



Equipment With Central Tire Inflation

Forest Management Practices Fact Sheet Crossing Options Series #16

Best Management Practices (BMPs) can prevent or minimize the impact of forestry activities on rivers, lakes, streams, groundwater, wetlands, and visual quality.

Introduction

Hauling vehicles can compact and rut soils in wetlands. Spreading the weight of vehicles over a larger surface area can reduce these impacts.

Equipment with *central tire inflation*

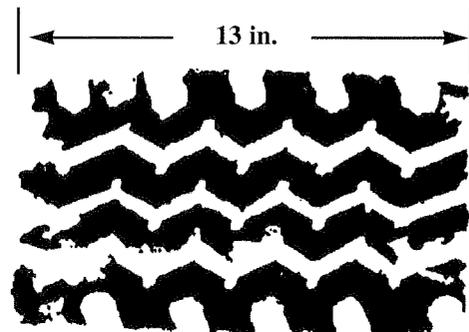
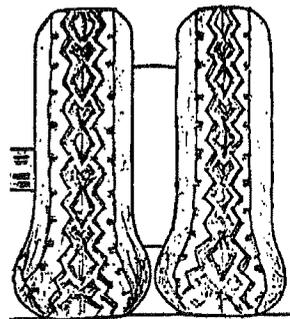
allows an operator to vary the inflation of a vehicle's tires while it is moving. By reducing inflation, the operator can increase the tire "footprint." This reduces the vehicle's pressure on the ground.

Where Used

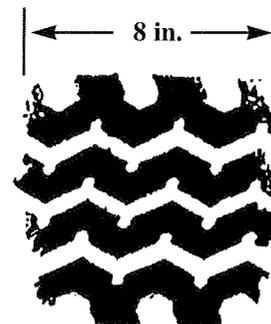
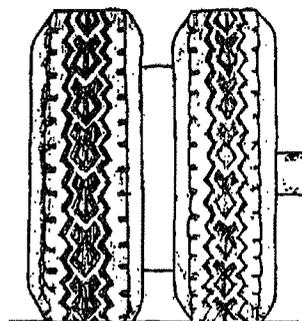
Equipment with central tire inflation is used to cross roads with weak soils.

Application

A commercial vendor must install central tire inflation technology. Once installed, the operator can easily adjust the tire inflation pressure to meet the needs of the driving surface.



43 psi



100 psi

On the left, a comparison of tire profiles at 32 PSI (top) and 95 PSI (bottom). On the right, a comparison of the footprint area for a tire inflated to 43 PSI (top) and 100 PSI (bottom).

Advantages

Central tire inflation technology allows quick adjustment for changing conditions. Because central tire inflation improves traction, it can operate on low-quality haul roads and steep grades. It can reduce tire wear. Vehicles with central tire inflation have relatively low environmental impacts (such as rutting) on wetlands and roads.

Disadvantages

This technology is expensive and cannot be installed by the operator. However, the expense can be offset somewhat with lower costs. For example, road building and repair or vehicle repair costs may be lower. The operator must know how to use the technology, or there may be added wear on the tires.

Maintenance

No special maintenance is needed.

Related Fact Sheets in This Series

Temporary Wetland Crossing Options (FS-7008); Wood Mats (FS-7009); Wood Panels and Pallets (FS-7010); Expanded Metal Grating (FS-7011); PVC or HDPE Pipe Mats and Plastic Roads (FS-7012); Bridge Decks, Tire Mats, and Pole Rails (FS-7013); Corduroy Crossings (FS-7014); and Low-Ground-Pressure Equipment (FS-7015).

Cooperators

University of Minnesota Extension Service, Minnesota Department of Natural Resources, Minnesota Logger Education Program, Michigan Department of Natural Resources, Michigan State University Extension, USDA Forest Service, and Wisconsin Department of Natural Resources.



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