

Title: Access Point Precision

Owner: Lean Machine Date: 17 Oct, 2018

1) Background & Business Case

Background: One feature that each of the products shares is that they have access points (holes) punched in them. However, products of the SS series have the holes punched in a diagonal configuration, while the SD series have holes punched horizontally or vertically oriented to the outer edge mid-points.

Business Case and Problem Statement:

When products are rejected by QA, manufacturing of the product goes back into the production queue and disrupts the planned workflow.

There is a high instance rate of QA rejection of products before they can reach the customers.

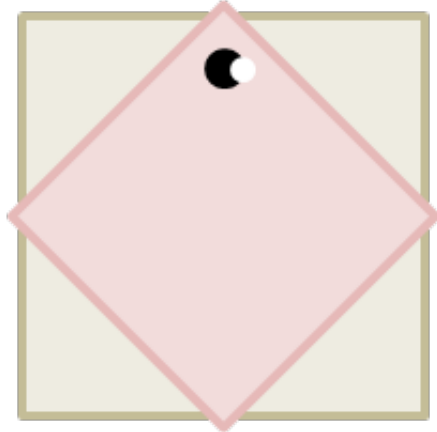
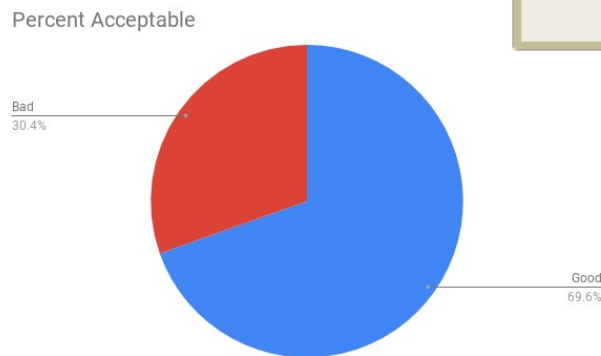
2) Current Condition

There is a nearly 1:3 chance that the measured product hole placement is rejected by QA.

- In these instances, QA is determining that holes were punched outside of allowed tolerances.
- The figure to the right depicts the SD-1 product. The black circle represents the area in which the access point is to be placed (within a +/- .1cm tolerance), and the white dot represents the actual placement.

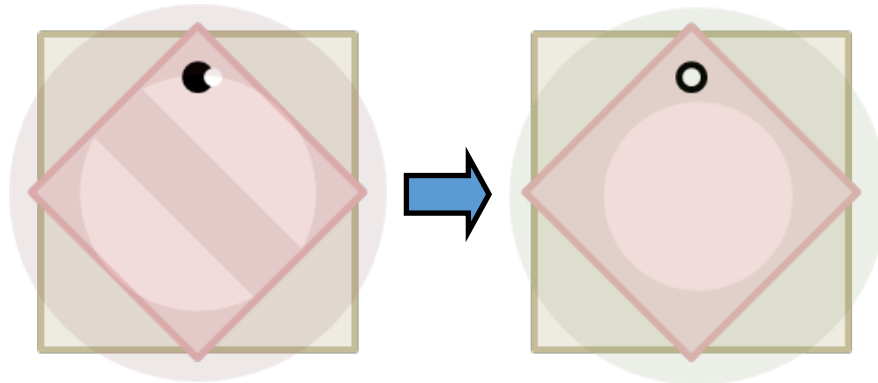
- ⇒ **Why?** QA measured at not 1 cm from inner square corner
- ⇒ **Why?** The holes were not placed at 1 cm from the center
- ⇒ **Why?** The hole punchers did not take the time to make sure that the holes were placed properly
- ⇒ **Why?** They were rushing to meet production goals
- ⇒ **Why?** Management placed a higher priority on meeting production quantities than on delivering quality products to the customer.

Data: (From [Quality Tracking](#) sheet)



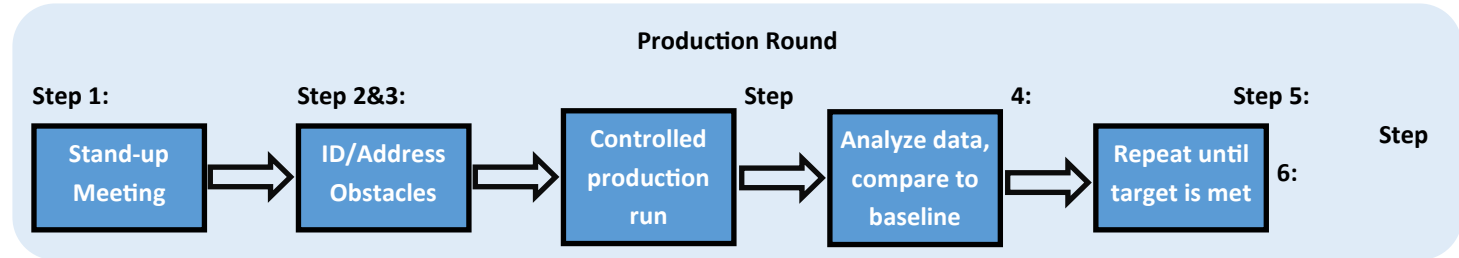
3) Target Condition

- **Target Condition**
The ultimate goal is to achieve the ideal condition for all future products. As a step in that direction, we will target an initial reduction from a ~30% failure rate to below a 20% failure rate, with subsequent improvements to follow as the process is refined.
- **Diagram of Ideal Condition:**
when the products are passed through the assembly line, the holes are to be punched at 1 cm from the corner of the pink square, equidistant from the sides, within a tolerance of .1 cm.
- **Hypothesis & Experiment:**
If management slows down the rate of production and encourages the hole punch team to take their time to accurately align the pieces, a greater number of products will be passed by QA.



4) Action Plan (Steps)

1. Stand-up meeting with whole production crew to talk about plan to slow production and why.
Provide explanation that a slowdown to focus on quality is still more efficient than a full-speed production run with frequent rework (what, where).
2. Ask hole punch team what specific obstacles make the task more challenging (assignable, identify non-value added activities).
3. Coordinate with rest of team to address hole punch obstacles, can other production areas make it easier for later precision? (Assignable, eliminate waste).
4. Perform a series of controlled production runs with identified changes to determine validity in addressing hole-punch related quality concerns (When).
5. Analyze QA data using previous run as baseline. Target to reduce hole-punch failure rate to less than 20% in first run (Realistic).
6. First run data will be analyzed and considered in case of additional improvements to be made. (Kaizen)



Measurement:

Results: