

Many of today's more efficient appliances require less operating pressure, and have additional "third stage" regulators, like this one on the fuel inlet fitting to an RV range/oven.



A flexible rubber hose with flare swivel connections on both ends lets the technician attach the propane test device to the outlet fitting on the main propane regulator.

appliance outfitted with an internal regulator, it would be impossible to obtain the correct setting of 11.0 water column inches because the appliance regulator would limit the pressure measurement to its maximum allowable setting, somewhere below 10 inches. Therefore, the easiest, most efficient place for the technician to tap into the system is right at the outlet of the main pressure regulator, using the propane test device.

## Loading the Regulator

The correct procedures for setting the operating line pressure include making pressure adjustments on the regulator, but only while it is under a load. In other words, there must be propane flowing in order to accurately adjust the propane pressure correctly. It is possible to have pressure without flow (remember lock-up pressure?), so there must be gas flowing at a rate equal to about one-half the total rated capacity of the appliances (approximately 75,000 Btu/hr). The propane test device accomplishes this.

To replicate a flow of approximately 75,000 Btu/hr., an orifice hole is drilled into a brass fitting on the



A hole drilled into a brass fitting on the propane test device replicates a flow rate to accurately adjust the regulator.

test device in order to provide a flow rate of approximately 30 cubic feet per hour, which represents about 50% or more of the average combined Btu/hr flow rate of the appliances. Without gas flow taking place while the regulator is being manipulated, it simply cannot be adjusted accurately.

Attaching the propane test device to the RV's gas system is accomplished by first making sure the propane container(s) are turned completely off. The existing flexible hose at the outlet fitting on the regulator is removed and the test device connected directly to the

output fitting on the regulator. I either use a short, flare-to-flare fitting or a longer, flexible rubber hose also equipped with flare-swivel connections on both ends, depending on how tight the working space.

The previously removed hose leading to the main propane manifold and the appliances is then connected to the opposite flare fitting on the test device. The manometer is connected to the barbed fitting on the test device. Individual shut-off valves on the test device control gas flow to the manometer and through the orifice. The propane test device is effectively connected in series between the outlet of the regulator and the remainder of the gas system downstream of the regulator.

## **Operating Pressure Test**

In addition to completing proper documentation, professional RV technicians perform (or should perform) the operating pressure test in the following manner.

- 1. Verify the propane container(s) and all appliances are turned completely off.
- 2. Disconnect the main regulator outlet fitting.



- Seats up to 7
- Comfortable to drive in
- Comfortable to live in
- Bathroom with shower
- Separate eating & sleeping areas
- Sleeps up to 4
- Up to king-size bed
- 4 year/48,000 mile motorhome warranty

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