

EXTRACTION TOOL	SFP PRODUCT	
	CONFIGURATION	DESCRIPTION †
1213709-1	1x2	Cage Assembly (Using Surface Mount Connector)
1725612-1	1x4	
1213710-1	1x6	
1725194-1	1x4	Cage Assembly With Press-Fit Connector
	2x4	Standard and Low-Profile Cage Assembly (Using Press-Fit Connector) and Cage Assembly With Press-Fit Connector
1804086-1	1x6	Cage Assembly With Press-Fit Connector
	2x6	Cage Assembly With Press-Fit Connector and Cage Assembly (Using Press-Fit Connector)
1725194-2	2x1	Standard and Low-Profile Cage Assembly (Using Press-Fit Connector) and Cage Assembly With Press-Fit Connector

† Cage Assembly Using Connector is Supplied as Separate Parts; Cage Assembly With Connector is Supplied as One Unit

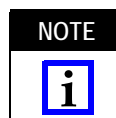
Figure 1

## 1. INTRODUCTION

SFP cage assembly extraction tools listed in Figure 1 are used to remove an SFP cage assembly or a cage assembly with press-fit connector listed in Figure 1 from the pc board. The extraction tool cannot be used to remove a surface mount connector.

Read these instructions thoroughly before using the extraction tool.

Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.



*Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.*

## 2. DESCRIPTION

Each extraction tool consists of a top plate or pin retainer, pin guide plate or guide block, push pins or short and/or long pins, and a pin holder. See Figure 1 (refer to Figure 4 for a list of parts per extraction tool).

The top plate or pin retainer provides a surface to accept the force applied by the application tool to extract the product from the pc board. The pin guide plate or guide block can be adjusted to accommodate the thickness of the pc board (the contacts may or may not protrude from the pc board) for proper alignment with the extraction tool.

During extraction, the push pins or short and/or long pins are forced through holes in the pin guide plate, onto the contacts, and through the holes in the pc board.

### 3. REQUIREMENTS

#### 3.1. PC Board Support Fixture (Customer Supplied)

A pc board support must be used to provide proper support for the pc board and to protect the pc board and the connector and cage assembly from damage. The board support fixture must be designed for specific needs using the following recommendations:

- it should be at least 25.4 mm [1 in.] wider than the pc board
- it should have a flat surface with a cutout of at least 28.5 mm [1.12 in.] deep (to allow adequate clearance for the product)

#### 3.2. Application Tooling

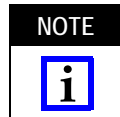
Power for the extraction tool must be provided by an application tool (with a ram) capable of supplying a downward force of 44.5 N [10 lb] per contact. Manual Electric Servo Presses (CMP 6T) 1585699-8 and (CMP 12T) 1585698-8, and Bench Top Electric Servo Press (CBP 5T) 1585696-9 are available for this extraction tool.

For information on the presses, visit the press-fit assembly equipment website at <http://tooling.te.com/pressfit.asp>.



*Over-driving of the product could cause damage to the pc board.*

### 4. EXTRACTION PROCEDURE



*For the cage assembly using surface mount connector, the tool can only be used to remove the cage assembly. For information on removing the surface mount connector, refer to the related application specification listed in Figure 1.*

Place the pc board (with the product) on the board support fixture. Determine whether the contacts protrude or do not protrude from the pc board, then proceed with the applicable instruction:

#### 4.1. Contacts Protruding from PC Board (Figure 2)

1. Grasp the pin guide plate or guide block, and pull it down as far as it will go (the push pins or short and/or long pins should NOT protrude from the bottom of the pin guide plate or guide block).
2. While holding the pin guide plate or guide block in place, *carefully* position the extraction tool onto the product so that each contact (except the connector contacts and the contacts near the connector) enters a hole in the pin guide plate or guide block.
3. Center the extraction tool (with product, pc board, and support fixture) under the ram of the application tool. Slowly lower the ram until it just meets the extraction tool. Verify alignment of support fixture, pc board, product, and extraction tool.

*Contacts Protruding from PC Board*

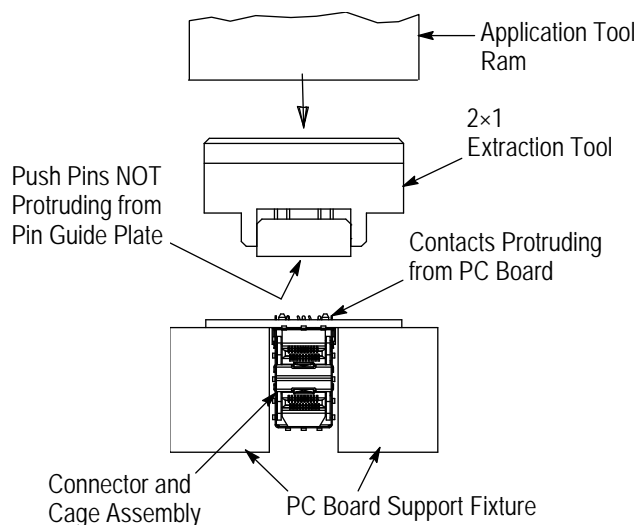


Figure 2

*Contacts NOT Protruding from PC Board*

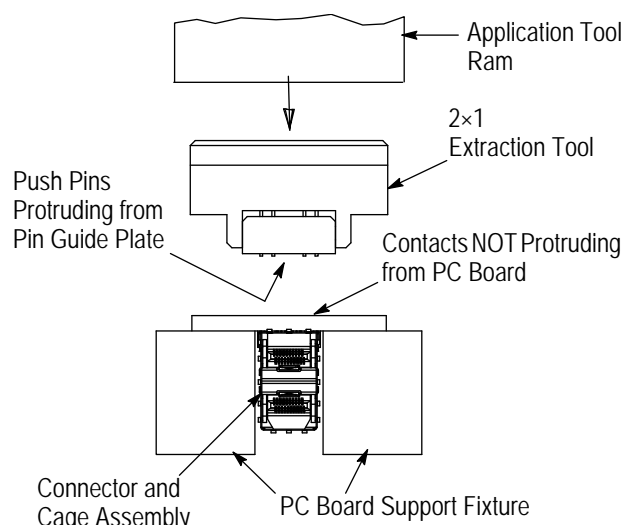


Figure 3



Damage to the pc board or product may occur if the extraction tool is not properly aligned with the ram before cycling the application tool.

4. Cycle the application tool to extract the product from the pc board. Then retract the ram, and carefully remove the extraction tool from the pc board.

4.2. Contacts NOT Protruding from PC Board (Figure 3)

1. Grasp the pin guide plate or guide block, and push it up as far as it will go (the push pins or short and/or long pins should protrude from the bottom of the pin guide plate or guide block).
2. Carefully position the extraction tool onto the product so that each push pin or short and/or long pin enters a pc board hole containing a contact (except the connector contacts and the contacts near the connector).
3. Center the extraction tool (with product, pc board, and support fixture) under the ram of the application tool. Slowly lower the ram until it just meets the extraction tool. Verify alignment of support fixture, pc board, product, and extraction tool.

4. Damage to the pc board or product may occur if the extraction tool is not properly aligned with the ram before cycling the application tool.



Cycle the application tool to extract the product from the pc board. Then retract the ram, and carefully remove the extraction tool from the pc board.

5. MAINTENANCE AND INSPECTION

The extraction tool is assembled and inspected before shipment. It is recommended that the extraction tool be inspected immediately upon arrival at your facility to ensure that it has not been damaged during shipment and that it conforms to the dimensions provided in Figure 4.

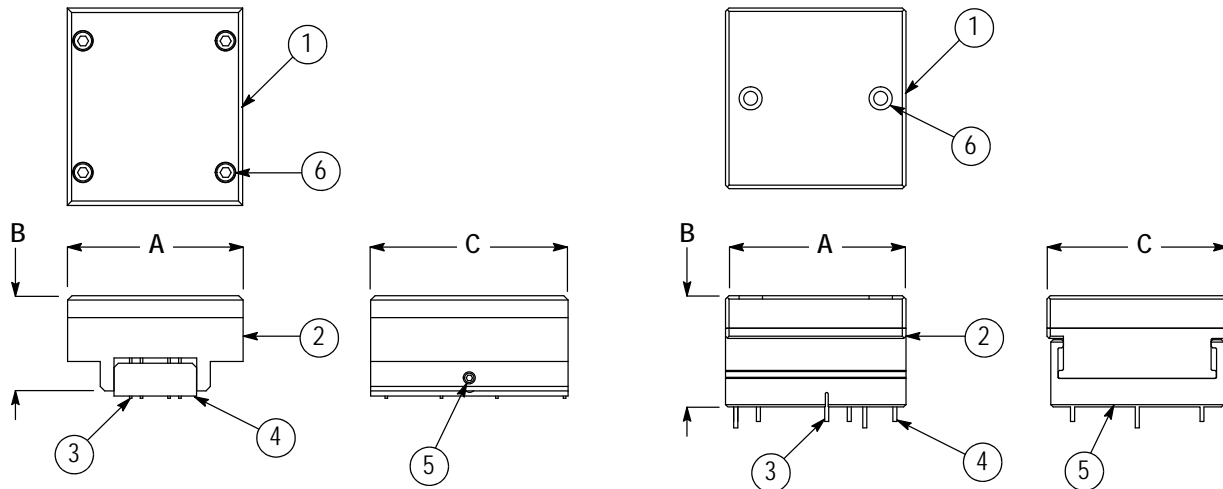
5.1. Daily Maintenance

It is recommended that each operator be made aware of, and responsible for, the following steps of daily maintenance:

1. Remove dust, moisture, and contaminants with a clean, soft brush or a lint-free cloth. DO NOT use objects that could damage the extraction tool components.
2. When the extraction tool is not in use, store it in a clean, dry area.

1x4, 2x4, and 2x1 Extraction Tools

1x2, 1x6, and 2x6 Extraction Tools



TOOL (By Product Configuration)	DIMENSION (mm [in.])		
	A	B	C
1x2	39.62 [1.56]	24.54 [.966]	39.88 [1.57]
1x4, 2x4	91.95 [3.62]	27.43 [1.08]	57.15 [2.25]
1x6, 2x6	56.39 [2.22]	24.54 [.966]	96.77 [3.81]
2x1	50.80 [2.00]	27.43 [1.08]	57.15 [2.25]

Figure 4 (Cont'd)

## REPLACEMENT PARTS

ITEM	PART NUMBER (By Product Configuration)			DESCRIPTION	QTY PER EXTRACTION TOOL		
	1×4●	1×4□ 2×4	2×1		1×4●	1×4□ 2×4	2×1
1	1725196-1	1725196-1	1725404-1	PLATE, Top	1	1	1
2	1725614-1	1725195-1	1725405-1	PIN HOLDER	1	1	1
3	1725613-1	1725198-1	1725406-1	PLATE, Guide Pin	1	1	1
4	1725197-1	1725197-1	1725197-1	PIN, Push	26	23	8
5	2-21006-8	2-21006-8	2-21006-8	SCREW, Set, 6-32, .18 in. Long	2	2	2
6	2-21000-0	2-21000-0	2-21000-0	SCREW, Socket Head Cap, 6-32, .50 in. Long	4	4	4

ITEM	PART NUMBER (By Product Configuration)			DESCRIPTION	QTY PER EXTRACTION TOOL		
	1×4●	1×4□ 2×4	2×1		1×4●	1×4□ 2×4	2×1
1	1804480-1	1804485-1	1804488-1	RETAINER, Pin	1	1	1
2	1804479-1	1804484-1	1804487-1	PIN HOLDER	1	1	1
3	1804482-1	1804482-1	1804482-1	PIN, Push, Short	6	18	1
4	1804481-1	1804481-1	—	PIN, Push, Long	2	2	29
5	1804478-1	1804483-1	1804486-1	BLOCK, Guide	1	1	—
6	1-21000-4	1-21000-4	1-21000-4	SCREW, Socket Head Cap, 4-40, .375 in. Long	2	4	4

● Cage Assembly Using Connector      □ Cage Assembly With Connector

Figure 4 (End)

## 5.2. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the extraction tool or be supplied to personnel responsible for the extraction tool. Inspection frequency should be based on amount of use, working conditions, operator training and skill, and established standards.

## 6. REPLACEMENT AND REPAIR

Customer-replaceable parts are listed in Figure 4. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by TE Connectivity to ensure quality and reliability. Order replacement parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

## 7. REVISION SUMMARY

Revisions to this instruction sheet include:

- Changed company name and logo
- Changed presses in Paragraph 3.2