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ASI DataMyte
Total Quality Solutions

Case Study: Integrating Inspection and Production Systems to Improve Traceability and Quality

In the Heavy Truck Market, product variations are the norm because of varying customer tastes. Truck manufacturers are constantly dealing with quality problems and part shortages due to product variation. It is a difficult task to track vehicles to determine the correct options and state of completion when part shortages occur.

The Challenge

In a typical heavy truck manufacturing scenario, each vehicle of a particular type will be slightly different. Each vehicle running down the assembly line has a route sheet that includes the options required for that VIN. The variety of options poses a challenge from a manufacturing standpoint because unique parts are required for the different options. Different vehicle configurations require inspections to determine if that vehicle is properly assembled.

A major international truck manufacturer had a run of the same model of trucks coming down the production line. Based on customer demand, several trucks required leather interiors while others required different engine sizes. The production supervisor was just notified by production planning that, despite the best planning effort, gray leather seats had not arrived from the supplier, and that the special 13-Liter diesel engine delivery had been delayed and was re-promised for next week. The challenges the production line faces are:

- Trucks that require the gray leather seats and the special diesel engines must be moved off the assembly line into a staging area until the proper parts arrive
- Individual paper route sheets could be lost or destroyed, so completed assembly processes can't be determined
- When the parts arrive, determining which trucks require gray leather seats involves walking from truck to truck to determine which trucks have seats missing.
- Inspection reports need to be generated manually to confirm each vehicle's configuration based on the options that were selected
- In-line and in-warranty quality data on trucks are documented by paper and pencil and keyed into separate quality databases for analysis and reporting

The Inspect Software Solution

The manufacturer implemented the ASI DataMyte Inspect Solution at this truck assembly plant. Inspect is a total quality visual system to handle attribute data collection for incoming, in-line, and in-warranty inspection. A manufacturing operation can use one database and have all reports available at a touch of a button from any computer with an internet browser. These features of Inspect software are now in use to solve this truck manufacturer's problem:

Communication services that import XML data into the database. The factory-floor operator now has the ability to set the status for each part number required in the truck. External systems can query the Inspect database to determine the exact status of a particular vehicle, including what defects have been encountered, missing operations and repair times. Operators and quality managers can also send e-mails and cellular phone text messages to the material handling team for immediate action.

The ability to generate electronic checklists. These lists help to determine if a particular VIN was assembled correctly by providing a series of questions for the inspector. Inspect software compares these answers to the options for that vehicle and determines if the correct options were installed.

Benefits

This particular manufacturer went 18 consecutive months without a single incorrect build. The Inspect solution can be used in many different manufacturing industries, including automotive, medical, aerospace, electronics, defense and others that use either a serialized or batch production method. Inspect can make a difference in profitability in any manufacturing situation where timely defect resolution can significantly increase productivity.

Unit Mfr Part Status Recording Area/Group/Station: *** ALL *** for 1/1/2005 to 9/12/2005 Export to Excel (In New Window)													
Model Year	Serial #	Identity #1	Part Number	Description	Assembly Process	Assembly Sub-Process	Part Status	Target Qty	Actual Qty	U/M	Last Updated	Last Update By	Is Active?
2001	3HSNGAPT84N076836	9990	120382	ARANDELA DE SEGURIDAD 3/8"	VR0	862	Part Shortage	1	-	PC	5/25/2005 12:31:54 PM	ekutay	Yes
2001	3HSNGAPT84N076836	9990	132408R1	EXTENSION	VE0	770	Part Shortage	1	1	PC	8/22/2005 4:43:34 PM	ekutay	Yes
2001	3HSNGAPT84N076836	9990	1515172C91	ARNES PARA LUCES TRASERAS	VI0	816	Part Shortage	1	-	PC	8/24/2005 9:11:20 AM	ekutay	Yes
2001	3HSNGAPT84N076836	9990	299276C91	ABRAZADERA	VI0	820	Part Shortage	1	1	PC	5/25/2005 12:21:58 PM	ekutay	Yes
2001	3HSNGAPT84N076836	9990	299276C91	ABRAZADERA	VI0	820	Part Shortage	1	1	PC	8/23/2005 4:22:29 PM	ekutay	Yes

Unit manufacturer part status report.

Checklist			
Material?			
Cloth	Leather	Vinyl	Prev Page
			Next Page
Color?			
Black	Gray	Tan	Prev Page
			Next Page
Heated?			
No	Yes		Prev Page
			Next Page
Power Seat?			
No	Yes		Prev Page
			Next Page
Prev Page		Next Page	
		Cancel	OK

Checklist questions to be answered by the inspector.