



CARe Newsletter

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POSTGRADUATE RESEARCH SYMPOSIUM ON MECHANICAL ENGINEERING 2016

The 1st Postgraduate Research Symposium on Mechanical Engineering 2016 (PRiSME2016) is jointly organized by the Faculty of Mechanical Engineering (FKM) and the Centre for Advanced Research on Energy (CARe), Universiti Teknikal Malaysia Melaka (UTeM). The event was held at Mechanical Engineering Laboratory Complex on 5th January 2016. PRiSME provides an opportunity for graduate students to explore and share their research interests, under the guidance of a panel of distinguished experts in the respective field. A total of 76 postgraduate students from FKM have presented their research work in this symposium. Besides, the Best Oral Presentation Award for each technical session was given to 13 outstanding presenters.

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WHEN SHOULD I CHANGE MY TIRE?

Tires are one of the most fundamental parts on your car. Tires not properly inflated and well maintained will wear prematurely, waste of fuel and can caused a collision. According to survey, tire is the most neglected item of automotive maintenance.

In certain situations, a tire can be repaired. However, the repair of tires must be preceded by a careful examination of all areas of the tire, inside and out, by a trained specialist. The removal of the tire from the wheel is essential because internal damage is not visible while the tire is fitted.

Motorists are advised to regularly check the state of tires from any signs of noticeable damage or abnormal wear. Below, seven major reasons when you should seriously consider changing your tires (refer Figure 1):

- a. The tread is down to 1.6 mm of the tread wear indicator.
- b. Signs of uneven wear, cracks and lump on the tire tread/wall.
- c. Punctured more than 5 times on the same tread area or punctured hole.
- d. Puncture in the tire side wall or lower shoulder.
- e. Damage to the tire wall.
- f. Uneven tire tread due to the long time parking.
- g. Tire has been used more than 5 years.

Retread tires are growing in popularity due to their cost efficiency, environmental friendliness, and quality performance. Retread, also known as "recap," or a "remold" is a re-manufacturing process for tires that replace the tread on worn tires. Retreading is applied to the spent tires casings that have been inspected and repaired [1]. It preserves about 90% of the material in spent tires and the material cost is about 20% less than manufacturing a new one. According to Deputy Minister of Transport, Malaysia, YB Datuk Ab. Aziz Kaprawi, retread tire is safe to use as it complies with the Malaysian Standard (MS) 224 (Specification for Retreading of Pneumatic Rubber Tires for Passenger Car and Commercial Vehicle) in addition to United Nations R108 (Retreaded Pneumatic Tires) and R109 (Retreaded Pneumatic Tires for Commercial Vehicles). Besides, statistics of road accident released by Royal Malaysian Police shows that only 8 of 30,458 road accident cases in 2013 involving problem of retreading [2].

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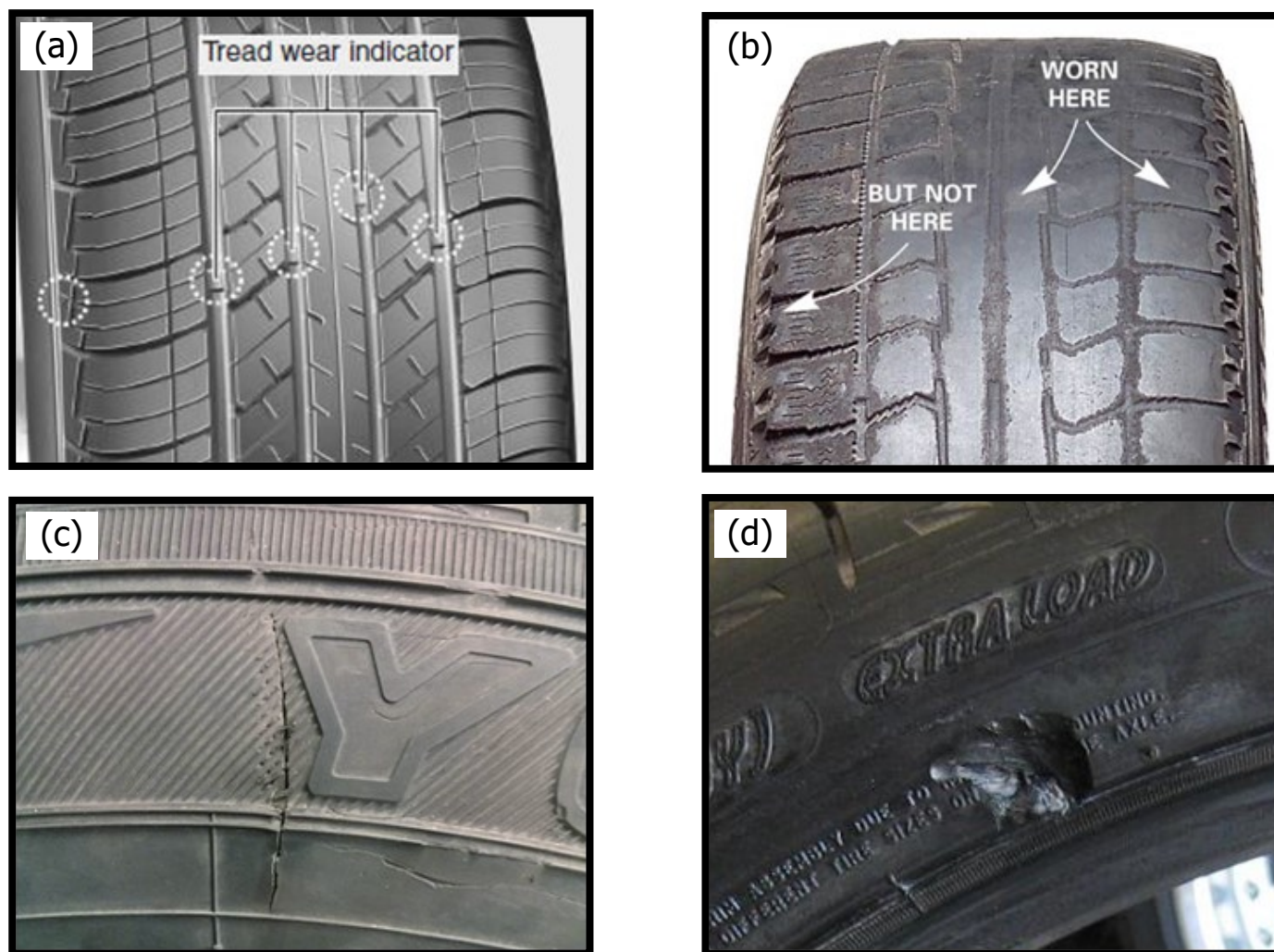


Figure 1 (a) Thread wear indicator [3], (b) uneven wear [4], (c) tire punctured in the shoulder/side wall [5] and (d) damage to the tire wall [6].

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