

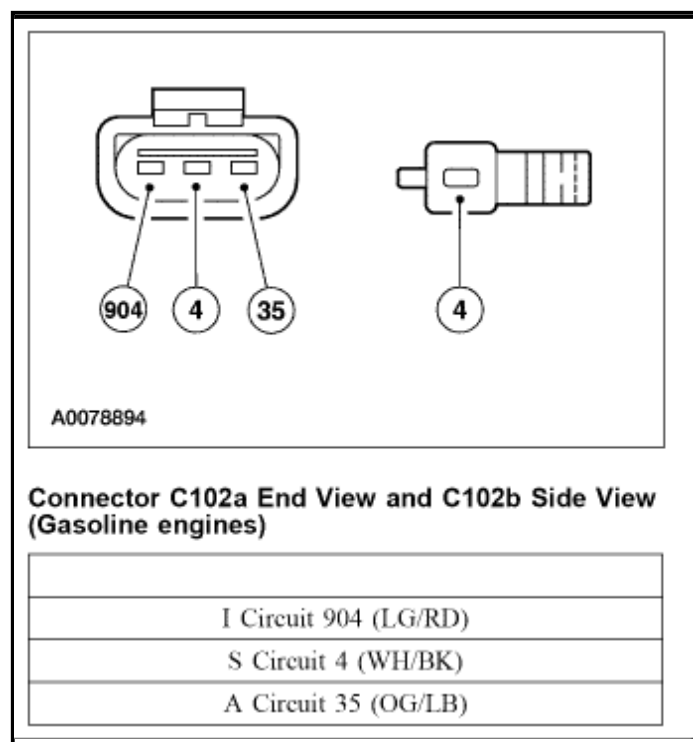
Your Vehicle: 2004 Ford Truck F 250 4WD Super Duty V8-6.0L DSL Turbo VIN P

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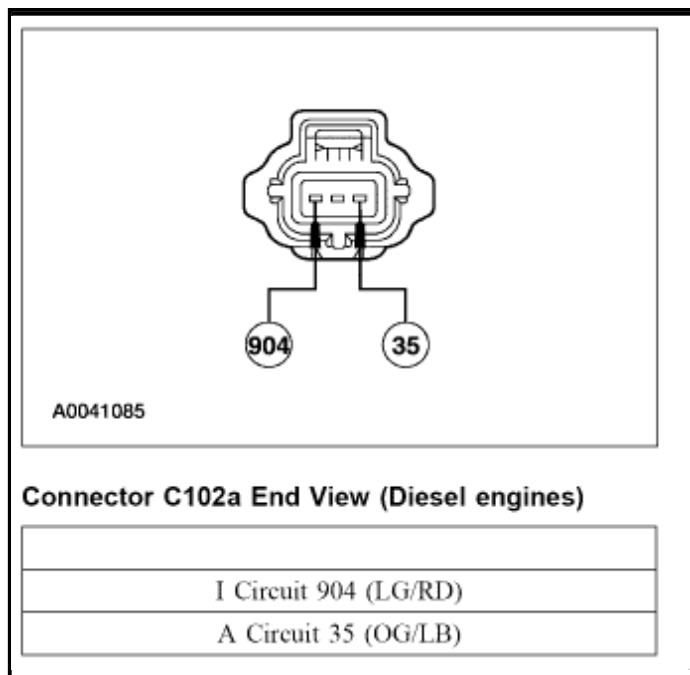
With Single Generator

PRINCIPLES OF OPERATION



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Functionality

With the key in the ON position, voltage is applied through the warning indicator I circuit 904 (LG/RD) to the [voltage regulator](#). This turns the regulator on, allowing current to flow from [battery](#) sense A circuit 35 (OG/LB) to the generator field coil. When the engine is started, the generator begins to generate alternating current (AC) which is internally converted to direct current (DC). This current is then supplied to the vehicle electrical system through the output circuit 36 (YE/WH) (B+) terminal of the generator.

Once the generator begins generating current, a voltage signal is taken from the generator stator and fed back to the regulator through the stator circuit 4 (WH/BK). This voltage feedback signal (typically half the battery voltage) is used to turn off the warning indicator. The gas engines have an external stator circuit and the diesel engines have an internal stator circuit.

With the system functioning normally, the generator output current is determined by the voltage of the A circuit 35 (OG/LB). The A circuit 35 (OG/LB) voltage is compared to a set voltage internal to the regulator, and the regulator controls the generator field current to maintain the correct generator output.

The set voltage will vary with temperature and is typically higher in cold temperatures and lower in warm temperatures. This allows for better [battery](#) recharge in the winter and reduces the chance of overcharging in the summer.

[Battery](#) Positive Output Circuit 36 (B+) (YE/WH)

The generator output is supplied through the battery positive output (B+) terminal on the rear of the generator to the battery and the electrical system.

I Circuit 904 (LG/RD)

The I (ignition) circuit 904 (LG/RD) is used to turn on the [voltage regulator](#). This circuit is powered up with the key in the ON position. This circuit is also used to turn the charging system warning indicator on if there is a fault in the charging system operation.

S Circuit 4 (WH/BK)

The S (stator) circuit 4 (WH/BK) is used to feed back a voltage signal externally from the generator stator to the regulator. This voltage feedback signal (typically half the battery voltage) is used by the regulator to turn off the charging system warning indicator. The gas engines have an external stator circuit and the diesel engines have an internal stator circuit.

A Circuit 35 (OG/LB)

The A circuit ([battery](#) sense) 35 (OG/LB) is used to sense battery voltage. This circuit is used by the regulator to determine generator output. This circuit is also used to supply current to the generator field, which will determine generator output.

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