

## Windsor Propeller Company, Inc.

# Master Airscrew

### Instructions for Electric Gearbox (Part Numbers MA3025G, MA3030G, MA3035G)

Note: Gearbox ratios are determined by dividing the number of output gear teeth by the number on the pinion (spur) gear. For Master Airscrew gearboxes, these ratios are 2.5:1, 3.0:1 and 3.5:1. The output gear (large gear) is molded of glass-filled nylon directly onto the steel shaft, which is mounted in two ball bearings.

The gearbox housings are interchangeable with the gears, but the gears must be of the same ratio (2.5 output with 2.5 pinion, and so on). Otherwise, gears will not mesh and will be stripped.

Recommendations: Under 2 meter wingspan: 2.5:1 ratio. 2 meter wingspan: 3.0:1 ratio. For over 2 meters: 3.5:1 ratio.

Tooth counts are as follows:

2.5:1 ratio - 17 tooth pinion and 42 tooth output gear

3.0:1 ratio - 15 tooth pinion and 44 tooth output gear

3.5:1 ratio - 13 tooth pinion and 46 tooth output gear

**INSTALLING THE PINION:** The 05 motor shaft diameter is 2.3 mm, or slightly under .125 inches. The pinion gear has been reamed for a tight press fit. It should be installed using Loctite or a VERY light coat of epoxy glue. DO NOT press on the gear without supporting the motor shaft on the other end. Lubrication will not be required EXCEPT for extended operation, in which case a drop of machine oil is required.

**NOTE:** Before attaching the gearbox to the motor, open the front housing to verify that the gears are fully engaged. MASTER AIRSCREW gearboxes are intended for model use only. The output gear SHAFT is warranted for one year from date of purchase and will be replaced in-kind when returned with a dated sales receipt. Please state the gear ratio required.

#### **PARTS LIST:**

Front Housing	\$ 3.75
Rear Housing	\$ 2.75
Ball Bearing	\$ 2.75
Gearset (output and pinion)	\$ 8.00
Aluminum Prop Adapter	\$ 4.50
Nut & Screw set	\$ 1.50

Orders for parts can be placed on line at [www.masterairscrew.com](http://www.masterairscrew.com). For alternate ways to order, please email us at [windsorpropeller@sbcglobal.net](mailto:windsorpropeller@sbcglobal.net) or by US mail at P.O. Box 250, Rancho Cordova, California, US 95741-0250.

### **ACCESSORIES FOR ELECTRIC FLIGHT**

#### **Electric Only Series Propellers**

These props are very lightweight, thin with wide, undercambered blades. They provide optimum lift and flight duration, along with flexibility for rough landings. Adapter inserts are included to mount to 5 different output drive shafts (prop adapters). Available in diameters from 6" to 13".

#### **05 Electric Motor**

7.2 volt, runs on 6 cells and has built-in capacitors. This is a basic beginner type motor for gliders and slower aircraft.

#### **Folding Propellers**

In 2 sizes: 12x8 and 15x12. Folding props offer the advantage of a large propeller disk without the drag of fixed blade props. Thin, undercambered blades are mounted on a 2 -3/4" aluminum hub. The 12x8 is for use with a 2.5-to-3.5:1 gearbox; the 15x12 with a 3.0-to-3.5:1 ratio. Replacement blades are available.

#### **Vented Motor Mount**

A motor mount for the 05 (also called 550) type motor, made of aluminum. Measures 1 - 7/16" square and .040 thick.