Automotive OEM
Case study: Diesel Engine Assembly Line

Diesel Engine Assembly Line.

Diesel Engine assembly line based on the 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, automatic and robotized stations, between some of the assembly stations is a buffer station placed. Currently assembles 4-7 liters (4-6 cylinder) engines with weekly production reaching 1700 units with two shift operation.

Equipment:
- 16 Automatic stations
- 73 Manual stations
- 7 Semi-auto stations
- 5 robots
- ABB turnover device
- ABB nut runner stations
- ABB leakage test station

Customer Benefits:
- High quality assembly processes to assure product quality and production
- Cost effective solution
- High flexibility, currently assembles 8 types in the line 4-7 liters
- Gluing application with robot
- Bolt tightening with robot
Diesel Engine Assembly Line

Technical Data
- Capacity: 75,000/year (2-shift production)
- Cycle time: 180 seconds

Unique Elements:
- Semi-automatic assembly of cam shaft bearings
- Automatic control of axial clearance and rotation torque
- Piston check with vision system
- Semi-automatic leakage test station
- Automatic programming of fuel system

Customer Provided Equipment:
- 1 robot station

Project/Steps to Implementation:
- Concept design
- Concept approval
- Engineering (Detail design)
- Project management
- Manufacturing
- Installation & Commissioning
- Training
- Production support on site

ABB Robotics
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