Independent front Axle Assembly Line

**Facts**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Automotive OEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Independent Front Axle</td>
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<tr>
<td>Installation Date</td>
<td>2004</td>
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**Description**

Independent front axle assembly line for sport utility market. Non-synchronous power roll MS-7 transport system. Assembly of the dual snap-ring-style axle housing in pinion nose up and nose down positions. Assembly of two (2) model platforms with weekly production reaching 6,000 units with a two-shift operation.

**Equipment**

- 21 automatic stations
- 8 manual stations
- 8 semi-auto stations
- 6 robots
- ABB pinion shim gage and bearing drag torque machines
- 2 ABB collapsible spacer preload machines
- 2 pinion head height machines
- 3 ABB dynamic backlash case shim gage machines
- ABB dynamic backlash ratio verification machine
- ABB electronic differential test machine
- 2 carrier balancers integrated into process
- ABB robot pallet wash cell

**Customer Benefits**

- High quality gauge and assembly processes assure product quality and throughput
- Dynamic backlash machines provide data on total gear runout, pinion runout, and ring gear runout to improve assembly process
- ABB single-point service
| **Facts** |  |
| **Technical Data** | Capacity: 300,000/year (2-shift production)  
Cycle time: 33 seconds  
System Cpk: 1.81 |
| **Unique Elements** | Integrated balance into axle assembly  
E-differential assembly and test |
| **Customer Provided Equipment** | Balance machines |
| **Project/Steps to Implementation** |  |
| Project Responsibility: | Powertrain |
| Video/Photos/Reference: | Yes |

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