



AKUVA INFOTECH PVT. LTD.

INNOVATE ENGINEER EXPERIENCE



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ENGINEER • INNOVATE • EXPERIENCE



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Background of AKUVA

Chaitanya Graphics was founded in July 1998 to cater to the design and development requirements of local aerospace and automotive companies.

In the year 2003 we got a project from Tehran Padena, Iran, which involved design and development of an AIR CIRCUIT BREAKER. With this project AKUVA INFOTECH PVT. LTD. was founded as a 100% export oriented unit. We have in a short period of time established customers in US, Europe and Middle East countries.



AIPL - Overview

Private Limited Company – 6 years in the making Offices in Bangalore & Chennai Manufacturing plant at Bangalore Strong Team of 40+ employees & 12 Senior Technical Advisors In-house Design, Inspection & Manufacturing Facilities		Consistent growth of 15% YoY 50% Automotive customers 30% Aerospace customers Overseas Presence in US & UK	
Service Offerings to the Aerospace Industry			
CAD / CAM / CAE	Engineering Services	Engineering Support	Multimedia
Legacy Conversion Remastering NC Programming Finite Element Analysis Paper to CAD Moldflow Analysis Castability Analysis Formability Analysis	Product Design Engineering Design Inspection & Metrology Reverse Engineering Indigenization Import Substitution Jig & Fixture Design Industrial Automation Press Tool Design Injection Mold Design Die Casting Design	ECNs Process Planning Estimation & Costing Benchmarking Document Management	Computer Tutorials Engineering Animations Technical documentation Maintenance Manuals



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EMERGING TRENDS IN ONSITE INSPECTION & REVERSE ENGINEERING



FARO 3D Measurement Arm

Akuva InfoTech recently acquired a six foot diameter Faro Laser Scan Arm for measurement, inspection and reverse engineering activities.



Faro Laser Scan Arm



Faro Laser Scanner Photon LS



Faro Laser Tracker X V2



FARO 3D Measurement Arm



Some of the unique characteristics of this machine include:

- The arm itself is capable of 7 degrees of freedom for incredible flexibility and unhindered access to hard to reach sections of a part.
- It is made of a light weight composite structure.
- There are no cables or other such obstructions to the smooth action of the arm.
- There are no third part attachments to the arm with any of the associated integration issues.
- The machine interfaces directly with leading point cloud data and reverse engineering software's.



FARO 3D Measurement Arm



- The gun includes both a touch probe and a laser probe for measurement activities.
- Both of these devices are integrated into the head and can be used interchangeably.
- The laser is able to collect coordinate data on over 19,000 points per second.
- It is even able to adjust to the reflectivity of material surfaces for optimal scanning.
- Accuracies on the order of 13 microns are achievable.



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ON SITE LASER INSPECTION OF IMPELLER





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ON SITE LASER SCANNING OF DRIVE SHAFT





FARO's new Photon 3-D Laser Scanner



FARO

The new FARO®
Laser Scanner Photon

The FARO Photon Laser Scanner is a portable, computerized measurement device that scans, digitally recreates and records all of an object or area's dimensions, creating what looks like a "photograph" on the computer screen - but in 3-D. The captured data can be used to create a digital model for reverse-engineering, quality assurance, inspection, CAD-to-part comparison, factory planning, investigation, and automatic object recognition in modeling.

The new Photon's sleek styling is fortified by technological advancements, including:

- 300% less noise for greater clarity
- 200% better positional accuracy
- Higher sensitivity for better detection of objects that are distant, darker and more oblique
- Easy high-quality color overlay
- Increased mirror rotation speed
- Faster minimal scanning times



The FARO Laser Tracker X V2



The FARO Laser Tracker X V2 is a portable contact measurement system that uses laser technology to accurately measure large parts and machinery across a wide range of industrial applications. It has a 230-ft. range, achieves 0.001" 3-D single-point accuracy, and is rugged enough for the shop-floor environment.

In addition, the FARO Laser Tracker X V2 has many advanced exclusive performance features:

XtremeADM*: The GPS-calibrated XtremeADM is twice as accurate as before. It adds high-speed measurement to FARO's advanced break-the-beam technology, making it the most accurate and versatile ADM system available.

Instant-On: With no laser tube warm-up, the Tracker X is ready to measure in seconds.

Expanded Temperature Range: The X V2 runs from -15°C to 50°C (5°F to 122°F), meeting the temperature requirements of even the harshest job sites.

Self Comp*: This five-minute, automatic compensation routine ensures the highest accuracy regardless of where the Tracker is mounted.



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ON SITE INSPECTION OF JIGS & FIXTURES USING LASER TRACKER





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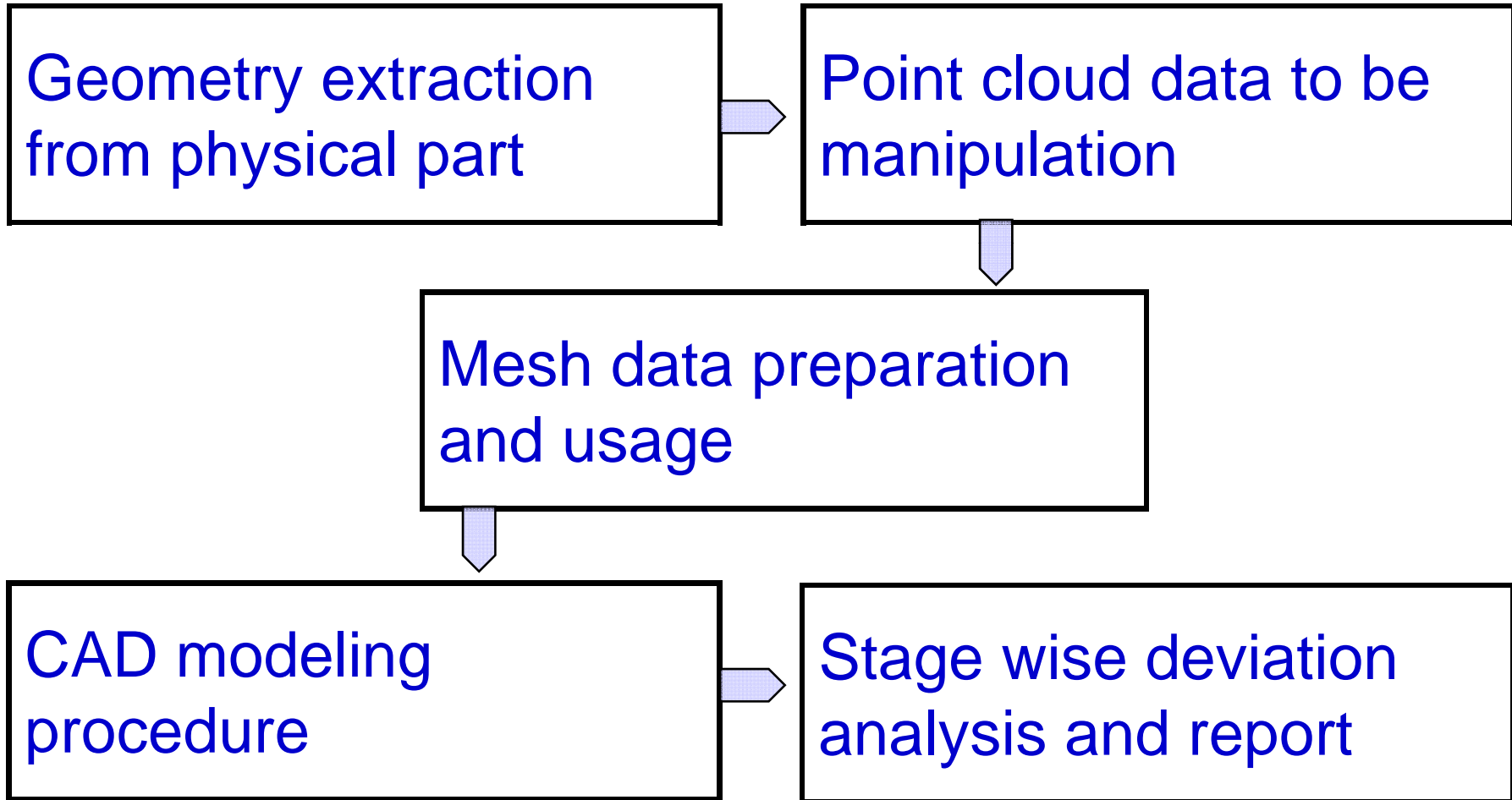
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ON SITE INSPECTION OF JIGS & FIXTURES USING LASER TRACKER





Reverse Engineering- Process Flow Chart





ON SITE INSPECTIONS USING LASER ARM – LASER TRACKER – LASERSCANNER.

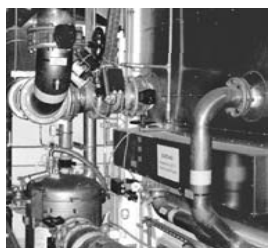


Chemistries & Foods

Memorials & Monuments

Forensic & Accident research

Large Products



Power plant & Nuclear industry

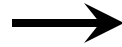
Petrochemical industry

Process - automation

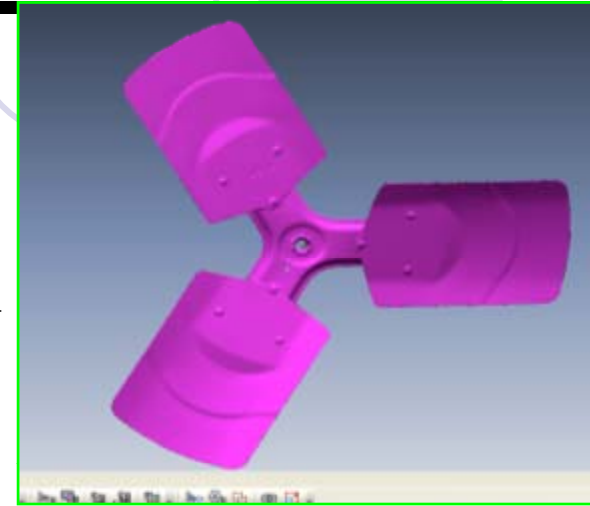
Tunnel construction



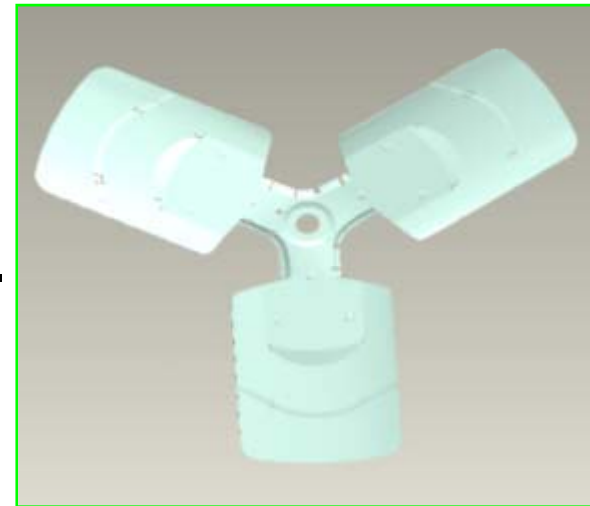
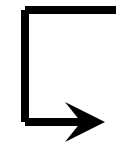
Physical Part



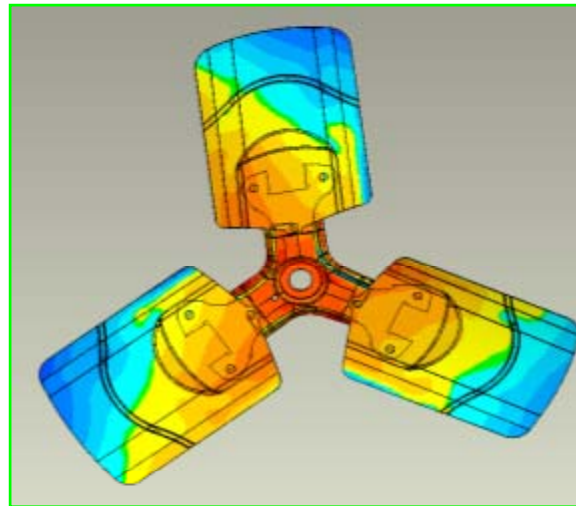
Scan Data



Mesh Data



CAD Model

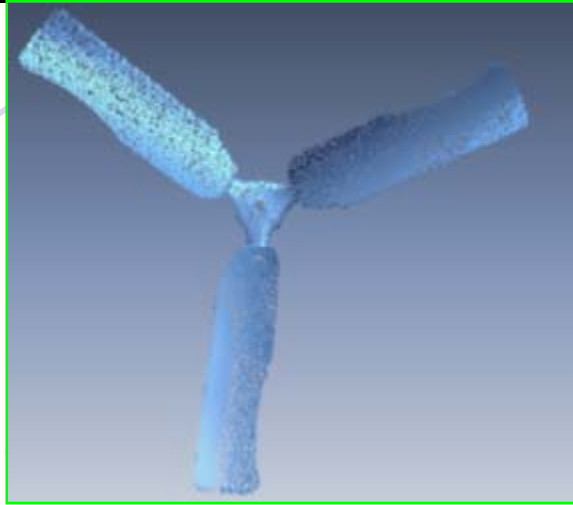
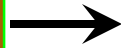


Deviation Report

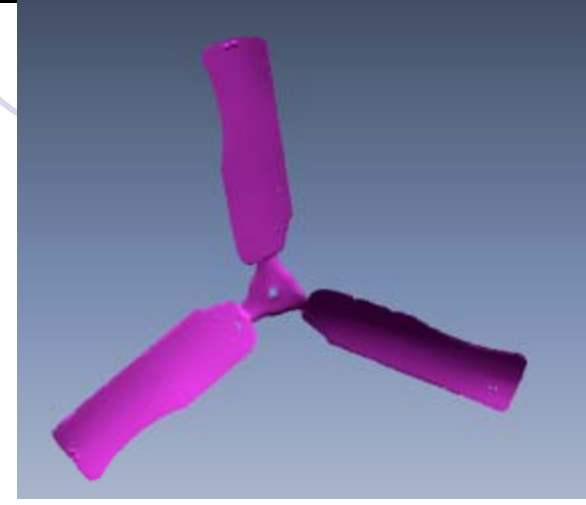
Case Study -HVAC Part
(Heating, ventilation and
Air condition)



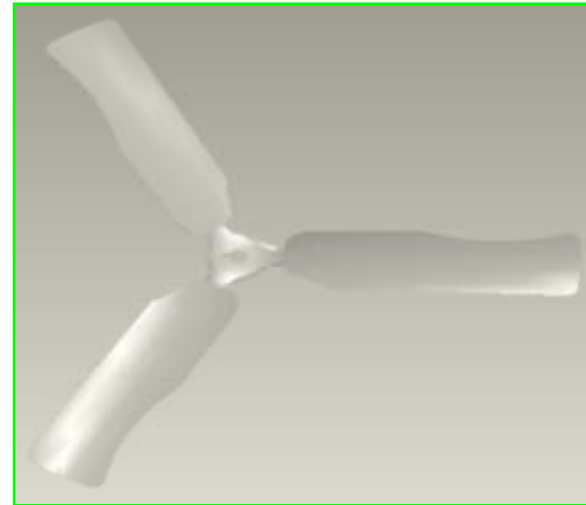
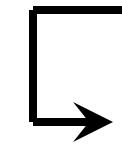
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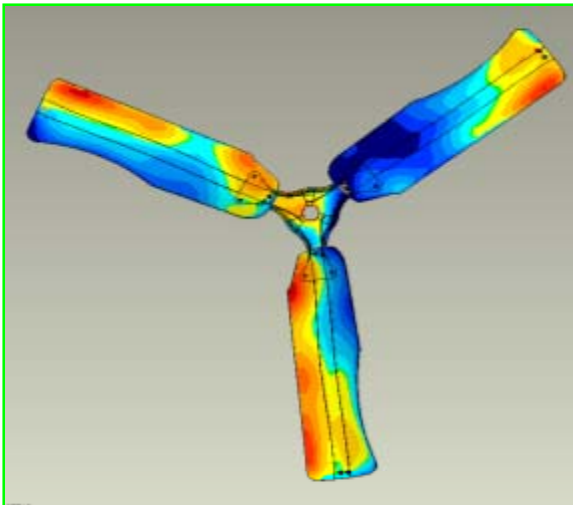
Scan Data



Mesh Data



CAD Model



Deviation Report

Case Study -HVAC Part
(Heating, ventilation and
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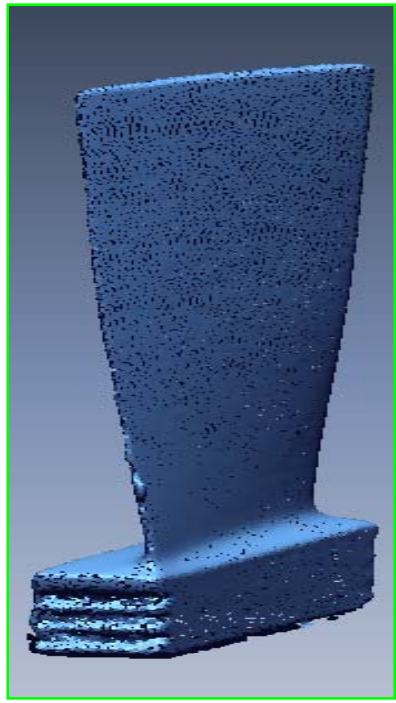
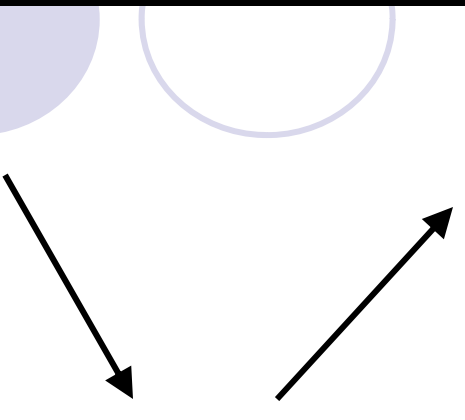
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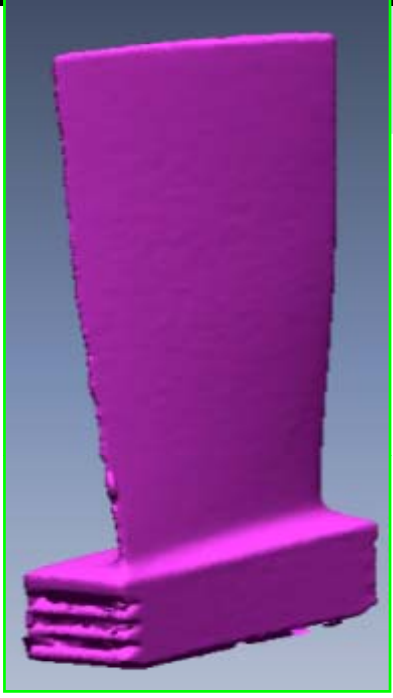


Physical Part

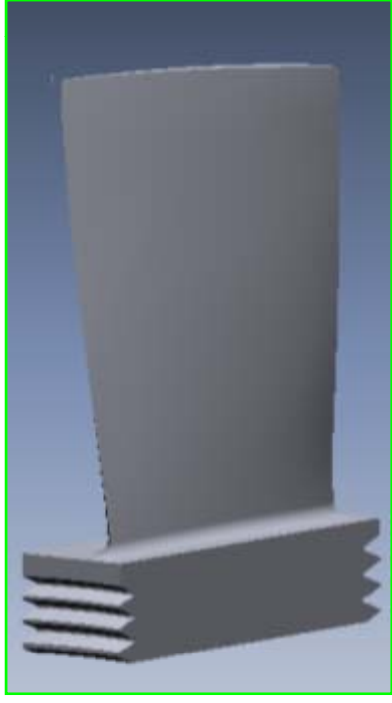
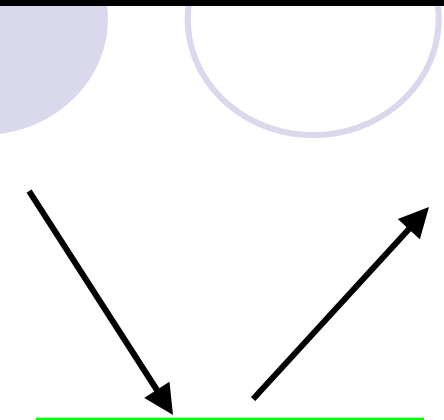
Energy and
Aerospace Part



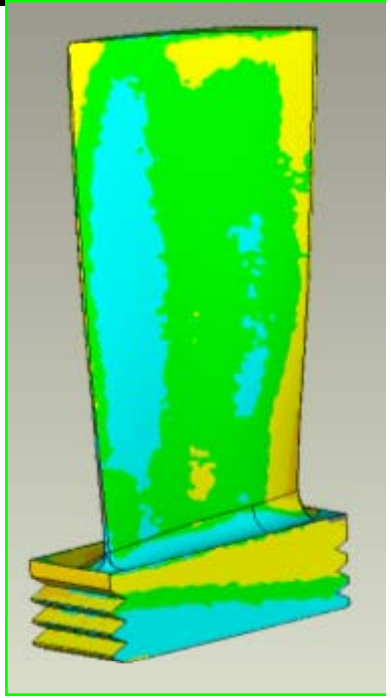
Scan Data



Mesh Data



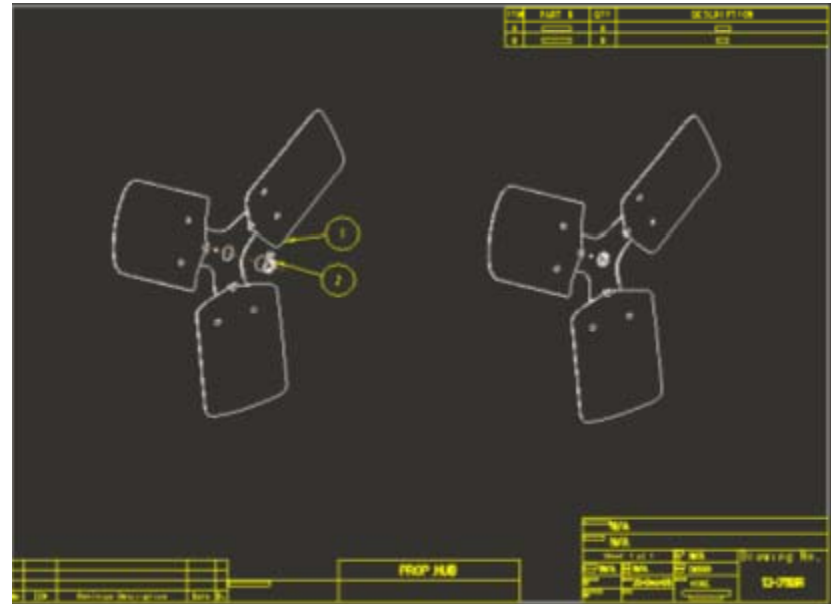
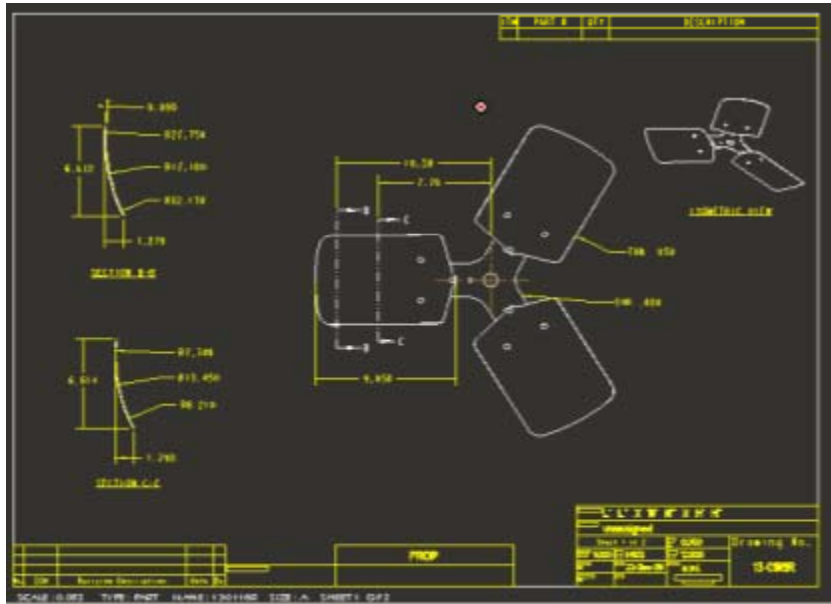
CAD Model



Deviation Report



Model Detailing





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With Best Regards.

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