



EMS 3D Scans a Complete CH47 Helicopter

The Boeing CH-47 Chinook is a twin-engine, heavy-lift helicopter. It is one of the few aircraft from the 1960's that is still in production today with over 1,175 built so far. Its primary roles include troop movement, artillery emplacement and battlefield resupply.

The Problem

When a major military contractor won a contract to build a trainer for the CH47 helicopter they needed a way to accurately reproduce the helicopter as trainer. Since this helicopter pre-dates any 3D CAD system they needed a fast and accurate way to generate a 3D CAD model suitable for building a realistic trainer.

The Solution

EMS was contacted and worked for many months with the contractor to submit a bid and win the contract. EMS is often brought in to work with contractors early in the bid process. This allows them to develop a detailed scope of work, delivery schedule and competitive pricing to win military and government contracts.

Once the contract was won, EMS traveled to a military facility to scan the complete CH47. Two EMS engineers spent 5 days 3D scanning the CH 47 inside and out with their Surphaser long range scanner and a Z Corp Z800 handheld scanner. This allowed them to scan the large areas with the Surphaser which will scan up to 85 meters in a single scan. For the tight areas the Z Scanner works very well as its hand held and light weight. The Z Scanner allowed the EMS engineers to crawl into the cockpit to scan the floor, control pedals, gauges and more. It was also used to scan the landing gears, wheels and more.

Creating a 3D CAD model from such a large and complicated set of scan data took about 3 weeks to complete. To work with these large data sets, EMS uses very powerful computers and employs modeling techniques based on years of experience scanning large and complex objects. Once finished, the customer had a complete and detailed 3D CAD model to manufacture their trainer.

Conclusion

When it comes to scanning large and complex models EMS has the right scanning equipment, software and knowledge to get the project completed.

Visit www.ems-usa.com for more information.



3D Scanning the Ch-47 Exterior



3D Scanning the CH-47 interior



3D CAD model cutaway of interior and exterior