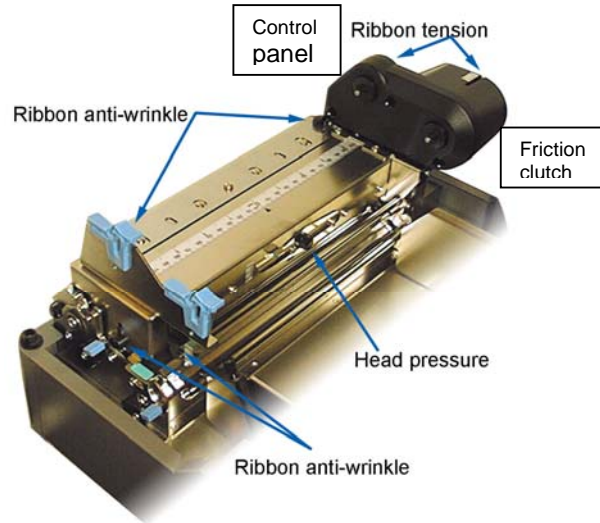


## CLP 8301 print head assembly

This document will explain the print head assembly, especially the ribbon tension, head pressure and ribbon anti-wrinkle controls shown in the picture below.

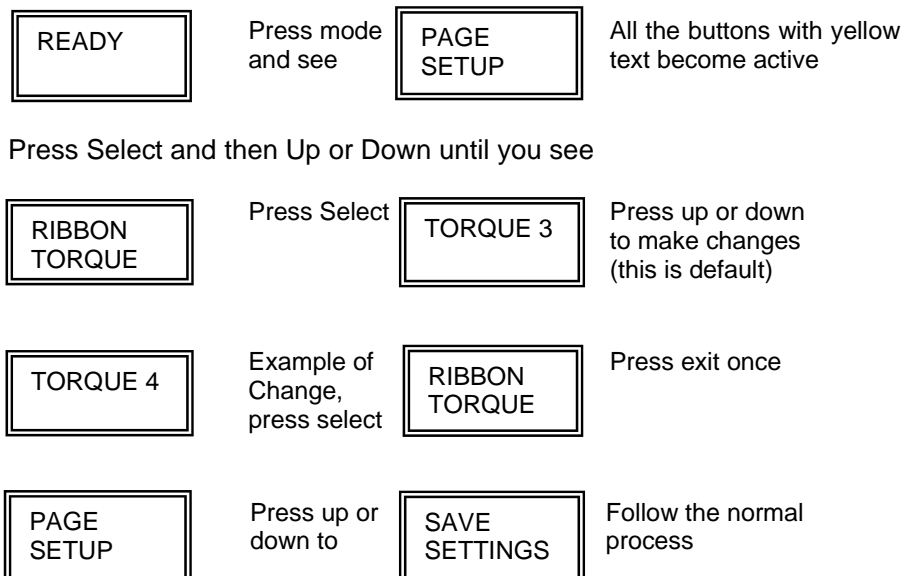


### Ribbon Tension

This is controlled in two ways – both described in the user manual on page 27 (ribbon tension adjustment)

**Friction or mechanical clutch** – in most cases we recommend the rear ribbon clutch be set to its minimum, the small white core visible through the slot should be as near to zero as possible. This prevents the printer from reporting ribbon out when there is still ribbon on the rear supply core. Ribbon detection is done using tension only on this printer; a loose or un-tensioned ribbon may cause a premature ribbon out report.

**Control panel** – using the following button pushes you can make changes to the ribbon winding torque (controlled through the control panel, by an electric motor).



## Head pressure

Print quality can be affected if this lever is not set correctly. The lever in the picture has a small numbered scale on the left side. For normal media, this should be set at about 1 (default) on the scale. For thicker media the setting number needs to be increased, for example, normal card used for tickets etc may need the lever set to 6 or even higher to produce good quality images but this needs to be found by experimentation. DO NOT move the lever above the zero point (effectively -1) as this will cause the print quality to drop off dramatically. Locking this lever in place is done using a small black headed screw (sometimes called a grub screw).

## Ribbon Anti Wrinkle (mainly controlled by the front plate)

No specific advice but the following is ideas and areas to check.

1 – Printing a heavy graphic, which is on one side of the label, causing the ribbon take-up core to become unbalanced or uneven (just backing film in one area but ink and backing film in another), will cause ribbon wrinkle. This is especially the case on the CLP 8301 when using the wide 200mm plus ribbon.

2 – Printing with a higher than normal heat, causes the printer to slow down (this speed change differs slightly between printers). However, if the print speed and slew speed (**see printer driver>printing preferences>options**), are set to their default, the printer can print the label slowly, then speed up in the blank areas. This slow, then fast, then slow again action, where the printer is following the driver's instructions BUT also its own internal programming, can have unusual consequences on the ribbon. This sudden speed change can cause ribbon wrinkle, especially if the ribbon take-up spool is also winding on the used ribbon unevenly because of large areas of unused ink. This fast and slow action can also make the printer very noisy (**see additional notes - Ribbon wrinkle - CLP 8301**)

3 – New models of the CLP 8301 have had the Plate RG 2 (the metal strip visible along the front upper edge of the print head with holes in and held in place by two grub screws) modified. The original plate was a single piece of metal, held in place by a screw and washer centrally. It could be adjusted by loosening the grub screws at both ends and moving the plate in one direction or the other. The newer models have actually got **two** plates which can both be moved in different directions giving greater adjustment and control over ribbon wrinkle problems.

## 4 – Example from the field

Paragraph 1 (2 and 3 should also be considered) above are the most common cause of ribbon wrinkle on this printer. Especially where the full width ribbon is being used. We found one user printing with a 200mm wide ribbon but much of the text was actually being printed on the left 100mm wide section. This caused the ribbon take-up spool to build up unevenly and after some printing the ribbon began to wrinkle. In this case the driver print speed had been set at 100mm per sec but because the heat setting was above 18 the printer physically slowed down to about 50mm per sec (see paragraph 2 above) during printing but increased speed to 100mm /sec in the blank areas (Slew speed). The ribbon problem was being aggravated by these sudden speed changes. The fix here was two fold. Reposition the label relative to the text being printed (in this case the user moved to 150mm wide ribbon) and set printing and slew speeds on the driver to 50mm p/s. This removed the wrinkle problem and had an added benefit, printing noise was greatly reduced and there was no ribbon slap when the printer re-tensioned the ribbon and no noise from the ribbon holders, also caused by re-tensioning of the ribbon mechanism.