

Manner of valve actuation	Location where variability takes effect	Effective and operating principle
Systems without camshaft		<ul style="list-style-type: none"> Electrical systems 1.1 Pneumatic systems 1.2 Hydraulic systems 1.3 Mechanical systems 1.4
Systems with camshaft		<ul style="list-style-type: none"> Mech. & hydr. variable camshaft control 2.1.1.1 mechanical camshaft drive with non-uniform movement 2.1.1.2
Usage of conventional camshafts	Variability at camshaft drive	<ul style="list-style-type: none"> Mechanical 2.1.2.1 Hydraulic closed system 2.1.2.2 Hydraulic systems with constant drainage 2.1.2.3 Hydraulic systems with timed drainage 2.1.2.4
	Variability at transfer link between cam and valve	Mechanical modulation of two Camshafts 2.1.3.1
	Variability by means of additional camshaft	Solenoid-action 2.1.4.1
	Variability at the valve spring	Mechanical 2.1.5.1
	Variability at the valve seat	Mechanical shifting of Cam Parts 2.2.1.1
Usage of special-type camshaft	Variability at the cam	Mechanical variability via 3-D cams 2.2.2.1
	Variability by means of axial camshaft movement	Valve closes freely mechanically 2.2.3.1
	Variation between cam and valve	remaining systems 3.1

Categories of variable valve actuation after Hannibal