

A CROWNED ROAD IS A ROYAL TREAT FOR COUNTRY DRIVERS

Scott Cotton

Effective spring maintenance on gravel and dirt roads after a winter of snow removal and spinning tires is crucial for safe travel on country roads.

There is a reason some gravel roads are “good” and some are “bad.”

A “good” road is laid out in a route that avoids snow and water accumulation and is built and maintained by a trained crew. A well-designed country road is built with a crown running down the center of the road. The crown is created by blading the subsoil so the center of the road is 5 inches higher than the outside edge on a 20-foot-wide road. This surface is then topped with packable road base gravel, which has gravel and fine particles and forms a near hard surface on top of the subsoil. The road surface of usually larger

Proper maintenance is the difference between country driving pain or pleasure



gravel lets water pass through while offering traction for vehicles. This layer should also have a slight “crown” that mirrors the subgrade.

There should be clean borrow ditches on each side and appropriately placed culverts where any water naturally crosses the route. If the crown is too high, people tend to drive in the middle and create tracks that defeat the crown’s purpose of moving water off of the road.

Spring Maintenance First Step

A skilled equipment operator will pull displaced road base back from the edges of the road in the spring in a manner that is smooth and avoids gouges and pits. This is always the first step in spring maintenance.

Any large amounts of lost road base and gravel must be replaced to re-establish road condition. Some of the road base can often be found where removed snow was deposited.

They must remember to repair and grade the road base before applying and grading the surface gravel. If a road has insufficient crown, adding additional gravel when it gets soft will not resolve the problems. An uneven road base will allow the gravel on top to be easily displaced by tires, for example. Properly crowned roads will shed water and snow while remaining fairly solid and passable. Standing water is an indication of insufficient crown and will be the first location to soften and fail.

Water from rain or runoff events consistently crossing a rural road indicates that location needs a culvert.



Good foundation essential for surfaced areas, too

Establishing a good two-layer crown is the best platform for black-topping or paving a driveway or private road. Hard surfacing over a poorly designed base usually results in a shortened life for the tarmac or concrete. Uneven base cracks and potholes can develop within a year if asphalt is installed over an uneven base.

They must make sure to “oversize” the culvert for flood events.

Allowing vegetation to build up on the side of a road can prevent moisture from entering the drainage ditch. Vegetation should be mowed or bladed on a regular annual schedule to maintain road integrity.

About Those Washboards

The contours and designs of side roads entering a road also affects the integrity of a road. If “washboards” on rural roads drive you crazy – don’t blame the maintenance crew. Washboards or ripples are caused by slipping tires as drivers accelerate

aggressively. If you look, they will be found just after side roads enter a road, on hills, after curves, and on inclines. Slow and steady means smooth gravel roads.

Find out who your maintenance person is and have some conversations about improving your road this spring. If you live on a privately maintained road, consider visiting with a professional road maintenance person. If they don’t understand crowns – they lack expertise. Good road maintenance can make life much better and safer, but it’s more complicated than first appears.

A great resource is the U.S. Department of Transportation Gravel Roads Maintenance and Design Manual published online by the state of South Dakota in 2003. bit.ly/gravelmaintain

More than 54 percent – almost 1.6 million miles – of all the roads in the U.S. are unpaved.

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