

# Generator air intake shaft

What is a diesel generator air intake & exhaust system?

The diesel generator air intake and exhaust system (DGAIES) provides the diesel engine with combustion air from the outside. The combustion air passes through a filter and silencer before being compressed by a turbocharger and cooled by the coolant system before entering the individual cylinders for combustion.

How does a single shaft gas generator work?

Compression power is provided by turbine section's power output. A single-shaft GT operates at the speed and firing temperature to keep itself self-sustained (frequently called a "jet", or "gas-generator", for convenience).

How does a generator exhaust work?

For the experimental model, the generator exhaust was run through the tube side of the shell-and-tube heat exchanger. In unison, working fluid was flowing through the shell side, recovering the exhaust heat, and delivering it to the IAHU to preheat the fresh intake air.

How does a single-shaft GT work?

A single-shaft GT operates at the speed and firing temperature to keep itself self-sustained (frequently called a "jet", or "gas-generator", for convenience). The jet's exhaust gases pass to an aerodynamic-coupled free power turbine (PT) which drives the load - at fixed (generator) or variable (mechanical drive) speed.

How does a gas generator work in a jet engine?

,and leading to the turbine section. In jet engines, the responsibility of a gas generator is to produce a high-pressure, high-temperature stream of combustion products (predominantly air), which are allowed to expand down to (ideally) the local

How does air filtration affect a gas generator?

moist air (due to humidity) to the allowable temperature. This fuel increase will increase the gas generator speed and compensate for the loss in air density. Inserting air filtration, silencing, evaporative coolers or chillers into the inlet or heat recovery devices in the exhaust causes pressure losses in the system.

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