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.

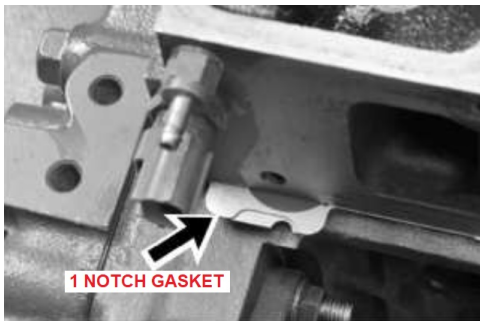

Figure 1. Gasket Identification Location

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

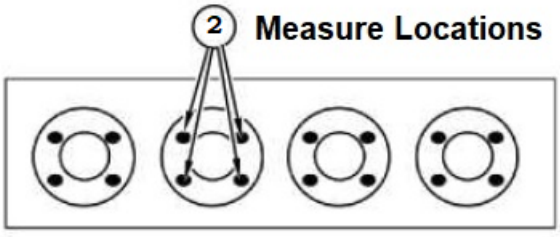

Figure 2. Measurement Locations

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.

Notch Mark of Cylinder Head Gasket	Thickness of cylinder head gasket		Part Code	Piston Head's protrusion or recessing from the level of Crankcase cylinder face. (average of 4 pistons)	
	Before tightening	After tightening		V3300-E2B	V3300-T-E2B
2 notches **(a)**	0.90 mm 0.0354 in.	0.80 mm 0.0315 in.	1C020-03310	-0.07 to +0.049 mm -0.0028 to +0.0019 in.	-0.27 to -0.151mm -0.0110 to -0.0059 in.
1 notch **(b)**	1.00 mm 0.0394 in.	0.90 mm 0.0354 in.	1C020-03600	+0.050 to +0.149 mm +0.0020 to +0.0058 in.	-0.15 to -0.051 mm -0.0059 to -0.0020 in.
Without notch **(c)**	1.05 mm 0.0413 in.	0.95 mm 0.0374 in.	1C020-03610	+0.150 to +0.20 mm +0.0059 to +0.0078 in.	-0.05 to 0 mm -0.0019 to 0 in.

(1) Cylinder Head Gasket (Fig. 1)
(2) Measuring Point (Fig. 2)

(a) 2 Notches
(b) 1 Notch
(c) Without Notch

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)

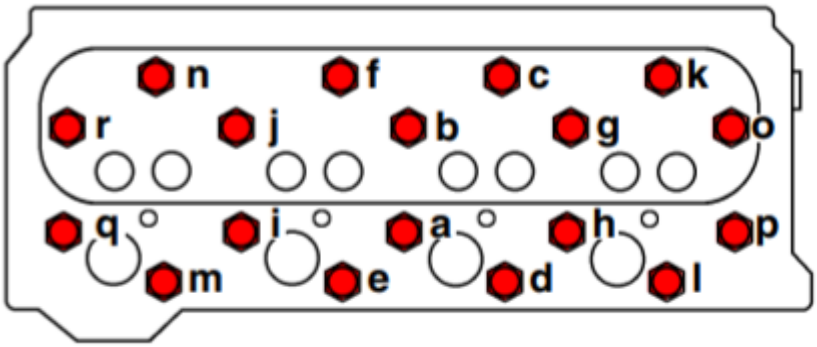

Figure 3. Cylinder Head Bolt Torque Sequence