

**INSTRUCTION MANUAL**  
**DPP**  
**REV. 06**

## INDEX OF CHAPTER

***This manual contains the following information:***

- Chapter 1 – Pag. 3 - Security regulations
- Chapter 2 – Pag.3 - Introduction
- Chapter 3 – Pag.4 - Component parts
- Chapter 4 – Pag.6 - PCB Specifications
- Chapter 5 – Pag.6 - PCB Design
- Chapter 6 – Pag.7 - Use of the tool
- Chapter 7 – Pag.8 - Servicing and Maintenance
- Chapter 8 – Pag.9 - Blade replacement
- Chapter 9 – Pag.9 - Special Blades
- Chapter 10 – Pag.10 - Technical Information
- Pag.11 - Conformity Declaration

### NOTICE

**The manufacturer reserves the right to change or modify the information contained in this manual at any time without prior warning.**

## 1. SECURITY REGULATIONS



Before any kind of adjustment or registration to be performed on the machine, be sure the compressed air supply system is not connected.

**WARNING!!! Piergiacomini Sud S.r.l. refuses all responsibilities for any damage caused to operators if the machine's case has been removed or modified; therefore it is strictly forbidden to perform any maintenance or registration while the machine is in use.**



This type of symbol on the tool means: "DO NOT PUT YOUR HANDS" between the blades of the tool during operation.



Always use protective glasses while the tool is operating.

## 2. INTRODUCTION

The increasing use of SMT technology has brought about radical changes in the compliancing of PCBs.

At the moment the boards are multiplied within the same square, connected to one another by isthmus following the trimming and surrounded by a frame.

At the end of the assembly process the need to separate the boards without damaging them becomes necessary as long as they are not:

1. Exerted to flexing which will damage the components;
2. Exposed to dust in order to not contaminate the PCBs;

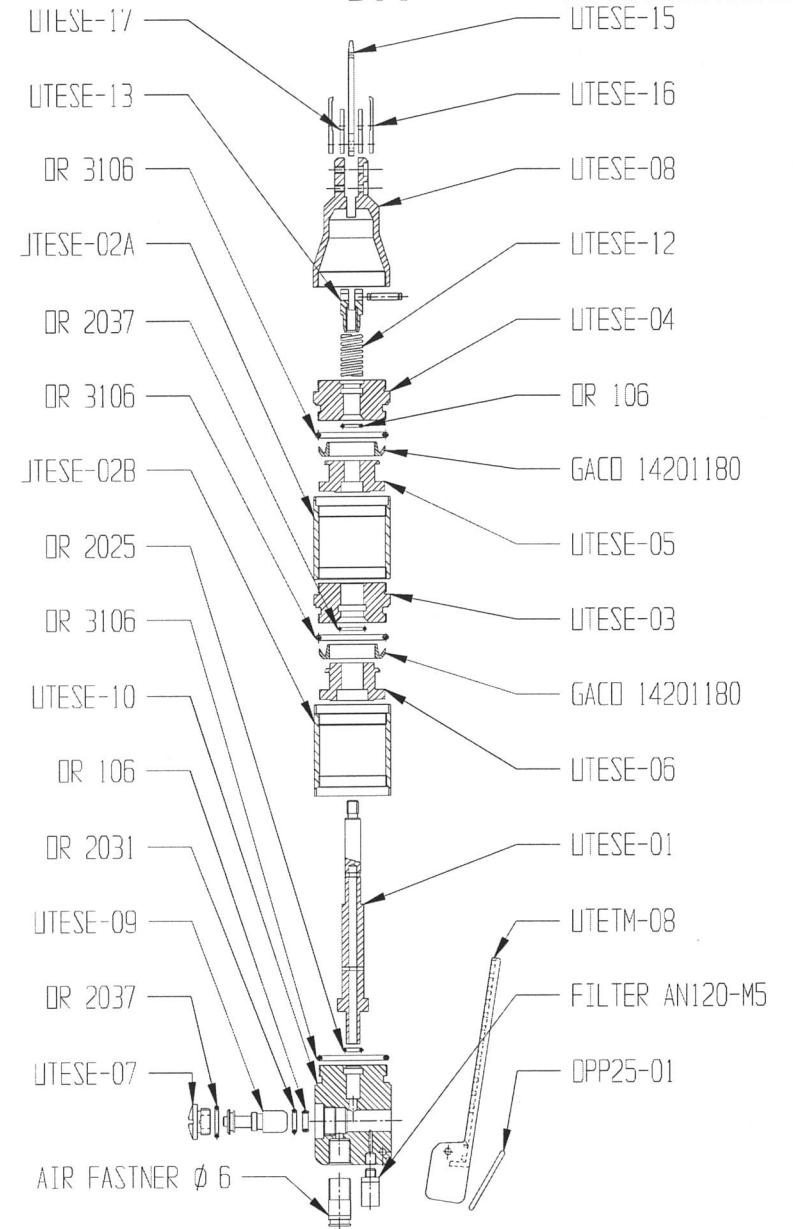
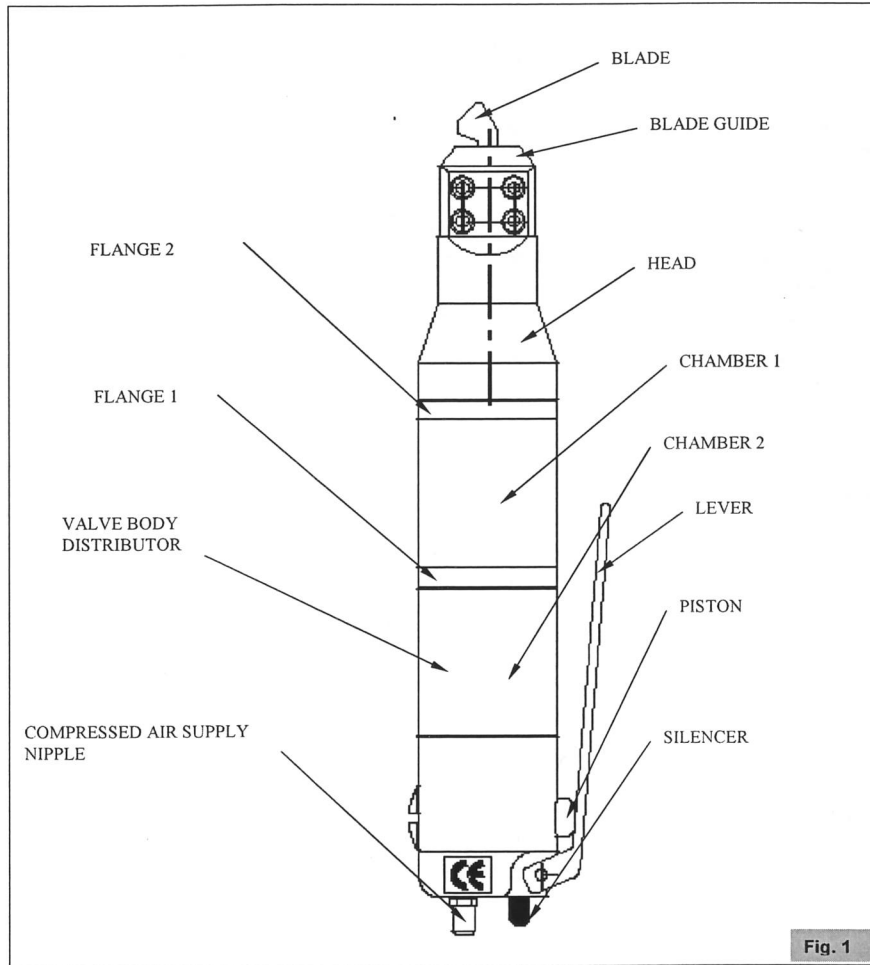
With the use of machines presently on the market, it is possible to carry out this separation, but the problem of elevated costs arises.

Today the problem of DEPANELLING (that is removing the isthmus caused by milling or cutting that in the end has to be removed) is overcome by the use of the DPP, which has been specially designed to eliminate the problems of DEPANELLING, taking into account, above all, the costs, the DPP is a precise pneumatic tool, mechanically simple, that needs very little servicing and does not create dust.

Furthermore the surface subjected to cutting does not need any further finishing.

This tool is extremely versatile in that it is possible to remove the central blade (see chapter 7) and replace with another of a different thickness (2,5 - 2,4 - 2,3 - 2,0 mm) in order to be able to freely insert it into any milled slot.

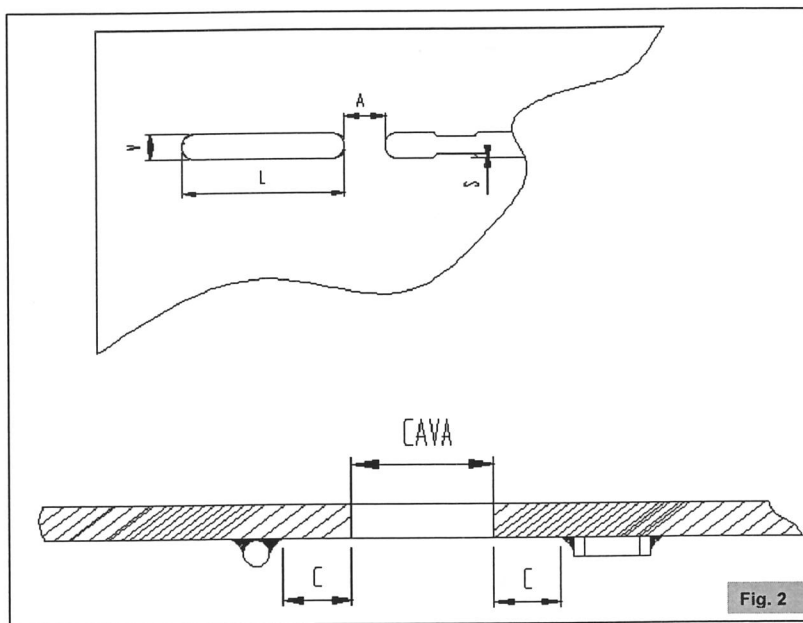
**3. COMPONENT PARTS OF THE DPP**



### 4. SPECIFICATIONS OF PCBs

PCB THICKNESS:	1.6 mm max
SLOT LENGTH (L):	max. 70 mm - min. 13 mm
SLOT WIDTH (V):	2.5 - 2.4 - 2.3 - 2.0 - 1.8 - 1.5 mm (standard blade)
SLOT WIDTH TOLERANCE:	0 - 0.02 mm
DISTANCE BETWEEN SLOTS (A):	from 1 to 3 mm - toll. 0 +0.1 mm
POTRUSION AFTER CUTTING:	S max = 0.05 mm

### 5. PCB DESIGN



LOWER AREA OF PCB FREE OF COMPONENTS (C): 1.9mm min

### 6. USE OF THE TOOL

The use of the Depanelling Tool DPP is very simple and does not require any particular technical notions. The following sequence of diagrams illustrates how to use it correctly.

**WARNING !**

**DO NOT INSERT YOUR FINGERS FOR ANY REASON BETWEEN THE BLADES IN POINT "A" SHOWN IN FIGURE 2B.**

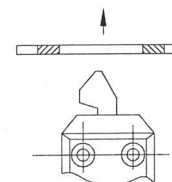
**Fig. 2B**



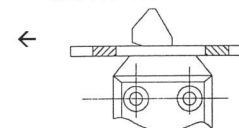
Always use protective glasses while the tool is operating.

#### OPERATIONAL PHASES:

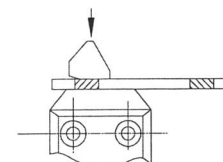
1. Put the blade into the slot.



2. Move the blade along the slot in the direction shown by the arrow until you reach the first isthmus to remove.



3. While holding the PCB against the two blades guide, lightly press the lever.



## 7. SERVICING AND MAINTENANCE

### 7.1 NORMAL SERVICING

**EVERY DAY:**

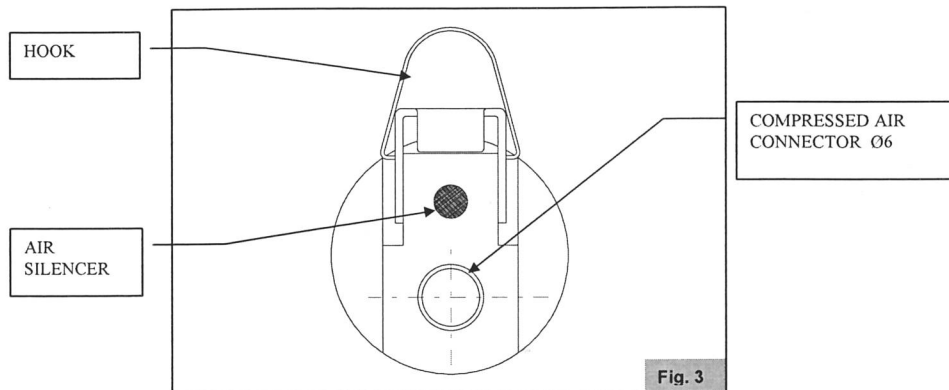
Blow away any residual cut material from the blade and blade guides with a jet of compressed air.

### 7.2 SPECIAL SERVICING

**EVERY 4 MONTHS:**

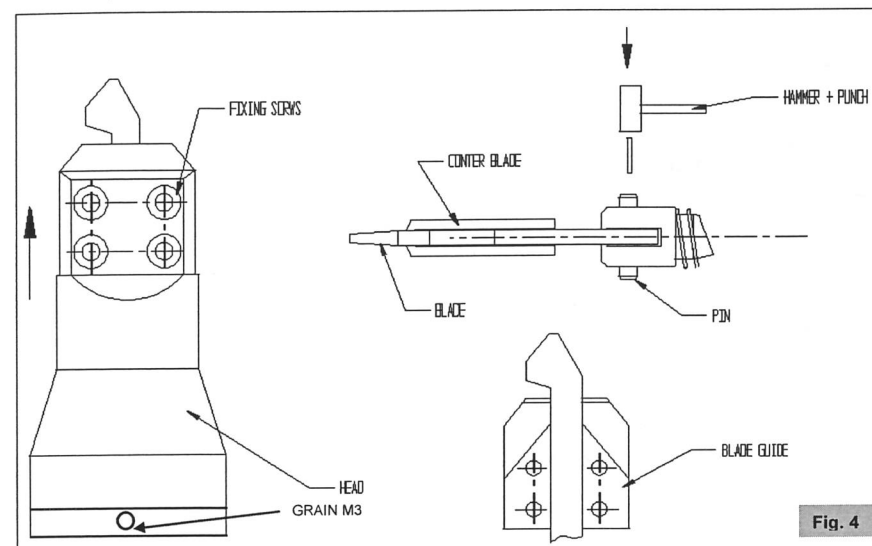
Lubricate the seals with grease :

1. Remove the compressed air supply tube, insert a cubic centimetre of grease into the compressed air supply tube as shown in figure 3;
2. Reconnect the compressed air supply tube to the tool and activate the tool several times to permit the grease to enter in circulation; if the blade slides freely, the lubrication has been a success, if not, repeat the previous operation.



## 8. BLADE REPLACEMENT

1. Unscrew the N°4 side blade fixing screws using the hexagonal key N° 2.(Fig.4)
2. Remove the two side blades and the blade guides.
3. Loosen the grain M3, unscrew the tool head and pull it out.
4. Hit the pin with a hammer and a punch, to let the blade out.

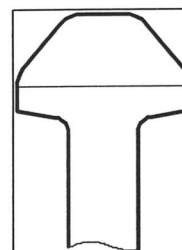


**! WARNING !**

**In order to re-insert the new blade you should take into account the following points which are very important for a correct functioning of the tool:**

During the re-insertion, verify that the side blades resting on the stops are parallel, and that the holes in these and the two blade guides coincide perfectly with the holes in the head.

## 9. SPECIAL BLADES



**T form blade:** it's possible to require and install on the tool a blade with a T form, in order to obtain a double cutting blade (Fig.5). This T form is proper for particular cutting rapid works.

The set up of this T blade please refer to CHAPTER 8.

**Special blades suitable for your purposes are produced at request!**

Fig. 5

## 10. TECHNICAL INFO

### Characteristics:

<b>Compressed air pressure :</b>	6 - 7 Bar – Tube Ø6
<b>Consumption :</b>	3,5 Nl/min
<b>Blade material:</b>	Tempered steel
<b>Blade thickness :</b>	Standard 2.5 - 2.4 - 2.3 - 2.0 - 1.8 - 1.5 mm
<b>Approximative dimensions :</b>	210 x 35 mm
<b>Weight :</b>	400 g.

**TECHNICAL ASSISTANCE OFFICE:**  
PIERGIACOMI SUD SRL  
VIA 81A STRADA 3, FRAZ CENTOBUCHI,  
63076 MONTEPRANDONE (AP) ITALY  
tel. +39 0735 703 333  
fax +39 0735 703 757

**COMMERCIAL OFFICE:**  
PIERGIACOMI SUD SRL  
Via Gramsci 3 - 60022 Castelfidardo (AN) Italy  
tel. +39 071 78678-780 211  
fax +39 071 7822 536

[www.piergiacomini.com](http://www.piergiacomini.com)  
[piergiacomini@piergiacomini.com](mailto:piergiacomini@piergiacomini.com) - [info@piergiacomini.com](mailto:info@piergiacomini.com)

## DECLARATION OF CONFORMITY

MODELS : **TPP - TR-6000 / TP-6000 / TS 6000**  
Pneumatic tool to cut electronic components.  
**DPP**  
Pneumatic tool for the depaneling of PCBs.

THE TOOLS **TPP** and **DPP** ARE CONFORM TO THE ESSENTIAL REQUIREMENTS OF THE FOLLOWING STANDARD OR HARMONIZING RULES :

### **DIRECTIVE 98/31/CE**

- EN 12100-1** Safety of machinery. Basic concepts, general principles for design.  
Part 1 Basic terminology, methodology.
- EN 12100-2** Safety of machinery. Basic concepts, general principles for design.  
Part 2 Technical principles and specifications.
- EN 1050** Safety of machinery. Principles for the risk assessment.

MODELS : **SSF-1 / DPB-1**  
Pneumatic depaneling machine with 1 pneumatic head.  
**SDP**  
Pneumatic depaneling machine form 1 to 3 pneumatic heads.

THE MACHINES **SSF-1**, **DPB-1** and **SDP** ARE CONFORM TO THE ESSENTIAL REQUIREMENTS OF THE FOLLOWING STANDARD OR HARMONIZING RULES :

### **DIRECTIVE 98/37/CE**

- EN 12100-1** Safety of machinery. Basic concepts, general principles for design.  
Part 1 Basic terminology, methodology.
- EN 12100-2** Safety of machinery. Basic concepts, general principles for design.  
Part 2 Technical principles and specifications.
- EN 294** Safety of machinery. Safety distances to prevent danger zones being reached by the upper limbs.
- EN 1050** Safety of machinery. Principles for the risk assessment.

Monteprandone li 06 - 05 - 2008

Legal Represent  
CARINI ENRICO

