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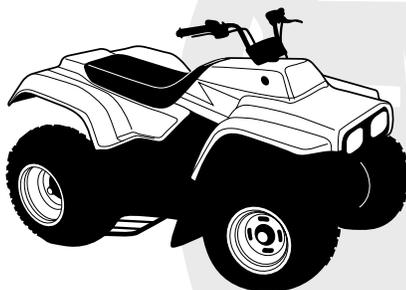
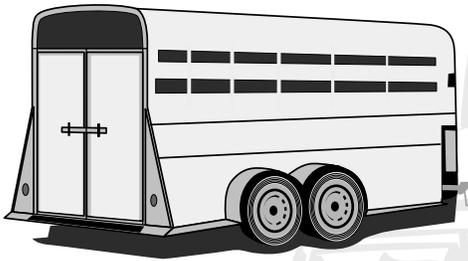
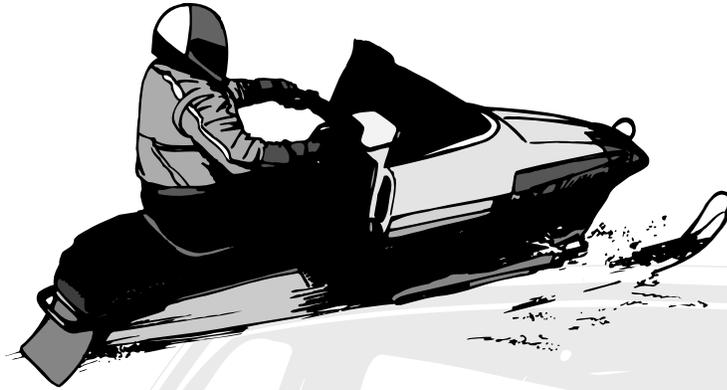
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Training Resources for Safe Operation of Specialized Equipment



Training Resources for Safe Operation of Specialized Equipment



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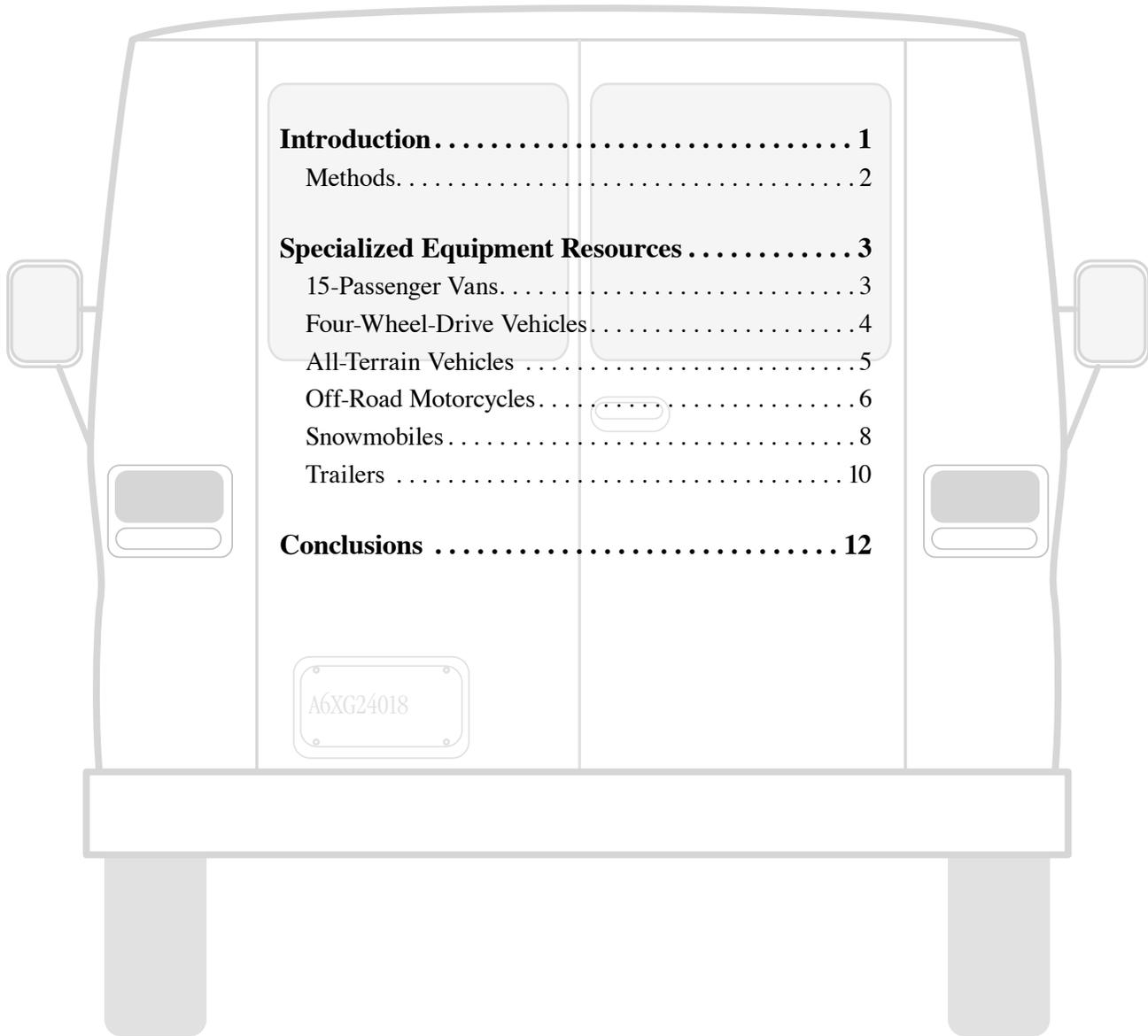
**3E32H64—Specialized Equipment Training
Videos**

September 2006

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Acknowledgments

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Introduction

Specialized equipment, such as all-terrain-vehicles (ATVs), off-road motorcycles, and snowmobiles, are used for wildland firefighting, recreation management, and other forest management tasks. The Forest Service *Health and Safety Code Handbook* (FSH-6709.11) identifies such equipment, along with 15-passenger vans, trailers, and snow cats, as specialized equipment that requires operators to receive training.

Safe use of specialized equipment requires specific skills, along with an awareness of the unique hazards associated with use of this equipment in field conditions. Effective training can reduce the risk of serious injury or death from improper use of specialized equipment. Nationwide, large vans, motorcycles, ATVs, and snowmobiles account for more than 9 percent of all fatal vehicle accidents, claiming more than 5,000 lives (U.S. Department of Transportation National Highway Traffic Safety Administration (NHTSA), Fatality Analysis Reporting System (FARS), <http://www-fars.nhtsa.dot.gov>). From 1992 to 2001, about half of all Government workers who suffered fatal workplace injuries were performing vehicle and transportation activities (Pegula, S.M., 2004, *Fatal Occupational Injuries to Government Workers, 1992–2001*, U.S. Department of Labor Bureau of Labor Statistics).

Statistics such as these underscore the need for training in the proper and safe handling of specialized equipment. Although the U.S. Department of Agriculture (USDA) Forest Service has policies in place that mandate specific training and qualifications for specialized equipment use, standardized Forest Service training resources have not yet been developed. Meanwhile, private industries as well as other nongovernmental and governmental entities have developed educational materials for this equipment.

The Forest Service's Washington Office of Safety and Occupational Health asked the Missoula Technology and Development Center (MTDC) to develop a series of training videos for the users of specialized equipment. The products envisioned were similar to other videos that have



been developed by MTDC: *Driving on Forest Roads*, *Backing Up on Forest Roads*, and *Focus on the Mission: Transporting Wildland Firefighters*. Before producing any videos MTDC conducted a market search to describe the types of commercial and noncommercial training resources currently available. This report documents our findings.

Highlights...

- The Forest Service Health and Safety Code requires training for persons operating specialized equipment, such as 15-passenger vans, all-terrain vehicles, off-road motorcycles, snowmobiles, snow cats, and trailers.
- The Forest Service does not yet have standard training resources for operators of specialized equipment.
- The Missoula Technology and Development Center has collected training resources for specialized equipment, including DVDs, videos, PowerPoint presentations, Web sites, Adobe Acrobat files, and streaming media.

Introduction

Initially we limited our search to videos and DVDs. Videos and DVDs are accessible to field units and are easily incorporated into training and certification programs that may be in place already. However, we quickly saw that other electronic media (Adobe Acrobat files, Power-Point presentations, Web-based training programs, and streaming media) made up a sizeable portion of available resources.

This report is not intended to be an exhaustive list of all available commercial and noncommercial training resources. As will be discussed later, much of the available material is oriented toward two major audiences: recreationists using specialized equipment and employees attending general industry training programs. These audiences have particular training needs that, in most cases, do not translate easily to the specific training required for Forest Service employees using this equipment in field settings. Our concluding comments will offer suggestions regarding certain areas that might benefit from the development of Forest Service-specific training materials.

Methods

To begin this search, we asked the USDA Forest Service, Rocky Mountain Research Station Library to provide a baseline list of resources. In addition, we conducted extensive Web-based searches and contacted agency personnel along with other governmental and nongovernmental organizations to identify materials they are using. We also contacted industry organizations such as the All-Terrain Vehicle Association, the American Council of Snowmobile Associations, and the Motorcycle Safety Foundation. These contacts allowed us to review industry standard training, education, and awareness programs.

We did not evaluate training materials for snow cat operators. Snow cats have two tracks, unlike snowmobiles, which are powered by a single belt. The *Health and Safety Code Handbook* (13.51.3) indicates that training for snow cat operators must be given by the snow cat manufacturer, by a Forest Service employee with 100 hours of experience, or by a certified instructor. That training is too specialized for us to do it justice in this report.

Four-wheel-drive vehicles are identified in the *Health and Safety Code Handbook* as specialized equipment, but no specific training or certification requirements are identified. Inclusion of four-wheel-drive vehicles in the Handbook's section on specialized equipment suggests that this type of equipment could use special emphasis short of required training and certification. Given this special equipment status, and taking into consideration the widespread official use of these vehicles, we included four-wheel-drive vehicles in our review of training materials.

For each type of equipment covered, this report provides a brief description of different training materials, including their content along with the format, length, date produced, availability, and price. The categories of materials include video and DVD productions, electronic documents, Web-based training programs, and curriculum packages developed by field units of the Forest Service. These categories represent the types of resources available commercially and noncommercially for specialized equipment. These materials could help support existing training programs or assist persons who are developing new programs for field employees.

Specialized Equipment Resources

A description of training resources available for each of the specialized equipment types identified by the *Health and Safety Code Handbook* follows. This equipment includes: 15-passenger vans, four-wheel-drive vehicles, all-terrain vehicles, off-road motorcycles, snowmobiles, and trailers.

15-Passenger Vans



Health and Safety Code Handbook Reference

13.7 15 Passenger Vehicles (Interim Directive No.: 6709.11-2005-1) Drivers operating vehicles designed to transport more than 16 passengers (including the driver) must have a commercial driver's license and a Forest Service endorsement. Drivers operating 15 passenger vans must have validation stated on the driver's identification.

13.81(3): Passenger Vehicles (Interim Directive No.: 6709.11-2005-1): Operators shall receive training, an operational test, and a written test targeting the requirements of operating specialized equipment. The drivers ID must state 15-passenger van.



Video/DVD Resources

Title: *Defensive Driving: 15-Passenger Vans*

Format: Video and DVD

Length: 13 minutes

Date: 2005

Price:

Video, 7-day free preview; free online preview, rental \$95, purchase \$495, plus shipping and handling

DVD, 7-day free preview; free online preview, rental \$115, purchase \$495, plus shipping and handling

Availability:

Coastal Training Technologies Corp.

500 Studio Dr.

Virginia Beach, VA 23452

Web site: <http://www.coastal.com/> (Search for 15-passenger)

Description: This video/DVD provides a short overview of the special characteristics of 15-passenger vans, and issues related to rollover accidents and fatalities. Topics covered: loading and handling, common causes of rollovers, safety guidelines, the importance of seat belts, and the basic safety tips for operating these vans, including reacting to potentially dangerous conditions and driving hazards, proper loading, basic defensive driving tips, and passenger safety.

Electronic Documents

Title: *Reducing the Risk of Rollover Crashes in 15-Passenger Vans*

Format: Adobe Acrobat file (.pdf)

Length: 2 pages

Date: 2002

Price: Download for free

Availability: This document and other electronic resources are available on the NHTSA Web site (<http://www.nhtsa.dot.gov/cars/problems/studies/15PassVans/15PassCustomerAdvisory.htm>).

Description: This two-page flyer is intended to raise general awareness about the problems with 15-passenger vans. It stresses the importance of seat belts, slowing down, and the need for experienced drivers to operate these vehicles.

Title: *15-Passenger Van Drivers: Basic Loss Prevention Guide*

Format: Adobe Acrobat file (.pdf)

Length: 31 pages

Date: 2003

Price: Download for free

Availability:

Office of Financial Management, Risk Management
Division—Loss Prevention
P.O. Box 41027, Rm. 301, General Administration Bldg.
Olympia, WA 98504-1027
Web site: <http://www.ofm.wa.gov/rmd/loss.htm>

Description: This guide offers background information on the problems associated with 15-passenger vans, Federal agencies' responses to the problem, and guidelines for safe practices when using 15-passenger vans.

Title: *15-Passenger Van Safety Awareness Program*

Format: Microsoft PowerPoint presentation

Length: 40 slides

Date: 2003

Price: View, or download for free

Availability:

U.S. Naval Academy Safety Department
Web site: <http://www.usna.edu/SafetyOffice/WebBasedOSHTraining.htm>

Description: This presentation oriented toward Navy personnel is a Web-based training program. Topics covered: background safety issues related to 15-passenger vans, driving instructions, tips, and procedures.

Four-Wheel-Drive Vehicles



Health and Safety Code Handbook Reference

13.11 (1-3), Four-wheel-drive vehicles are designed to provide extra power and traction for traveling at a slow speed over rough or unusual terrain. When operating four-wheel-drive vehicles:

1. Be familiar with the vehicle before using it for assigned field work or other activities.
2. Know your limitations and that of the vehicle for all driving conditions.
3. Do not drive faster than is safe, given the terrain and road conditions.

Video/DVD Resources

Title: *The World of Four-Wheeling*

Format: Video

Length: 53 minutes

Date: 1992

Price: \$14.95, plus shipping and handling

Availability: Preview

Web site: <http://www.theautochannel.com/media/>;
<http://www.osmre.gov/safety/safetyvideos.htm>

Description: This video has been used in a variety of training programs. It provides information and driving tips for four-wheel-drive operation both on the highway and off road. Topics covered: driving on wet and slippery surfaces, proper handling over rocks, climbing hills, crossing water, and driving through mud or snow.

Electronic Documents

Title: *Tread Lightly! Guide to Responsible Four Wheeling*

Format: Adobe Acrobat file (.pdf)

Length: 32 pages

Price: Download for free

Date: 2004

Availability: <http://www.treadlightly.org>

Description: This guide provides a detailed overview of the fundamentals of negotiating and responding to demanding off-road terrain, preparing for a safe four-wheel-driving experience, and behaving appropriately toward other recreationists and landowners. A checklist for the vehicle and safety equipment is included. *Tread Lightly!*, originally launched in 1985 by the Forest Service and adopted by the U.S. Department of Interior Bureau of Land Management, was designed to help protect public and private lands while allowing responsible recreational use. In 1990, the program was transferred to a nonprofit organization with the same name.

All-Terrain Vehicles (ATVs)



Health and Safety Code Handbook Reference

13.21(2): Only qualified and authorized employees shall operate ATVs. Qualifications include being familiar with the Driver-Operator Guide (sec 13.06) and the ATV manufacturer's operating manual.



(Continued)

Health and Safety Code Handbook Reference

13.21(3): Prior to Forest Service endorsement, a competent Forest Service employee shall conduct a field operations evaluation to identify the proficiency level of the operator. State endorsement is required, if applicable.

Video/DVD Resources

Title: *A Guide to Off-Highway Riding*

Format: Video

Length: 17 minutes, 32 seconds

Date: 1990

Price: \$15.00 plus shipping and handling

Availability:

Specialty Vehicle Institute of America (SVIA)
2 Jenner St., Suite 150
Irvine, CA 92718-3800

Web site: <http://www.atvsafety.org/Publications/CatalogPublicationsMedia.pdf>

Description: This video offers information for both ATVs and off-road motorcycles. It includes information about basic riding techniques, equipment checks, equipment maintenance, and memory aids for critical procedures.

Title: *On Target, Off Road*

Format: Video

Length: 18 minutes, 50 seconds

Date: 1988

Price: \$10.00, plus shipping and handling

Availability:

ATV Safety Institute
2 Jenner St., Suite 150
Irvine, CA 92718

Description: This video is a little dated (evidenced by older machines), but it provides an overall treatment of safe riding techniques for different types of terrain.

Electronic Documents

Title: *Tips and Practice Guide for the All-Terrain Vehicle Rider*

Format: Adobe Acrobat file (.pdf)

Length: 64 pages

Date: 2001

Price: \$1 (for paper copy)

Availability: The document can be viewed as an Acrobat (.pdf) file at http://www.atvsafety.org/InfoSheets/ATV_Riding_Tips.pdf. A paper copy can be ordered at [http://www.atvsafety.org/Publications / CatalogPublicationsMedia.pdf](http://www.atvsafety.org/Publications/CatalogPublicationsMedia.pdf).

Description: This booklet offers an overview of specific tips for the ATV rider as well as a guide to ATV off-road riding practice sessions. The tips discuss preparing to ride (including proper personal protective equipment and ATV inspections) and information on basic riding techniques for various types of riding terrain. The rider practice section is designed to help set up conditions, facilities, and exercises that allow riders to practice techniques for safe riding. The ATV Safety Institute published this booklet as a supplement for trainees taking ATV rider courses available in many locations nationwide.

Title: *The Tread Lightly! Guide to Responsible ATV Riding With Minimum Impact Camping Tips*

Format: Adobe Acrobat file (.pdf)

Length: 23 pages

Date: 2003

Price: Download for free

Availability: Web site: <http://www.treadlightly.org>

Description: The guide provides an overview of the fundamentals of negotiating and responding to demanding off-road terrain, preparing for a safe four-wheel-driving experience, and behaving appropriately toward other recreationists and landowners. It includes a checklist for the vehicle and safety equipment as well as tips for minimum-impact camping.

Forest Service Training Curriculum

Title: *Boise National Forest ATV and Off-Road Motorcycle Training Program*

Format: Microsoft PowerPoint Presentation, supporting documents, and curriculum available for download in a self-extracting zip file.

Length: Not applicable

Date: Not applicable

Price: Download for free

Availability: <http://fsweb.boise-nf.r4.fs.fed.us/safety/training.htm> (Forest Service internal computer network)

Description: This curriculum integrates a variety of resources into a program that also includes hands-on experience. A self-extracting zip file includes Power-Point presentations, lesson plans, supporting documentation, tests, and references to other resources that a safety officer might want to use when training ATV operators.

Off-Road Motorcycles



Health and Safety Code Handbook Reference

13.31(2): Only qualified and authorized employees shall operate motorcycles. Qualifications shall include being familiar with the Driver Operator Guide (sec 13.06), the manufacturer's operating manual, and uses and limitations of the machine.

Video/DVD Resources

Title: *The Motorcycle Safety Foundation Dirtbike School*

Format: DVD

Length: 65 minutes

Date: 2005

Price: \$14.95, plus shipping and handling

Availability: Web site: <https://store.msf-usa.org/Store/HomePage.aspx>

Description: This DVD includes information about proper riding posture, turning, climbing, sidehill riding, and counterbalancing the bike. It addresses riding etiquette with regard to other trail users and could serve as a supplement to a more comprehensive training program for off-road motorcycle riding.

Title: *Where the Pavement Ends*

Format: Video

Length: 15 minutes

Date: 1993

Price: Borrow for free

Availability: Besides the Web site, the video may be borrowed from:

Audience Planners, Inc.

5341 Derry Ave. No. Q

Agoura Hills, CA 91301

Phone: 818-865-1233

Web site: <http://www.treadlightly.org>

Description: This video covers all off-road vehicles. The presentation gives an overview of basic tread lightly techniques for mountain bikes, ATVs, snowmobiles, SUVs, four-wheel-drive vehicles, and dirt bikes.

Electronic Documents

Title: *The Tread Lightly! Guide to Responsible Off-Highway Motorcycle Use*

Format: Adobe Acrobat file (.pdf)

Length: 17 pages

Date: 2005

Price: Download for free

Availability: Web site: <http://www.treadlightly.org>

Description: This guide provides an overview of the fundamentals of negotiating demanding off-road terrain, preparing for a safe off-road experience, and behaving appropriately toward other recreationists and landowners. It includes a checklist for the vehicle and safety equipment as well as tips on minimum-impact camping.

Title: *Motorcycle Safety Foundation Library and Safety Tips*

Format: Adobe Acrobat file (.pdf)

Length: Not applicable

Date: Unknown

Price: Download for free or preview

Availability: Web site: <http://msf-usa.org/> (Click on Library/Safety Tips)

Description: The library and safety tips cover information on equipment licensing and rider education requirements for each State. The materials include: the *You and Your Motorcycle: Riding Tips* booklet, the *Motorcycle Operators Manual*, the *T-CLOCS Pre-Ride Inspection Checklist*, and the *If You Ride a Motorcycle* quick tips.

The foundation sponsors comprehensive rider training programs in multiple locations in each State. An electronic version of the *Basic Rider Course* handbook (that can only be viewed on-screen but cannot be printed) is available to download at the foundation's Web site, as are the locations of the *Basic Rider Course* available in each State.

Snowmobiles



Health and Safety Code Handbook Reference

13.41(3) Snowmobiles—Operators shall receive training in the use of and the loading/unloading of snowmobiles that includes classroom instruction and practical field exercises or demonstration of proficiency. Certification shall be noted on a Driver-Operator Identification Card or other documentation authorizing use. Employees shall be trained in emergency survival, avalanche hazard recognition, and, where needed, avalanche control.



Video/DVD Resources

Title: *Rules of the Snow*

Format: Video

Length: 50 minutes

Date: 1997

Price: \$79.95, plus shipping and handling

Availability:

Savafilm

P.O. Box 836

Wilson, WY 83014

Description: This video covers safe and proper handling of snowmobiles through interviews from a cross section of users, including Forest Service employees.

Information on wildlife impacts associated with snowmobiles is also included.

Title: *Think Like An Avalanche: The Art of Surviving in Avalanche Country*

Format: DVD

Length: 59 minutes

Date: 2003

Price: \$14.95, plus shipping and handling

Availability:

Black Diamond Industries

Web site: http://www.bdel.com/gear/avalanche_video.php

Description: This DVD provides an overview of avalanche awareness, assessment of avalanche conditions, and safe travel in avalanche terrain. It includes a treatment of the seriousness of avalanche hazards and the importance of getting appropriate data to make good safety decisions. The DVD also highlights the importance of ongoing avalanche training through interviews with avalanche safety professionals who discuss avalanche incidents they have experienced.

Title: *Snowmobile Operation and Snowmobile Safety, parts 1 & 2*

Format: Video

Length: 15 minutes

Date: 1992

Price: \$15.95, plus shipping and handling

Availability:

Outdoor Empire Publishing

Web site: <http://www.outdoorempire.com/> (Search for snowmobile safety)

Description: Part 1 is mainly a promotional piece encouraging riders to take a safety course. Part 2 explains snowmobile operation and provides information on basic riding techniques, riding on ice, what to do if you break through ice, and self-rescue techniques. It also includes

information on night riding hazards and safety techniques.

Web-Based Training Program

Title: *Safe Rider Snowmobile Safety Awareness Program*

Format: Interactive Web-based training program

Length: 47 topics and individual quizzes for each of eight topic areas

Date: Unknown

Price: Download for free

Availability: Web site: http://www.snowmobilers.org/saf-erider/homepage/page_00.html

Description: This training program covers mechanical and personal preparation before a snowmobile ride, personal protective equipment, safe riding practices, situations to avoid, emergency responses, and snowmobile maintenance.

The program has been produced by the International Association of Snowmobile Administrators in partnership with the American Council of Snowmobile Associations to further awareness of safe snowmobiling practices. It was developed with financial assistance from the Recreational Trails Program administered by the U.S. Department of Transportation Federal Highway Administration and support from the International Snowmobile Manufacturers Association.

Electronic Documents

Title: *The Tread Lightly! Guide to Snowmobiling*

Format: Adobe Acrobat file (.pdf)

Length: 20 pages

Date: 2005

Price: Download for free

Availability: <http://www.treadlightly.org>

Description: This guide provides an overview of the fundamentals of riding, appropriate behavior to reduce user conflicts, and tips for minimum-impact travel.

Forest Service Training Curriculum

Title: *Boise National Forest Training Program*

Format: Microsoft PowerPoint Presentation, supporting documents, and curriculum available for download in a self-extracting zip file.

Length: Not applicable

Date: Not applicable

Price: Download for free

Availability: Web site: <http://fsweb.boise-nf.r4.fs.fed.us/safety/training.htm>

Description: This curriculum integrates a variety of resources into a program that also includes hands-on experience. A self-extracting zip file will provide PowerPoint presentations, lesson plans, supporting documentation, tests, and references to other resources that a safety officer might need to conduct training for snowmobile operators.

Printed Material

Title: *Snowmobile Safety and You*

Format: Print

Length: 47 pages

Date: 2005

Price: \$3.00, plus shipping and handling

Availability:

Outdoor Empire Publishing

Web site: <http://www.outdoorempire.com/> (Search for snowmobile safety)

Description: This workbook is organized for a class on snowmobile safety. Includes detailed information on six major topics: history and current issues in snowmobiling, rules and laws for operators, basic safety features, preparing to ride, handling emergencies, and equipment maintenance and repair.

Trailers



Health and Safety Code Handbook Reference

13.61: Only qualified and authorized personnel are permitted to tow trailers as indicated by an endorsement on a Driver-Operator Identification Card or documentation authorizing use. Each Forest shall have personnel qualified to train and to authorize drivers for towing trailers.



Video/DVD Resources

Title: *RV Education 101: Learning RVs the Easy Way*

Format: DVD

Length: 52 minutes

Date: 2004

Price: \$24.95

Availability: Web site: <http://www.rveducation101.com>

Description: This DVD discusses the proper equipment for a trailer and the towing vehicle. It also provides an explanation of weight ratings and load characteristics. It includes descriptions of safe trailer driving techniques such as ways to minimize sway and how to respond to conditions when sway makes a trailer unstable. The DVD covers safety concerns for fifth-wheel trailers and for trailers that use a standard hitch.

Title: *Trailer Your Boat*

Format: Video

Length: 16 minutes, 30 seconds

Date: 2005

Price: \$50.00, plus shipping and handling

Availability:

National Technical Information Service

Web site: <http://www.ntis.gov/search/index.asp?loc=3-0-0>

Description: This video produced by the U.S. Department of Transportation and the U.S. Coast Guard focuses on safety considerations directly related to transporting, unloading, and loading boats. It does not include issues related to vehicle towing capacity and hitch equipment, users should consult installers and manufacturers and get professional advice.

Electronic Documents

Title: *Towing a Trailer: Being Equipped for Safety*

Format: Adobe Acrobat file (.pdf)

Length: 15 pages

Date: 2002

Price: Download for free

Availability:

U.S. Department of Transportation National Highway Transportation Safety Administration

Web site: <http://www.nhtsa.dot.gov/>

Description: This publication provides basic information on trailering, load control, and equipment selection.

Title: *Trailer Safety Industry Coalition: Safety Tips*

Format: Adobe Acrobat file (.pdf)

Length: 3 pages

Date: 2005

Price: Download for free

Availability: Web site: <http://www.trailersafety.org/>

Description: These are one-page safety tips on lug nuts, tire inflation, and cargo capacity. The tips do not provide comprehensive information about trailer procedures.

Forest Service Training Curriculum

Title: *Boise National Forest training program*

Format: Microsoft PowerPoint presentation, supporting documents, and curriculum available for download in self-extracting zip file.

Length: Not applicable

Date: Unknown

Price: Download for free

Availability: Web site: <http://fsweb.boise-nf.r4.fs.fed.us/safety/training.htm> (Click on *Trailer Towing Training/Certification*)

Description: This curriculum integrates a variety of resources and provides for hands-on experience. A self-extracting zip file includes PowerPoint presentations, lesson plans, supporting documentation, tests, and references to other resources that a safety officer might want to conduct training for employees who will be towing trailers.

Conclusions

Based on our review of existing specialized equipment training materials, there appears to be a need for development of programs for off-highway-vehicle operation tailored to the specific needs of Forest Service personnel. The videos and multimedia resources for four-wheel-drive vehicles, ATVs, and off-road motorcycles are heavily oriented toward recreational use. This is understandable given the popularity of these recreational vehicles, the concerns that organized user-groups have for minimizing social and resource impacts, and the desire of riders to ensure their future access to recreation areas.

The use of these vehicles for resource management activities presents challenges and potential hazards that recreational users do not normally encounter. In the case of ATVs, for example, additional equipment such as water or chemical tanks present unique safety concerns. Proper work practices associated with the use of four-wheel-drive vehicles in the types of environments where resource management activities occur also can present unique challenges. Training materials developed specifically for the Forest Service would focus on these unique situations, along with the specific job hazard analysis procedures, inspection requirements, and reporting associated with field activities.

Of the materials reviewed, only those related to snowmobiles had some significant focus on agency use. The pro-

gram, *Think Like an Avalanche: The Art of Surviving in Avalanche Country* not only provided information on basic avalanche situational awareness, but also included the perspectives of Forest Service personnel directly related to avalanche resource and safety. This presentation, along with the video, *Rules of the Snow* provide some of the agency perspective lacking in the other materials reviewed.

In addition to the need for development of agency-specific training programs, there is an ongoing need for hands-on training and practice for all types of specialized equipment. Locally available industry-standard training programs offered for ATVs, snowmobiles, and motorcycles provide training opportunities that electronic media presentations cannot.

Finally, some of the training programs already developed at the field level provide important resources and examples of how materials have been combined to produce agency-specific training resources. For instance, the training programs have been developed by the Boise National Forest for ATVs, off-road motorcycles, snowmobiles, and trailering. All of these programs combine public and private materials, underscoring the need to tailor future specialized equipment training materials to the particular needs of resource management professionals within the Forest Service.

Notes

Notes

About the Authors

Theron Miller received his Ph.D. in forestry from the University of Montana in 1997 with an emphasis in natural resources social science. He worked as a research and teaching professor at the University of Montana, where he focused on applied social sciences directly related to management of natural resources on public lands. Theron joined MTDC in 2006 and is assisting with projects in the safety and health, recreation, and fire and aviation management programs.

Lisa Outka-Perkins received her master's degree in sociology with an emphasis in criminology from the University of Montana in 2001. She works for the Missoula Technology and Development Center as a sociologist. Her most recent project has been the production of the Forest Service training video series, *Personal Safety in Remote Work Locations*.

Library Card

Miller, Theron; Outka-Perkins, Lisa. 2006. Training resources for safe operation of specialized equipment. Tech. Rep. 0667-2836-MTDC. Missoula, MT: U.S. Department of Agriculture Forest Service, Missoula Technology and Development Center. 14 p.

This report evaluates available training materials for employees operating equipment identified in the Forest Service Health and Safety Code as "specialized equipment:" 15-passenger vans, four-wheel-drive vehicles, all-terrain vehicles, off-road motorcycles, snowmobiles, and trailers.

Standard Forest Service training programs have not yet been developed for specialized equipment. Videos, DVDs, PowerPoint presentations, Adobe Acrobat files, Web sites, and streaming video were reviewed. The concluding comments discuss the types of training resources that the Forest Service might wish to develop to ensure the safety of the agency's field employees.

Keywords: all-terrain vehicles, DVDs, four-wheel-drive vehicles, motorcycles, safety at work, snowmobiles, trailers, training videos, vans

Single copies of this document may be ordered from:

USDA Forest Service, MTDC
5785 Hwy. 10 West
Missoula, MT 59808-9361
Phone: 406-329-3978
Fax: 406-329-3719
E-mail: wo_mtdc_pubs@fs.fed.us

Electronic copies of MTDC's documents are available on the Internet at:

<http://www.fs.fed.us/eng/t-d.php>.

Forest Service and Bureau of Land Management employees can search a more complete collection of MTDC's documents, videos, and CDs on their internal computer networks at:

<http://fsweb.mtdc.wo.fs.fed.us/search/>.

For additional information about specialized equipment training resources, contact Theron Miller at MTDC:

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