

Brought to you by Jestine Yong

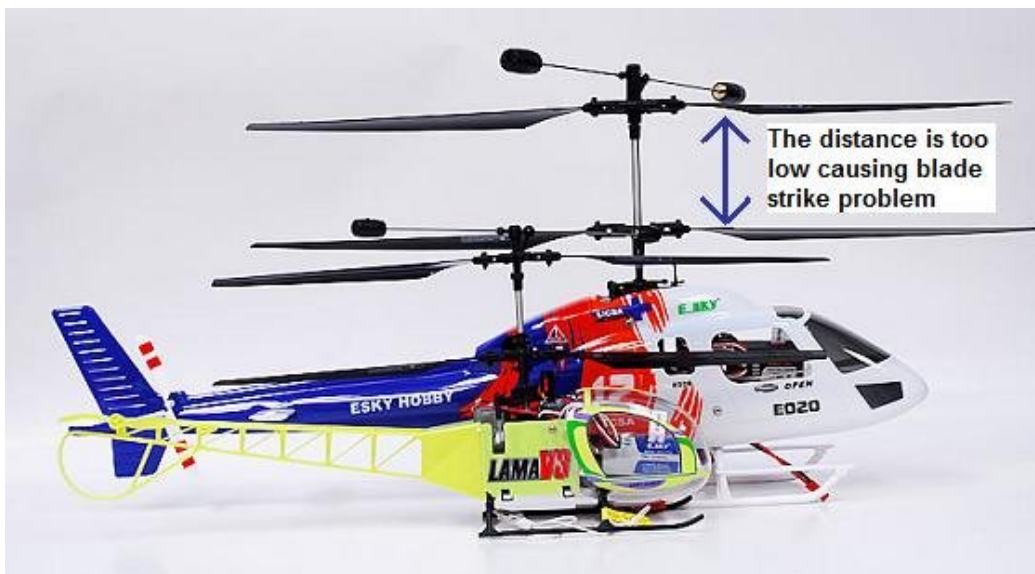
[Http://www.JestineYong.com](http://www.JestineYong.com)

Special thanks to RC Universe forum members
(especially pgroom 68-Peter) to make this report
possible.

Feel free to pass this short report to any of your RC friend and
especially to those that own the E-sky Big Lama E020 Model

How To Easily Make Your Own Extended Long Shaft For Big Lama In Less Than 2 hour.

I was recommended by a friend to buy the E-sky Big Lama (model E020) about a month back as he told me that the Big Lama is much better than the Co-Axial Dauphin in term of stability and it can go against wind. It runs on two 370 Motor with 11.1volt 800Mah. The size is much bigger than the normal Co-Axial Helicopter as seen from the photo below.



I took his advice and bought one and I have tested this heli and found that in my first flight, the bottom blades hits the top blades causing the heli to crash and broke some part of the heli body. It was not the pilot error; it is in fact the design of the heli where the distance between the top and the bottom blades was not big enough causing blade strikes. If you do not believe me you can try flying forward and then pulling back immediately or you can try to fly a big circle and then immediately take the hard left or the right turning, this will surely cause the blade strikes problem.

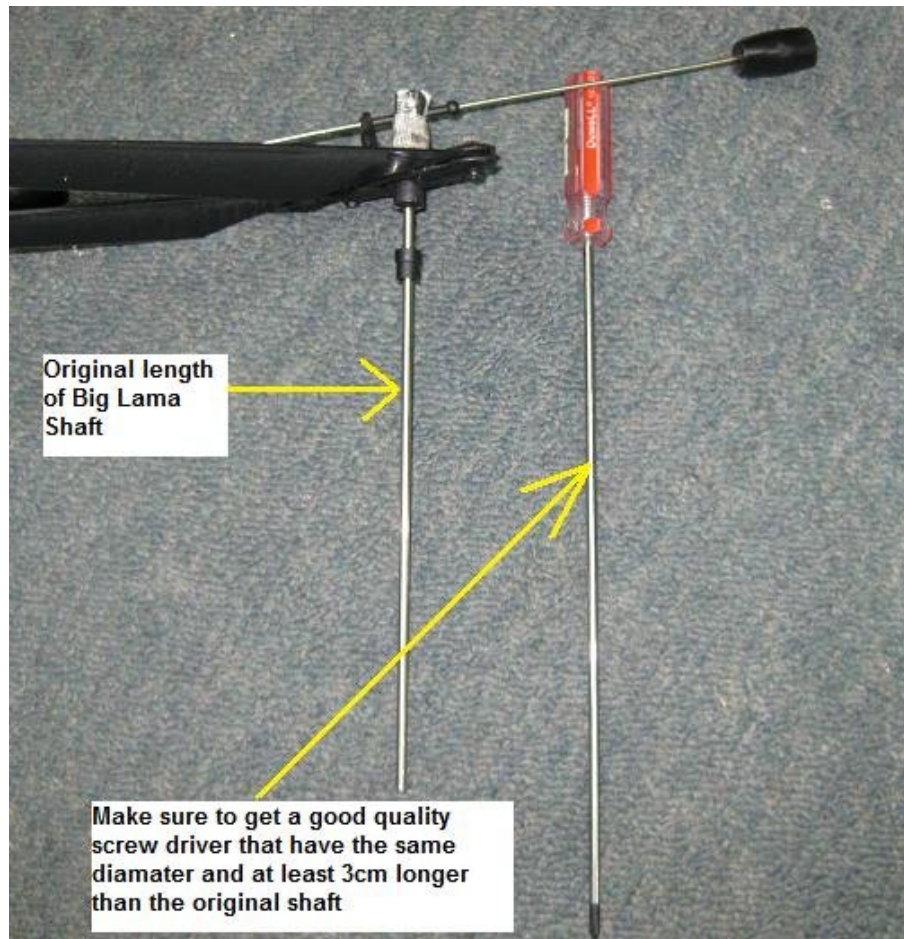
Please click on this Youtube link below to watch how the blade strikes problem occur:

http://www.youtube.com/watch?v=ZYB-5iNI_L4

Imagine, for every blade strikes problem you have to spend more money buying more blades and in some cases it may destroy the bottom Gear (A gear) or other parts too. In other words no one likes to see such problem happen to their heli and hope that there is a solution for it.

Well, I have good news for you my friend because I have successfully built an extended long shaft to prevent the blade strikes problem in Big Lama heli. The most interesting part is that you can build this long shaft in less than 2 hours provided if you have all the necessary tools like Vice, Hammer and etc. Okay let's start!

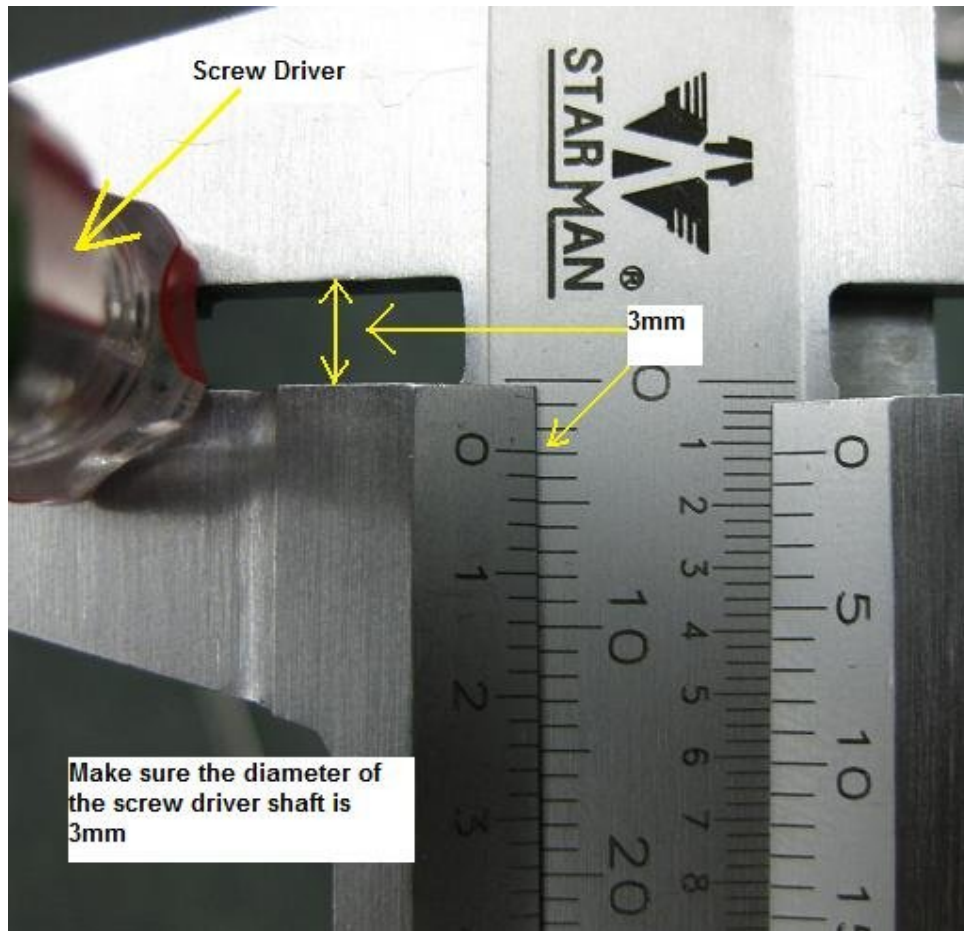
First you have to remove the original shaft from the heli, then take the shaft and visit any hardware shop. In the hardware shop there are many types of rod that you can choose, but the problem is most of the rod is either too soft or it is too stiff (stainless steel). I don't recommend stainless steel rod because it is very difficult to work with. You will have a hard time cutting and file the rod unless you have a special tool to work on it. My suggestion to you is to use a long screw driver shaft! I want to say it again, **USE A LONG SCREW DRIVER SHAFT AS SEEN FROM THE PHOTO IN THE NEXT PAGE!**



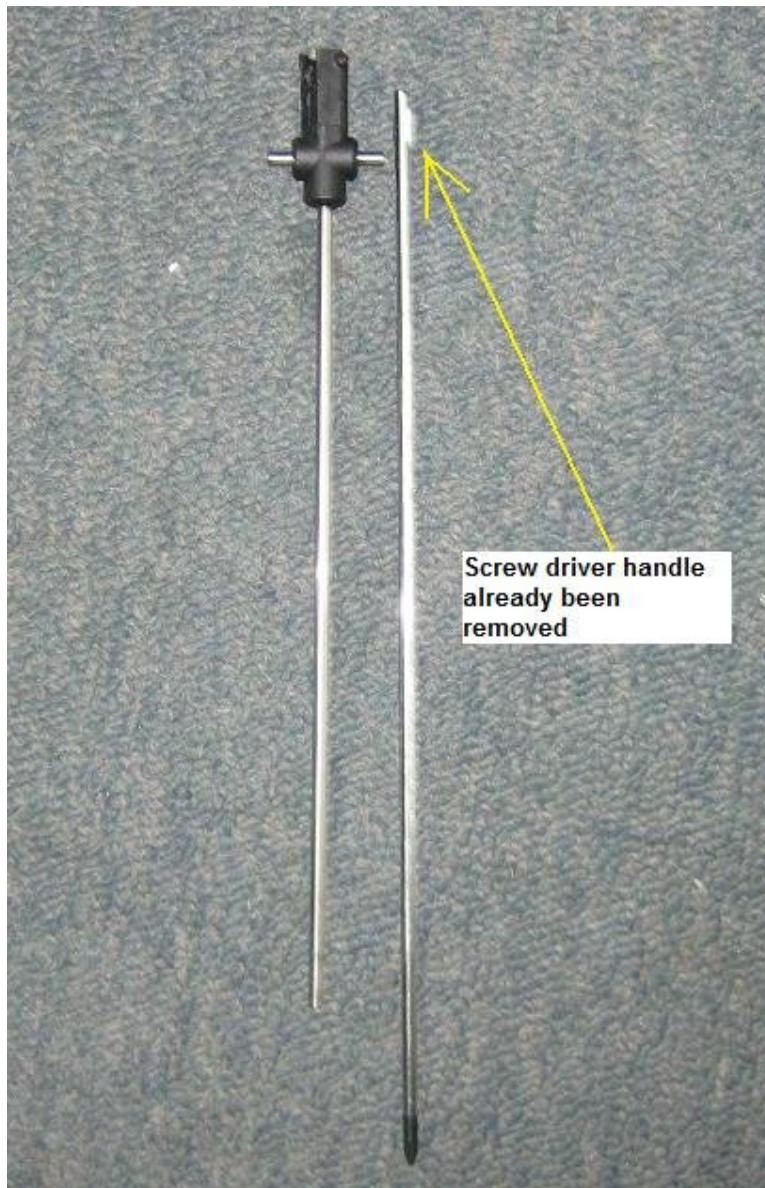
The reason I use the screw driver shaft is because:

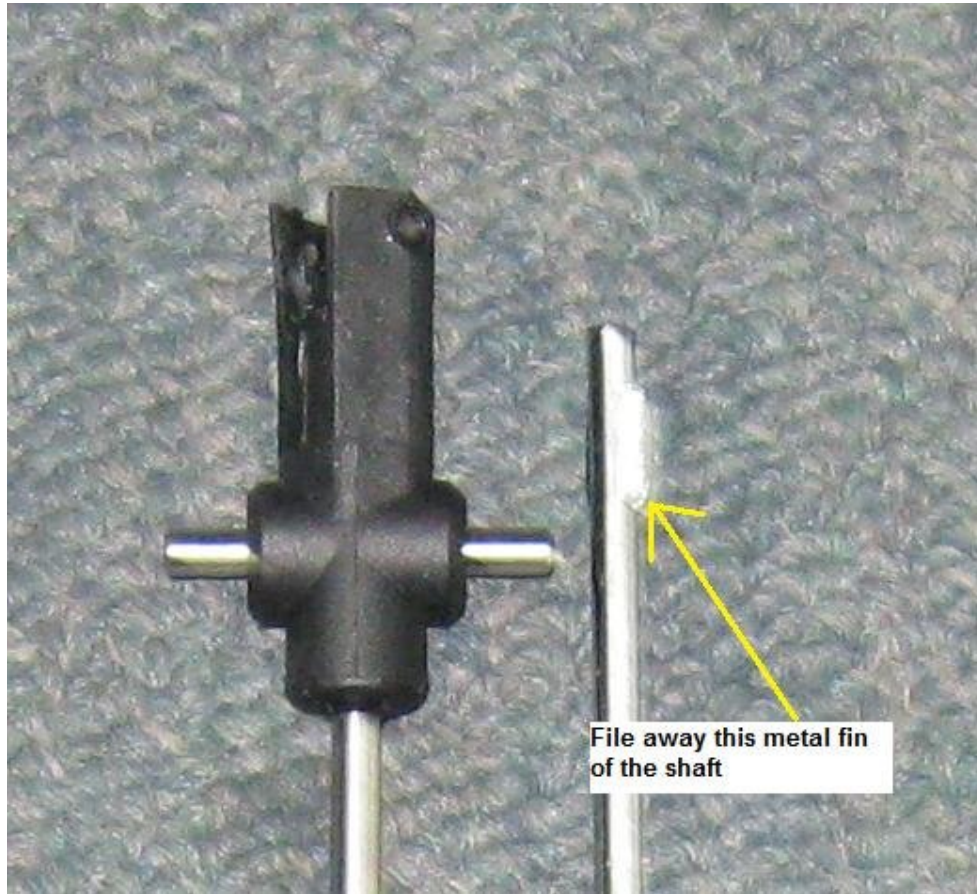
1. It is longer than the original shaft by about 34mm (which is very suitable to make the extended shaft) which you do not need to do any cutting on the shaft-it save your time.
2. The diameter is 3mm which is perfect and similar to the original shaft diameter.
3. It is cheap-about 1 USD!
4. Easy to get from any normal hardware shop.
5. Easy to file the shaft to make flat spot as it is not too hard as compare to stainless steel.

Note: Do not get a screw driver where the shaft is too soft.



Now break the handle of the screw driver with a hammer (be careful to protect your eyes by wearing a goggle or facing your head to the other side). Do it carefully and after few times hitting by the hammer, the plastic handle of the screw driver would come off easily. Next, by clamping the screw driver shaft, file away the two metal fins (located inside the plastic handle) at each side of the shaft.





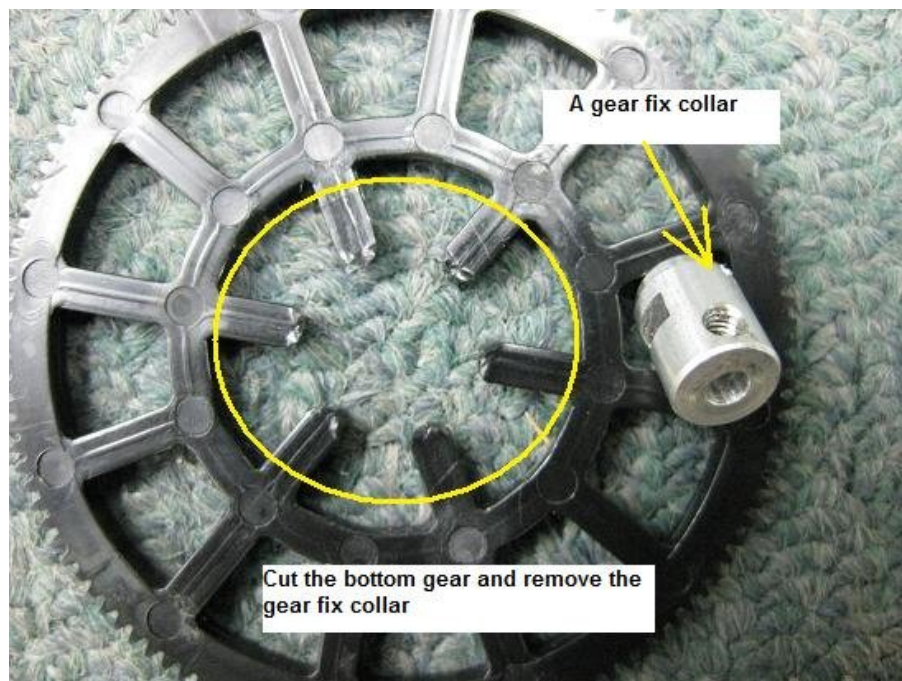
Once done then place the original shaft (with the upper blade holder) at the VICE because we need to remove the shaft from the upper blade holder. Hammer the original shaft from above using another smaller diameter shaft to force out the original shaft. It is not difficult because hitting it few times with the hammer; you could see that the original shaft will come out from the upper blade holder.

Note: Don't clamp hard on the original shaft; leave some space at the Vice so that when the hammer knock on the smaller shaft against the top part of the original shaft-it will come out easily.



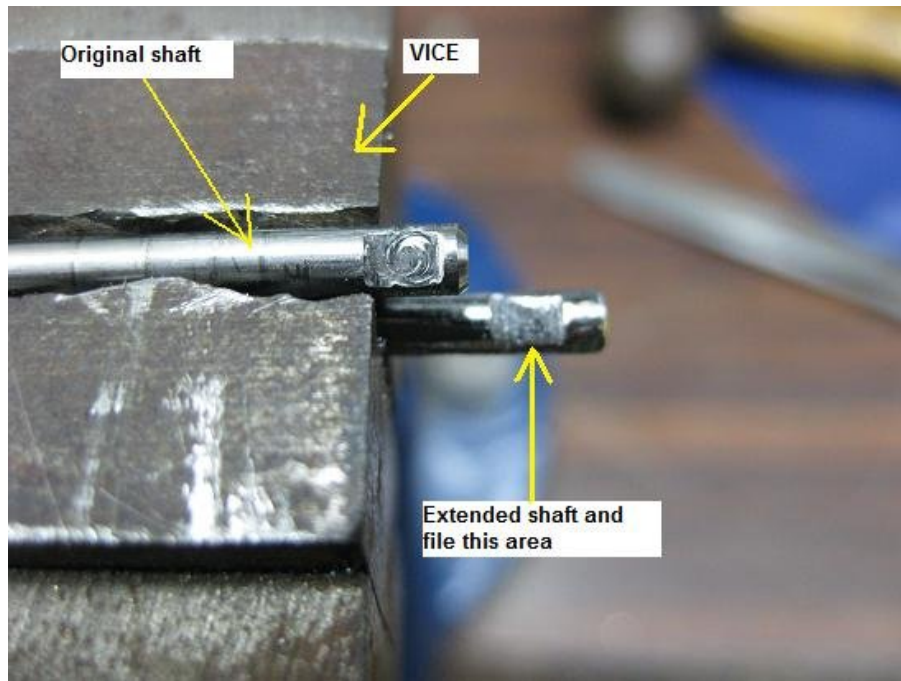
Hope you could follow me so far. Alright next, get a used or good bottoms gear (A gear) because we need to cut the gear and get the **GEAR FIX COLLAR**. You will know why we need this gear fix collar later.



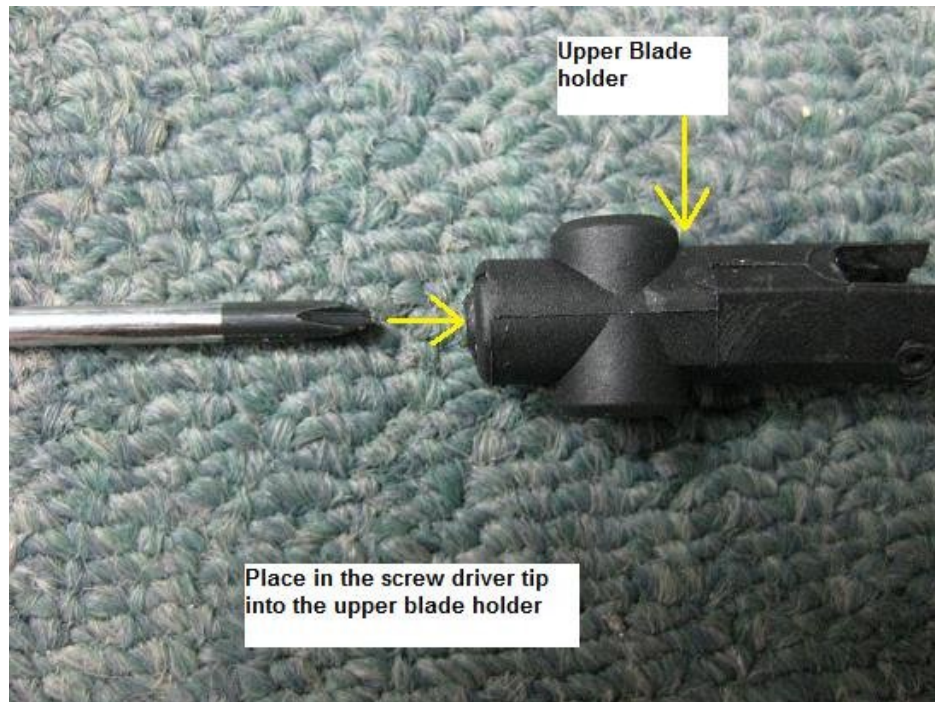


Note: Get another set of the bottom gear (new/used/worn out) and **not your current existing bottom gear.**

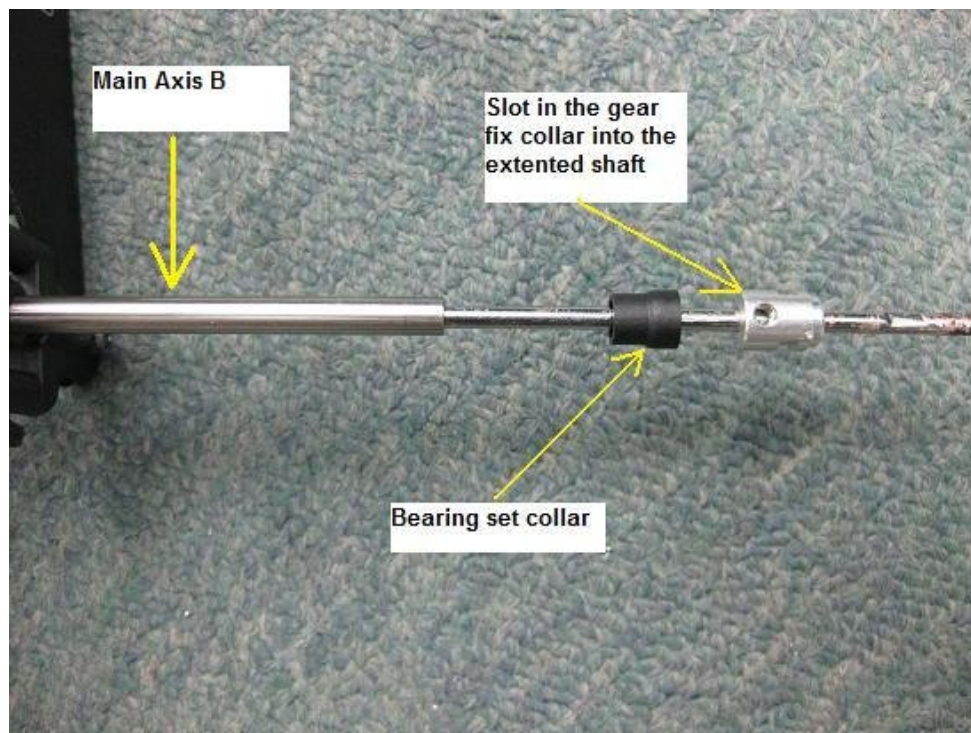
Next-here is the part that need some of your energy because you need to file and make a flat spot at the long shaft as seen from the photo.



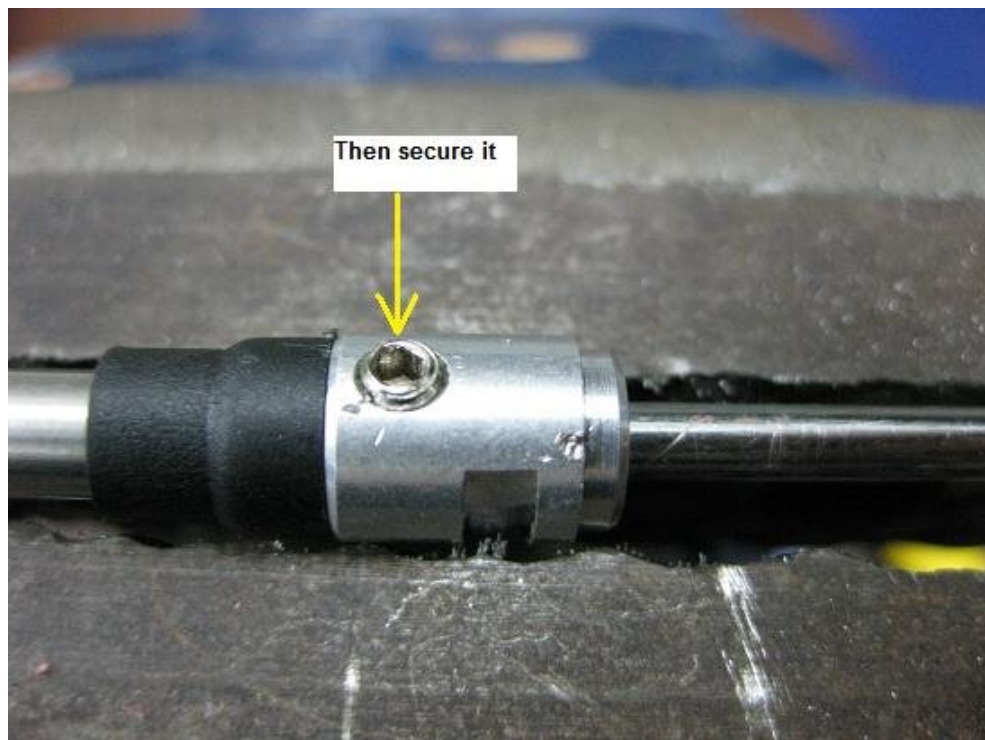
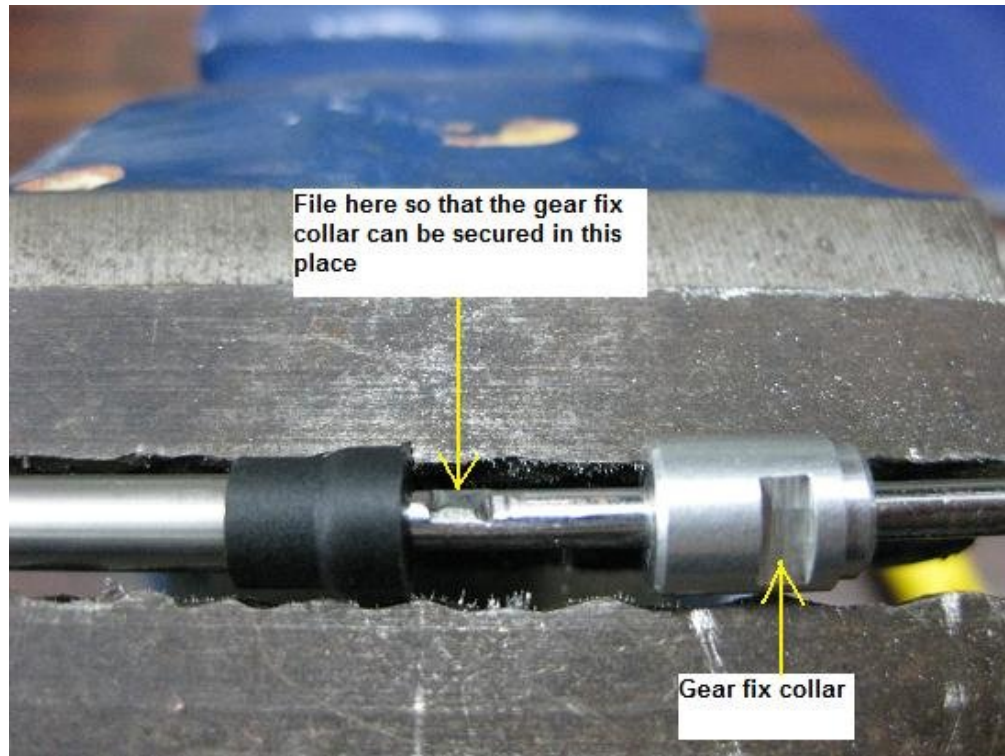
After making the small flat spot on the shaft you are now have to insert the screw driver tip into the upper blade holder. You can use a hammer to gently hit from the other end and it will secure and perfectly fit in the holder.

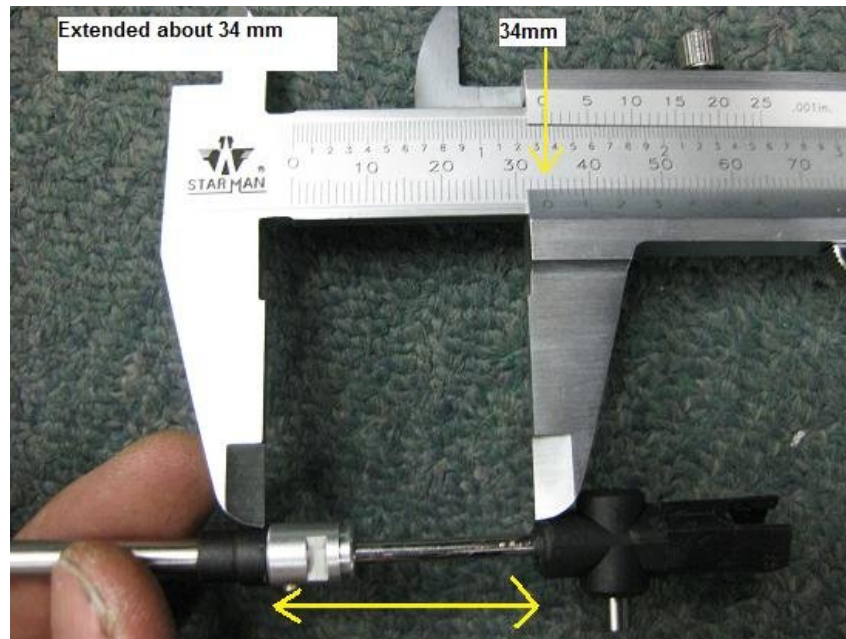


Now slot in the gear fix collar into the extended shaft and then followed by the bearing set collar and then place the shaft back to Main axis B as seen from the photo.



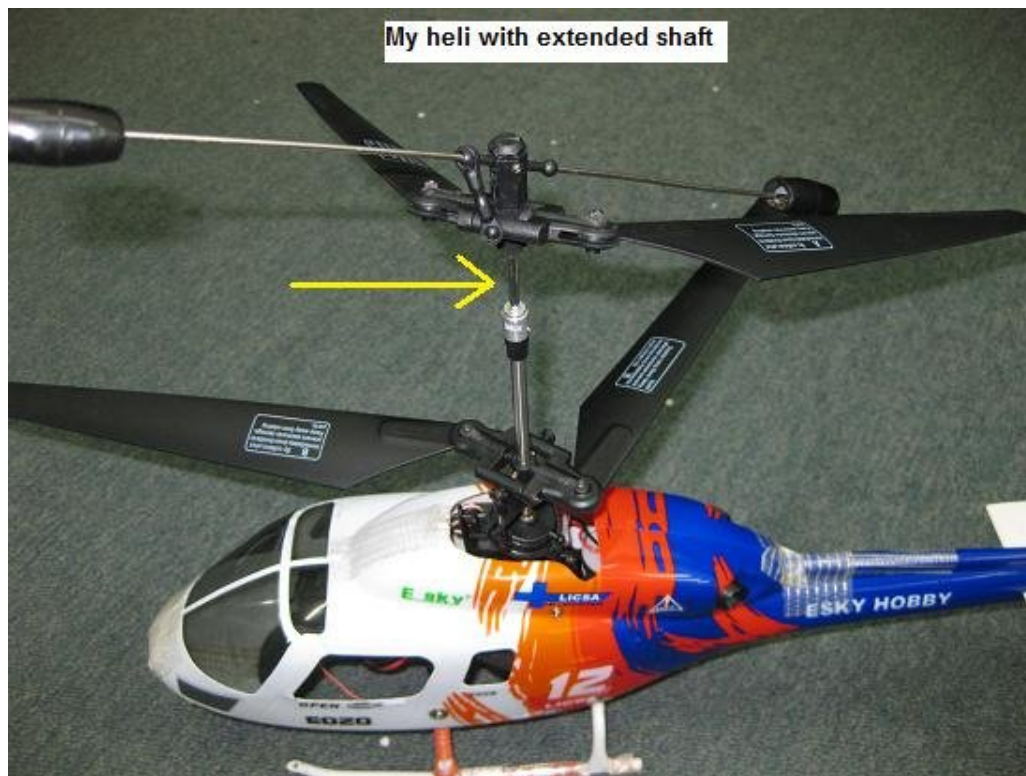
Once the extended shaft already in the Main Axis B and you have secured the bottom gear (A gear) then file and make another flat spot so that the gear fix collar can be secured at that place. Once done then lock it





From the photo above I have successfully extended the original shaft by 34mm!





Here's my Big Lama with the extended shaft and I only spent less than 2 hours and about few dollars to make one. Just go through the steps again or email me at jestingyong@electronicrepairguide.com if you need any assistant.

Testing Time

Most of the time when **blade strikes** is when you fly forward with great speed and then pull back. I have tested this extended long shaft big lama especially fly forward with great speed and then pull back guess what? **NOTHING HAPPEN** and it continues to fly as usual. I have tested it many times and not even once it had the blade strike problem.

Did you find this short report useful?

I hope you found this report useful. Feel free to pass it on to your RC friends and to those who own the E-SKY Big Lama E020 Model. You can post the link or this short report (pdf file) into any RC forum.

I've put a lot of time and effort into writing this free report.

Thanks and have a nice day!

Happy Flying,

Jestine Yong,

<http://www.JestineYong.com>

<http://www.ElectronicRepairGuide.com>