

## MTA-50 Mass Termination Tooling

### PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. Hand tools are intended for occasional use and low volume applications. A wide selection of powered application equipment for extended-use, production operations is available.

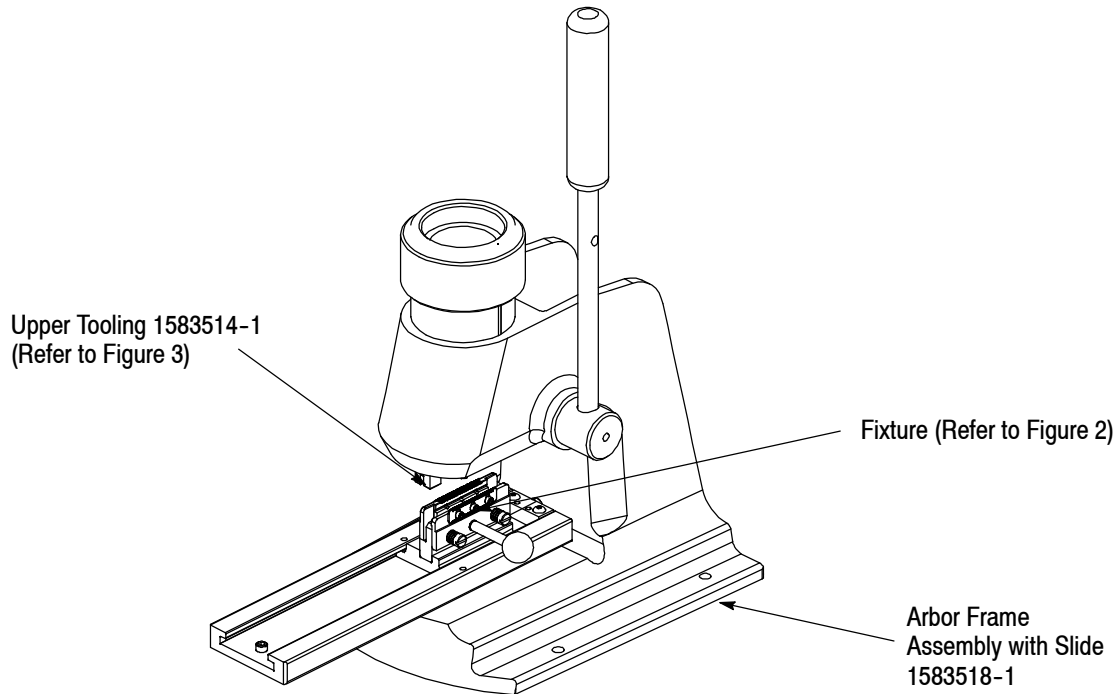


Figure 1

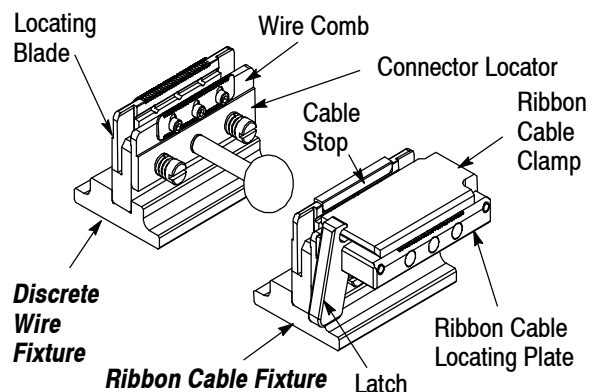
### 1. INTRODUCTION

This instruction sheet covers the use of the MTA-50 Mass Termination Tooling shown in Figure 1. This tooling is used to terminate discrete wire or ribbon cable to MTA-50 connectors (that contain contacts on .050-in. centerlines).

**NOTE**



Dimensions in these instructions are in metric units [with U.S. customary units in brackets], unless otherwise indicated.



### 2. DESCRIPTION

This tooling is available separately and consists of:

- Toolless Manual Arbor Frame Assembly with Slide 1583518-1
- Upper Tooling 1583514-1 for MTA-50 Mass Termination Tooling
- Fixture Assemblies 1583515, 1583516, and 1583517 (Refer to Figure 2)

Fixture Description	Wire Gage Range	
	28-26 AWG	30-28 AWG
Closed-End Splice -- Discrete Wire	1583515-1	1583515-2
Feed-Through Splice -- Discrete Wire	1583516-1	158316-2
Ribbon Cable Fixture	1583517-1	

Figure 2

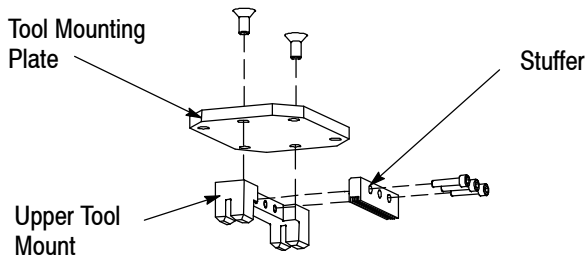


Figure 3

The fixtures listed are used to terminate the wire/cable types listed in Figure 2.

The ribbon cable fixture features a ribbon cable clamp, and a removable cable stop to allow closed end, or feed-thru terminations.

The upper tooling fixture is shown in Figure 3.

### 3. CABLE REQUIREMENTS

Refer to the cable requirements below.

Wire / Cable	AWG	Wire Type	UL Wire Style
Discrete Wire	30-26	0.991 [.039] OD MAX.	UL1061
Ribbon Cable	30-26	PVC Insulation	UL2651

Refer to application specification 114-13072 for wire preparation information, and information pertaining to MTA-50 connectors.

### 4. ASSEMBLY CONSIDERATIONS

The orientation of the receptacles on the wire must be considered before termination.

#### 4.1. Standard Method

The standard method of termination is from Position 1 to the last position termination.

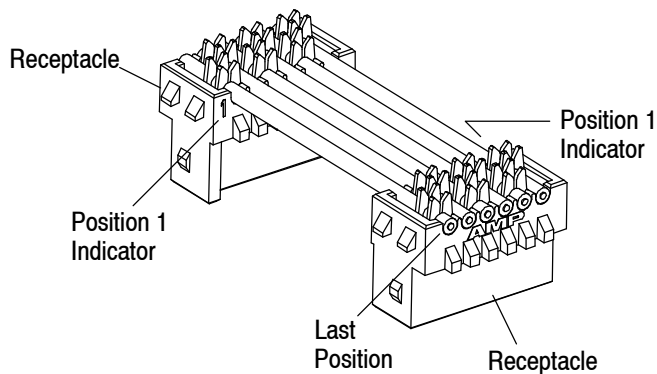
#### 4.2. Alternate Method

The alternate method of termination is from Position 1 to the Position 1 termination. Note that this method of termination necessitates a second wire/cable cut. Refer to Figure 4.

### 5. SETUP PROCEDURE

1. Install the upper tooling assembly onto the ram as shown in Figure 5.
2. Install the screws provided, but do not tighten completely.
3. Install the holding fixture into the slide.
4. Install the front end stop.
5. *Carefully* lower the ram until upper tooling fully engages with holding fixture, and
6. Then tighten the screws to securing the upper tooling to ram.
7. Adjust the rear end stop screw and tighten the hex nut.

**Standard Method**  
**Position 1 to Last Position Termination**



**Alternate Method**  
**Position 1 to Position 1 Termination**

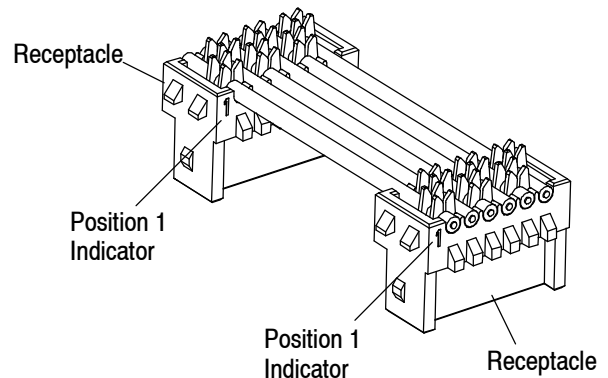


Figure 4

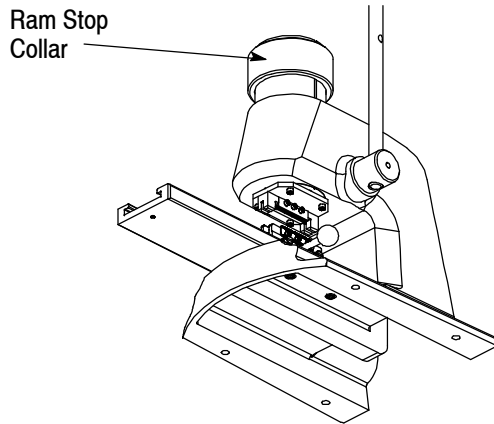


Figure 5

**Special Setup Procedure for Discrete Wire**

Select the desired wire size, and load into wire holding comb. If the comb retains the wire proceed with termination (Section 6). If wire comb does *not* hold discrete wire, remove the comb retaining screws and flip combs over to opposite side. Then tighten comb retaining screws and load wire for test fit.

Install connector as described in Section 6, and pull the handle until the upper tooling contacts the connector housing. The upper tooling should just touch top of connector housing. If the upper tooling damages the connector, adjust the ram stop collar to limit the stroke of the arbor frame terminator.

**6. TERMINATION PROCEDURE**

**6.1. Terminating Discrete Wire**

1. Depress the handle on the connector locator and install connector as shown in Figure 6.

**NOTE**

The polarization legs of the connector must engage with the connector locator. The connector locator should engage with the and return to a vertical position.

Ensure that the connector is loaded correctly before proceeding.

**CAUTION**

If the connector is **not** loaded correctly, damage to the connector will result.

2. With the connector properly loaded, install the desired wire into the wire holding combs. Repeat installation of wires until all wires have been loaded.

3. Slide the fixture underneath upper tooling, and rotate handle until upper tooling is fully seated. Raise upper tooling, and slide fixture to front end stop.

4. Remove the wires from the combs being careful not to disturb contacts.

5. Depress the handle on connector locator and carefully remove terminated connector from the fixture by lifting straight "up."

**CAUTION**

Do **not** twist the terminated connector during unloading, or damage may result.

**6.2. Terminating Ribbon Cable**

**NOTE**

For closed-end ribbon cable applications, it is **important** that the cable is cut square. Refer to product application specification 114-13072.

**NOTE**

For feed-through ribbon cable terminations, be sure to remove the cable stop.

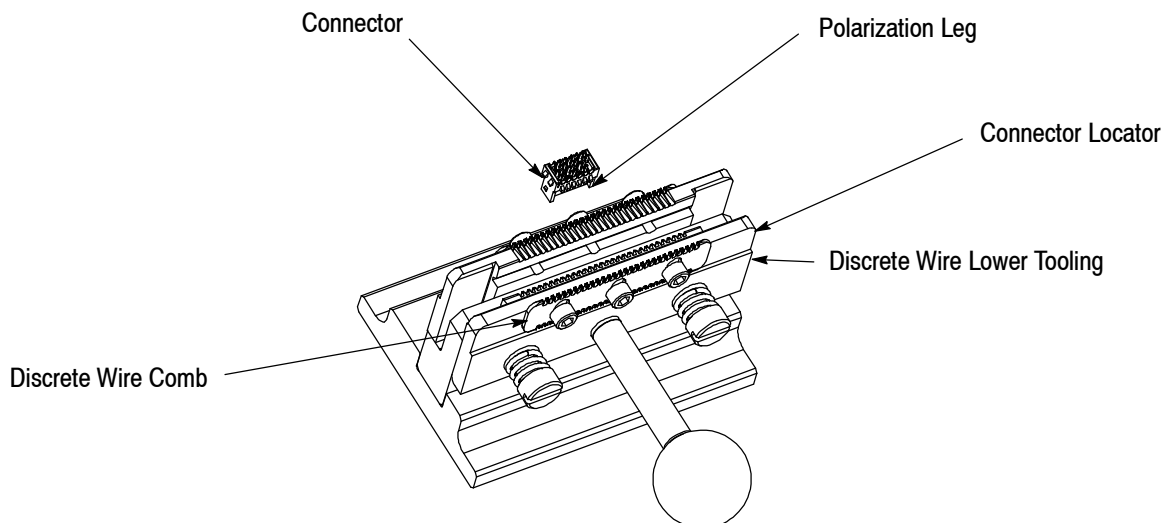
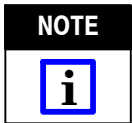


Figure 6

1. Depress the ribbon cable locating plate mounted on the connector locator, and install connector as shown in Figure 6.



*The polarization legs of connector must engage with connector locator. The connector locator should engage with connector and return to a vertical position.*

Ensure that connector is loaded correctly before proceeding.



*If the connector is **not** loaded correctly, damage to connector will result.*

2. With connector properly loaded, raise the ribbon cable clamp and lay ribbon cable on top of the connector and hold in place.

3. Close and latch the ribbon cable clamp.

4. Slide the fixture underneath the upper tooling, and rotate handle until the upper tooling is fully seated. Raise the upper tooling, and the slide fixture to front end stop.

5. Depress the latch and raise the cable clamp.

6. Depress the ribbon cable locating plate and carefully remove the terminated connector from the fixture by lifting straight “up.”



*Do **not** twist the terminated connector during unloading, or damage may result.*

## 7. PRODUCT INSPECTION

Inspect housing and contacts for physical damage. Refer to product application specification 114-13072.

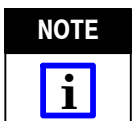
## 8. TOOLING INSPECTION AND MAINTENANCE

### 8.1. Inspection

It is recommended that the arbor frame assembly be inspected immediately upon arrival at your facility (and at regularly scheduled intervals thereafter) to ensure that it has not been damaged during handling.

### 8.2. Maintenance and Lubrication

To prolong the useful life of your Arbor Frame Assembly and MTA-50 Mass Termination Tooling, and to provide the smoothest operation, maintain and lubricate monthly as follows:



*Though recommendations call for lubrication at least once a month, the frequency should be based on amount of use, working conditions, and established company policies.*

1. Remove the upper tooling and lower tooling.

2. Move the ram to the bottom of its stroke (the adjustment ring should bottom on the base plate). *Note the position of the handle.* Loosen the handle adjustment knob sufficiently for the handle to slide from its mounting hole. Remove the handle.

3. Using a small flat-blade screwdriver, turn the spring plunger *counterclockwise* until it no longer contacts the ram.

4. Grip the adjustment ring, and pull it upward, then remove the ram.

5. Apply ANDEROL 757® grease, or equivalent, to the gear teeth on the ram and to the bore of the frame.

6. Re-assemble the ram into the bore with the grooved side of the ram aligned with the spring plunger. Ensure that the gear teeth in the ram engage the teeth of the pinion (small diameter gear in bore of frame) so that the handle position will be the same as noted in Step 2 when the adjustment ring bottoms.

7. Turn the spring plunger *clockwise* until it bottoms lightly on the ram, then back off one-half of a turn.

8. Re-assemble the handle and upper tooling and lower tooling. Ensure proper alignment of tooling before operating the arbor frame assembly.

9. Remove any excess grease from the outer surface of the frame and adjustment ring with a soft cloth.

## 9. REPLACEMENT AND REPAIR

A complete inventory of customer-replaceable parts should be stocked and controlled to prevent lost time when replacement of parts is necessary. Other parts 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

For customer repair service, please contact a representative at 1-800-526-5136.

## 10. REVISION SUMMARY

Since the previous version of this document, the following changes were made:

- Updated document to corporate requirements.