

JET CELL UPGRADE

COOPER-BESSEMER™ TWO-CYCLE ENGINES

Overview

A solution exists for the problem of poor combustion stability common in two-cycle gas engines operating at less than rated torque. That solution is the Jet Cell (pre-combustion chamber) conversion. As load is reduced on a two-cycle engine, changes in air/fuel ratio lead to incomplete combustion. To compensate, the governing system adds more fuel, which results in further combustion instability. The erratic combustion not only wastes fuel and emits additional unburned hydrocarbon emissions, the rapid fluctuations in instantaneous velocities can shorten the life of engine components.

Fuel emitted to the Jet Cell from the pilot fuel system creates a rich mixture within the chamber, easy to consistently ignite with a standard ignition system. The flame from the Jet Cell acts as a high energy ignition system as it propagates into the main chamber, allowing complete combustion of varying air/fuel mixtures that exist within the main chamber. The result is smooth, consistent operation all the way throughout the engine operating range.

Advantages

- › Fuel consumption reduction up to 23% at half load
- › Less component wear due to erratic operation
- › Beneficial as a stand-alone upgrade, the Jet Cell package is also a main sub-system of any low-emissions upgrade that may be undertaken at a later time
- › Only minor control changes required
 - 3 to 5-degree ignition timing retard required
 - Slight air/fuel ratio recalibration may be necessary
- › Easily adaptable to both pneumatic and PLC based engine control systems

What is included with the package

- › Power cylinder heads – one per cylinder
- › Jet Cell gas igniter w/ poppet style check valve – one or two per cylinder (depending on engine model)
- › Pilot fuel system w/ pressure regulator, fuel filter, pressure gauges and installation hardware



Interchangeability

- › Power heads direct bolt-on replacement for existing ones
- › Use existing fuel valve and air starting valve (if so equipped)
- › Pilot fuel system easy bolt-on

Applicability

Cooper-Bessemer models:

- › GMV / GMV-TF / GMVA / GMVB / GMVC / GMVE / GMVG / GMVH
- › GMW / GMW-TF / GMWA / GMWC / GMWE / GMWH / V250 / V275 / W330
- › Quad
- › Z330

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