

# *SmartSmoker Addendum*

## **READ THIS FIRST**

Congratulations, you have purchased The **SmartSmoker Simple Smoke Pump**; the latest in R/C smoke technology using *Smart Prime*® technology. Your new Smart Smoke Pump has a specially designed integrated motor speed controller that allows you to adjust the oil rate from the transmitter! Additionally, the *Smart Prime*® feature forces the pump to run at full speed the first time you activate the pump. This unique feature guarantees that your pump has the power to prime quickly the first time you activate the pump each flight.

For best results simply follow the instructions provided in the Simple Smoke Pump II Installation manual noting the following exceptions:

- 1) Skip Section III part 8 on page 6. There is no need for a restriction valve with the new Smart Smoke Pump since all adjustments are done electronically from your radio transmitter.
- 2) Section III part 9 should read as follows:

### **Connecting to your receiver**

The **SmartSmoker Smoke Pump** simply connects to a spare channel in your receiver. You should choose a channel that is activated by a switch such as a "gear", "flaps", "auxiliary", or a "retract" Channel. Also be sure that the channel you choose allows you to set "end point" or "travel adjustments" (Refer to your transmitter's instruction manual on how to adjust the stopping point limiting the distance that the servo travels. Sometimes called EPA or ATV)

If your pump is too far from your receiver, you may need to purchase an "aileron extension cord" for your brand of radio from your hobby dealer. Do not cut or splice wire onto existing connectors as this will violate your warranty.

The Simple Smoke Pump will begin to gradually turn on starting at approximately the 50% servo point. If the "turn on" direction is not what you desire, you may use your transmitter's servo reversal function to correct this (if supported). NOTE: If you do not use a channel that incorporates a switch but instead uses a slowly varying input, such as a joystick or pot, the "Smart Prime" feature will be disabled.

- 3) In Section IV follow the instructions provided making sure you set the "end point" or "travel adjustments" on your transmitters smoke channel to the maximum percentage throw before doing the DRY TESTING. Then, when WET TESTING on the bench you will use the transmitter "end point" or "travel adjustment" to set your oil flow rate instead of the flow valve. **Don't forget** that the first time you turn your pump ON, after you power up your receiver, the pump will run at full speed until the channel is turned off. This is the auto-prime feature

that assures you your pump can self prime. **ON SYSTEMS WITHOUT FAIL SAFE, BE SURE TO TURN YOUR TRANSMITTER ON BEFORE THE RECEIVER FOR AUTO-PRIME TO WORK PROPERLY.** The next time and thereafter that you activate the pump channel, the flow rate will be controlled by your preset "end point" or "travel adjustment" Note that if you have set your smoke rate at close to full speed you may not notice the auto-prime rate.

- 4) In the TROUBLEHOOTING section on page 10 **Servicing the Pump**. There are now four screws on the bottom of the pump allowing you to easily remove the back plate. This provides easy cleaning of the pump parts or replacement of the O ring. There is no longer any need to drill out rivets.

### **ADVANCED APPLICATIONS:**

1. Mix a portion of the throttle into the SmartSmoker channel in order to supply slightly more oil rate at high throttle settings, and a lower rate or cut off at lower throttle settings. Mixing specifics vary dramatically from transmitter to transmitter. Here are some general guidelines. a ) Set mix master channel as throttle. b) Set slave channel to SmartSmoker channel c) Assign a switch to activate the mix (and turn pump on and off) d) Adjust mix rate percentage to control SmartSmoker via throttle making sure you have more than enough oil rate at full throttle. e) If desired, adjust any offset mix to cut off smoke at a specific throttle. f) Adjust EPA or ATV of SmartSmoker channel for desired oil rate at full throttle. (see recommended starting oil rates)
2. Mix a spare auxiliary channel knob or lever into the smoke channel to allow you to easily change the smoke oil rate or to achieve lower rates than possible with only your end point adjustment.
3. Simulate a "crop duster" by spraying water thru onboard sprayers.

### **TROUBLESHOOTING:**

#### **PUMP STOPPED WORKING:**

In very rare cases if your **SmartSmoker Smoke Pump** does not come on when expected, turn your system off for at least 15 seconds before re-applying power.

#### **TOO MUCH OIL RATE (SmartSmoker won't turn slow enough):**

With smaller engines that require 1 to 4 oz per minute it may be necessary to further reduce the oil rate. A 1/8 inch in line copper tubing may be squeezed to reduce rate.

#### **NOT ENOUGH OIL RATE (SmartSmoker won't turn fast enough):**

If you cannot get enough oz per minute from your pump, there may be a kink or some other form of restriction in the oil path. Many times commercial smoke mufflers have a very tiny orifice or may have a bent preheater coil in the muffler spray assembly.