Alternative to Shot Blasting Challenge

• Page 1 General Overview
• Page 2 Reasoning Behind the Design
• Page 3 Proof of Concept Video Links and Images
• Page 4 Current Robot / Tool Possibilities
General Overview

6 axis robot ceiling mounted

Your part

High speed low vibration motors with rotary file and conical deburring tool.

Steel base with aluminum and Plexiglas housing

Bank of brushes

CV controller computer etc..
Reasoning

• 3x3m Modular design to fit within injection cell

• 6 axis 20 kilo payload robot to bring your part to deburring tools. This eliminates the time wasted for the robot to change tools and recalibrate. Eliminating wasted time helps to ensure required 70 second cycle time.

• Steel base to prevent vibration and movement. Also provides safety if someone accidently over extends the robot arm.

• Multiple pre-mounted tool options because no single tool will give you a desirable finish on varying burs and flashing. This ensures a successful deburring as well as reduces change over times.
Proof of Concept
Images & Video Links

This is me while working with a team on a project where we repurposed an old tabletop scara robot to make 1.5mm circles with a 0.0254 mm tolerance. I have enough experience to know that made for U.S. production controllers will not operate in Europe.

Video Links: (Note: Left click on link and select open hyperlink or copy and paste into your browser.)

https://www.youtube.com/watch?v=NDkVeFMAp_w

https://www.youtube.com/watch?v=rOKOZTW89GE
Possible Robots and Tools

Six Axis Robots:
Fanuc: Waiting for Quotes/ Specs / Authorized Integrator
ABB: Waiting for Quotes/ Specs / Authorized Integrator
Epson: Max 8kilo
Adept: Waiting for Quotes/ Specs / Authorized Integrator

Brushes:
http://deburring-systems-brushes.abtex.com/category/abrasive-filament-brushes/

Rotary Tools:
https://www.goodson.com/Aluminum-Rotary-Files/
http://www.regalcuttingtools.com/products/end-mills