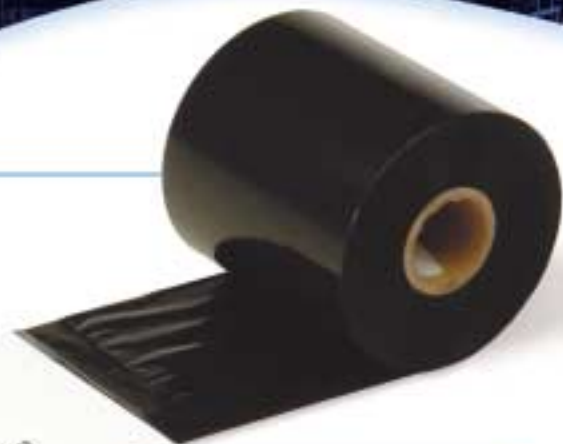


Technical Bulletin

Clean Start™ PRINTHEAD CLEANER

The fast and easy way
to remove debris before it builds up



Let's face it. While printer manufacturers recommend cleaning the printhead with isopropyl alcohol after every ribbon, few users take the time to do it. In fact, distributors estimate that only 20% of their customers regularly clean printheads.

Building Up to the Problem

Printhead buildup is a normal occurrence in thermal transfer printing. Dirt and residue from the media and the environment are deposited on the printhead during the printing process. If the printhead is not cleaned regularly, the residue eventually becomes permanent and will create a barrier between the printhead element or dot and the label.

The examples below illustrate how excessive printhead buildup negatively impacts print quality and productivity.



In this example, buildup has deteriorated the image; it's "snowy" in appearance and reveals voiding.



This example exhibits streaks at the top of the barcode and throughout the label.

SPANISH MACH 3 TURBO MAILER

PO: VERBAL

ORDER: 1724

QTY: 550

JOB: 11723 -1

064094

07/02/2003

07:58

This example reveals that a "chunk" of information is outright missing. As a result, the order number appears as 1724 instead of the correct 11724

The Built in Solution

Clean Start™ is an exclusive feature on our new resin enhanced wax ribbon that makes it easier than ever to maintain printheads and print quality with no additional supplies.



The patent pending Clean Start™ removes debris before it builds up on the printhead so that images are always clear, consistent and highly readable.

Clean Start™ is built right in between the leader and the ribbon. Clean Start™ is a thin white film coated with a mild cleanser. You pull it through the locked printhead at the start of each ribbon to remove residue before it builds up.

It's a convenient method to clean the printhead every time a new ribbon is installed and is a constant reminder to do it.

Clean Start™ is Fast and Easy:

- Built in - no need for extra supplies
- Removes residue before it builds up
- Ensures that print quality and scans will not compromise over time
- Helps extend the life of the printhead

Ease and Convenience

Clean **Start**™ is built right in - between the leader and the ribbon as a constant reminder to clean the printhead every time a new ribbon is installed.

5 Easy Steps to Clean Your Printhead with Clean Start:

Step 1 - Rewind tag or label stock and install replacement ribbon featuring Clean **Start**™ printhead cleaner onto the spindle.

Step 2 - Feed colored leader through gap under printhead and stop when approximately 1" of white Clean **Start**™ film is pulled through.

Step 3 - Lock printhead.

Step 4 - Firmly grip Clean **Start**™ film on both edges. Gently pull white Clean **Start**™ film approximately 6 inches. Stop before black printing ribbon.

Step 5 - Unlock printhead. Continue ribbon and stock installation as usual.

That's it. No additional supplies to buy and discard. No interruption to the standard ribbon loading process. Just follow the easy-to-read instructions included with the ribbon.



Perfect for Preventative Maintenance

Clean **Start**™ provides the regular cleaning necessary to remove normal debris that accumulates when printing before it becomes harmful buildup. Using Clean **Start**™ delivers the similar effect of an IPA pen or wipe but it is so much easier. There's no searching or maintaining additional supplies.

Normal Debris

Microscopic dirt and residue occur normally as part of the thermal printing process. This magnified picture shows these particles on the printhead.



Permanent Buildup
Over time, the residue becomes permanent and can result in flaws in the print image.

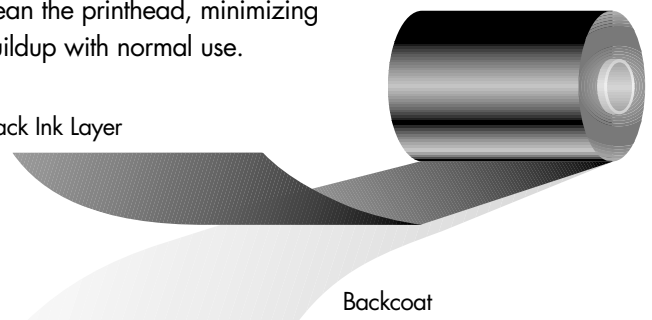


After Using Clean Start
You can see that Clean **Start**™ has removed the debris so it cannot build up, maintaining optimum print quality

Twice the prevention with our Backcoat

Our new ribbon incorporates a state-of-the-art backcoat. This next generation backcoat is designed to lubricate and clean the printhead, minimizing buildup with normal use.

Black Ink Layer



Extensive in-house and field testing has proven this backcoat can extend printhead life beyond 2 million linear inches, doubling the traditional OEM standard for printhead replacement.

Clean **Start**™ works in tandem with the backcoat to keep the printhead clean. It's a preventative combination that can't be beat!