The loneliness of the long track skater





ossibly because of the locked down image projected by the combination of their tinted glasses, their gloved hands and the clearly defined muscular structure within their hooded skin tight suits, competitors in speed skating events seem to project a feeling of loneliness as they flash around the track appearing to drive themselves by their exaggerated arm movements. Although taking part in the hurly-burly of physical competition, there is an aura of self-containment that almost negates any form of spectator frenzy during the races. After the event is another story.

Whilst racing across ice has been a logical outcome of man's competitive spirit matched to the occasional availability of a frozen surface, modern speed skating as a technical skill only appeared in the late 1800s in Europe. The first acknowledged world record was set during the same period by a Dutch skater completing a 5,000m race in a little less than 8.5 minutes. Significant events include the quadrennial Winter Olympic Games and the sport's own annual World Cup circuit, where the world's best skaters compete against each other during the year.

Fast and furious

Leading speed skaters competing at international level move at velocities approaching 50km/h (30mph) during sprints and therefore much of the textile-based equipment in use has been developed in the interest of personal safety. Unscheduled physical clashes are not unknown and the effect of a misplaced skate blade is best left to the imagination; a miscalculation on a curve can take the skater straight into the surrounding boards with equally devastating results.

With two standard track lengths (400m and 111m) and race methods developed to suit the distances, the safety factors brought into play vary considerably. On the long track there are just two lanes with a skater in each, who switch lanes once every lap. Where a group of skaters compete, it is a matter of six or eight competitors using a single lane and jockeying for position behind the leader to make use of the broken airflow and save energy for the final burst to the finishing line. The risks involved include hitting the barriers at the sides of the track, mistiming a lane change and obstructing the other skater, and, latterly, colliding with another member of

the pack in the final dash. Given the circumstances, even the most minimal personal safety equipment will include helmets, glasses, gloves and neck guards.

The short track generally fields multiple contestant events in which from four to six skaters compete in heats until a final race decides an overall winner. There is no laning and the competitors employ a variety of tactics to overtake one another. Some of these can be dangerous in content and it is usual for competitors to wear a full complement of safety wear which will include additional knee pads and shin pads.

Suits you

Whilst we shall return to the subject of protective wear later in this feature, by far the most attention-grabbing piece of equipment is the skater's skin suit. The term is self-descriptive because it is just that - a skin-tight suit consisting of tights and a jersey as a one-piece item. The sleek fit presents an aerodynamic shape against the airflow generated by the skater's forward movement. This is most important for long track skaters because the resistance caused by interrupted air flow over the skater's body has a substantial effect during the duration of the longer races. The effect is less noticeable on the short track, but the style is nevertheless continuous as a form of skater's uniform.



Another benefit is freedom of movement. The suit allows the skater to use arms and legs to their fullest, without the energy-consuming resistance that would come from more normal athletic clothing used in other snow sports.

Most often manufactured in spandex or DuPont Lycra, the suits are individually sized and decorated according to the skater's personal choice, but Margaret Waite, of California-based Margaret Waite Athletic Designs, states that the development and availability of other forms of stretch performance fabrics has produced a beneficial effect on this particular market sector.

"We incorporate several Polartec fabrics, particularly the Thermal Stretch product. Darlexx laminates from Shawmut Mills have proved to be extremely slippery, and pretty well everything from Warshaw's Spandura range has served us well," she said.

Margaret was obviously considering the 'go faster' function of the skin suit, but she could have added the use of DuPont Kevlar-based fabrics for their anti-abrasion properties and Malden Mills Polartec 300 and Chamois for their insulation.

The ability to personalise their race clothing is highly prized by speed skaters, and the manufacture of the skin suits - including those for the American Special Olympics team - and the company's work for the media industry, have enabled it to invest in a sublimation printing process. Flames, stars, glowing patches, flowers and team identifiers are all highly visible and easily produced.

"Heads and shoulders. Knees and toes."

The opening words of the Scout Movement's campfire action song serve as an accurate reminder of those parts of the human body most likely to suffer impact damage when struck at the speeds achieved by racing skaters. Piling into the trackside barriers when crouching to create the least wind resistance, it is almost certainly going to be the head that strikes first. Helmets are obligatory under the International Skating Unions (ISU) competition regulations and, as the controlling body for the sport, it also issues appropriate certification of compliance for all safety equipment.

Similar in external design to the helmets used by cyclists, the skull is cushioned by high-density foam padding and there is an additional nape protector between the lower rear bones of the cranium and the upper vertebrae. This last component consists of foam padding carried inside a cut-resistant cover (usually leather) and is

designed to protect against flying skate blades.

In common with the stylish decoration of the skin suits, helmets are also lavishly decorated with paint jobs and decals to act as identifiers during the competitions.

Safety glasses are not mandatory but are certainly a relevant safety item. The most popular come with a complete kit consisting of clear and smoke coloured polycarbonate lenses, adjustable arms, a safety strap and a neck strap - and a carrying case.



Flying skate blades are also the reason for the ISU's insistence that every competitor wears a neckguard. Designed to protect the neck and upper chest, it consists of a circular tube of ballistic nylon over a shaped pad of open-cell foam. Attached to the front of the lower edge of the tube is a padded bib that is worn under the suit to guard the area between the jaw line and the upper sternum. Blade strike on this part of the body is not a regular occurrence but has happened with sufficient frequency to justify the development of this piece of equipment. Models are available and race legal in Kevlar and DSM's Dyneema fabrics without the foam inserts, but we are told that the jury is out on the question of the final validity of the benefits. Given that the least that will happen from an accidental hit is a bruised larynx and a week on mushy food, its not surprising that foam padding is the most popular option.

Heavy-duty gloves, usually of leather but occasionally manufactured in Kevlar or Dyneema, protect the backs of the hands and wrists as well as having a secondary role in keeping these extremities warm. Top skaters coat the fingertips of the inside glove with a resin compound to provide a reinforced wearing surface. This is because they often drop a hand onto the ice on the bends providing a physical locator for the highly focused competitor and a pivot point for sharper turning.

Leg protection covers two areas, the outer thigh and the shin. The former is either padded with a closed cell foam unit enclosed in a sewn pocket in the suit, or covered with an external patch woven from Kevlar fibres. Shin protection relies on the standard guards as used in soccer, hockey or lacrosse. These are inserted under the legs of the suit and, although straps may be supplied, usually rely on the pressureof the fabric for security. Kneepads are occasionally worn, again inside the suit.

Impressions

If you are left with an impression that speed skating is a highly dangerous activity then one should apologise. It is fast and fun; the safety requirements are no more than common sense and prudence dictates.

We are just a year away from the 2002 Winter Olympics in Salt Lake City, Utah. Keep an eye on the lonely-looking figures in the long track races.

Derryck Draper

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