



## Cylinder Bore Repair Options for 2006-2018 Toyota 5.2L, 15Z Diesel Engines

The AERA Technical Committee offers the following information for consideration for cylinder bore repair for 2006-2018 Toyota 5.2L, 15Z diesel engines. This information should be referenced anytime major engine repair is occurring.

The engine block used for these engines is a parent bore block which does not include the use of a liner/sleeve at original manufacture. It does however incorporate the use of several select fit Standard bore sizes. For cylinder bore repair Toyota offers oversize bore pistons of .020" (.500 MM) and .040" (1.000 MM). If any of the blocks are worn beyond .040" (1.000 MM), a repair liner/sleeve is also offered. Several offshore aftermarket suppliers offer liner/sleeves and pistons for these engines, so beware this information may not apply to their products.

The sleeve repair could be considered a repair sleeve even though it incorporates an upper sleeve flange. Two sleeve options can be used, depending on the final bored diameter. Refer to the charts shown below to assist in repairing worn bores for these engines.

Piston type	Cylinder bore mm (in.)	Piston outside diameter mm (in.)
STD 1	98.00 to 98.01 (3.8583 to 3.8587)	97.94 to 97.95 (3.8559 to 3.8563)
STD 2	98.01 to 98.02 (3.8587 to 3.8590)	97.95 to 97.96 (3.8563 to 3.8567)
STD 3	98.02 to 98.03 (3.8590 to 3.8594)	97.96 to 97.97 (3.8567 to 3.8571)
O/S 0.50	98.50 to 98.51 (3.8779 to 3.8783)	98.444 to 98.47 (3.8757 to 3.8768)
O/S 1.00	99.00 to 99.01 (3.8976 to 3.8980)	98.94 to 98.97 (3.8953 to 3.8964)

**Parent Bore Dimensions**



If liner/sleeve repairs are made it is important to maintain the proper protrusion of 0.03-0.10 MM (.0010-.0040”) for the newly installed component. It is also important to note the piston to wall oil clearance should be 0.05 to 0.07 MM (.0020-.0028”). The Toyota liner/sleeve has a finished inside diameter, so additional honing after installation should not be necessary. During liner/sleeve installation a light coating of engine oil on the bore and liner/sleeve will aid the light/tight, slip fit installation.

<b>Liner/Sleeve Code</b>	<b>Cylinder Bore Size</b>	<b>Liner/Sleeve OD</b>
A	101.000-101.015 MM (3.9764-3.9770”)	101.005-101.020 MM (3.9767-3.9772”)
B	101.015-101.030 MM (3.9770-3.9776”)	101.020-101.035 MM (3.9772-3.9777”)

### **Liner/Sleeve Bore Dimensions**