

OSU Capstone – Gate 4 Review

End to End Supplier Replenishment



December 12, 2012

End to End Supplier Replenishment Background

- Industrial Manufacturer Supply Chain
 - Move from “Procurement” to “Materials Management”
 - Increased Responsibility for
 - Demand Planning
 - Non-WIP Inventory
 - Reduced Supplier Lead-time
- Challenges
 - Consistency of Operation
 - Order Efficiency-Company to Supplier
 - Company Receiving Efficiency

End to End Supplier Replenishment

Current Condition – Enterprise Goals

- DSI Goal
 - Enterprise Goal to Obtain “xx” DSI per Division
 - 50% of Inventory Supply Chain Based
- Supplier Continuous Improvement
 - 2% - 10% Annually per Supplier
- “Deflation” Goal
 - 3% of Spend Annually per Division
 - Efficiency
 - Price
 - Value

End to End Supplier Replenishment Current Condition-Enterprise

- Process
 - Supplier Loop Supermarket Sizing
 - Average Demand Based
 - Replenishment Triggering
 - Card Based - Internal
 - Purchase Order - External
 - Receiving Process
 - Manual
 - Inspection Based

End to End Supplier Replenishment

Current Condition-Enterprise

- Technology
 - Supermarket/Warehouse
 - Plan for Every Part (PFEP)
 - Demand Forecasting/Supply Planning (Logility)
 - Purchasing
 - Back-Office Purchasing
 - Back-Office Kanban
 - Supplier
 - E-Commerce Buy Side – Kanban/Release
 - E-Commerce Buy Side – Shipping
 - Receiving
 - Limited

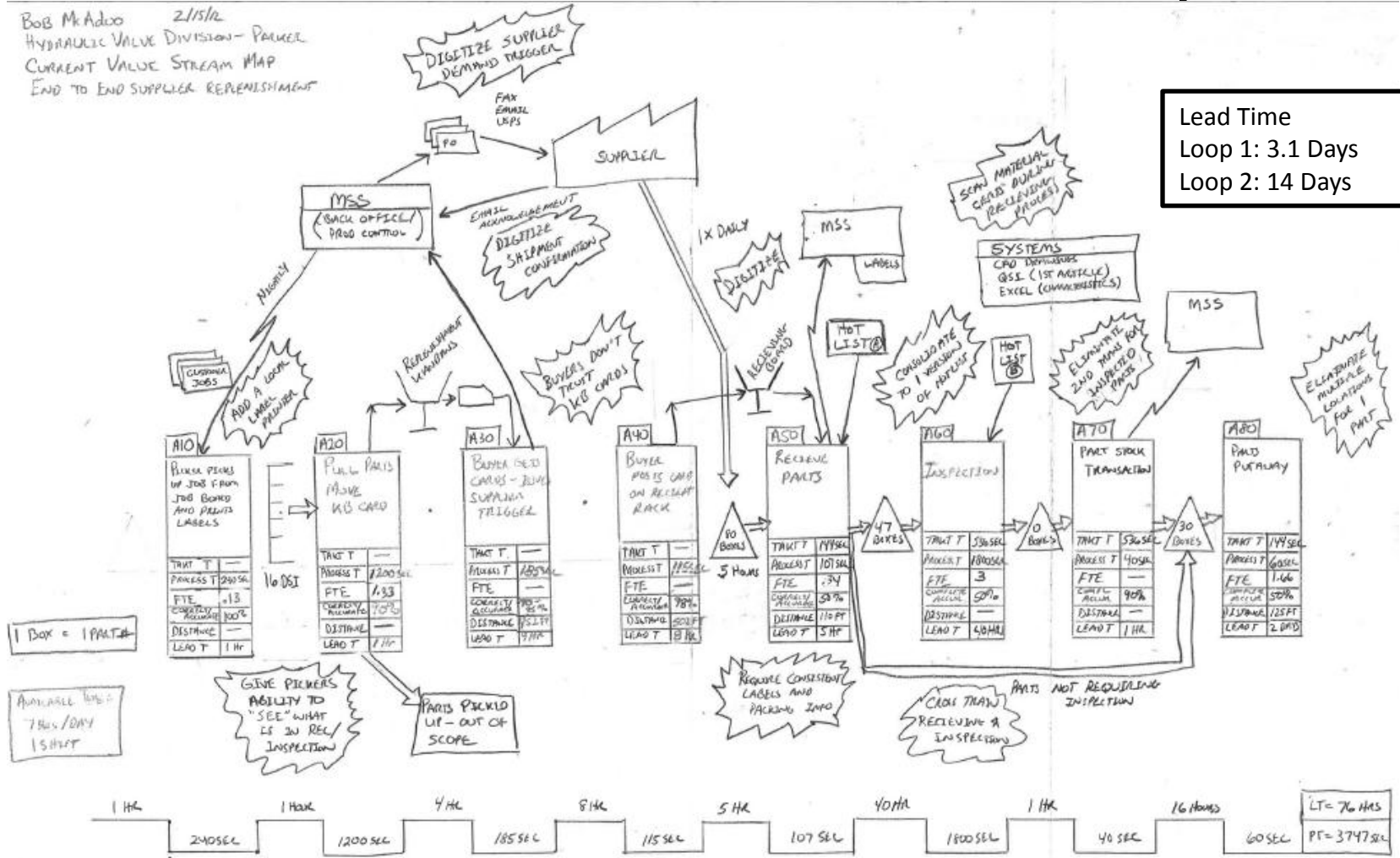
End to End Supplier Replenishment Goals

- Reduce Supplier Replenishment Lead Time by 2 Days
- Reduce Days of Purchased Inventory by 2 Days
- Reduce the Number of Part Numbers Required to be Processed through Inspection by 50%

End to End Supplier Replenishment Current Value Stream Map

Bob McAdoo 2/15/12
HYDRAULIC VALVE DIVISION - PARKER
CURRENT VALUE STREAM MAP
END TO END SUPPLIER REPLENISHMENT

Lead Time
Loop 1: 3.1 Days
Loop 2: 14 Days



End to End Supplier Replenishment Future Value Stream Map

End to End Replenishment

Future State Value Stream Map
June 2013

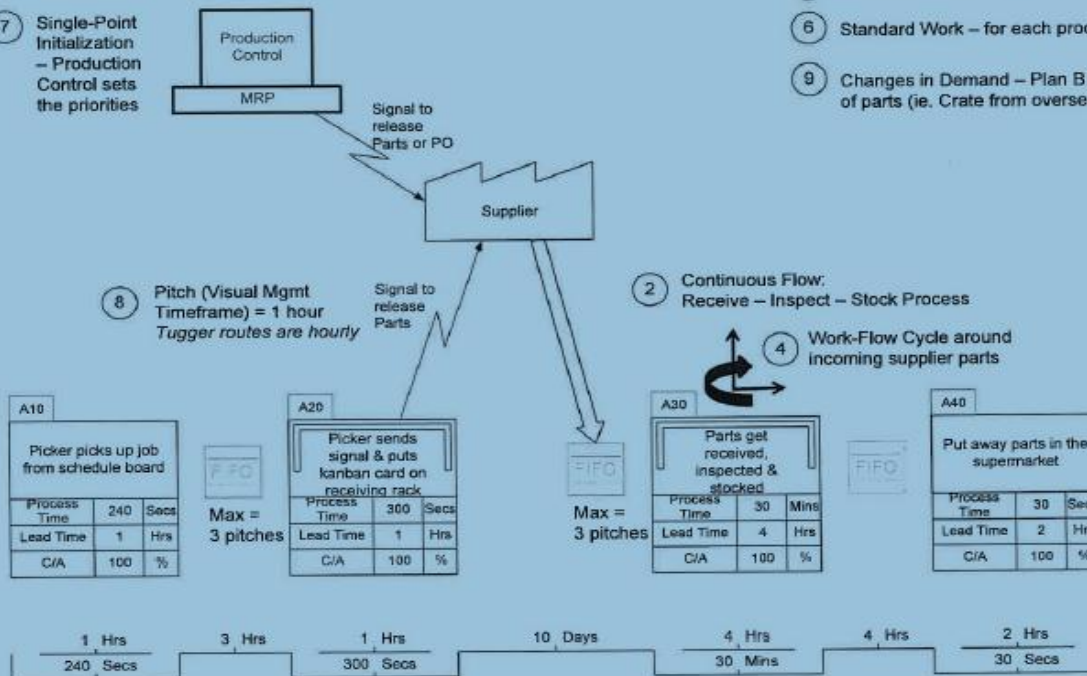
- 7 Single-Point Initialization – Production Control sets the priorities

- 8 Pitch (Visual Mgmt Timeframe) = 1 hour
Tugger routes are hourly

- 2 Continuous Flow:
Receive – Inspect – Stock Process

9 Design Guidelines for Business Processes

- 1 Takt Time = $(440 \text{ min/day}) / (200 \text{ lines ordered/day})$
= 2.2 minutes
- 3 FIFO – FIFO lanes installed between processes
- 5 Integration Events – N/A
- 6 Standard Work – for each process (A10, A20, A30 & A40)
- 9 Changes in Demand – Plan B will be developed for influx of parts (ie. Crate from overseas)



End to End Supplier Replenishment Counter Measures

Cause	Description	Impact	Challenge
Unnecessary Inspections	Receiving process to indicate at time of receipt whether "light" inspection is sufficient and to be completed at time of receipt.	H	L
Inconsistent Supplier Labels	Create consistent supplier label generation through Phconnect	H	H
Lost Kanban Cards	Eliminate receiving card rack and replace with a digitized board	M	M
Late Supplier Delivery	Eliminate order administrative lead time by having picker trigger supplier order/replenishment	H	L
Late Supplier Delivery	Digitize inbound ASN at the time the supplier ships to reduce bottlenecks at the receiving dock	H	M
Stockouts	Establish standard work for analyzing part balances and transactions on a regular basis to determine if adjustments to kanban's are necessary	H	L

Kanban – Supplier View

order cart (0) | [log off](#) | [portal agreement](#) | [update my profile](#)

[home](#) | [customer resources](#) | [supplier management](#) | [engineering tools](#)

kanban

Location:

Date Range: Due Date -

Search by: -- Please Select -- Starts with

Buyer: All

Status: Open

Order by: Part Nbr Ascending

Help

Excel Download

XML Download

Create ASN

Update Promise Date

Launch Kanban ANDON

Part Nbr	Need Date	Open Sched Qty	PO Nbr	PO Rel	Promise Date	Requested Card Nbr	Nbr of Cards	Notes
14800098X	09/06/2012	45	76317	000	09/06/2012	1 of 2	2	
40300706	09/06/2012	20	76721	000	09/06/2012	1 of 5	5	
40300988	09/07/2012	20	76555	000	09/07/2012	1 of 3	3	
40300988	09/07/2012	20	76545	000	09/07/2012	2 of 3	3	
40300988	09/06/2012	20	75040	000	09/06/2012	3 of 3	3	
40300988	09/06/2012	20	75005	000	09/06/2012	4 of 3	3	
40300988	09/06/2012	20	74997	000	09/06/2012	5 of 3	3	
42200585	09/09/2012	17	74117	000	09/06/2012	1 of 2	2	

[previous](#)

Ordered by Part Number Ascending
Showing: 1 - 18 Found: 18

Shipments – Supplier View

Click to go to Shipping Dock

Shipment Management

Filter and Sort

Location:

Part No	Part Description	Yr	Drawing Number	MQI Rev Nbr	Contract No	PO Nbr	Line Nbr	Open Sched Qty	Need Date	Promised Date	Delivery Date	Status Code	Notes	Ship
501800XAK-1001	5018 HARDWARE KIT	NC		1	Commercial	AKD72709	01 005		9/14/2011	5/25/2011	5/25/2011	SH		<input type="checkbox"/>
74185XAK	2277 HARDWARE KIT	NA		1	Commercial	AKD63570	01 013		9/14/2012	5/25/2011	5/25/2011	SH		<input type="checkbox"/>
74185XAK	2277 HARDWARE KIT	NA		1	Commercial	AKD63570	01 014		9/14/2013	5/25/2011	5/25/2011	SH		<input type="checkbox"/>
74112-01MSFXAK	2190 BODY HARDWARE KIT	NC		2	Govt	OR1D9436	01 001		9/14/2014	5/25/2011	5/25/2011	SH		<input type="checkbox"/>
482900-1001XAK	4829 HARDWARE KIT	NA		1	Govt	AKD63582	01 090		9/14/2015	5/25/2011	5/25/2011	SH		<input type="checkbox"/>
72040XAK	1715 HARDWARE KIT	NA		1	Govt	AKD65016	01 015		9/14/2016	5/25/2011	5/25/2011	SH		<input type="checkbox"/>

1 2 3 4 5 6 7 8 9 10 ...

Move to Shipping Dock

Items per page 25 | 50 | 100 | 200

Part Nbr Part Descr

Sort Ascending 5018 HARC

Sort Descending 2277 HARC

Contains 2277 HARC

74112-01MSFXAK 2190 BODY

Location:

Part Nbr

Location:

None

Need Date: Ascending

Need Date: Between 11/01/2011 and 11/01/2012

Promise Date

5/25/2011

10/27/2011

Move to Shipping Dock

Shipments – Supplier View

Click to go to Shipping Dock

Shipment Management

Filter and Sort

Location:

Part No	Part Description	Yr	Drawing Number	MQI Rev Nbr	Contract No	PO Nbr	Line Nbr	Open Sched Qty	Need Date	Promised Date	Delivery Date	Status Code	Notes	Ship
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1 2 3 4 5 6 7 8 9 10 ...

Move to Shipping Dock

Items per page 25 | 50 | 100 | 200

Part Nbr Part Descr

Sort Ascending 5018 HARC

Sort Descending 2277 HARC

Contains 2277 HARC

74112-01MSFXAK 2190 BODY

Location:

Part Nbr

Location:

None

Need Date: Ascending

Need Date: Between 11/01/2011 and 11/01/2012

Promise Date

5/25/2011

10/27/2011

Move to Shipping Dock