

G3400

Cat® Gas Engines for Petroleum Applications



CATERPILLAR®

CAT® G3400 ENGINES: FIELD PROVEN

WHEN UPTIME MATTERS MOST

At Caterpillar, we understand the value of uptime. That's why we redesigned the Cat® G3400 cylinder heads to give you extended life between top end overhauls or repairs. Through improved cooling, oil control, and valve geometry, the latest head designs are delivering what you expect: uptime through extended service and reliability. Actual customer experiences are demonstrating how we're meeting these goals. Talk to the users or look at the numbers. Either way, you'll learn that the latest cylinder head design is getting the job done.



Customer confidence in the field

Engine Model	Engine SN	Customer	Location	Dealer	Application	Driven Equipment	Average Load	Date of Installation	Hours Accumulated
Operating Hours Before Overhaul									
G3412C LE	6ZM00246	Thunder Creek Energy	Gillette, WY	Wyoming Machinery	Well Head Booster	Screw Comp.	95%	Aug '05	15600 R. Hd./ 12100 L. Hd.
STILL OPERATING									
G3412C LE	6ZM00256	Thunder Creek Energy	Gillette, WY	Wyoming Machinery	Well Head Booster	Screw Comp.	90%	Aug '05	13800
G3412C LE	6ZM00266	Thunder Creek Energy	Gillette, WY	Wyoming Machinery	Well Head Booster	Screw Comp.	90%	Aug '05	12600
G3412C LE	6ZM00287	Thunder Creek Energy	Gillette, WY	Wyoming Machinery	Well Head Booster	Screw Comp.	90%	Jul '05	14900
G3408	6NB02167	Bonavista Petro	Bonneville, AB	Finning	Well Head Booster	Recip. Comp.	50%	Oct '06	12900

Caterpillar field test data

Outstanding Reliability

Engine	Oct '06	Nov '06	Dec '06	Jan '07	Feb '07	Mar '07	Apr '07	May '07	Jun '07	Jul '07	Aug '07	Sep '07	Oct '07	Year Avg.
G3400	98.95	97.88	97.75	98.26	98.01	97.90	98.81	99.15	98.63	98.91	98.73	98.11	98.00	98.39

Percentage of uptime data provided by Lloyd Roberts, Vice President, Compressor Systems, Inc.

Cat G3400 engines have consistently shown high engine availability in the field. Here are examples of customer satisfaction:

Optigas, in Gillette, Wyoming, reports 18,510 hours of operation.

Site Conditions:

Caterpillar G3412
100% load
1775 rpm

Suction: 5.3 psig
Discharge: 82.3 psig

Harry Dietrich, Operations Manager for **Thunder Creek Gas Services, LLC**, offers this testimonial:

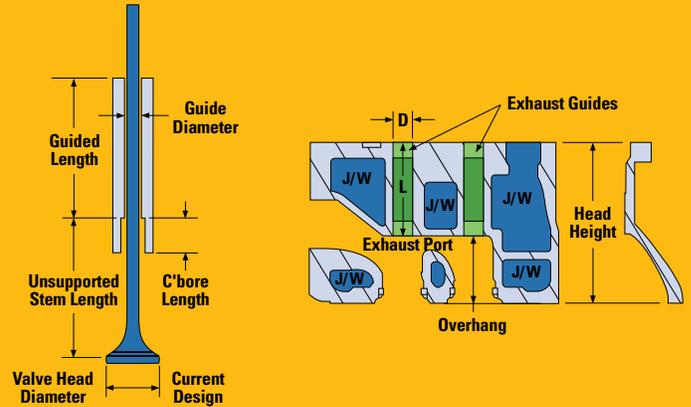
"We operate over 30 Cat G3412s. The new head design is helping us average between 14,000 and 15,000 hours while running at 90 percent load."

REDESIGNED CYLINDER HEAD

Key structural improvements have increased the rigidity of the cylinder head, reduced potential distortion, and enhanced cooling and exhaust gas flow. The result is a more durable, reliable engine, better able to withstand distortions caused by high temperatures during full-load operation. The design changes also enable the G3400 to maintain a more consistent operating temperature. This redesigned, stronger, cooler head, along with the new valve seal, changed chamfer, and different ring pack, is the right recipe for long life and reduced downtime.

Strength where it matters most

The new design incorporates longer valve guides to support a greater portion of the valve stem, thus reducing potential valve wear. The cylinder head itself is also 12 mm taller, accommodating more substantial walls and redirected internal passages for coolant, intake gas, and exhaust gas. Higher walls between cylinders, larger head bolt bosses, and more gussets to support the walls and bosses further bolsters strength and reduces potential head distortion.

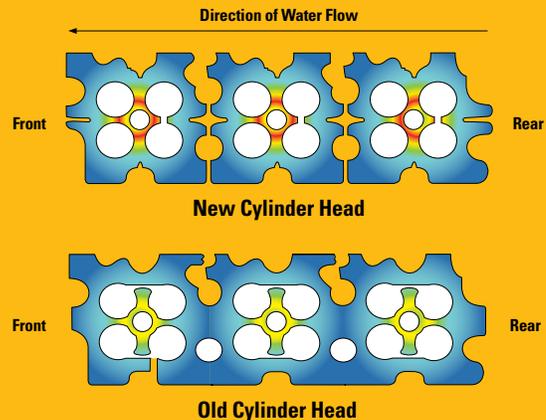


Keeping it cool

Coolant flow uniformity and velocity have been improved, enabling the G3400 to deliver more consistent operating temperatures and improved component integrity. Reengineered structural walls and gussets direct coolant flow from cylinder to cylinder and within each cylinder, with less variation. Higher coolant velocity and better targeting of high-stress areas improves heat transfer and helps prevent component damage.

- Improved water flow generates cooler operating temperature
- Cooler temperatures results in longer component life

G3412 Jacket Water Temperature



Not just for new engines

New engines shipping from Caterpillar are equipped with the latest version of the redesigned cylinder head. But the same performance improvements can be achieved by retrofitting your existing engines.

If you already have the new heads, be sure you have the latest configuration of valve guides and seals. For this and assistance with field retrofits, consult your local Cat dealer.



G3400 Ratings

G3406 Ratings				
Engine	bkW	bhp	rpm	Combustion
G3406 NA	160	215	1800	Rich
G3406 TA	206	276	1800	Rich
G3406 TA*	242	325	1800	Rich
G3408 Ratings				
Engine	bkW	bhp	rpm	Combustion
G3408 NA	190	255	1800	Rich
G3408 TA	248	332	1500	Rich
G3408 TA*	298	400	1800	Rich
G3408C LE	317	425	1800	Lean
G3412 Ratings				
Engine	bkW	bhp	rpm	Combustion
G3412 NA	272	365	1800	Rich
G3412 TA	373	500	1500	Rich
G3412C LE	475	637	1800	Lean

*Export outside U.S. only



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The performance we promise is the performance you get. That's because our product support is just as strong as our product line. More than 2,200 Caterpillar® dealer outlets stand ready to fulfill your

every need — on every continent, every day. We understand that the work can't wait, so neither will you. Don't just invest in power, invest in a powerful solution — Caterpillar gas engines.

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