

# Post Process Shaft Gage



## In-line Fixtures for Infeed Centerless Shaft Grinding

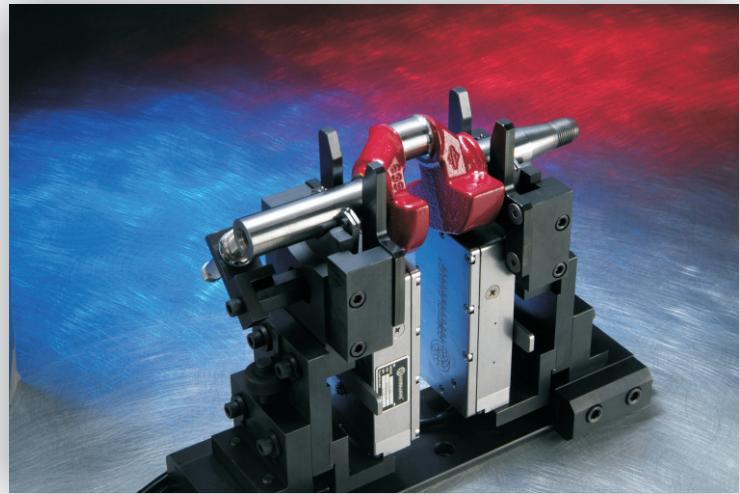
Modular designs for common size ranges can be readily adapted to meet your needs

Control Gaging has developed flexible fixture designs that make purchasing a post-gage for infeed centerless shaft grinding simple and affordable. If one of our "standard" designs does not fit your part, we can modify the modules or the framework to adapt a fixture to it.

When mounted immediately adjacent to the grinding machine, the fixture receives just-ground workpieces from a gantry or robot loader. The gage fingers close on the part and send size readings to a D500 controller. The D500 monitors size trends and feeds appropriate compensation signals to the machine to maintain tight tolerances. Bad parts can also be immediately identified and segregated by the loader or operator

The design goals for these fixtures are simplicity, versatility, durability, and affordability.

- a dovetail mounting base supports part location V-blocks, end locators, and gage brackets. Components can be moved laterally for different part lengths and configurations.
- V-style work supports are adjustable vertically to accommodate different diameters
- multiple quick-setup WG2 gageheads can be reversed or moved to match diameter locations
- gageheads have built-in pneumatic finger retraction for loading and unloading
- gage fingers are protected from damage by guards and a slip-clutch setup mechanism



This fixture for small crankshafts measures two diameters from 22.2-25.4mm (.88-1.0") and lengths from 200-300mm (8-12").

- modular fixture components are designed for stability, heavy-duty use and crash-resistance.
- flexibility of gage finger design expands versatility

The WG2 Gage Head is a fifth-generation product and incorporates steady advances in accuracy and reliability. Its unique clutch setup mechanism allows gage setup in 30 seconds and protects the gage against crash damage. The WG2 is guaranteed to repeat to .000,5mm/.000020".

D500  
Gage  
Controller



The D500 is a highly-configurable gage controller that is affordable for basic systems but has reserve power for demanding applications. Advanced DSP technology yields fast, precise size data. Select from several field-proven software packages to perform trend-analysis and compensate effectively for your specific application.

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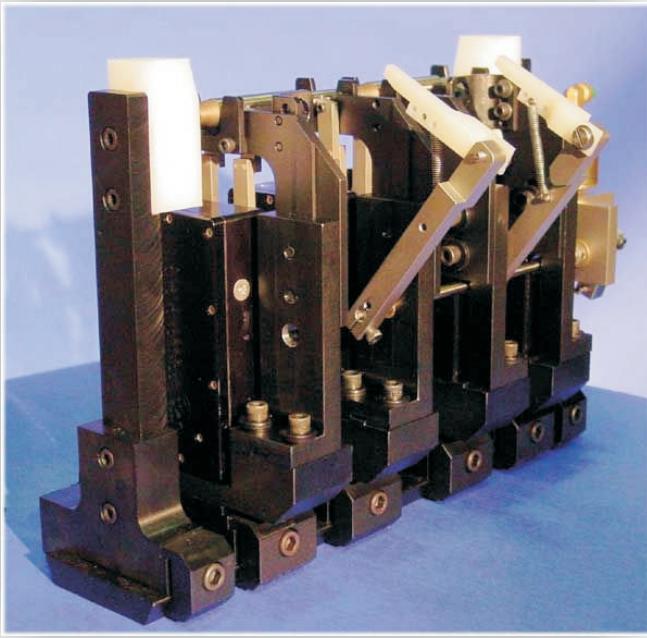
Control Gaging Incorporated  
847 Avis Dr. Ann Arbor, Michigan 48108  
[www.controlgaging.com](http://www.controlgaging.com)

Phone: +1 734.668.6750 Fax: +1 734.994.1335  
Email: [sales@controlgaging.com](mailto:sales@controlgaging.com)

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This fixture accepts two parts that are ground simultaneously. Each part is 90mm/3.50" long with diameters of 12.2mm/.50".

Gage measures two shafts, reads two diameters and taper on each.

Using the same dovetail and modular bracket concept, the fixture at left accepts two parts that are being ground simultaneously on an infeed centerless grinder. Four gages and two pairs of work supports are mounted on the dovetail, as are brackets for a "part hold-down" mechanism.

Since the parts are small and relatively light, repeatability is significantly improved by adding two rocking, spring-loaded arms made of high-density thermoplastic. After a proximity switch senses "part in place", the arms rock forward to help pull the parts firmly down into the locating V's. When the gage fingers close, accurate gage readings are then sent to the D500 controller.

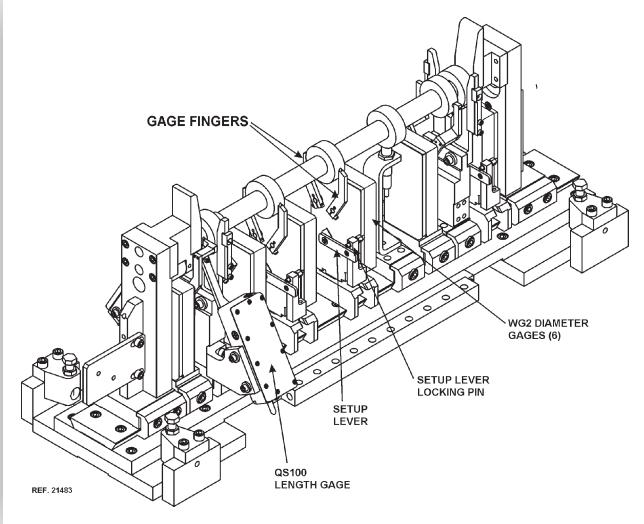
The D500 observes trends, initiates needed compensation moves, and identifies good/bad parts using +/- limits for all four diameters and taper. The taper value can also be used to indicate the need for a truing cycle. (Ref. J25765)

### Camshaft gage checks six diameters, taper, and length.

The fixture shown at right supports six WG2 gage heads (five main bearings and pilot) and a single-finger QS100 gage for length. After infeed grinding, the part is placed in the fixture by an overhead gantry loader.

The diameter gages are oriented with fingers on both left and right sides, and gage fingers are designed with offset contacts in order to access all six measured diameters. Control Gaging has built dozens of gage stations based on this concept for precision size control of infeed camshaft grinding.

Control outputs on the system shown were for trend-based compensation, good/bad part, and end-to-end taper. (Ref. J21483)



Drawing above is representative of dozens of camshaft gage stations built with this modular design concept.

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Control Gaging Incorporated

847 Avis Dr. Ann Arbor, Michigan 48108

[www.controlgaging.com](http://www.controlgaging.com)

Phone: +1 734.668.6750 Fax: +1 734.994.1335

Email: [sales@controlgaging.com](mailto:sales@controlgaging.com)