



Cylinder Head Gasket Selection & Installation On Caterpillar C0.5, C0.7, C1.1, C1.5, C1.6 and C2.2 Diesel Engines

The AERA Technical Committee offers the following information on cylinder head gasket installation on Caterpillar C0.5, C0.7, C1.1, C1.5, C1.6 and C2.2 industrial diesel engines. This engine family consists of 2, 3 and 4 cylinder engines. This information should be considered any time the cylinder head has been removed.

Caterpillar offers two different thickness head gaskets for this family of diesel engines. The proper gasket to use depends on the amount of piston protrusion present at the time of assembly. When measuring piston protrusion, make sure to measure each of the cylinder locations. The gasket to use has to be based on the highest value recorded.

Table 1

Selection of Head Gasket for the C0.5, C0.7, C1.1 & C1.6 Engines

Piston Height Above Top Face of Block	Gasket Thickness
.0217-.0252" (.550-.640 MM)	.047" (1.200 MM)
.0256-.0295" (.650-.750 MM)	.051" (1.300 MM)

Table 2

Selection of Head Gasket for the C1.5 Engines

Piston Height Above Top Face of Block	Gasket Thickness
.0236-.0272" (.600-.690 MM)	.051" (1.300 MM)
.0276-.0311" (.700-.790 MM)	.055" (1.400 MM)

Table 3

Selection of Head Gasket for the C2.2 Engine

Piston Height Below Top Face of Block	Gasket Thickness
.0138-.0200" (.350-.500 MM)	.047" (1.200 MM)
.0200-.0240" (.500-.600 MM)	.051" (1.300 MM)

Note: The pistons stick up above the block deck on two and 3 cylinder engines and are below the block deck on four cylinder engines. The stamped marking on the cylinder head gasket must face upward. This ensures that the cylinder head gasket is installed correctly. Use the following procedures in order to tighten the bolts for the cylinder head.

Put clean engine oil on the threads of the bolts. The bolts are tightened in the numerical sequence that is shown in Figure 1.

C0.5 Engines

1. Torque for bolts C0.5 engines ... 25 FT/LBS (37 Nm)
2. Repeat the procedure in step1 to ensure that all of the bolts are tightened to the correct torque and sequence shown in Figure 1.

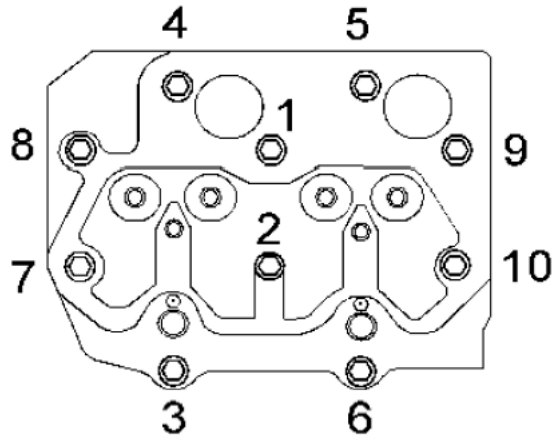


Figure 1. Head Bolt Torque Sequence

C0.7, C1.1, C1.5 Engines

1. Torque for bolts C0.7 engines ... 25 FT/LBS (37 Nm)
Torque for bolts C1.1 engines ... 37.6 FT/LBS (51 Nm)
Torque for bolts C1.5 engines ... 74.5 FT/LBS (101 Nm)
2. Repeat the procedure in step1 to ensure that all of the bolts are tightened to the correct torque and sequence in Figure 2.

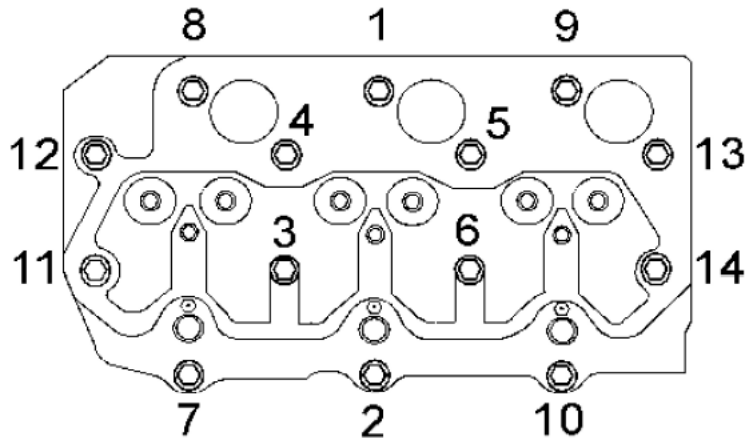


Figure 2. Head Bolt Torque Sequence

C1.6 & C2.2 Engines

1. Torque for bolts C1.6 engines ... 37.6 FT/LBS (51 Nm)
Torque for bolts C2.2 engines ... 74.5 FT/LBS (101 Nm)
2. Repeat the procedure in step1 to ensure that all of the bolts are tightened to the correct torque and sequence in Figure 3.

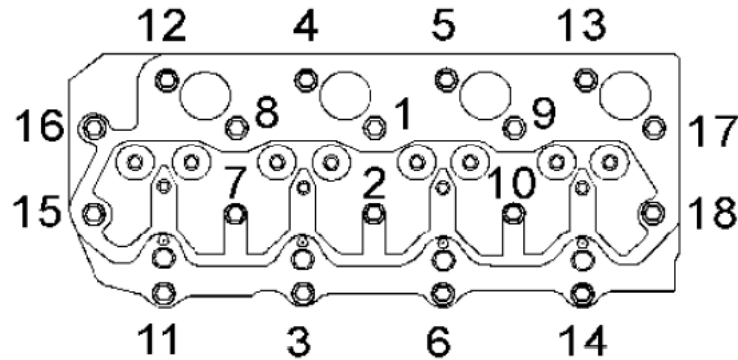


Figure 3. Head Bolt Torque Sequence