



Boat Tail Law in the United States

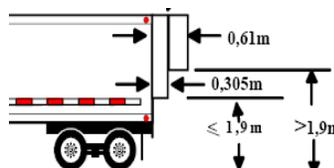
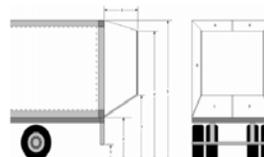
Presentation to the Task Force on Vehicle Weights and Dimensions Policy

November 2008

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Presentation Agenda

- . Letter of the Boat Tail Law
- . Administrative Jurisdiction
- . Product Compliance Process
- . Relationship between Canadian and U.S. Safety Regulations
- . Relationship between the Canadian MOU and the U.S. Boat Tail Law
- . Opportunity for Harmonization
- . Additional Considerations
- . Voices of Support
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Letter of the Boat Tail Law

- **U.S. federal regulation 23 CFR 658.16, "Exclusions from Length and Width Determinations," grants a length waiver to an aerodynamic device mounted to the rear of a commercial motor vehicle, provided that the device:**
 1. is not capable of carrying cargo;
 2. does not extend beyond 5 feet (1.52 meters) of the rear of the vehicle;
 3. does not obscure tail lamps, turn signals, marker lamps, identification lamps, or safety devices such as hazardous material placards or conspicuity markings; and
 4. has neither the strength, rigidity nor mass to damage a vehicle, or injure a passenger in a vehicle that strikes a vehicle so equipped from the rear.
- **Boat Tail Law has twin purposes of *improving efficiency* and *protecting safety*:**
 - "Maximizing fuel economy during vehicle operation is once again becoming an increasingly important factor in the trucking industry, not to mention its importance in managing of the nation's fuel supply.... But we cannot allow a device with the potential of negating the safety gains achieved by the rear underride protection rules." (67 FR 225, page 15107)

Administrative Jurisdiction

- **The U.S. Department of Transportation (DOT) is comprised of multiple agencies with different responsibilities and expertise, including:**
 - National Highway Traffic Safety Administration (NHTSA)
 - Federal Motor Carrier Safety Administration (FMCSA)
 - Federal Highway Administration (FHWA)
- **Boat Tail Law falls under the jurisdiction of FHWA:**
 - It is technically a length exclusion, and FHWA regulates vehicle size and weight
- **In practice, FHWA exercises its jurisdiction with advice from NHTSA and FMCSA:**
 - NHTSA administers compliance with standards governing rear underride protection (FMVSS 223 and 224) and lighting and conspicuity (FMVSS 108); rear-mounted aerodynamic devices must not undermine these standards
 - FMCSA is focused on reducing crashes, injuries and fatalities involving large trucks and buses



Relationship between Canadian and U.S. Safety Regulations

- **There is broad existing compatibility between Canadian and U.S. safety regulations:**
 - CMVSS and FMVSS criteria are parallel in most respects
 - But differences do exist, for example:
 - CMVSS 223 is more stringent than FMVSS 223
 - Canadian Motor Vehicle Transport Act grants provinces authority over “extra-provincial” trucking, whereas U.S. regulations are federalized via the “National Network”
- **2008 Trilateral Transportation Meeting of ministers from Canada, the U.S. and Mexico endorsed ongoing harmonization:**
 - “Efficient and integrated transportation systems have been a vital underpinning of the North American success story.... We reaffirm today the objectives... to continue to improve the safety, security, and *efficiency* of North American transportation systems; to ensure the adoption of *new technologies* and procedures... and to expand the capacity of our freight and passenger transportation systems... while *minimizing transportation’s effect on the environment.*” (Ministerial Declaration, June 10, 2008)

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Relationship between Canadian MOU and the U.S. Boat Tail Law

- **Canadian MOU on Vehicle Weights and Dimensions vs. U.S. 23 CFR 658.16:**
 - Cargo provisions and lighting and conspicuity provisions are substantially the same
 - Canadian MOU limits length at 0.305-.0.61 meters (depending on distance from the ground), while the U.S. limit is 5 feet (1.52 meters)
- **Tradeoffs between respective length limits:**
 - Shorter length limit eliminates the need to review rear underride protection
 - Longer length limit roughly doubles the potential for fuel efficiency gains: ~2.5% vs. ~5% at 62 mph (100 km/h), demonstrated at Energotest 2007 in Canada
- **Trucking fleets will find a way to cope with different regulations, for example:**
 - Drivers can close the TrailerTail® upon entering Canada
- **But differences may grow increasingly problematic and costly:**
 - Prospective California regulation would require the use of aerodynamic devices on 53' trailers based on minimum fuel-efficiency gains of 4% (reefers) to 5% (dry vans)
 - Carbon taxes and other market-oriented policies will reward higher fuel-efficiency gains

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Opportunity for Harmonization

- **Based on present circumstances, harmonization would likely mean a shift of the Canadian length limit toward the U.S. length limit:**
 - The 5-foot (1.52-meter) U.S. standard has stood since 2002 and is unopposed
 - Canadian Trucking Alliance members support a longer length limit
- **At least two administrative options for harmonization:**
 - Reciprocity: A rear-mounted aerodynamic device that is granted a length waiver on one side of the border can be used on the other side
 - Separate but similar review: U.S. and Canadian officials evaluate a device independently, on a case basis that accounts for a variety of potential designs; review based on test results validated by an independent laboratory authorized to conduct vehicle safety testing
- **The sooner the better:**
 - Based on the frequency of inquiries to ATDynamics by Canadian fleets, roughly 5-10 fleets would now be operating >0.61-meter aerodynamic devices in Canada if allowed
 - Near-term action would prevent conflict with prospective California regulation and other future policies that will target maximum feasible emissions reductions

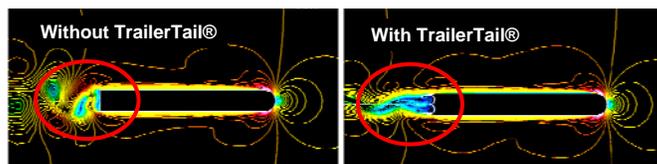
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Additional Considerations

- **Longer rear-mounted aerodynamic devices have safety BENEFITS:**



Fluid dynamic modelling of rear-drag reduction. (Clarkson University)

- Rear-drag reduction eliminates trailer “sway and spray” that pose safety hazards during windy and wet weather; the greater the drag reduction, the lesser the hazard.
- Though benefits are hard to calculate, they are based on simple aerodynamic principles.
- **A change in policy would not be speculative; the U.S.-approved ATDynamics TrailerTail® is available now, and competing devices will follow on its heels:**
 - As an administrative test case, the TrailerTail® presents regulators with comprehensive, readily-accessible safety and fuel-efficiency data
 - Competitors would watch and learn from the compliance process, gaining confidence to bring their devices rapidly to market

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Voices of Support

“ATA supports these types of waivers because they enable motor carriers to conserve fuel and improve their environmental performance.”

– Rich Moskowitz, regulatory counsel,
American Trucking Associations



“We've enjoyed working with you; your professionalism and responsiveness are greatly appreciated.”

– Tony Furst, Director, Office of Freight Management and Operations, FHWA

“Your truck looks like a rocket ship! How do I get one of those?”

– Trucker over CB to ATDynamics test driver outside of Phoenix, Arizona

Key Contacts in the U.S.

Office of Freight Management and Operations, Federal Highway Administration
Re: Administration of 23 CFR 658.16 (the U.S. Boat Tail Law)

Tony Furst, Director
tony.furst@dot.gov, 202.366.2201

Michael Onder, Team Leader, Truck Size and Weight, Freight Technology and Operations
michael.onder@dot.gov, 202.366.2639

John Nicholas, Team Member, Truck Size and Weight, Freight Technology and Operations
john.nicholas@dot.gov, 202.366.2317

Mobile Source Control Division, California Air Resources Board
Re: Prospective California regulation mandating the use of aerodynamic devices on 53' trailers

Stephan Lemieux, Manager, On-Road Heavy-Duty Diesel Section
slemieux@arb.ca.gov, 626.450.6162

Alex Santos, Staff Air Pollution Specialist, On-Road Heavy-Duty Diesel Section
asantos@arb.ca.gov, 626.575.6682

ATDynamics
Re: Additional information; the ATDynamics TrailerTail®

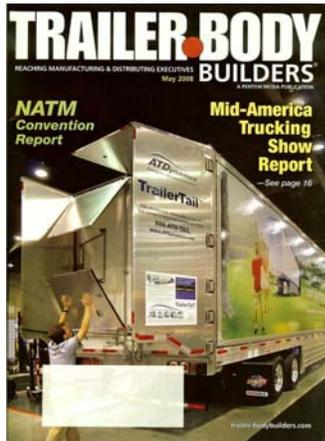
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Questions?

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