

Simple Smoke Pump II QUICK START

Instructions

Includes all models including SmartSmoker™

NOTE: Although the Simple Smoke Pump is extremely easy to install, we suggest you download and read the full manual and the Secret Smoke Success tips booklet available at www.TMEnet.com/downloads.htm

IMPORTANT TIPS FOR SUCCESS

PLEASE READ! Omitting the following steps can lead to hours of aggravation.

- 1 Do not place the pump significantly higher than the tank because priming becomes difficult. Its best to mount pump to oil tank.
2. Perform the bench test (as outlined in the instructions) to measure oil rate per minute. Too much oil or too little oil rate can lead to all kinds of problems.
3. Prime the pump BEFORE starting your engine!
4. Erratic operation is usually the need for a check valve or an air leak from the tank line. (see troubleshooting)
5. For LONG LIFE isolate the pump from vibration. Big engines can shatter motor magnets. Wrap in foam and away from firewall.
6. **DO NOT USE OR MIX GASOLINE PRODUCTS WITH THIS PUMP. MAY DAMAGE PUMP OR CAUSE FIRE**
7. Dirt, sand, any small particles can Jam your pump. FILTER YOUR OIL, keep filler hoses clean. NOTE: Dirt related problems are NOT covered under warranty.
- 8 Perform a range test with your pump running before flying your model. and after breaking in your pumps motor brushes.

Installation

1. Prepare Smoke tank

In most installations the size of your smoke tank is typically enough for only 3 to 4 minutes of MAXIMUM density smoke. To calculate your tank size, first calculate the ounces per minute and multiply by 3 or 4. The answer you get is the approximate tank size for 3 to 4 minutes of smoke. Select the largest tank you can carry. Make sure your tank is a "GAS" compatible pump . i.e. NO SILICONE parts. Rule of thumb for "blow everybody away" smoke oil rate is:

oz per minute = engine_displacement(in cubic inches) X 2

therefore 1.2 cu inches requires about 2.4 oz per minute and requires an 8 to 10 oz tank.

2. Mount the pump

Mount the pump away from fuel compartments, wrap it in foam or use Velcro to isolate it from engine vibration, keep pump away from the receiver as much as practical to minimize any potential interference. For best results keep the pump physically lower and behind the smoke fluid tank and near the CG of the plane. For this reason we like to mount the pump and its battery on the tank itself and soft mount the whole assembly with foam and rubber bands or Velcro.

For almost all installations you will need a high volume check valve. WE RECOMMEND ONLY A GAS/OIL PROOF FLAPPER STYLE CHECK VALVE as included in our DELUXE and SmartSmoker™ kits. Insert the check valve between pump and muffler.

3. Connect the battery pack

We suggest 4 to 5 cell NiCd, NiMh or (2 cell LiPo packs may be used with SmartSmoker™) A 500 mah pack can be expected to give you about a half hour of solid smoke time or about 7 to 10 flights with 3 to 4 minutes of smoke. You do not need a switch in line with the battery. (When you turn off your receiver battery, power is automatically turned off to your pump battery.) However a Y cord in between the pump and battery can make charging more convenient.

4. Connect to your receiver

The Simple Smoke Pump simply connects to a spare channel in your receiver. Do not cut or splice wire onto existing connectors as this will violate your warranty.

The original Simple Smoke Pump will turn on at approximately the 50% servo point. If the turn on direction is not what you desire you may use your transmitters servo reversal function if supported.

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)

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.

Your Smoke pump is configured with Universal connectors to work with all brands of receivers. If you plug the connectors in backwards it will **NOT HARM** the Simple Smoke Pump or receiver, however the Simple Smoke Pump **will NOT FUNCTION properly until the error is resolved.**

5. Route the tubing

You will need a length of tubing from the tank to pump. Another length will be needed from the pump to the Smoke muffler or preheater. On the original switched Simple Smoke Pump versions The flow rate adjustment may be placed before or after the pump, however, it will be more convenient to install it near the muffler. Place the check valve at the end of the clear tubing observing the polarity. Then use a short length (2" to 3 ") of neoprene to connect the check valve to the hot muffler. 1/8" or 7/64" I.D. Neoprene works best. Don't forget to use plastic or wire ties to secure the tubing.

6. Adjust the flow rate

The SmartSmoker™ is adjusted via the transmitter end point adjustment. On all other models, The small supplied valve will provide you with a quick and easy means of adjusting the smoke fluid rate.

7. Range testing

Before performing the test let the motor brushes break in by letting the pump run for at least one half hour. Loop the output of the pump to the filler input so that you circulate oil during break in and during the rest of this test.

To perform the test, collapse your transmitters' antenna and place the model outdoors on the ground. With the pump switched off, turn the radio system on and walk away while moving the control surfaces via the joysticks. Note the distance when the surfaces become erratic and completely stop responding to your control. This distance is your reference.

Now walk closer towards the model and begin turning the Simple Smoke Pump Channel on and off. At some distance you may notice the control surfaces will become erratic when the pump is on. Note the point where you regain control of the model with the pump both on and off. If this range is approximately 80% or better than the range with the pump off (your reference), then you should have no problems. If you get less than 80% range then you may want to move the placement of the Simple Smoke Pump away from the receiver or its antenna. At any rate, the system must get the minimum ground range as specified by the manufacturer or don't fly.

8. Put on a Show!

When you are ready to put on your airshow, make sure all your batteries are freshly charged and perform the following steps in order:

1. Turn on your transmitter
2. Turn your smoke pump channel OFF
3. Turn your receiver ON
4. Ground test your system (GOOD HABIT, Smoke or not)
5. Momentarily turn on your Smoke Pump until it is primed. Then quickly shut the pump off. You will either hear the motor bog down or see drops of oil coming from the muffler. **BE CAREFUL NOT TO FILL UP YOUR MUFFLER WITH OIL.** The SmartSmoker™ has a "SmartPrime™" feature that forces the pump to run at full speed the FIRST time it is activated.
6. Start engine
7. Put on an airshow.

REMEMBER: Enhance your maneuvers by accenting them with smoke and don't leave it on all the time or it will quickly get boring. Here is your chance to develop your own performance style and truly impress your audience. Slow moving 3D maneuvers look best against dark tree lines or blue sky.

Troubleshooting

Please visit our online support forum for tips, troubleshooting and direct support at www.TMEnet.com/forum

WARRANTY

LIMITED WARRANTY

The **SIMPLE SMOKE PUMP** is warranted to the original purchaser for 180 days from the date of purchase to be free from defects in material and workmanship. During this period Tejera Microsystems Engineering Inc. will repair or replace, at their discretion, the defective unit. This warranty does not apply to any unit which has been jammed with small foreign objects, abused, improperly installed, improperly used, used for purposes other than those purposes for which the unit was designed, handled roughly, damaged in shipment, nor to any unit which has been altered or repaired by unauthorized personnel. Under no circumstances will the buyer be entitled to incidental or consequential damages. This Limited Warranty gives you specific legal rights, you may also have other rights which vary from state to state.

REGISTER: Register your warranty online at <http://www.tmenet.com/registerrc.htm>

REPAIRS: For out of warranty repairs the standard repair fee per unit is up to 50% of the current list price plus \$4.85 shipping and handling charges. You may prepay by check, MO, VISA, MASTER CARD or DISCOVERY

ALL RETURNS MUST BE SENT TO: Tejera Microsystems Engineering, Inc., 11705 Boyette Rd #418, Riverview, Florida 33569 Carefully pack and ship the unit via the post office, UPS or FED EX, fully insured and prepaid.