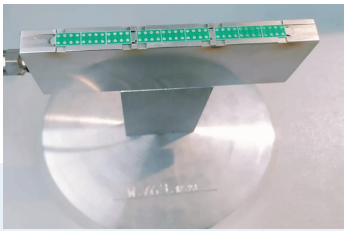




BEFORE



AFTER

**PROBLEM / ISSUES**

- High cycle time in tinning process due to holding PCB by double sided tape

**BENEFITS**

- Cycle time reduction by 20%
- Total Mandays saved per year – 6.5 days

**KAIZEN**

- Implemented pneumatic actuated fixture is used to hold PCB during tinning process. This fixture can be used for different PCB's but just changing the top PCB locating block.



BEFORE



AFTER

**PROBLEM / ISSUES**

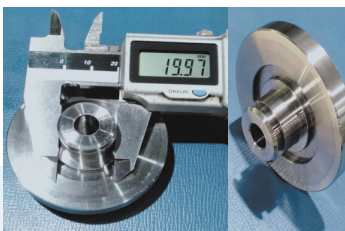
- Single piece marking on bench vice method – Conventional Method
- Separate manpower required for marking
- Variations on Jobs due to poor clamping

**BENEFITS**

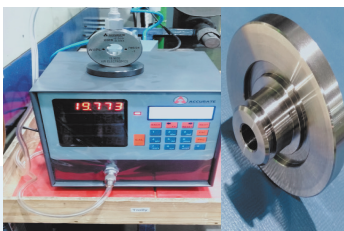
- Reduced cycle time by 80%
- Manpower reduction by one
- Cost savings – INR 216000

**KAIZEN**

- Implemented fixture to enhance productivity – Designed fixture for 5 components marking in one set up.



BEFORE



AFTER

**PROBLEM / ISSUES**

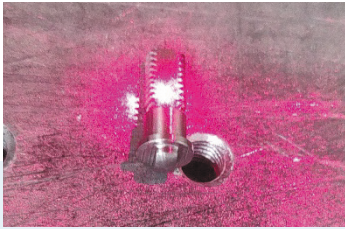
- High leakage issues due to diameter variation in GDMRC because parts checked by vernier callipers.

**BENEFITS**

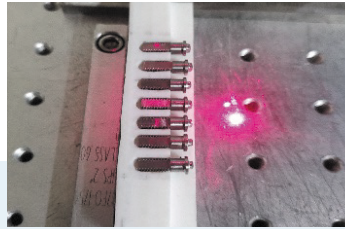
- Quality improvement
- Zero leakage

**KAIZEN**

- Zero diameter variation issues after improving inspection by implementing air gauge



BEFORE



AFTER

### PROBLEM / ISSUES

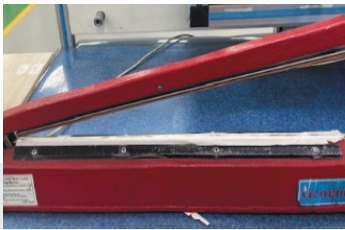
- High setup time for laser marking leads to high cycle time (Part Name: 1/4" ball valve stem).
- Cycle time for laser marking of one part – 15 seconds

### BENEFITS

- *Reduced cycle time of laser marking of 1/4" ball valve stem from 15 seconds to 5 seconds (66% reduction in cycle time)*

### KAIZEN

- Implemented fixture to reduce laser marking time from 15 seconds to 5 seconds
- Laser marking of 7 no's parts at a time



BEFORE



AFTER

### PROBLEM / ISSUES

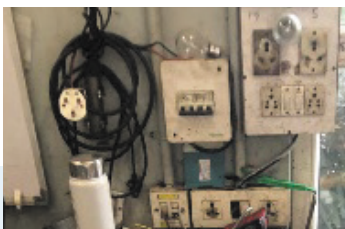
- Poor sealing quality of manifold packing led to poor customer satisfaction
- Manual Sealing Machine led to non-uniform sealing leading to poor aesthetics

### BENEFITS

- *Sealing Quality Improvement*
- *Improved aesthetics due to uniform sealing*

### KAIZEN

- Conveyor based & temperature-controlled sealing machine implemented to ensure good quality packing sealing



BEFORE



AFTER

### PROBLEM / ISSUES

- Direct wires used since testing panel not available in maintenance department for testing of equipment's

### BENEFITS

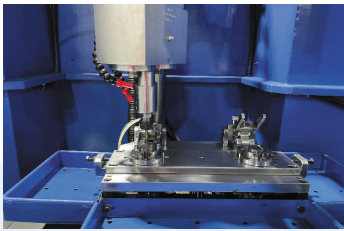
- *Safety improved during electrical testing*
- *5S improvement*
- *Can detect power failure & air pressure drop*

### KAIZEN

- Electrical testing panel designed for electrical testing of equipment's. It can also detect electrical failure in plant & drop in air pressure line



BEFORE



AFTER

PROBLEM / ISSUES

- The manual drilling/tapping machine was inefficient for high-volume production
- High cycle time

BENEFITS

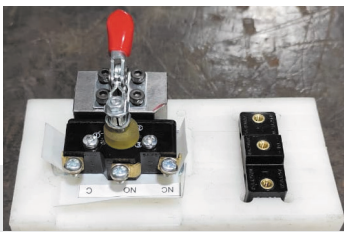
- Cycle time reduction by 50%
- This machine speeds up production with multiple drills, quick loading/unloading, and less manual labor

KAIZEN

- A new customized semi-automatic drilling/tapping machine was developed & installed with multiple spindle & sliding part placement locations.



BEFORE



AFTER

PROBLEM / ISSUES

- High cycle time of 90 sec in micro switch assembly process.
- Manually holding the part leads to safety risk due to slippage during parts holding

BENEFITS

- Safety Improvement
- Cycle time reduction by 50%
- Eliminated injury risk by eliminated the need to hold the part by hand

KAIZEN

- Implemented fixture to securely hold the parts and reducing cycle time from 90 sec to 45 sec
- Developed a new fixture to securely hold the parts, simplifying and speeding up the assembly process.



BEFORE



AFTER

PROBLEM / ISSUES

- Wear & tear, High cycle time in locating of AFCG line pin gauge due to poor storage

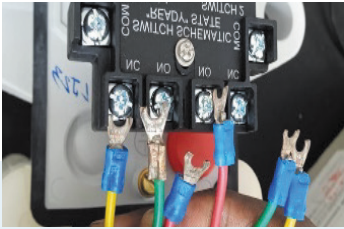
BENEFITS

- Cycle time reduction by 80% in locating pin.
- Eliminated pin damage

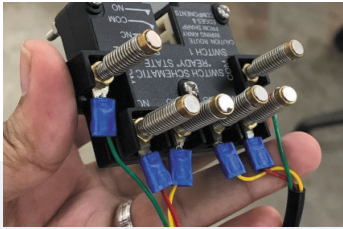
KAIZEN

- Improved storage standard of pins by ensuring each pin is stored separately





BEFORE



AFTER

PROBLEM / ISSUES

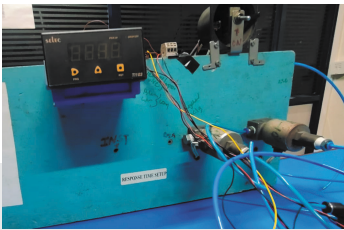
- High cycle time for wire connection – 1 min 21 secs for HV testing.
- High cycle time for wire connection – 2 mins 42 secs for Callibration testing

BENEFITS

- Cycle time of HV testing reduced from 1 min 21 sec to 4sec. Cycle time reduction by 99%
- Cycle time of Callibration testing reduced from 2 min 42 sec to 3 sec. Cycle time reduction by 99%

KAIZEN

- Implemented magnetic clip method to connect wires for HV testing & callibration to reduce cycle time



BEFORE



AFTER

PROBLEM / ISSUES

- High setting time of 2 hours for Response Time Testing setup
- High Manpower cost for each testing cycle
- Safety issues due to loose wires

BENEFITS

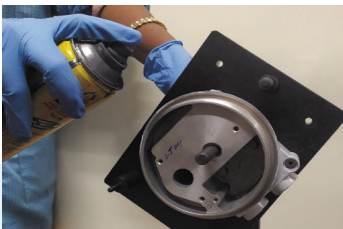
- Setting time reduced from 2 hours to 2 mins. Cycle time reduced by 99%
- Manpower cost reduced by INR 132 for each testing cycle

KAIZEN

- Modified Response time testing bench using pressure gauges & switches to reduce testing setup time to 2 minutes



BEFORE



AFTER

PROBLEM / ISSUES

- Difficult to rotate the ENCL by hand during spraying of the molybdeum chemical
- Part damage & uneven chemical coating due to manual handling

BENEFITS

- Easy handling
- Chances of part damage due to manual handling eliminated
- Cycle time of chemical spray process reduced by 50%

KAIZEN

- Implemented rotary clamping fixture for part rotation with uniform speed during molybdeum application