



Scania keeps meticulous track of its truck engines

Scania's engine production in Södertälje uses modern 2-D technology to ensure assembly accuracy, improve traceability and shorten turnaround times. The process has been in use for a few years, and it is expected that every significant engine component will be individually traceable in the near future.

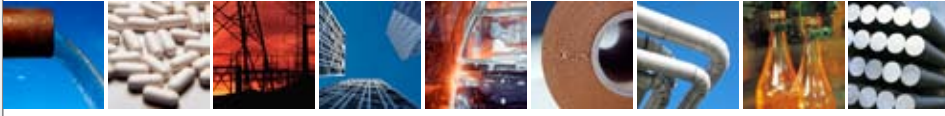
Modern DataMatrix-based 2-D technology has enabled individual labelling and identification directly in the production process. Since the DataMatrix code is applied directly on the product without intermediate labels, the method can be used to label components well in advance, sometimes already at the component manufacturer. With the right labelling technique (inkjet printing, laser

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Magnus Mattisson, Scania, Södertälje Sweden,

or pin marking), it is possible to ensure the degree of the markings' permanence that the component and process require. Components that can be individually marked in this way include engine blocks, cylinder heads, camshafts, crankshafts, connecting rods, cylinders, diesel injectors, etc. Information that the markings typically include are the component's article number, supplier, relevant component classification and an individual number.

If the marking is done in the assembly line, more information can be added, such as the identity of the line, the shift, relevant measured performance data and so on. Scania's system is built around the fact that each engine palette is equipped with an escort memory that contains information about which type of engine is to be manufactured and how it should be equipped. This information is automatically read at each assembly station. The component that is to be assembled is identified with either hand-held or fixed scanners (depending on the station's structure), the component's data are compared with the escort memory's information and, if they coincide, the component is accepted. In addition, the component's individual data is entered back into the escort memory. Once the entire engine has been assembled, all the information on the installed components down to the individual level is available in both the escort memory and on the server.



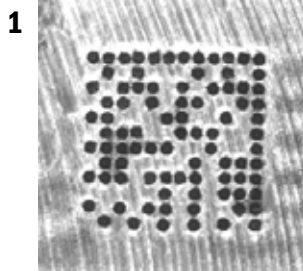
According to Magnus Mattisson at Scania, this method offers several obvious advantages:

- Guarantees that the right component has been used in the right place, which reduces rejection costs.
- Simplified processing of any complaints, which drastically reduces costs in connection with recalls.
- Reduction in service costs, which means better competitiveness.

Many other indirect advantages are also possible with the right plant control system:

- Turnaround times can be accessed. It is possible to identify bottlenecks and thereby take corrective measures.
- It is possible to compare lines performing the same operation directly to bring them up to the same performance level.
- Many operations can be fully automated, which cuts personnel costs (the code can be used to choose the right process measure for a mixed product range.)

1. Pin-marked DataMatrix on milled metal surface
2. Pin-marked DataMatrix on camshaft
3. Laser-marked DataMatrix on diesel injector
4. Laser-marked DataMatrix on piston



SUMMARY

COMPANY

Scania, Sweden

SOLUTIONS

Vision & Traceability

- Ensure assembly accuracy
- Improve traceability
- Shorten turnaround times
- 2-D DataMatrix

BENEFITS

- Individual labelling and identification directly in process
- Permanent marking on part
- Automatic identification and part acceptance at assembly station
- Data storage in database for tracing
- Reduce costs for rejections, recalls and service
- Measure line performance and turnaround time

For more information on our smart solutions, please visit our website www.novotek.com