

How to make RC30 Gauge Harnesses From NC30 Gauge Harnesses

If you are in need of an RC30 tach and temp gage sub-harness you have probably already noticed that the RC30 sub-harness has been discontinued. The work-around for this is to modify an NC30 harness to make it an NC30 harness.

What you'll need:

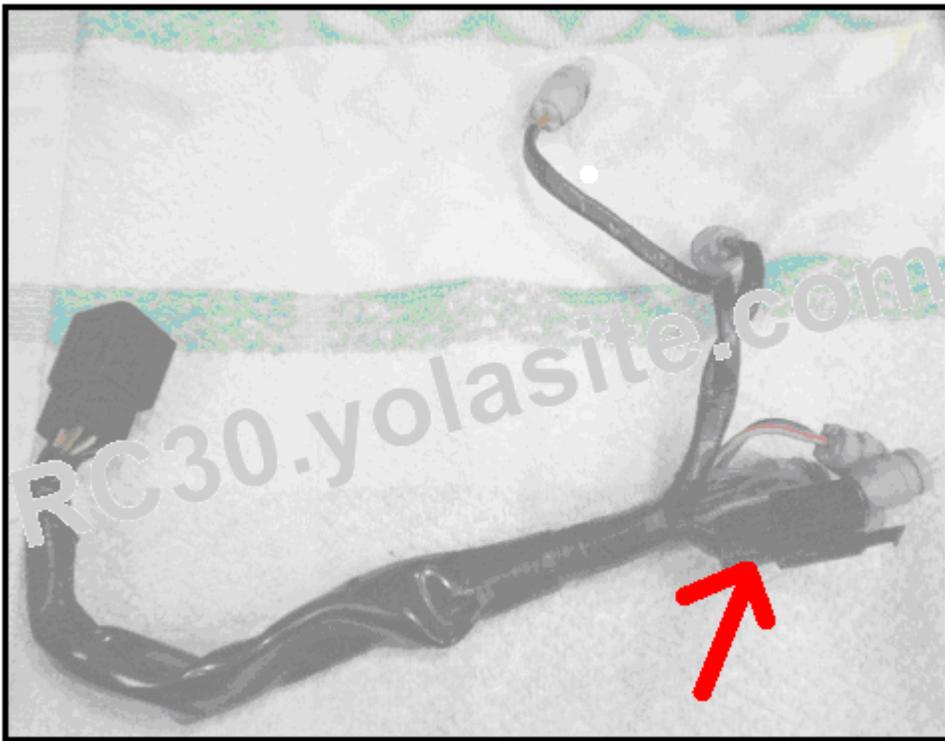
- A Jap spec NC30 speedometer harness.
- An NC30 tach/temp gage harness.
- A homemade tool to remove a blade pin from the plastic connector (finishing nail and a file will make it).
- A soldering gun and some fine wire solder and a bit of flux.
- Some shrink wrap (and a match, lighter or heat gun).
- A vice to hold various things.
- Pliers.
- Wire stripper.
- Electrical tape.
- About ½ to ¾ hr. of your time.

Modifying the NC30 speedometer harness into an RC30 part:

This must be done before you modify the tach/temp sub-harness. This harness will supply the blade pin for the tach/temp harness. When you are completed you will have an RC30 speedo sub-harness and the part you need for the tach/temp harness.

The NC30 speedometer harness looks very similar to the RC30 speedometer harness. The difference being that the NC30 harness contains a 3 pin connector on the gauge side of the harness. This 3 pin connector is not needed for the RC30. The unneeded pin connector was used on the NC30 to supply +12V power, a ground, and a signal wire to/from the speed restrictor within the NC30 speedometer.

This is what the NC30 speedo connector looks like before being modified. The 3 pin connector to be removed is in the bottom right of the picture.



Steps:

1. Remove the electrical tape on each end of the sub-harness.
2. Make yourself a blade pin removal tool. This is what the blade removal tool looks like that I made from a 2-1/2" long finishing nail (0.108"OD).

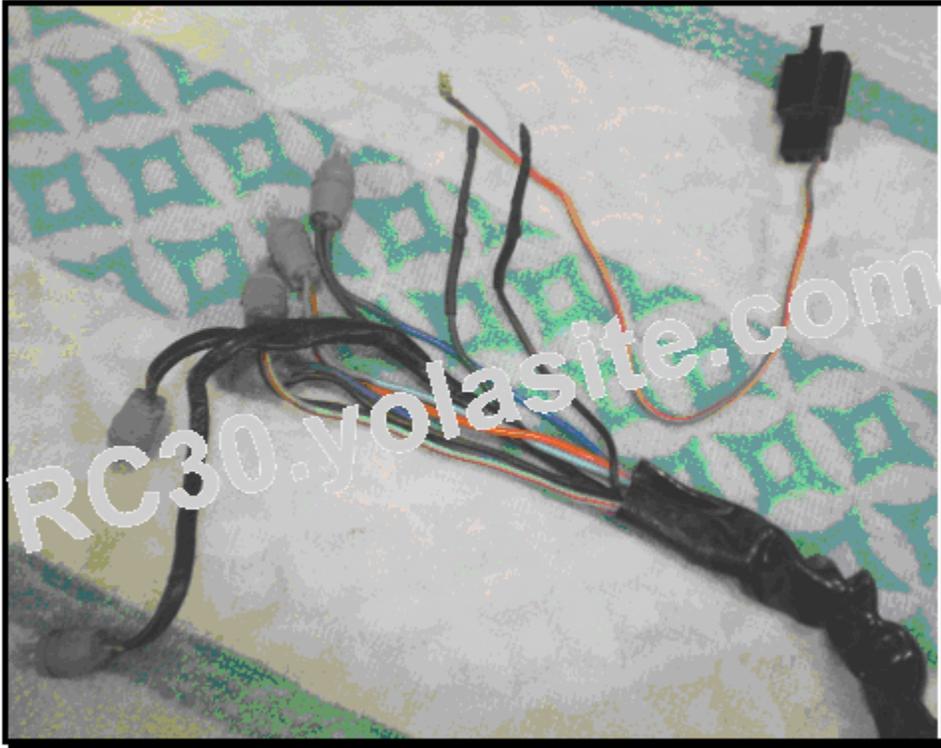


3. Remove the blade pin attached to the orange/blue wire in the connector at the main harness end of the sub-harness. Only remove the blade pin attached to the orange wire with the blue tracer. This is the signal wire from the NC30 speed restrictor. You will need the above tool to depress the locking tab to permit removal of the blade pin from the connector (see picture). It is a finicky job so be careful and do not damage the blade pin. It should look like this now.



4. Now similarly remove the two blade pins from the 3 wire speed restrictor connector. You can leave the orange wire with the blue tracer attached to the 3 pin connector. Once the orange/blue blade pin is removed from the connector push the loose plastic wire covering toward the main harness connector so you can see where the other two wires from the 3 pin connector terminate inside the sub-harness. Neither of these two wires is needed so you have a couple options.
 - a. Shrink sleeve the ends and stuff them back under the plastic wire covering or,
 - b. Cut the wires off deep inside the sub-harness where they connect to the sub-harness and shrink sleeve the cut off ends. Either way is good but make sure you shrink sleeve them so they don't contact each other now or in the future. I highly recommend shrink sleeve over using electrical tape.

5. You can now pull the 3 pin connector and the one attached wire (orange/blue) through the plastic covering and remove it (don't throw it out). It should now look something like this:



6. You can now pull the plastic wire covering back over the wires and fix it in place using electrical tape, or a tie-wrap if you don't care about originality. Again, make sure the two abandoned wires (see above) will never contact one another. It will produce a dead short and cook the gauge fuse.
7. You now have an "RC30" speedometer harness. As you can see all the RC30 gauge harness amounts to is a lighting harness. It should look like this:



Modifying the NC30 Temperature / Tachometer harness into an RC30 part:

This is a bit easier than modifying the speedo harness. I can't tell you why, but one wire that is normally located within the main harness connector is located outside of this connector with a dedicated bullet connector. This won't work for the RC30 so you need to relocate it to the connector. This is what the NC30 tach/temp harness looks like: Those with very keen eyes will notice the connector is translucent white versus black on an RC30 harness. There are no differences between the connectors except for the colour. Why is the NC30 one is a different colour is a question I cannot answer. All I can say is they are the same except for that detail.

**Steps:**

1. The first thing you need to do is de-crimp and remove the blade pin from the orange/blue speedo restrictor wire that was removed from the speedo harness. This blade pin will be used to relocate the yellow/green wire in the above picture to within the tach/temp connector (the white plug in the above picture). There are a couple ways to do this.
 - a. Cut the bullet connector off of the yellow/green wire then similarly cut the orange/blue wire off with blade terminal and splice the blade terminal with the orange/blue wire to the yellow/green wire. This will functionally be OK but the wire colour will not be correct, as you will have an orange/blue wire at the connector instead of the correct yellow/green wire. Due to the incorrect wire colour I have to recommend method b).
 - b. Physically removing the blade pin from the orange/blue wire and attaching it to the end of the yellow/green wire. If you choose this method be very careful when bending the crimped portions of the blade pin so you don't damage it. It is again a bit finicky but take your time and using the same flattened out finishing nail you previously made it can be done. I did it. The rest of the pictures and text assume you use method b. as I did.

2. Cut the bullet connector off of the yellow/green wire as close as possible to the bullet connector. I even de-crimped part of the bullet connector to get all the wire possible. You need all of this yellow/green wire to attach the blade pin.

This is what it looks like before you cut off the bullet connector. As you can see there is not an excess of yellow/green wire to work with so check twice, cut once:



3. This is what my bullet connector (scrap) looked like after I removed it. You can see I de-crimped the portion that grips the wire's insulation to get all the wire length possible. Take the rubber bootie off first. Heat it with a match or lighter and grab bootie with the pliers.



4. Throw the bullet connector out, or frame it as a testament to you electrical skills. You could also deposit it with all the other weird electrical connectors you've collected over the years.
5. Crimp the salvaged blade pin from step 1 onto the yellow/green wire. Make sure the finished length is the same as the existing wires so the wire isn't buckled or stretched at the connector.

6. I recommend soldering the yellow/green wire to the blade pin versus just re-crimping it with pliers. If you really messed up the blade pin and destroyed the crimping portion of the connector you might have to solder it on anyway. This is what mine looked like after removing the bullet connector, crimping on the relocated blade pin, and soldering the wire and blade pin.



7. Check the locking tab on the blade pin and make sure it is sticking out a couple millimetres.
8. Push the blade pin into the connector. Make sure you have it oriented so the locking tab engages correctly. Look at the other blade pins in the connector to double-check you are doing it right.
9. You now have an RC30 tach/temp and speedometer harnesses. The only noticeable difference to MR7 parts is the white connector on the one harness.

