

Vacuum Port Washing Apparatus

Description of Problem

- Vacuum port assembly operators have to clean base manually to remove any undesired debris.
- This causes the vacuum port assembly time to vary depending on the condition of each port.

History

- GKN requires 500-600 Vacuum ports per day to process laminates
- Operators manually clean each vacuum port base before assembling. When solution is applied to certain areas of the base being cleaned, issues with the assembly can occur.

Proposed Solution

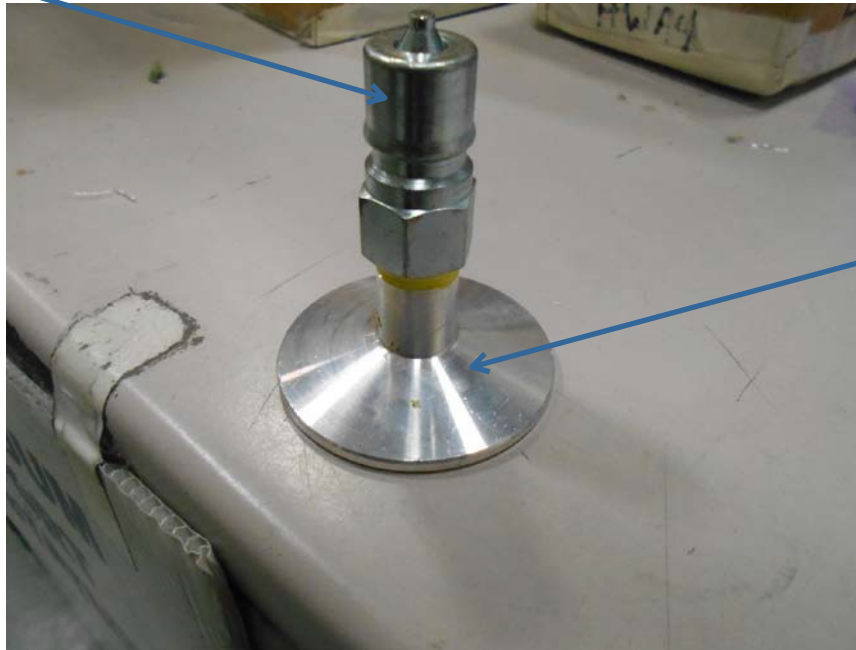
- Ergonomic solutions to remove and prevent pinch points, along with prohibit debris from being exposed.
- Introduce 2-3 automated vacuum port washing apparatus designs that will quickly clean conic shape of port.
 - Clean vacuum port bases in function similar to golf balls being cleaned by golf ball cleaning machine.
 - Test concept on test samples.

Requirements

- Design and build automated vacuum port base cleaner that will:
 1. Safely and quickly remove residue without damaging vacuum port.
 2. Cleans vacuum port base.
 3. Applies release agent to bottom of base.
- Ease of use.
- **GKN Confidentiality**

Vacuum Port

Vacuum Port Tip



Vacuum Port Base