

RASCO Generates High Accuracy 3D Scans Using the HDI 3D Scanner

RASCO Automotive Systems, a leading service provider of 3D Scanning, Reverse Engineering and Quality Inspection services, uses 3D3 Solutions' HDI 3D Scanner to generate high accuracy 3D scans quickly.

RASCO uses the HDI Advance R1 3D Scanner model in combination with 12.5mm and 16mm lenses (in Duo Scan mode) to produce 3D scans of objects from 50mm in size to complete automobiles that measure 2,500mm.

Typically, RASCO's scanning activities are used in automotive and mechanical industry where 3D scans are required for reverse engineering, quality inspection and for digitising components with no CAD data.

The HDI 3D Scanner, used in combination with FlexScan3D Software, works as a solid and flexible tool for scanning components and assemblies of different shapes and sizes. The scanner captures 3D scans quickly and in high accuracy. Scanner settings (lens combinations and standoff distances) can be customised to suit the scan object for optimal scanning performance.

The photogrammetry feature aligns 3D scans quickly and accurately. The use of marker based alignment method allows for easy scanning and alignment of cylindrical objects, like shafts, pistons and tubular components.

Deviation analysis checks the variations between various scans to analyse the accuracy and consistency of a particular scan.

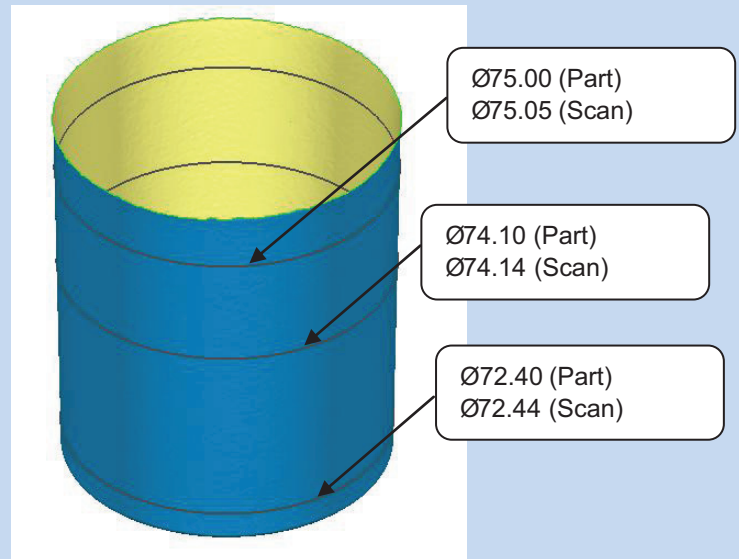
Typically, RASCO's captures approximately 15 to 50 scans of a single component or assembly, depending on its shape and size. The overall accuracy of the scan ranges between +/- 20 Microns +/- 35 Microns.

Components and assemblies scanned by RASCO include suspension and chassis, castings, machined components, bumpers and automotive bodyline data.



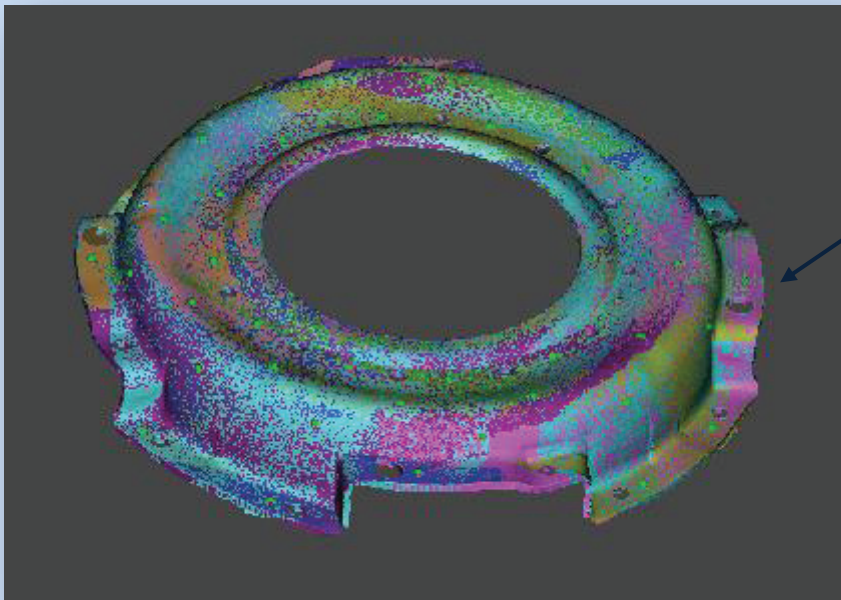
Automotive Suspension Part: Control Arm 3D Scan

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Accuracy of Scans





3D Scan: Automotive Clutch Cover
 Application: OEM Quality Inspection
 Part Size: 380mm x 380mm x 60mm
 No. of Points: 6.8 Million
 Scan Error: +/- 190 Micron (Max)
 Scan to Scan: +/- 20 Micron (Average)
 No. of Scans: 13
 Alignment: Marker (Automatic)
 Time/Scan: 1.1 Sec
 Overall Time: 15 Minutes
 Standoff Dist: 900mm
 Lenses: 12.5mm (Standard)
 Camera: 1.3MP

Mesh Selection

Reference: 1

Target: 3

Calculate Deviation

Statistics

Maximum: 10 mm

Minimum: -10 mm

+ Average: 0.3791139 mm

- Average: -0.2971913 mm

Absolute Avg: 0.2078863 mm

Standard: 1.406464 mm

Limits

Maximum: 0.1 mm

Nominal Max: 0.02 mm

Nominal Min: -0.02 mm

Minimum: -0.1 mm

Reset

Display

Vertices: 6,81,606 Faces: 13,50,466

Deviation Analysis within scans

Common Area between scans within 20 microns of each other

3D White Light Scanning by RASCO



Model Digitisation | Reverse Engineering | Quality Inspection

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