

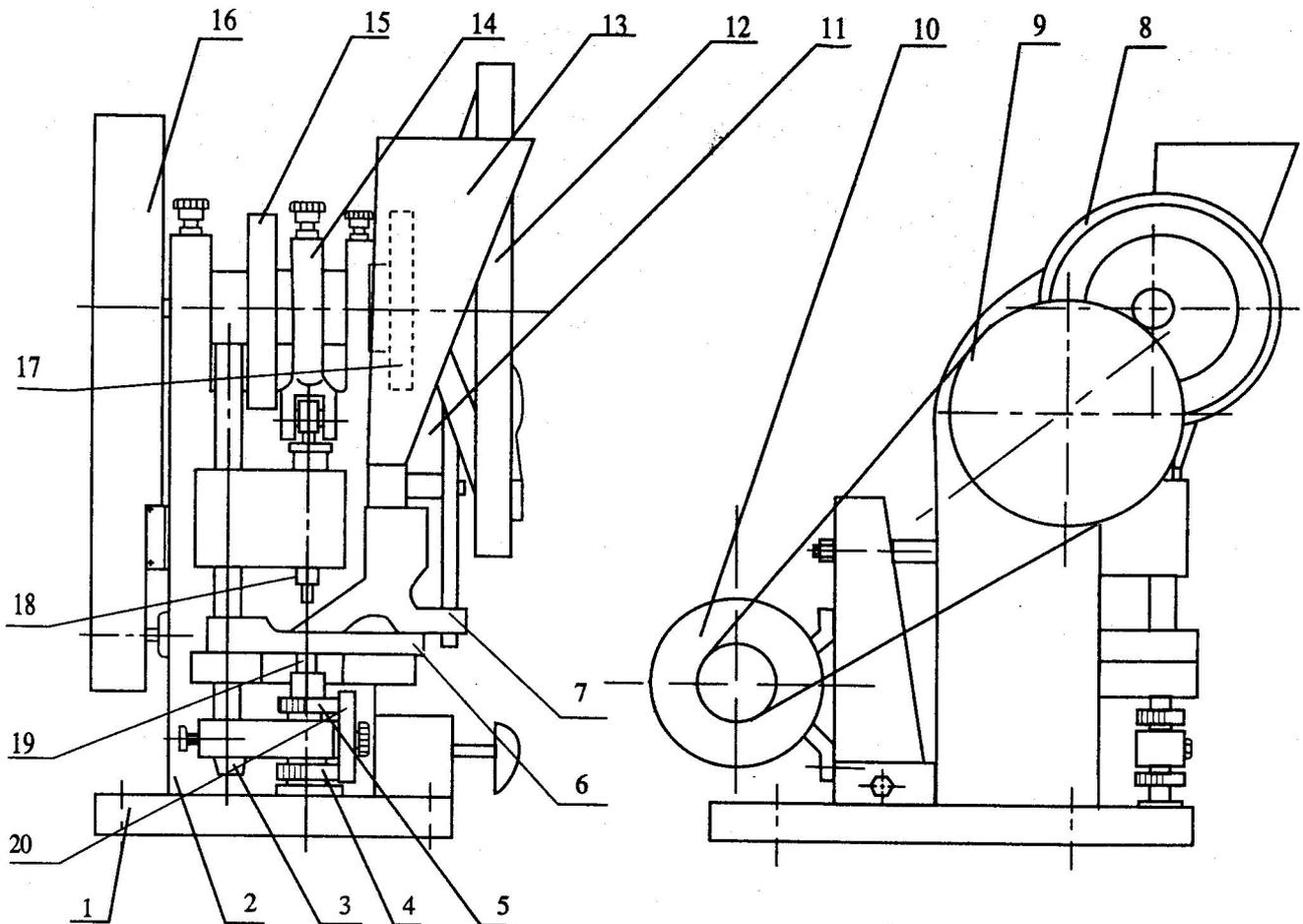
TDP Series Single-punch Press-tablet Machine

TDP-5

Service Manual

A & E LAB (UK) CO.,LTD

SHAPE OF THE MACHINE



- | | | | | |
|--------------------|---------------------|----------------------------|-----------------------------------|--------------------|
| 1.pedestal | 2. adjust gear | 3.butterfly shape nut | 4. lift fork | 5. empastic bolt |
| 6. bedplate | 7. baffle for power | 8. bucket feeder | 9.upper rush | 10. .Up rush rod |
| 11.feeder rod | 12.flywheel | 13. feeder wheel | 14. eccentricity wheel | 15.oil cup(6 gM10) |
| 16. principal axis | 17.belt cover | 18.big gear | 19. little gear (go through axis) | 20. lift pole |
| 21.V-belt | 22. motor | 23. down rush central rod. | | |

I The Application and characteristic

TDP-single punch tablet press machine ,which could press the power material to tablet ,could be widely used in the pharmacy factory ,chemistry factory ,hospital and R & D bureau.

This machine is with good performance ,strong suitability ,simple operation ,easily repair ,small cubage ,light .Even under the conditions or power cut ,hand swing is available .Compare to original TDP model press machine ,it is enlarged the machine intensive and engine power with bigger strength .In the meantime enlarge the filling depth ,hence to expand the specification range of tablet .Therefore this machine can meet the demand of different kinds of Chinese traditional medicine and Western medicine and other similar product's requirement .It's deeply welcomed by our customers in different field.

II technical parameters

No.	Item	TDP-1.5	TDP-5	TDP-6
1	Max .press strength(KN)	15	50	60
2	Max .tablet diameter(mm)	12	20	25
3	Max .filling depth(mm)	12	18	16
4	Productive capacity(Pcs/Hour)	4700	4500	4000
5	Motor power(kw)	0.25	0.55	1.1
6	Turning speed(r/min)	1400	1400	1400
7	Weight (kg)	92.5	125	150
8	Length*Width*Height(mm)	570x380x630	650x440x650	700x500x900

III Installment and connection of the press machine

1. Press-tablet machine should be installed on the wood worktable (as well on the cement table). Use 4 units of M12 bolts to fix it .The high from the worktable surface to ground is around 600mm(consider easily to the operation) . To convenient to disassembly and repair., there should be a hole the diameter around 35mm counter to the bottom of pressure rod.
2. To insure the safety ,connecting ground wire before connecting the power ,and Then remove the triangle belt ,to rolling direction of the operation .(The rotary Direction should be opposed to the arrow direction on the shield or hand wheel.) If the rotary direction were incorrect ,it would connect the line additionally ,and The install the triangle belt.

IV, Assemble and unassembled of the die and adjustment during the operation

1. Assemble of the die
 - A. Assemble the down rush
 - B. Unscrew the fixed bolt ,turn the hand wheel to raise the central rod to the top location and insert the undershoot rod to the hole of the down central rod.(Attention the gap level the gap level aim at the bottom tighten bolt) At last screw the down rush fixed bolt.
 - C. Assemble up rush

Unscrew the fixed bolt ,turn the to up rush rod to the upper hole ,use spanner to lock the upper bolt and screw the fixed bolt.
 - D. Fix the intermediate mould

Unscrew the fixed bolt ,and put the mould into the hole of mould plate ,in the

Meantime insert the rod into the hole .Push it to the bottom of the hole and then Screw the bolt .level the intermediate mould and avoid locking in the plate to damage the orifice.

E. Turn the hand wheel ,let up rush rod slowly drop to orifice .and observe whether there is collision or friction ,and then unscrew the fixed bolts (2) of the fixed plate ,adjust the fixed location of the intermediate mould plate .Let the up rush rod into the orifice of intermediate mould ,and the adjust it till no collision or no friction it can be called qualified installment..

2. The adjustment of the tablet out

Turn the hand wheel to raise the down rush rod to the top point ,observe whether the surface of down rush rod and intermediate mould are on the same level ,if No. unscrew bolt and press plate of gear ,make the surface of down rush rod and intermediate .Next step ,turn hand wheel and make the empty machine run for several circle .If it goes well ,and then you can press some material to try press and continue to adjustment for next step.

3. Adjustment of filling depth (that's the adjustment for the weight of

tablet) .Unscrew the bolt and loose the gear press plate ,left turning the down adjustable gear to raise the down rush rod ,that's reduce the filling depth (lessen the weight of tablet). After adjustment should to install the gear press plate and screw bolt.

4. Pressure adjustment (That's adjustment of hardness of tablet).

Loosen the locked nut and turn up rush rod ,left turning rush rod to move down and then pressure increased ,the hardness of the tablet would be increased .On the

contrary ,right turning would decrease the pressure and lower the hardness of the tablet .After adjustment use the spanner to lock the bottom of the up rush and screw the nut..

Till now ,the adjustment of the die is basically completed ,restart the machine for trial press several tablets to check the weight of the tablet ,hardness and surface etc quality issues .if it's qualified ,you can put into production .During the production ,you can check the quality of the tablet anytime and adjust it immediately.

5. Disassembly of the die.

A. Disassembly of the up rush rod.

Unscrew the fixed nut and pull out the up rush rod .If it's combined very tight ,you can use clamp to pull it out ,but attention to protect the tip of rod.

B. Disassembly of the intermediate mould.

Unscrew the fixed bolt of the intermediate mould and the fixed bolt of down Rush Rod .unscrew the bolt and loosen the gear press plate .Turning adjustable gear to raise the down rush rod and take the intermediate mould out .if the intermediate mould assembled very tight ,so you cannot force turning the hand wheel to protect the parts .At this time you should disassemble the intermediate plate and take the mould out.

C. Disassembly of down rush rod

Unscrew the fixed bolt of down rush rod .and the turning hand wheel to raise the down rush rod to the top point ,you can pull the down rush rod out ,If it's combined very tight ,you can use the clamp to pull it out .(attention to protect

the tip of the rod.)

D. After disassembly of the die ,it's still necessary to adjust the gears .Lower the Down rush rod around 10 mm ,turn the hand wheel to raise the down rush rod to the highest point ,no higher than the bottom of the intermediate mould (This step cannot be ignored, avoiding collision between down rush rod and intermediate mould for next time.) At last screw the fixed bolt of down rush rod.

V .Disassembly and assembly of the main parts

1 .Plate of the intermediate mould.

Disassembly :draw out the fender and take away the hopper .Unscrew the fixed bolt of the hopper machine and the spring ,unscrew the fixed bolt and spring gasket of the plate of intermediate mould ,and then you can take away the plate of intermediate mould .

Assembly : Refer to above contrary turn to go on .Attention correction to avoiding damage the orifice of the hopper when screw the fixed bolt of the hopper.

2.Up rush rod

Disassembly : Unscrew the nuts and turn up rush rods to separate it with follow-move Shaft .Turn hand wheel to raise the eccentric wheel shield to the top point ; Turn the Eccentric wheel to move it upper direction ,and you can draw the up rush rod out of the Orifice of the mould .Assembly please refers to above instruction in counter sequence.

3. Down rush rod

Disassembly : Unscrew the fixed bolt of down rush ,bolt and turn the gear press plate to adjust gear ,lower the down rush rod and take it out from the bottom hole of mould and take it out from the bottom hole of mould .Assembly please refers to above instruction in

counter sequence.

4. Follow-move shaft

Disassembly : Dismantle the up rush rod and the take away the steel gasket on the follow-move shaft ,and this is the follow-move shaft lock , last one you can dismantle is the follow-move shaft.

Assembly :Refer to above instruction in counter sequence.

5. Big belt gear ,small and axel shaft.

Disassembly: Dismantle the triangle belt ,unscrew the right side nut and gasket of the Axle(inside of the machine) .Take the belt out together with small gear and axel shaft ,and the draw the axel shaft out(Big gear belt ,small gear belt and shaft set are a integrative ,normally no need to dismantle separately.)

Assembly :Refer to above instruction in counter sequence .

6. Main shaft

Disassembly : Dismantle the main shaft should be done by 2 persons .Firstly dismantle the big gear's belt ,and the unscrew the nut to take out the lever ,shaft and filler-projecting wheel .(If necessary dismantle the hand wheel and projecting wheel) To dismantle the shield of projecting ,unscrew the bolt and gasket ,hit interior side (non work surface) of the big gear with the wood-hammer ,and hit the shaft and with wood hammer and copper stick ,(Attention to project the shaft and the screw). In the meantime hold the other end of the shaft and the eccentric wheel shield ,dismantle the main shaft step by step.

Assembly : Refer to above instruction in counter sequence.

VI. The lubrication and maintenance of the machine.

1.The lubrication on the friction of each movement part is the key point of maintain the normal operation and prolong the lifetime ,especially before press the tablet all the orifice .oil hole and friction surface should be added the lubrication oil ,and idle running to let all the friction surface fill with oil membrane .And then it could be put into operation .In the future lubrication oil should be injected on time ,but the oil every time cannot be too much to run out and dirty the machine .The injection place and times refer to following chart.

2.Before work to check the bolt loosen or not ,During the operation it's also need to check it ,Any loose should be screw immediately .Main parts are :Fixed nut of up rush rod ,fixed bolt of intermediate mould ,fixed bolt of down rush rod;
Fixed nut of follow-moving rod ,fixed bolt of the following-moving lock;
Fixed nut of lift(2) .bolt ;
Fixed bolts intermediate mould (2)

Injection part and times chart

No	Injection part	Lubrication sort	Times for every shift
1	Oil cup of the orifice on the main shaft	Grease	2-3 times
2	Oil cup of eccentric wheel	Grease	2-3 times
3	Oil cup of axle shaft	Grease	2-3 times
4	Flute on the projecting wheel (that's the flute of the interior side of big gear)	Grease	Wipe off the dirty on the surface of the flute ,and then add grease.
5	Flute on the filler projecting wheel	Grease	See the actual case
6	The gear	Machine oil	See the actual case
7	Oil hole on following-moving rod	Machine oil	Once
8	Bracket point of the lever	Machine oil	Once
9	Surface of up rush rod	Machine oil	2 Times
10	Surface of lift pole	Machine oil	2 Times

3 .Turn hand wheel for trial press medicine before every shift and after work .Switch the

power on if no problem.

- 4 .During operation it must be often checked the quality of die .If any deformity , crack , serious distortion ,it be replaced immediately for fear causing fault to damage the machine the and influence the quality of the medicine.
- 5 .The remaining powder should be taken out after finish the using, clean the machine .If time of stopping using too long ,dismantling the die is necessary ,clean the friction surface and work table of the machine ,coated antirust oil ,and covered a anti-dirty shield .The die should be dip into the oil for preserving.
- 6 .Regularly examine the machine parts ,twice per month.

VII points for attention

1. For first user please refer to the manual carefully and then operate the machine conforming to it.
- 2.The machine will be only turning in confirmed direction (Refer to allow direction on the hand wheel and shield). Cannot be contrary .Especially attention to it while makes the adjustment of pressing tablet.
- 3.Tension adjustment of belt :Adjust it via two adjustable bolt on the machine plant .After adjustment ,attention to screw it.
- 4.While no power swing the hand wheel to press the tablet ,the triangle belt should be dismantled to reduce the resistance and friction .But not the big gear's belt ,it can save labor.
- 5.When power operation should the hand lever be pulled down for fear accident.
6. No matter what is hand operation or power operation ,before startup the up rush rod should be in the action of rising .If it's in the action of descend ,so it would be entered

the intermediate mould to press the medicine .At this time due to the less speed and the small inertia ,it's easier to get termination .(that's the up rush end was terminated by the resistance of the medicine and out of the running .Due to the big load ,it's often damage the machine or destroy the machine)

7. Disposal solution after termination.

i)Once termination taken place during power operation ,should turn off the power immediately for fear destroy the machine.

ii)If the termination is not very serious ,could turn the hand wheel to go through the dead point ,reverse turning is prohibited strictly.

iii)If the termination is very serious ,you should unscrew the locked nut of follow-moving rod and move the up rush rod upwards to release the pressure ,and then turn the hand wheel to push the tablet out .And then re-adjust the hardness of the medicine.

8. During the pressing tablet ,the quality of tablet should be examined often and adjust Anytime (weight ,hardness ,smooth finish etc)

9.Burden technology is impacting on the pressing tablet .For example material and talcum material ,filler ,adhesive etc material would directly influence the quality of the tablet .If it can't form solid most time it's caused by the improper component ,it would damage the machine if in serious case .Hence ,this machine is not used to pressing the semi-solid or wet machine ,or non-particulate power .If during operation there is some problems with the tablet e.g. loose ,several lever ,chip ,crack ,powder etc ,you should check from the side of component ,In addition ,the hardness tablet is not so strong that it has certain tenacity and aseismatic (Normally falls to the ground with 1-1.2m no

collision.)

VIII Frequently appeared fault

No	Sorts	Fault	Reason	Precaution and solution
1	Knock	When up rush rod enter the intermediate mould ,it was terminated ,the machine is stopping operation	<p>1)Too much pressure ,and hardness of tablet is too strong.</p> <p>2)Repeat adding material</p> <p>3)Eccentric wheel shield and main shaft's orifice lacking</p> <p>oil with too big resistance ,worn</p> <p>4)Belt is too loose</p> <p>5)Improper startup location</p>	<p>1)Adjust the pressure little by little .Don't adjust too much for once ,the hardness of tablet also cannot be too strong</p> <p>2)Avoid to repeat material</p> <p>3)Often keep the lubrication .If it goes serious or termination ,it should be immediately disassembly repaired.</p> <p>4)Adjust the belt ,refer to item 3-point of attention.</p> <p>6)when using the hand wheel at the point of lowest and up rush and pass the lowest point must put much pressure on it.</p> <p>7)The disposals for termination please refer to item 7-points of attention.</p>
2	Doesn't work	Common doesn't work Heavy resistance or block off during down rush move upwards	<p>The friction surface lack oil ,dirty ,rusty ,worn out strongly ,cooperation between parts is bad</p> <p>1) Due to rough surface or Have worn ,or improper Adhesive to the surface of rush end and immediate mould increase the resistance of pressure.</p> <p>2) Lift projecting wheel strong worn or have the dirty.</p> <p>3) Improper adjustment .During down rush move upwards ,it touches the intermediate.</p>	<p>Often check the parts ,keep clean and lubricate (refer to No.1-lubrication and maintenance</p> <p>)If there's any abnormal Phenomenon should be immediately repaired for fear getting worse or damage the machine.</p> <p>1)Inspect the die .If there is any slimy medicine ,the die should be repaired or replaced according to the actual situation ,and re-dispose the component of the medicine.</p> <p>2)Inspect the machine ,keep clean and lubrication.</p> <p>3)Attention while adjustment.</p>

3	Vibration	Abnormal vibration	<ol style="list-style-type: none"> 1) parts and belts loosen 2) Strong worn out 3) Oil missing or dirty 	<ol style="list-style-type: none"> 1) Frequently check the machine ,refer to item 2-lubrication and maintenance. 2) Frequently check ,replace worn parts in time. 3) Frequently check the clean and lubrication system of the Friction surface .Especially Attention to the main shaft with bearing the most important load and the friction surface of eccentric wheel.
4	Worn out	The friction surface between main shaft and Orifice worn Out rapidly ,Even burn out	Oil missing or impurity	Frequently keep clean and lubrication .The lubrication oil must be very pure without any impurity.
		Axle and the cover were worn out rapidly	Ditto	Ditto
		Up rush and the cover were worn rapidly.	Ditto	Ditto
		Lift projecting wheel's concave side was worn out rapidly	Besides above reason, <ol style="list-style-type: none"> 1) Improper component ,or roughly surface of the die. 2) Due to the tight connection of lift idler wheel or get rusty. 	<ol style="list-style-type: none"> 1) inspect the die whether there is slimy medicine .and then repair or replace the die or modify the powder component. 2) Dismantle it to repair.
		The surface of the die was worn out rapidly	<ol style="list-style-type: none"> 1) Improper adjustment up rush end and intermediate mould rub each other. 2) Improper component .E.g. Less talcum ,Rough powder 	<ol style="list-style-type: none"> 1) Improper adjustment 2) Re-adjust the component.
5	Material funneled refiller	Broken by touched down rush	<ol style="list-style-type: none"> 1) Improper adjustment down rush is higher than the intermediate mould 2) Fixed bolt of down rush was got loosen ,down rush raised over the intermediate mould. 	When assembling and adjusting the die ,once find out the bolt got loosen ,it should be tightened immediately.

		Broken by touched intermediate mould	Fixed bolt of intermediate mould got loosen ,intermediate mould raised over the plane of the intermediate mould	Ditto
		Broken by touched up rush	1) reverse when adjusting cause hitting. 2) The location of up rush rod is too low ,turning the hand wheel and causing hitting	1) 2) Attention while adjusting
6	Disassembly difficult	Up rush down rush rod or intermediate to mould couldn't be taken out from the orifice	1) Dimension of die or orifice of the pressure machine is unqualified ,combined too tight 2) The worktable is got rusty.	1) If it's combined too tight during the assembly ,it should be adjusted immediately. 2) During the assembly ,clean the surface and coat with oil .if stop using for long time ,the die should be dismantled and kept clean ,and coated with oil for preservation.
7	Double tablet	Press into 1 tablet for twice adding material	During adjusting the medicine ,reverse turning the hand wheel which make the duplicate adding material	During adjustment ,attention to no reverse turning adding the material in repeat ,but not in duplication tablet ,it could be reverse turned the hand wheel slowly ,medicine would be forced out ,got rid of the tablet .if it's already pressed ,please refer to the solution of termination(No.7-points for attention)
8	Jump tablet or shatter	When tablet come out jumping or shatter excessively	1) Improper adjustment down rush end is lower than the surface of intermediate mould ,which makes the tablet jumped or broken 2) Fixed bolt of intermediate mould got loosen ,intermediate mould raised and blocked off the medicine come out	1) Refer to item 2 page 4 2) Adjust the tightness of intermediate mould.

9	Leftover tablet and crack tablet	When the tablet forced out from the intermediate mould ,the circle of the tablet was scraped ,even broken	<ol style="list-style-type: none"> 1) The surface of tablet is not smooth enough or have scraped ,in the meantime due to the improper pressure ,it's often causing broken. 2) Improper component causing slimy medicine ,leftover tablet or have crack. 	<ol style="list-style-type: none"> 1) Replace intermediate mould (remark :if one side of intermediate mould was worn out ,the other side also could be used ,reverse the side.0 2) Re-adjust the component.
10	Not smooth	The surface have some concave of tear off the cover	<ol style="list-style-type: none"> 1) the pressure-rod end is not smooth 2) improper component 	<ol style="list-style-type: none"> 1) Replace the pressure-rod end 2) Re-adjust the component.
11	Tablet loosen		<ol style="list-style-type: none"> 1) the pressure is not big enough. 2) Improper component. 	<ol style="list-style-type: none"> 1) adjust the pressure 2) Re-adjust the component.
12	Unsteady weight	The discrepancy of tablet is too much	<ol style="list-style-type: none"> 1) Fixed bolt of down rush rod was got loosen ,down rush rod end lifted ,reduce the filler volume. 2) Butterfly bolt was got loosen ,turning bottom adjustable wheel to change the filler volume. 	<ol style="list-style-type: none"> 1) Press the down rush end to the bottom ,screw the fixed bolt of down rush rod. 2) Readjust the tightness. 3) Attention to the medicine component ,especially to the cracked medicine that for new pressure.

A & E LAB (UK) CO.,LTD
E-MAIL: SALES@UKAELAB.COM
WEBSITE: WWW.UKAELAB.COM