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**Gauthier et al.**

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(54) **SYSTEM AND METHOD FOR TESTING  
DEFLATED TIRE HANDLING**

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(57) **ABSTRACT**

A subjective test method for characterizing the deflated  
handling performance of self-supporting tires includes the  
steps of positioning tires on selected wheels of a test vehicle  
and then subjecting the tire—test vehicle combination to a  
plurality of different driving maneuvers such that a variety  
of testing objectives can be evaluated. Exemplary driving  
maneuvers are representative of a vehicle's operation in  
steady state, transient state, throttle lift-off, and/or emer-  
gency driving situations. Testing objectives that are obtained  
in accordance with each test maneuver may include both  
objective criteria that may be obtained via vehicle instru-  
mentation and subjective criteria that may be assigned grade  
ratings by a test driver. Uniformity of testing maneuvers and  
driver solicitation is preferred to minimize dispersion in test  
results. A standardized reporting grid is also provided in  
accordance with the disclosed technology such that the  
results of the testing objectives may be properly docu-  
mented. Selected test data are then used to provide perfor-  
mance ratings for tire acceptability levels. Some perfor-  
mance ratings are automatically calculated through an  
established algorithm, and all ratings are preferably pro-  
vided on a common rating scale.

(21) Appl. No.: **10/091,375**

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(51) **Int. Cl.**<sup>7</sup> ..... **G06F 13/00**

(52) **U.S. Cl.** ..... **701/29; 73/146**

(58) **Field of Search** ..... 701/29; 73/146,  
73/146.2

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**33 Claims, 9 Drawing Sheets**

