



Valve Guide Wear on 2006-2016 GM 7.0L LS7 Engines

The AERA Technical Committee offers the following information on valve guide wear on 2006-2016 GM 7.0L LS7 engines. Excessive valve guide wear has been reported on some of these high performance engines. Valve train noise and drivability concerns may be associated with this condition.

Observe the following cautions before repair attempts are made while determining if excessive valve guide wear exists. Valve guide clearance is determined by measuring the guide bore inside diameter and subtracting the actual valve stem diameter. The maximum valve guide service limit for both valves is .0037" (.093 MM). Refer to the chart below while determining component reuse.

Stem Diameter		Valve Guide Clearance STD	Limit
.3133-.3139" (7.958-7.9735 MM)	INT	.0011-.0025" (.028-.063 MM)	.0037" (.093. MM)
.3132-.3140" (7.956-7.976 MM)	EXH	.0010-.0026" (.025-.066 MM)	.0037" (.093. MM)

Caution: Do not clean titanium components with chlorinated solvents. Brake parts, and similar cleaning solvents, safety solvents, or refrigerant that contains Chlorofluorocarbons (CFCs) should not be used. Using chlorinated solvents to clean titanium components can result in component damage, leading to stress corrosion cracking that may be undetected with normal visual inspection. Acceptable materials for cleaning titanium components include non-chlorinated solvents, alcohol, acetone, and methanol.

Caution: Excessive valve stem-to-guide clearance may cause a noisy valve train, premature valve stem oil seal wear, component damage, and/or excessive engine oil consumption.

Caution: Insufficient valve stem-to-guide clearance will result in noisy or sticking valves. Valves that are too tight may disturb engine smoothness or lead to component damage.

GM engineering has determined the use of performance engine modifications has been found to accelerate valve guide wear. Replacement aftermarket mechanical parts, or software calibrations, may adversely affect the wear of these and other components. Any performance modification to the engine of GM vehicles may void the powertrain coverage portion of the vehicle warranty.