
**Alpine ski/binding/boot (S-B-B)
system — Assembly, adjustment and
inspection**

*Ensemble ski/fixation/chaussure (SFC) pour skis alpins — Montage,
réglage et contrôle*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, Subcommittee SC 4, *Snowsports equipment*.

This sixth edition cancels and replaces the fifth edition (ISO 11088:2015), which has been technically revised. The main changes are:

- the content of the test report has been extended to include specifications of the ski, the binding and the boot;
- accepted deviation for the adjustment has been aligned to other relevant standards;
- in [Annex A](#), other figures and characters have been given as an informative option for the indication of skier type;
- the tibia method has been removed from [Figure C.1](#);
- release preference instead of skier types;
- normative references have been updated;
- a new [Clause 4](#) has been added.

Introduction

International Standards exist for the components of the alpine ski/binding/boot (S-B-B) system, mainly intended for the component manufacturers. An International Standard (ISO 8061) also exists for the selection of release moments.

This document is intended primarily for retailers. However, its aim is to include, in one text, the different phases of the choice of components, their assembly, adjustment and inspection in the form of practical procedures, and to provide tolerances for inspection and adjustment.

The inspection procedures and tolerances described in this document apply to the condition of the S-B-B system before it leaves the ski shop to judge the condition of the equipment once it is put into use and for periodic verification of used equipment.

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Alpine ski/binding/boot (S-B-B) system — Assembly, adjustment and inspection

1 Scope

This document specifies assembly, adjustment and inspection procedures for the binding mechanisms of skis, integrating, in a practical way, the requirements of those International Standards which are related to skis, bindings and boots.

It is intended for all individuals and institutions concerned with those procedures, and especially for sports retailers.

It is applicable to a ski-binding-boot system (S-B-B) for alpine skiing, of which at least one component is owned by the user.

This document is applicable for complete and incomplete alpine ski-binding-boot systems which are owned by the user or rented for 15 days or more.

NOTE ISO 13993 gives a method of measurement for equipment which is rented for less than 15 days.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5355, *Alpine ski-boots — Requirements and test methods*

ISO 8061:2015, *Alpine ski-bindings — Selection of release torque values*

ISO 8364, *Alpine skis and bindings — Binding mounting area — Requirements and test methods*

ISO 9462, *Alpine ski-bindings — Requirements and test methods*

ISO 9523, *Touring ski-boots for adults — Interface with touring ski-bindings — Requirements and test methods*

ISO 11087, *Alpine ski-bindings — Retention devices — Requirements and test methods*

ISO 11110, *Winter-sports equipment — Test devices for the setting of the functional unit ski/boot/binding — Requirements and tests*

ISO 13992, *Alpine touring ski-bindings — Requirements and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

fitting adjustment

procedure required to obtain geometric compatibility and correct functioning of different components

3.2 indicator setting Z-mark

release indicator value marked on the binding in accordance with ISO 9462

3.3 skier type

release adjustment (3.7) criteria pertaining to the type of skiing to be undertaken, as assessed by the skier in accordance with [Table A.1](#) or [Table A.2](#)

Note 1 to entry: If the skier desires a setting outside the tolerances of this document, he or she can select such a setting at his or her own discretion. Ski-binding manufacturers should provide guidelines to shops and skiers regarding the recommended magnitude of such changes. Skiers should be clearly informed when these changes result in release values above the upper limit or below the lower limit defined in ISO 8061.

3.4 initial indicator position

release indicator position of the binding corresponding with the instructions given in [Annex B](#)

3.5 Release moment (values) M_Z and M_Y

3.5.1 selected individual release moment reference moment

(for a given skier) release moment determined in accordance with ISO 8061

3.5.2 measured release moment (for a given S-B-B system) value for which the binding releases

Note 1 to entry: It is expressed in newton metres.

Note 2 to entry: The procedure is given in [6.7](#).

3.6 accepted inspection tolerance

maximum difference between the *measured release moment* (3.5.2) and the *selected individual release moment* (3.5.1), limited for M_Z and M_Y to the release moments stated in [Table B.1](#) one line above/below the reference moments

Note 1 to entry: The theoretical limits for M_Z with $\pm 15\%$ or ± 3 Nm (whichever is higher) and M_Y with $\pm 15\%$ or ± 10 Nm (whichever is higher) are the base for [Table B.1](#). Long experience shows that using the table values avoids many errors and is easier to explain to customers.

3.7 release adjustment

procedure for making the measured M_Z and M_Y values coincide with the selected individual M_Z and M_Y values within the limits stated in [Table B.1](#)

3.8 trouble-shooting procedures

additional procedures recommended by the equipment manufacturer

3.9 accepted re-adjustment tolerance

maximum difference between the *measured release moment* (3.5.2) at the *initial indicator position* (3.4) and the *selected individual release moment* (3.5.1), limited for M_Z and M_Y to the release moments stated in [Table B.1](#) two lines above/below the reference moments

Note 1 to entry: The theoretical limits for M_Z with $\pm 30\%$ or ± 6 Nm (whichever is higher) and M_Y with $\pm 30\%$ or ± 20 Nm (whichever is higher) are the base for [Table B.1](#). Long experience shows that using the table values avoids many errors and is easier to explain to customers.

4 Principle

Follow the procedure shown in [Annex C](#).

5 Skier's parameters

5.1 General

The individual release moment values are given in ISO 8061. The following procedure, using discrete values, may be considered an acceptable approximation of the basic functions of ISO 8061.

5.2 Weight method

5.2.1 Determine the skier's parameters:

- a) mass (weight);
- b) height;
- c) type (according to [Annex A](#));
- d) age;
- e) sole length if necessary.

5.2.2 Using [Table B.1](#), choose the individual release values of M_Z and M_Y .

6 Equipment parameters

6.1 Choice of new equipment

The components shall be in accordance with the following documents: <https://standards.iso.org/iso-11088-2018>

- a) ISO 8364 for skis;
- b) ISO 5355 and ISO 9523 for boots;
- c) ISO 9462 and ISO 13992 for bindings;
- d) ISO 11087 for brakes.

The skier should receive specific recommendations concerning the selection of boot, binding and ski, if they are provided by the manufacturer.

6.2 Visual inspection and preparation of used equipment

If any of the components of the S-B-B system have been used, the installer shall carry out a visual check according to the criteria below. In addition, older equipment may require special attention as defined by the manufacturer.

- a) The edges and base of the ski shall be properly prepared according to the recommendations of the ski manufacturer. Unused mounting holes, if any, shall be carefully filled in, according to the manufacturer's specifications.

- b) The condition of the boot sole shall meet the binding manufacturer's requirements. All buckles, fasteners and support areas shall be in good condition.

In cases where release is independent of the boot (e.g. some plate bindings), the inspection of the sole may be less exacting.

- c) The condition of the binding components shall meet the binding manufacturer's requirements (i.e. no broken, deformed, missing or worn-out parts).

Component guides or rotation points shall be free-moving, free of obvious rust, corrosion and dirt, etc.

The manufacturer's inspection and maintenance instructions shall be observed (including lubrication).

The brake shall not be deformed. Suspect components shall be repaired or exchanged.

6.3 Assembly

When assembling the system, comply with the instructions of the binding and ski manufacturers and use the proper tools.

The use of a drill according to [Annex E](#) is recommended. Once the holes are drilled, it is recommended that they be tapped and glue applied if this is required by the ski manufacturer. New holes shall not be drilled less than 10 mm from old holes (measured from centre of hole to centre of hole), even when they are filled in, unless otherwise specified by the ski or binding manufacturer.

When inserting the screws, take care not to damage the threads. A maximum tightening moment of 4 Nm shall fulfil this requirement, unless otherwise specified by the ski manufacturer.

6.4 Binding-to-boot fitting adjustments

Follow the binding manufacturer's instructions.

6.5 Initial indicator adjustment

The binding manufacturer shall provide a table similar to [Table B.1](#) for his/her products.

Using [Table B.1](#), adjust the bindings to the appropriate initial indicator position.

6.6 Functional check (inspection of functions)

Check visually that everything is according to the binding manufacturer's instructions and operates correctly.

Check if the boot returns quickly to its initial position within less than 2 mm after a sideward displacement of approximately 10 mm.

6.7 Measurement of release moment

Precondition the binding by releasing each unit as required by the binding manufacturer.

Using a test device in accordance with ISO 11110, proceed as follows.

- a) Follow the test device manufacturer's instructions and check the calibration of the test device according to the manufacturer's procedures.
- b) Perform a measurement for $+M_Z$, $-M_Z$ and $+M_Y$ each.
- c) Check that the measured $+M_Z$, $-M_Z$ and $+M_Y$ values are within the limits of the accepted inspection tolerance as defined in [3.6](#). If so, no further actions are required; proceed according to e). If the release measurements do not fall within the accepted inspection tolerance but within the accepted