

Thermal Printhead Care

The Printhead is the most critical component of your thermal printer that affects print quality and also one of the most delicate components.

This guide is intended to provide you with knowledge on how to get the best performance from your thermal printhead and includes care, maintenance and replacement.

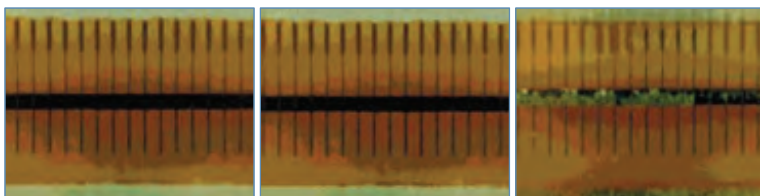
INTRODUCTION

Printheads are considered a consumable part of thermal printers that wear out over time. Much like the brakes on a car, they require proper installation and ongoing maintenance to ensure a long life and quality performance.

Maximising printhead life is important to users of thermal printing technology because it reduces printhead replacement costs and increases productivity. With proper installation, ongoing careful attention and maintenance, you can maximise the life of a printhead.

Below are photographs of three printheads.

- The first printhead is brand new.
- The second has printed over one million linear inches of thermal transfer labels and has been properly maintained.
- The third printhead has printed far fewer labels, but without proper care and maintenance, signs of abrasion and contamination build-up are evident.



New Printhead

*Properly Maintained Printhead
Over 1 Million Inches*

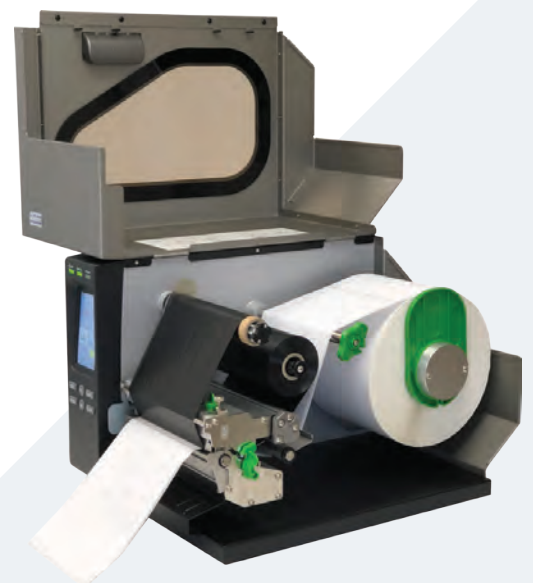
*Poorly Maintained Printhead
Less than 1 Million Inches*

Topics Discussed:

Reasons Printheads Fail

Cleaning Your Printhead

Printhead Replacement



Specifications may change without notice

REASONS PRINTHEADS FAIL

Excessive Abrasion

Your printhead has a protective layer (top coat). Excessive abrasion will cause the top coat to wear prematurely and expose the heater element and this is bad news for print quality and safety.

Two common causes of abrasion which are relatively easy to avoid are:

- Poor quality media, ribbons and labels, can have abrasive particles embedded. When they come loose and contact the printhead, they act like sandpaper.
- Environmental elements such a particle dust in the printer cabinet (frequently created from thermal ribbons and label media), dirt from a shop floor and dust in the air.

Simple steps to avoid these issues include:

- Purchase your print media from a reputable supplier and preferably one who supplies both quality equipment (your thermal label printer) and quality media. These suppliers have a vested interest, and the technical knowledge, to ensure both equipment and media are well matched for long term quality performance. Wedderburn have branches throughout New Zealand with staff who can help.
- Frequent cleaning of the printer cabinet is key to printhead longevity. A small can of compressed air is ideal.
- Keeping the printer door closed during printing. We know it's convenient to keep the printer door open but this exposes your printhead to even more dust and dirt particles which can quickly cause costly damage.

Abuse

Critical to the life of your printhead is maintaining the protective coating on the heating element.

When operators see buildup on the printhead, it's tempting to scrape it off with something sharp (screwdriver, pocket knife). **DON'T DO THIS!** It scratches the printhead and causes irreparable damage. See page 3 for advice on how to best clean printheads.

Impurities

Impurities can open and/or short circuits in your printhead (creating dead spots on the head).

Often the impurity is introduced when something other than pure (99%+) isopropyl alcohol is used. Isopropyl alcohol is the only cleaning product that should be used when cleaning thermal printheads.

Refer to recommended cleaning procedures on page 3.

Overdrive

What is overdrive?

Overdrive is when your printhead does not make proper contact with the print media. When this happens, the printhead element can't dissipate its energy as desired and shortens its life. This shows up on the printhead as white lines or dots on the element.

What causes overdrive?

Three common causes and preventative steps are:

- Residue buildup on the printhead. To avoid this happening, following best practice guidelines, clean the printhead regularly. Refer to our guidelines on page 3 for recommended frequency.
- Unusual wear on the platen roller. If you run your finger across the roller, can you feel ridges, valleys? Did someone damage it when removing a jammed label? Cuts or small pieces of rubber missing are common. If the platen roller is damaged replace it straight away. Platen rollers are cheap especially compared with printheads.
- Lastly, don't open the printhead while printing is in progress. Doing so changes the flow of energy through the printhead potentially causing overdrive (same with plugging and unplugging cables... power down first).

ESD (Electro Static Discharge)

"Electrostatic discharge (ESD) is the sudden flow of electricity between two electrically charged objects caused by contact, an electrical short, or dielectric breakdown."

ESD protection is a must when:

- Handling or changing a printhead
- When cleaning a printhead, don't touch the element with your hands/fingers
- Media passing over residue/material on the head. Make sure the printhead is clean.



CLEANING YOUR PRINTHEAD

Wedderburn recommends the cleaning of the printhead regularly, either after every roll of thermal transfer ribbon or after every roll of direct thermal labels.

Additional cleaning may be necessary based on the application and environment.

Precautions

- ALWAYS turn POWER OFF before commencing maintenance. Not doing so may expose you to harmful electric shocks.
- NEVER use sharp instruments to clean any part of your thermal printer. Doing so may cause permanent damage that is costly to repair.
- When handling or cleaning the printhead, remove any jewellery that may scratch it. It is also advisable to use a grounding strap or antistatic mat to discharge static electricity that could also damage the printhead

Cleaning Steps

1. Power OFF and unplug printer / scale.
2. Open printer / label cassette to access print mechanisms.
3. Using Wedderburn's printhead spatula, carefully remove any labels that are stuck to the printhead or pressure roller.
4. Cover the spatula with the cotton cloth cover provided and spray Propaclean Solvent onto the cloth. DO NOT over saturate the cloth.
5. Gently but firmly wipe the printhead or pressure roller with the covered spatula. When cleaning the pressure roller, ensure you rotate it as you clean so that you clean the entire roller.

If you need help with printer maintenance or replacement parts, call your local Wedderburn team. We stock a vast range of printer spare parts and also provide preventative maintenance and fix-on-fail technical services.

Thermal Printhead Cleaning Kits are available from all Wedderburn New Zealand branches. Order Code BL0606.



Thermal Printhead Cleaning Kit. Order Code BL0606

PRINTHEAD REPLACEMENT

When replacing your printhead, be sure to follow the directions in the maintenance manual for your printer model. The correct maintenance manual should always be consulted for any printer servicing.

Recommendations

- Only use genuine printheads to ensure that your printer and part warranties remain intact and that the product performs optimally.
- Return the printer darkness and the printhead pressure back to factory settings if printhead problems had required compensated settings
- Be sure that the replacement printhead resistance matches the printer's printhead resistance setting.
- Wedderburn recommends using a trained technician to replace printheads. All ESD precautions should be followed when installing or servicing a printhead.

Printer Settings

Generally speaking, printhead life can be maximized by using a blended combination of darkness settings and head pressure forces to achieve the desired label print quality for your specific application.

You should avoid using just the darkness settings or just the head pressure to achieve your desired print quality. Refer to the maintenance manual for your printer model for more information on this subject.

Printing in direct thermal mode may contribute to shortened printhead life due to the potential for increased abrasion. Thermal transfer label and tag materials are coated with a special top-coating and the thermal transfer ribbon provides an extra layer of printhead protection.

For further assistance on new equipment, spare parts or technical servicing, contact your local Wedderburn team 0800 800-379.



Specifications may change without notice

▲ Labelling Equipment.

Weighing Scales. Packaging Equipment. Labelling Equipment.
Labels. Food Equipment. POS Solutions. Maintenance & Repairs.