



Tarmo5 axle hex end size increase



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Summary

I increased the size of the hex ends of the CV shafts and front axles to better fit the wheel hex sockets.

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I experienced a failure on one of my wheel-end CV housings, where the hex end of the housing which fits in the wheel hex socket got rounded off and wouldn't transmit torque to the wheel any more. After I printed another one, I noticed that the fit of the CV shaft in the wheel socket was quite loose. Between calipers, the Onshape model, and the Amazon page for the wheels, I discovered that the CV shaft hex end was 11.6mm wide, but the wheel socket was 12mm. Testing the fit between the wheel and a freshly-reprinted CV shaft showed there was quite a bit of play between the parts, which certainly contributed to the failure.

These models bump up the CV shaft ends to 12mm. They fit much better now - very much like a bolt in a socket wrench. There should be no issues with the CV axles fitting in the bearings (I didn't change any of the bearing journals) or on the wheel spacers (those are a 12.4mm hex).

I created these by editing the OnShape model directly, and have included .stl and .step files of each so that they can be printed or edited as needed.

This remix is based on



3D Printed RC car Tarmo5

by Engineering Nonsense

Model files



front-axle-12mm-c09.step

☐ Front Axle Step File



cv-wheel-housing-12mm-c01.step

☐ CV Housing Step File



front-axle-12mm-c09.stl

☐ Front Axle STL File



cv-wheel-housing-12mm-c01.stl

☐ CV Housing STL File

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