

## WHAT YOU WILL NEED...

Apart from the typical tools you will need (assorted wrenches, sockets, hammers, screw drivers, slide calipers, feeler gauges, and the like...), there are some specialized tools you will also require:

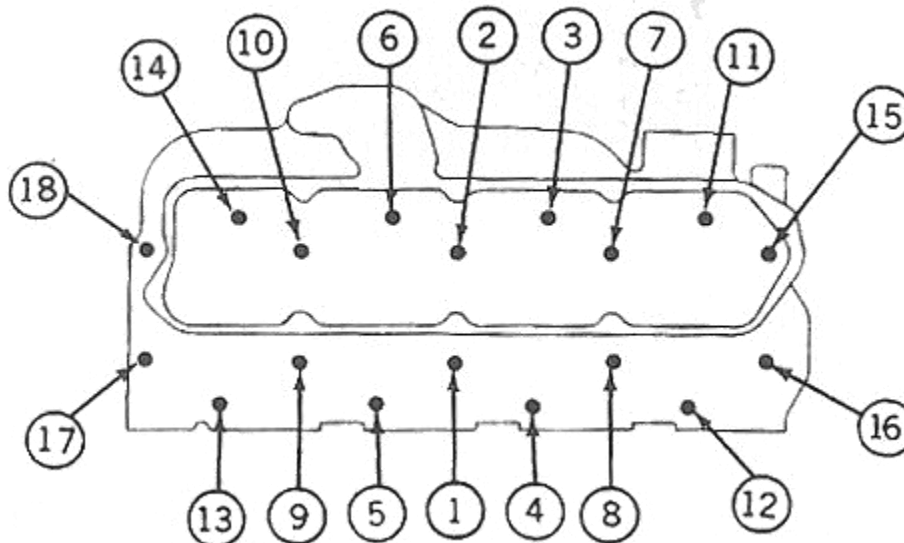


Also, it is a good idea to have some type of cleaning and/or degreasing solution on hand as well as lint-free rags. One of the most important aspects of engine assembly is, **KEEP IT CLEAN!**

## ENGINE BUILD SPECIFICATIONS – JOHN DEERE® 4.219

<b>MAIN CAP BOLTS:</b>	85 ft/lbs
<b>CONNECTING ROD BOLTS:</b>	Black Colored Bolts: 52 ft/lbs Natural Colored Bolts: 63 ft/lbs
<b>INTAKE MANIFOLD BOLTS:</b>	35 ft/lbs
<b>EXHAUST MANIFOLD BOLTS:</b>	35 ft/lbs
<b>FLYWHEEL BOLTS:</b>	120 ft/lbs
<b>VIBRATION DAMPER:</b>	85 ft/lbs
<b>CYLINDER LINER PROTRUSION/RECESSION:</b>	Protrusion: .001" - .004"
<b>PISTON PROTRUSION:</b>	.004" - .012" Above
<b>CRANKSHAFT (TRUST) END PLAY:</b>	.004" - .010"
<b>ROCKER ARM ASSEMBLY:</b>	35 ft/lbs
<b>VALVE CLEARANCE (Set Cold):</b>	Intake: .014"   Exhaust: .018"
<b>CYLINDER HEAD BOLTS:</b>	35, 65, 95 ft/lbs
<b>FIRING ORDER:</b>	1 – 3 – 4 – 2

### CYLINDER HEAD TORQUE SEQUENCE:



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