Cummins K-Series parts

GENUINE VS. NON-GENUINE

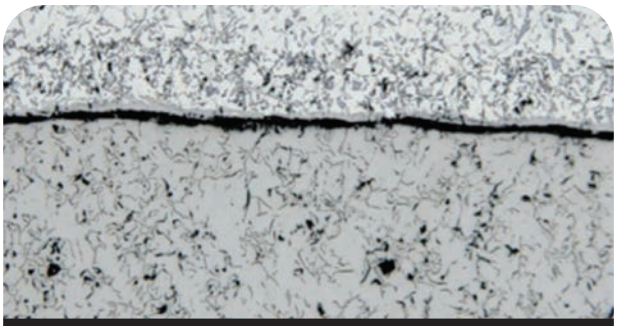
Genuine quality hides beneath the surface

Many competitive part manufacturers try to reverse-engineer Cummins parts and build something that fits like an original part at a cheaper price. The problem is, these will-fit parts don't meet critical specifications from either a dimensional or materials standpoint. When it comes to performance, fuel economy, reliability and durability, microns matter and so do the metals used in your components. The potential cost factors rise in direct proportion to the size of the engine and the loss of equipment efficiency. The operation of equipment in remote regions can result in logistical challenges that add significant costs and impact productivity. Genuine Cummins Parts provide unmatched quality to ensure that your operation keeps running.

Leave all doubt at the lab

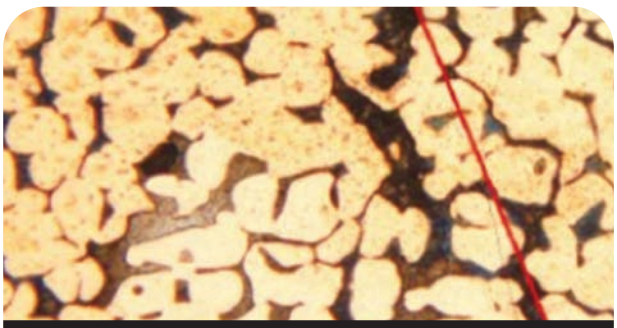
Recently, Cummins tested 237 non-genuine components for 19L and above K-Series engines including pistons, rings, valves, cylinder liners, connecting rods and pins, as well as even smaller items such as springs and retaining clips. The results were eye-opening, to say the least. Of the 237 parts tested, **not a single component met Cummins specifications**.

Non-genuine piston shows debond that could potentially lead to engine failure.



Microstructure of non-genuine piston shows cracking and misalignment.

Erosion of cylinder liner outer surface which can lead to coolant contamination of oil.



Non-genuine connecting rod bearing microstructure shows probable cracking due to lead pooling.

The potential for failure is magnified

Here, part by part, are specific examples of the quality issues in materials, design and manufacturing as well as the probable problems that would result.

Part	Issue	Damage/Performance Impact
Pistons	Shallow ring grooves	Ring breakage, high oil consumption, blowby, scuffing
	Out-of-spec bowl dimensions	Excess heat, cracking, high fuel consumption, visible smoke
	Debonding of ring carriers	Catastrophic engine failure
Piston rings	Out-of-spec ring angles	Insufficient sealing, excess fuel usage, decreased performance
	Incorrect size of oil ring (too thick)	Poor oil scraping, excessive oil consumption
	Incorrect size of top ring (too thin)	Excess rotation, poor sealing, increased blowby
Piston pins	Missing from some kits	Repair delays, downtime, extra cost
	Out-of-spec outer diameters	Incorrect fit issues, repair delays
	Intergranular oxidation	Manufacturing defect, increased potential for premature fatigue and cracking
Cylinder liners	Oversize outer diameters	Radial stress leading to metal fatigue
	Insufficient lower outer diameters	Liner rocking and fretting
	Oversize inner diameters	Cavitation leading to pitting, coolant leaks and mission-disabling failure
	Improper cross-hatching	Compromised lubrication, increased wear, higher blowby and oil consumption, decreased service life
	Excess crystals in liner coating	Poor coating adhesion
	Insufficient metal strength	Premature wear, potential failure
Valve springs	Below spec for hardness	Degraded performance over time
	Insufficient height load	Improper seating resulting in combustion leaks and premature wear-out of valve seat inserts
Valve seat inserts	Runout does not meet specifications, can't square to seat	Increased wear, combustion leakage, potential valve failure
Connecting rod bearings	Tangs too narrow	Interference issues, misalignment of oil holes hindering oil flow
	Metals sintered, not cast	Lower corrosion resistance
	Excess lead pooling	Fatigue cracking
Connecting rod bushings	Excess lead in lining layer	Delamination and cracking

Non-genuine parts have no business in your equipment

Test results from the lab show there's a significant risk to using non-genuine parts. But the real cost of buying a cheaper will-fit component is the business cost that you incur from lost productivity due to equipment downtime and decreased performance. These include increased operating costs from using more fuel due to compromised combustion, productivity losses when power output is diminished and cycle times increase. Then there's the cost of downtime. You're going to spend significantly more on parts and labor to repair your engine, plus you are going to lose hours and potentially days of production. Whether it's an excavator in a mine, a train blocking an important trunk line or an entire building losing electrical power, it's a disruption you can't afford.

Not to mention the reduction in resale value when you go to sell that piece of equipment and the prospective buyer looks at its maintenance record.

All risk. No reward.

Using non-genuine parts does more than compromise the performance of your high-horsepower engine. It jeopardizes your business and makes it hard to meet customer expectations. The miniscule amount you save upfront using non-genuine parts is likely to cost you down the road. When your profitability and reputation count on it, use Genuine Cummins Parts to assure continuous performance.

For more information about Genuine versus non-genuine parts, visit www.cummins.com/parts/why-buy-genuine/k-series-engine-parts, or see your local Cummins distributor or authorized dealer.

Always buy Genuine Cummins Parts

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