



VW 1.9 TDi PD - Fitting Instructions

Camshafts:

CAM672 - Cast Iron
CAM914 - Steel



Hydraulic Tappets:

FOL175 - Fully Phosphated
FOL202 - Diamond-Like Coated Face



It is vital and essential to follow the fitting instructions in order to ensure a long service life of AE® replacement camshafts, CAM672 & CAM914. Failure to comply with these instructions may result in premature wear or failure of the replacement parts and invalidate the warranty. New camshaft followers/tappets **MUST** be fitted. This is very important to avoid premature camshaft failure. Warranties will be invalid if this operation is not carried out.

Removal

1. Drain the old engine oil, remove the sump and clean the oil strainer.
2. When removing the old camshaft, refer to the engine manufacturers recommended sequence for the removal of all bolts. Following the recommended sequence will minimize any chance of distortion.
3. Remove the old camshaft and bearing shells.
4. Remove the old hydraulic lifters.
5. **THOROUGHLY** flush all oil galleries to ensure the removal of any remaining debris or engine oil.

Installation of camshaft

1. Secure the crankshaft sprocket at Top Dead Centre (TDC), before installing the new camshaft.
2. Wipe clean the bearing shell housing and carefully fit new bearing shells.
3. Prior to fitting new hydraulic lifters, slightly depress the plunger to allow a degree of movement when installing the camshaft.
4. Install the camshaft in TDC position with the cam lobes of cylinder 1 pointing upwards.
5. Install bearing caps 2 and 4 and secure with **NEW** bolts. Tighten bolts sequentially to 8Nm +90°.

6. Install bearing caps 1, 3 and 5 and secure with **NEW** bolts. Tighten bolts sequentially to 8Nm +90°.

Installation of rocker arm shaft

1. **THOROUGHLY** inspect the roller-type rocker arms for any sign of wear and / or damage. Pay particular attention to the rollers; if necessary, it is essential to renew the rocker arms.
2. Install the rocker arm shafts and secure with **NEW** bolts. Tighten the bolts sequentially in stages to 20Nm +90°.
3. Adjust the unit injectors according to the engine manufacturer's recommendations.

Special instructions

- **THOROUGHLY** clean the cylinder head
- Thoroughly inspect the unit injector bores for signs of wear and/or damage. Worn or damaged bores allow fuel leakage to contaminate the engine oil. This leads to rapid wear of the camshaft bearings and lifters
- Clean or if necessary replace the oil cooler.
- Renew air and oil filters.
- Use correct grade of engine oil as recommended by the engine manufacturer.
- It is vital to allow the hydraulic tappets to settle after installing the camshaft. Wait a minimum of 30 minutes before carefully turning the crankshaft 2 full rotations manually to ensure no valve to piston contact occurs.
- Upon initial start-up, allow the engine to idle at no more than 1500rpm until the hydraulic lifters are fully primed.