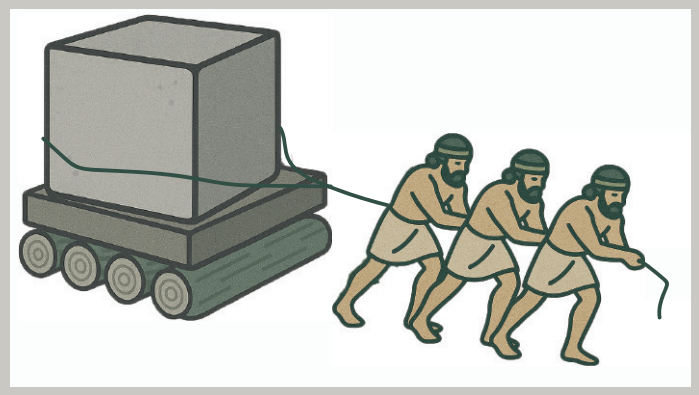
Castrol

A **rolling-element bearing** carries a load by placing round elements (balls or rollers) between two surfaces. The relative motion of the pieces causes the round elements to roll, reducing sliding friction.



One of the earliest rolling-element bearings were sets of logs laid on the ground with a large stone block on top.
As the stone was pulled, the logs rolled along the ground. This eliminated sliding friction, making it easier to move the heavy stone.

LEARNING POINT 1:
ROLLING ELEMENTS GIVE THE BEARING ITS NAME.

The red shadows under the roller images represent the contact area of the roller with the raceway.

Ball | Spherical Roller (symmetrical) | Spherical Roller (asymmetrical) | Cylindrical Roller | Needle Roller | Taper Roller

WHY THIS MATTERS:

If only one roller survives in a damaged bearing, identifying its shape ensures that you reorder the correct replacement and avoid costly mistakes.

LEARNING POINT 2:
BEARINGS CAN SHARE DIMENSIONS, BUT NOT PERFORMANCE.

Using the wrong type of bearing can cause premature failure, equipment damage, or breakdown.