



#0634 & #0635

# DIGITAL AUTO-CLAMP W/PRESSURE CONTROLLER



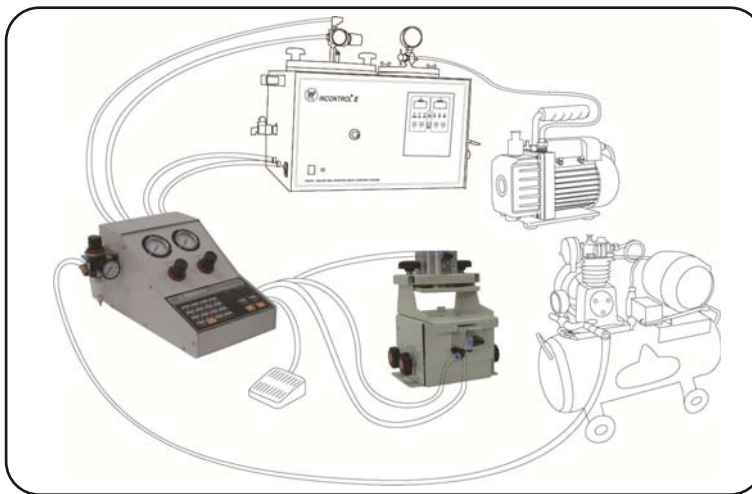
ONLINE SHOP  
QR CODE



24HR SERVICE  
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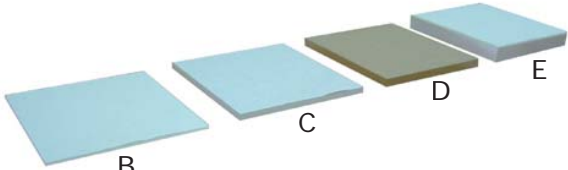
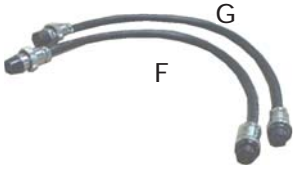






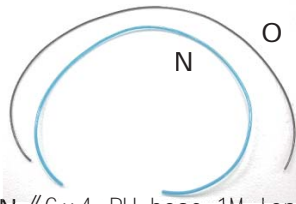

## SPECIFICATION

	0634	0635
Power	120V / 1A	240V / 0.5A
Maximum air pressure	70 psi (5 kg)	
Control console (main machine) Dimension	8 1/4" (W) x 13 1/2" (D) x 7 1/2" (H) (210 x 345 x 190 mm)	
Control console (main machine) Weight	7.0 kg	
Auto clamp mechanism Dimension	6 1/4" (W) x 7" (D) x 8 1/4" (H) (160 x 180 x 210 mm)	
Auto clamp mechanism Weight	3.0 kg	
Shipping weight	14.5 kg	



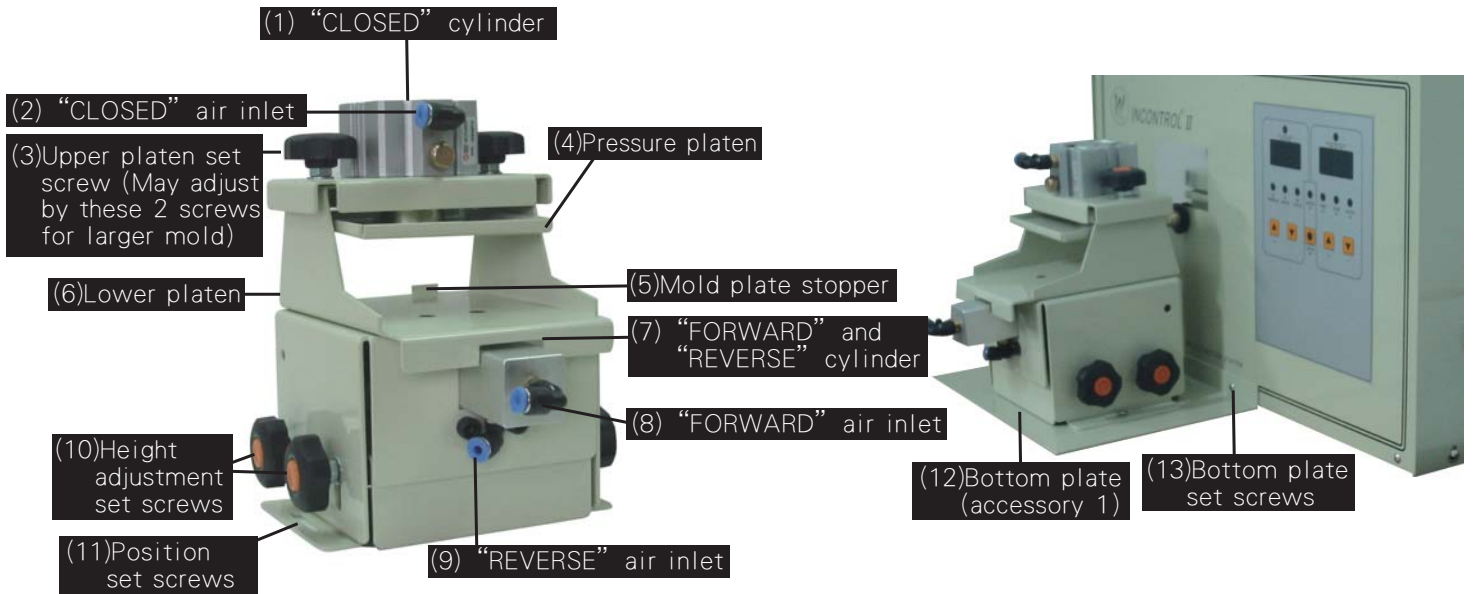
※NOTE : Air compressor and vacuum pump are not included.

## ACCESSORIES

 <p><b>A</b> 《Bottom plate (No. 0610-041-1) X1》</p>	<p><b>B</b> 《104x110x2 mm Acrylic plate (No. 0610-049) x2》  <b>C</b> 《104x110x5 mm Acrylic plate (No. 0610-046) x2》  <b>D</b> 《104x110x8 mm Acrylic plate (No. 0610-045) x2》  <b>E</b> 《104x110x13 mm Acrylic plate (No. 0610-075) x1》</p> 	 <p><b>F</b> 《2-PIN connector cable (No. 0610-050A)》  <b>G</b> 《3-PIN connector cable (No. 0610-050B)》</p>	
 <p><b>H</b> 《Elbow connector (No. 0610-009)》</p>	 <p><b>I</b> 《Elbow connector (No. 0610-022)》</p>	 <p><b>J</b> 《Elbow connector (PU hose φ 8 use) (No. 0610-069)》</p>	 <p><b>K</b> 《1/4" PT Connector (No. 0625-035)》</p>
 <p><b>L</b> 《Half round head screws (No. YSC-089) x2》</p>	 <p><b>M</b> 《M3 x 12 Round head screw (bottom plate and incontrol set screws) (No. YSC-189) x2》</p>	 <p><b>N</b> 《6x4 PU hose 1M long (No. 0625-022)》  <b>O</b> 《4x2 PU hose 1M long (No. 0610-058-1)》</p>	 <p><b>P</b> 《38x14x5mm Acrylic plate (No. 0610-048) x2》  <b>Q</b> 《70x14x5mm Acrylic plate (No. 0610-047) x4》</p>

**PARTS NAME**

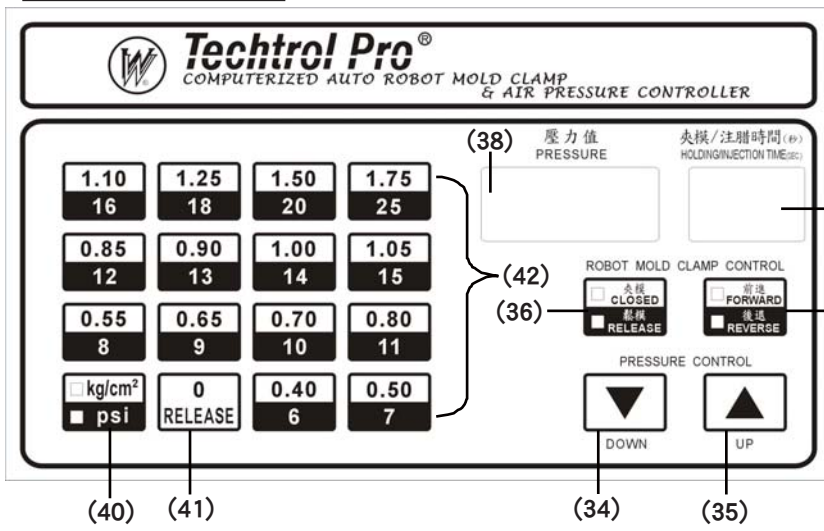
《Auto clamp mechanism》



《Control console》



## CONTROL PANEL



DOWN  
(34)

: Reduce pressure, time or switch to holding time adjustment. Press 3 sec. LED light on to adjust holding time.



UP  
(35)

: Increase pressure or time.



(36)

: Manual CLOSED / RELEASE button.



(37)

: Manual FORWARD / REVERSE button.



(40)

: 1st./2nd. Pressure and Unit toggle button. Push the button 3 seconds to change 1st./2nd. Pressure. Touch the button once to change unit (Kg/cm<sup>2</sup> and psi).



1st./2nd. By pressing button for 3 seconds and change from single pressure injection to double pressure injection or press at same again to return from double pressure injection back to single pressure injection work.



(41)

: Pressure release button. Press this button to release pressure. Users may use this button to release pressure after work.



(42): Injection pressure setting button.

壓力值  
PRESSURE  
(38)

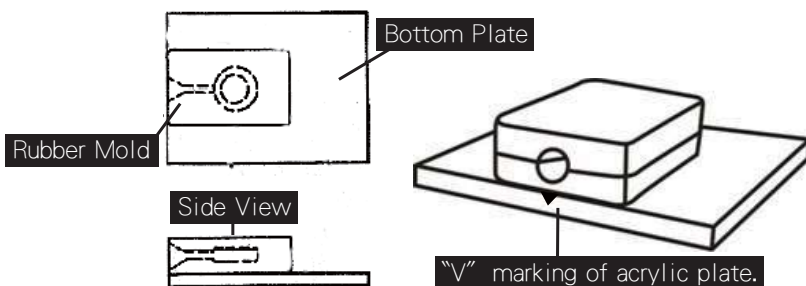
: Pressure for injection.

夾模/注腊時間(秒)  
HOLDING/INJECTION TIME(SEC)  
(39)

: Holding time. Factory default "2" seconds.

## HOW TO USE ACRYLIC PLATE :

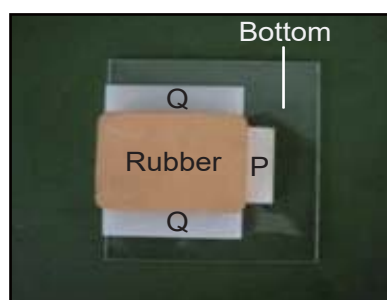
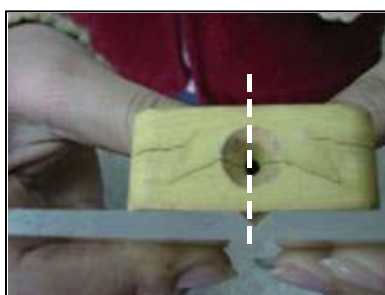
- From accessories pack, select suitable acrylic plates as a bottom plate. The pack contains 2 pcs 8 mm thickness acrylic plates, 2 pcs 5 mm thickness acrylic plates, 2 pcs 2 mm thickness acrylic plates to be used as bottom plate for user's different thickness of rubber molds. Three different thicknesses of bottom plates are provided to help to align the mold sprue-hole with the injection nozzle. Use the thicker bottom plate for thinner molds, and the thinner plate for thicker molds.
- Be sure to align the center of your sprue hole with the center "V" marking of acrylic plate.



## MAKING ACRYLIC MOLD JIG :

※If you need, please use special accessories to make mold jig as follow.

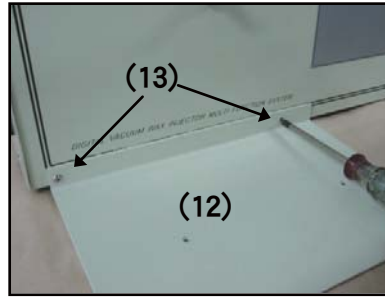
Place the center of the sprue hole of your rubber mold aim with the center of the acrylic plate. Put acrylic plate (accessories (P) 、(Q)) beside the mold. Use quick bond adhesive to bond acrylic together.



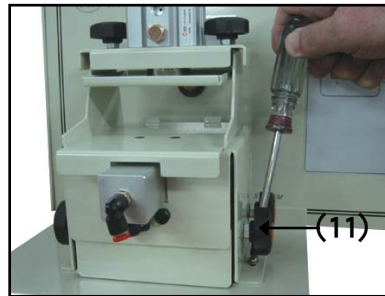
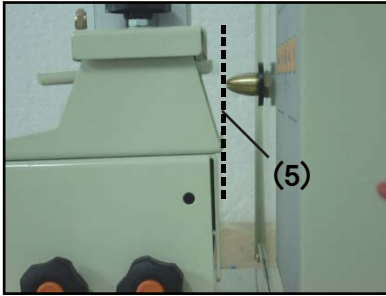
※Remark: Clearance of 0.5mm between plates and rubber mold is recommended

## SET UP INSTRUCTIONS :

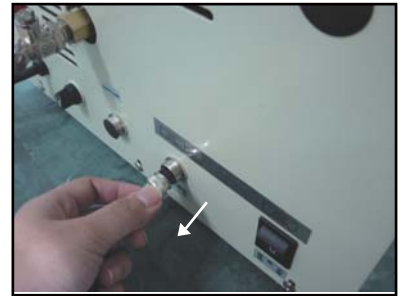
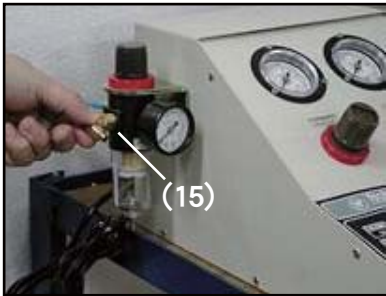
- 1 Remove two screws (①、②) from lower left and lower center of incontrol panel. Replace with two round head screws (accessory M) to set (12) bottom plate connect to incontrol. Place the robot clamp mechanism between the two guide blocks on the base plate.



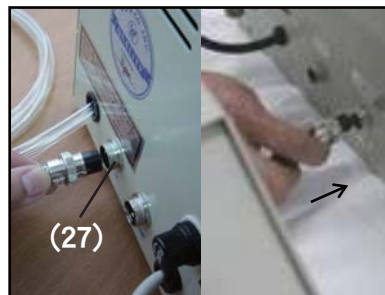
- 2 Position robot clamp mechanism, seeing from side view, the edges of platens (5) need toward to nozzle of incontrol. (But not touch on, leave some room as shown on picture). Tight both screws (11) (accessory L) of robot clamp mechanism. Place Techtrol Pro control console to the left of the incontrol unit.



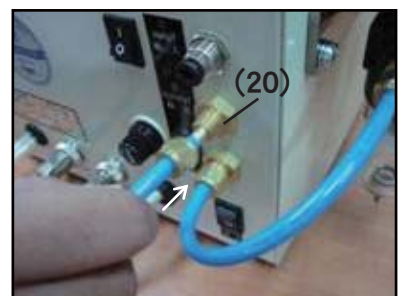
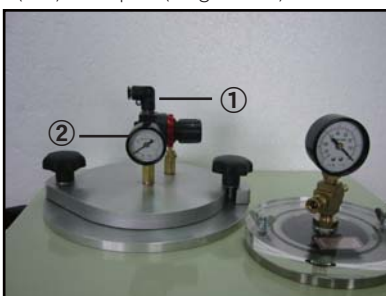
- 3 Connect 1/4 connector or Elbow connector (accessories K or J) in to (15) pressure air inlet. Connect a PU hoses with elbow connector (accessory J) in (15) pressure air inlet. NOTE: If you use standard rubber hose, please use accessory K. Unplug foot switch from incontrol (vacuum wax injection machine).



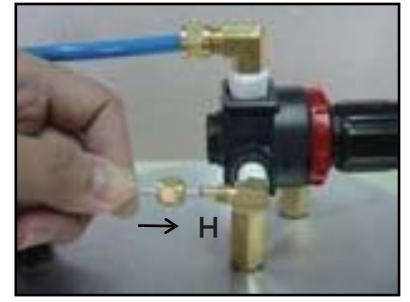
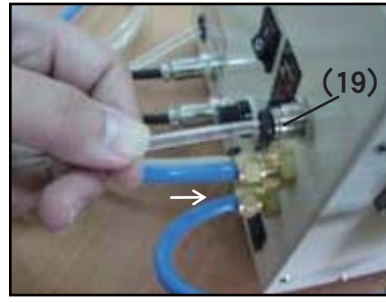
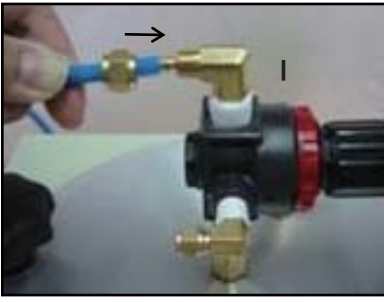
- 4 Connect the foot switch to the (29) "AUTO SW" located in right hand side of the control console. Connect with 2 pin connector cable (accessory F) to (27) "FOOT SW" on control console and incontrol. Connect with 3-pin connector cable (accessory G) to (26) "ROBOT CLAMP" on control console and incontrol.



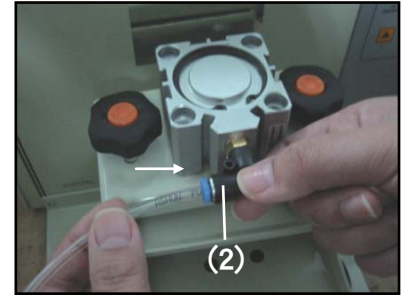
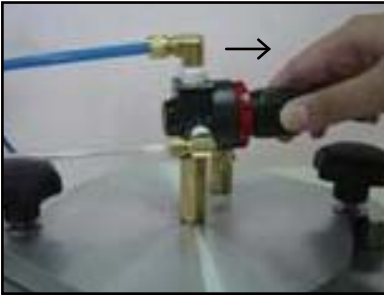
- 5 Replace pressure inlet barb ① With elbow connector (accessory I) and take off vacuum gauge ②. Replace pressure gauge ② of incontrol vacuum wax injector with elbow connector (accessory H). Plug 6x4 PU hose (accessory N) to the back of control console (20) Out put (Regulated).



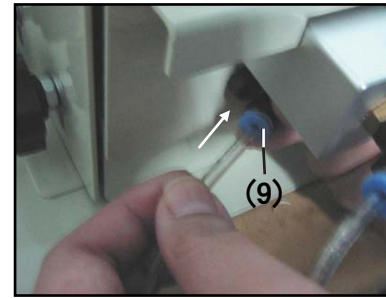
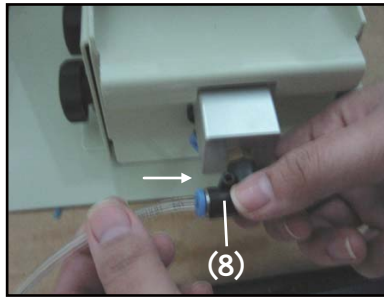
- 6 Connect the other end of 6x4 PU hose connect into the elbow connector (accessory I). 4x2 PU hose (accessory O) connect into (19) input (feed back). The other end to be connected into Elbow connector (accessory H) on top of lid of incontrol.



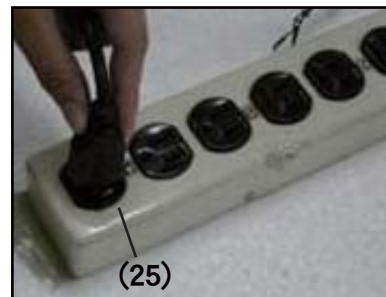
- 7 Pull out pressure control valve and turn Clockwise until no more turn is allowed then push and lock in. There are 3 PU hose come with control console and each labeled "CLOSED" "FORWARD" and "REVERSE" . Connect "CLOSED" PU hose to (2) on clamp mechanism with labeled "CLOSED" air inlet.



- 8 Connect "FORWARD" PU hose to (8) on clamp mechanism with labeled "FORWARD" air inlet. Connect "FORWARD" PU hose to (9) on clamp mechanism with labeled "FORWARD" air inlet. Must keep the power switch of control console (24) is on "OFF" Position.



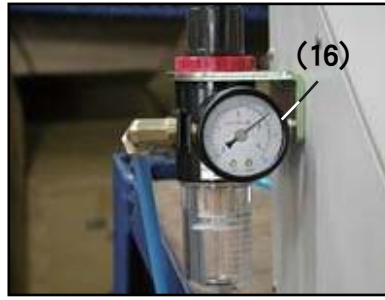
- 9 Must keep the power switch of Incontrol vacuum wax injector ① on "OFF" position. Plug the line cord in the power source make sure with correct voltage (120V or 240V). Pull out pressure control knob (30) "CLOSED" turn knob counterclockwise to set pressure gauge at zero.



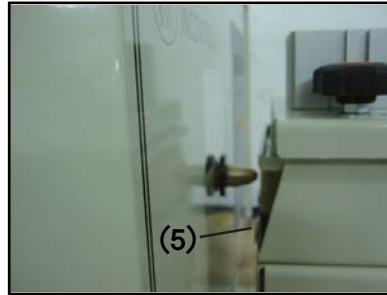
- 10 Pull out pressure control knob (32) "FORWARD" turn knob counterclockwise to set pressure gauge at zero. Turn power on (24) .  
**Warning: This unit must be connected to a grounded outlet.** Turn Main power switch on of incontrol vacuum wax injector.



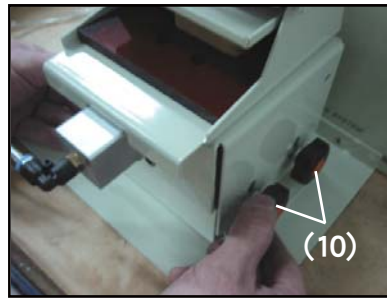
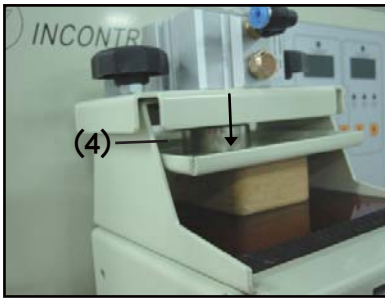
- 11 You are ready to connect “Techtrol Pro” with air pressure to work. Air compressor “ON” and (16) air pressure gauge must have 42 PSI Pressure or higher (suggested). Air pressure gauge “FORWARD” must adjust to 14 PSI by turning (32) closed gauge to adjust to 28 PSI by turning (30). After pressure are set, be sure to push the knob back for lock. To readjust must be pulled out both (30) and (32) knob and turn.



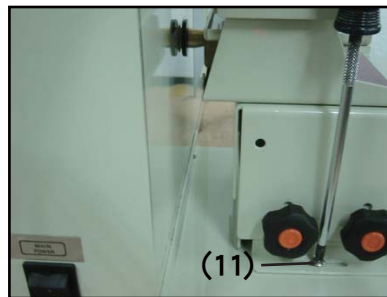
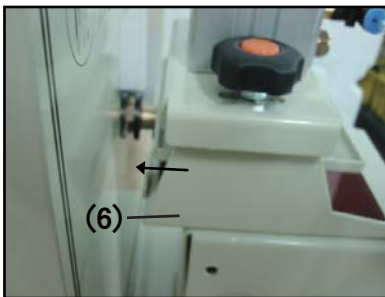
- 12 Place your rubber mold with correct height of acrylic plate into the robot clamp mechanism (in between (4) and (6)).  
**Note: Do not operate the clamp without a rubber mold and acrylic plate in place.** Otherwise, platens may cause unexpected damage to injection nozzle. Forward to stop at (5) mold plate stopper alignment the center hole of rubber mold will meet with nozzle. Press (36) “CLOSED” and the light will be on “CLOSED” .



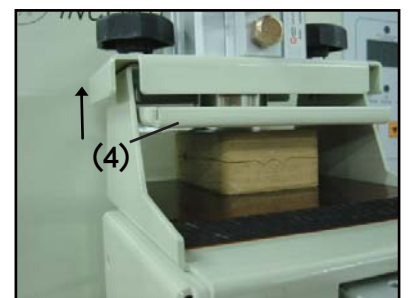
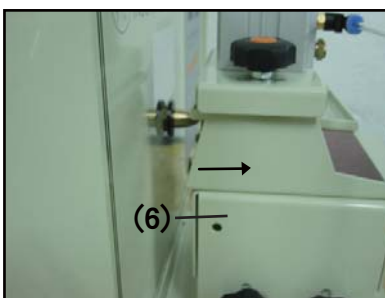
- 13 (4) plate will come down and hold the rubber mold. Use (10) to adjust the height to meet with alignment of nozzle. Press (37) “FORWARD” light will be on “FORWARD” .



- 14 Rubber mold and acrylic plate forward to nozzle to inject wax. Adjust nozzle and rubber mold. And then lock tight on both (11) screws. Press (37) the light will be on “REVERSE” .



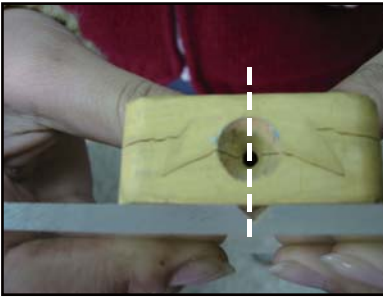
- 15 Mold and acrylic plate will return back. Press (36) button, the light will be on “RELEASE” . (4) plate will come up and release the mold.



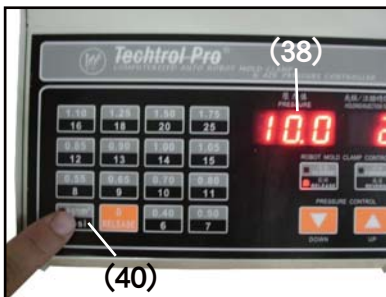
## USING INSTRUCTION :

### SINGLE (1<sup>ST</sup>) INJECTION

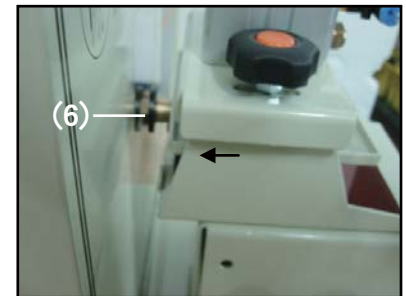
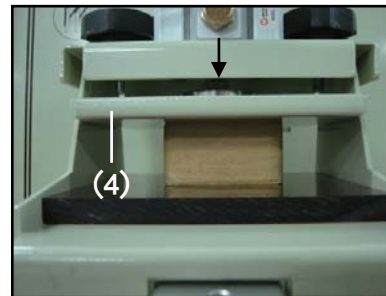
- 1 Place the center of the sprue hole of your rubber mold aim with the "V" mark of the acrylic plate. Wax pot and Nozzle should be heated to desired temperature before work (Do not inject until wax in pot is completely melted.). Press 0.70  
10 button, (38) will show "0.70", which means pressure is 0.70 kg/cm<sup>2</sup>.



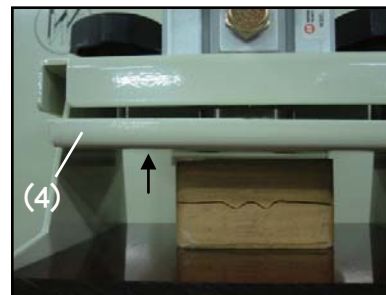
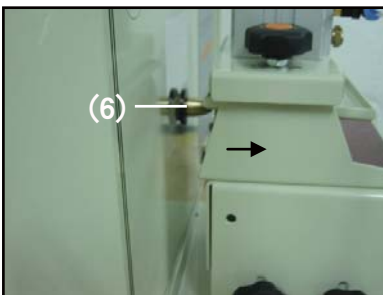
- 2 When you push (40) button it will show "10.0" on (38) it means "10.0 psi ". You may increase the pressure by push the up button on (35). You may push the button down ward (34) to decrease the air pressure.



- 3 Step on foot switch. **Warning: Do not hold foot switch down when there is no rubber mold in clamp.** (4) platen will close on rubber mold. Clamp will move forward to nozzle for vacuum and injection work.



- 4 After injection completed, the clamp will back to original position and hold the mold with presetted holding times. After holding time is due, the (4) platen will open and the mold is completed.



## HOLDING TIME (Range: 0~99 seconds)

- 1 Push (34) button for 3 seconds and (39) display will start blinking. Push (35) button to increase or (34) button to decrease the holding time. Then leave it for 3 seconds, it will stay for holding time. Once the main power is off, the holding time will be reset as default value "2 seconds".



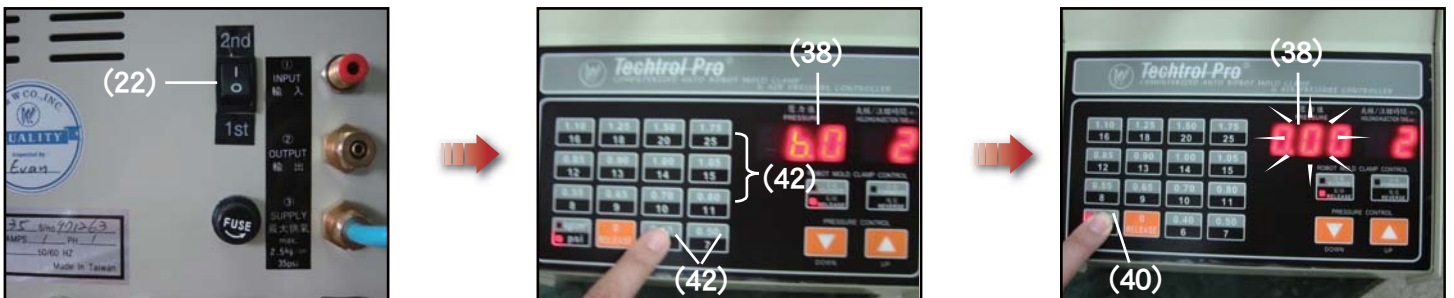
Determine what adjustments need to be made:

1. Too much injection time – excess wax overflows.
2. Too little injection time – mold does not fill completely.
3. Too much forward pressure – sprue hole may be deformed.
4. Too little forward pressure – wax overflows at sprue hole but does not fill mold.
5. Too much clamping pressure – wax pattern may be deformed.
6. Too little clamping pressure – wax pattern has overflowed.

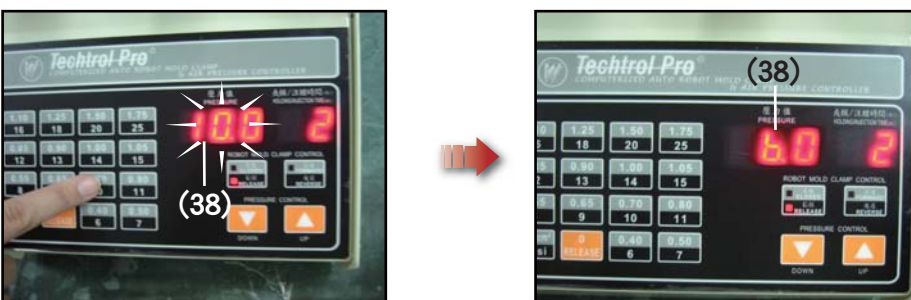
When all adjustments are complete, unit is ready for production.

## SET TO WORK WITH DOUBLE PRESSURE INJECTION

- 1 Make sure the switch (22) is at position 1st for single injection and 2nd for double injection to work together with digital vacuum wax injector. Press any (42) button as per your need in first injection pressure as shown on picture 6 psi and (38) will show "6.0". Pressing (40) button for 3 seconds and (38) display light will blink.



- 2 Select any higher than first set pressure by pressing say 10 psi and (38) will show 10.0 (this is your second injection pressure for your mold.). After the display stop blinking, now display will show the first set pressure and ready to work.





## HELPFUL TIPS :

- 1 Do not operate the clamp mechanism without a rubber mold and acrylic plate in place to prevent injection nozzle damage by platens.
- 2 Finding the correct time and pressure for each mold is a matter of trial and error cannot be predetermined. Once the optimal setting parameters are known, it is suggested to have them written directly on each mold so that the information will be available when working.
- 3 During production, always try to group rubber molds with similar thickness and similar setting. This will increase production efficiency.
- 4 The automatic operation of the unit should give a few seconds break between injections for operator to remove patterns, spray mold release, clean molds etc.
- 5 The swivel action of the clamp mechanism is specially designed to compensate for minor misalignment of the mold to the nozzle.
- 6 When making rubber molds, always try to keep the sprue opening in the center of the mold, in terms of its thickness and width. This would always benefit operation, especially while Techtrol Pro clamp is used.
- 7 The Techtrol Pro clamp have to be operated on a grounded electrical outlet.
- 8 In the event that unit suddenly stops all operation, check control console fuse (23).
- 9 For using Techtrol Pro clamp in automatic mode, switch (36) \ (37) must be in “RELEASE” and “REVERSE” positions, respectively.
- 10 If clamp mechanism is not able to engage in clamping and forward motion at the first time use, adjust air pressure to its maximum value, and then perform the same motion. If everything is normal, set back air pressure.

## MAINTANENCE :





- 1 Check air hoses and junctions for leakage regularly.
- 2 Drain water collected in air compressor from time to time. Presence of water inside air line hoses would probably cause mal-function of solenoid valve and erosion of components, resulting in machine' s failure.
- 3 After using Techtrol Pro clamp, remove air hoses and open water drain valve to eliminate water. Too much water in bottle may affect normal function.
- 4 Make sure wax does not get into any hose affecting the correctness of Techtrol Pro clamp.

## CAUTIONS :

- 1 Take precautionary measure to prevent hot injected wax to be spilled on operator. Hot wax could cause serious burns.
- 2 Do not put your hand between upper and lower platens for user's safety.
- 3 All electrical outlets should be grounded. If outlet is not grounded, machine has to be grounded at all time to prevent magnetic interference and machine damage.

**Note: When operating unit manually always do “REVERSE” before doing “RELEASE” .**

## TROUBLESHOOTING :

Problems	Causes	Solutions
Robot Mold Clamp does not function at all	No power	<ul style="list-style-type: none"> <li>Check if the LED light of (36)  &amp; (37)  are on and if there are electricity from plug socket.</li> <li>Check if power cord is plugged and if fuse (23) is OK.</li> <li>Check foot pad switch is working.</li> <li>If everything is fine, then investigate other causes.</li> </ul>
Clamp mechanism does not move at the first time use	Mechanism is stuck	<ul style="list-style-type: none"> <li>Adjust “CLOSED” pressure (31) and “FORWARD” pressure (33) to their maximum values. Then perform the same motion again. If clamp mechanism is normal, set back the normal pressure.</li> </ul>
Mechanism is not able to clamp or move forward automatically	Clamp mechanism is not in automatic mode.	<ul style="list-style-type: none"> <li>Check if the LED of (36)  and (37)  are on.</li> </ul>
	Foot pad switch is out of order	<ul style="list-style-type: none"> <li>Replace foot pad switch.</li> </ul>
Mechanism is not able to clamp or move forward manually	Air supply problem	<ul style="list-style-type: none"> <li>Check air compressor is on.</li> <li>Check air pressure hoses and junctions for leakage.</li> <li>Check “CLOSED” pressure (31) setting.</li> <li>Check “FORWARD” pressure (33) setting.</li> </ul>
	Solenoid valve is out of order	<ul style="list-style-type: none"> <li>Call service.</li> </ul>
Clamp mechanism can clamp and move forward, but Incontrol does not vacuum and inject	Bad connection	<ul style="list-style-type: none"> <li>Check 2-PIN cable connection for looseness.</li> <li>Check if 2-PIN cable is broken.</li> </ul>
Clamp mechanism can clamp & move forward, and Incontrol can vacuum & inject, but clamp mechanism can not move reverse.	Bad connection	<ul style="list-style-type: none"> <li>Check 3-PIN cable connection for looseness.</li> <li>Check if 3-PIN cable is broken.</li> </ul>
Everything is working well except that mechanism is not able to release platens after holding rubber mold for a period of time.	Spring for “release” motion is jammed or broken	<ul style="list-style-type: none"> <li>Call service.</li> </ul>
	Incorrect timer setting	<ul style="list-style-type: none"> <li>Check if the holding time setting is too long.</li> </ul>
Wrong commanded motion, e.g. mechanism moves forward while commanded to clamp, ...etc.	Incorrect air hoses connection	<ul style="list-style-type: none"> <li>Check the labels and do the connections (2)、(8)、(9) carefully.</li> </ul>
Can not increase pressure.	No air pressure	<ul style="list-style-type: none"> <li>Check (15) air inlet if there is air pressure coming in.</li> <li>Check (14) pressure control knob is opened.</li> <li>Check if the regulator of wax pot is opened to maximum (above 42 psi).</li> </ul>
	Block hose	<ul style="list-style-type: none"> <li>Check (20) air output, if it is blocked lead to no pressure.</li> </ul>
	Air pressure regulator of vacuum injector is not opened to maximum.	<ul style="list-style-type: none"> <li>Open the air pressure regulator of vacuum injector to the maximum.</li> </ul>
Cannot set the pressure on (38) screen steadily by pressing (42) pressure setting button.	Leaking hose	<ul style="list-style-type: none"> <li>Check every hose and connector.</li> </ul>
Pressure keep increasing without stopping.	No air pressure feedback.	<ul style="list-style-type: none"> <li>Check (19) (feedback) pressure inlet is correct.</li> <li>Check if (19) (feedback) pressure inlet is blocked.</li> </ul>