

MOUNTING AND ALIGNING APPARATUS

VERIFICATION OUTLINE

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<u>1. GENERAL</u> <u>1.1 Scope of Section</u> 1.11 This section contains the verification items for the equipment installed by the operations covered in Sections 52 through 52 SE. 1.111 Where practicable, the essentials of the requirement are included in the verification item. Where this is not practicable, a brief statement of the requirement appears as one or more subparagraphs of the verification item. In each case, a reference is made to the complete requirement.	<u>1.2 Verification of Inaccessible Equipment</u> 1.21 Verification items marked (P) are so designated to denote that the equipment should be verified before it becomes inaccessible or before a portion of the work becomes indiscernible, due to additional installing operations. If a portion of the work is visible on the equipment, that portion should be verified in the regular manner.
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VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig.No.
2. COMMON REQUIREMENTS				
2.1	Adjacent like units or panels of bay equipment dressed so left hand panels will be aligned to within 1/16", 1/64" in case of duct type bays.	52	4.22	
2.2	Apparatus located in accordance with information furnished to job.	52	4.11, 4.111	
2.3	Capacitors, repeating coils, and resistances mounted so that the code markings are in the proper position.	52	4.13 4.13(a)	
2.4	Single stud- or single screw-mounted apparatus mounted with the terminals in the most convenient location for wiring, and where practicable with code markings visible.	52	4.13(b)	
2.5	Apparatus not having movable parts when mounted in a group on one mounting plate; correctly aligned.	52	4.21	

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VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig. No.
2.6	Apparatus insulated from mounting plate where required.	52	4.31	
2.7	Apparatus approximately level as gauged by eye.	52	4.21	
2.8	Bolts, nuts and screws within the following requirements:	52	4.14 to 4.16	(ALSO see Gen.Sec.)
		52 REG	4.1	
(P) (a)	Kind and size as specified and installed in all places and requiring them.			
(P) (b)	Free from stripped threads and defaced heads.			
(c)	Not burred.			
(P) (d)	Sufficient thread engagement and properly tightened.			
2.9	Clearance provided as required.			
3.	<u>INSTALLING PROCEDURES</u>			
3.01	<u>Assemblies, Bank, Step-by-Step</u>			
(a)	Fibre insulators not damaged.	52A	3.	
3.02	<u>Blanks, Apparatus</u>			
(a)	Installed where required.	52A	4.1	
(b)	Fitted securely.	52A	4.2	
(c)	No. 15 type fastened in place with ambroid cement, or Duco Household Cement.	52A	4.3	
3.03	<u>Blocks, Connecting</u>			
(a)	18A type mounted with No. 1 terminal at upper left corner centered for plug in type relays.	52A	5.1	
(b)	26B type mounted with frame on bottom.	52A	5.2	
(c)	33 type mounted as shown on ED-90046-01.	52A	5.3	
3.04	<u>Blocks, Fuse</u>			
(a)	18- or similar type equipped with fuse or dummy fuse.	52A	6.1	
3.05	<u>Block, Porcelain Protector</u>			
(a)	Installed so outside protector spring rests squarely against carbon insert.	52A	7.1	
(b)	Front ends in line.	52A	7.3	
(c)	Cleaned when removed and replaced.	52A	7.5	
(d)	Tested after installed.	52A	7.6	

VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig.No.
3.06	<u>Bridge, Wheatstone</u>			
(a)	Mounted flush with keyboard.	52A	8.1	
3.07	<u>Capacitors</u>			
(a)	Nuts not tightened excessively.	52A	9.1	
(b)	Panel frames - washer bracket and condenser.	52A	9.2	
(c)	137 to 142 type grounded with lockwashers when specified.	52A	9.32	
(d)	437 and 438 types grounded with KS-8429 plates when specified.	52A	9.33(a)	
(e)	439 and 440 types grounded with KS-8428 plates when specified.	52A	9.33(b)	
(f)	441 and 442 types grounded with KS-8427 plates when specified.	52A	9.33(c)	
(g)	441 type equipped with 44A shields when substituted for 141 type.	52A	9.34	
(h)	Electrolytic capacitors mounted with lock washer under nut and fibre washer between capacitor and mounting plate.	52A	9.4	
3.08	<u>Caps, Lamp</u>			
(a)	Fitted tightly to prevent turning.	52A	10.1	
3.09	<u>Charts, Apparatus Designation</u>			
(a)	Firmly and permanently mounted with R-3156 Cement.	52A	11.1	
(b)	Coating of R-3156 on surface of charts.	52A	11.1	
3.10	<u>Coils, Heat (Indicator alarm types)</u>			
(a)	Installed in same manner as indicator alarm type.	52 CO	3.1	
3.11	<u>Coils, Heat (Protector)</u>			
(a)	Placed in protector so outer spring of mounting does not rest on soldered portion of metal washer of heat coil.	52 CO	3.2	
3.12	<u>Coils, Induction</u>			
(a)	Unshielded coils located with sufficient space from other unshielded coils.	52 CO	4.1	
(b)	Projection of screws.	52 CO	4.2	
3.13	<u>Coils, Repeating</u>			
(a)	Unshielded coils properly spaced.	52 CO	5.1	
(b)	Old and new designs of 94 type not mixed.	52 CO	5.3	
(c)	On angle type mounting plates, 110A type mounted.	52 CO	5.4	

VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig.No.
3.14	<u>Coils, Retardation</u>			
(a)	46 and 47 types mounted as specified.	52 CO	6.1 to 6.4	1
(b)	111 type mounted with screws on right side of coil.	52 CO	6.5	
(c)	200 type correctly mounted when installed in rear of 207, 208 U, Y and similar type relays.	52 CO	6.6	
3.15	<u>Cords and Cord Weights</u>			
(a)	Installed as specified.	52 CO	7.1	2
(b)	Weights hung not closer than 1" from base of section.	52 CO	7.6	
3.16	<u>Counters, Magnetic</u>			
(a)	Mounted as shown.	52 CO	8.1	3
3.17	<u>Covers</u>			
(a)	Lettering right side up or dot in upper left.	52 CO	9.1	
3.18	<u>Cushions, 1A, 2A and 4A Types</u>			
(a)	Placed directly below cord end of plug.	52 CU	3.1	1
3.19	<u>Drives, 51 and 52 Types</u>			
(a)	Mounted with bushings, washers and special RHM screws.	52 CU	4.1	2
3.20	<u>Face Equipment - Other Than Switchboards</u>			
(a)	Refer to face equipment Handbook 8, Section 9A.	52 CU	5.1	1
(b)	When stile casing not furnished on both sides, equipment dressed toward stile strip away from stile casing.	52 CU	5.1	
3.21	<u>Fasteners, Cord</u>			
(a)	Mounted in alignment and right angles to cord shelf.	52 CU	6.1	1
(b)	Located over drillings to permit insertion of cord tips	52 CU	6.1	
3.22	<u>Fuses</u>			
(a)	Type and capacity fuses as specified.	52 CU	7.1, 7.4	1
(b)	35 type fuses installed to insure proper contact between the alarm spring and alarm bar.	52 CU	7.2	
(c)	Non-alarm type fuses installed with side slot in proper position.	52 CU	7.3, 7.31, 7.32	1
(d)	Dummy fuses, such as 63A and 64A, installed in all un-equipped fuse and heat coil positions.	52 CU	7.5, 7.51	
(e)	72- type dummy fuses installed wherever 70- type fuses are omitted.	52 CU	7.6	1
(f)	Neoprene washers not required on any fuse caps.	52 CU	7.7	

VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig.No.
3.23	<u>Guides and Springs, Relay Cover</u>			
(a)	Refer to Handbook 6.	52 CU	8.1	
3.24	<u>Holders, Fuse Record Book</u>			
(a)	Metal bracket placed under top cover of book.	52 CU	9.2	
3.25	<u>Hooks, Cord (Strip Type)</u>			
(a)	Align with each other and lower edge of cord shelf.	52 CU	10.1	
3.26	<u>Jacks (Individually Mounted)</u>			
(a)	Mounted with springs and frames in correct position.	52 CU	11.1	
3.27	<u>Keys</u>			
(a)	Color of buttons agree with job information.	52 CU	12.1	
(b)	Mounted in connect position.	52 CU	12.2 to 12.6 12.8	
3.28	<u>Lamps</u>			
(a)	Code agrees with wiring diagram.	52 CU	13.1, 13.11	
(b)	Contacts make with spring in socket when inserted.	52 CU	13.12	
3.29	<u>Levers, Key</u>			
(a)	Code marks in locations specified.	52 LE	3.1	
(b)	Plunger of specified length.	52 LE	3.13	1
(c)	Cam and plunger work freely.	52 LE	3.14	
3.30	<u>Lists, Terminal Assignment</u>			
(a)	Located where specified.	52 LE	4.1, 4.21	
3.31	<u>Meters</u>			
(a)	Meters and shunt, resistance, or other associated apparatus correctly paired as indicated by corresponding serial numbers.	52	5.1	
3.32	<u>Mountings, Apparatus (5A and 5B)</u>			
(a)	Provided when specified.	52 LE	6.1	
3.33	<u>Mountings, Jack (1, 19 and Similar Types)</u>			
(a)	No. 1, 19 and similar type (used for 49 and 92 type jacks) mounted with tip and ring springs under plug.	52 LE	7.1	
(b)	No. 141, 275 and similar types, metal mountings under jacks for strip 1/2" thick, above jacks for strips over 1/2" thick, unless otherwise specified.	52 LE	7.2	

VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS	REFERENCE		
	Sec.No.	Par.No.	Fig.No.
3.34 <u>Mountings, Lamp Socket</u>			
(a) With hard rubber frames nut side upward.	52 LE	8.11	
(b) With horizontal flanges, horizontal flange of face plate downward.	52 LE	8.12	
(c) With metal frames without flange on face plate marked "TOP" on one side.	52 LE	8.13	
3.35 <u>Networks</u>			
(a) Bracket for 184A type securely fastened under upper mounting screw in vertical position.	52 LE	10.1	
(b) Cover not loosened on 181D or similar types by excessive tightening of the mounting nuts.	52 LE	10.2	
3.36 <u>Plates, Dummy Mounting</u>			
(a) Steel dummy plates provided unless otherwise specified.	52 LE	11.1	
3.37 <u>Plates, Mounting</u>			
(a) Level within 1/16" when fastened with clips.	52 LE	12.1	
(b) 1/32" separators used when fastened with clips.	52 LE	12.11	3
(c) 1/8" separators used when drilled type mounting plate is located adjacent to punched type plates.	52 LE	12.12	4
(d) Flanges of channel plates facing in proper directions.	52 LE	12.2	
3.38 <u>Plates, Number</u>			
(a) Flush type flush within approximately .010".	52 LE	13.1	
(b) 153A and 153B plates mounted so they do not come in contact with designation strips.	52 LE	13.2	
3.39 <u>Plugs</u>			
(a) Front row plugs associated with calling cords, rear row associated with answering cords.	52 LE	14.1	
(b) Color of shells as specified.	52 LE	14.2	
3.40 <u>Posts, Fuse</u>			
(a) Mounted so flat surface of lug is parallel to long axis of panel.	52 LE	15.1	
(b) Studs omitted when fuses of different voltages are grouped on same panel.	52 LE	15.2	
(c) Studs omitted when fuses of different capacities but same voltage are grouped on same panel.	52 LE	15.3	
(d) Brackets to indicate different fuse capacities.	52 LE	15.4	

VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig.No.
3.41	<u>Receptacles, Yaxley</u>			
(a)	Mounted with locating pin at top.	52 LE	16.1	
3.42	<u>Registers, Message and Traffic</u>			
(a)	Mounted approximately level and fastened securely to mounting plate.	52 REG	3.1	
(b)	Horizontal clearance between caps not less than 3/32".	52 REG	3.1, 3.2	
(P)(c)	Mounted with proper washers, screws, nuts, etc.	52 REG	3.3 to 3.4	
(d)	14E registers equipped with 117A adapters when used to replace 14A registers.	52 REG	3.5	
(P)(e)	Stud insulators installed when required.	52 REG	3.6	
(f)	Terminal lugs on traffic registers located so as not to obscure designations.	52 REG	3.7	
3.43	<u>Relays</u>			
(a)	Insulating washers used when required.	52 REG	4.2	
(b)	Correct mounting screws used on B, G, J or 280 types.	52 REG	4.22	
(c)	B, G, J, and similar types mounted with armature vertical and to right.	52 REG	4.302	
(d)	114, 124, and 198 types mounted as illustrated.	52 REG	4.305	
(e)	Sensitrol type and associated resistances mounted as required.	52 REG	4.307	
(f)	Aligned to conform with requirements.	52 REG	4.5	
(g)	4B cover clips removed from wire spring relays.	52 REG	4.61	
3.44	<u>Resistors</u>			
(a)	Mounted in accordance with requirements.	52 RES	4.1 to 4.8	1 to 6
3.45	<u>Seats, Plug</u>			
(a)	Mounted so as not to interfere with cord plugs.	52 SE	3.1	
3.46	<u>Semiconductors, Stud Mounted</u>			
(a)	Silicone compound to be applied to the mating surfaces	52 SE	4.1	
3.47	<u>Shelves, Writing</u>			
(a)	Mounted at proper height.	52 SE	5.1	
3.48	<u>Shields</u>			
(a)	Properly mounted and not excessively bowed.	52 SE	6.1	

VERIFICATION ITEMS AND BRIEF STATEMENT OF REQUIREMENTS		REFERENCE		
		Sec.No.	Par.No.	Fig.No.
3.49	<u>Sockets, Individual Lamp</u>			
(a)	46 type mounted with shell terminal at the bottom.	52 SE	7.1	
(b)	49A and similar types flush within 1/32".	52 SE	7.3	
3.50	<u>Sockets, Electron Tube</u>			
(a)	Mounted with large prong holes in front or down, unless otherwise specified.	52 SE	8.1	
3.51	<u>Strips, Designation</u>			
(a)	Installed so that celluloid strips and cords can be readily inserted.	52 SE	9.1	
(b)	Installed so as to permit insertion of cards from proper end depending on location.	52 SE	9.1(a) to (d)	
3.52	<u>Strips, Fanning (Panel Frames)</u>			
(a)	Odd and even numbers on same side of bank as odd and even soldering terminals.	52 SE	10.1	
3.53	<u>Strips, Terminal</u>			
(a)	Clamping, strips, separators and fanning strips not damaged.	52 SE	11.1	
(b)	Properly mounted.	52 SE	11.3	
(c)	35, 65, and similar type not more than 1/8" out of alignment.	52 SE	11.4	
(d)	Strips of same general dimensions when mounted in rows, not out of alignment more than 1/8".	52 SE	11.5	
(e)	R- and similar types mounted as shown in Figure.	52 SE	11.6	2
3.54	<u>Switches, Crossbar</u>			
(a)	Correct screws and washers used.	52 SE	13.1	
3.55	<u>Switches, Toggle</u>			
(a)	Mounting nuts properly tightened.	52 SE	15.1	
3.56	<u>Varistors</u>			
(a)	303 or similar types mounted with the terminals in the most convenient location for wiring, and where practicable with code markings visible.	52 SE	17.1	

→ Indicates new or
changed information

Engineering Planning Manager
(Installation)

Reason for Reissue:
Update BSP issue.