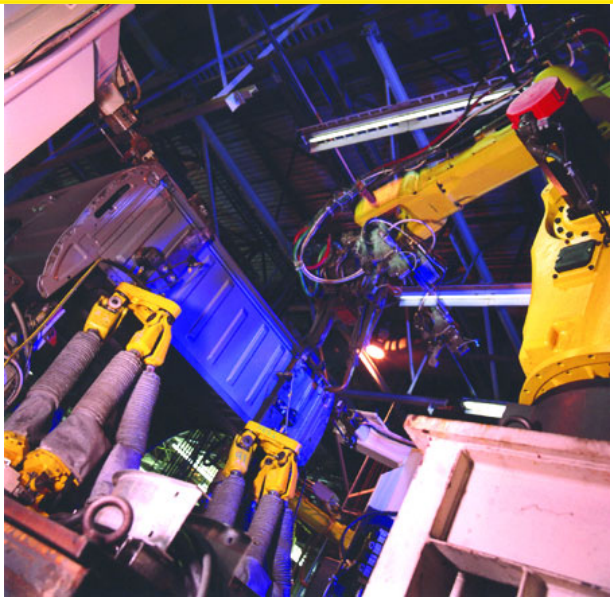
Application: Spotwelding



Industry: Automotive
Company Name: Major Automotive Manufacturer
Products Used: (2) FANUC F-Series Robots, FANUC S-420*i*

Challenges:

The requirement to load, locate and weld two unique front panels to three different length pickup boxes prompted this customer to seek a flexible, convertible replacement for their dedicated hard automatic fixturing system.

Solution:

The customer chose a solution comprised of two FANUC F-Series robots and one S-420*i* robot. The S-420*i* robot, equipped with a combination gripper/welder end effector, obtains the appropriate front panel from the delivery conveyor and loads it to simple low cost tooling mounted atop the F-Series robots. Once the F-Series robots load and establish the geometry of the panel relative to the pickup box, the S-420*i* robot secures it with a series of welds. With welding complete, the F-Series robots index clear, the pickup box assembly transfers to the next station and the cycle repeats.

Benefits

- Quicker to market – The customer was able to incorporate the additional product style quickly since it was simpler to process, design, build, setup and tune-in the tooling.
- Flexible/Convertible – A single tool builds three different models and can be easily converted to accommodate future models.
- Reduced floor space – The customer realized a floorspace savings of greater than 50%.
- Reduced Maintenance - The use of the F-Series robots facilitated uncomplicated end-of-arm tooling, eliminating the majority of common down time elements (I.E. limit switches, hoses, valves etc.).
- Improved Quality – The F-Series robot software shimming feature enabled the customer to quickly and easily make positional adjustment to the tool without the use of shims or grind spacers.
- Less Costly - The flexible solution was half the cost of the conventional hard-tooled fixture.