

Assembly of the SECO horn for the NZ350-1

The parts below are described, from left to right, as follows:



Mounting strap with nut and washer, bakelite housing with coils and breaker, bakelite closing ring, tympani, contact bar, conical washer, compression discs, two spacer washers, tympani cover plate, front disc, and nut.

Another picture shows the sequence of assembly as following:



Contact bar with conical washer and first compression disc (shown assembled), second compression disc, tympani, two spacer washers, tympani cover plate, front disc, and nut.

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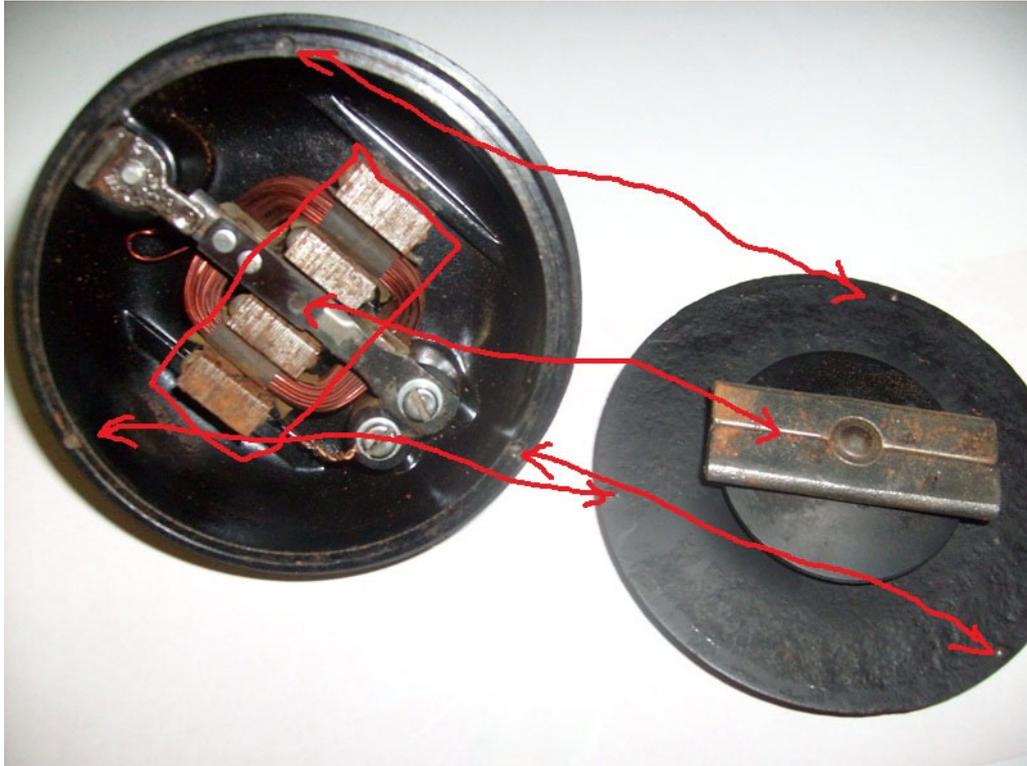
I learned that the nut on the front adjusts the gap between the electromagnet and the bar that is attached to the tympani. As the nut is tightened, the compression discs located behind the tympani are squeezed, creating a gap between the contact bar and the electromagnet.



If you test fit the tympani assembly onto the casing, you should be able to press onto the front of the nut with your thumb and see the tympani flex until the contact bar touched the magnet. If there is no gap, then the horn will not work. Tighten the nut to compress the compression discs until a gap is formed between the contact bar and the magnet. Once this gap is set, such that the bar is not in contact with the magnet, then you put the entire horn together. Make sure that the bakelite cases are screwed together tightly, but don't break it.

Once you put the tympani assembly together, note that the contact bar must line up with the electromagnet, and also the small dimples on the outer edge of the tympani must align with the holes on the bakelite casing. The dimples prevent the tympani assembly from rotating. It is interesting to note that the front disc is much thicker than the tympani disc. The reason for this is that the front disc is a weight which slows the oscillating motion of the tympani and reduces the frequency of the sound. If the front disc was lighter, then the horn would vibrate much faster and sound higher in pitch. It would not have the loud, low trumpet sound, but sound more like a high squeal.

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Finally, you adjust the screw on the back of the horn to adjust the electrical contacts. While applying 6V voltage to the horn, you adjust those contacts to produce the loudest and smoothest sound. This tunes the horn. The adjustment screw on the back of the horn adjusts the upper electrical contact shown in the picture below.



My horn is now working perfectly and is installed on my DKW NZ 350-1.