



Red River Army Depot



Lean Implementation in a Depot Overhaul Environment

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Facility Overview ~

- Location: Bowie County, TX
- Size: 18,000 acres
- Employees: 2500
- Programs: Bradley, HEMTT, HMMWV, SEE, Fork Lifts, 5-Ton Trucks, MLRS, Patriot & HAWK Missiles, Roadwheel & Track, and Associated Secondary Programs
- SENSEI: Simpler



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Command Metrics ~

- **Penetration:**
 - **Eleven Value Streams Engaged**
 - **Account for 15.7% of Red River Army Depot (RRAD) Population**
 - **Account for 54% of RRAD FY 03 Revenue**
- **Change Pace:**
 - **2 Events Per Month Starting Feb 03 (95 Teams Per Year Pace)**
 - **3 Events Per Month Starting Aug 03 (140 Teams Per Year Pace)**
 - **N/10 Pace =192 Teams Per Year**
 - **Full-Time Core Team Members: 15 (0.8% of Population)**
- **Developing Internal Experts:**
 - **13.7% (263) Have Participated on at Least One Team**
 - **6% (113) Have Participated On More Than One Team**
 - **1% (15) Have Participated On More Than Six Teams**



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Why Lean the Engine Overhaul Process? ~

- Program Growth
- High Visibility
- Opportunity



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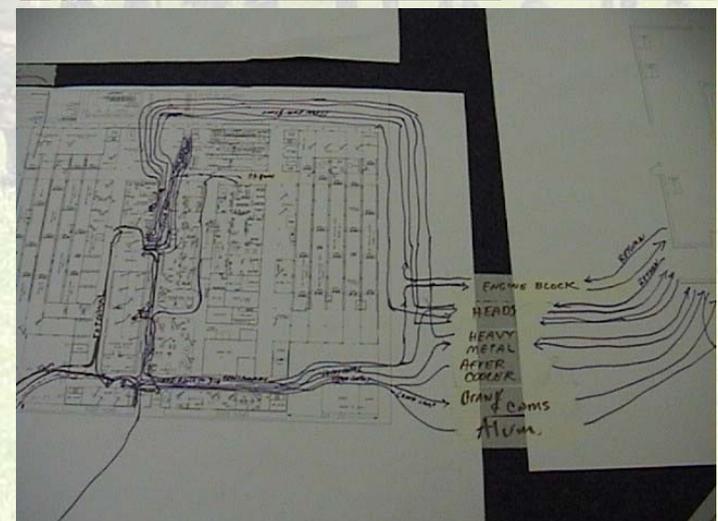
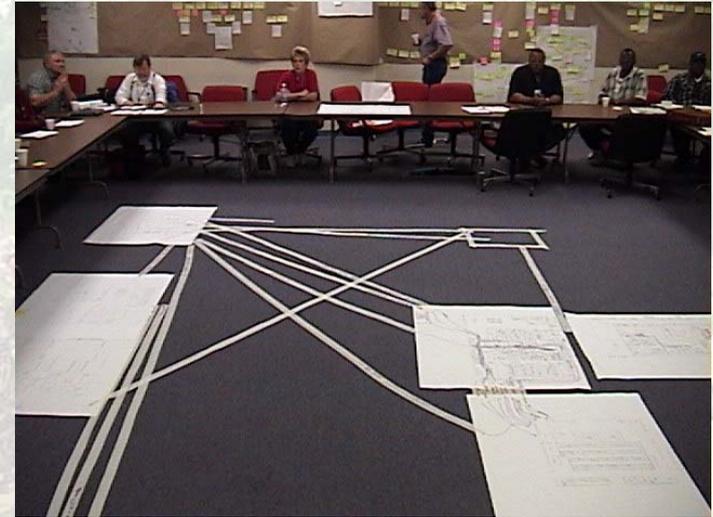


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Engine Overhaul Baseline ~

- **Organization by Function**
- **Floor Space: Too much!**
- **# of Buildings: 11**
- **Travel Distance: > 5 miles**
- **WIP: Too much to count!**



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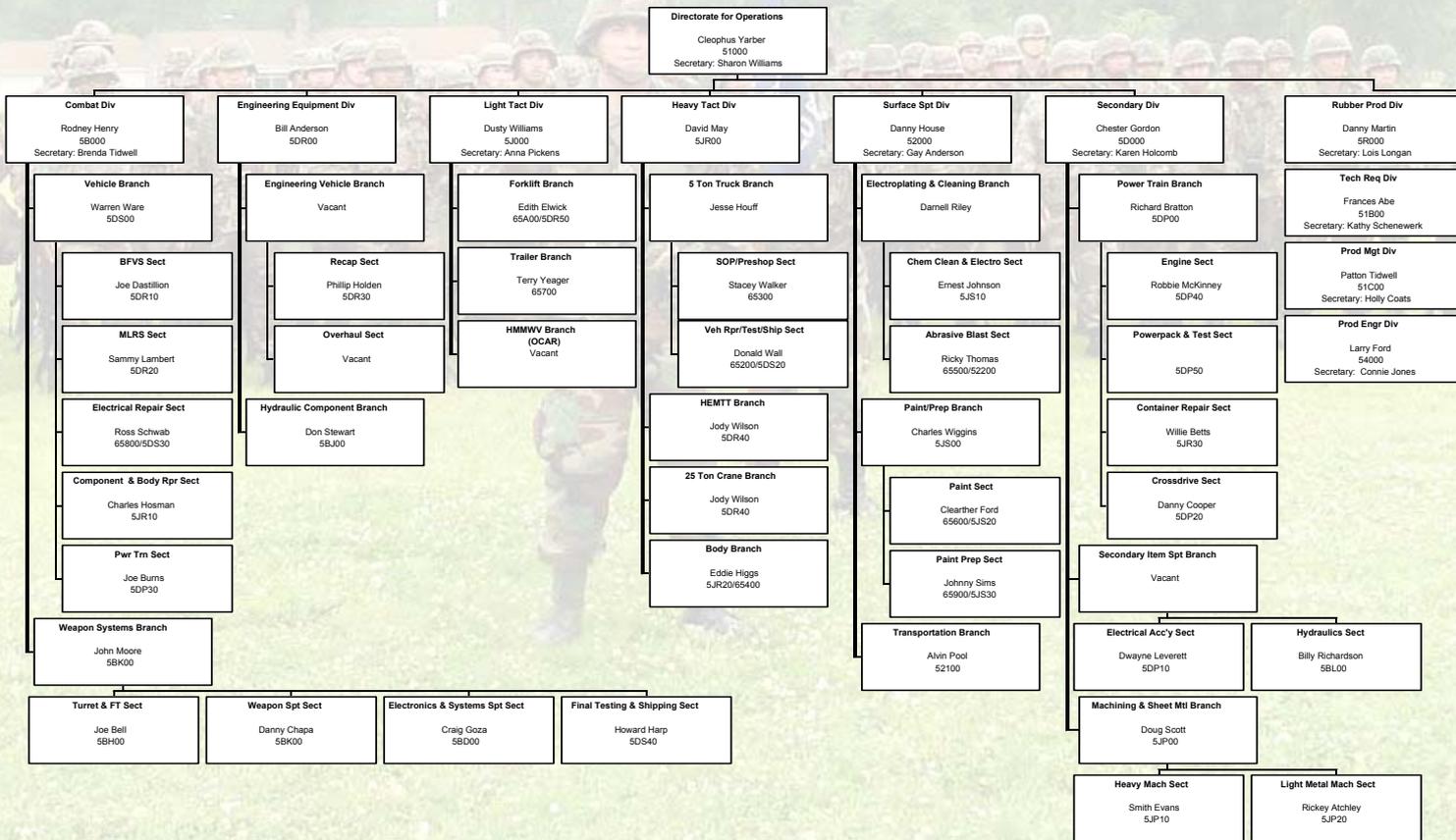


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Improvement Plan (Value Stream Alignment) ~

➤ Organization by Value Stream



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Improvement Plan (Value Stream Analysis)~

➤ Current State Map

Action Plan

HEMTT Vehicle Overhaul

R.I. Events	Projects	D-Its	Description	Who	Plan Dates		Comments
					Start	Finish	
x			DLA Delivery				
x			Crane Repair				
x			Disassembly/Assembly Line RIE				
x			Cab RIE				
x			Sheet Metal, Steel tube & Mounting Components RIE				
x			3P RIE (Cleaning, Paint, Blast)				
x			Hydraulics RIE				
x			Electrical Accessories RIE				
x			Engine Assembly RIE				
x			Radiator & Fuel Tank RIE				
x			Dyno Test & Power Pack Assy/Disy RIE				
x			Frame RIE				
x			Bed RIE				
x			Transmission & Transfer Case RIE				
x			Power Train RIE				
x			Level Asy Line Floor				
x			Improve Lift Capacity in Station #1				
x			Develop Model Standard Work				
x			Convert Pedestrian doors to Roll up doors, 345/1 North end				



➤ Rapid Improvement Plan

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Rapid Improvement Events ~

➤ FOCUS:

- Consolidation
- Balance Value Stream
- One Piece Flow
- Standard Work
- “6S”
- Pull w/Triggers



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Results (First Pass) ~

- Floor Space (- 50%)
- Productivity (15%)
- Output (+33%)
- Redeployment (3)



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Projected Results (Second Pass) ~

- **Productivity (+ 20%)**
- **Output (+ 10%)**
- **# of moves (- 50%)**
- **Floor Space:**
Accommodated new program w/same floor space.



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Lessons Learned ~

- **Shop Floor Buy-in is Key to Success**
- **Must Have Policy Deployment**
- **Supervisors Must Lead by Example**
- **Manage by Assessments**

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