



Needle bearings are roller bearings with rollers that have high length-to-diameter ratios. Needle bearings are used in farm and construction equipment, automotive transmissions, small gasoline engines, gear pumps, small appliance and tool motors, alternators, and aircraft controls.

Needle bearings are usually lubricated with grease, but oil or oil-mist lubrication is preferred for heavy-duty or high-speed applications. Many light-duty needle bearings never require re-lubrication, but high loads or speeds demand it.

Compared with other roller bearings, needle bearings have much smaller rollers for a given bore size. Needle bearings have the highest load capacity for a given radial space of all rolling-element bearings, but their use is limited to bore diameters less than 10 inches.