# KMT Robotic Solutions Success Story

## DURAKON INDUSTRIES

# KMT's RoboTrim® Router Trimming System Produces Class A Rocker Panels and Splash Shields

**About KMT Robotic Solutions**

KMT Robotic Solutions, the robotic systems business area of The KMT Group, is the world's leading designer and manufacturer of robotic waterjet and router trimming systems. KMT also provides robotic laser trimming, edge finishing, arc welding, assembly, dispensing and material handling systems. KMT Robotic Solutions was formed in December of 2006 with the union of KMT Cutting Systems in Ronneby, Sweden, and Robotic Production Technology in Auburn Hills, Mich. We specialize in developing, designing, building, servicing and supporting robotic automation solutions for manufacturing customers. KMT Robotic Solutions has more than 1,500 systems installed around the world. With locations in Europe, the US and China, we're strategically positioned to serve you.

**Challenge**

Durakon Industries, headquartered in Lapeer, Michigan is the world's leading supplier of vehicle protection and cargo management systems for original equipment manufacturers and the aftermarket. In trimming a variety of large, molded in color automotive exterior trim components, Durakon needed a robotic router trimming solution that could meet the injection molded part tolerance and "Class A"finish requirements set by General Motors. Durakon had used robotic router trimming systems in the past, but hadn't used them to trim Class A products like rocker panels and splash shields.

**Solution**

For the past eight years, Durakon had worked with KMT Robotic Solutions' single and dual-robot routing systems to trim heavy gauge thermoformed plastic parts like truck bedliners, rocker panels, wheel liners, tonneau covers and door panels. The success they had with previous KMT robotic systems led Durakon to approach the company again to create a system that could produce a high quality finish while meeting the tight tolerances required.

KMT Robotic Solutions designed an enclosed RoboTrim router trimming system with a 10-foot rotating wall and two AccuTrim® R-363 robots equipped with high speed, automatic tool change routing spindles.

The system also included KMT's RouterVac® high powered vacuum system. The RouterVac holds the part securely to the fixture without the need for clamps. This not only improves repeatability, but reduces cycle time and improves cut quality by enabling the robot to trim the perimeter in one continuous motion. The process also removes chips from the trimming area and deposits them into a scrap hopper for easy disposal.

According to Durakon Manufacturing Engineering & Techincal Services Manager Don LaBelle, Durakon can run several different parts on the KMT systems because they are designed with flexibility and quick changeover in mind.

## “Before adding this new robotic system, we weren’t able to make Class A products. By meeting the tolerances, we gained new business.”

*- Don LaBelle, Durakon Manufacturing Engineering & Technical Services Manager*

The automatic tool change spindles improve trimming flexibility by allowing the robot to pick up cutting tools (such as router bits, drills and saws) that optimize trimming speed and edge quality. The system can also count the number of parts trimmed and automatically replace the router bit to prevent trimming quality issues.

The RoboTrim router trimming system is also equipped with a variety of software features. KMT’s RouterWare software allows for fast and accurate trim path adjustment and feature programming. KMT’s System Calibration Tools help define and maintain the relationship between the spindle and the fixture, improving trim quality. Automatic calibration greatly reduces downtime and scrap by eliminating the need to re-adjust points after fixture changeover.

KMT also manufactured the prototype aluminum composite tooling set and production fixtures. Durakon uses KMT Robotic Solutions to build nearly all of its trim fixtures.

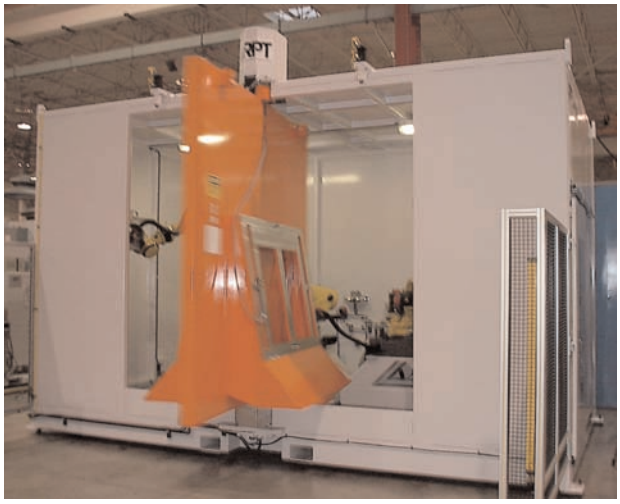
The system works when the operator loads one set of two parts on the outside section of the rotating wall. Once the operator hits the Cycle Start button, the part rotates into the system to be trimmed, freeing the operator to load another set of parts. This process enables Durakon to produce more parts per hour. The systems’ steel enclosure safely isolates the operator from the trimming area, and conveniently contains the noise and trimming debris.

**Results**

Durakon Industries gained new business as a result of being able to automate the trimming for Class A decorative automotive exterior parts. General Motors was impressed by the high quality parts and high productivity levels. The RoboTrim router trimming system gave Durakon a competitive advantage over other thermoformers that either hand trimmed parts or processed them with older, less capable CNC machines. As a result, Durakon has been awarded several new programs and created a new product sector to pursue with the automotive OEM’s.

“Before adding this new robotic system, we could not manufacture Class A products,” said Don LaBelle, Manager, Manufacturing Engineering and Tech Services, Durakon Industries. “By meeting the tolerances, we gained new business. A big part of our success is our partnership with KMT.”Durakon also found that the system provided some much needed flexibility.

“KMT has been great in helping us develop systems that can run several different products. We have older CNC and robot systems that are not as flexible as the KMT systems,” said Labelle. “We can run several different parts with the KMT systems because they are designed with flexibility and quick changeover in mind. They use computer simulations to develop the best layouts for our process and they are willing to stand by their products.”



General Motors was impressed by the quality of the parts and the increased productivity levels that resulted from the KMT system.

KMT Robotic Solutions.
Creating value through automation.

KMT ROBOTIC SOLUTIONS

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