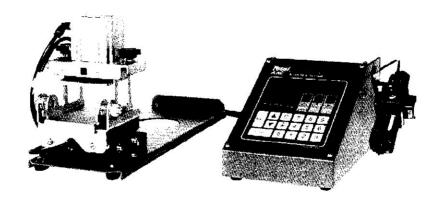


# ADVANCED AUTO CLAMP AAC

### **INSTRUCTIONS**

For Serial No. 0601 or more



# YASUI & CO.

3-7-4 Ikejiri, Setagaya-ku, Tokyo 154-0001, Japan

Keep this manual for your future reference.

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### 1. SAFETY INSTRUCTIONS

# **⚠** WARNING



- 1. Do not look into the wax injection nozzle by bare eyes because unexpected discharge of molten wax from the nozzle may cause eye burn. Do not operate the machine without setting the rubber mold in position. Be sure to always place a rubber mold or a pan in front of the wax injection nozzle to block molten wax flow so as to prevent accidental flow of molten wax into the eyes or over the skin. Because wax injected from the wax injection nozzle is heated above 70 degrees Celsius, the eyes or skin may be burnt. If the eyes or skin was exposed to molten wax, flush and cool the eyes or skin with a large amount of cold water and get prompt medical attention.
- 2. Take care not to touch the START button (blue) or START key unnecessarily, because the machine starts its injection process automatically.
- 3. Do not touch moving parts like the clamp.
- 4. Do not place any object on the operation panel of the AAC controller.
- 5. Turn off power after finishing operation of the AAC.



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6. Reduce wax tank pressure to as near as the atmospheric pressure (zero) when you leave the AAC, so as to prevent unintended injection of molten wax.

### 2. USING CONDITIONS

### 2-1. SPECIFICATION LABEL

The principal specifications label of this machine is affixed on the panel of the controller box

NOTE: When ordering spare parts, specify the production serial number that is printed on that label.

Apply power voltage within the specified range printed on the label. Should any voltage exceed beyond the specified range, the manufacturer is not responsible to guarantee performance of the AAC.

### 2-2. WORKING CONDITIONS

The AAC is exclusively designed for the Yasui Digital Vacuum Wax Injector D-VWI, or Yasui Vacuum Wax Injector VWI (serial number 2539 and more).

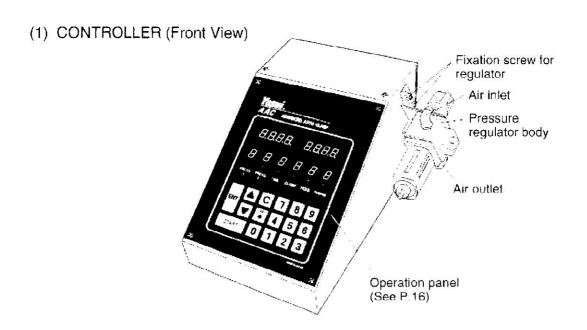
- 1) Use the AAC at temperatures ranging 0-40 degrees Celsius and humidity under 90%.
- 2) Apply power voltage rating from 100 V up to 230 V AC, 50/60 Hz, single phase only.
- 3) Do not use the AAC under atmosphere with too much dust or with harmful gas.
- 4) About connecting:
  - 4-1) The AAC can be used in combination with the Yasui Digital Vacuum Wax Injector D-VWI using the connecting cable already assembled in the AAC.
  - 4-2) The AAC can be used in combination with the Yasui Vacuum Wax Injector VWI (serial number 2539 and more) on the conditions mentioned below:
    - Yasui Vacuum Wax Injector VWI serial number 2539 and more with 2-wire cable for CONNECTOR A --- replace the connecting cable already assembled in the AAC into the connecting cable for VWI provided with the AAC. (See P.12, 13)
    - Yasui Vacuum Wax Injector VWI serial number 2539 and more with 3-wire cable for CONNECTOR A --- replace the connecting cable already assembled in the AAC into the 3-pin receptacle with cable for CONNECTOR A. (See P.12, 14)
  - 4-3) The AAC can not be used in combination with the Yasui Vacuum Wax Injector VWI serial number from 1 to 2538.

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- THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY DAMAGE RESULTING FROM IMPROPER USE. NEGLIGENCE TO FOLLOW THE WARNINGS AND CAUTIONS IN THE INSTRUCTIONS MANUAL OR THE LABELS ON THE MACHINE, UNSKILLFULNESS, USE OF NON-ORIGINAL OPTIONAL/CONSUMABLE ACCESSORIES/ SPARE PARTS, NON-AUTHORIZED MODIFICATION.
- THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL OR INDIRECT DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PRODUCTION OR LOSS OF PROFIT OR DAMAGES DUE TO MACHINE DOWNTIME.
- DAMAGES TO THE INSTRUMENT AND/OR HUMAN BODIES RESULTING FROM CONTACTING WITH HIGH TEMPERATURE PARTS ARE NOT COMPENSATED BY THE MANUFACTURER.
- DAMAGES RESULTING FROM DELAY OF REACTION AT EMERGENCY AND MISTAKEN OPERATION ARE NOT COMPENSATED BY THE MANUFACTURER.
- DAMAGES FROM ELECTRICAL NOISE, OVER VOLTAGE. OR WIRING ERROR ARE NOT COMPENSATED BY THE MANUFACTURER.
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- NO PART OF THIS DOCUMENT MAY BE COPIED OR IN ANY WAY REPRODUCED WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE MANUFACTURER.

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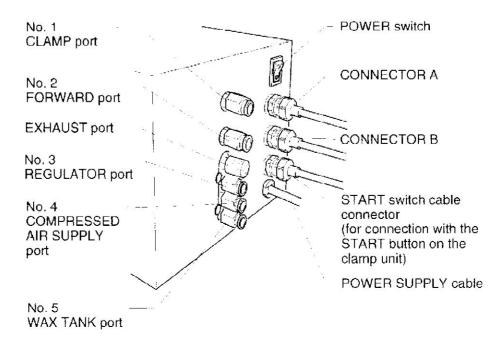
### 3. NOMENCLATURE



#### IMPORTANT:

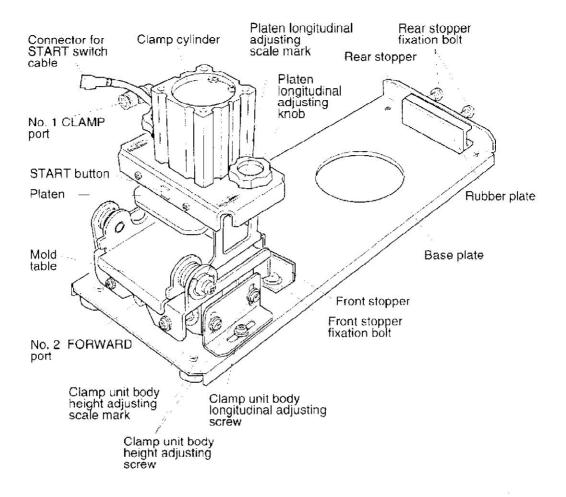
Supply pressure of compressed air to the *AAC* is 0.25 to 0.30 MPa. Always install the Pressure Regulator provided between the air compressor and the *AAC*, so that the above mentioned supply pressure can be strictly maintained. Attach the Pressure Regulator provided to the right-side panel using the fixation screws provided (See P.11 about tube connecting to the Pressure Regulator).

#### (2) CONTROLLER (Rear View)



Pr 440 2 F-7 0404

### (3) CLAMP UNIT

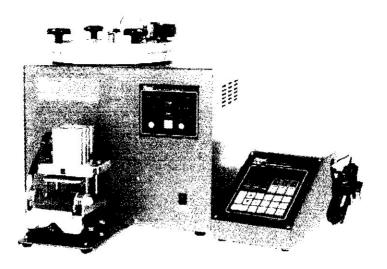


7F AAC 2 E-7 0404

### 4. INSTALLING

### 4-1. LOCATION OF AAC

Place the AAC with the Yasui Digital Vacuum Wax Injector D-VWI or Yasui Vacuum Wax Injector VWI as the below photo.



### 4-2. POWER SUPPLY

Power supply of the *AAC* should be stable and rated voltage AC 100 - 230 V, 50/60 Hz and more than 1 KVA. The power line should be exclusive for the machine. The minimum and maximum voltage allowed is 85 and 264 volts each. Failure to observe this voltage range may result in a machine trouble.

### 4-3. POWER CABLE

The AAC may not be provided with a power plug which suits the power outlet at your place. In such a case, connect a suitable plug (available at the market) to the power supply cable of the AAC. Before plugging in the AAC, turn off the power switch of the AAC controller.

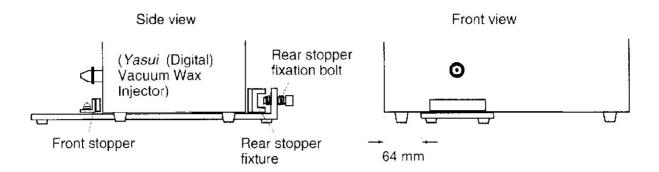
### 4-4. COMPRESSED AIR SUPPLY

Connect the air supply hose. Use the Pressure Regulator provided to adjust pressure within the range of 0.25-0.30 MPa. Pressure out of this range might cause alarm number (P.32) or damage of the built-in pressure control valve.

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### 4-5. BASE PLATE

- 1) Place the rear stopper so that the rear stopper rubber plate (P.7) makes contact with the rear panel of the (Digital) Vacuum Wax Injector.
- 2) Fix the (Digital) Vacuum Wax Injector by screwing the two rear stopper fixation bolts. Give it another half or full rotation clockwise after the points of the bolts make contact with the rear stopper fixture lightly.

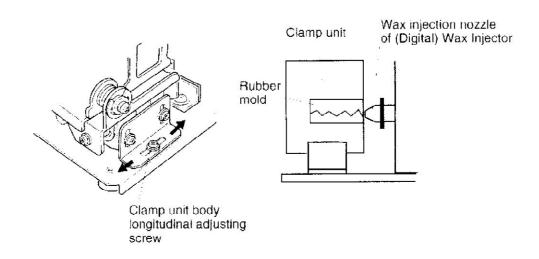


### 4-6. INSTALLING CLAMP UNIT

Fix the clamp unit body to the base plate as the photo in P.8 with the clamp unit body longitudinal adjusting screws.

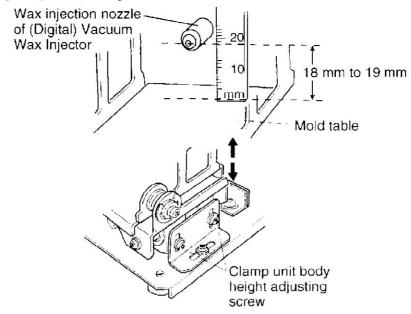
### 4-6-1. LONGITUDINAL ADJUSTMENT

Adjust the longitudinal position of the clamp unit body using the longitudinal adjustment screws, so that the front end face of rubber mold and the tip of wax injection nozzle will be located in the same vertical plane. After adjustment, tighten the longitudinal adjustment screws.



#### 4-6-2. HEIGHT ADJUSTMENT

Adjust height of the mold table using the four clamp unit body height adjusting screws, so that height from the top surface of the mold table to the center of the wax injection nozzle of the (Digital) Vacuum Wax Injector will be 18 mm to 19 mm. After adjustment, tighten the clamp unit body height adjusting screws.



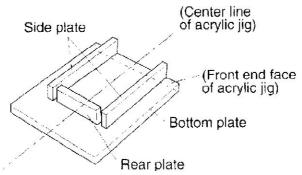
You can use rubber mold of thickness from 15 mm to 35 mm by changing thickness of acrylic jig as the below table.

Combination of Rubber Mold and Acrylic Jig

| Rubber mold thickness (mm) | Acrylic jig base plate<br>thickness (mm) |  |  |  |
|----------------------------|--|--|--|--|
| 15                         | 10                                       |  |  |  |
| 20                         | 8 (provided) *                           |  |  |  |
| 25                         | 5 (provided) *                           |  |  |  |
| 30                         | 3  |  |  |  |
| 35                         | -  |  |  |  |

<sup>\*</sup>Acrylic jig of 8mm thickness and acrylic jig of 5 mm thickness are provided with the machine as standard supply set.

Assemble an acrylic jig adjusting the position of the side plates in accordance with the mold size. Bond the side and rear plates to the bottom plate with the adhesive provided, so that the mold center line will be aligned with the acrylic bottom jig center line, further the front end face of the mold will be flush with the front end face of the acrylic jig.

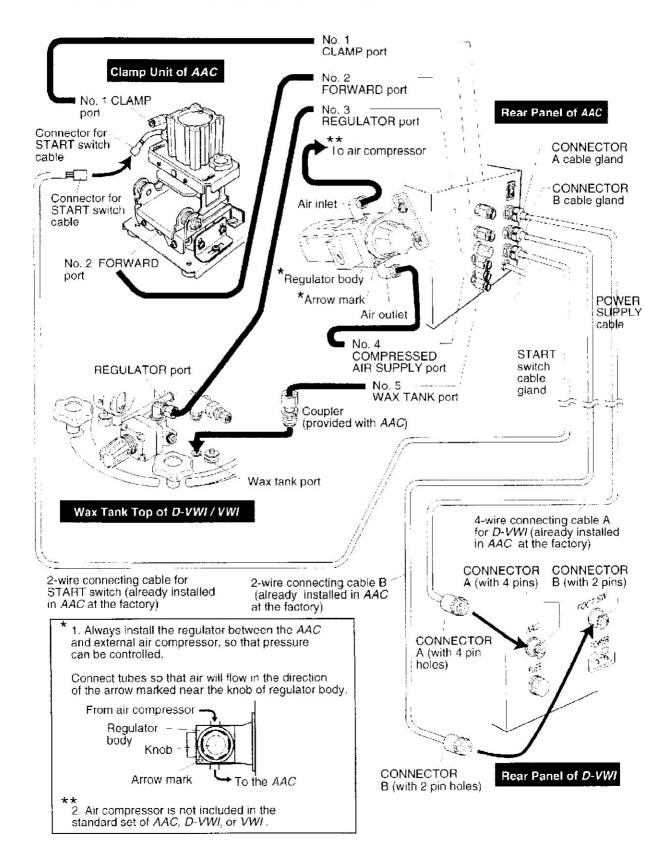


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### 4-7. CONNECTING TUBES AND CABLES

### 4-7-1. WHEN CONNECTING WITH D-VWI

Connect the tube hoses and electrical cables as below.



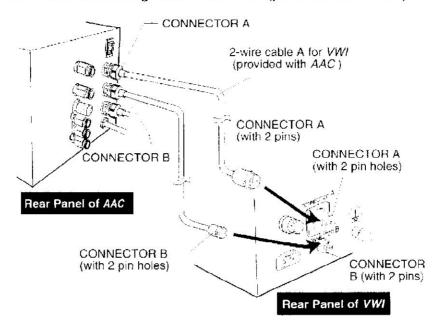
Pr. AAC 2 E-7 (Mg/s

### 4-7-2. WHEN CONNECTING WITH VWI

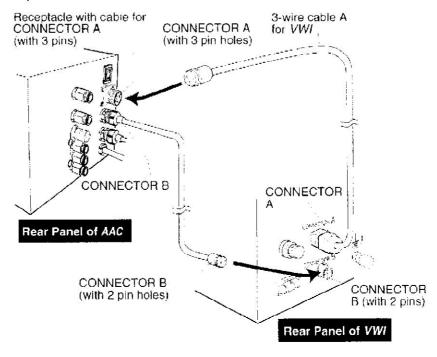
### 4-7-2-1. IDENTIFYING TYPE OF CABLE USED FOR CONNECTOR A OF VWI

If you wish to use the *AAC* in combination with *VWI*, connection is same to that for *D-VWI* as described in P.11 except connection of the cable for CONNECTOR A. Replacement of the cable for CONNECTOR A is necessary (See also P.13 or 14).

When using in combination with *VWI* of "2-wire connecting cable A" type, see P.13 for how to install the 2-wire connecting cable A for *VWI* (provided with *AAC*).



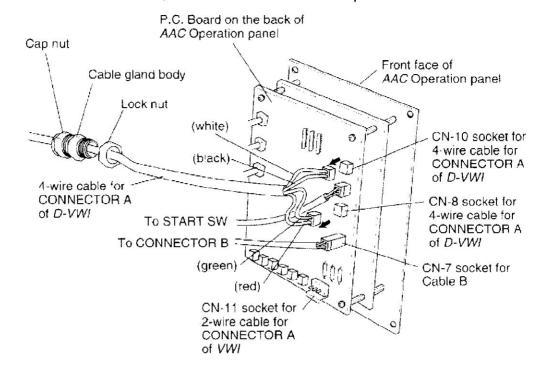
When using in combination *VWI* of "3-wire connecting cable A" type, see P.14 for how to install the 3-pin receptacle with cable for CONNECTOR A.



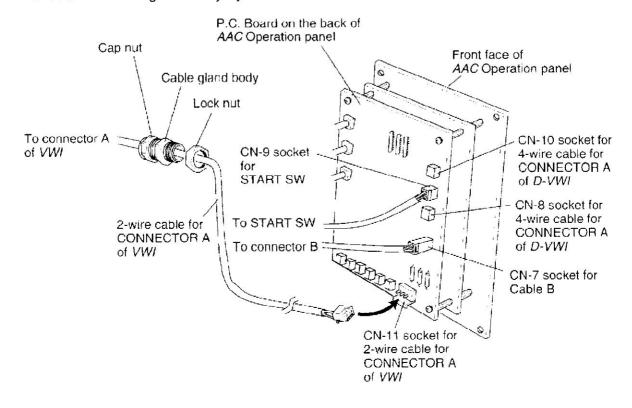
12

#### 4-7-2-2. WHEN 2-WIRE CABLE IS USED FOR CONNECTOR A OF VWI

- 1) Turn power off, and unplug the power supply cable.
- 2) Remove the screws for operation panel and open the operation panel.
- 3) Unscrew the lock nut and remove the 4-wire cable for CONNECTOR A from CN-8 and CN-10. Do not touch the CN-7.CN-9 connectors and other parts.



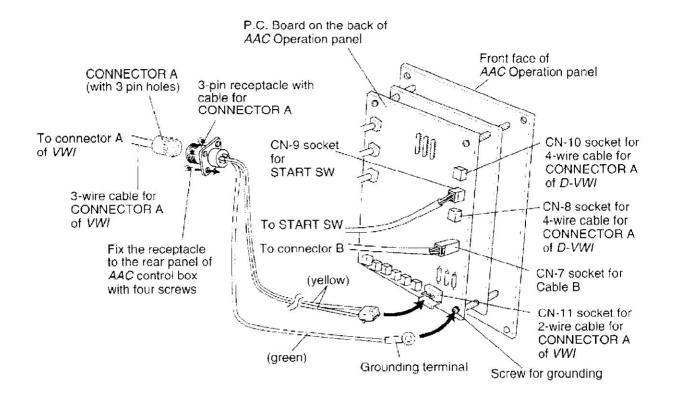
4) Connect the 2-wire cable for CONNECTOR A to CN-11 connector as the below figure. Secure the cable gland body by the lock nut.



PLAAC 2 6-1 MM

#### 4-7-2-3. WHEN 3-WIRE CABLE IS USED FOR CONNECTOR A OF VWI

After having removed the 4-wire cable for CONNECTOR A from CN-8 and CN-10 as described by 1) to 3) in P.13, fix the 3-pin receptacle with cable for CONNECTOR A to the rear panel of *AAC* controller box, connect its two yellow cables to the CN-11 connector, and fix the grounding terminal of green cable as the below figure.



14

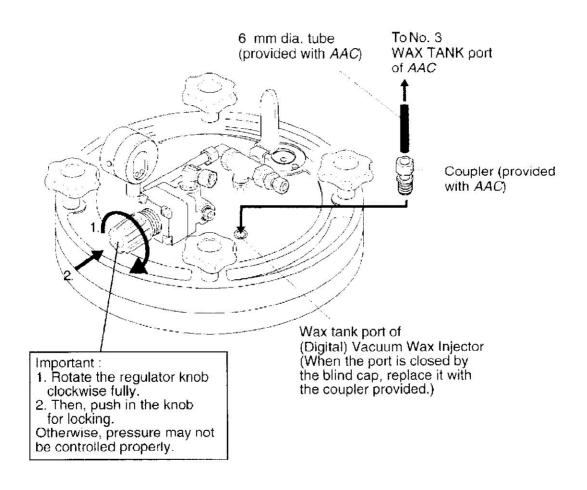
### 4-7-3. CONNECTING TUBES

For connection of the tube hose, just push one end of hose into the port.

When you need to disconnect the tube, just push the release ring.

Release Coupling ring

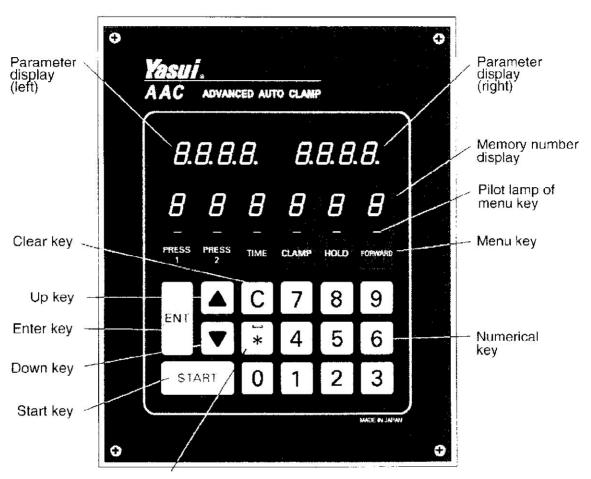
6 mm dia. tube



Pr AAC 2 F / 494

# 5. KEYS ON OPERATION PANEL

### 5-1. OPERATION PANEL

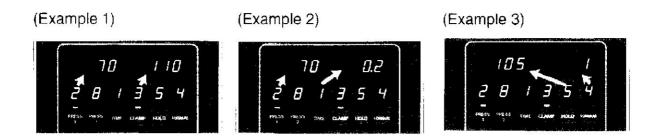


Function key with pilot lamp

PF AAO 2 ET 0404 16

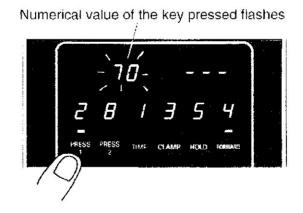
### 5-2. PARAMETER DISPLAY

Parameters of two menu keys whose pilot lamps are lighted are shown on the parameter display windows.



### 5-3, CHECKING PARAMETERS

When you press one of menu keys, its set value is shown in either of the parameter display windows.



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### 5-4. MENU KEYS

Primary injection pressure: setting range 010 - 220 kPa

This pressure means injection pressure of wax after the START switch is pressed for automatic operation.



Secondary injection pressure and its starting time: setting range 010 - 220 kPa, 00.0 -99.9 sec.

After primary injection, increased or decreased pressurization is performed. This is effective to avoid wax shrink and fin formation.

<Example 1>

PRESS 1 50 (kPa) PRESS 2 100 (kPa) TIME 0.2 (sec)

Wax is injected into the rubber mold by primary injection pressure 50 kPa, and then after 0.2 seconds later pressure is increased to secondary injection pressure 100 kPa. During the injection time set by the (Digital) Vacuum Wax Injector, that pressure is kept.

<Example 2>

PRESS 1 70 (kPa) PRESS 2 30 (kPa) TIME 0.1 (sec)

Wax is injected into the rubber mold by primary injection pressure 70 kPa, and then after 0.1 second later pressure is decreased to secondary injection pressure 30 kPa. During the injection time set by the (Digital) Vacuum Wax Injector, that decreased pressure is maintained.

IMPORTANT: If you do not perform secondary injection, set



to 0 (zero).



is shown on the operation panel, and primary injection only will be

possible. In this case, injecting time will be equal to the value set by the (Digital) Wax Injector.

18 Fr. AAG 2 E-7 0404

# 3. CLAMP

Clamp pressure: setting range 030 - 235 kPa

Pressure of clamping the mold by the clamp unit is set.

In the case of mold of large size or hard material, set strong pressure. In the case of mold of small size or soft material, set weak pressure.

# 4. HOLD

Holding time of rubber mold: setting range 0 - 300 sec.

When you want to keep the mold clamped after finish of injection by the (Digital) Vacuum Wax Injector, use this key.

When volume of wax is large and it takes time to harden wax, set the time long.

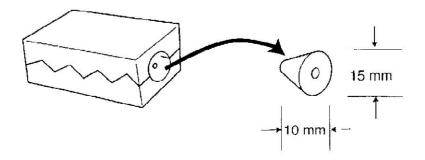
NOTE: If HOLD time is set to more than 20 seconds, the mold is held at forward position for half of the set time, and held at backward position for remaining half of the set time. If HOLD time is set to 19 seconds or less, the mold is held at backward position.

# 5. FORWARD

Forward pressure of clamp unit: setting range 065 - 235 kPa

Pressure of forward pressure of mold against the nozzle of the (Digital) Vacuum Wax Injector. Select proper value, so that wax will not leak between the mold and nozzle.

The size described in the below figure is recommended to avoid wax leakage.



Pr AAC 2 E-7 340R

# 5-5. ADDITIONAL ACTIONS OF HOLD 108





**KEYS** 



keys can be operated for other purpose by the below mentioned procedure.

All the parameters can be input and changed by the AAC.

You can set and control VACUUM SEC, of Yasui Digital Vacuum Wax Injector D-VWI key.

Setting range 0 - 99.9 sec.

You can set and control INJECTION SEC. of Yasui Digital Vacuum Wax Injector D-VWI key.

Setting range 0 - 99.9 sec.

#### 5-5-2. HOW TO USE ADDITIONAL ACTIONS

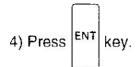
- 1) Set VACUUM SEC, and INJECTION SEC, of Yasui Digital Vacuum Wax Injector D-VWI to 99.9 sec. " 0.0 " is displayed.
- 2) Press 🛊 key. ---> The pilot lamp of 🛊 key is lit. All of the pilot lamps of menu keys are turned off.

(If any one of the pilot lamps of menu keys is on at this time, press | ENT | key. All pilot

lamps of menu keys must be off, otherwise next procedure can not be started.)

is shown on the parameter display window 3) Then, press | key twice. (left).

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5) Select 'Valid' or 'Not valid' using 0 or 1 key.

| Parameter<br>display<br>(left) | Parameter<br>display<br>(right) | Setting VACUUM time<br>and INJECTION time<br>of <i>D-VWI</i> by <i>AAC</i> |  |  |  |
|--------------------------------|---------------------------------|--|--|--|--|
| P 2                            | 0                               | Not valid  |  |  |  |
| P 2                            | 7                               | Valid  |  |  |  |

- 6) Press key again. If "Valid" was selected by the above 5), the parameter display window (right) will show time within the range of 00.0 to 99.9 seconds.
- 7) About changing procedure of memory numbers and set values of vacuum time and injection time, see P. 26 and 28.

NOTE: When you wish to restore usual HOLD and FORWARD display and setting, press and hold HOLD, FORWARD for more than 3 seconds.

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### 5-6. OTHER KEYS



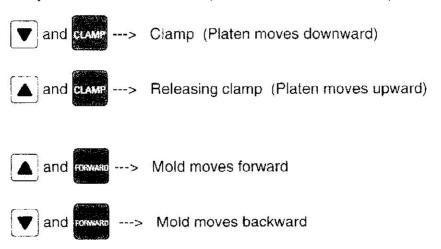
Press this key when you want to set the set value and memory number change into the memory of the AAC.

When you press this key, automatic wax injection starts.

The function of this key is same to that of the start button (blue) on the clamp unit body.



These keys are used to check independent action of the clamp unit body.



If you press START key after checking clamp and forward actions by the above procedure, the (Digital) Vacuum Wax Injector immediately starts injection procedure.

Pt. AAC 8 F67 0462

# 5-7. FUNCTION KEY 🚡

# 5-7-1. RELEASING AIR PRESSURE IN TANK BY 🗼 KEY

# **↑** CAUTION

Always exhaust air before opening the wax tank lid to perform maintenance or replenishing of wax.

You can exhaust the pressurized air in the wax tank by the below procedure.

- 1) Then, exhaust action starts.
- 2) After exhaust, press  $\boxed{\frac{1}{*}}$  key. The pilot lamp of  $\boxed{\frac{1}{*}}$  key is turned off.
- 3) Finally, press ENT key, then normal condition is restored.

# 5-7-2. CHECKING WAX TANK AMOUNT BY 🚡

It is possible to measure remaining amount of wax in the (Digital) Vacuum Wax Injector by the below procedure.

Action for measurement of wax remaining amount is started. Tank pressure is exhausted, and pressurized to 115 kPa, then wax remaining amount (0 to 100%) is calculated.

H 29 (Example of display: wax remaining amount is 29%)

2) To restore normal condition, or to suspend operation, press C key.

# 5-7-3. OTHER FUNCTIONS OF 🗼 KEY

# 5-7-3-1. ZERO ADJUSTMENT OF PRESSURE SENSOR

(See P.30 for details)

\* ---> Press key once ---> Mode display of P |

# 5-7-3-2. TIME CONTROL OF DIGITAL VACUUM WAX INJECTOR (See P.20 - 21 for details)

\* ---> Press (A) key twice ---> Mode display of

(If key is pressed more than three times, P3 to P9 are shown, but P3 to P9 are not used by this machine.)

# 5-8. COUNTER BY C KEY

You can display counter of injection cycle by the below procedure.

1) Press and hold C key for more than 3 seconds.

If you want to clear the counter to "0000", press 0 key.

2) To restore the normal condition, press **C** key or key.

P/ A40 2 EV/ 0464

### 6. OPERATION

### 6-1. OPERATING PROCEDURE

1) After turning the power switch ON, memory numbers are displayed on the memory number display windows.

PRESS 1, PRESS 2, TIME, CLAMP, HOLD and FORWARD will be kept controlled at the preset parameter values set under those memory numbers.

- 2) Set a rubber mold on the acrylic jig and then set them on the mold table of the clamp unit. Then, press START key of the controller or the START button (blue) of the clamp unit.
- 3) The platen moves downward to hold the rubber mold tight, then the mold table moves forward.
- 4) The (Digital) Vacuum Wax Injector starts its automatic sequence of vacuum and injection.
- 5) The mold table moves backward and the unit continues to hold the mold for remained time of HOLD.
- 6) After the preset parameter of HOLD time is counted up, the platen moves upward. Now, one automatic sequence is finished.

<When it is necessary to suspend operation during automatic operation when using in combination with the Digital Vacuum Wax Injector D-VWI >

- 1) Turn off the power switch of the Digital Vacuum Wax Injector *D-VWI*, and then turn it on again. By this, wax injection is suspended.
- 2) Press C key of AAC. By this, the AAC is reset.

NOTE: When VACUUM SEC. and INJECTION SEC. are controlled by the *AAC* (P.20, 21), reset is possible by using **C** key only.

9r AAC 2 FT 04.4 25

### 6-2. CHANGING MEMORY NUMBERS

### 6-2-1. CHANGING WITH KEY PRIORITIES

- 1) Input memory number by the numerical keys. Memory numbers change and flash from the left side.
- 2) Press START key or start button (blue) of clamp unit.
- 3) Actions start.

The menu keys are arranged in the order of frequency of use. If you wish to change PRESS 1 only, input single digit of memory number, and press START key or start button (blue) of clamp unit. Then, actions start. It is not necessary to input all memory numbers.

### 6-2-2. CHANGING DESIRED MENU

- 1) Press the menu key to be changed.
- 2) Its pilot lamp is lit, and its memory number starts to flash.
- 3) Input new memory number by the numerical keys.
- 4) Press START key or start button (blue) of clamp unit.
- 5) Actions start.

If you wish to change more than two of memory numbers, press key each time after one memory number is changed, so that the changed memory number can be set into memory.

Pr AAC 2 F-7 (Min.) 26

# 6-3. MEMORY NUMBERS

The standard parameters of PRESS 1, PRESS 2, TIME, CLAMP, HOLD, FORWARD are preset at the factory as the below table.

FACTORY PRESET PARAMETER VALUES

|               |   | Menu Key                                |   |   |                           |  |                             |  |  |
|---------------|---|---|---|---|---------------------------|--|-----------------------------|--|--|
|               |   |   |   |   |                           |  |                             | Set VAC<br>SEC<br>of <i>D-VWI</i><br>to 99.9 | Set INJ<br>SEC<br>of <i>D-VWI</i><br>to 99.9 |
|               |   | PRESS<br>1                              | PRESS 2                                   | TIME                                      | CLAMP                     | <b>1</b>                                   | Robert 20                   | HC4:CS                                       | FCRWARD                                      |
| 300-10        |   | Wax<br>injection<br>primary<br>pressure | Wax<br>injection<br>secondary<br>pressure | Secondary<br>pressure<br>starting<br>time | Mold<br>clamp<br>pressure | Mold<br>holding<br>time after<br>injection | Mold<br>forward<br>pressure | Vacuum<br>time of<br>D-VWI                   | Injection<br>time of<br>D-VV/I               |
| Memory Number | 0 | 50 kPa                                  | 50 kPa                                    | 0.0 sec                                   | 80 kPa                    | 0 sec                                      | 70 kPa                      | 0.0 sec                                      | 1 sec  |
|               | 1 | 60 kPa                                  | 60 kPa                                    | 0.2 sec                                   | 100 kPa                   | 1 sec                                      | 80 kPa                      | 0.3 sec                                      | 2 sec  |
|               | 2 | 70 kPa                                  | 70 kPa                                    | 0.4 sec                                   | 105 kPa                   | 2 sec                                      | 90 kPa                      | 0.6 sec                                      | 3 sec  |
|               | 3 | 80 kPa                                  | 80 kPa                                    | 0.6 sec                                   | 110 kPa                   | 3 sec                                      | 100 kPa                     | 1 sec  | 4 sec  |
|               | 4 | 90 kPa                                  | 90 kPa                                    | 0.8 s <del>e</del> c                      | 115 kPa                   | 4 sec                                      | 105 kPa                     | 1.5 sec                                      | 5 sec  |
|               | 5 | 100 kPa                                 | 100 kPa                                   | 1.0 sec                                   | 120 kPa                   | 5 sec                                      | 110 kPa                     | 2 sec  | 10 sec                                       |
|               | Ь | 110 kPa                                 | 110 kPa                                   | 1.2 sec                                   | 125 kPa                   | 10 sec                                     | 115 kPa                     | 3 sec  | 20 sec                                       |
|               | 7 | 120 kPa                                 | 120 kPa                                   | 1.4 sec                                   | 130 kPa                   | 15 sec                                     | 120 kPa                     | 4 sec  | 30 sec                                       |
|               | 8 | 130 kPa                                 | 130 kPa                                   | 1.6 sec                                   | 140 kPa                   | 20 sec                                     | 130 kPa                     | 6 sec  | 40 sec                                       |
|               | 9 | 140 kPa                                 | 140 kPa                                   | 1.8 sec                                   | 150 kPa                   | 30 sec                                     | 140 kPa                     | 8 sec  | 50 sec                                       |

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### 6-4. INDIVIDUAL PARAMETER CHANGE

While the machine is not working, parameters registered under memory numbers can be changed by the following procedures.

# 6-4-1. INDIVIDUAL PARAMETER CHANGE USING 🗼 KEY

Either parameter of PRESS 1, PRESS 2, TIME, CLAMP, HOLD, FORWARD can be changed by using **\( \bar{\pi} \)** key as the below procedure.

- 1) Press \* key. The pilot lamp of this key is lit.
- 2) Press one of menu keys. The pilot lamp of the menu key pressed is lit. Parameter, that corresponds to the key pressed, flashes in the parameter display window.
- 3) Input desired parameter value using the ten numerical keys.
- 4) Press  $|^{\text{ENT}}|$  key. Then, changing procedure is finished.
- 5) If you want to change parameter of another menu key, repeat from the above 2).
- 6) Press [ key. The pilot lamp of this key is turned off, then the normal condition is restored.

# 6-4-2. SIMPLE WAY OF INDIVIDUAL PARAMETER CHANGE USING



# ▼ KEYS FOR PRESS 1, CLAMP AND FORWARD

- -The parameter of PRESS 1 can be changed using (▲) or ▼ key as the below procedure when the pilot lamp of PRESS is on.
- -The parameter of CLAMP or FORWARD can be changed using ▲ or ▼ key as the below procedure during independent action ("5-6. OTHER KEYS" Item 3 in P.22) of the clamp ( ▼ and claw ---> platen moves downward) or forward ( ▲ and roward ---> mold moves forward)
- 1) To change PRESS 1, check that the pilot lamp of PRESS is on.

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To change CLAMP, press and clamp keys, so that the platen moves downward.

To change FORWARD, press and making keys, so that the mold moves forward.

- 2) Change the parameter value using **(A)** or **(V)** key.
- 3) Press and hold key for more than 3 seconds, until display of the parameter value starts to flash.
- 4) Then, press ENT key once again, so that display of the parameter value stops flashing.

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# 7. ZERO ADJUSTMENT OF PRESSURE SENSOR

After long time use of the machine, set values of PRESS 1, PRESS 2, CLAMP and FORWARD might become deviated slightly. To rectify that deviation, the following zero adjustment is effective.

- 1) Press key. The pilot lamp of this key is lit. All the pilot lamps of menu keys are turned off.
- 2) By pressing a or wkey, select P1.
- 3) Press ENT key. Then, the zero adjustment mode is started.
- 4) Press either one of PRESS, CLAMP, PRESS keys to be adjusted. Zero point pressure corresponding to the pressed key will be displayed. Press keys to be adjusted. Zero point pressure corresponding to the pressed key will be displayed. Press keys to be adjusted. Zero point pressure corresponding to the pressed key will be displayed. Press very keys to be adjusted. Zero point pressure
- 5) Press ENT key. When deviation is within +5 kPa to -5 kPa, pressure is compensated to 000 kPa.
- 6) Press key to finish zero adjustment of pressure sensor.

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# 8. INITIALIZATION

1. When it is necessary to reset the parameters of PRESS 1, PRESS 2, TIME, CLAMP, HOLD and FORWARD to the factory preset parameters (P.27), turn on the power switch

while pressing both and C keys simultaneously.

2. Zero point compensation values of the PRESS, CLAMP and FORWARD pressure

sensors can be cleared to "000", when the power switch is turned ON while and

keys are pressed simultaneously.

### 9. ALARM NUMBER

When malfunction happens, alarm number is shown in the parameter display window as follows.

The PRESS solenoid or the exhaust solenoid worked for more than 60 seconds.

The CLAMP solenoid or exhaust solenoid worked for more than 60 seconds.

The FORWARD solenoid or exhaust solenoid worked for more than 60 seconds.

The START key or the START button (blue) was kept pressed when the POWER switch was turned on.

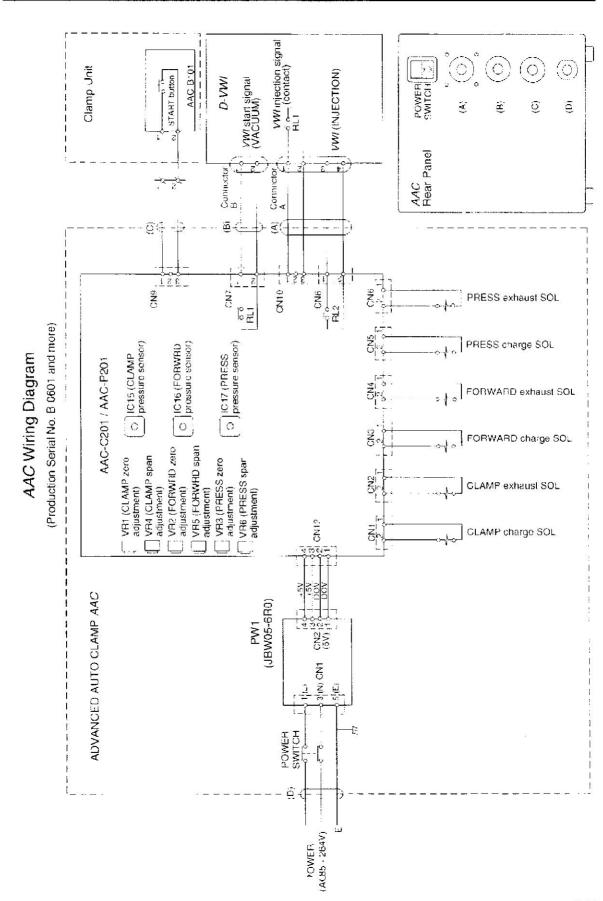
The automatic cycle was kept for more than 90 seconds.

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Injection action was finished by the Wax Injector within starting time of secondary pressurization (TIME).

Turn power OFF, and when the problem is solved, alarm number will be released.

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### 11. SPECIFICATIONS

Power supply: AC 100 - 240 V, 50/60 Hz, Single phase

Power consumption: 50 VA (max)

Compressed air supply: 0.25 - 0.30 (MPa)

Pressure sensor display range: -5 - +240 (kPa)

Wax injection primary pressurization 10 - 220 (kPa)

(PRESS 1) setting range:

Wax injection secondary pressurization 10 - 220 (kPa) (PRESS 2) setting range:

Starting time of secondary 0 - 99.9 (sec)

pressurization (TIME) setting range:

Mold CLAMP setting range: 30 - 235 (kPa)

Mold FORWARD setting range: 65 - 235 (kPa)

Mold HOLD TIME setting range: 0 - 300 (sec)

VACUUM setting range 0 - 99.9 (sec)

(for Digital Vacuum Wax Injector only):

INJECTION setting range 0 - 99.9 (sec) (for Digital Vacuum Wax Injector only):

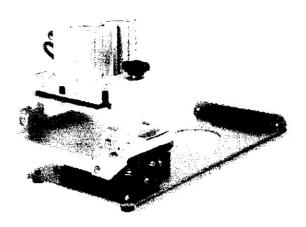
Memory number: 0 - 9

CLAMP count: 9999 counts

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# 12. OPTIONAL ACCESSORY

# Large Clamp Unit



Max. rubber mold size: 125(W) x 150(D) x 50 (H) mm

Dimensions: 196(W) x 223(H) mm, extends only 190 mm from front of injector

Weight: Approx. 8 Kg

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