U.S. Consumer Product Safety Commission
LOG OF MEETING

SUBJECT: Meeting with Chairman Tenenbaum, Commissioner Adler and the Recreational Off-Highway Vehicle Association

DATE OF MEETING: 7/21/2010

LOG ENTRY SOURCE: Janell Mayo Duncan

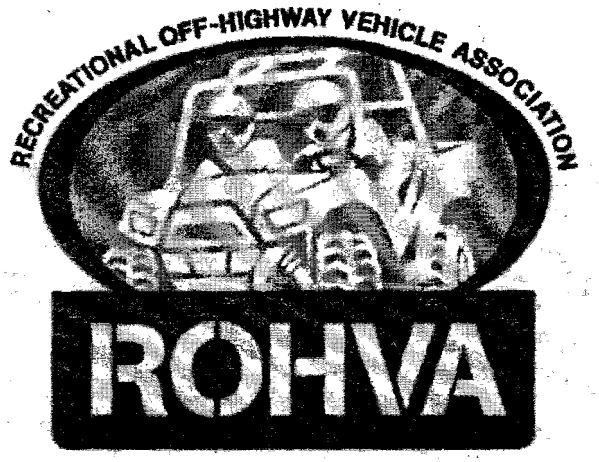
DATE OF LOG ENTRY: August 5, 2010

LOCATION: Room 714, CPSC Headquarters

CPSC ATTENDEE(S): Chairman Tenenbaum, Commissioner Adler, Matthew Howsare, Janell Duncan, Jason Levine, Robert (Jay) Howell, Marc Schoem, Scott Wolfson, and DeWane Ray.

NON-CPSC ATTENDEE(S): Paul Vitrano and representatives from the Recreational Off-Highway Vehicle Association (ROHVA), Stacy Bogart – Polaris, Annamarie Daley - outside counsel to Arctic Cat, Ken d'Entremont – Polaris, Jeff Eyres – Polaris, Brett Gass – Polaris, David Murray - outside counsel to Yamaha, Jan Rintamaki – Polaris, Yves St. Arnaud – BRP, Kathy Van Kleeck – ROHVA, Michael Gidding, Mike Wiegand and Sean Oberle – Product Safety Letter.

SUMMARY OF MEETING: ROHVA representatives presented a status briefing on the types and typical characteristics of recreational off-highway vehicles (ROVs). Representatives gave an overview of injuries and deaths related to ROVs, and industry and CPSC actions, including vehicle testing, designed to improve safety. ROHVA representatives reviewed the safety elements addressed in the CPSC draft proposed rule, the pilot study conducted by the association, incident data, and voluntary standard activities.



ROHVA Update:
Standards Development and Safety Programs

Presented to

U.S. Consumer Product Safety Commission

July 20, 2010

Recreational Off-Highway Vehicles

ROHVA
RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

ROV Industry*

- 525,000 Total ROVs in Use
- 285 Million Annual Driver & Passenger Hours

ROHVA Members

ARCTIC CAT

BRP

POLARIS

YAMAHA

84% Of ROVs Represented By ROHVA

* Results from the 2009 ROV Exposure Study, by Heiden Associates; App. 2 to ROHVA ANPR Comments

ROHVA's Comprehensive Safety Action Plan

ROHVA
RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

Vehicle Voluntary Standard

1. Mandatory Static *and* Dynamic Stability Standards
2. Mandatory Occupant Retention Performance Standards
3. Mandatory Restraint Warning System
4. Expanded Vehicle Class to Meet CPSC – ANPR Max Speed ≥ 30 MPH

Occupant Behavior

1. Mandatory Helmet and Seatbelt Use
2. Standardized Warning Labels
3. Free E-Course Training Emphasizing:
   - Helmet and Seatbelt Use
   - Warned Against Behaviors
   - Driver Error
4. Hands-On Training

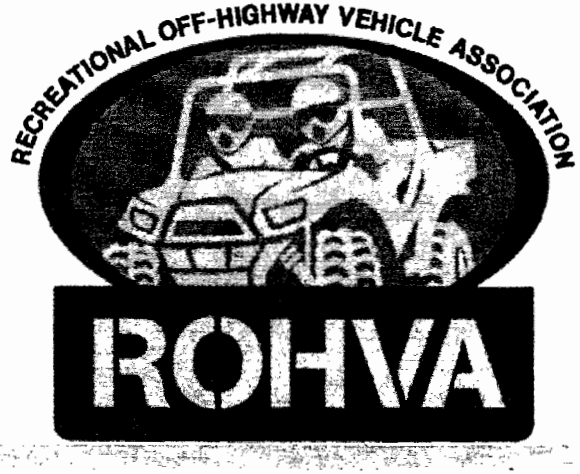
Continue To Positively Affect Safety

Jan Rintamaki

ROHVA
RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

Chairman, ROHVA Board of Directors

Polaris Industries Inc.



Steering / Handling

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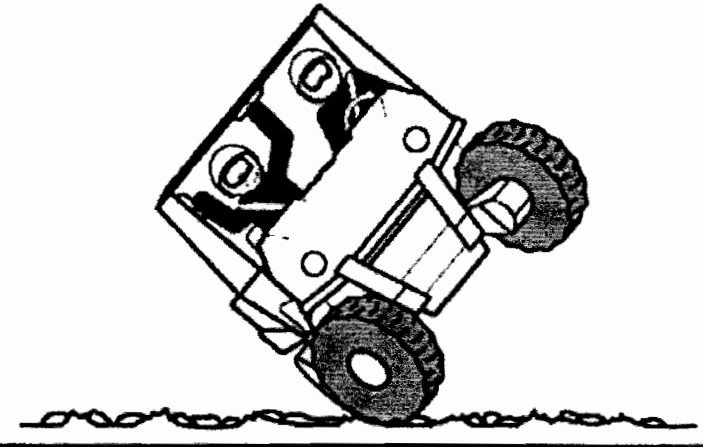
Canvass / ANSI/ROHVA 1-2010

- Staff Comment: "Vehicle system steering characteristics can play an important role in rollover performance as well as controllability."

- ROHVA Comment: Proposed J266 test is inappropriate; committed to studying issue

ROHVA 7-20-10 Response

- Developing dynamic stability test for low speed rollover propensity
  - Focus: Rollover / Two-Wheel Lift;
  - Not Oversteer / Understeer characteristics on pavement



ROHVA Action: Static And Dynamic Stability Testing

Oversteer / Understeer Testing

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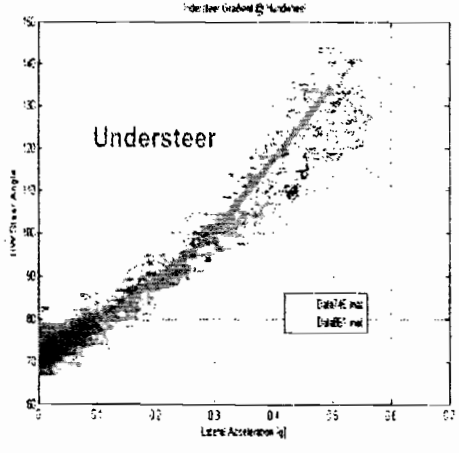
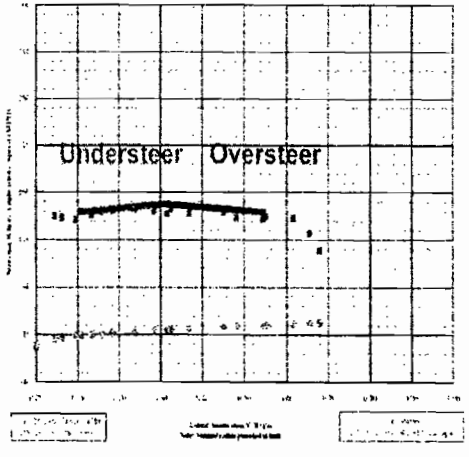
Comparison of "J266 Like" Tests: SEA, Carr, and Polaris Data from Testing Vehicle "A" on Asphalt

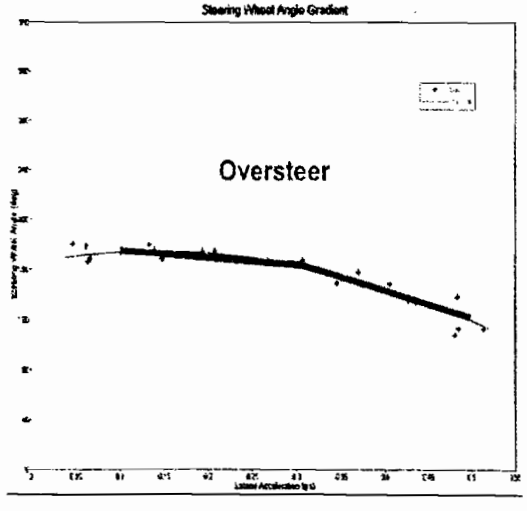
SEA, Ltd. Testing*



Carr Testing**



Polaris Testing



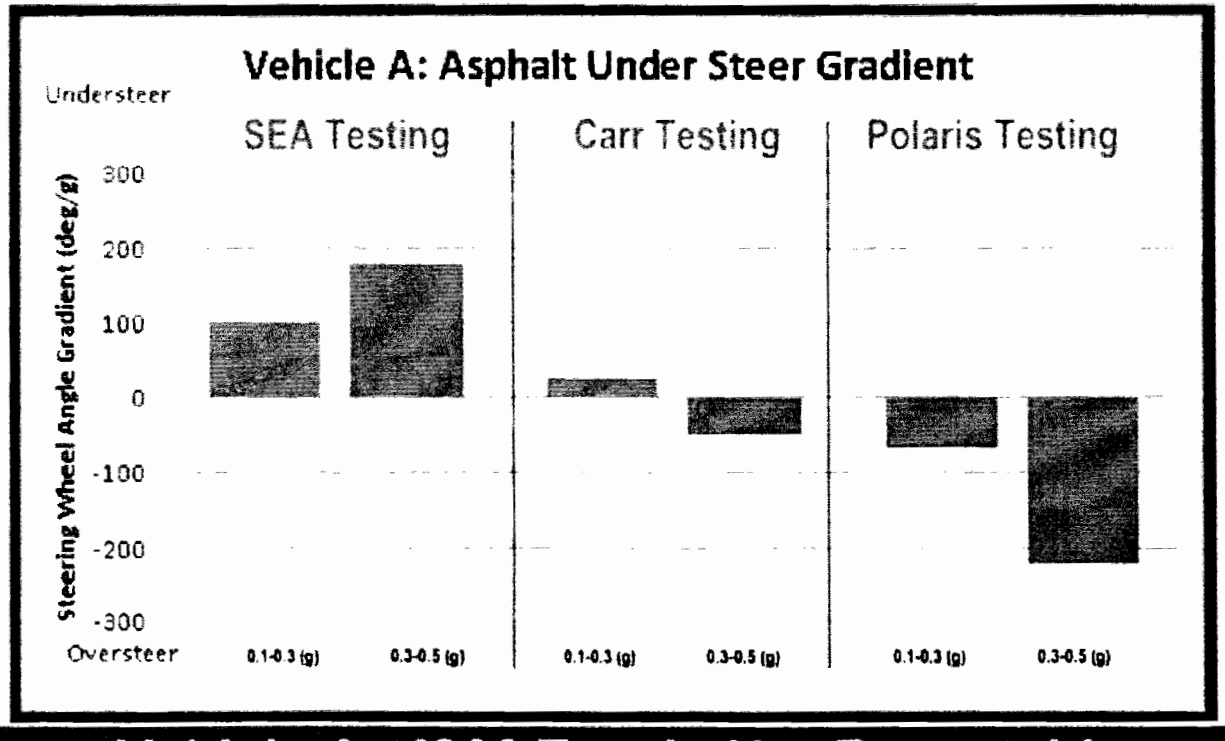
J266 Test Is Not Repeatable

*March 4, 2010 OPEI Presentation to CPSC
**March 11, 2010 ANPR Comments From Carr Engineering, Inc.

Oversteer / Understeer Testing

RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

- In the 0.3 to 0.5g range relative to the SEA data, the Carr data is 129% different including a change in slope from understeer to oversteer, and the Polaris data is 226% different including a change in slope from understeer to oversteer.
- Lack of repeatability comes from the fact that these types of vehicles (including their tires) were not designed for operation on on-highway surfaces.



Vehicle A: J266 Test Is Not Repeatable

J266 Test Variability Factors

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- Off-Highway Tire Dynamics in On-Highway Use
- Driveline Variability, Age and Setup
- Driver Input, Surface Variability and Temperature

Off-Highway Tire Before Test

Off-Highway Tire After Test

Off-Highway Tire In On-Highway Usage Is Significant Source Of Variability

Oversteer / Understeer Testing

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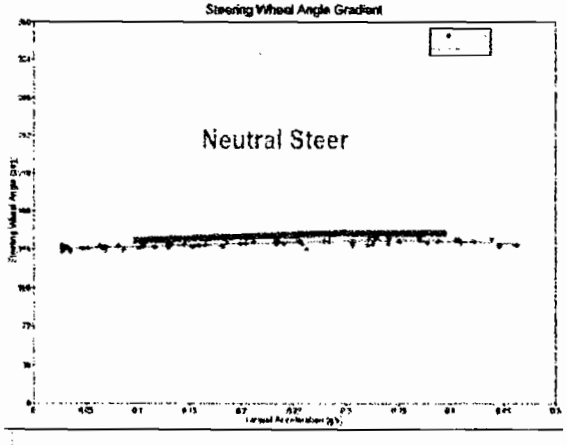
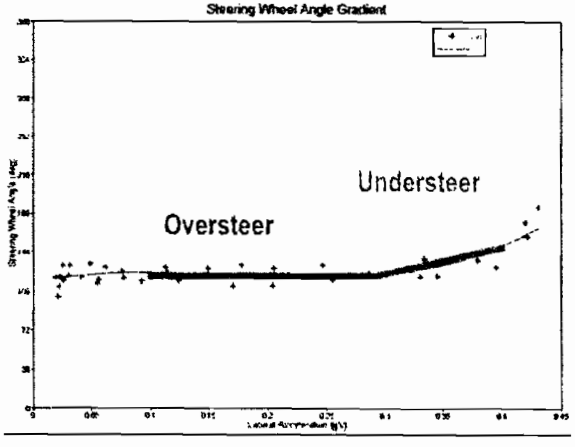
Polaris Data from "J266 Like" Tests of Vehicle "B" on Multiple Surfaces

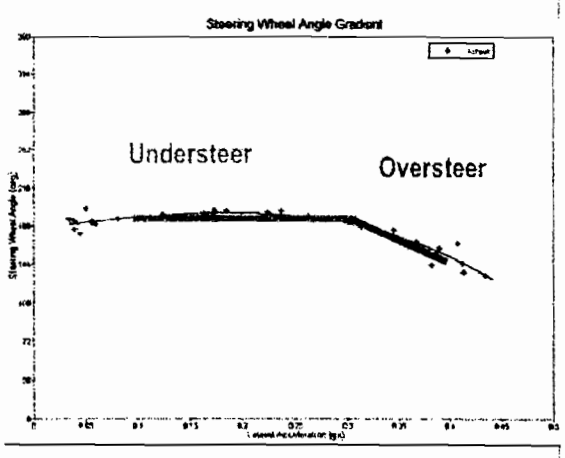
Off-Highway Grass



Off-Highway Dirt



On-Highway Asphalt



J266 Test Is Not A Predictor Of Off-Highway Behavior

Oversteer / Understeer Testing

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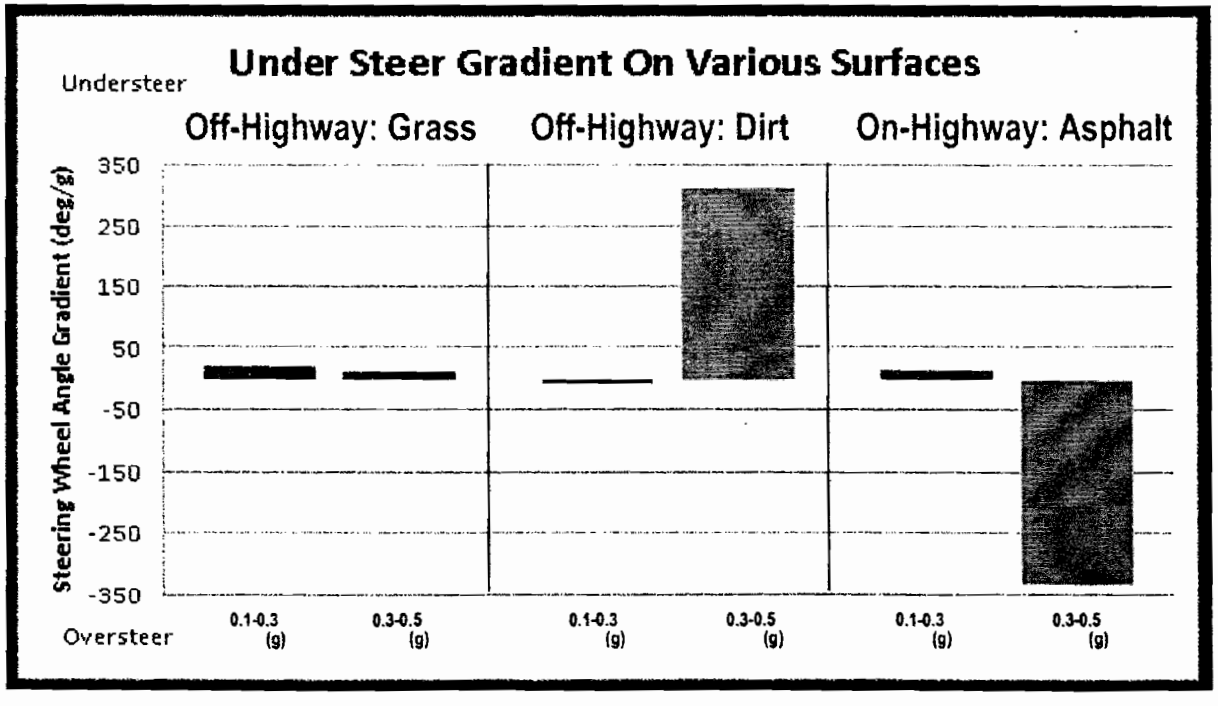
Although the vehicle measured different gradient characteristics for various surfaces, the vehicle was controllable and directionally stable on all surfaces.

This is typical of off-highway vehicles that are used in a constantly changing environment.



J266 Test Is Not A Predictor Of Off-Highway Behavior

Path Following Vs. Understeer

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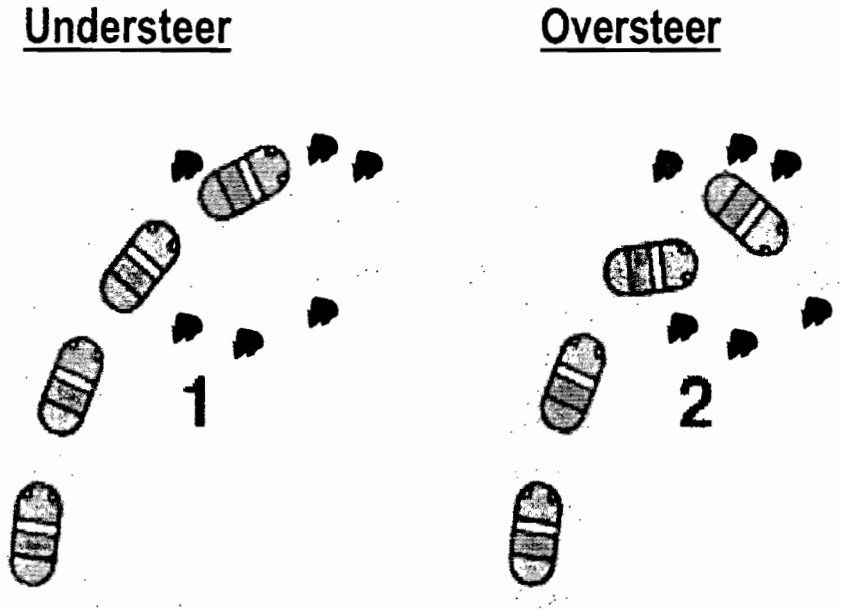
- Predictable path following ability on varied off-highway surfaces is most important
- Both limit understeer and limit oversteer can have negative consequences in an off-highway environment
- Path following ability developed through tens of thousands of miles of testing on multiple surfaces



Path Following Far More Important Than Understeer

Steering / Handling - Conclusions

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Real Issue: Low Speed Rollover

ROHVA Action: Develop A Mandatory Dynamic Stability Test

Review of Top Incident Factors*

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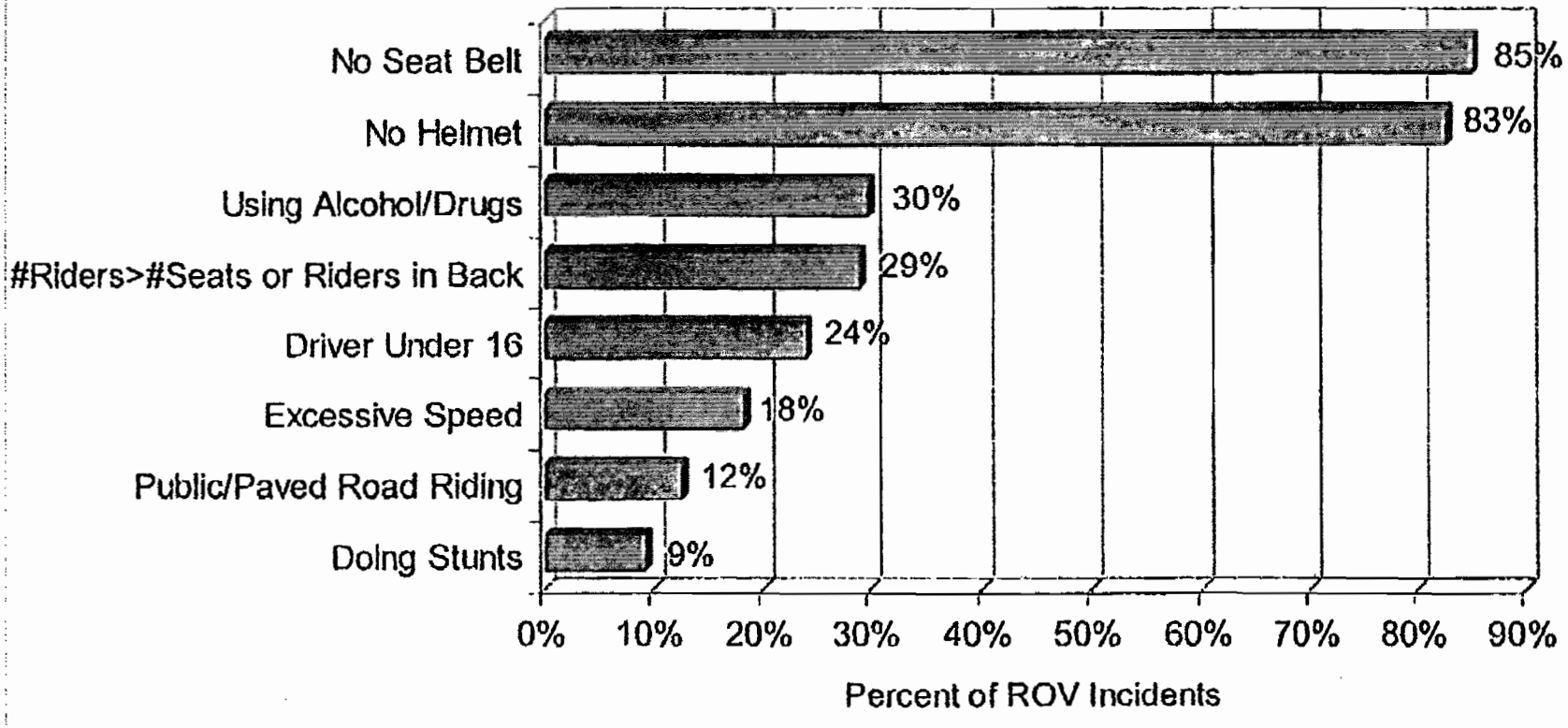

ROHVA Action: Developing A Comprehensive Safety Plan

*An Analysis of Hazard and Risk Issues Associated with Recreational Off-Highway Vehicles (ROVs), by Heiden Associates; App. 11 to ROHVA ANPR Comments

Occupant Retention and Protection

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RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

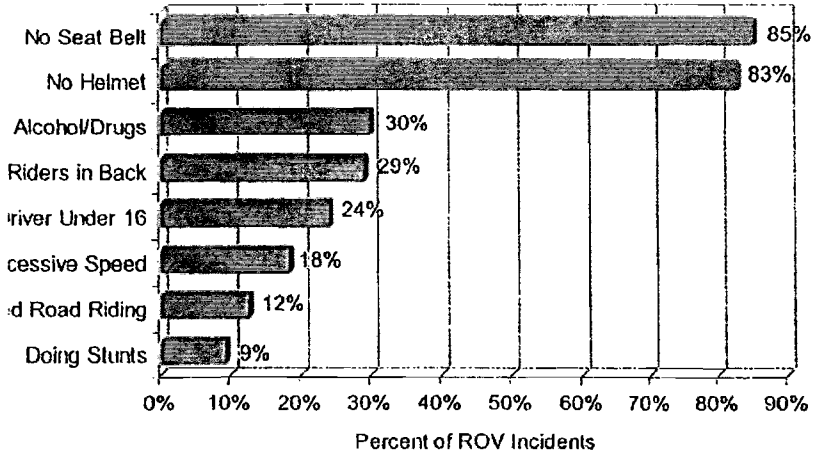
Canvass / ANSI/ROHVA 1-2010

- Staff Comment: "CPSC staff believes that the requirement for a restraint warning system should be mandatory and not optional."

- ROHVA Comment: Added specifications for restraint warning system in response to original staff comment, but requirement is optional in ANSI/ROHVA 1-2010

ROHVA 07-20-10 Response:

- Mandatory restraint warning system in revised standard
- Mandatory Helmet use in existing standard
- Addresses #1 & #2 Behavioral Safety Issue



ROHVA Action: Mandatory Helmet, Mandatory 3-pt. Seat Belt & Mandatory Seat Belt Warning System

Occupant Retention / Protection

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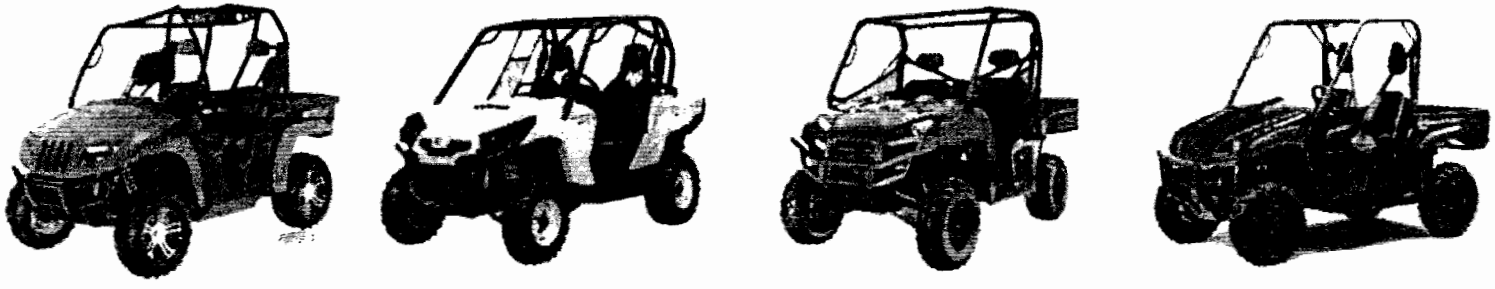
- Occupant Retention & Protection System includes:
  - * ROPS
  - * Seat Belts
  - * Hand holds
  - * Foot / Leg Retention
  - * Hip / Shoulder / Arm Retention
  - * Seats / Headrests

- ROHVA Members: Already mandating helmet use and providing side retention



- All ROV standards should recommend mandatory helmet use

ROHVA Members: Occupant Retention & Protection System

Occupant Retention

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Canvass / ANSI/ROHVA 1-2010

- Staff Comment: "CPSC staff recommends … an occupant retention … requirement that ensures that an occupant, as well as the occupant's limbs and torso, remains within a vehicle during rollover."

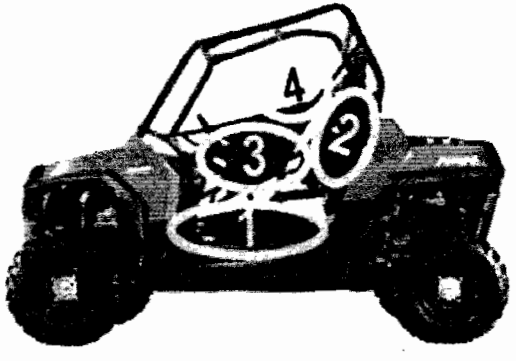
- ROHVA Comment:
  ROPS, 3-point belts, handholds and gear required in ANSI/ROHVA 1-2010; committed to studying performance standard concept

ROHVA 7-20-10 Response:

Mandatory Occupant Retention Standards:

Zone Based Passive & Active requirements

1. Feet / Legs – minimal mobility required
2. Shoulder / Hip – minimal mobility required
3. Hand / Arm – steering wheel input required
4. Head – needs unrestricted visibility w/ helmet



ROHVA Action: Mandatory Side Retention System

Education and Training

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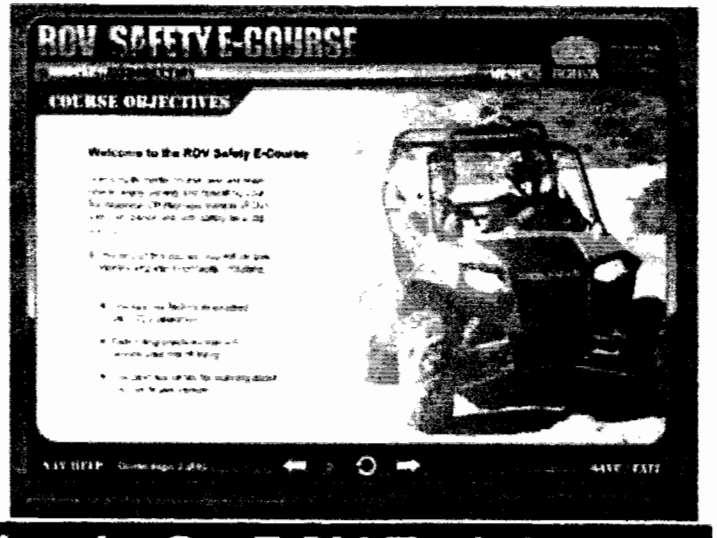
CPSC Staff / ROHVA – 2008-09

- CPSC Comment: Inquired about hands-on training program
- ROHVA Comment: Need to quickly address knowledge / judgment; vehicle operation is familiar; committed to developing on-line education program

ROHVA – 2010 and beyond

- ROV *DriverCourse* consisting of:
  - ROV E-Course – www.rohva.org
  - ROV Hands-On Course now under development



ROHVA Action: E-Course + Hands-On ROV Training

ROV *DriverCourse*

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Two Components:

E-Course & Hands-On Course

1. Training directly addresses warned against behaviors
2. E-Course expense 100% borne by ROHVA, as stand-alone or pre-requisite to Hands-On Course
3. Hands-On Course development expense 100% borne by ROHVA

Hands-On Course In Development To Address Vehicle Familiarity

Warning Labels

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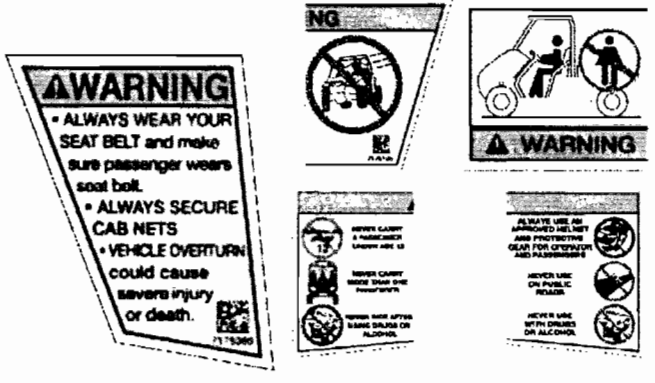
RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

CPSC Staff / ROHVA – 2008-09

- CPSC Comment: Inquired about standardized warning labels
- ROHVA Comment: To expedite standard development, included label subject areas, but not specific content, in ANSI/ROHVA 1-2010

ROHVA – 2010 and beyond

- ROHVA members working on standardized warning label content
- Will be included in updated standard



ROHVA Action: Safety Label Standardization

Vehicle Class

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ANPR / ANSI/ROHVA 1-2010

- **ANPR: "maximum speed greater than 30 miles per hour (mph)"**
- **ANSI/ROHVA 1-2010: "Maximum speed capability greater than 35 mph (56.3 km/h)"**

ROHVA 7-20-10 Response:

- **Expanded Vehicle Class to maximum speed equal to or greater than 30 MPH**

ROHVA Action: Update Standard To Match CPSC ANPR

ROHVA's Comprehensive Safety Action Plan

ROHVA
RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION

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Continue To Positively Affect Safety