

Title (en)
GUARDRAIL SAFETY SYSTEM FOR DISSIPATING ENERGY TO DECELERATE THE IMPACTING VEHICLE

Title (de)
LEITPLANKENSYSTEM ZUM ABFÜHREN VON ENERGIE ZUR VERZÖGERUNG DES AUFPRALLENDEN FAHRZEUGS

Title (fr)
SYSTÈME DE SÉCURITÉ À GLISSIÈRE DE SÉCURITÉ DESTINÉ À DISSIPER L'ÉNERGIE POUR RALENTIR UN VÉHICULE EN COLLISION

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Priority

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Abstract (en)
[origin: WO2009137483A1] In accordance with a particular embodiment of the present invention, an end treatment of a guardrail safety system includes a terminal portion of a guardrail beam that has a downstream end and an upstream end. The terminal portion of the guardrail beam slopes from a first vertical height appropriate for redirecting an errant vehicle to a second vertical height proximate the surface of the ground at an upstream end of the terminal portion of the guardrail beam. A flattening portion forms a channel through which the terminal portion of the guardrail beam is disposed. A vertical dimension of the channel is greater at a downstream end of the flattening portion than at an upstream end of the flattening portion. An impact plate is connected to the flattening portion for engaging an impacting vehicle at an end of said guardrail beam. During an end-on impact, the impact plate and the flattening portion are advanced longitudinally along the guardrail in a downstream direction by the vehicle. The advancement of the impact plate and flattening portion dissipate energy to decelerate the impacting vehicle. As downstream portions of the guardrail beam are forced into the flattening portion, the guardrail is flattened vertically. In accordance with a particular embodiment of the present invention, a terminal portion of a guardrail safety system includes a terminal portion of a guardrail beam having a downstream end and upstream end. The terminal portion of the guardrail beam slopes from a height appropriate for redirecting an errant vehicle to a height proximate the surface of the ground at an upstream end of the terminal portion. Support posts are installed adjacent a roadway in spaced apart relation to one another and are coupled to the terminal portion of the guardrail beam. A terminal support post is installed adjacent the roadway at an upstream end of the end terminal. The terminal support post couples to an upstream end of the terminal portion of the guardrail beam by a resistive, tensile coupling that maintains tension in the terminal portion of the guardrail beam. The resistive, tensile coupling is maintained between the terminal support post and the guardrail beam during an end-on or re-directive impact by a vehicle. However, the resistive, tensile coupling between the terminal support post and the guardrail beam is released during a reverse-direction impact.

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