10-AN Crimp Type Coaxial Contacts

Installation
Instructions

10-262XXX
10-305XXX
10-407XXX
10-497XXX

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SECTION I
GENERAL INSTRUCTIONS

1-1. This manual contains installation procedures for 10 - AN crimp type coaxial contacts, supplied with the connectors. The outer barrel of the contact is factory installed into the connector insert. The inner components of the contact are packaged separately as a kit. Older production contacts are installed in the connector.

1-2. The main differences in installation procedure for various dash number contacts are:

a. Type of coaxial cable used.

b. Type of crimping tool used.

1-3. Refer to Section II for installation procedure. Table I lists the cable type and tool numbers for each contact configuration.

1-4. General information concerning installation of coaxial contacts.

a. When cutting cables to proper lengths, cut ends cleanly at right angles to axial plane of cable. Do not deform cable while making cut.

b. Strip cable sheath and dielectric carefully. Avoid cutting or nicking braid or conductor strands. Small diagonal cutting pliers, scissors or a fingernail clipper may be used for trimming braid.

c. Pretin ½ of bare conductor end before soldering to contact. A good grade of rosin-alcohol flux and a solder bath with 60/40 tin-lead solder at 500°-550°F is recommended. When working with multi-strand conductors, form strands together tightly before dipping in flux and solder.

CAUTION

Do not hold conductor in solder bath longer than necessary to thoroughly tin all strands of wire. Avoid excessive temperatures which will burn, scorch or swell the dielectric.

d. Pretin contact wire wells with a good grade of rosin-alcohol flux and 60/40 tin-lead solder. Support contact vertically in a pin vise. Insert flux and solder into contact wire well and apply heat to outside of contact until flux and solder flow into wire well. Apply flux to wire well before soldering.

e. To solder conductor to contact, dip pretinned conductor end into rosin-alcohol flux and start it into wire well, simultaneously applying heat to outside of well. As the solder liquefies, seat the conductor in the well. Continue heating until solder on conductor and in wire well is completely liquified. Remove heat and hold contact straight until solder solidifies.

CAUTION

Do not move conductor while solder is cooling. Movement will result in a weak solder joint.

If more solder is needed, insert wire solder through hole in side of wire well and apply heat. Wipe solder from outside of wire well before it hardens.

f. If outer sheath of cable is the woven type which tends to fray easily, slip a one inch length of tight fitting vinyl tubing onto cable ahead of contact attaching parts. After soldering is completed and attaching parts are installed, slide vinyl sleeve along cable until it fits snugly against contact assembly.

TABLE I
AN(10-) CRIMP COAX CONTACTS

CONTACT						REFERENCE FIGURE 2-2			
Part No.	Size	Type	Use With RG/U Cable	Crimping Tool	Die or Nest	A Dim.	B Dim.	C Dim.	D Hex Nut Dim.
***10-262324-41	4	PIN	-8,-9,-214	*T&B WT218 or WT236	GSC-405/415	1-5/16	1/4	5/16	7/16
***10-262325-41	4	SOC	-8,-9,-214	*T&B WT218 or WT236	GSC-405/415	1-5/16	1/4	5/16	7/16
10-305038-11	0	PIN	-11,-63B,-144,-165	**Burndy Y-10Q-1	R25VT	1-1/8	1/4	5/16	9/16
10-305038-13	0		-115	*T&B WT222	GSC-375	1-1/8	1/4	5/16	9/16
10-305038-14	0		-8,-9,-214	*T&B WT218 or WT236	GSC-405/415	1-1/8	1/4	5/16	9/16
10-305038-41	4		-55,-142,-233	*T&B WT233, WT239 or WT208	GSC-205/219	1-1/16	7/32	9/32	3/8
10-305038-42	4		-58,-141	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305038-43	4		-122	**Burndy MR8PV-S or MR8PV-1S	#100 Nest	1-1/16	7/32	9/32	3/8
10-305038-44	4		ITT Suprenant 6712	*T&B WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305038-81	8		-161	*T&B WT200 or WT230	GSC-128	15/16	5/32	7/32	9/32
10-305038-82	8		-161,-179,-187,-188	*T&B WT200 or WT230	GSC-128	29/32	3/32	9/32	9/32
10-305039-11	0	SOC	-11,-63B-144,-165	**Burndy Y-10Q-1	R25VT	1-1/8	1/4	5/16	9/16
10-305039-13	0		-115	*T&B WT222	GSC-375	1-1/8	1/4	5/16	9/16
10-305039-14	0		-8,-9,-214	*T&B WT218 or WT236	GSC-405/415	1-1/8	1/4	5/16	9/16
10-305039-41	4		-55,-142,-223	*T&B WT233, WT239 or WT208	GSC-205/219	1-1/16	7/32	9/32	3/8

TABLE I (CONT)

CONTACT						REFERENCE FIGURE 2-2			
Part No.	Size	Type	Use With RG/U Cable	Crimping Tool	Die or Nest	A Dim.	B Dim.	C Dim.	D Hex Nut Dim.
10-305039-42	4	SOC	-58,-141	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305039-43	4		-122	**Burndy MR8PV-S or MR8PV-1S	#100 Nest	1-1/16	7/32	9/32	3/8
10-305039-44	4		ITT Suprenant 6712	*T&B WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305039-81	8		-161	*T&B WT200 or WT230	GSC-128	15/16	5/32	7/32	9/32
10-305039-82	8	PIN	-161,-179,-187,-188	*T&B WT200 or WT230	GSC-128	29/32	3/32	9/32	9/32
10-305040-41	4		-71	**Burndy MRSPV-2	#160 Nest	1-1/16	7/32	9/32	9/32
10-305040-43	4		-58,-59,-62	*T&B WT208, WT233 or WT239	GSC-205/219	1-1/16	7/32	9/32	7/16
10-305040-81	8		SPECIAL	**Burndy MR8PV-S or MR8PV-1S	#100 Nest	15/16	5/32	7/32	5/16
10-305040-82	8		-122,-180,-195	11-8153		29/32	3/32	9/32	7/16
10-305041-41	4	SOC	-71	**Burndy MRSPV-2	#160 Nest	1-1/16	7/32	9/32	7/16
10-305041-43	4		-58,-59,-62	*T&B 208, WT233 or WT239	GSC-205/219	1-1/16	7/32	9/32	7/16
10-305041-81	8		SPECIAL	**Burndy MR8PV-S or MR8PV-1S	#100 Nest	15/16	5/32	7/32	5/16
10-305041-82	8		-122,-180,-195	11-8153		29/32	3/32	9/32	5/16

TABLE I (CONT)

CONTACT						REFERENCE FIGURE 2-2			
Part No.	Size	Type	Use With RG/U Cable	Crimping Tool	Die or Nest	A Dim.	B Dim.	C Dim.	D Hex Nut Dim.
10-305904-11	0	PIN	-11,-63B,-144,-165	**Burndy Y-10Q-1	R25VT	1-1/8	1/4	5/16	9/16
10-305904-131	0		-115	*T&B WT222	GSC-375	1-1/8	1/4	5/16	9/16
10-305904-14	0		-8,-9,-214	*T&B WT218 or WT236	GSC-405/415	1-1/8	1/4	5/16	9/16
10-305904-15	0		-13	*T&B WT218 or WT236	GSC-405/415	1-1/8	1/4	5/16	9/16
10-305904-41	4		-55,-142,-233	*T&B WT208, WT233 or WT239	GSC-205/219	1-1/16	7/32	9/32	3/8
10-305904-44	4		ITT-67-12	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305904-421	4		-58,-141	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305904-81	8		-161	*T&B WT200 or WT230	GSC-128	15/16	5/32	7/32	9/32
10-305905-11	0	SOC	-11,-63B,-144,-165	**Burndy Y-10Q-1	R25VT	1-1/8	1/4	5/16	9/16
10-305905-131	0		-115	*T&B WT222	GSC-375	1-1/8	1/4	5/16	9/16
10-305905-14	0		-8,-9,-214	*T&B WT218 or WT236	GSC-405/415	1-1/8	1/4	5/16	9/16
10-305905-41	4		-55,-142,-233	*T&B WT208, WT233 or WT239	GSC-205/219	1-1/16	7/32	9/32	3/8
10-305905-421	4		-58,-141	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305905-44	4		ITT-67-12	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8

TABLE I (CONT)

CONTACT						REFERENCE FIGURE 2-2			
Part No.	Size	Type	Use With RG/U Cable	Crimping Tool	Die or Nest	A Dim.	B Dim.	C Dim.	D Hex Nut Dim.
10-305905-81	8	SOC	-161	*T&B WT200 or WT230	GSC-128	15/16	5/32	7/32	9/32
10-305906-43	4	PIN	-58,-59,-62	*T&B WT208, WT233 or WT239	GSC-205/219	1-1/16	7/32	9/32	7/16
10-305906-82	8		-122,-180,-195	11-8153		29/32	3/32	9/32	5/16
10-305907-43	4	SOC	-58,-59,-62	*T&B WT208, WT232 or WT239	GSC-205/219	1-1/16	7/32	9/32	7/16
10-305907-82	8		-122,-180,-195	11-8153		29/32	3/32	9/32	5/16
10-305908-41	4		-161	*T&B WT200 or WT230	GSC-128	1-1/16	7/32	9/32	13/32
10-305909-41	4	PIN	-161	*T&B WT200 or WT230	GSC-128	1-1/16	7/32	9/32	13/32
10-305938-42	4		-58,-141	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305939-42	4	SOC	-58,-141	*T&B WT232 or WT203	GSC-175	1-1/16	7/32	9/32	3/8
10-305980-811	8	PIN	-58,-141	*T&B WT232	GSC-187,-194 -199	27/32	5/64	1/4	5/16
10-305980-821	8		-59	*T&B WT209 or WT230	GSC-225	1-1/16	7/16	11/32	5/16
10-305981-811	8	SOC	-58,-141	*T&B WT232	GSC-187,-194 -199	27/32	5/64	1/4	5/16
10-305981-821	8	SOC	-59	*T&B209 or WT230	GSC-225	1-1/16	7/16	11/32	5/16
10-407240-43	4	PIN	-58,-59,-62	*T&B WT208 WT233 or WT239	GSC-205/219	1-1/16	7/32	9/32	7/16

TABLE I (CONT)

CONTACT						REFERENCE FIGURE 2-2			
Part No.	Size	Type	Use With RG/U Cable	Crimping Tool	Die or Nest	A Dim.	B Dim.	C Dim.	D Hex Nut Dim
10-407240-82	8	PIN	-122,-180,-195	11-8153	GSC-205/219	29/32	3/32	9/32	5/16
10-407241-43	4	SOC	-58,-59,-62	*T&B WT208, WT233 or WT239		1-1/16	7/32	9/32	7/16
10-407241-82	8	↓	-122,-180,-195	11-8153	GSC-405/415	29/32	3/32	9/32	5/16
10-497098-14	0	PIN	-9B,-214,-225	*T&B WT218 or WT236		1-1/8	1/4	5/16	9/16
10-497098-41	4	↓	-55,-142	*T&B WT233, WT239 or WT208	GSC-205/219	1-1/16	7/32	9/32	3/8
10-497106-43	4	↓	-59	*T&B WT209 or WT230	GSC-225	1-1/16	7/32	9/32	7/16

NOTE:

1. The 10-305904 and 10-305905 series contacts are the same as 10-305038 and 10-305039 series contacts except they are 0.000100 gold plated.
2. The 10-305906 and 10-305907 series contacts are the same as 10-305040 and 10-305041 series contacts except they are 0.000100 gold plated.
3. The 10-305938 and 10-305939 series contacts are the same as 10-305038 and 10-305039 series contacts except they are 0.000050 gold plated.
4. The 10-407240 and 10-407241 series contacts are the same as 10-305040 and 10-305041 series contacts except they are 0.000050 gold plated over copper.

*The Thomas Betts Co., Elizabeth, New Jersey
**Burndy, Norwalk, Connecticut
***See Section III for installation instructions

SECTION II

INSTALLATION INSTRUCTIONS

NOTE

See Section I, paragraph 1-4, for general information concerning cutting, stripping, and soldering of cable. Refer to Table I for cable type and tool numbers for each contact configuration. See Figure 2-1 for contact part identification. Refer to Figure 2-2 for contact assembly steps.

2-1. Slide the compression nut and outer sleeve onto the coaxial cable.

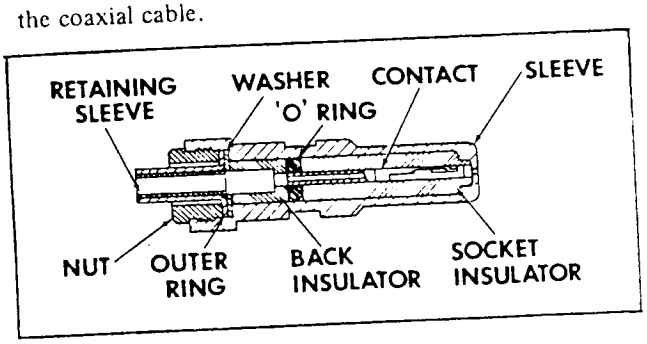


Figure 2-1. Contact Part Identification

NOTE

Sometimes the nut and sleeve will not fit over the cable. If so, strip the outer sheath prior to sliding the nut and sleeve onto the cable.

2-2. Remove length ("A" dimension, Table I) of cable outer sheath from end of cable. Use hot wire stripping to avoid cutting or nicking of outer conductor (braid).

2-3. Push the outer conductor (braid) back on cable enough to allow the inner retaining sleeve to be inserted over the dielectric and underneath the braid. Position inner retaining sleeve as far back as possible under the braid.

NOTE

When working with multiple braid conductor, cut conductor off (paragraph 2-4) before attempting to slide inner retaining sleeve under the braid. Make an expander tool as shown in Figure 2-3. Expand the braid enough to allow the retaining sleeve to slide under the braid.

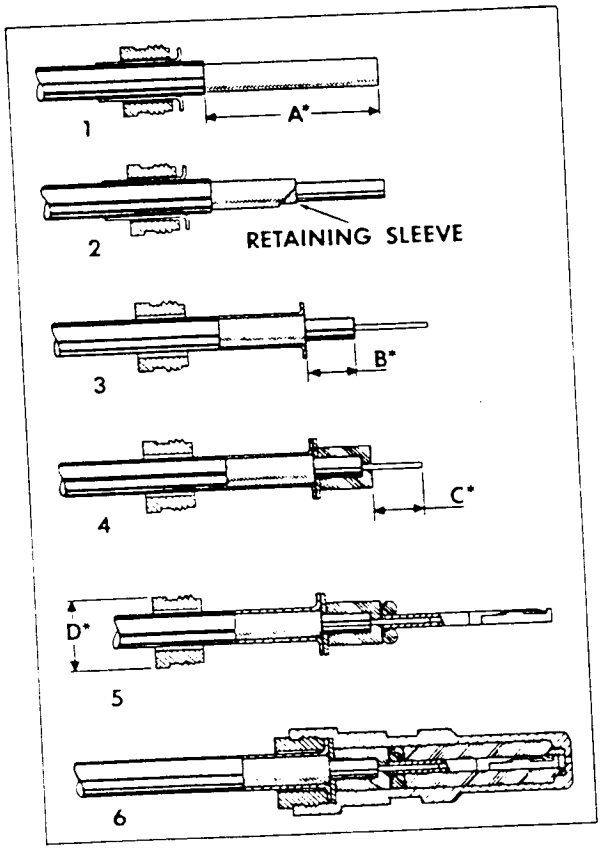


Figure 2-2. Assembly Stage

*See Table One

2-4. Smooth the outer conductor down over the inner sleeve. Cut the outer conductor off approximately flush with end of the inner sleeve.

NOTE

Outer conductor may be marked at cutting point and then inner sleeve mounted under point of cut to protect dielectric.

2-5. Slide the outer sleeve forward on the cable over the outer conductor. Butt the rear edge of the sleeve against the cable outer sheath. Crimp the outer conductor between the inner and outer sleeves, using the recommended crimping tool from Table 1.

NOTE

Approximately 1/16 inch clearance is recommended between outer sleeve flange and crimping die to prevent damage to parts.

2-6. Strip the dielectric (cable core) from the inner conductor in front of the sleeve flange to the "B" dimension in Table 1.

CAUTION

Do not cut or nick the inner conductor. Hot wire strip to avoid cutting or nicking inner conductor.

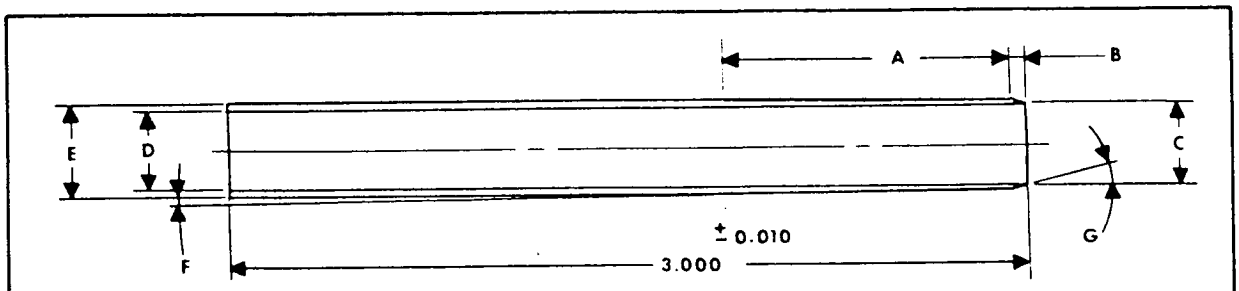
2-7. Place the flat washer on the cable over the dielectric and slide back against the flange of the outer sleeve. Place the back insulator on the cable, largest I.D. first, and butt against the front of the flat washer.

2-8. Cut the center conductor off to the "C" dimension in Table 1 from the back insulator.

2-9. Use a 47½ watt soldering iron. Solder the center contact to the center conductor. The contact must butt against the face of the back insulator. Clean excess solder and flux from the face of the back insulator and contact.

2-10. Slide the "O" ring (or grommet) and front insulator onto the center contact. They must butt against the rear insulator. Carefully guide the center contact and insulator assembly into the outer barrel, keeping it aligned with the axis of the barrel to prevent any binding action.

2-11. Slide the hex nut down the cable and tighten into position using an applicable size open end wrench (See Table 1). Do not allow the cable to twist as nut is tightened to the outer barrel.



CABLE RG NO	A	B	C DIA	D DIA	E DIA	F	G
-9	1.062	0.062	0.312	0.297	0.350	1°	22.5°
-55	↓	↓	0.141	0.125	0.170	↓	↓
-71	↓	↓	0.171	0.156	0.200	↓	↓
-115	↓	↓	0.281	0.266	0.320	↓	↓
-142	↓	↓	0.141	0.125	0.170	↓	↓
-214	↓	↓	0.312	0.297	0.350	↓	↓
-233	↓	↓	0.141	0.125	0.170	↓	↓

Figure 2-3. Expander Tool Plan

SECTION III

INSTALLATION INSTRUCTIONS (SPECIAL)

NOTE

See Section I, paragraph 1-4, for general information concerning cutting, stripping, and soldering of the cable. Refer to Table I for cable type and tool numbers for each contact configuration. See Figure 2-1 for contact part identification. Refer to Figure 2-2 for contact assembly steps.

3-1. Remove length ("A" Dimension, Table I) of cable outer sheath from end of cable. Hot wire stripping is recommended to avoid cutting or nicking of outer conductor (braid).

3-2. Slide the outer retaining sleeve over the braid until it butts against the cable outer sheath. Cut the braid off flush with the end of the outer sleeve. Slide the outer sleeve back over the outer sheath.

3-3. Push the outer conductor back on the cable enough to allow the inner retaining sleeve to be inserted over the dielectric and underneath the braid. Make sure the hex nut is in place on the inner retaining sleeve and position the sleeve as far back as possible under the braid.

NOTE

When working with multiple braid conductors, fabricate an expander tool as shown in Figure 2-3 and use to expand braid enough to allow the retaining sleeve to slide under the braids.

3-4. Complete assembly of contact/cable by following the assembly procedures called out in paragraphs 2-5 through 2-11 in Section II.