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OPTIMIZATION OF A SCREW

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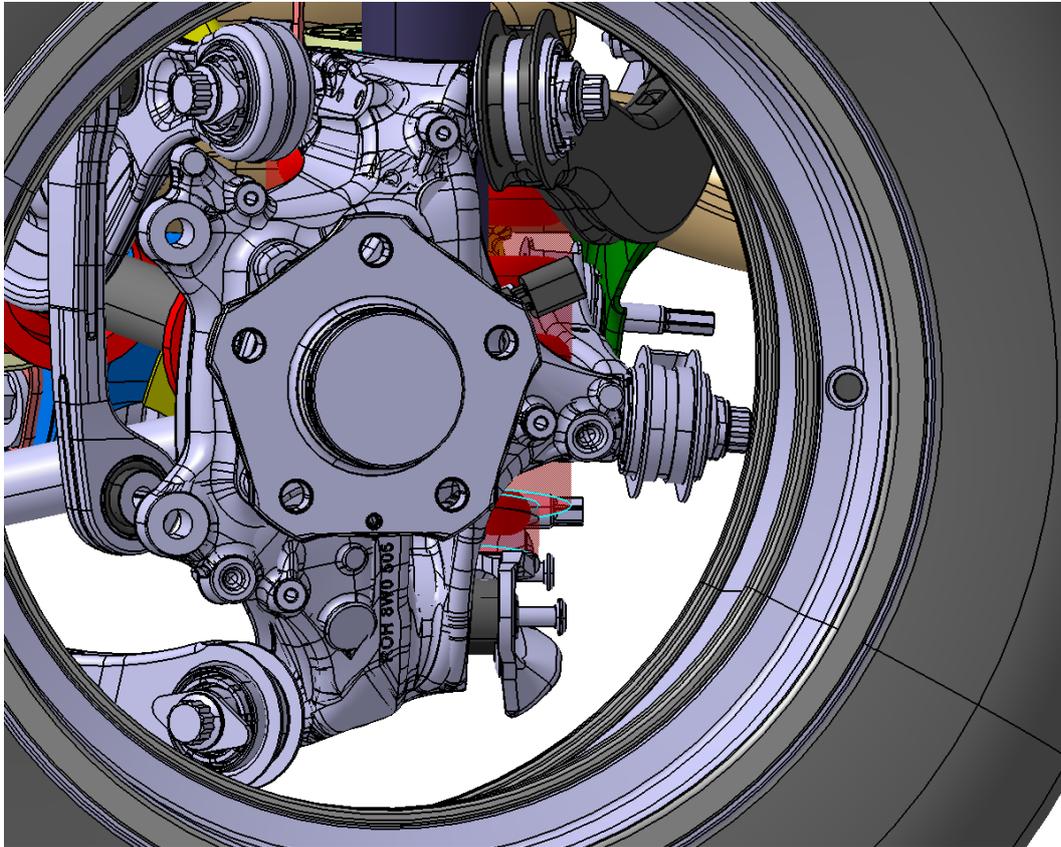
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OPTIMIZATION OF A SCREW

Technical task:

Particularly when bolting tie rods, narrow joints occur between the rim and the bolt head.

Due to the flying bolting of the tie rod outside, an additional washer is required (round, square, triangle, diamond...). This is larger than the handlebar eye, so that the handlebar can continue to perform wheel-guiding tasks in the event of a theoretically possible slipping of the handlebar from the bearing.



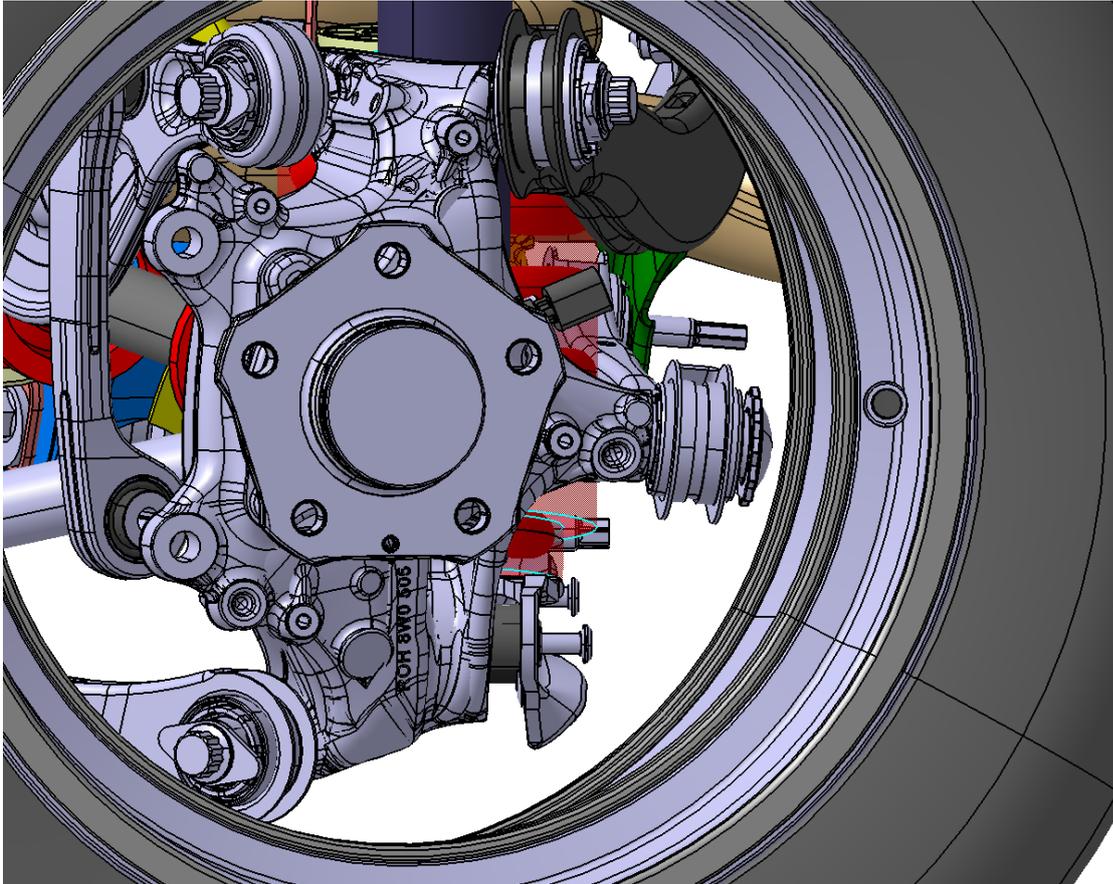
Initial situation:

Due to the "high" construction of the bolt head and the necessary washer, the outer tie rod head cannot be moved further back in the rim dish. This restricts the design of the kinematics.

In the case of an axle with a rear track rod and spring behind the cardan shaft, the clearance between spring and track rod is also often critical. Here, too, an outer tie rod point further back helps. This prevents that the tie rod has to be cranked and thus becomes heavier and more expensive.

Solution:

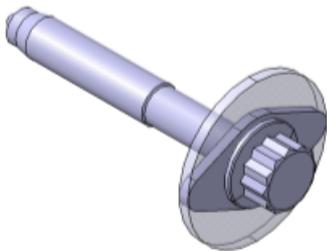
A bolt with an extremely flat head, where the outside diameter of the bolt head is larger than the bearing diameter, so that the bolt head also replaces the function of the washer. A washer is integrated into the screw head to ensure that the bearing can be screwed on correctly.



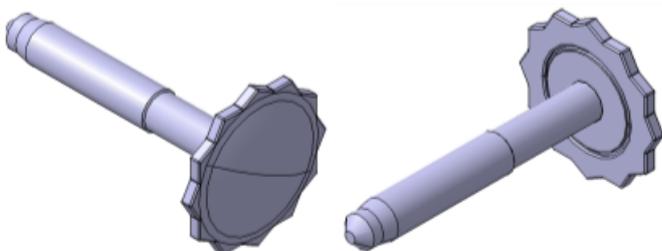
Advantages

Due to the new design in the rim bowl, the outer track rod head can be moved further back and thus eliminate the critical points previously mentioned in the initial situation.

State of the art:



New Idea:



Sectional view of the screws:

Yellow -> State of the art
Blue -> New Idea

