



APPLICATION

Automotive RTV Silicone Drops & Oil Spray
- onto 3.8 & 4.2 liter Engine Blocks

Objective

The customer needed two on-line automated dispensing systems to apply viscous materials to engine blocks: the first to apply RTV drops and 50 weight oil; the second system to apply elliptically-shaped RTV drops onto the tri-corner area of the lower intake manifold end seals.

Dispensing Systems

Automated Drop Machines
- Custom engineered on-line stations

Dispensing Materials

- > RTV Silicone
 - Single-component material
 - Room-temperature cured
- > 50 Weight Oil



Station 2. Drop Machine with engine block in dispense position

Key Features

Both Stations Include:

- > Operator PanelView terminal
 - Swivel-mounted for access from both sides of line
 - 12" high-resolution monitor with keypad
- > On-line interface logic
- > Dispense package
- > Nozzle immersion (prevents material from curing in nozzles when dispense system is idle)

Station 1 Includes:

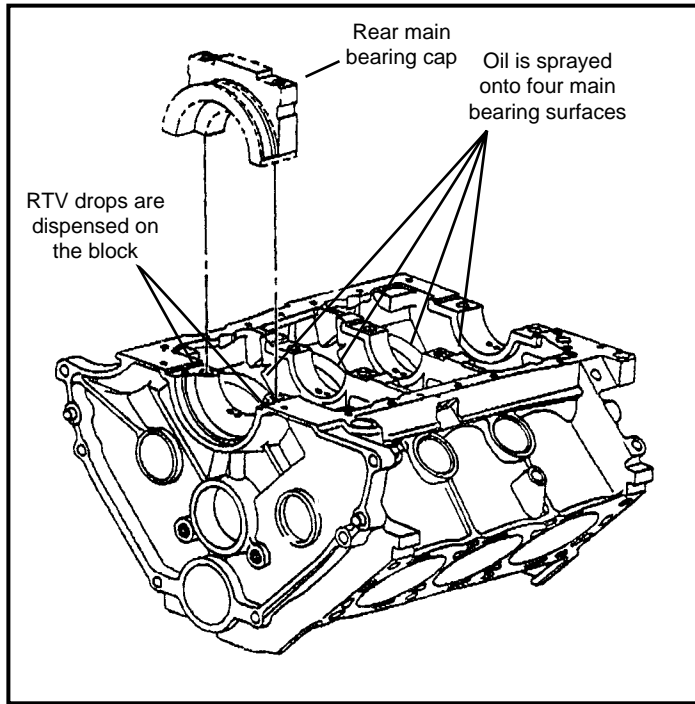
- > **Drop Machine** automated dispensing system
Work envelope: 10.5" x 6.5" (y-z)
- > Allen-Bradley 5/Series PLC
- > Independently monitored dispense valves: four RTV valves & two oil spray valves
- > Engine block locator
- > Single 5 gallon material supply pump

Station 2 Includes:

- > **Drop Machine** automated dispensing system
Work envelope: 17" x 6.5" (y-z)
- > Remote I/O adapter
- > Four independently monitored RTV dispense valves
- > Single 55 gallon material supply pump



Station 1. Drop Machine with engine block locator base (foreground)



Engine block orientation in Station 1. The block is inverted prior to RTV Silicone bead application at Station 2

Information

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



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Sequence of Operations

Station 1

1. Engine block is indexed into dispense position
2. Two drops of RTV Silicone are dispensed simultaneously onto the cylinder block rear main bearing cap bulkhead; simultaneously, the lubrication unit sprays oil onto four crankshaft main bearing surfaces of the cylinder block
3. Engine block is indexed out of station for subsequent assembly operations

Station 2 (after other assembly operations)

1. Engine block is indexed into dispense position
2. Four beads of RTV Silicone are dispensed simultaneously onto the cylinder head and cylinder block junction
3. Engine block is indexed out of station for subsequent operations

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.

Process Specifications*

	<u>Station 1</u>	<u>Station 2</u>
Part	3.8 & 4.2 liter engine blocks (both machines)	
Dispense Time	4 seconds	3 seconds
Cycle Time	15 seconds	15 seconds
Jobs per Hour	240	240
RTV Bead Specs (mm)	4-6 diameter	3-5 wide x 2-4 high x 8-10 long
Footprint (approx.)	40" x 54"	40" x 60"

* 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!

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