

Plug a charged 4.8V to 12V battery pack into the power plug, making sure to observe correct polarity. The higher the voltage, the wider the flow control range and the higher the maximum flow rate. We recommend a 6.0V battery or higher. The pump draws less than 250 mA, so a 150 mA/H or greater pack is sufficient.

For initial setup, plug the radio connector into a switched channel (such as Landing Gear or Flaps). Turn on radio, make sure switch is off (100% negative) for at least 5 seconds and turn on. If the pump pushes fluid toward the muffler, the plumbing is correct. If it tries to pump toward the tank, reverse the yellow tubes on the pump. *Note: The microprocessor has a 5 second "off" requirement before it will begin pumping; this is to prevent accidental pumping if the receiver is switched on before the radio.*

Radio setup:

Nonprogrammable radios

Use a switched channel to switch the **SkyWriter** on and off. Since there is no trim control on a switched channel, there is no flow control, and flow will be at maximum when the switch is on.

Programmable radios

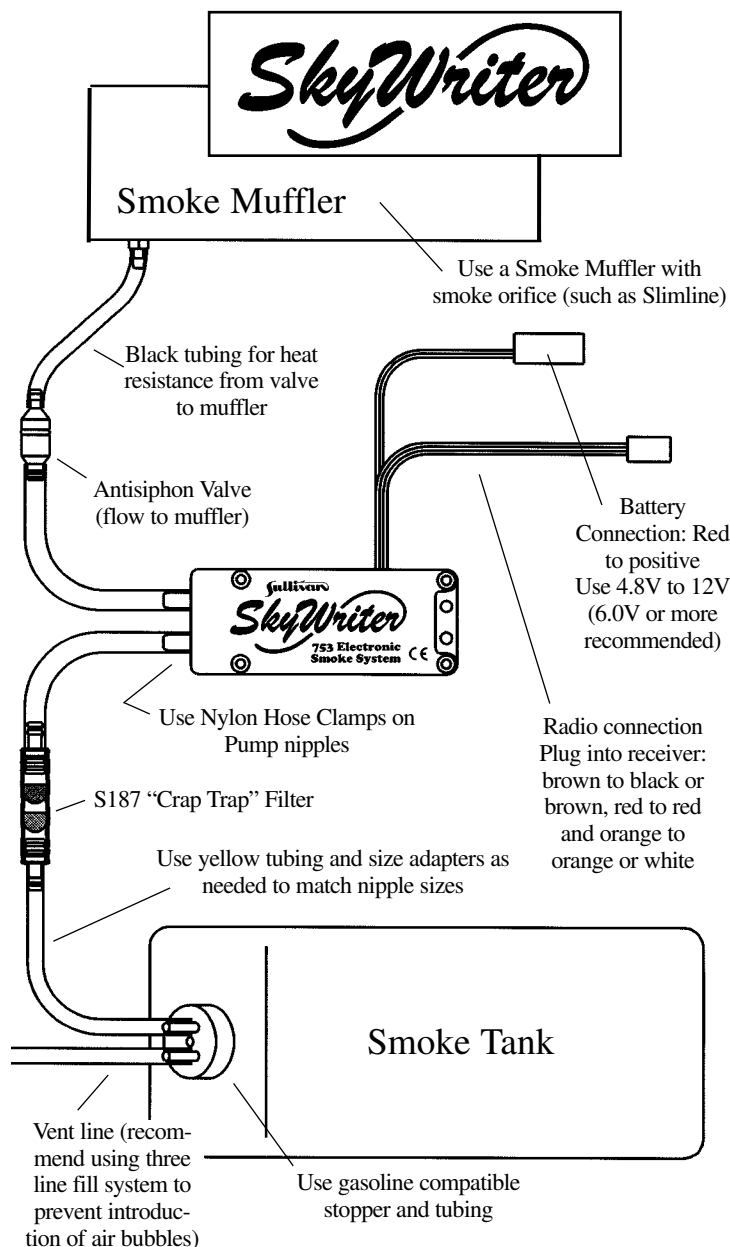
The microprocessor on the **SkyWriter** control board thinks like a servo. When the pump is off, the processor is responding to a full throw in the negative direction. When it is pumping, it responds to a throw past neutral in the other direction, and sets pump motor speed based on the positive throw percentage.

You will have to determine the best settings while the engine is running at normal operating temperature, as the optimum flow rate depends on the engine, muffler, ambient conditions and the specific smoke fluid.

A. For simple switched operation with single speed flow control, use the ATV settings on the chosen switched channel to set desired flow rate. *Note: The off position must be a value below zero, as zero is neutral. We recommend off be negative 100%. Unless the pump sees a suitable value below zero for the off command, it will not initialize properly.* Refer to your radio's instructions for specific programming steps.

B. For mixed control (slaving the **SkyWriter** to the throttle control) set up as above then follow the radio manufacturer's instructions for mixing channels. Normally, a low setting would be used at idle and a higher setting used at full throttle.

Maintenance: Old smoke fluid can get gummy, so we recommend flushing your system with a moderate solvent periodically. Be sure the solvent is gone before pumping fluid into a hot muffler! The filter can be cleaned by backflushing.



INSTRUCTIONS

Install the **SkyWriter** pump where convenient. It can work in any attitude, and can be mounted in foam or directly to the airframe. The pump is CE certified for radio interference filtering.

Plumb the system as shown. Use the aluminum adapters as needed to match tubing diameters to nipple sizes. We suggest twist-tie (supplied) or other clamps on tubing connections. *Note: It is easiest to do a system test before final installation; we suggest plumbing things up outside of the plane and operating it once as outlined in "Initial Setup" to verify flow direction and radio settings.*

The purpose of the antisiphon valve is to maintain pump prime. Before initial use, the pump must be primed by drawing smoke fluid through the pump. Test valve orientation by blowing air through it.

The black tubing is for the valve-to-muffler connection. It can withstand muffler heat. The remainder of the plumbing should be done with suitable yellow tubing.

To avoid air in the lines (which can cause the pump to lose prime) we recommend a three line tank stopper system, using the third line for filling. To check for a full tank, route the vent line where overflow can be seen.

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