

Automotive OEM Case study: Diesel Engine Assembly Line



Diesel Engine Assembly Line.

Diesel Engine assembly line is based on ABB standard modular concept. This line consists of four conveyor systems, one for short block assembly, one for piston sub assembly, one for cylinder head sub assembly and one for final assembly. The assembly lines are a mix between manual, semi automatic and automatic stations, between some of the assembly stations is a buffer station placed. Currently assembles 4-9 liters (4-6 cylinder) engines with weekly production reaching 1000 units with two shift operation

Equipment:

- 21 Automatic stations
- 87 Manual stations

- 16 Semi-auto stations
- 6 robots
- ABB turnover device
- ABB nut runner stations
- ABB leakage test station for cylinder head

Customer Benefits:

- High quality assembly processes to assure product quality and production
- Automatic assembly of heavy parts with robot
- Cost effective solution
- High flexibility, currently assembles 4 types in the line 4-9 liters
- Glue application by robot
- Easy and low cost startup of new variants

Diesel Engine Assembly Line



Customer Provided Equipment:

- None

Project/Steps to Implementation:

- Concept design
- Concept approval
- Engineering (Detail design)
- Project management
- Manufacturing
- Installation
- Training
- Production support on site 6 month.

ABB Robotics

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Technical Data

- Capacity: 50,000/year (2-shift production)
- Cycle time: 90 seconds

Unique Elements:

- Automatic assembly of cam shaft bearings
- Automatic control of axial clearance and rotation torque
- 3 automatic leakage test stations
- Laser key up check

