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FP50 IDT TOOL

(Tool Number: 57824-5000)

OPERATING MANUAL



Molex Japan Co., Ltd.

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<Safety Precautions>

Please read the following before operating the tool.

1. Introduction

Thank you for choosing our **FP50 IDT Tool**.

This instruction manual is prepared so that the tool is properly used. Please take the time to read this manual, making sure you understand the operating procedures described herein before attempting to operate the tool.

2. To operation supervisors

- 1) Operators should fully understand the contents of this manual before operation.
- 2) If operators do not understand English, translate this manual into the proper language.
- 3) Keep this manual near the tool so that operators can refer to it anytime.

3. Dangerous operations

Observe the following precautions to prevent a life-threatening accident.

- 1) Don't insert a part of your body or other foreign materials into the tool when you are using the lever of a tool
- 2) Don't place the tool on an unstable, off-balanced worktable from which the tool might fall down.
- 3) If more than two operators are engaged in operation or checkup at the same time, even slight miscommunication might lead to a serious accident.

Caution

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- 2) The contents of this document are subject to change without notice.
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<Safety Precautions>

Please read the following before operating the tool.

4. Careful handling

Keep the items below to use the tool safely and properly.

* Please contact our application-tooling group if something's wrong with the tool.

1) Tool malfunctions

If you notice any unusual sound or movement in the tool, stop the operation immediately and check the suspicious parts.

2) Foreign materials entering

If foreign materials such as water or metals accidentally get inside the tool, stop the operation immediately and remove those materials.

5. Installation site

Be careful about the following items when you install the tool.

1) Temperature and humidity

Don't operate the tool in extremely high/low temperature or extremely high humidity.

* Place it where the temperature is stable around 23 degrees centigrade and the air is well ventilated.

2) Dust and corrosive gas

It will become the cause of failure if dust, corrosive gas, etc. are in the circumference of this tool.

* Please don't install this tool to such a place.

3) Unstable work table

When this tool is set up in an unbalance worktable, it not only becomes a dangerous operation but also there is a case to cause the tool damage and it is dangerous.

* Please fix the tool on a stable table horizontally.

<Quality Precautions>

You surely carry out the following for defect-free production.

1. Introduction

In order not to produce a defective article with this tool, this chapter has described “Must be carried out”, and “Must not be carried out” as an important matter on operation.

Keep in mind that there is a possibility that a defective article will be produced when not protecting this.

2. Must be carried out

Please be sure to perform the following matter to maintain product quality.

1) Enforcement of startup check

Please check the tool in accordance with the “startup checklist” described in this document before an operation start, and start operation after confirming nothing is wrong with the tool.

* If the check is neglected, there is a possibility that a defective article will be produced.

2) Confirmation of quality

Please start the production after confirming the quality of a product picked up from the first operation, and it passes all of the claims required in the ITD (termination) specifications and the I/O harness drawing of a corresponding connector.

* It is recommended to initiate the operation on the preferable condition that enough margins for the standard are identified.

3. Must not be carried out

Please don't perform the following matter by any means to maintain product quality.

1) Too much deeply termination of upper housing

Termination of the upper housing too much deeply is a cause the damage of the receptacle sub-assembly and the upper housing, and it is a prohibition.

* Please terminate by the termination height of the standard (Tool bottom dead point).

2) Termination of upper housing in a different direction

Because the termination in the state to set the upper housing in a different direction from a prescribed direction damages the upper housing and receptacle, it is a prohibition.

* The upper housing is set to the receptacle in a prescribed direction and the termination is executed.

1. Description

This tool is a manual IDT (termination) tool that is used to terminate the upper housing arranged wires to a receptacle sub-assembly in the process of FP50 I/O cable assembly of Molex.

As the procedure, the upper housing is pre-locked to a receptacle sub-assembly, and the cable of it is fixed with the lever after set it on the table.

Next, the table is pushed in the tool and the termination is executed by depressing the handle of the tool.

2. Tool Configuration and Applicable Products

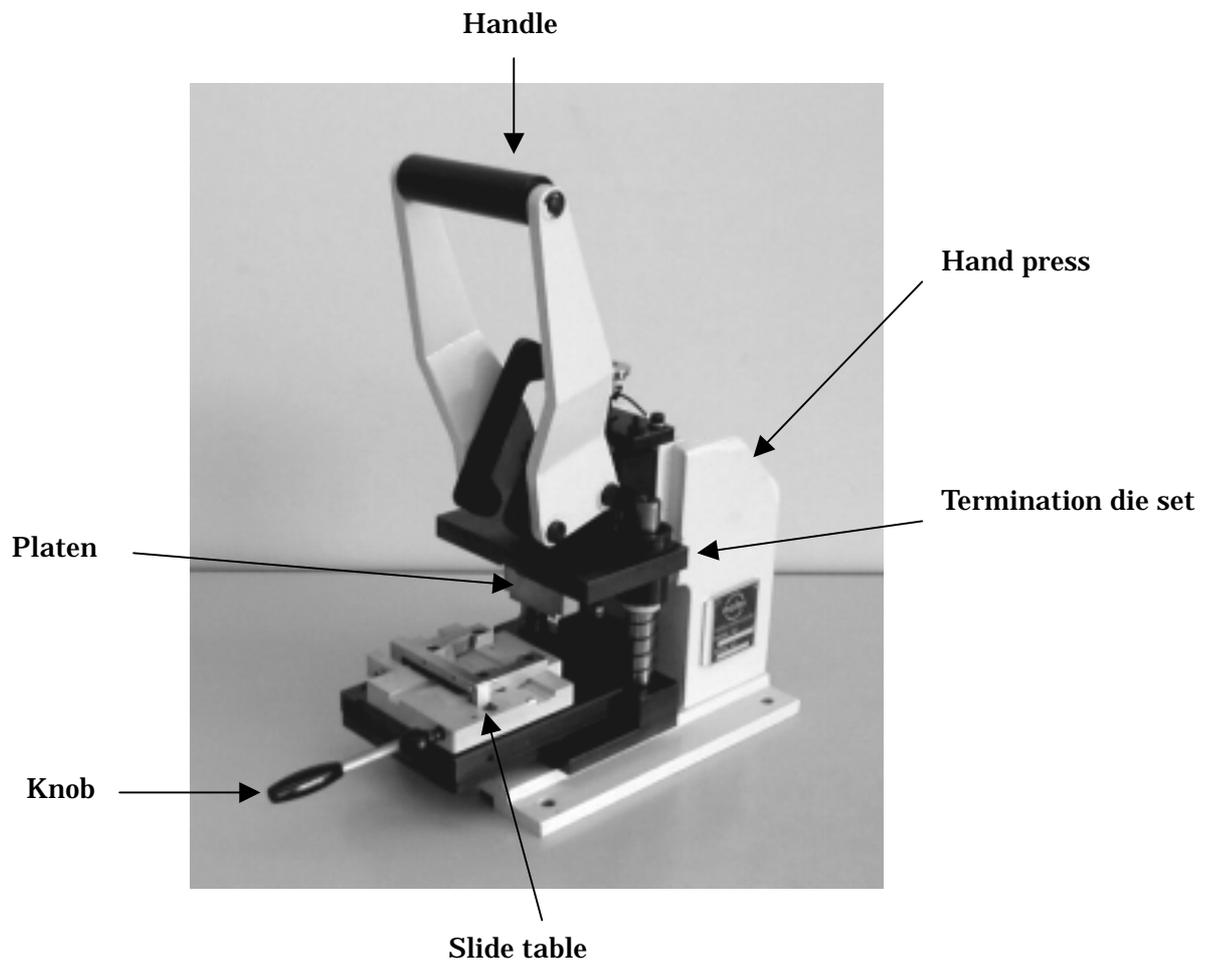
2.1. Tool Name and Configuration

- 1) Tool name: FP50 IDT Tool
- 2) Tool number: 57824-5000
- 3) Tool configuration:
 - (1) IDT (Termination) die set assembly:
Termination unit of the upper housing to a receptacle
 - (2) Hand press:
Toggle system hand press (Maximum termination force:
600kgf or more)

2.2. Applicable Connector and Cable

- 1) Connector: Molex FP50 (1.27mm pitch 20-circuit) Connector
52621-2011: FP50 Receptacle Sub-Assembly
52620-1011: FP50 Upper housing
- 2) Cable: UL20276, #28 AWG, 10-pairs braid shield cable, Wire insulation diameter = $\phi 0.58\text{mm}$, Cable outer diameter = $\phi 6.8\pm 0.3\text{mm}$

2.3. Tool Appearance and Unit Name



3. Specifications

3.1. Tool Specifications

- 1) **Pre-locking of upper housing:** The upper housing that arranges the wire is pre-locked to the receptacle sub-assembly by the hand before termination.
- 2) **Termination:** The slide table that sets the receptacle is pushed into the tool and the termination is executed by depressing the tool handle.
- 3) **Termination method:** It is the termination method that bumps the platen to the work set guide on the slide table.
- 4) **Termination height:** The termination height is managed at the bottom dead point of the tool.
The termination height is where upper housing locks to the receptacle certainly, and damage is not caused.

3.2. Outer Dimensions and Weight

- 1) **Outer dimensions:** 180 (width) x 380 (depth) x 440 (height) mm
- 2) **Weight:** Approx. 16 kgf

3.3. Operating Environment Conditions

- 1) **Operating ambient temperature:** 5- 35 degrees centigrade (Away from direct sunlight)
- 2) **Operating ambient humidity:** 35% - 85% RH (No condensation)
- 3) **Operating atmosphere:** Atmosphere should be free of corrosive gases and contaminants such as dust or lint.

3.4. Installation Space

Tool installation space on a worktable required for the purposes of performing operation and maintenance checkups.

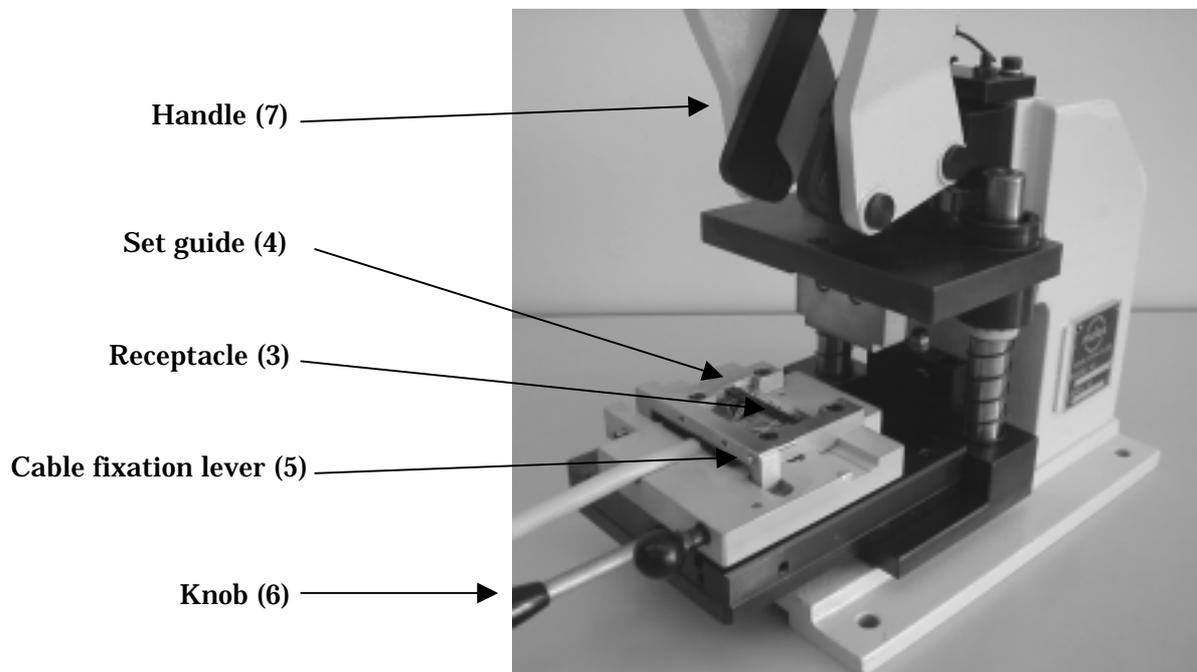
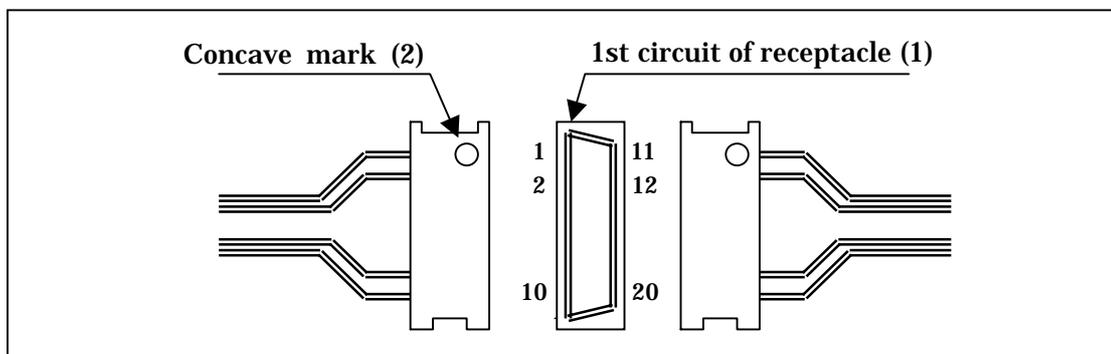
900 (width) x 900 (depth) x 1600 (height) mm

4. Operation Method

4.1. Termination

- 1) Match the “concave mark (2)” of the upper housing to the “1st circuit of receptacle (1)” and pre-lock it.
- 1) Set the pre-locked “receptacle (3)” in the “set guide (4)” of the table and fix the cable with the “cable fixation lever (5).”
- 2) Grasp the “knob (6)” of the table by one hand, push it into the interior of the tool completely, and depress the “handle (7)” of the tool enough to the operation edge by the other hand, and the termination is executed.

“Note” Please put each hand certainly on the “knob” and the “handle” for safety and operate it.



5. Maintenance and Check

5.1. Daily Maintenance

1) Management of tool

Before a work start, please carry out the tool check in accordance with the “startup checklist” in this manual, and start work after checking that it satisfies a standard.

* Please record each check result simultaneously.

2) Removal of foreign substances

Since foreign substances such as dust and wire scrap adheres to the “set guide”, and “platen”, etc. during operation, please remove a foreign substance timely.

* Neglect may become the cause of a defective termination.

3) Cleaning of work end

Please wipe with a dry cloth lightly after cleaning the tool with compression air every day at the time of a work end. There is an effect that prevents rusting.

4) Lubrication

Please supply proper amount of “Lithium family grease” (JIS No. 2) to the shaft of a die set and the ram of a hand press with the frequency of once a month.

5.2. Check of Tool

Please confirm the standard value with FP50 IDT (termination) specifications of the latest version before it works.

1) Bottom dead point of tool

The upper housing must be locked to the receptacle surely when the tool is operated until the bottom dead point.

2) Lock of upper housing

The terminated upper housing must be locked to the receptacle surely.

3) Crack of connector

There must be neither crack nor remarkable damage of the receptacle and the upper housing by termination.

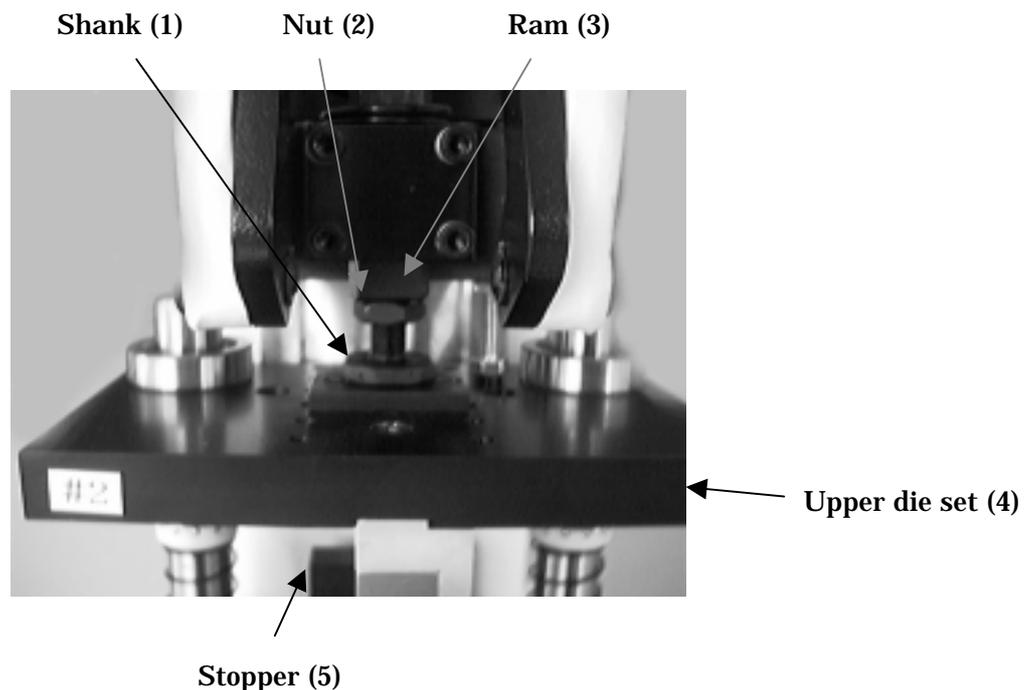
4) Platen surface

Neither damage nor the foreign substance must adhere on the termination side surface of the platen.

5.3. Adjustment Method of Tool Bottom Dead Point

- 1) Loosen the “nut (2)” of the “shank (1)” on the hand press and adjust the bottom dead point of the wire pusher turning the “shank (1).” Tighten the nut after it adjusts and the shank is fixed to the “ram (3).”
- 2) Amount of adjustment and direction
[Amount of adjustment]
One scale = about 0.17mm (One rotation =1.0mm)
[Direction of adjustment]
The wire is deeply pushed: Shank is turned left.
The wire is shallowly pushed: Shank is turned right.
- 3) The “stopper (4)” is adjusted in the position with the space of 0.5mm from the “upper die set (5)” at the bottom dead point of the tool.
* The stopper is for interference prevention of the upper and lower when the die set is removed from the hand press.

“Note” Please start the work after confirming without fail that the tool bottom dead point size meets the standard after adjustment.

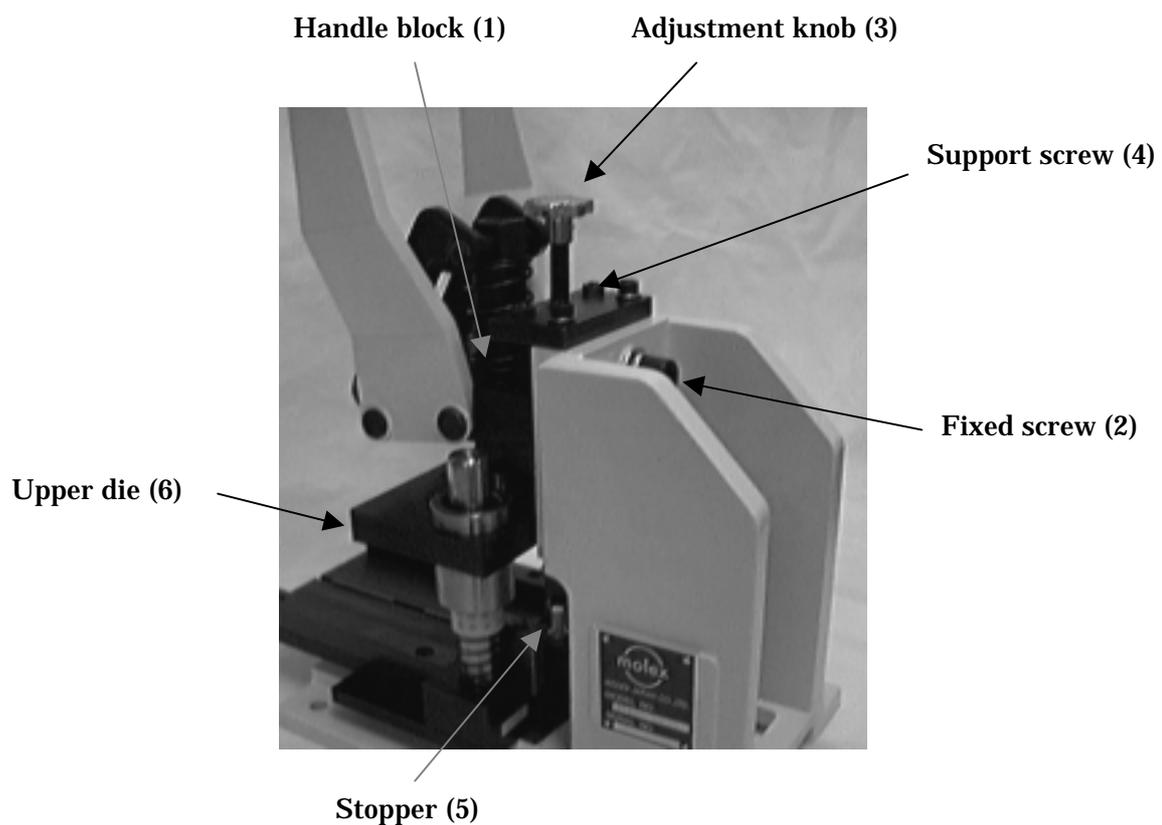


5.4. Adjustment Method of Hand Press Bottom Dead Point

When the adjustment of the bottom dead point is not good enough by the shank alone, the bottom dead point of the main body of the hand press is adjusted according to the following procedure.

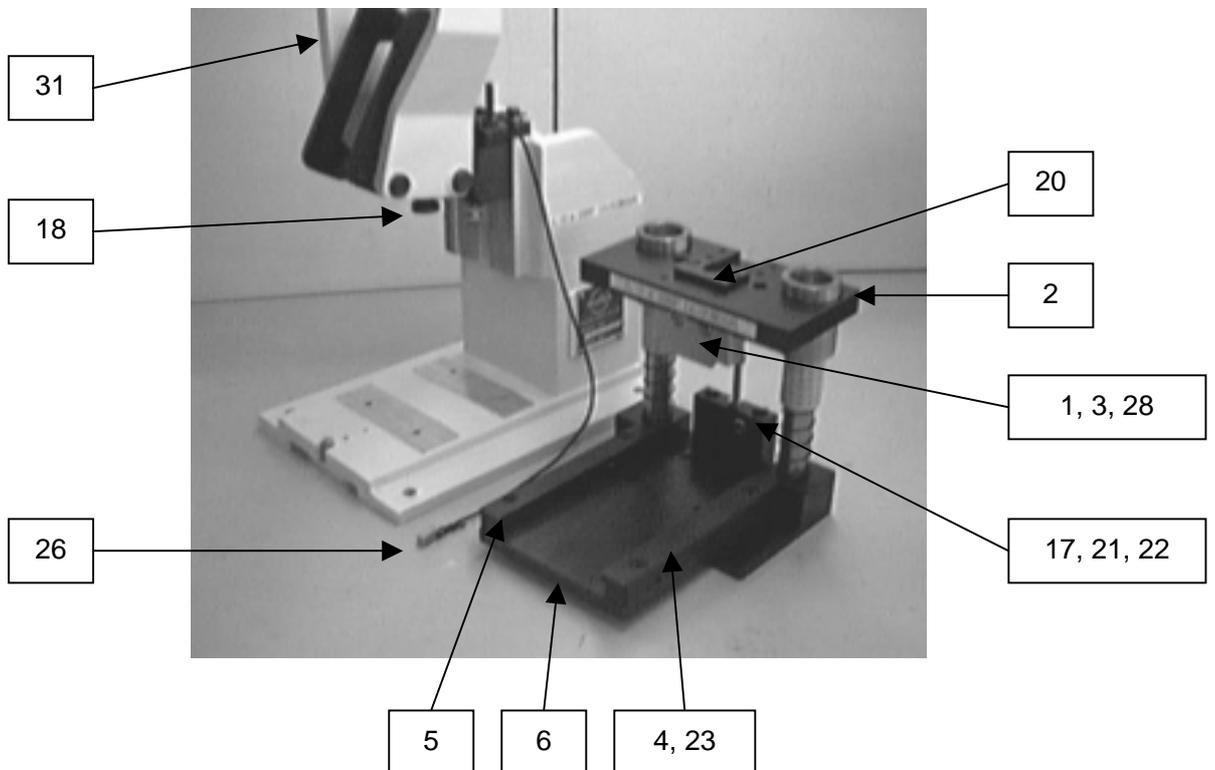
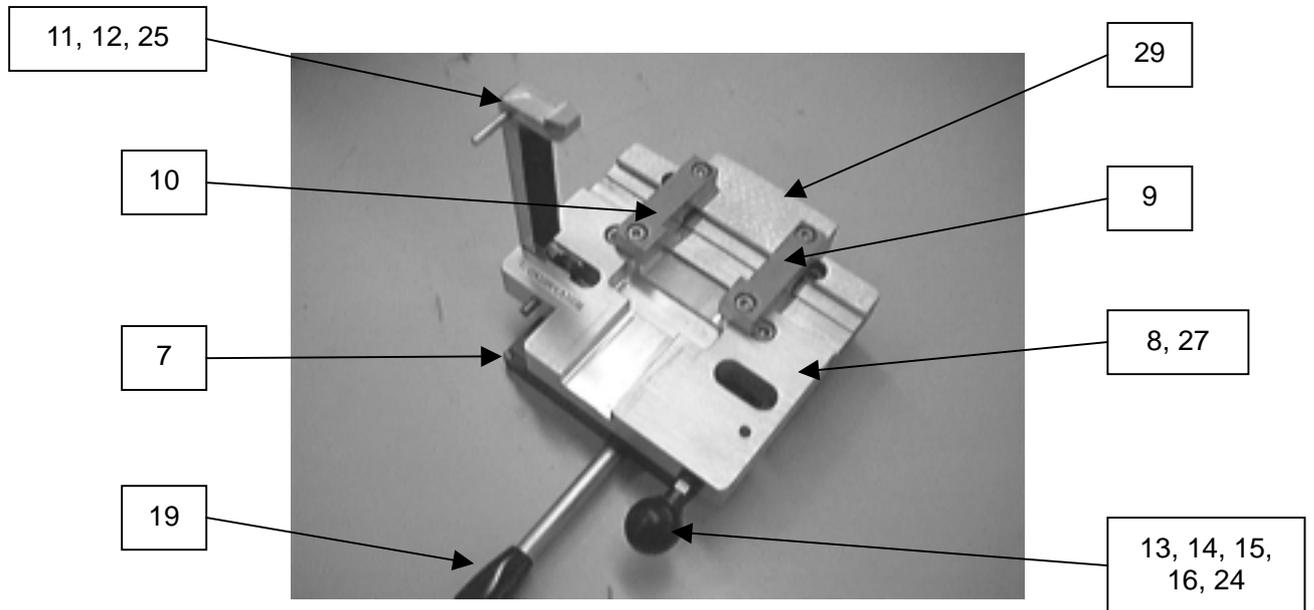
- 1) Loosen the “fixed screw (2)” of the “handle block (1)” of the hand press and adjust the bottom dead point of the main body of the hand press moving the handle block with the “adjustment knob (3).”
- 2) Adjust the screw at the same time when there is a “support screw (4)” in the handle block.
- 3) Set the space of about 0.5mm at the bottom dead point position between the “upper die (6)” and the “stopper (5).”

“Note” Please note that there is a case of the tool damage when the bottom dead point of the main body of the hand press is adjusted low too much.



6. Parts List

6.1. IDT Tool Development (FP50)



6.3. Parts List (FP50 IDT Tool)

[Applicable Model] 57824-5000: FP50 IDT Tool

No.	Parts No.	Parts Name	Q'ty	Maker Name: Parts No.
	[Perishable Parts]			
1	57824-2001	Platen	1	
	[Standard Parts]			
2	57824-1002	Die Set	1	
3	57824-1003	Platen Holder	1	
4	57824-1004	Guide Rail-R	1	
5	57824-1005	Guide Rail-L	1	
6	57824-1006	Slide Base	1	
7	57824-1007	Slider	1	
8	57824-1008	Cable Base	1	
9	57824-1009	Set Guide-R	1	
10	57824-1010	Set Guide-L	1	
11	57824-1011	Cable Clamp Lever	1	
12	57824-1012	Spring, Clamp Lever	1	
13	57824-1013	Latch Finger	1	
14	57824-1014	Spring, Latch Finger	1	
15	57824-1015	Nut, Latch Finger	1	
16	57824-1016	Spacer, Latch Finger	1	
17	57824-1017	Stopper Block	1	
18	57823-1018	Shank	1	
20	57823-1020	Shank Plate	1	
27	57823-1027	Middle Plate	1	
29	57823-1029	Table	1	
	[Commercial Parts]			
19	57827-0001	Knob	2	MISUMI: LOG 6-100
21	57823-0005	Stopper Bolt/5-20	1	MISUMI: UTS 5-20
22	57823-0006	Stopper Bolt/6-40	1	MISUMI: UTS 6-40
23	57823-0007	Dog Head Screw/M6-12	1	MISUMI: M6 x 12L
24	57824-0001	Release Knob	1	MISUMI: PC 20 x 5
25	57824-0002	Dowel Pin/4-30	1	MISUMI: 4 x 30L
28	57850-1028	Pilot Pin	1	MISUMI: TLDS-8
31	57823-5300	Hand Press ASS'Y	1	STE: FX-004

7. FP50 IDT Tool Startup Checklist

[Applicable Tool] 57824-5000: FP50 IDT Tool

“Note” Please check the following matter before the commencement of work, and start operation after checking those without a problem. Please record check results simultaneously.

No.	Check point	Standard	Method/equipment	Record	Startup	Monthly
1	Bottom dead point of tool	Upper housing must be locked to the receptacle surely.	Visual check	Result	○	
2	Crack of connector	No crack and remarkable damage	Visual check	-	○	
3	Platen surface	No damage and adhesion of foreign article	Cleanup	-	○	
4	Receptacle set part	No foreign article	Cleanup	-	○	
	[Monthly Checking]					
5	Ram and die set shaft	No dry up	Grease supplying	-		○

