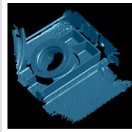


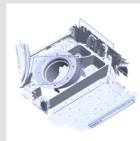
Aeroscan 3D Scanning: Base Services

3D SCANNING



On or Off-site portable hand-held 3D laser scanning (data acquisition)

SCANNING POST-PROCESSING



3D scan post processing (optimization) of laser scan raw data. Scan entities generation (reference data). Exports of entities for purposes of conversion and construction of CAD solid model. Exported in STL, IGS or SLDPRT file formats.

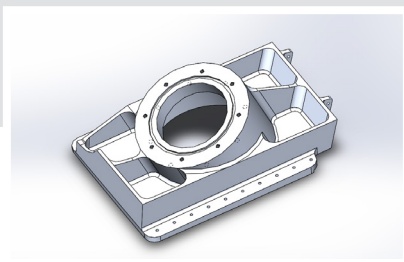
This data will provide you with the necessary reference to take highly accurate measurements from the article that was scanned.

Optional Services

CAD POST-PROCESSING

CAD solid model creation generated from 3D scan reference data. Modeling to replicate original state of part with no modifications or edits to existing conditions. Modifications to the CAD model can be made with clear written directions. Modeled with Solidworks CAD platform and file type delivery format (SLDPRT).

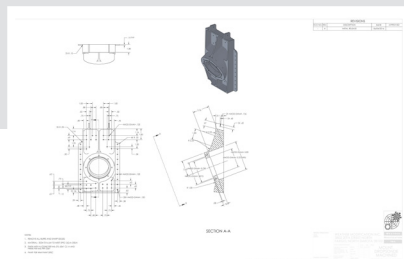
Typically the most expensive effort on a reverse engineering project. Costs are developed by the complexity of the part(s) to be modeled.



CAD

CAD drawing for purposes of fabricating tooling, flat patterns, 2 dimensional drawings or other supporting engineering drawings necessary for fabrication of scanned part. PDF file type delivery.

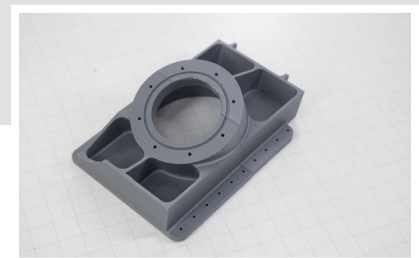
This drawing is what is typically offered to a machine shop or supplier for purposes of manufacturing or fabricating the part(s).



3D PRINTING

Additive process to produce a three-dimensional physical object from a CAD file. Material is often of a polymer such as a ABS plastic. Print is typically used for design verification or fitment check only. Not a direct replacement part.

Costs vary depending on the type of material selected.



TRAVEL

Related costs for airfare, transportation, and room & board.

Weekday: \$75 hr
Weekend: \$115/ hr
Ground Transport: \$100/day
Airfare & Freight: Actual Cost
Accommodations: \$210/ day

CONSUMABLES

Positioning targets for 3D Scanning
Typically between \$20 & \$50 per project

ROM Scanning Estimated Cost Worksheet

Use this worksheet to develop estimated project costs when utilizing 3D scanning services.
 The main cost factors in scanning projects are article: size, finish, quantity, complexity, additional services, and travel.

COST FACTORS	QUESTIONS	SCORING		
QTY	Does your project require scanning 1 object or multiples?	(1 - 2) <input type="checkbox"/> 1 point	(3 - 5) <input type="checkbox"/> 2 points	(5+) <input type="checkbox"/> 3 points
SIZE	Size of your scanning article.	(≤ 3sq. ft) <input type="checkbox"/> 1 point	(≤ 6sq. ft) <input type="checkbox"/> 2 points	(≥ 6+sq. ft) <input type="checkbox"/> 3 points
FINISH	Is the finish on the scanning articles more or less reflective?	LESS <input type="checkbox"/> 1 point	SOME <input type="checkbox"/> 2 points	MOSTLY <input type="checkbox"/> 3 points
COMPLEXITY	Does the article to be scanned have allot of complexity (features/ detail)? Ie. holes, teeth, etc.	LITTLE <input type="checkbox"/> 1 point	SOME <input type="checkbox"/> 2 points	A LOT <input type="checkbox"/> 3 points
ADD SERVICES	Do you need additional services to convert the scan data into other file formats? Ie. CAD model, CAD drawing, etc.	No, I can do CAD <input type="checkbox"/> 1 point	Maybe, I need help with a CAD model <input type="checkbox"/> 2 points	Yes I need a CAD model & drawing <input type="checkbox"/> 3 points
TRAVEL	Can you ship the article to Aeroscan? Or would Aeroscan need to travel and scan on-site?	I can ship it <input type="checkbox"/> 1 point	Might need to scan on-site <input type="checkbox"/> 2 points	Need to scan on-site <input type="checkbox"/> 3 points

**6 FACTORS
 SCORE TOTAL:**

COST EVALUATION

SCORE	6 - 8 points	SCORE	8 - 14 points	SCORE	14 - 18 points
ESTIMATED PROJECT COST 1		ESTIMATED PROJECT COST 2		ESTIMATED PROJECT COST 3	
\$500 - \$1,500		\$1,500 - \$3,000		\$3,000 - \$10,000	
TYPICAL PROJECT TYPE: Small part or component in an assembly.		TYPICAL PROJECT TYPE: Several parts or components, varying in size, finish & complexity.		TYPICAL PROJECT TYPE: Entire or large portion of an aircraft or vehicle, scanned on-site.	