



### 7kW LP Conversion Kit Kit #PA-277882

This listed kit may be installed on a 7CM21-RV Generator Set to convert from gasoline to a straight LP fuel. Be sure to take the following safety precautions:

#### Warning

**DANGEROUS FUELS!** Use extreme caution when handling, storing and using fuels — all fuels are highly explosive in a vapor state. Store fuel in a well ventilated area away from spark-producing equipment and out of reach of children. Never add fuel to the tank while the engine is running to prevent spilled fuel from igniting on contact with hot parts or from ignition spark. Keep fuel lines and connections tight and in good condition — don't replace flexible fuel lines with rigid lines. Flexible sections are used to avoid breakage due to vibration. Additional precautions should be taken when using the following fuels:

Gasoline — Store gasoline only in approved red containers clearly marked GASOLINE. Don't store gasoline in any occupied building.

LPG-fuels are highly explosive. Keep away from spark or flame. Proper ventilation is imperative. These gases are heavier than air and tend to settle into low areas where even the slightest spark can cause explosion.

#### Warning

**UNINTENTIONAL CRANKING!** Disconnect starting cables (negative lead first) to prevent sparks or unintentional cranking while working on unit.

#### Warning

**LEAD-ACID STARTING BATTERY!** Battery generates flammable hydrogen gas and contains acid. Use extreme care when handling or charging battery. Avoid contacting terminals with tools, etc. to prevent burns and to prevent sparks that could cause an explosion.

Remove wristwatch, rings and any other jewelry before handling battery. If acid splashes on skin, flush affected areas with cold water for 15 minutes. In case of eye contact, get immediate medical attention. Operate generator set and charge battery only in well ventilated areas.

#### Warning

**PIPE JOINT SEALANT MUST BE USED** to prevent dangerous fuel leaks! Pipe joint sealing compound classified by Underwriters Laboratories, Inc. and suitable for use with LP-Gas must be used at all fuel line pipe joints.

#### Warning

**PRESSURIZATION!** After all LP-Gas connections have been completed, the entire system shall be pressurized to not less than 10 inches nor more than 14 inches water column, and the connections tested for leakage with soapy water or bubble solution. Do not use solutions that contain ammonia or chlorine for soap will not bubble for an accurate leakage test.

#### Note

Before you can begin installing this kit it is necessary for you to remove the unit from its mounting in order to be able to remove and remount the necessary parts.

### A. Removing Gasoline Parts

#### Warning

When removing fuel line and carburetor, catch gas in a proper container to prevent fire or explosion from spills.

1. Disconnect battery, negative lead first.
2. Remove air cleaner cover, element, base, gasket and mounting hardware; retain all of these parts except for air cleaner gasket.
3. Remove the fuel pump lead, fuel pump, bracket and tray. To remove, detach the horizontal bolts under tray and entire assembly can be removed.
4. Disconnect the governor link. Leave link attached to the governor arm. Remove the breather line from the air horn; retain hose clamp. Remove choke leads from blower housing and ignition coil. Replace bolt in blower housing. Place the nut and lockwasher on ignition coil for later use.
5. Remove the support bracket attached to the engine and air horn. Remove anti-diesel solenoid ground wire.

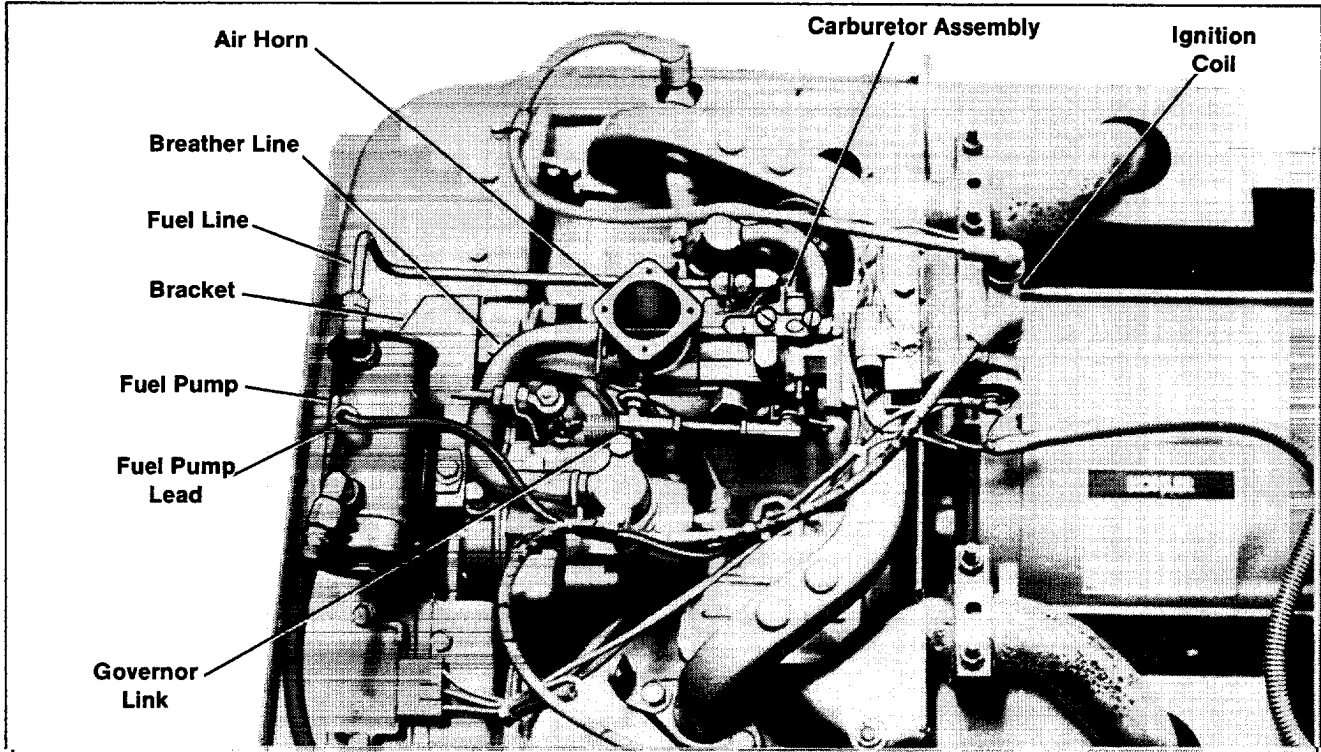


Figure 1. Removing Gasoline Parts

6. Remove carburetor (including air horn), fuel line, gasket and carburetor mounting studs. Remove the air horn from carburetor; save the mounting screws (3) for use in Step B-2. See Figure 1.

### B. To Mount LP-Gas Parts

1. Attach the carburetor adapter (277881) to the intake manifold, placing a carburetor gasket (271030) on the manifold side. Mount with screws (X-55-5).
2. To the carburetor (A-277878) attach elbow (X-391-15) using pipe joint sealant. Place this at a 90° angle to the base of the carburetor (see Figure 2 for position).

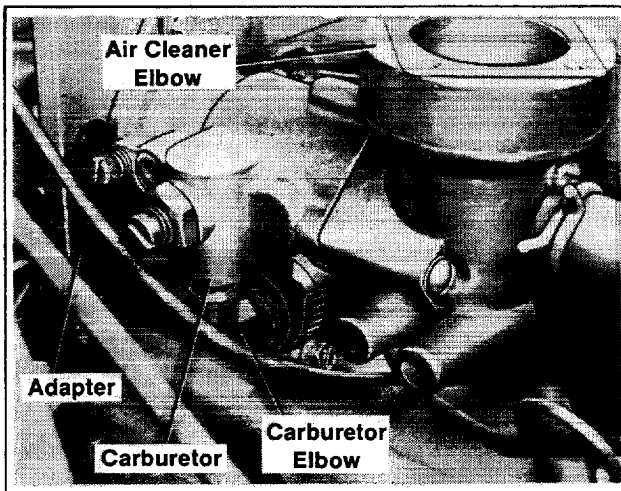


Figure 2. Mounting LP-Gas Parts

Assemble the carburetor and air cleaner elbow (277833) with the air cleaner elbow gasket (277069) and retained mounting screws (see A-5). Mount the assembly with gasket (271030) to adapter with screws (X-6-23) and lockwashers (X-21-1).

3. Reconnect breather line and governor link. See Figure 3.

### C. To Mount Regulator Parts

1. Measuring 5/8 inch (16.0 mm) from the engine end and 23/64 inches (9.1 mm) from the top edge of the mounting tray, drill 2 holes .281 inches in diameter (9/32) 5-3/4 inches (146.1 mm) apart. See Figure 4.

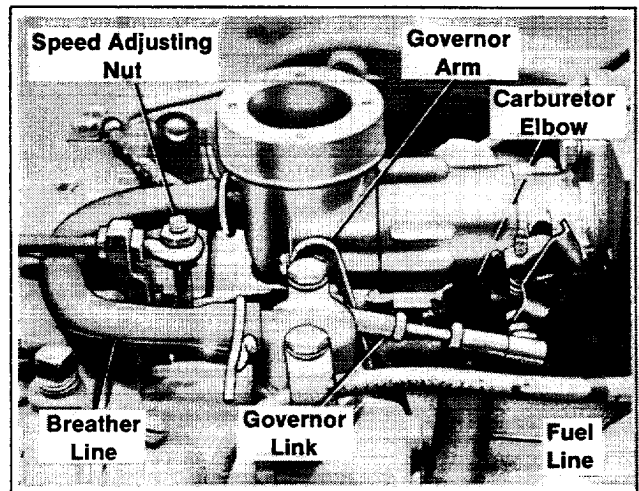


Figure 3. Mounting LP-Gas Parts

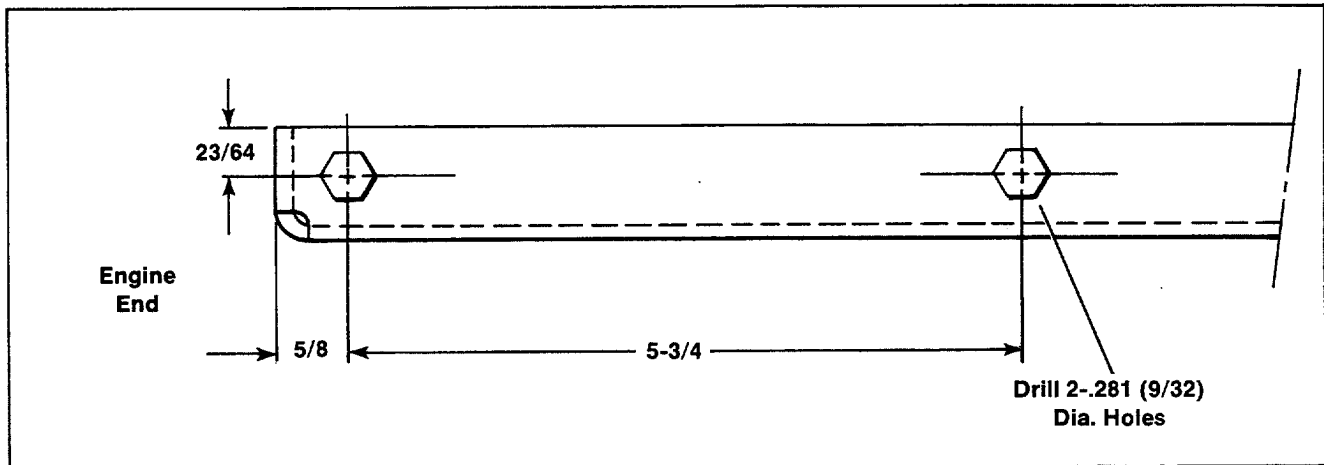


Figure 4. Drilling Instructions

2. Mount the regulator assembly using screws (X-5-46) and lockwashers (X-20-1). Spacers (X-400-100) are placed between the skid and regulator mounting bracket.
3. Attach hose (X-6037-2) to the regulator outlet and run to the carburetor inlet elbow, tighten both ends with hose clamps (X-426-3).
4. To attach fuel valve wires: Mount lead (LN-1811-1404) to ignition coil. Tighten the leads to ignition coil with nut. Take the sleeving (232328) and place over fuel valve wire. Take end of fuel valve lead and strip to 0.38" and attach to lead from ignition coil by crimping insulink. Take the second lead and attach to regulator mounting bracket (Figure 5). Attach wire clip (X-672-10) to bolt above oil filter (on blower housing), and insert fuel valve lead to ignition coil. See Figure 5.
5. Adjust the governor linkage so there is a 1/16" gap between the throttle and carburetor body (Section D-3).
6. Before adding the air cleaner parts make the necessary carburetor (Section D-2) and governor (Section D-3) adjustments.
7. Add the air cleaner gasket (277093) and base; attach with the mounting screws retained from Step A-2. Attach the element and cover, tighten with the wingnut.

## D. Adjustments

1. Readjust spark plug gap to .018" (0.457 mm).
2. To Adjust Carburetor: Turn the carburetor fine adjustment screw in until it bottoms lightly. This screw will remain closed and no adjustments will have to be made. Turn the main fuel adjustment screw in until it bottoms lightly. From this position, turn the screw out 2-1/4 complete turns. Minor adjustments may have to be made to achieve full power.
3. Governor Adjustments: With the Constant Speed type governor, the throttle shaft is fixed at a definite length to establish a specific load speed of 1800 RPM. Any variation in speed causes frequency changes in output of the generator — for this reason only slight readjust-

ment of speed is possible. To increase speed, loosen the inside speed adjusting locking nut and tighten the outside nut (see Figure 3) to draw the eyebolt closer to the bracket; to decrease speed, loosen the outside locking nut and tighten the inside nut. After speed is correctly set at 64 Hz no load and 62.5 Hz at approximate maximum load, tighten the nut that was loosened to lock the eyebolt at the new setting.

If the governor is too sensitive, speed surging will occur with change in load. If a big drop in speed occurs when normal load is applied, the governor should be set for greater sensitivity. Sensitivity is changed by repositioning the sensitivity adjusting eyebolt as shown in Figure 3. To make the governor control more sensitive, loosen the upper nut and tighten the lower nut to force the eyebolt downward. Recheck speed after making sensitivity adjustment. Retighten nut that was loosened to lock eyebolt at the new setting.

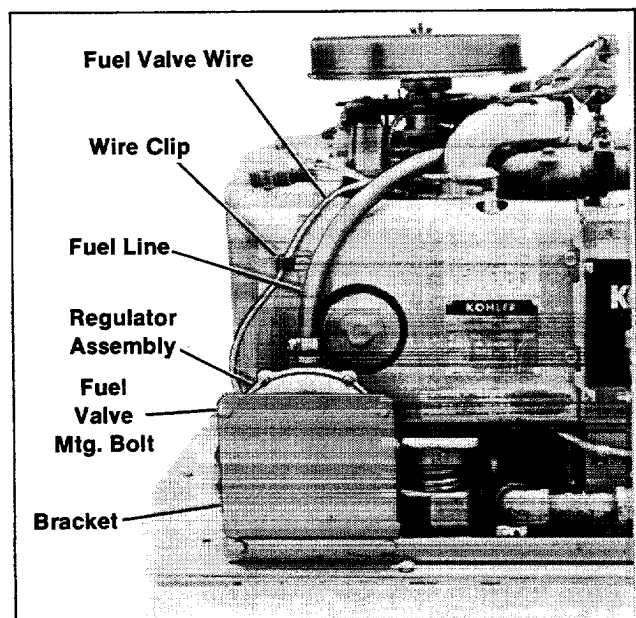


Figure 5. LP Regulator

