

SMART POWER SYSTEMS® HYDRAULIC GENERATOR



One (1) Smart Power Systems®, **Model LRT-10**, 10,000 watt hydraulic generator shall be provided. The generator is designed specifically for the mounting on top of the vehicle, at the specified location. If required, the generator can be easily separated into its three major components (tray assembly, cooler/fan assembly, and reservoir) for mounting in custom locations.

The generator shall be designed for use with the Ford chassis with automatic transmission configuration.

The installation of the generator shall be designed for continuous operation without overheating and undue stress on components. The generator tray assembly shall be delivered with the cooler/fan assembly mounted such that 100% of the hot air is exhausted vertically. No exceptions.

The generator system shall be provided with a digital meter display in compliance with NFPA 1901 Chapter 22.4.6. The CCC (Command and Control Center) meter panel display shall be an interactive operator control center, equipped with Smart Touch® solid state buttons, with displays for voltage, frequency, amperage, total running hours, service reminders, operator warnings, system faults and diagnostics.

The generator and the Command Control Center both shall be 100% American made in the same manufacturing facility. No exceptions.

Package & Features

The unit shall come equipped with a generator tray assembly (which includes the generator, hydraulic motor, cooler, fan, electronics package, 10 micron spin-on fluid filter and reservoir), a Parker/Chelsea 249V PTO w/ integrated vane pump, and Command and Control Center (CCC) display with all required wiring harnesses.

The generator shall have the following features. No exceptions.

- Smart Start engagement to reduce mechanical stress
- Precise voltage and frequency control
- Automatic Purge Feature
- Automatic Cold Start System to warm hydraulic fluid during cold weather conditions
- Automatic Shut Down Over Heat Protection
- Automatic Shut Down Low Fluid Protection
- Automatic Shut Down Over Current Protection
- Visual Service Reminders
- Integrated Diagnostics System

The generator electrical enclosure, the oil cooler/fan module, the hydraulic fluid reservoir and other structural components shall have a Zinc protective coating and white powder coat finish. No exceptions.

The generator mounting base shall be constructed of a solid 1/2" thick 6061T6 extruded aluminum base plate.

The generator tray assembly shall be delivered with the cooler/fan assembly mounted such that the hot air is exhausted straight up through the top of the assembly.

An NFPA compliant aluminum grate will be attached over top of the assembly to provide a non-slip walking surface.

The body of the generator tray assembly (including reservoir) shall be 40.5" long x 19" wide x 22" high, weighing approximately 500 pounds.

Digital Meter Display Gauge

The Command Control Center (CCC) digital meter display shall be in compliance with NFPA 1901 Chapter 22.4.6. The CCC shall be an interactive operator control center, equipped with Smart Touch® solid state buttons, with super bright red LED displays for:

- Voltage (VAC)
- Frequency (Hz)
- Dual Current Display (Amps)
- System Hydraulic Pressure (PSI)
- Running Time Display (Hours)
- Service Reminders
- Operator Warnings
- System Faults
- Prognostics & Diagnostics

The CCC shall be permanently mounted at an operator's panel, shall be located in a plane facing the operator, and shall be constructed in weatherproof integral enclosure/bezel.

Multiplexing Capability (SAE J1939)

The generator shall have the capability to interface with the apparatus multiplexing system, with all generator prognostic, diagnostic, control and display features accessed from any of the multiplexing system display screen(s) on the vehicle. It shall constantly monitor the performance and condition of the generator and provide real-time data to the vehicle's multiplexing system. The J1939 messages must originate from the generator's integrated ECU (electronic control unit) to insure the highest performance and reliability. No Exceptions.

Prognostics and Diagnostics

The generator system shall be equipped with diagnostic capabilities which are monitored by the operator through the CCC digital display meter panel and or the vehicle's multiplexing display screen.

Some of the Diagnostics Features include:

- Overheat Warning
- System Service Reminders
- Low Fluid Warning
- No PTO Engagement Indication

- Low DC Input Voltage Alert
- Cooling Fan Problem Alerts
- Over Current Warning

All diagnostic codes that are stored on the generator ECU shall be retrievable from either the CCC and/or the multiplex system display screen (if applicable). No external device shall be required to access the ECU. No Exceptions.

Chassis Transmission Drive (6R140 Transmission Only)

The generator shall be driven by a Parker/Chelsea 249V PTO (power take off) with an integrated vane pump. The Parker/Chelsea 249V PTO with electronic overspeed control shall be supplied with the generator tray assembly. No exceptions.

Generator Operation

The output of the generator shall be controlled by an integral, patented, solid state Electronic Control Unit. The ECU shall be connected directly to the NFPA 1901 required digital instrumentation display.

The generator shall be operable in the stationary mode only, utilizing the standard soft start.

The generator shall be engaged by a lighted control switch or through the multiplex system in the cab.

Ratings and Capacity

Rating:	12,000 watts peak 10,000 watts continuous
Volts:	120/240 volts
Phase:	Single, 4 wire
Frequency:	60 Hz
Amperage:	84 amps @ 120 volts or 42 amps @ 240 volts
Engine speed operation range:	1210 to 1370 Fixed RPM
Pump speed range (45cc integrated):	1500 to 1700 RPM
Generator Speed:	1800 RPM

Testing

The generator shall be tested in accordance with all current N.F.P.A. 1901 Chapter 22 standards and requirements.

All ratings and capacities shall be derived utilizing current NFPA 1901 test parameters.

Warranty

The entire generator system, including the Command and Control Center digital meter display, shall be covered by a standard 6 year/1,000 hour fully transferable warranty from the generator manufacturer. The warranty shall commence the date the product is shipped.