A STUDY OF BICYCLE DESIGN AS IT AFFECTS SAFETY OF OPERATION

Jerry L. Purswell
Robert Terrell
School of Industrial Engineering
University of Oklahoma

Jeff Greene
Charmin Paper Company

David Lundquist
Dayton Tire Company

ABSTRACT

This paper presents the results of studies concerned with bicycle design and safety of operation. One study concerned the relationship between handlebar design, i.e., racing, regular and hi-rise, to bicycle control. It was found that the popular racing style handlebars used on the popular ten-speed bicycle produces problems in sensing visual and auditory information and responding to this information as compared to the regular handlebar design.

A second study concerned the braking capability of bicycles, the control while braking, and the grip strength required for braking. Serious problems were found in both the adequacy of brake design in relation to grip strength of riders and in the control of the bicycle during hard braking.

Downloaded from pro.sagepub.com at UNIV OF OKLAHOMA LIBRARIES on January 20, 2016

Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/25447