# Lifesaver

## Avalanche protection technology is a winter resort's best friend

**Snowslides still** pose a great risk to winter resorts, despite recent advances in prediction technology. One method of combating the problem is with a Gazex remote-control detonation system. Made by TAS since 1988, the exploders are placed at the top of high-risk zones. An oxygen/propane gas mixture is detonated when required, fed by gas storage tanks with capacities high enough to operate for a whole season without refilling.

The exploders are made of a tube and a steel elbow with a very high impact strength. Two models, Inertia and Standard exploders, are available in three volume sizes (0.8, 1.5, and 3m³). Inertia exploders absorb the stresses and recoil from the explosion through a mobile counterweight fixed in front of the exploder. This system overcomes limitations caused by the quality of the ground. Standard exploders absorb the stresses and recoil through two or four resin-coated rods that are fixed in ground suitable for anchor points. The mixture is ignited by a totally autonomous depressurization ignition system that is unconnected to the gas storage tanks.

The dosage tanks, the oxygen and propane lines, and the remote triggering control system are housed in a sturdy shelter. Up to 10 exploders can be connected by polyethylene pipes buried in the ground or fixed to the rock up to a distance of 500m (approximately 1,640ft) from the shelter. Designed as a Faraday cage, the shelter is equipped with a lightning conductor mast to which the weather sensors, antennas, a solar panel, and a wind-powered electrical generator propeller are attached. <<

## The DaisyBell

The DaisyBell is the latest preventive avalanche-release technology developed by TAS. Complementary to the Gazex system, it is an alternative to explosives and designed to treat paths that are not equipped with permanent remote systems.

Carried by helicopter on a 25m cable, it works by exploding a hydrogen/oxygen mixture contained in the metal cone, 3m to 10m above the snow cover. All operations are controlled from the helicopter cockpit.

The detonation causes a direct push into the snow cover, directing the main explosion blast toward the ground. A shockwave then produces an overpressure of 280 mbars at a distance of 4m, and then a negative pressure above the snow cover.

The design offers several advantages for resort operators: it is totally mobile, there is less bureaucracy as there are no explosives to store, and unexploded charges cannot go missing on the slope. «