

# Maintenance / Care of Thermal Printers

## 1. Overview.

- Theory of Operation
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- Self Tests
- Typical Faults
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- R.A.C.E. Services Limited – Company Profile.

## 2. Theory of Operation.

Two methods of thermal printing:

- a. **Direct thermal** – the heat from the print head heats up the ink in the media (or label), and the result is text and graphics on the label.
- b. **Thermal transfer** – the ribbon is heated up by the print head, which adheres (or “keys”) to the label, giving us text and graphics.

The application and cost determine the method of printing selected i.e. thermal transfer is typically used in applications where the stock may sit for a while or in environments where the stock may be exposed to the elements (outdoors, sun, rain etc). Direct thermal is primarily cheaper, as no ribbon is required, and is used where labels are not exposed to light for long periods. Thermal transfer also gives a clearer more glossy print.

## 3. Operating Procedure – General Considerations.

### 3.1 General Care:

1. Lift the print head when not in use, leaving the power turned **ON** i.e. between shifts or over night etc.
2. Keep knives, sharp objects away from the print head, and rollers.
3. **Do not** attempt to change print heads without first turning the printer off.
4. Only use **Iso Propyl Alcohol** to clean the print heads, rollers and sensors, and a suitable filtered “dry” compressed air supply to blow out any dust and debris from the print mechanism, taking care to avoid direct aim at the print head.

### 3.2 Cleaning:

As the print heads are designed to heat up and cool down quickly, it is necessary to keep them as clean as practically possible. A build up of paper dust and glue on a print head can cause elements to cook. Keeping them clean can extend the life of your print head.

Printers in a dusty environment are also susceptible to excessive wear, as dust can be extremely abrasive. Dust will chew out print head elements, reducing its lifespan.

Manufacturer's recommendations are to clean your print head, platen roller etc after each roll of ribbon (thermal transfer) and each roll of labels (direct thermal).

**Note:** this is in a perfect world, and operating constraints often limit what can be done. Work out a schedule and stick to it.

### 3.3 Moisture:

As with all electronic devices, the components and water do not mix well. As much as possible, keep all moisture away from the printer, especially the print head region. This is particularly important during wash down.

## 4. Self-Tests.

The self-tests available will depend on the type of printer in question. Refer to specific printer instructions.

## 5. Typical Faults.

### 5.1 General Printer Faults:

- a. Labels / ribbon slipping and don't pull through properly. Check the platen roller; it may be dirty or worn. Clean the platen roller, and print head with Iso Propyl Alcohol on a lint free cloth. Test the printer. Does it still slip? Send to **R.A.C.E. Services Limited** for repair.
- b. Labels don't stop in the correct place. Check the label edge sensor. Is it correctly aligned? Is there any visible debris in the way, obstructing the sensor's view? If not, and you are able to recalibrate the printer, attempt to do so. If not, send to **R.A.C.E. Services Limited** for repair.
- c. Label stuck in the print path, or stuck to the print head. Turn printer off and gently attempt to remove. If unable to access the offending item, send to **R.A.C.E. Services Limited** for repair.

- d. Lines of print missing from print head. Check and clean the print head. Lines still there? The print head elements are probably worn through. Send to **R.A.C.E. Services Limited** for repair. **Note:** if attempting to replace a print head on site, **always** turn the power off first.
- e. Poor print quality. Check print head temperature, is it correct? Is the print head correctly aligned? Platen roller may be worn unevenly. Send to **R.A.C.E Services Limited** for repair.
- f. Labels tracking to one side of the print mechanism. Check that the label guide is correctly fitted. Platen roller may be worn; print head may be out of alignment. Send to **R.A.C.E. Services Limited** for repair.

**Note:** if a fault condition occurs, give the print head, platen roller etc a good clean with Iso Propyl Alcohol, and attempt another print. If this does not help, closely inspect the print mechanism. Is there anything that is out of place? If nothing seems obvious, then ring **R.A.C.E. Services Limited** for further support.

**5.2 Specific Printer faults:** Refer to the specific printer specification sheets.

## 6. Recommended Spares List.

A lot depends on the size of the plant in which the printers are located, and how catastrophic a breakdown will be. For all printer owners R.A.C.E. Services Limited recommends that a copy of the operator's manual, and the box the printer was delivered in, be held onto.

For the larger sites R.A.C.E Services Limited recommends the following:

- A fully serviced spare printer, or a printer available to cover a breakdown.
- Spare print heads (1 an absolute minimum).
- A supply of Iso Propyl Alcohol and suitable cleaning clothes.

## 7. Contact Details.

For service on your thermal printers call:

- In the Christchurch calling area phone 344-2995
- Outside the Christchurch calling area phone 0800 100 002

R.A.C.E. Services Limited provides a 24-hour, 6-day services and support facility for its maintenance customers, with free phone support for the first 10 minutes. If you have any problems please contact us at the above numbers.