



BASIC TIMING & CALCULATIONS - ALPINE

SEASON 2026

STUDY GUIDE

This Study Guide is intended to be used as an educational and review aid for individuals interested in alpine officiating. Downloading, printing, and reading the Study Guide must not be substituted for actual attendance at a U.S. Ski & Snowboard-approved clinic or used as a replacement for actual instruction at any U.S. Ski & Snowboard-approved clinic.

PLEASE NOTE: The Chief of Timing and Calculations is responsible for supervising, documenting, and enforcing the quality control of actual timing and results. The purpose of this clinic is training the basics required by the position. With the exception of lower-level non-scored events, (e.g., YSL), where staffing issues may require it, the Chief of Timing and Calculations should not be the individual also operating the electronic timing equipment or the timing/race result software. Therefore, although it is very useful, training in the use of timing equipment and/or timing/result software should not be included in this basic curriculum.

Materials are available for a Timing Operations Workshop. The Workshop includes installation and operation of timekeeping equipment and software and should be scheduled separately from an actual Basic Timing & Calculations Clinic.

REFERENCE PUBLICATIONS:

1. U.S. Ski & Snowboard Alpine Competition Regulations (ACR)
2. ICR of the FIS, Online Edition
3. ICR Precisions
4. Rules for the FIS Points
5. U.S. Ski & Snowboard Alpine Officials' Manual
6. FIS Alpine Skiing Timing Booklet

***NOTE:** ACR mirrors, when possible, ICR numbering. U.S. Ski & Snowboard exceptions have a “U” preceding the rule number; the “U” is a part of the number.

CERTIFICATION EXAMINATION:

Basic Timing & Calculations Certification Examination (Level 1) will be available at U.S. Ski & Snowboard-approved Alpine Officials' Clinics. Allowed time limit is 2.5 hours. The examination is open-book, and it must be administered only at scheduled clinics. It is NOT A TAKE-HOME EXAM. The use of computers to “search” rule books or complete calculations is NOT ALLOWED. Completed examinations are to be retained by the clinic examiners; they must not be returned to the individuals taking them. Please refer to Region/Division publications for clinic schedules. ***This Study Guide is not intended as a replacement for taking notes for use during an open-book examination at any U.S. Ski & Snowboard-approved clinic.***

If you have problems with this Study Guide or have suggestions for improvements, please contact the Chair of the Alpine Officials' Education Working Group: aoewgchair@gmail.com. Thank you.

U.S. SKI & SNOWBOARD

BASIC TIMING & CALCULATIONS - ALPINE

SEASON 2026

PLEASE NOTE: Procedures that impact your event operations and programs must be relayed to all event officials, Team Captains, and competitors. The procedures must – without question – be respected and observed.

Alpine Officials' resource materials are prepared to be accurate and in compliance with current rules and procedures while maintaining a nationwide outlook. The content of the material is reviewed by senior Alpine Officials prior to being submitted for acceptance by appropriate U.S. Ski & Snowboard authorities. If an item included in the resource materials appears to be in conflict with current rules and procedures, please contact U.S. Ski & Snowboard Competition Services for clarification and/or interpretation.

There is much information available to us - no one can possibly know it all. What we SHOULD know is WHERE to find it. Most of the sections of this Study Guide require research by the user. This will aid in the ability to understand the layout of the applicable rule books and publications and will reinforce their content.

REFERENCE DOCUMENTS:

The following reference items can be found at the end of this Study Guide and are placed in the order in which they are referenced. Document numbering is not sequential because it agrees with document numbering in the updated Master Packet of Forms (MPF) that can be found on the U.S. Ski & Snowboard website. It is suggested that forms be printed for easy reference while using this Study Guide.

- | | |
|--|--|
| 35. Report by the Referee | <u>Timing Tape Review</u> |
| 30. Start/Finish Referee Recording Form | a. Timing Tape #1: ToD Timer |
| 31. Start/Finish Timekeeper Recording Form | b. Timing Tape #2: ToD Timer w/Intervals |
| 34. Replacement Time (EET) Worksheet | False (Early/Late) Starts |
| 32. Electronic Time Recording Form | |
| 39 U.S. Penalty Calculation | |
| 40. FIS Penalty Calculation | |
| 36. Protest Form | |
| 42. Timing Checklist | |
| 43. Timing & Data Technical Rpt. Instructions & Worksheet (TDTR) | |
| 44. Why a TDTR | |
| FIS List Cover Page (U.S. Ski & Snowboard and FIS websites) | |
| USA Wireless Timing Application | |

Study Problems

Exercise: Steps Involved in a Replacement Time (EET) Calculation *

- Electronic Time Recording Form
- Start/Finish Timekeeper Recording Form
- Replacement Time (EET) Calculation

* Exercise is included to demonstrate the use of the forms/data required for the calculation of a Replacement Time (EET). U.S. Ski & Snowboard-approved race result/timing software programs provide tools for calculating a Replacement Time (refer to applicable PowerPoint presentations for additional information). Excel spreadsheet is available and can be found in the Master Packet of Forms (MPF) on the U.S. Ski & Snowboard website. A Replacement Time Calculator is available on the FIS website at ([fis-ski.com/inside-fis/general-fis-documents/timing-data#Tools](https://www.fis-ski.com/inside-fis/general-fis-documents/timing-data#Tools))

MINOR ATHLETE ABUSE PREVENTION POLICY (MAAPP) & SAFESPORT CODE

The following information is only a brief summary of information found in many documents. These documents are updated as required, so please refer to links posted on the U.S. Ski & Snowboard website for access to complete and current information. usskiandsnowboard.org/safesport-athlete-safety/safesport-resources

1. MINOR ATHLETE ABUSE PREVENTION POLICY (MAAPP)

MAAPP applies to “In-Program Contact” within the Olympic & Paralympic movement. Its implementation is required for the U.S. Olympic & Paralympic Committee (USOPC), National Governing Bodies (NGB), Member Clubs (also known as Local Affiliated Organizations or LAO), and Paralympic Sport Organizations (PSO).

MAAPP applies to all U.S. Ski & Snowboard employees, contractors, athletes, officials, and members. It also applies to participating non-members, e.g., foreign officials, timing companies, volunteers, and any adult participants. MAAPP has three primary components: 1) Education & Training, 2) Required Prevention Policies, and 3) Recommended Prevention Policies. *MAAPP should be implemented alongside the SafeSport Code.*

2. SAFESPORT CODE

U.S. Federal Law requires that adults who have frequent contact with, or who are in positions of authority over athletes, must receive consistent education on prevention and reporting of all allegations of sexual misconduct, bullying, hazing, and abuse of all forms. This impacts all U.S. Ski & Snowboard member clubs, coaches, officials, and Club Volunteer members. All members turning 18 years of age and older during the season are required to complete SafeSport training through the U.S. Center for SafeSport (substitutions are not permitted).

3. ADMINISTRATION PER MAAPP & SAFESPORT CODE:

The Local Organizing Committee (LOC), as well as other individuals and entities as set out in the MAAPP and the SafeSport Code, are responsible for monitoring and enforcing all requirements. These requirements include, but are not limited to:

- Memberships: Using the U.S. Ski & Snowboard website, the Race Administrator must verify that all individuals who are granted competition arena access: Jury members, Jury Advisors (Start and Finish Referees), Chief of Course, Course Setters, Coaches, Competitors, Forerunners, Chief of Timing & Calculations, Race Administrator, technicians, and medical staff, etc., have current and applicable U.S. Ski & Snowboard memberships. *Individuals whose memberships are “pending,” or whose names appear either on the Centralized Disciplinary Database or the Pending Membership List must not be issued any access that would allow competition arena access.*
- Alpine Official Certification Status: Using the U.S. Ski & Snowboard website, the Race Administrator must verify that all Jury members, Jury Advisors, Chief of Course, Course Setters, Chief of Timing & Calculations, and Race Administrator have appropriate certification as required by their position.
- Alpine Official Continuing Education (Update & Review) Status: Using the U.S. Ski & Snowboard website, and with the exception of Technical Delegate, the Race Administrator must verify that the Chief of Race, Referee, Assistant Referee (if required), Chief of Course, Course Setters, and Chief of Timing & Calculations, have attended the required yearly Continuing Education Clinic. Unless excused, Race Administrators and Technical Delegates are required to attend a certification-specific Workshop every season.
- Centralized Disciplinary Database: List of individuals subject to temporary or permanent restrictions pending investigation of violation of SafeSport Code. Names of all persons with credentials or venue access that allows access to the competition arena must be checked against the U.S. Center for

SafeSport's Centralized Disciplinary Database. If listed, presence not allowed. *Site allows filtering to sport. However, an individual may not be listed under one sport but may be listed under another; searching by name is the best practice. If you have a name match but cannot verify whether or not it is the individual attending the event, please contact Member Services.*

- Volunteer Competition Worker Registration: Completion of a current "Volunteer Competition Worker Registration" is required for any workers/volunteers who are over the age of 18, are not U.S. Ski & Snowboard members, properly credentialed FIS officials, coaches and trainers, or regular employees of Organizer or of Ski Area/Landowner acting within the scope of their employment.
- "Blocks" of coaches' tickets must not be provided for participating clubs. This practice does not allow the OC to make their best effort to comply with SafeSport requirements.

Please Note: The responsibility for communication and enforcement of MAAPP and SafeSport policies is the responsibility of the Local Organizing Committee (LOC) as well as other individuals and entities as set out in the Competition Administration Summary, the MAAPP, and the SafeSport Code. All this information is available on the U.S. Ski & Snowboard website at usskiandsnowboard.org/safesport-athlete-safety/safesport-resources.

The Jury is only responsible for technical matters within the closed competition areas. [601.4] The closed competition areas are defined as the "race arena" which is accepted as being those areas which the Jury inspects and accepts as being suitable for competitors' presence; e.g., start arena, race course, finish arena.

In addition to noting that sanctions can be applied and a penalty imposed for "actions within and without the competition area", **223.2.1** includes conduct within "any location connected with the competition". These locations include, but are not limited to the following areas that are required for the orderly conduct of an event: Team Captains' Meetings, Jury meeting areas, timing building, equipment control area. *Neither the "closed competition areas" (within or without the fencing) nor "any location connected with the competition" include lift lines, cafeterias, parking lots, warmup areas, warmup courses, etc., unless rules state otherwise; e.g., U14 regulation which prohibits waxing application on ski area property.*

SEASON 2026 BASIC TIMING & CALCULATIONS STUDY GUIDE

I. Timing: Equipment, Personnel and Job Descriptions

A. Start Area

1. Start Gate specifications [2026 U.S. Ski & Snowboard Alpine Competition Guide; U611.2.1.1, 611.2.1.1; "FIS Alpine Skiing Timing Booklet" that can be found in "Miscellaneous Study Guide Forms," on the FIS website fis-ski.com/en/inside-fis/document-library/timing-data, or through the FIS link on the U.S. Ski & Snowboard website.
 - a. U.S. Ski & Snowboard non-FIS Events
 - b. FIS Events
2. Starter [612.1]
3. Assistant Starter [612.2]
4. Start Recorder [612.3]
5. Assistant Timekeeper [612.5]; (Start/Finish Manual/Hand Timekeepers)
6. Start Timing [613.5]

- B. Finish Area
 - 1. Finish Line specifications [615.2]
 - 2. Finish Photo Cell specifications [611.2.1.2]
 - a. U.S. Ski & Snowboard non-FIS Events
 - b. FIS Events
- C. Personnel & Equipment
 - 1. Chief Timekeeper [612.4]; Assistant Timekeeper [612.5]
 - 2. Timing Equipment [611.2]
 - 3. Assistant Timekeepers – both electronic and Manual/Hand Timekeepers [612.5, U611.2.2, 611.2.2, 611.3.1]
 - 4. Time Recorders – both electronic and Manual/Hand Recorders [612.5]
 - 5. Finish Spotter/Finish Controller [612.6, 611.3.1]
 - 6. Presentation of Times: Scoreboard/Poster/Runners [611.2.3, 617.1, 617.2.1, 617.2.3]
 - 7. Announcer [617.1, 611.2.3]

II. Prior to the Race

A. Terminology you need to know:

The following terms will be referred to many times in this Study Guide and are an important part of ski racing. **(Refer to Study Problems)**

1. **Seed Points** - a numerical indicator of a competitor's individual ranking with all other competitors; used only at scored events. Points lists – both U.S. Ski & Snowboard and FIS – have “closing dates,” which are the ends of the scoring periods, and “valid dates”, which are the dates when a list can first be used. All versions of the race result software used – timing and results – must use the same points lists.

NOTE: U.S. Ski & Snowboard National Points may only be corrected by U.S. Ski & Snowboard, FIS Points by the FIS Office. FIS Points on the FIS website that are followed by “C” are an indication that the points have been confirmed.

Foreign competitors with current FIS inscriptions and without current National Points entering U.S. Ski & Snowboard non-FIS events must hold a U.S. Ski & Snowboard foreign competitor (“X”) membership. They are seeded with their FIS Points. If they are included in the penalty calculation, Competition Services must be so advised.

If a foreign competitor has actual National Points, the National Points are to be used for seeding/penalty calculation purposes.

Foreign competitors without either National Points or FIS Points are to be seeded with Maximum Value National Points.

2. **Race Points** - a numerical indicator showing the relationship between the relative times of a competitor and the winner of that specific race; race points are calculated only at scored events.
3. **Penalty** - a numerical indicator that equalizes races of the same event using the seed points of the best competitors (lowest seed points) who “actually” start as well as the seed points and the race points of the best competitors (lowest seed points) who place in

the top 10 in time. There are different methods of calculation for FIS and U.S. Ski & Snowboard; a penalty is calculated only at scored events.

4. **Seed and Draw Board** - display boards where cards containing competitors' names, club or team affiliation, and seed points, if applicable, are posted. Preparation of the Boards is the Race Administrator's responsibility; the assistance and input from Chief of Timing & Calculations aids in the accuracy of the presented data.
5. **Double Draw** - simultaneous drawing of the competitor number (the place they hold on the seed board) and the bib number by the Referee(s); a double draw is usually done only at scored events. [621.8]
6. **Snow Seed** - referred to as a "Start Order in Extraordinary Conditions" is a process whereby 6 competitors are drawn from the last 20% of the field. These competitors are shown with an asterisk (*), and with the approval of the Jury start prior to start #1 in the reverse order of their assigned start positions. Snow Seed is only valid for DH, GS, and SG. A snow seed may be drawn at both scored and non-scored events. [621.10]
7. **Alternate Seeding Systems** - U.S. Ski & Snowboard has approved the use of several alternate seeding systems. Descriptions and use of these systems is available on the U.S. Ski & Snowboard website or from Regional/Divisional Offices.
8. **Regular or Fixed Interval** - DH, GS and SG competitors leave the start gate at set intervals pre-determined by the Jury. Intervals apply to all race levels. [622.1]
9. **Irregular or Non-Fixed Interval** - SL competitors leave the start gate at irregular intervals. The Chief of Timing & Calculations or assistant tells the Starter when each competitor should start in agreement with the Jury. [805.1]
10. **Bibbo** — a procedure used to determine the second run start order for 30 or 15 fastest first- run competitors at U.S. Ski & Snowboard-scored events. **NOTE: A standard bibbo is 30; the Jury may choose to reverse 15, but they must announce this 1 hour prior to the start of the first run.** [621.11.2, 621.11.3]

NOTE: In the case of a Flip 30-second run, the special group (Golden Rule) starts in the 31st position or in the position immediately following the first run leader when the flip is other than 30 unless their first run time allows more favorable seeding. [U621.11.3.2]

11. **Time-of-Day (ToD) Timing** — Time-of-day timing is the time a racer leaves the start and arrives at the finish taken on continuously running, synchronized timekeeping equipment coordinated to local standard time.
12. **Replacement Time (Equivalent Electronic Time – EET)** — When a System A (primary) time of day is missing, calculation of a replacement time utilizing a comparison of System A time-of-day start or finish impulse to System B (secondary/backup) time-of-day start or finish impulse is required. *It is not permitted to substitute time-of-day times from System B for use with System A for the purpose of net time calculations. If the time is not available from System B, the photo finish time, if available, must be used in place of manual/hand timing with no correction required.*

NOTE: The purpose of a "Replacement Time (EET)" is to calculate and replace the missing ToD impulse - either start or finish.

If both System A (primary) and System B (secondary/backup) timing systems fail, calculation of a replacement time utilizing a comparison of the electronic time-of-day start or finish impulse to manual/hand time-of-day start or finish impulse is required.

In both instances, the procedure is to compare the System B start or finish time of day or manual/hand start or finish time of day to the corresponding System A time of day time for the 10 times prior to the missed time. The sum of the comparisons is divided by 10, the difference is rounded up or down ($0.0449 = 0.04$, $0.0450 = 0.05$). This correction time must be added or subtracted to the replacement time of the competitor without a System A time.

The EET calculation must only use time of day precision to a minimum $1/1000^{\text{th}}$ (.001) for the correction value of the time of day. If manual/hand timing is only available to a precision of $1/100^{\text{th}}$ (.01), the full precision of $1/1000^{\text{th}}$ or better must be used.

Example:

System A Time in ToD: 10:48:31.9781 System B or Hand Time: (10):48:31.86(00)

A replacement time (EET), when required, is an official time and is valid at all levels and types of competition. *Forerunners' times must not be used in the calculation of replacement times.*

The actual calculation(s) must be made available for the Technical Delegate's review. It must also be included with the Technical Data Timing Report (TDTR) submitted in the required PDF Event Document Packet and the XML file submitted to tdtr@usskiandsnowboard.org. (*Additional submittal requirement is in place for FIS events.*)

Hint for Calculating a Replacement Time (EET)

When comparing a System B or Hand Time to a System A Time, remember the following:

- Goal is a System A Time
- What must you do to a System B or Hand Time to equal the A Time?
 - Must you add? (+)
 - Must you subtract? (-)

- B. Determine the time and place for the first Team Captains' Meeting, and attend the meeting. Useful information that is available at the meeting is:

1. Number of Forerunners
2. Time to start Forerunners
3. Planned start intervals
 - a. Regular (fixed) start interval races [622.1, 622.2.3]
 - b. Irregular start (non-fixed) interval races [805.1]

4. Start Interval Changes

Force majeure may require changes to start intervals. Particularly in events where Start Lists were prepared using random seeding, Team Captains' may request that the Start Referee increase the interval between individual competitor's starts. ***All changes to start***

intervals must be communicated via Jury radio, as required; e.g., Jury, Timing, Connection Coach(es), course crew.

5. Start List
 - a. Non-Scored events: Per Region/Division standards; generally random within class
 - b. Scored events: Unless the event is using an approved Alternate Seeding System, a Double Draw is recommended [217, 621.8]
 - c. Snow Seed: If required for scored and non-scored DH, GS, and SG [621.10]

NOTE: For U.S. Ski & Snowboard non-FIS events, the Jury may allow the use of a computer-generated draw. A signed (submitted) entry form is considered acceptance of a computer-generated draw at a FIS event. (It is important to remember that computer-generated draws are governed by a random identifier and unless this identifier is changed prior to each draw, results of a draw involving the same competitors may only have minimal changes. **Only the software writer has the access required to change the random identifier.**)

According to U.S. Ski & Snowboard and FIS rules, the draw must be conducted (or confirmed) at either an in-person or online Team Captains' Meeting. A Team Captains' Meeting, attended by Team Captains, Jury, and race officials is an inseparable and mandatory part of the competition and is important for communication of Jury instructions, support of the OC (Organizing Committee), as well as conveying OC requests and information. *It is also a critical element for risk management and liability-related matters.* (Refer to 621.8, 604.3)

With the approval of the Jury and at a time and place announced to all Team Captains, and where a computer-assisted draw has been approved or is not required (e.g., YSL where TRS by class and gender is used to determine the start order), an informational meeting is still required. The meeting may be held either immediately after the completion of a race for the next day's event or on the morning prior to a race.

For all Team Captains' Meetings for all U.S. Ski & Snowboard-sanctioned events – both scored and non-scored, and regardless of where and when they occur, an Attendance List must be available and signed by everyone attending the meeting. Meeting Minutes must be generated and must be included in the submitted PDF Event Document Packet.

NOTE: USE OF ELECTRONIC SEED BOARD: Electronic seed boards should have the capability to **simultaneously and legibly display the entire competition field**. Simultaneous display of all competitors allows all Team Captains and officials to verify the overall accuracy as well as additions and deletions to the starting order in “real time.” **Using the race result software to display portions of the competition field is not acceptable.**

- Can the first seed draw be limited to fewer than 15 competitors? [621.3]
- Were there “special seeds?” e.g., Adaptive competitors with “Golden Rule” seeding? With the exception of events using an Alternate Seeding System, Golden Rule allows adaptive competitors to be seeded after the first group (or subsequent groupings) or by seed points, whichever is better. (If several adaptive athletes are entered in the event, groupings are: 16-20, 36-40, 56-60, etc.) [U621.3.1]

Golden Rule seeding is not valid for FIS events.

- Age Class, Collegiate, Masters, and Adaptive – according to current rules
- Was a “snow seed” drawn?

- Are Start Lists being prepared using an approved Alternate Seeding System?
- An updated race day schedule is a must. It allows the Chief of Timing & Calculations to arrange their schedule, crew, and duties.

C. More about the “Golden Rule”

The primary objective of the Golden Rule is to encourage adaptive athletes to compete in able-bodied sanctioned events. The intent of the special seeding is to provide a cleaner racing surface for athletes who have physical impairments but have not earned U.S. national points that would provide them an earlier start position.

- Adaptive athletes are allowed to compete using the equipment required by their disability.
- 1st Run Seeding *: Special groups 16-20, 36-40, 56-60, etc., (groupings are used when more than 5, 10, 15, etc., athletes have been granted Golden Rule Seeding), or by National Points, whichever is more favorable. **(If more than one athlete in a group, seed by National Points or U.S. Paralympic Alpine Team Ranking.)**
- 2nd Run Seeding *: Seeded in the same special groups or by normal Bibbo order, whichever is more favorable. **(Seed special groups by earned 1st Run time.)**
- 2nd Run Bibbo other than 15: In the case of “flip 30”, the special group starts in the 31st position or immediately following the 1st Run leader or by normal Bibbo order, whichever is more favorable. **(Seed special groups by earned 1st Run time.)**
- DNS, DNF, DSQ, OR NPS in 1st Run: Adaptive athletes who have requested special seeding and who are shown as DNS, DNF, DSQ, or NPS in the 1st Run may start in the 2nd Run with their original bib immediately after the last qualified competitor has competed his run. **(It is recommended they be run in bib order.)**
- * For events using an Alternate Seeding System (TRS), adaptive competitors start in the 16^{th+} position in all runs unless the initial start list preparation (random start) /flip/butterfly affords them an earlier start position.

D. Become familiar with the timing equipment you will be using [611.2]; know what it displays and what it prints. The time-of-day times must be immediately and automatically sequentially recorded on printed strips or memorized electronically at the maximum precision of the timing device according to the requirements for homologation. The final result is calculated by the mathematical comparison of the finish time and start time. Each skier’s run is then expressed to 1/100th (0.01) precision by truncating the calculated net time on course **(Refer to Timing Tape Samples 1 and 2).**

Art. 611.3.5 Requires that computer software that calculates net times must use precision of ToD as used in the timing device.

E. Understand the definition of a rerun and who has the authority to authorize one

1. What is a rerun? [623]
2. Who can grant a rerun? [623.1.1, 623.1.2, 623.3.1]
3. Can the Chief Timekeeper grant a rerun? What if a time is missed due to equipment and manual timekeeping malfunction? What if only electronic timekeeping malfunctions?

NOTE: Allowing a rerun due to the malfunction of the timing systems or other technical difficulties is a responsibility of the Jury. [623.1.2] Assigning a calculated replacement time using manual/hand timekeeping is in compliance with the rules.

4. If the Jury decides to approve a provisional rerun, the provisional rerun time must be considered valid even if it is slower than the original time [623.3.3]
5. What is the start time of a rerun? [623.4]
 - a. Regular (fixed) interval races [623.4.1]
 - b. Irregular (non-fixed) interval races [805.3, 623.4.2]
6. What is the difference between?
 - a. Provisional rerun [623.3.1]
 - b. Rerun
7. What if a “rerun” – not a “provisional rerun” is granted, and the Jury determines the competitor had committed an error prior to the incident which allowed the competitor to be granted a “rerun?” If the competitor was already disqualified before the incident entitling the competitor to a rerun, *the rerun is not valid*. [623.3.2]
8. What are the possible consequences if a racer is not informed of the “provisional” nature of a rerun?

F. Gather materials required for the event

The Race Secretary should provide forms and supplies; however, it is a good idea to have your own back-up plan. Although you will not personally need some of these items, officials and coaches often, because of its proximity to the racecourse, come to the timing building when they need supplies.

1. Chief of Timing & Calculations Packet of Forms
 - a. Report by Referee - 1 per run per gender (**Refer to MPF #35. Report by the Referee**)
 - b. Additional Start/Finish Timekeeper Recording Form (**Refer to MPF #31. Start/Finish Timekeeper Recording Form**)
 - c. Replacement Time (EET) Worksheets (**Refer to MPF #33. Replacement Time (EET) Worksheet**)
 - d. Electronic Time Recording Form, if required (**Refer to MPF #32. Electronic Time Recording Form**)
 - e. U.S. Ski & Snowboard or FIS Penalty Point Calculation forms - 1 per race/per gender (**Refer to MPF #39. U.S. Penalty Calculation; #40. FIS Penalty Calculation**)
 - f. Protest forms (**Refer to MPF #36. Protest Form**)
 - g. Timing Checklist (**Refer to MPF #42. Timing Checklist**)
 - h. Timing & Data Technical Report (TDTR) - 1 per *race/per gender* for all U.S. Ski & Snowboard events, both scored and non-scored. *FIS TDTR software will provide the required XML file and PDF report. Paper form in the MPF is used only for gathering data required for entry into the FIS TDTR software.* (**Refer to MPF #43. U.S. Timing & Data Technical Report; MPF #44. Why a TDTR**)

NOTE: The Chief of Timing & Calculations – not the Race Administrator or other official – is solely responsible for completing and submitting the TDTR.

- i. Additional Start/Finish Referee Record Forms (**Refer to MPF #30. Start/Finish Referee Recording Form**)

- j. Additional Gate Judge Cards (**Refer to MPF**)
- 2. Supplies in the timing building
 - a. Envelope(s) or large plastic bag(s) for sending documents to Race Administration
 - b. Pencils
 - c. Paper clips
 - d. Felt tip pens with permanent ink (scoreboard, if physical scoreboard being used)
Tacks or staples and staple gun for scoreboard (if physical scoreboard being used)
 - e. Tape: Scotch tape, Duct tape, etc.
 - f. Clipboards with protective cover sheets
 - g. Manual/hand timekeeping devices with fresh batteries/extra batteries
 - h. Additional batteries, paper or tape for the timing equipment
 - i. Additional ink for printer, if one is available in the timing building

III. Morning of the Race

- A. Pick up your forms, supplies, and Start Lists from the Race Administrator.
- B. Organize timekeeping crew early; distribute materials/equipment needed for the entire day
 - 1. Verify the race day schedule and notify the Race Administrator of all changes
 - 2. Confirm job assignments
 - a. Chief of Manual/Hand Timing [U611.2.2, 611.2.2, 612.5]
 - (1.) Start area manual/hand timekeeper/recorder [612.5]
What determines an actual "start?" [613.5]
 - (2.) Finish area manual/hand timekeeper/recorder [612.5,]
What determines a "finish?" [611.3.1]
 - (3.) Start and Finish Manual/Hand Timekeepers
Rules only require one Manual/Hand timekeeper at the start and one Manual/Hand timekeeper at the finish. A perfect situation, however, would be two Manual/Hand Timekeepers with a Manual/Hand Time Recorder at the start and an identical team at the finish. Since personnel are not always available for this "perfect" situation, if two Manual/Hand Timekeepers are available for each position, it is suggested that the Primary Manual/Hand Timekeepers at the start and at the finish each operate *ONLY ONE* manual timekeeping device. The Secondary Start and Secondary Finish Manual/Hand Timekeepers can then operate another manual timekeeping device and also fulfill the duties of a Manual/Hand Time Recorder. This will encourage accuracy and teamwork and will result in a better educational atmosphere.
 - (4.) What are the benefits of two manual/hand timekeeping devices at the Finish? [611.3.1]
When two racers approach the finish in close proximity, there may not be enough time for both Manual/Hand Timekeepers to time the first racer, read off and record elapsed times, and reset for the second racer. It is strongly suggested that Primary Finish Manual/Hand Timekeeper times first racer to cross the line and Secondary Finish Manual/Hand Timekeeper times second racer to cross the line.
*An indication must be made as to whether the recorded times are a "P" (primary) time or an "S" (secondary/backup) time.

**This is not a perfect solution, but the alternative is no time; it is important that a manual time/hand time be recorded for every competitor.*

NOTE: Some devices store recorded times for printing at the end of the run. It is strongly recommended that a paper-copy record also be maintained for immediate needs, e.g., verification of an electronic time, EET calculation, failure of a device.

Confirm that Manual/Hand Timekeepers are familiar with functions for their timekeeping devices as well as your preferred procedures, e.g., malfunctions.

(a.) Restart failed device and note same on recording report

(b.) Switch to the backup device and note the same on the recording sheet

SUGGESTIONS:

Two suggestions: Neither one will take much effort, but they may be the difference between a race result or a disappointed athlete for whom no time is available.

- **Take the time to verify manual devices are still synchronized.** A countdown over the radio and a request for the display reading can be done prior to the start. Another option is requesting the manual time for the first forerunner. Completion of the TDTR requires the manual time for the first athlete, but verification prior to the start of Bib 1 allows time to address any issues.
- If electronic systems fail, immediately verify manual times are available for the racer for whom an electronic time is not available. *This immediate action will indicate whether or not manual timekeeping has validity so you will either be able to calculate a replacement time or authorize a rerun.*
 - b. Chief of Calculations [612.7]
 - c. Electronic Timekeeper Operator(s) [U611.2.1, 611.2.1]
 - d. Electronic Time Recorder(s) [U611.2.1, 611.2.1]
 - e. Scoreboard/Poster [611.2.3, 617.1]; (runners may be required to transfer data)
 - f. Announcer – location of; how/when information will be relayed to announcer. [617.1, 611.2.3, 617.2.2]
 - g. Confirm start signals with starter
 - Keep conversation over start communications, radios, or land lines to a minimum; a pre-determined system aids in understanding when there is a lot of noise, etc.
 - (1.) Regular (fixed) start interval races [U613.4]
10 SECONDS – 5, 4, 3, 2, 1 – “GO” – (If racer has not started, count continues 1, 2, 3, 4, 5)
 - (2.) Irregular (non-fixed) start interval races [805.1 – Confirm with Jury; 805.3]
“Ready”.....“GO”
 - h. The use of a start clock does not replace verbal start commands. [U613.4]
 - i. Synchronize the manual timekeeping devices
(If possible, synchronize manual timekeeping devices with electronic timing system)
 - j. Collaborates with the TD regarding synchronization of electronic timing equipment: as close as possible before the start of first racer. Time-of-day times must be immediately and automatically sequentially recorded on printed strips or memorized electronically at the *maximum precision of the timing device according to the requirements for homologation*. [U611.2.1, 611.2.1]
 - k. After synchronization is complete, sends new impulse by same source to verify accurate synchronization of systems A & B. FIS Alpine Skiing Timing Booklet states the times received on each system should be identical or be within a few 1/1000ths (0.001 sec.).

If the differential is greater than 0.001 seconds, the electronic timing equipment must be re-synchronized and synchronization accuracy must be re-confirmed.

- l. Cooperate and assist TD with verification/completion of **“Timing & Data Technical Report” (TDTR)** [611.3.3]
- m. For FIS events, oversee the online filing of TDTR in XML format and attach any replacement time calculations (EET’s)
- n. For non-FIS events, oversee the online filing of the TDTR in XML format and attach any replacement time calculations (EET’s)
- o. For all events, provide a paper copy of completed TDTR and required Replacement Time (EET) calculations, for Race Administrator’s reporting requirements

NOTE: FIS Software is available that provides the proper format for FIS-event online filing. The software also produces a PDF copy of the TDTR which, after being signed by the Technical Delegate and the Chief of Timing & Calculations, is required as part of PDF Event Document Packets. ***FIS will only accept the TDTR electronically in XML format.***

The FIS TDTR software is also used for preparing and submitting the TDTR XML file for non-FIS events; it will produce the required paper copy report. The software will accept a “National Race Code” which is used for a U.S. Ski & Snowboard Race code number (alpha character + 4-digit number). “Race Codex” may require data, and “JUN – Junior” category must be selected. (Refer to current TDTR tutorials for additional information; TDTR PPT is available on the U.S. Ski & Snowboard website.) ***The TDTR Worksheet available in the MPF on the U.S. Ski & Snowboard website is only intended to assist in gathering data for entry into the FIS TDTR software.***

If it is necessary to calculate a replacement time (EET), the actual calculation(s) must be made available for the Technical Delegate’s review and must be included with the Technical Data Timing Report submitted in U.S. Ski & Snowboard’s PDF Event Document Packet. Copies of the calculation(s) and the XML Technical Data Timing Report must also be submitted to tdtr@usskiandsnowboard.org.

IV. Starting the Race

- A. Verify schedule; Jury may have made adjustments.
- B. Verify the number of gates from the Chief of Course, Course Setter, or Chief Gate Judge. Confirm with a Jury member. [601.3.5, 617.3.4]

NOTE: The Start Gate and the Finish Line are not included in actual gate counts! [614.1.2.3]

1. Giant Slalom – actual gate count and direction changes are required for Official Results
 2. Super G – actual gate count and direction changes are required for Official Results [1001.3.4]
 3. Slalom – actual gate count and direction change are required for Official Results
- C. Verify actual length of DH [701.2] or SG [1001.2] competition course (racing line) has been measured with measuring tape, wheel, or GPS. ***This measurement is used to calculate competitors’ speed on course.***
 - D. Chief Gate Judge verifies when all Gate Judges are in position.

SUGGESTION: Verify synchronization of manual/hand timekeeping devices at Start and Finish by radio. This is especially important if you are using inexperienced manual/hand timekeepers. Once manual/hand timekeepers are in position, it can be easily done by radioing a count-down: “3, 2, 1, GO” and verifying display. *Waiting until after first Forerunner finishes to verify synchronization is not the preferred option because it can create a delay for the start of the event.*

- E. Forerunners start prior to published race start time
 - 1. Forerunners must have appropriate and current U.S. Ski & Snowboard membership, e.g., Competitor, Coach, Official, Volunteer, Youth, Master w/Requirements, Non-Scored Athlete, Short Term, or General.
 - 2. Forerunners’ times should not be published [605.6]
 - 3. Forerunners are not permitted to start in the competition [605.4]
 - 4. Forerunners can be used as a final check of all timing systems
- F. Be ready to start on time. Record weather, snow conditions, start area air temperatures, and finish area air temperatures prior to the scheduled start time. [617.3.4]
- G. If a snow seed was drawn, verify whether or not it will be used. Snow seed is 6 racers drawn from the last 20% of the field and indicated with asterisks (*) run in reverse order of their assigned start numbers - highest bib number first. [621.10] Jury has the right to change this start order. Snow seed starts at published start time.
- H. Verify how many will be reversed for 2nd run - BIBBO [621.11.3]
- I. In U.S. Ski & Snowboard scored non-FIS events, verify whether or not the Jury will allow 1st-run DNS, NPS, DNF, and DSQ competitors to take a second run. **This is already allowed in non-scored events.**

V. During the Race - Procedures and Calculations

Develop a system of double-checking. It is very easy to make a calculation and/or data input errors when there are a lot of distractions - check and double-check!

- A. Track the racers at all times (develop your own system) and record all NPS, DNS, and DNF bib numbers on the Report by the Referee as they occur. Relying on computer results or other reports to document NPS, DNS, and DNF bib numbers after they occur can make it difficult to track errors.
 - 1. Racer in the gate
 - 2. Racer(s) on the course
 - 3. Racer(s) having finished
- B. Slalom - The Chief of Timing & Calculations or assistant tells the Starter when each competitor should start in agreement with the Jury. The competitor currently on course need not have crossed the finish before the next competitor starts. [805.1]
- C. Start rules
 - 1. **Five-second rule** also called “10-second start window” [613.6, 613.7] **(Refer to False (Early/Late) Start)** applies to events with regular (fixed) start intervals: DH, SG, and GS.

Competitors who fail to start within the 5 seconds before and the 5 seconds after the start command will be disqualified.

2. **Ten-second rule** [805.3, 805.4] applies to SL, which is the only event with an irregular (non-fixed) start interval. *Competitors who fail to start within (about) 10 seconds of the start command will be disqualified.* [805.4]
3. **Delayed Start - One-minute rule** [805.3.1] applies to all events: regular (fixed) and irregular (non-fixed) interval events. *Competitors who fail to arrive at the start within one minute of being called may be allowed a provisional run if, in the Start Referee's opinion, delay was caused by "force majeure".*

Breakdown of competitor's equipment or minor illness does not constitute "force majeure".

In cases of doubt, the Jury may allow a provisional run. *Delayed starts are subject to sanction; disqualification is not mandatory.* [628.5]

D. Timing Responsibilities

1. Record all times as they are read on the timing display or as they are printed.
2. System A (primary) electronic times should be recorded in at least two places and preferably, by two different people.
3. System B (secondary/backup) start and finish electronic ToD times should be recorded and compared against the System A electronic ToD times as the race progresses. In case of loss of a System A electronic ToD, an equivalent System B electronic ToD can be easily and quickly calculated.
4. In the case of the failure of the System A electronic ToD, results of the System B electronic ToD will be valid after the calculation and application of the correction factor, if required. [611.3.2]

Manual/Hand times may be used in official result after correction (Replacement/Equivalent Electronic Time) has been calculated. [611.3.2.1] **(Refer to Steps Involved in Calculating a Replacement Time – EET)**

5. It is not permitted to substitute time-of-day times from System B for use with System A for the purpose of net time calculations. [U611.2.1, 611.2.1]
6. If System A timing fails and photo finish timing is available, it must be used without application of a calculated correction; otherwise calculate a correction value using manual/hand times.
7. When subtracting time-of-day times, follow this procedure: Start across the top line to the right checking to see IF any "borrowing" needs to be done. Then, perform the subtraction procedure back across to the left in the normal manner. When a procedure is adopted and followed consistently, fewer errors occur.

When you borrow time, remember 1 minute = 60 seconds; cross a colon from left to right and borrow 60; cross a decimal from left to right and borrow 10.

Start here:

> > > > > > >

03:61

15:04:04.8916

- 15:02:59.8715

1:02.0201

< < < < < < <

TRUNCATE TO 0.01, TIME = 1:02.02

REMEMBER: NUMBERS ARE ROUNDED, TIMES ARE TRUNCATED!

8. Homologated timing systems automatically indicate manual timing interventions and mark the timing tape accordingly. If system does not indicate DNS and DNF bib numbers, or if recorded time is subject to calculation of a replacement time (EET), these should also be marked. Official times must be verified against timing tapes, and required replacement time calculations that are not marked can cause confusion. [611.3.4]
 9. System A and, if required, System B timing tapes are the official timing record for the event and must be used to verify Official Results.
 10. Label tapes as to date, gender, event, and run. The tapes will be given to the Technical Delegate for review; OC keeps the tapes in its possession until the race has been officially approved. [611.3.3] *In cases of force majeure, the Technical Delegate may choose to retain possession of the timing tapes.*
- E. When the last racer finishes, check with the Jury and verify the course is closed. Any provisional starts or provisional reruns must have been inserted prior to the last racer actually starting the run.
- F. After each run AND at the end of the race:
1. Start Timekeeper/Recorder deliver timing forms to timing building.
 2. Chief Gate Judge picks up the forms from each Gate Judge [601.3.5, 665.1] and delivers them to the Referee(s).
 3. Referee/Assistant completes NPS and DSQ information on Report by the Referee. Report is dated and signed with time of posting as well as time of expiration of Protest Period noted. Chief of Timing's assistance is valuable in providing correct name, nation (or club) of DSQ competitor, their bib number, gate # and type of gate fault (miss or straddle) where fault occurred, or applicable rule citation (for DSQ not involving a gate fault, e.g., start, finish, equipment, etc.), and name of official or Gate Judge documenting the fault.

Special care must be taken to identify the correct racer if the Start List contains an offset between bib numbers and start numbers due to missing bibs or insertions in the field. The Referee and the Technical Delegate must verify the accuracy of the data entered in the Report by the Referee.
 4. A copy of the Report by the Referee is posted on the Official Notice Board or Scoreboard. The original must be returned to the Race Administrator.
 5. A competitor is "Not Permitted to Start" (NPS) [627] who:
 - a. Wears obscene names and/or symbols on clothing and equipment

- b. Behaves in an unsportsmanlike manner in the start area
- c. Violates the rules in regard to the competition equipment and commercial markings
- d. Trains on a course closed for competitors
- e. In training for Downhill has not participated in at least one timed training run
- f. Does not wear a crash helmet that conforms to the Specifications for Competition Equipment [U606.4, 606.4] **FIS label must be present!**
- g. Does not have ski brakes on their skis [606.3]
- h. Does not wear or carry an official start number* according to the rules

****An “official start number” refers to any bib issued by the local event organizer; this includes replacement bibs furnished by the Start Referee.***

- 6. Recording “NPS” Situation – non-FIS and FIS Events
 - a. Due to rule(s) violation(s), athlete is not permitted to start; this could apply to either run of a 2-run event.
 - b. Athlete’s status is recorded by the Start Referee as “Not Permitted to Start” (NPS); reason must be stated. (Older Report by Referee requires listing of Bib/Name/Nation/Reason or Rule. Newer FIS document only requires a bib number.)
 - c. If an even older version of the Report by the Referee is being used – one which does not have a separate space for NPS – athletes who are “NPS” should be clearly identified and not listed in the space allowed for DNS
 - e. Technical Delegate must verify accuracy of Official Results and Penalty posted on U.S. Ski & Snowboard/FIS websites.

NOTE: In cases of force majeure, the Technical Delegate may need to complete and post the Report by the Referee or assign the duty to another official. A Report by the Referee that has been signed by the Technical Delegate or the Technical Delegate’s designee is valid.

- 7. DSQ’s should be announced over the public-address system. When an announcer is present and is announcing competitors’ *unofficial* times, announcement of DSQ data (Bib #, Name, and Club of DSQ competitor) may replace actual posting of Report by the Referee on an actual board. [617.2.2]

The Official Notice Board can also be replaced by an official communication channel; e.g., WhatsApp, Live-Timing. [617.2.3]

Team Captains must be notified at the Team Captains’ Meeting if official notices (DSQ’s, etc.) are going to be communicated via an actual board, an announcer, or online posting.

If disqualifications are announced, protest period starts at the time of the announcement (similar to procedure used when the Report by the Referee is actually posted.)

- 8. Allowed Protest time is 15 minutes. [643.4]

- G. Chief of Timing responsibilities after the 1st run AND at the conclusion of the 2nd run.
 - 1. VERIFY ALL TIMES AGAINST TAPES FROM THE HOMOLOGATED TIMING EQUIPMENT. The Chief of Timing and Calculations is responsible for supplying Data Management/Race Administrator with accurate times for each competitor.
 - 2. Verify whether or not provisional starts or provisional reruns have been approved.

3. When the Protest period has expired, confirm DSQ's with Jury and Race Administrator.
4. Account for all racers - if you started with 150 racers, account for all 150 racers (Classified Finishers + NPS + DNS + DNF + DSQ = 150 racers).
5. Verify preparation of Second Run Start List
 - a. Standard bibbo of 30
 - b. Reverse 15 [621.11.3]
 - c. Review procedure for a bibbo where a tie occurs at the flipped position: 30th or 15th place [621.11.2]
 - d. Review procedure for ranking ties that occur within the flip [617.3.3]
 - e. Review the rule that allows 1st Run NPS, DNF, and DSQ competitors to take a second run in U.S. Ski & Snowboard scored non-FIS events* [U621.11.3.1]
 - f. Review "Golden Rule" requirements [U621.3.1; U621.11.3.2]
 - g. Review procedures for preparing a Second Run Start for non-scored events [U621.11.3.1]
 - h. Review procedures for preparing all Start Lists for non-scored or scored events using an Alternate Seeding System; e.g., TRS (Butterfly)

***NOTE:** Competitors who are classified as NPS, DNS, DNF, or DSQ in a non-scored event are allowed to take their second run either at the end of their class or the end of the field. This rule is not meant to supersede the provisions of TRS; it is meant to accommodate young racers who are classified as DNF or DSQ after falling, missing a gate or being overtaken/passed on a Slalom course as well as those who were not allowed to start or who failed to start. *Confirm Divisional policy regarding 2nd run for competitors who are classified as 1st-run NPS, DNS, DNF, or DSQ.*

For non-scored events as well as scored events using TRS (Butterfly) seeding, first-run NPS, DNS, DNF, or DSQ competitors start the second run in their original start position. *(Verify Division procedure.)*

6. Verify procedure for ranking ties - racer with **higher** start (bib) number is placed first. [617.3.3]
7. Verify 2nd Run cutoff, if applicable.
8. File all 1st run paperwork in an appropriate container so it doesn't get confused with 2nd run paperwork; e.g., Properly labeled large manila envelope or plastic zip-type bag.
This is especially important when issues arise, verification is required, and paperwork must be reviewed.
9. Verify the accuracy of Second Run Start List. [621.11.2]
10. If computer problems occur, it may be necessary to create a 2nd Run Start manually. This will allow for a timely second run start. If the computer problem is solved in a timely manner, the manually prepared list will serve as an excellent double-check of the computer input. If a manually prepared Second Run Start List is required, print as many copies as possible but remember the Jury, the Chief of Timing & Calculations, and the Assistant Starter are the only officials who must have a copy.

- H. Preparation of Second Run Start List: *Due to space constraints, reverse 15 is illustrated.*
 1. Rank all first run competitors in time order.
 2. Remove DSQ competitors from the field *unless being given a provisional second run.*

3. Break all ties, regardless of where they occur, by ranking the tied competitor(s) with the higher bib number(s) before the tied competitor(s) with the lower bib number(s).
4. Verify the number of competitors that are to be reversed (bibbo).
5. Check for a tie at the reversal position.
6. If a tie has occurred at the reversal position – 30 or 15, include those ties in the reversal number. This will result in the lower bib number starting first and the racer with the fastest first run time starting 31/16 (with a 3-way tie at the reversal position, the racer with the fastest first run time would start 32/17, etc.)
7. Reverse the correct number of competitors, including ties, if applicable.
8. When ties occur elsewhere in the field other than in reversed group, tied racer(s) with higher bib number(s) will start prior to tied racer(s) with lower bib number(s).

<u>1st RUN TIMES</u>		<u>1st RUN RESULTS</u>			<u>2ND RUN START LIST</u>		
BIB	TIME	PL	BIB	TIME	ST	BIB	1 st RUN TIME
1	52.11	** 1	7	49.63	1	12	52.56 \
2	51.56	2	4	49.71	2	17	52.56 / TIE AT 15TH POSITION
3	52.52	3	8	50.30	3	3	52.52
4	49.71	4	9	50.51	4	10	52.20
5	51.48	5	11	51.15	5	1	52.11
6	51.46	6	15	51.20	6	2	51.56
7	49.63	7	16	51.45	7	13	51.51
8	50.30	8	6	51.46	8	5	51.48
9	50.51	9	5	51.48	9	6	51.46
10	52.20	10	13	51.51	10	16	51.45
11	51.15	11	2	51.56	11	15	51.20
12	52.56	12	1	52.11	12	11	51.15
13	51.51	13	10	52.20	13	9	50.51
14	51.31DSQ	14	3	52.52	14	8	50.30
15	51.20	15T 17	52.56		15	4	49.71
16	51.45	15T 12	52.56		16	7	49.63 - FASTEST 1ST RUN TIME
17	52.56	17	19	52.57	17	19	52.57
18	53.47	18T 20	53.47		18	20	53.47 \
19	52.57	18T 18	53.47		19	18	53.47 / TIE OUTSIDE OF BIBBO

**** NOTE:** This is the racer's place not racer's bib number!

- I. Procedures and calculations during and after the 2nd Run
 1. Verify that Jury has closed the course prior to closing timing operation.
 2. VERIFY ALL TIMES AGAINST TIMING TAPE.
 3. Verify whether or not provisional starts or provisional reruns have been approved.
 4. Again, just as for 1st run, confirm DSQ's after the expiration of the Protest Period (15 Minutes) and verify with Race Administrator.

5. Account for all competitors as you did after the 1st run.
(START LIST – TOTAL NPS – TOTAL DNS - TOTAL DNF - TOTAL DSQ
= TOTAL RANKED ON RESULT)
 6. Even if the Penalty is computer generated, it is the TD's responsibility to verify the calculation and indicate verification by signing it. If time permits, the Chief of Calculations may also verify the Penalty calculation.
- J. Suggested Procedure for Tracking 1st Run NPS (track in DNS section), DNF, DSQ athletes in 2nd Run

The Chief of Timing & Calculations and the Race Administrator account for all competitors, and the U.S. Technical Delegate Report requires documentation of these calculations. For events where 1st Run DNS, NPS, DNF, and DSQ athletes are allowed to start in the 2nd Run, this can create a unique challenge.

It is important that the Chief of Timing & Calculations continue recording after all valid 2nd-run starters have completed their run. Not continuing to record 1st Run DNS, NPS, DNF, and DSQ competitors who are being allowed to take a 2nd Run will result in an incomplete record of the event, so the following recording method is suggested:

1. Start Referee notifies Timing when last classified 2nd-run starter has left the start
2. Chief of Timing & Calculations (or assistant), makes appropriate notations in the DNS and DNF sections of the Report by the Referee

Report by the Referee now reflects how many actual 2nd Run DNS and DNF competitors are to be considered in the calculation of "Finishers/Total Ranked" on Official Results.

The following is only a suggested method. The Chief of Timing or assistant may use a recording method of their choice; e.g., End 2nd Run, Run Racers.

Did not start (No.)/Pas au départ (No.)/Nicht am Start (Nr.)			4	27								
2nd Run complete	18	34	42									
Did not finish (No.)/Pas à l'arrivée (No.)/Nicht im Ziel (Nr.)			1	7	23	29	31	37	41	45	49	52
65	72	77	81	82								
2nd Run complete	6	15	21	34								
Time published / Heure d'affichage / Anschlagzeit H:mm			Deadline / Délai / Ablauf H:mm			Date / Date / Datum m/dd/yy			Signature Referee Signature du juge arbitre Unterschrift des Schiedsrichter S/			

- K. Calculation of a U.S. Ski & Snowboard Penalty [Refer to ACR, Chapter 2]
1. Rank all competitors
 2. Calculate Race Points [U1260.2]
 3. Identify the top 10 finishers on the Official Results.

4. Select the 5 best (lowest) seed point holders from among the top 10 finishers.
5. Two possible ties encountered in Penalty calculations:
 - a. **10th in time:** If a tie occurs for 10th place in time consider all competitors, including all in tied position when selecting 5 best (lowest) seed point holders from among top 10 finishers.
 - b. **5th best (lowest) seed points:** If a tie occurs for 5th best (lowest) seed points, use the competitor with the highest race points in the calculation.

The above procedures allow for the calculation of a better (lower) race penalty.

6. Identify competitors with 5th best (lowest) seed points who are entered and who actually start the first run of the race, regardless of their final result: DNF, DSQ, or DNS run 2.
7. Complete calculations as directed by the form.
8. Verify whether or not Minimum was met and Apply Penalty
9. Minimum Penalties for U.S. Ski & Snowboard scored events
 - a. The minimum penalty for a non-FIS U.S. Ski & Snowboard race that meets minimum vertical drop requirements is 40.00. If the calculated penalty is lower than 40.00, the applied penalty shall be 40.00. If the minimum vertical drop requirement is met, the minimum winning time requirement does not apply.
 - b. The minimum penalty for a non-FIS U.S. Ski & Snowboard race that does not meet minimum vertical drop requirement but does meet minimum winning time requirement as published in the 2026 Alpine Competition Guide is 60.00. If the calculated penalty is lower than 60.00, the applied penalty shall be 60.00.
 - c. If both of the published standards – the minimum vertical drop requirement and the minimum winning time requirement are not met, then the greater of the calculated penalty plus an additional penalty as published in the 2026 Alpine Competition Guide, or the minimum penalty of 60.00 shall be applied.

USEFUL HINTS:

If an event meets VD: Apply larger of calculated penalty or minimum 40.00

If an event only meets time: Apply larger of calculated penalty or minimum 60.00

If an event meets neither VD nor time, apply larger of:

- Total of calculated penalty + additional penalty or
- Minimum of 60.00

- L. Calculation of a U.S. Penalty under particular circumstances
 - a. Race fails to meet Vertical Drop, Minimum Time Requirements

MINIMUM VERTICAL DROP PER RUN:

ALTERNATE MINIMUM TIME STANDARDS AND ADDITIONAL PENALTY:

<u>EVENT</u>	<u>MIN VD</u>	<u>ALT MIN TIME</u>	<u>ADDITIONAL PENALTY</u>
DH*	400 m	60 seconds combined/max 2 runs	26.00
SL	100 m	50 seconds combined for 2 runs	12.00
GS	200 m	50 seconds combined for 2 runs	17.00
SG	300 m	40 seconds for 1 run	21.00

NOTE: DH “combined/max 2 runs” does not eliminate 60-second minimum time for a 1-run DH.

- b. Fewer than ten racers finish, a minimum race penalty shall be applied regardless of the calculated penalty, as follows:
 - 1.) DH – 180
 - 2.) SG – 135
 - 3.) GS – 110
 - 4.) SL – 100
 - 5.) AC – 125
- c. When at least five racers with valid U.S. Ski & Snowboard National points finish, but one or more has points over the maximum value, assign points at the maximum value as follows, prior to completing the calculation:
 - 1.) DH – 820
 - 2.) SG – 660
 - 3.) GS – 530
 - 4.) SL – 360
 - 5.) AC – 660
- d. When fewer than five racers in the first 10 have valid National Points
 - 1.) Assign maximum value in order to bring the total of racers with points to five
 - 2.) Remember maximum value is also assigned to any of the best five whose actual National Points are above the maximum level
- e. When fewer than five racers finish, the *penalty must be calculated manually*:
 - 1.) Insert “ghost” racers in order to reach a total of five
 - 2.) Assign maximum U.S. Ski & Snowboard National Points to each “ghost”
 - 3.) Assign race points equal to those of the lowest ranked (slowest time) finisher
 - 4.) Calculate penalty according to the form.
- f. Race penalty cannot be calculated when there are fewer than three finishers!

M. Calculation of a FIS Penalty

- 1. Repeat steps K. 1-7
- 2. Verify whether or not Minimum has been met and Apply Penalty
- 3. Calculation of a FIS Penalty under particular circumstances (**Refer to Rules FIS Points**)
 - a. There are no minimum time standards; vertical drop must be met
 - b. When a penalty calculates under the minimum penalty as required by the level of the event and noted on the current FIS List Cover, the minimum penalty is applied
 - c. When racers in the top ten have points over the maximum FIS value, maximum value as noted on the current FIS List Cover are assigned*
 - d. When fewer than five racers in the first ten have FIS points, maximum value as noted on the current FIS List Cover are assigned*

** When selecting best five out of the top ten, you must select racers with actual FIS Points before racers who had no FIS points even though assignment of maximum value FIS points may have made them equal in points.*

- e. If less than three competitors with FIS points are ranked within the five which are taken into consideration, or at least three competitors without FIS points are classified, the competition will be considered for FIS points with a double of the maximum value of the respective event as the minimum penalty.

VI. Procedures after the race is over

- A. Verify times reported on the Official Results agree with the timing tapes.
- B. Check all calculations and verify all data entered in the “Timing & Data Technical Report” (TDTR).
- C. If the “Timing & Data Technical Report” (TDTR) indicates a replacement time was calculated, (EET either using backup electronic system or manual timekeeping), verify all calculation documents are available for the Technical Delegate’s review and required submittal.
- D. Organize your paperwork and arrange for prompt delivery to the Race Administrator.
- E. The Chief of Calculations is responsible for “... publication of Official Results after expiration of the Protest Period or after any Protests have been dealt with.” [612.7]
- F. Collect manual/hand timekeeping devices, check them for accuracy (no excessive "drift"), and/or malfunction, and return them with necessary comments on their performance.

VII. Review the Following Calculation Procedures, Techniques and Record Keeping

- A. Manual/Hand Timing - Time-of-day Timing (ToD)
 1. What is ToD (time-of-day) timing? Time-of-day timing is the time a racer leaves the start and arrives at the finish taken on continuously running, synchronized timekeeping equipment coordinated to local standard time.
 2. Synchronization of manual timekeeping devices; depends on the type of manual device being used.
 3. Operation of the particular manual timekeeping devices with emphasis on procedures if malfunctions occur.
 4. How is a manual timekeeping device held?
(All devices should be kept steady; manual stopwatches require using bony ridge of first joint on index finger to depress the button)
 5. Record the times you see/hear.
 6. Report any display problems.
 7. Start and Finish Manual/Hand Timekeepers
 - a. Should be placed in an area where they will not be disturbed; ***positioned as clear of finish area as possible and outside of the protection pads and fences.***
 - b. Should be consistent
- B. How forms are used during the race
 1. Start/Finish Timekeeper Recording Forms
 2. Forms in the timing building
 - a. Report by the Referee - Record NPS, DNS, DNF as race progresses
 - b. Electronic Time Recording Forms
 - c. Replacement Time (EET Worksheet) [611.3.2.1]
 - d. Timing & Data Technical Report

C. **Online Filing of Timing & Data Technical Report (TDTR): FIS Events**

FIS developed software which allows online filing of the “Timing & Data Technical Report” (TDTR). A PDF copy of the online report must be made available for inclusion in required electronic or paper copy PDF Event Document Packets as noted in “Distribution of Documents – FIS Events.”

The TDTR program is available for download (Windows 10, 11; macOS 10.14+) on the FIS website at [fis-ski.com/en/inside-fis/document-library/timing-data](https://www.fis-ski.com/en/inside-fis/document-library/timing-data); it will be updated as required. *Software will alert when an updated version is available.*

D. **Timing & Data Technical Report (TDTR): non-FIS Events**

A TDTR is also required for all U.S. Ski & Snowboard events – both scored and non-scored, and the FIS TDTR software is used for preparing and submitting the TDTR XML file for these events to tdtr@usskiandsnowboard.org. The software will also produce the required report in PDF format.

The software will accept a “National Race Code” which is used for a U.S. Ski & Snowboard Race code number (alpha character + 4-digit number). The “JUN – Junior” category must be selected.

The FIS “Race Codex” should be left blank. Entering data in this section creates issues in the TDTR automated review.

The U.S. TDTR available in the MPF on the U.S. Ski & Snowboard website is only intended to assist in gathering data for entry into the FIS TDTR software.

If a Replacement Time (EET) is required, the actual calculation(s) must be made available for the Technical Delegate’s review and must be included with the Technical Data Timing Report submitted in the required PDF Event Document Packet.

E. Reading Timing Tapes

F. Accurate completion of the Timing & Data Technical Report (TDTR)

G. Preparation of a Second Run Start List

H. Race Points and Penalty Points

1. Use Race Points/Penalty forms provided (**Study Problems**)
2. Where are Factors (F-Values) found and what are they?
3. U.S. Ski & Snowboard Penalty: Maximum penalties apply – where are they found?
4. FIS Penalty: Minimum/maximum penalties apply – where are they found?

VIII. Special Topics for Discussion

A. Crossing the Finish Line and Recording Times. The finish line must be crossed:

- On both skis, or
- On one ski, or
- With both feet in the case of a fall in the finish/timing area. In this case, the time is taken when any part of the competitor’s **body** stops the timekeeping system. [615.3]

- B. Falls in Finish/Timing area [ACR states that a binding release more than 2 gates above the Finish line in SL, GS, or SG, or more than 1 gate above the Finish line in DH shall be considered as a clear DSQ. [611.3.1, 615.3, U628.16, U629.4]
- C. Crossing the Finish Line after committing a gate fault [628.8]
- D. Intermediate Timing - DH and SG [Refer to FIS Alpine Skiing Timing Booklet]
- E. Private Timing and Speed Measurement by Teams [611.4]
- F. START/STOP and START STOP YELLOW FLAG Procedures. Knowledge of these procedures allows the Chief of Timing & Calculations to educate timing personnel.
- G. Not Permitted to Start (NPS)
- H. USA Wireless Timing Application: Wireless timing has been approved for non-championship events. If an Organizing Committee wishes to use wireless timing, they must complete an online application (forms.gle/DsHR5Hi6pvy7w1EG6). (Refer to MPF #15. U.S. Wireless Timing Application for details.)

UPDATE & REVIEW FOR CONTINUING EDUCATION

The following section contains a major portion of the “Season 2026 Update & Review for Continuing Education.” If this section - which is included in the Basic Timing & Calculations PPT - is utilized, it should address the requirement for attendance at a Continuing Education Clinic.

Please refer to the following for additional educational information: 2026 edition of U.S. Ski & Snowboard ACR, online edition of current FIS ICR and, if applicable, current Precisions to the ACR and ICR].

U.S. SKI & SNOWBOARD COMPETITION UPDATE: SEASON 2026

The following changes are only applicable for non-FIS events:

1. SLALOM POLES

- Slalom poles must be contrasting, alternating colors; turning pole must be a flex pole. (U680.2.1.1)
- For scored U14 events, 72" gates are allowed.

2. USE OF INTERNET-BASED TIMING/RESULT PLATFORMS

Any event that includes U14 and younger athletes is not allowed to post "real-time" results or times on an internet-based timing/result platform during the race. Competitor lists: e.g., Club entries, Start Lists, Results, Referee Reports, may be posted, and standings/times should be updated at the conclusion of the event. (U612.4.1)

3. TECHNICAL DELEGATE’S DAILY ALLOWANCE AND MILEAGE

The amount of the daily allowance for which a Technical Delegate may submit an invoice has been increased to \$150 per travel/race arena inspection/training/competition day. If multiple tasks are completed in one day, e.g., travel and race arena inspection, only 1 daily allowance may be invoiced. In addition, an actual “travel day” is considered to be a one-way trip of five or more hours; two one-way trips of less than five hours only equal one day. Current IRS-approved mileage is \$.70 per mile, but it may be adjusted January 1; please verify and calculate mileage based on the current IRS-approved amount.

4. ALPINE OFFICIALS’ CONTINUING EDUCATION (UPDATE & REVIEW) REQUIREMENT

Certified Alpine Officials are required to attend an approved yearly Continuing Education Clinic (Update & Review) or certification-specific Workshop prior to being appointed to officiate at any U.S. Ski & Snowboard sanctioned event.

FIS COMPETITION UPDATE: SEASON 2026

The following are only applicable at FIS events:

3.5.2.4 Airbags: With the exception of Nor-Am Cup, Far East Cup, and Junior World Championships, where it is strongly recommended, competitors must use an airbag for all FIS Level 0 and Level 1 speed events. (FIS Specifications for Alpine Competition Equipment)

3.5.3.4 Cut-Resistant Undergarment Pants: With a minimum protection level of 3 Stars, cut-resistant undergarment pants are required for all Level 0 and Level 1 events (technical and speed). Use of the undergarment is strongly recommended at other levels of competition. Please note: *“Cut-resistant undergarment is intended to provide supplementary protection and not infinite cut protection.”* (FIS Specifications for Alpine Competition Equipment)

3.5.4 Shin Pads (Carbon Shin Shells): No additional rigid parts are allowed to be worn as shin pads inside the boot. To treat medical issues, additional protection pads, as soft padding, can be approved by FIS. Those pads must be made of soft material (e.g., gel, foam) and be flexible in all directions. Additionally, they cannot have a preformed, curved shape adapted to the leg, and their size must not exceed the height and width of the ski boot tongue. (FIS Specifications for Alpine Competition Equipment)

NOTE ABOUT COMPETITION EQUIPMENT

The term “competition equipment” implies:

- All items of equipment used by athletes in competitive skiing.
- This includes all clothing and implements that serve a technical function.
- *Equipment is the responsibility of the individual competitor and, if applicable, their parents/legal guardians.*

This applies to all U.S. Ski & Snowboard sanctioned events: non-FIS and FIS.

U.S. SKI & SNOWBOARD & FIS UPDATES: SEASON 2026

The following are applicable to both Non-FIS and FIS events:

1. TIMING & DATA TECHNICAL REPORT (TDTR)

A Timing Data Technical Report (TDTR) is required for all levels of competition, and the FIS TDTR software is used for preparing and submitting the report for all events, both non-FIS and FIS.

If an event requires calculation of a replacement time (EET), copies of all calculations must be included with the Timing & Data Technical Report (TDTR):

- Submitted to results@fis-ski.com or janez.flere@fis-ski.com
- Submitted to tdtr@usskiandsnowboard.org
- Included in the PDF “Event Document Packets”

2. HEAD TAX CALCULATION/VERIFICATION/PAYMENT

Regardless of whether or not the registration system of choice calculates and submits required Head Tax, the Organizing Committee is responsible for calculation, verification, and payment of all National, Regional, and Divisional Head Taxes within **14 days (2 weeks)** after the event. **All late payments to U.S. & Snowboard shall accrue interest at a rate of one and one-half percent (1.5%) per month, or the maximum rate permitted by law, whichever is less, until paid in full. Organizers who fail to submit head taxes risk loss of Club Certification and the ability to host other competitions until coming into compliance.**

3. REGIONAL DEVELOPMENT TEAMS – FEE WAIVERS

Named members of the U.S. Regional Development Teams are entitled to waived event fees (entry and lift). These athletes are exempt from payment of U.S. Ski & Snowboard National Head Tax. (Refer to MPF 52: Head Tax Waived Athletes, September 2025.)

4. U.S. SKI & SNOWBOARD FIRST REPORT OF ACCIDENT

- Required for all injuries involving athletes, coaches, officials, spectators.
 - regardless of national federation affiliation
 - regardless of whether or not the accident/injury occurred within or without the race arena fencing
 - regardless of whether or not Ski Patrol evacuation was required

Online filing is required; reporting form and instructions can be found under “Participant Accident” at

usskiandsnowboard.org/sport-development/club-development/club-insurance.

- *First Report(s) of Accident for named U.S. Ski Team members will be filed by U.S. Ski & Snowboard staff.*

5. ELECTRONIC TIMING

Time of day times must be immediately and automatically sequentially recorded on printed strips **or memorized electronically**. (U611.2.1; 611.2.1 adds “for level 3 and 4, is acceptable.”)

6. CHIEF TIMEKEEPER

The Chief Timekeeper must publish unofficial times as quickly as possible (on the scoreboard, etc.) If the electric timing fails, the Chief Timekeeper must communicate immediately with the Start Referee and the TD. **The equivalent Electronic Time report must be prepared. The Jury must control and approve it. The report may also be shown to the representative of the nations concerned.** (U612.4; 612.4 requires Jury control and approval.)

7. INTERDICTION TO CONTINUE

If a competitor's skis come to a complete stop, they must no longer continue through previous or further gates. If a competitor continues without their skis coming to a complete stop, they must not interfere with the run of the next competitor or be passed by the next competitor. (614.2.3)

8. GROUNDS FOR INTERFERENCE

Blocking of the course has been replaced by blocking of the "raciing line" in both articles. (623.2.1 and 623.2.2)

Clarification of the intent of Art. 623.2.3: Blocking of the racing line by a broken or detached pole caused by the competitor. This applies to all non-FIS events as well as FIS Level 1, 2, 3, 4 events.

9. CANCELLATIONS OR POSTPONEMENT - Clarification

Observing applicable deadlines, postponements must have a future date, otherwise the event is considered canceled.

GENERAL REVIEW AND CLARIFICATION - U.S. SKI & SNOWBOARD AND FIS:

1. VERIFICATIONS: MEMBERSHIP, ETC.: Required prior to granting race arena/venue access.

- The Race Administrator must verify that membership status for all named officials, coaches, course setters (if not a coach), forerunners, and competitors is current and not "Pending."
- The Race Administrator must verify that all named officials and course setters (if not a coach) are appropriately certified for their position.
- The Race Administrator must verify that the "Last Clinic Season" for all named officials, coaches, and course setters (if not a coach), is "Season 2026."
- The Race Administrator must verify the non-presence of all named officials, coaches, course setters (if not a coach), and adult forerunners on the Centralized Disciplinary List.
- The Race Administrator must verify the non-presence of all athletes on the Membership Hold List.

2. ADDITIONAL COACH REQUIREMENTS

- Pursuit of coach certification is required for all coach members, and "Active" coach certification is required in order to register for a U.S. Ski & Snowboard sanctioned competition and be granted race arena/venue access.
- For coaches who have never been certified, being "In Progress" towards Level 100 certification will meet the requirement.
- Level 200 Coaches will be required to be a certified Referee.
- Sport Education CE (continuing education) completion is separate from required yearly attendance at an Alpine Officials' Continuing Education (Update & Review). Attendance at both is required.

For additional details, contact sporteducation@usskiandsnowboard.org.

3. FORERUNNERS

U.S. Ski & Snowboard event: Forerunners must hold a current U.S. Ski & Snowboard membership; e.g., Competitor, Coach, Official, Volunteer, Master w/Requirements, Non-Scored Athlete, Short-Term Athlete, or General.

NOTE: *Coach, Official, and Volunteer memberships may be accepted in order for an individual to serve as a forerunner. Coaches must take note, however, that forerunning may not be included in the duties outlined in their club employment contract. In addition, regardless of the type of membership, an event's equipment and vertical drop regulations apply to all forerunners.*

FIS event: Forerunners must hold either a current U.S. Ski & Snowboard membership and FIS inscription or inscription in a foreign federation recognized by FIS. In cases of *force majeure*, where a sufficient number of FIS-inscribed forerunners are not available, an eligible U.S. Ski & Snowboard member may forerun after signing a FIS Athlete's Declaration. [605.1]

NOTE: FIS Athlete Declaration requires a parent or legal guardian's signature for an athlete who is not of legal age.

Adult Forerunners – Minor Participants: Adult (18+) forerunners at events including minor participants (U18 and younger) must be in good standing with a membership that includes SafeSport training and background screening. *The "Alpine Master" and "Short-Term Alpine Master" memberships do not meet this requirement and are not allowed.*

Masters Events: U18 and younger forerunners, including those with General and Short-Term Memberships, at Masters events where competitors may have the "Master" or "Short-Term Alpine Master" memberships that do not include SafeSport Training and background screening must be accompanied by a parent or legal guardian or at least two (2) U.S. Ski & Snowboard members with a membership that includes SafeSport training and background screening (e.g., Coach w/Official, Official, Volunteer, Masters w/requirements).

As with all U18 and younger events, if U18 athletes will be forerunning a Masters event, a communication pertaining to athlete safety policies must be sent to all participants, and the QR code must be posted at the registration area.

List of approved Forerunners must be provided for the Start Referee. This is critical if a Condensed Start List is being generated or race result software does not provide enough space to list the names of all approved Forerunners.

4. GOLDEN RULE

- Events using TRS (Butterfly) Seeding:

Athletes who have been granted Golden Rule Seeding will start 16th+ in all runs or races of the same series unless original start list preparation (random sort)/flip/butterfly affords them a more favorable (earlier) start position.

- Events not using TRS (Butterfly) Seeding:

- All events, First Run U621.3.1: Adaptive athletes will be seeded in special groups with start order: 16-20, 36-40, etc., or by seed points, whichever is more favorable. (Placement within groups is by national point ranking.)
- Second Run with Flip 30 U621.11.3.2: Adaptive athlete groups will start in the 31st position unless first-run time affords a more favorable (earlier) start position. (Placement within groups will be by the results of the first run.)
- Second Run with Flip 15: Adaptive athlete groups will start in the 16th position unless first-run time affords a more favorable (earlier) start position. (Placement within groups will be by the results of the first run.)
- Adaptive athletes who are shown as DNS, DNF, DSQ, or NPS in the first run can start in the second run with their original bib immediately after the last qualified competitor has completed their run.

- Athletes who have been granted Golden Rule seeding may compete using the equipment appropriate to their disability.
- Adaptive athletes who are visually impaired will be accompanied by a guide. The guide provides verbal instructions to the athlete and is accorded the same consideration as the athlete. Start Referee should skip a

minimum of one start interval following the start of a visually impaired athlete and their guide; Jury must be notified of any changes to start interval.

NOTE: The Golden Rule is not valid for FIS events.

5. RACE ARENA versus RACE VENUE

The Jury is responsible for technical matters within the closed competition areas. [601.4] The closed competition areas are defined as the “race arena” which is accepted as being those areas which the Jury inspects and accepts as being suitable for competitors’ presence:

- **within** (the side-to-side fencing)
- **without** (start area and finish arena) the confines of the competition area
- any location connected with the competition [223.2.1]

The Jury does inspect and accept:

- the start and finish areas as well as the ingress and egress to these areas
- the racecourse
- the type and placement of the on-hill competitor security

The Jury does not inspect or accept:

- lift areas
- parking lots
- cafeterias
- terrain parks, public trails, team meeting rooms, warmup area and warmup courses, etc.

In addition to noting that sanctions can be applied and a penalty imposed for “actions within and without the competition area,” 223.2.1 includes conduct within “any location connected with the competition.” These locations include, but are not limited to the following areas that are required for the orderly conduct of an event: Team Captains’ Meetings, Jury meeting areas, timing building, equipment control area. *Neither the “closed competition areas” (within or without the fencing) nor “any location connected with the competition” include lift lines, cafeterias, or parking lots, etc., unless rules state otherwise; e.g., U14 regulation which prohibits waxing application on ski area property.*

6. SPLIT SECOND / VOLA INTERFACE

If the event data is being managed with Split Second, but your Chief of Timing & Calculations is timing with VOLA, it is possible to transfer data between the systems. However, it is recommended that only bib #'s and times be exported from VOLA timing and imported to Split Second. If athletes’ names are imported, verify that athletes who have double last names: e.g., “VAN HORN, Eric” transfer from VOLA in the original format: VAN HORN, Eric not VAN, HORN Eric. The misplaced comma will result in FIS and U.S. Ski & Snowboard autoscore systems rejecting the XML file.

7. FIS EVENT ENTRY AUTHORIZATION LETTERS (TRAVEL LETTERS)

- Only National Ski Associations (Federations) are entitled to make entries for international competitions.
- Some foreign federations may issue an entry authorization (travel) letter which allows foreign athletes training with U.S. Ski & Snowboard clubs or attending USA schools/colleges/universities to be entered by their coaches.
- Several nations, e.g., Austria, Canada, Great Britain, and Spain currently do not issue authorization (travel) letters; entries for competitors from these nations must originate from the respective Federation; cover email should be retained in the Organizing Committee’s event file.

- Entries submitted by the foreign Federation must list the names of **all** personnel accompanying the athlete(s) and for whom race arena/venue access is requested; e.g., coach, trainer, ski technician, physical therapists, medical staff.

Due to issues controlling the entry of some non-USA athletes into USA FIS events, U.S. Ski & Snowboard adopted the following policy regarding entry authorization (travel) letters.

- **U.S. Ski & Snowboard will only manage authorization letters for foreign athletes who are also competitor members of U.S. Ski & Snowboard.**
- Authorization letter must be sent to chip.knight@usskiandsnowboard.org; *it must also be sent to the Regional Manager for the Region where the athlete is training.*
 - Letters must be submitted directly by the respective National Ski Association.
 - A list of U.S. Ski & Snowboard foreign athlete members (X membership) for whom authorization letters have been received is available at usskiandsnowboard.org/competition/points/alpine-points. This site will provide a link to the google doc which is updated as information is received.

U.S. Ski & Snowboard's policy regarding entry authorization (travel) letters for foreign athletes who **are not** competitor members of U.S. Ski & Snowboard is as follows:

- Authorization letter provided by the foreign federation allowing a club/school/university coach to enter an athlete must accompany the official FIS entry.
- Official FIS entry must include the names of all personnel accompanying the athlete(s) and for whom race arena/venue access is requested; e.g., coach, trainer, ski technician, physical therapists, medical personnel.
- Authorization letter must be accompanied by the cover letter from the foreign Federation.
- Accuracy of the following information in the authorization letter must be verified.
 - Date of letter
 - Name, gender, nation, FIS inscription code for athlete
 - Date of applicable season
- Authorization letters will only be recognized for FIS category and below. ***Entries for World Cup, Nor-Am Cup, and National Championships must be submitted directly by the respective National Ski Associations.***

NOTES:

- Foreign entries not submitted by actual National Ski Association and for whom no authorization letter has been submitted to U.S. Ski & Snowboard must not be accepted.
- There is a possibility that small groups of foreign athletes may be training in North America and may seek entry into U.S. Ski & Snowboard FIS events and will be represented by coaches from their NSA. Because they are not members of U.S. Ski & Snowboard and training with USA clubs/schools/colleges/universities, authorization letters will not be on file with U.S. Ski & Snowboard. ***You must contact U.S. Ski & Snowboard Competition Services prior to refusing any FIS entry.***

8. RESULT PROCESSING – XML FILE and EVENT DOCUMENT PACKETS

- Individual event XML race result files are uploaded at race-results.usskiandsnowboard.org/
- Following successful uploading of the XML race result file, if the PDF “Event Document Packet” has been completed, it may be uploaded during the same access window as the corresponding XML race result file.

NOTE: An error has been discovered **only** in the upload process for Event Document Packets. IT is currently working on implementing a patch, but if they are not successful, the above upload option will not be available, and all Event Document Packets will have to be emailed to resultpackets@ussa.org.

- If the PDF “Event Document Packet” is not completed until after the XML race result file is uploaded, or you are unable to successfully utilize the upload function, the PDF “Event Document Packet” must be emailed to resultpackets@ussa.org. *The U.S. Ski & Snowboard transmittal number must be used as the email’s subject.*

NOTE: Login for clubs hosting sanctioned events or a previously-approved login for individuals who do not have access to the club login will be required to access the upload platform. If an official is unable to log in, contact Competition Services for assistance.

9. START NUMBER or BIB NUMBER

617.3.3 If two or more competitors have the same time or the same number of points, the competitor with the higher start number must be listed first on the official list of results.

- **Split Second** breaks a tie in time by defaulting to an athlete’s actual “start number.”
- **VOLA** interprets the “start number” to be the “bib number” and breaks a tie in time by defaulting to an athlete’s actual “bib number.”

Refer to these defaults when inserting an athlete in a start order or assigning an out-of-sequence bib:

- **Split Second:** inserting an athlete after the first group and assigning 15A will affect Split Second's tie breaking capability because Split Second will not accept the start number + alpha character.
- **VOLA:** assigning an out-of-sequence high value bib number to replace a missing bib; e.g., Start 6 wearing Bib 106 will affect VOLA’s tie breaking capability should a tie in time occur, for example, between Start 6 Bib 106 and Start 20 Bib 20; (Bib 106 will be ranked before Bib 20 regardless of the earlier start.)

10. HELMET RULES

Soft ear protection is only permitted for helmets used in Slalom. *Soft ear protection is not allowed in Parallel events.*
[U707, U807, U907, U1007, U1233, **Helmet Rules**]

Reminder: For all events, (FIS, non-FIS scored and non-scored), helmet-mounted cameras and/or their mounts are not allowed for use by either competitors or forerunners. The helmets shall have no spoilers nor protruding parts.

11. U12 and U14 SUPER G TRAINING RUN

Official training for U12 and U14 Super G must include at least one Super G training run prior to the first competition. Official training for these age groups is an integral part of the competition, and all athletes are required to participate. In exceptional cases, a Jury can authorize a controlled freeski run in lieu of an official training run. The Jury decision must be documented in Jury Minutes. If racing with U16 athletes, ACR U1256.4 applies, and a training run must be calendared.

All sanctioned speed training runs/camps – Downhill or Super G – require that a full Jury be empaneled. In addition, they must also carry either liability insurance coverage through the U.S. Ski & Snowboard provider or through the Organizing Committee’s provider.

12. RESULT PROCESSING FOR NON-TIMED TRAINING RUNS

In order to provide a record of participants in a Non-Timed Training Run insured through the U.S. Ski & Snowboard provider and to capture the names of the officials, complete the following:

- With all participants’ status classified as **DNS**, submit an XML result file to race-results.usskiandsnowboard.org/.
- Notify Jeff Weinman of any athletes that actually **were DNS**.
- Submit an Event Document Packet containing documents listed in the MPF “05 Non-FIS Event Document Packets.”

13. SKILLSQUEST

- The Jury members for a sanctioned SkillsQuest Tournament are: Technical Delegate, Referee, and Chief of Race. *(The Chief of Race may also be serving as the SkillsQuest Tournament Director.)*
- A SkillsQuest Technical Delegate's Checklist for U.S. Ski & Snowboard sanctioned SkillsQuest events is available in the Master Packet of Forms.
- Roster of Participants and SkillsQuest Score Card (usskiandsnowboard.org/index.php/sport-programs/skillsquest) must be submitted to jeff.weinman@usskiandsnowboard.org.

14. WIRELESS TIMING

Wireless timing has been approved for U.S. Ski & Snowboard non-championship events. FIS further restricts its use to FIS Level 3 and FIS Level 4 only. An application for the use of wireless timing at U.S. Ski & Snowboard events has been drafted, and a link to the application is available in the Master Packet of Forms (MPF). Please contact John Jett (jjett@cjtiming.com) or Matt Howard (matt.p1timing@gmail.com) for details.

15. MANUAL TIMEKEEPING VERIFICATION

- **Take the time to verify manual devices are still synchronized.** Verification prior to the start of Bib 1 allows time to address any issues.

If electronic timekeeping systems fail, immediately verify hand times are available for the racer for whom an electronic time is not available.

16. SUPPLEMENTARY REPORT or an ADDITIONAL REPORT OF THE TECHNICAL DELEGATE

- A Supplementary Report is filed by the Technical Delegate to document event anomalies. Under some circumstances, the Referee may also be required to file a Supplementary Report.
- An Additional Report of the Technical Delegate is used to address issues that may or may not require re-homologation of a racecourse.
- Hear and consider all testimony and other evidence.
- Allow accused person the opportunity to present a defense and review all evidence (question witnesses, etc.).
- Deliberate.
- Make a fair decision.
- Review, vote, and sign prepared Jury Minutes documenting the decision.
- Notify affected parties. (FIS Office will address sanctions that involve a monetary sanction.)

17. DUE PROCESS [224.7]

Prior to the imposition of a penalty (except in cases of verbal reprimands and withdrawal of accreditation), the person accused of an offense shall be given the opportunity to present a defense at a hearing, verbally or in writing. Defense can include, but is not limited to the following:

- Being advised of infraction.
- Hearing and considering all testimony and other evidence.
- Questioning all witnesses upon whose testimony the Jury relies.

Considering information from a witness who is unavailable for questioning by the accused would create a serious issue. It is also unwise for Jury members to discuss a situation and consider possible penalties prior to considering all evidence.

The Jury must adhere to the following policy:

- Consider infraction.
- Question witnesses – including athlete, coach, Gate Judge, etc. – upon whose testimony the Jury relies.
- Hear and consider all testimony and other evidence.
- Allow accused person the opportunity to present a defense and review all evidence (question witnesses, etc.).
- Deliberate.
- Make a fair decision.
- Review, vote, and sign prepared Jury Minutes documenting the decision.
- Notify affected parties. (FIS Office will address sanctions that involve a monetary sanction.)

18. PROVISIONAL STARTS – IMPORTANT POINTS

- An athlete who is granted a provisional start that is later found to be unjustified is subject to “sanction.”
- Depending on circumstances, the sanction may include a DSQ. Prior to imposing the DSQ, Jury must decide whether or not the competitor’s later start provided an unfair advantage, e.g., improved weather conditions.
- A competitor shall only be disqualified if their mistake would result in an advantage for them with regard to the end result, unless the Rules state otherwise in an individual case, e.g., gate fault; false (early/late) starts. **[223.3.3]**
- If a provisional start is not approved, the competitor’s status must not be changed to DNS. The only available option is DSQ, but then only if the provisions of Art. 223.3.3 have been met.

19. COLLECTIVE OFFENSES [224.3]

In accordance with Art. 224.3, a “collective offense” occurs when several persons:

- Commit the same offense,
- at the same time,
- under the same circumstances.

When addressing sanctions related to collective offenses:

- Jury’s decision as to one offender may be considered binding upon all offenders.
- Written decision shall include:
 - Names of all offenders concerned.
 - Scope of the penalty to be assessed upon each offender.

Decision will be delivered to each offender.

20. U12 and U14 AGE GROUP RULES

- U12 and under competitors are only allowed to use one (1) pair of skis in the race arena as required for an event’s inspections and competition.

Mandate is not intended to preclude an athlete using a different pair of skis to freeski while not in the race arena.

- Wax benches are not allowed in U14 and younger race arenas.
- Wax application is not allowed at a U14 and younger competition venue. A “competition venue” is defined as the “ski resort property.”

21. FORCE MAJEURE

In Alpine competitions, "force majeure" describes those uncontrollable/unexpected events (such as extreme weather, extreme surface conditions) that are not the fault of any party and that make it difficult or impossible to carry out an event. *Force majeure is "uncontrollable and unexpected;" it is not "planned."*

- An unexpected weather occurrence that requires a program/course/assignment change.
- A last-minute ski area management decree.

22. TENURE OF THE JURY

In accordance with Art. 601.4.4.2, the active tenure of the Jury begins with its first meeting and ends, if no protests are submitted, at the expiration of the protest deadlines as noted in Art. 643 (Deadlines for Submittal). If protests are submitted, the tenure of the Jury ends after settlement of all submitted protests.

- If the Jury is no longer empaneled, they may not re-evaluate a previous decision.
- If the Jury is no longer empaneled, they may not alter an athlete's status; e.g., assign/unassign DSQ based on previously unavailable video.
- A Jury may re-evaluate a previous decision (Art. 640.2) but only if tenure has not ended (Art. 601.4.4.2).

23. JURY MEMBERS AND THEIR VOTES

Start and Finish Referees are voting members of the Jury only for Olympic Winter Games and World Ski Championships. For other events, they **must not** be listed as "Jury Members Present," as they have no vote; they do not sign Jury Minutes. *Marking "NO" indicates a "NO" vote; it does not mean an official does not have voting rights.*

24. EVENT RELATED DOCUMENTS

For events with no issues (injuries or accidents), it is recommended all event-related documents be kept on file for one (1) year. In the case of an event with serious injury/accident as defined by the Guidelines for Serious Accidents, the Technical Delegate must immediately contact Jeff Weinman, U.S. Ski & Snowboard Competition Services for instructions. The Technical Delegate must coordinate with the Ski Patrol and verify the information contained in the 4-page TD Accident Report.

TIMING TAPE SAMPLE 1: ToD TIMER

ToD TAPE/ELAPSED

S001	10:50:00.5791
S002	10:51:01.0892
S003	10:52:00.1293
F001	10:52:04.5495
S004	10:52:58.5896
F002	10:53:31.0197
F003	10:54:20.1396
S005	10:59:02.2295
S006	10:59:59.5994
F005	11:02:02.4391
S007	11:08:58.1992
F007	11:12:04.9194
S009	11:15:03.0195
S010	11:17:01.2794
F009	11:17:08.0996
S011	11:17:54.7597
S012	11:19:05.1998

This tape show **Start** (S), **Finish** (F) and **Bib** (###)

S001 would be the start for bib 1

F001 would be the finish for bib 1

TIMING TAPE SAMPLE 2: ToD TIMER

^^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^

1 10:21:09.4271
2 10:21:33.7082
8 10:21:58.4693 #4
4 10:22:03.9264
1 10:22:09.8805
2 10:22:34.2546
8 10:22:55.5882 #5
4 10:23:05.3313
1 10:23:09.8474
2 10:23:34.3125
8 10:23:57.4390 #6
4 10:24:05.2611
1 10:24:08.7832
2 10:24:33.3793
8 10:25:04.8404 #7
4 10:25:08.6013
1 10:25:10.8882
2 10:25:34.9683 #9
8 10:25:59.9634 #8
4 10:26:05.1255 #9
1 10:26:14.1036 #10
2 10:26:39.5406 #10

^^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^ ^^

This tape shows **Start** (1), the **1st interval** (2), the **2nd interval** (4) and the **Finish** (8)
1 = start time
2 = 1st interval
4 = 2nd interval time
8 = finish time
If bib numbers are not printed, they will have to be written on the tape as the start and finish occur.

FALSE (EARLY/LATE) STARTS DISQUALIFICATION

[613.7]

FOR REGULAR (FIXED) INTERVALS STARTING ON THE MINUTE:

CLOCK READS:

10:10:54.9900 = Competitor's Start / EARLY START?

. *

10:10:55.0000 *

*

10:10:56.0000 *

*

.
10:10:57.0000 *

*

.
10:10:58.0000 *

*

.
10:10:59.0000 *

*

.
10:11:00.0000 * START

*

.
10:11:01.0000 *

*

.
10:11:02.0000 *

*

.
10:11:03.0000 *

*

.
10:11:04.0000 *

*

.
10:11:05.0000 *

*

.
10:11:05.0100 = Competitor's Start / LATE START?

This is the form currently being distributed by U.S. Ski & Snowboard. The older form does not have a section for listing NPS competitors. Form on FIS website, in MPF, and produced by VOLA or NAT/FIS Scoring Software (Split Second) only requires bib numbers for NPS competitors.



START/FINISH REFEREE RECORDING FORM

DATE: _____ PAGE: _____ of _____ 1st RUN ☐ 2nd RUN ☐

MARK ONE:

START ☐ FINISH ☐ WOMEN ☐ MEN ☐

NAME: _____ DH ☐ GS ☐ SL ☐

SG ☐ AC/K ☐ P ☐

BIB #	REMARKS

BIB #	REMARKS

BIB #	REMARKS

TIME-of-DAY (ToD) / MANUAL (ToD) REPLACEMENT TIME (E.E.T.) WORKSHEET

Excel version is available at

fis-ski.com/inside-fis/general-fis-documents/timing-data#Tools

DATE: _____ EVENT: _____ MEN _____ WOMEN _____ RUN _____ CHIEF CALCULATIONS: _____

TIME-of-DAY (ToD) MISSING: _____ START or _____ FINISH

*Precision of time-of-day as used by timing device; minimum of 1/1000 precision required.

RACER BIB #	START/FINISH SYS. B OR HAND TOD	START/FINISH SYS. A OR HAND TOD	TIME DIFFERENCE
-------------	------------------------------------	------------------------------------	-----------------

SUM OF TIME DIFFERENCES = (+)or(-) _____.

DIVIDED BY 10 = (+)or(-) _____ = CORRECTION _____

BIB #	TIME OF DAY	(+) OR (-)	REPLACEMENT TIME OF DAY

**** When comparing B/Hand ToD to A ToD - Do I have to add (+) or subtract (-) to make it equal to A ToD?**

PROCEDURE TO BE FOLLOWED WHEN BOTH START & FINISH SYSTEM A TIMES ARE MISSED.

****If both Start and Finish ToD impulses are missed, replacement ToD's must be calculated for each ToD impulse as outlined in ICR 611.3.2.1.**

Net time is then calculated and verified.

(Use 1 form for Start ToD replacement calculation and 1 form for Finish ToD replacement calculation; complete net time assignment on Finish ToD calculation form.) ALL CALCULATIONS MUST BE SUBMITTED WITH TDR!

Bib # _____

Fn. ToD _____:_____:_____.

St. ToD _____:_____:_____.

Net Time: _____



1st RUN □ 2nd RUN □

WOMEN ☐ MEN ☐

DH ☐ GS ☐ SL ☐

SG ☐ AC/K ☐ P ☐[illegible]



PENALTY CALCULATION

Name of Competition		
Date	Event	Name of the TD

The best 10 at finish

Result	U.S. #	Name	Nat	U.S.-Points	Best 5	Race points
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The best 5 at start

TOTALS

(B) U.S. Points of best 5 at start

(A) U.S. Points of best 5 to finish in top 10

(C) Race Points of corresponding competitors

Calculated penalty

$$A \text{ } + B \text{ } - C \text{ } = \text{ } : 10 = \text{ }$$

Penalty applied

Signature TD

Nr

PENALTY CALCULATION

Name of the Event		Category	Women (W)
Date	Event	Men (M)	
Name of the TD			

The best 10 at finish

Result	Number	Name	Time	FIS-Points	Best 5	Race points

FIS Points of the best 5 started

TOTALS

(B)	FIS Points of best 5 started			
(A)	FIS Points of best 5 to finish in top 10			
(C)	Race Points of corresponding competitors			

Calculated penalty

$$A \text{ [] } + B \text{ [] } - C \text{ [] } = \text{ [] } : 10 = \text{ [] }$$

Category Adder

Penalty applied

Signature TD	Nr/No

PROTESTS

Place		Country		Codex	
Name of event				Date	
Category		Gender		Event	
Reasons for protest				ICR References	
				Name of protester	
Function	Surname, First Name	Team	Date and time of submission	Payment of deposit	
Protest and deposit received by					
Function	Surname, First Name	Signature			
Date	Signature of protester				



TIMING CHECKLIST

- Interconnects 1. Is there wire? Does it work? Are you sure?
- Equipment 2. Is the equipment on the current list of timing equipment homologated by the FIS Timing Working Group?
(fis-ski.com/DB/information/homologated-timing-equipment.html)
- Setup 3. Are the Time-of-Day times immediately and automatically sequentially recorded on printing strips or memorized electronically at the maximum precision of the timing device according to the requirements for homologation? (Refer to the above website to verify the required precision for each device.)
- Software 4. If timing software is used to calculate times, is it calculating net times using the precision of ToD as used in the timing device?
- Hand Timing 5. Is hand timing that records to at least 1/100th (.01) precision available?
- Quality 6. Is the timing crew aware that hand times, even if not used, should be within acceptable limits?
- Start Gate 7. Does the Start Gate meet the following requirements?
a. Does the start have 2 separate electronically isolated switch contacts for triggering the start inputs from both System A and System B?
b. One wand?
c. Installed at proper height?
d. Are identical Start Gate mechanism & Wand available for replacement?
e. Is the placement marked on the Start Posts?
f. Are the Start Posts solidly installed?
- Finish Eyes 8. Do the Finish Photocells meet the following requirements?
a. Are 2 sets available?
b. Are 4 posts with a maximum diameter of 6cm available for mounting photocells? (2 are acceptable; replacements must be available)
c. Is the vertical separation between the beams no greater than 20cm?
- Synchronization 9. Have system A and System B been synchronized as close as possible to the scheduled start time for the first run of the day?
10. Has the synchronization been performed from one single contact switch for all timing devices?
- Systems 11. If System A fails, is the timing crew aware of the requirement to use System B times to calculate a replacement time (EET) for the missing impulse?
12. Is the timing crew aware that manual timekeeping is not used to calculate a replacement time (EET) impulse unless both System A and System B fail?

Season 2026



TIMING & DATA TECHNICAL REPORT WORKSHEET INSTRUCTIONS

The following Worksheet has been developed to more closely mirror the order in which data is entered into the TDTR software. *It is used only for taking notes of data required by the software!*

- One Timing Report (TDTR) is required for each Codex/Transmittal Number
- TDTR Software: Can be found at:
fis-ski.com/en/inside-fis/documents-library/timing-data
- Software will provide both an XML file and a PDF file
- In addition to reporting requirements, XML file must be submitted to:
tdtr@usskiandsnowboard.org
- Replacement Time Calculations (EET's): If required, all calculation sheets must be included in report submittals
- Time of Day (ToD) entries must be expressed in precision used for net time calculations equal to the precision of the timing device
- Enter Start/Finish Hand Times exactly as they are recorded or displayed by the hand timekeeping device

For more information, refer to "How to Prepare a TDTR.pptx" on the U.S. Ski & Snowboard website.

Season 2026

Discipline	Date		
Season	Nation	FIS Codex / US Code	/
Location	Category		
Event Name	Event	OH SG GS SL P	
	Gender	M W	
	Technical Delegate	Chief of T & C	Timekeeper/Timing Company
Last Name			
First Name			
Nation			
TD Number			
	Telephone		
	Email		
	Brand	Model	Serial No
System A Timer(at			
System B Timer(at			
Timer A Start (if used)			
Timer B Start (if used)			
Start device			
Start Clock / Beep			
Finish Cell A			
Finish Cell B			
Connection to start	System A	System B	Voice connection
cable, radio or other			
System A not used	System B not used (reason)		
Result software	Company & Version		
	System A (ToD)	System B (ToD)	Hand
Synchronization time			
Sync confirm at +1 min			
	1st Run		
	System A (ToD)	System B (ToD)	Hand
Start ToD First Comp			
Finish ToD First			
Net Time First - A	Time	Bib # first	
Start ToD Last Comp			
Finish ToD Last			
Net Time Last - A	Time	Bib # last	
Best Run System A	Net Best	Bib # best	
	2nd Run		
	System A (ToD)	System B (ToD)	Hand
Start ToD First Comp			
Finish ToD First			
Net Time First - A	Time	Bib # first	
Start ToD Last Comp			
Finish ToD Last			
Net Time Last - A	Time	Bib # last	
Best Run System A	Net Best	Bib # best	
Were all results from system A?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Comments run 1	Comments run 2		

Why Do We Complete a Timing Data Technical Report?

Ski Racing is a competition against the clock.

1. Why do we collect the data on the TDTR?
 - a. To ensure minimum technical standards are met
 - b. Allows the Chief of Timing (CoT) to see how well systems operate together
 - c. Minimizes errors in accuracy of the event, techniques being used
 - d. An audit of the event, integrity check
 - e. Designed to assist you in making the event fair for all competitors
2. What are we looking for on the TDTR?
 - a. Two homologated systems
 - b. Time-of-Day synchronized systems
 - c. Manual (Hand) timing is being used and synchronized
 - d. Synchronization is taking place before first racer's first run to .001 accuracy
3. Synchronization of the timers
 - a. As close as possible to start of first run.
 - b. The synchronization impulse for all timers must come from one single source (one contact) for all timing devices.
 - c. A new impulse must be sent by the same source. Why: Confirm synchronization accuracy of systems A and B.
 - d. The maximum allowed difference between systems A and B may not be more than 1/1000ths (0.001); if larger than maximum, a complete resync is required.
4. Manual Timing training and how to use the TDTR to help guide your hand timers
 - a. Manual (Hand) timing is required for all events on the U.S. Ski & Snowboard calendar.
 - b. Handheld manual devices recording to at least 1/100th second are synchronized to time of day.
 - c. Training of the manual (HT) personnel needs to be completed by the CoT, as this official is responsible for their accuracy.
 - d. Manual timing (HT) can be used in official results, after a replacement time (electronic equivalent time - EET) has been calculated.
5. Replacement Time (EET)
 - a. What: A "Replacement Time" (EET) is a calculation used to replace either a missing start or missing finish time of day (ToD) System A impulse.
 - b. Why: Provides an average difference or correction, between the replacement times and System B ToD impulses or Manual Times.
 - c. If failure of System A occurs, then replacement time (EET) is completed using System B impulses. If failure of both systems occurs, the replacement time (EET) is completed using the Manual Times.
 - d. Make sure that the replacement time calculation (EET) is submitted with the TDTR.
6. Posting of times

It is recommended your announcer reminds everyone that the announcement and posting of times is unofficial.

For further information refer to the current version of Alpine Skiing Timing Booklet located on the FIS website:

[fis-ski.com/inside-fis/general-fis-documents/timing-data#Timing%20and%20Data%20Booklets](https://www.fis-ski.com/inside-fis/general-fis-documents/timing-data#Timing%20and%20Data%20Booklets)



Alpine Skiing

2025/2026

1st FIS points list 2025/26

Valid from 03-07-2025 to 16-07-2025

Category/Catégorie/Kategorie	Race level	Minimum penalty	Maximum penalty
OWG,WC,WSC	0	0.00	0.00
COM,WQUA	0	0.00	4.00
ANC,EC,ECOM,FEC,NAC,SAC,UVS,WJC	1	15.00	999.00
EQUA	1	23.00	999.00
NC	2	20.00	999.00
AWG,CISM,CORP,EYOF,FIS,FQUA,JUN,NJC,NJR,UNI,YOG	3	23.00	999.00
CIT,CITWC	3	40.00	999.00
ENL	4	60.00	999.00

MEN							GENERAL		WOMEN						
ADDER						Z-Value	Men/Women		ADDER						Z-Value
Disc.	Level 0	Level 1	Level 2	Level 3	Level 4		F Value	Max points	Disc.	Level 0	Level 1	Level 2	Level 3	Level 4	
DH	0	0	0	0	0	0.00	1250.00	330.00	DH	0	0	0	0	0	0.00
SL	0	0	0	0	0	0.00	730.00	165.00	SL	0	0	0	0	0	0.00
GS	0	0	0	0	0	0.00	1010.00	220.00	GS	0	0	0	0	0	0.00
SG	0	0	0	0	0	0.00	1190.00	270.00	SG	0	0	0	0	0	0.00
AC	0	0	0	0	0	0.00	1360.00	270.00	AC	0	0	0	0	0	0.00

FÉDÉRATION INTERNATIONALE DE SKI
INTERNATIONAL SKI FEDERATION
INTERNATIONALER SKI VERBAND



USA Wireless Timing Application

Application to use wireless timing at a US Ski and Snowboard sanctioned FIS or non-FIS race in the United States:

- The application for wireless timing must be completed and received not less than 2 weeks before the first day of racing for the respective event.
- Applicant, at a minimum, MUST be a USA-certified Level 2 Timing & Calculations official.
- Event for which the application is being submitted must be a non-championship event.
- All applications are subject to approval.
- Applications must be filed online at: <https://forms.gle/DsHR5Hi6pvy7w1EG6>

Current FIS Alpine Skiing Timing Booklet is available at:

<https://www.fis-ski.com/inside-fis/general-fis-documents/timing-data#Timing%20and%20Data%20Booklets>

**U.S. SKI & SNOWBOARD
STUDY PROBLEMS FOR TIMEKEEPERS - ALPINE
SEASON 2026**

1. List the Chief of Timing & Calculations' race day duties. _____

2. Mark each of the following T (True) or F (False):
 - a. If both electronic timing systems malfunction, a racer has grounds for a rerun. _____
 - b. In a tie, 1/1000ths can be used to break the tie. _____
 - c. Announce all Forerunners times as soon as possible. _____
 - d. Penalty calculation is the same for both U.S. Ski & Snowboard and FIS. _____
3. What start signal does the Starter use for the following races?
 - a. Regular Interval Events: _____
 - b. Irregular Interval Events: _____
 - c. If a start clock/beep is available, is a verbal start command still required? _____
4. What is the minimum start interval for? DH: _____ GS: _____
5. Convert the following times from seconds to minutes:
 - a. 62.19 _____
 - b. 75.01 _____
 - c. 100.45 _____
6. Convert the following times from minutes to seconds:
 - a. 1:14.79 _____
 - b. 2:10.44 _____
 - c. 1:59.41 _____
7. Add the following, and then convert to minutes and seconds:

a. 59.59	b. 49.58	c. 41.18	d. 64.34	e. 71.19
<u>69.49</u>	<u>48.49</u>	<u>41.21</u>	<u>62.97</u>	<u>69.79</u>
8. Explain Time-of-Day (ToD) Timing. _____

9. a. In what calculations are numbers rounded off? _____
b. What calculations require that numbers be truncated? _____
10. Round the following numbers to the nearest 100th: (*These are not times!*)
 - a. 49.1146 _____
 - b. 15.1629 _____
 - c. 108.3251 _____
11. Calculate the elapsed times:

Finish time:	a. 09:13:00.6509	b. 10:11:59.5703	c. 13:32:01.4406
Start time:	<u>09:12:04.9112</u>	<u>10:10:06.5610</u>	<u>13:30:01.1911</u>
12. The Race Points for the winner always calculates to: _____
13. Primary (System A) electric time fails for a racer.

- a. What timing system should be used? _____
- b. What adjustment may be necessary? _____
- c. What procedure should be followed if both systems fail? _____
- d. What times should be used if the failure of the primary system affects a large percentage of the field?

- e. What times should be used, if the failure of both timing systems affects a large percentage of the field?

14. Briefly describe the process used to calculate the adjustment required by 13-b. _____

15. Do a Bibbo from this 1st-Run Result:

Bib #	1st Run Result	2nd Run Start Order	Bib #
1	52.11	1	_____
2	51.56	2	_____
3	52.52	3	_____
4	49.71	4	_____
5	51.48	5	_____
6	51.46	6	_____
7	49.63	7	_____
8	50.30	8	_____
9	50.51	9	_____
10	52.20	10	_____
11	51.15	11	_____
12	52.56	12	_____
13	51.51	13	_____
14	51.31 DSQ	14	_____
15	51.20	15	_____
16	51.45	16	_____
17	52.56	17	_____

16. a. What are the current Factors for?
DH: _____ SG: _____ GS: _____ SL: _____ AC: _____
- b. Where can they be found? _____
- c. How is a “factor” used? _____
17. Calculate the Race Points on the attached Race & Penalty Points.
18. Calculate the Race Penalty for the race on the attached form.
19. Calculate the Replacement Times (EET’s) as indicated on the attached form.

U.S. SKI & SNOWBOARD

WORKSHEET for CALCULATION of RACE POINTS & U.S. / FIS PENALTY - ALPINE SEASON 2026

SEED POINTS: Rank an individual racer with other racers.

RACE POINTS: Rank racers within one race.

CALCULATION OF THE RACE POINTS - use the following formula:

$$\text{Points} = \frac{\text{Racer's Time in seconds (Tx)}}{\text{Winner's Time in seconds (To)}} - 1 \times \text{Factor}$$

DH - 1250
SL - 730
GS - 1010
SG - 1190
AC - 1360

OR USE: $\frac{\text{Factor} \times \text{Racer's Time in seconds (Tx)}}{\text{Winning Time in seconds (To)}} - \text{Factor} = \text{Points}$

NOTE: Some calculators require the use of an '=' after the multiplication process as well as the division process. Do not round off during the calculation - wait until the end.

PENALTY POINTS: Rank the race relative to other races.

CALCULATION OF THE PENALTY POINTS - follow these steps:

1. List the **top 10 finishers** and their respective **seed points and race points**.
2. Select and add the **best 5 list points from the top 10**. [SUM "A"]
3. Add the list points of the best 5 point holders who started the race, irrespective of where or if they finished (DSQ OR DNF). [SUM "B"]
4. Subtract the race points of the racers with the best 5 list points from the top 10 finishers. [SUM "C"]
5. Divide by 10 and round as necessary.

NOTE: Work across on the **SAME** line for each racer.

Use the following information and calculate race points for this **GIANT SLALOM** race: F = _____

RNK	COMPETITOR	LIST POINTS	TOTAL TIME	RACE POINTS
1	GRANSTROM, Colby	1.11	2:05.19	_____
2	FORD, Tommy	10.97	2:05.80	_____
3	STIEGLER, Seppi	5.74	2:06.46	_____
4	ANKENY, Michael	18.79	2:06.55	_____
5	JITLOFF, Tim	22.09	2:06.57	_____
6	GREGORAK, Will	16.41	2:06.59	_____
7	TRIENDL, ARMIN	29.39	2:06.93	_____
8	PENTTINEN, Juho-P.	5.86	2:06.96	_____
9	TARBERRY, Ace	13.10	2:07.00	_____
10	WUNSCH, Taylor	14.15	2:07.07	_____

BEST 5 AT START:		LIST POINTS	RACE RESULT
RNK	COMPETITOR	LIST POINTS	RACE RESULT
1	GRANSTROM, Colby	1.11	1
2	STIEGLER, Seppi	5.74	3
3	PENTTINEN, Juho-P.	5.86	8
4	ARNOLD, Eric	10.18	DNF1
5	COCHRAN, James	10.88	DSQ1

TIES: 10th place – Consider all tied racers to select best 5 seed points - SUM A.
5th place - Use racer with higher race points – SUM C. (Lower Penalty)

PENALTY CALCULATION

Name of Competition		
Date	Event	Name of the TD

The best 10 at finish

Result	Number	Name	Nat	U.S.-Points	Best 5	Race points
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The best 5 at start

TOTALS

(B) U.S. Points of best 5 at start

(A) U.S. Points of best 5 to finish in top 10

(C) Race Points of corresponding competitors

Calculated penalty

A + B - C = : 10 =

Penalty applied

Signature TD

Nr

--	--



ELECTRONIC TIME-of-DAY RECORDING FORM

DATE: *TODAYS DATE* PAGE: 1 _____ of 2 _____ 1st RUN ☒ 2nd RUN ☐

TIMEKEEPER NAME: *J. TIMER* _____ WOMEN ☒ MEN ☐
DH ☐ GS ☐ SL ☒

RECORDER NAME: *J. RECORDER* _____ SG ☐ AC/K ☐ P ☐

ELECTRONIC A FINISH TIME IN ToD; FULL PRECISION OF 1/1000TH OR BETTER REQUIRED

BIB #	ELECTRONIC ToD
11	13:00:00.2631
12	13:00:26.8802
13	13:00:47.3684
14	13:01:04.3686
15	13:01:27.7750
16	DNF
17	13:02:12.9123
18	13:02:42.6169
19	13:03:00.9443
20	13:03:20.2800
21	13:03:48.5591
22	MISSED TIME
23	13:05:40.3984

BIB #	ELECTRONIC ToD

BIB #	ELECTRONIC ToD

Using timing tape is preferred. If this form is used; all times must be verified.

START/FINISH TIMEKEEPER RECORDING FORM

DATE: Current Date _____ PAGE: 1 _____ of 3 _____ 1st RUN ☒ 2nd RUN ☐

MARK ONE: START ☐ FINISH ☒ WOMEN ☒ MEN ☐

TIMEKEEPER NAME: J. Timekeeper _____ DH ☐ GS ☐ SL ☒

RECORDER NAME: J. Recorder _____ SG ☐ AC/K ☐ P ☐

MANUAL TIMING TO 100TH; USE FULL PRECISION WHEN AVAILABLE

BIB #	TIME OF DAY		
	MM	SS	ss
11	(13)00	00	48(00)
12	00	26	52
13	00	47	41
14	01	04	23
15	01	27	54
16	DNF		
17	02	12	99
18	02	42	50
19	03	00	21
20	03	20	69
21	03	48	56
22	04	12	15
23			

BIB #	TIME OF DAY		
	MM	SS	ss

TIME-of-DAY (ToD) / MANUAL (ToD) REPLACEMENT TIME (E.E.T.) WORKSHEET

Excel version is available at

fis-ski.com/inside-fis/general-fis-documents/timing-data#Tools

DATE: _____ EVENT: _____ MEN _____ WOMEN _____ RUN _____ CHIEF CALCULATIONS: _____

TIME-of-DAY (ToD) MISSING: _____ START or _____ FINISH

*Precision of time-of-day as used by timing device; minimum of 1/1000 precision required.

RACER BIB #	START/FINISH SYS. B OR HAND TOD	START/FINISH SYS. A OR HAND TOD	TIME DIFFERENCE
-------------	------------------------------------	------------------------------------	-----------------

11	(13)00:00.48(00)	(13)00:00.2631	
12	00:26.5200	00:26.8802	
13	00:47.4100	00:07.3684	
14	01:04.2300	01:04.3686	
15	01:27.5400	01:27.7750	
17	02:12.9900	02:12.9123	
18	04:42.5000	02:42.6169	
19	03:00.2100	03:00.9443	
20	03:20.6900	03:20.2800	
21	03:48.5600	03:48.5591	

SUM OF TIME DIFFERENCES = (+)or(-) _____.

DIVIDED BY 10 = (+)or(-) _____ = CORRECTION _____

BIB #	TIME OF DAY	(+) OR (-)	REPLACEMENT TIME OF DAY
22	13:04:12.1500		

**** When comparing B/Hand ToD to A ToD - Do I have to add (+) or subtract (-) to make it equal to A ToD?**

PROCEDURE TO BE FOLLOWED WHEN BOTH START & FINISH SYSTEM A TIMES ARE MISSED.

****If both Start and Finish ToD impulses are missed, replacement ToD's must be calculated for each ToD impulse as outlined in ICR 611.3.2.1.**

Net time is then calculated and verified.

(Use 1 form for Start ToD replacement calculation and 1 form for Finish ToD replacement calculation; complete net time assignment on Finish ToD calculation form.) ALL CALCULATIONS MUST BE SUBMITTED WITH TDTR!

Bib # _____

Fn. ToD _____:_____:_____._____

St. ToD _____:_____:_____._____

Net Time: _____