

From British Columbia  
LD 1209

Mini truck Study

Greetings, Ms. Cook and other Maine SOS officers.

I'm a vehicle lighting and safety expert located in Vancouver, British Columbia, Canada. I've become aware there's something of a kerfuffle regarding vehicles imported to the US under the 25-year rule, which Maine considers off-road vehicles. It seems there's the added complication that certain language in various communications and publications, including letters sent to owners of such vehicles, may have inadvertently caused confusion by appearing to erroneously categorize vehicles like the Mitsubishi Delica as "minitrucks". It also sounds as though vehicle enthusiasts are mobilizing in some sort of opposition.

I'm writing today to provide evidence in support of your refusal to register Japanese-specification vehicles. Here in BC we have a large number of these vehicles on our roads because of our relative proximity to Japan; that country's aggressive policies that make it difficult and costly to register older vehicles; and Canada's 15-year rule (vehicles older than 15 years may be imported regardless of noncompliance with Canada's national safety and emissions standards).

Most vehicles built to conform to Japanese specifications are right-hand-drive vehicles intended for use in Japanese left-hand traffic; as such, they pose a hazard to the vehicle occupants and the general public [viz MRS 29-A Chapter 15 §1756 (1) (D)] when operated in American right-hand traffic. Attached please find a study sponsored by our provincial vehicle insurer, the Insurance Corporation of British Columbia, looking at the crash involvement of right-hand-drive vehicles versus substantially similar left-hand-drive vehicles. The primary finding: right-hand-drive vehicles are involved in significantly more—40 percent more—crashes than their left-hand-drive counterparts. This increased crash involvement is principally due to inadequate and improper sightlines; a driver seated on the wrong side of the vehicle cannot see to safely overtake another vehicle on a 2-lane highway, for just one of numerous examples.

That alone is a sturdy basis for refusing to register wrong-hand-drive vehicles for regular road use, but it is not the only such basis. In addition, vehicles built for use in left-hand traffic (in Japan or any other country where traffic keeps left) are equipped with headlamps producing low-beam light distributions appropriate for left-hand traffic, but not for right-hand traffic. All low beam light patterns are asymmetrical; those for use in right-hand traffic direct most of their light rightward to provide adequate seeing distance down the driver's own side of the road, while limiting leftward light to control glare toward oncoming drivers. Left-traffic headlamps are opposite: most of their light is directed leftward, while rightward light is limited. When left-traffic headlamps are used in right-hand traffic, most of their light is directed into the eyes of oncoming traffic, while the driver has inadequate seeing distance down their own side of the road—another hazard to the vehicle occupants and the general public.

Right-traffic headlamps meeting international UN Regulations exist for some vehicles popularly imported from Japan, such as certain versions of the Mitsubishi Delica which were marketed as new vehicles in countries with right-hand traffic. But for numerous other vehicles there are no right-traffic headlamps. This traffic-handedness is built into the lamp's optics—it cannot be adjusted out; it is completely separate from the vertical and horizontal aim adjustment of the lamp.

Furthermore, most vehicles built to conform to foreign standards lack certain items of lighting equipment that have been required on US-specification vehicles for many years, and therefore play a crucial role in making vehicles adequately conspicuous to other road users in North American traffic. Specifically, American regulations require amber front and red rear side marker lights and reflectors on all vehicles made since 1/1/70 (lights \_and/or\_ reflectors on vehicles made between 1/1/68 and 12/31/69). These must be mounted as close as practicable to the front and to the rear of the vehicle. Canadian standards, which are very nearly identical to the US standards, also require these items, but they are not required by any other country in the world (and if they are present, they are permitted to be amber front and rear).

Similarly, US regulations require a central high-mount stop lamp (CHMSL, "3rd brake light") on passenger vehicles made since September 1985, and light trucks and vans made since September 1993. The CHMSL requirement was adopted several years later in Japan and Europe, so there exist vehicles imported under the US 25-year rule which, by their construction date, would be required by US regulations to have a CHMSL but were not built with one.

Unlike the headlamp situation (if the vehicle was not offered by the manufacturer in a right-traffic market, and it does not use standard-sized headlamp units, then there are no legitimate right-traffic headlamps for it), CHMSLs and side marker lights and reflectors can readily be added to vehicles not originally equipped, in a good and durable manner with easily-available universal parts designed and built to conform to the applicable US regulations.

It is very appropriate that Maine regards Japanese "kei" vehicles—very small cars and trucks that do not meet safety standards applicable to more conventionally-sized vehicles—as off-road-only items not suitable for use in traffic.

It would also be very defensible for Maine to regard right-hand-drive vehicles in general, of any size, as unsuitable for use in general traffic—even if such a vehicle were to be retrofitted with right-traffic headlamps, a CHMSL, and side marker lights and reflectors as applicable—though it would be reasonable and appropriate to make provisions for registering such vehicles specifically for purposes where they are the most suitable and safest option, such as rural mail delivery. For adequately safe

compatibility with American traffic, any such vehicle should be required to have right-traffic headlamps, and a CHMSL and side marker lights and reflectors as applicable by the vehicle's construction date.

It would be less defensible, from a public-safety standpoint, for Maine to reject left-hand-drive vehicles imported under the federal 25-year rule. Such vehicles are in virtually all cases built to conform to the UN Regulations which are recognized by the majority of countries outside North America. They differ in some details of their technical prescriptions, but on the whole they track very closely with the intent of the various US regulations in ensuring adequate safety performance in a vehicle's various systems, components, and design aspects, and in numerous analyses over many years have been found to provide safety performance at least equivalent overall to the US regulations. With the exception of the lighting incompatibilities described above, and the inherent incompatibility posed by a wrong-side driver position, the same is true of the Japanese regulations—which were brought into line with the UN Regulations some years ago. The attached ICBC vehicle safety study confirms this in its finding that while right-hand-drive vehicles crash more often in right-hand-traffic, the crashes are not more severe and not more injurious to the vehicle occupants compared to the Canadian-specification vehicles—which, again, are substantially identical to US-specification vehicles.

The same is true of UN and Japanese emissions regulations, which differ in the particular details but have been tracking closely with US emissions standards for quite a few years now.

It should also be noted that there are a great many left-hand-drive vehicles in Japan, where such vehicles are considered such a status symbol that a number of automakers market brand-new left-hand-drive vehicles there. They are equipped with left-traffic headlamps, but apparently the Japanese Government is unconcerned with the safety threat posed by wrong-hand-drive vehicles. Nevertheless, this creates a significant pool of left-hand-drive vehicles fundamentally safe to operate in American traffic (once they have been retrofitted with right-traffic headlamps and the missing conspicuity lights and reflectors).

The dismissive attitude enthusiasts fixated on specific Japanese-market vehicles tend to take toward the substantial safety issues with the vehicles they think they want is exactly why it is reasonable and proper for the state to set and enforce requirements for vehicles to be used in public traffic. The competing interests of public safety and individual freedom can best be balanced by adjusting Maine's requirements such that:

- Left-hand-drive vehicles imported under the 25-year rule are eligible for regular registration, provided they are equipped with right-hand-traffic headlamps and the conspicuity devices required on this continent (CHMSL, side marker lights and reflectors), and
- Japanese "kei" vehicles and similar miniature vehicles are not eligible for registration, and
- Right-hand-drive vehicles imported under the 25-year rule are eligible for registration only in carefully limited circumstances: rural mail or similar delivery service, and perhaps as collector vehicles with usage constrained to legitimate collector-vehicle activities and a requirement that anyone registering such a vehicle must also maintain registration and insurance on a left-hand-drive vehicle.

I hope these thoughts are helpful to you in resolving the current quagmire; perhaps the ICBC safety study can provide some sturdy backing for your decision to rescind the registration of right-hand-drive vehicles. By way of background, I was hired some years ago to write an imported-vehicle lighting inspection protocol for the province of BC, which was well received and is still in use. It was crafted specifically to handle exactly the lighting incompatibilities described in this email. I have also written extensively on the compatibility of vehicles built to UN specifications with American traffic systems designed around the assumption of vehicles built to US specifications.

I have attached my CV, and welcome your further conversation on these matters.

Cheers from across the continent,

-Daniel Stern

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## PROFILE

In the field of lighting and light-signaling devices and systems on motor vehicles I wield formidable, comprehensive expertise and knowledge of the theory, practice, technology, technique, development, function, history, marketing, and regulation worldwide. I have served as an **expert witness** in legal proceedings related to vehicle lighting, an **expert resource** for articles and reports by numerous news outlets and regional automobile association chapters, and provided extensively referenced factual corrections to a white paper on headlamp safety performance and glare submitted to a government docket by a renowned national automobile association. I actively participate in **technical standards development** and research bodies, evaluate and critique relevant regulatory proposals, and have contributed materially to **vehicle lighting regulations** in several countries and territories. I participate in — and report on — the major international automotive lighting symposia and conferences, and have attended meetings of the United Nations International vehicle lighting and light signalling regulatory development working group at the invitation of its president. I maintain and curate a collection of technically and historically significant vehicle lighting devices and an apposite library of technical literature.

## EXPERIENCE

### **Chief Editor • Driving Vision News — 2009-Present**

The global automotive lighting industry's technical journal of record. I write, photo-illustrate, edit, and analyze news, conduct interviews, and produce in-depth reports. I chair the annual North American DVN Workshop technical symposium for vehicle lighting researchers, manufacturers, practitioners, regulators, designers, & suppliers.

### **Head of Product Development, Compliance, Retail Sales • Candlepower, Inc. — 2002-2010**

I initiated retail marketing and sales, wrote promotional marketing materials, packaging text and technical literature, oversaw profitable product range expansion, responded to Federal regulatory proposals, resolved compliance issues, and devised in-house product testing protocols.

### **Product Development Manager • ACA Performance — 2001**

I was hired to fix compliance-critical design and engineering flaws in a line of headlamps.

### **Proprietor & Consultant • Daniel Stern Lighting — 1996-Present**

I have served as a consultant and supplier to private, commercial, and governmental end users seeking to see better white driving at night. I have successfully resolved ambiguous forensic evidence for law enforcement and investigative agencies. Under contract I have written in-depth technology reports, monographs, and analyses.

### **Manager, Race & Support Vehicle Lighting • University of Michigan Solar Car Team — 1998-1999**

I directed the design, specification, procurement, fitment, and hookup of the lighting systems on the race vehicle and the mobile machine shop & car transporter.

## MEMBERSHIP

National Academy of Sciences Transportation Research Board Visibility Committee • Appointed member, 2003-Present  
Society of Automotive Engineers Lighting Systems Group • Voting member & task force chairman, 2007-Present

## EDUCATION

### **Bachelor of General Studies • University of Michigan, Ann Arbor — 2001**

The BGS program involves exceptionally broad distribution requirements and requires twice the upper-division coursework of conventional major/minor-based degree tracks.

## PUBLICATIONS

### ***Where Does the Glare Come From?* — 2001 (2<sup>nd</sup> edition 2002)**

This white paper on seeing performance and glare produced by various headlamp types and configurations is a permanent part of the technical libraries of North America's premier vehicle lighting and human factors research institutes.

## SKILLS & SPECIALTIES

- Public speaking with great adaptability to audience and situation
- Highly precise, clear, engaging technical writing, editing, teaching
- Extremely fluent in English, competent in French; vehicle lighting-related vocabulary in German and Spanish