



# System Profile

## Robotic Torque Converter Installation



**Industry:**

- Automotive

**Part:**

- Torque Converter

**Installation Date:**

- March 2006

**Description:**

Robot is used to automatically load the torque converter into an automatic transmission. Usually a manual process that requires a touch and feel procedure for properly installing the part over the various spline shafts in an automatic transmission. Bar code is read on bottom of part.

In this operation TrueView™ robot locates part and loads dunnage tray. At this point a robot retrieves the part and transfers it to the assembly where it positions the torque converter over the bell housing on the transmission assembly. The robot then descends with the torque converter into the transmission and via the use of the feedback system that is resident in the end-of-arm tooling and robotic controller, installs the torque converter. Once the part has been installed the robot releases it and moves away from the transmission. Parts leave cell onto floor level outgoing conveyor.

This system can be used for other types of assembly operations that require a touch and go type of assembly operation.

**Equipment:**

(3) IRB 6600 robots with TrueView  
IRC5 controller  
Custom gripper  
ATI Force control system

**Customer Benefits:**

Manpower reduction by 100%  
Reducing manual intervention  
Ergonomic enhancements – robot part handling  
Flexibility of production process  
Continuous operation





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- Technical Data:**
- Cycle Time: 21 seconds
- Unique Elements:**
- Force Control system
  - Custom end-of-arm tooling handles torque converters
- Customer Provided Equipment:**
- Parts conveyor
  - Cell guarding
  - Installation labor
- Project/Steps to Implementation:**
- Concept
  - Specification
  - Proposal Engineering
  - Project Management
  - Mechanical Engineering
  - Electrical Engineering
  - System installation supervision
  - Robot programming and debug
  - RobotStudio™ simulation
  - Manufacturing / build
  - Assembly & test at ABB
  - Documentation
- Project Responsibility:**
- Robot Automation
- Photos/Video:**
- Yes

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