

The Pit Stop

Dig and Communicate

By: Eric Knoff

Gallatin National Forest Avalanche Center

Snow ties the backcountry community together, sometimes it ties us to avalanches. Taking the time to dig a snowpit and assess snow stability provides valuable information and generates conversation between group members. Good communication leads to better decision making in avalanche terrain.

Snowpits are often dug on slopes less than thirty degrees steepness with a similar aspect and elevation to the slope you plan to ride. It is neither necessary nor prudent to dig on slopes steeper than thirty degrees to get an accurate representation of the snowpack on steeper slopes. Exposure to avalanche terrain should be minimal when digging a snowpit.

Snowpits are easy to dig and often take less than 15 minutes. A standard snowpit ranges from 1.5 to 2 meters wide and 1 to 1.5 meters deep. When the snowpack is less than 1.5 meters deep it's best to dig to the ground. When the snowpack is deeper than 1.5 meters it's less important to expose snow at the ground because skiers and riders are less likely to impact weak layers buried that deep.

When digging a snowpit make sure the front and sidewall of the snowpit are clean and smooth, allowing for accurate examination of different layers. Inspecting snow stratigraphy requires feeling with your hands the different layers from top to bottom. A hard layer of snow over a softer, weaker layer is a poor snowpack structure. A poor structure can produce unstable conditions and increased avalanche danger.

A more thorough look at the relationship between layers involves stability tests which requires isolating a column of snow and applying force through a series of loading steps. The most common stability test is the ECT (extended column test). An ECT involves isolating a column of snow 30 cm's wide by 90 cm's long and

applying force to a shovel on either end of the column. If a fracture initiates on a buried weak layer and propagates to the end of the column it is an unstable result and steep slopes should be avoided.

Taking time to dig a snowpit helps a group come together and communicate in an environment that allows individuals to voice their opinions about snow stability. If one member feels uncomfortable about snow conditions, the group should defer to the most conservative approach.

The primary purpose of digging a snowpit is to determine snowpack stability. It also increases communication. Taking time to investigate snow stability and discuss it with your partners is a great way to make safe and informed decisions in the backcountry.