

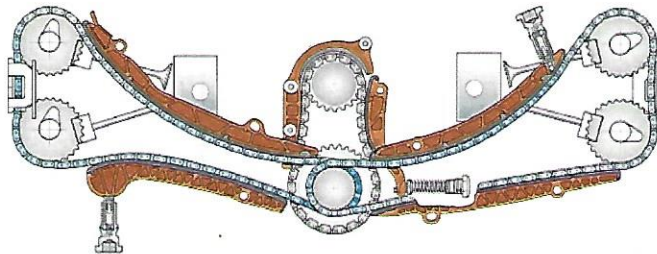
Section 1 – 911 Carrera (1996) & Boxster

Changes to Camshaft (911 Carrera (1996) M.Y. 2002)

The camshafts are hard-chilled components and hollow-cast to reduce weight. The shank diameter of all camshafts is 26 mm. The intake valve stroke is variable (3.0 mm or 10.0 mm).

Changes to Chain Drive (911 Carrera (1996) M.Y. 2002)

A separate intake and exhaust camshaft is used for each cylinder bank. These camshafts are driven directly by a double roller chain. The chains are guided by plastic guide rails and hydraulic chain tensioners located at the untensioned end of the chain.



Chain Drive Tensioner Layout

The intake camshafts in the new 911 Carrera (1996) also have a valve stroke control on the intake side in addition to the VarioCam Plus system (the system is described in a separate section). The respective solenoid valves are fitted in the cylinder head.

This optimizes the compromise between maximum power output and maximum torque while simultaneously reducing fuel consumption and improving running smoothness of the engine. A driving flange for the oil suction pump is attached on the input side of each exhaust camshaft.

Valves & Valve Springs

The exhaust and intake valves have a shaft diameter of 6 mm. The valve springs are single, conical springs.



Valve Spring Assembly

Changes to Intake & Exhaust Valves (Boxster/Boxster S, M.Y.2000)

The valve head diameter of the intake valve was changed from 33.3 mm to 37.1 mm, and the exhaust valve from 28.1 mm to 31.5 mm.

VarioCam



VarioCam Adjuster

Function (Example based on early Boxster VarioCam)

VarioCam, the adjustment of the intake camshafts, produces a major part of the engine power output, the engine torque as well as the good exhaust values at idling speed in the case of engine speeds of 1,200 rpm* and 5,120 rpm.

Engine speeds below 1,200 rpm produce a slight overlap in the valve stroke curves for the intake valves in relation to the exhaust valves.

This particularly affects low proportions of hydrocarbons (HC proportions) in the exhaust gas before the catalytic converters. If the engine exceeds the 1,200 rpm mark the intake camshafts are adjusted by 12.5° (by 25° if measured at the crankshaft).

* The value 1,200 rpm increase to 1,480 rpm with engine oil temperature at approximately 265° F. (130° C) and above.

Notes:
