

GENERAL DYNAMICS

Robotic Systems

Quality Audit Trip Report

Date: 5/2/07

Location: Top Craft Tool Inc.
33674 Giftos Drive
Clinton Township, MI 48035

Purpose: Evaluate potential supplier

Present during the survey:

Fred Green	GDRS	QE Supplier Development
Lloyd Kimmen	Top Craft	Owner
Gary Kimmen	Top Craft	Owner
Brian Barton	Top Craft	QA and Engineering

General:

1. Top Craft is a small family owned business, established in 1968.
2. The facility is 10,000 sq. ft., employing 20 plus people.
3. Top Craft has done work for Ford and Chrysler, Dana Corp., Textron, and Detroit Diesel to name a few.
4. In 2003, GDLS performed an initial survey at Top Craft and added them to their ASL. In 2006 another audit was performed and Top Craft received a rating of 100.
5. Capabilities include Engineering and Design, specifically in building of special machines and automated systems, similar to the automated Postal conveyors, prototype machining, surface grinding, boring, TIG/MIG Welding and fabrication, turning, and milling.

Quality System:

1. Top Craft is not ISO certified or ISO compliant, but do have a Quality Control Manual and Quality Control Procedures which adequately support their operation. The manual covers all inspection functions, calibration, sampling inspection, document control, and some specific handling requirements. The Quality Control Procedures are specific to calibration.
2. An outside source does some of the final inspection and reporting.

Process Capabilities:

1. The strength of this company is their ability to design/engineer prototype work.
2. They have a wide range of machinery, but are limited in milling capacity. They do have some CNC Bridgeports, but no up to date vertical CNC millers.
3. MIG and TIG welding appears to be a strength with supporting training and procedural documentation.
4. There is some volume turning capability with the CNC lathes.

Recommendation:

Approve Top Craft for TIG and MIG welding, turning and milling. This company is suited for small runs and prototype work. Top Craft is not currently a candidate for dock to stock.