Cylinder Head Cracks on John Deere 9.0 & 13.5L Diesel Engines

The AERA Technical Committee offers the following information on cylinder head cracks for John Deere 9.0 & 13.5L diesel engines. Previously, John Deere supplied similar information on their 10.5 & 12.5L diesel engines. These cracks are located in the bridge area of the cylinder head and are caused by thermal-mechanical stress for all engines.

The cylinder heads may show signs of cracking in the bridge area between the intake valve seat and/or exhaust valve seat. It is not uncommon for these cylinder heads to experience this cracking condition.

If the crack (A) shown in Figure 1 is visible but does not go beyond the valve seat, then the cylinder head is reusable. If the crack (2) shown in Figure 2 propagates beyond the valve seat insert, the cylinder head should be replaced according to John Deere.

Figure 1. Crack “A” Acceptable to use “As is”.
Figure 2. Crack “B” Unacceptable to Use.