Changes to the

International Skeleton Rules

approved by the 2004 Congress
1.6.2 Equipment Checks

The participants in F.I.B.T. competitions submit to checking their sleds and equipment by their signature on the International Licence and according to Art.1.7.

The Jury may order checks on sleds and equipment on site at all F.I.B.T. competitions and can also have these checks carried out by a mobile laboratory on site or by a F.I.B.T.-approved laboratory according to the enclosed attachment.

The sled is only opened by the athlete himself or by his trainer/mechanic.

The athlete must bring to the control all the tools necessary for the operation.

The sled must be disassembled in such a way that all the parts to be checked are easily visible.

For checks on runners, the athlete must state the material/alloy numbers relative to the steel of which the runners are made.

Should an external check or examination prove a violation of the International Rules, the concerned National Federation is obliged to pay the costs.

1.12 Infringements

In the event of any infringement of the rules, the following penalties are enforced by the Jury, according to the gravity of the offence:

- warning
- fine up to 1,500 EUR
- exclusion from competition

The fine will be forwarded by the Jury to the F.I.B.T.

2.20. Infrastructures - Ancillary facilities

The spaces for the warming up section, shelters to store bobsleds, the building at the starting zone and for weighing, must be sufficiently large.

In particular sufficiently large areas for warming up of athletes shall be foreseen in the open air.
A medical first-aid room, an anti-doping room and a press centre shall be foreseen. Ancillary facilities may also be of a temporary type. Their construction is established jointly by the author of the project and the Technical Commissions.

3. SPORT EQUIPMENTS

Principles
Skeletons are sleds with 2 runners. To propel the sled, only the pushing force of the skeleton driver and the force of gravity is permitted. Devices to assist steering or braking are prohibited. Protruding nuts and bolts which might cause injuries are prohibited. Any hydraulic and pneumatic installations on the skeleton are prohibited. The sled manufacturers are responsible for the construction of sleds that can withstand, without damage, the stress of repeated runs on the bob tracks. For the purpose of the F.I.B.T., the term “steel” means an alloy of iron and carbon with an iron (Fe) content of more than 50%.

3.1 Construction
The contents of the text are binding: the dimensions indicated in the drawings, diagrams and figures are compulsory.

3.2 The frame of the construction and the supporting body must be constructed in steel. The frame, composed of longitudinal and transverse parts, must be configured as a horizontal plane in a single, continuous line. Max. tolerance 4 mm. Both longitudinal rails must consist of one continuous piece of steel with a minimum of 30/5 mm.

Both cross rails must consist of one continuous piece of steel with a minimum of 25/3 mm. The corner joints of the frame parts must be firmly and rigidly joined together or to the runner supports. They may be welded or screwed with at least 2 screws per joint.
The front cross rail has to be attached in the region of the runner supports. Max. tolerance from the front end of the supports to the cross rail is 8 cm. The rear cross rail has to be attached in the region of the runner supports. Max. tolerance from the back end of the supports to the cross rail is 3 cm.

3.3  The **base-plate** must be constructed in a single piece and must not be divided. It may also be constructed in plastics. The form of the base-plate must be convex all over. (Tolerance: max. allowable concavity in 30 cm = 3 mm)

   The frame and the base-plate must be constructed in two separate parts. (Laminating the frame into the base-plate is not permitted). The two parts can be joined to each other by welding, cementing, riveting or screwing.

   Exceptions:
   a) -Openings for the runner blocks, runner bolts, and the runners.
   b) -Opening for the support of the runner post holder / guide
   c) -Opening for the bumper brackets
   d) -On the front edge seen from above, within a distance of 8 cm from the front edge.

3.4  The **runner blocks and posts** must be welded to the runners.

   The **runner supports** must be permanently joined to the sled’s frame.

   The runners must be directly mounted to the runner-supports.

   The **runner post guide / holder** may show a max. size of 25 mm width, 45 mm length.

3.5  The **supporting body** must be fixed to the frame above the base-plate.

3.6  No spring, rubber, rubber-like or energy absorbing material may be used for runner suspensions, frame and/or for all other parts of the sled.

---

The front cross rail has to be attached in the region of the runner supports. Max. tolerance from the front end of the supports to the cross rail is **30 mm**. The rear cross rail has to be attached in the region of the runner supports. Max. tolerance from the back end of the supports to the cross rail is **80 mm**. **Supports are to be understood as parts featuring slots, without welded elements.**

3.3 The **base-plate** must be constructed in a single piece and must not be divided. It may also be constructed in plastics. The form of the base-plate must be convex all over. (Tolerance: max. allowable concavity in 300 mm = 3 mm)

   The frame and the base-plate must be constructed in two separate parts. (Laminating the frame into the base-plate is not permitted). The two parts can be joined to each other by welding, cementing, riveting or screwing.

   Exceptions:
   a) -Openings for the runner blocks, runner bolts, and the runners.
   b) -Opening for the support of the runner post holder / guide
   c) -Opening for the bumper brackets
   d) -On the front edge seen from above, within a distance of **80 mm** from the front edge.

3.6. The **use of materials or elements which are sprung or which serve to absorb energy in the mechanical joints or in the parts of the skeleton is forbidden**
Exceptions:
- between linkage of supporting body and frame
- between linkage of base-plate to frame
- between fastening of additional weight
- padding of the supporting surface and supporting body

3.7 **Weight**
- Maximum weight of the sled and driver including equipment must not exceed 115 kg (Ladies: 92 kg).
- The weight of the sled must not be in excess of 43 kg (Ladies: 35 kg).
- If the weight of the sled and driver including equipment exceeds 115 kg (Ladies: 92 kg), the maximum weight of the sled alone must not exceed 33 kg (Ladies: 29 kg).

Missing weight may be added by ballast on the sled.
Ballast must be securely fastened to the sled.
Ballast attached to the driver’s body is prohibited.

3.8 **Dimensions**
- sled length: 80cm - 120cm
- sled height: 8cm - 20cm
- gauge from center to center of opposite runners: 34cm - 38cm

800 mm – 1200 mm.
80 mm – 200 mm.
340 mm – 380 mm.

3.9 **Runners**
Each runner must consist of stainless steel type 1.4435. The raw steel elements having a diameter of 16mm will be provided and marked by the FIBT (the marking is to be applied prior to the manufacturing of the runner). The Federations and/or the runner manufacturer may order and obtain such raw steel (diameter 16mm) of various lengths from the FIBT. The diameter of the steel must be a constant 16 mm up to the runner fixing blocks (minus tolerances of 0.30mm are acceptable).
The characteristics of the basic runner material must not be changed after its fabrication.
The grooves in the runners must be fabricated in such a fashion that they do not damage the ice surface. The depth of the grooves must not exceed 2mm calculated from the running surface.

Any type of treatment which might result, even only locally, in changes in the physical structure* and/or the composition and/or the structure of the material, is forbidden.

No type of coating is allowed. The diameter of the body of the steel runner must be 16 mm for its entire length, i.e. up to its anchoring elements (with the exception of milling). A minus tolerance of 0.30 mm is allowed.

The grooves and ground areas must be formed in such a way that they avoid excessive damage to the surface of the ice. The depth of the ground parts or of the groove shall not be in excess of 2 mm.

Note. (*) The term “physical” is to be intended as a global term and includes all ‘sub-terms’ such as “mechanical”, “tribological”, “electromagnetic”, etc.

3.10 Handles and Bumpers
The sled must be equipped with secure handles. They must be attached to the supporting body at both ends. The handles must be outside the legs. The arms must be outside the supporting body and the handles during the run. No further handles are allowed. The handles must be covered.

On both sides of the front part of the sled, particularly safe bumpers (bumper brackets) must be applied. Minimum distance outside edge of runner - outside edge of bracket = 7 cm. Minimum length of bumpers = 12 cm. The front bumpers may exceed the padding of the supporting surface at its highest point by max. 1.5 cm.

They have to jut out from the base-plate so far that control is possible at any time.

Bumpers (bumper brackets) which are equally as safe as those mentioned previously must be applied in proximity to the each other and these must always be present on the runners and remain unaltered and clearly visible.

On both sides of the front part of the sled, particularly safe bumpers (bumper brackets) must be applied. Minimum distance outside edge of runner - outside edge of bracket = 70 mm. Minimum length of bumpers = 120 mm.

The front bumpers may exceed the padding of the supporting surface at its highest point by max. 15 mm.

They have to jut out from the base-plate so far that control is possible at any time.

Bumpers (bumper brackets) which are equally as safe as those mentioned previously must be applied in proximity to the each other and these must always be present on the runners and remain unaltered and clearly visible.
handles extending from the supporting body to the rear edge of the sled. Minimum distance outside edge of runner - outside edge of bumpers = 3.5 cm (measured in proximity to suspensions of rear runners). By installing the rear bumper in the direction of the sled’s center, the overall size increases in a straight line to the front bumper. It must not jut out further than the front bumper. Minimum length of rear bumper = 8 cm. All bumpers must be made of round steel. Minimum diameter = 12 mm. The back bumpers have to jut out from the base-plate at least 2 cm. In no way they may be taped or covered.

3.11 Push Elements
Any kind of mechanism assisting the start and the run of the sled is prohibited.

3.12 Fairings and Spoilers
Fairings and spoilers are prohibited. The base-plate is not considered as covering. The padding of the supporting surface, measured in a horizontal line between the supporting body and the front part of the sled, must be flat. The width of the surface is given by the distance between the runners. The padding of the supporting surface, measured from the rear of the handles to the back edge of the sled, must be flat, too. The width is given by the outside edges of the sled. Hollows or thickened parts are not allowed. The upper edge of the base-plate at the sides of the sled, measured in a horizontal line, must not exceed the upper front edge of the sled.

3.12 Fairings and Spoilers
Fairings and spoilers are prohibited. The base-plate is not considered as covering. The padding of the supporting surface, measured in a horizontal line between the supporting body and the front part of the sled, must be flat. The width is given by the between the external edges of the skeleton. The padding of the supporting surface, measured from the rear of the handles to the back edge of the sled, must be flat, too. The width is given by the outside edges of the sled. Hollows or thickened parts are not allowed. The upper edge of the base-plate at the sides of the sled, measured in a horizontal line, must not exceed the upper front edge of the sled. All edges must be perfectly covered with adhesive tape.
3.13 During official training or competitions no electronic, electrical, electronically activated or by waves activated components are allowed on the skeleton or athlete.

4.5 **Technical Equipment**

Following technical equipment is required:

- voice communication between start and finish and general network
- voice communication between checkpoints and race director
- visual and sound signalling instruments to authorise start
- complete loudspeaker system
- electric time-keeping and classification (8.8)
- temperature measuring device
- scales (adjusted minimum every 3 years)
- workshop with welding machine and vices
- meeting room for team captains
- transportation for sleds to the start
- first aid room
- billboard
- doping control station
- 2 ambulances (art.7.2)

5.2 **Authority**

The Jury is the highest authority of the respective competition and exerts control within the scope of the rules, and is entitled to take decisions. Besides the controlling activity its **approval** is required for:

- change of temperature for tracks with artificial ice
- change of skeleton (8.6.1)
- change of runners (8.6.1)
- repetition of a run (8.6.5)
- reduction of training runs (8.1)

**It specifies:**

- reduction in number of participants (1.2.3)
- penalties in case of infringements (1.12)
- closing of the run (6.2)
- length of the starting grooves (8.3)
- execution of the draw (8.4)
- ban of athletes (8.6.2)
- weight control (8.7)
- decision about protests (8.10)
- interruption or cancellation of heats (8.6.4)

The task of the Technical Delegate is to control training and competition in all matters related to the safety of the participants. He has to interrupt training or race if security can no longer be guaranteed. Within his control, he has to consider in particular:
- track
- sleds
- equipment
- medical service

5.3. Power of Control
During training and competition and without previous announcement, the Technical Delegate and each Jury member has access to all technical facilities and installations necessary for competition.

5.4 Special Decisions
The Jury has also the power to make any decisions regarding the respective competition that are not specified in these rules.

8.6.1 Material and Equipment

Sleds
In principle, the same sled must be used in all heats of the race.
In case a damaged skeleton cannot be repaired in time, a spare skeleton may be permitted in agreement with the Jury.

Runners
It is prohibited to heat or juice the runners or to use any means of propulsion. The sleds must be brought to the “Parc Fermé” with clean runners.
A change of runners is only allowed in case of damage and with the Jury’s agreement. In races with runs held on two days, different runners may be used on the second day.
8.7  **Technical Checks**

**Starting preparations**

60 minutes before the start all sleds of the athletes admitted to the competition must be in the “parc-fermé” with the runners fitted to and uncovered. Grinding or polishing of the runners is prohibited. As of that moment, it is forbidden to artificially cool the sled or the runners.

As of **20 minutes before the start** any work at the sled or runners is prohibited. From then on access to the “parc-fermé” is allowed only to the athlete or the person who is in charge of bringing a sled to the start.

In between the heats the “parc-fermé” will be opened for 10 minutes. During this period, following verification by the Jury, scratches (solely and exclusively) may be smoothed. The abrasive paper used (in grades of 1200) for the purpose is supplied by the Jury.

It is forbidden to take tool boxes or similar into the “parc fermé” area.

Behind the starting beam the Jury marks off an area granting the athlete the necessary quietness for his starting preparations. Access to this area is only allowed to the starting athlete, the person in charge and the Jury.

**Runners’ temperature**

The temperature of the runners is measured when the sled is taken from the “parc-fermé” to the start. During the night, the sample runner must be kept inside a room at ambient temperature. The runner must be exposed to the outside atmosphere, as close as possible to the place at which the runner’s temperature is measured, 1 hour before the start of the competition.

The temperatures of the ice and the air are measured, starting 1 hour before the start of the competition (parc fermé) every 30 minutes until the end of the competition and displayed on the foreseen board.

The temperature of the reference runner is measured starting one hour before the start of the competition (every 30 minutes) and shown on the board.
The temperature of both runners has to be measured by means of an electronic measuring instrument, consisting of feeler and display unit, suitable for measuring ambient temperature between +30°C and -20°C.

The runners’ temperature must be measured laterally in the area of the runners’ fixing. The measuring head has to remain at the runner until the display of the thermometer becomes stable.

The temperature of a runner, hanging in the open air in a place protected from sun, is written on a board in the starting area and is used as a comparative value.

The temperature of the sample runner is measured laterally in the area of the supporting middle body of the sample runner.

At the start two measuring instruments have to be installed, one at the disposal of the judge for official measurements, the other at the disposal of participants for checking purposes.

The difference of a runner’s temperature to the stated value on the board may not exceed 4°C.

If the temperature of the sample runner goes below -14°C, the runners may still show up to -10°C. If runners exceed the permissible temperature, a second measuring has to be done for control purposes immediately after the first one and is to be entered into the protocol of temperature measuring.

Runners (cleaning)

In order to cancel the effect of any treatment with solid, liquid or gaseous substances for making them run better on the ice, runners shall be cleaned by officials using special detergents supplied by the F.I.B.T. before each run.

Runners (cleaning)

In order to cancel the effect of any treatment with solid, liquid or gaseous substances for making them run better on the ice, runners shall be cleaned by officials using special detergents and/or abrasives supplied by the F.I.B.T. before each run.