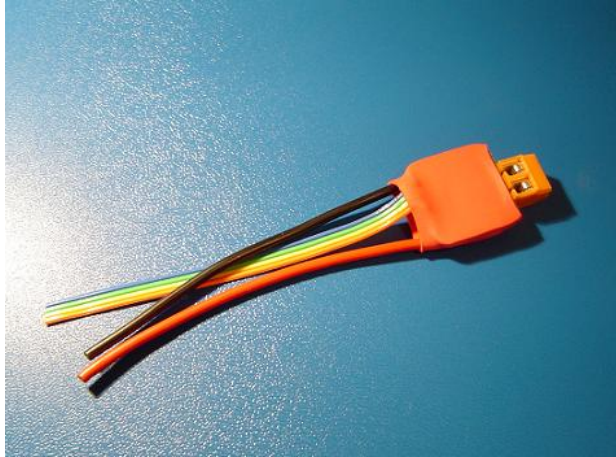


“Woah Nelly” Installation Guide

Rev: 11/09/2004

www.woahnelly.com



AIM: To inform the user on how to install the Woah Nelly Turbo into their 1/2x scale RC device. This document will cover the steps required to fully test and ensure correct operation of the Woah Nelly Turbo.

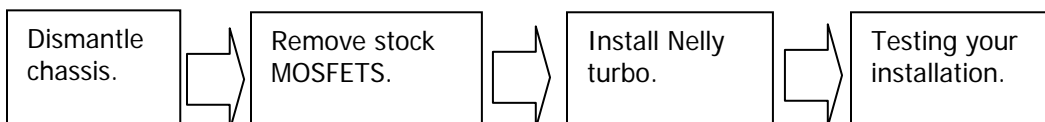
SCOPE: The Woah Nelly Turbo is compatible with the following 1/2x scale RC models:

- Kyosho Mini-Z, all models.
- iWaver, 1st & 2nd Gen
- RadioShack XMODS

DISCLAIMER:

You do all this at your own risk!

PROCESS:

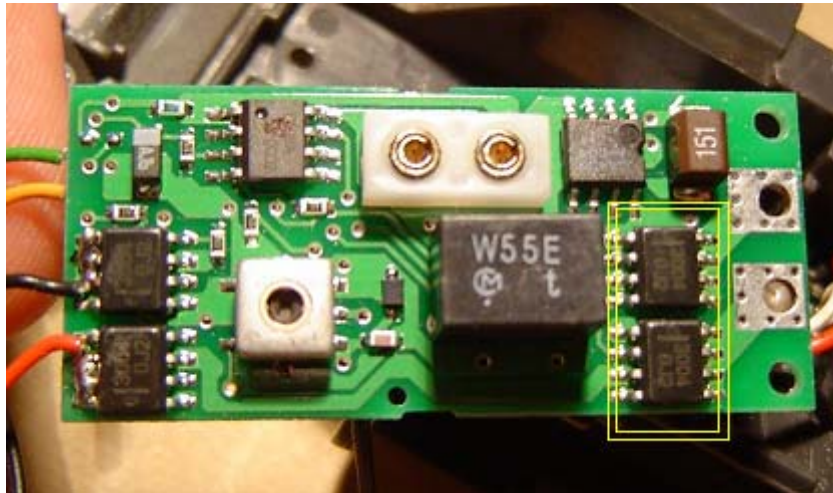


METHOD:

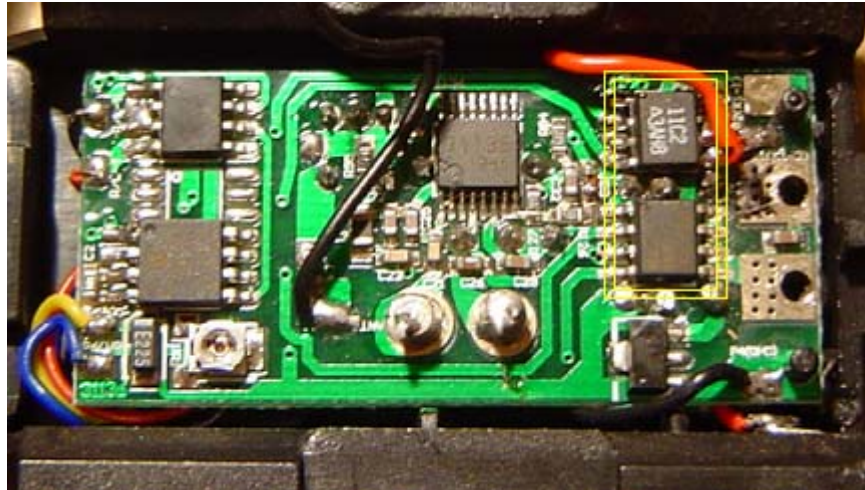
- 1) ***Dismantle the chassis:*** This is pretty self explanatory. I won't really go into this. This document assumes you know enough about your mini-z/iwaver/xmod to be able to do this without any issues. You need to be able to access the circuit board inside the chassis to make the required modifications to it. **REMOVE YOUR BATTERIES WHEN DOING THIS!!!!** I can't stress this enough. I've seen too many problems caused that could have been averted if that person had just removed the batteries first. The goal is to get access to the MOSFETS in the PCB. We need to remove them.

- 2) ***Remove stock MOSFETS:*** Here's the locations of the mosfets:

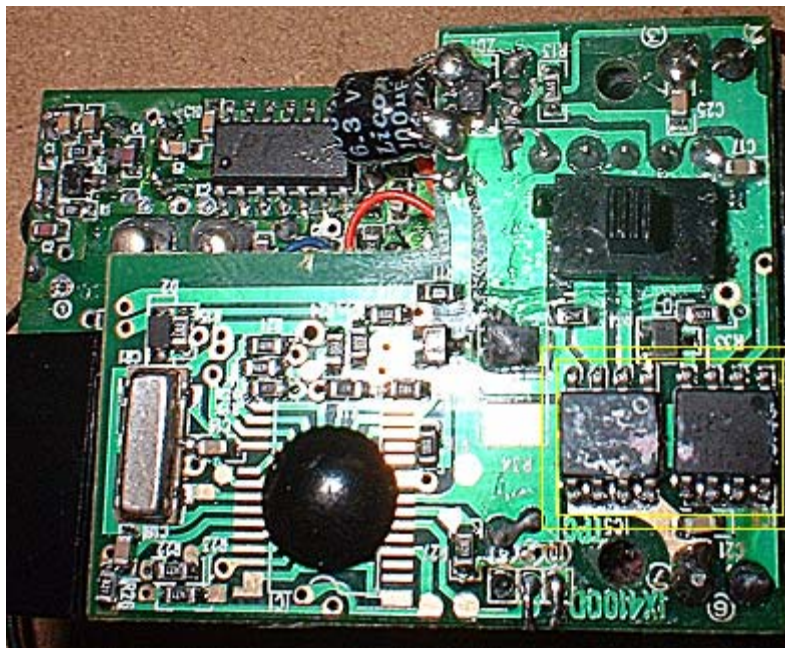
Kyosho Mini-z (all models). The MOSFETS are located on the underside of the PCB. See the picture below, they are outlined in yellow. Not sure about the F1 chassis, I think the MOSFETS are located on the top side, it is the same PCB nonetheless.



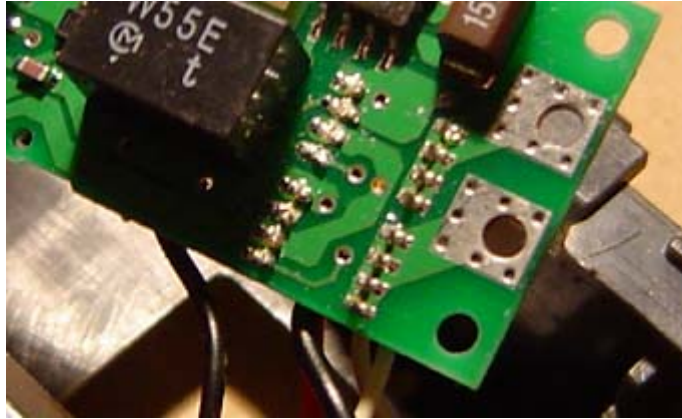
iWaver and 1st Gen LXX clones. The MOSFETS are located on the topside of the PCB. See the picture below, they are outlined in yellow.



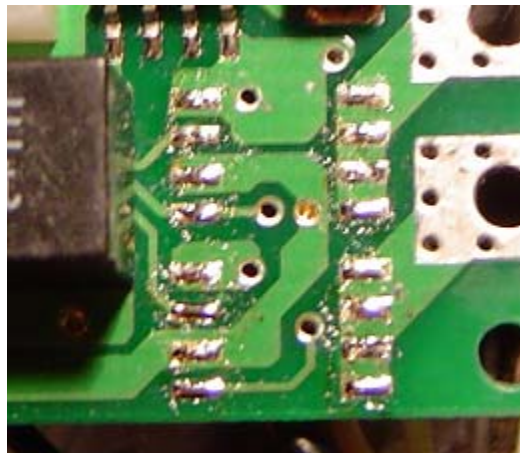
RadioShack XMODS. The MOSFETS are located on the main PCB. They are adjacent to the power switch. They are labeled IC5 & IC6. See the picture below.



There are many different ways you can remove the stock MOSFETS. I just use a hobby knife or similar and cut through the pins where they leave the black ceramic package. With all the pins cut the black package just falls off. This will leave you with the empty pads as shown below:



Now, with a hot soldering iron, melt the pads and remove the excess old pins and solder. You should then have a nice set of clean solder pads ready to go! See below.



You can also use a soldering iron to melt the solder joints and pry the MOSFETS off but I don't recommend this.

TOO MUCH HEAT ON THE SOLDER PADS WILL MAKE THEM LIFT OFF THE PCB AND BREAK!!!

Remember that! I can't stress this strongly enough!

- 3) ***Install the “Woah Nelly” Turbo.*** Now with the PCB ready to go let’s get down to actually installing the turbo.

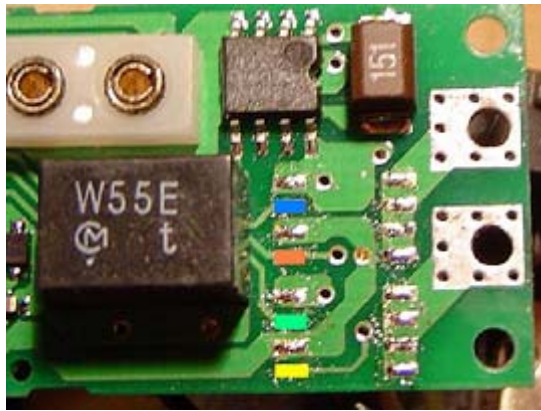
You will notice that Nelly comes with **6 wires** coming out of the package.

The two large independent wires (**BLACK & RED**) are the power wires, they are very thick and are for high current applications, hence why they’re on Nelly.

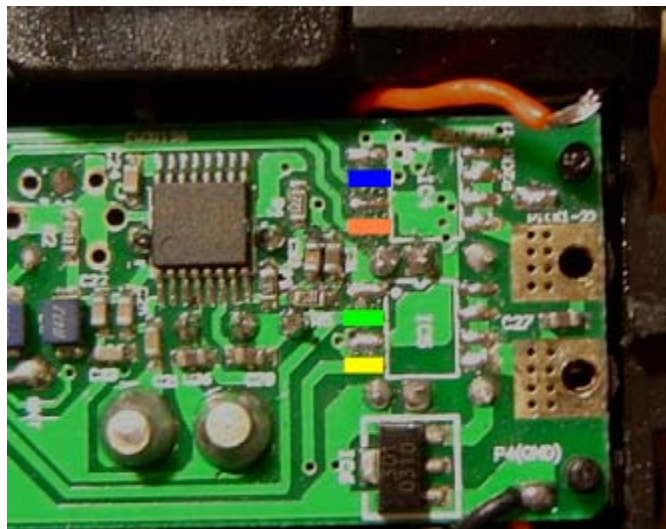
There also four smaller wires that are all together (**BLUE, GREEN, YELLOW & ORANGE**), these are the signal wires that will connect to the PCB.

The wires are colour coded for a reason. ***Shown below are the solder pads coded to what wire should be soldered where.*** It doesn’t get simpler than that!

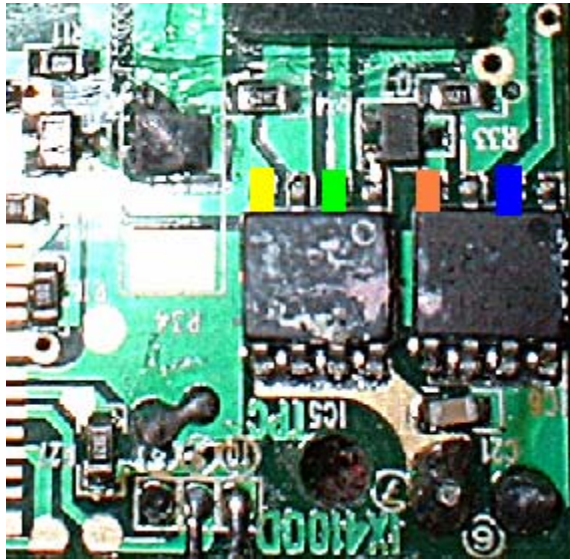
Kyosho Mini-z (all models)



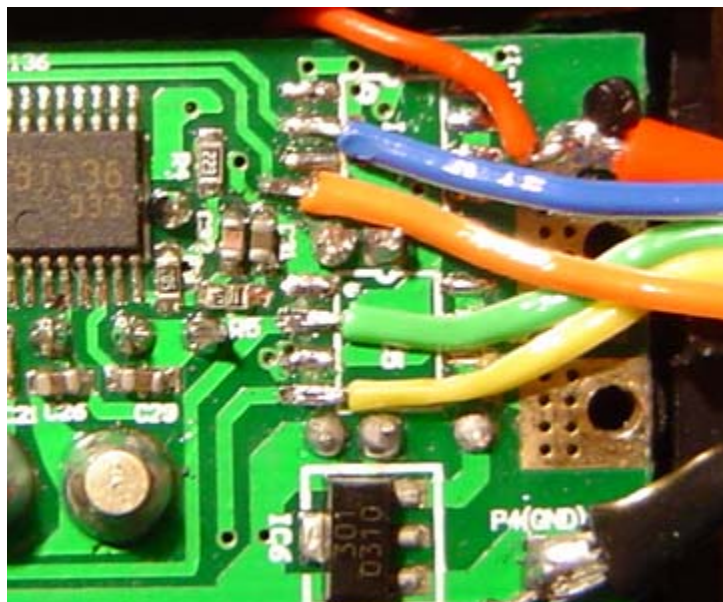
iWaver & 1st Gen LXX Clones



*RadioShack XMODS (thanks to **cj** for the pic!)*



Here's an example of what the solder connections should look like once installed.

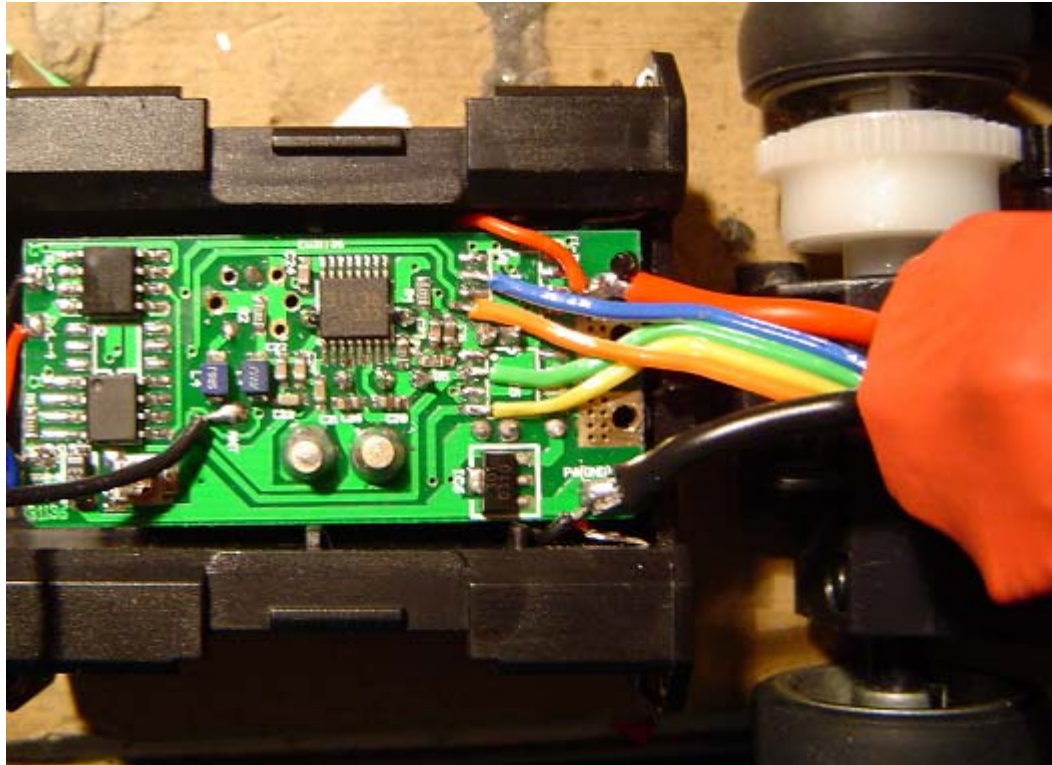


Now that the signal wires have been attached your just need to solder the two power wires in place. This is pretty simple. Just find the + and – battery terminals and solder the cables there.

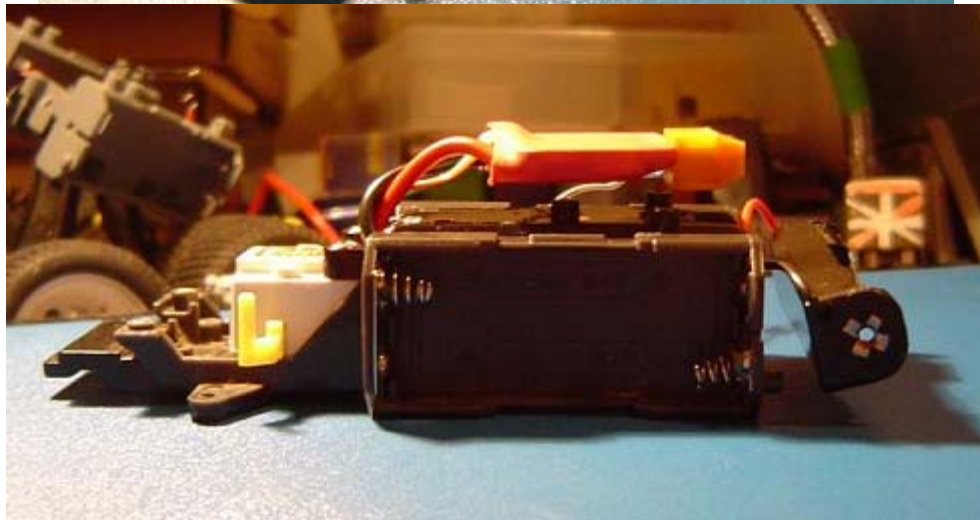
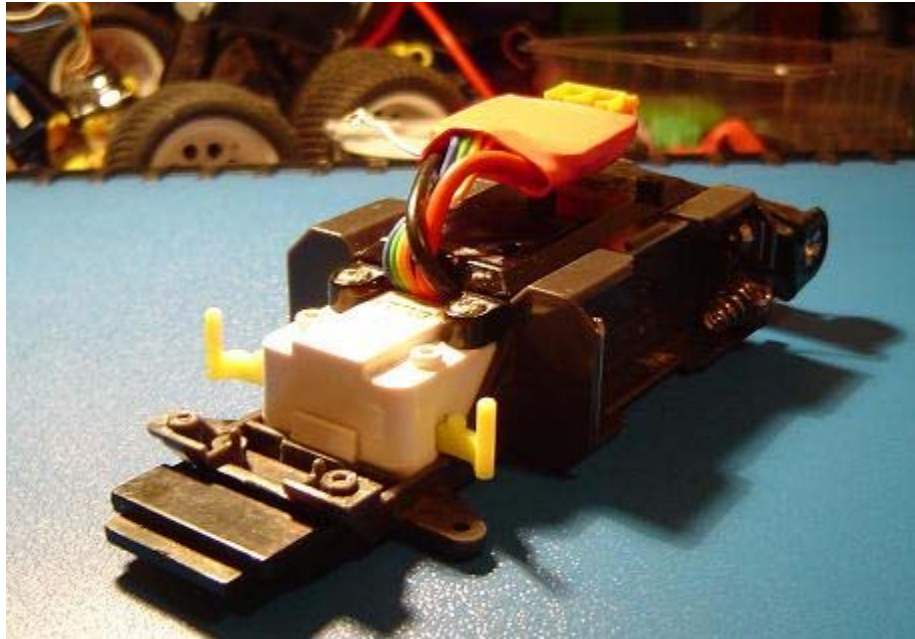
The best way to do this is the find the black and red power cables that feed to your PCB. Trace those cables back to where they connect to the battery terminals and solder Nelly's power cables there. You can also solder the power cables to where the power pads are on the PCB. Your choice.

For the XMOD I'm not sure, I haven't seen one so you'll have to make your own decisions there....

Below is an example of the final install in an iWaver. Notice that Nelly's power cables are soldered to PCB above and below the four signal wires.



Another example is this Kyosho Mini-z MR-01 install below. Here I have soldered the power cables at the rear end on the bottom of the chassis floor (there are two battery terminals there) and fed the cables up to the front. The signal cables follow the same path up to the front. I then cut out a small section of the black PCB cover to allow the cables to protrude. This is now the standard way I install Nelly.



Attaching the Motor:

This is quite simple. Just remove the brass lugs from the end of your motor wires. Strip the wires to show a bit more copper if needed, tin them with a soldering iron if you can. Then just screw them into the terminals. The orientation doesn't matter, you'll test this shortly.

3) **Testing your installation.** I like to test the install before I close up the chassis and put everything back together. Ensure that everything is connected properly. Make sure your antenna wire is OK and that it isn't touching any open electrics. Make sure your RX crystal is seated properly. Insert your batteries. Turn on the TX. Turn on your car. *You should always do it in this order.*

Try out the throttle control. If everything is OK you should get a nice clean response from the motor. Control across the full spectrum of speed should be smooth with linear acceleration. You will have very fine control of the motor speed. Forward and reverse should produce the same top speed.

If your wheels are going in the opposite direction to your TX, just swap the wires around on Nelly's motor terminal.

Some things to look for if you have issues:

- Ensure your batteries are in correctly.
- Check that the motor wires are screwed in properly.
- Make sure none of Nelly's wires are being "pinched" between parts of the chassis. ie: the pcb cover and chassis.
- Confirm your crystal is properly inserted.

To check on the ongoing developments of my Woah Nelly turbo, come check out the Woah Nelly thread at AUSMICRO.COM.

http://www.ausmicro.com/link.asp?TOPIC_ID=2044&view=lasttopic

So that's it! Time to throw in that really hot motor.....

Enjoy!

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