ATV Trail Work on the Allegheny National Forest, Summer 2000

The 513,000-acre Allegheny National Forest (ANF) in northwest Pennsylvania, with its 108 miles of all-terrain-vehicle (ATV) trail, is a popular destination for ATV and trail bike riders. The Allegheny, one of 155 national forests in the United States, is Pennsylvania's only national forest and is located in Elk, Forest, McKean, and Warren counties.

During the summer of 2000, the USDA Forest Service performed heavy maintenance and reconstruction of the ATV trails using new equipment that is small and narrow to keep the finished trail narrow. This narrower configuration results in higher levels of rider enjoyment by keeping the trails more challenging and aesthetically pleasing. The work done with this equipment consisted of 5.4 miles of trail relocation and 7.4 miles of trail restoration on the Marienville Bike Trail.

The Forest Service shaped the tread, installed structures, and restored trail sections, using mini excavators that are 5.4 feet wide, are powered by a 3-cylinder, 33-horsepower diesel engine, and weigh approximately 3.8 tons. Most previous trailwork had been done by using small bulldozers or skid steer loaders equipped with dozer blades. This was the first time mini excavators had been used on the ANF trail system; they proved to be quick and efficient. The excavators often used their bucket to loosen the soil and then used the blade to level and move it off to the side. The mini excavators were capable of building new trail at the average rate of 0.4 miles per day.

Figure 1. *Using mini excavators proved to be quick and efficient.*

The mini excavator disturbs much less ground than a dozer or skid steer does when installing sediment traps, removing stumps, etc., because its arm reaches out to do the work. This feature results in less seeding and mulching. The mini excavator also costs less to rent and operate than does a small dozer.

To harden up the tread surface, the Forest Service placed 4,600 tons of commercial gravel on various portions of the Marienville Bike Trail, using minitracked trail dumpers to transport the stone to those sections of trail. The trail dumpers are 5.2 feet wide and are powered by a 4-cylinder, 46-horsepower Kubota diesel engine. They weigh 2.3 tons and are capable of hauling 3 tons of stone.

Figure 2. *A minitracked trail dumper.*

Because the trail dumpers can be driven with the operator facing either way by reversing the seat, if there is no room along the trail to turn the dumper around, it can be driven in either direction easily. The dumper is operated by a "T" handle, which is pushed either forward or backward for direction and speed of travel and is twisted to turn to the left or right.

This maintenance and reconstruction effort also was the first time that these trail dumpers had been used on ANF trails. They proved to be efficient and durable. Some of the "carries" were up to 1.5 miles one way along the trail, and the dumpers made good time on these long hauls over rough trails. A 3-mile round trip delivering 3 tons of stone to the worksite took about 40 minutes.

Both the mini excavator and trail dumper use rubber tracks, which are a definite advantage over steel-tracked equipment. On rocks and boulders, steel tracks tend to "skate" and slip, while rubber tracks have good traction.

Figure 3. *A mini excavator in action.*

Kightlinger Excavating of Bradford, PA, provided the equipment and performed the trail work under a contract with the ANF. Funding for this trail improvement work was provided by the Pennsylvania Department of Conservation and Natural Resources through ATV registration receipts.

ANF personnel were extremely pleased with the mini excavator and dumpers and with the narrow trail corridors that were achieved using this equipment. Comments from trail riders about the new trail sections have been exceptionally complimentary.

To obtain more information about this equipment, contact either Don Clymer or Mark Conn at Allegheny National Forest headquarters by telephone, 814-723-5150.