

GEARS: BEVEL AND HYPOID GEAR TERMINOLOGY

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Learning made Simple, Visual, and Interactive

Gears: Bevel and Hypoid Gear Terminology is a highly visual course designed for any learner who must be familiar with commonly used terminology unique to bevel and hypoid gears. In this course, learners engage with brief animated sequences and periodic interactive elements designed to provide a basic understanding of straight bevel, spiral bevel, zerol bevel, skew bevel, and hypoid gears, including the terminology essential to understanding aspects of a gear's geometry, and important calculations such as gear ratio, contact ratio, and face contact ratio.

Learning Objectives

- 💡 Recognize the different types of bevel and hypoid gears.
- 💡 Understand the commonly used terms relevant for bevel and hypoid gears.

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I. What are Bevel and Hypoid Gears?

- Gear Types

II. Commonly Used Terminology

• Axial References

- o Axis of Rotation
- o Crossing Point
- o Mounting Distance
- o Offset

• Conical Surfaces

- o Pitch Cone
- o Pitch Cone Apex
- o Apex to Back
- o Face Cone

- o Root Cone
- o Front Cone
- o Back Cone
- o Crown Circle

• Tooth Surfaces

- o Heel
- o Toe

• Cone Distance

- o Outer Cone Distance
- o Mean Cone Distance
- o Back Cone Distance
- o Inner Cone Distance

• Angles

- o Face Angle
- o Root Angle

- o Pitch Angle
- o Shaft Angle
- o Front Angle
- o Back Angle

• Spiral Angles

- o Mean Spiral Angle
- o Inner Spiral Angle
- o Outer Spiral Angle

• Gear Meshing

- o Gear Ratio
- o Contact Ratio
- o Face Advance
- o Face Contact Ratio

