



North America Edition



home in your closet.

The best advice can be drawn from the animals that make the arctic their home. Their secret? Layers of fat and fur. Our bodies are like heat pumps; we feed our bodies fuel (food) and we pump out the heat; precious BTU's (British Thermal Units). The art of tailoring for the arctic regions is to retain and regulate the BTU's.

Winter stays around a long time in Northern Canada and it is not unusual to experience -50 wind chill. This is seriously extreme weather which can easily cause exposure and frost bite.

One thing that I was advised early on in the preparation process was to eliminate anything cotton. 'Killer Cotton' as it is known, does not wick sweat so loses its limited heat retaining abilities.

Being new to this experience, I turned to an extreme weather outfitter for advice,

Mountainhardware. They have been involved with many expeditions and high altitude climbs, so if anyone were to know what to wear it would be them. Terms like base, mid and outer layers were alien to me; my off-road wardrobe being

jeans, T-shirt, wellies and waterproof jacket.

However, clothing engineering has come a long way with the advent of plastics and other synthetic materials. Adding combinations of natural fibers give the best of both worlds; moisture control and warmth. This is called 'Hybrid' construction and a typical example of this would include using a waterproof fabric in areas that get maximum exposure to moisture while using a flexible, air permeable fabric in more protected areas. This gives a garment excellent weather resistance and increased breath ability. Precision cutting and welding pattern pieces creates an accurate join that eliminates the need for stitching. This helps the weather resistance by reducing the entry points for moisture, reduces the bulk of the garment and allows greater flexibility.

All clever stuff, which made for a lot of reading, studying and homework during the expedition preparation.

■ **Base-layer/underwear:** This should be silk, polypropylene or synthetic blend; this also includes a base layer sock for your feet. It is advisable to spray

your feet with an antiperspirant to help keep them dry.

The key words to look for in choosing base-layers are soft, wicking and quick drying. Having an 'anti-microbial' feature will certainly be appreciated by your travel partners as this helps reduce odor.

■ **Mid-layer(s):** These garments are normally some form of fleece or layered laminate, for moisture control, warmth and insulation but also have a windproof element. Useful features include either full zippers or vents to help regulate the wearer's temperature. The clothing is extremely light, compresses for easy packing and is generally easy to wash and, more importantly, dries quickly.

Being more of a 'gear-head' I was fascinated by the technicalities and physics that have evolved in expedition clothing. Laminate (or transition) garments create a micro-climate next to the skin. As you exercise and the body heats up, the temperature/humidity differential between the inner micro-climate and the outside air creates a driving force that pushes moisture out through the fabric membrane.

Opposite page: Steve Hoare, ready for anything.

Left: Choose a correctly fitted jacket suited to the conditions you will be experiencing.

Below left: Choosing the right sleeping bag is essential for a good night's rest.

Below right: The right boots can make or break a trip.

■ **Outer-layers:** We were preparing for extremely low temperatures so insulation was the chief requirement. The outer garments have a unique combination of materials to ensure that the garment gives top performance. For example, the shoulders and upper back have a water resistant material which repels rain and moisture. The rest of the garment has a high insulation, breathable material for warmth, typically a high grade natural down.

While a shell is designed to keep the elements on the outside, garments using this type of construction are designed to keep a single element on the inside: warmth.

Down jackets will normally be marked with a down fill number (typically 650-800). There are two main sources of down: China and Europe. Chinese geese are harvested at about seven weeks old and yield a small down cluster. European geese are harvested at approximately twenty weeks old and yield larger cluster. The larger the cluster the more soft fluffy stuff. The better coats use European down. Down is known for its superior warmth to

