

Enginetech Inc
Tech Assistance 800-410-3664 ext. 340 or 237

TECHNICAL BULLETIN	
	June 1999 TB 1697
Mfg: GM	Model: SUBURBAN
Liter: 7.4L	V I N: J
Year: 96-00	

Exhaust Valve Guide Caution On
1965-98 GM Big Block Engines

The AERA Technical Committee offers the following caution for exhaust valve guides on 1965-98 GM big block Chevrolet engines. Through the many years of use of these engines, GM has modified cylinder head castings numerous times. One of those modifications involves the method of repair considered for exhaust valve guide service.

These engines' valve guides were not intended as a replacement item from GM. The guides were located into the head castings after the head was cast and the exhaust guide is "water cooled". The water-cooled guide also has two different size press fit diameters. Adding additional confusion to the matter, they also switched the location of the larger diameter sometime in 1985.

Several types of concerns exist for terming exhaust guides unusable, including excessive wear or coolant leakage. Either a new OEM casting or an oversize stem diameter from GM serviced excessive valve guide wear or coolant leakage. To meet customer satisfaction however, aftermarket manufacturers have offered "replacement" valve guides for these engines. If the guide is leaking coolant around the outside or inside diameter, the entire guide may be replaced.

To determine which outside diameter guide you have and which direction to remove an exhaust valve guide, the following procedure is suggested:

Drive the guide no more than .250" (6.35 mm) toward the valve spring side of the head and stop. Then, measure the newly exposed area of the guide OD next to the spring pad.

If the measurement is .620" (15.748 mm), it is the first style guide. To remove this style guide, continue driving it toward the valve spring side of the head.

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If the measurement is .616" (15.464 mm), it is the second style guide. To remove this style guide, you must drive it the opposite direction toward the combustion chamber side of the head.

Guide Diameter
@ Spring Pad
After Moving .250"

Direction
to Remove
Valve Guide

.620" (15.748 mm)
.616" (15.464 mm)

Valve Spring Side of the Head
Combustion Chamber Side Head

Some AERA members report many years of successful valve guide repair by using conventional "universal" replacement guides, both thin wall liners and 1/2" outside diameters. That type of repair is made only when the water-cooled exhaust guides are not leaking.

The AERA Technical Committee

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