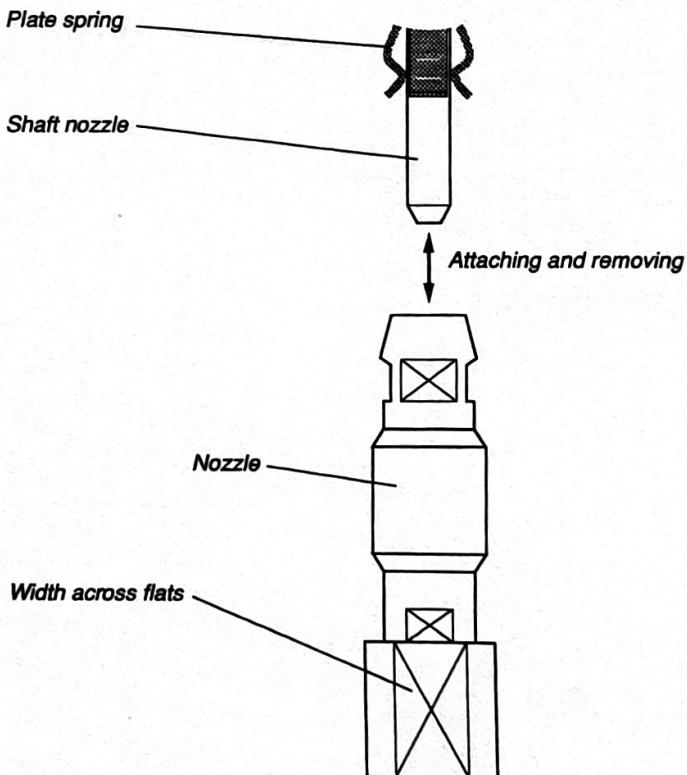


## A. Replacing the vision head nozzle

Work Content	Confirmation and Reference
<ol style="list-style-type: none"> <li>1. The nozzle can be removed by pulling it downwards.</li> <li>2. When attaching a different nozzle, first set the rotation angle of the R axis to 0°. (Use the R+ and R- keys, or carry out a return to the origin point.)</li> <li>3. With the nozzle oriented as shown in Fig. 8-64, with the width across flats facing front and back, fit the nozzle onto the shaft nozzle. When it is pressed all the way onto the shaft nozzle, it will be held in position by the plate spring.</li> </ol>	<ul style="list-style-type: none"> <li>• If an optional ATC station is used, nozzles can be replaced automatically.</li> <li>• Apply light force to the nozzle in the up, down, front, back, left and right directions, and check for any looseness or rattling</li> </ul>

Fig. 8-64  
Attaching and  
Removing the  
Nozzle



## 8-2-7 "Explanation 7": Warmup of the machine

Work Content	Confirmation and Reference
<ol style="list-style-type: none"> <li>1. This is carried out following the operations in Explanation 5. On the Main Menu screen, select "1. RUNNING". (Use the F1 and F2 keys or the ↑ and ↓ keys to move the highlighted display.)</li> <li>2. Press the F6 (NEXT) key.</li> <li>3. When the screen has changed to the subsequent screen, press the F3, F4, or F5 key, or use the → and ← keys to select "RUN MODE 1: UTILITY JOB".</li> <li>4. Press the RUN key.</li> <li>5. Press the 1 key.</li> <li>6. Press the RETURN (ENTER) key.</li> <li>7. Press the 0 key.</li> <li>8. Press the RETURN (ENTER) key.</li> <li>9. Press the RUN key.</li> <li>10. The warmup operation begins at this point. After about 10 minutes, press the STOP key to bring the machine to a halt.</li> <li>11. Press the RESET key twice.</li> </ol>	<ul style="list-style-type: none"> <li>• The warmup operation is intended to warm up the machine before starting production, especially the mechanical sliding parts of the machinery. The warmup is initiated by selecting "WARMUP" in the Utility program and running it. Normally, about 10 minutes of execution is sufficient. If very little time has passed since the machine was last used for production, however (2 hours or less), no warmup time is required.</li> <li>• Before warming up the machine, remove any PCBs that might be on the conveyor.</li> </ul>



**Warming up the machine without supplying air could cause damage to the head.**

## 8-2-6 "Explanation 6": Selecting PCBs for the production machine model

Work Content	Confirmation and Reference
<ol style="list-style-type: none"> <li>1. On the screen shown in Fig. 8-5, after a return to the origin point has been completed, select "3. DATA IN". (Use the F1 and F2 keys or the ↑ and ↓ keys to move the highlighted display.)</li> <li>2. Press the F6 (NEXT) key.</li> <li>3. When the screen has changed to the subsequent screen, press the F6 (NEXT) key again.</li> <li>4. Press the F3 (LOAD) key.</li> <li>5. Select the type of PCB to be produced from that point. (Use the F1 and F2 keys or the ↑ and ↓ keys to move the highlighted display.)</li> <li>6. Press the F6 (NEXT) key.</li> <li>7. Press the MAIN MENU key to return to the initial screen (the Main Menu screen).</li> </ol>	<ul style="list-style-type: none"> <li>• The Philips CSM's are designed to read-in the data of a PCB via the RS 232 terminal-part which is connected to a remote computer (PC).</li> </ul>

Fig. 8-66  
Screen for  
Selecting PCBs  
for the  
Production  
Model

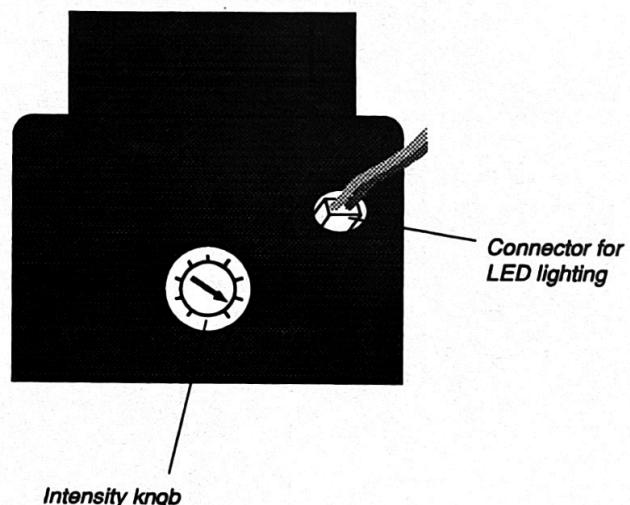
DATA IN		PCB NAME :		
PCB	LOAD			
NO.	PCB NAME	SIZE	DATE	TIME
1.	MNTCHIP	2569	90-11-06	10:00
2.	MNTQFP	6209	90-11-07	15:10
3.	MNT123	1033	90-11-10	18:05
4.	CONVEYER	3210	90-11-11	9:23
5.				
6.				
7.				
8.				
9.				
10.				
F1	F2	F3	F4	F5
UP	DOWN			NEXT

"MNTQFP"  
is selected

### B. Adjusting the LED brightness

Adjusting the brightness at which the LED on the vision head lights can improve the conditions under which fiducial marks are read. Use the intensity knob shown in Fig. 8-65 to adjust until the fiducial marks can be read easily. Generally, the optimum position of the dial is the point where it is turned back slightly from the maximum level.

Fig. 8-65  
Intensity Knob



## 8-2-11 "Explanation 11": Stopping the machine

Work Content	Confirmation and Reference
1. Press the <b>STOP</b> key.	<ul style="list-style-type: none"> <li>Check to make sure that all movements of the machine stop and the green highlighted display goes out.</li> </ul>

## 8-2-12 "Explanation 12": Stopping the power supply and cutting off the air supply

Work Content	Confirmation and Reference
<p>—Stopping the Power Supply—</p> <ul style="list-style-type: none"> <li>Turn off the main power supply on the front of the machine.</li> </ul> <p>—Cutting Off the Air Supply—</p> <ul style="list-style-type: none"> <li>Turn off the air supply cock, or disconnect the air hose from the air connection opening on the machine.</li> </ul>	<ul style="list-style-type: none"> <li>The CRT screen display disappears.</li> <li>If the machine is not to be used for a long period of time (particularly over the holidays at the end of the year or other long vacations), turn off the supply of air.</li> </ul>

## 8-2-14 "Explanation 14": Creating data for new PCB models

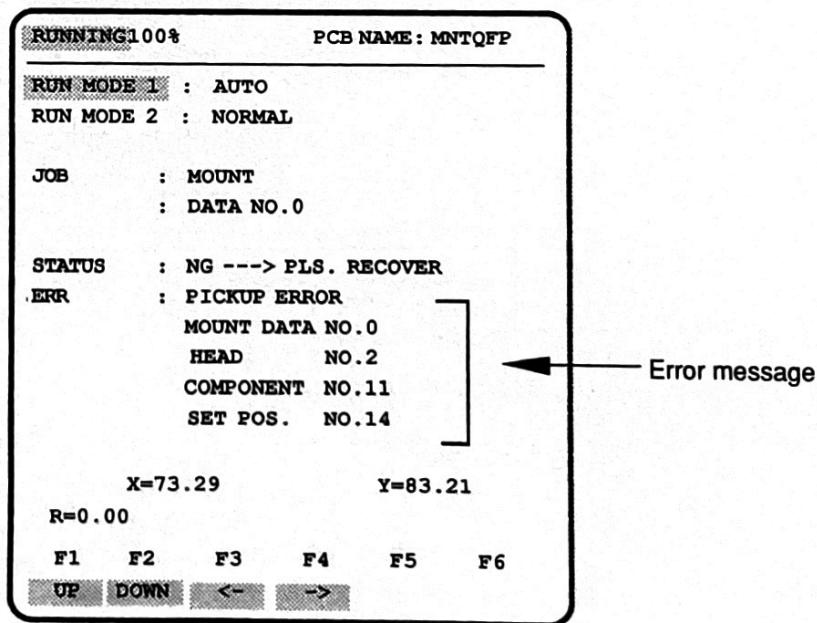
Work Content	Confirmation and Reference
<p>Basically, when creating data for a new type of PCB, the data listed below is required.</p> <ul style="list-style-type: none"> <li>"COMPONENT" data</li> <li>"PCB" data</li> <li>"VISION" data (only for machines that are equipped with a vision system)</li> </ul>	<ul style="list-style-type: none"> <li>When creating new data, make sure you don't forget to save it! Data is saved on the "DATA IN → PCB" screen.</li> <li>After creating data, run the "PCI" Utility program to have errors in the data detected automatically. This is a very efficient method of checking data.</li> <li>For details, please see "Chapter 3. Data Entry".</li> </ul>

## 8-2-10 "Explanation 10": Error occurrence and countermeasures

Work Content	Confirmation and Reference
<ol style="list-style-type: none"> <li>1. If an error occurs during production, check the error messages on CRT display and press the <b>ERROR CLEAR</b> key.</li> <li>2. If you must re-adjust, press the Emergency Stop button for your safety.</li> <li>3. Eliminate the cause of the error.</li> <li>4. Cancel the Emergency Stop button.</li> <li>5. Press the <b>READY</b> switch.</li> <li>6. Press the <b>RUN</b> key to restart production</li> </ol>	<ul style="list-style-type: none"> <li>• If an error occurs, the yellow highlighted display lamp lights and a buzzer sounds. In addition, an error message is displayed on the CRT screen. For information on error messages and the countermeasures to be taken, please refer to "Chapter 6: Maintenance, Repair and Adjustments" and take the proper corrective action.</li> </ul>

When mounting electronic components, there will always be a point where the components run out. The error message displayed when this happens is shown below. Other error messages are displayed in the same position on the screen.

Fig. 8-68  
Error Message  
on CRT Screen



### 8-2-9 "Explanation 9": Mounting electronic components and applying adhesive and solder paste

Once production starts, check the first 2 or 3 PCBs to make sure the mounting or application is proceeding normally.

During production, there may be times when the tape reel, stick, or tray runs out of electronic components, the adhesive and solder paste are used up, or production is temporarily interrupted.

If electronic components have run out, the highlighted display will light in yellow, a buzzer will sound, and the message "ERR: PICK UP ERR" will be displayed. If a large number of a particular component is to be mounted, have a separate feeder ready in advance, so that when the components run out, the feeder can be exchanged immediately, without losing production time.

There is no sensor to detect the adhesive and solder paste running out. The user must know, before production starts, how much production can be completed before the adhesive and solder paste run out.

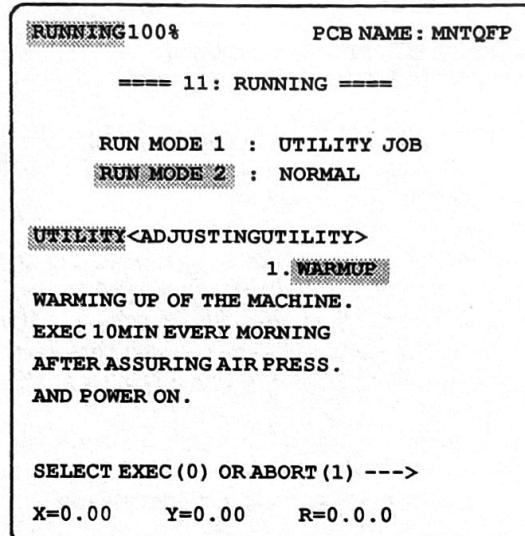
This varies somewhat depending on the application conditions, but normally, on one PCB, applying 100 dots for small chips means that 300 to 400 PCBs can be produced with one syringe (10 cc). (A much higher volume of solder paste is used for drawing lines, so this runs out very quickly.)

If the time in which the material is likely to run out is set as part of the data, an error will be issued at the point where the syringe becomes empty, so that the yellow highlighted display lights and a buzzer sounds.

If the adhesive and solder paste have run out, do not stop and refill the empty syringe right at that point, but replace it with an already-filled one. (Refilling should be requested of the adhesive and solder paste manufacturer.)

For instructions on replacing tape reels and syringes, please see "Explanation 4": Changing Setups.

Fig. 8-67  
WARMUP  
Screen



#### 8-2-8 "Explanation 8": Starting production

Work Content	Confirmation and Reference
<ol style="list-style-type: none"> <li>1. This is carried out following the operations in Explanation 6. On the "RUNNING" screen, press the F3, F4, or F5 key, or use the → and ← keys to select "RUN MODE 1: AUTO", "RUN MODE 2: NORMAL".</li> <li>2. Press the RUN key to start production.</li> </ol>	<ul style="list-style-type: none"> <li>• When production starts, check to make sure the message "----11:RUNNING---" is displayed on the screen.</li> <li>• Make sure the highlighted display is lighted in green.</li> </ul>