1. INTRODUCTION

This specification covers the requirements for application of TAB Siameze Terminals designed for housing configurations that have a pocket design according to TYCO drawing 1601425.Terminals have an Insulation Displacement Crimp (IDC) slotted beam at one end for terminating solid round copper magnet wire in sizes from 0.14 mm dia [36AWG] to 1.02 mm dia [18AWG], depending to the product part number- version see drawing 284937 and 284938 for more detail. On the other end there is a tab to receive various types of AMP receptacles crimped onto insulated lead wire. These requirements are applicable to hand and automatic machine application tooling. AMP Engineering can provide assistance in selecting the most compatible wire, terminal, and terminating machines. Requests for assistance should be made as early as possible in the production planning stage.

When corresponding with AMP personnel, use the terminology provided on this specification to help facilitate your inquiry for information. Basic terms and features of this IDC system are provided in figure 1.

NOTE *All numerical values are in metric units [with U.S. customary units brackets].Dimensions are in millimeters [and inches].Unless otherwise specified, dimensions have a tolerance of ± 0.13[.005] and angles have a tolerance of ±2 °.Figures and illustrations are for identification only and are not drawn to scale.*

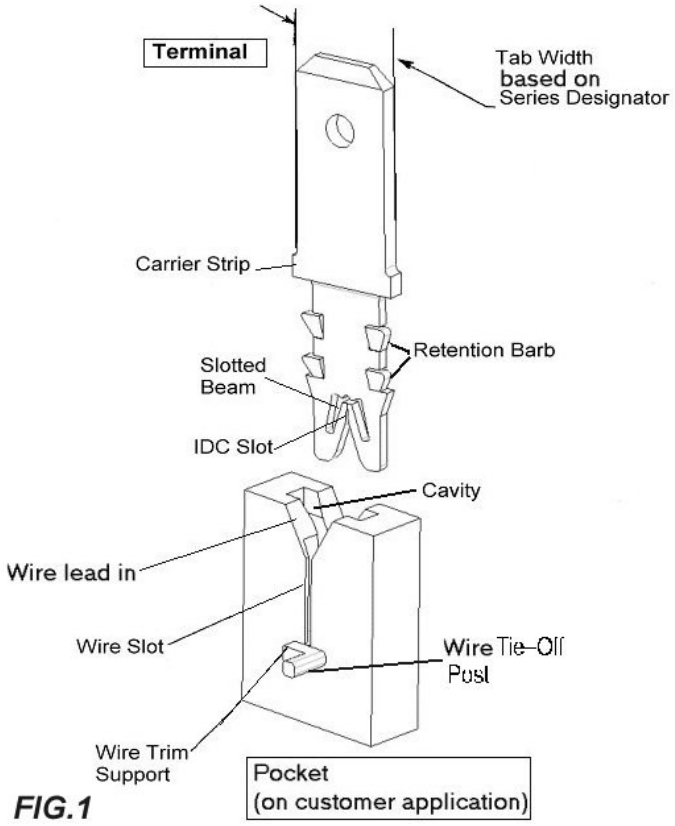


FIG.1

A1	Revised Parag. 3.3.1	C.CORDOLA	G. TURCO	March 05
A	Released document ECN ET00-0042-04	C.CORDOLA	G. TURCO	July 04
0	First issue	C.CORDOLA	G. TURCO	16-FEB04

2. REFERENCE MATERIAL

2.1. Revision Summary

This paragraph is reserved for a revision summary covering the most recent additions and changes made to this specification which include the following:

Per ECN n° ET00-0042-04
- First Issue , Design Objective.

2.2. Customer Assistance

Reference Part Number 284937 and 284938 And Product Code H360 are representative numbers of Siameze terminals , use of these numbers will identify the product line and expedite your inquiries through Tyco Electronics service network established to help you obtain product and tooling information. Such information can be obtained through a local Tyco Electronics Representative (Field Service Engineer, etc.)or, after purchase, by calling the Tooling Assistance center or Product Information Center .

Drawings

Tyco Electronics Customer Drawing for specific products are available from the service network. The information contained in Customer Drawings takes priority if there is a conflict with this specification or with any other technical documentation supplied by Tyco Electronics.

2.4. Specifications and Instructional Material

Tyco Electronics Product Specification 108-20249 is available for test and performance requirements.

2.5.

The following list includes available Tyco Electronics instruction sheets (408-series) that provide assembly procedures for product, operation, maintenance and repair of tooling; and customer manuals (409-series) thet provide setup, operation, and maintenance of AMP machines.AMP Handbook 410-5483 provides an overview of the MAG-MATE product line.

Document Number	Document Title
Tyco Catalog 82221	Magnet Wire Terminals and Termination Systems REV: 10-02
DIN 46244	For TAB interface geometry and dimensioning
Tyco Spec 107-20244	Packaging Composition
Tyco Drawing 1601425	Pocket design for Siameze cavity Housing
Tyco drawing 1601447	Additional wrap post support design for wire sect below 0.25 mm dia.
Customer Manual 409–10014	MPT 5 S/L Insertion Machine
Customer Manual 409–5830	Rotary Index Table (Feeder Equipment)
Instruction Sheet 408-6628 / 6635	For Hand Tools

3. REQUIREMENTS

3.1. Wire Selection

The insulation displacement slots will accomodate copper magnet wire 0.14 mm dia [36 AWG] through 1.02 mm dia. [18 AWG]. The wire size for each terminal is listed on the Customer Drawing. Contact Tyco Electronics Engineering for more information. Under closely controlled conditions, others magnet wire diameters, specialized magnet wire, bare copper wire or two different terminations are applicable.

3.2. Cavity Design

Housing cavities that accept Siameze terminals manufactured by Tyco Electronics must be in accordance with the requirements specified by relevant cavity drawing reported on point2.5 of this specification and also on Catalog pages and/or on Tyco Product Drawings.

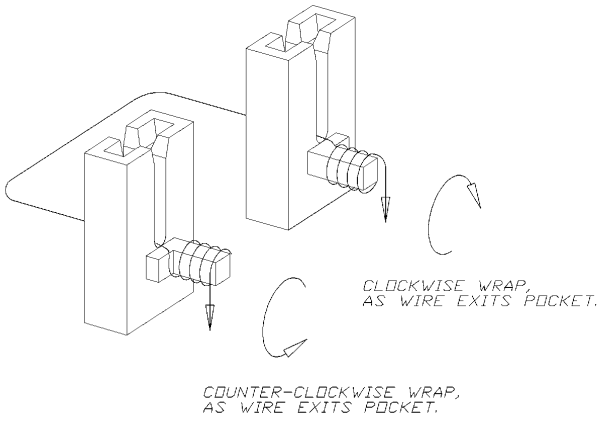
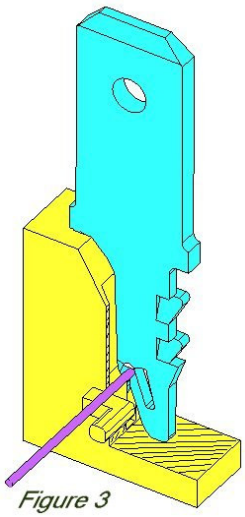
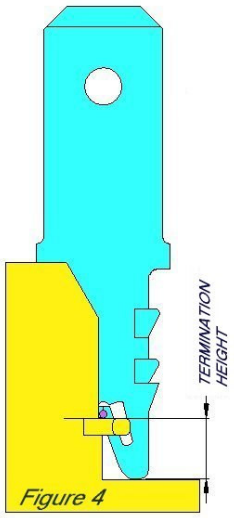


Figure 2

3.3. Wire Position (Terminated)

The magnet wire termination is complete when terminal is fully seated in the bottom of the cavity slots, and the wire is accommodated at the end of the cavity slot, as shown in Figure 3 and Figure 4.





3.3.1 Termination height

Termination height is defined by the cavity slot post support depth as shown on figure 4. For reference the figure 5 shows the correct height for 18-21.5 AWG wire.
The contact must not touch the bottom of the cavity.
For the termination eight of the complete wire range of the contacts please refer to Table 1.

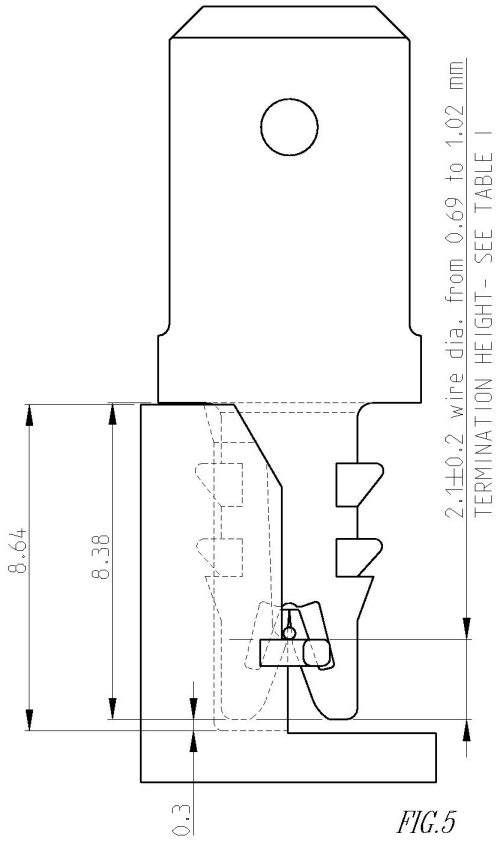


FIG.5

TABLE I

MAGNET WIRE SIZE AWG [mm DIA]	TERMINATION HEIGHT [mm]
#18-#21.5 [1.02-0.69]	2.1 ±0.2
#22-#25.5 [0.65-0.43]	2.4 ±0.2
#26-#29.5 [0.41-0.27]	2.6 ±0.15
#30-#33.5 [0.25-0.17]	2.75 ±0.1
#34-#36 [0.16-0.13]	2.8 ±0.08

4. TERMINATION OPERATIONS & REQUIREMENTS

4.1 Figure 6 provides a visual aid for features that will help an assembler know what is necessary to ensure a good termination.

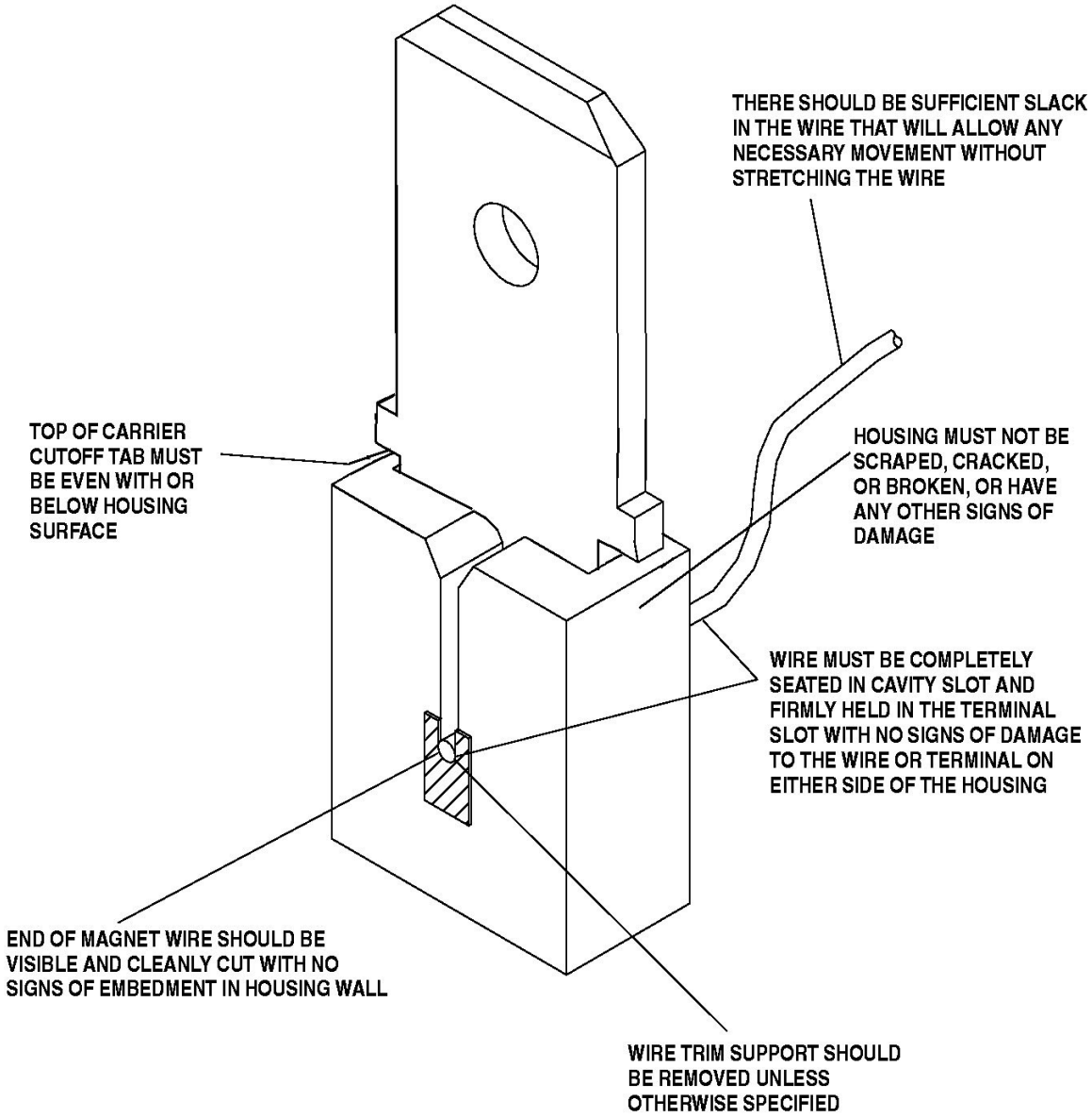


FIG.6

4.2 BRIDGE BETWEEN TWO O MORE CONTACTS

It's possible to insert pair of terminals with the carrier strip left intact for electrical communing (short circuit-bridge connection). attached. The relevant cavity must be designed to maintain the terminal strip pitch as shown on Fig. 2

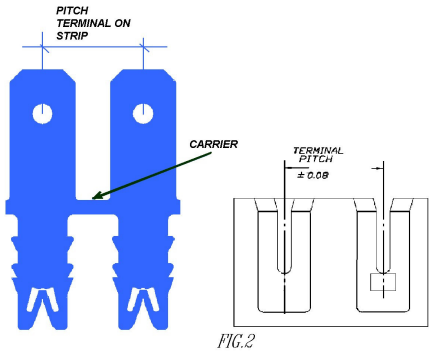


FIG.2

4.3 Recomandations

Drawings of the final design shall be supplied to Tyco Electronics Engineering for review and for compatibility or insertion equipment. The following notes pertain to all applicable cavity designs.

4.3.1 -Recommended material is Nylon 6/6 of 30% glass-filled Nylon other equivalent materials shall be used, consult Tyco Electronics Engineering for specifications and details.

4.3.2 -Wall thickness on trim side must be equal on multi cavity housings to provide wire trim by automatic insertion machine.

4.3.3 Wire trim support must be on the wire trim side only. The termination tool shall trim off both wire and wire trim support. Wire trim support is not necessary if the magnet wire is hand trimmed. Consult AMP Engineering if trimmed wire end must be concealed within the cavity.

4.3.4 Coil windings and other assembly components must not extend above the base of the wire slot or obstruct proper seating of the magnet wire in the slot (see also relevant pocket drawing specification) .

4.3.5 Draft angles must be held within the feature tolerances.

4.3.6 Slot width should be 0.08±0.03 mm smaller than the largest magnet wire outside diameter dimension being terminated.

4.3.7 Terminal insertion depth in cavity flush to 0.35 below cavity bottom surface

4.3.8 Controlled flash option (see cavity Option 2) can be utilized when retention of both small and large diameter wire must be accommodated in the same cavity.

4.3.9 Magnet wire 0.25 mm dia. [30 AWG] and smaller requires an additional wrap post support on Cavity (Option 3)

4.3.10 The magnet wire must be laced into the bottom of the cavity slot ***prior to teminal insertion.*** The magnet wire must not rest in the lead in area of the slot , there must be a small amount of slack between the coil winding and the housing to prevent stretching of the wire during insertion. After insertion there must be sufficient slack in the magnet wire to allow any necessary movement of components within the system.

4.4 Cavity Option 1

Cavity Option 1 is a straight trough standard slot be used in applications where diameter of the conductor end is grater than 0.25 mm. Refer to Figure 7.

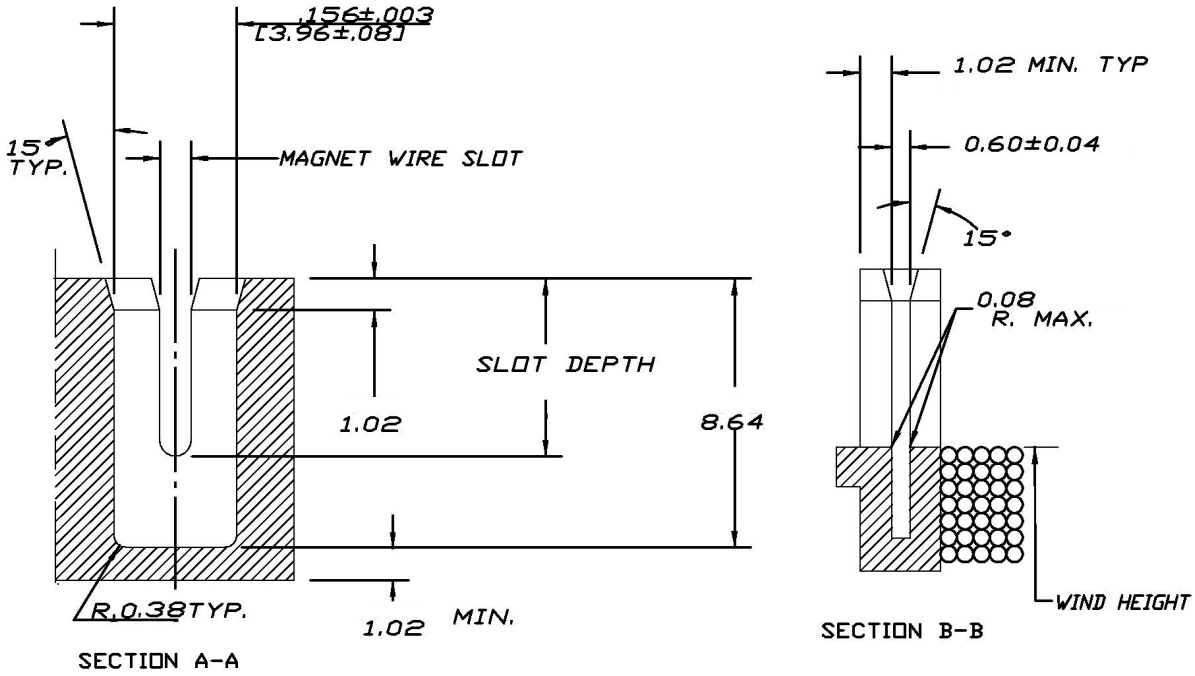


FIG.7

4.5 Cavity Option 2

Cavity Option 2 contains a controlled flash to retain a broad range of magnet wire sizes in the cavity prior to terminal insertion. Can be used when retention of both small and large diameter wire must be accommodated in the same cavity.
Refer to Figure 8.

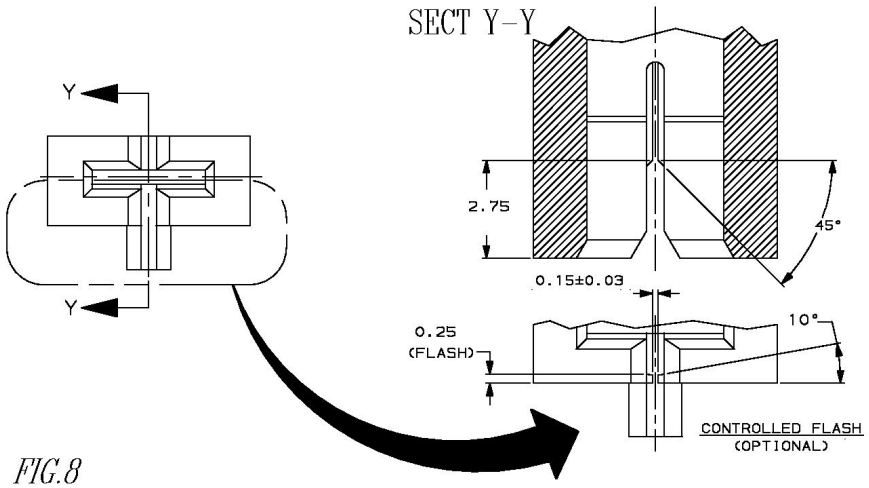


FIG.8

4.6 Cavity Option 3 –Tie off post for wrapping small wire size.

Magnet wire 0.25 mm dia. [30 AWG] and smaller requires an additional wrap post support on Cavity as per drawing 1601447, see also Fig.9

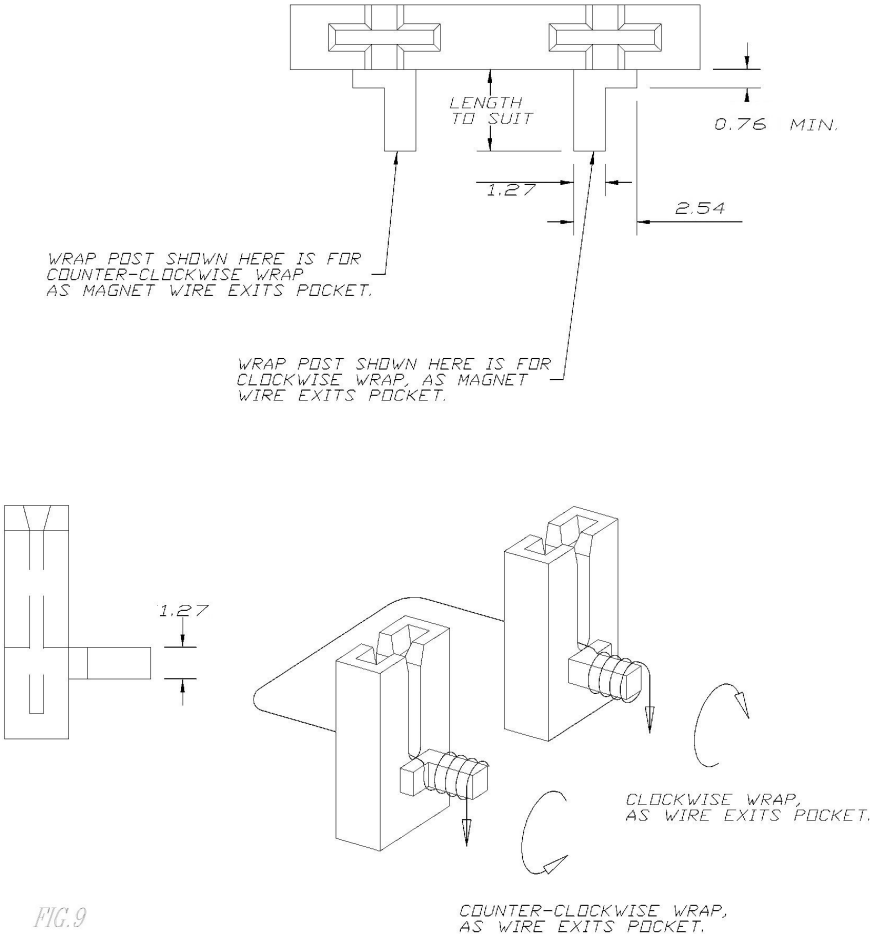


FIG.9

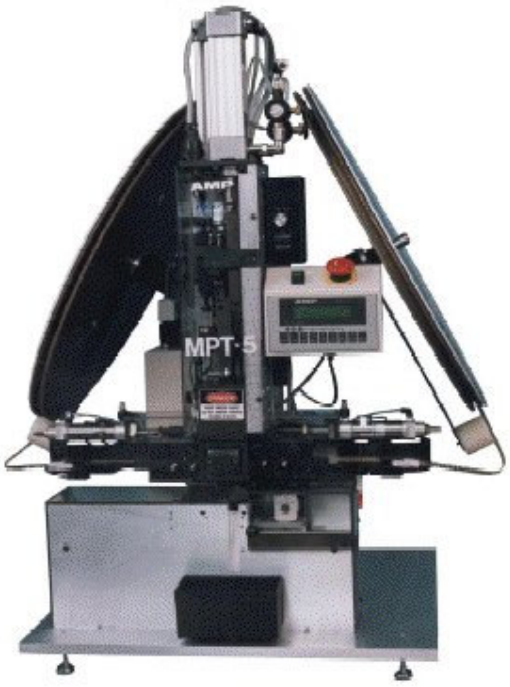
5 APPLICATION TOOLING

With reference to Figure 10. Loose piece terminals for product repair and/or maintenance can be inserted with hand insertion tool PN 274260-2 or 274282-1 see relevant instruction sheet for detail

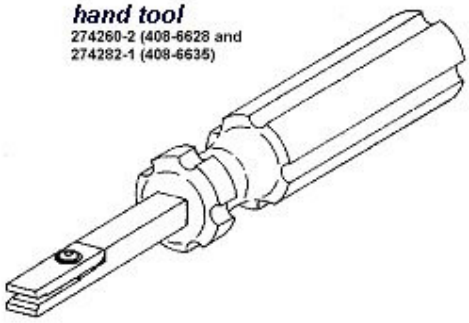
- For quick termination high productivity the MPT 5 S/L (see also customer manual 409–10014) is an automatic air-operated insertion machine.

- The Rotary Index Table is a semiautomatic machine (see also customer manual 409–5830) , properly equipped with an MPT-5 insertion module can automatically positions fixtured coils , bobbins and field assemblies for insertion of Siameze Terminals.

MPT-5 S/L for Mag Wire Coil Termination utilizing SIAMEZE and LEAD LOK terminals



hand tool
274260-2 (408-6628 and
274282-1 (408-6635)



Rotary Index Table

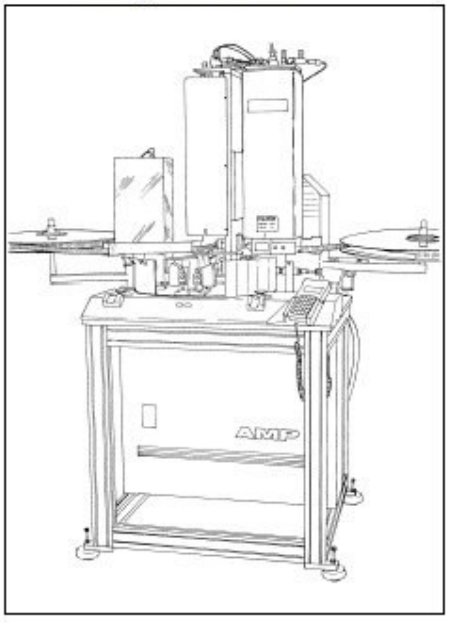


FIG.10