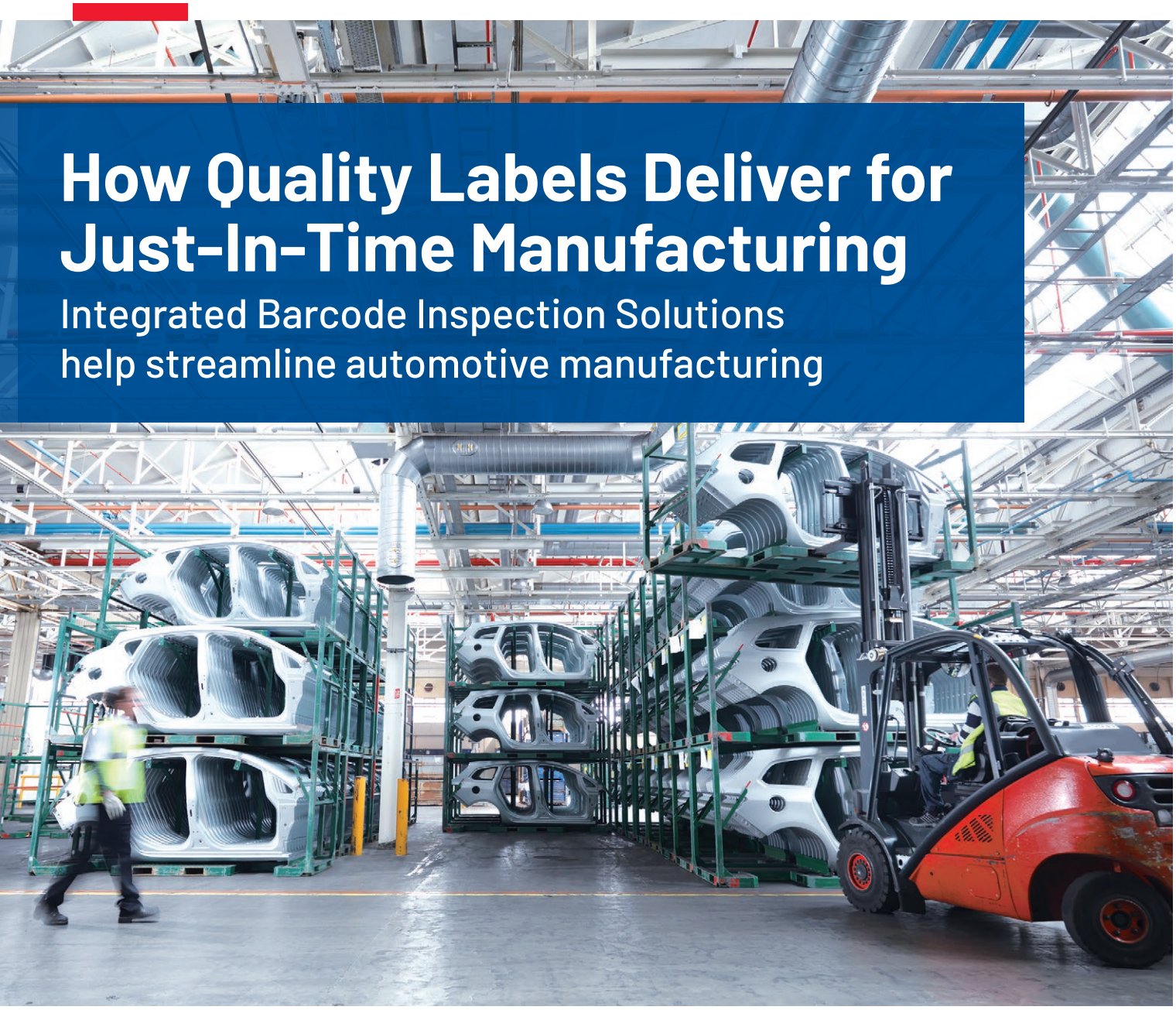
WHITE PAPER

How Quality Labels Deliver for Just-In-Time Manufacturing

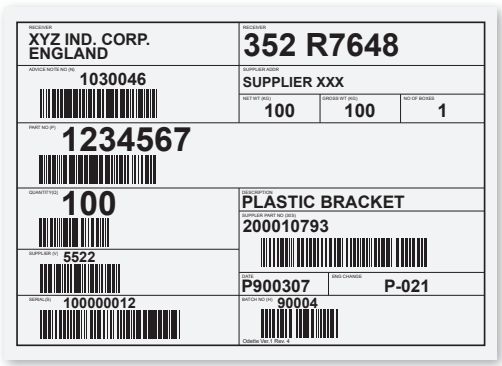
Integrated Barcode Inspection Solutions help streamline automotive manufacturing



Introduction

Imagine the constant activity at the receiving dock of an automobile manufacturer. A typical car has over 30,000 parts from dozens of different manufacturers. An incoming pallet might contain various car parts ranging from wiring harnesses to locking washers. Where does that pallet need to be at what time so these parts can be placed in a moving car on the assembly line at exactly the right moment?

By standardizing the label format for all of their suppliers, automotive companies can orchestrate the incoming pallets effectively. Labels from all suppliers are formatted to a standard and contain the information necessary to route the components to the right place. Automotive companies have selected several basic formats based on A5 or 6" x 8" labels.



Label Quality

Just-in-time manufacturing is a critical process in the automotive industry. It not only requires just-in-time delivery, but also ensures all incoming parts can be accurately identified and transferred to right assembling lines. Stopping the entire production line to wait for a part is hideously disruptive and expensive. The ideal solution is to have parts arrive at the right time to move to the small inventories at the build location. A quality barcode label is the key to that success.

If an incoming shipment has a label whose barcodes are difficult to read, it takes time and extra effort to figure out where that pallet needs to be. Time is a luxury unavailable on the receiving dock. Not only does a problem pallet potentially delay getting needed parts to the line, but it starts backing up other pallets, creating a chain reaction that creates additional delays and issues. A problematic barcode is costly in more ways than one.

Automobile manufacturers have adopted practices to transfer those costs to the supplier causing the issue. Fines of $150 - $250 are commonplace per label that is not compliant either with its content, its formatting, or its quality. For a supplier shipping in thousands of pallets per month to different automotive manufacturers, a systemic label issue could prove catastrophically expensive, with 5- or 6-digit fines per month. Regular failures might cost a supplier their contract.

General Motors prominently places the following suggestion in their supplier manual:

IT'S YOUR IMAGE

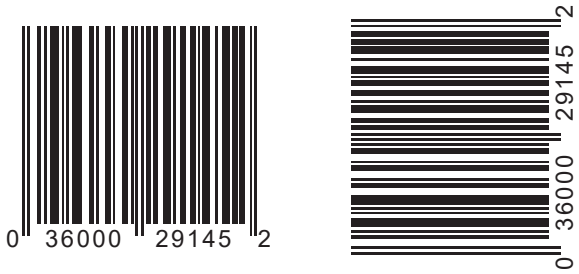
Your label is the first impression of your company and it's products. Poorly printed labels, sloppy placement, and unscanable bar codes reflect on the perception of your company. The shipping label and associated processes should receive the same quality efforts as your product - it's your image.

Label Inspection

Inspecting the label has a strong return on investment. The cost of inspection, especially with simple and low-cost options such as ODV-2D barcode verification, may pay for itself within weeks of installation, and is a significant source of savings thereafter. Every barcode on every label is automatically inspected. Any label that grades below a settable threshold is retracted back into the printer, overstruck so it is not use, and reprinted automatically. This is done with no additional servers, software, space, templates, or operator actions, ODV makes inspecting barcodes simple.

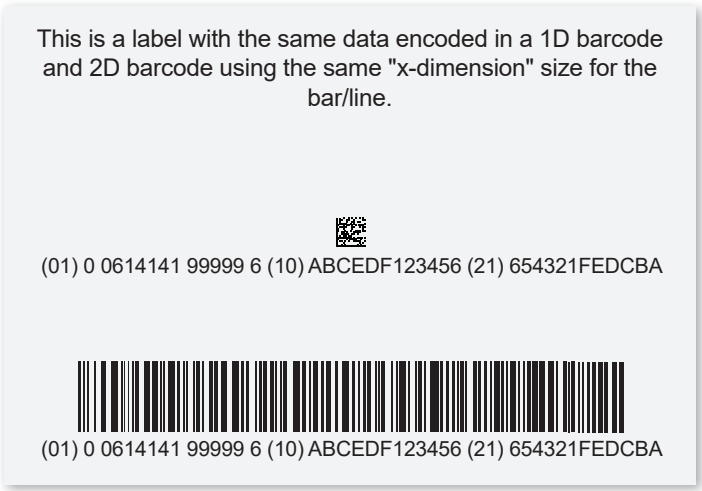
Width Considerations

Historically, 6" label inspection was done with a laser scanner. Although this works for 1D labels in picket fence orientation, laser scanners cannot read 1D barcodes in ladder orientation or 2D barcodes.



Picket Fence Orientation Ladder Orientation

As automobile manufacturers demanded more information on the label, they increasingly included 2D barcodes which can store more information in less space.



While 2D barcodes save space, they require an upgrade from laser scanners. The newer optical scanners capable of reading 2D barcodes typically do not come integrated in printers over 4" wide. Today, however, ODV is available in both 4" and 6" widths, enabling all standard automotive labels formats to be scanned automatically in the printer where action can be taken if a barcode does not meet specifications.

Summary

Barcodes transfer a tremendous amount of information, but only if you can read them. Ribbon wrinkles, printhead failures, dust buildup under the print head, or improper registration all impact barcode readability, and, therefore, subject a supplier's shipment to a fine, audit, or return. Inspecting the label in the printer using ODV where action can automatically be taken to overstrike and reprint a failed label offers a simple and economical way to inspect every barcode on every label to ensure compliance.

ODV is available in both 4" and 6" widths enabling standard automotive standard labels to be inspected and corrected to maintain a supplier's reputation as well as help ensure smooth operation at the automotive manufacturer's receiving location.

For more information on ODV-2D verification visit our website here or contact your local TSC Printronix Auto ID sales representative.

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