

Application No. 837: Magnet separator for strong magnets

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Step-by-step instructions for building a magnet separator for large neodymium magnets

Separating magnets the safe way

We often get the question: "**How do you properly separate large neodymium magnets?**" Because when two very strong magnets get together, it is extremely difficult to get them apart again.

One solution is to build yourself a wooden magnet separator. With this contraption you can easily and safely separate magnets.

YouTube Video: www.youtube.com/watch?v=0_szKjF4hO0

Below we provide a detailed description as well as free PDF instructions for our magnet fans.

The PDF contains a list of all the materials you need along with step-by-step instructions, drawings, and exact measurements.

Materials needed

To build a magnet separator you need different boards, hardware, and tools. The **downloadable PDF** includes a shopping list and detailed instructions.

Download PDF (media2.supermagnete.ch/docs/construction-manual_magnet-separator.pdf)



The following two articles that are needed for this construction are available in our shop:

- Self-adhesive metal tape white (www.supermagnete.fr/eng/M-FERROTAPE) (M)
- UHU MAX REPAIR (www.supermagnete.fr/eng/WS-ADH-01) (N)

Instructions

Step 1

Cut the wooden boards with a jigsaw (or alternatively with another saw) according to the **PDF manual**.

The result is nine individual parts (**A1, A2, B1, B2, C, E, F1, F2 and G**), from which the magnet separator will be assembled.



Caution: Please wear protective gear while sawing (gloves, protective glasses, and if necessary a dust respirator).

Step 2

Mark the drill and screw holes according to the measurements in the PDF manual so you can easily set them in later steps. At the same time you mark the spots for the various individual parts.



Tip: We recommend using a pencil with soft lead to be able to remove the markings if necessary.

Step 3

Now the two "A" parts are screwed together at the marked places. For that purpose screw the 7 countersunk wood bolts through "A2" into "A1". The resulting part will now be called "A1-A2".



Tip: In order for the screwed-together parts to have a good footing, it is important that they are flush especially at the bottom edge.

Please note: If you don't have countersunk bolts available, the wood should be predrilled prior to screwing in the screws so the screw heads may be sunk in.

Step 4

In this step the marked hole for the M8 hexagon bolt "J" (with which the lever arm will be fastened later) is screwed into the parts "A1-A2" and "E".

Furthermore, the marked cavity is sawed from "A1-A2" which results into two wooden triangles: The part "D" and another piece that is no longer needed.



The edges of all parts are sanded down as necessary to make them smooth and avoid splinters later.

Tip: The part "D" serves to better hold the magnet in the cavity.

Step 5

The part "F1" is now screwed into the cavity of "A1-A2" with two small countersunk wood bolts "I" as marked in the manual. This ensures that the magnet will rest as flat as possible.



Tip: *If the surface has become a little uneven from the sawing, this can be remedied with sanding paper.*

The two feet "B1" and "B2" are now screwed together with 4 medium countersunk wood bolts "H" at the marked places on the part "A1-A2". The resulting combination is now called "Body".

Step 6

Then the part "E" is screwed together with the strengthening "C" – 3 medium countersunk wood bolts "H" are used for that. The resulting combination is now called "C-E".



Tip: *The bottom side of "E" and "C" have to rest as flush as possible.*

Step 7

The part "F2" is screwed onto the bottom side of "C-E", which results in the complete lever arm (called "Arm" in the manual).

Step 8

The "Body" is now screwed onto the base plate "G" at the marked spots. We used a MDF fibre board; alternatively you can also use another wooden board with the same measurements.



Step 9

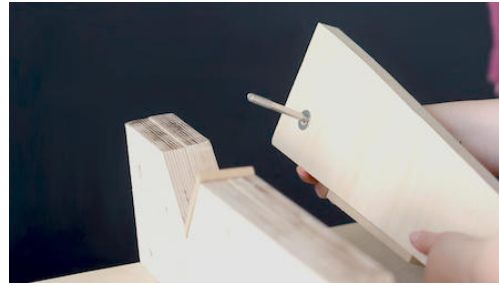
On the top side of the base plate "G" a thin soft sponge "O" is attached. In our case, we used UHU MAX REPAIR (www.supermagnete.fr/eng/WS-ADH-01) "N" to glue it to the spot where the separated magnet will drop later. This way the magnet will not be damaged or pulled underneath the Body.



On the bottom side of the base plate "G" we glue 3-4 pieces self-adhesive metal tape (www.supermagnete.fr/eng/M-FERROTAPE) "M", which will "catch" and attract falling magnets. Since it is a thin metal tape, even strong magnets can be easily removed.

Step 10

Now the "Arm" is screwed together with the "Body". For that step the M8 hexagon bolt "J", two washers "L", and a lock nut "K" are needed. After screwing all parts together tightly, the magnet separator is ready for use!



Separating magnets

The magnet separator works especially well for large and strong neodymium magnets - we listed some of them below. Tips for separating smaller magnets are outlined in our FAQ.



Go to FAQ 'Separating Magnets' (www.supermagnete.fr/eng/faq/separating)

Caution: When handling strong neodymium magnets, please always use protective gloves and glasses. Also review our safety tips (www.supermagnete.fr/eng/safety-neodymium).

Articles used

1 x M-FERROTAPE: Metal strip self-adhesive white (www.supermagnete.fr/eng/M-FERROTAPE)

1 x WS-ADH-01: UHU MAX REPAIR (www.supermagnete.fr/eng/WS-ADH-01)

2 x Q-51-51-25-N: Block magnet 50,8 x 50,8 x 25,4 mm (www.supermagnete.fr/eng/Q-51-51-25-N)

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