



High friction washer - Playing Card Shuffler V3



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Summary

A high friction enhancement washer for the Playing Card Shuffler v3



0.89 hrs



1 pcs



0.15 mm



0.40 mm



Flex



6 g



Prusa MK4S

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[playingcardshuffler](#) [frictionwasher](#)

I have very much been enjoying the Playing Card Shuffler V3 by @LukasCenovsky

Find it here < [Playing Card Shuffler v3 by Lukas Cenovsky | Download free STL model | Printables.com](#) >

As with many innovative solutions there can be limitations. Where you are trying to shuffle either, very new cards, very smooth/shiny cards, or even where you are trying to shuffle a double pack of cards such as used in a very common number game; the level of friction from the originally specified 8mm OD x 2mm W plumbing washers was insufficient to grab and move an individual card from the bottom of a stack.

This was either because of lack of traction on the card or because of higher mass bearing down on the card.

My solution is to create a 4mm crimp edge washer that simply retro fits to the original Playing Card Shuffler V3 spindles (inner diameter of the washer is chamfered back to 2mm). A rough calculation suggests a x8 increase in contact friction over the original washer. I printed in the softest flex I had (TPE 83a shore). No supports required. Very dry filament required. I printed on a 0.15 layer.

With this minor tweak the V3 shuffler seems able to handle anything thrown at it, or indeed on to it.

Great design Lukas, thank you.

This remix is based on



Playing Card Shuffler v3

by Lukas Cenovsky

Model files



softrubberwasher_20x4mm-od-toothed.stl

Print files



softrubberwasher_20x4mm-od-toothed_04n_015mm_flex_m... .bgcode

⚙ Flex ⚙ 0.40 mm ⚙ 0.15 mm ⌚ 0.89 hrs ⚖ 6 g 🖨 Prusa MK4

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