



APPLICATION

Scuff & adhesive dispensing

- Truck cab body panels and structural frames

Objective

The robotic dispensing system must automatically identify the part from a wide range of types, prepare (scuff) the surface to promote material adhesion, and accurately dispense beads of material in three axes.

Parts

Twenty-seven (27) unique truck cab components including structural frames and formed sheet metal body panels involving two- and three-dimensional dispense patterns.

Material

Epoxy structural adhesive

- Two-part material with a 2:1 ratio



Cab body panel on the ergonomically-designed tilt-table fixture, ready for scuff and dispense. Teach pendant is below control panel shown at right.

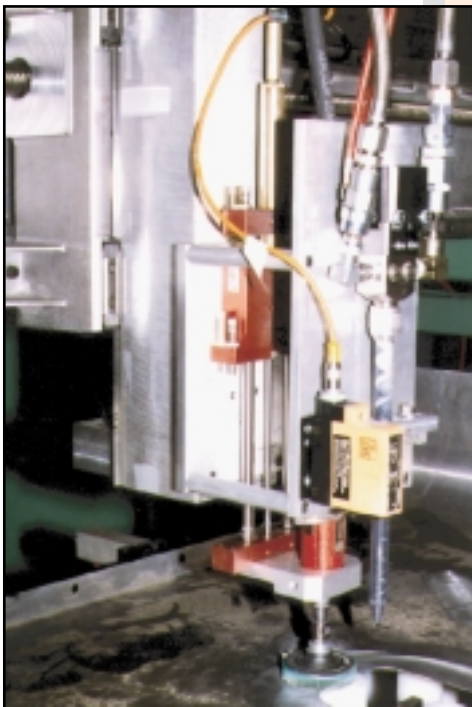
Customer Benefits

This system provides several benefits:

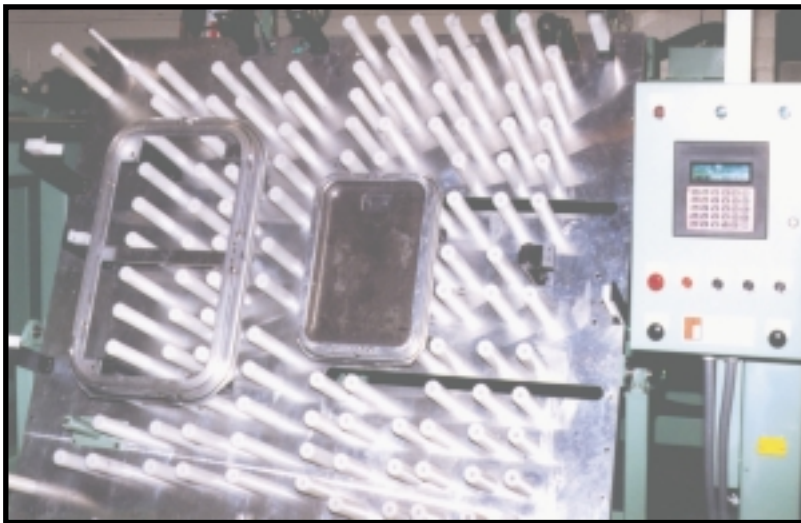
- Elimination of more expensive riveting process
- Cleaner more stylish cab exterior appearance
- Improved finished-product structural integrity
- Higher productivity and less manual labor
- Greater automation reliability than previous process

Key System Features

- **Custom 3-axis B Series Program-A-Spenser™**
Cartesian-coordinate dispensing system with a split X-axis for maintaining a high level of precision; includes teach pendant
- Part programming for 27 dispense paths; auto part present sensing and identification
- Delta Tau PMAC motion controller
- Pneumatic part scuffer
- Two-part epoxy dispensing
- Flexible fixturing on a single tilt-table for all parts
- Material delivery system: Graco Accu-Cat™ two component fixed ratio shot proportioner
- Dual 55-gallon material supply pumps



Lowered scuffer (in motion) with dispense nozzle in the raised position to the right.



The fixture table in the upright position with two aluminum structural frames loaded.

Sequence of Operations

1. Operator loads a part(s) onto fixture and presses "Cycle Start" palm button.
2. The fixture table automatically tilts to a horizontal position.
3. Part(s) are automatically identified to initiate the appropriate scuff and dispense motion program.
4. The robot scuffs a path for proper bead adhesion.
5. The robot dispenses the adhesive.
6. Upon dispensing completion, the fixture table automatically inclines for easy manual unloading.
7. The operator removes dispensed parts and repeats the steps above.

Systems & Support

Robotics, Inc. has decades of experience designing and building automated dispensing systems. We provide complete system solutions, including start-up and installation assistance, training, field service support, and complete documentation. Dependent on your specific project considerations, Robotics Inc. staff will design and build a system that is right for you.

Information

Robotics, Inc. has designed and built hundreds of dispensing systems for a variety of industries. For more information on this application or other products and services, contact a Robotics Inc. Sales Representative:



Headquarters

2421 Route 9
 Ballston Spa, New York 12020
 Phone (518) 899-4211 or (800) 876-2684
 Fax (518) 899-4230
 www.Roboticsinc.com
 Email: Info@Roboticsinc.com

Midwest Regional Sales Office

Phone (248) 743-2920
 Fax (248) 743-2923

Electrical/Electronics Sales Inquiries

Phone (518) 899-4211 or (800) 876-2684
 Fax (518) 899-4230

Process Specifications*

Parts	Truck cab body panels and aluminum structural frames (twenty-seven unique parts)
Robot Cycle Time	2 minutes including scuff and dispense (avg.)
Production Rate	40+ parts per hour (approximate)
Material	Two-part epoxy structural adhesive
Mix Ratio	2:1
Bead Dimensions & Tolerance	0.225" dia. 0.025"

* Values are based on customer's specific requirements and do not necessarily indicate optimum values. Call for further information regarding system capabilities and product specifications.

Since 1971, Robotics Inc. has designed, built, and supported automated dispensing around the world!