

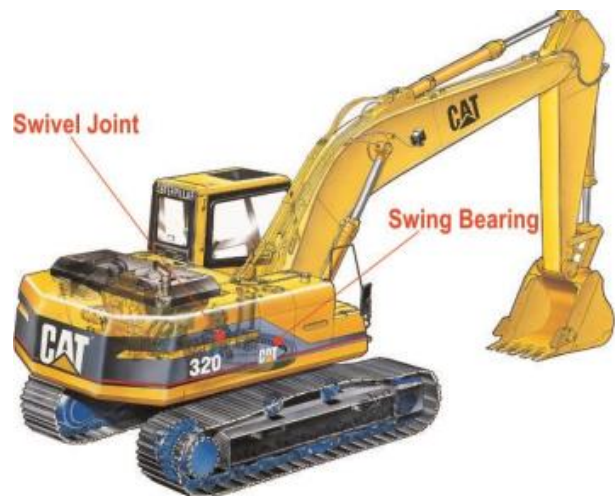
What is the slewing ring of an excavator?

Hydraulic excavators have a slewing ring. This is a large roller bearing with teeth attached to it. The upper carriage of the excavator can rotate endlessly on this bearing. This rotation is caused by a slewing gear. The slewing ring of the excavator is subject to normal wear and tear. Depending on how the machine is treated and maintained, the service life of a slewing ring is between 8,000 and 20,000 operating hours. The wear on a slewing ring can be measured to determine its condition. This measurement can be used to establish whether the values are still within the tolerance range or if the slewing ring will soon need replacing. This repair is extensive and expensive. Read more about replacing and measuring slewing rings [here](#).

In some areas, the slewing bearing is also referred to as a slewing ring or corona.

How occurs the wear on a swing bearing?

As mentioned above, the upper carriage of an excavator swivels endlessly on the chassis. This is achieved by a large bearing that contains either steel balls or rollers. The bearing is lubricated with grease and is sealed to keep the grease inside.



Possible problems with slewing bearings:

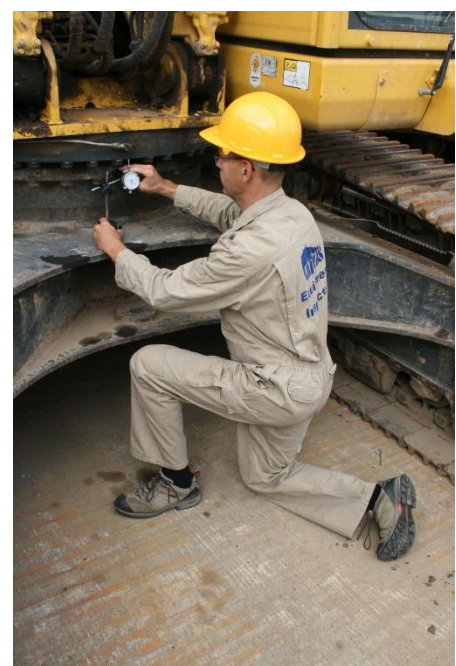
Sooner or later, some play develops in the bearing. If maintenance is neglected or the seal is damaged, this happens faster than normal. Every slewing bearing has a tolerance. The OEM machine supplier or its service personnel are familiar with the permissible values. Some brands of excavators have quite a lot of play even with new bearings. Komatsu is known for this, but so is Hitachi.

How to measure the swing bearing play?

Every machine has an allowable tolerance for play in the slewing ring. This tolerance is specified by the manufacturer — for example, Roter Erde. Your excavator's manufacturer can tell you exactly what the permissible range of play is. There are various methods for measuring play. For the most precise measurement, the play is measured on four sides of the slewing ring. For this, the excavator must be equipped to allow the upper carriage to tilt on the slewing ring. This can be achieved by attaching either a filled excavator bucket or another heavy component to the machine. Another option is to lift the excavator using a crane attached to the counterweight. However, this is not very practical. Typically, a weight is attached to the front or a full excavator bucket is used. The values are determined using a dial gauge.

Who can determine the play in a swing bearing

Professional inspection services such as [MEVAS](#) offer this service, included in an excavator inspection or valuation. The OEM dealer is another but more expensive source to hire a specialist.



What about the play in swing bearings of cranes?

When inspecting used cranes, it is important to measure the tilting play in the slewing ring. Replacing the slewing ring can be very expensive, particularly for large mobile cranes. The cost can quickly exceed \$40,000. Technicians from Liebherr, Grove and the MEVAS inspection team are experts in measuring slewing rings and determining permissible tolerances.



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