

Audi/Volkswagen 1.8L DOHC 20 Valve Gasoline Engine

Market information indicates there are a growing number of valve failures being reported on the Audi/VW 1.8L DOHC 20 Valve gasoline engines after rebuild. Reviews of these problems, which are leading to breakage of the valves and in some cases catastrophic failures, are related to problems not with the valves themselves, but the method of cylinder head overhaul and re-claimed mating components.

Many of the breakages examined are occurring very shortly after a rebuild and appear to mainly be attributed to the non-adjustment of the hydraulic lifters. We take this opportunity to advise the best practice, as recommended by the OE, is to replace the lifters at the time of rebuild. All of the components must be very clean and free of debris, especially the hydraulic lifter. Any contamination entering the lifter can cause the metering device to malfunction leading to a potential catastrophic failure. Each lifter should be coated with an extreme pressure cam lubricant as used on the camshaft lobes. Old engine oil should be drained and replaced with new oil and filter.

After installation of the lifters, they should be allowed to settle for a minimum of 30 minutes after the complete installation. This will allow excessive oil in the lifter to drain. If this is not performed, the valves most likely will come into contact with the piston. This will lead to an immediate fracture in the valve keeper groove, typically in the lower of the three radius grooves shortly after startup or on the initial test run.

The OEM process for lifter installation specifically recommends allowing the lifters to settle no less than 30 minutes, then hand cranked carefully for two cycles to ensure the valves are not making contact with the pistons. Ideally, it is recommended the engine should be left overnight before restarting for the first time after repair.

It is also recommended to replace ALL valve keepers when replacing the valves on this engine as reclaiming keepers on such a small diameter valve can also lead to catastrophic valve failure.