WOSS 560/6

British Railways Board

Director of Mechanical and Electrical Engineering

Crimped Connectors for Coaxial Cables

WORKSHOP OVERHAUL STANDARD SPECIFICATION

REVISION RECORD

This Specification will be updated when necessary by the issue of amended pages accompanied by revision letters. The amended or additional part of re-issued pages will be marked with a vertical black line.

If you consider that an amendment is necessary, complete BR Form 14298 and pass it to the local BRB Resident Engineer or Area Quality Engineer. Submission of a form does not authorise the proposed amendments.

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I authorise the work content of the publication shown above and its distribution to user departments.

Signed:

.....Freight Engr.

.....InterCity Engr.

.....Network SE Engr.

.....Parcels Engr.

.....Provincial Engr.

Should any query arise regarding the contents of this document telephone 0332 42442 Ext. 3516, BR Code is 056 3516, or write to the above address.

This Specification applies to equipment fitted to the vehicles indicated 'X' below, but it is only to be implemented when authorised by an appropriate maintenance/overhaul document.

Locomotives

03	
08	
09	
20	X
26	X
31	X
33	X
37	X
43	X
47	X
50	X
56	X
58	X
60	X

73	X
81	X
85	X
86	X
87	X
88	X
89	X
90	X
91	X
92	X

DMU's

101	
104	
107	
108	
110	
111	
114	
115	
116	
117	
118	
119	
120	
121	
122	
128	

140	X
141	X
142	X
143	X
144	X
150	X
151	X
154	X
155	X
156	X
165	X

EMU's

302	X
303	X
304	X
305	X
307	X
308	X
311	X
312	X
313	X
314	X
315	X
317	X
318	X
319	X
320	X
321	X
322	X
504	
507	X
508	X

411	X
412	X
413	X
414	X
415	X
416	X
419	X
421	X
422	X
423	X
432	X
438	X
442	X
455	X
456	X
485	X
486	X
487	X
488	X
489	X

Coaching Stock

Mk 1	
Mk 1 Catering	
Mk 2z, 2a-c	
Mk 2d-e	
Mk 2f	
Mk 2 DBSO	X
Mk 3a	
Mk 3b	
Mk 3 Catering	
Mk 3(HST)	
Mk 3(HST)Catering	
Mk 3 SLE and SLEP	
Mk 4	
DVT IC225	X
DVT IC125	X
Non Passenger	

DEMU's

204	
205	
207	

Wagons

WORKSHOP OVERHAUL STANDARD SPECIFICATION 560/ 6

CRIMPED CONNECTORS FOR COAXIAL CABLES

CONTENTS

INTRODUCTION

There are three types of connector systems used on T & RS:

Type	Locking Method	Cables
BNC	Bayonet	UR(M)76
N series	Thread	UR(M)67 and UR(M)76
UHF	Thread	UR(M)67

TOOLS AND MATERIALS

Crimping tools/dies as specified.
Connectors as specified

SECTION 1 CRIMPING PROCEDURE

NOTE:
Where an item is first mentioned in the text it is followed by a number in brackets. The first part of the number, before the full stop, refers to the figure on which the item is identified. The second part of the number, after the full stop, is the number of the item as it appears on the figure. Items lists associated with figures use the full number. If an item is identified on more than one figure then the items list for each figure will give the alternative number.

1. Determine the cable type and size from Table 1. Obtain the specified tools.

2 BNC: slide the insulation boot (1.1) over the cable.

3 Slide the ferrule (1.2) over the cable.

4 UHF: slide the collar (1.9) over the cable.

5 Strip the outer sheath (1.3) to the dimension given in Figure 1.

6 Trim back the braid (1.4) to the dimension given in Figure 1.

7 Strip the dielectric (1.5) to the dimension given in Figure 1.

8 BNC and N: slide the contact pin (1.7) over the centre conductor until it abuts the dialectric.

9 UHF: slide the body onto the centre conductor until the cable dielectric abuts the body.

10 N: set the locator on the crimping tool to Closed.

11 Crimp the centre contact pin.

12 Check that the centre conductor is visible through the hole in the contact pin shank.

13 BNC and N: slide the connector body (1.8) over the contact pin, ensuring that the knurled ferrule inserts between the dielectric and the braid. The contact pin will click into the connector body.

14 Slide the ferrule (1.2) along the cable until it abuts the connector body. Ensure that no braid strands remain visible.

15 Crimp the ferrule.

16 BNC: slide the insulation boot along the cable until it abuts the connector body.

Items List for Figure 1

Item	Description
1. 1	Insulation boot
1. 2	Ferrule
1. 3	Outer sheath
1. 4	Braid
1. 5	Dielectric
1. 6	Centre conductor
1. 7	Contact pin
1. 8	Connector body
1. 9	Collar

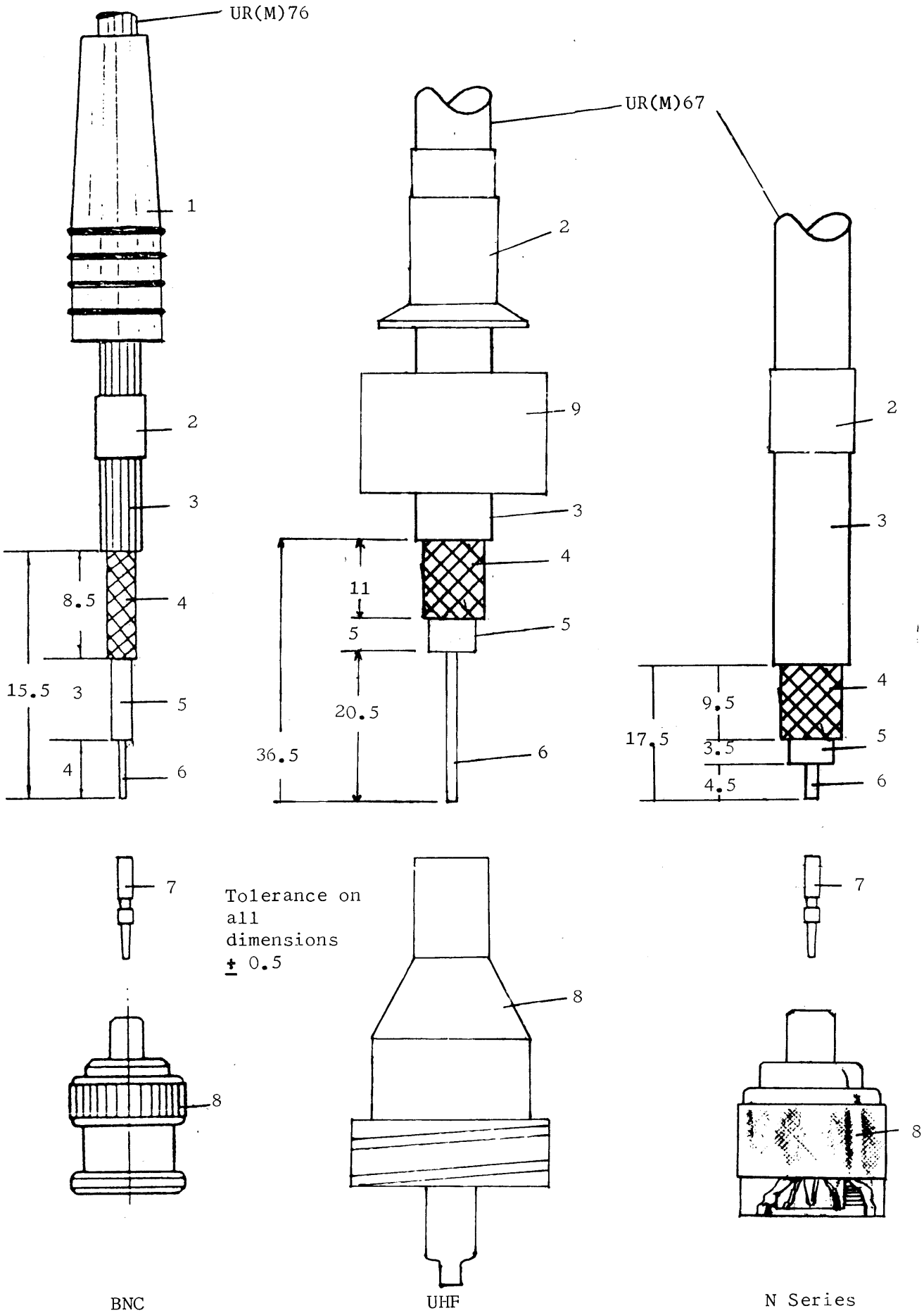


Figure 1 Cable Preparation

SECTION 2 TEST SPECIFICATION

Equipment

If any of the following tests do not give the indicated result, investigate and rectify the defect and repeat the test.

1 Check that the ferrule is butted against the connector body and no braid strands are visible.

2 Check that the cable insulation goes inside the ferrule and that no braid is visible.

3 N Series Jack

3.1 Check that the tip of the centre contact is recessed into the body by 4 mm.

4 N Series Plug

4.1 Check that the tip of the centre contact is slightly recessed into the body outer contact.

5 BNC

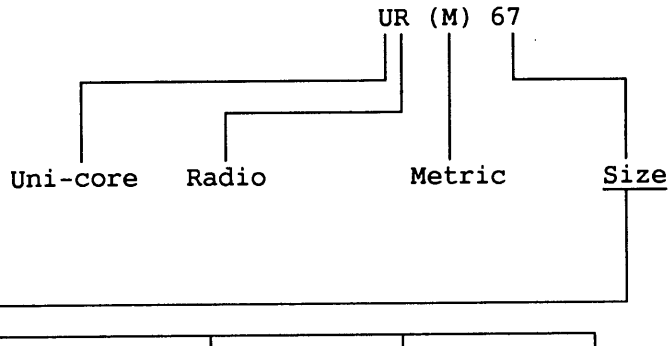
5.1 Check that the tip of the centre contact is slightly recessed inside the body dielectric.

6 UHF

6.1 Check that the centre conductor is either flush or slightly protruding the centre contact.

SECTION 3 TECHNICAL DATA

Table 1 Cable Details



Size	67	76
Inner conductor	7/0.77	7/0.32
Inner conductor ϕ	2.3	0.9
Dielectric ϕ	7.2	2.9
Outer protection	PVC black	PVC black
Outer ϕ	10	5
BR Cat. No.	6/165530	6/165535

For full details see BS 2316.

Table 2 Tools and Crimps

Cable Type (BS 2316)		UR(M)67		UR(M)76	
US Cable Equivalent		RGU/213		RGU/ 58	
Connector Type		N Series (thread)	UHF (thread)	BNC (bayonet)	N Series (thread)
Tool	AMP part No.	220015-1	220095-1	220190-1	220045-2
	BR Cat. No.	39/ 69242	39/ 69252	39/ 69254	39/ 69253
Die set	AMP part No.	-	-	220189-1	-
	BR Cat. No.	-		39/ 8897	
Jack	AMP part No.	225663-2		228979-5	1-225663-2
	BR Cat. No.	54/ 73252		54/ 35013	54/ 35011
Plug	AMP part No.	225661-2	226847-2	227079-5	1-225661-2
	BR Cat. No.	54/ 73253	54/ 54126	54/ 54128	54/ 54127
Insulation boot for plug & jack	AMP part No.			134611-1	
	BR Cat. No.			54/ 2530	
Jack: panel mounting	AMP part No.			228980-5	
	BR Cat. No.				

Table 3 Adaptors

Description *	AMP Part No.	BR Cat.No.
BNC jack to N plug	222321-1	54/ 1066
BNC jack to UHF plug	222320-1	54/ 1067
N jack to UHF plug	222322-1	54/ 1068
BNC Tee Connector: jack to 2 plugs	134578-1	54/ 10703
Insulation boot	221586-1	54/ 2528

* This describes the adaptor, not what requires to be adapted.