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## *Caterpillar Gets Bugs Out of Old Equipment*

### *Growing Remanufacturing Division Is Central to Earnings-Stabilization Plan*

BY ILAN BRAT

CORINTH, Miss. -- Inside a massive, gray-walled Caterpillar Inc. plant here, about 600 workers disassemble grimy engines, polish used piston pins and machine old cylinder heads.

They are also helping to stabilize Caterpillar's earnings.

Even as demand for its bright yellow diesel engines and earth-moving machines has soared amid a world-wide commodities-and-construction boom, the Peoria, Ill., giant has been worrying about how to sustain its healthy profit growth if and when the boom eventually subsides. Caterpillar Chief Executive Jim Owens has pledged to flatten the cyclical dips and rises that have long characterized the company's performance.

A little-noticed but crucial part of his plan is "remanufacturing" -- the disassembly, cleaning, repair and reassembly of engines, transmissions and other parts of semitrailers, mining trucks, bulldozers and rail engines. In Corinth and more than 100 other Caterpillar facilities around the world, technicians are reconditioning machinery for companies in rail, construction and mining.

It works like this: When an engine or other component breaks down, a customer pays to exchange broken or worn-out pieces for remanufactured gear that comes with a new warranty and costs 30% to 80% less than the original price.

It is a big, growing business. The global remanufacturing market has grown to \$100 billion, according to a December 2005 Commerce Department position paper on nontariff barriers to remanufactured goods. With U.S. businesses investing \$1 trillion in new and used capital goods in 2004, according to the latest Census Bureau statistics, Caterpillar sees huge opportunities for growth.

And not just in revenue. Profit margins on the sale of remanufactured goods can be as high as 40%, says Ron Giuntini, executive director of the Remanufacturing Institute, a research organization in Lewisburg, Pa. Steven Fisher, vice president of Caterpillar's remanufacturing division, wouldn't elaborate but says remanufacturing is a very profitable business. That is partly because the one-for-one exchange keeps raw materials costs low. "It's the stealth business model," Mr. Giuntini says.

Caterpillar also likes remanufacturing because it is considered environmentally friendly and tends to weather economic downturns well. Caterpillar has been overhauling its own equipment for 30 years. About five years ago, when the company's overall sales began to drop as the U.S. economy tipped into recession, executives noticed remanufacturing revenues stayed robust. A review showed remanufacturing over the years had a 15% to 20% compound annual growth rate even in down cycles.

Caterpillar expects companies increasingly will seek out ways to extend the life of their existing machines. There is also a growing shortage of technicians at dealers and other repair shops.

Inside the Corinth facility, conveyors take cylinder heads to metal disassembly stations. Then they are cleansed in heated salt baths. In one part of the plant, a tall white machine with a robotic arm uses a laser to fill in missing chunks of metal in cylinder heads. Elsewhere, workers weld parts of the cylinder heads together.

Caterpillar last year had about \$1.5 billion in annual remanufacturing revenue, Merrill Lynch analyst Andrew Obin estimates in a research note. That is about 4% of the company's overall revenue of \$36 billion, but Caterpillar is qui-

etly expanding the business.

In the past few years, the company has snapped up other remanufacturing operations around the globe. In October, Caterpillar established the remanufacturing division, and last month, nearly doubled the division's size by purchasing rail remanufacturer Progress Rail Services Inc. for \$1 billion in cash and stock.

Caterpillar thinks it can double the size of the business over the next four years. "We're right at the front edge of it," Mr. Fisher says.

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