

OPERATIONS

Improvement Example #1

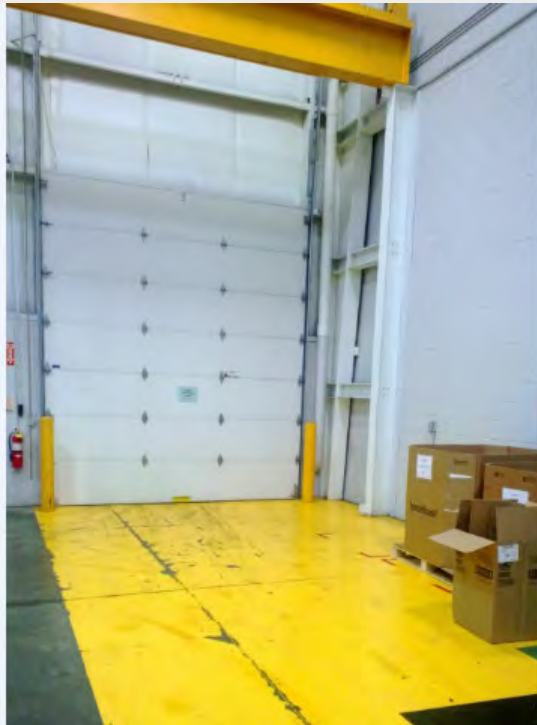
OEE Tracking / Shift Letter Implementation



2/11/2013		1ST SHIFT SUMMARY									
OEE						ISSUES/COMMENTS					
Machine	Part Description	Scrap %	Downtime %	OEE%	Shift Target (pieces)	Shift Actual (pieces)					
Press 1	Ford C Pillar	12.50%	15.47%	65.58%	900	540	Press 1	start up @ 10 min. Splice, scratches on A surface. Adjustments end of shift for team to occur/quantity			
Press 2	Ford B Pillar Rear	1.83%	7.08%	95.58%	600	655	Press 2	down for 30 min at the start of the shift. adjustments for team to occur/quantity			
Press 3	BMW Cladding	1.68%	0.00%	95.60%	411	365	Press 3	Training 2 new operators			
Press 4	IP Passenger	25.81%	26.46%	50.29%	580	375	Press 4	changed film over to Carbon. Started and stopped production all morning to request for pits, wrinkles, flaws and missing film. @ 1:27 min			
Press 5	Ford Camber Ht	0.00%	0.00%	100.00%	1262	1134	Press 5	no issues			
Press 6	Body Molding	1.72%	14.17%	86.23%	1400	1418	Press 6	no issues			
Press 7	IP Bow	7.25%	18.54%	76.33%	900	629	Press 7	no issues			
Press 8		0.00%	0.00%	100.00%	360	0	Press 8	Not Scheduled			
Press 9	Lincoln C Pillar	3.84%	4.17%	96.41%	384	369	Press 9	no issues			
Press 10	Lincoln B Pillar Front	15.71%	10.54%	83.63%	800	700	Press 10	machine start up. Splice in the lower front window. Most tech making adjustments to heat, speed to resolve issues. @ 1:55 min			
Fender Triangle Assembly		0.00%	0.00%	100.00%	400	390	Fender Triangle Assembly	no issues			
SBT Plate		0.00%	0.00%	100.00%	900	0	SBT Plate	Not Scheduled			
IP Passenger Assembly		5.86%	28.13%	72.25%	411	299	IP Passenger Assembly	start of shift burning bearings, clips off location (aut. shut) switched over to carbon (welding on parts from press#1). Quality sort for A zone def.			
Hot Stamp		0.00%	37.26%	62.74%	900	0	Hot Stamp	Waiting on incoming parts. Working with Eng. Unable to adjust for good parts sent of shift			
IP Bow Fender Logo		0.00%	100.00%	0.00%	360	0	IP Bow Fender Logo	Not Scheduled			
C346 Tape		0.20%	18.13%	81.67%	480	305	C346 Tape	no issues			
Bright Strip Tape		1.60%	0.00%	100.00%	120	125	Bright Strip Tape	no issues			
X Line		0.00%	12.50%	87.50%	120	170	X Line	started production 5:57 A. Then switched only to 6%. Ran out of material then we ran only 5:7 & 8's for the rest of the shift.			
Mercedes W Clip Machine	W166 RH Long	0.71%	0.00%	100.00%	387	425	Mercedes W Clip Machine	no issues			
Mercedes X Clip Machine	W166 LH Short	0.81%	0.00%	100.00%	377	240	Mercedes X Clip Machine	breaks, @ 40 min. 1 new operator			
Mercedes A pillar Assembly	RH	4.24%	20.83%	74.93%	600	377	Mercedes A pillar Assembly	start up, breaks. Training 1 new operator. @ 1:00 min			
Stretch Bender	RH D250	0.00%	27.08%	72.92%	720	567	Stretch Bender	no issues			
Lincoln Triangle Assembly		0.00%	0.00%	100.00%	300	294	Lincoln Triangle Assembly	no issues			
D250 Assembly	LH	0.00%	18.04%	81.96%	600	546	D250 Assembly	down for 1 hour @ start of shift for set up, material. Plan left hand rag then switched over to RH. Moved 1 operator for press # 4 (quality sort)			
Extrusion	W166 Rail	0.86%	0.00%	100.00%	3000	1680	Extrusion	@ 1:30 for cold start up			
MANNING						SAFETY					
Scheduled: 33		Comment: training 5 operators. 1 housekeeping. Sent 1 home early				Recordable:		0			
Actual: 29						Near Misses:		0			
						Potential Safety Concerns:		0			
MAINTENANCE						TOOLING					
working on heat stamp, unable to make final adjustments (parts arrived at the end of the shift)											

Improvement Example #2

Daily Stand-up Communication – Command Central



Before



After

HUMAN RESOURCES

MONEY REWARD



- Safety Rewards (4 months with zero recordable incidents).
- Other Safety Improvements
 - Installation of cameras throughout plant (inside and outside).
 - Alarms on exterior doors.
 - Mirrors installed to assist hi-lo traffic.
 - Lock/Out Tag/Out Training and additional locks.

RECOGNITION / REWARDS



- More Employee Recognition
 - Photo Board
 - Increased Shift Premium
 - 2nd Shift => from \$.15 to \$.50
 - 3rd Shift => from \$.25 to \$.75
- Increased starting rate



QUALITY

New Training Center – Phase 2



- Part Display Board
- Standard Work Station
- Part Inspection / Evaluation
- Final Assembly Displays
- On-Line Training Center

Result:

- *Effective AQL training (consistency) – Required prior to becoming a Production Operator*
- *Standard work stations (every work station will be standardized)*
- *Consistent inspection methods (clear direction for operators and inspectors)*

Increased Customer Satisfaction

Decrease in Customer rejects

IMPROVED OVERALL PERFORMANCE

Scrap Collection Improvement



**scherer
+trier** | USA

Non-Conforming Cage

Before...

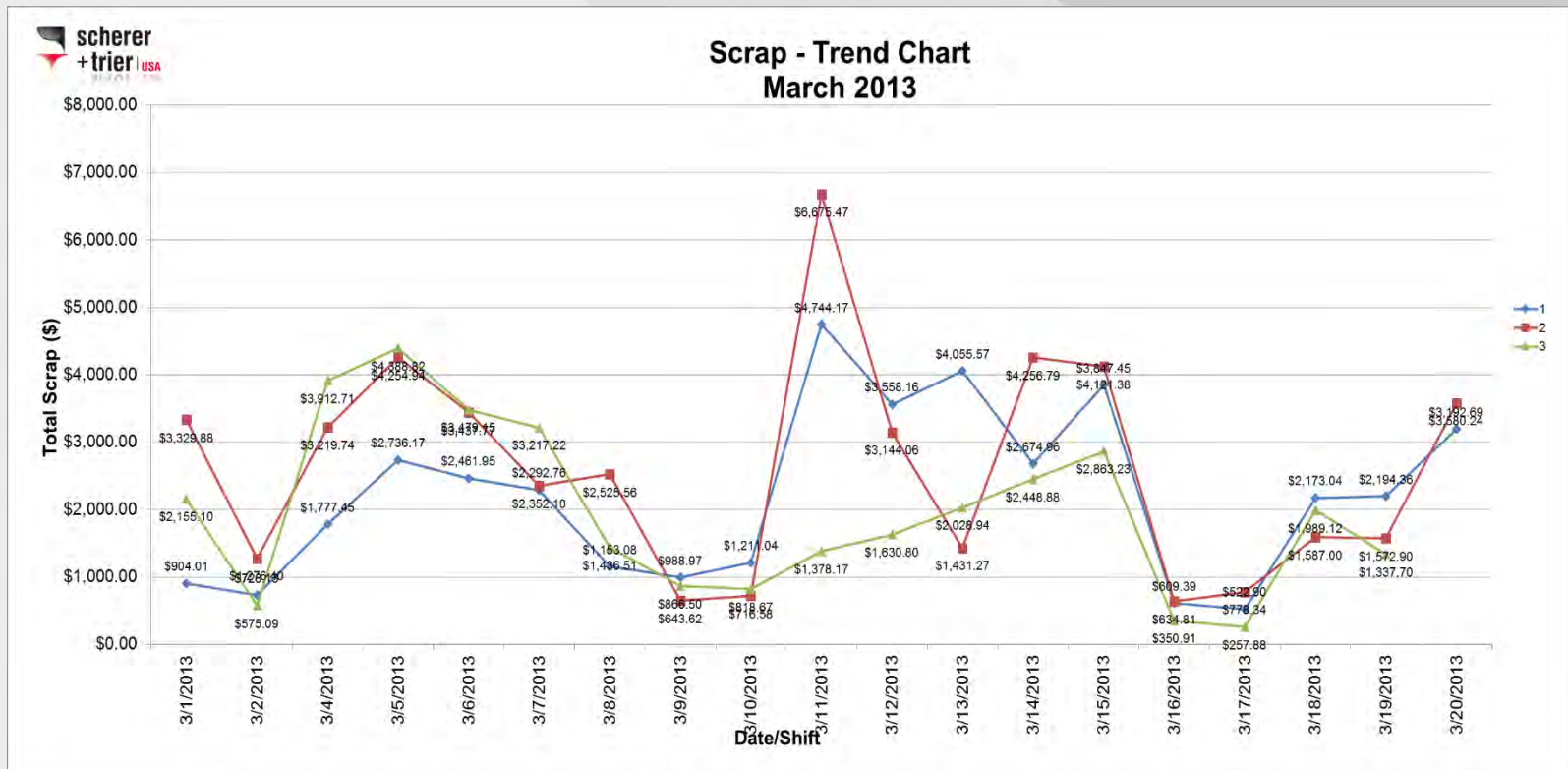


- Secured Environment
- Limited Access
- Local processing
- Daily evaluation/reporting

After...



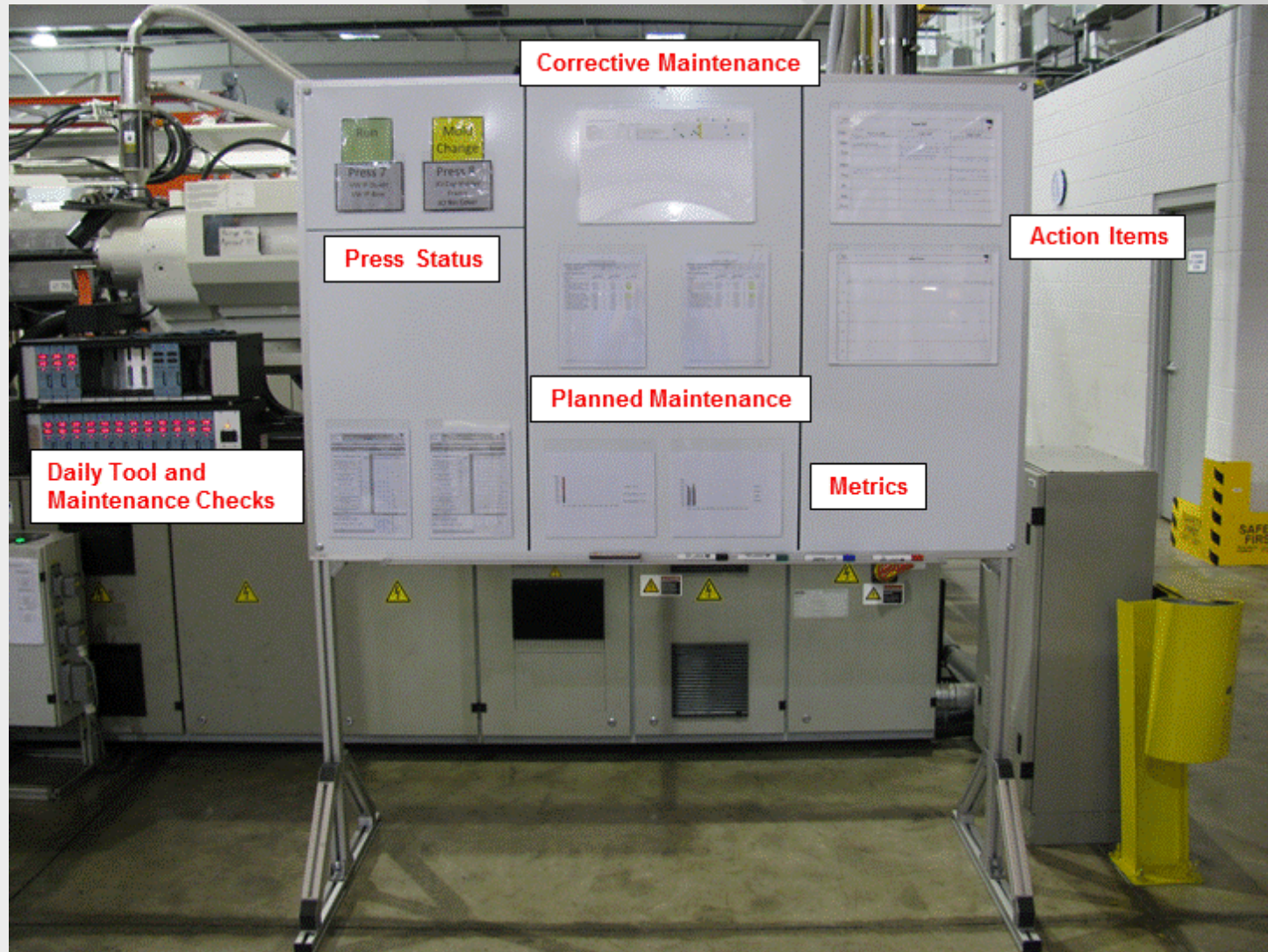
Scrap Trend



CATEGORY	GOAL	Nov 2012	Dec 2012	JAN 2013	FEB 2013
Scrap as % of sales	ACTUAL	8.59%	11.70%	9.14%	5.24%
	TARGET	4.00%	4.00%	4.00%	4.00%

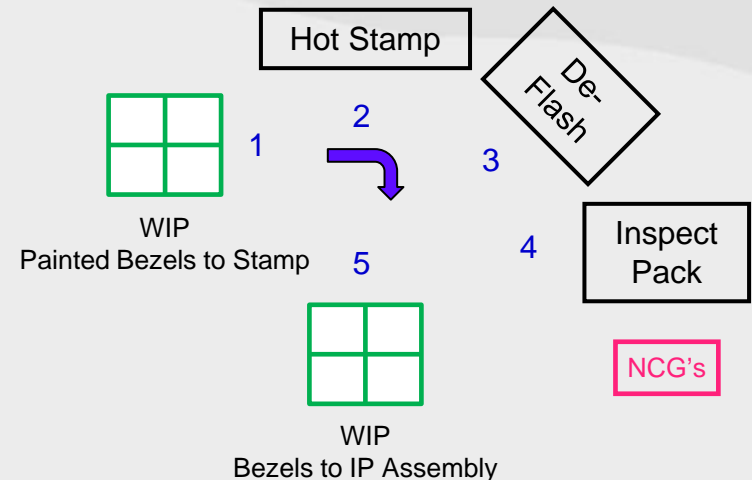
ENGINEERING

Equipment TPM Boards



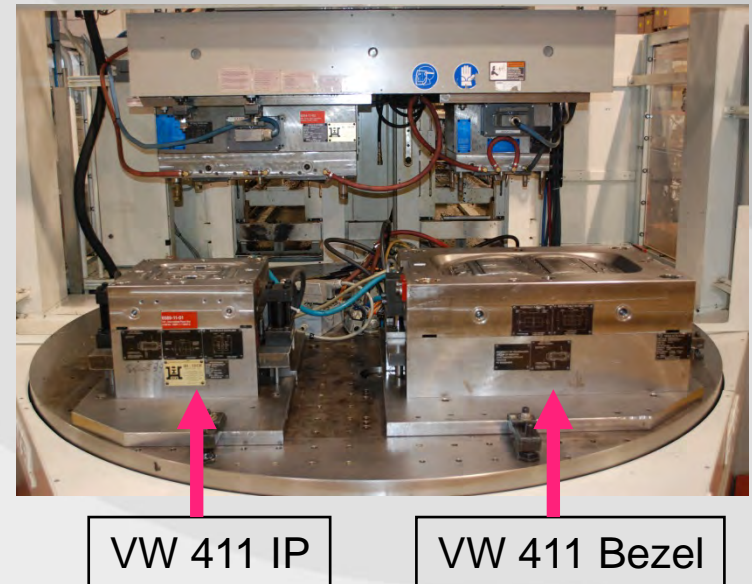
Process Improvements – Jan 13

- Hot Stamp - VW 411 Bezel
 - Problem – Not meeting customer demand and high scrap
 - Solution – Layout work area into a basic U-Shaped Cell
 - Standardized machine parameters
 - Completed minor tooling PM's to establish constant force on Bezel land
 - Reduce “taped shimming” of tooling
 - Paced cell with 900 “freshly” painted bezels / Day
- Results
 - Cell Output: 100 to 140 Pcs / Hr
 - Cell Scrap: 50% to <10% Pcs produced
 - Cell Manning: 3 to 1+ shifts / Day



Process Improvements – Jan 13

- Press 6 Molding – VW 411 Bezel / Intermediate Piece
 - Problem - High scrap rate of Bezel's in High Gloss Painting / Hot Stamping / IP Assembly processes creates molding constraint
 - Currently have only one mold set of active Bezel tooling – must run “dummy” mold - reducing press output by 50%
 - Solution – Modify mold height of VW 411 IP to match mold height of Bezel tooling to allow both molds to run concurrently
 - Results – Increase press output by 100%, during production of VW Bezels / IP's



Volkswagen – Film Trials

- Implement Film Color changes on Model Year 2014
 - Kurz (Current Supplier)
 - Replace “Titan Silver” with “New Brushed” film
 - DNP (New Supplier)
 - Replace “Autumn BURL” with “Sharp Dark BURL” film
 - Reduce flaking and film static
 - Start of Series Production in Saline – Week of 20 May 13
 - Start of Series Production at VW – Week of 24 Jun 13

Stretch Bender 2

- Current Actions
 - Four hour engineering trials on W166 Roof Ditch completed on 25 Jan 13
 - RH – AVG 90 pcs per hour
 - LH – AVG 96 pcs per hour
 - Digital transducers installed in tooling for trials
 - PPAP requirements – Level Q4
 - Plan to submit in SQMS Week 7
 - Dimensional layout of five LH and five RH – ECD 13 Feb 12
 - “Green” Product / Process self assessment - Complete
 - Cycle time Study - Complete
 - Update Part History to Q4 Level – In Progress
 - “Green” Tier 2 Process self assessment - Complete



Engineering Projects

- Injection Presses 4 and 7
 - Install Meech VacClean Contact Web Cleaning Systems
 - Vacuum remove of film flaking
 - Reduce / eliminate the electrostatic charge on the film
 - Project status
 - Order two 820mm wide units – Week of 18 Mar 13
 - ERD in Saline – Week of 29 April 13
 - Estimate Install – Week of 6 May 13

LOGISTICS

Delivery Performance YTD

- 2012
 - January = 50%
 - February = 50%
 - YTD Delivery performance 2012 = 50%
- 2013
 - January = 73.5%
 - February = 98.96%
 - YTD Delivery performance 2013 = 86%
- 36% performance increase in 2013

Warehouse Improvements



Receiving Table Before



SR Racks Before



Courtyard Before



Receiving Table After



SR Racks After



Courtyard After



T O Before



T O After

FINANCE

Accounting/Finance

- Financials 2012 v. 2013
- Sales up 31% from 2012
- Downward trend in scrap
 - 8 ½% Jan & Feb 2012 / 7% Jan & Feb 2013
- Year to Year quality expenses down 50%
- Year to Year expedited freight down 27%

Accounting/Finance

- 2013 Budget v. Actual
- Sales 18% higher
- Quality expenses 28% lower