



All controls and instruments are designed for good visibility, convenient accessibility and service. Engine controls are grouped together, shielded by a plexiglass cover. Alternator controls are protected by a hinged door with plexiglass window. Operational controls are accessible without opening any doors or covers and can be operated while wearing heavy gloves. Pullout trays are accessible for observation, adjustment and maintenance. The trays may be completely removed. Units have welded steel frame, weatherproof canopy, lifting eye and hinged sheet metal doors.

Performance of units meet or exceed ATA and SAE electrical specifications where applicable. Each engine is fully approved and warranted by Perkins Engines for the application.

Hobart "Superjet" ground power units are engineered on a "design for service" concept to support all 400 Hz jet aircraft including the Boeing 747, Douglas DC 10 and Lockheed L-1011.

Each model features a brushless alternator, conservatively rated engine, isochronous governor, solid-state magnetic amplifier regulator, metering and protective devices in removable trays, and modular controls.

Optional Equipment

- Test box for trouble shooting
- Output Cables
- 28.5 volt D.C. transformer rectifier
- Cold weather starting aids
- Sound insulation (90 DBA at 15 feet)

Hobart 60P20P & 90P20P 400 Hz Ground Power Unit

Specifications:

Electrical Characteristics

Voltage regulation - $\pm 1\%$ no load to full load.

Voltage transients - $\pm 20\%$ no load to full load.

Voltage transients recovery time - to $\pm 1\%$; within 200 milliseconds.

Voltage Modulation - 0.5% at steady state.

Phase voltage balance - not exceeding 1% at any balanced 3 phase load.

With unbalanced load - not exceeding 4% with 1/3 rated current on 1 phase. No load other 2 phases.

Harmonic content - total harmonics 2% at any balanced load at 80% power factor.

Frequency regulation - no load to full load. 0.5% (2 cycles).

Frequency transient recovery time - within 2 seconds.

Overload rating - 125% of rated load for five minutes for all models.

High phase limiting - regulator limits highest phase to 130 volts, line to neutral, with any unbalanced loading.

Line drop compensation - an automatic adjustable line drop compensation network provides a voltage increase of six volts maximum, line to neutral to compensate for cable voltage drop.

Alternator

Hobart 400 Hz 115/200 volts nominal, adjustable $\pm 15\%$, connected four wire wye, three phase, grounded neutral, salient pole, revolving field, brushless, self cooling, two sealed bearings, complete with brushless rotary exciter, direct connected to engine by a removable taper lock coupling.

Controls and Protection

Controls and instruments are mounted for best observation and adjustment, protected by a plexiglass hinged door. Two sliding and removable trays contain the alternator controls and instruments.

Test and Troubleshooting

An electrical troubleshooting system of test points is provided terminating in an amphenol half connector. An optional matching test box is available at extra cost.

Alternator Controls

First Tray contains frequency meter, voltmeter, ammeter, voltmeter-ammeter selector switch, automatic-manual voltage control.

Second tray contains the solid-state protective monitor system, plug inter lock relay and test bank switch. Protective monitor has SCR controlled, fault-indicating lights functioning with protective relays to open contactor when there is an abnormal condition. The lights for each function will remain ON until the reset switch is pushed and the abnormality is corrected.

Nominal relay trip points are:

Overfrequency	420 Hz
Underfrequency	380 Hz
Overvoltage	130 volts
Undervoltage	102 volts, 5 second time delay
Overload	125% rated load in 5 minutes

Solid-state overload protection gives individual phase protection as well as three phase, with inverse time short-circuit protection.

The magnetic amplifier, solid-state, adjustable voltage regulator provides automatic voltage line drop compensation with adjustable settings to match the size and length of cable being used. The regulator is located in the power module section. One output contactor is provided. Output terminals are standard on trailer and truck mounted units. Units for tractor mounting have output receptacles and require output cables with a plug on both ends.

Engine

Perkins diesel 6.3544 used on 60 kVA units; T6.3544 used on 90 kVA units. Woodward isochronous electric governor is used on both engines for precise frequency regulation. Engines are complete with the following accessories:

- Push button electric start
- 12 volt starting motor
- 6 volt batteries (series)
- Battery charging alternator
- Circulating water pump
- Pusher type fan
- Replaceable core radiator
- Lubricating oil pump
- Full flow lubricating oil filter
- Fuel oil pump
- Free flow fuel oil filter
- Dry type air cleaner
- Heavy duty muffler

Engine controls

- Charge rate ammeter
- Oil pressure gauge
- Running time meter
- Temperature gauge
- Fuel gauge
- Start-stop switch
- Lighting switches and fuses

Also furnished: overspeed safety protection, low oil pressure and high engine temperature safety cutoff

Model	kVA	KW	Rated amperes	Perkins Diesel	RPM	Weight
60P20P	60	48	173	6.3544	2000	5000 lbs
90P20P	90	72	260	T6.3544	2000	5200 lbs

Length w/TR - 114" (2896 mm)
 Length w/o TR - 99" (2515 mm)
 Width - 78" (1981 mm)
 Height - 73" (1854 mm)
 Wheel base - 55" (1397 mm)
 Ground Clearance - 9" (229 mm)

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