Model 15
Windshield wiper - counterrotating

Date

Name

Class

DESIGN TASK

Construct the model according to the assembly instructions. Ensure that the cranks and struts of the eccentrics are correctly positioned and aligned. Task: Adjust the eccentric again so that the swivel range of the wipers is suitable. The wipers should lie flat at the bottom but not block.

THEMATIC TASK

The two wiper blades (the gray-silver I-struts 90) overlap again.

1. Why is this overlap important in a real vehicle?

2. Since the wipers overlap, one is again above the other. The upper one should therefore start moving upward slightly earlier than the lower one so that the wiper arms do not interfere with or even damage each other. Although both wipers are moved by the same drive, they must be controlled slightly differently from each other. The drive is therefore not symmetrical, but asymmetrical.
   Describe the two design features in the model that cause this asymmetry:

EXPERIMENTAL TASK

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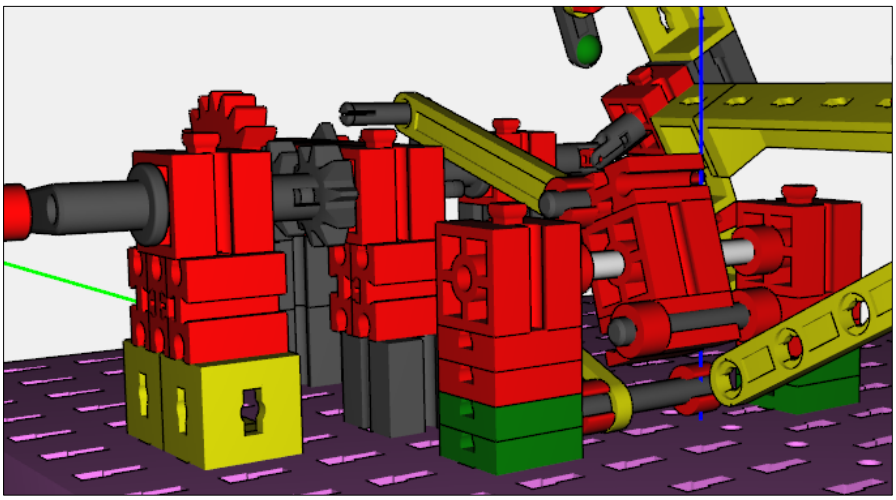
There are two building blocks 5 under each of the two red building blocks 15 with holes in the central eccentric, so that the correct height is achieved. You still have four unused building blocks 5 left in the kit.



Raise the position of the central eccentric axis by placing one or two additional building blocks 5 (green in the picture) under each of the two building blocks 15 with holes.

Does the functionality of the mechanism improve or deteriorate when the axis of rotation of the central eccentric is changed?

Does the functionality of the mechanism improve or deteriorate when the axis of rotation of the middle eccentric is changed?

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