

## BLOWER CONVERSION

COOPER-BESSEMER™ PUMP SCAVENGED TWO-CYCLE ENGINES

### Centrifugal blower increases horsepower, improves fuel efficiency and reduces maintenance costs on GMV and GMW engines

Scavenging pistons and oscillating blowers once represented the state-of-the-art in combustion scavenging air systems. But engine technology has changed and, today, scavenging air systems are more efficient and reliable.

A centrifugal blower provides higher volumes of air than scavenging pistons, and operates more efficiently than oscillating blowers. By converting from scavenging pistons to a centrifugal blower, fuel consumption is improved by as much as 26% and horsepower per cylinder is increased by as much as 35%. In the case of oscillating blowers, maintenance costs are reduced and availability is increased due to the low maintenance requirements of centrifugal blowers.

### Protect Your Investment

The Cooper Blower Conversion Kit includes everything required to convert your GMV or GMW engine to centrifugal blower operation. The retrofit can be performed in the field – by Cooper service technicians, or by your technicians.

Now, you can protect your investment in Cooper-Bessemer while increasing horsepower and reducing operating costs. The higher efficiency of the blower also results in higher manifold pressures, allowing increased throughput. And, maintenance costs are reduced since the centrifugal blower is more reliable, and easier to service, than previous methods.

### It Pays for Itself

Converting to a centrifugal blower pays for itself because it improves fuel efficiency, allows increased throughput and reduces maintenance costs. Our services team will work with you to analyze your equipment and determine, in advance, the economic payback of the conversion.



**LEGENDS DON'T STOP. WE MAKE SURE OF IT.™**

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24/7 TECH SUPPORT: SUPPORT@COOPERSERVICES.COM  
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## For the GMV Series

GMV engines using the following scavenging air systems can improve performance by converting to a centrifugal blower:

- › Horizontal scavenging pistons attached to crosshead (original GMV and GMV-TF models)
- › A reciprocating compressor working in parallel with the crosshead pistons (GMV-STF model).
- › Butterfly valves in the exhaust elbows to trap scavenging air at higher-than-atmospheric pressure levels (GMV-STF model). The butterfly valves or extra compressor cylinder is removed as part of the conversion, reducing maintenance.

For the GMV engine, the Blower Conversion Kit includes: the blower, blower support, blower drive (flywheel sheave, idler sheave, brackets and V-belts), suction and discharge headers and all nuts, bolts and gaskets. Air intake to the blower is customized to the engine configuration.

Engine Model	rpm	bhp/cylinder	BMEP	Fuel Consumption Btu/bhp-hr
GMV	300	100	61.3	10,000
GMV-TF	300	110	67.4	8,500
GMV-STF	300	135	82.8	8,300
Centrifugal Blower	300	135	82.8	7,700

## For the GMW Series

The GMW and GMW-TF engines use an oscillating blower for scavenging and combustion air. This system produces high volumes of air, but driving the blower vanes consumes more horsepower and service can be complex.

The centrifugal blower produces the same volume of air as the original oscillating blower but maintenance is reduced and the drive horsepower is decreased – resulting in greater fuel efficiency.

The Conversion Kit includes all the equipment required to perform the conversion: the blower, blower drive (drive sheave, end housing, idlers, brackets and V-belts), lube oil pump, pedestal and piping, blower mounting brackets and pre-lube pump blower discharge pipes and all nuts, bolts and gaskets.

Engine Model	rpm	bhp/cylinder	BMEP	Fuel Consumption Btu/bhp-hr
Oscillating GMW	250	240	74.5	10,000
Oscillating GMW-TF	250	250	77.5	7,500
Centrifugal GMW-TF	250	250	77.5	7,375

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