

## 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!**

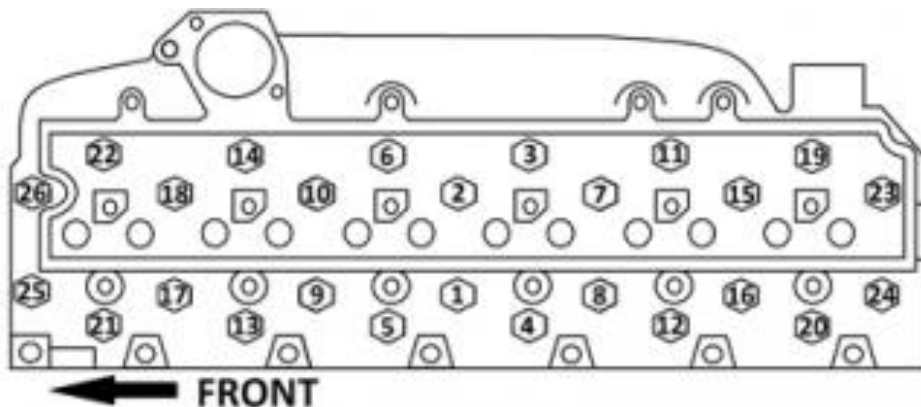
## ENGINE BUILD SPECIFICATIONS – JOHN DEERE® 6.8L POWERTECH®

<b>MAIN CAP BOLTS:</b>	115 ft/lbs
<b>CONNECTING ROD BOLTS:</b>	130 ft/lbs
<b>INTAKE MANIFOLD BOLTS:</b>	35 ft/lbs
<b>EXHAUST MANIFOLD BOLTS:</b>	35 ft/lbs
<b>FLYWHEEL BOLTS:</b>	Hex Head: 120 ft/lbs Flange Head: 40 ft/lbs + 60°
<b>VIBRATION DAMPER:</b>	105 ft/lbs
<b>CYLINDER LINER PROTRUSION/RECESSION:</b>	Protrusion: .002" - .005"
<b>PISTON PROTRUSION:</b>	.007" - 0.37"
<b>CRANKSHAFT (TRUST) END PLAY:</b>	.006" - .012"
<b>ROCKER ADJUSTMENT NUTS:</b>	20 ft/lbs
<b>OIL PAN BOLTS:</b>	13 ft/lbs
<b>VALVE CLEARANCE (Set Cold):</b>	Intake: .025"   Exhaust: .025"
<b>CYLINDER HEAD BOLTS:</b>	110, 115, 165 ft/lbs
<b>FIRING ORDER:</b>	1 – 5 – 3 – 6 – 2 – 4
<b>OIL PRESSURE AT IDLE:</b>	15 PSI @ Idle

### CYLINDER HEAD TORQUE SEQUENCE:

First, lubricate bolt threads, bolt head seating areas, and washers with clean engine oil. Tighten bolts in three (3) stages, as follows:

- Stage 1      Following sequence "A", tighten bolts to 110 ft/lbs.
- Stage 2      Following sequence "A", tighten bolts to 115 ft/lbs.
- Stage 3      Following sequence "B", tighten bolts to 165 ft/lbs.



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