

From Forensics to Research: Cases of Tire Aging and Two-New Tire Positioning

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ABSTRACT

A major impetus to warnings research in the last 3 decades is concurrent activity by human factors/ergonomics (HFE) professionals participating as expert witnesses in product liability and personal injury cases in which there has been a claim of failure to adequately warn about the hazards. Two examples of research that were motivated by HFE expert participation in litigation are presented. The first example concerns tire aging. Tires over 6-10 years are at risk of on-road failure due to deterioration over time and environmental exposure—even with little or no tread wear. The second example concerns the positioning of two-new tires. Litigation indicates that two new tires (with best tread) should be mounted on the rear axle, regardless of drive train. In hydroplaning situations, if the rear tires lose traction first the vehicle will oversteer making it nearly impossible to control compared to front tires losing traction first. Several studies have been carried out that reveal that few people know little about the tire aging or tire placement restriction. Implications for warnings are discussed.

Keywords

Warnings, instructions, hazard communication, automotive, tires, knowledge