

2. The exhaust muffler shall be a critical grade muffler. Muffler shall be factory installed so that its weight is not supported by the engine. A flexible exhaust fitting shall be supplied and installed between the muffler and exhaust manifold. All accessories shall be factory installed. This includes flanges, muffler, tail pipe and rain cap.

F. Automatic Starting System:

1. Starting Motor - A DC electric starting system with positive engagement shall be furnished. The motor voltage shall be as recommended by the engine manufacturer.
2. Automatic Control - fully automatic generator set start-stop controls in the generator control panel shall be provided. Controls shall provide shutdown for low oil pressure, high water temperature, over speed, over crank. Controls shall include a 30 second single cranking cycle limit with lockout.
3. Block Heater - A unit mounted block heater incorporating a thermostatic switch shall be furnished to maintain engine block temperature. The heater shall be 120 volt, single phase, 60 hertz.
4. Battery Charging Alternator - A belt driven battery charging alternator rated 24 volts, 35 amp DC shall be provided with transistorized voltage regulator.
5. Batteries - A lead - acid storage battery set of the heavy duty diesel starting type shall be provided. Battery voltage shall be compatible with the starting system. The battery set shall be rated no less than 220 amp-hours. Necessary cables and clamps shall be provided.
6. Battery Racks - Battery racks shall be provided for each battery and shall conform to NEC 480 - 7 (a) (1). They shall be constructed of metal and so treated as to be resistant to deteriorating action by battery electrolyte. Further, construction shall be such that nonconducting insulation material directly supports the cells.
7. Battery Charger - A current limiting battery charger shall be furnished to automatically recharge batteries. Chargers shall float at 2.17 volts per cell. It shall include overload protection, silicon diode full wave rectifiers, voltage surge suppressor, DC ammeter, DC volt- meter, and fused AC input. AC input voltage shall be 120 volts, single phase. Amperage output shall be no less than 6 amperes.

G. Generator Control Panel:

1. Type - A generator mounted NEMA 3R type vibration isolated 14 gauge steel control panel shall be provided. Panel shall contain, but not be limited to, the following equipment:
  - a. Frequency meter, 3 ½ inch, dial type.
  - b. Voltmeter, 3 ½ inch, 2% accuracy.
  - c. Ammeter, 3 ½ inch, 2 % accuracy.
  - d. Ammeter - Voltmeter phase selector switch.
  - e. Automatic starting controls as specified.
  - f. Voltage level adjustment rheostat.
  - g. Dry contacts for remote alarm wired to terminal strips.