

Case Study – Heavy Duty Vehicle Mfg Plant

■ Purpose/Scope:

- A major heavy equipment manufacturer was implementing Lean Transformation principles to:
 - Improve Safety
 - Improve Work Environment
 - Improve Quality
 - Expand Process Flexibility
 - Eliminate Waste in Every Area
 - Upgrade the Skills and Knowledge of the Workforce
 - Change the Manufacturing Culture

■ Results:

- The project was specifically focused on assembly- increased capacity and efficiency. It provided the opportunity to integrate other improvements as the new equipment/systems were put in place.
- Systems included: Assembly Planner (process planning), Shop Floor Viewer (process execution and tracking), ToolsNet (MES), PFMEA (Quality) and associated facility improvements (lighting, overhead rail, new paint, new tools, ergo mats, lift devices, Andons, etc.)
- Certified shop floor workers on elements of safety, quality and productivity for four phases: from Fundamental Skills, Elemental Skills and Standardized Work Introduction to Production Line Readiness (One Cycle at Takt Time), as well as manufacturing engineering staff on new process and engineering change systems.
- Integrated product, process and enterprise systems to facilitate change quickly and accurately.

■ Recommendations/Benefits:

- Safety/Ergonomic: **31% reduction in Incident Rate**, 5 Million hours without an incident and counting.....
- Quality: **93% defect reduction**
- Cycles within Takt Time: **36% Increase** (60% to 96%)
- Operator Utilization: **39% Increase** (43% to 82%)
- Workforce Efficiency: **18.3% improvement**
- Hard Cost impact: \$30.4M in savings
- Anticipated **7 month payback**

Facility Improvements:



Work Instructions:

proplanner Proplanner Shop Floor Viewer Welcome, admin | [Logout](#)

Ballot Job All Options Change Request Orders Part Query Administration Back Forward

Serial No: M1R3 Station: B20 Operator: 1 Model: 535 P14

Operation ID: 000178 Description: Cooling System Install Option: W3902Z

Item	Part Number	Part Name	Qty
	611-804		4
	628-180		4
	695-1500		4
	38145		2

Item List [Refresh list](#)

Item Part Specification

Notes: Review Torque Spec on 98723

Safety Notes: Operations 847 & 848 must be done simultaneously by 2 operators

Quality Notes: DO NOT OVER TIGHTEN

Activity ID: 847 **INSTALL ROPS SAFETY DEVICE. USE LOCTITE 243 ON LATCH MOUNTING STUD. TIGHTEN STUD UNTIL IT BOTTOMS OUT. TIGHTEN INNER NUT UNTIL LATCH PLATE SLIDES WITH SOME RESISTANCE & HOLDS POSITION UNASSISTED**

Task: ENG.D7W/G

1.53(mn) PPE