Robotic Grinding Considerations: Pre and Post Welding

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DATE: June 3, 2015
Grinding in Fabrication Operations

- Highest “Workman’s Comp” cost operation in many factories.
  - Vibration (Carpal Tunnel damage)
  - LOUD
  - Grinding tools “catch” or slip…
  - Splinters, Eyes…
- Is this work that people “really” want to do… day in, day out?
- Requires a “human touch”?
"The Glory of Grinding"

MY DAD SAYS

USING A GRINDER TO MAKE A WELD LOOK GOOD MAKES YOU A "GRINDER" NOT A WELDER
Robotic Grinding Examples

- **Pre Weld:**
  - Weld Joint Prep; Cutting Edge Clean Up
  - Weld Joint Prep; Back Gouging of Full Penetration Weld
- **Post Weld:**
  - Weld Bead Profile Smoothing
  - Weld Spatter Clean Up
What Needs to be Considered?

- Compliance & Force
  - Constant Pressure?
  - Stiff in one direction / plane, soft in another?
  - Gravity and Heavy Tools

- Robot Stability and Vibration
  - Don’t “Servo Out” the robot
  - Tool Chatter

- Media Selection and Wear
  - If it’s a wheel, will the diameter change as it wears?
  - How to compensate for tool wear / finish quality?
  - Inspection… Done of Re-Grind?
Oxy Fuel Bevel Cut Prep
Full Pen Weld – Back Gouging
“The Glory of Grinding”

I'VE SEEN YOUR WELDS

YOU'RE GETTING A GRINDER FOR CHRISTMAS
Questions / Comments?

Thanks for your attention…