

Maintenance

By Gus Garcia

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With all the many intricate parts associated with a model helicopter working in unison, you can really appreciate the notion that if you neglect it, sooner or later that neglect will manifest itself in one way or another. In the mildest form, it means no flying until whatever problem appeared has been resolved, and in the most severe case, it could be the downing of your machine.

With our busy schedules, work, family, and other commitments, who has the time? You know it's important to maintain anything mechanical, but sometimes we leave it for later and later never comes. That is until you end up paying the price for that neglect, and what an expensive lesson that could be! Don't get me wrong, I have fallen into this pattern myself many time and paid the price as well.

With the nitro and gas helis you have a lot of oil content in the fuel mixture spewing all over your machine. Oil attracts dirt, add the vibration of the helicopter to the mix, and you created a recipe for sandpaper grinding and tearing at all those critical small parts that hold together your helicopter, and electric helis aren't immune to neglect either. Ever had a ball link pop-out on one of the CCPM linkages? That 5¢ part will cost you about \$200.00 in repairs, and all that was needed to avert this mishap was to tug on the links in order to see if it would pop-out under some mild force. Are you feeling the pain now? Yep it happened to me, and a whole slew of other little costly learning lessons, oh the joy of gaining knowledge.

Can you now appreciate how a good preventive maintenance routine could keep flying cost down, I certainly do! Here you are at the field, you had a good day flying, you made some progress, learned a new maneuver, and your heli is going home in one piece – could life get any better? However, flying a helicopter does take all your concentration and focus, and staying out all day will tire you out. A quick wipe down at the field is not proper maintenance, that's just to keep your car clean, and once you get home, it's better to get some rest before you do anything more with your heli. So go ahead and pet the wife, kiss the dog, and yell at the kids – wait a minute, I think I got the order wrong on that? All I know is the dog loves me, and I don't even have one, I wonder why my neighbor keeps looking at me funny every time I kiss his dog?

One of the best cleaning agents I've found to be great for helis is either regular rubbing alcohol, or denatured alcohol. So stock up on either one, get a supply of Q-tip cotton swabs, paper towels, some soft bristle paint brushes, and a air compressor (Sears sells a very nice 3-gallon unit for around \$100.00). You don't really need it, but I tell you no lie, you'll be glad you got it, I love mine, and it makes clean-up all that much easier.

Now that you're rested up, and you have all your cleaning supplies, it's time to give your heli a thorough cleaning and inspection for worn parts, and look for anything damaged. Get a spray bottle mixed with alcohol and water, and hose your heli down, be careful not to get the cleaning solution into the electronics (servos are ok, they're sealed). After which begin wiping off the cleaning solution with the paper towels, Q-tips, and the paint brush wiping away the oil and dirt as you go. Make sure you get into every nook and cranny, inspecting everything as you go, pulling and tugging on all the links gently to see if any pup-out (replace them if they do),

and looking for any loose or missing nuts, bolts, or screws (replace or tighten any you find). After you've wiped off as much of the cleaning solution, oil and dirt from your heli, crank up the air compressor, and blast your machine until bone dry. All my helis look as if I just finished putting them together by following this process, and some of them have been around for a while.

It might help with the cleaning process if you break your machine down into segments or sections, for example, just work on the head assembly before moving onto the main frame, boom section, and finally the tail assembly. This method has helped me to make the task less daunting, and by only concentrating on one section at a time, I can be more thorough with the cleaning and inspection.

After the heli is completely cleaned, and no links, nuts, bolts or screws are missing or loose, check the main shaft bearings for any roughness. Spin the main blades and listen to the bearings, if you hear any rattling, find out which one it is, and replace it. Do the same for the starter shaft assembly, spin by hand listening for any rattling and feeling for smoothness, check the one-way bearing by using the starter shaft, and turn the engine to see if the one-way bearing engages in one direction, and spins freely in the other (this inspection can be done every time you crank your engine before each flight at the field). If any of the starter shaft assembly bearings are worn-out, replace them.

The thrust bearings in the spindle need to be packed with grease every so often, so if you haven't gotten into the routine of performing this operation, do so every two to three months of moderate flying (weekend flying). If your helicopter has thrust bearings anywhere else such as the main shaft, or tail blade grips, pack them with grease too.

After you've greased your heli, now lube it. Apply oil to the swash plate and seesaw lever on the main shaft, and the slider lever on the tail output shaft. Finally clean and polish the canopy to a mirror like luster (Windex is the best cleaning solution I've found for this), nothing says clean more than a shiny canopy, so make it shine.

Yeah – it can be laborious to perform all the above, but the wear and tear helis go through with just normal use is well worth the effort, omit a regular preventive maintenance routine from your game plan, and you'll find yourself scratching your head the next time your helicopter falls out of the sky for no apparent reason. However with a good habit of preventive maintenance, you'll be flying for a good long time to come.

So get into the habit – Gus.