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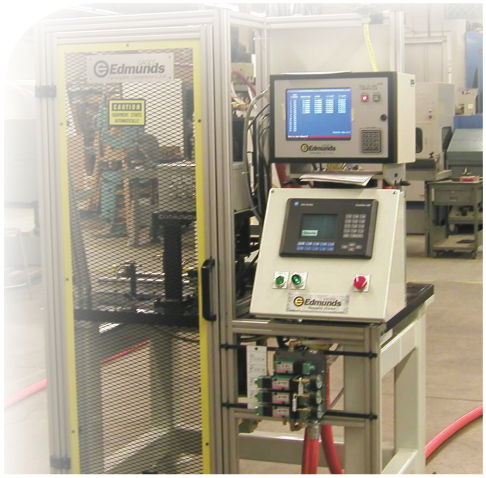
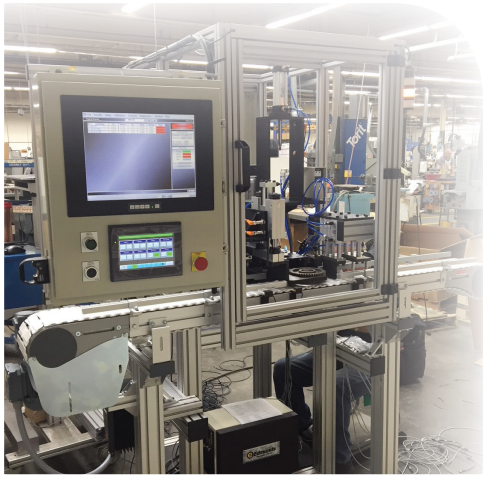
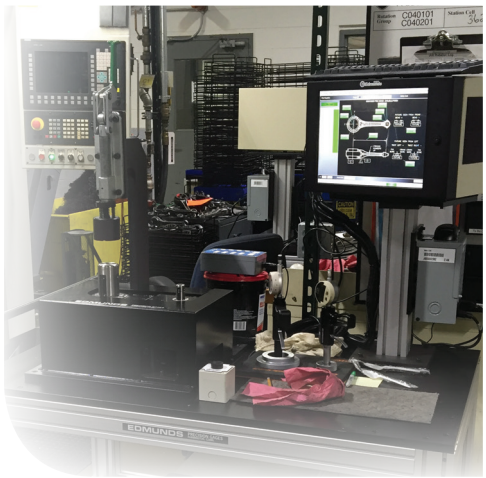
CUSTOM GAGING

Designing and Building the Right Measurement Solution

DESIGN & BUILD







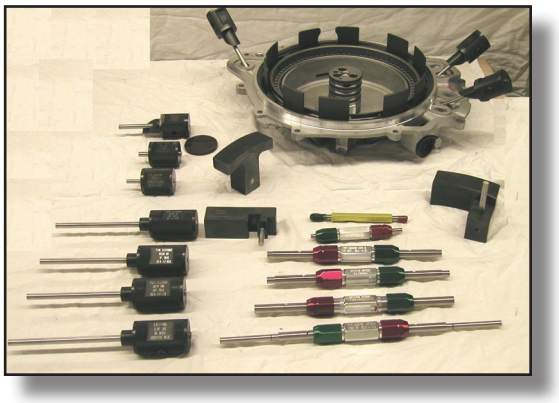
Custom Gaging

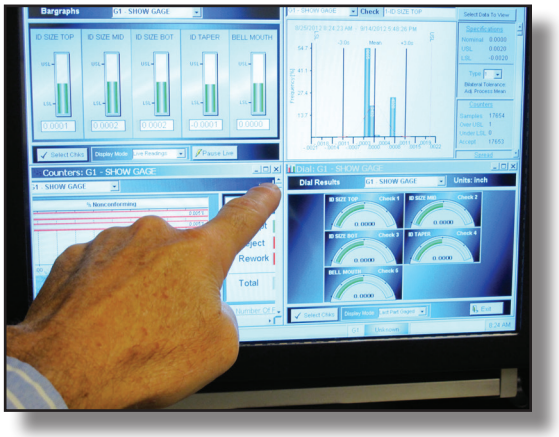
OFTEN A CATALOG GAGE JUST WON'T CUT IT

We have been designing and building custom measurement solutions to fill a specific niche in the market. High volume manufacturing requires gaging devices that can stand the test of time, often in harsh environments, with very accurate and repeatable results. Checking one or two features after machining multiples won't give you the entire story. And waiting on a CMM report hours later typically will have allowed too many parts to go downstream. So to bridge that gap,

SINGLE ELEMENT GAGES - ONE FEATURE, ONE GAGE

From manual plug and ring gages, to flush pins, to air gaging and more. We can make or modify a standard gage, implement multiple gages, or start with a blank sheet of paper to design a gage to check that single feature of your part that gives you the most trouble. Single element gages are commonly used to "audit" a process. Our single element gages can provide a Go/No-Go indication, a variable data result, or with full statistical Process Control (SPC) analysis, depending on your specific need.



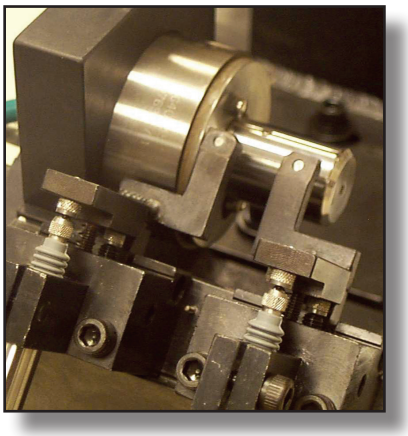


Array of Go/no-go gages, single element with SPC

Single element with variable data.

MULTI-DIMENSIONAL GAGES - ONE GAGE, MULTIPLE FEATURES

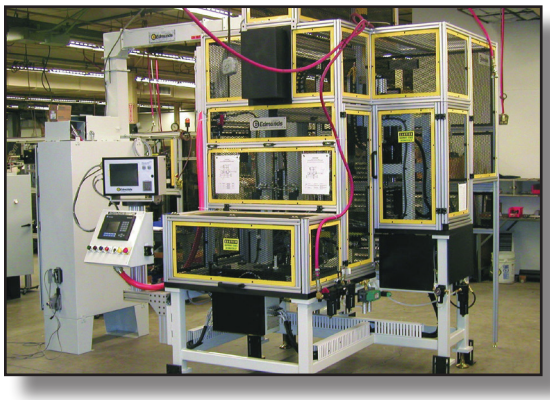
Manufacturing a part is not always a one-to-one relationship of a process to a single feature. Depending upon the machining process, once a part is held in the machine, multiple cuts, or passes, with one, or multiple tools may be made to partially complete, or fully complete, many different features in a single chucking. So the inspection of multiple dimensional features also can be more economical to inspect in a single seating of the part. We offer multi-dimensional gages by incorporating air gaging, and or LVDT contact gaging, to best suit the requirements of the process. Now we can tell you more about your parts, and more about your process than ever before. Normally combined with our variable data readouts, understanding the measurement results becomes easy, with a very quick glance of dials, bargraphs, or analytic charting of each feature measured. This level of sophistication can be used to audit a process or specific operation, or use for 100% inspection depending upon the volume, with the user loading and unloading parts from the gage.



Examples of multi-dimensional gages

AUTOMATED GAGING - NO NEED TO TOUCH THE PARTS

When volumes of parts produced exceed your available labor, or lab inspection time, We can help with automating the measurement process. Don't think in terms of hours per parts, we can bring this to parts-per-seconds! Utilizing servo motions, electro-mechanical arrangements, and pneumatics, our design and build automatics utilize the same basic principals of metrology found within a gage lab, to your shop floor for fast ,accurate, repeatable measurement. We can even pull the bad parts from the process flow. Hot parts. Wet parts. Cool parts. Dry. We have dealt with them all, with resounding success. It starts with a part print and and a conversation about your process, and our sales engineers take it from there.

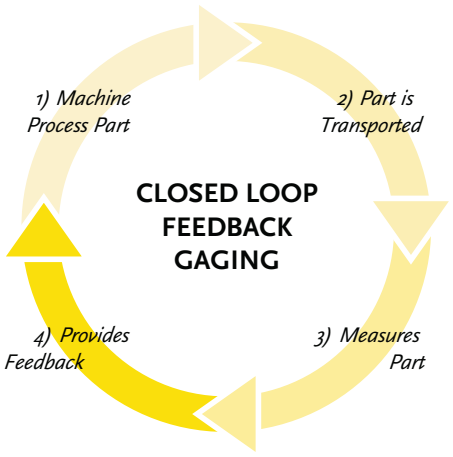


Fully automated gage for crank cases

Automated gage for pulley dampners

POST PROCESS CONTROL GAGING

The latest trend in metrology is called process control gaging. We have built numerous automated gages that can "talk" back to the part producing machine, giving size compensation signals to the machine to control the next part machined. Some of our competitors try to do this right in the machine, but when is the last time your took a hot, coolant dripping, part into your gage lab to be measured? "Post Process gages" which measure the part immediately after the machining process, but in many cases before the next part is machined. We do this in an environment that is conducive to measurement, thus providing not only process control, but also sort your parts by the part print limits allowable. Controlling the individual tools, or advising when to dress the grinding wheel, can save thousand of dollars over time, and without an operator needing to make a judgment decision.



FINAL INSPECTION & CLASSIFICATION

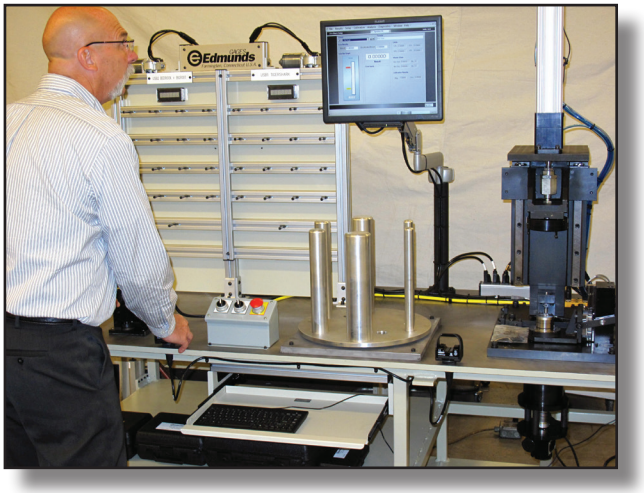
Tight Tolerances? We can design sorting and ranking systems to place the part directly into the customers preferred dunnage, based upon their measured size. These units are typically found at the end of the manufacturing line and are called Final Inspection or Classifying Gages.

Final Inspection Classifying Gage

SELECT FIT, MATCH GAGING

Many assembly processes require the selection backing spacers, shims, or retaining rings based upon the actual size of the components being assembled. Or, as the case with fuel injector components, parts are “matched” based on a desired clearance between two moving pieces. logic of “pick-to-light” system to fool proof the process.

Air “match” gaging for clearance.



Pick-to-light select fit stations.