

CHAMP LATCH LOW-PROFILE CONNECTORS

NO. OF CONTACT POSITIONS	PLUG			RECEPTACLE				
	SCREW LOCK	BAIL LOCK	PANEL MOUNT	SCREW LOCK	PANEL MOUNT	EMI SHIELDED KITS (PANEL MOUNT)		
						LOOSE PIECE SCREW LOCK	PRE-ASSEMBLED	
							BAIL LOCK	SCREW LOCK
14	553596-1	554082-1	554102-1	553597-1	554087-1	---	---	---
24	553598-1	554083-1	554103-1	553599-1	554088-1	554349-1	554345-1♦-2†	554434-1♦-2†
36	553600-1	554084-1	554104-1	553601-1	554089-1	554348-1	554346-1♦-2†	554435-1♦-2†
50	553602-1	554085-1	554105-1	553603-1	554090-1	554350-1	554347-1♦-2†	554436-1♦-2†

♦6-32 UNC-2B Threads. †4-40 UNC-2B Threads.

Figure 1

1. INTRODUCTION

CHAMP Latch Low-Profile housing assemblies are terminated to round conductor flat cable (ribbon cable) using the TE Connectivity Insulation Displacement Technique. Precision tooling permits all contacts to simultaneously penetrate the cable and engage the conductors without prestripping the insulation. A cover is latched onto the assembly to provide contact protection and cable strain relief. It is fluted for cable orientation, with plastic barbs for cable alignment. The locking latches and barbs hold the cover on.

This instruction sheet covers connector selection, cable requirements, accessories, and termination tooling for the CHAMP Latch Low-Profile connectors listed in Figure 1. Read this material, and those referenced, before assembling any connectors.



All dimensions on this sheet are in millimeters [with inch equivalents provided in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

Reason for revision is provided in Section 8, REVISION SUMMARY.

2. DESCRIPTION

Plug (male) and receptacle (female) connectors consist of polarized housings which are pre-loaded with contacts on 2.16 mm [.085-in.] centers. The terminating ends of the contacts are on 2.54 mm [.100-in.] centers for an effective 1.27 mm [.050-in.] staggered termination. CHAMP Latch connectors may be used in dead end (flush) or daisy chain (feed-thru) applications.

3. TERMINATION TOOLING

There are two terminating tools, each designed for a specific purpose. Hand tool 231561-1 (see Figure 2) is designed for field termination or low volume plant termination of connectors. The tool may be used for dead end or daisy chain applications. Refer to TE Instruction Sheet 408-3135, packaged with the hand tool, for complete operating procedures. Bench Mount Kit 231552-1 is available for supporting the hand tool.

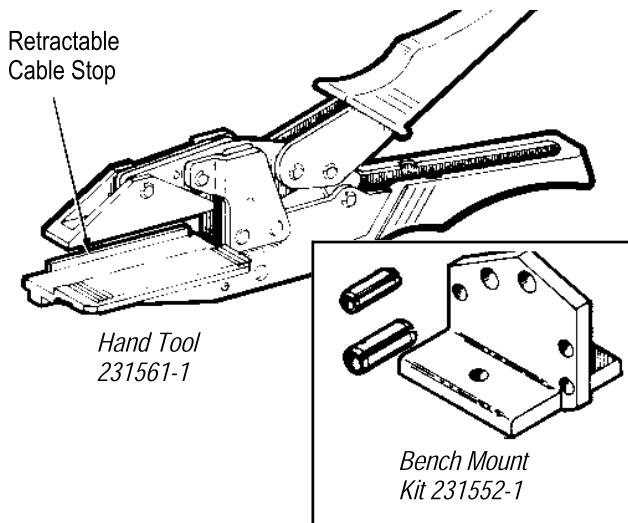


Figure 2

Tooling assembly 231576-1 (see Figure 3) is designed for production rate plant operation. The tool may be used for dead end or daisy chain applications. The tooling assembly is designed for use in the Manual Arbor Frame Assembly 91085-2. Refer to Instruction Sheet 408-3134, packaged with the tooling assembly and 408-7777, packaged with the frame assembly, for complete operating procedures.

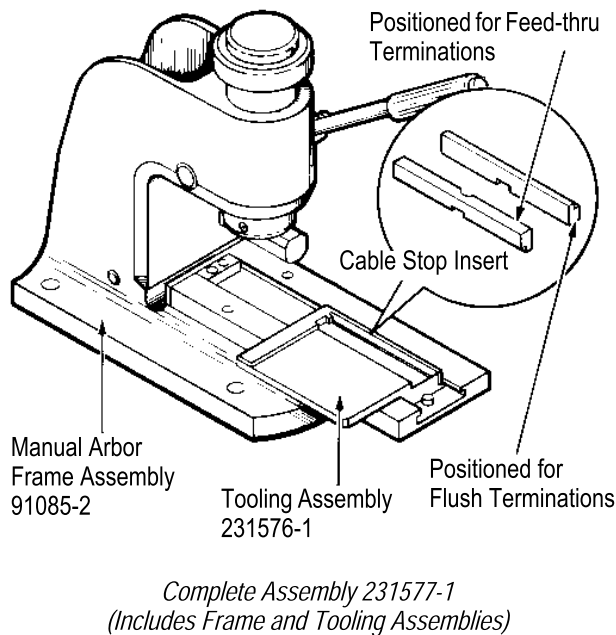


Figure 3

4. CABLE REQUIREMENTS

The hand tool and tooling assembly will terminate ribbon cable with No. 26 AWG solid conductors, No. 28 AWG solid or stranded conductors, or No. 30 AWG solid conductors to 14-, 24-, 36-, and 50-position low-

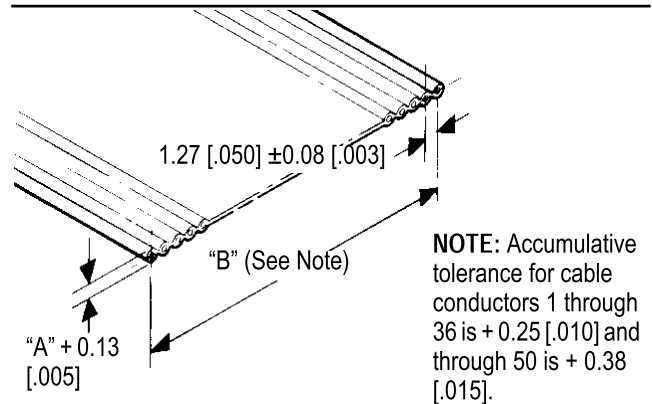
profile connectors. Refer to Figure 4 for recommended cable dimensions.



The cable end must be cut 90° to the edge of the cable; otherwise an improper termination will result. TE Ribbon Cable Cutting Hand Tool 91220-1 is recommended. Refer to Instruction Sheet 408-6574, packaged with the tool, for proper use.



Laminated cables are manufactured to various specifications. All cables are NOT compatible with CHAMP Latch Low-Profile connectors. Before making production assemblies, it is suggested that samples of cable be submitted to TE Engineering for evaluation.



NOTE: Accumulative tolerance for cable conductors 1 through 36 is + 0.25 [0.010] and through 50 is + 0.38 [0.015].

CONDUCTOR		DIMENSION	
SIZE	TYPE	"A"	"B"
26	Solid	0.81-1.14 [0.032-.045]	1.27 [0.050] x (Total No. of Conductors Minus One)
28	Stranded or Solid		
30	Solid		

Figure 4

After the cable has been terminated, visually inspect the connector for any damage. Check to be sure there is not gap between the housing assembly and cover. Make sure the strain relief latches are securely fastened (see Figure 5).

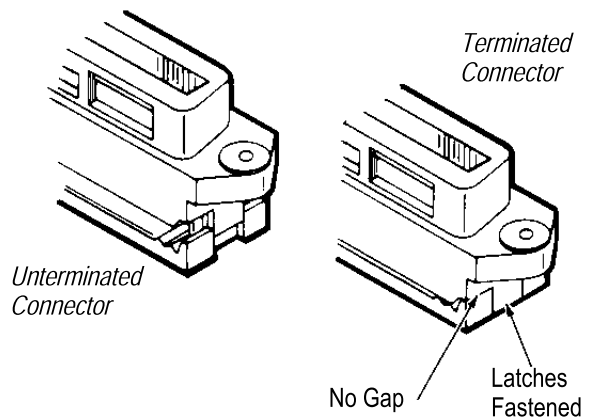


Figure 5

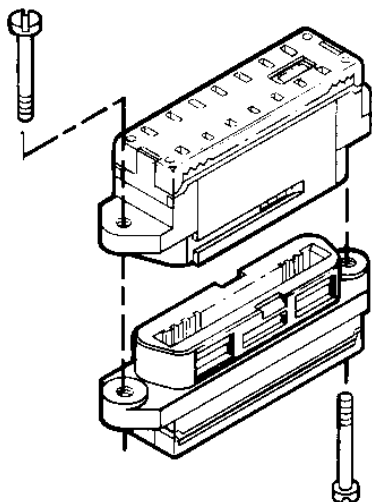
5. SELECTION AND INSTALLATION OF HARDWARE

Refer to the table in Figure 1 to determine the hardware kit required for your particular application. Refer to the following paragraphs and install the applicable hardware.

5.1. Cable-to-Cable Hardware Kits

A. Screw Lock Hardware Kit 229911-1

Mate connectors and secure by threading the captive screws into the threaded inserts of the opposite connector (see Figure 6).

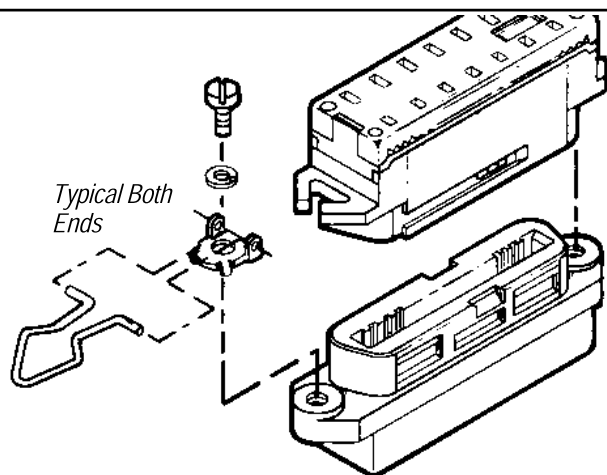


*Screw Lock Hardware Kit 229911-1
(Two Required Per Assembly)*

Figure 6

B. Standard Bail Lock Hardware Kit 552561-3 (Figure 7)

1. Align bail clips and screws with mounting flange holes on the mating face side of receptacle connector.



*Bail Lock Hardware Kit 552561-3
(One Kit Required Per Assembly)*

Figure 7

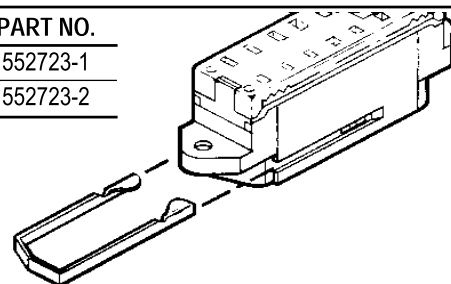
2. Make sure bails are turned outboard, then secure bails to connector.

3. Mate connectors and press bails into open ends of flanges on plug until they are secured.

C. CHAMP-LOK* Hardware 552723 (Figure 8)

No tools are required for this metal locking clip. Select the appropriate U-shaped locking latch according to the connector size and simply slide the latch onto guide tracks until tabs snap into slots on plug connector. As connectors are mated, tabs engage with lead-in ramps and spring over locking shoulder into receptacle slots (audible click). To release, push the latch forward to free tabs from slots.

NO. OF POSN	PART NO.
36 and 50	552723-1
14 and 24	552723-2



*CHAMP-LOK Connector Locking Latch
(One Required Per Assembly)*

Figure 8

5.2. Cable-to-Panel Hardware Kits

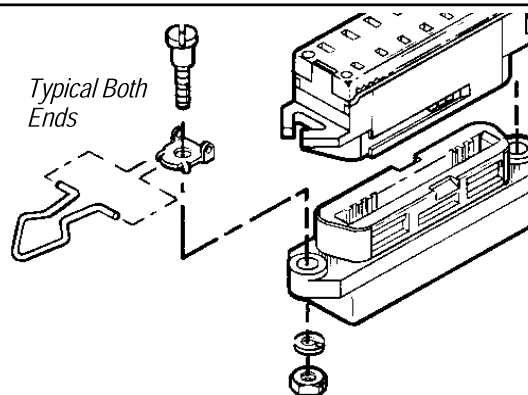
A. Standard Bail Lock Hardware Kit 552567-3 (Figure 9)

1. Position receptacle on panel.

2. Align bail clips and screws with mounting flange holes on the mating face side of receptacle connector.

3. Make sure bails are turned outboard, then secure with lock washers and nuts.

4. Mate connectors and press bails into open ends of flanges on plug until they are secured.



*Bail Lock Hardware Kit 552567-3
(One Kit Required Per Assembly)*

Figure 9

B. Screw Lock Hardware Kit 552568-2 (Figure 10)

1. Position connector on rear panel.
2. Secure connector to panel with nuts, washers, and threaded standoff.
3. Mate connectors and thread machine screws into threaded standoffs.

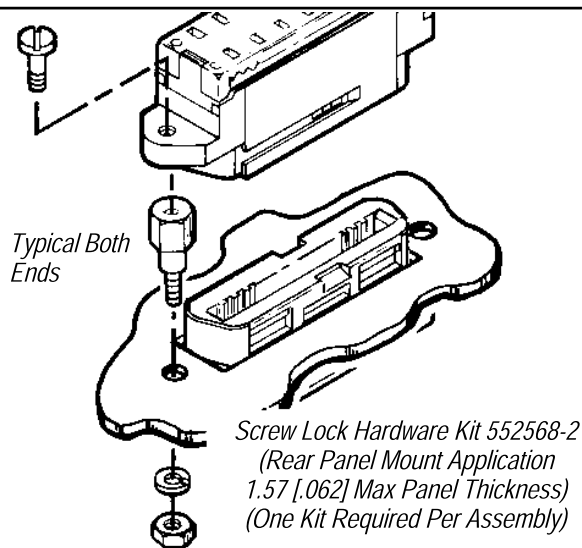


Figure 10

C. Metric Screw Lock Hardware Kit For IEEE-488 Applications (Figure 11)

All interfacing connectors in IEEE applications require metric hardware, easily recognized by its black color. Front- or rear-panel mount application must be determined before selecting hardware kit.

1. Position connector on panel.

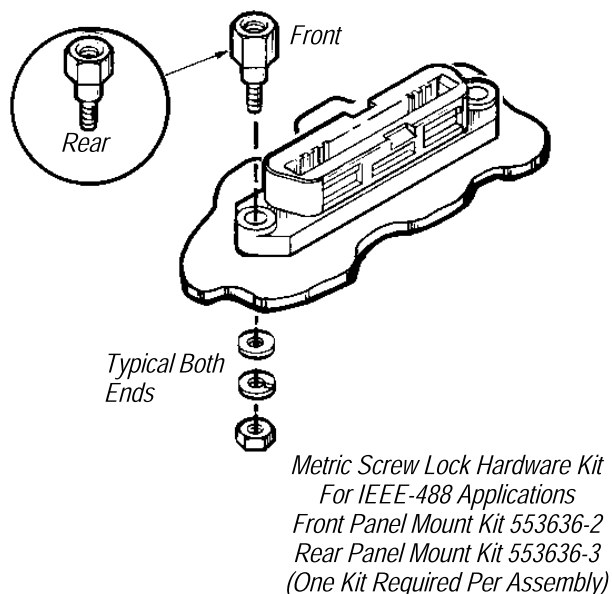


Figure 11

2. Secure connector to panel with nuts, washers, and threaded standoff.
3. Mate connectors and threaded jackscrews into threaded standoffs.

D. CHAMP-LOK Hardware Kits (Figure 12)

Kits are available with or without the locking latch (ordered separately as 552723 - see Figure 8). The locking latch is used on front-panel mount applications only.

1. Position receptacle connector on front panel.
2. Secure connector to panel with nuts, washers, and screws.
3. Insert locking latch (if used) on plug connector and mate connectors.

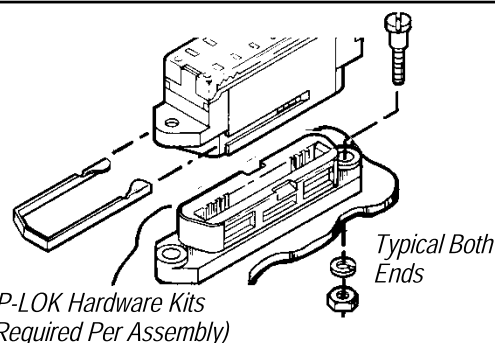


Figure 12

NO. OF POSITIONS	PART NO.
36 and 50	553359-1 (With Locking Latch)
14 and 24	553359-2 (With Locking Latch)
All	552768-1 (Without Locking Latch)

E. Pre-Assembled Rear Panel Mount Hardware Kits (Figures 13 and 14)

These kits are designed to thread into the pre-assembled threaded inserts on the back of the receptacle connectors.

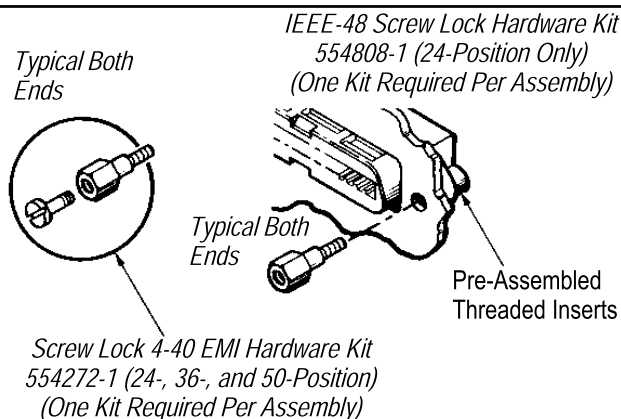
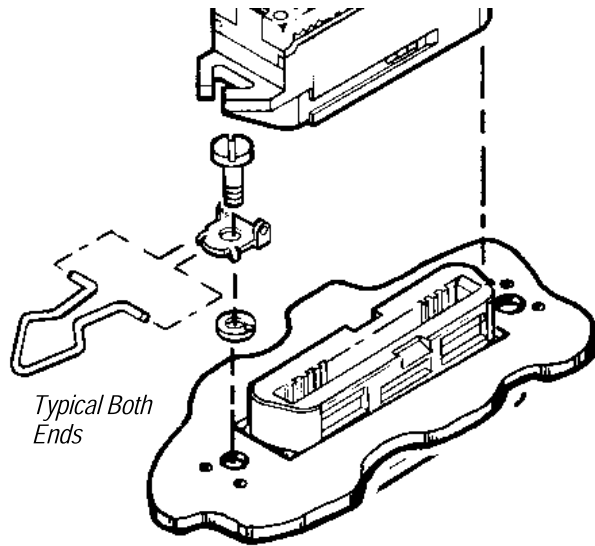


Figure 13

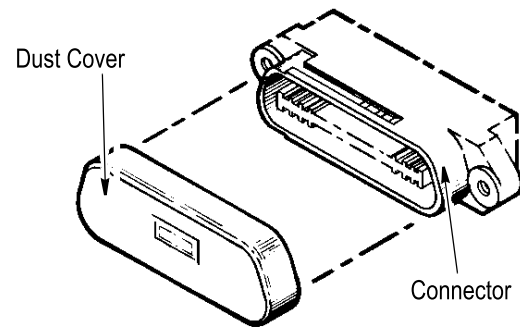


*50-Position SCSI
(Small Computer System Interface)
Bail Lock Hardware Kit 554818-2
(One Kit Required Per Assembly)*

Figure 14

6. INSTALLING DUST COVER

Dust covers should be used to protect the mating face of connectors that are NOT mated. Determine the size and style of the connector requiring protection, then refer to the table in Figure 15. To install the cover, simply align it with the mating face of the connector and press it into position.



DUST COVER		
NO. OF POSITIONS	PLUG (BLUE)	RECEPTACLE (RED)
14	229968-5	229969-5
24	229968-4	229969-4
36	229968-3	229969-3
50	229968-1	229969-1

Figure 15

7. PANEL CUTOUT

Panel mount connectors can be front or rear panel mounted. Refer to Application Specification 114-6030 for panel thickness and cutout dimensions.

8. REVISION SUMMARY

- Updated document to corporate requirements
- New logo