

Crankshaft Measurement

Engine Data Sheet

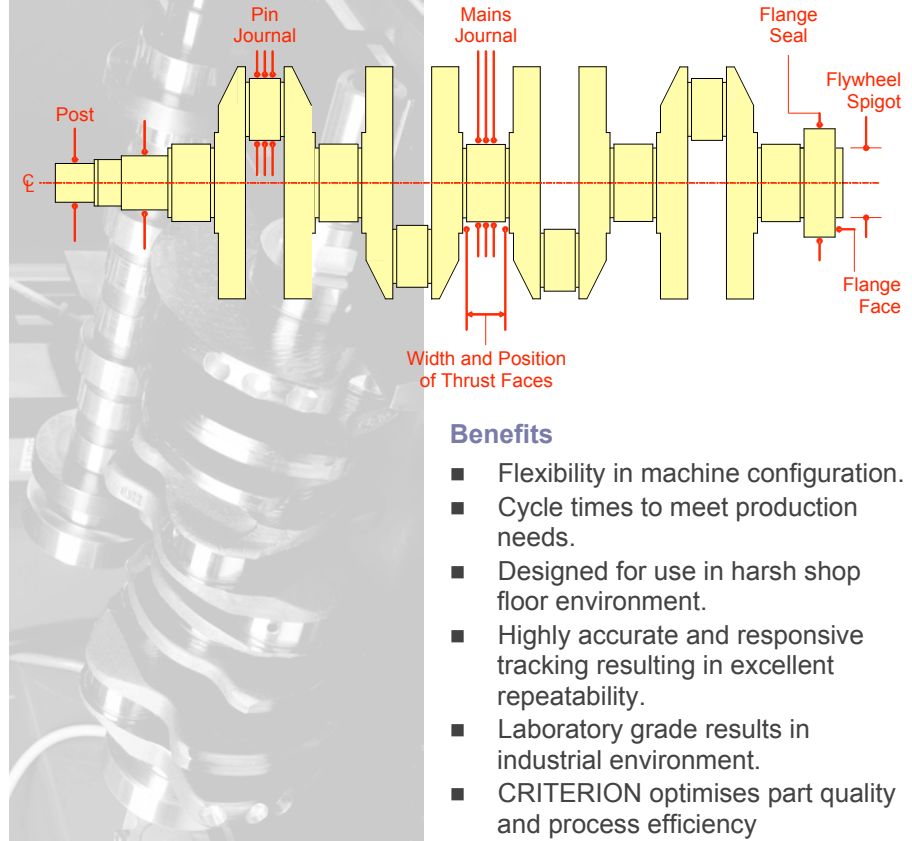


Fully Automatic Inspection – Overhead Gaugehead

Part characteristics ranging from main and pin journal diameters to thrust face runout to stroke and index must be held to tight tolerances to meet reliability and increasingly strict pollution standards.

Fully automatic, semi-auto and manual measurement systems are available to inspect characteristics machined throughout the manufacturing process.

This gives fast cycle time, detailed part information and easy-to-interpret displays that ensure effective control of a difficult process.



Features

- A cost-effective build approach using standard modular construction.
- Universally applicable, reliable proven designs.
- Dynamic error compensation.
- Multi-dimensions and geometric features gauged simultaneously.
- Excellent accuracy and repeatability.
- Choice of gauging systems to suit customer / process requirements.
- Built on the CRITERION quality information system

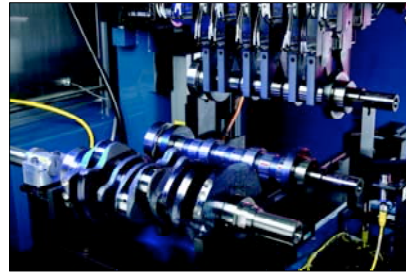
Benefits

- Flexibility in machine configuration.
- Cycle times to meet production needs.
- Designed for use in harsh shop floor environment.
- Highly accurate and responsive tracking resulting in excellent repeatability.
- Laboratory grade results in industrial environment.
- CRITERION optimises part quality and process efficiency



CRANKSHAFT MEASUREMENT

Manual, Semi and Fully Automatic Systems



Measured Characteristics:

Mains Journal

- Diameter 2 or 3 places
- Ovality
- Roundness
- Straightness
- Runout to centres and datum diameter
- Width and position of thrust faces

Pulley Post

- Diameter
- Roundness
- Runout

Pins

- Diameter 2 or 3 places
- Ovality
- Straightness

Flange and Flywheel Mount

- Diameter
- Roundness
- Runout
- Position

Measurement Concept:

- Crank is located between centres and driven through one of the centres. Allows checks as follows:
 - Runout of Journals to centres
 - Roundness of Journals
- Modular design of Gaugehead to accommodate interchange and adjustment for future alterations
- Fixed snaps for Journals, Post and Flange
- Floating snaps for Pins
- Snaps either electronic via flexures or pneumatic length checks included as required

Complete manual, semi and automatic control:

	Manual	Semi Automatic	Fully Automatic
Location	Bench Top or freestanding	Freestanding	In line, straddling conveyer. Off line robot or gantry pick & place loaded
User Requirements	Operator loaded and cycled	Operator loaded and automatically cycled	No operator attendance required. Part is raised into measure position by elevator
Functionality	Generally used for tooling set up and post process audit	Generally used for post process or final audit	Utilises standard measuring system specifically developed for cam inspection.
Measuring Elements	Air plugs and snaps. Either electronic or pneumatic	Generally utilizing standard modular gauging elements. Either electronic or pneumatic	As semi auto plus: Automatic mastering - min and max calibration masters
CRITERION support	series 100 to 500	series 500 or 700	series 900

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