



Assembly Cell Optimization

IET conducted work sampling, time study, line balancing, and cell rearrangement to identify the root cause of late deliveries due to problems in the assembly process.

The Customer

Heavy-duty truck supplier assembling specialty fuel system components

The Challenge

The plant was experiencing machining and assembly problems in the assembly process causing late deliveries.

The Solutions

IET used sequential work sampling to document the performance of machining cells, sub assembly and final assembly. The IET engineers made minute by minute observations of the operators and categorized machine status including run time, blocked, starved and downtime by reason. The conclusion was that the workload was imbalanced and ineffective air decay test equipment was blocking the flow through the cell and causing unnecessary rework.

With the information gained during the data collection phase IET was challenged to redesign the processes to reduce the downtime in the current process. IET conducted time studies on each task in order to provide a logical line balance.

Cell rearrangement layouts including improved test equipment and redesigned assembly stations were proposed that would improve production output and quality. The IET engineers recommended changes in fixture and component location in order to eliminate wasteful motions and to improve ergonomics. Capability studies of the new processes were completed to assure the client and their customers that the new processes installed had actually improved the quality levels.

The result was an increase of production output by over 50% allowing production to be reduced by one shift.

“IET provided the data we needed to make decisions about future equipment acquisitions and cell arrangement to optimize the assembly process.”

Plant Manager

iet

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How can IET help you?

Any way you need us to.

Productivity

Current production standards
Current production performance
Detailed reasons for variances
Detailed plan for improvement
Goal-setting, accountability

Capacity planning

Key capital resources
Direct and indirect labor
Salaried personnel
Facilities

New manufacturing

Detailed process map
Layout
Facilities
Labor
Support

Indirect labor design

Standards
Material handling
Supervision
Maintenance
Plan for improvement

Total value analysis

Make vs. buy
Site selection
Consolidation
Vertical integration
Horizontal integration