ABSTRACT

Hanson, M. Analysis of technical regulations of FIA WTCC and propositions for reducing costs. BA Thesis. – Tartu: EMÜ, 2012. 58 pages, 8 illustrations, 10 drawings, 5 tables, format A4. In Estonian language.

The topic of the current thesis is the analysis of technical regulations of the third most important motorsport series in the world today – FIA World Touring Car Championship – and propositions for reducing costs. This thesis gives an overview of the history of touring car racing and the situation today and then by analysing FIA’s technical regulations for World Touring Car Championship from the aspects of safety, design and technicality, proposes changes in the technical side of a touring car with the goal of reducing the cost of a race car while keeping with the spirit of the championship, since the cost is the biggest influence to success of the series. Main ideas presented in the thesis without changing the essence of this series for cost reduction are changing the engine’s displacement back from 1.6 to 2 liters as it was before and still is most other touring car series. Also the main idea is finding contract suppliers and specific substitutes for turbo, gearbox and braking system and making them mandatory for all race cars. Garrett is chosen to be the supplier for the turbo, Xtrac for the gearbox and Brembo for the braking systems. With these new ideas, the cost of a race car, which is approximately 300 000 € today, should be reduced at least 13% not taking into account for the budget saved on the lack of development needed thanks to supplied parts. This thesis could be used for other touring car series as well and could be the first point in reducing the costs of maintaining a touring car today, thus creating stronger touring car series for the future without compromising its essence.

Keywords: FIA, World Touring Car Championship, touring cars, racing, technical regulations, cost reduction.