

This scale mechanics manual has been written for the Century's scale helicopters. We have generalize whenever possible but there are steps that include action boxes and instructions for a particular scale model. The scale models include:

|         |                 |         |                 |
|---------|-----------------|---------|-----------------|
| CN1070  | Airwolf         | CN1073  | Agusta 109      |
| CN1070A | Airwolf ARF     | CN1073A | Agusta 109 ARF  |
| CN1071  | Bell 222        | CN1074A | Bell 47G II ARF |
| CN1071A | Bell 222 ARF    | CN1075  | Twinstar        |
| CN1072  | Long Ranger     | CN1075A | Twinstar ARF    |
| CN1072A | Long Ranger ARF |         |                 |

Each of the sub assemblies will apply to all the models but some steps will not. Each scale kit has been packed for the particular scale model and will not contain some parts that are shown in the manual. For example, some helicopters use regular skids and strut landing gear which are included for this model type but not included for helicopters designed to use retractable landing gear.

## Installing a 30 or 46/50 Engine

Although the scale helicopters contains components for installing the 30 size engine<sup>1</sup>, converting to 46 or 50 is as simple and as changing the engine mount and muffler for the engine. The helicopter will fly with the 30 size engine but in some models with alot of wooden infrastructure and a full fiberglass enclosure, the larger engine will improve the model's performance by compensating for the additional weight and reducing the tendency to overheat.

## Building Tips for Assembly

### **Tip 1** | Oil Residue

Metal parts and fasteners generally have an oil residue coating for protection from rusting. This residue must be removed prior to applying any type of threadlocking agent or glue. Using regular household rubbing alcohol place a few drops on a rag or cloth and wrap the fastener and essentially unthread from your fingers. A black residue will remain on the cloth, repeat until no further oil residue can be removed. Do not use on ball bearings, these are factory lubricated and any cleaning can lead to early failure. To prepare for installation, use a dry cloth and clean all metal surfaces that will be assembled along with the fasteners for that step.

### **Tip 3** | Self Tapping Screws

For self tapping screws into plastic parts, again use and available 3mm socket cap screw and tap to a depth of 1/2 the length of the self tapping screw to be used. For extra security on self tapping screws, apply a small drop of epoxy to the screw threads before inserting into the hole. The epoxy will bond to the plastic yet will allow removal of the screw later.

### **Tip 2** | Steel Balls

In many locations in the assembly, steel balls need to be threaded into plastic parts. To make this an easier task, use an available 3mm socket cap screw with a hex key and tap the threads ahead of time. Steel balls are of two types, one type requires a 2.0 hex key (med) inserted into the end of the ball and the other requires a 5.5mm open ended wrench to tighten the nut at the base of the ball. When tightening the steel balls, try not to use regular pliers as they can easily slip and scratch the surface ball which will cause premature wear to the plastic ball links.

### **Tip 4** | Machine Screws

For machine screws, tap the hole ahead of time using the screw being used for that step, being careful not to strip out the threads as in some parts, the plastic hole has a bottom. When assembling the parts, remember that machine screws can load a bearing if overtightened. In these cases carefully tighten the machine screw then back off 1/16th of a turn, or until the component rotates smoothly.

<sup>1</sup> The Bell 47G II is a 46 ~50 class helicopter and includes the correct engine mount for 46~50 size of helicopter engine.