



Technical Tip

Topic	10-18-01TT - Rattle Noise on Start Up, with Camshaft Timing Faults
Market area	United States 444 Volkswagen of America, Inc. (6444)
Brand	Volkswagen
Date	October 19, 2018

Condition

ATTENTION:
THIS IS A TECH TIP, NOT A TECHNICAL BULLETIN.
TECH TIPS ARE NOT ASSOCIATED WITH WARRANTY CLAIMING.

Rattle Noise on Start Up, with Camshaft Timing Faults

Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Jetta, Golf, GTI, Passat, CC, EOS, Beetle, Beetle Convertible, Tiguan	2010-2018	1.8L, 2.0L CPKA, CPRA, CPPA, CPLA, CCTA, CBFA, DGUA, CCTB, CZRA	All	All	All

Technical Background

Upper engine noise occurring with camshaft timing faults.

Service

When experiencing a rattle on a cold start that goes away after a few seconds, try to isolate the rattle noise with a stethoscope. If the rattle noise is coming from the upper timing cover area, the cam adjuster may not lock in place when the engine is shut off. The cam adjuster is controlled by engine oil pressure and it has to lock in place until enough oil pressure is available to unlock it for operation. If the cam adjuster does not lock, it will rattle and the camshaft timing will swing advanced and retarded until the oil pressure builds causing the camshaft timing faults.

First check the timing chain for a failed tensioner or a stretched chain. Remove the plug in the timing cover and check the tensioner. Turn the vibration damper in direction of engine rotation until the chain tensioner piston is extended the maximum distance. Count the visible piston splines. The visible splines are all of the splines that are located to the right of the chain tensioner housing. If seven or more splines are visible: the camshaft timing chain must be replaced.

If the engine has a timing belt, inspect it for looseness and repair as necessary.

If the timing chain and tensioner check ok, monitor measured values for camshaft timing. Check IDE00182 or MVB 93/3 Camshaft adaptation intake bank 1, phase position at idle. The timing should show 0° +/-5°. Also check IDE00178 or MVB 91/3 Camshaft adjustment intake bank 1, specified value and IDE 00179 or MVB 91/4 Camshaft adjustment intake bank 1, actual value. Specified and actual should match at idle within 0.5°.

For engines with an adjustable exhaust camshaft check IDE00184 Camshaft adaptation exhaust bank 1 phase position (0° +/-5°), IDE00174 Camshaft adjustment exhaust bank 1 specified value, IDE00175 Camshaft adjustment exhaust bank 1, actual value. They should match within 0.5°.

If it is determined that the camshaft timing is in specification and the camshaft adjuster is faulty, replace the intake or exhaust camshaft which includes the cam adjuster for engines with a timing chain and include a new spool valve. For engines with a timing belt the cam adjuster is serviced separately from the camshaft and the cam adjuster and spool valve should be replaced.



Additional Information

Revision History		
Revision Number	Released Date	Reason For Update
2052724/1	10/19/18	Original publication.

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