Cylinder Head Gasket Selection & Installation on Kubota V3300 Diesel Engines

The AERA Technical Committee offers the following information on cylinder head gasket selection and installation for Kubota V3300 diesel engines. This information should be considered any time the cylinder head has been removed. This engine uses multiple thickness head gaskets during engine assembly depending on the piston protrusion observed before re-assembly.

The head gaskets are marked with no notch or notches to indicate the gasket thickness and those notches are visible without removing the cylinder head as shown in Figure 1 below. If no work has been done on the engine before this head gasket repair, replace the head gasket with a “like” gasket that is removed.

![Figure 1. Gasket Identification Location](image)

When replacing the piston, piston pin bushing, connecting rod or crank pin bearing, or various other work has been done, select the cylinder head gasket thickness to meet with the top clearance to match the piston protrusion.

**MEASURING PISTON PROTRUSION**

![Figure 2. Measurement Locations](image)

With a stationary dial indicator measure the piston head protrusion from the crankcase cylinder face at 4 spots per each piston using the dial gauge as shown in Figure 2.
Record and get the average of the 4 measurements for all pistons. From the chart below select and obtain the proper thickness head gasket noting the selection is different for the two engine variations shown.

<table>
<thead>
<tr>
<th>Notch Mark of Cylinder Head Gasket</th>
<th>Thickness of cylinder head gasket</th>
<th>Part Code</th>
<th>Piston Head’s protrusion or recessing from the level of Crankcase cylinder face. (average of 4 pistons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 notches (a)</td>
<td>0.90 mm Before tightening 0.80 mm After tightening</td>
<td>1C020-03310</td>
<td>V3300-E2B -0.07 to +0.049 mm -0.0008 to +0.0019 in. -0.27 to -0.151 in.</td>
</tr>
<tr>
<td>1 notch (b)</td>
<td>1.00 mm Before tightening 0.90 mm After tightening</td>
<td>1C020-03600</td>
<td>V3300-T-E2B -0.15 to +0.149 mm -0.0069 to +0.0059 in.</td>
</tr>
<tr>
<td>Without notch (c)</td>
<td>1.05 mm Before tightening 0.95 mm After tightening</td>
<td>1C020-03610</td>
<td>-0.05 to 0 mm +0.0059 to +0.0078 in.</td>
</tr>
</tbody>
</table>

Refer to Figure 3 below following the torque sequence shown and torque the cylinder head bolts to the listed specification.

- Apply engine oil to the threads of the bolts and bolt head before assembly.
- Torque the cylinder head bolts in sequence a-r to 83 FT/LBS (108 Nm)

![Figure 3. Cylinder Head Bolt Torque Sequence](image-url)