

**U.S. Consumer Product Safety Commission
LOG OF MEETING**

SUBJECT: Meeting with ROHVA

DATE OF MEETING: November 14, 2011

LOG ENTRY SOURCE: Matt Howsare/Dottie Lee

DATE OF LOG ENTRY: November 10, 2011

LOCATION: Hearing room, CPSC Headquarters

**CPSC ATTENDEE(S): Chairman Inez Tenenbaum, Commissioner Robert Adler,
Matt Howsare, Jason Levine, Jana Fong-Swamidoss, Dottie Lee, Robert howell,
Mark Kumagai, Caroleene Paul**

NON-CPSC ATTENDEE(S):

Paul Vitrano - EVP, ROHVA

Kathy Van Kleeck - SVP, Government Relations, ROHVA

Duane Taylor - Director, Federal Affairs, ROHVA

Stacy Bogard - General Counsel, Polaris Industries

Jan Rintamaki - Director, Government Relations, Polaris Industries

Jeff Eyres - Assistant General Counsel, Polaris Industries

Brett Gass - Senior Staff Engineer, Polaris Industries

Aaron Deckard - Senior Project Engineer, Polaris Industries

Erika Jones - Mayer Brown, outside counsel to Polaris Industries

Brad Franklin - Manager, Government Relations, Yamaha Motor Corp., U.S.A.

Brian Gabel - Counsel, Yamaha Motor Corp., U.S.A.

**David Murray - Wilkie Farr & Gallagher, outside counsel to Yamaha Motor Corp.,
U.S.A.**

Tyler Furman - R&D Engineer, Kawasaki Motors Mfg. Corp., U.S.A.

Mike Wiegard - Eckert Seamans, outside counsel to Kawasaki Motors Corp., U.S.A.

Doug Wilson - Managing Counsel, Kawasaki Motors Corp., U.S.A.

Ted Bettin - VP, New Product Development, Arctic Cat

Annamarie Daley - Barnes & Thornburg, outside counsel to Arctic Cat

Marie-Claud Simard - Product Safety Advisor, BRP

Yves St.-Arnaud - Director Legal Services, BRP

Mike Giddings - Bracewell and Giuliani, Honda

Paul Nathanson - Bracewell and Giuliani

James Walker - Carr Engineering Inc., consultant to ROHVA

Dan Toomey - Design Research Engineering, consultant to ROHVA

Chris Van Ee - Design Research Engineering, consultant to ROHVA

Paul Fraantz - Applied Safety & Ergonomics, consultant to ROHVA

Charles Burhans - Applied Safety & Ergonomics, consultant to ROHVA

SUMMARY OF MEETING: ROHVA members gave a presentation (attached) to Chairman Tenenbaum and Commissioner Adler in which they demonstrated the progress they have made to date in developing the ANSI/ROHVA voluntary standard. A brief discussion followed where the Chairman and Commissioner Adler raised the three general concerns of CPSC's technical experts about the new ROHVA standard: the rigor of ROHVA's lateral stability test, the lack of an understeering requirement, and inadequate occupant protection system requirements. The Chairman and Commissioner Adler briefly asked questions of ROHVA members concerning the presentation and the new standard. Chairman Tenenbaum concluded the meeting by recognizing that certain companies in attendance at the meeting manufactured ROVs that far exceeded the requirements of the ROHVA standard and encouraged these companies to continue working through the voluntary standards process to significantly strengthen the ROHVA standard to meet the level of safety that their products already provide and that CPSC staff believe should be attained.



Consumer Product Safety Commission

4330 East West Highway
Bethesda, Maryland 20814

MEETING ATTENDANCE RECORD

Date: _____

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Location: _____

Purpose: _____

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ROHVA Update: Standards Development and Safety Programs

**Presented to
U.S. Consumer Product Safety Commission
Chairman Inez Tenenbaum
November 10, 2011**

Recreational Off-Highway Vehicles



RECREATIONAL OFF-HIGHWAY
VEHICLE ASSOCIATION

- Only Growing Segment:
+15% in 2010
- Tens of Thousands of Jobs
related to:
 - Manufacturing
 - Retail
 - Tourism

ROHVA Members



Kawasaki



POLARIS



YAMAHA

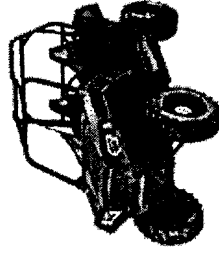
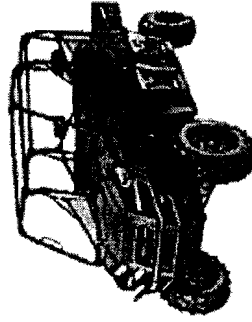
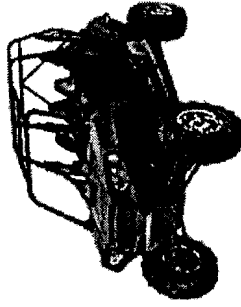
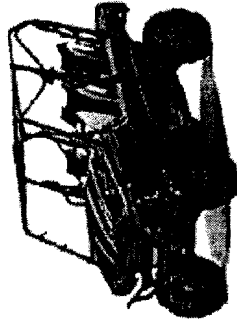
84% of ROVs Represented by ROHVA

ROV Innovation



RECREATIONAL OFF-HIGHWAY
VEHICLE ASSOCIATION

Additional Entries



**Recent Innovations Demonstrate Need To
Avoid Design Restrictive Standards**

ROHVA's Comprehensive Safety Action Plan

Announced to Chairman Tenenbaum in July 2010



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Vehicle Voluntary Standard

- ✓ 1. Static *and* Dynamic Stability Performance Requirements
- ✓ 2. Occupant Retention Performance Requirements
- ✓ 3. Restraint Warning System
- ✓ 4. Vehicle Class Expanded to Meet CPSC Area of Interest

Occupant Behavior

- ✓ 1. Required Helmet and Seatbelt Use
- ✓ 2. Standardized Warning Labels
- ✓ 3. E-Course Training
- ✓ 4. Hands-On Training
Q1 2012

**ROHVA Delivered On Commitments To CPSC
And Is Continuing Its Work**

Vehicle Standards



- **ANSI / ROHVA 1-2010 issued in 03/10**
 - Created initial benchmark
 - Continued to work to address CPSC comments and concerns
- **ANSI / ROHVA 1-2011 issued in 07/11**
 - First-ever dynamic stability standard for OHVs
 - Occupant retention construction/performance standards

Rapid, Significant Progress On Standards

CPSC Comments to ANSI/ROHVA 1-2011



- **Support for J-turn and opinion favoring understeer on pavement**
- **SEA report on CPSC sponsored testing**
 - **Had hoped to have opportunity to discuss methodology and findings directly with SEA**
 - **Independently analyzed SEA testing**

Carr Engineering, Inc.

James E. Walker, Jr., B.S.M.E., P.E.

**ROHVA Engaged Carr Engineering to
Evaluate SEA Testing and Conclusions**

Stability



- **Static testing: methods highly repeatable**
 - Tilt table (+/- 3% Average; 14% Max.)
 - Center of gravity & SSF / Kst (+/- 2% Average; 5% Max.)
- **J-turn: Not repeatable nor reproducible**
 - Steering wheel angle @ twl (+/- 14% Average; 63% Max.)
 - Ay lateral acceleration @ twl (+/- 13% Average; 37% Max.)
 - SEA internal variation (~19%)
 - CEI run to run variation (~22%)

**Lack of Repeatability Makes
J-Turn Inappropriate For Standard**

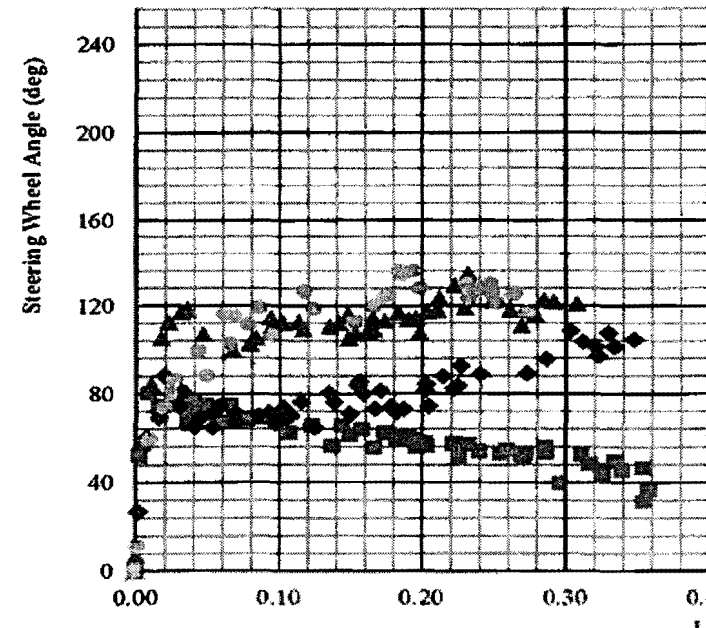
Handling



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- Handling (understeer gradient) on pavement:
 - Inappropriate for use as a standard or metric due to lack of correlation to crash risk, crash involvement or off-highway handling
- Handling (understeer gradient) can change / reverse depending on:
 - Surface (off-highway 'Texas' dirt)
 - Driveline
- May dictate compromises in vehicle design that can reduce utility and/or crash avoidance capacity

Oversteer to Understeer



**Understeer On Pavement Not Correlated
To Actual Off-Highway Behavior**

CPSC Comments to ANSI/ROHVA 1-2011

Question ANSI/ROHVA Occupant Retention Standards



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Chris A. Van Ee, Ph.D., P.E.
Daniel E. Toomey, M.S.E., P.E.

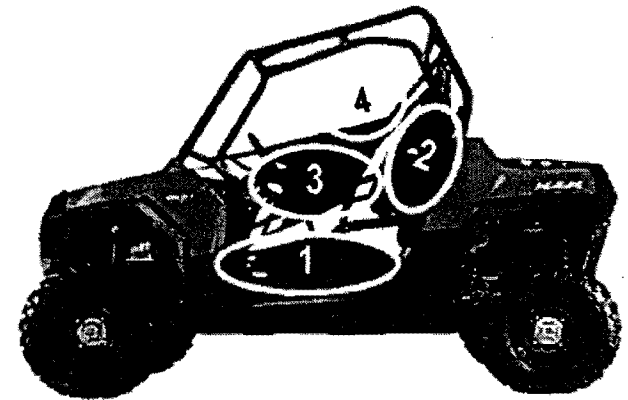
**ROHVA Engaged DRE to Evaluate
Occupant Retention Standards**

Occupant Retention System



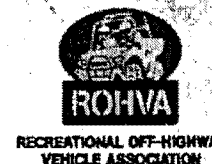
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- ROPS, Seat Belt and Zone 1 provides effective restraint and protection to helmeted occupants.
- Zones 1, 2 and 3
 - Geometry based on anthropometry of population
 - Strength requirements for zones are reasonable
 - MADYMO simulations show effectiveness of the zone barriers
- Zone 4 – ROPS design and seat belt use are effective in mitigating the potential for head crush injuries to helmeted occupants.



ANSI/ROHVA ORS Provide Appropriate Retention

Mandatory Standards Are Not Necessary



- Significant evolution of voluntary standards
- ROHVA has been responsive to CPSC's areas of concern (dynamic stability; occupant retention)
- Chairman: CPSC has "an active partner in addressing safety concerns with" ROHVA members. Mandatory standards necessary if:
 1. Insufficient compliance with voluntary standard → All ROHVA members comply/will comply with ANSI/ROHVA 1-2011
 2. Voluntary standard does not adequately protect consumers from unreasonable risk of death and injury → *The data show that vehicles meeting ANSI/ROHVA 1-2011 do not present an unreasonable risk of death and injury*

Analyzed Incident Data For True Causes

Relevance of Vehicle Design in Incidents



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- **In 1989, CPSC conducted a multi-disciplinary qualitative analysis of 162 fatality incidents in order to address crash avoidance issues for ATVs**
(A. Corley, Analysis of Causative Factors in All-Terrain Vehicle-Related Deaths – 1989 (Jan. 1991))
- **Conclusion: Vehicle design (i.e stability, steering/handling) not the primary factor in 94% of the incidents; “overwhelming number” attributed to actions of the operator**
- **CPSC has not conducted such a multi-disciplinary qualitative analysis of ROV IDIs**

**ROHVA Commissioned a Similar
Multi-disciplinary Qualitative Analysis**



Qualitative Analysis of ROV IDIs



Carr Engineering, Inc.



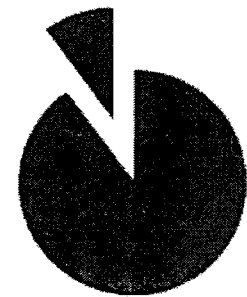
APPLIED SAFETY AND ERGONOMICS, INC.

J. Paul Frantz, Ph.D., C.P.S.M., CPE
Applied Safety and Ergonomics

Conclusions from Qualitative Analysis of IDIs

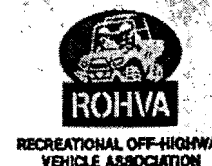


- Portion of ROV incidents that potentially could be addressed by different stability & handling performance requirements is very small
 - 90% of incidents would not have been prevented by different stability & handling performance requirements
 - 10% of IDIs are inconclusive – It is not possible to conclude that different design attributes could have prevented the crash
- ROHVA's work on rules for behavior is addressing the primary risks



Differences Between ROHVA & CPSC Approaches To Stability & Handling Not A Factor In At Least 90% of IDIs

Rules for Behavior



ROV Safety Rules

- Key messages to address hazard patterns
- Regularly promoted by ROHVA and others



Recreational Off-Highway Vehicle Association
Media Relations
949-255-2560, Ext. 3132

The Recreational Off-Highway Vehicle Association Promotes
Safe Driving Tips for Memorial Day Weekend

IRVINE, Calif.



Contact:
Recreational Off-Highway Vehicle Association
Media Relations
949-255-2560, Ext. 3132

Recreational Off-Highway Vehicle Association Calls for Safe Four-Wheeling this

IRVINE, Calif., J



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Recreational Off-Highway Vehicle Association Continues Pioneering Work In
Support of Consensus Standards and Occupant Safety

NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs

Washington, DC 20207

FOR IMMEDIATE RELEASE
May 27, 2011
Release #11-233

CPSC Recall Hotline: (800) 638-2772
CPSC Media Contact: (301) 504-7908

CPSC Warns Memorial Day Weekend

“... CPSC encourages ROV riders & passengers to follow these guidelines from CPSC and the Recreational Off-highway Vehicle Association (ROHVA) ...”

CPSC Support of ROHVA Safety Rules Important

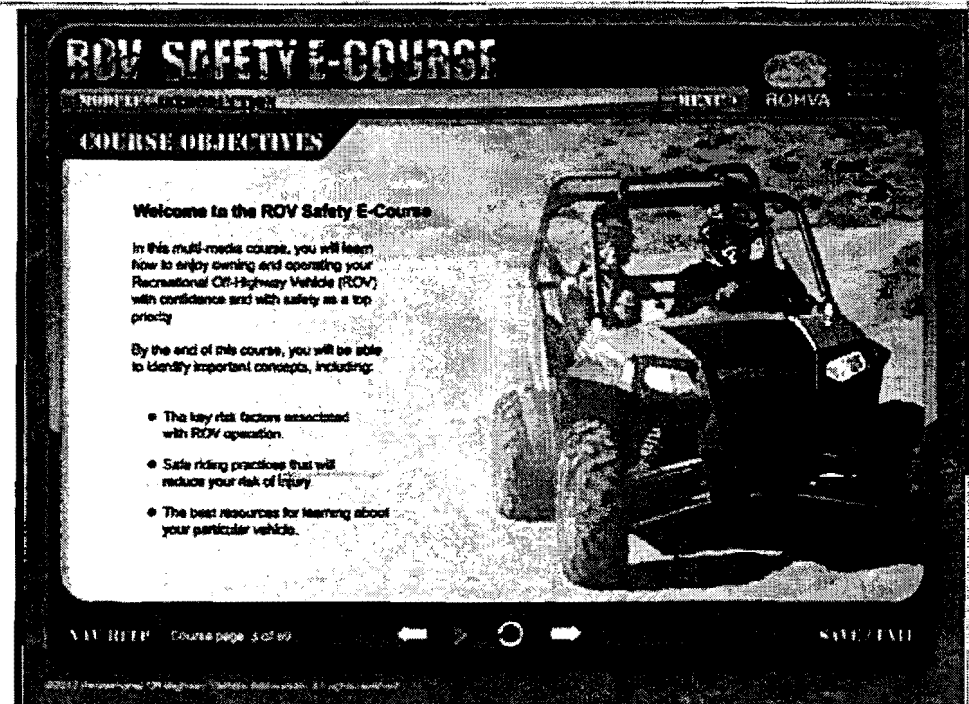
Education And Training



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ROV E-Course

- Over 2,800 enrolled in 2011
- Up 23% from 2010
- Supported by members
- Publicity via enthusiast, trade and government partners



**Demand for E-Course Building and Will
Drive Hands-On Training**

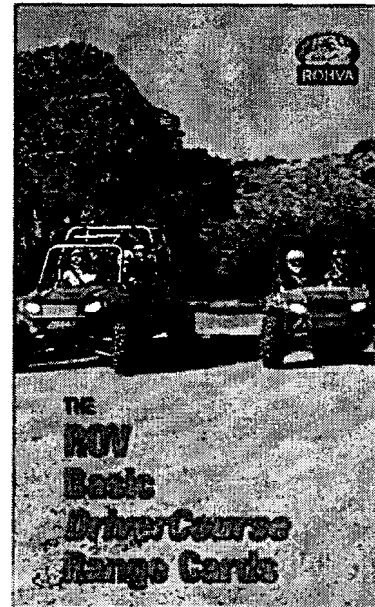
Education And Training



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ROV Hands-On Training

- Incorporating best practices and leveraging resources from ASI & MSF
- ROV Basic *DriverCourse* and Open Trail Experience Suite – launch in early 2012
- Training available to customers of non-member companies



Public Health
Prevent Promote Protect

**Recreational and Occupational Users
Excited About ROHVA Training**

Next Steps



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Continue to Promote Safe and Responsible Use

1. Demand building for ROV E-Course: appreciate more help from CPSC
2. Launch ROV Basic *DriverCourse* and Open Trail Experience Suite in early 2012
3. Promote education and training with media events (Locations TBD)

Continue Dialogue with CPSC regarding Vehicle Standards

1. Answer questions regarding ROHVA's work
2. Rely on a fact based approach to safety correlating standards development to real world risk
3. Request open communication with CPSC regarding its positions and the underlying data

ROHVA Is An Active Partner on Safety