



## Acknowledgments

Special thanks to Scott Gilmour and Deb Mucci at MTDC; Trails Unlimited; Central Oregon Combined Off-Highway Vehicle Operations; and Dick Dufourd, RecConnect, LLC.

## About the Authors

**Tyler V. Kuhn** began working at MTDC as an intern in 2000. He received a bachelor's degree in mechanical engineering from Montana State University in 2001 and works for the center as a mechanical engineering technician.

**Brian Vachowski** has been the reforestation and nurseries program leader since 2002 and has been a project leader specializing in recreation, trails, and wilderness projects at

MTDC since 1993. He received a bachelor's degree in forestry from the University of Massachusetts and a master's degree in outdoor recreation from Utah State University. He has worked for the Nez Perce, Bighorn, Winema, and Routt National Forests in recreation, wilderness, lands, planning, rural community assistance, special uses, fire, and timber positions. Before coming to MTDC, he was an assistant staff officer for wilderness and recreation on the Nez Perce National Forest.

## Library Card

Kuhn, Tyler V.; Vachowski, Brian. 2006. Improved MTDC trail rake for ATVs. Tech Tip 0623-2320-MTDC. Missoula, MT: U.S. Department of Agriculture Forest Service, Missoula Technology and Development Center. 6 p.

Describes an improved trail rake that can be pulled by an all-terrain vehicle to maintain trails. Among the rake's key features are:

- A tine assembly that can be shifted 11 inches to either side and raised from 3 inches below grade to 11 inches above grade
- Joystick controls mounted on the handlebar

- A U-joint connection between the all-terrain vehicle and the trail rake to provide flexibility on uneven terrain and to reduce the possibility that the ATV might roll over if the rake rolls

When the rake's tine assembly is shifted to the side and rotated, the rake can pull soil from berms alongside the trail without requiring the operator to drive off the trail. The parts for the prototype trail rake cost \$2,900. The rake takes about 15 days to fabricate. Drawings (MTDC-1036) are available from the Missoula Technology and Development Center.

Keywords: all-terrain vehicles, equipment development, mechanical drawings, off-highway vehicles, prototypes, trail maintenance

---

### 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](mailto: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>

---

### For further technical information, contact Tyler V. Kuhn or Brian Vachowski at MTDC.

|  |  |
|--|--|
| <b>Tyler—</b>  | <b>Brian—</b>  |
| Phone: 406-329-3099  | Phone: 406-329-3935  |
| Fax: 406-829-6757  | Fax: 406-329-3719  |
| E-mail: <a href="mailto:tvkuhn@fs.fed.us">tvkuhn@fs.fed.us</a> | E-mail: <a href="mailto:bvachowski@fs.fed.us">bvachowski@fs.fed.us</a> |

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



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of

program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.