

Keep fuel lines away from hot engine or exhaust areas. This reduces chance of vaporlock. Install lines so that they are accessible and protected from damage. Use metal straps without sharp edges to secure them.

Flexible line must be long enough to allow for set movement in order to prevent binding, stretching or breaking.

## PROPANE (LPG) FUEL SYSTEM

### Fuel System Provisions

Onan liquid LPG generator sets contain a filter cartridge and magnet in the fuel solenoid valve to protect the solenoid valve and regulator valves from dirt and contaminants. The solenoid valve and filter is shown in Figure 11. Figure 12 shows the flow diagram for the liquid-LPG fuel system components used on the generator set.

Generator set operation using liquid LPG is very sensitive to altitude, temperature, and BTU content of the gas. Variation in any one of these factors directly affects the performance of the generator set. Because of this, minor adjustments might be required after the installation, refer to Generator Set Service Manual if adjustments are required.

### Recommended Fuel

Use clean, fresh commercial propane or HD-5 grade liquid propane gas in a mixture of at least 90 percent propane. Propane fuels other than HD-5 grade can contain more than 2.5 percent butane and can result in poor fuel vaporization and poor engine starting in low ambient temperatures (below 32°F or 0°C).

### Fuel Consumption

It should be noted that under varying electrical loads, fuel consumption of engines for recreational vehicle generator set varies accordingly. Average fuel consumption at various loads is shown in the table below.

#### LPG FUEL CONSUMPTION

No Load	Half Load	Full Load
0.65 gal/hr (2.5 l/hr)	1.05 gal/hr (4.0 l/hr)	1.7 gal/hr (6.4 l/hr)

### Propane Fuel Lines and Supply Tank

The installer must review all codes that apply to the particular installation. Paragraph 3-5.1 (Gas Piping Systems) of NFPA Pamphlet 501C deals specifically with propane fuel lines but does not necessarily cover all applicable codes and regulations. You can obtain this pamphlet from the address listed in the beginning of this manual.

When installing the fuel lines, keep the following in mind:

1. Install all propane fuel lines so they are accessible, yet protected from damage.

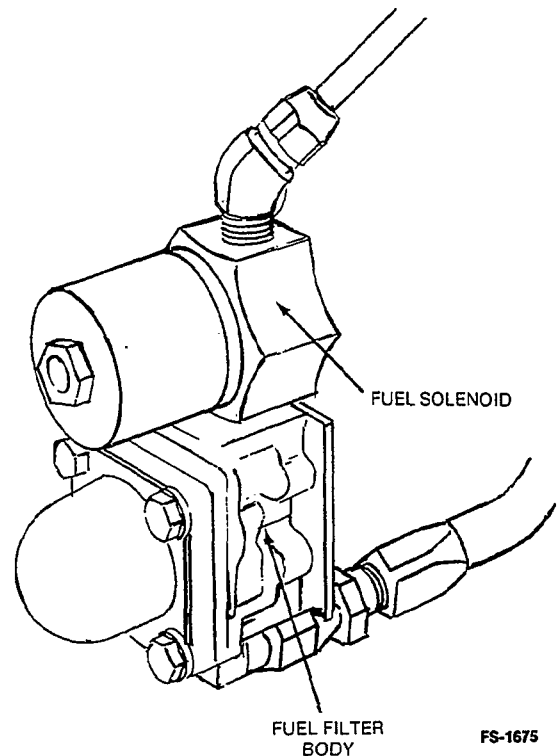


FIGURE 11. FUEL SOLENOID VALVE AND FILTER

2. Use metal straps without sharp edges to secure fuel lines.
3. Keep fuel lines away from hot engine or exhaust areas.
4. Do NOT run fuel lines in conjunction with electrical wiring.

Most propane (LPG) liquid withdrawal generator set installations are designed to share the vehicle propane fuel supply tank(s). The vehicle propane fuel supply tank MUST have a dip tube to ensure liquid withdrawal.

An excess flow valve MUST be mounted internal to the propane fuel supply tank(s) per NFPA 501C, Paragraph 3-4.4. This excess flow valve and propane fuel lines MUST be sized so the excess flow valve will close with a completely severed (broken) propane fuel line. For operation at the lowest ambient temperature, a valve rated at 2.6 gallons per hour (9.9 l/hr) flow rate and 6.5 pounds per square inch (45 kPa) differential pressure is recommended. Consult the Natural LP Gas Association for the limitations of excess flow valves.