

USING ADEQUATE BALL BEARINGS IN RC CAR CHASSIS

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ABSTRACT

The paper presents the usage and misuse of ball bearings in rc car chassis technology of today . As this area is under massive development and could have a great impact in real cars it is important for new researchers to understand the importance of using the correct parts in constructing new devices and technologies based on the current one. As problems in economy are increasing it is important for new discovery's to be tested in small scale models rather than full scale.

Keywords: ball bearings, chassis, rc car, chassis technology.

1. Introduction

Ball bearings are essentials components of every mechanism in our days, from usual sizes to

micro they are used to reduce friction in every modern mechanism that we use today ;

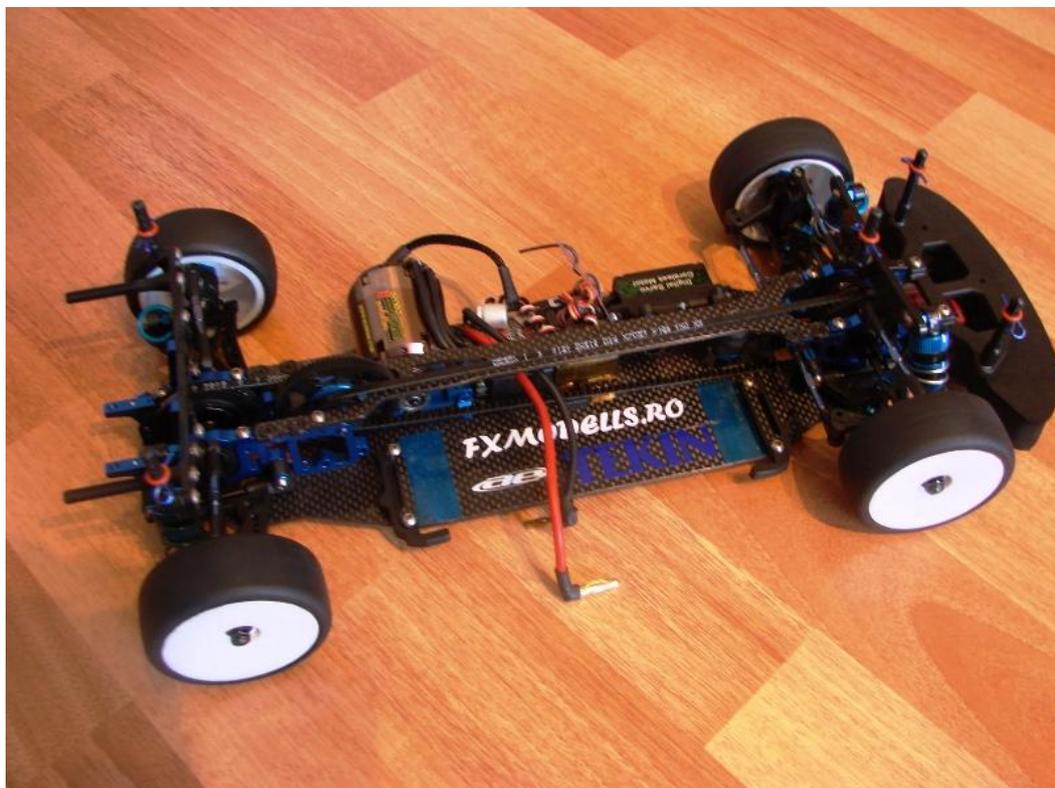


Fig. 1. Associated TC6 RC car chassis propriety of www.fxmodells.ro

It is very important to use the correct type of bearing for every application in order to have a good and functional environment . This is the reason this paper is an actual small guide on how to use and implement the current technology in rc cars.

2. Bearings types used

Almost 80% of the Rc Cars today use general economy ball bearings like GE3, GE5, XSO oiled or greased. This bearings sets are very cheap and affordable and can be compared to general bearings used in all-day cars. In racing chassis or special purpose vehicles the hybrid ceramic ball bearings are used . For on-road vehicles the general economy sets

for example GE5 or XSO are recommended because their tolerance is smaller and destructive forces is smaller than those in off-road cars. In off-road cars we should use bearings with bigger tolerance in order to ensure dust and other residues to get out. Bearings are very important for a good stability of the car and consumption. A broken or blocked bearing has a very big influence on consumption and chassis integrity.



Fig. 2. a general economy bearings



2.b misused broken bearing

3. Common mistakes

The majority of users do not correctly understand the importance of using the correct ball bearings type or they do not consider bearing maintenance important. A correct approach would spare the user of all the problems caused by broken or blocked bearings. Another common mistake is the

misuse of bearing types. A lot of users spend enormous amounts of money on special bearings that will give them an insignificant performance increase. Below you can see two tables with the results obtained by national champion Cristian Faur on his TC6 car using GE5 bearings provided by manufacturer Abec 35 (www.abec35.com).

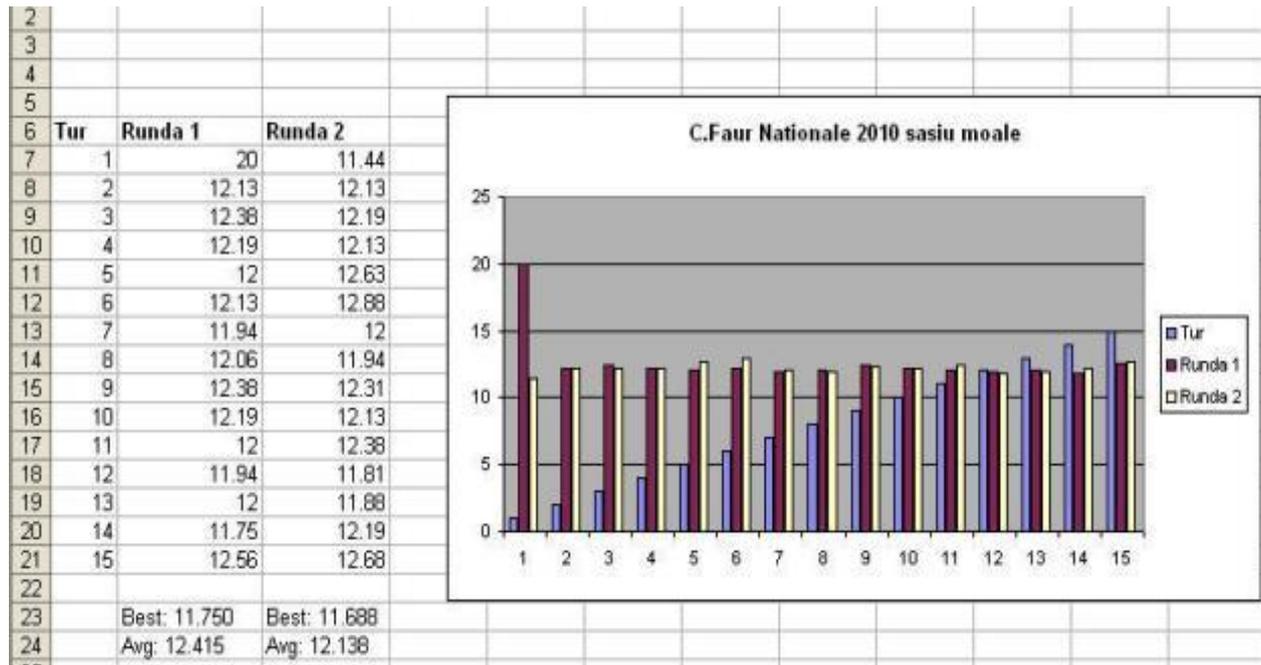


Fig. 3. Romania Touring Nationals 2010 results flex chassis

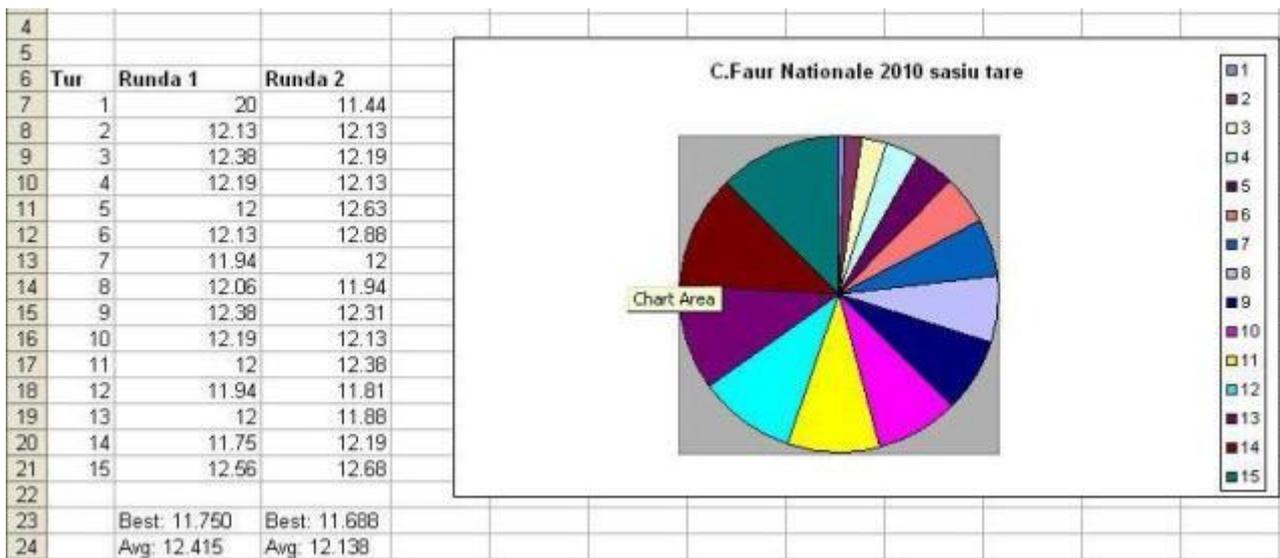


Fig. 4. Romania Touring Nationals 2010 results stiff chassis

4. Conclusion

As you can see the results are on two different chassis types, but the bearings used are the same. In this case the hybrid ceramic bearings are not recommended because of their price performance ratio. As a conclusion it is strongly recommended to check the bearings before every run or several runs to improve consumption and total efficiency of the car.

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