Smeal’s exclusive SG-09 Green Auxiliary Power Unit (APU) is designed for an industry faced with increasingly strict emission standards and tighter budgets. Utilizing a separate 9kW diesel powered generator, integrating a HVAC system and a 12v alternator large enough to handle the rigors of the fire service, the operation of the main chassis engine can be reduced while providing all electrical and HVAC capabilities.

Once the chassis park brake is set, the system monitors the chassis and will automatically start the APU and shut off the main chassis engine after a factory set time. Pump and PTO status are monitored to prevent interruption during use. The system can also be manually started to provide additional DC and/or AC power if needed. This results in a drastic reduction in emissions, fuel consumption and chassis engine maintenance.
**SG-09 SMEAL GREEN TECHNOLOGY**

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**Models**

**SG-09 - “Parallel” System**
- Completely Independent chassis HVAC and SG-09 HVAC systems.
- Separate evaporator, heater core and fan installed in the rear crew area.
- Two User Interface controls (Cab and Pump Panel).
- Most efficient of the two models.

**SG-09CR (Continuous Run) - “Integrated” System**
- Chassis evaporator, fan and air conditioning controls are utilized and the air conditioning compressor is mounted on the SG-09CR.
- Allows for additional available Horse Power by removing the air conditioning compressor from the engine.
- May allow a smaller engine or even a less expensive chassis model to be used and still provide the same or similar performance.
- Requires less space in the chassis cab.
- The less expensive of the two different models.

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**APU Engine**
- Caterpillar C1.5 Inline 3 Cylinder Diesel Engine
- Rated at 33 HP at 3300 RPM
- The SG-09 is set to run at 1800 RPM with an output of 24 HP.

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**HVAC SYSTEM**
- Dependent on SG-09 Model

**Generator**
- Marathon 120/240 Volt
- 9kw Continuous - 12kw Intermittent
- Quite Operation: 85 Decibels Under Full Load

**Alternator (Not Visible)**
- Single 270 Amp Leece Neville
- Single Regulator with the Chassis to provide a shared load of 540 Amps when both Engines are Running

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**Available Options**

**Warm Air Dam:**
A thermostatically controlled air dam to redirect residual warm air from the SG-09 into the pump module.

**Water Circulation Pump:**
Circulates water from the tank through the fire pump - Great for wet pumps in freezing conditions.

**Dual Alternators:**
Dual Niehoff 300 Amp (600 Total Amp) Alternators

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**Operational Modes**

**Auto Mode:**
- Automatically starts the SG-09 and shuts down the chassis after a pre-set time.
- No interruption in power or HVAC
- Water Pump and PTO status are monitored to prevent interruption during use.

**Manual Mode:**
Can be started or stopped from the pump panel or chassis cab even with the apparatus in motion.

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**Benefits**

*Studies show fire apparatus used by high call volume fire departments are idle 55% - 75% of the time.*

- The SG-09 uses approximately 1/4 the fuel of the chassis engine.
- Lower maintenance and service costs.
- Reduces the number or frequency of DPF regenerations.
- Extends the service interval and reduce the amount of oil.
  (SG-09 oil capacity - 5 qts / Chassis - as much as 34 qts)
- Reduces wear and tear on chassis engine components.

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**SG-09 SMEAL GREEN TECHNOLOGY**

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**User Interface Controls**
Advanced user interface controls to guide users easily through the software based control system.

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