

## Camshaft

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### Function



The camshaft is a mechanical component of an internal combustion [engine](#). It opens and closes the inlet and exhaust valves of the engine at the right time, with the exact stroke and in a precisely defined sequence. The camshaft is driven by the [crankshaft](#) by way of gearwheels, a toothed belt or a timing chain. With a transmission ratio of 2:1, the rate of rotation of the camshaft is half that of the crankshaft.

Camshafts are made from the following materials:

- Grey cast iron
- Ductile cast iron
- Heat-treated steel
- Nitrided steel

They can be of hollow design to save weight. Their bearings and the cam tracks are usually surface-hardened. Camshafts are available separately or as a kit. In addition to the camshaft, kits include the corresponding bucket tappets, rockers or rocker arms.

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## Camshafts in engine block and overhead camshafts

A general distinction is made between camshafts in the engine block and overhead camshafts.

### Overhead valves

With overhead valves, the camshaft is located in the engine block and acts on the [valves](#) by way of pushrods and rocker arms. This type of valve operation is however only suitable for low-speed engines on account of the numerous mechanical components which have to be moved by the valve spring on closing.

### Overhead camshaft and double overhead camshaft

High-speed engines usually have one (OHC) or two (DOHC) overhead camshaft(s) in the cylinder head. They operate the valves by means of rockers, rocker arms or directly by bucket tappets.

## Depreciation

To avoid damage caused by worn sliding mating parts, these should always be replaced together with a camshaft.

## Images





Kolbenschmidt

MS Motorservice\_EN

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HELLA

CORTECO\_EN

Bosch

Source: <https://www.my-cardictionary.com/dictionary/drive-system/camshaft>