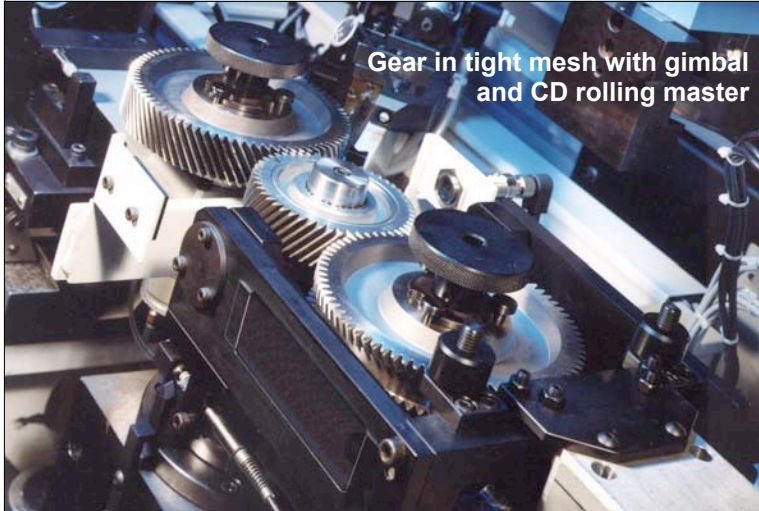


Gear Measurement

Transmission Data Sheet

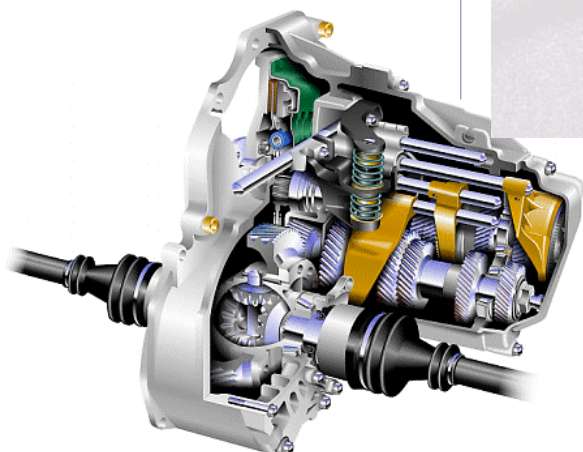


The critical characteristics associated with gears present special challenges to the verification process.

Intra has specialist knowledge in this discipline that has been acquired over many years.

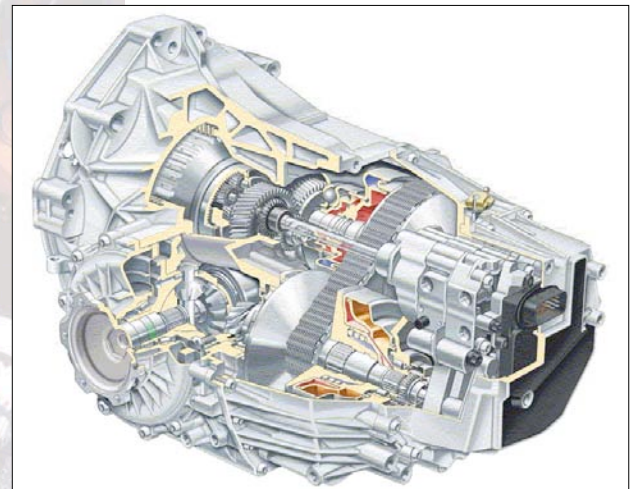
This expertise applies to a wide range of parts. Measurement is conducted with analysis and total control to give a production process that is accurate, efficient, and reliable.

These attributes combine with a global presence that ensures expert technical service and project management to gear manufacturers worldwide.



Features

- A cost-effective build approach using standard modular construction.
- Universally applicable, reliable proven designs.
- Controlled transfer system.
- Precision spindle and part location.
- Part segregation.
- Interchangeable over a range of parts.
- 10 to 15 minutes part changeover.
- CRITERION™ - The Intra designed Measurement Process Analysis & Control System.
- Multi revolution compensation.
- Gimbal mounting for lead angle checks.
- Digital filtering.



Benefits

- Flexibility for machine configuration.
- Designed for use in harsh shop floor environment.
- Highly accurate and responsive tracking resulting in excellent repeatability.
- Elimination of rolling master runout and arbor alignment errors
- No drift, high repeatability.
- High up time and reduced maintenance costs.
- Guarantees 500 parts per hour cycle speed.
- Full numerical data evaluation and in-depth SPC.

GEAR MEASUREMENT

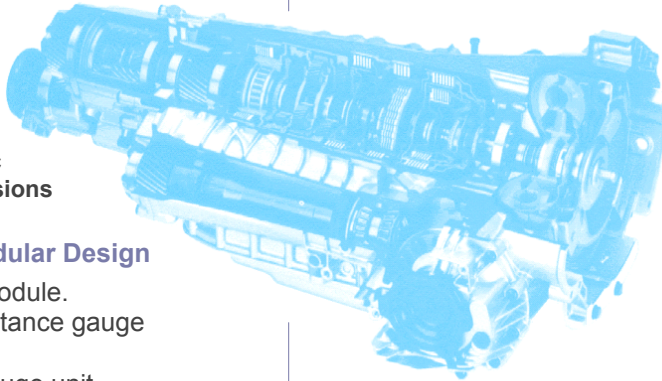
Manual, Semi and Fully Automatic Systems

Gauging Methods

- Part rolls in tightmesh with master gear.
- Full double flank contact of all teeth.
- Centre distance variations monitored.
- Gimbal mounting allows lead variations to be monitored.

Design Concept

- Part located on expanding arbor.
- Arbor is mounted in a precision spindle.
- An encoder monitors spindle rotation.
- Centre distance and Gimbal units engaged under spring force with motion controlled by air cylinder.



Automatic
Transmissions

Standard Modular Design

- Spindle module.
- Centre distance gauge module.
- Gimbal gauge unit.
- CRITERION software.

Customised Handling

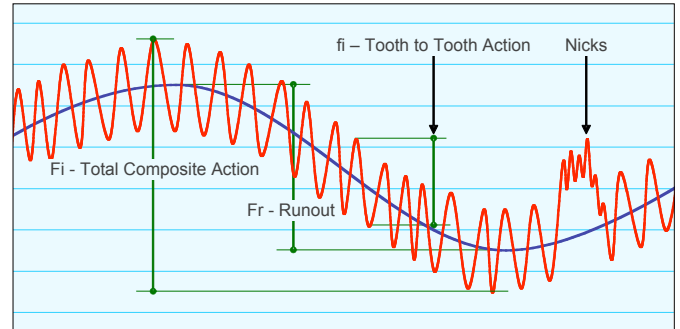
- Semi, fully automatic or manual universal options.
- Linear or rotary part transfer.
- Segregation to suit application.
- Up to 500 pph - cycle time 5.2 to 20 seconds.



Inspection Examples:

- 1 Sun/Planetary Pinion
- 2 Differential Housing
- 3 Semi Auto Rollstand
- 4 Internal Ring Gear

Measured Characteristics:



Close Mesh Rolling Checks

- Centre Distance.
- Pitch Diameter (Calculated).
- Functional Tooth Thickness.
- Overall Dimension (Calculated).
- Runout.
- Total Composite Action.
- Sectional Runout.
- Sectional Composite Action.
- Tooth - Tooth Action.
- Nicks and Burrs.

Gimbal Station Checks

- Functional Lead.
- Lead variation.
- Functional Taper.
- Gimbal Nicks.

All Enquiries to Sales Department:

Europe and Asia Intra Limited

Wilbury Way,
Hitchin,
Hertfordshire,
SG4 0TS.
United Kingdom
Tel: +44 (0) 1462 424800
Fax: +44 (0) 1462 453667
info@intra-corp.co.uk

North America Intra Corporation

885 Manufacturers Drive,
Westland,
MI 48186,
USA.
Tel: +1 (734) 326 7030
Fax: +1 (734) 326 1410
info@intra-corp.net
www.intra-corp.net