

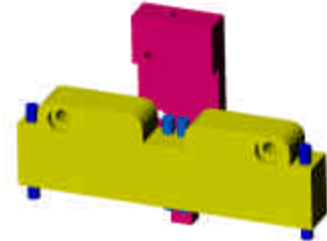


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EXAMPLE APPLICATIONS

Contactor upgrade: A high speed automated test handler required a performance upgrade for Kelvin contactors.

Solution: A Pogo pin design was developed that allowed bolt-on replacement without modification or downtime to the test handler. Test accuracy, Yield, Reliability, and Ease of Maintenance were all improved.



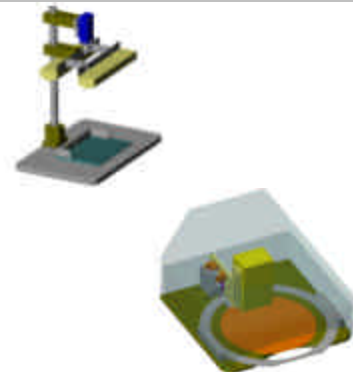
Pick & Place: A very large pick & place assembly handler was originally designed with three 2-axis pneumatic actuation stations. These were too slow, unreliable, inaccurate, difficult to keep aligned, and unsafe. Also, 4 solder paste dispense stations were performing poorly.

Solution: Three encoded servo motors and new end effectors were designed and retro-fitted to the handler. All machine performance parameters were improved including MTBF, MTTR, MTBA, MTTA, and yield. In addition, new solder paste dispense stations were installed as well as new paste detection sensors.



Vision inspection stations: Vision systems were needed to 1) Count the number of devices in a package, 2) OCR - Read SEMI characters on 6-8" wafers.

Solution: Vision systems were purchased and integrated to stages that precisely positioned the devices / wafer. Lighting was custom designed, including a light table and high frequency lights. Vision programming was coded for each application.



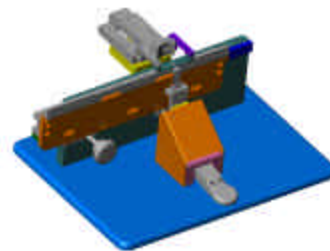
Insertion Force Tester: A tester was needed to provide uniform aligned motion when using a variety of gage pins to measure insertion force.

Solution: A detented rotary dial allowed selection of gage pins. Smooth aligned motion to insert the pins was micrometer adjustable and over-travel protected.



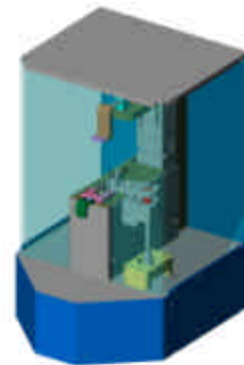
Test station: A test station was needed to index a lead frame an exact step, and hold it in position during a test routine. Contacts were needed to apply power to the DUT and to signal the tester to begin.

Solution: A precision tooled lead frame carriage was designed and mounted to a gear rack with position detents. A leaf spring contact assembly was used to provide power, and also to trigger Start Of Test.



Multi-function Device Test System: A tester was needed to provide several mechanical / electrical tests in sequence.

Solution: The Peak Automation MTS base platform was used. A user places a DUT into a test socket and presses a footpedal. The MTS automatically clamps the contacts to the leads, shuttles the device into the completely enclosed safety chamber, and then performs 3 tests using 4 axis of motion. The MTS includes PLC control and opto-isolated serial communications. See the base platforms page for more information on the MTS.



Contact test station: A contacting fixture was needed to allow precise contact to 18 pins on a 0.250" wide DUT.

Solution: Miniature pogo pins were embedded in an array and mounted to manual activation. Contact pressure was adjustable and included overtravel protection.

