INTEGRATED GOVERNOR
THROTTLE BODY (IGTB)
SELECT AJAX™ TWO-CYCLE INTEGRAL ENGINE-COMPRESSORS

Overview
Working in cooperation with Woodward Governor Company, Cooper is proud to introduce a new Integrated Governor Throttle Body (IGTB) as a field retrofit for the original mechanical throttle valve operated by any previous design governor used.

This product can be used for units that use automatic variable speed operation for load control and is now standard equipment on all new 2801, 2802, 2803 and 2804 units.

Benefits
› Fast response to compressor load change
› Improved stability of compressor
› Easy installation
› If needed, no electrical power required
› Ideal for usage with fuel gas containing H₂S
› Vibration resistant

Interchangeability
Upgrade is applicable to all machines that use automatic variable speed operation for load control. Starting from 2011, IGTB is standard equipment on all new 2801, 2802, 2803 and 2804 units.

One IGTB system fits most 13¼” and 15” power cylinder units and all 2-, 3- and 4-cylinder engines.

In order to convert a 1-cylinder unit, all the same components are used but with a smaller-bore IGTB for more accurate fuel control at the lower flow.

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Basic Conversion Kit Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cyl w/o 24VDC</td>
<td>ZIGTBGOV2801CSP</td>
</tr>
<tr>
<td>2 Cyl w/o 24VDC</td>
<td>ZIGTBGOV2802CSP</td>
</tr>
<tr>
<td>3 Cyl w/o 24VDC</td>
<td>ZIGTBGOV2803CSP</td>
</tr>
<tr>
<td>4 Cyl w/o 24VDC</td>
<td>ZIGTBGOV2804CSP</td>
</tr>
<tr>
<td>1 Cyl w/ 24VDC</td>
<td>ZIGTBGOV2801ALT</td>
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<tr>
<td>2 Cyl w/ 24VDC</td>
<td>ZIGTBGOV2802ALT</td>
</tr>
<tr>
<td>3 Cyl w/ 24VDC</td>
<td>ZIGTBGOV2803ALT</td>
</tr>
<tr>
<td>4 Cyl w/ 24VDC</td>
<td>ZIGTBGOV2804ALT</td>
</tr>
</tbody>
</table>

IGTB kit descriptions with part numbers
Upgrade summary

The IGTB is a combined throttle valve and electronic governor. Its purpose is to maintain a fixed-speed set-point throughout the engine’s load range.

As shown in the above diagram, the governor measures engine speed with a magnetic pickup and compares it to the set-point speed provided by the transducer.

When engine speed changes from the desired level, the IGTB automatically adjusts fuel gas header pressure as required to maintain the desired speed.

The IGTB is a derivative of a Woodward Governor Company industrial control valve with sealing upgrades designed by Cooper engineers.

Construction features consist of aluminum valve body and corrosion resistant plated steel butterfly and sealed bearings.

There are no “yellow metals” in contact with the fuel gas stream, making this an ideal valve for fuel gas with H₂S content. In addition, flexible fuel connections isolate the IGTB from vibration.

When a compressor site does not have electrical power available, Ajax can provide power for the system through a 24 VDC, 3.7 amp alternator that bolts to the control box in place of the old governor. Also, a pre-wired terminal box with wiring harness makes connection of the magnetic pickup, pressure transducer, alternator and IGTB a snap.

Excellent response time to load change and steady state speed stability of ± 1 RPM allows maximum automatic speed control of compressor throughput. See below graph for test data on the IGTB’s ability to respond to step load changes.