

**OPERATING CANON 501**  
**First Wafer without Alignment**

**Rev. 10/30/01**

**START-UP**

1. Turn on mercury lamp power supply (located on the floor).
  - a) Toggle switch **ON**.
  - b) Press black **START** buttonLet the bulb warm up for 15 minutes.
2. Clean the mask. (Use 1165 Remover in the Ultrasonic for 15 min. followed by DI water rinse for 10 min.)
3. Turn on the main switch for the Canon 501. (Located on upper left panel.)
4. Select the mode, i.e.: soft contact or proximity.
5. Make sure that the **ALIGN GAP** setting is about 90 and **PRINT GAP** is 20.
6. Put the wafer feed in **AUTO**.
7. Press **MANU** alignment switch.
8. Check the 4 gauges located below the main panel. They should read:

<b>Vacuum</b>	<b>&gt; 50 cm</b>
<b>Clean air</b>	<b>= 2.2 kg/cm<sup>2</sup></b>
<b>Pressure</b>	<b>= 3.5 kg/cm<sup>2</sup></b>
<b>Nitrogen</b>	<b>= 0.8 kg/cm<sup>2</sup></b>

**LOAD MASK**

1. Unlock the saddle for the lamp housing by pulling the lever to the left rear of the housing. Swing the lamp house to the right.
2. Load mask with pattern facing downwards (Cr or emulsion goes down). The wafer flat will face to the left.
3. Push mask against the stops (two in rear, one on left side).
4. Turn on the vacuum to hold the mask by pressing the **MASK LOAD** switch.
5. Make sure the mask is oriented correctly so that subsequent plates do not need much alignment.
6. You may leave the saddle open for coarse alignment.

## LOADING WAFERS

1. Load wafers into wafer holder using tweezers. Front side of wafers should face up when holder is put on the auto-loader.
2. Use N2 gun to blow off the wafers.
3. Put the wafer holder with the unexposed wafers on the front loader. Place the bar of the wafer holder into the metal cradles. Put the unloaded wafer holder in the back loader.

## EXPOSURE SETTINGS

1. Set the **LIGHT INTEGRA** to the desired time. For example, use 7.0 for photoresist 1813.
2. Check the **PRINT GAP** for the desired distance.
3. Press **START**. The first wafer will load with flat to the left.
4. The **ALIGN** lamp will flash.

## COARSE ALIGNMENT

1. With the saddle still open look at the wafer through the mask (using your eyes not microscope)
2. Make rough X-Y alignment by pressing the button on the alignment mouse and moving the mouse. This moves the wafer beneath the mask.
3. Make rough  $\emptyset$  alignment by rotating the mask with the  $\emptyset$  knob (located next to the X-Y mouse).
4. Return the saddle to the closed position.

## EXPOSURE

1. Press **ALIGN** then **EXPO** light will flash.
2. Press **EXPO** and the wafer will be exposed.
3. The subsequent wafers will load and you can expose them by pressing **ALIGN** followed by **EXPO** (you may do coarse alignment for each wafer).
4. Continue until all wafers are exposed.

## LOAD ERRORS

If you get a load error press **RELOAD** and the wafer will be put in the exposed wafer boat with out being exposed - reload it in the expose boat when done exposing the remaining wafers.

## WHEN COMPLETE

Turn off the power switch on the upper left panel. If no else will be using the system soon turn off the lamp (power switch by the floor).