

Instructions for the OSSYNTHS Sync Disc

Congratulations on your purchase of an OSSYNTHS contact free sound synchronising disc. The Ossynths sync disc was designed by Otto Schouwstra for use with his own sound system and is now manufactured and marketed by EDM Models.

1. Tools required

- Small files
- Taper broaches
- Wet & Dry paper
- Cyanoacrylate glue
- Multi-meter or Test lamp
- Solder & Soldering iron

2. Prepare the disc components.

The fret is cut with a laser which can leave some slightly rough edges and a little bit of preparation is needed. Ease the four layers of the disc from the brass fret. Clean the tabs off with a fine file and then rub the flat faces on some fine wet and dry paper to ensure all the burrs are removed. Check the slot will slide easily over your axle. It should be a close fit, not loose, but not needing to be forced either. Ease with a fine file if needed. Make sure the wire for the pins fits through the holes.

3. Assemble the disc to the axle

The disc layers are assembled on to the axle alternating sides and then easing the pins through the holes as shown in the sketches. Once happy with the placement of the disc the layers can be secured to each other and to the axle with a small drop of cyanoacrylate glue. Only the smallest drop is needed as the disc is under no stress.

4. Understanding the magnets

How the magnets are arranged is critical to the working of the OSSYNTHS sync disc. The magnets have two poles, north & south, when new the north pole is marked with some red dye. If the dye is missing it's not a big problem, what we need to know is the **difference** between the poles. **Try this; let the magnets stick together in a line. Mark the right hand end with a marker pen, pull one magnet off, mark the new RH end, repeat, You now have all the same ends marked.**

The four magnets are glued into the semi circular indentations in the assembled disc. They should be arranged as shown in the sketches so that there are alternating north and south poles around the disc.

5. Locating the reed switch

The reed switch supplied in the kit goes in the positions 1a or 1b shown in figs 1 & 2. This is either at 90 degrees to the axle or parallel to it.

The range over which the reed will sense the magnets will be in the range 1 – 6mm but you will need to test the set up to find the optimum distance as it will be affected by the proximity of other bits of your model. It might seem obvious but mount the reed away from the motor – it's a big magnet!

When bending the wires on the reed hold them adjacent to the glass with pliers to prevent the glass breaking as you bend them

Consider mounting the reed on an N or Hoe tie as a sub assembly allowing all the tricky stuff to be done on the bench as shown in one of the attached photos.

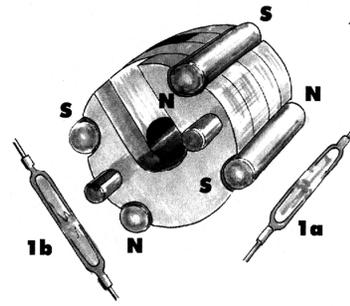


FIG. 1

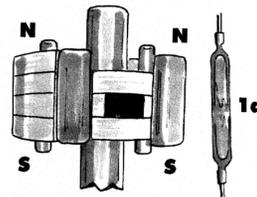


FIG. 2

Solder two fine wires to the reed switch and connect these to a test lamp and battery or to a multi-meter on the "beep" setting. First test the reed switch by moving a magnet close to it. Once you know your test circuit is working move the reed into the position you want to mount it on your engine. Rotate the axle and check that you get four clear beeps per revolution. Move the reed nearer to, or further away from the magnets until you get clear pulses.

Once you are happy with the location permanently mount the reed switch in that location fabricating any small brackets you may need. Typically we use bits of copper clad ties or bits of styrene.

6. Connecting up your Synch Disc

How you connect your OSSYNTHS sync disc to your sound system will vary from system to system. For use with Soundtraxx digital sound decoders connect one end of the reed to the tan wire of the decoder and the other end to one of the models power pickups.

7. Fault Finding

Only one chuff? If you only get one chuff as you rotate the cam it is most likely that you have one magnet the wrong way round. Due to the clever science involved it the direction [polarity] of the magnets must alternate as they pass the reed.

8. More Info

The full range of sizes of Ossynths Synch Disc available can be found on our website at. There will also be a growing range of installation examples portrayed.

Pack Contents:

1 x Fret of Clever Disc components

4 x Micro Magnets

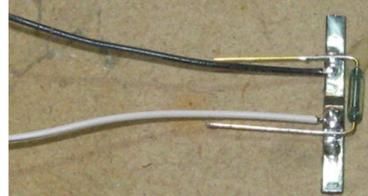
1 x Reed switch



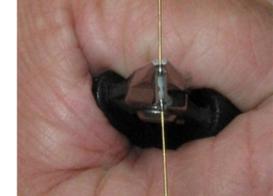
4mm clever disc installed on a K27's axle



Reed mounted on the cross stretcher on the K27



Reed assembled on a tie



Supporting the wires before bending

Please help us create a gallery of installations on the website by sending us your photos and notes. You will be rewarded

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