

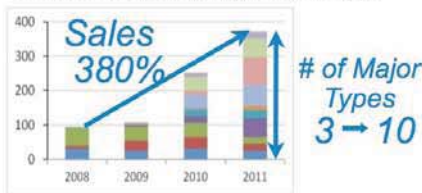
Title: Reduce Scratches in Assembly

Manager	Supervisor	Shop: Device-K Assembly
	Ichiro Dec. 15, 08	Owner: Mary Update: Dec. 15, 2008

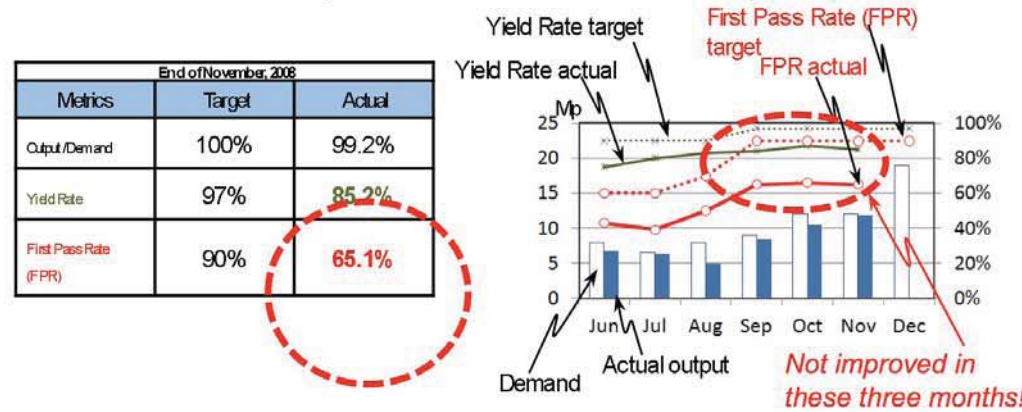
1. Background

- Device-K is our next main product!
- Increase in variety of mounting/casing types
- Quality is a key success factor in assembly as well as in the chip process

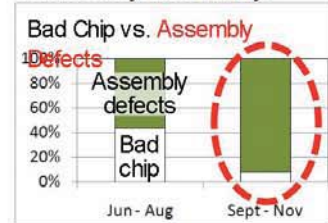
Device-K Sales Plan by Product Type



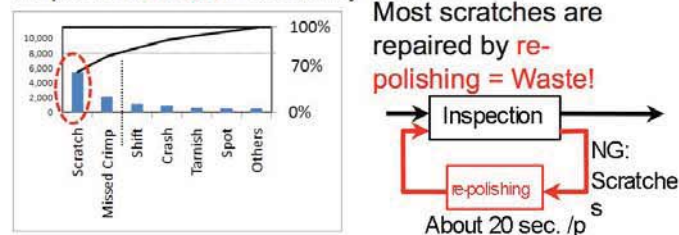
2. Current state (Based on November data)



92% of defects were caused by Assembly!



Scratches are most often identified at inspection: 47% of assembly defects

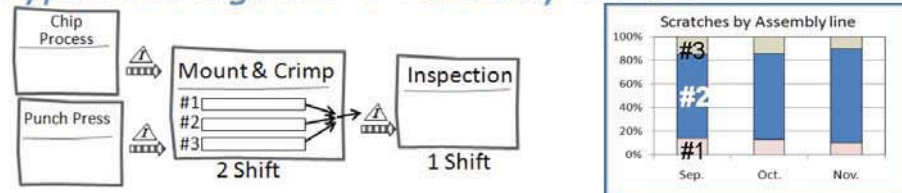


3. Target

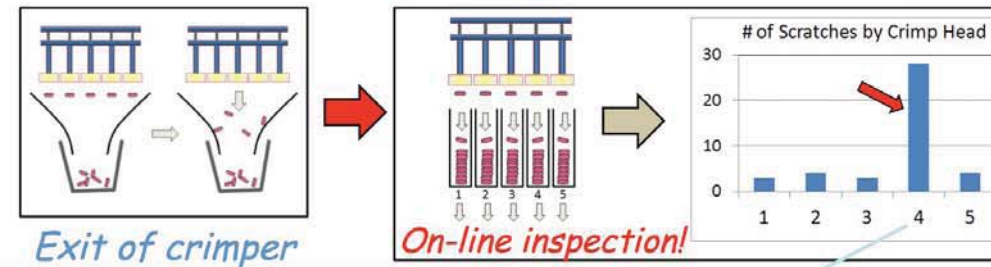
- (1) Zero scratches! 15% to Zero
 - (2) Reduce missed crimp! 10% to Zero
- FPR = 90% * Based on November data

4. Analysis

4-1. Hypothesis & go see -1: Assembly line #2?



4-2. Trial-1: On-line inspection just after line #1 crimper



4-3. Second observation: types of scratches

- Rounded 70% → Fixing crimper head 4 also reduced missed crimp defects.
- Straight 28% → Observed only in line #2 → Next go see-2
- Others 2% → Observed in all lines → Punch press?

4-4. Hypothesis & go see-2: First step of assembly line #2?



5. Countermeasures and plan

#	Action item	Dec. 5	12	19	26	Jan.	Responsibility	Status
1	Fix crimper head	Done					Mary & Jack with Facility Team	Done
2	Fix leaf spring	Done						Done
3	On-line inspection	Trial		Prep.	2-shift inspection		Jimmy Mgr. Assembly	On track
4	Reduce inventories between processes		Stop machines alternatively	Implement VM	Maintain		Team	On track

6. Result & next challenge

2nd week of Dec. 2008		
Metrics	Target	Actual
Yield Rate	97%	95.0%
FPR	90%	90.2%

- (1) Remaining Defects
 - a) Scratches (2%)
 - b) Missed crimp (1%)
 - c) Others
- (2) "Why" after current countermeasures
 - a) Broken head - why?
 - b) Burr - why?