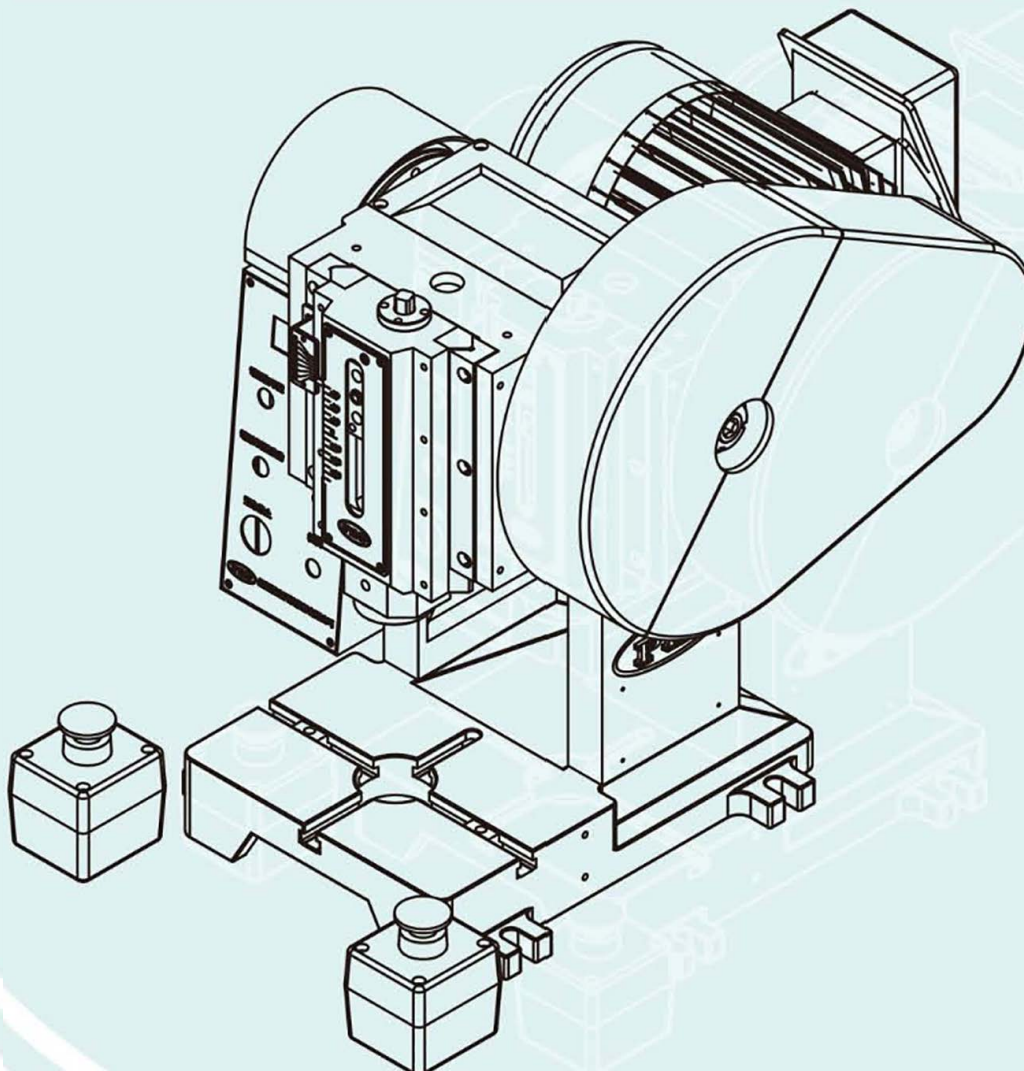


Desktop Adjustable Precision Mechanical Press Operation Manual

【Model:GR-361】



Utility Model Patent No. M318465 • Intellectual Property Right. Copying is not permitted.



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Desktop Adjustable Precision Mechanical Press Operation Manual

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We reserve the right to make changes, subject to change without notice

Stroke Adjustable Desktop Precision Punch Operation Manual



Equipment Specifications: (Fig. 7)

- Model: GR-361
- Capacity: 0.750TON (at stroke 25mm)
- Power supply: Single-phase 110/220V;
Three-phase 220/380V 50/60HZ Fig. (A)
- Fuse: Glass tube \varnothing 6.35x30mm 15A
- HP: 1/2HP, 375kw 1700rpm
- EM clutch: DC24V(Pei-Ei,C-M20 -F01 - 25)
- EM brake: DC24V(Trantex SAB- 20- \varnothing 15)
- Adjustable press stroke: Original standard 25mm(range: 25mm~ 50mm)
- Adjustable slide stroke: Original standard 0mm(range: +30mm, -30mm)
Continuous punches: 100/min
- Die set locking screw: M8* 1.25-T nut#10
- Die head size (B): 10mm~20mm
(Original standard: \varnothing 15mm; optional sleeve sizes are available or purchase more sleeves at one time)
- Adjustable press stroke: (25mm~ 50mm) original setting: 25mm
- Adjustable slide stroke: 60mm(+30 .-30mm) original setting: 0mm
- Base size: 150*230
- Belt: Wide angle belt 7M750
- Machine dimension: 505mm(L)420mm(W)500mm(H)
- Machine weight: 82.5/kg

Original standard power cable socket and wiring

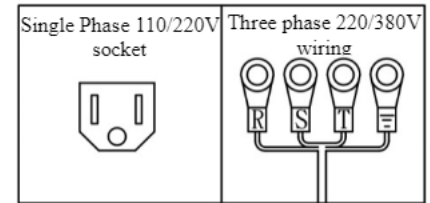


Fig. (A)

Standard accessories (1)

Adjustment tool number and name	QTY
Ⓐ 10mm-hex T-shaped wrench	1 PC
Ⓑ 6mm-hex T-shaped wrench	1 PC
Ⓒ 17mm*17mm T-shaped hex socket wrench	1 PC
Ⓓ10mm*10mm T-shaped square socket wrench	1 PC

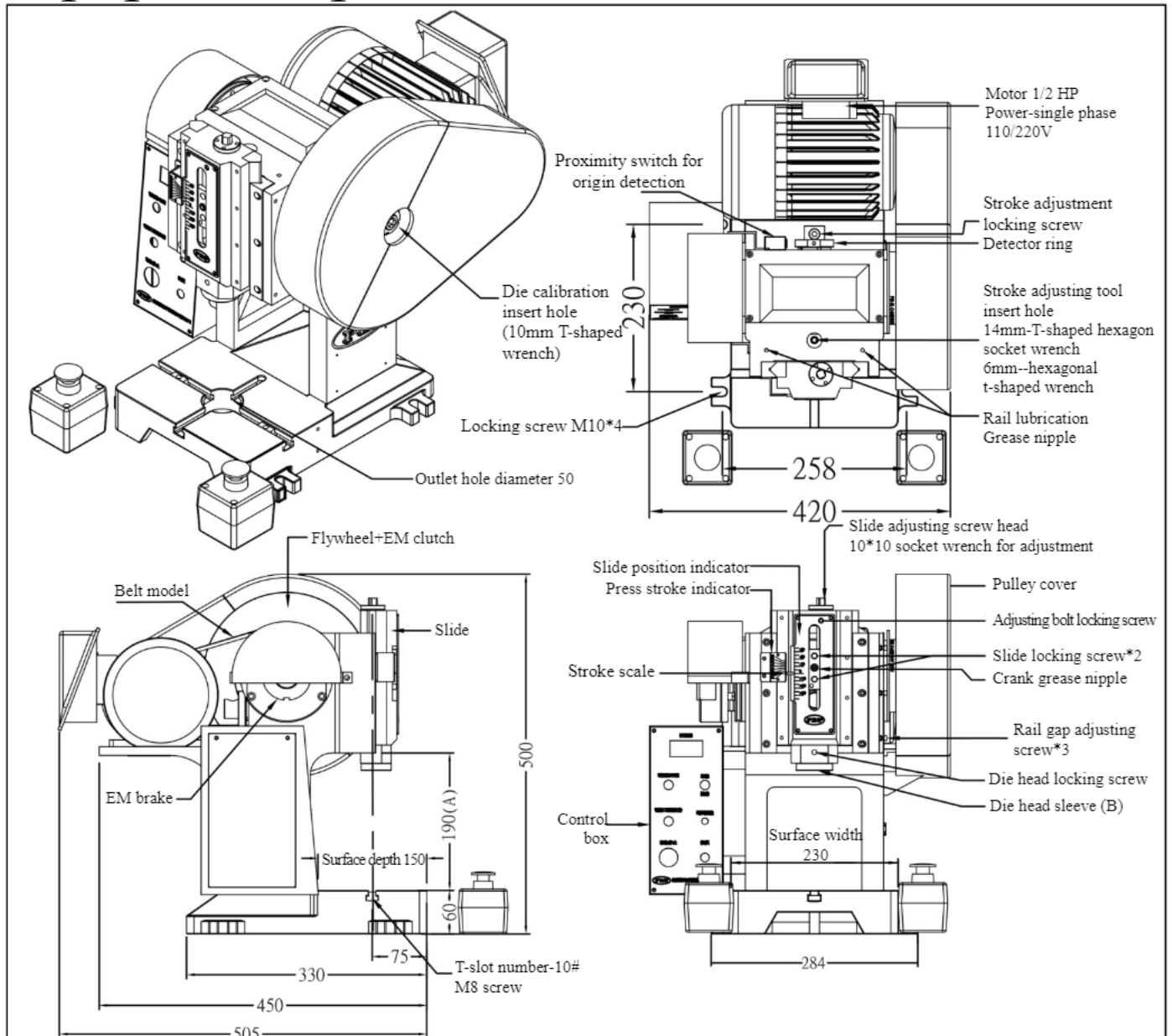
Standard accessories (2)

M8*P1.25-T-shaped nut	2 PCS
Metric hex wrench set	1 PC
Starter switch — Optional (<input type="checkbox"/> Hand switch <input type="checkbox"/> Foot switch)	2 PCS

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Equipment Specifications: (Fig. 7)



Operation space(A): Stroke 25 mm, adjustment -30 mm, TDC 130 mm, BDC 105 mm
 Stroke 25 mm, adjustment +30 mm, TDC 190 mm, BDC 165 mm
 Stroke 50 mm, adjustment -30 mm, TDC 142.5 mm, BDC 92.5 mm
 Stroke 50 mm, adjustment +30 mm, TDC 202.5 mm, BDC 152.5 mm

Note: These are original operation space. (The height can be increased to a maximum of 75mm upon request of the customer.)

Die head size (B): $\phi 10 \sim \phi 20$ optional sizes are available (attached with $\phi 15 * 1PC$) or purchase more sleeves at one time)

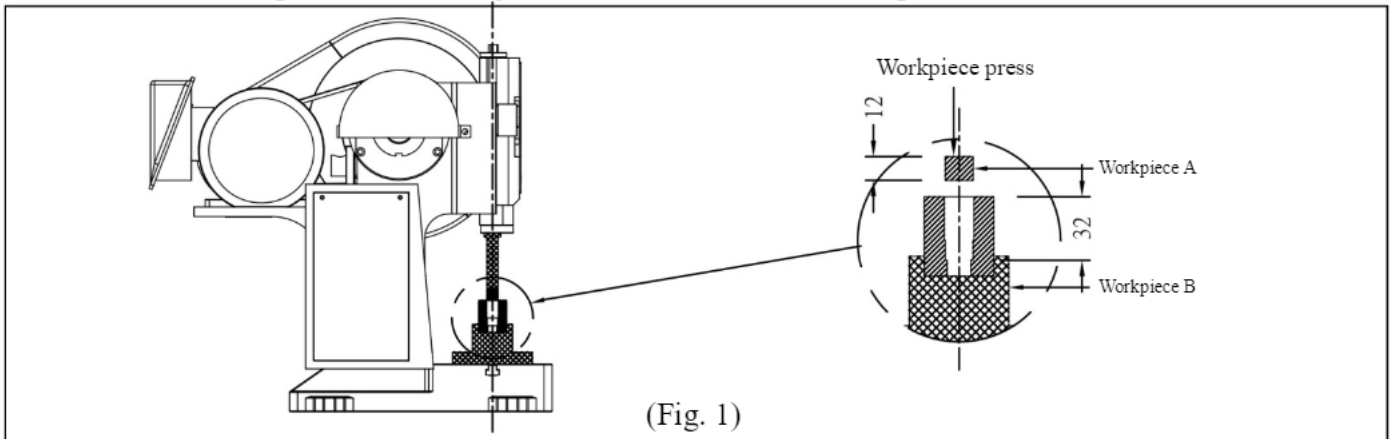
(Fig. 7) Equipment specifications

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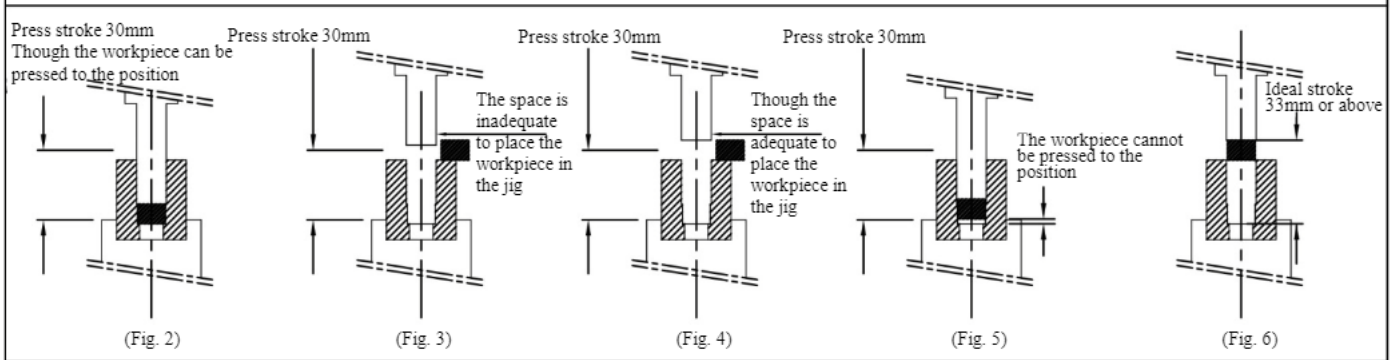


Features

- 1.1 The patented press stroke adjustable mechanism allows almost suitable space configuration for workpieces with different sizes. The stroke is adjustable between 25mm~50mm.
- 1.2 What is press stroke adjustment?
 - 1.2.1 Currently, all the commercial desktop punches are equipped with a fixed press stroke mechanism and none of them provides stroke adjustment function. The difference of both models is described below with the fixed 30mm press stroke as an example.
 - 1.2.2 (Fig. 1): The press is used to press Workpiece A (12mm in height) into Workpiece B (32mm in depth).
 - 1.2.3 (Fig. 2): Though Workpiece A can be pressed to the required depth after the slide and jig are adjusted to the press depth, the workpiece cannot be placed in the jig due to inadequate space between the jig and slide when it returns back to the TDC. (Fig. 3)
 - 1.2.4 (Fig. 4): When the slide and jig are adjusted to the height to place the workpiece in the jig, Workpiece A cannot be pressed to the required position. (Fig. 5)
 - 1.2.5 (Fig. 6): The ideal press stroke is above 33mm. Our patented punch provides a wide press stroke adjustment roan meet this requirement.



(Fig. 1)



(Fig. 2)

(Fig. 3)

(Fig. 4)

(Fig. 5)

(Fig. 6)

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Features

- 1.3 The wide adjustment range eliminates the requirement for purchase of a bigger machine due to inadequate space and save the cost.
- 1.4 Solid mechanism made of ductile cast iron is treated in the burning blunt and heat treatment processes to ensure a robust machine and stable operation without the concern of deformation and resonance.
- 1.5 The precise hardening treatment and grinding processes ensure the durability, sureness and operation stability of the machine. The modular design allows an easy application to the production line.
- 1.6 The slide rail has a long-wrapped 90° dual-V design with a replaceable mechanism. It is made of quality alloy steel and high-strength ductile cast iron, and treated in the hardening and precision grinding processes to ensure high rigidity and wear resistance. The precision is adjustable and the rail can be replaced easily, if needed.
- 1.7 The drive system is equipped with EM clutch and brake with fast response, high torque, precise positioning and low noise.
- 1.8 The machine has a multiple safety circuit design and provides different functions, safe operation, simple die testing and calibration process.

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Switch Operation: (Fig. 8)

3.1 Power switch:

3.1.1 Press the power switch upward to turn on the machine and the indicator lights up. Press the power switch downward to turn off the machine and the indicator goes out.

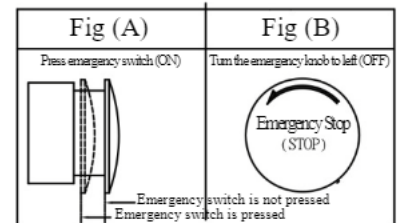
3.2 Emergency switch:

3.2.1 All the functions, including the motor, stop when the emergency switch is pressed.

The motor keeps running when the emergency switch is not pressed. (This switch can be used to as a normal control to turn on/off the motor).

3.2.2 Emergency switch is pressed (ON) Fig (A)

3.2.3 Emergency switch is not pressed (OFF) Fig (B)



3.3 Single/continuous punch:

3.3.1 Single: The machine punches once when the starter switches are activated.

3.3.2 Continuous: The machine punches continuously when the starter switches are activated.

3.4.1 The time adjustment function is used to set the interval of the continuous punching.

3.4.2 Adjustment range: 0.1 ~ 10 sec.

3.5 Die calibration:

3.5.1 Die Cal. ON: The brake is released for die calibration.

Note: This position is usually used during installation of the die.

3.5.2 Die Cal. OFF: The brake is applied to the transmission shaft and the machine is in the standby state.

3.6 7-digit electronic counter:

3.6.1 The counter counts once every time when the machine punches. The maximum counts are 9999999. Press the (RS) key to reset the counter if needed.

3.7 Starter switch:

3.7.1 Two starter switches must be activated simultaneously to start the press. (Both hands must leave the die and jig for the sake of safety)

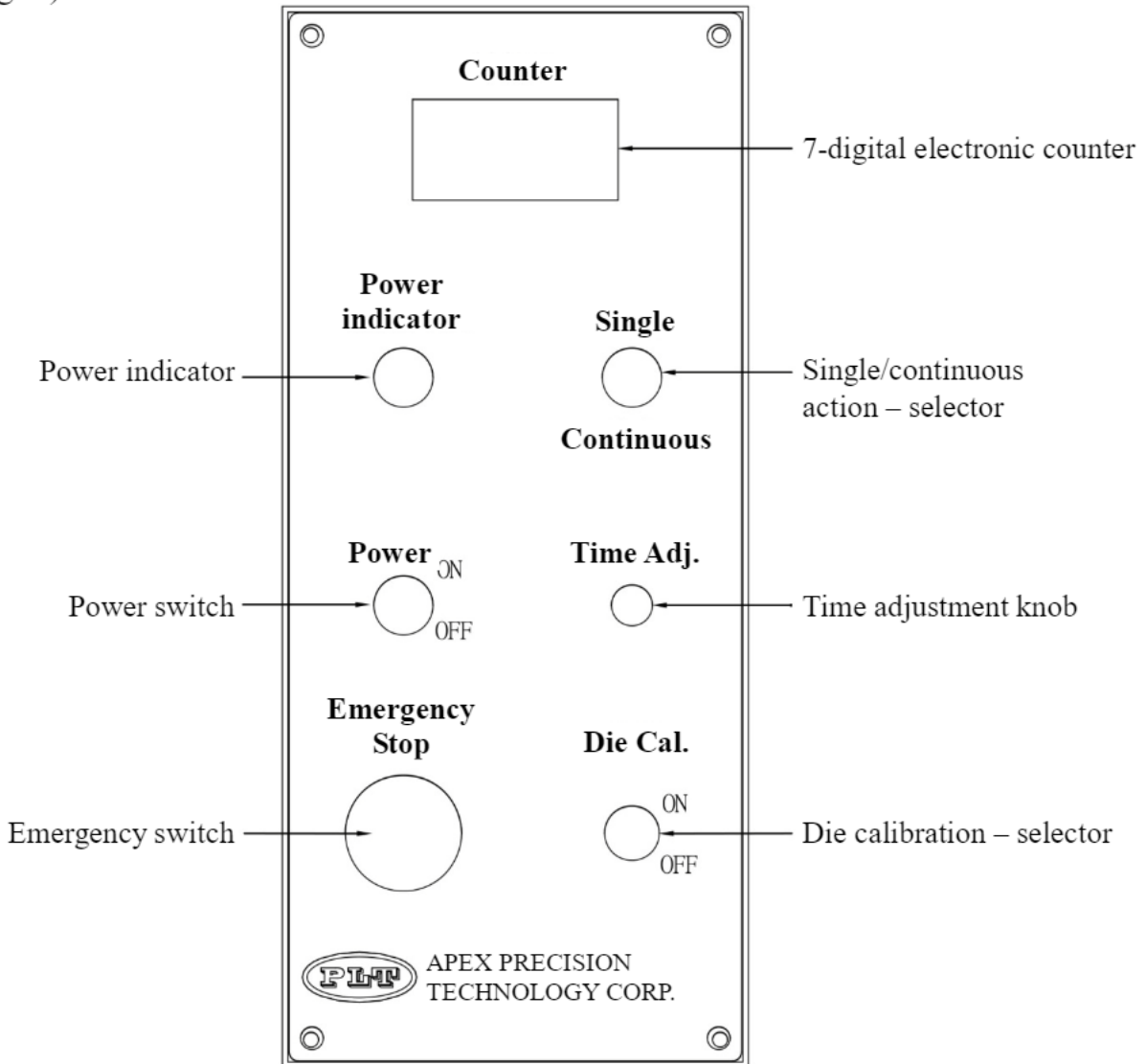
3.7.2 Two types of starter switches are available: 1. foot switch; and 2. hand switch. (Fig. 8-1)

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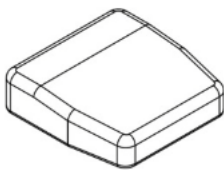


Switch operation: (Fig. 8)

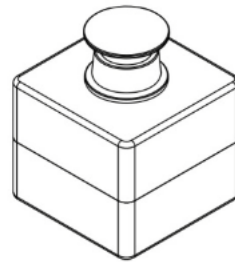
(Fig. 8)



Two types of starter switches Fig (8-1)



(1) Foot switch *2



(2) Hand switch*2

Stroke Adjustable Desktop Precision Punch Operation Manual



Operation of the Machine:

4.1 Single punch operation:

4.1.1 Press the power switch to ON.

4.1.2 Emergency switch is OFF. The motor drive the flywheel to run.

4.1.3 Switch the single/continuous punch selector to Single.

4.1.4 Die Cal. is OFF. The machine is in the standby state.

4.1.5 Both hands press the starter switches simultaneously.

(To ensure the safety, make sure there is no any object in the die and jig before activating the starter switches)

4.1.6 The slide returns to the TDC and stops after the machine finishes one punch.

(The counter counts once automatically when the punch is completed)

4.2 Continuous punch operation:

4.2.1 Press the power switch to ON.

4.2.2 Emergency switch is OFF. The motor drive the flywheel to run.

4.2.3 Switch the single/continuous punch selector to Continuous.

4.2.4 Die Cal. is OFF. The machine is in the standby state.

4.2.5 Both hands press the starter switches simultaneously.

(To ensure the safety, make sure there is no any object in the die and jig before activating the starter switches)

4.2.6 The machine punches continuously.

(The counter counts once automatically when one punch is completed)

4.2.7 To stop punch in the continuous punch mode:

1. Switch the single/continuous punch selector to Single.

Note: (The slide returns to the TDC when a single punch circle is completed and the machine is in the standby state)

2. Press the emergency switch.

Note: (Press the emergency switch in the continuous punch mode to stop all operations)

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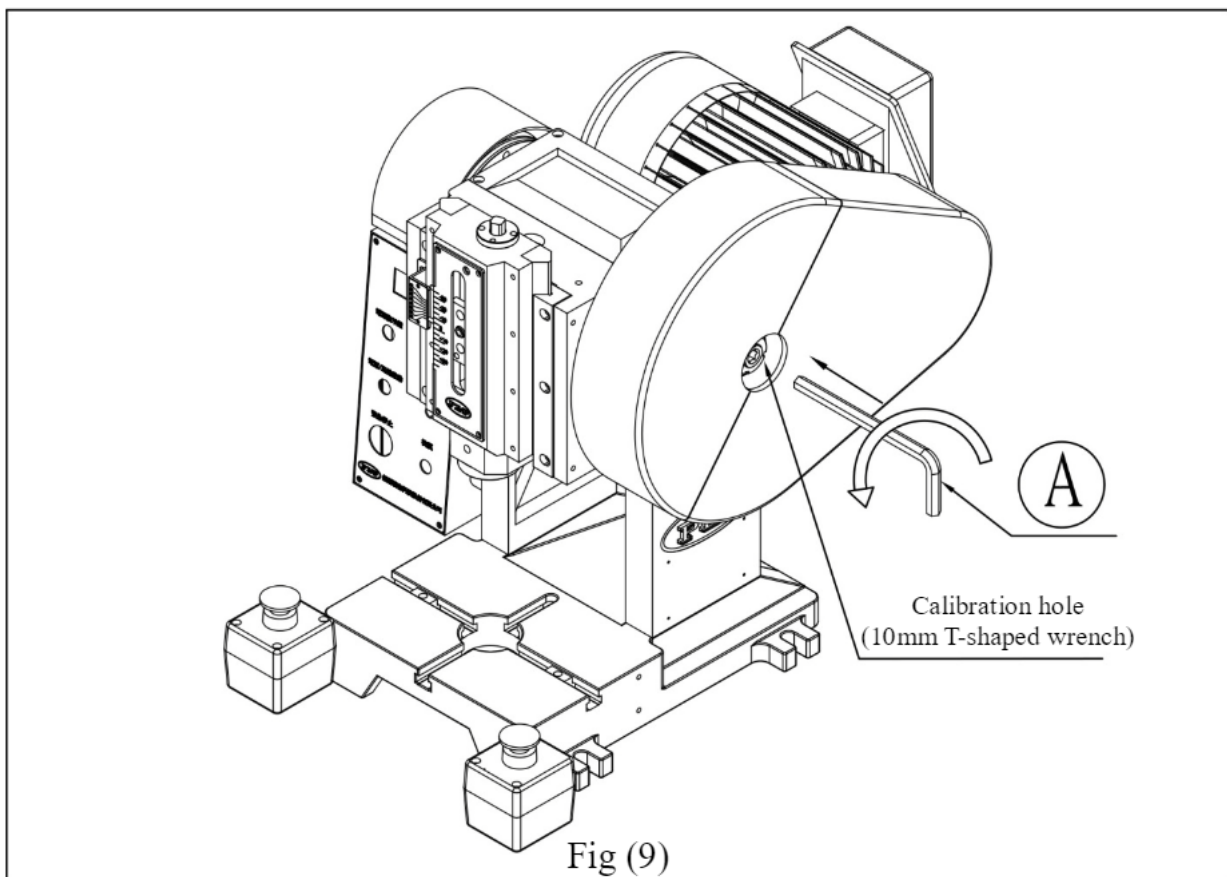


Die Calibration:

Die calibration:

The die calibration function enables the user to simulate punch operation manually during installation of the die to avoid any damage to the die or machine and ensure the operation safety of the user.

- 5.1.1 Press the power switch to ON.
- 5.1.2 Press the emergency switch (ON) to stop the motor.
- 5.1.3 Single/Continuous mode does not affect the calibration.
- 5.1.4 Switch the die calibration selector to ON.
- 5.1.5 Insert the 10mm hexagonal T-shaped wrench (A) in the calibration hole and turn the wrench in the direction as shown in the figure to simulate the punch operation. Fig (9)



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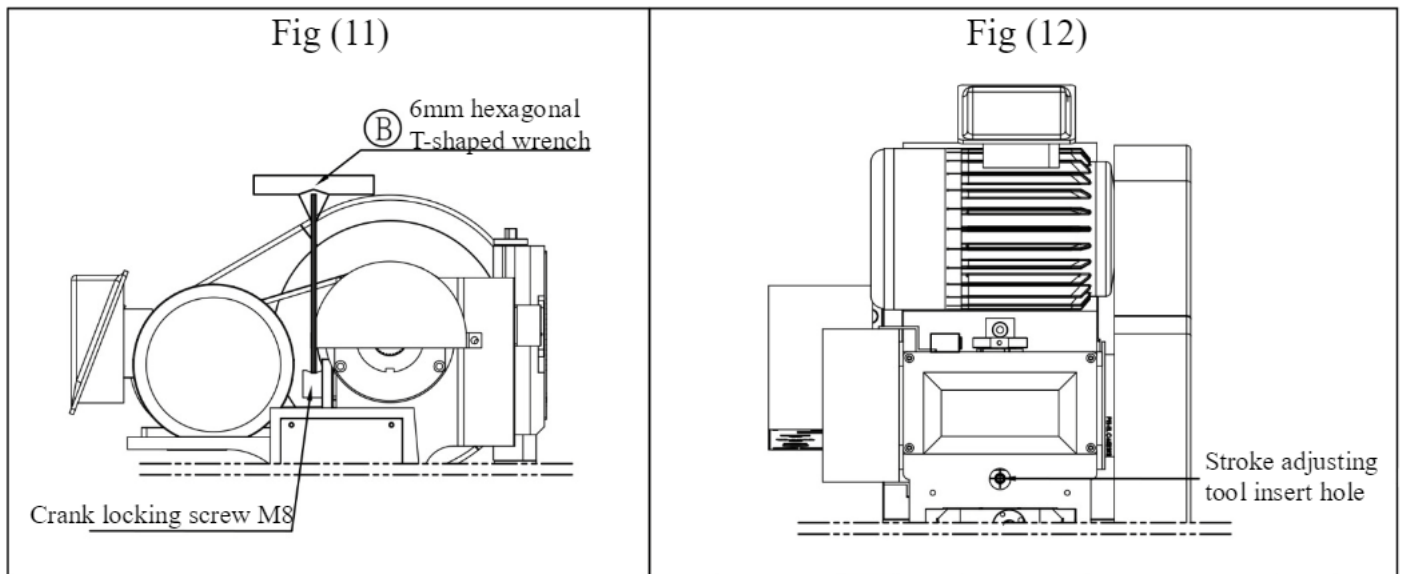


Press Stroke Adjustment:

- 6.1.1 Patented press stroke adjustment range: 25~50mm ◦
The press capacity may change due to adjustment of the press stroke. Refer to Fig (10).
- 6.1.2 Loosen the locking screw of the crank.
Use the 6mm hex T-shaped wrench (B) to loosen the locking screw of the crank.
- 6.1.3 Turn the insert hole cap anti-clockwise to remove the cap. Fig (11)
- 6.1.4 Loosen the adjusting screw nut of the crank. Fig (12) Fig (13)
Use the 17mm T-shaped hexagon socket wrench (C) to loosen the adjusting screw nut of the crank.
- 6.1.5 Turn the adjusting screw of the crank. Fig (14)
Insert the 6mm hex T-shaped wrench (B) in the hex hole of the adjusting screw.
Turn the adjusting screw clockwise to reduce the press stroke distance to a minimum of 25mm.
Turn the adjusting screw anti-clockwise to increase the press stroke distance to a maximum of 50mm.

圖(10)

1	25mm press capacity - 750kgf
2	30mm press capacity - 625kgf
3	35mm press capacity - 535kgf
4	40mm press capacity - 468kgf
5	45mm press capacity - 416kgf
6	50mm press capacity - 375kgf

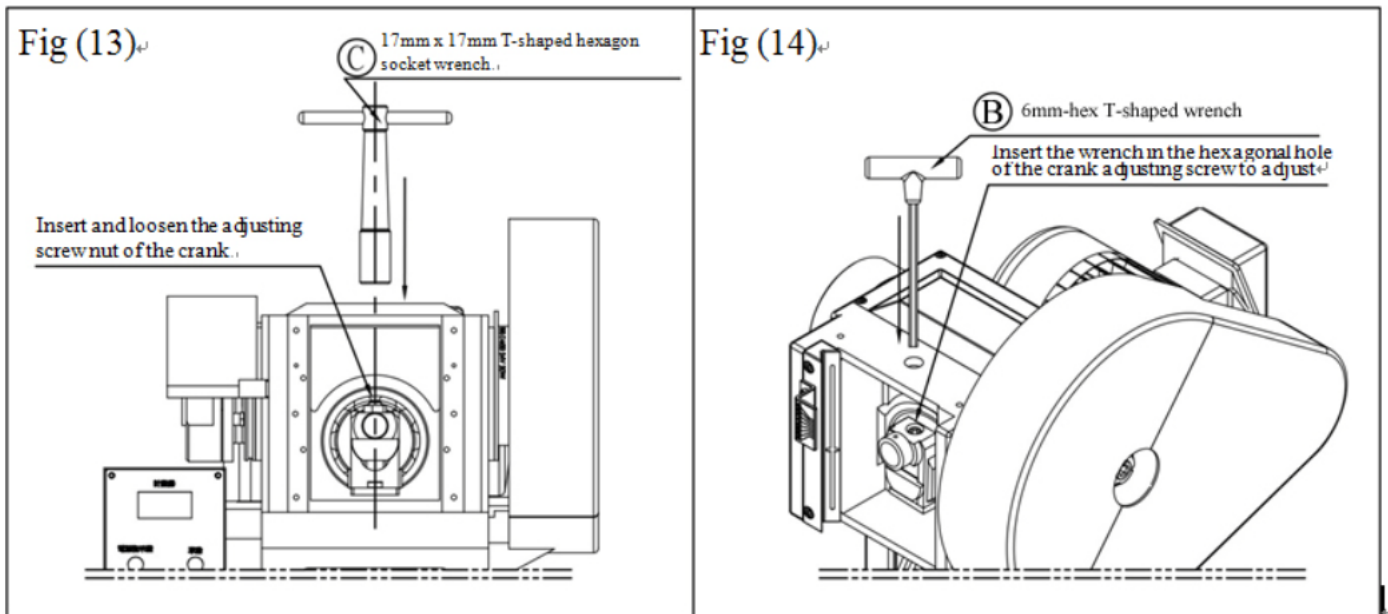


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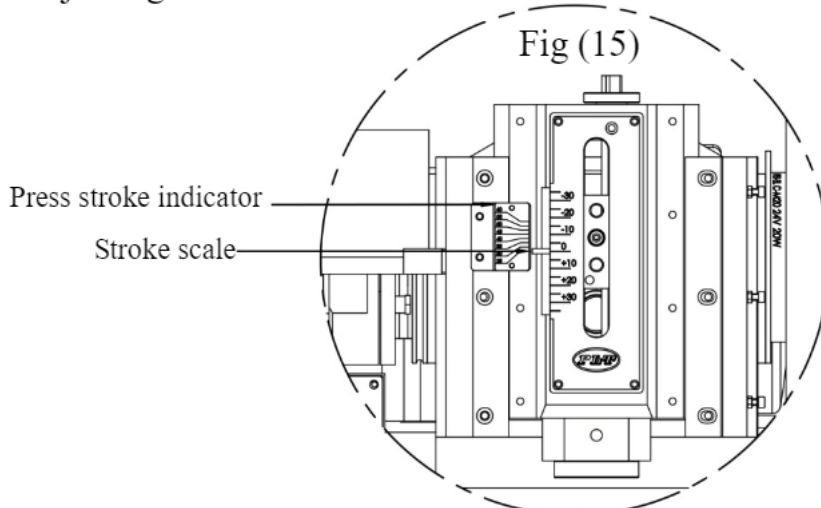
Press Stroke Adjustment:

6.1.6 If the crank locking or adjusting screw is difficult to remove due to the angle, insert the 10mm hex T-shaped wrench (A) to turn the crank in the manual die calibration mode till the crank locking or adjusting screw can be removed easily.



6.1.7 How to know the current stroke distance after adjustment of the press stroke? Insert the tool to turn the transmission shaft in the manual die calibration mode, and the slide moves up and down. When the slide moves to the highest point, the stroke scale the current stroke distance in conjunction with the corresponding indicator. Fig (15)

6.1.8 After the press stroke is adjusted, tighten the locking screw and then the adjusting screw nut of the crank.

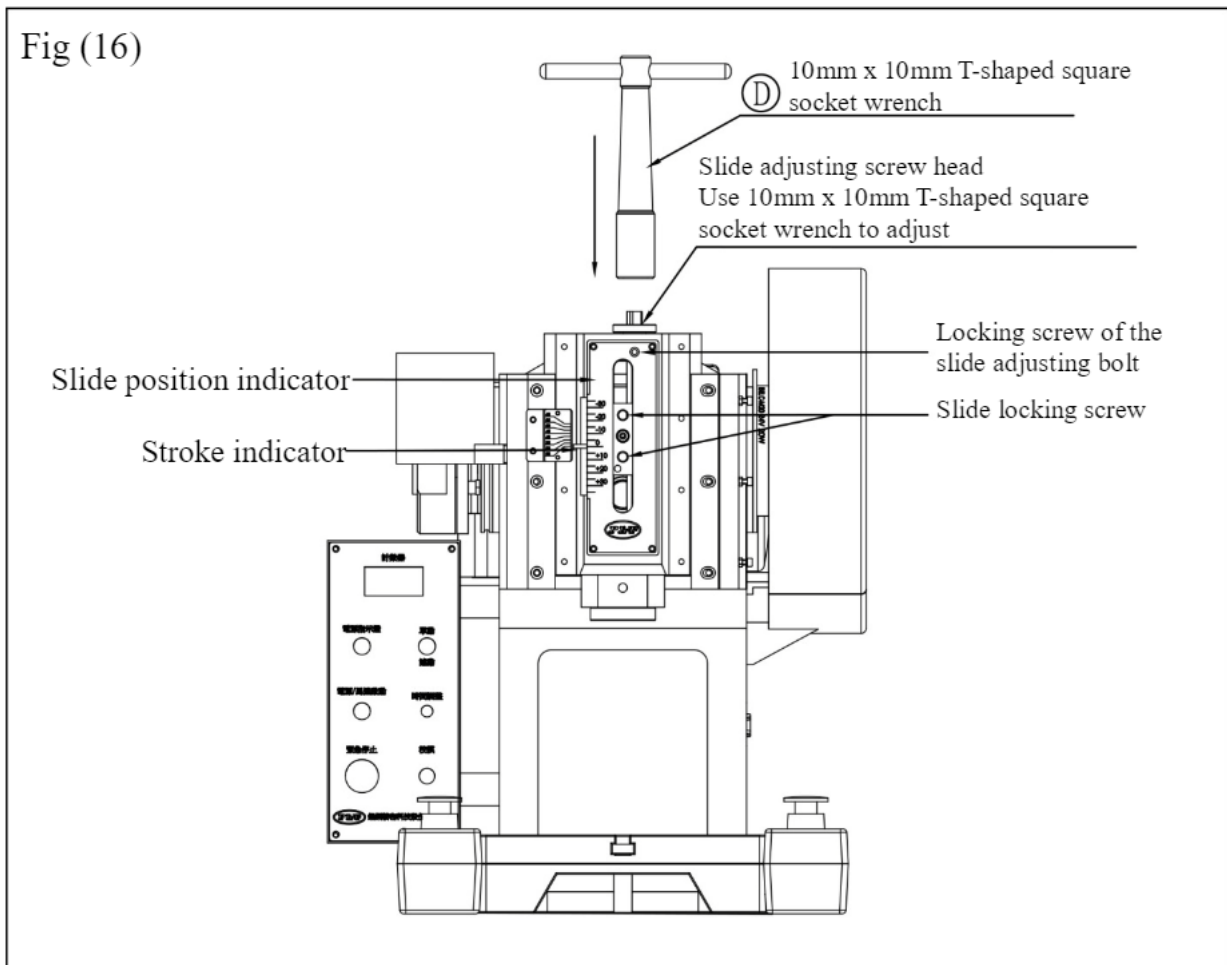


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Slide Position Adjustment:

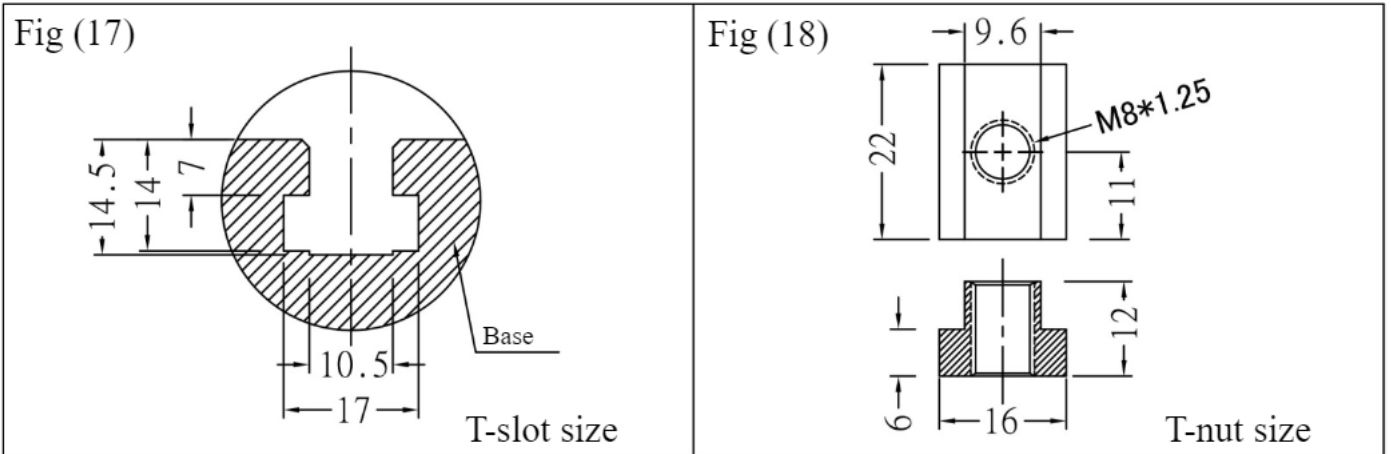
- 7.1.1 Adjustment range: 60mm(+30mm. -30mm).
- 7.1.2 Loosen the locking screw of the slide adjusting bolt.
- 7.1.2 Loosen the slide locking screw.
- 7.1.3 Insert the 10mm x 10mm T-shaped square socket wrench ① in the slide adjusting screw head. Turn the wrench (clockwise upward or anti-clockwise downward) to adjust the position of the slide according to the scale and indicator. Fig (16)
- 7.1.4 After the adjustment is completed, tighten the slide locking screw and then the slide locking screw slide adjusting bolt to ensure that the slide will not move during the punching.



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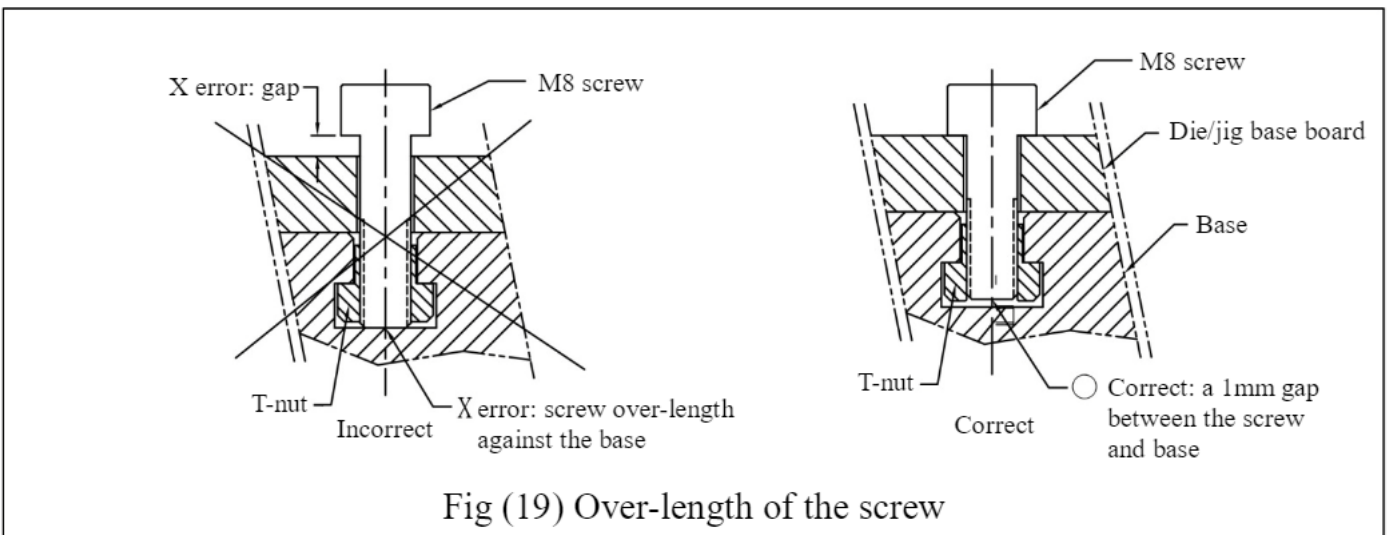


T-Slot and T-Nut Size: Figs (17.18)



6.1. ATTENTIONS for Jig mounting :

- 6.1.1 The screws for the die and jig shall not be too long. Fig (19)
- 6.1.2 At least 2 screws must be available for the die and jig, respectively.
- 6.1.2 When tightening the screws, the surface and the bottom surface of the die and jig base must be smooth and clean.
(Burrs and sands may form dents on the surface).

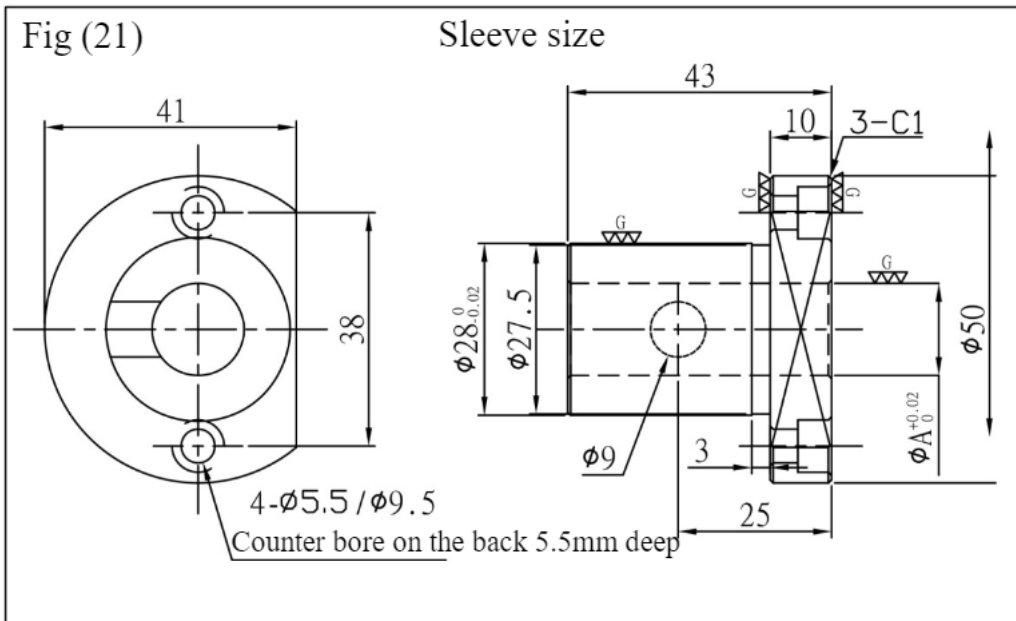
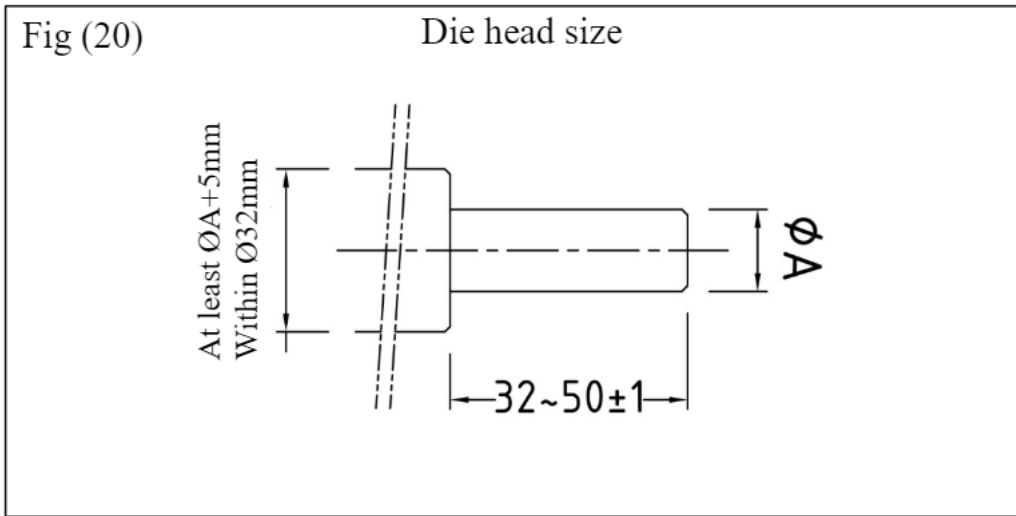


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Die head and sleeve size: Figs (20, 21)

- 9.1 Die head sleeve: A 10mm~20mm (customized or purchase of more sleeves)
- 9.2 The clamping length of the die head shall not be shorter than 32mm or longer than 45mm.
Die head outer diameter: $\varnothing A$ 10mm~20mm.



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Lubrication and maintenance:

Lubrication and maintenance (Refer to Fig. 22 for grease nipples*3PCS)

8.1.1 NLGI-1 grease

8.1.2 Add grease once every 2 hours of continuous operation

8.1.3 Add grease once every day for intermittent punching

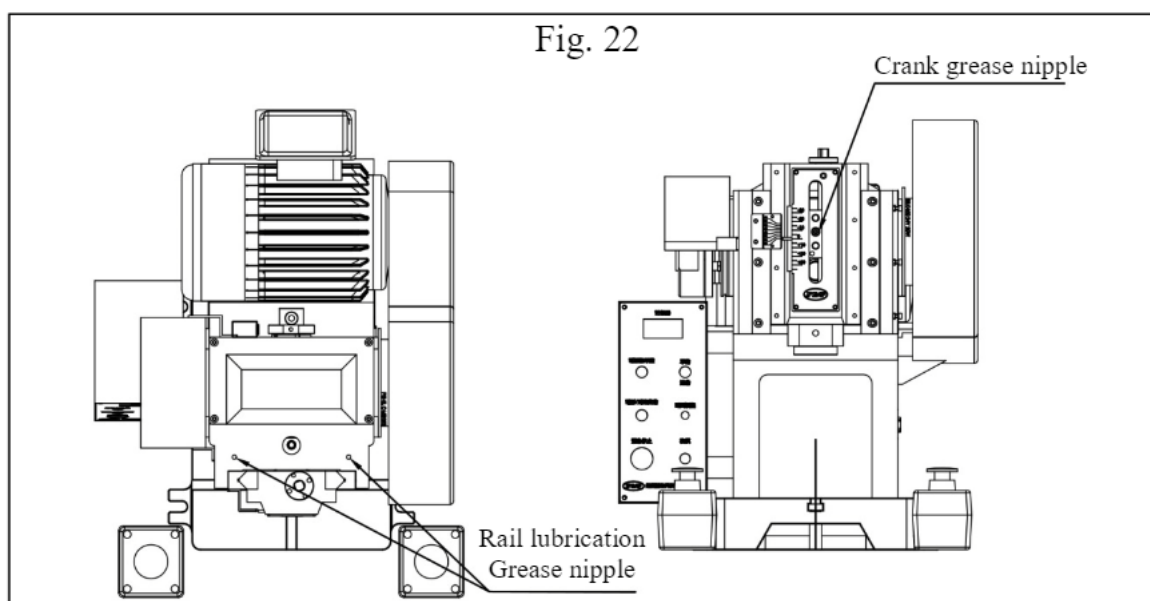
8.2 Maintenance

8.2.1 Don't collide or damage the surface of the base, and no protrusion, dent or rust is allowed.

8.2.2 After use of the machine for regular operation, apply engine oil or antirust oil to the surface, die and jig.

8.2.3 If the machine will not be used for a prolonged period of time, unplug the power cable of the machine.

8.2.4 If the machine will not be used for a prolonged period of time, clean the machine thoroughly and cover it with a plastic bag.



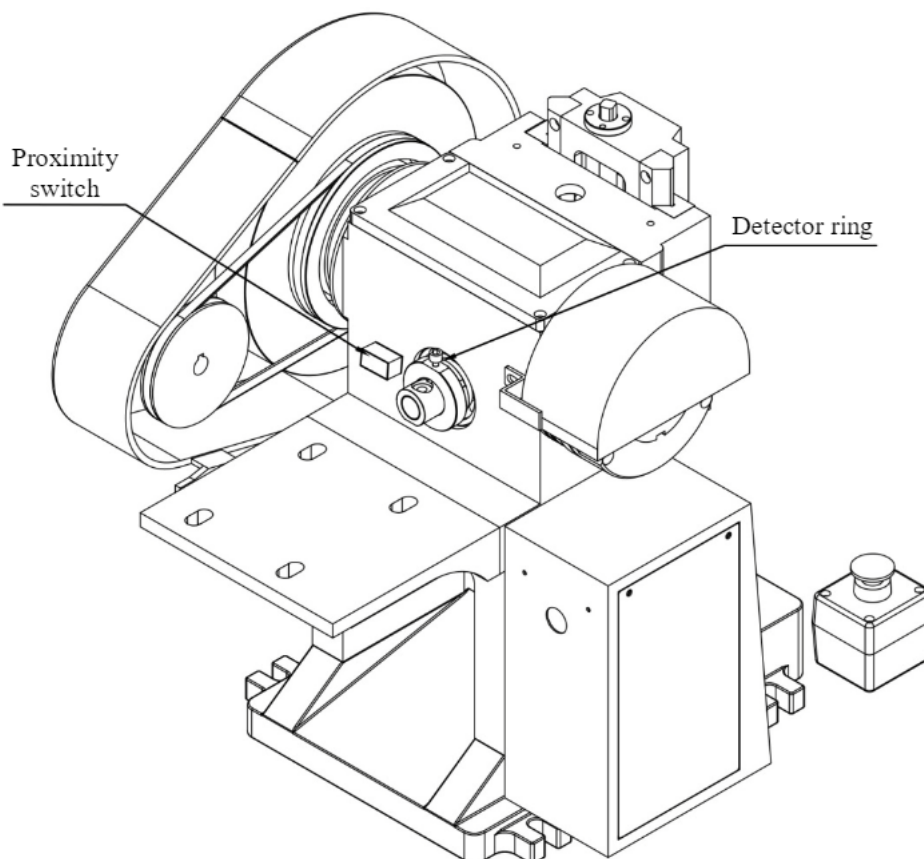
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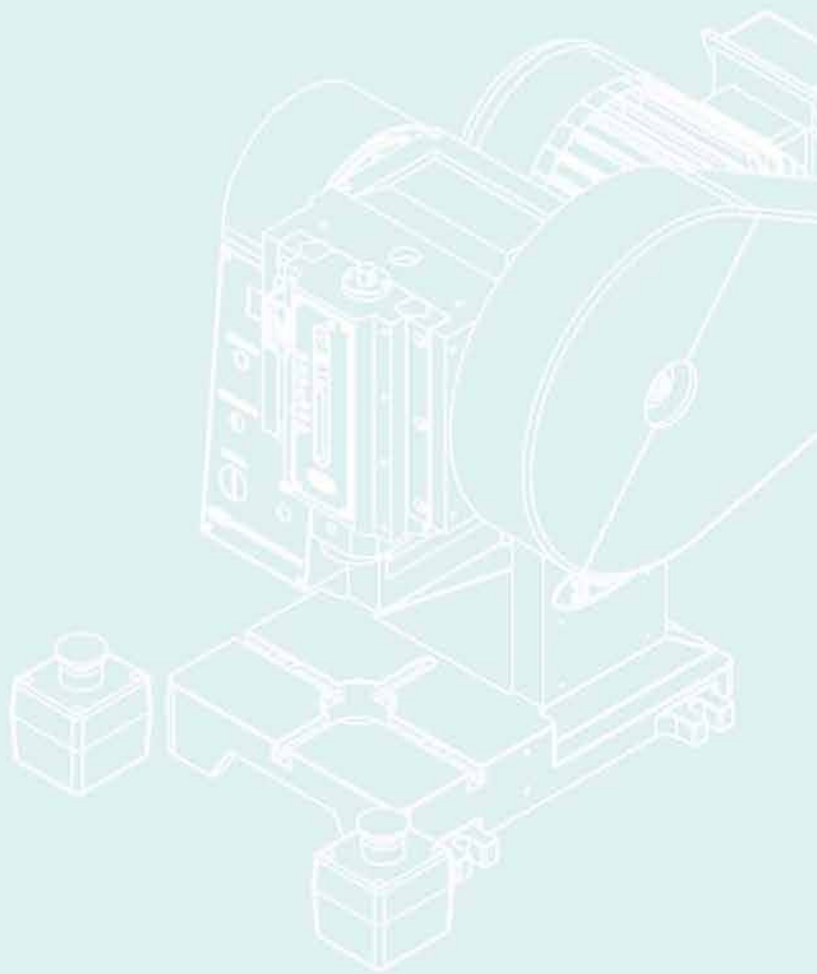


Fine tuning of the slide origin:

- 9.1 Fine tuning of the slide origin Fig (23)
- 9.1.2 There is a M6 screw on the crank for the slide TDC sensing cam.
- 9.1.3 Loosen the screw using the 5mm hex wrench.
- 9.1.4 Turn the detector ring left or right for fine tuning and then tighten the screw.
- 9.1.5 Operate intermittently to make sure the slide stops at the TDC of the origin.
- 9.1.6 If not, repeat the adjustment as mentioned above.
- 9.1.7 The slide stops at the TDC (+0~-8mm).

Fig (23)





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