

THE DANBY GROUP



What are those diagonal lines going through my TTR printed labels?

Chances are your bar codes have
WRINKLES!!!

Wrinkles are those white, or what ever color your back ground is, lines that migrate from one side of the printed label to the other. These lines can cause the bar code not to scan or scan incorrectly. They also make non-bar code labels very unpleasant to the eyes. **No one wants wrinkles!!!**

This problem is not unique to any particular brand of Thermal Transfer Ribbons; any ribbon can wrinkle. There are many reasons for wrinkling. It is, however, almost never the ribbon which causes the wrinkling. Many of the causes are due to the equipment or the user.

Continued...

Common Thermal Transfer Printing Problems

Top 10 Reasons for Wrinkling

- **Uneven printhead pressure**
- **Incorrect Label Design format (uneven printing)**
- **Mis-matched media sizes**
- **Evenly matched media sizes**
- **Printing too fast**
- **Printhead heat setting too high**
- **Dirty printhead or print path**
- **Worn or damaged platen roller**
- **Incorrect media guide setting**
- **Incorrect supply spindle tension**

Uneven Printhead Pressure:

If the printhead is misaligned or has more pressure on one side the ribbon will want to migrate to the side with the lowest pressure. You may remember this as the theory: Objects move to the path of least resistance.

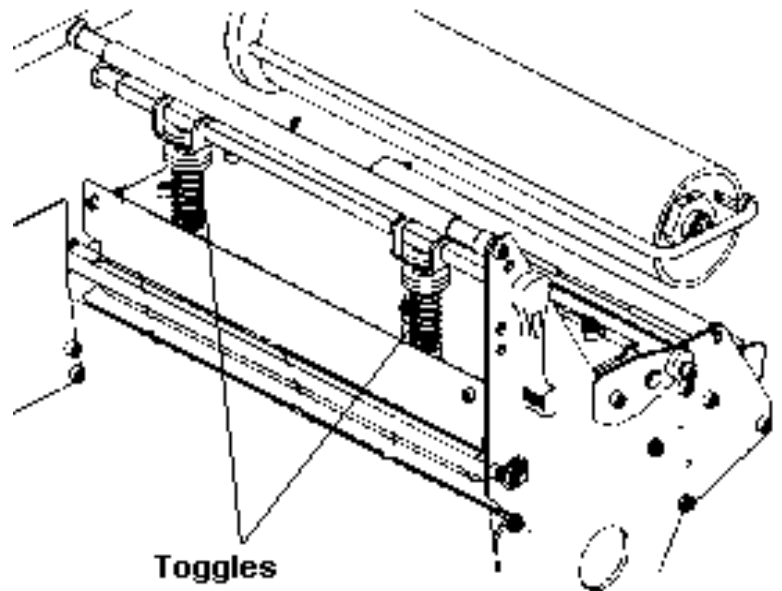
Another problem you may encounter if the printhead pressure is uneven will be poor print on one side and good print on the other side of your label. See Figure 1. If you see this print quality problem and then see wrinkling, you have found your cause.

In order to adjust the printhead pressure you should first consult the printers owners manual. Many printers have toggles that you can tighten down, or knobs that can be turned. Zebra for instance has toggles that are movable across the printhead. These toggles can also be tightened or loosened to match the media needs. See Figure 2.

Figure 1.



Figure 2.



Incorrect Label Design Format (Uneven Printing):


Many label formats are designed from left to right, since this is the way we read. The problem with this, is that if you put all your fields on one side. The amount of stress put on one side of the ribbon can cause wrinkling. Every time you image the ribbon you are actually melting the ink and transferring it to the label material. When the base film (Ribbon without ink) breaks away from the label, the ink will cause stress on the base film.

Continued...

Think of this: if you place a towel on the ground and step on one side of it. Then try to pull the towel straight up. You will see wrinkling moving toward one side, the side your foot in not on. Your foot represents the printed images. The following

labels show what a good label will look like and what a bad label looks like.

FROM: NCR Corporation 9095 Washington Church RD Miamisburg, OH 45342	TO: ABC Company Anywhere, USA
Product Code: 123456789 123456	
PO: 345-896779-0 DEPT: 092	CARRIER BEST FREIGHT PRO: 28585465 B/L: 878768
(00) 0 0052177 513895717 2 123456	

FROM NCR Corporation 9095 Washington Church RD Miamisburg, OH 45342
TO ABC Company Anywhere, USA
Product Code 123456789123 123456
(P#) 12345 1234
(S4) 123456
(P1) 123456
(00) 0 0052177 513895717 

Good Format
Bad Format

Mis-matched Media Sizes:

Using labels that are wider than the ribbon or ribbons that are excessively wider than the label can cause wrinkling as well. DANBY always recommends that our customers use a ribbon that is wider than the label (.18 inches wider), but we do not want them to use one that is more than one half inch wider. Anything larger than one half inch can result in wrinkling.

The label and ribbon are pulled through the printer by a platen roller located under the printhead. This platen is below the label and ribbons when they are loaded. During the printing process the printer uses the pressure and friction between the printhead, ribbon, label and platen to move the media. If the ribbon is too wide, it can be pulled faster or slower on one side, causing wrinkling.

If the label is significantly wider than the ribbon,

Printing Too Fast:

By increasing the print speed on the printer some things that seem like they are set correctly on the printer, will start causing wrinkling. One setting on the printer that can cause wrinkling due to increasing the print speed is Torque of the media spindles. When a spindle is turning, it is actually turning at a different speed on the gear side than on the open side. At higher speeds this difference will show itself.

If you pull your towel faster on one side than the other, you will see wrinkling as well.

In order to correct this problem the printer should be examined by a Danby certified technician.

Printhead Heat Setting Too High:

If the label being printed has a lot of black areas you may see wrinkling or burn through (smiles). Printing with a heat level too high for the ribbon/label combination can cause the ribbons base film to stress and melt. This will cause the ribbon to stretch or shrink in the printed areas.

Making sure the heat setting is set to the lowest setting for the ribbon/label combination will eliminate many of the damaging effects of heat levels. Follow the heat settings guide attached for an optimal range (Appendix A).

High heat settings will not significantly reduce the life of a printhead if the setting is optimal for the ribbon/label combination. The printhead will fail due to hard particle abrasion before any other cause.

Dirty Printhead or Print Path:

A dirty printhead can cause several printing problems. The most annoying of these causes is poor print quality. Wrinkling can be classified as a poor print quality issue. If there is a build-up of adhesive on the printhead or in the print path, the ribbon may stick and be pulled unevenly. The same can happen if the labels are sticking to excess adhesive and causing the ribbon to be pulled unevenly through the print path.

To clean the print path, use the cleaning cards included with all cartons of labels, or use a lint free cloth and a 30-70% IPA mixture (rubbing alcohol). Remove all the media and then take the cleaning card or saturated cloth and rub the print head and platen roller clean. The rest of the print path should also be inspected and cleaned. Use a can of compressed air to blow out all dust and clean the sensors as per the owner's manual.

Worn or Damaged Platen Roller:

As stated above, the platen roller is the roller under the printhead that actually pulls the media through the printer. This roller is usually made from rubber and should be slightly tacky. Like the printhead pressure, the platen roller needs to be level and smooth.

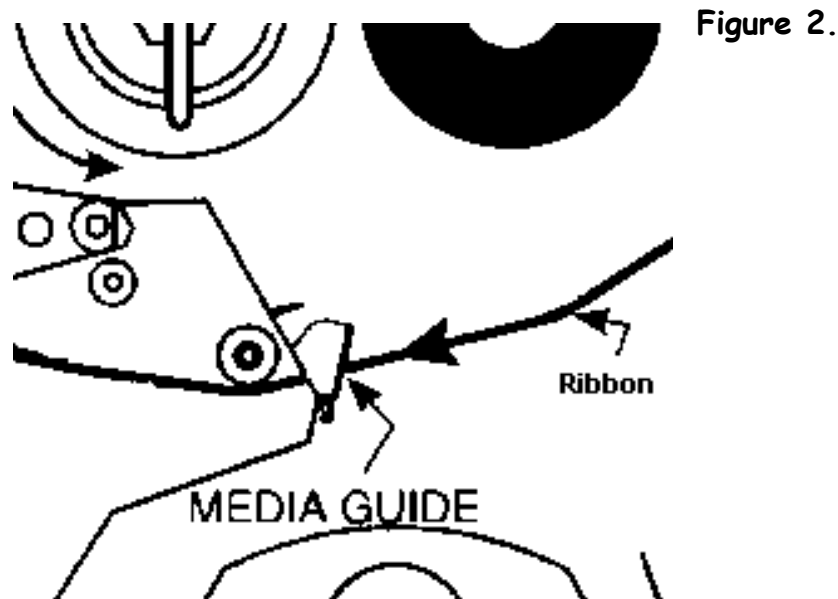
If the platen roller is not level, or if it has been worn on one side due to uneven label thickness or uneven printhead pressure, you will get walking of the label or ribbon. As we discussed, this walking will cause wrinkling.

If there is a bump or dip in the platen roller you may also see wrinkling. This is due to the uneven surface. If the platen roller is not level or is not smooth, have a certified technician replace the roller.

Incorrect Media Guide Setting:

All printers have media guides to keep the labels from moving from left to right, or right to left. If the labels are loaded in the printer without adjusting the media guides correctly the label could cause the ribbon to move and wrinkle.

The media guides are typically a small "shark fin-like" piece that needs to be moved until it is slightly touching the edge of the labels. See Figure 2.



Incorrect Supply Spindle Tension:

The supply spindle for the ribbon is used to take up the used portion of the ribbon. This spindle is not intended to pull the ribbon through the printer. If the spindle did not take up the used portion it would just fall to the floor or if the customer has a cutter it would be cut.

This spindle needs to maintain the same speed and torque as the platen roller. This way, it will not apply additional pull on the ribbon. If there is additional pulling on the ribbon you will see scuffing and wrinkling. The ribbon could even break after only three quarters of use. The used ribbon will either be too tight to remove or too loose to fit the whole roll of ribbon on it. If the ribbon is rewound too tightly, you will have to have the tension decreased. If the ribbon is rewound too loosely, the tension will have to be increased.

In either case, it can cause the ribbon to wrinkle. With too much tension the ribbon will be pulled unevenly and cause strain on one side. With the tension too loose, the ribbon is allowed to walk or crumple under the printhead.

Depending on the printer the operator can adjust the tension. Consult the owner's manual for instructions. If there are no instructions in the manual, contact a certified service technician.

As you can see from the top 10 reasons for wrinkling, the ribbon is almost never at fault. There are many things in the printing process which can affect the performance of the ribbon, one of which is the printer itself. Keeping the printer clean and in good working condition will help to eliminate wrinkling as well as many other problems.

Be confident that our Thermal Transfer Ribbons are the **Best In Class.**

Call us today for a competitive quote for your ribbons needs.... 800/262-2629



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