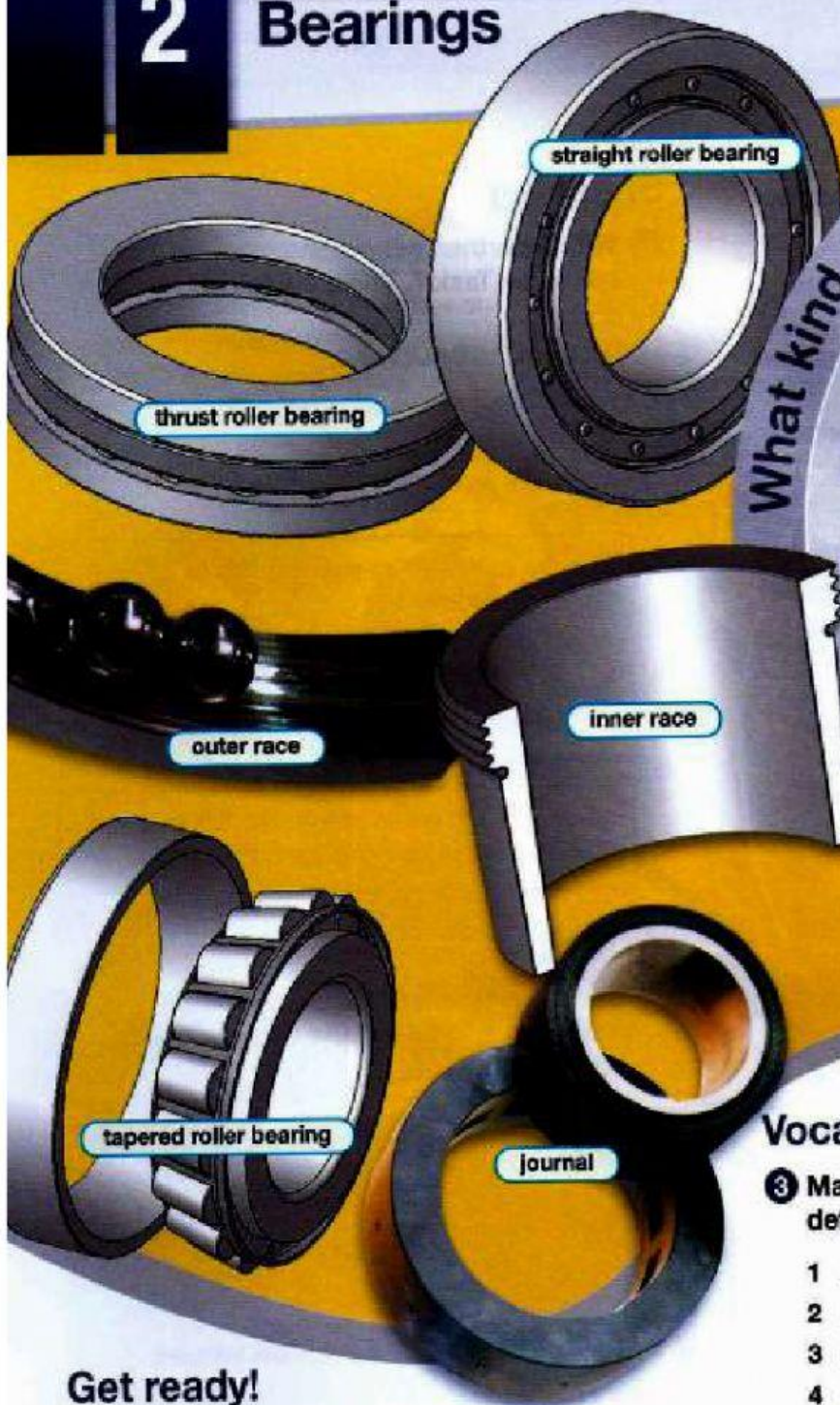


2

Bearings



What kind of bearings do I need?

Rolling Contact

Rolling contact bearings use rollers to support loads. They have an inner race and an outer race. They accommodate different types of force and motion. Load-carrying capacity: LOW – MEDIUM

- **Ball bearings** use spherical rollers. They support radial and axial motion.
- **Straight roller bearings** use cylindrical rollers. They support radial motion.
- **Tapered roller bearings** use conical rollers. They support radial forces and moderate thrust forces.
- **Thrust roller bearings** use barrel-shaped rollers. They support thrust motion.

Journal

Journal bearings have no rolling parts. The shaft rotates inside a lubricated sleeve instead. Load-carrying capacity: HIGH

Get ready!

1 Before you read the passage, talk about these questions.

- 1 Why are bearings important?
- 2 What are some different types of bearings?

Reading

2 Read the poster. Then, mark the following statements as true (T) or false (F).

- 1 ___ Rolling contact bearings have a lubricated sleeve.
- 2 ___ A tapered roller bearing is a type of rolling contact bearing.
- 3 ___ Journal bearings can carry a heavy load.

Vocabulary

3 Match the words or phrases (1-8) with the definitions (A-H).

- 1 ___ ball bearing
- 2 ___ thrust roller bearing
- 3 ___ tapered roller bearing
- 4 ___ straight roller bearing
- 5 ___ axial
- 6 ___ radial
- 7 ___ journal bearing
- 8 ___ rolling contact bearing

- A a bearing that uses cone-shaped rollers
- B a bearing that uses metal cylinders
- C a bearing that uses a lubricated tube
- D any bearing that uses rolling parts to support and direct motion
- E a bearing that uses metal spheres
- F a bearing that uses barrel-shaped rollers
- G related to movement along an axis
- H related to movement across an axis

4 Read the sentence pairs. Choose which word or phrase best fits each blank.

1 inner race / outer race

- A The _____ rotates with the shaft.
B The _____ remains stationary relative to the shaft.

2 sleeve / bearing

- A The blockage stopped the shaft from moving through the _____.
B The engineer needs a different type of _____ for radial motion.

5 Listen and read the poster again. What type of bearing cannot accommodate radial motion?

Listening

6 Listen to a conversation between an engineer and an assistant. Choose the correct answers.

- 1 What is the conversation mostly about?
A replacing different bearings
B oiling an old bearing
C repairing a broken bearing
D installing a particular bearing
- 2 What will the woman probably do next?
A install a thrust roller bearing
B repair the inner race of a ball bearing
C purchase bearings at the hardware store
D lubricate the sleeve of a journal bearing

7 Listen again and complete the conversation.

Engineer: Vicki, could you 1 _____ ?
Assistant: Sure, Paul. What is it?
Engineer: Could you please go to the hardware store? I need a couple of 2 _____ .
Assistant: Of course. What kind do you need?
Engineer: I need two 3 _____ .
Assistant: Okay. Didn't you break a 4 _____ earlier?
Engineer: That's right, I almost forgot. I also need an 5 _____ for a ball bearing.
Assistant: Got it. I'll 6 _____ right now.

Speaking

8 With a partner, act out the roles below based on Task 7. Then, switch roles.

USE LANGUAGE SUCH AS:

Could you please ... ?
What kind of ... ?
I need ...

Student A: You are an engineer. Talk to Student B about:

- an errand you need him or her to run
- what hardware you need
- when you will need the hardware

Student B: You are an assistant. Talk to Student A about what hardware to buy.

Writing

9 Use the poster and the conversation from Task 8 to fill out the expense report.

Mason-Reynolds

Expense Report

Date: _____

Purchase made by: _____

- What did you purchase?

- Why did you purchase it?

Total Cost: _____