About Client

The client is one of the leading manufacturers and suppliers of original equipment manufacturers (OEM) for commercial vehicles, passenger vehicles and industrial products. Its geographical segments include within India and Outside India. It offers products in various categories, such as cooling systems, sealing gaskets, jointing gaskets and sheets, and rubber products.

It designs, develops and manufactures engine cooling modules and individual cooling products for a range of industries.
Objectives

Improving Manpower Productivity
Reducing labor cost
Elimination of non-value adding activities
Reducing work stations
Preparing standard operating procedures
Line Balancing
Improving throughput

Analysis

In discussion with the client and detailed analysis, following key improvement areas were agreed and finalized:

- Client was facing shop floor efficiency issues on all 4 production and assembly lines
- Imbalanced operations creating Muda, Mura, Muri
- Ergonomic work station design issues
- Lack of standard operating procedure in place

Approach

- Define standard times (fair days’ work) by conducting time and motion study for the ongoing process
- Consider all the factors such as environmental conditions, difficulties encountered, nature of task, as per ILO standards.
- Study all the wastes (Muda, Mura and Muri) in the process and found ways to eliminate them
- Apply lean tools such as line balancing, Five S, Line Side Design, TPM and to eliminate waste
- Reduce change over time by applying quick change over tools
Project Implementation

Time and Motion study

- Selected different models of radiators & studied. Selected operator fit to perform the tasks & conducted the operation. Conducted the process study by listing all work elements - bifurcated elements into sub-elements. Video shoot of the entire operation. Calculated the standard time by applying performance rating and allowance factors as per ILO standards

Line Balancing

- Identified the bottleneck operations for the assembly line & conducted line balancing by creating various combinations of workstations in order to reduce manpower requirements.

Workstation Design

- Designed the workstation in order to eliminate fatigue, extra operator movements and improved ergonomics for operator efficiency improvement.

Eliminate NVA activity

- Studied all activities to trace non-value adding activities (NVA) like excess operator walking, tool search time, material availability, use of improper tools in critical operations etc.
- Eliminated all the NVAs by using tools like Five S, Kanban, material handling system redesign, work instructions, and Value stream mapping.

Results Delivered

Productivity improved by 20% on average for the 8 models of radiators studied

Total labor cost reduced by 25%

Reduced 4 work stations on an average for all models studied.

Sustenance

Implemented results shall be sustained over a period of time using Systematic Audit & Improvement Loop (SAIL) & Daily Work Management (DWM)

Visit Faber at www.faberinfinite.com for more information and a complete list of regional contacts or send us e-mail: consulting@faberinfinite.com