

Auto-correction Streamlines Teaching Process

Grinding Robot System

Challenges in Polishing Work Sites

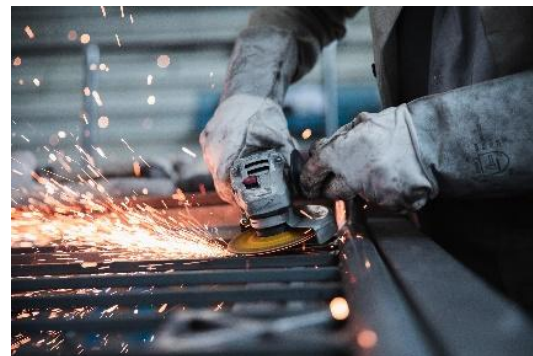
- Labor Shortages
- Work Environment
(Dust, Heavy Labor)

Challenges in Robotization

- Fine-tuning processing conditions
- Variability in Grinding Quality

Daihen's Polishing Robot System Solves Them !

- Improved Work Environment
- Stable Quality Through Automatic Correction



1. Simplified workpiece setup and reduced rework hours

- ▶ Capable of grinding while following the position of weld beads

No tracing operation



Teaching

If there is misalignment in
workpiece placement
Grinding position shifts



Tracking motion available



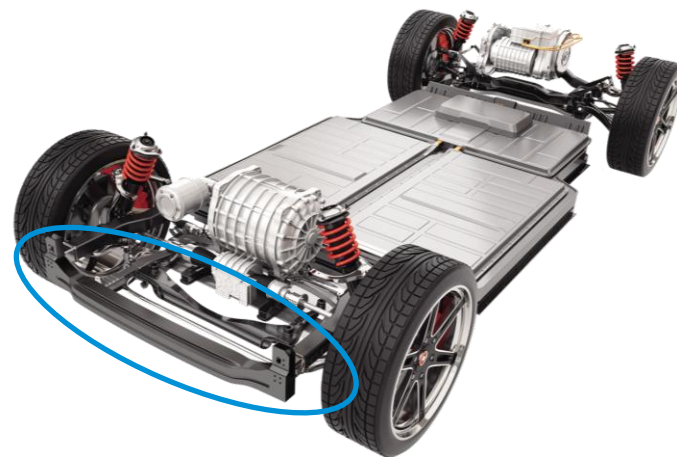
Tracking motion

Teaching

Compensates for workpiece
placement misalignment and
perform grinding

- ① Grinding weld beads while tracking with a laser sensor
- ② Detect weld bead excess height using laser sensor
- ③ Repeating steps ① and ② until the bead is removed

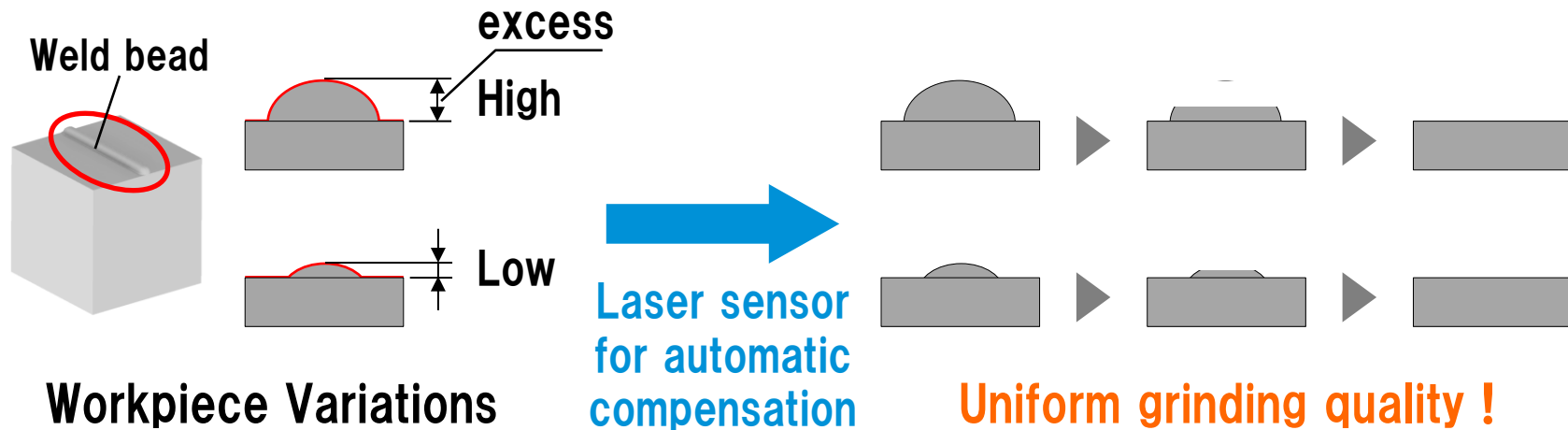
Grinding Conditions	
Workpiece Material	Iron (SPCC) , plate thickness 3 mm
Bead Shape	2 mm excess, 7 mm width
Rotational Speed	10,000 rpm
Feed Speed	50 cm/min
Pressure	20 N
Abrasive	3M™ Cubitron™ 3 TS Disc 1182C 60+ (#60 equivalent)



Vehicle Frame

2. **Uniformly Grinding** beads with varying excess heights

- ▶ **Detects** weld bead **height**
- ▶ **Automatically switches processing conditions** according to excess height



- ① Detect weld bead excess height with laser sensor
- ② Grind the weld bead while tracking with the laser sensor
- ③ Repeats steps ① and ② until the bead is removed

Grinding Conditions	
Workpiece Material	Iron (SS400) , plate thickness 12 mm
Bead Shape	3 mm excess, 15 mm width
Rotational Speed	10,000 rpm
Feed rate	50 cm/min
Pressure	30 N
Abrasive	3M™ Cubitron™ 3 TS Disc 1182C 36+ (equivalent to #36)



Construction Equipment Frame

Daihen's Grinding robot system contributes to streamlining post-welding processes.

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