AMERICAN GEAR MANUFACTURERS ASSOCIATION

Inspection Practices - Part 2: Cylindrical Gears - Radial Measurements

AGMA 915-2-A05

AGMA INFORMATION SHEET

(This Information Sheet is NOT an AGMA Standard)

American Gear Manufacturers Association

Inspection Practices - Part 2: Cylindrical Gears - Radial Measurements
AGMA 915–2–A05

Approved May 3, 2005

ABSTRACT

This information sheet discusses inspection of cylindrical involute gears using the radial (double flank) composite method, with recommended practices detailed. Also included is a clause on runout and eccentricity measurement methods. This information sheet is a supplement to the standard ANSI/AGMA 2015–2–AXX.

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Foreword

This Information Sheet, AGMA 915–2–A05, *Inspection Practices – Part 2: Cylindrical Gears – Radial Measurements,* is provided for informational purposes and is intended for use with Standard ANSI/AGMA 2015–2–AXX, *Accuracy Classification System – Radial Measurements for Cylindrical Gears.*

AGMA 915–2–A05 replaces AGMA ISO 10064–2, *Cylindrical Gears – Code of Inspection Practice – Part 2: Inspection Related to Radial Composite Deviations, Runout, Tooth Thickness and Backlash,* and the information on similar subjects as covered in AGMA 2000–A88, *Gear Classification and Inspection Handbook – Tolerances and Measuring Methods for Unassembled Spur and Helical Gears.*

The user of this Information Sheet is alerted that differences exist between AGMA 2000–A88, AGMA ISO 10064–2 and this document. This includes that measuring methods refer to an accuracy grade numbering system that is reversed, such that the smallest number represents the smallest tolerance. Therefore, the user of this information sheet must be very careful when comparing measurement methods formerly specified using AGMA 2000–A88 or AGMA ISO 10064–2.

The first draft of AGMA 915–2–A05 was made in March, 1999. It was approved by the Technical Division Executive Committee (TDEC) in May, 2005.

Suggestions for improvement of this document will be welcome. They should be sent to the American Gear Manufacturers Association, 500 Montgomery Street, Suite 350, Alexandria, Virginia 22314.

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American Gear Manufacturers Association –

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1 Scope

This information sheet constitutes a code of practice dealing with inspection relevant to radial composite deviations and runout of cylindrical involute gears; i.e., with measurements referred to double flank contact.

In providing advice on gear checking methods and the analysis of measurement results, it supplements standard ANSI/AGMA 2015–2–AXX, where most of the terms used are defined.

2 References

The following standards contain provisions which, through reference in this text, constitute provisions of this information sheet. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

AGMA 915–1–A02, *Inspection Practices – Part 1: Cylindrical Gears – Tangential Measurements*

AGMA 915–3–A99, *Inspection Practices – Gear Blanks, Shaft Center Distance and Parallelism*

AGMA 935–AXX, *Recommendations Relative to the Evaluation of Radial Composite Gear Double Flank Testers*

ANSI/AGMA 1012–G05, *Gear Nomenclature, Definition of Terms with Symbols*

ANSI/AGMA 2002–B88, *Tooth Thickness Specification and Measurement*

ANSI/AGMA 2015–1–A01, *Accuracy Classification System – Tangential Measurements for Cylindrical Gears*

ANSI/AGMA 2015–2–AXX, *Accuracy Classification System – Radial Measurements for Cylindrical Gears*

ANSI/AGMA 2116–AXX, *Evaluation of Double Flank Testers for Radial Composite Measurement of Gears*

ISO/TR 10064–2:1996, *Cylindrical gears – Code of inspection practice – Part 2: Inspection related to radial composite deviations, runout, tooth thickness and backlash*

3 Symbols, corresponding terms and definitions

3.1 Symbols and terms

The symbols and terms used throughout this information sheet are in basic agreement with the symbols and terms given in AGMA 900–G00, *Style Manual for the Preparation of Standards*, and ANSI/AGMA 1012–G05, *Gear Nomenclature, Definition of Terms with Symbols*. In all cases, the first time that each symbol is introduced, it is defined and discussed in detail.

NOTE: The symbols and definitions used in this information sheet may differ from other AGMA standards. The user should not assume that familiar symbols can be used without a careful study of their definitions.

The symbols and terms are listed in alphabetical order by symbol in table 1.

3.2 Definitions

The terms used, wherever applicable, conform to ANSI/AGMA 1012–G05 and ANSI/AGMA 2015–2–AXX.

The **reference axis** of a component is defined by means of datum surfaces. In most cases the axis of the bore can be adequately represented by the axis of the mating product arbor (see AGMA 915–3–A99).