

New Zebra Inductor Earns Its Stripes

The story of Mantissa's new Zebra™ Automatic Inductor begins very traditionally with "Once upon a time when an inductor belt needed to be replaced ..."

Well frankly, just thinking about that process would be enough for maintenance personnel to go looking for the aspirin bottle.

"Basically you had to dismantle most of the inductor," explains Aric Benedict, a designer in Mantissa's Engineering Department. "A cumbersome and time-consuming job."

Ironically, the traditional belt-changing process would start easily enough. "First, remove the outside guards on the drive side of the conveyor. Then remove the guard mounting bolts. Lift the guard..." Fairly routine stuff.



Mantissa's New Zebra™ Automatic Inductor

But by step 4 of the process you start hitting the on-ramp of the headache highway. "Remove the timing belt from the drive. Remove the timing sprocket from the drive roller shaft..." and on and on through a list of more than thirty nasty little chores resulting in three to four hours of tedious and laborious disassembly, various adjustments, and probably a prayer or two that you don't skip anything or heaven forbid, end up with leftover parts!

And looming large over the

entire process, the most dreaded and despised word in distribution - "downtime".

"Changing belts is a difficult task as it is, but with the added pressure of having to shut down the sorter, the task takes on a new urgency," states Benedict.

The initial goal of the Mantissa design team was to simply find a better belt, a virtually indestructible belt that resisted wear and reduced the need for replacement. But in the

search for a better belt, a paradigm shift occurred in Mantissa's thinking. Like tires on a car, belt wear on an inductor is inevitable. The more you run an inductor, the more the belts will wear. And again like tires, periodically they have to be replaced.

So if belt replacement is an unavoidable reality, there had to be a way to make changing inductor belts faster, easier, smarter and without the usual headaches.

"The problem was really in the basic design, and that design was

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flawed industry wide,” notes Benedict. “So the challenge was to create an inductor that was a workhorse, but easy to maintain – something that until now, didn’t exist. A lot of things had to change to make the goal a reality.”

That meant scrapping most of what was accepted technology and venturing once more to the cutting edge. After a year and a half of Research and Development, Mantissa’s solution – the Zebra Inductor – galloped onto the scene.

Instead of more than thirty steps to replace a belt, the new Zebra Quick Change system requires *seven* simple steps: 1) unlock guarding lockdown, 2) lift and remove guard, 3) remove

sensor mount bracket, 4) loosen slide lock, 5) retract slides, 6) drop cam door, 7) remove belt.

Slide on a new belt. Reverse the process. Completed, finished, done. Fire that sucker up and start inducting!

“Instead of three to four hours, our President proclaims even his blond, little sister can do it in three minutes,” Benedict jokes. “And we mean three minutes. It’s a much easier process that takes a fraction of the usual downtime.”

An innovative cantilevered bed design (patent pending) makes the Quick Change technology possible.

PROFIBUS machine controls integrated into sortation system controls applies the intelligence of

Mantissa’s Destination™ software to the induction process. The result?

Intelligent induction. Consistent singulation and acceleration of product of varying characteristics onto the sorter. Each Zebra Inductor has a rate/metering stage where the belts effectively synchronize product speed with sorter speed.

System controls even provide remote dial up to assess overall inductor performance, as well as display graphically the status of the motors and photo eyes.

Many other features are helping the Zebra to earn its stripes in the marketplace.

Auto tensioning of belts

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The Zoo Keeper

Mantissa's Menagerie

OK, You’re probably wondering what’s with Mantissa and all the animal names.

Tired of product names like the Mark407SeriesDeluxeXIVLimited, Mantissa wanted a different, more distinctive way of managing the nomenclature of its products (i.e., we needed names we could at least remember!).

Animal names were a natural since Dave Fortenbery seems to always relate a new product in either its appearance or features to that of an animal.

Creative products. Creative names. Naturally, it makes sense to us.

Pop Quiz! Pop Quiz!

How many Mantissa products can you match with the animals in the “family portrait” to the left?

Answers are on Page 4.



HERE'S JOEY!

Ladies and gentlemen, meet Joey, the latest addition to Mantissa's bevy of sortation products. A perfectly handy little device that provides real-time data on your Mantissa sortation system using a handheld pocket PC.

Get it? This thing goes in a pocket, just like a baby kangaroo - (a.k.a. "a joey").

Employing an expansion wireless card, Joey captures system stats and maintenance data, providing remote access to critical information that traditionally has been available only at system monitoring stations located in the immediate area of the sorter. On-the-go DC managers, maintenance and operations personnel can now get a quick snapshot of the sorter's performance anytime from anywhere in the facility.

A Windows®-based graphical interface serves up current system data including sorter and chute status, induction performance, scanner statistics, and alarm messages - all updated several times each minute.

But Joey isn't just another cute face. Joey's a real hustler, performing such tasks as testing

Tiplocs™, chutes, lights and displays. He'll also spill the beans on why that package was sent down the jackpot chute, and allow you to jot down notes or even pull up your contact list.



Joey also plays a mean game of "fetch", as in go fetch this tray and bring it to a specific mezzanine or maintenance platform for repairs or routine maintenance. You can even start or stop the sorter remotely to perform

various maintenance tasks. Imagine trying to do preventative maintenance that requires frequent starting and stopping of the sorter on a lift twenty feet in the air. Instead of heading to the nearest maintenance platform, with only a touch of the stylus, Joey eliminates that hassle by bringing the requested tray to you.

And help is always on the way - just by clicking "How to" on the menu or tapping the "?" at the bottom of each touch screen.

Joey.

Totally cool.

Totally Mantissa.



Inside Dave's Head Perils of Petty Pilferage

The other day one of our neighbors down the street came by Mantissa. During the nickel tour, Jim noticed the product stacked on pallets near our demo sorter, waiting to be tested.

"That reminds me of my first job out of college. I was a project engineer and was assigned to develop a vibratory feeder."

Now for you Atari-to-Xbox kids, Uncle Dave will explain. A vibratory feeder works like an electric vibrating football game, but in a bowl shape. As it vibrates, it aligns, orients and singulates product for presentation to a secondary operation.

"In this case," Jim explained, "the product being singulated just happened to er..... uh..... be items of a prophylactic nature. "We were supposed to present three of the famous "quarter packs" stacked to go into an outer carton."

Jim went on to say "we got all our design work done, and needed product for testing. The customer sent a 4' square carton filled to the brim with "quarter packs"! After a day of fine-tuning, we were ready for testing. Turned out the customer was busy and needed to reschedule. So we put the feeder and product away and moved on to other things."

"A month later we got a call from the customer saying they would be down to visit in two weeks. We dusted off the machine, found the box of product and set up the test. But when we opened that darn box, it was almost empty!"

"Our president went ballistic, but finally decided that the best thing to do was to simply come clean with the customer in a letter."

*Dear Mr. Customer:
It has come to my attention that the number of items that your company so graciously provided for the feeder test has been diminished substantially by petty pilferage, diminished to a number to be insufficient for your test. Please accept my sincere apologies. Our*



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company will certainly reimburse you for the value of the missing product as well as the additional product that we will require to prove that the feeder operates as specified. If you would please send the replacement items as soon as possible, it would be greatly appreciated.

Shortly thereafter, Jim said they received the following:

Dear Feeder Company:

This is to confirm that replacement test product has been shipped. While we appreciate your offer of reimbursement for the value of the missing test items, this will not be necessary. All product previously sent to you for testing had failed our internal QC, and was slated to be destroyed until we realized these items would be ideal for testing of the feeder. Look forward to seeing you next week.

Man, I would love to have seen the faces of those employees when they saw that letter tacked up on the break room wall.

Mantissa Corporation



Mantissa Corporation, headquartered in Charlotte, North Carolina, was started in 1973. Specializing in high-speed tilt-tray sortation, Mantissa is recognized as one of the leading providers of tilt-tray innovation and technology in the market today. Quality and an attention to detail permeate every project to insure that at Mantissa we truly are developing systems that move industry.

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prevents miss-adjustment, stretching and damage. All electrical connectors are quick disconnect.

Aluminum construction dissipates heat and extends motor life.

Custom modular construction – a Mantissa standard – allows both inductor length and number of stages to be tailored to handle each customer’s specific product.

“It’s a revolutionary concept compared to what has been available in the industry,” asserts Benedict. “Of course, reducing inductor downtime is the number one problem. And Mantissa’s Zebra Inductor is definitely the solution.”



CAN SHE DO IT?

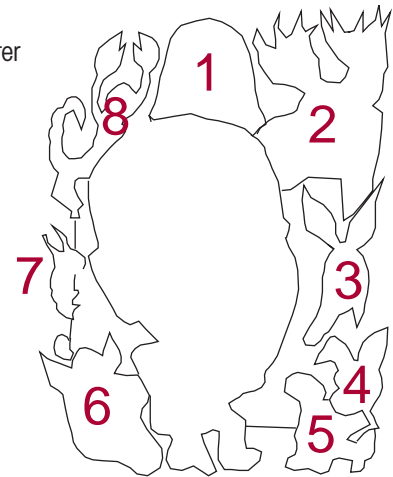
Is it possible that a mechanically challenged, bean counting, paper pushing blond sister can change the belts on a Zebra inductor in just three minutes? Feel the tension, experience the pressure, and watch the ticking of the clock as stereotypes are shattered. *Because if she can do it, anybody can!*

For your free video or CD, featuring “The Little Sister” in Taming of the Screw, contact:
Jan A. Alden, Marketing, at 704-525-1749 or jalden@mantissacorporation.com.



The Answers To Mantissa Brand Names Quiz

1. Gorilla Chain Series 5000 Tire Sorter
2. Moose Head Extrusion for Series 5000 Tire Sorter
3. Aardvark® Chute Technology
4. Joey PDA
5. Turtleback Carrier Cover
6. Zebra™ Inductor
7. Caterpillar Drive (R.I.P.)
8. Scorpion® Tilt Tray Sorter



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