11th Annual Equipment Operator Training

Training
Backhoe and Excavator
Steve Green, Tractor and Equipment Company, provided safety tips that are essential for conscientious operation. Most importantly, the operator "needs to be aware" of people and features within the reach of the backhoe. Other workers should stay clear of the boom reach. Steve also did "walk around" training to show the operators where visibility problems can arise. Start-up and cool down procedures were covered to give operators a clear concept of proper machine operation. Maintenance checks and wear points were also demonstrated.

Loader
Steve Jenkins, LTAP, covered loader stability, articulation, stockpiling, tire pressure and spin, lifting capacity and operator techniques. The MDT loader course was also outlined. Emphasis was placed on safety, proper start-up and shut-down, capacities, loading cycles and working with truck drivers. A handout for proper hand signals was given to all the operators in attendance.

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Snow Plow
Sam Gianfrancisco, LTAP, discussed the elements of snow plow training. He stressed defensive driving and how planning far enough in advance to avoid accidents is essential when operating large equipment on icy roads. The critical areas of snow plowing are:

- Super Elevation,
- Curves,
- Bridges,
- Intersections, and
- Railroad Crossings.

Motorgrader
After Steve Green provided basic training for beginning operators, he emphasized the use of the motorgrader for snow removal. The blade, the plow, and the wing can all be used for effective snow control. The training tape he provided will soon be available in the LTAP library.

Steve also provided excellent walk-around training on the motorgrader.

All of the training including classroom, walk-around, hands-on operations, and the barbecue, were held at the Great Falls Fair Grounds. Country music was provided by Grant Stebbins at the barbecue. The afternoon provided opportunities to exchange ideas, operate equipment and socialize.

MDT provided the snowplow while Tractor and Equipment (Caterpillar) provided all the other equipment for the training. The
new Skid Steer was also available for practice. Fred Ravino of Tractor and Equipment Company worked with Marty Basta, City of Great Falls, to set up a training course to help participants sharpen their skills and train for the competition.

**Competition**

Each of the equipment courses was changed slightly and made more difficult from last year's competition. Very few competitors maneuvered the motorgrader through the course without knocking over the wrong block and even fewer put the bowling ball in the center of the golf green. No one completed the Backhoe course without at least one mistake during the allotted time. First year competitor, Wayne Bengston, from MDT stated, "that it was fun, but stressful for those who took it seriously."

Overall, Marty Basta, who has been involved in hosting the workshop since its beginning, felt that "holding all activities at the fairgrounds allowed more time for training," and that "the competition was the best ever with the most difficult courses." Bill Gibbs of Tractor and Equipment Company, who attended for the first time, commented "there is more to operating equipment than the public can imagine." "People who grumble about road construction need to come and observe this training." He also felt that watching the equipment was very entertaining.

Wayne Waarvik of Valley County, thought the "safety aspects of the training were very important."

Sam Gianfrancesco stated, "there is so much here for operators to benefit from that I wish more counties would take advantage of it."

Last year's winner, Doug Nisbet, repeated last year's performance and was the overall winner. He was presented with a LTAP jacket. Other winners were as follows.

**All Around Champion**

Doug Nisbet, Lewis and Clark County
Rod Wegner, City of Missoula
Tim Miller, Yellowstone County
Clay Moore, Yellowstone County
Troy Delaney, MDT-Lewistown

**Motorgrader**

Troy Delaney, MDT-Lewistown
Tim Miller, Yellowstone County
Clay Moore, Yellowstone County
Wayne Waarvik, Valley County

**Backhoe**

Steve Stanfield, City of Great Falls
Bob Moats, Yellowstone County
Bruce Klapmeier, MDT-Missoula

**Snowplow**

Steve Kurk, City of Bozeman
Clay Moore, Yellowstone County
Rod Wagner, City of Missoula

**Loader**

Troy Delaney, MDT-Lewistown
Jeff Blomgren, City of Great Falls
Doug Nisbet, Lewis and Clark County
You Show Us - Montana Winner

Wayne Silvan, Chouteau County

Problem Statement
What is one of the main problems in the spring on the shoulder of a gravel or dirt road? It is the ledge caused by the weeds and grass growing on the shoulders. This ledge prevents the motorgrader operator from looking at it as though you were trying to get ready for the Daytona 500 grader races.

Well, that was enough for us to look for a better way to get rid of the grass, but still retain all or most of our gravel. Then one day watching a harrow work in the field I noticed how good of a job it was doing chewing up the grass and distributing the dirt fairly evenly, so in came the heavy harrow era.

These harrows are designed to vibrate the tines back and forth at about 12-15 MPH, thus breaking up the grass and dirt clods. We still have to travel a fairly good speed, but there are few complaints with the blade in the air and with a windrow in the center or on the side of the road.

The motorgrader doesn’t have to run over the grass coming out from under the blade as before so the wear and tear on the machine and operator is much less. It sometimes takes two or three passes to get rid of the mess depending on moisture and type of grass and soil mixed.

At times the windrow is placed on one side or the other and if smooth enough we pack it and the public will run on it and not complain.

It also has other uses such as seeding grass and chewing up dry weeds before seeding grass.

Discussion of Solution
One solution was to cut the shoulder in the early spring or late fall and then windrow it onto the road surface and beat it around with the moldboard until you were beat senseless. Sometimes it worked, but it was very time consuming and usually was cause for a good chewing from the public who
Labor, Equipment & Materials

Next year we are going to try the use of mag-chloride on the shoulders after we work them to control the grass growth. We tried some this summer with a fair amount of success. It took approximately two to three days to complete the first harrow. The main factory frame is made of 2x4x1/4" rectangle and the frame we installed is 2x4x1/4" the uprights are 3 feet tall and the cable for the support is 5/8" solid core.

Cost

The initial cost of the harrow was $925.00 and to replace each tine is $21.45 and $536.00 for a full set. If used right the tines will last for many miles. We try to run ours at about 1 to 2" above the surface of the road.

Did You Know

- The U.S. interstate highway system requires that 1 mile in every 5 must be straight. These sections can be used as airstrips in a time of war or other emergencies.

- In San Salvador, drunk drivers can be punished by death before a firing squad.

- In 1900, there were 8,000 cars in the United States; by 1919, there were 6 million cars in the U.S.

- Bill Gates formed a company to sell a computerized traffic counting system to cities, which made $20,000 its first year. Business dropped sharply when customers learned Gates was only 14 years old.

Savings/Benefits

We have found that it saves on time when we edge our roads instead of going over a windrow five or six times. Depending on the size of the windrow it can usually be done in half the time with less wear and tear on the machine and the operator. Therefore, it saves the gravel that we bring up from the shoulder. We also use it in conjunction with our diskedger.

We encourage all counties to attend the Region 8 meeting in Rapid City, SD to see other state's entries.
County Road Advisors Conference

Agenda
October 25, 2000
8:00 - 9:30 a.m.  Opening Session: FHWA Representatives
10:00 - 11:30 a.m. Our county representatives to the Western FHWA Resource Center: Round Table Discussion
11:30 - 1:00 p.m. Lunch & "You Show Us" Awards Presentation (to all state winners and one regional winner)
1:00 - 2:30 p.m.  Unpaved Roads Session
3:00 - 4:30 p.m. Management Systems Session

October 26, 2000
8:00 - 9:30 a.m.  Road Construction, Improvement & Maintenance Issues: Round Table Discussion with State Secondary Engineers
10:00 - 11:30 a.m. Hot Topics with Bobby Meister, including new MUTCD Low Volume Road Geometric Design
11:30 - 12:00 a.m. Conclusions, Door Prizes & Awards Ceremony

Registrations
The conference registration fee of $50 includes one lunch, one breakfast, social hour, breaks and all handouts. You can register at the door, but prior registration is encouraged.

A block of rooms is being held at:

Ramkota Hotel
2211 LaCrosse Street
PO Box 1795
Rapid City, SD 57709
(605) 343-8550

NOTE: You need to make your own hotel reservations no later than October 2nd!

Conference Registration
County Road Advisors Conference
October 25 & 26, 2000
Registration Fee: $50

Name: _______________________
Title: _______________________
Org.: _______________________
Address: _______________________
City: _______________________
State: ___________  Zip: ___________
Phone: _______________________
Fax: _______________________

Send registration form & fee to:

Bobby Meister
c/o Minnehaha County
PO Box 704
Sioux Falls, SD 57101
Phone: (605) 367-4316
Fax: (605) 367-7255

See you there!!
2000 Calendar of Events

MACRS District Meetings-
Communication & Leadership of
Commissioners, Road Supervisors
and Crews

October 2, Missoula, MT
October 3, Great Falls, MT
October 4, Billings, MT
October 5, Miles City, MT

Montana League of Cities and
Towns Annual Conference

October 11-13, Missoula, MT

Flagging and Work Zone Training

October 16, Butte, MT
October 18, Bozeman, MT

FHWA Region 8 County Road
Advisor's Conference

October 25-26, Rapid City, SD

3M Customer Visit

November 1-3, Minneapolis, MN

MACRS Final Planning Meeting

November 16, Lewistown, MT

Leadership
Winter Safety
Work Zone Flagging

On Request, Please contact
Steve Jenkins at (800) 541-6671
to schedule your workshop

Montana Branch Rocky
Mountain Chapter APWA
Fall Workshop
October 11-12, 2000
Missoula, MT

This one and one half day workshop is designed to help the Public Works Director meet some of their daily challenges. The leadership workshop is designed to enable the elected official and the Public Works Director to work together to provide the essential services to the community in the most professional way possible. The contract portion of the workshop is designed to better prepare the Public Works official to perform in the capacity of a contract administrator. Many times the individual is asked to negotiate engineering contracts, oversee the work of consultants, approve the consultants bid package, approve and recommend the construction contract and act as the Cities or Towns contract representative and inspector.

Wednesday, October 11, 2000
8:00-8:30 Registration
8:30-12:00 Leadership workshop presented by Steve Jenkins Director, LTAP, Ken Haag President, Haag Consulting
12:00-1:00 Lunch on your own
1:00-4:00 Technical tours for issues such as our bike lane/trail system; wastewater treatment upgrade to BNR; traffic signal coordination upgrade

GPS Training a Success

The Montana LTAP retained Carma Ingram from Monsen Engineering to teach classes on Global Positioning Systems (GPS) on August 22 in Missoula and August 23 in Great Falls. Both classes were well attended and participants were very pleased with the class.

To start the class Carma gave an introduction on what GPS is and how it works to collect GIS data. Later the class learned how to create a data dictionary in Pathfinder Office before going out in the field. The data dictionary is where you enter the attributes. For example, if you were collecting data on bridges, your attributes might be weight, type of structure and condition of the bridge. In the afternoon the class participants took their GPS units out in the field and entered data into their dataloggers. When everyone had learned how to do this, they went back inside and Carma showed them how to download their data from the datalogger to a computer using the Pathfinder Office Software.

Overall the class was very informative and everyone learned something new about GPS. LTAP hopes to have Carma back again next year to do another class on GPS.
Contributions
Welcome

LTAP welcomes contributions to LTAP MATTERS. Those wishing to submit relevant material to be published in the next newsletter can submit their ideas/articles to:

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Local Technical Assistance Program
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Bozeman, MT 59710-3910
Fax: (406) 994-1697
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The Local Technical Assistance Program Newsletter is published quarterly. Funding for this program is provided by the Federal Highway Administration through the Montana Department of Transportation, Montana State University and a portion of Montana's gas tax revenues. This newsletter is designed to keep you informed about new publications, new techniques and new training opportunities that may be helpful to you and your community. Individuals wishing to receive future copies of the newsletter at no cost may send their request to LTAP, 416 Cobleigh Hall, PO Box 173910 Montana State University-Bozeman, Bozeman, MT 59717-3910, or call 1-800-541-6671.