

## Opportunity: Robotic Insertion Station

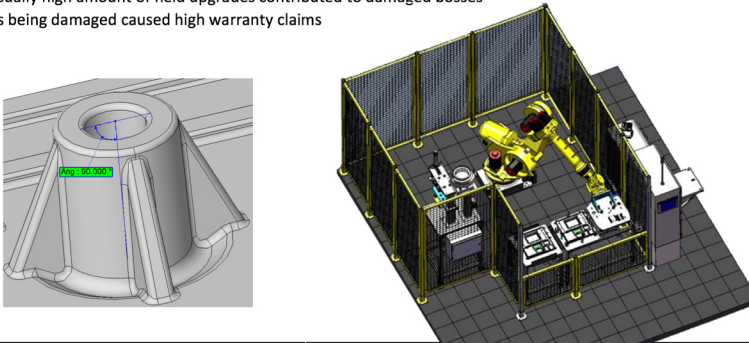
Customer requested that we add threaded inserts to current and future parts in areas that require frequent field changes. Field technicians were over-torquing screws and causing high warranty claims for excessive field repairs. Many units had to be replaced because of the damage. Customer was looking for better way to protect parts in the field.

**Results:**

- Brass Threaded Inserts eliminated stripped bosses in the field
- Greatly reduced warranty claims due to more durable bosses
- Robotic cell system allows for easy adaptability to many product versions
- System is highly adaptable to future product versions with minimal investment

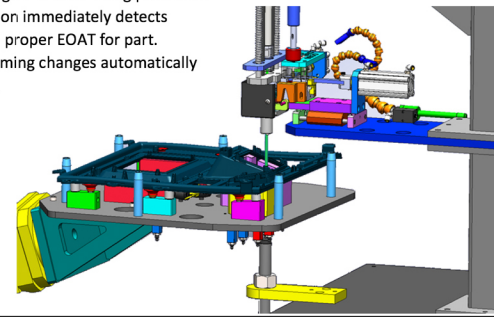
PREVIOUS Design/Material/Method/Structure, etc.>

- Plastic Molded Bosses were standard
- Field technicians using excessive torque which damaged bosses
- Unusually high amount of field upgrades contributed to damaged bosses
- Parts being damaged caused high warranty claims



## NEW Material/Method/Structure, etc.&gt;

- Brass threaded inserts being inserted into bosses
- 4-Axis robot positions parts under insertion machine
- 6 to 12 inserts installed depending on version being processed
- Sensors built into the infeed station immediately detects product changes and selects the proper EOAT for part.
- Product changes trigger programming changes automatically with no operator input required.



## Opportunity: Linking Process Parameters to Individual Parts

Customer is in the Child Safety Seat market and has a good reputation for safety. When a customer complaint arises, they wish to be able to check the process parameters for each part via a paper label that carries date and time of manufacture. By using the RJG system, Wilbert processes parts for the customer within preselected process limits like End of Cavity Fill pressure, screw run time, effective viscosity and other parameters that the customer has determined produces an acceptable part.

**Results:** -Customer can compare process parameters for any failed part and quickly determine if processing contributed to a failure. Customer can narrow the field of any potential failures to reduce the potential impact of a recall. The data supports a quick determination of ROOT CAUSE(s).

Current Material/Method/Structure, etc.>

Standard process sheet with all parameters

- Machine controls injection profile and set points but no historical data is retained and actual cavity pressure is not used to determine true melt position /pressure profiles.
- Plant personnel determined if a part was acceptable based on visual inspection of the part.

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## NEW Material/Method/Structure, etc.&gt;

## Final design

- Fill, pack and hold are controlled and monitored.
- Scientific Molding Principles are used to determine if a part is acceptable based on pre-set processing parameters
- Out of tolerance parts are automatically rejected by the robot, and not presented to the operator for review.
- Each part has traceability to the date/time/and work order it was produced under. This Data base is available to both the customer and plant personnel.