

ATS inspect[®]

Visual Quality

Attribute Data Collection : Article 1 Collecting Visual Defect Data



The ► **Data Collect** application is the primary Inspect user interface for attribute data collection. Each station is completely configurable to present the user with all of the information necessary to inspect a product and record defects and repairs.

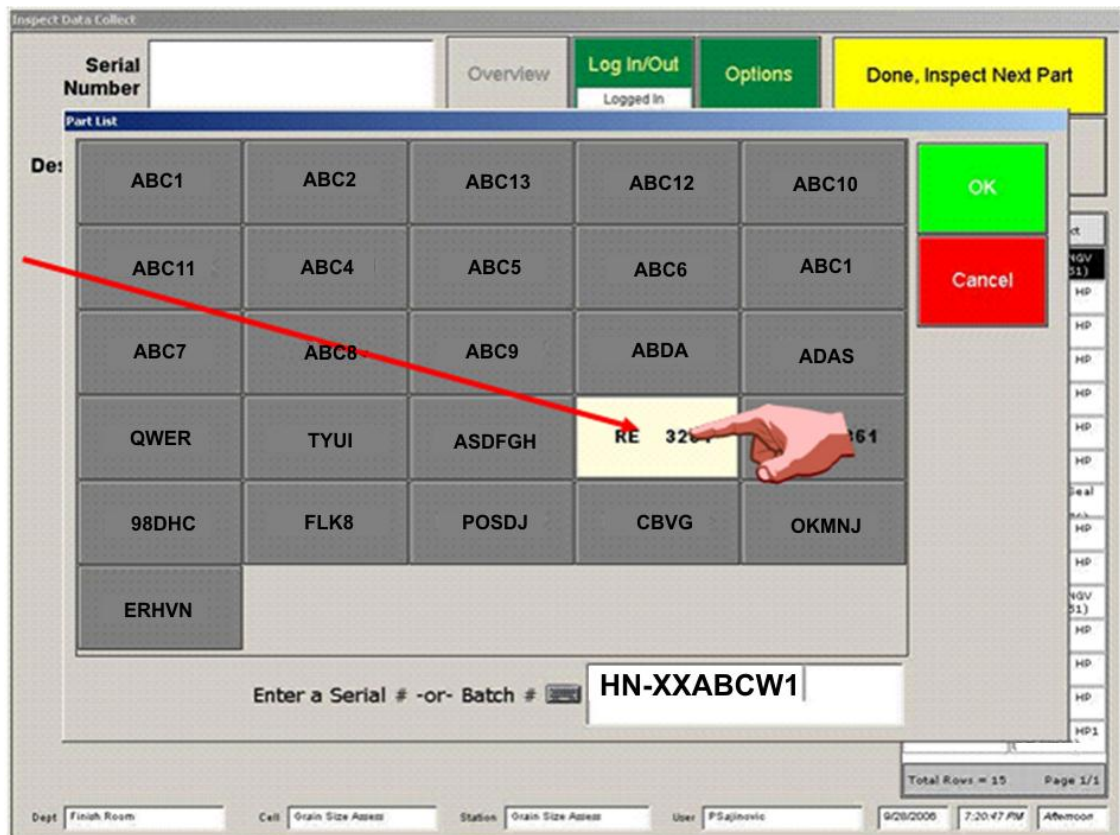
Product specific information is presented for each unit under inspection. Typically the user is aided by actual views of the product to be inspected, and the exact location, type and severity of defects can be entered with the touch of a finger or click of a mouse button. The defect is entered directly on the view and identified for later analysis and, if necessary, repair.

The system accommodates visual as well as functional data entry. Digital photos as well as CAD files can be downloaded and included in inspection screens for defect location accuracy. Operators can quickly apply the same concern to multiple locations on a defective part using a Multiple Defect Entry function that combines parts of the on-screen Inspection and Concern windows. This increases the speed of multiple concern identification, decreases throughput time and moves parts to repair stations more quickly.

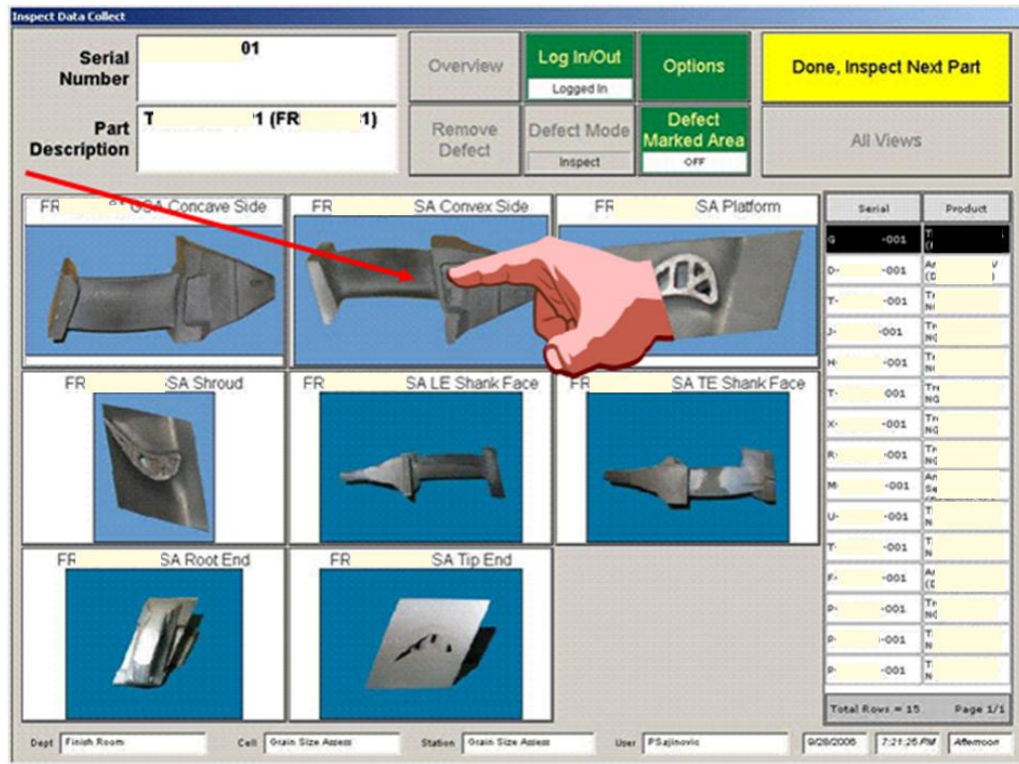
Real-time data collection drives the Inspect system. Fast, flexible and reliable input makes operators productive and open to using the system. Tick sheets become a thing of the past because Inspect makes it all happen immediately with a choice of keyboard, mouse or touch screen input.

Recording a Defect Made Easy – a Working Example 1

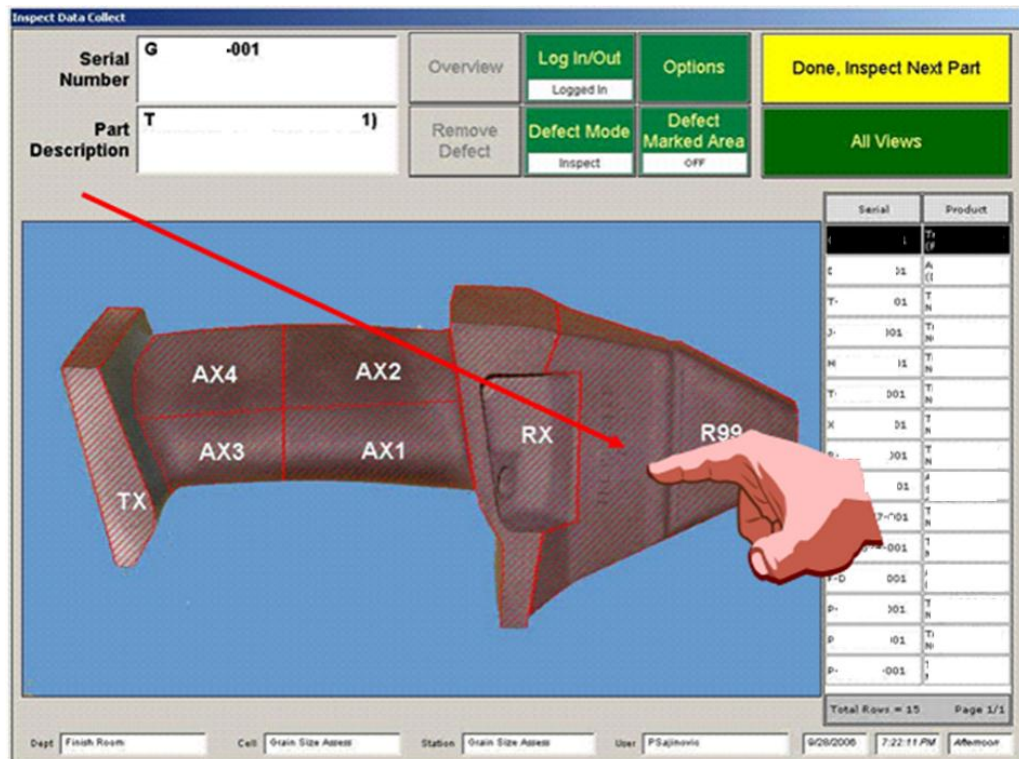
1. Select part being inspected



2. Select a view



3. Select the defected area



4. Enter defect data

Inspect Data Collect

Component: 9

Cancel OK

Non Conformance Reasons

All Metallurgical Reasons	Defect Mapping	Freckle Chain	HABS	Inaccessible Boundaries	Inclusion
LABS	MABS	Missing Casting	No Pattern	Orientation	Other Defects
RX	Rework 1-5	Scale	Sliver	Strain Bands	Surface Melting

Rank

Acceptable Concession Scrap Int. Customer Return Ext. Customer Return

Responsible Area

Wax Room Finish Room Shell Room

Responsible Cell

Grain Size Assess Visual Inspection Emery Dress Penetrant Inspection Final Inspection X-Ray Plate (Casting)

Dept: Finish Room Cell: Grain Size Assess Station: Grain Size Assess User: PSajinovic 9/28/2006 7:22:11 PM A4emooor

5. Check the entry

Inspect Data Collect

Serial Number: G-001

Part Description: T-81

Overview Log In/Out Options Done, Inspect Next Part

Remove Defect Defect Mode Defect Marked Area All Views

Inspect OFF

Serial	Product
G-001	T-81
C-001	A-C
T-001	T-N
J-001	T-P
H-001	T-N
T-001	T-N
X-001	T-N
R-001	T-N
M-001	A-S
U-001	T-N
T-001	T-N
F-001	A-C
P-001	T-N
P-001	T-N
P-001	T-N

Total Rows = 15 Page 1/1

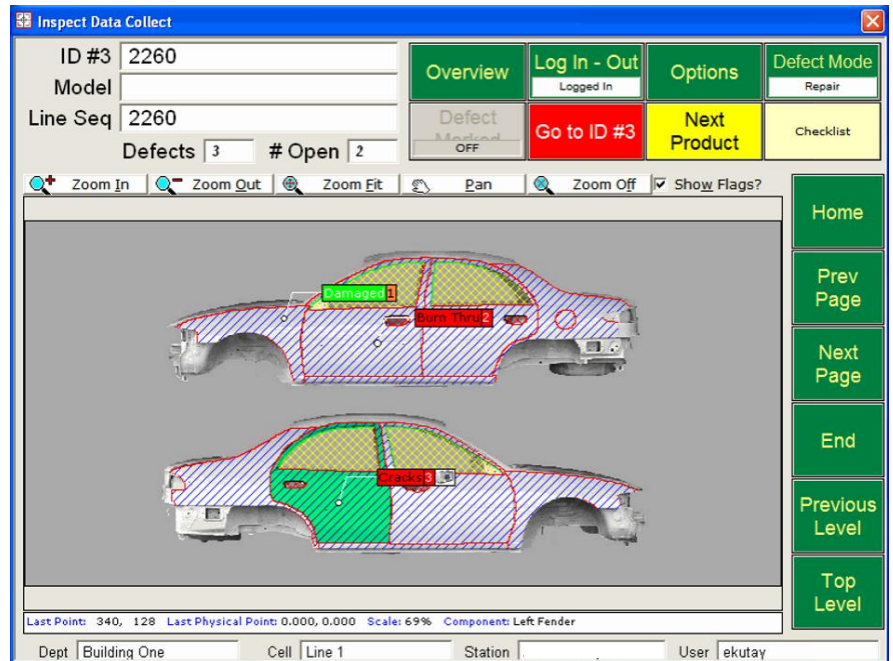
Dept: Finish Room Cell: Grain Size Assess Station: Grain Size Assess User: PSajinovic 9/28/2006 7:23:43 PM A4emooor

Actual photos of defects and repairs can also be entered from a digital camera and stored with the inspection record, and the system can be configured to provide instant feedback, via e-mail, pager or cell phone to responsible parties.

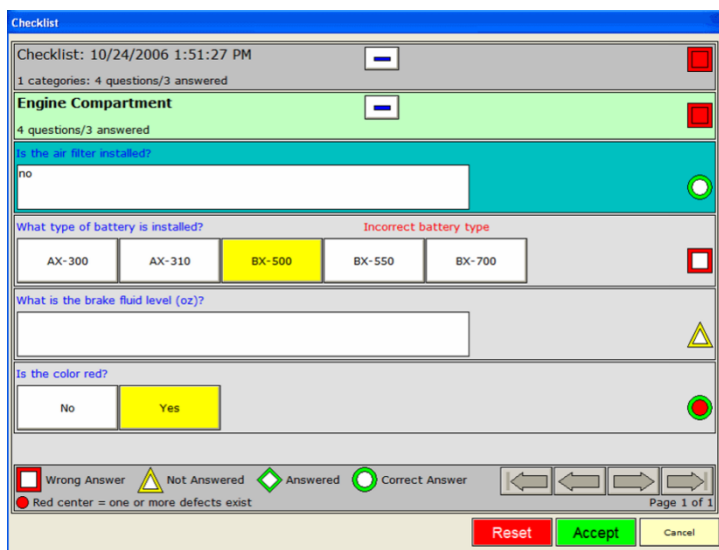
Recording a Defect Made Easy – a Working Example 2

A typical Data Collect screen is displayed on the right. It highlights some of the data collection features of Inspect. The flags show the nature and location of each defect (red) and if the defect has been repaired (green). The camera icon indicates that there is a digital photo associated with the particular defect.

Defect indicators are numbered for easy identification if the user elects to hide the flags because they obscure the part view. Areas on a part can be highlighted if an area of concern is significant, and the system can be configured to allow quick entry of multiple defects of the same type. Users have the ability to zoom and pan views where necessary to accurately enter defect information.



Electronic Checklists



Manufacturers using paper checklists to ensure that required product checks have been made during inspections can automate the checklist process by using the electronic checklist functionality in Inspect.

Paper-based inspections can seriously slow the reaction time for fixing problems and communicating with suppliers. The event notification is a painless way for everyone to stay informed.

Electronic checklists prevent the inspector's notations on paper concern sheet from becoming a sheet unto itself, where the data reveals nothing more than the status of that particular part at that particular time and where the data contained for the most part are never seen again.

The user of data collected in Inspect is able to instantly run statistical analysis, to track down problem areas in real-time. By determining the location of a common problem, it becomes possible to determine its root cause.

Inspect checklists support a variety of question types – yes/no, accept/reject and multiple choice. They can also be configured to call for the entry of variable data (e.g. fluid level or torque reading) or product-related identifiers (e.g. serial or part numbers).

Checklists can also be synchronized with the standard Data Collect functionality, so that when the answer to a question indicates that a unit is defective, the appropriate defect will be entered in Data Collect and become a part of the unit record. Checklists are maintained as part of each unit history and can be called up at any time to check the status of answers for a particular unit. A report is also available that summarizes checklist results.

Shop Floor Data Entry

The need for a mobile data collection solution occurs frequently. A portable data collector is the most convenient tool for roving audits and inspections, including lot audits, torque audits and spot checks where measurement or observation data must be collected. Factory-wide wireless networks can be utilized to upload data to a central database for reporting and analysis, or auditors and inspectors can offload data at the end of their inspection routes.



The Need: “We are duplicating effort and introducing errors when we document paper-based inspections.”

The Inspect Solution: “We are generating electronic checklists to help determine if a particular VIN was assembled correctly.”

Industries and Companies Using Inspect

Car & Light Truck OEMs

Ford, GM, Toyota, AM General, Mitsubishi

Heavy Truck OEMs

International Truck & Engine, Kenworth, Mack (Volvo)

Tier 1 Automotive Suppliers

Thyssenkrupp Budd, Johnson Controls, Lear, Flex-N-Gate

Electronics, Military & Aerospace

Redcom Laboratories, Rolls Royce, DRS Laurel Technologies



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