

File E13288
Projects 73ME183

February 9, 1973

REPORT

on

COMPONENT - WIRE CONNECTORS

AMP, Incorporated
Harrisburg, Pennsylvania

DESCRIPTION

PRODUCT COVERED:

Component Wire Connectors, Type "Open Barrel Ring and Spades" or "OBR&S"
(For specific cat. nos. see Illustrations.)

**USR, CNR - Component Wire Connectors, Type "Open Barrel Ring and Spades",
Cat. No. 61794-9.**

GENERAL CHARACTER AND USE:

These devices are terminal connectors intended for use with stranded
copper wire only and having a wire range as stated in the Illustrations.

**USR - Products designated USR have been investigated using US
requirements as noted in the Test Record.**

**CNR - Products designated CNR have been investigated using Canadian
requirements as noted in the Test Record.**

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

These devices are for use where acceptability of the combination has been
judged by Underwriters Laboratories Inc.

Conditions of Acceptability -

1. These devices are for factory assembly onto copper stranded wire
only using this manufacturer's automatic power tooling which forms the wire
entry opening and crimps the conductors to the terminal in one operation as
illustrated in Fig. 2.

2. The plated steel connectors covered in this report are for use only
where steel is acceptable for current-carrying parts.

3. Cat. Nos. 42313-2 and 42807-2 have a max assigned ampere rating of
15 A. Cat. No. 40902 has a max assigned ampere rating of 68 A. Cat.
Nos. 520346-1, 520347-1, -2, 520892-1, 520893-1, 520940-1, 520941-1, 520943-1,
520944-1, 520993-1, 520994-1, 521305-1, have a max assigned ampere rating of
20 A. Cat. Nos. 520936-1, 520937-1, 520989-1, 520990-1, 63496-1, 63496-2 have
a max assigned ampere rating of 30 A, Cat. No. 1742060-1 has a maximum
assigned ampere rating of 18A. Cat No. 880626-1, -2 has a maximum ampere
rating of 7 A.

4. Marking - Electrical ratings, including "CU", etc., are not
provided. Such markings may be required in the end-equipment.

5. Cat. Nos. 520346-1, 520347-1, -2, 520892-1, 520893-1, 520940-1,
520941-1, 520943-1, 520944-1, 520993-1, 520994-1, 521305-1, 520936-1, 520937-
1 are intended for mounting on a base. The suitability of the base, including
insulating material, shall be an end-use consideration.

6. Cat. Nos. 520346-1, 520347-1, -2, 520892-1, 520893-1, 520940-1, 520941-1, 520943-1, 520944-1, 520993-1, 520994-1, 521305-1, 520936-1, 520937-1, 520989-1 and 520990-1, 63496-1, 63496-2 are to be assembled using this manufacturer's mini-applicator automatic crimp tooling No. 567253-2.

7. Cat. Nos. 520347-1, -2, 520893-1, employ a No. 10-32 by 3/8 in terminal screw and a No. 10-32 by 7/16 in square nut. Cat. Nos. 520346-1, 520892-1 employ a No. 10-32 by 7/16 in terminal screw and a No. 10-32 by 3/8 in square nut. Cat. Nos. 520940-1, 520941-1, 520943-1, 520944-1, 520936-1, 520937-1 employ a No. 10-32 by 7/16 in terminal screw and a No. 10-32 by 7/16 in square nut. The square nuts are provided for mounting, and termination of Nos. 6-14 AWG copper sol/str wire (serving as the load) between screwhead and terminal plate, considered the pressure terminal connector. Nos. 6-8 AWG stranded wires may be inserted into the pressure terminal connector of the mentioned Cat. Nos. in a manner that approximately half of the strands are captivated on each side of the terminal screw, or with all strands captivated on each side of the pressure terminal screw. The max tightening torque for the pressure wire connector terminal is 45 lb-in.

Additional Cat. Nos. -

Cat. No. 520993-1 (Ill. 46) is the same as Cat. No. 520943-1 (Ill. 34) except with a No. 10-32 x 3/8 in combination hex/phillips head pressure screw instead of a No. 10-32 x 3/8 in slot/phillips head screw. Also, the nut for Cat. No. 520993-1 is a No. 10-32 by 3/8 in instead of No. 10-32 x 7/16 in.

Cat. No. 520994-1 (Ill. 47) is the same as Cat. No. 520944-1 (Ill. 35) except with a No. 10-32 x 3/8 in hex/phillips head pressure screw instead of a No. 10-32 by 7/16 in slot/phillips head screw.

Cat. No. 521305-1 (Ill. 48) is the same as Cat. No. 520943-1 (Ill. 34) except with a No. 10-32 x 3/8 in hex/phillips head pressure screw instead of a No. 10-32 x 7/16 in slot/phillips head screw.

Cat. No. 1-61795-1 (Ill. 223) is the same as Cat. No. 61795-3 (Ill. 7) except with different plating material with higher plating thickness.

Cat. No. 61794-9 (Ill. 224) is the same as Cat. No. 61794-1 (Ill. 10, page 91) except with different package.

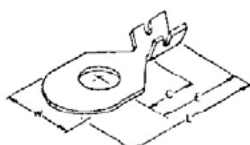
8. Cat. Nos. 154672-1, -2, -3 are to be assembled using this manufacturer's automatic crimp tooling No. HD-1 applicator, Die No. 2-456406-3 with anvil 1-1333217-5.

9. Cat. Nos. 160434-1, -2 are intended for assembly onto No. 16 - 20 AWG Cu str wire using this manufacturer's AMP End Feed HD-1 Applicator tooling.

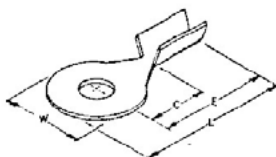
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OPEN BARREL RINGS AND SPADES

RING TONGUE (cont'd)



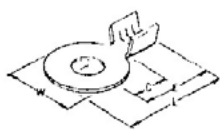
S
Wire Range: 8-4



T
Wire Range: 22-18



U
Wire Range: 22-16



V
Wire Range: 22-10

NON-INSULATION SUPPORT (Cont'd)

CATALOG NUMBER	TYPE	WIRE RANGE	HOLE DIA.	STUD SIZE	STOCK THICK-NESS	MATERIAL/FINISH	NOMINAL			
							W	L	E	C
40797	S	8	.265	1/4	.040	Brass	.428	.955	.743	.335
40974	S	8	.265	1/4	.040	Brass/Tin	.428	.955	.743	.335
40902	S	4	.265	1/4	.040	Brass	.428	.955	.743	.335
41207	T	20-18	.145	6	.016	Brass	.281	.725	.585	.265
42837-1	T	20-18	.145	6	.016	Brass/Tin	.281	.725	.585	.265
61333-1†	U	22-16	.145	6	.030	Brass/Tin	.468	.832	.598	.437
485017-1	V*	22-18	.171	8	.020	Brass/Tin	.300	.485	.335	.230
60781-1	V*	22-18	.171	8	.020	Brass	.300	.535	.394	.239
60607-1	V*	22-18	.197	10	.020	Brass	.300	.535	.394	.239
60607-3	V*	22-18	.197	10	.020	Brass/Tin	.300	.535	.394	.239
60095-1	V	20-16	.145	6	.020	Brass	.218	.430	.319	.167
60095-2	V	20-16	.145	6	.020	Brass/Tin	.218	.430	.319	.167
61572-1	V	18-14	.093	—	.020	Steel/Pre-Nickel	.300	.535	.385	.230
42623-1	V	18-14	.145	6	.020	Stainless Steel	.300	.535	.385	.230
40587	V	18-14	.145	6	.025	Brass	.300	.535	.385	.230
42110-1	V	18-14	.145	6	.025	Brass	.300	.570	.420	.230
40752	V	18-14	.145	6	.025	Brass/Tin	.300	.535	.385	.230
42111-1	V	18-14	.145	6	.025	Brass/Tin	.300	.570	.420	.230
41334	V	18-14	.171	8	.025	Stainless Steel	.300	.535	.385	.230
34848	V	18-14	.145	6	.020	Brass	.300	.535	.385	.230
40593	V	18-14	.145	6	.020	Brass/Tin	.300	.535	.385	.230
40979	V	18-14	.145	6	.020	Steel/Pre-Nickel	.300	.535	.385	.230
40588	V	18-14	.171	8	.025	Brass	.300	.535	.385	.230
42110-2	V	18-14	.171	8	.025	Brass	.300	.570	.420	.230
42111-2	V	18-14	.171	8	.025	Brass/Tin	.300	.570	.420	.230
40753	V	18-14	.171	8	.025	Brass/Tin	.300	.535	.385	.230
34812	V	18-14	.171	8	.020	Brass	.300	.535	.380	.230
40594	V	18-14	.171	8	.020	Brass/Tin	.300	.535	.380	.230
41346	V	18-14	.171	8	.020	Steel/Pre-Nickel	.300	.535	.380	.230
40589	V	18-14	.197	10	.025	Brass	.300	.535	.385	.230
42110-3	V	18-14	.197	10	.025	Brass	.300	.570	.420	.230
40754	V	18-14	.197	10	.025	Brass/Tin	.300	.535	.385	.230
42111-3	V	18-14	.197	10	.025	Brass/Tin	.300	.570	.420	.230
42716-1	V	18-14	.197	10	.025	Stainless Steel	.300	.535	.380	.230
34839	V	18-14	.197	10	.020	Brass	.300	.535	.380	.230
40595	V	18-14	.197	10	.020	Brass/Tin	.300	.535	.380	.230
42314-1	V	18-14	.197	10	.020	Steel/Tin	.300	.535	.380	.230
41521	V	18-14	.197	10	.020	Steel/Pre-Nickel	.300	.535	.380	.230
60509-1	V*	18-14	.130	—	.030	Brass/Tin	.343	.611	.435	.275
40516	V*	18-14	.145	6	.030	Brass/Tin	.343	.611	.435	.275
42424-1	V*	18-14	.171	8	.030	Brass	.343	.611	.435	.275
40517	V*	18-14	.171	8	.030	Brass/Tin	.343	.611	.435	.275
40977	V*	18-14	.197	10	.030	Brass/Tin	.343	.611	.435	.275
42611-1	V*	18-14	.234	—	.030	Brass	.343	.611	.435	.275
42611-2	V*	18-14	.234	—	.030	Brass/Tin	.343	.611	.435	.275
60956-1	V*	16-14	.130	—	.030	Brass/Tin	.281	.586	.435	.275

† Applicator feed from side — all others are end feed.
* Serrated Wire Barrel