countersink hole.
4. Base nut to be assembled to adapter and tightened to a minimum torque of 50 inch-pounds.
5. Assembly of ball and cable to be soldered, and all points removed. Finish bead by dipping in accordance with MIL-DTL-14072.
6. There must be a minimum of .062 (1.54 mm) or a maximum of .125 (3.18 mm) clearance between the tip of the male ferrule and the tubing of the mating section. This applies to all sections.
7. Unless otherwise specified, tolerances are ±.010 (0.25 mm).
8. Dimensions are in inches.
9. Metric equivalents are given for general information only.

FIGURE 10. Tip end section connection, center sections, and base end detailed - Continued.

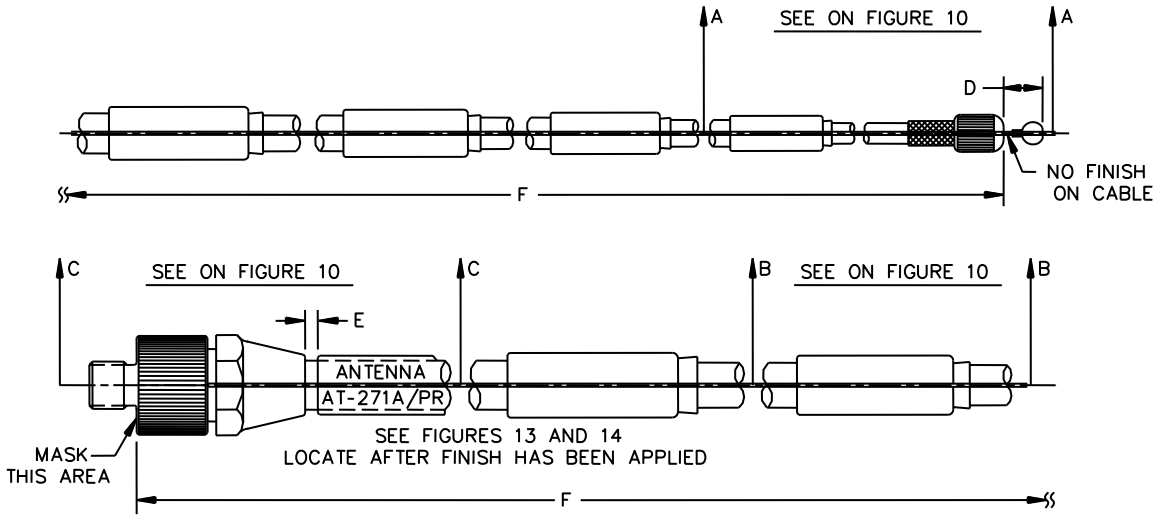


Ltr	Inches		mm	
	Min	Max	Min	Max
G	5.990	6.010	152.15	152.65
B	7.000	8.000	177.80	203.20
C	.057	.067	1.45	1.70
D	119.000	121.000	3022.60	3073.40

NOTES:

1. With antenna in assembled position and wire taut, 7.500 ±.500 (190.50 mm ±12.70 mm) extends beyond tip. See figure 10, section view A-A.
2. Aircraft cable, 7 x 7 construction, .062 (1.57 mm) diameter (x 120 (3,048.0 mm)) or engineer's approved equivalent.
3. To be crimped so that crimped area is completely within item 7. See figure 10, section view C-C.
4. For item numbers 1, 2, 3, 4, 5, 6, and 7, see figure 5 for details.
5. For items 2A, 3A, 4A, 5A, 6A, AND 7A, see figure 7 for details.
6. For items 1B, 2B, 3B, 4B, 5B, AND 6B, see figure 6 for details.
7. Solder shall be composition. Solder alloy Sn50Pb50 in accordance with IPC J-STD-006. When solid metal type is used, rosin flux in accordance with IPC-J-STD-004 shall be used.
8. All solder joints must withstand an axial pull (static load) of 80 pounds without separating.
9. After assembly, finish all exterior surfaces in accordance with MIL-DTL-14072, except where noted.
10. Unless otherwise specified, tolerances are ±.005 (0.13 mm).
11. Dimensions are in inches.
12. Metric equivalents are given for general information only.

FIGURE 11. Detailed assembly view.

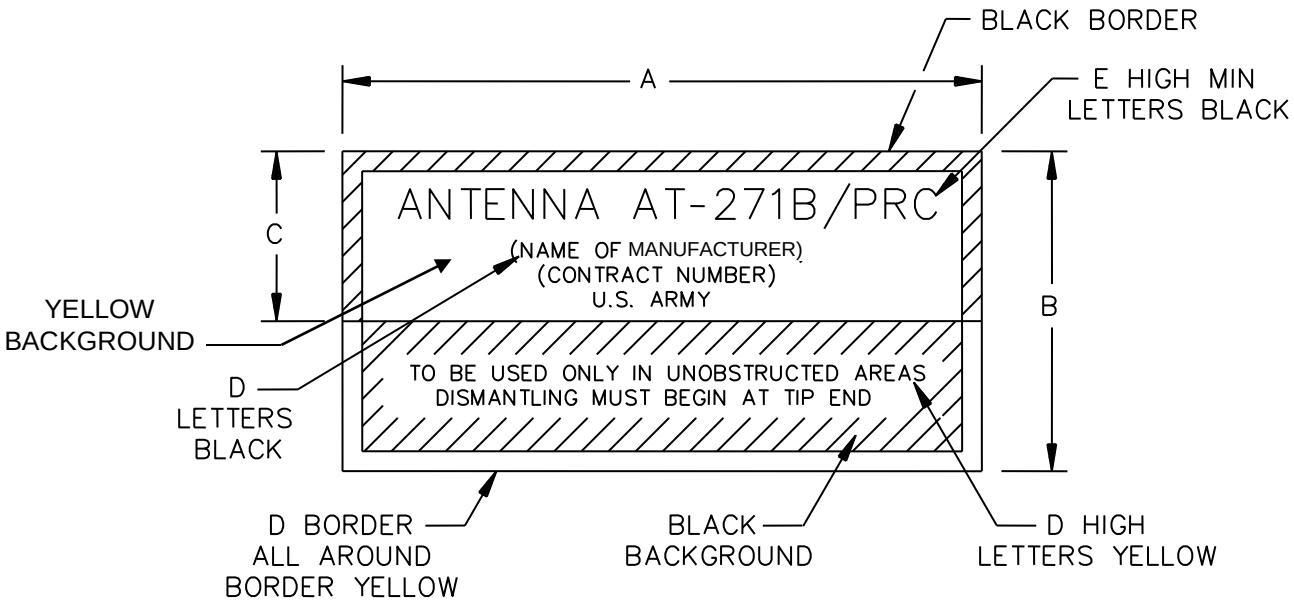


Ltr	Inches		mm	
	Min	Max	Min	Max
D	7.000	8.000	177.80	203.20
E	.125	.250	3.18	6.35
F	111.690	113.690	2836.93	2885.44

NOTES:

1. Total assembly length 112.69 ±1.00 (2,862.3 ±25.4 mm) less 7.5 ±.5 (1.90.5 ±12.7 mm).
2. Cable shall be taut when antenna is in assembled position.
3. Finish final film AG in accordance with MIL-DTL-14072 on all exterior surfaces except where noted.
4. Antenna assembly shall be tested as follows: Two completed antennae from the first 10 produced, and one from every subsequent 2,500 or fraction thereof, shall be selected at random and subjected to 40 opening and closing cycles. There shall be no evidence of cable damage or any malfunction. Sample units that have been subjected to this test shall not be delivered on the contract.
5. Unless otherwise specified, tolerances are ±.005 (0.13 mm).
6. A .5 inch (12.7 mm) diameter clear PVC heat shrink tubing 4.375 inches (111.13 mm) long x .020 (0.508 mm) wall thickness approximately or equivalent shall be installed over items 13 and 14.
7. Dimensions are in inches.
8. Metric equivalents are given for general information only.

FIGURE 12. Antenna completed assembly.

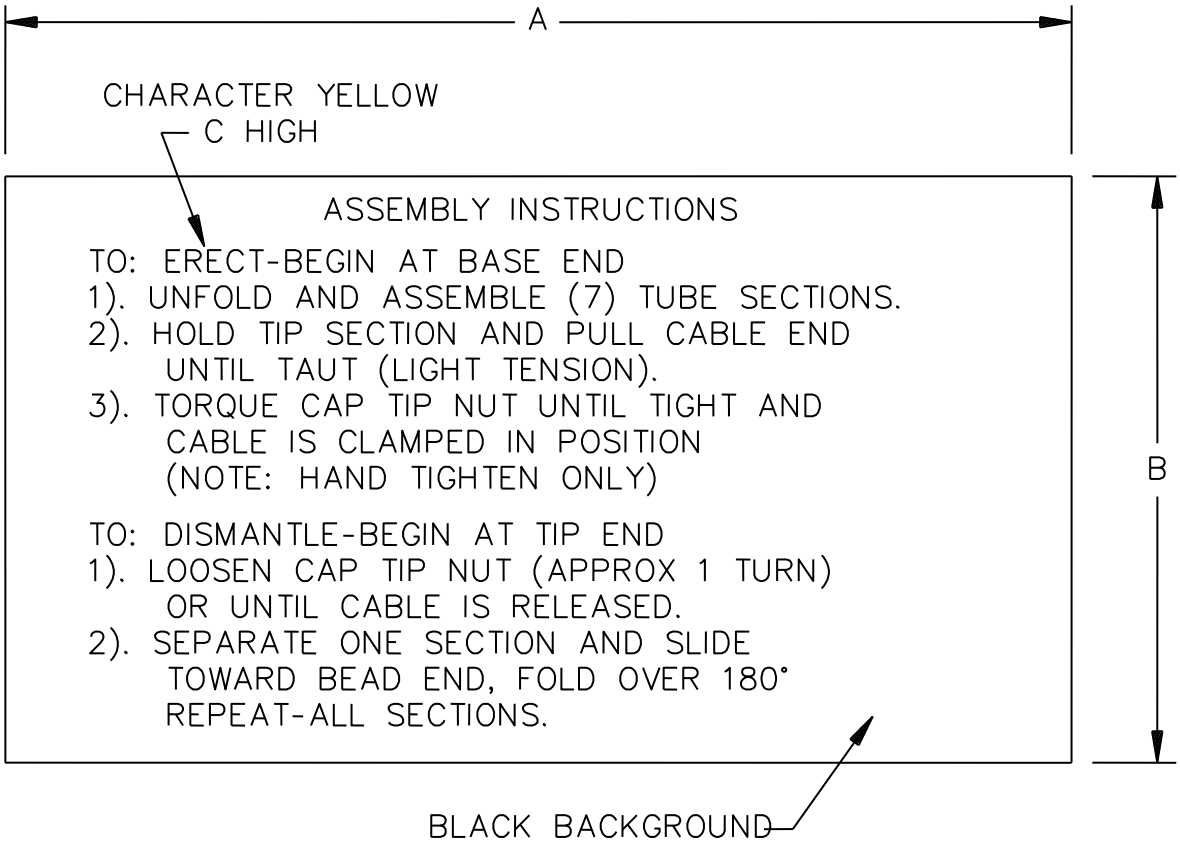


Ltr	Inches		mm	
	Min	Max	Min	Max
A	1.995	2.005	50.67	50.93
B	.995	1.005	25.27	25.53
C	.526	.536	13.36	13.61
D	.057	.067	1.45	1.70
E	.120	.130	3.05	3.30

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Millimeters are in parentheses.
4. Unless otherwise specified, tolerance is ±.005 (0.13 mm).
5. Material: Mylar or acetate 1-2 mils thick with pressure sensitive adhesive on back surface.

FIGURE 13. Manufacturer's identification decal.



Ltr	Inches		mm	
	Min	Max	Min	Max
A	1.995	2.005	50.67	50.09
B	1.095	1.105	27.81	28.07

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Millimeters are in parentheses.
4. Unless otherwise specified, tolerance is ±.005 (0.13 mm).
5. Material: Mylar or acetate 1-2 mils thick with pressure sensitive adhesive on back surface.

FIGURE 14. Assembly instructions decal.

Approved sources of supply. Approved sources of supply are listed herein. Additional sources will be added as they become available. The vendors listed herein have agreed with this drawing and have submitted a certificate of compliance to DLA Land and Maritime -VAT, P.O. Box 3990, Columbus, OH 43218-3990 or emailed to: TubesAmps@dla.mil.

Vendor CAGE number	Vendor name
35736	Valcom Manufacturing Group 175 Southgate Dr, Guelph, Ontario Canada

NSN	Military part number	Vendor CAGE number	Vendor similar PIN 1/
5985-00-646-2365	AT-271B/PRC	35736	V7221

1/ Do not use this number for item acquisition.