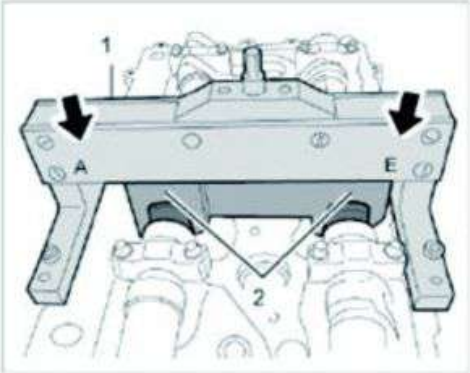
JTC-4423

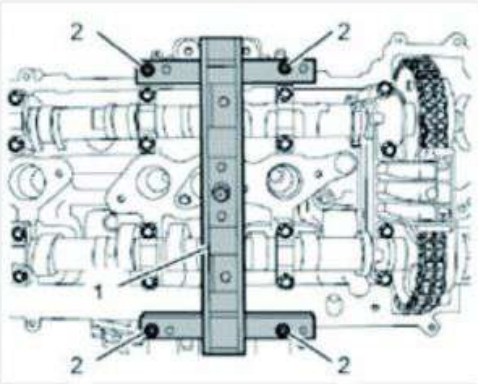
PORSCHE ENGINE TIMING TOOL SET

- Used to rotate and align crankshaft and camshaft.
- Applicable: PORSCHE 987, 981, 997, 991 flat engine.
- PM number: 9772, 9773.



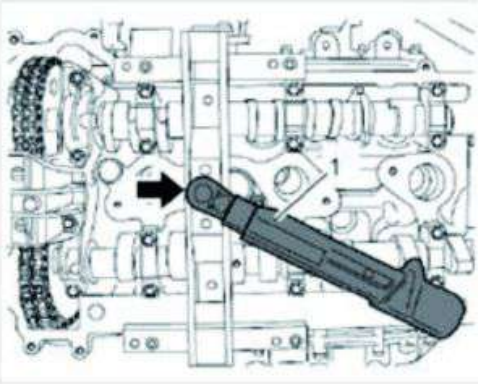
Fitting position of staking tool for cylinder bank "1-3"
A - A = Outlet
E - E = Intake
1 - Staking tool
2 - Staking guide

Fit special tool staking tool JTC-4423-1 on the cylinder head and camshafts.
Secure on the cylinder head with four M6 x 25 screws and tighten screws hand-tight only.



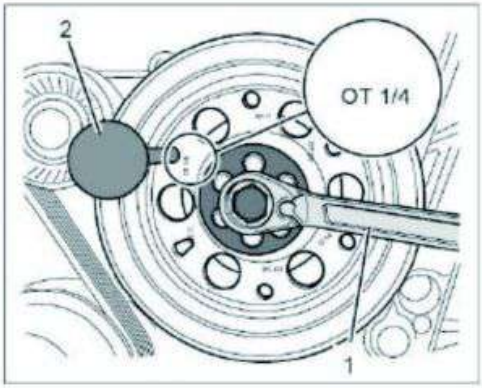
Staking tool screws for cylinder bank "1-3"

Tighten adjusting screw on the staking tool by turning it clockwise.
Tightening torque for adjusting screw:
10 Nm (7.5 ftlb.)



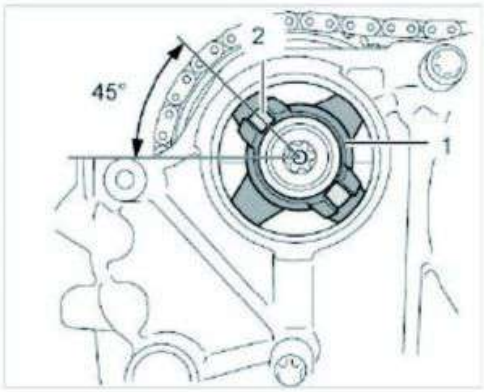
Tightening adjusting screw on staking tool
Turn the crankshaft clockwise (running direction of engine) to the TDC marking at the vibration damper.

This position is marked TCD 1/4 on the vibration damper.



TDC marking on cylinder 1/4 at vibration damper
Check position of the outlet sprocket "1".

The driver must now be positioned towards the top left with the deeper recess on the driver (15 mm) "2" at approx. 45 degrees with respect to the sealing face of the cylinder head.

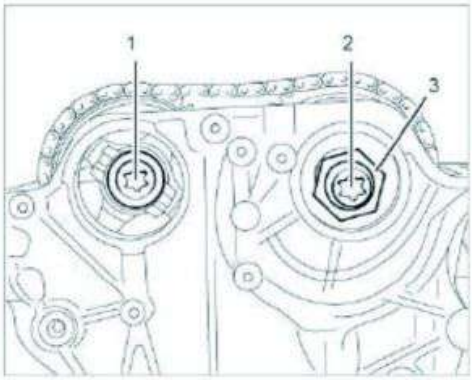


Positioning driver for high-pressure pump

If this is not the case, the outlet camshaft must be re-aligned once again with the sprocket.

Tighten central screws on sprocket and camshaft controller to the prescribed initial tightening torque.

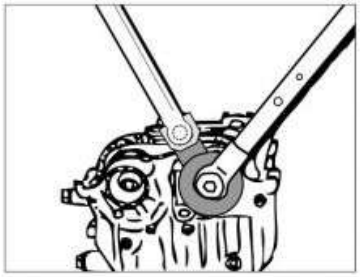
Central screws on camshaft timing gears
Tighten central screw on sprocket -1- initially and counter with a holding wrench 4423-2 while doing this.



=> Initial tightening torque for central screw on outlet sprocket: 30 Nm (22 ftlb.)
Tighten central screw on camshaft controller -2- initially and counter with a long open-ended wrench (a/f 32) at the driver -3- while doing this.

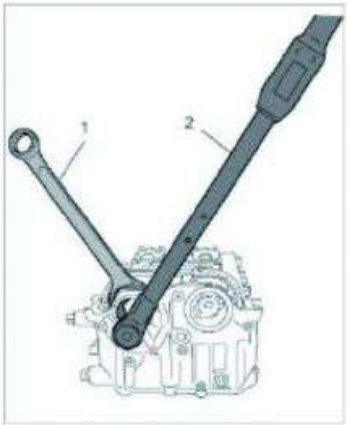
=> Initial tightening torque for central screw on camshaft controller: 35 Nm (26 ftlb.)

Remove special tool staking tool 4423-1.
Loosen the adjusting screw. A creaking noise is completely normal due to the tension in the tool.
Unscrew fastening screws on the cylinder head and remove the tool.
Tighten central screws on the sprocket and camshaft controller to the prescribed final torque using a torque angle wrench.
Tighten central screw on sprocket and counter with a holding wrench 4423-2 -1- while doing this.
Final torque angle for central screw on outlet sprocket: 60°



Outlet sprocket threaded joint

Tighten central screw on camshaft controller and counter with a long open-ended wrench (a/f 32) -1- while doing this.

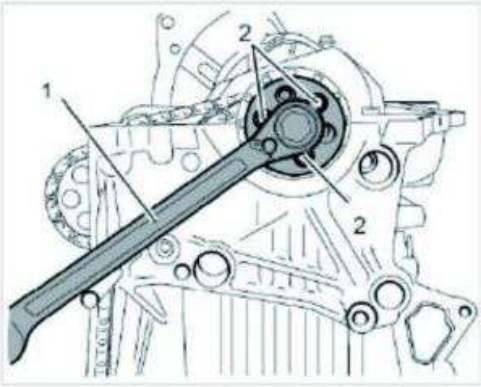


Camshaft controller threaded joint

=> Final torque angle for central screw on camshaft controller: 120°

Then check the position of the camshafts on both sides again (pay attention to overlapping position).
It must be possible to screw in the adjusting screw by hand at the staking tool 4423-1.

Remove the tool and complete the engine



Screw in three fastening screws -2- for the vibration damper at the crankshaft flange.

Turn the crankshaft using special tool turning device 4423-3 -1- so that the connecting rod bolts can be reached