

# Caterpillar Off-Highway Truck 777f Service Repair Manual

Single-Piece Piston Design. New single-piece forged steel pistons with integrated forged steel skirt are more robust to withstand high engine heat and pressure, and enable enhanced combustion efficiency, improved fuel efficiency and lower emissions.

Corrosion-resistant, stainless steel top ring reduces ring, groove and liner wear for greater reliability and longer life.



MEUI Fuel System. Fuel delivery, provided by the MEUI mechanically actuated electronic unit injection system, involves a high degree of precision. Precisely shaping the combustion cycle lowers combustion chamber temperatures, generating fewer emissions and optimizing fuel combustion. The system senses operating conditions and regulates fuel delivery for optimum fuel efficiency, improved response times, lower emissions and less smoke.

Electronic Control Module (ECM). ECM uses advanced engine management software to monitor, control and protect the engine using self-diagnosing electronic sensors. The computerized system senses operating conditions and power requirements and adjusts the engine for peak performance and the most efficient operation at all times. Advanced Diesel Engine Management A4 Engine Controller. The ADEM™ A4 electronic control module delivers optimum fuel performance.

The engine management system provides flexible fuel mapping, allowing the engine to respond quickly to varying application needs. It tracks engine and machine conditions while keeping the engine operating at peak efficiency. Oil Renewal System (optional). The oil renewal system meters and injects used engine oil from the crankcase to the engine's fuel return line, extending oil change intervals and increasing machine availability and productivity.

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