

## HARBOR MODELS NEW 12 VOLT LARGE SCALE SMOKER (HAR301-12)

The Harbor Models 12V Large Scale Smoke Generators are a great way to add that extra touch of realism to your larger boat models and trains. The unit features a brushless ball bearing fan for efficient and quiet operation, low power consumption, extended run time, and a size of 4 1/4" L (5 1/4" L with mounting tabs) 3" W and 1 7/8"H with a weight of just 5.2 OZ when filled with fluid. Proudly made in the USA of domestic and foreign parts.

### PREPARING FOR OPERATION:

- 1) The reservoir holds a Maximum of 2 OZ of Smoke Fluid, (half of the bottle included with the unit). Use the included dipstick to check your level, the top of the black line indicates the Maximum capacity of 2 OZ. **This unit requires 2 Hours of priming prior to operation, filled through the brass fitting. To prime, fill the reservoir with 2 OZ of fluid and let sit for the 2 Hour priming period, check the level again with the dipstick, and carefully top off as necessary. DO NOT OVERFILL, DO NOT LET THE FAN GET WET, OR LET THE UNIT RUN DRY.** This priming process may be necessary before each use, more fluid and longer priming time will be required with more time between use as the wicking mechanism will dry out over time.
- 2) The unit has a 5/8" O.D. brass fitting that is designed for a 1/2" O.D. K&S Brass tube. **DO NOT FORCE THE TUBE INTO THE FITTING.** Clear 5/8" I.D. plastic tubing (which can be found on the Harbor Models' website) can also be placed over the fitting to connect up to the stack.
- 3) Do not use anything other than the provided smoke fluid, doing so will void the Warranty. An eye dropper can be used to remove excess fluid, or it can be tilted so it pours out the brass fitting.
- 4) The 2 smaller diameter wires operate the fan. Polarity must be correct. Red is Positive, Black is Negative. **THESE LEADS ARE TO BE HOOKED DIRECTLY TO THE BATTERY, terminal strip, or Harbor Models Power Distribution Panel so that it receives a constant 12V while the model is operating. The fan must be running before the heating element is powered, the cooling effect from the air keeps the unit from overheating.**
- 5) The 2 larger diameter wires should be soldered to the motor tabs or spliced off the speed control output wires for best results. The amount of smoke will be proportional with the amount of power going from the ESC to the motor. The leads can also be hooked directly to the battery for the same amount of smoke regardless of engine speed. An inline toggle, manual or relay switch should be installed, as well as a fuse, rated at 4 AMPS. **Due to the engineering of the unit which allows for an extended run time, the heating element may take up to a minute at full speed to produce full smoke.**
- 6) The unit should be mounted with Stainless Steel screws as low as practical to the keel to keep the center of gravity down, and to minimize rolling of the unit. A minimum of 2" of clearance should be maintained above the fan in order to allow proper air flow through the unit. Velcro or double sided tape can be used when screws are not possible.

### OPERATION:

- 1) The unit consumes just over 2 AMPS of power at full speed.
- 2) The Harbor Models Super Smoke Generator should provide approximately 3 hours of run time at full speed, depending on your model. This time will be extended under normal operation when maximum turns are not used. The fluid should be checked at regular intervals to ensure that it doesn't run dry.

### WARRANTY:

Limited 1 Year Warranty valid from date of purchase. If you are having issues with your smoke generator contact Harbor Models for instruction on warranty. Any defects caused by normal operation will be repaired. Units that have been tampered with, have any indication of negligence, evidence of use of excessive voltage, units that have been run dry, or evidence of anything other than smoke fluid being used will not be covered by this Limited Warranty.

### NOTICE:

With proper use, this Harbor Models' Large Scale Smoke Generator should provide safe and reliable operation. The manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property of other loss whether direct, indirect, incidental, consequential, or otherwise based on a claim that the product failed to function. However, if the manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this Limited Warranty or otherwise, regardless of cause or origin, the manufacturer's maximum liability shall not in any case exceed the Purchase Price of the product, which shall be fixed as liquidated damages, and not as a penalty, and shall be the complete and exclusive remedy against the manufacturer.