















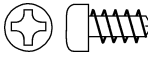
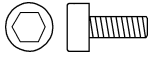



# Raven 30/50 Construction Manual

This manual has been written for both the Raven 30 and 50 helicopter. CN1060 Raven 30 kit, CN1061 raven 50 kit and CN1062 Raven 30 assembled version. The main portion of the manual covers the full construction of both kits with labeling for both 30 & 50 respectively.

Every attempt has been made to ease the assembly of your kit, at each step where there are complex instructions there are detailed written instructions to walk you through each step. Remember to take a few minutes before each step to carefully examine each step to become familiar with the parts and assembly before beginning that step.

## Symbols used to help assist you in building the kit:

	Full Scale Drawing		Repeat Steps as specified		Partially tighten		Helpful Tip
	Apply oil		Apply threadlock		Purchased Separately		Cut away Shaded Portion
	Special Attention		Apply JB Weld		Apply Grease		
	Remove oil residue from fasteners before applying any threadlock agent.		Tap holes with machine screws before installing steel balls in plastic.		Tap holes with machine screws before installing self tap screws in plastic.		Tap holes with machine screws carefully in plastic holes with bottoms.
Hardware Description and Identification:				M3x6 = 3x6mm and can refer to screws or ball bearings.			
 M - metric 3 - diameter 6 - length		 M - metric 3 - diameter 6 - length		 M - metric 3 - diameter 6 - length		 M - metric 3 - inside Ø 6 - outside Ø	

## Recommended Tools & Accessories

**The tools and materials listed below are the minimum needed to build the helicopter:**

Screwdrivers - Slotted and Phillips head.  
Long-Nosed Pliers.  
Allen Wrenches - 1.5mm, 2.0mm, 2.5mm.  
( supplied in kit ) + 3.0mm  
Appropriate Socket Wrench  
(glow plug wrench for engine shaft nut)  
Hobby Scissors  
Double Sided Foam Tape ( 1/16" - 3/32" )  
Foam Rubber ( radio packing )  
JB Weld ( bond clutch lining )  
Thread lock liquid (e.g. Loctite)  
Hobby Grease ( Super Lube )  
Oil to lubricate sliding shafts.

**In addition, the following will make assembly and setup easier, and prove useful later in your model toolbox:**

Part#CN2015	Hardened Tip Hex Screw Driver Set
Part#CN2026	Pitch Gauge with Paddle Gauge.
Part#CN2034A	15° Curve Tip Ball link Pliers.
Part#CN2052	Main Blade Balancer.
Part#CN2054	Special Glow Plug Wrench Set.
Part#CN2055	Ball Link Sizing Tool.
Part#CN2070	Universal Flybar Lock.
Part#CN2155	Piston Locking Tool.
Part#CN2219	Ball Link Easy Driver.
Part#CN2255	Control Rod Gauge.
Part#CNWI26555	5.5mm Nut Driver.
Part#CNWI26570	7.0mm Nut Driver..