by Marty Peletz

Automated Assembly Installation

A PRIMER

Bellingham Cleaners in Montreal services two retail locations, three home/office delivery routes and several wholesale accounts. We also built our hotel division up to 32 hotels, serviced six days per week. The majority of the hotels required same-day service and we were running into various challenges as a result.

THE CHALLENGES
Three hotel route drivers returned to the plant from their pickups between 10:30 and 11:00 a.m. and orders had to be invoiced and garments tagged prior to going into production. Depending on the hotel volume of the day, garments would make their way through processing to the inspection department between 3:00 and 5:00 p.m. The inspector placed each garment into one of 10 slots on an assembly conveyor, which determined the bay the garment would drop into. With an assembly area that was approximately 900 square feet, we would run short on space when major events such as the Grand Prix came to town. There would be a mad rush to get orders assembled and bagged by mid to late afternoon, with up to four people working on assembly. We installed an automatic twist-tie machine and Polypack automatic bagging machine five years ago, which have more than paid for themselves in labour savings.

Major challenges we hoped to solve by converting to bar-coding and automatic assembly were:

Improve the speed of mark-in to get items into production earlier.
- Complete hotel orders requiring same-day delivery earlier, in order to reduce hotel delivery salaries, appease hotel customers complaining about late deliveries, and reduce labour costs in the assembly department for all production.
- Reduce claims, customer complaints, and expense for drivers to make additional trips between customers in the event of misassembly, in order to exchange garments and get them to their respective owners. This was particularly urgent for guests who required clothing for functions or if they were checking out.

RESEARCHING OF AVAILABLE OPTIONS
My son Jarred and I reviewed several units in plant operations. Ultimately, we determined the cost/benefit value and payback period would be best for us with two HMC Solutions Automated Dry-cleaning Assembly Conveyor (ADAC) units – one for our shirt laundry and the other for the dry cleaning department. Bellingham Cleaners utilizes Computer Systems International's (CSI) TMS (Textile Management System). I verified with Al Anjavi at CSI the cost of setting up the interface between the TMS POS system and the HMC ADAC system. We've been a customer of CSI for 12 years, having converted to the new TMS version two years ago, and been extremely satisfied with all of the features and flexibility of the system. We currently have several thousand customers in our database, 135 price schedules, 44 delivery routes and everything operates smoothly. The TMS reporting, marketing and search features are exceptional as well.

SYSTEM PREPARATION, SET-UP AND START-UP
This was definitely the most challenging part of the conversion. We purchased heat-seal bar codes and several heat-seal machines. A set of standards and procedures for heat-seal application was created by our management team and listed on charts for the staff, including proper heat-seal time, temperature and bar code placement, depending on the type of garment. The application of heat-seal bar codes to certain fabrics that could be potentially damaged – velour, corduroy, suedine, PVC and spandex – was forbidden.

Consistency in bar code placement for each type of garment is extremely important so the operator does not waste time searching for a bar code. With the bar code placement standardization policy, mark-in productivity on our laundry side is approximately 50% greater than on dry cleaning, because the operator has only shirts to handle and the bar codes are always in the same place.

Non-permanent bar codes are pinned to fragile items such as silk scarves, ties and belts, suedes, leathers, furs and carpets. We developed a pre-printed nylon bar code label with a local printer in order to avoid having to create our own temporary bar

After scanning, garments head for Polypack unit.

Top: Kevin J. Rowell & Blaine Nounamo from HMC, Jarred Peletz, Marty Peletz at ADAC computer station with assembly conveyor.
Bottom: Garments lined up waiting to be scanned by cordless scanners.

code labels (normally done by heat-sealing bar codes to a dry cleaning paper tag or a piece of fabric). We also sell these pre-printed bar codes to other cleaners as a sideline. Temporary bar codes are also used for 'press only' and 'alteration' items, since a permanent bar code set-up for these services would permanently link the item to that service, not to dry cleaning or other processing. Hotel laundry items such as undergarments, socks, etc., continue to be processed with paper tags without bar codes.

Bar codes represent a single item only, so all suits or multi-piece garments had to be broken down into individual items as part of a suit or multi-piece item. All 135 price schedules and hundreds of individual items in each price schedule had to be checked off in TMS, noting if they were to become bar code designated items and if they were to be sent to auto assembly. We started heat-sealing bar codes onto garments two months prior to the automated assembly start-up. This gave us a head start by not having to heat-seal a bar code onto every item at once. At start-up, the bar code had to be linked to a customer and a price schedule in the customer's profile, as well as a service, garment type, colour and description.

We had been using ten different colours of computer tags. To continue this system when we moved into bar-coding, we added a colour-coded heat-seal heat dot next to the bar code so our staff could prioritize hotel items.

A revised floor plan required some reconfiguration of our existing feed rails. We also relocated our Polypack automated bagging machine. The new assembly department configuration freed up approximately 45% of our assembly area floor space.

HMC shipped all the equipment several weeks prior to the weekend installation we had agreed upon, so as not to interfere with our regular production. CSI did the installation of the interface between their POS system and the ADAC system over the internet. The system was set up and tested to ensure we were ready to start up on Monday morning. HMC's technicians remained in Montreal for several days to help train our staff and to ensure the system was running at its optimal performance. Both CSI and HMC have online access to the ADAC units to troubleshoot problems if necessary. We were fortunate to work with two top-notch companies, they were there when needed most and stand behind their products.

Most of the technical glitches we encountered required minor adjustments by HMC or CSI. This is to be expected with a sophisticated installation of this magnitude. Some items required a revision in our procedures. For example, we had always invoiced VIP bags at $0.00 under dry cleaning service. But the CSI POS software only sent laundry information to the laundry ADAC unit and dry cleaning information to the dry cleaning ADAC unit. If a customer sent shirts in a VIP bag, the ADAC laundry assembly unit would not recognize that the bag was missing. The dry cleaning ADAC unit would recognize the bag but not the shirts. We solved this problem by giving each VIP bag two bar codes, one at the corded side for dry cleaning (e.g., 'C' for cleaning and corded, which made it easy to remember) and one on the opposite side of the bag for shirt laundry. This allowed us to mark in the VIP bag with either dry cleaning or shirts, depending on what was sent in the bag.

FINAL RESULTS

Conversion to automatic assembly was a lengthy and painstaking undertaking well worth the effort in financial returns. We are more efficient and more profitable as a result. There are also savings in areas we never counted, which is a bonus:

- Valuable floor space freed up.
- Elimination of the equivalent of one full-time employee in the assembly department, including labour savings of approximately two hours per day gained by not putting up assembly hooks with invoices.
- Reduction of hotel drivers' time to assist in assembly, wait for hotel orders to be completed, and earlier completion of hotel deliveries as a result.
- Mark-in labour savings after garments have been initially set up with a bar code. Just scanning the bar code on an item commences the creation of an invoice: including the customer, service, item and description – compared to the old system of manually bringing up a customer profile to enter the service, item and description. This gets goods into production and completed earlier in the day. We can shut down the plant earlier and save on utilities.
- Reduction in route labour and vehicle costs in order to exchange garments for misassembled orders, reduced claims, higher customer satisfaction and reduction of lost customers due to misassembly.
- We recouped the cost of the permanent bar codes, including savings in paper cleaning tags and staples, after approximately six processing cycles. The new tags also reduced our environmental impact.
- Bar code technology is very helpful in settling claims. Bar code history shows the first time the item came in for processing and how many times it has been processed.

From a financial perspective, conversion to automatic assembly is a no-brainer. We financed the purchase of the automated assembly conveyors, TMS interface, several heat-seal machines and reconfiguration of our existing garment handling system over five years. Our monthly savings are substantially greater than our monthly payments, and in five years we will be pocketing 100% of the savings. If we had made a cash purchase of this system, I estimated a payback period of just two years.

In retrospect, I would have moved into automated assembly earlier had I been aware of how much it would streamline our operation. ■