

# Chapter 8

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## Gears

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### Chapter Objectives

When you have finished Chapter 8, “Gears,” you should be able to do the following:

1. Understand the purpose of gears and drives.
2. Identify five gear design categories and their orientation types.
3. Describe and compare various gear types, including: spur helical, herringbone, straight bevel, spiral bevel, cylindrical worm, double-enveloping worm, cycloidal, and hypoid.
4. Define the most common gear terms.
5. Explain the application requirements when selecting gears.
6. List the important specifications needed when ordering gears.
7. List five causes for gear tooth failure.
8. Name the associations that standardize gear classification.
9. Describe and compare the basic types of enclosed gear drives.
10. Explain the function and importance of seals and breathers for enclosed gears.
11. Describe the purpose and the lubrication essential for gear life.
12. Explain gear rating standards.
13. Explain the major factors for selecting and installing gear drives.