

CATERPILLAR®

WHERE THE WORLD TURNS FOR POWER

DRILLING RIG repower

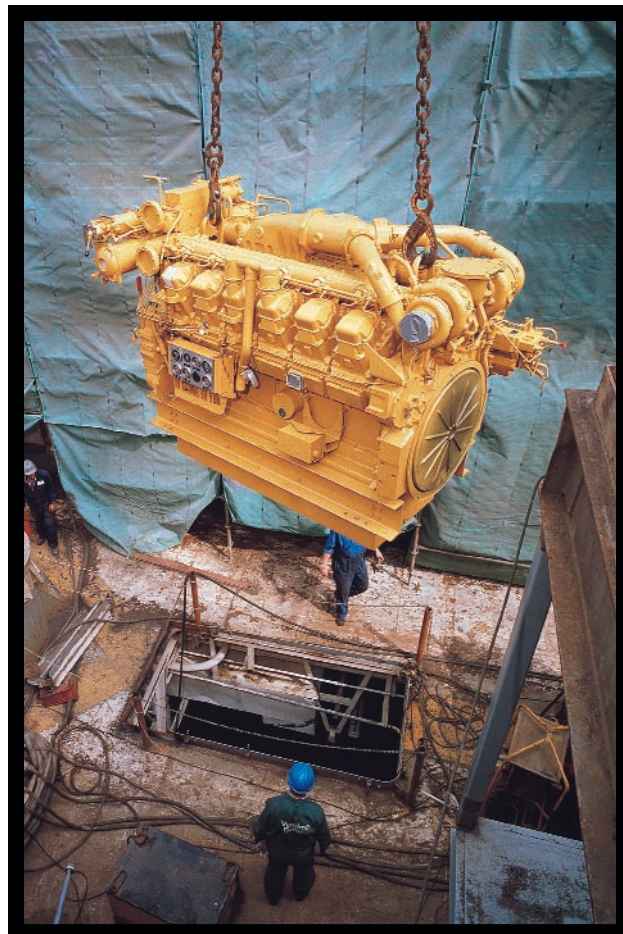


CAT® ENGINES FOR OIL AND GAS APPLICATIONS



IF THE ENGINE FITS... REPOWER

You can repower your rig without reconfiguring your engine room. Caterpillar has a powerful solution for replacing 6.25" bore engines that's less expensive than rebuilding, and simpler than you ever thought possible. Cat 3500B Series engines have the same centerlines, footprint, and hookups as Cat D379, D398, and D399 engines — so they're fast and easy to install. They also come with the value and security of buying Caterpillar quality. So what's the difference? More power. More efficiency. Or both. It's up to you. Join other smart contractors in repowering with Cat 3500B Series engines. When it comes to drilling down, productivity is looking up.



REPOWER VS. REBUILD – GET MORE FOR LESS

You're wondering how a new, more powerful engine can cost less than overhauling an existing one, right? Here's the answer. Due to higher heat rejection on the D399, you can use a new 3516B rated at 1802 hp @ 1200 rpm without replacing the cooling system or the base. Or, a 3512B may be used in a D399 package without replacing the base, generator, or exhaust or cooling systems.

If you're not convinced of the savings, do the math:

THE BOTTOM LINE

Cost of new 3516B (engine only)	\$ _____
Less market value of D399 core	-\$ _____
Less cost to overhaul D399	-\$ _____
Actual cost of repowering with 3516B	= \$ _____



REPOWER REWARDS

More horsepower, less on your mind. Added power is just one of many benefits of repowering with a Cat 3500B Series engine. Don't overlook better fuel economy, long life, easy servicing, the industry's lowest operating cost, and unmatched customer support.

A POWERFUL ARGUMENT

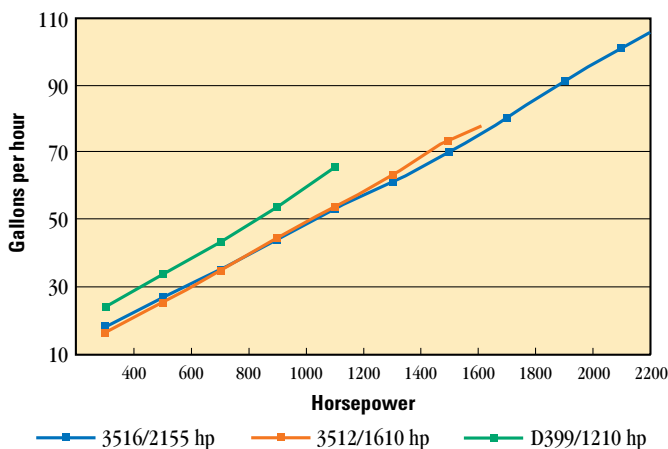
LAND RIG SCR*		OFFSHORE SCR		MECHANICAL DRIVE — PUMPING AND DRILLING	
Power (hp)	Repower (hp)	Power (hp)	Repower (hp)	Power (hp)	Repower (hp)
D399 (1215)	3516B (1855-2150)	D399 (1325) D399 (1215)	3516B (1855-2150)	D399 (1100)	3516B (1855-2150)*
D398 (912)	3512B (1477-1610)	D398 (1000) D398 (912)	3512B (1477-1610)	D398 (850)	3512B (1400)* 3512B (1050)*
D379 (610)	3508B (915)	—	—	D379 (550)	3508B (900) 3508B (760)

All at 1200 rpm

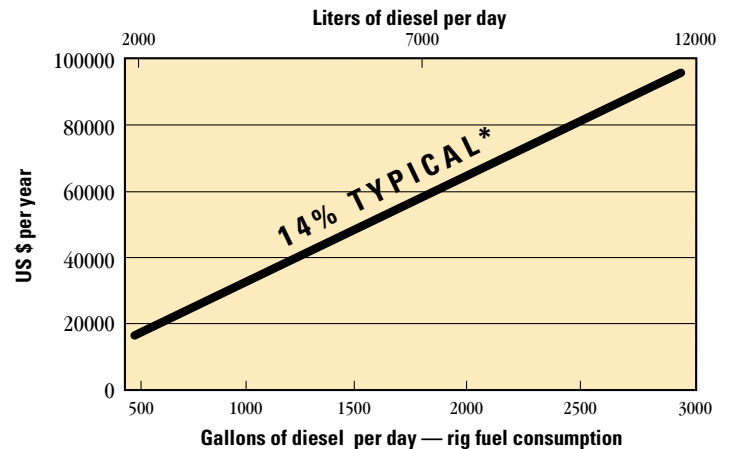
*Not U.S. EPA emissions certified.

FUELING PROGRESS

FUEL CONSUMPTION COMPARISON



ANNUAL LAND RIG FUEL SAVINGS



*Based on 300 days drilling in a year, at \$0.75 per gallon or \$0.20 per liter.

MEASURABLE IMPROVEMENT

6.25" Bore — 3500B Series

MODEL COMPARISONS								
		3516B HD @1200 rpm	3516B @1200 rpm	D399 @1200 rpm	3512B HD @1200 rpm	D398 @1200 rpm	3508B @1200 rpm	D379 @1200 rpm
Electric Drive, Land	hp	2150	1855	1215	1610	910	915	610
Displacement	in ³ (L)	4,764 (78.0)	4,210 (69.0)	3,927 (64.4)	3,158 (51.8)	2,945 (48.3)	2,105 (34.5)	1,964 (32.2)
Crankshaft	lb (kg)	1,602 (727)	1,602 (727)	1,181 (536)	1,225 (555)	876 (397)	868 (394)	581 (264)
Engine	lb (kg)	18,080 (8201)	18,080 (8201)	15,300 (6940)	14,960 (6786)	12,700 (5760)	9,500 (4309)	9,450 (4266)
ENGINE FAMILY COMPARISON								
		6.25" Bore			3500 Series			
BMEP	psi (bar)	204 (14.0)			282 (19.3)		+38%	
Piston Speed	fpm (m/s)	1600 (8.1)			1500 (7.6)		-6%	
Bearing Area, Main	in ² (cm ²)	11.5 (74)			13.6 (88)		+18%	
Bearing Area, Rods	in ² (cm ²)	9.1 (59)			11.5 (74)		+26%	
Oil Film Thickness	mm	110			170		+55%	

PETROLEUM PARTNERS – ON SHORE AND OFF

Cat engines have been the driving force behind the majority of the world's wells for years. You'll find them from Prudhoe Bay to the North Sea to Abu Dhabi. And you won't find this kind of experience anywhere but Caterpillar. Key to our success is the unparalleled customer support that accompanies our unparalleled products. Responsive experts at more than 1,200 Cat dealer outlets worldwide keep our engines performing to their potential — so your drilling rig can do the same — 24 hours a day, 365 days a year.

Reap the valuable rewards of repowering with a Cat 3500B Series engine.

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