

## Exchange of the tray gear wheel of a Quad 67 CD player

(with the CDM9 transport from Philips)

If the tray of your Quad 67 CD player is not opening or closing in the proper way or it is making cracking noises when it moves, you may suspect the gear wheel in the transport mechanism. This problem can rather easily be solved. The repair job will take an average DIY enthusiast less than 1 hour and afterwards the excellent Quad 67 will open and close its tray like new.

The Quad 67 CD player makes use of the well built Philips **CDM9** transport mechanism. After 10 - 15 years of service unfortunately the plastic tray gear wheel disintegrates resulting in that all its teeth are lost and the tray will not open/close.

This document describes with some pictures how to replace the faulty gear by a new one. The required gear can be ordered in the DaDa webshop:

<http://www.dadaelectronics.eu/CatalogueRetrieve.aspx?ProductID=5322435&A=SearchResult&SearchID=1611960&ObjectID=5322435&ObjectType=27>

As many other top class CD players make use of the same CDM9 transport of Philips, this description and pictures may probably also be of assistance for repair of other brands.

### Required tools:

- Phillips screwdriver
- A normal screwdriver
- Torx 10

### Required materials

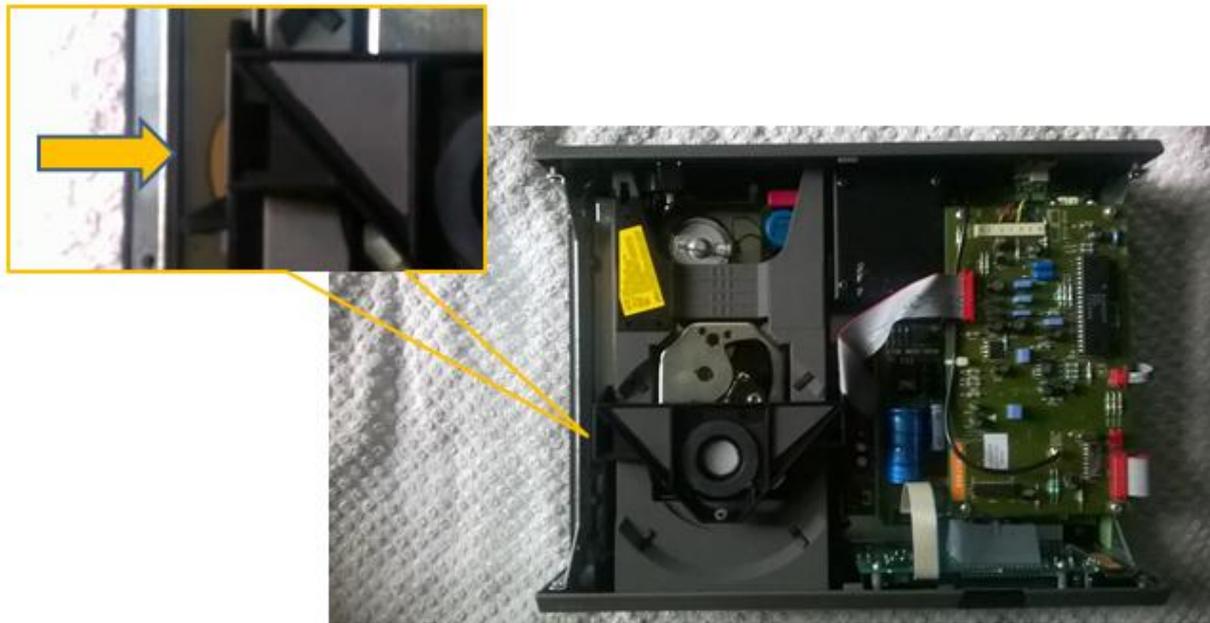
- Replacement gear
- Small amount of white grease (vaseline)
- If necessary a replacement rubber drive belt

## Removal of the broken gear wheel

*Before you start, be sure that your CD player is disconnected from the electricity grid.*

To open the Quad 67, put the player upside down on a soft cloth on your desk and remove the 4 Phillips screws on the underside. Next turn the player again in the upright position and take off the cover. *To avoid damage, please take care that the tray does not open by itself when you are moving the player from the upside to the downside and vice versa!*

The picture below shows the inside of the Quad 67 after having the cover removed; in the close up section the arrow indicates the position of the plastic gear wheel.



*Picture 1*  
*Inner view of the Quad 67 and the location of the plastic gear wheel (yellow coloured plastic wheel)*

*Picture 2*  
*Location of the cylindrical mounting nuts of the transport mechanism*

As the gear wheel is located at the underside of the transport mechanism, the transport mechanism has to be taken out. Therefore it is necessary to remove 3 long cylindrical nuts by using the normal screw driver. Picture 2 shows the location of the 3 cylindrical nuts. To get access to the 2 nuts on the front side you carefully have to shift the tray open by hand. The yellow circles in the picture indicate the location of the 3 nuts to be removed.

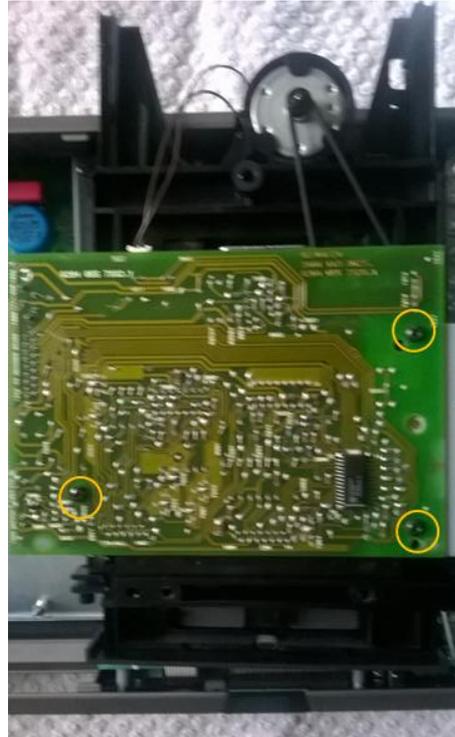
After removing the 3 nuts you will be able to lift off the transport mechanism, while it keeps connected with the electrical wires (ribbon cable). You may have to close the tray again a little by pushing by hand.



*Picture 3*

*The transport lying upside down; the circles indicate which screws are to be removed*

Lift the transport carefully out while still connected with the ribbon cable and turn it upside down. In the picture the locations of 3 screws are indicated in the yellow circles. The screw on the most left side is a Phillips screw, the ones on the right side are Torx 10. Take the screws out and lift the PCB carefully a little. On the right hand you will see the metal sheet on which the gear wheel is mounted.



*Picture 4*

*The small metal sheet as mounting plate for the gear wheel*

Take the metal mounting plate carefully out.

*Mind the small drive belt if you intended to re-use the drive belt!*

*Please be advised that the spindle of the gear wheel is not exactly in the middle of the metal sheet so be aware of the correct position of the mounting plate. See picture 4.*



Picture 5

The broken gear wheel which has lost nearly all its teeth.

The gear wheel can be pulled off the spindle by hand force. The gear wheel is kept in place through a rim in the spindle, see picture 6.

After removal of the old gear wheel, clean the spindle with a tissue and put some new grease on it.



Picture 6

Put the mounting plate on a flat surface and press by hand force the new gear wheel such that it is fixed in the rim. A small edge in the new gear wheel snaps in the rim in the spindle to keep the new gear wheel in place.

The arrows indicate the rim in the spindle.



Picture 7

The new gear wheel on the mounting plate, ready for re-assembly in the CD player.



### Re-assembly of the CD player

When you re-assemble the mounting plate into the transport mechanism, take care of the correct position, see picture 4. Also take care that the drive belt will not be touched with greasy fingers. Pay attention that the square drive belt will not be twisted.

After having placed the mounting plate in the right position, re-place the PCB and fasten it with the 3 screws (2 Torx types and 1 Phillips).

You may also wish to renew the grease in the sliding slots of the tray. Remove the old grease by a tissue and put a little grease in the sliding slots.

The next step is to turn the transport mechanism with the right side up and re-place it on its mounting screws. The 3 cylindrical nuts are used to mount the transport. You need to adjust the tray in the correct position by fastening the 2 cylindrical nuts on the front side. The tray should be adjusted in such a way that the gap between the tray and the slot in the front panel allows for a free movement of the tray. For this exercise it may be necessary to open and close the tray a couple of times by carefully pushing it by hand.

Finally the cover can be re-mounted to close the player. *Please be informed that the cover will only fit in one way. It has a front side and a back side!* Fasten the cover on the underside with the 4 Phillips screws.

Your Quad 67 CD player should now be ready again for the next decade.

Henk Ferwerda, May 2015