INCH-POUND

MIL-DTL-3970/7E
3 December 2013
SUPERSEDING
MIL-DTL-3970/7D
3 February 2009

DETAIL SPECIFICATION SHEET

WAVEGUIDE ASSEMBLIES, RIGID, 90-DEGREE E-PLANE BEND

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the waveguide assemblies described herein shall consist of this specification sheet and MIL-DTL-3970.

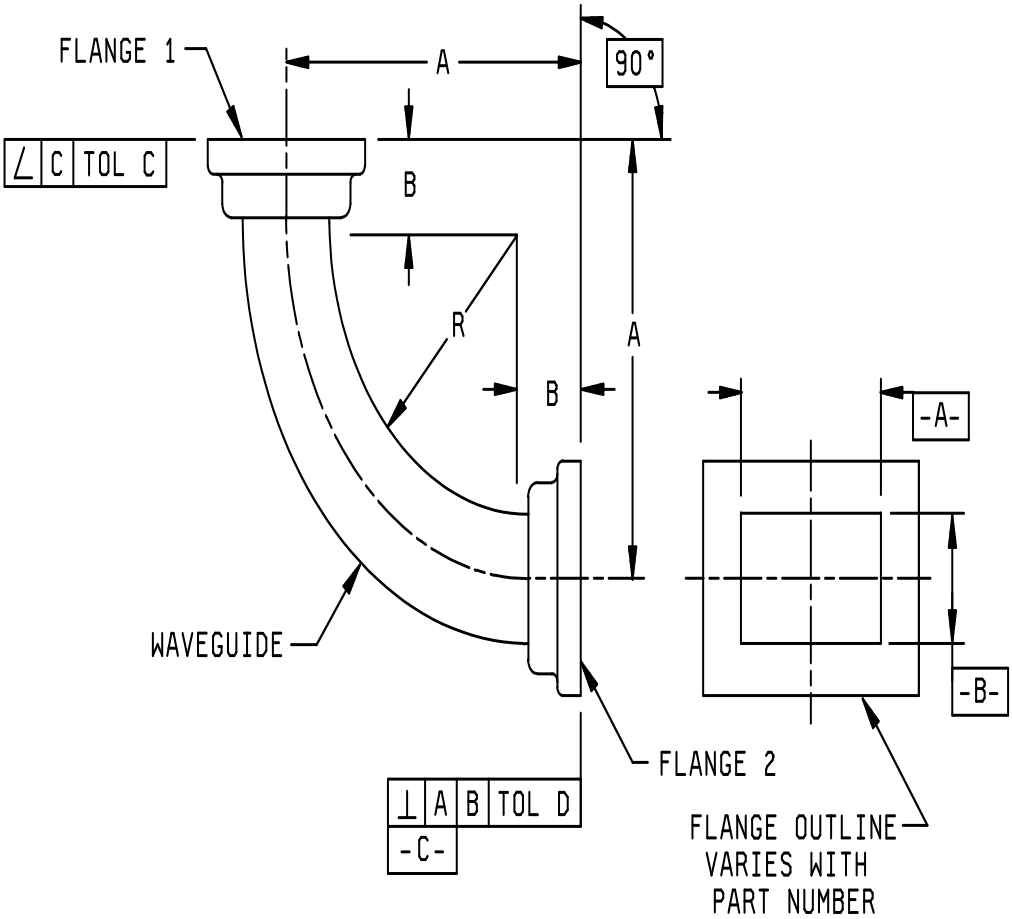

FIGURE 1. Assembly configuration.

TABLE I. Dash number, electrical and physical characteristics, and dimensions.

Dash no.	Wave-guide M85/	Flange 1 M3922/	Flange 2 M3922/	Frequency range TE_{10} mode GHz	Insertion loss max dB	VSWR max	Pressur-ization lb_f/in^2 gage	Dimensions 1/ 2/ 3/ A	B nom	C	D	R
001	1-043	56-001	61-002	2.6 - 3.95	---	1.03	15	10.500 (266.70) ±.030 (±0.76)	2.250 (57.15)	.115 (2.92)	.012 (0.30)	7.500 (190.50) ±.125 (±3.18)
002	1-055	57-002	62-002	3.95 - 5.85	---	1.05	30	7.000 (177.80) ±.030 (±0.76)	1.500 (38.10)	.077 (1.96)	.008 (0.20)	5.000 (127.00) ±.125 (±3.18)
003	1-067	55-001	60-001	5.85 - 8.2	---	1.05	30	4.875 (123.83) ±.025 (±0.64)	1.125 (28.58)	.056 (1.42)	.006 (0.15)	3.375 (85.72) ±.125 (±3.18)
004	1-073	53-002	59-007	7.05 - 10	---	1.05	30	4.062 (103.17) ±.020 (±0.51)	1.000 (25.40)	.044 (1.12)	.005 (0.13)	2.751 (69.88) ±.063 (±1.60)
005	1-079	53-001	59-006	8.2 - 12.4	---	1.05	30	3.562 (90.47) ±.020 (±0.51)	.812 (20.62)	.038 (0.96)	.004 (0.10)	2.500 (63.50) ±.063 (±1.60)
008	1-077	53-003	59-008	8.2 - 12.4	---	1.05	30	3.562 (90.47) ±.020 (±0.51)	.812 (20.62)	.038 (0.96)	.004 (0.10)	2.500 (63.50) ±.063 (±1.60)
009	1-071	53-004	59-009	7.05 - 10	---	1.05	30	4.062 (103.17) ±.020 (±0.51)	1.000 (25.40)	.044 (1.12)	.005 (0.13)	2.750 (69.85) ±.063 (±1.60)
010	1-041	56-002	61-001	2.6 - 3.95	---	1.03	15	10.500 (266.70) ±.030 (±0.76)	2.250 (57.15)	.115 (2.92)	.012 (0.30)	7.500 (190.50) ±.125 (±3.18)
011	1-089	53-005	59-001	12.4 - 18	.07	1.05	30	2.601 (66.07) ±.015 (±0.38)	.655 (16.64)	.028 (0.71)	.003 (0.08)	1.750 (44.45) ±.063 (±1.60)
012	1-053	57-001	62-001	3.95 - 5.85	---	1.05	30	7.000 (177.80) ±.030 (±0.76)	1.500 (38.10)	.076 (1.93)	.008 (0.20)	5.000 (127.00) ±.125 (±3.18)
014	1-065	55-002	60-002	5.85 - 8.2	---	1.05	30	4.875 (123.83) ±.025 (±0.64)	1.125 (28.58)	.056 (1.42)	.006 (0.15)	3.375 (85.72) ±.125 (±3.18)

See footnotes at end of table I.

TABLE I. Dash number, electrical and physical characteristics, and dimensions - Continued.

Dash no.	Wave-guide M85/	Flange 1 M3922/	Flange 2 M3922/	Frequency range TE_{10} mode GHz	Insertion loss max dB	VSWR max	Pressur-ization lb_f/in^2 gage	Dimensions 1/ 2/ 3/ A	B nom	C	D	R
015	1-093	53-005	59-001	12.4 - 18	.07	1.05	30	2.601 (66.07) ±.015 (±0.38)	.655 (16.64)	.028 (0.71)	.003 (0.08)	1.750 (44.45) ±.063 (±1.60)
030	1-018 1-019 1-168	52-002	52-002	1.12 - 1.70	.10	1.05	1.5	8.000 (203.20) ±.015 (±0.38)	2.000 (50.80)	.092 (2.34)	.029 (0.74)	4.295 (109.09) ±.015 (±0.38)
031	1-029 1-030 1-170	52-006	52-006	1.70 - 2.60	.10	1.05	3.0	8.000 (203.20) ±.015 (±0.38)	2.000 (50.80)	.079 (2.01)	.019 (0.48)	4.845 (123.06) ±.015 (±0.38)
032	1-075 1-079	53-001	53-001	8.20 - 12.4	.10	1.05	30	1.438 (36.53) ±.015 (±0.38)	.688 (17.48)	.027 (0.69)	.004 (0.10)	.500 (12.70) ±.015 (±0.38)

1/ Dimensions are in inches.
2/ Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3/ Metric equivalents are in parentheses.

REQUIREMENTS:

Dimensions and configuration: See table I and figure 1.

Electrical characteristics: See table I.

Part or Identifying Number (PIN): M3970/7-(dash number from table I).

Cross reference: See table II.

TABLE II. Cross reference.

PIN M3970/7-	Type designation	PIN M3970/7-	Type designation
001	UG-860/U	009	UG-868/U
002	UG-861/U	010	UG-869/U
003	UG-862/U	011	UG-870/U
004	UG-863/U	012	UG-871/U
005	UG-864/U	014	UG-873/U
008	UG-867/U	015	UG-874/U

NOTE: Assemblies covered by this specification are substitutable for the following commercial types:

PIN M3970/7-	Manufacturer CAGE code	Commercial type
030	52564	3704001
031	52564	4004001
032	06424	1202012-1
032	00929	X623B

Referenced documents. This specification sheet only references MIL-DTL-3970.

Marginal notations are not used on this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5985-2014-005)

Review activities:
Army - AR, MI
Navy - AS, MC, OS
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.dla.mil/.