

## Multi-Function Machine

### *UW-2, Spot Welding and Cushion Insertion Machine*

#### General Description

This spot welding and cushion insertion automated system is designed to spot weld, using ultrasonic at twelve locations and to drive on three cushions. The machine is operated by one person, who starts a robot cycle to load cushions onto the insertion cylinders. After the robot loads the cushions, the operator loads the main part and starts the insertion cycle. While the insertion cycle is running, the operator loads five foam silencing pads on the index table and starts that cycle. This machine uses 12 40 kHz horns with four power supplies with built in sequencers.

Proximity switches and photo eye sensors are used to verify locations of cushions and the silencer material.

The machine is guarded with insulated sheet metal panels and use of two light curtains. After the machine has installed the cushions, it picks the part to the first weld station while the index moves to position. After the first 6 welds are done, the next cycle indexes the part to a dwell then to the second weld position, after which the part is picked to a conveyor for easy retrieval and inspection by operator.

This machine is also equipped with a bowl feeder which feeds the cushions to the robot, silencer slide to keep silencer parts at the operator, and individual air control for each weld (pressure and flow). This system is also unique because the welding is done upside down.

