

# AT-10

## Portable Automatic Screw driving machine Operation MANUAL



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# AT-10 OPERATION MANUAL

## Indix

1、Profile.....	2
2、Items check .....	2
3、Safety .....	2
4、Specification .....	4
5、Description.....	5
6、Installation.....	6
7、Parameter adjustment .....	7
8、Preparation.....	7
9、Tryout.....	8
10、Trouble shooting .....	8
11、Maintenance.....	10
12、Attachment .....	11

## 1. Profile

AT-10 portable automatic screw driving machine , it's designed not only focus on speed stability and convenience to exempt traditional trouble with hand collection screws but improving screw driving fast to reduce the artificial cost , raise the production efficiency by electric screwdriver 、 high-tech automatic feeding machine and high precision nosepiece. Moreover it's suitable in the 110~220VAC universal power source and available on diameter M1.4 ~ M2.6 , length 3~8 mm screws , the volume small does not occupy the space that it will bring up the production flexibility.

## 2. Items check

	Description	Q'ty	Remark
1	10F (feeding machine)	1 unit	
2	D1(electric screwdriver set)	1 set	
3	Power cord	1 pcs	
4	Air control unit	1 pcs	
5	Screw bit	10 pcs	
6	Operation manual	1 volume	

## 3. Safty



**【prohibition】** If has not observed may result in fire ,  
shock hazard and death or serious injury.



**【caution】** If has not observed may result in property damage,  
shock hazard and personal injury.



Observes in the manual items and correct operating the machine.

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Prohibits strictly disassembly or re-equipping the machine.

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Prohibits strictly water or oil pollute the machine.

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Do not lay aside in not stable stand to work.

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Don't connect to power source over or less  $110\sim 220\pm 10\%$  VAC.

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Pull out the plug immediately when the machine was dropped down, burnt or wet and contact your distributor.

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Have any damage occurred, contact us for repairs immediately.

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Use assigns the power cord.

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Pull out the power cord if does not use for a long time.

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Don't put irregular screws into the tank.

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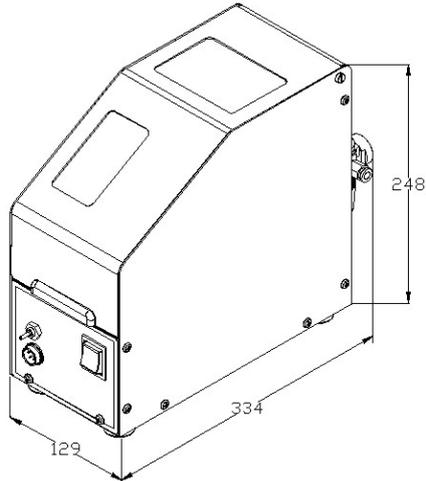
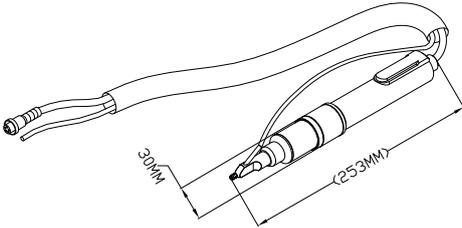
By all means must periodic maintenance machine.

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## 4. Specification

### (1). Outline

Model No.	Components No.	Dimension
AT-10	10F (Screw feeder)	
	D1 (Electric screwdriver set)	

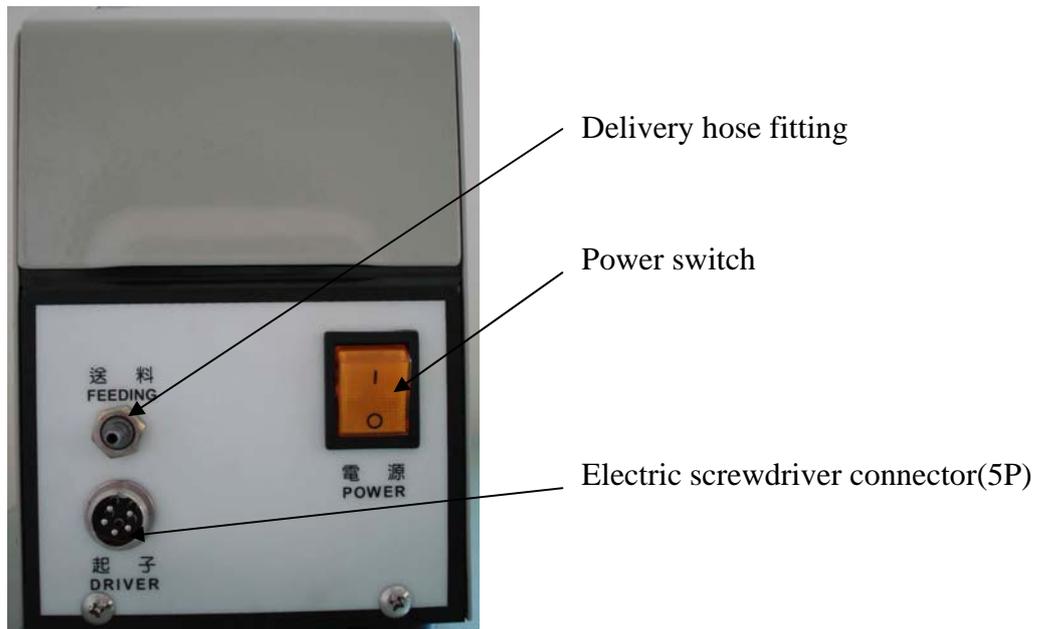
### (2). Operating Condition

Items/model name	AT-10
Power source	110V~220V AC $\pm$ 10%
Air pressure	5.5( $\pm$ 0.5)kg/cm <sup>2</sup>
Temperature	0 ~ +40°C

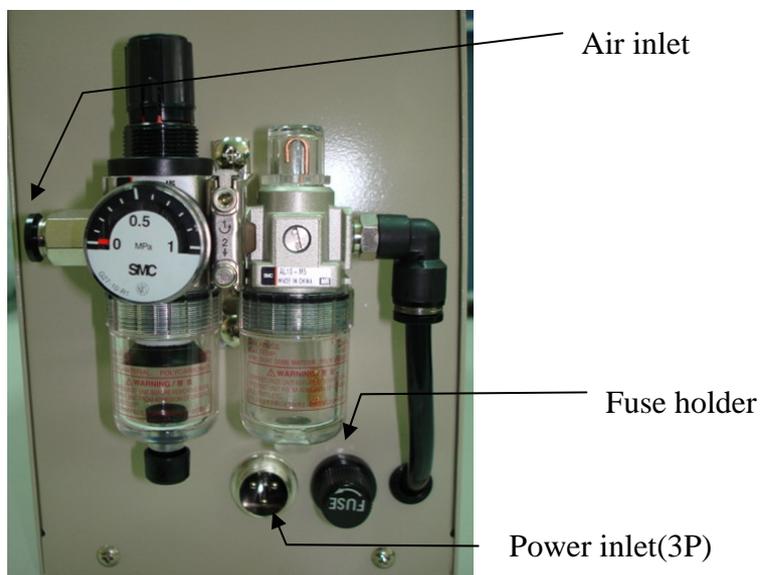
### (3). Weight

Item/model name	10F	D1
Weight(kg)	5.2kg	0.6kg

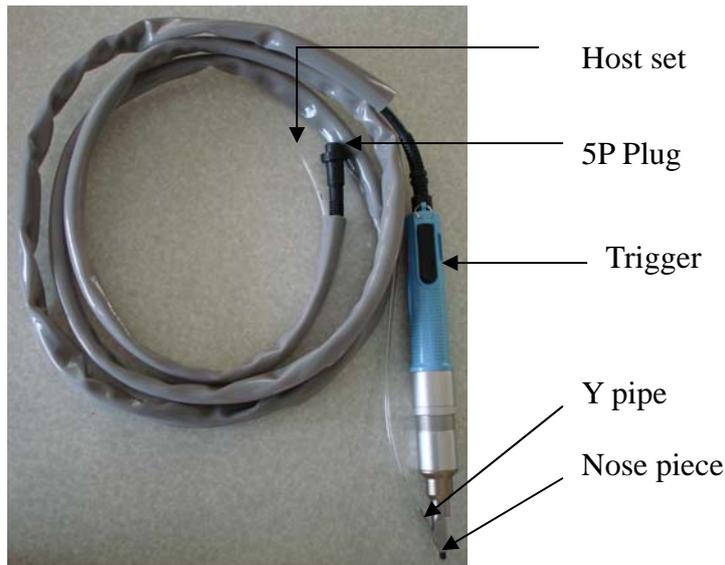
## 5. Description



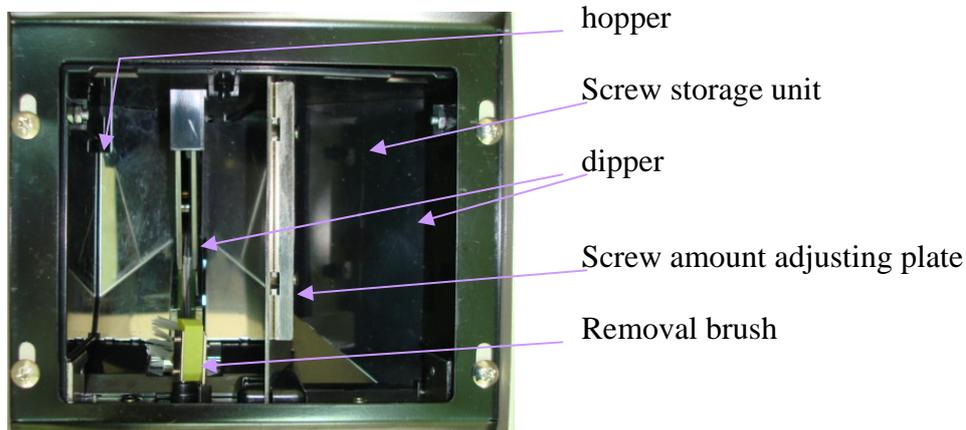
Front view of feeding machine (dwg.1)



Back view of feeding machine (dwg.2)



Electric screwdriver set (dwg.3)



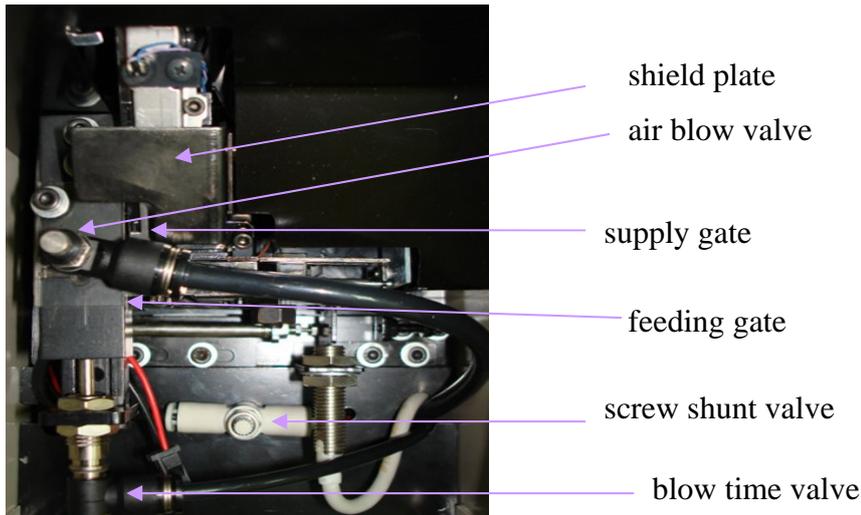
Hopper(dwg.4)

## 6. Installation order

- (1). Check out the object in the packing box first and then take out the feeding machine and electric screwdriver set from packing box carefully and put on stand regularly.
- (2). Insert the 5P plug of the screwdriver set into the 5P connector on the front of feeding machine and turn the fitting completely. (Caution : Prevent to short-circuit 、 align the guide notch of 5P plug with the convex point of 5P connector accurately). (rif.dwg1,3)
- (3). Connect the feeding tube of electric screwdriver set to the delivery hose fitting on the feeding machine and tightening it.
- (4). Connect the hose set to the air inlet on the back of feeding machine and then tightening it. (rif.dwg2)

- (5). Insert the 3P plug of power cord into the 3P connector on the back of feeding machine and turn the fitting completely.  
( Caution : Prevent to short-circuit 、 set power switch off and align the guide notch of 3P plug with the convex point of 3P connector accurately) then end of installation.

## 7. Parameter adjustment



Back view of feeding machine (dwg.5)

- (1). Adjust a round bolt head with hand on the air blow valve to ensure that the air flow strength is enough to blow the screw to the nose piece smoothly because the air flow strength is according to the pipe length but over air flow will be prohibited.
- (2). Doesn't adjust a round bolt head with hand on the blow time valve if the feeding speed is working on normal.
- (3). Adjust a round bolt head with hand on the screw shunt valve to ensure that the air flow speed is enough to blow the screw to the nose piece smoothly. If the speed is too quick cause screws drop down and can't to the nose piece.

## 8. Check before testing

- (1). Correctly install and connect each items according to installation order.
- (2). Correctly insert all power 、 signal and hose set plugs.
- (3). Check the air pressure is 5~6kg/cm<sup>2</sup> .

- (4). Check the oil level of air control unit is about 80% occupied.
- (5). Check the power source is 110~220 VAC.
- (6). Check the hopper interior does have any remaining dust or screws.

## 9. Testing

- (1). Check all preparatory of installation and before testing items has been completed.
- (2). Load screw into hopper.
- (3). Turn power switch on.
- (4). Wait the screw to fall in a row of full rail track , the dipper will be automatic stop swing. (If need , knock gently the shield plate to accelerate fall in.)
- (5). Hold the driver unit and press the trigger twice continuously , a screw will be fed through a flexible feed tube to the nose piece. (Press the Y-pipe manually before this operation to withdraw the remaining screw.)  
Remark : Press Y-pipe slightly to limitary stop by hand to withdraw the screw .
- (6). Align the screw at the nose piece with the screw hole of work piece then press the trigger, a screw will be fed through a flexible feed tube to the nose piece and turn the screw into the work piece. Once the preset torque has been reached , the driver motor switches off then release the driver trigger and raises the driver, the next screw will be fed automatically.
- (7). Repeat step NO. 6 then the cycle will start again.

## 10. Troubleshooting

- (1). The screw are not reaching the nose piece.  
ANS : A. Check whether the screw has jammed in the nose piece or the air hose whether to fall off.  
B. Check and adjust the air blast valve to ensure the air flow is enough to feed the screw to the nose piece.  
C. Check whether the screw has jammed in the rail track or the head regulating plate. If yes, raise the head regulating plate first and reorganize the screw then readjust the head regulating plate again to the normal position.  
D. Check whether screws lack, if yes, make up it.  
E. Withdraw the remaining screw from the nose piece by manual first and press the trigger twice continuously, the screw will be fed to the nose piece if all above items were clearance.

(2). Supply gate was blocked up

ANS: Check whether screws mixture or turn over.

If is normal, withdraw the remaining screw from the nose piece by manual first and press the trigger twice continuously, the screw will be fed to the nose piece.

(3). Feeding gate was blocked up

ANS: Loosen the hexagon head screw then take the clamp governor valve with pin cylinder, clamp slide and spring out. Assemble it in order after cleaning the nipple from track of slide by air gun.

(4). Nose piece of electric screwdriver set was blocked up

ANS: Wipe feeding hose of electric screwdriver set out and stand the electric screwdriver set then pour screws out.

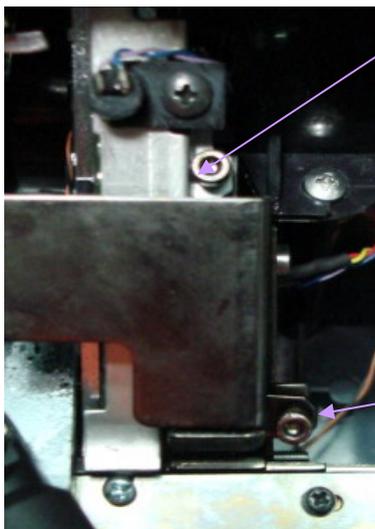
If is unable to pour out, wipe feeding hose of the Y-pipe out and pour screws from the Y-pipe.

(5). The machine has not acted

ANS: A. Inspect power cord plug and air hose whether was inserted or loosened.

B. Inspect whether power switch on and power pilot lamp does have bright or fuse has been opened.

C. Inspect whether machine does have any spot damage.



Adjusting bolt (dwg.6)

Adjusting bolt for delivery side head regulating plate  
Adjust this bolt with 2mm hex. wrench to control height of the delivery side head regulating plate. If the plate is excessively low that it will catch the screw. On the contrary, if the plate is excessively high that it will let uneven screws run into the rail track and block the track.

Adjusting bolt for delivery side head regulating plate  
Adjust this bolt with 2mm hex. wrench to control height of the delivery side head regulating plate, If the plate is excessively low that it will catch the screw. On the contrary, if the plate is excessively high that it will let uneven screws run into the rail track and block the track.

(6). The rail track feeding is not smooth

ANS: A. Inspect whether the rail track does smear or damage.

If yes, cleaning the dirt with cotton swab first then smear thin lubricating oil WD-40 on.

B. Inspect whether the head regulating plate is lower to suppress screws. If yes, raising the head regulating plate up but should not be too high and should not contact screws as the principle.

C. If has damaged, please return to us for repair.

(7). If has not been able to solve problems, please contact us as fast as possible.

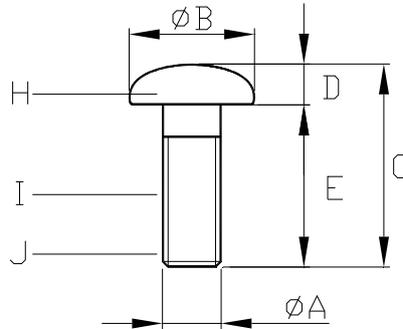
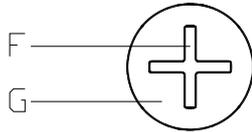
## 11. Maintenance

- (1). Clean the feeding unit and rail track by air gun once a day.
- (2). Clean the hopper interior once a week. Remove any remaining nipple and dust.
- (3). Regular inspection and clean the rail track with cotton swab and smear the rail track with lubricating oil WD-40.
- (4). Regular inspection bit in order to prevent idle screw driving.
- (5). Turn off the power switch when operation finished.

## 12.Attachment

### AT-10 Application Standard

#### 1. Screw dimension



#### 2. Content

symbol	description	availabil range	work	feasibility
A	thread diameter	$1.4 \leq A \leq 2.6$		
B	head diameter	$1.3A \leq B \leq 4.5$		
C	total length	$B+2 \leq C \leq 11$		
D	screwhead length	$0.4 \leq D \leq 2$		
E	lead thread length	$2.5 \leq E \leq 9$		
F	slot type	1.  2.  3.  4.  5. 		
G	surface treatment	1.plating 2.black dyed 3.electroforming 4.coating 5.none		
H	head type	1.  2.  3.  4. 		
I	pitch			
J	nail type	1.Machine screw  2.Tapping screw 		