



International Waterski & Wakeboard Federation

Waterski

WATERSKI RULES 2021

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INTERNATIONAL WATERSKI & WAKEBOARD FEDERATION

WATERSKI RULES 2021

Editor:

IWWF World Waterski Council

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Regina and Jaret are featured on the cover as they have been chosen by the WSC as the “Skiers of the Last 25 Years” in celebration of the 75th Anniversary of the IWWF.

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SECTION 1 – GENERAL RULES

These rules supersede all previous editions and addenda and shall remain in effect until an amended edition of the rules is published. The 2020 Rulebook is the base rulebook. **All changes for 2021 will be in red.** These rules have been drafted in English. In the case of conflicting interpretation, only the English text shall be considered authentic. All correspondence regarding these rules should be addressed to the Chairman of the World Waterski Council: Mr. Candido Moz at mozc@live.com.

Rule 1 - General

1.01: Applicability of the Rules

The rules set forth here govern Waterski Competitions sanctioned by the International Water Ski & Wakeboard Federation. Except for entry requirements and other administrative matters, the Confederations must follow these rules for their sanctioned competitions. It is requested that Federations establish rules as close to these rules as possible. Whenever the masculine is used, the same shall be construed as meaning the feminine where the context so requires.

1.02: Exceptions to the Rules

Where compliance with the rules is not feasible, the Chief Judge shall, with the approval of a majority of the Appointed Judges, make the necessary changes, inform each competitor by posting, and send a report to the World Waterski Council. Where the rules are definite and feasible, a vote of the Judges to decide whether to enforce any provision is prohibited.

1.03: Interpretation of the Rules

Questions of interpretation of the rules shall be referred to the World Waterski Council when possible. Any interpretation made by the World Waterski Council as a whole shall be considered final. Otherwise, the interpretation shall be made by a majority vote of the Appointed Judges, and the Chief Judge shall make a report to the World Waterski Council concerning the question.

1.04: Amendments to the Rules

Amendments made prior to the annual revision of the rules must be approved by a two-thirds (2/3) majority of the members of the World Waterski Council. The rules may be amended at any time by the World Waterski Council. The amended rules shall become effective sixty (60) days after all affiliated Federations are notified and the posting of the official minutes on www.iwsf.com except in the case of new tricks submitted prior to September 30, which may be added by simple majority, and become effective immediately on November 1. All new tricks submitted must include a video showing the trick.

Until such time as a new edition of the rules is published, the current rules, as amended by the World Waterski Council, remain in effect. A unanimous decision of the members of the World Waterski Council is immediately applicable.

Under the authority of the World Waterski Council Chairman, proposed rules may be tested. The Chairman shall determine the appropriate homologation level under the test conditions. A complete report of the results of the test will be made by the Homologator and Chief Judge and sent to the Chairman for distribution to the World Waterski Council.

1.05: Identifying Bibs

It may be required that skiers must wear identifying bibs while skiing. The bibs must be of a design approved by the Chief Judge and Event Organiser. The design must allow for use of an arm sling in jumping and be snug so that it does not interfere with the free movement required in tricks. Spare bibs should be available at the starting dock in case a skier's bib is damaged and unusable. Skiers must each wear the bib assigned to them only. A Refusal by the skier to wear the bib will result in disqualification from that event. However, accidental leaving off the bib not noticed in advance by anyone will incur a fine of US\$250 payable to the event organiser.

Rule 1 - General

1.06: Drug Testing

All competitors must agree to be subject to doping control. Specific policies and procedures regarding doping control shall be under the control of the Medical Commission of the IWWF.

1.07: Unsportsmanlike Conduct

Any competitor (or his representative) or official whose conduct is deemed unsportsmanlike or whose conduct may cause discredit to the IWWF, either on or off the competition site, before, during, or after the competition, may be disqualified from all or part of the competition including completed events by a two-thirds (2/3) majority vote of the Appointed Judges. The affected individual will be given an opportunity to present his case before a disqualification decision is made. In the case of a finding of unsportsmanlike conduct, a report must be submitted by the Chief Judge to the Chairman of the World Waterski Council.

1.08: Unsafe Skier Disqualification

No skier shall be allowed to compete or to continue to compete if, in the opinion of the Safety Director and a majority of the Event Judges, his competing would be a danger to himself or other skiers in the competition. During the competition, the Safety Director may, at any time, request the Chief Judge to halt the competition for a poll of the Event Judges regarding a skier's actions or conditions. Whenever practical, the advice of a doctor should be obtained.

1.09: Tolerances

All tolerances are to allow for human error and the intentional use of tolerances by competition officials to improve skier performance will not be tolerated. In any activity involving the performance of an official where a tolerance is involved, it is the official's responsibility to attempt to be as close as possible to the actual specification.

Rule 2 – Competition Events

2.01: Events

The events in a Competition may be Slalom, Tricks, Jump and Overall.

2.02: Rounds

The maximum number of rounds which can count for the rankings list or records is limited to 4 at any one competition - meaning consecutive days at the same site.

For L & R Homologation purposes, a competition or competitions with an allowed maximum of 4 rounds (in each of slalom, tricks and jump) must be followed by 3 whole days before the next competition can start at the same site code.

2 competitions of two round each meet the criteria of this rule.

2.03: Age Division

The Competition in each event shall be separated into a Men/Boys and a Women/Girls division.

- a. **Under 10:** The maximum age of any boys/girls entering in this division is 9 years as of December 31, preceding the competition. This means that the last year of eligibility of a skier is the year in which he has his 10th birthday.
- b. **Under 14:** The maximum age of any boys/girls entering in this division is 13 years as of December 31, preceding the competition. This means that the last year of eligibility of a skier is the year in which he has his 14th birthday.
- c. **Under 17:** The maximum age of any skier participating is 16 years as of December 31, preceding the competition. This means that the last year of eligibility of a skier is the year in which he has his 17th birthday.
- d. **Under 21:** The maximum age of any skier participating is 20 years as of December 31, preceding the competition. This means that the last year of eligibility of a skier is the year in which he has his 21st birthday.
- e. **Open:** No age restrictions.
- f. **35+: 35 years and older - as of December 31, preceding the competition.**
- g. **45+: 45 years and older - as of December 31, preceding the competition.**
- h. **55+: 55 years and older - as of December 31, preceding the competition.**
- i. **65+: 65 years and older - as of December 31, preceding the competition.**
- j. **70+: 70 years and older - as of December 31, preceding the competition.**
- k. **75+: 75 years and older - as of December 31, preceding the competition.**
- l. **80+: 80 years and older - as of December 31, preceding the competition.**
- m. **85+: 85 years and older - as of December 31, preceding the competition.**

For clarity: An eligible skier can compete in any one of the Age Divisions in which he/she falls.

(example: a 76-year-old skier may choose to compete in any one of the 35+,45+,55+,65+,70+,75+ divisions)

A skier eligible or qualified in more than one of the age Divisions can compete only in one which, in all events, must be the same throughout the competition.

2.04: Control of the site

Once homologation starts, use of the site is under the authority of the Chief Judge until the completion of the competition.

Rule 3 – Officials and Assistants

3.01: Placement of Judges

Where practical, Judges shall be separated to ensure completely independent opinions.

3.02: Secondary Positions

Personnel to fill secondary positions shall be selected by the Chief Judge from among other experienced Judges and Officials in attendance.

3.03: Officials Uniforms

It is recommended that officials wear standard uniforms consisting of a white polo shirt and navy- blue shorts. If heavier clothing is required due to the weather, the same colour scheme shall be maintained of plain white top and navy-blue trousers.

3.04: Officials Conflicts of Interest

No conflict of interest is allowed for World Championships and Cash Prize competitions. For Record Capability and Rankings List competitions no conflict of interest is allowed unless it is not possible to run the competition according to the rules, (i.e. no properly qualified official available without a conflict of interest). In this case at least one-half of the Appointed Judges shall have no conflict of interest with any skier competing in the event. If a conflict of interest exists, the appointed official so affected shall not rule.

Conflicts of interest, as defined by the following:

- a) An official for an event shall have no conflict of interest with respect to any skier competing in that event. For this purpose, "official" shall include boat drivers, event judges, scorers and all secondary positions.

A conflict of interest shall be regarded as existing if the official is:

- a) A member of the immediate family of a competitor, to include lineal descendants and ancestors, brothers, sisters, and spouses of the competitor or any of the above family members.
- b) In a position, which may give the appearance of a lack of independence. These conflicts shall be determined by the Chief Judge with respect to event officials and by the Appointed Judges with respect to the Chief Judge and other appointed officials.

3.05: Voting of the Judges

Unless otherwise specifically stated, every vote of the Appointed Judges or the Event Judges shall be decided by a simple majority of the judges voting. In the event of a tie, the Chief Judge shall cast the tie-breaking vote. All issues should be settled before the next competitor starts.

3.06: Harmonisation of Officials Grades

At the World Waterski Council meeting in Paris 2017, the members discussed the possibility of adopting a worldwide unified naming system for Officials' qualifications.

This is needed because at present naming protocols vary from Confederation to Confederation therefore it can be very difficult to establish the homologation level of the competition. This is especially important at multi-national events where officials are drawn from different Confederations. With a common naming strategy, the Homologator would then be able to easily know if the requirements for officials has been met for the homologation level being applied. Only International Officials, sanctioned by their Confederations would be affected.

The World Waterski Council recommends that Confederation Waterski Councils consider adopting the following officials' naming protocol. In any case, please refer to the comparative table below:

There will be 3 levels of Officials:

Level 1 (top Grade: E&A Judge, Pan Am Judge etc....).

Level 2 (Senior etc....)

Level 3 (National, Regional etc.....)

In addition, there will be:

Level 2* grade and Level 3* grade.

Level 2* and Level 3* are the equivalent of Level 2 or Level 3 but these officials are qualified in 1 or 2 events.

Level 1 Judges will be subject to periodic re-evaluation and or testing by peers in order to retain their qualifications. The test will be prepared and taken under World Waterski Council supervision. If they do not 'pass' re-evaluation, they are automatically downgraded to Level 2.

Rule 3 – Officials and Assistants

As there is generally only one Scorer and one Homologator at a competition, standards need to be stringent. Only Level 1 Scorers and Homologators will be permitted to work at Cash Prize, Elite or Titled events.

Example for Judges

Level 1 = Can officiate at Record Capability, Rankings List, World and Confederation Events.

Level 2 = Can Officiate at “R”, “L”, Confederation Events, and World Events by exception.

Level 3 = Can officiate at Rankings List competitions.

H2* = Permitted to work at Rankings List events or Record Capability events (only tricks) in their own country only. Not qualified for Record Capability slalom and Jump competitions or for Cash Prize or Titled events. No need to speak English.

Note: This Rule is a work in progress document, any updated will be posted on <http://www.iwsf.com/>

Harmonization of Officials Grades Chart

Level 1 Judge (J1)	Asia Judge
	E&A Level 1
	Oceania Level 1
	Pan Am Judges
Level 1 Homologator (H1)	HI (Asia)
	Oceania Level 1
	E&A Level 1
	Pan Am Homologator
Level 1 Scorer (S1)	International Calculator (Asia)
	Oceania Level 1
	E&A Level 1
	Pan Am Scorer
Level 1 Driver (D1)	E&A Level 1
	Oceania Level 1
	Pan Am Driver
Level 2 Judge (J2) - (J2*)	Senior Judge (Asia)
	Oceania Level 2
	E&A Level 2
	Senior Judge (Latino)
	Senior International (USA - CAN)
Level 2 Homologator (H2)	H2* Senior Homologator (Asia)
	Oceania Level 2
	H2* E&A Level 2
Level 2 Scorer (S2) - (S2*)	Senior Scorer (USA)
	Oceania Level 2
Level 2 Driver (D2) - (D2*)	Oceania Level 2
	International 2 events (Pan Am)
	Senior Driver (USA)
Level 3 Judge (J3) - (J3*)	Regular Judge (USA)
	Oceania Level 3
	E&A Level 3
Level 3 Homologator (H3)	Oceania Level 3
	E&A Level 3
Level 3 Scorer (S3) - (S3*)	Regular Scorer (USA)
	E&A Level 3
Level 3 Driver (D3) - (D3*)	Regular Driver (USA)
	E&A Level 3

Rule 4 – Safety

4.01: Safety Director

A Safety Director shall be responsible for the safe conditions of all equipment, facilities and operation of a competition, but this shall not prevent him from delegating specific responsibilities to his assistants as approved by the Chief Judge. He shall have the authority to take whatever action is necessary, including stopping the competition, whenever he observes a condition, he believes unsafe. The Chief Judge may overrule any contemplated action or decision of the Safety Director on his own responsibility. Every competition shall have a designated Safety Director and medical and safety arrangements shall be made appropriate to the size, rating and location of the competition.

4.02: Competition Safety Stoppages

Should the Safety Director stop a competition for any reason, disqualification time periods ([8.04](#), [9.08](#), [10.03](#)) shall not run as long as the competition is stopped. The Safety Director should remain near the competition area as much as possible.

4.03: Personal Floatation Device (PFD)

It is the responsibility of each skier to ensure their PFD meets the following specifications:

- a) It must be smooth and soft and free from attachments or material likely to cause injury in a fall.
- b) It must be constructed and fastened in such a manner that it is unlikely to be torn loose or damaged so as to render it useless in a hard fall.
- c) It must float the skier.
- d) It must not be an inflatable device.
- e) It must be constructed to provide adequate protection from impact damage to the ribs and internal organs. A normal wet suit shall not be considered adequate protection in this respect.

A PFD must be worn in slalom and jump but is at the skier's option in tricks.

4.04: Equipment Safety

The Safety Director shall determine whether equipment to be used by a competitor meets safety specifications.

4.05: Safety Boats

A safety boat shall be used during all events. The suggested positioning is:

- a) Slalom Events - operating outside of course between No. 2 and No. 5 skier buoys.
- b) Jumping Events - operating opposite side of ramp, out-side of jump course buoys facing skier's anticipated point of landing.
- c) Trick Events - operating outside of course buoys facing skier during pass.

At certain sites, where it is practical and feasible, with the approval of the Safety Director, and per the IWWF Safety Manual, rescue teams may operate from shore.

4.06: Safety Boats crew:

Safety boat crew must consist of:

- a) An experienced driver who is familiar with the conduct of all practice and competition events.
- b) A swimmer, also familiar with all practice and competition events as well as being fully trained in First Aid, Emergency Resuscitation and Water Rescue Techniques.

The swimmer will always wear a life jacket and, in the event of a serious fall, will jump into the water to assist the skier. If the injured skier is unable to climb into the safety boat with little or no assistance, the skier will be floated to shore and lifted from the water on a suitable board or stretcher. Under no circumstances will an injured skier be lifted passively over the side of the safety boat. It is emphasised that in international competitions language difficulties may interfere with communication, and for this reason, the swimmer MUST GET IN THE WATER to assist the injured skier.

4.07: Use of the Competition Boat for Assistance.

If a suitable safety boat is not available, and it is not possible for the rescue team to operate from the shore, the competition boat may be used as a first response vehicle to rescue an injured skier. In this case, in addition to the normal crew (Driver and Judge), a rescue swimmer familiar with competition events, must be on board.

Rule 4 – Safety

This rescue swimmer must be fully trained in First Aid, Emergency Resuscitation and Water Rescue Techniques. In addition, the boat will be equipped with the floating stretcher (which could be inflatable) and the collar.

4.08: On Site Medical Facilities

The Safety Director will appoint a Competition Medical Officer who will undertake to provide the following services:

- a) A suitably qualified medical officer will be in attendance during all competition events.
- b) A suitably equipped medical station prepared to deal with any sort of medical emergency will be conveniently located at the competition site.
- c) Suitable transportation facilities that will allow an injured skier to be moved safely and promptly to the best local medical unit for further care.

A working relationship will be established between the local hospital or medical unit and the Competition Medical Officer, such that casualties will get prompt and expert treatment when required.

4.09: Helmets

Skiers must wear a suitable helmet in the jump event.

4.10: Concussion

(this document will be updated at any time deemed necessary by the Medical Commission)

STEP 3: SYMPTOMS

- | | | |
|---|---|---|
| <input type="checkbox"/> Headache | <input type="checkbox"/> Neck pain | <input type="checkbox"/> Difficulty remembering |
| <input type="checkbox"/> "Pressure in head" | <input type="checkbox"/> Blurred vision | <input type="checkbox"/> Not Thinking Clearly |
| <input type="checkbox"/> Balance problems | <input type="checkbox"/> "Don't Feel Right" | <input type="checkbox"/> Dizziness |
| <input type="checkbox"/> Nausea or vomiting | <input type="checkbox"/> Difficulty concentrating | |

STEP 4: MEMORY ASSESSMENT

(IN ATHLETES OLDER THAN 12 YEARS)

- Failure to answer any of these questions (modified appropriately for each sport) correctly may suggest a concussion.
- Who Was On The Water Before You? What Month Is This?
- Which competition are you at now? What is the day of the week?

Score: Any positive check marks ✓ = Yes
The athlete is taken immediately to shore for a second assessment, using the OWCRT

Athletes with suspected concussion should:

- Not be left alone initially
- Not drink alcohol
- Not use recreational / prescription drugs
- Not be sent home by themselves. They need to be with a responsible adult.
- Not drive a motor vehicle until cleared to do so by a **QUALIFIED** healthcare professional.

This OWCRT has been prepared by the International Waterski & Wakeboard Federation to guide and assist Federations, Clubs, Event Organisers, Coaches, Officials and all concerned with towed water sports.



It may be downloaded, printed and laminated to carry in the boat or at the site.

Any revision and any reproduction in a digital form requires approval by the IWWF World Medical Committee. It should not be altered in any way, rebranded or sold for commercial gain.

ON-WATER CONCUSSION RECOGNITION TOOL

To help identify concussion in children, adolescents and adults

RECOGNISE & REMOVE

Head impacts can be associated with serious and potentially fatal brain injuries. This On-Water Concussion Recognition Tool (OWCRT) is to be used for the identification of suspected concussion. It is not designed to diagnose concussion.

STEP 1: RED FLAGS – CALL AN AMBULANCE

If there is concern after an injury including whether ANY of the following signs are observed or complaints are reported then the player should be safely and immediately removed from the activity. If no licensed healthcare professional is available, call an ambulance for urgent medical assessment:

- Neck pain or tenderness
- Double vision
- Weakness or tingling/burning in arms or legs
- Severe or increasing headache
- Seizure or convulsion
- Loss of consciousness
- Deteriorating conscious state
- Vomiting
- Increasingly restless, agitated or combative

REMEMBER

- In all cases, the basic principles of first aid (danger, response, airways, breathing, circulation) should be followed.
- Assessment for a spinal cord injury is critical
- Do not attempt to move the player (other than required for airway support) unless trained to do so.
- Do not remove a helmet or any other equipment unless trained to do so safely.

If there are no Red Flags, identification of possible concussion should proceed to the following steps:

STEP 2: OBSERVABLE SIGNS

Visual clues that suggest possible concussion include:

- Lying motionless on the field of play
- Slow to get up after a direct or indirect hit to the head
- Extension Posture of Arms & Legs
- Disorientation or confusion, or an inability to respond appropriately to questions
- Blank or vacant look
- Balance, gait difficulties, motor incoordination, stumbling, slow laboured movements
- Facial injury after head trauma

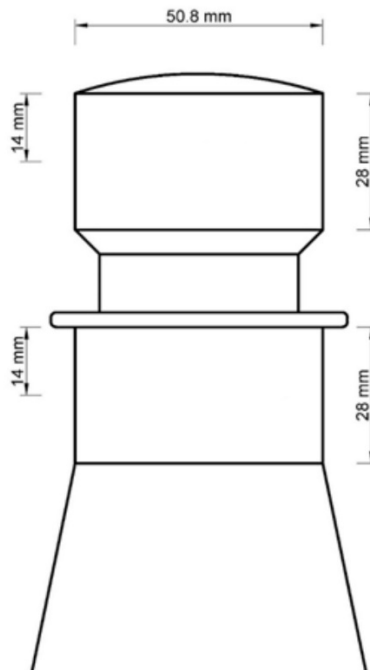
Rule 5 - Boats - Skis - Towlines

For IWWF Towboat Approval refer to Official IWWF Towboat Policy.

5.01: General Boat Description

- Boats must have the performance necessary to attain and maintain the required boat speeds while towing a heavy skier under competition conditions.
- Overall length shall be approximately 5.00 metres but must not exceed 6.50 metres. The beam shall be not less than 1.80 metres and not more than 2.50 metres.
- Boats shall be equipped with a towing pylon on the centreline of the boat, approximately amidships which shall be a minimum of 65cm and a maximum of 1.20 metres above the water when the boat is standing still with no occupants aboard. The entire pylon assembly shall be of fail-safe construction, designed to withstand a minimum loading of 600kg through an angle of 70° from the stern on both sides. The towing pylon shall have an area integrated in its design for attachment of a trick release mechanism. It is recommended that this area be included both above and below the tow rope attachment location and be located as required to ensure clearance of the rope and/or trick release mechanism from the engine housing. This area for attachment of the trick release mechanism shall be cylindrical with a diameter of 50.8mm, +0.00mm, -0.25mm, and a minimum height of 28mm. ~~A centering hole with a diameter of 6.0mm, +0.35mm, -0.0mm, and a minimum depth of 1.8mm shall be located on the centreline of the attachment area height and be oriented toward the front of the towing pylon.~~ Any manufacturer not wishing to comply shall be responsible to see that trick releases fitting his pylon are available at competitions where his boats are used.

Pylon specification drawing - The following diagram depicts the dimensions detailed above.



- Either inboard, inboard/outboard, or outboard power may be used.
- For Jumping and Slalom, identical boats must be used by contestants in an event. A different boat could be used in each round of the competition, but not different boats within one round. For Tricks, the skier may select any one of the types of boats chosen for the competition. Two teams of drivers and boat officials may be assigned to the Trick event at the option of the Chief Judge. The driver may be changed by the Chief Judge if he deems it necessary due to the length of the event. The Chief Judge may decide to use alternating identical boats to eliminate lost time and to speed up the running of the event.

5.02: Speed Control

Speed control is required for all World Championships, Ranking List and Record Capability events. Calibration should take place before the competition starts or the skiers arrive. The homologation notice will state the make and model of the speed control and if specific features/settings are to be used.

For the World Championships:

- a) The specific make and model of speed control will be announced when the boats are announced. (see [14.11](#)).
- b) The speed control program version to be used will be announced 3 months prior to the relevant World Championships. That version must be available worldwide and may not change until after the World Championships.

Some of the important points are as follows:

- a) If speed control breaks then go to manual. If a replacement unit or boat is not available, or the unit cannot be quickly repaired, then the competition shall be continued with manual driving with performance restrictions for those performances done with manual driving as follows.

Maximum Scores with no Speed Control

Division	Slalom	Tricks	Jump	Overall
Men	3@58/10.75m	8500 points	61m	2200 points
Women	6 @ 55/12m	6000 points	40m	2100 points
Under 17 Boys	3@ 58/12m	5000 points	41m	1500 points
Under 17 Girls	3@ 55/13m	4400 points	32m	1500 points

When the speed control cuts out or fails to operate or is a deviation from normal operation (i.e. a malfunction) the skier is entitled to a re-ride for failure of equipment and can improve the score.

- b) If the unit allows, the speed may be micro adjusted a set number of specific speed steps to compensate for wind or current conditions on a pass bypass basis under the control and/or observation of the boat judge.
- c) The principal job of the speed control is to provide independence of the manual operator and to give in tolerance speeds, as close as possible to actual times.
- d) The Boat Judge and the Driver shall jointly agree on the setting of the speed control and the allowed adjustments for wind conditions, etc., with the goal of having the machine produce actual times for each pass.
- e) If the boat officials feel that a significant change must be made in the setting for the jump event (i.e. one letter change) to obtain the proper actual time, they will notify the skier of the change when it is made, before his next jump.
- f) For each skier, a written record shall be kept of the initial setting of the speed control and any changes that are made during his turn.
- g) For Slalom: The speed control system needs to be engaged by the 55m buoy.
- h) For Jump: The manufacturer's recommendations shall be used regarding any skier selections of parameters. The skier will tell the Driver/Boat Judge the letter he wants to jump with. The driver/boat Judge may adjust if required to get the correct times. The actual letter is the relation between skier weight and best jump scored. Skier weight is considered with worn equipment without skis. Reference can be found in Jump letter charts. In an elite cash prize competition, the skiers can use the World Record distance as their best.
- i) No back up time is required when using speed control.
- J) Each currently manufactured speed control system has parameters that are to be set to provide proper and fair operation. Zero Off Parameter Adjustment Chart is included and must be followed.
- K) There must be a second display unit for the Boat Judge in slalom and jump if the speed control system is not GPS based.

Official Settings Reference Chart

Updated speed control parameters may be posted, accompanied by a revision date, and will supersede the speed control parameters printed in this Rulebook, for updates please refer to USA website.

Special Note: Speed Control systems are evolving and the most up to date information is incorporated into the Settings Chart. The IWWF is working closely with speed control manufacturers to ensure the devices meet competition needs. Notable changes are due to the incorporation of GPS which allows "virtual" buoy timing and may or may not be integrated with magnet systems. Only approved speed control systems will be supplied on competition boats.

The goal is to minimise, if not eliminate variable input except for the chosen speed.

5.03: GPS Speed Control and Timing Setup

The GPS location set up should be according to manufacturer’s specification. The Homologator and Driver must check together that the set-up is correct and according to the manufacturer’s guidelines.

5.04: Speed Control Parameter Adjustment Charts

Speed Control Parameter Adjustment Chart (rev Jan 2020)

JUMP

ZERO OFF PARAMETER	WHO DETERMINES	WHEN	TOURNAMENT MODE ONLY
TOURNAMENT MODE	Driver/Judge	Before event	TOURNAMENT MODE ONLY
BOAT SPEED	Skier	Before each pass	Set Speed in MPH/KPH
JUMP LETTER	Driver / Judge With input from skier	Before each jump Boat crew may adjust as necessary including for the first jump	Skier may adjust initial setting +/- 4 letters. Adjust as necessary. Use Jump Letter Chart as an alternative to select initial jump letter
FAST of RTB (Return to Baseline)	Skier	Before each skier based on type of 41-meter segment pull requested	Use screen to turn "RTB" either ON or OFF. With "RTB" ON setting the system will return to baseline speed
POWER FACTOR	Driver / Judge With input from skier	5.3/5.7 liter engine - start with 6 or 7 6.0/6.2 liter engine - start with 4 or 5 Boat crew may adjust as necessary	Range 0 to 15 - Raises or lowers the base speed. A lower number result in boat entering the course slower. At 3 or below there is no additional decrease in baseline (adjustments are then made to the ramp rate of the letter)
41 METER SEGMENT ADDER (Raises the boat speed in the 41 Meter segment - adds to the target speed)	Driver/Judge	Boat crew may adjust as necessary Start at 0	ADD - Range = 0 to 9 Start at 0 Adjust as needed for actual times. This number follows "Power Factor" Example - 6:0 (6 is the Power Factor and 0 is the "add")
COUNTER CUT TIME (Not typically adjusted)	Driver	Before event May be adjusted for strong head or tail wind to control speed during counter cut	Recommended: Head Wind 180 Tail Wind 170 ¾ Cut 160
GPS MAPPING	Driver & Judge	Before event and as necessary if off more than 2.5 meters	Map course when pylon is aligned with the start of the timing buoys

Speed Control Parameter Adjustment Chart (rev Jan 2020)

SLALOM

ZERO OFF PARAMETER	WHO DETERMINES	WHEN	
TOURNAMENT MODE	Driver/Judge	Before event	TOURNAMENT MODE ONLY
BOAT SPEED	Skier	Before each pass	Speed in MPH/KPH
A1, A2, A3 B1, B2, B3 C1, C2, C3	Skier Default is B2 unless skier asks for other setting	Before each pass	A = Slowest engine response B = Moderate engine response C = Fastest engine response 1 = Softest feel behind the boat 2 = Moderate feel behind the boat 3 = Firmest feel behind the boat
"+" SETTING	Skier Default is OFF	Before each pass	With "+" ON – Engine will respond quicker.
GPS MAPPING	Driver & Judge	Before event and as necessary if off more than 2.5 meters	Map course when GPS Puck is aligned with the start of timing buoys

TRICKS

ZERO OFF PARAMETER	WHO DETERMINES	WHEN	
BOAT SPEED	Skier	Before each pass	Speed in MPH/KPH
A1, A2, A3 B1, B2, B3 C1, C2, C3	Skier Default is B2 unless skier asks for other setting	Before each pass	A = Slowest engine response B = Moderate engine response C = Fastest engine response 1 = Softest feel behind the boat 2 = Moderate feel behind the boat 3 = Firmest feel behind the boat
"+" SETTING	Skier Default is OFF	Before each pass	With "+" ON – Engine will respond quicker

NOTE: Updated speed control parameters may be posted on the USA WS website, accompanied by a revision date, and will supersede the speed control parameters printed in the AWSA Rule Book. No changes shall be made between July 1 and the conclusion of Nationals.

List of Zero Off approved software

VERSION NUMBER - (Revised 01/01/2021)

ZO with ECI SINGLE PUCK (Rev S)

BOAT MANUFACTURER	ZO SOFTWARE VERSION w/ ECI SINGLE PUCK
CENTURION	E1886100S
MALIBU (2019 & Earlier)	E1886100S
MALIBU (2020 Model Yr. & Later)	E1886101S
MASTERCRAFT (2019 & Earlier)	E1886100S
MASTERCRAFT (2020 Model Yr.)	E1886101S
MASTERCRAFT (2021 Model Yr.)	E1886102S
NAUTIQUE (6.2L / 5.3L)	E1886100S
NAUTIQUE (5.7L)	E1886180S
NAUTIQUE (6.0L)	E1886190S

ZO with ECI SINGLE PUCK (Rev R)

BOAT MANUFACTURER	ZO SOFTWARE VERSION w/ ECI SINGLE PUCK
CENTURION	E1886401R
MALIBU	E1886401R
MASTERCRAFT	E1886401R
NAUTIQUE	E1886400R
NAUTIQUE (5.7L)	E1886480S
NAUTIQUE (6.0L)	E1886490S

ZO with GARMIN DUAL PUCKS (Rev R)

BOAT MANUFACTURER	ZO SOFTWARE VERSION w/ GARMIN DUAL PUCKS
CENTURION	E1886205R (latest)
	E1886102R
MALIBU	E1886256R (latest)
MASTERCRAFT	E1886205R (latest)
	E1886204R
	E1886203R
	E1886102R
NAUTIQUE	E1886303R (latest - Linc Display)
	E1886302R
	E1886203R (latest - ZO Head Unit)
	E1886202R

5.05: Approved Boats and Specific Regulations

a) PANAM Confederation Manufactured



**USA Water Ski & Wake Sports
Approved Tournament Towboats
2021**

REVISED 01/01/2021

The following list identifies those towboats successfully meeting the 2020-2021 USA Water Ski Approved Tournament Towboat Evaluation criteria and guidelines. By meeting and /or exceeding the USA Water Ski criteria for three-event towboats, the following are now "APPROVED" to pull sanctioned events. Boats are approved only as tested, and must be configured with engine, fuel delivery system, propeller, and transmission as shown below.
As Chief Driver, it is your responsibility to ensure that the Towboat Documentation Report has been completed in WSTIMS. Check with the Chief Scorer to ensure that the boats available or used during the tournament have been recorded. Use the boat models as listed below. Also, please read the Towboat Use Policy information for model year requirements.

Boat Manufacturer	Model	New/ Unmodified	Engine Mfr. & Model/Trans.	Propeller		Speed Control	
				Mfg / Model	Blades		Size
Malibu	Response TXi	New/Modified	5.3L MSDi STD 1:1	AC 525*	3	13 x 11.5 Nibrals	ZO
				AC 525	3	13 x 11.5 Nibrals	
				AC 515*	3	13 x 12 Nibrals	
				OJ 330	3	13 x 11.5 Nibrals	
MasterCraft	ProStar	New	Ilmor MV8 (6.0L) /1.26:1 Ilmor MV8 (6.2L) /1.22:1	OJ 1079-MF*	4	13.9 x 14.25 Nibrals	ZO
				OJ 867-MF	3	14 x 13.5 Nibrals	
Nautique	Ski Nautique	Unmodified	PCM H5 (5.3L) /1.23:1	AC 654*	4	12.5 x 15 Nibrals	ZO
				AC 1458	3	13 x 14 Nibrals	
				PCM ZR4 (6.0L) / 1.23:1	4	12.5 x 15.5 Nibrals	
				PCM H6 (6.2L) /1.23:1	3	13 x 14 Nibrals	
Nautique	Nautique 200	Unmodified	PCM ZR4 (6.0L) / 1.23:1 PCM H6 (6.2L) /1.23:1	AC 668*	4	12.5 x 15.5 Nibrals	ZO
				AC 1458	3	13 x 14 Nibrals	

NOTE: Props indicated with * are typically the primary prop; however, boat with engines approved with more than one propeller may use any approved prop in sanctioned tournaments.

b) Europe & Africa Confederation Manufactured

Boesch 560 Competition

Boesch 625 Competition

MasterCraft ProStar 190 VW225-6 Diesel engine MasterCraft ProStar 190 VW265-6 Diesel engine

RHEA MARINE / METHOD – Conditional Pass up to 1st July 2021

NOTE: For Record Capability and Rankings List competitions an approved boat must be used. Previously approved boats that have not been modified can be used for Record Capability and Rankings List competitions if they are equipped with an approved Speed Control System.

5.06: Boat Manufacturers Equipment

The following guidelines should be followed when using boats with equipment installed by the manufacturers:

MasterCraft Ballast/ Weight System – Tricks Only

The ProStar is approved in Tricks: 1) with a weight system; and 2) without a weight system. If the boat is used with the ballast/weight system, it must be configured as it was tested and approved.

2021 & Later – If weighted, two options: 1) 90kg (200lbs) total, using two sets of weight bags totalling 45kg (100lbs) each installed in each of the two rear compartment trays; or 2) 45kg (100lbs) total, using two sets of weight bags totalling 22.5kg (50lbs) each installed in each of the two rear compartment trays.

2020 & Earlier – If weighted, the configuration must include a full ballast / fat sack in the bilge; under the floor compartment / middle judges' seat 68kg (150lbs). In addition, 68kg (150lbs) total in the stern using two sets of weight bags totalling 34kg (75lbs) each installed in each of the two rear compartment trays.

Rear storage compartment trays are located inside the top loading access doors at the back of the boat. The ProStar is not approved with any other configuration, in other words, a user cannot simply put weight on the boat floor.

Nautique Hydrogate – 2018 & Earlier

The Nautique Hydrogate can be set in one of two positions, slalom or tricks/jump (may not be set in between modes).

- **Tricks:** The default position is the trick mode. The skier has the option of using the slalom mode. It is the skier's responsibility to inform the boat crew when choosing the slalom option. The skier may choose to change the setting between passes.
- **Jump:** The default position is the jump mode. The skier has the option of using the slalom mode. It is the skier's responsibility to inform the boat crew of slalom option prior to leaving the dock. In Class C competitions only, the skier may choose to change the setting between jumps.
- **Slalom:** The gate will remain in the slalom mode.

Nautique Hydrogate & MicroTuners – 2019 & Later

The Nautique Hydrogate has 11 settings (Zero to Ten – inclusive).

- **Slalom:** The gate will remain in the slalom mode.
Microtuners - There will be NO RE-RIDES for a setting different than requested, if the adjustment for the line length is within the Matrix provided by the company. If a rope length is selected that changes the Microtuner setting (for example the proper rope length should have had the Microtuners deployed and the chosen length did not deploy them), then a re-ride will be allowed. If a complete pass was made, there will be no re-ride.
- **Tricks:** The Trick Hydrogate will be 0 to 10. The default setting is Trick mode (10). The Hydrogate may be adjusted to a setting from 0 to 10 of Slalom (0), Middle 1 to 9 or Trick mode (10). The skier may choose to change the setting between passes.
- **Jump:** The Jump Hydrogate will be 0 to 10. The default setting is Jump mode (10). The Hydrogate may be adjusted to a setting of Slalom (0), Middle 1 to 9 or Jump mode 10. It is the skier's responsibility to inform the boat crew his Hydrogate setting prior to leaving the dock. It will remain in that position for his/her turn.

Ski Nautique Ballast System – Tricks Only – 2019 & Later

If equipped, the ballast system starting level may be chosen by the skier (0%, 25%, 50%, 75%, or 100%). The skier may select +/- 50% for his second pass based on his first pass selection. The Local Organising Committee along with the Chief Judge may set a maximum upper ballast level. If so, the skier may not exceed that limit when selecting a second pass change.

5.07: Boat Mapping

How do we map the boat?

To map Zero Off, first locate the screen in the system with the map function, select the course type (slalom or jump). Idle the boat through the entrance gates of the slalom or jump course. When the boat passes the entrance buoy as outlined below, press the Select Key or the Start Gate Button (depending on system) as outlined below:

- * **For jump**, start the mapping process when the ski pole (pylon) is in line with the start time gates (15-19 ST) and end mapping when the ski pole (pylon) is at the mid time buoys (15-19 MT).
- * **For slalom**, start mapping when the GPS puck(s)/receiver is in line with the entry gate buoys and end mapping when the GPS puck(s)/receiver is in line with the exit gate buoys.

Who should map the boat?

The boat mapping should always be performed by the Driver and another official.

When should we map the boat?

The boat should be mapped – at a minimum:

- * Each day before the start of the Slalom event.
- * Each day before the start of the Jump event.
- * Before the Slalom finals.
- * Before the Jump Finals.

If the timing beep is not in alignment with the start of the entrance gates, the boat should be re-mapped. Also, the boat should be remapped whenever the beep from the timing system is off more than 2.5 metres and the Driver and the Boat Judge agree that the boat should be remapped.

If the Driver and Boat Judge are not in agreement the Homologator will be asked to create a majority decision if the boat should be remapped.

Why do we sometimes need to re-map the boat?

Sometimes, even when the course has been mapped accurately, due to external factors, the system can lose the position precision. You will notice significant differences between the timing beep and the location of the start of entrance the course.

If this occurs during competition, and the Driver and boat Judge agree that more than 2.5 metres exists between the timing beep and the entrance gates, the boat should be re-mapped.

The Boat Judge will inform the Jury tower as soon as is practical.

What is the procedure for re-mapping the boat during the Jump event?

If the Driver and Boat Judge agree that the boat mapping is incorrect, they should:

- * Stop the boat when it is safe to do so.
- * Inform the skier that the boat may need to be remapped.
- * Re-map the boat.
- * Continue with the skier.

If a re-ride will be granted it will be only for the involved jump.

What is the procedure for re-mapping the boat during the Slalom event?

If the Driver and Boat Judge agree that the boat mapping is incorrect, they should:

- * Continue until the end of the pass and stop the boat when it is safe.
- * Inform the skier that the boat may need to be remapped.
- * Re-map the boat, as specified above.

Give the skier an OPTIONAL RE-RIDE - NO PROTECTED SCORE, for failure of competition equipment, only for the involved pass.

5.08: Skis

- a) Maximum ski width shall not exceed 30 percent of the overall length for jump and slalom skis and 35 percent of the overall length for trick skis.
- b) Any type of fixed foot bindings may be used.
- c) Devices affixed to the ski intended to control or adjust the skiing characteristics of the ski are allowed if they are fixed so that they do not move or change during actual skiing.
- d) No other devices are permitted.

- e) Skis must be safe. There must be no unnecessary sharp or abrasive (to the touch) metal, wood or other attachments to the ski which could, in the opinion of the Safety Director, inflict injury to the skier should he come in contact with the ski in a fall.

5.09: Tow Lines

The Competition Committee shall furnish single handle 23m and 18.25m tow lines constructed as in (d) below, made of a single braided, monofilament line of plastic material, with the handles and lines meeting the following specifications:

- a) Breaking load, minimum = 726kg.
All measurements of tow lines shall be made under 20kg tension and shall be made between the following points as applicable:
1) the inside edge of the handle at the point furthest from the attaching loop.
2) the inside surface, furthest from the handle, of any attaching loop.
- b) Splices shall be 15cm (minimum) long secured with tucks before and/or after the splice or knotted to prevent slipping.
- c) The tow lines may be made in one section or alternatively in two sections consisting of a single line 21.5m long for jumping, and 16.75m long for slalom, and a handle portion of 1.5m.
One-piece lines are optional, but two-piece lines must be provided by the Competition Committee, and 21.5m and 16.75m. portions must be made available. Multi-segment slalom lines may be used. The segments shall be coloured in the same sequence as the loops as shown in (5.09e).
- d) The competition supplied handle shall be made of 2.50cm to 2.80cm. outside diameter material with no sharp edges or projections, with unpainted wood or other non-slip surface or coating. The attaching ropes must in all cases go through the handle and must be attached so there is no possibility of movement between the rope and handle when in use. The minimum certified breaking load of the handle shall be 408kg applied at the rate of 290kg for a minute at two load points 9cm apart at the centre of the handle with the ends supported at the rope holes. The handle shall be attached to the rope so that it is perpendicular to the direction of the line. The handle measurement specified in (5.09f) is the end-to-end length of the handle.
- e) Tow lines to be used for the Slalom event shall have loops spliced into the line at distances from the handle of 18.25m, 16m, 14.25m, 13m, 12m, 11.25m and 10.75m to permit quick change of line length. Additional loops should be added if there is a reasonable expectation that they will be used. The lengths are as follows:
- o 10.25m
 - o 9.75m
 - o 9.50m

Due to the physical difficulty of adding splices for a 25cm shortening, a different rope may be used for the 9.5m shortening if necessary.

A tolerance of plus or minus 15cm on the distance from the loop to the handle is allowed for the rope lengths at 18.25m, 16m, and 14.25m.

From the 13m rope length on, this tolerance is reduced to plus or minus 7.5cm.

The loops must be colour coded to help differentiate between them. The colours must be clearly visible and clearly distinguishable. The following sequence must be used:

- o 18.25m red
- o 16.00m orange
- o 14.25m yellow
- o 13.00m green
- o 12.00m blue
- o 11.25m violet (blue/white)
- o 10.75m white
- o 10.25m pink
- o 9.75m black
- o 9.50m red

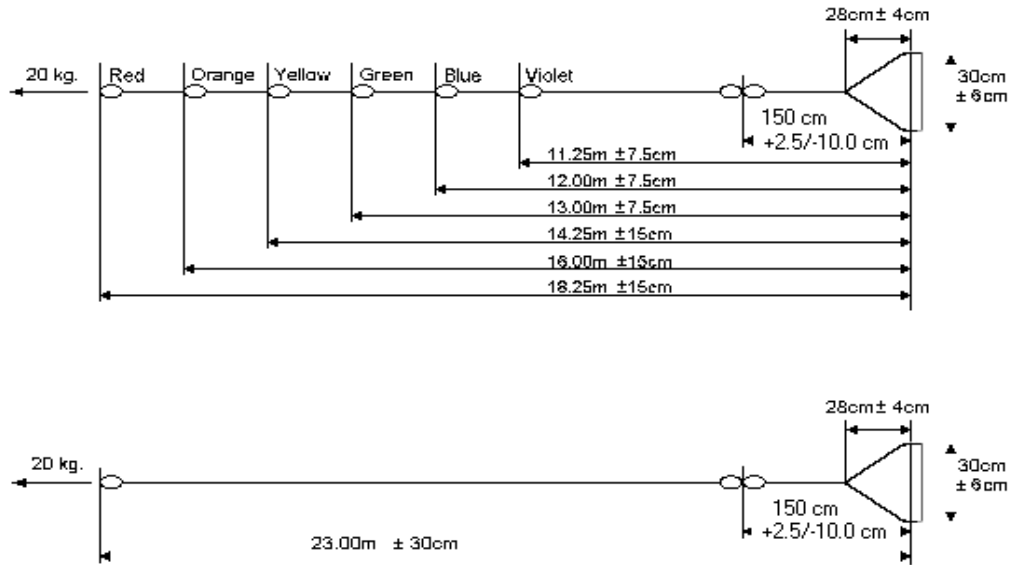
The end loop on the rope need not be colour coded.

The shortening should be done by putting the loop directly over the pylon.

Up through to the Under 14 division, light weight ropes (with or without shortening) may be used. Those ropes must meet the specification in rule (5.09a)

Breaking load, minimum = 499kg

f) Dimensions shall be as follows:



g) Differing rope specifications

Organisers will supply ropes that meet the above specifications.

Ropes may be:

- 1) the same brand with the same specifications.
- 2) the same brand with differing specifications; or
- 3) different brands altogether.

A minimum of 2 ropes of each type must be supplied and there will be no more than 2 types of rope supplied.

If different ropes specifications are used, skiers will be permitted to choose which rope to use. No re-ride will be granted if a skier receives the wrong rope.

A skier cannot provide his/her own slalom rope.

h) Slalom ropes must use a shock tube that is a minimum of 60cm and a max of 1.2m

i) A short segment of rope may be replaced by a substitute section for speed control rope tension measurement that will be at least as strong as the rope it replaces and cause no observable change in the rope performance. This section will typically be 0.5m. The remaining rope will be adjusted so that all lengths and tolerances are met from (5.09f) with the substitute section included.

j) Optionally, in the jump event, a "Spectra" line may be supplied. In this case, a standard line must be available for use as well. The "Spectra" line specifications shall meet at a minimum the following requirements:

Breaking load, minimum = 726kg.

The skier may supply his own rope under his own responsibility which may be any combination of "Spectra" rope and/or normal rope (5.09a). The skier must get the line checked by the Homologator prior to skiing.

National Federations or Organisers may decide not to allow skier supplied ropes at smaller events.

It is the responsibility of the Tow Line manufacturers to ensure their product meets these specifications.

5.10: Tow Lines for the Trick Event

The contestant must furnish his own line and handle for the Trick event of any length and of any dimensions or material.

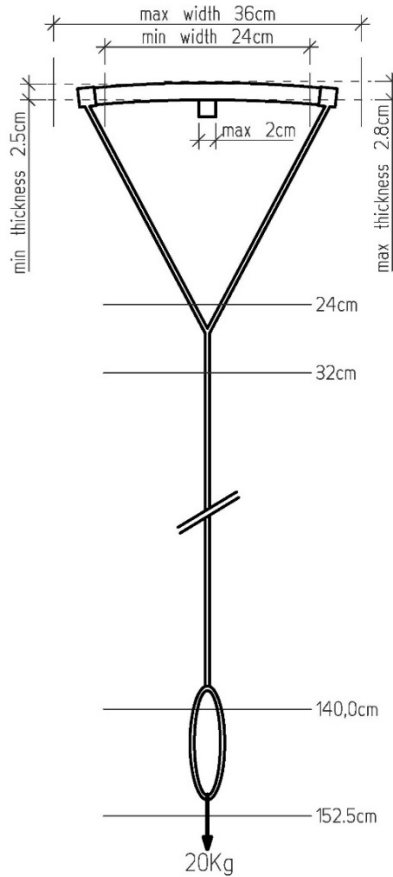
5.11: Skier Supplied Handle in Slalom and Jump

For Slalom and Jumping, each competitor may furnish his own handle to be attached to the competition line providing he notifies the Jetty Marshall, at least three skiers on the starting list before his turn, of his wish to change handles. It's the skier's responsibility that the handle is in tolerance after skiing.

The handle may be of any material.

The length of the handle attachment measured from the inside surface of the attaching loop furthest from the handle to the inside edge of the handle must be 1.50m +2.5cm / -10.0cm.

The handle must conform to the dimensions shown in the diagram below.



5.12: Radio Communication

Radio communication between a coach and competitor while skiing is permitted.

The instrumentation worn by the skier must be of a type such as not to be dangerous to the skier in case of a fall.

The responsibility for the system used is entirely that of the competitor.

System malfunction or interference in transmission, cannot be used as a reason for a re-ride request.

5.13: Video Specifications

Video to be used:

For Judging purposes and record review process, only video from the official cameras can be used.

The official camera may be any video from the same view (example from boat) as determined by the Homologator and Chief Judge

Video Property:

All videos become the property of IWWF and shall be kept in the custody of the Chief Judge during the competition. At the end of the competition the responsibility of the videos goes to the organiser, who must keep them in custody or uploaded to a suitable storage site for one year, in such a way that they are available if required by IWWF.

Rule 6 – Boat Speed and Tolerances

6.01: Boat Speeds

All speeds are speeds over the bottom. The boat path in all events is intended to be a straight line and the speed must meet all indicated time chart requirements.

6.02: Tolerances (see also Rule [1.09](#))

All indicated speeds in Slalom and Tricks shall be accurate to plus or minus 1kph. For a speed to be considered accurate, the maximum and minimum speeds recorded in the course, as noted by the official in the boat, must be within the tolerances allowed. In the Slalom event, the average speed in the course must fall within the tolerances allowed (see Rule [8.04](#)). The speed may vary a maximum of 1kph for a distance before entering the competition course and be maintained until the skier is out of the course. If, in the opinion of the official in the boat, the tolerance was exceeded, a re-ride will be mandatory if the speed variation was advantageous to the skier. If it was disadvantageous to the skier, he will have the option of a re-ride.

In the jump event, it is the responsibility of the driver to set the speed control to the base speed and cut letter selected by the skier (see Rule [10.04](#)). If the time does not meet the criteria in any segment, the driver will make the allowed appropriate adjustments to make it meet the timing chart. If, in the opinion of the boat judge, the speed before or after the timing course was a disadvantage to the skier, he will be given the option of a re-ride. It is intended that the speed control drive the boat at a constant speed through the 52m segment so that the speed the boat enters the 52m segment is the speed that it leaves the 52m segment.

6.03: Accuracy of Timing Devices

Timing devices in all events shall be accurate to at least 5 parts in 10,000 (.01 sec. per 20 sec.). Any timing device used in a competition must be checked for accuracy by the Chief Judge, Homologator, or World Waterski Council representative.

For a new design to be approved, the manufacturer must supply its test data and test method information to the World Waterski Council for approval.

SECTION 2 – THE SPORT RULES

Rule 7 – Definitions and General Rules

7.01: Competition Area

The suggested competition layouts are shown in Rules [8.17](#), [9.23](#) and [10.15](#). The dimensions of the courses shall be as indicated however, the layout of the competition area may be varied to suit the competition site. No buoys or markers other than those indicated by Diagrams in Rules [8.17](#), [9.23](#) and [10.15](#) and video jump measurement buoys are permitted within the competition area except to mark safety hazards, landing or starting areas, or turning buoys. Any such buoys shall be distinguishable from competition buoys and shall be pointed out to skiers at the start of the competition.

The entrance of the courses for each event are defined as follows:

Slalom: The start gates of the slalom course on the first pass

Jump: The 180m buoy on each pass

Tricks: The first trick buoy on each pass

7.02: Definition of a Fall

A fall in any event is defined as accomplished when any one of the following occurs:

- a) The skier loses possession of the tow line.
- b) The skier does not have at least one ski on one foot.
- c) The weight of the skier is not primarily supported by his ski or skis and in addition, the skier is ultimately unable to regain skiing position.

7.03: Definition of Skiing Position

Skiing position is defined as that position in which all the following exists:

- a) The skier has possession of the tow line.
- b) The skier is riding forward or backward with a ski or skis on his feet.
- c) The weight of the skier is entirely supported by his ski or skis or the skier is ultimately able to regain control.

7.04: Start Dock Management

The Organiser with the agreement of the Chief Judge should appoint a suitably qualified person as the Jetty Marshall. Any skier who fails to be on hand and ready to ski when the boat is prepared to start shall be disqualified from the remainder of the event however, the Jetty Marshall may grant up to one additional minute of time for emergencies developing or discovered just prior to the skiers turn to ski (e.g. ripped binding).

In the case where a skier has been disqualified or has scratched, a one-minute delay shall be granted to the next skier in the starting order. If more than one skier has been disqualified or has scratched, the time allotted to the next skier shall be one minute for each skier disqualified or scratched.

Rule 8 – Slalom

For the boat, see (5.01), for the tow lines (5.09) and (5.11), and for the tolerances see (1.09), (8.05) and (8.16). There may be 2 or 3 people in the boat for slalom.

8.01: General Slalom Event Rules

The skier shall follow the tow boat through the entrance gate of the slalom course (8.17), pass around the outside of any or all 6 buoys and proceed through the far end gate (**constituting a complete pass**) making the turn and returning through the course in a similar fashion, until he misses a buoy or a gate or falls.

The boat shall follow a straight path as close as possible to the centreline of the course. This path shall be maintained from the entrance pre-gates and continue for as long as the skier is in the course.

The skier may elect to waive all passes below a selected rope length (or speed should the Event Judges lower the minimum starting speed). In such cases the skier may notify the Jetty Marshall of his selected rope length (or speed) any time before he starts his run. A skier who fails to select his starting speed at the specified time, will start at the maximum starting rope length and minimum speed for the event. Further optional selection of slalom passes is also allowed.

If the skier elects to skip one or more passes, (at the beginning or at any other time during his turn), to receive credit for the skipped pass(es), he/she must make a “complete pass”. If not, the skier will receive credit for buoys at what would have been the first immediately sequential skipped speed, or the first immediately sequential skipped line length if the speed selected is the same, or in case of first pass at the minimum starting speed/rope length for that round.

When a skier starts with a rope length shorter than 18.25m, for all passes below maximum speed, scoring will be as if the skier had used an 18.25m rope.

A skier cannot select a start speed lower than the minimum start speed established for the division in that round.

Example

Division shortening speed 49			Division shortening speed 49			Division shortening speed 49		
Pass 1	43/14,25	score 6	Pass 1	49/14,25	score 4	Pass 1	43/14,25	score 6
Pass 2	46/14,25	score 6	Final score 4,00 at start speed			Pass 2	46/14,25	score 6
Pass 3	49/14,25	score 3				Pass 3	49/14,25	score 6
Final score 3,00@49/18,25						Pass 4	49/13,00	score 2
						Final score 2,00@49/13,00		

8.02: Shortening speeds

Division	Shortening Speed Women/Girls	Shortening Speed Men/Boys
Under 10	shorten @ 49 kph	shorten @ 49 kph
Under 14	shorten @ 52 kph	shorten @ 55 kph
Under 17	shorten @ 55 kph	shorten @ 58 kph
Under 21		
Open		
35+	shorten @ 55 kph	shorten @ 55 kph
45+	shorten @ 52 kph	shorten @ 55 kph
55+	shorten @ 52 kph	shorten @ 55 kph
65+	shorten @ 49 kph	shorten @ 52 kph
70+	shorten @ 49 kph	shorten @ 52 kph
75+	shorten @ 46 kph	shorten @ 49 kph
80+	shorten @ 46 kph	shorten @ 49 kph
85+	shorten @ 46 kph	shorten @ 46 kph

In any further passes, the rope shall be shortened as shown in Rule (5.09e).

If, in the opinion of the majority of the Event Judges, the water or weather conditions require it, the speed of the first pass may be lowered from the one specified in the Competition Rules.

8.03: Entering the Course

A skier may refuse to enter the slalom course on his first pass by throwing the handle in the air. He shall not be penalised for so doing providing this refusal was for a reason judged acceptable by the Event Judges. The skier must be ready to ski immediately upon the boat's return. Should the skier not be ready, or should the reason be judged not acceptable by the Event Judges, he shall be disqualified from the remainder of the event.

8.04: Damaged Equipment

If, between the start dock and the gate buoys on the first pass, a skier notices that his equipment is damaged, the Event Judges may grant him 3 minutes to repair or change the broken equipment and to continue competing. Once a skier has entered the slalom course on the first pass there is no time given to repair damaged equipment unless the skier has damaged his equipment during a run that leads to a re-ride (for example hitting debris or other floating object) he must be back on his skis within 3 minutes from the time the re-ride has been granted or he is not allowed to continue in the round. If the skier is not able to continue, in the case of a mandatory re-ride, the pass that brought about the re-ride is scored to the last good buoy time.

If the skier is not able to continue, in the case of an optional re-ride (and the skier is not back on his skis within 3 minutes), he is credited with the score obtained in the run that brought about the re-ride.

8.05: Boat Times

Boat speed will be verified by an automatic timing system.

Timing used for boat speed verification, shall be from the entrance gate to the boat gate following the buoy at which the last full point is scored in the pass.

Times must be recorded to the 100th of a second. Recorded is defined here as being recorded in the boat or transmitted by radio from the Boat Judge, who is verifying the times from the speed control system, to the scorer.

The times driven should be as close to the actual times as possible. This will be monitored by the Chief Judge. Where the speed is faster than allowable, and the skier has not made a perfect pass, he shall have the option of a re-ride but shall not be scored less than the score obtained on the pass leading to the re-ride.

If the skier has an imperfect pass, the boat judge shall determine by appropriate means, whether the skier wishes to take a re-ride. If a re-ride is to be taken, the boat shall immediately return through the course in an unscored pass, and the re-ride shall then follow in the original direction through the course.

Where the applicable speed is slower than allowable, a re-ride shall be mandatory. If the pass was not a perfect pass, the skier may not improve his score over that obtained on the slow pass, unless the speed is so slow that it is equal to or below the fast tolerance of the next slower pass. If the pass was a perfect pass, the skier may choose to proceed to the next pass instead of repeating the pass. If the skier then makes a perfect pass, he receives credit for both passes. If the pass is missed, he will receive credit for the buoys made as if it were the lower skipped pass.

In the event a competitor inadvertently receives a speed higher or a rope length shorter than the intended pass, the skier will be given the option of receiving credit for the actual score, accepting credit for the originally requested speed or rope length (assuming a perfect pass), or taking a re-ride.

In the event a contestant inadvertently receives a speed slower or a rope length longer than the intended pass, the skier will be given the option of proceeding to the next pass which follows the intended pass (assuming the pass taken was perfect), or taking a re-ride, or receiving the score for what was actually skied. If there are more than two (2) re-rides, the skier shall have the option of requesting a five-minute rest before continuing. The rest time will not be allowed to affect the skiing order if it is seeded or in the finals of a major competition.

Missed Times - if the applicable segment time is missed the skier may accept the highest scores with a good applicable segment time or receive an optional re-ride with a protected score equal to the highest score with a good applicable segment time.

Note: if no times are recorded rule [12.02](#) applies. Additionally, if the skier has made a complete pass, the skier may opt up at his own risk.

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Slalom Boat Times

Speed	Score:	0-0.50	1-1.50	2-2.50	3-3.50	4-4.50	5-5.50	All 6
Kph	Fm/To:	E-1	E-2	E-3	E-4	E-5	E-6	E-X
58	Fast	1.64	4.15	6.67	9.20	11.73	14.25	16.00
	Ideal	1.68	4.22	6.77	9.31	11.86	14.40	16.08
	Slow	1.71	4.28	6.84	9.41	11.97	14.53	16.16
55	Fast	1.73	4.37	7.03	9.69	12.35	15.02	16.86
	Ideal	1.77	4.45	7.13	9.82	12.50	15.19	16.95
	Slow	1.80	4.51	7.23	9.93	12.64	15.34	17.04
52	Fast	1.83	4.62	7.43	10.24	13.05	15.87	17.72
	Ideal	1.87	4.71	7.55	10.38	13.22	16.06	17.93
	Slow	1.91	4.78	7.65	10.52	13.39	16.25	18.13
49	Fast	1.94	4.90	7.87	10.85	13.83	16.81	18.78
	Ideal	1.98	5.00	8.01	11.02	14.03	17.04	19.03
	Slow	2.03	5.08	8.13	11.18	14.22	17.27	19.27
46	Fast	2.06	5.21	8.37	11.54	14.71	17.88	19.98
	Ideal	2.11	5.32	8.53	11.74	14.95	18.16	20.27
	Slow	2.16	5.42	8.68	11.93	15.18	18.42	20.56
43	Fast	2.20	5.56	8.94	12.33	15.71	19.10	21.34
	Ideal	2.26	5.69	9.13	12.56	15.99	19.42	21.68
	Slow	2.32	5.81	9.30	12.78	16.27	19.75	22.03
40	Fast	2.36	5.97	9.60	13.23	16.86	20.50	22.89
	Ideal	2.43	6.12	9.81	13.50	17.19	20.88	23.31
	Slow	2.50	6.26	10.02	13.78	17.53	21.27	23.74
37	Fast	2.54	6.44	10.35	14.27	18.19	22.11	24.70
	Ideal	2.63	6.62	10.61	14.59	18.58	22.57	25.20
	Slow	2.71	6.79	10.86	14.93	18.99	23.06	25.73
34	Fast	2.76	6.99	11.24	15.49	19.74	23.99	26.81
	Ideal	2.86	7.20	11.54	15.88	20.22	24.56	27.42
	Slow	2.95	7.41	11.85	16.29	20.73	25.16	28.08
31	Fast	3.02	7.65	12.29	16.93	21.58	26.24	29.31
	Ideal	3.14	7.90	12.66	17.42	22.18	26.94	30.08
	Slow	3.25	8.15	13.05	17.93	22.82	27.70	30.90
28	Fast	3.33	8.43	13.55	18.68	23.81	28.94	32.33
	Ideal	3.47	8.74	14.01	19.29	24.56	29.83	33.30
	Slow	3.61	9.07	14.51	19.94	25.37	30.80	34.37
25	Fast	3.71	9.40	15.11	20.83	26.54	32.26	36.04
	Ideal	3.89	9.79	15.70	21.60	27.50	33.41	37.30
	Slow	4.07	10.21	16.34	22.46	28.58	34.68	38.70

8.06: Slalom Towers

The slalom judging towers shall be braced structures having a platform with railing. The floor of the tower shall be a minimum of 3m above the water surface.

They may either rest on the bottom or be securely anchored in position. The use of two slalom judging towers is mandatory, located on different sides of the slalom course, in suitable viewing positions. (Note alternate allowed variations are shown in [8.13](#))

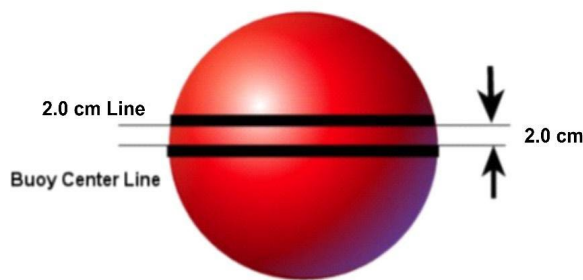
The judging area on each side of the course shall be located within 44 degrees +/-3 degrees from the course centreline on a line passing through the centre of the entry gates as shown in [\(8.19\)](#).

8.07: Buoys

a) Colour of buoys shall be selected for maximum visibility. A fluorescent yellow or red paint is recommended.

Rule 8 – Slalom

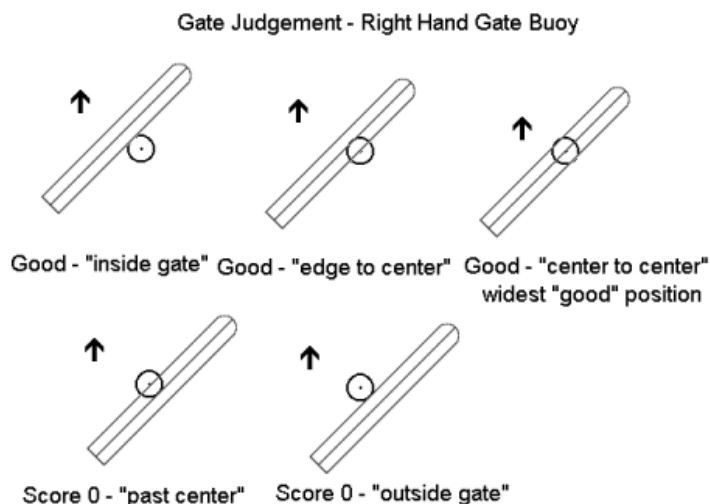
- b) Guide buoys used within the slalom course shall be a different colour from the gate and slalom buoys used by skiers.
- c) Spherical boat guide buoys shall be a minimum of 22cm in diameter. Cylindrical or rectangular solid guide buoys shall have a cross sectional area greater than 75sq cm. and less than 450sq cm.
- d) Slalom skier buoys shall be 20cm to 28cm in diameter. 20cm is recommended. Slalom gate buoys shall be 20cm to 28cm in diameter. 20cm is recommended. These buoys shall also be generally spherical above the waterline.
- e) Slalom buoys shall be of a lightweight, pliable material with smooth exposed surface.
- f) Each buoy shall have a strong loop for attaching anchor lines. The buoys must be attached to the anchor line using a system that will tighten the buoy in such a way as to ensure that it does not move around from its position.
- g) Gate buoys shall be fastened so that they have 10cm to 17cm of height out of the water (11.5cm recommended)
- h) Skier buoys shall be fastened so that they have 8cm to 17cm of height out of the water (8.5cm to 9cm recommended). It is recommended that a line or mark be made on the buoy at the 8cm limit so that it can be easily determined that the buoy height is in tolerance.



- i) Cylindrical or rectangular solid boat guide buoys shall be fastened so that at least 15cm but not more than 30cm of the buoy is above the waterline. They shall appear vertical.
- J) If cylindrical or rectangular solid guide buoys are used, they shall be fastened so that the distance between the inside edges of the buoys (boat tunnel width) shall be 2.05m+/-15 cm.

8.08: A Miss or "Riding Over"

- a) **Skier Turn Buoys.** It is a miss to ride inside a turn buoy, or to ride over, straddle, or jump a turn buoy. There is no penalty for grazing a turn buoy with the ski or part of the body. Riding over shall be defined as hitting a turn buoy with the ski so as to move it significantly from its position or temporarily sink it. Hitting a turn buoy less severely shall be considered as grazing.
- b) **Entrance & Exit Gates.** It is a miss to ride outside the entrance or exit gate, but there is no penalty for grazing a gate buoy with the ski or part of the body. A skier shall be judged as missing the entry or exit gate when the centre of the ski passes to the outside of the centre of the gate buoy as shown in the diagram below.



8.09: Scoring Buoys

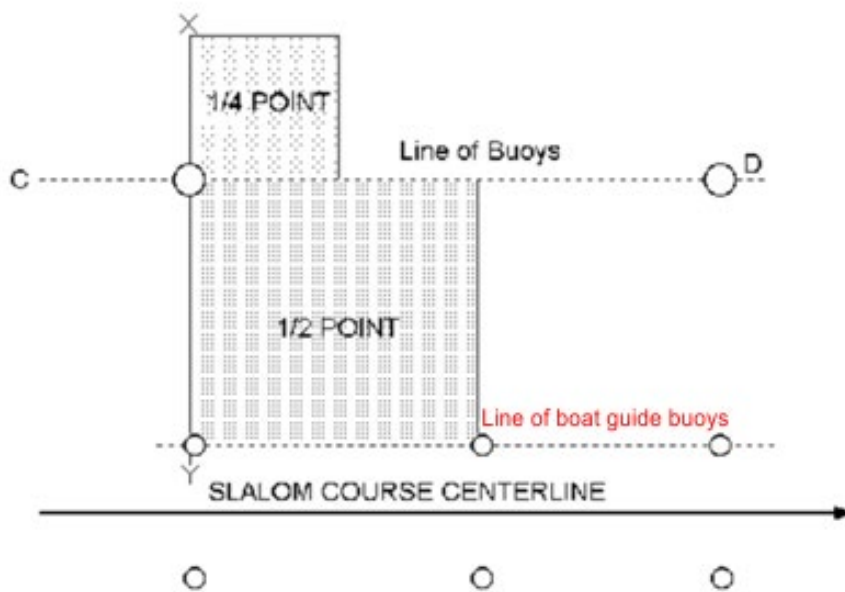
A buoy not missed is scored as follows, up to the point of the first miss:

- a) 1/4 point when the skier crosses the line C-D AND the X-Y line in a skiing position (7.03). (See sketch).
- b) 1/2 point when the skier has re-crossed line C-D in skiing position (7.03) before the level of the next buoy or exit gate.
- c) **Except for the exit gate (after passing buoys 1-5), 1 point when the skier has crossed the line of the next boat guide buoys not later than the level of the next buoy (e.g., after skiing around buoy 1, the skier must cross the line of the boat guide buoys at or before the level of buoy 2), in skiing position, with a tight line under the power of the boat. The intent of the tight line is to ensure the safety of the skier. This means that if the skier can only cross the line of the buoys with a slack line then he will not get the full point so there is no reason to try that.**
- d) **For the exit gate (after passing buoy 6), 1 point when the skier has crossed the line of the exit gate in skiing position, with or without a tight line under the power of the boat. The skier is permitted to have a slack line at or through the exit gate.**

If the skier passes through the exit gate and does not fall (before or after passing through the exit gate), the skier may continue to the next pass.

If the skier fails to go through the exit gate (passing outside the right-hand side of the exit gate) or falls after having crossed the line of the boat guide buoys, before or after the exit gate, the skier scores 6 buoys, with no continuation.

If the skier passes outside the left side of the exit gate or falls before having crossed the line of the boat guide buoys, skier scores 5½ buoys (see Rules 8.09(b) and 8.10).



8.10: The End of the Run

A competitor in either a preliminary or final round may continue to run the course as provided in 8.01 until he misses a buoy, entrance or exit gate or fall, at which point his scoring ends for that round.

8.11: Event Scoring and Placement

Event placement for skiers will be made according to the specific Competition Rules.

Six points shall be added to the skier’s score for each pass he elects to waive under the provisions of (8.01) provided his first pass is perfect. A skier who waives one or more passes and whose first pass is not perfect shall receive only the points scored in that pass without additions for the passes waived.

8.12: Ties

Ties will be broken by using the specific rules defined for each Competition. If no specific rule has been defined the following applies:

If a tie exists for first place, it shall be run-off. If a tie exists for 2nd or 3rd place, placement shall be decided based on the higher preliminary round score. If a tie still exists, it shall be run-off. The run-off shall have a new drawing for order.

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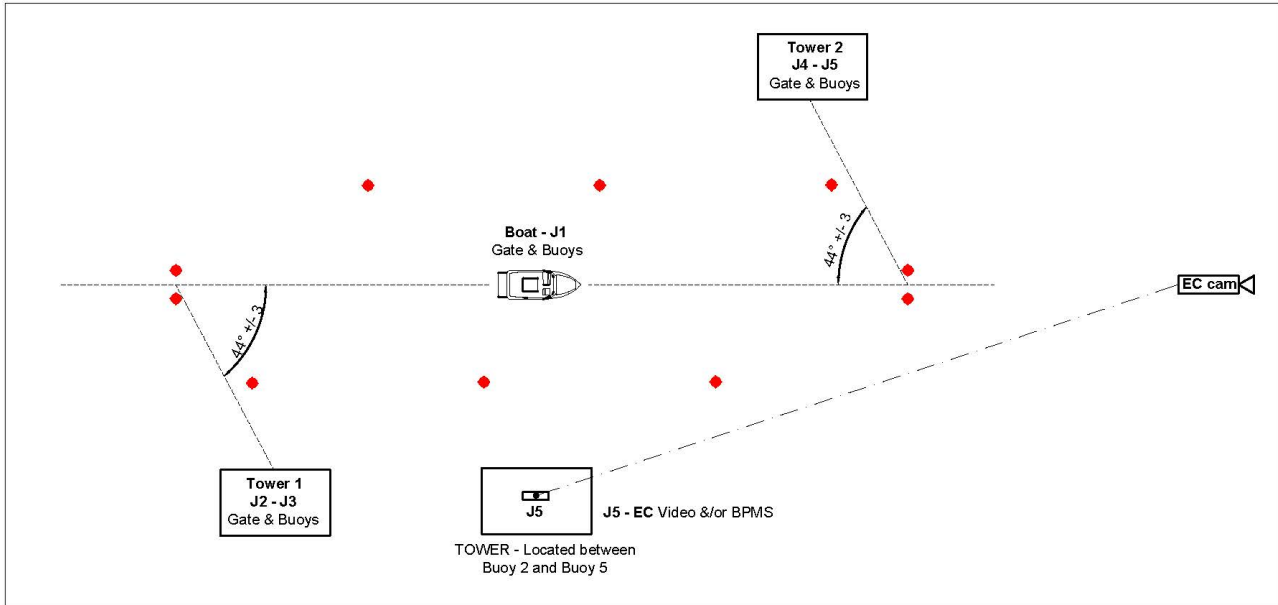
The tie breaking run shall begin with the scheduled speed and rope length of the last complete pass and conclude with the first miss. If another tie results, the tie shall be run-off in the same manner with another new drawing for order. This process shall be repeated until a winner is determined. The skier may optionally skip any pass in the run-off.

When a run-off for first place is between more than two skiers, all the places equal to the number of skiers in the run-off are decided by the run-off with no reversion to the preliminary round score except that the preliminary round score would be used if two or more skiers are still tied for 2nd and 3rd places after the run-off.

8.13: Slalom Judging

Depending on the technology available there are different ways of Judging slalom.

5 Judges



There shall be a Judge in the boat and two Judges in each of the slalom judging towers. The entrance and exit gates shall be judged by the two Judges closest to each gate and by the Boat Judge. Skier buoys shall be judged by all five Judges.

At the end of each run, the Judges will score the run as follows:

- The first decision to be made will be if the skier has gone through the entry gate. That decision will be made by the appropriate three Judges as specified above.
- The second decision to be made is the skier's score by buoy count. A judge who might have felt that the skier missed the gate and thus scored 0 will continue scoring and state his final score as 0 with a continuation of X buoys where X is the score that he would have given the skier if he felt that the gate had been made.
- The scorer will first determine if the skier was judged as having made the gate. If the skier made the gate, the scorer will then award to the skier the highest score agreed upon by the Judges based on their submitted scores. Thus, if the scores are 1, 1, 3.25, 3.50, 3.50, the skier's final score is 3.25, a majority of three Judges having given this score.

The scores called in by the Judges will be considered final.

The score shall be finalised before the next competitor is permitted to start.

Gate camera

If it is not feasible to place the slalom judging towers at the prescribed angle, a video camera may be mounted at the proper angle and the camera feeds will be displayed on a monitor on a central Judges tower, the Judges can observe the gate and the gate judgement will be made from the monitor. The camera must be positioned at least at the same height as that prescribed for the Slalom Tower (rule [8.06](#)) and must be high enough so that the buoy is not hidden by the spray of the boat wake/rooster tail.

The signal will be recorded so that review is possible. A pole mounted boat camera may be used in conjunction with normal gate cameras to get a view that allows the most accurate result.

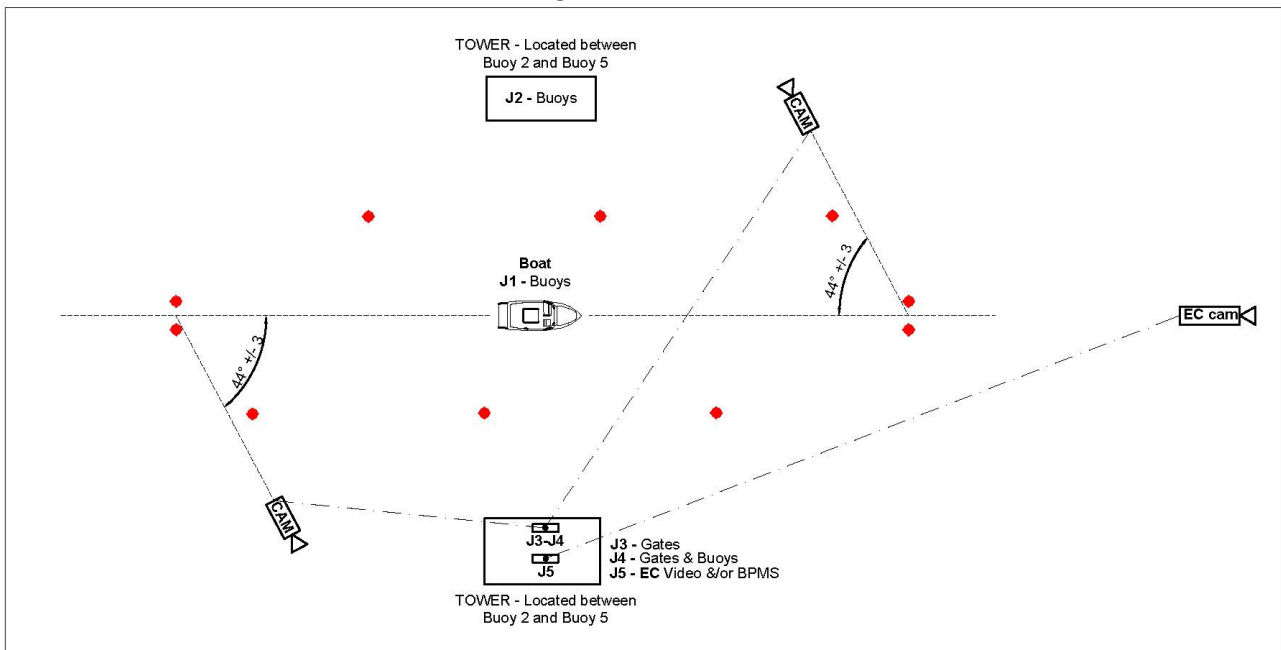
The central Judges tower needs to be placed between buoy 2 and 5 on the relative gate-side of the course.

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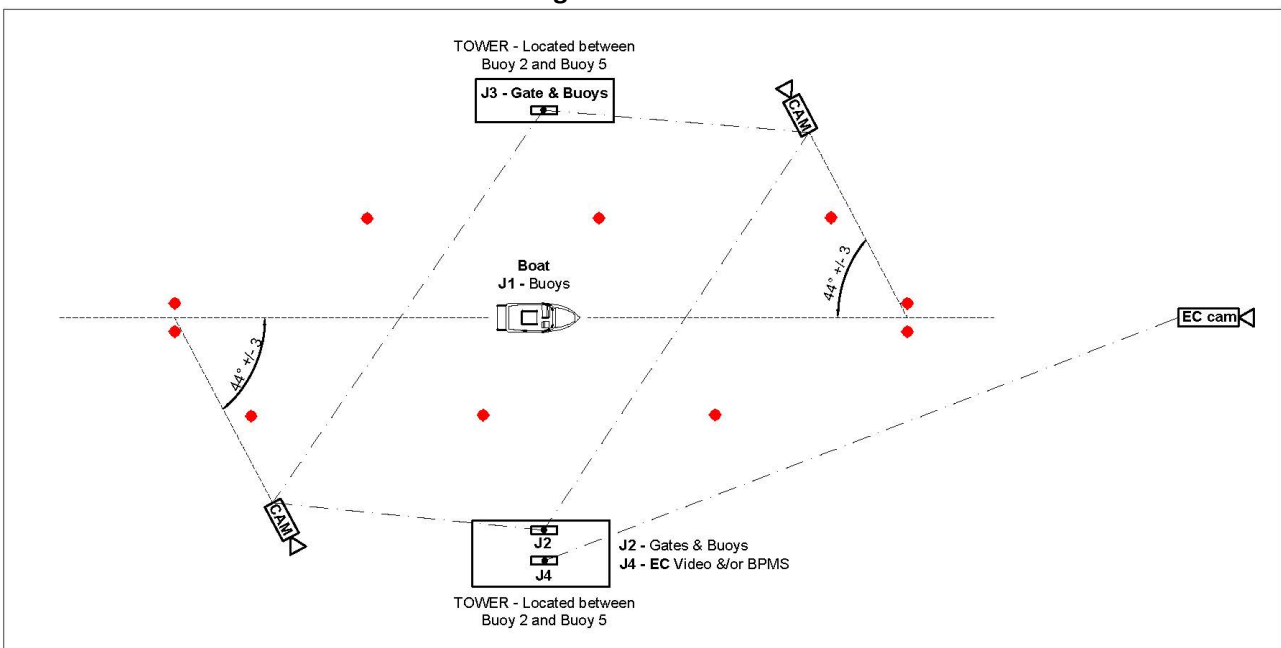
The size ratio of the gate buoys on the TV screen shall be 1/6th of the full width of the screen minimum with 1/3rd recommended.

Video gate review may be done at normal speed, slow motion or frame by frame in order to get the right score.

4 Judges with Gate Video



3 Judges with Gate Video



To use this Judging method all the following needs to be met:

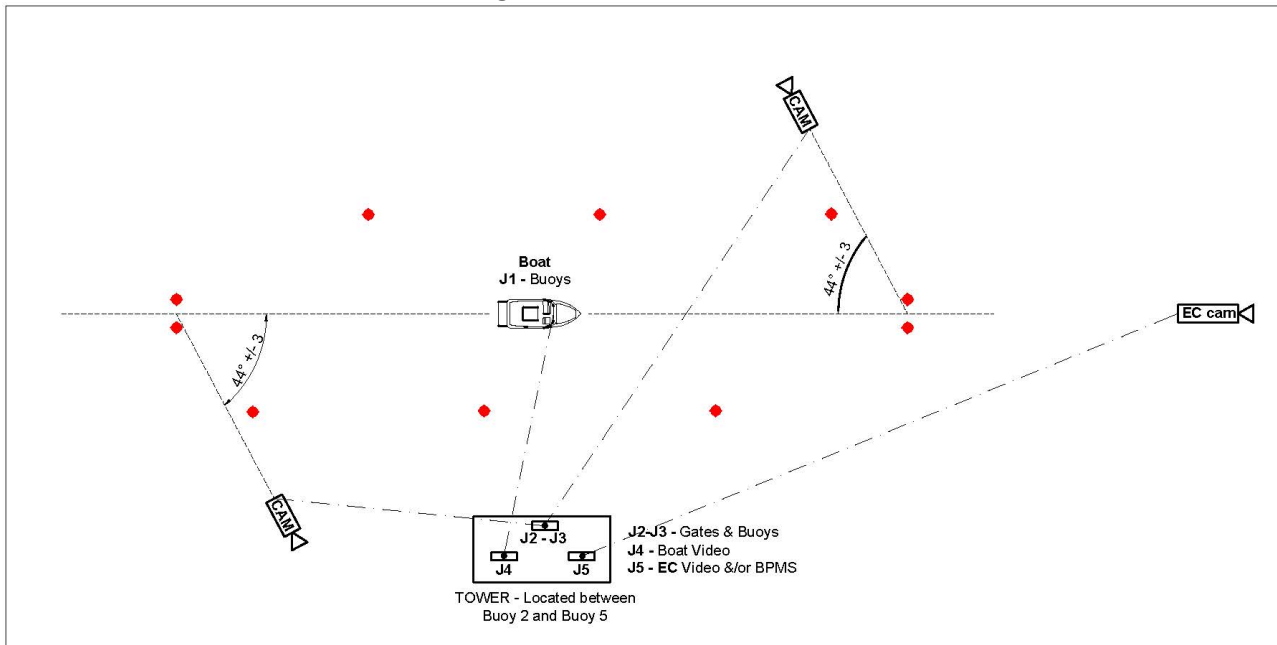
- * Each gate must be judged by two Judges using video feeds from cameras placed at the required angle and height to the gates at each end. These camera feeds will be recorded and displayed on a monitor and taped. Each Judge will independently call the entrance gate by observing the monitor. In this case, only the tower Judges determine the gate call. If one or both Judges did not observe the entrance gate, then the Judge will replay the video to make the call. If both Judges disagree the Chief Judge or an appointed Judge will cast the deciding vote. A gate can be reviewed, as described above, for a maximum of 2 times, then the call must be made. The exit gate will be viewed directly but the video may be used by one or both Judges to resolve any questions. In an 8 buoys slalom course the exit gate will be viewed directly but the boat video may be used by one or both Judges to resolve any questions.

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* The skier buoy count will be made by the Boat Judge and two Judges, one on each side of the lake in a symmetrical placement and within 44 degrees (or buoy 2) to the centre of the course. Unless boat video is used where the two shore Judges may be on the same side in a central location between buoy 3 and 4 with the same height requirements.

It should be noted that there are other possible options and configurations but in all cases the number of Judges required for gate judging and buoy judging is as detailed in the above paragraph. The exact number of Judges will depend on if a particular Judge has responsibility for the gate or the buoy, or both.

4 Judges with Gate and Boat Video



When boat video is used, the boat video will be monitored on the tower by another Judge who will advise the Chief Judge if he disagrees with the event Judges decision. In which case the Chief Judge and the review Judge will again review the video file to determine which score is correct.

If they both agree on a score, that will be the given score. If they disagree or agree that the video does not clearly overrule the score given by the Judges, then that score will stand.

If no other Judges are available the Chief Judge may act as boat video review Judge, and if he disagrees with the Event Judge's decision he will ask the Judges to look at the video and the final score will be decided on by simple majority.

For L competitions, in the case where another Judge or Chief Judge is not available (as stated above), and the boat video is available for immediate playback at the shore Judge's tower, the 2 shore Judges will re-review the boat video to determine the final score when the Boat Judge score was different from the 2 shore Judges, or if they deem it is necessary to decide the final score.

8.14: Safety Equipment

All competitors in Slalom events shall be required to wear an approved life jacket ([4.03](#)).

8.15: Boat Path/End Course Video

The Boat shall follow, as closely as possible, a straight path on the centreline of the course. This path shall be maintained from the entrance pre-gates and continue for as long as the skier is in the course.

End Course Video

End course video shall be recorded for all passes 11.25m and shorter. A rigidly mounted video camera shall be operated from a point on the centreline on at least one end of the slalom course, adjusted to show all of the boat guides in clear focus, and equipped with optical (not digital) magnification of sufficient power to display the far entrance/exit gate occupying at least 1/6th of the full width of the screen (1/3 width or larger is recommended).

The video file shall be forwarded to the Confederation Waterski Council immediately after the competition. All passes at 11.25 and shorter are subject to review by Council for compliance to rules ([1.09](#))

Rule 8 – Slalom

(8.01) and (8.15) including boat path cumulative deviation. Any passes that do not conform may result in the associated score being changed on or removed from the IWWF standings lists.

Boat Path Measurement System

A Boat Path Measurement System, (BPMS) is required for Titled Events (World or Confederation), World Cup and Elite Events during which all passes at 14.25 and shorter must be monitored with applicable tolerances and rules applied.

BPMS is recommended for “R” and “L” events. If used officially in “R” or “L” events, all passes at 11.25 and shorter must be monitored with applicable tolerances and rules applied. If used unofficially (information only) all rules regarding End Course Video must be followed (see BPMS not in use).

BPMS may be RTK-GPS or Video based. The use of RTK-GPS systems is strongly recommended.

Mandatory Re-rides

There shall be no more than one mandatory re-ride for boat path deviation in a single pass. If during the mandatory re-ride the boat deviation would require another mandatory re-ride then the score given will be the maximum score in tolerance on the re-ride pass. No re-ride. In this case the Chief Judge shall warn the driver that the driving is not acceptable, and the driver may be replaced.

Multiple Buoys out of Tolerance

If the boat path is out of tolerance at more than one buoy in a single pass, then the FIRST out of tolerance occurrence must be used.

Example:

Buoy 2: 23cm away from the skier – Optional Re-ride

Buoy 5: 25cm toward the skier – Mandatory Re-ride

The skier gets an optional re-ride. Protected score 4 buoys. Score can improve.

If they do not accept the re-ride then the score is 4 buoys.

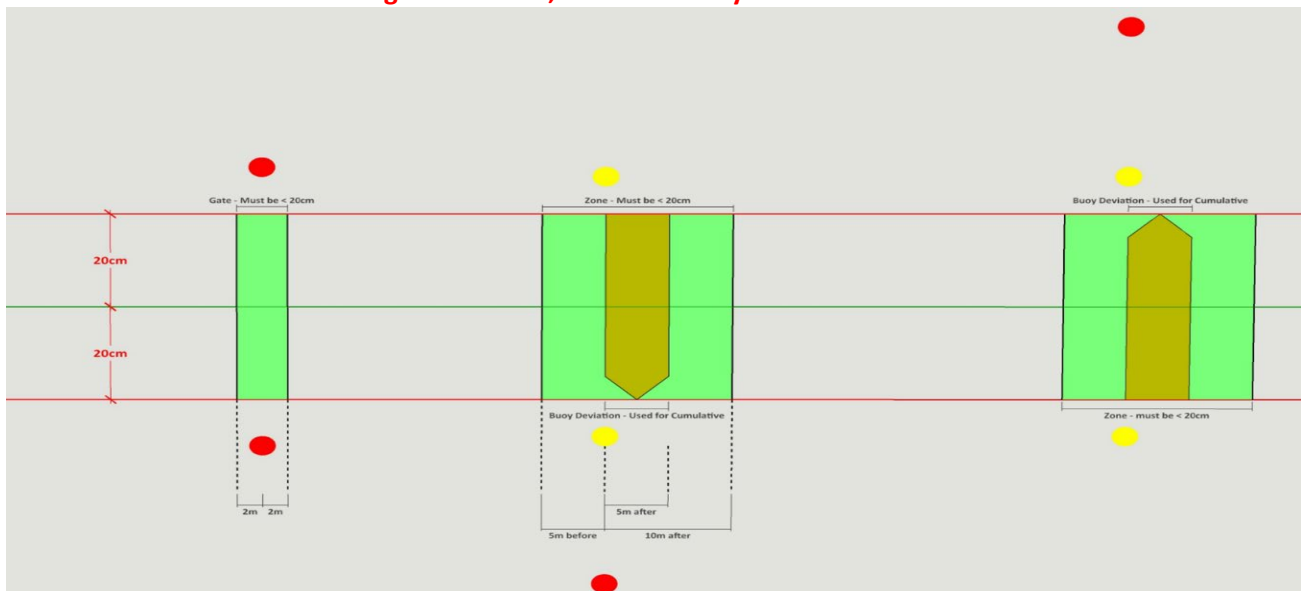
Example:

Buoy 2: 23cm toward the skier – Mandatory Re-ride

Buoy 5: 25cm away from the skier – Optional Re-ride

Mandatory re-ride. Skier can accept score of 1 buoy. No protected score. Score can improve.

Diagram 1 - Gate, Zone and Buoys area definitions



a) BPMS in use

The BPMS will be installed, setup and calibrated according to the homologation guidelines under the responsibility of the Homologator.

If RTK-GPS is used along with a judge's application which displays deviation in the Judge's Tower, the monitoring of end course video in the judge's tower is optional.

The Chief Judge will assign a judge or driver to monitor the BPMS and award re-rides on the following criteria:

1) Entry Gate

The Entry Gate Deviation is the maximum deviation measured when the pylon is from 2 metres before the Entry Gate to 2 metres after the Entry Gate.

If the Entry Gate Deviation is more than 20cm to the left or right of centreline a mandatory re-ride will be awarded. No protected score.

2) Zone

The Zone Deviation is the maximum deviation measured when the pylon is from 5 metres before the buoy to 10 metres after the buoy.

If the Zone Deviation is more than 20cm Away (negative) from the Skier an optional re-ride will be awarded. The skier can improve. The score is protected.

If the Zone Deviation is more than 20cm Toward (positive) the Skier a mandatory re-ride will be awarded. The skier can improve. The score is not protected. The skier may decide not to take a re-ride and accept the score that was achieved within tolerance.

3) Buoy

The Buoy Deviation is the maximum deviation toward the skier measured from when the pylon is at the buoy to 5 metres after the buoy. It is also used to calculate the Cumulative Deviation.

If the deviation is more than 20cm Away from the Skier an optional re-ride will be awarded. The skier can improve. The maximum legal score is protected.

If the Deviation is more than 20cm Toward the Skier a mandatory re-ride will be awarded. The skier can improve. The score is not protected. The skier may decide not to take a re-ride and accept the score that was achieved within tolerance.

4) Cumulative Deviation

The Cumulative Deviation is the sum of the Buoy Deviations.

The Cumulative Deviation will be considered out of tolerance if it is greater than the values in the following table:

Buoy	Cumulative Tolerance
B2	28 cm
B3	35 cm
B4	40 cm
B5	45 cm
B6	49 cm

If the Cumulative Deviation is out of tolerance **NEGATIVE** away from the skier an optional re-ride will be awarded. The skier can improve. The score is protected.

If the Cumulative Deviation is out of tolerance **POSTIVE** toward the skier, a mandatory re-ride will be awarded. The skier can improve. No protected score. The skier may decide not to take a re-ride and accept the score that was achieved within the Cumulative tolerance.

5) Cumulative Applies First

The rules for Cumulative Deviation will always be applied before the rules for Zone Deviation if both are out of tolerance at a buoy.

6) Continuing at Risk

If the Cumulative Deviation or Zone Deviation is out of tolerance (mandatory re-ride) on a completed pass the skier can continue at risk to the next pass. If the next pass is not a completed pass the score awarded will be the maximum score in tolerance on the original pass.

7) GPS-RTK BPMS failure

If during a competition event, a required RTK-GPS BPMS fails, end course video (monitored in the Judges' tower) may be used until such time as RTK-GPS BPMS is re-established. The Homologator shall note in the Homologation report the event(s) when failure occurred.

b) BPMS not in use

The Chief Judge will assign a Judge or Driver to monitor the end-course video and award re-rides. The end course Judge and the Chief Judge (or the Chief Judge's designee) must agree on the determination.

1) **Entry Gate**

The Entry Gate Deviation is the maximum deviation measured when the pylon is at the Entry Gate. If the Entry Gate Deviation is more than 20cm to the left or right of centreline a mandatory re-ride will be awarded. No protected score.

2) **Buoy**

The Buoy Deviation is the maximum deviation toward the skier measured when the pylon is at the buoy.

If the deviation is more than 20cm Away from the Skier an optional re-ride will be awarded. The skier can improve. The score is protected.

If the Deviation is more than 20cm Toward the Skier a mandatory re-ride will be awarded. The skier can improve. The score is not protected. The skier may decide not to take a re-ride and accept the score that was achieved within tolerance.

The position of the centre and maximum deviation lines of the boat shall be indicated by placing visible marks or vertical posts on the windshield showing the 20cm deviation lines. Marks shall be placed on the windshield that are visible in the end-course video camera (visible from both directions). The marks shall be placed 20cm from the centre of the windshield on both sides of the centre to aid in the determination of the 20 cm deviation. If the boat path deviation is determined by placing a string or line on the end course video, the end course camera must be exactly in the centre and exactly level so that the string or line is in the middle of both the entry and exit gates.

c) **Approved BPMS**

1) **Video Systems**

- i) Corson
- ii) SplashEye

2) **RTK-GPS Systems**

- i) Sure-Path – Provisional Approval in Europe and PanAm
- ii) SkiPath – Pending Approval

d) **When an RTK-GPS system is used:**

- 1) The deviation shall be recorded 10 times per second (10Hz) in the relevant measurement zone.
- 2) The maximum is calculated as being the single maximum of the deviations calculated by averaging each two consecutive readings within the measurement zone.
- 3) The deviation will be displayed rounded to the nearest centimetre.

e) **When a video-based system is used:**

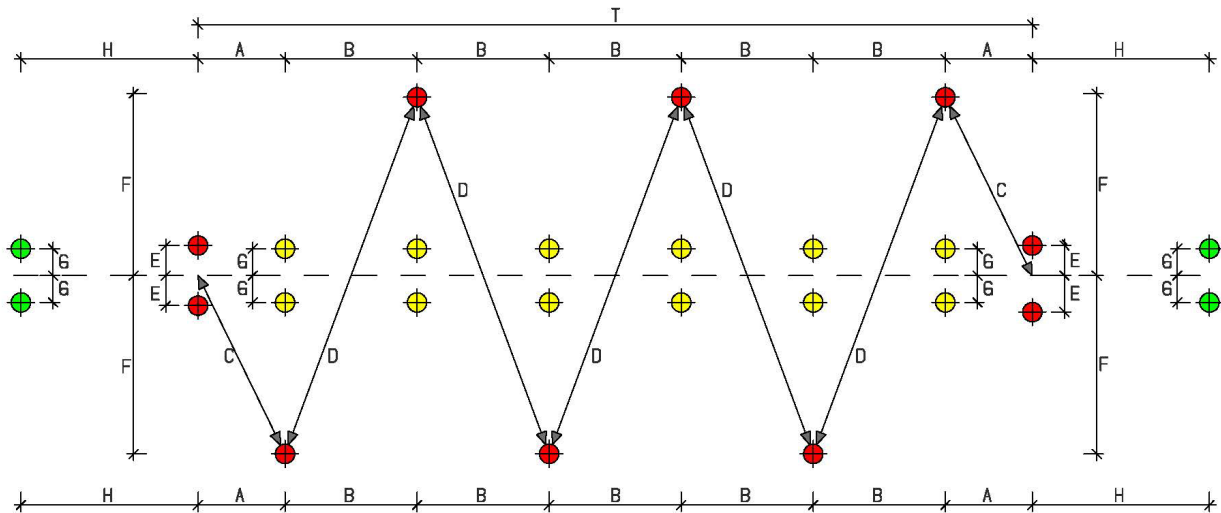
- 1) Where practicable the deviation should be calculated at each frame within the relevant measurement zone and the single maximum recorded deviation used.
- 2) Where it is not practicable due to time constraints to measure at every frame a visual inspection process should determine the frame with maximum deviation and the maximum deviation should be measured from that frame.

8.16: Driver Times

An additional tolerance for times shall be set to ensure that times are as close to actual as possible. Failure to be in tolerance would not result any re-rides for the skier, but the Driver would be warned to bring his times to within the limits or face removal from the boat if these were consistently not achieved. The Boat Judge and Chief Judge will monitor the driver’s performance and ability to stay within the driver’s tolerance and take appropriate action.

BOAT SPEED	Score:	All 6
Kph	Fm/To:	E-X
58	Fast	16.04
	Ideal	16.08
	Slow	16.12
55	Fast	16.90
	Ideal	16.95
	Slow	17.00

8.17: Official Slalom Course



Dimensions	Range	Tolerance
Overall = 259m	258.353-259.648	1/4%
A = 27m	26.865-27.135	1/2%
B = 41m	40.795-41.205	1/2%
C = 29.347m	29.200-29.494	1/2%
D = 47.011m	46.776-47.246	1/2%
E = 1.25m	1.188-1.313	5%
F = 11.5m	11.385-11.615	1%
G = 1.15m	1.035-1.265	10%
H = 55,00 m	54,725-55,275	1/2%

Note: The average of the six measured F dimensions cannot be less than 11.48 m.

Buoy colours as follows:

Entry and Exit gate: Red

Skier Buoys: Red

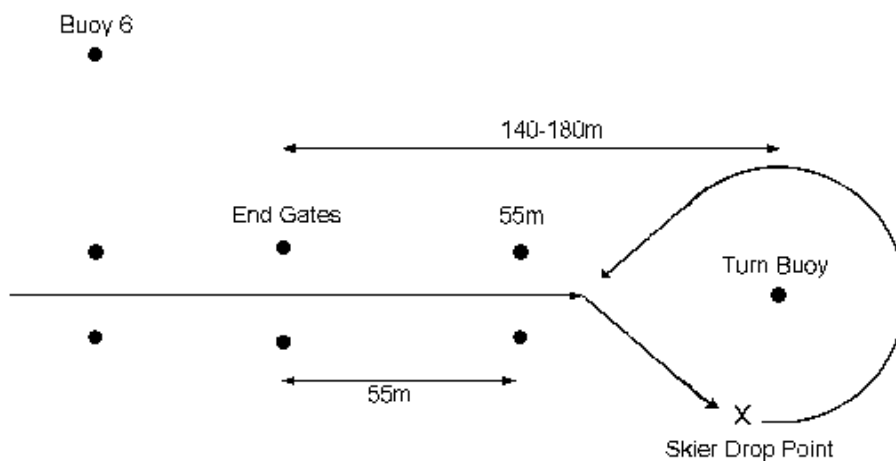
Boat Guide Buoys: Yellow.

Boat path alignment (pre-gates) of colours contrasting to the skier and boat gate buoys (green recommended).

For additional Boat Guide buoys width tolerance, refer to rule 25.08.

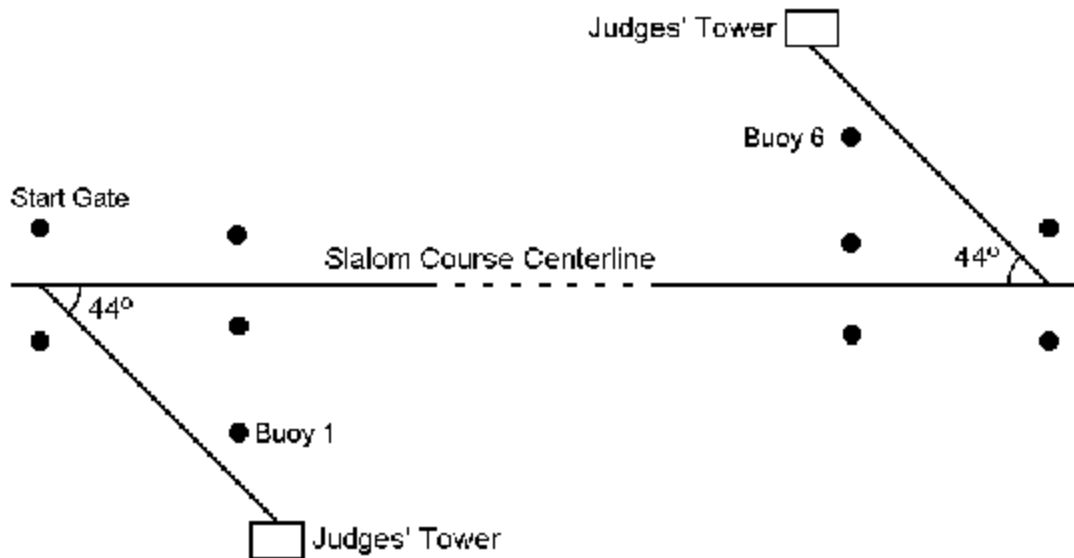
8.18: Optional Slalom Course Turn Buoy

The following diagram shows the placement of an optional turn buoy and mandatory pre-gates for the official slalom course shown in (8.17). It is highly recommended that the optional turn buoys be used



8.19: Slalom Judging Tower Placement

The following diagram shows the placement of the judges' towers for the official slalom course shown in (8.17).



8.20: Homologation Guidelines - Slalom

- a) **The slalom course shall be checked by survey. (refer to rule 25.08).**
- ~~b) The surveying instrument must have an accuracy of 20 seconds or better. (moved to 25.08)~~
- b) All skier buoys and end gates must be measured (diameter and height) for record submission.
- c) The ropes should be stretched by use in practice or on land against a fixed object to ensure tightness of the splices before measurement. When used in practice, the ropes should be used in rotation to give them equal use.
- d) Personal handles shall be measured by the Jetty Marshall under the responsibility of the Homologator, immediately after the skier skis. Should the handle be out of tolerance following a skier return to the dock, the skier's performance in that round is zero.
- e) Buoys for major or titled competitions should be new so the colours are distinct and clearly visible.
- f) The Homologator should record static pictures of the slalom end course for later reference if required.

Rule 9 – Tricks

9.01: General Trick Event Rules

For the boat, see (5.01), for the tow lines see (5.10), for the tolerances see (6.02). There must always be 3 people in the boat for tricks.

9.02: Trick Course and Passes

Two buoys approximately 230 metres apart shall establish the approximate area of the beginning of the trick pass from each direction (see 9.23). The boat shall pass either side of the entry buoy at the choice of the skier. The end of the pass shall be signified by the 20-second time interval only.

Each skier shall be allowed two passes through the trick course during which time he may perform as many tricks as he desires.

9.03: Boat Speed

The competitor shall receive his choice of a constant speed through the course for each pass. The boat speed, assuming it is held constant from approximately 50 metres before entering the course, is the skier's responsibility.

9.04: Entering the Course

A skier may refuse to enter the trick course by throwing his handle in the air or by being released by the quick release operator by means of a pre-arranged signal before entering the trick course. If, in the opinion of a majority of the Event Judges, this refusal is without acceptable reason, the skier loses the right to that pass. The skier must be ready to ski immediately upon the boat's return. If the skier's refusal is accepted, the boat must repeat the regular path and once again head for the trick course.

9.05: If a Skier Falls

- a) Before the first pass, he loses the right to his first pass. The boat must then pick the skier up and bring him back in the direction of the second pass.
- b) After the first pass and before the second pass he loses the right to continue the round.

If a majority of the Event Judges determine that the skier has fallen deliberately after the end of his 20 second pass, he loses the right to continue the round.

9.06: Timing for the Trick Pass will start

- a) Positioning tricks at the start of a pass must be done before the entrance timing buoy unless the skier declares a positional trick to the Jetty Marshal.
- b) Any trick completed before the entrance timing buoy will be treated as a positional, out of course trick.
- c) Any trick completed after the entrance timing buoy will be treated as an in-course trick, unless the skier has declared a positional trick to the jetty marshal.
- d) After passing the approximate position of the entrance timing buoy the beginning of the trick pass shall begin:
 - 1) For a surface trick, at the first discernible rotation of the ski from the tracking direction (or position). or at the first discernible rotation of the ski from the tracking direction after the execution of the declared positional turn.
 - 2) For a wake trick, at the earliest of the following to occur:
 - i. At the first discernible rotation of the ski from the tracking direction (or position) as the skier approaches the wake, or at the first discernible rotation of the ski from the tracking direction (or position) as the skier approaches the wake after the execution of the declared positional turn, or.
 - ii. When the ski under the binding of the leading foot leaves the water surface no longer supporting the weight of the skier, or
 - iii. When the binding of the leading foot crosses the crest of the wake.
- e) It is the skier's responsibility to start his pass within 15 metres after the entry gate buoys. Re-rides will not be granted for reasons caused by a skier's late start.

9.07: The Trick Pass Shall End

- a) 20 seconds after the start of the pass (The 20 second interval shall be timed and indicated by an automatic device 6.03); or
- b) when the skier fall.

Rule 9 – Tricks

9.08: Proceeding Through the Trick Passes

The boat shall follow as closely as possible the path specified by the Judges for the event, such path to include the preparation time before each pass. The second pass shall be in the opposite direction from the first pass. A skier may not return to pick up a dropped ski.

If the skier falls during or at the end of the first pass, he will receive a maximum of 45 seconds (ready to go) in which to be ready to be taken by the boat for his second pass.

If the skier did not fall during or at the end of the first pass, he may ask the boat to be stopped between passes for a maximum of 45 seconds (set down time).

Depending on site layout and/or course configurations, under the Chief Judge's responsibility, the ready to go time or the set down time may be changed. In each case the time shall start when the boat gets to the skier. In each case the skier can change or repair equipment but must be in the water ready to go within the appropriate time frame or he loses the right to his second pass.

Between the start dock and the gate buoys on the first pass, if a skier notices that his equipment is damaged, the Event Judges may grant him 3 minutes to repair or change the broken equipment and to continue competing.

If a skier refuses to enter the course under the provision in Rule [\(9.04\)](#), and he is not ready when the boat returns for him, he shall be considered as having fallen.

9.09: The skier shall set the speed

The skier shall tell the boat driver what speed he desires on each pass, and/or he may use the preparation time to set the speed up to 50m before entering the course.

The skier can request a speed change after the 50m point (including any time during the run itself) but by doing so must accept the speed given without the right to request a re-ride for incorrect speed.

The skier must be given the speed setting he asks for before starting the run. If the wrong speed setting is given, then that is a reason for a re-ride provided the skier does not subsequently change the speed.

9.10: Communication with the Judges

Skiers in the Trick event or other persons shall not communicate with the Judges between passes for the purpose of determining whether a trick or tricks attempted in the first pass were scored.

9.11: Officials

There shall be three or five judges scoring tricks from the boat video. Three Judges may be used if immediate video review is available at the Judge's position. As a variation, two sets of three Judges may be used, one set for each pass. The Judges selected to call the trick runs shall be the event Judges.

Immediate video review shall consist of (for whatever number of Judges) ONE immediate replay of the pass at normal speed to allow the Judges to check what they have written. Then the sheets are handed in after which any further necessary review resorts to the existing rules.

All World Championships will have five Judges. For World Cup and professional events 3 Judges are considered sufficient if wished.

It is recommended that five Judges be used for major competitions.

Skiers should not be kept waiting between passes for video review. It is acceptable to hold the next skier while a video review is carried out of the previous skier, but not between passes.

Each Judge shall watch and record the tricks independently. He shall list each trick attempted by the skier and decide with respect to each trick:

- a) if it was performed according to the rules governing that trick.
- b) if it was started after the beginning of the pass.

A Boat Judge may ride in the boat to check speeds and observe the boat path. The Chief Judge may designate the boat driver as the Boat Judge if a TV or Video camera is operated from the boat. If the Boat Judge feels the skier is entitled to a re-ride for any reason, he will communicate all the necessary information to the event Judges who shall make the decision.

Recommendation:

For Titled and Record Capability events the Judges shall be separated to ensure completely independent opinions. If feasible, each Judge shall be separated from the others by a barrier or a screen.

9.12: Release – Rope Release.

A person of the skier's choice may be on board to operate a release mechanism supplied by the competitor who assumes all responsibility for his actions, provided he notifies the Jetty Marshall at the dock, at least three skiers listed on the starting list before his turn, of his wish to use a person of his choice for the purpose of operating a release mechanism.

This release person will be considered a part of the skier's equipment, and any delay created by him will be attributed to the skier. The skier-supplied release operator will subject the skier to disqualification in the event he interferes vocally or physically with the duties of the boat driver or the Boat Judge.

The skier is fully responsible for any release or malfunction of the device, and no request for re-ride will be granted upon premature or accidental release.

A rope wrapped around the pylon and held by the release person may be used as a release mechanism. The rope measured from the inside of the attaching loop must not be longer than 1m. For safety reasons this rope shall not have knots or splices (excepting the knot or splice which constitutes the mechanism to which the rope is attached to the pylon).

A skier may accept a competition supplied release mechanism. In that case, he takes all responsibility for the device. ~~If the competition supplied release breaks and is no longer usable the event officials may grant a re-ride.~~

9.13: Ballast tank – Competition Supplied Weight.

a) The skier may place a competition supplied weight of between 20kg - 50kg in the boat on the floor side to side by the feet of the release person or behind the engine cover. The purpose of this is also to balance the boat as desired by the skier.

b) In the case of a ballast tank, Team Managers will need to know in advance which boat, with or without ballast is going to be used.

The use of this technology must be announced in advance. Some events may be run with ballast and others without.

For each specific boat type settings, please refer to Rule [\(5.06\)](#).

9.14: Timing the Trick Pass

Video Trick timing is mandatory for all Record Capability and Ranking List competitions. The start and the end of the 20 second pass will be determined by the video measurement.

The Homologator can accept a new timing system if he can prove it is working correctly according to the rules.

For all Ranking List, Record Capability and Titled Competitions, the Chief judge will assign 2 video timing Judges. In an International competition the two Judges shall be, where possible, of different nationalities.

The Chief Judge may be used as the second video timing Judge, or he/she may assign a second video timing Judge in his/her place.

If these two video timing Judges disagree, the Chief Judge or a designated video review Judge will resolve the disagreement.

The video timing Judges shall operate or supervise the operation of the video trick timer.

They will determine the beginning of the trick pass as defined in Rules [\(9.06\)](#), [\(9.07\)](#), and the last trick in time. A completed trick shall be judged to have been in time if the part of the ski under the binder is on the water in the last frame picture.

The start of the pass must be set before the end of the pass can be seen.

The officials appointed as video timers shall be assigned for the whole event/series.

If there is a malfunction and the video or backup video is not captured or the timing cannot be determined from the video, a re-ride is optional with a protected score if one can be determined. If any score can be determined it can be protected, otherwise a re-ride is mandatory.

In lower homologation competitions the Event Judges may also be Timing Judges. In this case they will also determine the "last trick in time".

9.15: Credit for Tricks

a) To receive credit for any trick the skier must remain in or return to skiing position.

b) Only tricks listed in the Rules will be scored in a competition.

9.16: Tricks at the End of the Pass

- a) A trick not completed before the end of a pass shall not be scored.
- b) A trick completed before the end of a pass shall not be scored if the skier ultimately falls as a result of that trick, even if the fall is after the conclusion of the pass.

9.17: Use of the Video Camera

The tricks shall be filmed by a video camera from the boat. The usual procedure will be to transmit the signal by radio to the Judge's Tower and the intention is to judge in real time. Backup video will be a stored copy of the video at the camera. Other than as stated in [\(9.11\)](#), the video film may only be shown as an aid to the Event Judges under the following circumstances:

- a) At the request of the Chief Judge or the Scorer if it is not possible for the scorer to obtain a majority decision as to the trick or tricks performed.
- b) At the request of the Chief Judge or Scorer if it is not possible for the scorer to obtain a majority decision as to whether or not credit is to be given for a trick.
- c) In circumstances, which the Chief Judge regards as exceptional, the Chief Judge may review the video and ask the applicable Event Judges to look at the run again so that the correct score may be established.
- d) At the request of a Judge (and approved by the Chief Judge) the video may be reviewed to establish credit or no credit of a trick or tricks provided the Judge(s) states which trick(s) they wish to review. It is not the intention to review the entire run.

The video will only be shown at normal speed. For judging procedures see [\(9.11\)](#).

Recommendation:

It is important that the view of the ski must be as clear as possible. The camera needs to be high enough to achieve this. The camera should be situated higher than the top of the windscreen to give a clear view of the ski.

9.18: Trick Lists

A list of declared tricks to be attempted by the skier may be required from each entrant in the trick event before the event starts. The Chief Judge and Scorer shall determine the exact time when the list must be submitted for each seed of the elimination rounds and for the final rounds. Corrections may be allowed up to one hour before the seed and the final. The trick list shall be prepared using the official code shown in the table of trick values. Reverse turns must be indicated by an R preceding the official code. In each declared trick pass, any trick, including reverses may be listed more than once and in any position in the list.

The intent of the requiring a list is for professional/cash prize/large spectator type competitions so that the scores can be calculated quickly and announced. The list is to inform the Judges of what tricks the skier intends to do. There is no penalty for not following the list.

A competitor who fails to submit a trick list when required shall be disqualified from that trick round. A competitor may submit a different trick list for the event finals if he so desires. The declared list will be made available to the officials at the discretion of the Chief Judge.

9.19: Scoring

The Scorers shall receive the Judges sheets and, in the event of a discrepancy, shall decide the tricks to be scored based on a simple majority from among the Judges' individual Judges sheets as to:

- a) what trick was performed.
- b) if the trick was credited
- c) if the last paragraph of Rule (9.14) applies, the "last trick in time".

If there is more than one sequence that can be scored, the sequence that gives the maximum points shall be used.

In order to score the basic and reverse of any trick they must both be performed in the same pass. A maximum of six flips will be scored.

In competitions with Preliminary and Final rounds event placement will be based on the final round results only. The competitor with the highest score shall be the winner.

In the final of a titled event, the score of the skier should be announced before the next skier starts.

9.20: Ties

Ties will be broken by using the specific rules defined for each Competition. If no specific rule has been defined, the following applies:

Rule 9 – Tricks

If a tie exists for first place, it shall be run-off. If a tie exists for 2nd or 3rd place, placement shall be decided based on the higher preliminary round score. If a tie still exists, it shall be run-off. The run-off shall have a new drawing for order. Each tying competitor shall be allowed one pass through the trick course until the tie is broken.

When a run-off for first place is between more than two skiers, all the places equal to the number of skiers in the run-off are decided by the run-off with no reversion to the preliminary round score except that the preliminary round score would be used if two or more skiers are still tied for 2nd and 3rd places after the run-off.

9.21: Trick Descriptions and Values

a) Definition of a Trick

A trick is any activity which occurs between two hesitations. Credit may be received for performance of only one trick and the associated reverse, if any, on two skis and one trick and the associated reverse, if any, on one ski under each number in the table. If this rule is violated, only the higher scoring sequence of the repeated tricks shall be scored.

If it is not clear which end of the trick ski is the front (due to binding placement or angle) then the front shall be clearly indicated on the ski. Officials may require the skier to wear an indicator on the front leg (band or ribbon) to assist in this determination.

b) Definition of a Pre-turn

A pre-turn is a turn off a flat ski where the push/pop comes after the rotation has started. A wake trick that is pre-turned scores 0.

c) Side Slides

All side slides (handheld and toe) include a 90 degree turn from skiing position and a return to skiing position in the original direction. For a Side Slide to be a creditable trick, the skier must hesitate before commencing the trick, turn 90 degrees to either side, stop, return to the starting position, and stop. To perform the reverse, the skier must turn 90 degrees in the opposite direction, stop, return to the starting position, and hesitate again.

d) Wake Tricks

A wake trick not executed in mid-air and across the crest of the wake scores 0. It is not scored as a surface turn.

The ski will edge towards the wake, then the push/pop comes first then the rotation, or the push/pop and rotation come at the same time. The rotation cannot come before the push/pop. An inadvertent touch of the water with the ski tip during the rotation is acceptable on tricks with 540 degrees or more of rotation.

All wake line tricks (WL, SL and TWL) where the ski/leg does not go over the line, can be credited as wake tricks if the wake tricks criteria are met.

e) Stepover Line Tricks

Stepover line tricks (surface and wake) are complete only when the free foot touches ski or water or the lifted ski touches water after the turn before the next trick or the end of the pass. The skier may not put his leg or lifted ski across or on top of the line, the handle, or either arm until he begins to execute the turn. The stepover and turn actions must be simultaneous.

Immediately on completion of a FB stepover turn, the skier must have at least one arm between his legs holding the handle.

A wake stepover 360° consists of a 180° wake stepover and a 180° wake combined, in either order, all done in the air, off the wake, in a continuous turn.

A wake stepover 540° consists of a 180° wake stepover and a 360° wake combined, in either order, or a 180° wake stepover preceded and followed by a 180° wake combined, all done in the air off the wake in a continuous turn.

A wake double stepover 540° consists of a 180° wake stepover and a wake stepover 360° combined, in either order, all done in the air off the wake in a continuous turn.

To complete those tricks successfully, either FF, BB, FB, or BF, the skier, when he is in a back position, must have at least one arm between his legs holding on to the tow handle.

A stepover turn not performed according to the rules for a stepover but conforming to the rules for a 180° or 360° surface turn shall be scored as zero.

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Toehold stepover tricks must be a simultaneous action. The towing foot may not touch the water during the execution of the turn, except that at the end of the trick after the stepover and turn are complete either the towing foot or the ski may touchdown first.

f) Ski Line Tricks

In ski line tricks, both feet must be on the ski and pass over the line while in mid-air. The feet may pass over the line at any point during the execution of the turn. The line must be out of the water during the execution of the turn. This does not include the inadvertent hitting of the rooster tail near the boat.

g) Flips

To receive credit for the wake flip, it is required that both feet be higher than the head and in approximately the same vertical plane at some point during the execution of the trick.

A front wake flip shall be defined as a forward somersault done in the air off the wake in which the tail of the ski passes up and over the head as the head goes down and forward. The rotation must be in the direction of travel and outside of the rope. Both feet must be above the head and in approximately the same vertical plane at some point during the execution of the trick. This rule applies to Front Flips and its derivatives. (FFLF, FFLB, FFLBB, etc.)

For wake flips with body rotation for example tricks (BFLO or BFLBB), the body rotation must be done simultaneously with the flip, not before or after. The BFLB and the BFLF are not considered a 180 degree turn either for purposes of declared tricks as referenced in Rule (9.18) or for reverse turns as described in Rule (9.21h). Additionally, for the BFLB, the reverse must land in the opposite wrap or turn in the opposite direction. Also, specifically for the BFLB, the stepover portion of the trick must be done simultaneously with the flip and the body rotation.

Flip with 540 degrees rotation or more, must be done hand-to-hand. The rope may not be wrapped around the body to assist the turn. This does not prohibit the simple back position wrap where the rope does not go around the body.

A maximum of 6 flips will be scored for each skier in his turn. Flips are numbers 43, 44, 53-66.

h) Reverse Tricks

To be scored, a reverse trick must immediately follow the basic turn in the same pass however, any type of 180° turn is allowed between two such turns. The reverse shall not be disallowed simply because it follows an attempted trick which has not been credited or because the basic trick is a repeated trick. If the original (basic) trick is not credited, then the reverse if credited becomes the basic trick.

The following sequences ARE allowed in the same pass:

S, RSnc, RS credit	This concerns only the Side Slide
TS, RTSnc, RTScredit	This concerns only the Toe Side Slide
B, F, Rnc, Rnc, Rcredit, Rcredit	This concerns only the 180 F-B and B-F
TB, TF, Rnc, Rnc, Rcredit, Rcredit	This concerns only the 180 Toe F-B and B-F

Reverse tricks under Trick 12 (540 Toe F-B) are limited to 540° but may follow a 540°, or 720°.

On 1 ski and 2 skis only one basic trick and one reverse are allowed under Trick 27 and under Trick 28, but may be any reverse trick listed, i.e., the original may be a WL5, WL5L, or a WL7, and the reverse may be any reverse of any of the above.

The reverse BFL is defined as a BFL leading with the opposite shoulder and travelling in the opposite direction (right to left vs. left to right) from the original BFL, immediately following it. This is identically true for the BFLB.

The reverse FFL is defined as an FFL travelling in the opposite direction (right to left vs. left to right) from the original FFL, immediately following it.

- i) Once the skier has put the toe strap on his foot, any trick performed in which the foot in the strap intentionally touches the ski during the setup or execution of the turn shall not be scored.

Rule 9 – Tricks

9.22: Trick Value Chart

SURFACE TURNS				2 SKIS		1 SKI	
CODE		DESCRIPTION	NO.	BAS	REV	BAS	REV
S		Side Slide	1	20	20	40	40
TS		Toehold side slide	2	-	-	130	130
B	180	F-B	3	30	30	60	60
F		B-F	4	30	30	60	60
O	360	F-F	5a	40	40	90	90
BB		B-B	5b	40	40	90	90
5B	540	F-B	5c	50	50	110	110
5F		B-F	5d	50	50	110	110
7F	720	F-F	5e	60	60	130	130
7B		B-B	5f	60	60	130	130
LB	180	F-B Stepover	6	70	70	110	-
LF		B-F Stepover	7	70	70	110	-
TB	180	F-B Toehold	8	-	-	100	100
TF		B-F Toehold	9	-	-	100	100
TO	360	F-F Toehold	10	-	-	200	200
TBB		B-B Toehold	11	-	-	200	200
T5B	540	F-B Toehold	12	-	-	350	350
T7F	720	F-F Toehold		-	-	450	-
T5F	540	B-F Toehold	13	-	-	350	-
WAKE TURNS				2 SKIS		1 SKI	
CODE		DESCRIPTION	NO.	BAS	REV	BAS	REV
WB	180	F-B	14	50	50	80	80
WF		B-F	15	50	50	80	80
WO	360	F-F	16	110	110	150	150
WBB		B-B	17	110	110	150	150
W5B	540	F-B	18	310	310	310	310
W5F		B-F	19	310	310	310	310
W7F	720	F-F	20	800	800	800	800
W7B		B-B	21	480	480	480	480
W9B	900	F-B	22	850	850	850	850
W9F		B-F		850	850	850	850
WLB	180	F-B Stepover	23	110	110	160	-
WLF		B-F Stepover	24	110	110	160	-
WLO	360	F-F Stepover	25	200	200	260	260
WLBB		B-B Stepover	26	200	200	260	260
WL5B	540	F-B Stepover	27	300	300	420	420
WL5LB		F-B Double Stepover		-	-	500	500
WL7F	720	F-F Stepover	27a	700	700	700	700
WL9B	900	F-B Stepover	27b	800	800	800	800
WL5F	540	B-F Stepover	28	300	300	420	420
WL5LF		B-F Double Stepover		-	-	500	500
WL7B	720	B-B Stepover		550	550	550	550
WL9F	900	B-F Stepover	28a	800	800	800	800

Rule 9 – Tricks

TWB	180	F-B Toehold	29	-	-	150	150
TWF		B-F Toehold	30	-	-	150	150
TWO	360	F-F Toehold	31	-	-	300	300
TWBB		B-B Toehold	32	-	-	330	330
TW5B	540	F-B Toehold	33	-	-	500	500
TW5F		B-F Toehold	34	-	-	500	-
TW7F	720	F-F Toehold	35	-	-	650	650
TW7B		B-B Toehold	36	-	-	650	-
TWLB	180	F-B Toehold Stepmover	37	-	-	320	-
TWLF		B-F Toehold Stepmover	38	-	-	380	-
TWLO	360	F-F Toehold Stepmover	39	-	-	480	480
TWLBB		B-B Toehold Stepmover	40	-	-	480	480
TWL5B	540	F-B Toehold Stepmover	41	-	-	600	600
TWL5F		B-F Toehold Stepmover	42	-	-	700	-
TWL7F	720	F-F Toehold Stepmover	42a			800	-
FFL/WFLIPF		Forward Somersault	43	800	800	800	800
BFL/WFLIPB		Backward Somersault	44	500	500	500	500
SLB		F-B Ski Line	45	-	-	350	350
SLF		B-F Ski Line	46	-	-	400	400
SLO	360	F-F Ski Line	47	-	-	400	400
SLBB		B-B Ski Line	48	-	-	450	450
SL5B	540	F-B Ski Line	49	-	-	550	550
SL5F		B-F Ski Line	50	-	-	550	550
SL7B	720	B-B Ski Line	51	-	-	750	750
SL7F	720	F-F Ski Line	52	-	-	800	800
DBFL		Wake Double Flip	53	1000	-	1000	-
BFLO		Wake Flip Full Twist	54	800	-	800	800
BFLBB		Flip Full Twist BB	56	800	-	800	800
BFLB		Wake Flip Half Twist B	55	750	750	750	750
BFLF		Wake Flip Half Twist F	57	-	-	550	550
BFLLB		Wake Flip Twist Line Back	58	800	800	800	800
BFL5F*		Wake Flip 5F	59	-	-	850	850
BFL5B*		Wake Flip 5B	60	-	-	900	900
FFLB		Forward Somersault with 180 F-B	61	850		850	
FFLF		Forward Somersault with 180 B-F	62	850		850	
FFLBB		Forward Somersault with 360 B-B	63	900		900	
FFL5F		Forward Somersault with 540 B-F	64	950		950	
BFLSLBB		Wake Flip Full Twist B-LB	65	900		900	
BFLSL5F		Wake Flip Ski Line 540 B-F	66	950		950	

* The Flip with a 540 degrees rotation or more must be done hand-to-hand. The rope may not be wrapped around the body to assist the turn. This does not prohibit the simple back position wrap where the rope does not go around the body.

The following substitutions will be allowed on declared trick runs:

- A reverse turn may be indicated by the letter "R" alone
- SS may be used for S in trick numbers 1 & 2
- OB may be used for BB in all tricks where it is normally used (#5, 11, 17, 26, 32, 40, 48)
- T5B may be used to indicate a RT5B when it immediately follows a T7F

Rule 9 – Tricks

e) An R for reverse turns may precede or follow the trick code.

f) The following variations will be allowed.

WTS for TS or RTS in #2

T7 for T7F in #12

OB or OBB for BB in #'s 5,11,17,26,32,40,51

BB for B in #'s 21,36 & 54 (T7B, TW7B, SL7B)

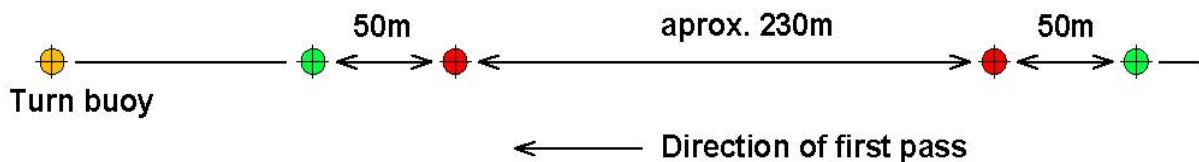
FLP or FL or FP for FLIP in tricks 43-47

Any transposition of the letters WTB/WTF and WBflip

In addition to these changes and variations specifically mentioned, it is further noted that the scorer may reasonably interpret the skiers submitted list as to what he actually did as opposed to what he submitted in his written list. The principle is not to give the skier the advantage of not having to write down what his run was, but to allow for mistakes in writing down the trick codes and allowing for perhaps unforeseen variations of the trick codes without unduly penalizing the skier.

9.23: Official Tricks course

The following diagram shows the placement of an optional turn buoy and the official trick course. It is highly recommended that the optional buoy be used. For safety, it is recommended that no solid obstruction such as the jump ramp or dock be within approximately 20m. Other buoys within approximately 10m should be removed or submerged.



Buoy colours as follows:

Entrance Timing buoys: **Red**

50m buoys: **Green**

9.24: Homologation Guidelines - Tricks

A video with a free running clock embedded on the screen with a display of at least 1 second resolution is recommended.

Video file submitted as per [\(23.12\)](#).

Rule 10 - Jump

For the boat, see Rule (5.01), and for the tow lines (5.09) and (5.11). There may be 2 or 3 people in the boat.

10.01: General Jump Event Conditions

The skier shall be entitled to three jumps or passes or falls from the time he starts in the preliminaries and three jumps or passes or falls from the time he starts in the finals.

Only the length of the jump will be considered no matter what ramp height is chosen by the skier.

A skier qualified for the final round may change his chosen height of the ramp for the final round subject to a time deadline set by the Chief Judge.

Skiers jumping at each height will be drawn together and will ski before those jumping at the higher height setting in both the elimination and final rounds.

10.02: Description of the Jump Ramp

The jump ramp shall be an inclined plane with an apron on the right-hand side. The ramp shall meet the following specifications:

- a) Width: 3.70m to 4.30m at all points. 4.20m to 4.25m is recommended.
- b) Length out of water at all points.

Length Out of Water Table			
Ramp Ratio	Minimum	Maximum	Recommended
0.215	6.40m	7.10m	6.80m – 7.00m
0.235	6.40m	7.10m	6.80m - 7.00m
0.255	6.40m	7.10m	6.80m - 7.00m
0.266	6.40m	7.10m	6.80m - 7.00m

- c) For safety reasons, it is mandatory that the length underwater is at least 50 cm.
- d) Ratio of ramp height at take-off edge to ramp length out of water:

Men / Boys

- 0.215 +0.003/-0.005. Ramp max height is limited to 1.505.
- 0.235 +0.003/-0.005. Ramp max height is limited to 1.645.
- 0.255 +0.003/-0.005. Ramp max height is limited to 1.785.
- 0.266 +/-0.005. Ramp max height is limited to 1.860.

Women / Girls

- 0.215 +0.003/-0.005. Ramp max height is limited to 1.505.
- 0.235 +0.003/-0.005. Ramp max height is limited to 1.645.
- 0.255 +0.003/-0.005. Ramp max height is limited to 1.785.

Ratios are to be computed on both sides of the ramp, and the ramp height at the take-off edge at the two corners may differ by no more than 2.5 cm.

Ramp setting must be within the indicated tolerances in the graph. (See Ramp Setting Chart)

- e) Jumpers must notify the organisers, on the official entry form, what their choice will be for the ratio mentioned in d) above.
- f) The surface must be a flat plane.

A ramp designed in any method to be other than flat (wedge, kick, bow, etc..) is illegal and NOT allowed. The tolerance of the plane deviation is maximum 2.0 cm as a concave deviation.

In addition, the maximum deviation, if larger than 1.0cm, must occur in the centre of the out of water surface +/- 50 cm.

Example: If the jump surface out of the water is 6.8m, then the maximum measured deviation must be between 2.9m and 3.9m from the top of the jump.

No overall convex deviation is allowed. Minor convex at bottom where the hinge is against the surface may occur or where there is a main support. The intent is that the ramp will not have a general upward bow (convex) from bottom to top.

The tolerance is only permitted when the ramp deviates from perfectly flat due to ageing, stress or imperfections in the building materials. Such deviations should be rectified if possible.

The deviation from perfectly flat will be verified by two measurements:

Rule 10 - Jump

- 1) Place a taut string from the lower right corner (jump course side) of the surface to the upper left corner of the surface and measure the maximum distance between the ramp surface and the string.
- 2) Place a taut string from the bottom centre of the surface to the top centre of the surface and measure the maximum distance between the ramp surface and the string.

A good practical method is to use a block of the same thickness under each end of the string so that both concave and convex measurements can be recorded by subtracting the block thickness from the measurement.

These distances are to be recorded and must not exceed 2.0cm as stated above.

The concept is that the ramp should be designed to be flat. Reportedly some ramps have been built within tolerance deviations designed in through a misunderstanding or misinterpretation of the rules. This aspect is partially addressed in Rule (1.09). This specific section is being added for further clarification. Any ramps found to have intentional deviations need to have them corrected before they can be used in competitions.

- g) An apron shall extend the full length of the ramp on the right-hand side. The apron must have a minimum depth under water of 20cm when the ramp is set for the 1.80m height in Men's divisions. Ramp aprons shall be of a different colour or shade from the ramp surface to provide a satisfactory contrast between apron, water and jump surface.
- h) 6.40m, and 6.80m length markings, clearly identified, shall be placed on the apron and/or ramp surface so that they are readily visible. Older ramps with permanently embedded 6.70m length markings shall also be allowed. A 7.10m length marking will be added if the jump can extend the length beyond 6.80m and still keep other required parameters, e.g. length under water of 50cm.
- i) All measurements of the ramp shall be made under competition conditions, including the weight of watering equipment, and not including the weight of a skier.
- j) The jump apron shall have a minimum angle of 28° from perpendicular and a maximum angle of 60°. The recommended angle is 45°.
- k) It is recommended that all jump surfaces (fiberglass) be of a red-orange colour. Wax surfaces on wood will remain their natural colour.

10.03: Entering the Course

A competitor may refuse to enter the jump course by throwing the handle in the air. He shall not be penalised for so doing providing this refusal was for a reason judged acceptable by the Event Judges. To receive any consideration of a re-ride request for conditions before the 180m buoy, the skier must throw the handle before entering the course. Once having taken the jump, the skier loses all right to a re-ride for conditions before the 180m buoy. The skier must be ready to ski immediately upon the boat's return. Should the skier not be ready, or should the reason be judged not acceptable by the Event Judges, one jump shall be deemed to have been taken. If a skier notices that his equipment is damaged (broken fin, binding, ski...), the Event Judges may grant him 3 minutes to repair or change the broken equipment and to continue competing.

Rule 10 - Jump

10.04: Jump Speeds and Ramp Height

The Boat Speeds and Ramp Heights for the Jump event shall be chosen by the skier from those listed below up to the maximum allowed as follows:

		Max jump speed	Ramp height
Under 10	Girls	42 kph	1.35m or 1.50m recommended 1.35
	Boys	42 kph	1.35m or 1.50m recommended 1.35
Under 14	Girls	45 kph	1.35m or 1.50m
	Boys	48 kph Recommended 45Kph up to 20m	1.35m. or 1.50m
Under 17	Girls	51 kph	1.50m
	Boys	51 kph	1.50m or 1.65m
Under 21 Open	Women	54 kph	1.50m or 1.65m
	Men	57 kph	1.50m or 1.65m or 1.80m
35+	Women	51 kph	1,50m
	Men	57 kph	1.50m or 1.65m
45+	Women	51 kph	1.50m
	Men	54 kph	1.50m
55+	Women	51 kph	1.50m
	Men	51 kph	1.50m
65+	Women	48 kph	1.50m
	Men	51 kph	1.50m
70+	Women	45 kph	1.50m
	Men	51 kph	1.50m
75+	Women	45 kph	1.50m
	Men	48 kph	1.50m
80+	Women	45 kph	1.50m
	Men	48 kph	1.50m
85+	Women	45 kph	1.50m
	Men	45 kph	1.50m

To be eligible to jump at 1.65m the skier must have achieved a score of 38m at the 1.50m height in a homologated competition as certified by their Federation.

To be eligible to jump at 1.80m the skier must have achieved a score of 48m at the 1.65m height in a homologated competition as certified by their Federation.

Skiers who have already achieved the required distances in this rule have no need to provide proof providing their results are showing in the current year or previous year Ranking List.

10.05: Boat Timing and Re-ride Situations

The boat shall be timed in the jump course between buoys 15ST-19ST and 15MT- 19MT with an intermediate time 52m (1st segment) and full time 82 m (1st+2nd segment), and between buoys 15MT- 19MT and 15ET-19ET for a 41m - 3rd segment in order to maintain the tolerances listed in the charts below.

It is mandatory to record the times for the 3 segments for all speeds (men and women) at RC and RL competitions and submit these times to IWWF for evaluation.

The times must be in a text file format and emailed to: tcchairman@iwsf.com

CompetitionCode;Division;Gender;Speed;Segment1;Segment2;Segment3;TimerType;SkierLastName;SkierFirstName;Round;Pass;Class;Boat;EngineSize

Example: 09BEL08;U17;M;48;3.95;6.16;3.13;17.30;PS;Huisman;Perr;1;3;L;MALXI;60 -

Division: U17, Open, Senior

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For Record Capability, Ranking List and Elite events the published 3 segment times should be used when:

Open Men/U21 Men	speed 57 above 60 metres.
Open Women/U21 Women	speed 54 above 45 metres.
U17 Men	speed 51 above 38 metres.
U17 Women	speed 51 above 38 metres.

For distances below these specifications, the 1st segment tolerance check is not required. Segments "1+2" and 3 must be in tolerance in all cases except as otherwise noted in the appropriate Jump Timing Re-ride Chart.

Times must be recorded to the 100th of a second.

The times driven should be as close to the actual times as possible. This will be monitored by the Chief Judge. The rules governing skier letter or distance selection apply for this mode as well.

In the case where a skier refuses the ramp or falls on the approach to the ramp, the maximum speed tolerance allowable for segment 1+2 shall be increased by .05 seconds. This may be done by either subtracting .05 seconds from the maximum speed tolerance or by adding .05 seconds to the time recorded. On a pass or a fall before the ramp, the third segment time will not be used.

At the skier's option, the speed control mode may be set to either RTB, meaning the case where the speed control just returns to the base speed setting in the third segment, or three segment modes where the boat is programmed to meet the three segment times.

In certain situations, the competition officials may decide to use the normal chart for all skiers. An example might be a U14 division.

RTB Mode (return to baseline)

Speed	1st+2nd Segment (82 m)			3rd segment (41 m)		
	fast	actual	Slow	fast	actual	slow
57	5.11	5.18	5.25	2.36	2.59	2.66
54	5.39	5.47	5.55	2.54	2.73	2.81
51	5.70	5.79	5.88	2.68	2.89	2.98
48	6.05	6.15	6.25	2.84	3.08	3.17
45	6.45	6.56	6.68	3.01	3.28	3.39
42	6.90	7.03	7.17	3.21	3.51	3.64
39	7.42	7.57	7.73	3.43	3.78	3.94
36	8.02	8.20	8.39	3.69	4.10	4.28
33	8.73	8.95	9.17	3.99	4.47	4.69
30	9.58	9.84	10.11	4.34	4.92	5.18
27	10.62	10.93	11.27	4.76	5.47	5.79

Jump Timing Re-ride Chart.

seg1+2	Seg3	ACTION
OK	OK	None
OK	F	mandatory re-ride if distance is best distance in skiers turn
OK	S	optional re-ride (protected score)
S	OK	optional re-ride (protected score)
S	F	mandatory re-ride if best dist., otherwise optional with protected score
S	S	optional re-ride (protected score)
F	OK	mandatory re-ride
F	S	mandatory re-ride
F	F	mandatory re-ride

Generally speaking, if any time is too fast, then a re-ride for the skier is mandatory. If no times are too fast, but if any time is too slow, then a re-ride for the skier is optional. On a pass or a fall before the ramp, the 3rd segment time will not be used. All situations are detailed in the timing chart above.

If the 1st+2nd or 3rd segment is fast on a successful jump, but the distance recorded is less than previous or following jumps in the round by the skier, then a re-ride will not be awarded.

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Three segment Mode

Speed	1st segment (52m)		1st+2nd segment (82m)			3rd segment (41m)		
Speed	fast	slow	fast	actual	slow	fast	actual	slow
57	3.25	3.37	5.11	5.18	5.25	2.36	2.40	2.46
54	3.43	3.55	5.39	5.47	5.55	2.54	2.59	2.66
51	3.63	3.76	5.70	5.79	5.88	2.68	2.73	2.81
48	3.86	3.98	6.05	6.15	6.25	2.84	2.89	2.98
45	4.11	4.25	6.45	6.56	6.68	3.01	3.08	3.17

When the speed is below the maximum for the division, the third segment will not be used with the exception that it may not exceed the maximum speed time for the event division. (Please note that if this happens, it is likely that the speed control is not working according to the intended algorithm and the manufacturer and the WSC Chairman should be notified).

Jump Timing Re-ride Chart at Maximum Division speed

Seg. 1 (52m)	Seg. 1+2 (82m)	Seg. 3 (41m)	Action	Protected Score
OK	OK	OK	None	n/a
--	S	--	optional re-ride (protected score)	Yes
S	F	--	mandatory re-ride only if distance is best distance in skier turn - no increase in score allowed	No
OK/F	F		mandatory re-ride if distance is best distance in skiers turn	No
F	OK	S/OK	optional re-ride (protected score)	Yes
S	OK	OK/F	mandatory re-ride if distance is best distance in skiers turn - no increase in score allowed	No
S	OK	S	optional re-ride NO protected score	No
F	OK	F	optional re-ride NO protected score	No
OK	OK	F	mandatory re-ride if distance is best distance in skiers turn	No
OK	OK	S	optional re-ride (protected score)	Yes

The first row from the top that matches the situation is used.

Jump Timing Re-ride Chart at below Maximum Division speed

Seg1 (52m)	seg1+2 (82m)	Seg3 (41m)	Action
OK	OK	not F for max speed	None
one segment is F for max speed and no segment is S			mandatory re-ride if distance is best distance in skiers turn
one segment is F for max speed and at least one segment is S			mandatory re-ride if distance is best distance in skiers turn, otherwise optional with protected score
No segment is F for max speed and seg1 or seg2 is S or F for requested speed			optional re-ride (protected score)

In the case where multiple re-rides may apply due to fast third segment these shall be resolved taking the longest distance first.

10.06: Fall After a Jump

In the case of a fall after a jump, the skier who is not back on his skis within three minutes (including any repair of equipment) after the boat is ready to take him will not be allowed to complete any further jumps in that round. If the skier is ready before the three minutes expires, but the boat judge feels it might not be safe for him to compete he may ask the safety director to check the skier. During that time, the clock is stopped until the Safety Director decides if it is safe for the skier to continue.

10.07: Officials Stopping a Jump

A jump shall not be registered should the boat driver or the boat-judge/official on board decide that there is a hazard because of dangerous water conditions, interference of another boat or other reason. The boat driver or the boat-judge shall then hold up his hand and slow the boat a perceptible amount before the boat passes the ramp.

Rule 10 - Jump

10.08: Scoring of a Jump

A jump shall be scored when a skier passes over the ramp, lands and skis away with a tight line in skiing position without falling. If a skier falls as a result of a jump, he loses that jump. If he shall purposely touch any part of the tow line other than the handle while in the air, he shall receive no score for that jump. The longest jump of each round will be the only one counted. Jump distances may not be scored in increments finer than 10cm.

10.09: The Result of a Skier Falling

Every time a skier falls, it shall count as a registered jump. If the skier falls more than once on a single pass through the jump course or return run, a jump shall be registered for each fall.

A skier shall receive no further jumps in a round if, after leaving the boat's wake on a definite cut to the ramp, he elects to pass between the boat course and the ramp, whether or not he retains the tow line.

10.10: Boat Path

Path Definition: "SPLIT" would be the standard by default, middle line between the 15 metre and the 19 metre timing buoys (17 metre line).

Definition: Split Default

Split +/- 1 = Split +/- 0.3 metre or 1 foot

Split +/- 2 = Split +/- 0.6 metre or 2 feet

Split +/- 3 = Split +/- 0.9 metre or 3 feet

Skier options would be "Split" with +1, +2, +3 for wide or -1, -2, -3 for narrow. The skier shall tell the boat driver at which distance and at what speed to pass the ramp, and the boat shall follow a straight path through the jump course at the specified distance from the right-hand side of the ramp.

End course camera

A centre line video on the jump course will be required for World, Confederation and Elite events, but may also be used at other events. End-course video shall be recorded for all passes. A rigidly mounted video camera shall be operated from a point on the centreline of the jump course (recommended facing the boat coming into the course), adjusted to show all of the boat guides in clear focus, and equipped with optical (not digital) magnification of sufficient power to display the ST buoys occupying at least 1/6th of the full width of the screen.

The boat position will be measured at the following points: at ST buoys, 41m after the ST buoys, at MT buoys, at ET Buoys and at EC buoys.

If the boat pylon deviates more than 40cm from the requested boat path at the approximate position of each measurement point, an optional re-ride shall be awarded. If an Approved Boat Path Measurement System is being used, this determination shall be based on the results provided by the system.

Except when an Approved Boat Path Measurement System is being used (in which case any required equipment shall be installed in the boat), the position of the centre and maximum deviation lines of the boat shall be indicated (such as by placing visible marks or vertical posts on the windshield showing the 40cm deviation lines, or by using the windshield frame on boats with a walk through windshield having framing at the 40cm line) If the boat path deviation is determined by placing a string or line on the end course video, the end course camera must be exactly in the centre and exactly straight so that the string or line is in the middle of both the ST and the EC buoys. A re-ride for boat path deviation will be awarded if the end-course judge and the Chief Judge (or the Chief Judge's designee) agree on the determination. Cumulative deviation will not be considered.

The original score will not be protected if a re-ride is taken for a boat path deviation.

10.11: Officials

There will be three Judges for the event. Two Judges will be stationed on shore. The third Judge will be in the tow boat. The two shore judges may also act as measurement judges if they have a full and direct view of the jump course.

10.12: Jump Distance Measurement

Jump distances shall be measured by video computer measurement systems approved by the World Waterski Council. The World Waterski Council may approve systems based on video technology provided that proper verification and proof is given to the World Waterski Council at least 60 days before the proposed use.

Rule 10 - Jump

Jump distances shall be measured from a point at the water line directly below the centre of the top edge of the ramp to the skier's point of impact in the water closest to the ramp (first point of impact) and then an adjustment offset of 2.1m shall be added. The point of impact is defined the point on the water surface closest to the ramp that is touched by the skier when he lands. The distance is calculated from the impact point back to the ramp and then an offset adjustment of 2.1m is added.

The distance shall be communicated to the skier after each scoring jump.

For the video system, there shall be two designated Judges (from different countries at international competitions) operating the system who shall jointly make a judgement decision on the impact point. The calculated distance shall not be displayed until the impact point is jointly judged.

Since video jump measurement is used, video backup methods (videotaping) must be used.

If the skier is misinformed or not informed of the distance, then a re-ride shall be offered on the next jump. Based on the circumstances, the Event Judges shall decide if the score is protected and inform the skier when he is offered the re-ride.

10.13: Ties

Ties will be broken by using the specific rules defined for each Competition. If no specific rule has been defined, the following applies:

If a tie exists for first place, it shall be run-off. If a tie exists for 2nd or 3rd place, placement shall be decided based on the higher preliminary round score. If a tie still exists, it shall be run-off. The run-off shall have a new drawing for order. Each tied competitor shall be allowed two jumps or passes or falls with the longest jump being scored according to Rule (10.08). Repeated ties shall be run-off in the same manner until broken. When a run-off for first place is between more than two skiers, all the places equal to the number of skiers in the run-off are decided by the run-off with no reversion to the preliminary round score except that the preliminary round score would be used if two or more skiers are still tied for 2nd and 3rd places after the run-off

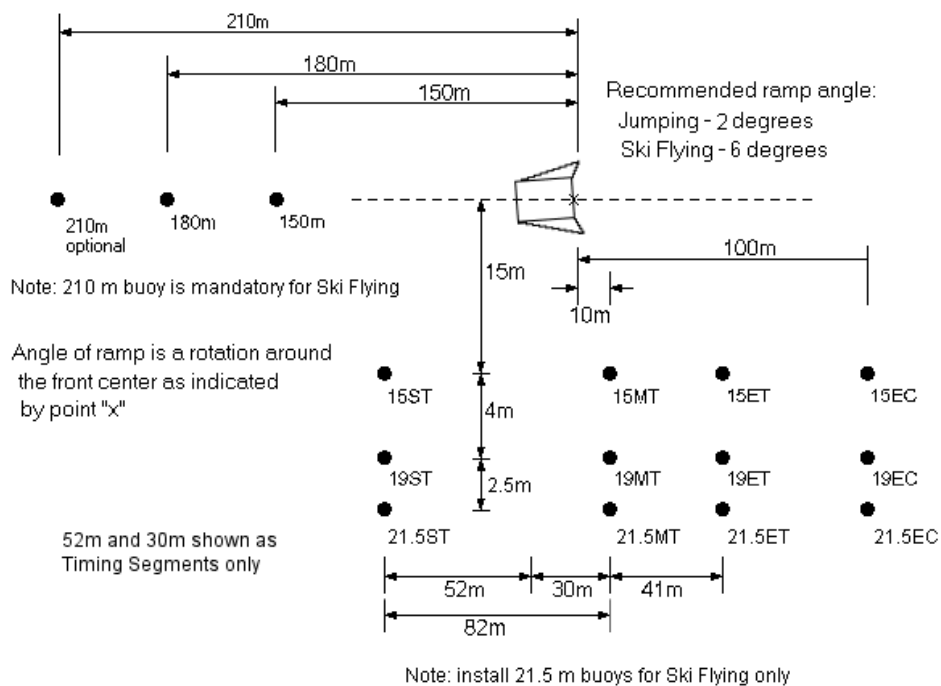
10.14: Safety Equipment

All competitors in jump events shall be required to wear approved life jackets (4.03).

It is strongly recommended that skiers wear jump pants especially adapted for waterskiing.

Skiers must wear a suitable helmet in the jump event (4.09). Should a skier go over the ramp not wearing a helmet, that jump will be disallowed.

10.15: Official Jump Course



The ramp must be parallel to the jump course and slightly open. The tolerance for standard jumping is between +1.00° and +2.50° open.

The tolerance for ski flying is between +5.00° and +7.00° open.

Rule 10 - Jump

Open means that the low end of the ramp is turned toward the jump course. The basis of the jump course is the 15ST - 15MT line.

Any marker buoys used for video distance measurement or spectator reference buoys must be a minimum of 8m from the ramp centreline for safety purposes so that they will not interfere with the skier while landing.

JUMP COURSE DIMENSIONS AND TOLERANCES

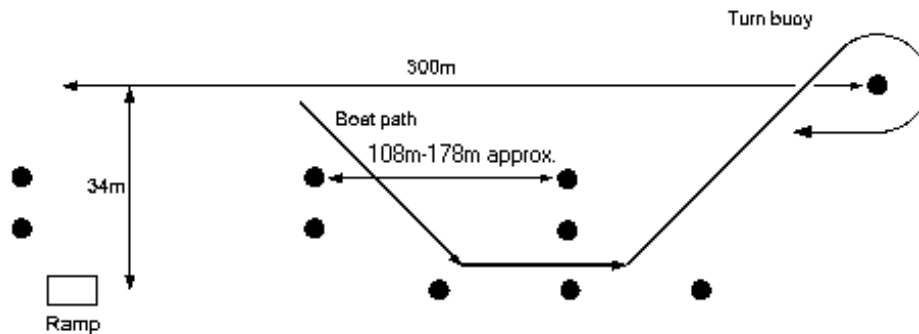
A buoy is recommended to be placed at 210m from the jump in line with the 150m and 180m buoy. The colour will be green.

Dimension	Range	Tolerance	Buoy	Colour
210m (length)	207.9m-212.1m	1%	210m	Green
210m (off-line)	-5m to +5m	0.5m	180m	Red
180m (length)	178.2m-181.8m	1%	150m	Yellow
180m (off-line)	-5m to +5m	0.5m	15ST	Red
150m (length)	148.5m-151.5m	1%	19ST	Red
150m (off-line)	-5m to +5m	0.5m	15MT	Yellow
100m	90M-102m	+2%-10%	19MT	Yellow
82m*	81.59m-82.41m	0.5%	15ET	Red
41m	40.795m-41.205m	0.5%	19ET	Red
15m	14.85m-15.15m	1%	15EC	Yellow
4m	3.90m-4.10m	2.5%	19EC	Yellow
10m	9.8m-10.2m	2%		

*Timed as 2 segments, 52m and 30m when required.

10.16: Optional Jump Course Turn and Guide Buoys

The following diagram shows the placement of an optional turn buoy and optional boat guide buoys for the official jump course shown in (10.15). It is highly recommended that the optional buoys be used.

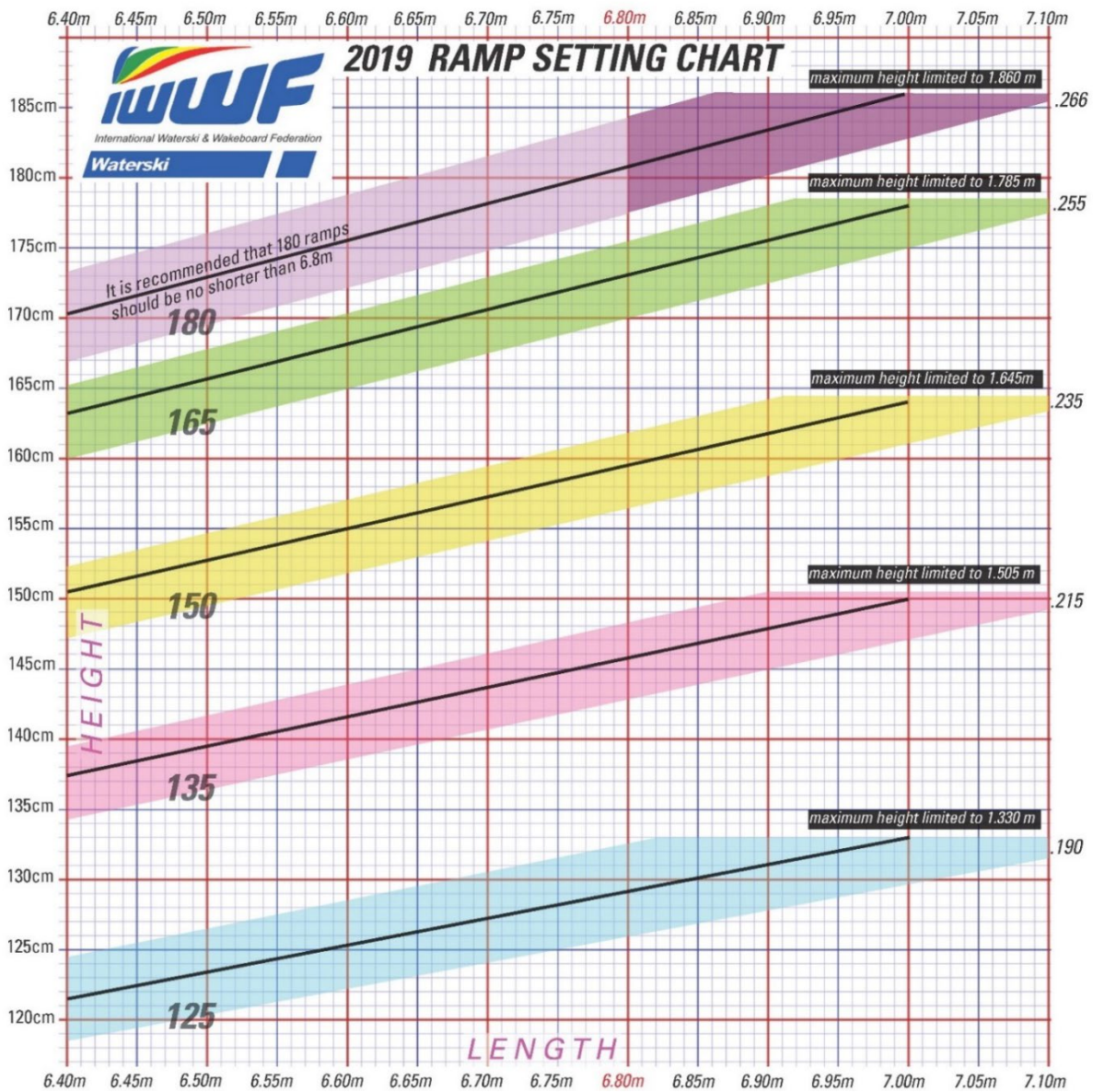


10.17: Homologation Guidelines - Jump

- The jump course shall be checked by survey. (refer to rule 25.08).
- Personal rope and handle shall be measured by the dock starter under the responsibility of the Homologator, immediately before the skier skis. The Chief Judge may require skier rope and handle to be re-measured immediately after use. Should the rope and handle be out of tolerance following a skier return to the dock, the skier's performance in that round is deleted.
- Two test buoys must be placed at approximately 40m and 60m jump distances and their exact location as measured by survey and by the video jump system must be recorded on the dossier. The buoys must be independent of the video jump system (i.e. not used as reference buoys by the system).
- The jump ramp must be waxed. The wax used must have been previously used and tested and found to be appropriate for the use.
- Jump check buoys should be a different colour than the grid/set buoys and different than reference buoys
- Jump reference buoys should be in a sequence of different colours so that no two adjacent reference buoys are the same colour i.e. red, yellow, green, red, yellow....
- The Homologator should record static pictures of the jump end course and pictures of the jump measurement grids for later reference if required.

10.18: Ramp Setting Chart

For any particular ramp setting, a combination of HEIGHT at the top edge and LENGTH out of the water enclosed within the highlighted areas is allowable. A combination that lies on the middle line is the most desirable unless conditions indicate that another in tolerance setting would be more appropriate. Ramp setting must be within the indicated tolerances in the graph.



Ramp amendment 2019. Effective from March 2019		Ratio	6.40	6.80	length	7.10
The 1.85 angle ratio is now 0.266 +0.005 / -0.005. Maximum height is capped at 1.860	180	0.005	0.271	1.734	1.843	Capped to 1.860
			0.266	1.702	1.809	
		-0.005	0.261	1.670	1.775	
The 1.65 angle ratio is now 0.255 +0.003 / -0.005. Maximum height is capped at 1.785	165	0.003	0.258	1.651	1.754	Capped to 1.785
			0.255	1.632	1.734	
		-0.005	0.250	1.600	1.700	
The 1.50 angle ratio is now 0.235 +0.003 / -0.005. Maximum height is capped at 1.645	150	0.003	0.238	1.523	1.618	Capped to 1.645
			0.235	1.504	1.598	
		-0.005	0.230	1.472	1.564	
The 1.35 angle ratio is now 0.215 +0.003 / -0.005. Maximum height is capped at 1.505	135	0.003	0.218	1.395	1.482	Capped to 1.505
			0.215	1.376	1.462	
		-0.005	0.210	1.344	1.428	
The 1.25 angle ratio is now 0.190 +0.005 / -0.005. Maximum height is capped at 1.330	125	0.005	0.195	1.248	1.326	Capped to 1.330
			0.190	1.216	1.292	
		-0.005	0.185	1.184	1.258	

Length under water 50cm minimum.

Rule 11 – Overall Competition

Overall scoring can be used either to determine an Overall result in a two or three event competition or for a stand-alone Overall Competition.

Each Overall Competitor shall be awarded in each event a certain number of Overall points according to specific formulae. For the various formulae refer to the appropriate competition rules.

11.01: Special Rules for Under 10 and Under 14 Individual Overall

Qualification for Individual Overall Scoring

- To qualify for overall, an Under 10 competitor must ski in slalom and tricks. (competing in jump is not necessary)
- To qualify for overall, an Under 14 competitor must ski in slalom, tricks and jump.

Individual Overall Scoring Method

Each overall competitor shall be awarded in each event a certain number of overall points according to the relationship of his score and the relative Overall Score Basis.

Overall Score Basis		
	U-10 Boys	U-10 Girls
Slalom	1.00@49/13.00 (67 buoys) buoys count from 25	1.00@49/14.25 (61 buoys) buoys count from 25
Trick	4000	2720
Jump	21.9m	11.4m
	U-14 Boys	U-14 Girls
Slalom	2.00@55/11.25 (56 buoys) buoys count from 43	2.00@52/11.25 (56 buoys) buoys count from 40
Trick	6630	5300
Jump	35.3m	27.0m

Overall formulas:

Tricks: Skiers score X 1000 / Overall Score Basis

Slalom: Skiers score X 1000 / Overall Score Basis

Jump	Under 10 Boys	Skiers score x 1000 / Overall Score Basis
	Under 10 Girls	(Skiers score +10m) x 1000 / (Overall Score Basis +10m)
	Under 14 Boys	(Skiers score -10m) x 1000 / (Overall Score Basis -10m)
	Under 14 Girls	(Skiers score -7m) x 1000 / (Overall Score Basis -7m)

Rule 12 – Re-rides

12.01: Team Representative

Each Federation shall select a team representative whose name shall be given to the Chief Judge before the start of the first event. The team representative shall represent all skiers from his federation. An alternate team representative may also be named.

12.02: Re-ride Criteria

When unfair conditions or a malfunction of the competition supplied equipment occurs which in the opinion of a majority of the Event Judges adversely affects a skier, he shall be granted the option of a re-ride only on the passes affected. In the case of optional re-rides the score may only be protected for failure of competition supplied equipment or under those circumstances explicitly defined in these rules.

When a skier receives an unfair advantage, the re-ride is mandatory. When taken, the re-ride is scored.

Failure to establish a time through the course in slalom or jump is considered a malfunction of equipment and a re-ride will be given. The score is not protected.

If a skier's turn in Jump or Slalom or Tricks is interrupted between passes due to a weather hold initiated by the Judges, and the interruption causes a delay exceeding ten (10) minutes, then the skier shall be allowed a free warm up pass/ jump with a protected score on passes already completed. The warm-up pass is not scored although the skier will be given the distance in the case of jump. The timing for the 10 minutes shall be from the moment the skiing is placed on hold or the boat is stopped (whichever comes first).

12.03: Granted Re-ride Procedure

Re-rides must be taken no later than five minutes after they are granted and may be taken immediately at the option of the skier ([12.06](#)) for slalom re-rides and ([12.05](#)) for jumping re-rides. If the skier elects to take a five minutes rest, the next skiers in order shall ski, and the re-ride shall be taken at the conclusion of the skier's run during which the five minutes rest period expires. However, the rest time will not be allowed to affect the skiing order if it is seeded or in the finals of a major competition.

12.04: Requests for Re-rides

Requests for re-rides may be initiated by a Judge for the event before the next skier starts or may be initiated, as soon as possible, by the skier or his team representative and shall be decided as soon as practicable thereafter. If, in the opinion of the Judges for the event, the request was not initiated as soon as possible after the skier skied, the request shall be denied.

12.05: Boat Path or Speed Error - Jump

The Boat Judge is authorised to give re-rides under Rules ([6.02](#)), and ([10.05](#)).

The boat judge shall observe the accuracy of the boat path and verify its speed by checking the speed measuring devices.

If a re-ride is given because of a faulty boat path or an error in speed, it must be taken immediately. When there is a fast 2nd or 3rd segment, the boat judge shall signal the skier by crossing his arms at 90 degrees (in the sign of an "X") to show that the skier may have a potential re-ride.

If there are more than two (2) re-rides, the skier shall have the option of asking for a five-minute rest before continuing.

The rest time will not be allowed to affect the skiing order if it is seeded or in the finals of a major competition.

12.06: Re-rides - Slalom

If the skier has an imperfect pass, the Boat Judge shall determine, by appropriate means, whether the skier wishes to take a re-ride.

If a re-ride is to be taken, the boat shall immediately return through the course in an unscored pass and the re-ride shall then follow in the original direction through the course.

If there are more than two (2) re-rides, the skier shall have the option of requesting a five-minute rest before continuing. The rest time will not be allowed to affect the skiing order if it is seeded or in the finals of a major competition.

Rule 13 – Protests & Video Challenge

13.01: Who may Protest and How it is done

Protests shall be made to the Chief Judge only by a Team Representative and shall be considered by the Appointed Judges. Protest must be made in writing, must state the reason(s) for the protest and quote the relevant rule number(s), and must be filed as soon as possible, but no later than 30 minutes after the results of the event are announced and the Judges scoring forms are available for inspection.

13.02: Allowable Reasons for Protests

Protests shall be allowed only for failure of the Competition Organiser, Officials, Judges and Scorers to comply with these rules and only if this non-compliance with rules has an adverse effect on a skier. No protest shall ever be permitted on a judgment decision by the Judges except as noted in Rule [\(13.04\)](#).

13.03: Protest Submission Procedure

Protests must be accompanied by the approximate equivalent in local currency of US\$25. This amount will be refunded if the protest is considered reasonable by the Judges.

13.04: Video Challenge

a) Video Challenge in Jump for Boat Path.

If a Skier/Team Representative believes that the boat path was wrong (per Rule [10.10](#)), he may challenge it by notifying the Chief Judge before the next skier goes out (or as soon as it judged practicable by the Judges) and putting up US\$250. The Chief Judge (or the Chief Judge's designee) and a designated review judge will review the end course video (or the results provided by the Approved Path Measurement System if it is being used), the judges conducting this review must be different from the judges originally making the call. If they both agree that the boat pylon deviation exceeded the allowable tolerance (per Rule [10.10](#)), then an optional re-ride shall be awarded. If they disagree or agree that the video (or results of the Approved Path Measurement System) do not clearly overrule the original call, then the challenge will be rejected. The US\$250 will only be returned if the challenge is accepted.

b) Video Challenge in Slalom for Gates and Buoys when Video is used.

If a Skier/Team Representative believes that there was an error in a score, he may challenge it by notifying the Chief Judge before the next skier goes out (or as soon as is judged practicable by the Judges) and by putting up US\$250. The Chief Judge and a designated review Judge will review the video (boat video, or gate video). These two review Judges must be different from the ones who originally made the call. If they both agree on a score, that will be the given score. If they disagree or agree that the video does not clearly overrule the score given by the Judges, then that score will stand. The US\$250 will only be returned if the original score was changed.

c) Video Challenge in Slalom for Boat Path.

If a Skier/Team Representative believes that the boat path was out of tolerance (per Rule [8.15](#)), he may challenge it by notifying the Chief Judge before the next skier goes out (or as soon as it judged practicable by the Judges) and putting up US\$250. The Chief Judge (or the Chief Judge's designee) and a designated review judge will review the end course video (or the results provided by the Approved Path Measurement System if it is being used), the judges conducting this review must be different from the judges originally making the call. If they both agree that the boat pylon deviation exceeded the allowable tolerances (per Rule [8.15](#)), then a re-ride shall be awarded (if it is an optional re-ride) or required (if it is a mandatory re-ride). If they disagree or agree that the video (or results of the Approved Path Measurement System) do not clearly overrule the original call, then the challenge will be rejected. The US\$250 will only be returned if the challenge is accepted.

d) Video Challenge for Trick Timing.

If a Skier/Team Representative believes that there was an error in the timing of a trick pass, he may challenge it by notifying the Chief Judge as soon as is practicable and by putting up US\$250. The Chief Judge and a designated review Judge will re-time the pass. If they both agree on the timing, whether the original timing or a changed one, that will be where the run will end. If they disagree then the original timing will stand.

The US\$250 will only be returned if the original time was changed.

13.05: Computation Error Procedure

A correction of an error in the computation of scores shall not be considered a protest, and the correction shall be made upon approval of the Chief Judge and Scorer if requested within 30 minutes after the results of the event are announced and the Judges' scoring forms are available for inspection.

13.06: Tricks Score Sheet Availability

The tricks scoring sheets of each Judge for every skier shall be made available for a period of 30 minutes for inspection by the Team Captain as soon as the provisional results are posted. Under the Team Captain's responsibility, a skier may view his own scoring sheets.

If a skier's score sheet is changed based upon this review, the changed sheet will be available for inspection for a period of 15 minutes after the revised results are posted assuming that this would not be less than the initial 30 minutes limit. Each time a sheet is changed, it will be available for another 15 minutes for review.

If specific results are asked to be reviewed by the officials by the Team Captain, a notice shall be posted to the effect that some scores are under review and naming which skiers. This can be done by marking the posted results or by separate notice.

Judges are required to list the official code and/or variations for each trick. The Scorer may reasonably interpret the judges form to allow for any mistakes in writing down trick codes.

Shorthand can be used to write the run initially, but the code must be written in before the sheets are handed to the Scorer (who must also be given a copy of each Judge's shorthand).

13.07: Posting Definition

For an Official document to be posted it must be:

- a) Either:
 1. A physical copy posted on the Official Notice Board, or
 2. A virtual copy posted on the Official Competition Results Website
- b) Clearly show the time and date that it was approved by the Chief Judge
- c) Be signed or expressly approved by the Chief Judge

If a document does not include a statement that it is the "Final Results" in the heading it MUST be considered provisional.

Note: If documents are posted on line, they should either have an e-signature or another indication (such as a box to be checked indicating "Approved for posting as the Final Result by the Chief Judge") that the Chief Judge has agreed that these are the final results. If all software can include an e- signature, then this is not necessary.

SECTION 3 - WORLD CHAMPIONSHIPS RULES

Rule 14 – World Championships Administration Rules

14.01: Frequency of Competition

- * The World Open Championships shall be held biennially in odd numbered years.
- * The World U17 Championship shall be held biennially in even numbered years.
- * The World U21 Championship shall be held biennially in odd numbered years.
- * The World 35+ Championships shall be held biennially in even numbered years.

14.02: Effectivity of the World Championships

The inability for one reason or another of a country to attend any World Championships (including political reasons) does not require that the entire competition be cancelled or postponed or that the titles are any less world titles.

14.03: Schedule of Events

Not later than two months before the start of the Championships, the World Waterski Council Chairman shall send a schedule to each affiliated Federation showing the days on which the Championship events will be held. The schedule of events for both the preliminary and final rounds shall be drawn up by the Chief Judge, the Chairman of the World Waterski Council and the Championships Chairman and posted prior to the start of the first event. This list shall include starting time for each day. A schedule of starting times for individual events, if shown, shall be for the guidance of the competitors only, and any deviation shall not constitute a change. It is recommended that jump be scheduled as the last event in both the preliminary and final rounds.

14.04: Chief Judge & Appointed Officials

At least six (6) months prior to the start of the World Championships, the World Waterski Council shall appoint, with the approval of the IWWF President, from among the Officials proposed by each Confederation Waterski Council: The Chief Judge, the Assistant Chief Judge, the Homologator, the Chief Scorer, 2 Scorers, the Chief Driver, 2-3 Drivers and 9-10 Judges.

The appointment of the assistant to the Chief Judge must be made with the Chief Judge's approval.

The Appointed Judges will be selected by each Confederation Council and proposed to the Waterski Council for approval (the list order in which they are submitted corresponds to the choice priority). All appointed judges must be qualified in all three events.

A maximum of one boat driver may be from the country organising the Championships.

The Chief Judge, who must not serve as an Event Judge, shall assign to his assistant those duties he deems appropriate.

The Chief Judge directs and controls the work of all officials during the tournament including Judges, Scorers, Drivers, Homologator, and other officials.

- **Assignment of Judges and assistants for each event should be made by the Chief Judge as per rule (8.13), (9.11), (10.11) and (14.06).**
- **Assignment of Scorers to individual events, shall be made by the Chief Judge in consultation with the Chief Scorer.**
- **Assignment of Drivers to individual events, shall be made by the Chief Judge in consultation with the Chief Driver.**

Official	Nominated by	Appointed by	Timeframe
Chief Judge	Confederation Councils	World Council	6 months before start
Assistant Chief Judge	Confederation Councils	World Council	6 months before start
Homologator	Confederation Councils	World Council	6 months before start
Chief Scorer	Confederation Councils	World Council	6 months before start
2 Scorers	Confederation Councils	World Council	6 months before start
3 Judges from PANAM	Confederation Council	PANAM Council	6 months before start
3 Judges from E&A	Confederation Council	E&A Council	6 months before start
3 Judges from AA	Confederation Council	AA Council	6 months before start

Rule 14 – World Championships Administration Rules

1 Additional Judge	Confederation Councils	World Council	6 months before start
Chief Driver	Confederation Councils	World Council	6 months before start
2-3 Drivers	Confederation Councils	World Council	6 months before start

14.05: Choosing Appointed Judges

The Judges chosen for the World Championships must represent the Confederations as follows:

Confederation PanAm - 3 Judges minimum

Confederation E&A - 3 Judges minimum

Confederation A&O - 3 Judges minimum

A total of 10 judges shall be selected.

Each Confederation will nominate a person for the 10th judge to be selected by the World Council. The Chief Judge and his assistant are not included in the above number.

If a Confederation is unable to propose the specified number of qualified Judges, the World Waterski Council can appoint additional Judges from other Confederations.

If two events are to be run at the same time on different sites, the World Waterski Council must appoint 3 extra Judges.

Any additional judges recruited during an event to assist become event judges only. They are not appointed judges.

14.06: Event Judges

For the World Championships, the Event Judges must be chosen by the Chief Judge from among the Appointed Judges, preferably as follows:

For Slalom - no more than two judges from any one Confederation.

For Tricks - the best panel appropriate for the level of trick performances.

For Jumping - one Judge per Confederation.

At other competitions, the selection to the event judges shall be governed by Confederation administrative practice.

14.07: Site Familiarisation

The last two or three days immediately before the Championships will be reserved and used for Official Familiarisation. This will be organised so that each skier who has paid shall be allocated either a set number of passes and/or a certain amount of time at the discretion of the Chief Judge based on the principle that every skier shall receive an equal opportunity for familiarisation.

Slalom skiers will receive - 4 passes or 6 minutes whichever is less.

Trick skiers will receive - 2 passes or 5 minutes whichever is less.

Jump skier will receive - 3 passes or 6 minutes whichever is less.

Each team requesting familiarisation time shall indicate on the official Intention to Enter form, familiarisation is required, which must be submitted at least 60 days before the scheduled start of the event. They must indicate how many skiers in each event wish to participate. Teams who do not comply with this deadline will not be included in the familiarisation schedule. At least 45 days before the scheduled start of the event, the Organiser (in consultation with the Chief Judge, whose decision shall be final) shall announce the official familiarisation schedule (including the allowed time). The order for familiarisation will be based on the team results from the previous World Championships with the last placed team athletes going first, and shall be grouped by event, i.e. slalom familiarisation, trick familiarisation and jump familiarisation (by jump height) will be grouped together. Any athlete whose time has not been paid for at least 30 days before the scheduled start of the event, or who is not ready to ski in accordance with the schedule, will lose their official familiarisation time.

Summary table:

60 days before - deadline for familiarisation requests.

45 days before - deadline for publishing familiarisation schedule by Organiser.

30 days before - deadline for familiarisation payment.

The Chief Judge shall have the discretion to change the start time of team's familiarisation based on extraordinary circumstances.

The Organiser may offer additional training during any unallocated times.

The cost per hour for Official Familiarisation will be agreed between the Organiser, the IWWF President and the World Waterski Council Chairman at the time of the bid. The agreed price will then be noted in the Letter of Agreement and Obligation (LAO) for the event.

14.08: Rounds

Each event shall consist of two rounds, a preliminary round and a final round.
 All skiers qualified to ski in an event must ski in the preliminary round of that event.
 A skier must score (more than 0) in the preliminary round to qualify for the final.

14.09: Numbers in Finals

Basic Rule

The first twelve placed skiers based on the results of the preliminary round, shall be qualified to ski in the final round of that event. There shall be no differentiation between individual skiers and team skiers.
 In the case of a tie for any position which may result in more than twelve skiers going through to the final round there will be a run-off between the tied skiers so that only twelve skiers go into the finals.
 The run-off score(s) shall not be used for the Final Round starting list (where all those tied skiers shall be drawn randomly). Nor shall the first-round run-off scores be used to place the skier in the finals.
 Skiers tied on score in the final round, not in a medal position, will be listed as tied in the final results.
 For all IWWF World Championships except the Open World Championships, the number of skiers qualified to ski in the Final round of an event shall be as shown in the following table.

Number of skiers entered and paid to ski in the Preliminary round (as at midday the day before competition starts)	Number of skiers in Finals
1 – 5	All
6 – 10	first 5
11 – 12	first 6
13 – 15	first 8
16 – 19	first 10
20 and more	first 12

14.10: Schedule Changes

Changes in the schedule during the competition shall be made only for weather, water conditions, safety, or a similar reason. A majority of the Appointed Judges must approve the change, and all affected competitors shall be notified by posting. Although schedule changes are to be discouraged, the Judges should not hesitate to make adjustments required for safety. Once the competition has started, the Judges do not have the authority to cancel any event, except in the case of a definite safety hazard and, if possible, the competition must be completed, even if the Judges are obliged to continue it in a neighbouring community.

14.11: Boats

A maximum of 4 different makes and models of boats shall be chosen from among those boats approved by the World Waterski Council in accordance with the obligations. A minimum of two identical boats must be made available for each make and model chosen. The World Waterski Council and the IWWF Federations shall be notified of the choice of boats at least 6 months before the start of the Championships and which boat shall pull each event 3 months before the start. Full information (engine size, prop pitch, etc.) on each boat shall be published a minimum of 3 months before the start of the Championships.
 The boats for each event shall be chosen from those provided, by the Chief Judge and the host Confederation’s Waterski Council Chairman.

14.12: Entry and Administration

Each Federation shall certify to the Chairman of the World Waterski Council and to the organising committee, not later than 60 days before the scheduled start of the first event of the World Championships, its intent to compete. Any Federation not meeting this requirement will not be allowed to compete until they pay a fine of US\$200 to the IWWF.
 To be accepted, the “Intention to Enter” (ITE) form must be accompanied by a deposit amounting to US\$50 for each athlete mentioned on the form. (For instance: 3 athletes: 3xUS\$50 = US\$150). This amount must be paid to the organiser and is non-refundable.

Each US\$50 will be deducted from the entry fee to be paid later for each athlete. If a Federation subsequently enters less athletes than declared on the ITE the fee of US\$50 paid at that time is forfeited for each missing athlete.

The Federation may enter up to two more athletes than originally declared on the “Intention to Enter” form with no penalty, and for which the full entry fee is required. If more than two additional athletes participate, then a levy of US\$50 per additional athlete will be payable in addition to the full entry fee.

Team or individual athletes not showing up: In the event a team or individual athletes (for whom their Federation has submitted a competition entry), fail to show up for a competition their entry fee shall still be payable in full, unless a valid written excuse is received by 12 noon of the day before the start of the competition.

Each Federation shall submit to the Chairman of the World Waterski Council, the Chairman of the Confederation Waterski Council, and the organising committee, not later than thirty (30) days before the scheduled start of the first event of the World Championships, the names of the members of its team, the events each will enter, the ratings of each skier, as well as the names of the official reserves, together with the receipt of the relevant registration fee payment. Any Federation not meeting this requirement will not be allowed to compete until the Federation pays a fine of US\$10 per skier per day after the 30 days deadline to the IWWF for each skier not officially entered. If the official entry forms are not received prior to the 24 hours before the start of the first event, the Federation's skier's places in the draw shall be determined by the Chief Judge without reference to their qualifying scores. There is no limit on official reserves per team. The day before the start of a preliminary round the entry list shall be closed at 12 noon and thereafter the order of competitors entered and paid will be finalised and posted. No change in this order is allowed except that a team representative may:

- 1) Withdraw a skier from the competition.
- 2) Replace, with the authority of the Chief Judge and before the start of the first event, that is to say before the first skier taking part in the first event has started, an injured skier by a qualified official reserve from the same team.
- 3) The substitute skier shall start first in the seed in which he is qualified unless the draw has not yet been completed.

a) Establishment of seeding for the Open World Championships:

The most recently published World Ranking List (see Rule [14.18](#)) and the previous year Ranking List will be used to make a general entry seeding list of all the skiers entered in the World Championships, where the skiers rank is the higher of the current list or the previous year’s list with a 25% penalty.

Examples:

Skier	Current Year Ranking List	Previous Year Ranking List	Entry Seed
A	10	4 (x1.25=5)	5
B	12	10 (x1.25=12.5)	12
C	25	8 (x1.25=10)	10

Skiers with no performances on those lists list will be subject to a random draw in the lowest series unless he has at least two scores after the most recent ranking list. In that case the average to his two best scores will be used to position him in the seeding.

The number on the previous year Ranking List will be used with a 25% penalty.

1) Establishment of seeding for the top 5 overall men and women:

The top 5 overall men and the top 5 overall women attending the championships, and obtained as above, (comparing the 2-year Ranking List), shall all ski in the same seed group in each event.

The appropriate seed group for each event will be determined by taking the seed group of the highest placed top 5 overall skier and placing all 5 in that same series in addition to the original group size.

2) Establishment of seeding for other individually qualified overall skiers who are not on the single event ranking list:

An overall skier may have an overall ranking, but not be on the event list. In this case the performance level will be used to pick the seed number. If it is from the previous year, the same 25% penalty shall apply. This will determine the seed group. That skier will be added to that seed group as the first skier on the water from that group.

3) Preliminary Round draw:

The skiers will then be divided into groups. The group size will normally be 10 men and 10 women but may be changed before the start of the championships by the Chief Judge (however see Rule [10.01](#) for jumping order). It is recommended that Series 1 and 2 for women and Series 1, 2 and 3 for men be scheduled so that these skiers will have similar conditions.

The starting order for the preliminary round at the Open Worlds will be made using reverse order of the ranking list scores.

b) Establishment of seeding for the Age Division World Championships

The best scores (entry scores) either submitted or from the ranking list will be used for seeding purposes.

Preliminary Round draw:

Once the seeding has been done from the entry scores, the skiers will be divided into groups as stated above in point a 1) and a 2).

The starting order for the preliminary round will be made using a random draw within each series.

c) Final round starting order (all Championships)

The order of the skiers qualified for the final round in any event shall be the reverse of their order of placement in the preliminary round of that event.

The order of competitors tied in placement shall be settled by random draw.

14.13: Skier Eligibility

A Federation may select its team in any manner it desires however, each team member must be a citizen of the Federation represented, or otherwise qualify to ski as a representative of that Federation in accordance with IWWF policy. In case of doubt as to the nationality of a competitor, the Judges normally will refer to his passport. If a skier does not have a passport from the country for which he is skiing, he must prove qualification to ski for that country under IWWF policy. Each Federation shall certify to the Judges that all members of its team meet these qualification requirements.

Skiers who have already skied for one country in a previous World or Confederation Championships may not change countries without consulting and fulfilling the rules laid out in the IWWF Rules of Eligibility.

14.14: Wild Cards

The Federation organising the World Championships shall be entitled to an additional 5 single event wild card entries. The wild cards may be used for any skier, independent of National Federation.

14.15: Placement Eligibility Chart

Skiers eligible to ski as Individuals at their relevant World Championships must be placed within the number shown in the charts below. If the Championships are between June and December, then the May Rankings List will be used otherwise the November list will be used.

Current Year Ranking List	Open	U17	U21	35+,45+,55+,65+
Men Slalom	20	12	12	15
Women Slalom	15	12	12	15
Men Tricks	20	12	12	15
Women Tricks	15	12	12	15
Men Jump	20	12	12	15
Women Jump	15	12	12	15
Men Overall	10	6	6	15
Women Overall	10	6	6	15
Previous Year Ranking List	Open	U17	U21	35+,45+,55+,65+
Men Slalom	16	10	10	12
Women Slalom	12	10	10	12
Men Tricks	16	10	10	12
Women Tricks	12	10	10	12
Men Jump	16	10	10	12
Women Jump	12	10	10	12
Men Overall	8	5	5	12
Women Overall	8	5	5	12

Elite List	30 days prior the World Championships	1 Year and 30 days prior the World Championships
Men Slalom	14	11
Women Slalom	10	8
Men Tricks	8	6
Women Tricks	8	6
Men Jump	12	9
Women Jump	8	6

With the exception of the Open Championships, if a skier changes his age division (Under 17 to Under 21, Open to 35+, 35+ to 45+, 45+ to 55+ and 55+ to 65+) a Slalom score at 58, 55 or 52 will equal to a score at 55, 52 or 49, a Jump score will be accepted as it is regardless of speed/ramp height. Trick scores remain the same. If the skier changing divisions is in the top “n” (see above) of last year's list in any event including overall, he is qualified for that event in the new division.

These skiers will be added to the above numbers shown in the chart.

14.16: Scoring

Event placement for skiers qualifying for the final round will be based on their final round results only. The better result obtained by the skier, in either the preliminary or the final round, shall count towards team score.

It is normally expected that the preliminary rounds in each event will be completed before any final round is started. However, under unusual circumstances the jury may alter the competition schedule (see [14:10](#)).

If by a 2/3 majority decision, the appointed judges decide it is impossible to complete the final round of one or more events in either division only the overall points from the preliminary round of all the events in that division will be used for overall placement and team scoring. In this case

if an event final cannot be completed, placement in that event shall be based on the preliminary round results.

14.17: Safety Director

At least two months before the competition, the organising Confederation Waterski Council shall appoint a Safety Director (see rule [4.01](#)), who will appoint such assistants as necessary and inform the IWWF President and the IWWF Waterski Council Chairman.

14.18: Ranking List to be used

Unless otherwise stated, if the Championships are between June and December, then the May Rankings List will be used otherwise the November list will be used.

14.19: Identifying Bibs

In addition to rule 1.05

The central feature of the bib will be an identifying number on both the front and back of the bib. The individual digits of the number must be a minimum of 15 cm in height and be clearly visible from a distance. The bibs will be given to each team captain before the competition for distribution to his team. Spare bibs, with no numbers, should be available at the starting dock in case a skier's bib is damaged and unusable.

Refer to LAO for the complete approval process.

Rule 15 – World Open Championships Rules

15.01: Skiers who may participate

There are no limitations on the age of skiers entering the World Open Championships.

15.02: Team Selection

Each Federation which is affiliated with the IWWF shall have the right to select a team of skiers to represent their Federation in the World Championships. The team shall consist of a maximum of six skiers, with the further limitation that no team may have more than four men or four women.

Skiers not selected for their national teams may qualify to compete in the World Championships as individuals only in the relevant event(s) if they meet one or more of the following criteria:

- a) World Record Holder. The performance must have been ratified by the World Waterski Council and the President of the IWWF 30 days before the first day of the World Championships.
- b) Top 6 of the previous year's World Cup Placements.
- c) Placed on the current year's most recently published IWWF Ranking List per the Placement Eligibility Chart ([14.15](#)).
- d) Placed on the previous year's IWWF Ranking List per the Placement Eligibility Chart ([14.15](#)).
- e) Placed on the Elite Ranking List 30 days before the World Championships per the Placement Eligibility Chart ([14.15](#)).
- f) Placed on the Elite Ranking List one year and 30 days before the World Championships per the Placement Eligibility Chart ([14.15](#)).
- g) Reigning World Champion in any event or the overall from the previously held World Championships.
- h) Top 3 places in slalom, trick, jump, and overall from the most recently held U21 World Championships.
- i) If the date of the Championships is more than 90 days after the most recent list publication, placed on the 60 days before Weekly List will be used as per the Placement Eligibility Chart ([14.15](#)) in addition to the May or November list, whichever is appropriate.

All skiers qualified as individuals must be entered by their Federation.

Skiers entering as individuals shall not have their scores count toward team standings.

15.03: Slalom Starting Speeds

	Preliminary	Final
Men	58@18.25	58@13.00
Women	55@18.25	55@14.25

The skier shall have the option of selecting the starting speed and rope length.

The skier will be credited with all buoys from each pass waived or skied up to and including his last perfect pass plus the number of buoys scored on his last incomplete pass, if any.

15.04: Overall and Team Competition

a) Qualification for Individual Overall Scoring

To qualify for overall, a competitor must ski in slalom, tricks and jump.

b) Round Selection for Overall Score

Individual overall results shall be calculated on the better score of either the preliminary or the final round for each skier qualified for the individual overall. Scores obtained in running off a tie shall not count towards overall.

c) Individual Overall Scoring Method

Each overall competitor shall be awarded in each event a certain number of overall points according to the relationship of his best score in either the preliminary round or the final round to the best score in the event during either round by a skier who is qualified as an overall skier.

The best performance in an event in either round by an overall skier shall be awarded 1000 points and be referred to as the "Best overall skiers score". All other performances shall be calculated according to the following formulae:

For Tricks: (skiers best event score x 1000) / Best Overall Skiers score

For Slalom: ((skiers best event score +12) x 1000) / (Best Overall Skiers score + 12)

(score from 55/18,25 for Women – score from 58/18,25 for Men)

Example 3@13 = 21 buoys starting the count at 18.25 so for overall scoring if the best overall skier's score was 6@12 or 30 buoys, the formula would be $(21+12) \times 1000 / (30 + 12)$

For a skier to receive credit for these extra 12 points, he must have successfully completed his first pass (see Rule 8.02).

For jump the formula is different for men and women:

Men: $((\text{skiers best event score} - 25\text{m}) \times 1000) / (\text{Best Overall Skiers score} - 25\text{m})$

Women: $((\text{skiers best event score} - 17\text{m}) \times 1000) / (\text{Best Overall Skiers score} - 17\text{m})$

A skier's overall score in Jump shall not be reduced below zero.

d) Overall Placement

Individual Overall placement is based only on better score of either the preliminary or the final round.

e) Team Scoring

In team competition, the best three Team scores, men or women, in each event (in the preliminaries or finals) shall be summed up to obtain the team score.

The best performance in an event in the preliminary or final round by a team skier shall be awarded 1000 points and be referred to as the "Best Team Score". All other performances shall be calculated according to the above formulae substituting "Best Team Skier's Score" for "Best Overall Skier's Score". The performance by a skier who is not an official member of his Federation's team shall not be taken into consideration in the calculation of the team score.

Team scores are separate and distinct from Individual overall.

Rule 16 – World Under 17 Championships Rules

16.01: Skiers who may Participate

The maximum age of any skier participating is 16 years as of December 31, preceding the competition. This means that the last year of eligibility of a skier is the year in which he has his 17th birthday.

16.02: Team Selection

Each Federation which is affiliated with the IWWF shall have the right to select a team of skiers to represent their Federation in the World Championships. The team shall consist of a maximum of 6 skiers, with the further limitation that no team may have more than four boys or four girls.

Skiers not selected for their national teams may qualify to compete in the World Championships as individuals only in the relevant event(s) if they meet one or more of the following criteria:

- World Record Holder. The performance must have been ratified by the World Waterski Council and the President of the IWWF 30 days before the first day of the World Championships.
- Placed on the current year's most recently published* IWWF Ranking List per the Placement Eligibility Chart ([14.15](#)).
- Placed on the previous year's IWWF Ranking List per the Placement Eligibility Chart ([14.15](#)).
- Reigning World Champion in any event from the previously held World Championships.
- If the date of the Championships is more than 90 days after the most recent list publication, placed on the 60 days before Weekly List will be used as per the Placement Eligibility Chart ([14.15](#)) in addition to the May or November list, whichever is appropriate.

All skiers qualified as individuals must be entered by their Federation.

Skiers entering as individuals shall not have their scores count toward team standings.

16.03: Slalom Starting Speed:

	Preliminary	Final
Boys	52 Kph	58@18.25
Girls	49 Kph	55@18.25

The skier shall have the option of selecting the starting speed and rope length.

The skier will be credited with all buoys from each pass waived or skied up to and including his last perfect pass plus the number of buoys scored on his last incomplete pass, if any.

16.04: Overall and Team Competition

Rule [15:04](#) applies with the following changes in the formulae:

For Tricks (skiers best event score x 1000) / (Best Overall Skiers score)

For Slalom (skiers best event score x 1000) / (Best Overall Skiers score)

Score from 49/18,25 for Girls - Score from 52/18,25 for Boys

Example 3@13 = 33 buoys starting the count at 49 or 52/18.25 so for overall scoring if the best overall skier's score was 6@12 or 42 buoys, the formula would be (33x1000/42)

For Jump the formula is different for boys and girls:

Boys: (skiers best event score - 20m) x 1000) / (Best Overall Skiers score - 20m)

Girls: (skiers best event score - 13m) x 1000) / (Best Overall Skiers score - 13m)

A skier overall score in Jump shall not be reduced below zero.

16.05: Number of Officials at the World Under 17 Championships

- 7 judges, 2 from each Confederation with 7th being named from the alternate nominations.
- 3 Drivers will be appointed.

Rule 17 – World Under 21 Championships Rules

17.01: Skiers who may participate

The maximum age of any skier participating is 20 years as of December 31, preceding the Championships. This means that the last year of eligibility of a skier is the year in which he has his 21st birthday.

17.02: Team Selection

Each Federation which is affiliated with the IWWF shall have the right to select a team of skiers to represent their Federation in the World Championships. The team shall consist of a maximum of six skiers, with the further limitation that no team may have more than four men or four women.

Skiers not selected for their national teams may qualify to compete in the World Championships as individuals only in the relevant event(s) if they meet one or more of the following criteria:

- a) World Record Holder. The performance must have been ratified by the World Waterski Council and the President of the IWWF 30 days before the first day of the World Championships.
- b) Top 6 of the previous year's World Cup Placements.
- c) Placed on the current year's most recently published* IWWF Ranking List per the Placement Eligibility Chart ([14.15](#)).
- d) Placed on the previous year's IWWF Ranking List per the Placement Eligibility Chart ([14.15](#)).
- e) Placed on the Elite Ranking List 30 days before the World Championships per the Placement Eligibility Chart ([14.15](#)).
- f) Placed on the Elite Ranking List one year and 30 days before the World Championships per the Placement Eligibility Chart ([14.15](#)).
- g) Reigning World Champion in any event or the overall from the previously held World Championships.
- h) Top 3 places in slalom, trick, jump, and overall from the most recently held U-17 World Championships.
- i) If the date of the Championships is more than 90 days after the most recent list publication, placed on the 60 days before Weekly List will be used as per the Placement Eligibility Chart ([14.15](#)) in addition to the May or November list, whichever is appropriate.

All skiers qualified as individuals must be entered by their Federation.

Skiers entering as individuals shall not have their scores count toward team standings.

17.03: Slalom Starting Speeds

	Preliminary	Final
Men	58@18.25	58@14.25
Women	55@18.25	55@16.00

The skier shall have the option of selecting the starting speed and rope length.

The skier will be credited with all buoys from each pass waived or skied up to and including his last perfect pass plus the number of buoys scored on his last incomplete pass, if any.

17.04: Overall and Team Competition

Rule [15:04](#) applies

17.05: Number of Officials

- a) 7 judges, 2 from each Confederation with 7th being named from the alternate nominations.
- b) 3 Drivers will be appointed.

Rule 18 – World 35+ Championships Rules

18.01: Skiers who may participate

Skiers eligible for this competition are Men and Women in the age division listed below.

Division	Age
35+	35 years and older
45+	45 years and older
55+	55 years and older
65+	65 years and older
70+	70 years and older
75+	75 years and older
80+	80 years and older
85+	85 years and older

All ages refer to the age of the skier on the 31st December of the previous year.

There shall be no combination of divisions regardless of the number of competitors **with the exceptions detailed below**. Championship medals will be awarded in each division to the top three places (or the number of competitors if that is less than three) regardless of the number of competitors in the event **with the exceptions detailed below**.

For clarity: An eligible skier can compete in any one of the Age Divisions in which he/she falls. (example: a 76-year-old skier may choose to compete in any one of the 35+,45+,55+,65+,70+,75+ divisions) A skier eligible or qualified in more than one of the age Divisions can compete only in one which, in all events, must be the same throughout the competition.

18.02: Team Selection

Each Federation may enter a Team composed of a maximum 10 skiers, with a maximum of 4 skiers in any age division and with a maximum of 3 skiers of the same sex in any age division.

Skiers not selected for their national teams may qualify to compete in the 35+, 45+, 55+ and 65+ World Championships per the Placement Eligibility Chart ([14.15](#))

Note: For each individual skier who ranks within an Age Division which is not their “true” Age Division, the number of skiers in Chart 14.15 will increase by “N”.

For example: a 46 y/o skier ranks 10th on the 35+ List and 8th on the 45+ list; the 35+ List eligibility will increase by 1. However, the 45+ list will not increase based on this skier.

- For team purposes, any competitor above 65 years old can be entered in the 65+ division (but to ski on the team, they must ski in the 65+ division).
- Any Federation can enter as many wild card competitors above 65 years old as they wish.
- The competition events for 70+, 75+, 80+ and 85+ shall be slalom, trick and jump only (**no overall**).

Minimum number of competitors for 70+, 75+, 80+ and 85+ Age Divisions:

- To open a Division there must be a minimum of one competitor in that Division (entered and paid as of the entry deadline).**
- In order to assign a title and medal, in any event, there must be at least 3 competitors.**

Special exceptions

Federations may send up to 5 additional skiers of their choice to compete as individuals in any or all events. These are to be treated as wild card entries.

18.03: Slalom starting/shortening Speed:

Division	Start speed	Shortening at	Division	Start speed	Shortening at
35+ Men	55 kph	55 kph	35+ Women	52 kph	55 kph
45+ Men	52 kph	55 kph	45+ Women	49 kph	52 kph
55+ Men	46 kph	55 kph	55+ Women	43 kph	52 kph
65+ Men	43 kph	52 kph	65+ Women	40 kph	49 kph
70+ Men	43 kph	52 kph	70+ Women	40 kph	49 kph
75+ Men	40 kph	49 kph	75+ Women	37 kph	46 kph
80+ Men	40 kph	49 kph	80+ Women	37 kph	46 kph
85+ Men	37 kph	46 kph	85+ Women	34 kph	46 kph

18.04: Overall and Team Competition

Rule **15:04** applies with the following changes.

Replaces 15.04 c): Individual Overall Scoring Method

Each overall competitor shall be awarded in each event a certain number of overall points according to the relationship of his best score in either the preliminary round or the final round to the best score in the event during either round by a skier who is qualified as an overall skier.

The best performance in an event in either round by an overall skier shall be awarded 1000 points and be referred to as the "Best overall skiers score". All other performances shall be calculated according to the following formulae:

Tricks: Skiers best event score X 1000 / Best overall Skiers score

Slalom: Skiers best event score X 1000 / Best overall Skiers score

35+: (score from 52/18,25 for Women - score from 55/18,25 for Men)

45+: (score from 49/18,25 for Women - score from 52/18,25 for Men)

55+: (score from 43/18,25 for Women - score from 46/18,25 for Men)

65+: (score from 40/18,25 for Women - score from 43/18,25 for Men)

Jump:

35+ Women: $((\text{Skiers best event score} - 7) \times 1000) / (\text{Best overall Skiers score} - 7)$

35+ Men: $((\text{Skiers best event score} - 20) \times 1000) / (\text{Best overall Skiers score} - 20)$

45+ Women: Skiers best event score x 1000 / Best overall Skiers score

45+ Men: $((\text{Skiers best event score} - 15) \times 1000) / (\text{Best overall Skiers score} - 15)$

55+ Women: $((\text{Skiers best event score} + 5) \times 1000) / (\text{Best overall Skiers score} + 5)$

55+ Men: $((\text{Skiers best event score} - 10) \times 1000) / (\text{Best overall Skiers score} - 10)$

65+ Women: $((\text{Skiers best event score} + 10) \times 1000) / (\text{Best overall Skiers score} + 10)$

65+ Men: Skiers best event score x 1000 / Best overall Skiers score

A skier's overall score in Jump shall not be reduced below zero.

Replaces 15.04 e): Team Scoring.

In team competition, the best 5 team scores from each event, in the preliminaries or finals, but with a maximum of 2 scores from the 8 age/sex categories (35+,45+,55+,65+, men, women) shall be summed up to obtain the team score.

The best performance in an event in the preliminary round or finals by a team skier shall be awarded 1000 points and be referred to as the "Best Team Score". All other performances shall be calculated according to the formulae shown above, substituting "Best Team Skier's Score" for "Best Overall Skier's Score". The performance by a skier who is not an official member of his Federation's team shall not be taken into consideration in the calculation of the team score.

Team scores are separate and distinct from Individual overall scores.

SECTION 4 – MISCELLANEOUS RULES

Rule 19 – IWWF Multi-Sport Games

19.01: General

Multi-Sport games are usually geographically based and Federations in that geographical area are given requirements for number and gender of athletes as well as unique and specific rules regarding the number of athletes per country allowed in the finals. An important aspect of Multi-Sport Games is that the results of the event must be available immediately at the conclusion of the event. This issue is affected by potential protests and trick review times so the rules have been revised in those areas as shown below. The rules for the events will be identical to those in the rulebook with the following exceptions and additions. Unique format rules may be included to match the goal of the specific games. Often an Overall Event is allowed which requires a separate competition with a preliminary and final round.

19.02: Overall Final

The overall finals shall consist of each qualifying competitor (usually the top 4 overall skiers) receiving one round in each of the three events, slalom, tricks and jump. Separate men's and women's divisions will be held. The start order in each of the three events shall remain the same which shall be the reverse of the overall placement in the preliminary round.

The competitors shall slalom first according to all the rules of the slalom event. This will be followed by tricks and finally jump. (in the spirit of the rules, the optional lower heights of the jump should be allowed, if requested, which would potentially change the start order of the jump portion. If possible, this should be avoided - potentially the top overall skiers will all be using the higher ramp setting).

The competitor with the highest overall score based on performances in this round only shall be the winner. Any tie will be resolved by first using the jump score as a tiebreaker. If they are tied, then the tricks score will be used as a tiebreaker. If there is still a tie, then they must also have tied in slalom and the tie will be resolved by a run-off in the jump event.

The men's and women's events will run together in the order of women's slalom, men's slalom, women's tricks, men's tricks, women's jump, men's jump.

Overall points will be allocated according to the formula in Rule [\(15.04c\)](#) with "best score" being the best score in each event in the Overall Final.

For ranking list purposes, the overall event will be run under a different competition code to separate it from the standard events. (i.e. 15CAN10, 15CAN10a)

19.03: Who may Protest and How it is Done

Protests shall be made to the Chief Judge only by a team representative and shall be considered by the Appointed Judges. Protest must be made in writing, must state the reason(s) for the protest and quote the relevant rule number(s), and must be filed as soon as possible, but no later than 5 minutes after the results of the event are announced and the Judges scoring forms are available for inspection. The protest must be resolved within 10 minutes.

19.04: Trick Score Sheet Availability

The scoring sheets of each judge for every skier shall be made available for a period of 15 minutes for inspection by the team captain as soon as the provisional results are posted. Under the team captain's responsibility, a skier may view his own scoring sheets.

If a skier's score sheet is changed based upon this review, the changed sheet will be available for inspection for a period of 10 minutes after the revised results are posted assuming that this would not be less than the initial 15 minutes limit. Each time a sheet is changed, it will be available for another 10 minutes for review.

19.05: The World Games – Skier Selection

- 1) There will be slalom, trick, and jump disciplines with 11 Men and 7 Women per discipline.
- 2) Maximum one skier per country per discipline.
- 3) The top skier from each country will be selected from the [IWWF World Ranking List](#).
- 4) As it is likely that there will be some skiers selected in more than one discipline, we will need to pick additional skiers to make up 54 skiers.

Rule 20 – World Cup Rules

- 5) These additional skiers will be the top ranked skiers from countries not picked in the original 11 Men and 7 Women pick. These skiers will be picked in order of the ranking number, independent of disciplines.
- 6) After the initial selections, if a country wants to substitute a skier then that skier has to be higher ranked than the lowest ranked skier in the original 11 Men and 7 Women pick in that discipline. If not, the selection will go back to the IWWF World Ranking list.
- 7) Countries cannot substitute a skier from criteria #5, but if one of those skiers declines the next skier on the list of not initially selected countries will be selected
- 8) Depending on the specific requested selection date, the weekly list on that date will be used.

19.06: ANOC World Beach Games – Skier Selection

- a) There is a limit of 24 athletes (12 Men and 12 Women)
- b) There will be jump.
- c) The selection mandate is to have the best athletes from the most countries, with maximum one athlete per country by gender except for the top 4 on the World Rankings list.
The top 4 ranked men/women are automatically selected and then the next 8 athletes are selected using the last approved World Rankings List. The top athletes wouldn't be considered in the one per country restriction but their countries would be considered selected (example if the top 4 skiers were FRA, USA, CAN, FRA then FRA, CAN and USA skiers have been selected but there would be 2 FRA skiers allowed).
Once the top 10 are selected, the 11th and 12th would either be the next athlete on the list or a substitute to provide Confederation representation.
If athletes decline to participate, a substitution is required.
The method used is:
 - 1) If an athlete declines then he/she can be replaced by an athlete from the same country as long as that athlete is rated higher than the lowest ranked athlete in the event, with the exception that the lowest ranked athlete does not include athletes selected as substitutes for Confederation representation.
 - 2) If that is not the case, then the next athlete on the original list is selected.

Rule 20 – World Cup Rules

World Cup Rules will be approved by the World Cup Committee and published prior to the start of the World Cup season.

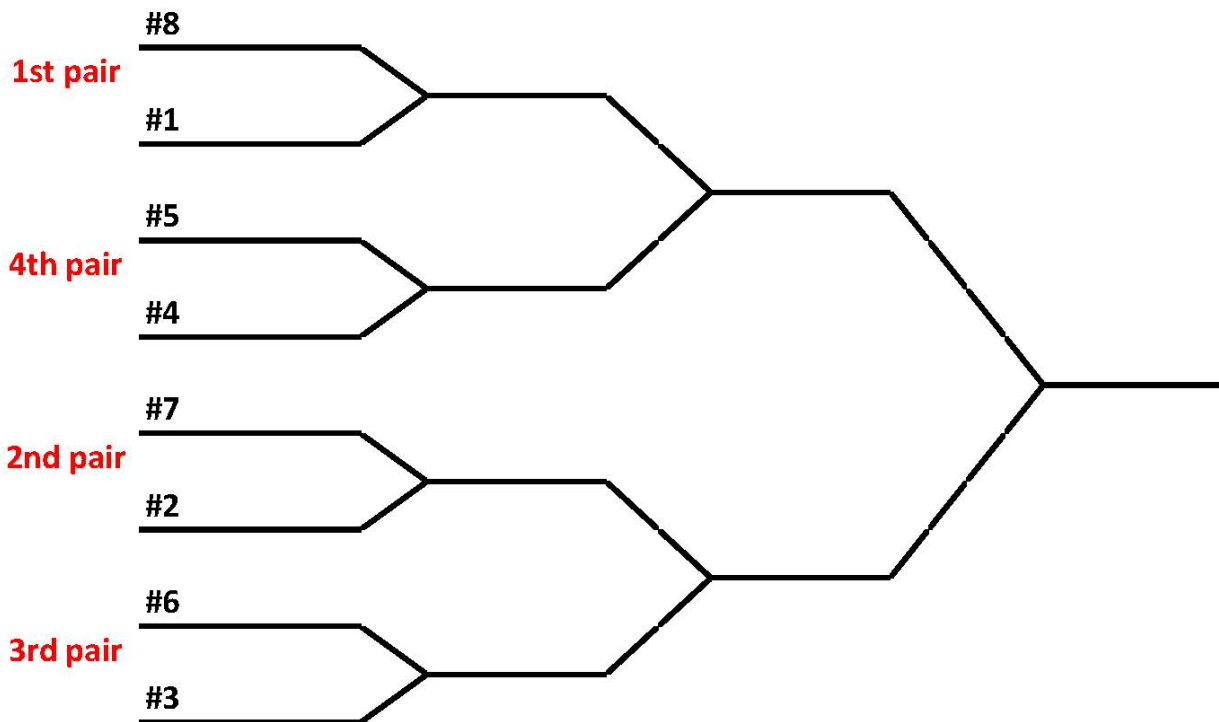
Rule 21 – Optional Rules

21.01: Head-to-Head Competition

Head-to-head competition may be held instead of the regular format detailed in these rules. A preliminary contest for seeding may be held, or seeding may be based on previous performances or the World Rankings.

- a) Rounds. The competition shall consist of three rounds.
- b) Cutting Procedure. The first round shall consist of eight skiers. The second round shall be cut to four skiers. The third round shall be cut to two skiers.
- c) Pairings. The top eight skiers are paired high score against low score. The skier with the higher score may choose to go out first or second at each pairing. In slalom, all skiers must start at the same predetermined speed and line length (see diagram).
- d) General. In each head-to-head pair, the skier going first shall follow the boat through the entrance gate in the slalom course, pass around the outside of any or all six buoys at his discretion, and proceed through the exit gate (constituting a pass). The boat shall then stop outside the course and the skier going second in the pair shall make a pass through the course in the same manner behind a second boat. If the first skier has not missed any buoys or gates, he shall re-enter the course from the opposite end, and following the completion of his pass, the second skier, if he has not missed any buoys or gates, shall also re-enter the course from the opposite end. The skiers shall continue in this manner until each of them has either fallen or missed a buoy or a gate. Jump and trick competition may be held in the same manner. Optionally, one boat may be used. In this case, the first skier will ski until he misses or falls. The second skier will then attempt to better the first skier's score.
- e) Placement shall be determined as follows:
The skier with the higher score in each head-to-head pair shall be the winner of that pair. If the skiers tie, the skier who went first shall be declared the pair winner. The skier winning the pairing in the third round shall be the winner of the event. The other skier in the final pair shall be considered as the second placed skier. Optionally, the two losers in the second round may be paired up to determine third place. If this is done, this pairing shall be run-off before the final pairing.
- f) Boats. Two alternating boats shall be used in all events. The order shall be determined by the Chief Judge. Optionally, one boat may be used (see d).

Head to Head Competition Pairing Tree



Rule 22 – Ski Flying

22.01: Ski Flying General Definition and Conditions

Ski Flying is intended to be an experimental, promotional event limited to elite skiers and with a limited number of contests sanctioned. All IWWF Rules apply per this rulebook with the following exceptions and modifications as noted below which will supersede the relevant rules as indicated. There will be both men's and women's competition.

22.02: Ski Fly Tow Lines

A competitor may furnish his own line and handle for the ski fly event and it may be of any dimensions or material. The length of the handle attachment measured from the inside surface of the attaching loop furthest from the handle to the centre portion of the handle furthest from the attaching loop must be no longer than 32.0m.

22.03: Ski Fly Ramp

- a) The ramp must be parallel to the jump course with a tolerance of +7 degrees open & 5 degrees open.
- b) The surface must be flat with a maximum deviation of 5cm from a plane as measured in (10.02 f)
- c) The jump ramp should be an inclined plane with an apron on the righthand side. The ramp shall meet the following specifications:
 - 1) Length out of the water: 7.35-7.50m at all points - (7.45 recommended)
 - 2) Height of ramp 1.78m (at 7.45m) - as required to meet angle specification
 - 3) Angle 0.239 +/- 0.003

22.04: Ski Fly Pylon Specifications

The height of the pylon will be no higher than 130cm.

22.05: Ski Fly Reference Buoys for Spectators

Distance buoys may be placed every 3m. Recommended to start at 67m and end at 85m. The buoys are for spectator reference and should be placed so as not to interfere with the skier.

22.06: Ski Fly Boat Minimum Qualification

A male skier must have a certified minimum jump score of 60.8m from an L or R class competition to qualify for a Ski Flying event.

A female skier must have a certified minimum jump score of 45.0m from an L or R class competition to qualify for a Ski Flying event.

22.07: Ski Fly Boat Speeds

- a) Speed control will be used
- b) The max speed for men is 72 kph.
- c) The max speed for women is 66 kph.
- d) The skier's chosen speed will remain constant in the 82m section.
- e) Speed may increase 8 kph in the 41m section from.
- f) Timing charts (note: only the 1st segment is timed).

Speed	fast	Actual	slow
57	5.11	5.18	5.25
60	4.86	4.92	4.99
63	4.63	4.69	4.75
66	4.42	4.47	4.53
69	4.23	4.28	4.33
72	4.05	4.10	4.15

22.08: Ski Fly World Records

World Records, if achieved, will be declared as official at the site on the authority of the Homologator and Chief Judge.

22.09: Ski Fly Course

Ski Fly Jump Course Dimensions

Dimension	Range
210m(length)	207.9m to 212.1m
210m(off-line)	-.5m to +.5m
82m	81.59m to 82.41m
41m	40.795m to 41.205m
19m	18.85m to 19.15m
23.0m	22.85m to 23.15m
10m	9.8m to 10.2m
5m	4.90m to 5.10m
4.0m	3.90m to 4.10m

Ski Fly Jump Course Buoy Colours

Buoy	Colour
19st	Red
23st	Red
19mt	Yellow
23mt	Yellow
19et	Red
23et	Red
19ec	Yellow
23ec	Yellow
210m	Green

Rule 23 – Records

23.01: What Records are Recognized

The IWWF shall recognize World records for tricks points, slalom performances, jump distances and overall points for the Open Men's and Women's divisions, Under 21 Men's and Women's and for Under 17 Boy's and Girl's divisions. The Confederations may, in addition, recognise Confederation records under the same standards provided for World records. The Confederations may, however, recognise records for divisions other than those recognised by the IWWF. The Confederation in which a record may be recognised shall be determined by the nationality of the skier rather than the location of the competition.

23.02: Competitions where Records may be set

Records may be set only at competitions homologated as a Record Capability Event by the IWWF, a Confederation, a Federation, or the World Waterski Council.

In any one competition, no more than four rounds are eligible for setting records.

23.03: Jump Records

A jump shall be a new record if it exceeds the current official record. If the distance equals the established record, the skier will become co-holder of the established record.

23.04: Slalom Records

A slalom performance shall be a new record if it exceeds by 1/4 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record.

The Rope (handle and rope) shall be measured by the Jetty Marshall under the responsibility of the Homologator 15 minutes after the skier skis. Should the rope be out of tolerance, then it shall be retained by the competition officials, at normal room temperature, and retested after a one-hour relaxation period. If the rope remains out of tolerance after the one-hour period, the record gets denied but the score stand.

23.05: Tricks Records

A trick performance shall be a new record if it exceeds the current official record. If the score is equalled, the skier will become co- holder of the established record.

23.06: Open Division Overall Records

Current World Overall Record Event Scores

	Slalom	Trick	Jump	Overall Record
Men – Adam Sedlmayer	3@10.25	10750	66.30m	2555.38
Women – Berdnikava Natalia	3@11.25	9740	58.00m	2581.12

An overall performance shall be a new record if it exceeds by 0.01 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record. The scoring will be based on the scores noted in the following chart.

Overall Event Record Base Scores

	Slalom	Trick	Jump
Men	2.50@9.75 (50.5)	12570	77.4m
Women	4.50@10.25 (46.5)	11260	60.3m

Use these forms to calculate a potential new record.

The online forms are at: <http://www.iwfs.com/rules/OverallRecordCalculator.htm>

Men Overall Record Calculator - Current Record **2555.38**

Event	Base	Score
Slalom	2.50@9.75 (50.5)	
Tricks	12570	
Jump	77.4m	
Overall		

Women Overall Record Calculator Current Record 2581.12

Event	Base	Score
Slalom	4.50@10.25 (46.5)	
Tricks	11260	
Jump	60.3m	
Overall		

Overall Records may be set in competitions where there is no overall competition as long as there are distinct rounds of each event and the performances are all in the same round.

For an Overall Record, each discipline is treated as a separate record - with trick review, slalom review and jump review by the applicable event judges on the site. For the overall record, the three event applications shall be submitted for Waterski Council approval.

An overall record cannot be approved until such time as each individual event element is approved if that individual element is a record.

23.07: Under 21 Record

Current Under-21 records

	Men	Women
Slalom	3@10.25	1@10.25
Tricks	12220	10530
Jump	69.00m	54.60m

23.08: Under 21 Overall Records

Current World Overall Record Event Scores

	Slalom	Trick	Jump	Overall Record
Men – Joel Poland	1@10.25	11030	65.7m	2534.20
Women – Anna Gay	2@11.25	10530	41.5m	2253.13

An overall performance shall be a new record if it exceeds by 0.01 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record. The scoring will be based on the scores noted in the following chart:

Under-21 Overall Event Record Base Scores

	Slalom	Trick	Jump
Men	2.50@9.75 (50.5)	12570	77.4m
Women	4.50@10.25 (46.5)	11260	60.3m

Use these forms to calculate a potential new record.

The online forms are at: <http://www.iwsf.com/rules/OverallRecordCalculator.htm>

Under-21 Men Overall Record Calculator - Current Record 2534.20

Event	Base	Score
Slalom	2.50@9.75 (50.5)	
Tricks	12570	
Jump	77.4m	
Overall		

Under-21 Women Overall Record Calculator Current Record 2253.13

Event	Base	Score
Slalom	4.50@10.25 (46.5)	
Tricks	11260	
Jump	60.3m	
Overall		

Overall Records may be set in competitions where there is no overall competition as long as there are distinct rounds of each event and the performances are all in the same round.

For an Overall Record, each discipline is treated as a separate record - with trick review, slalom review and jump review by the applicable event judges on the site. For the overall record, the three event applications shall be submitted for Waterski Council approval.

Rule 23 – Records

An overall record cannot be approved until such time as each individual event element is approved if that individual element is a record.

23.09: Under 17 Records

Current Under 17 records

	Boys	Girls
Slalom	1.00@10.25 (55)	2@10.75
Tricks	12050	10440
Jump	59.1m	46.0m

23.10: Under 17 Division Overall Records

Current World Overall Record Event Scores

	Slalom	Trick	Jump	Overall Record
Boys – Joel Poland	5@11.25	9150	55.1m	2511.583
Girls – Brooke Baldwin	2@10.75	8670	43.5m	2754.70

An overall performance shall be a new record if it exceeds by 0.01 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record. The scoring will be based on the scores noted in the following chart.

Under-17 Overall Event Record Base Scores

	Slalom	Trick	Jump
Boys	1.00@10.25 (55)	12050	59.1m
Girls	2.00@10.75 (50)	10440	46.0m

Use these forms to calculate a potential new record.

The online forms are at: <http://www.iwvf.com/rules/OverallRecordCalculator.htm>

Under-17 Boys Overall Record Calculator - Current Record **2511.58**

Event	Base	Score
Slalom	1.00@10.25 (55)	
Tricks	12050	
Jump	59.1m	
Overall		

Under-17 Girls Overall Record Calculator Current Record **2754.70**

Event	Base	Score
Slalom	2.00@10.75 (50)	
Tricks	10440	
Jump	46.0m	
Overall		

Overall Records may be set in competitions where there is no overall competition as long as there are distinct rounds of each event and the performances are all in the same round.

For an Overall Record, each discipline is treated as a separate record - with trick review, slalom review and jump review by the applicable event judges on the site. For the overall record, the three event applications shall be submitted for Waterski Council approval.

An overall record cannot be approved until such time as each individual event element is approved if that individual element is in itself a record.

23.11: Ties in an Event

In the event of equal performances in a round of a competition event, the record shall be co-held no matter which skier may be the ultimate winner of the event.

23.12: Record Forms and Criteria

Specifications of equipment, courses and measuring devices shall be set by the Official IWWF Record Forms, which must be completed and certified by the Chief Judge and other required officials.

These record forms shall require that for a trick or slalom record, the performance must be video recorded.

Rule 23 – Records

- a) **Slalom.** Boat video, Gate video, and end-course video will be as per the rule requirements. The event judges will examine the video for compliance to the Rules. The videos will be sent with the record forms to the chairman of the World Waterski Council.

The video will be examined to verify that the path is within the following deviation specifications:
Maximum deviation of the boat - 20 cm toward the buoy.

Deviation shall be calculated as being the average of the maximum two deviation measurements taken when the pylon of the boat is within a zone from 10 metres before to 10 metres after the buoy the skier is attempting to round. A minimum of ten deviation measurements must be taken within this zone.

Total cumulative deviation allowed based on score is as follows.

Score	Cumulative Deviation
0.25 - 1.00	20cm
1.25 - 2.00	28cm
2.25 - 3.00	35cm
3.25 - 4.00	40cm
4.25 - 5.00	45cm
5.25 - 6.00	49cm

- b) **Tricks.** Boat video will be per the rule's requirements. The video will be viewed in regular speed by the Event Judges for record verification. Although the record verification cannot change the score recorded in the competition, the score may be changed for the record submission. The video will be sent with the record forms and the "Pink Sheets" to the chairman of the World Waterski Council.
- c) **Jump.** a video jump measurement system is required. These are the allowed Jump measurement systems:

System	Description
Corson	Photogrammetric based system requiring one camera and grid buoys developed by Bob Corson (USA)
Olaf Boettcher	Two camera trigonometric system developed by Olaf Boettcher (GER)
Japan	Three camera trigonometric system developed in Japan
Felix Loreto	Two camera trigonometric system developed by Felix Loreto (PER)
SplashEye	Photogrammetric based system requiring one camera and grid buoys developed by Donal Connolly (IRL)
VTM	Photogrammetric based system requiring one camera and grid buoys developed by Chip Sand (USA).

The Homologator will measure the exact position of the video jump buoys in the video jump buoy course (if used).

A video jump record submission shall include the survey, a copy of the video, a digital picture of the record jump, a digital picture of the video grid box if in the record jump, a digital picture of any of the buoys are obscured, and all configuration and setup files used appropriate for the system being to allow independent verification.

Electronically formatted videos must be submitted. It is important to note that files formatted as DVD movies cannot be accepted as they do not retain exact frame integrity for timing purposes. The files can be submitted via email or on a physical medium such as a CD or DVD

23.13: Record Administration

- a) World Records may only be set at competitions sanctioned by the IWWF, a Confederation, or an affiliated National Federation. In some instances, a Confederation or Federation may specify specific events as record capability. In this instance, only performances from such specified events shall be considered for World Records.
- b) At competitions where World Records may be set, the Competition Homologator shall be responsible for supplying the Chief Judge with the technical information required by the IWWF record application form.
- c) The Chief Judge shall be responsible for the completion of the required application. The completed record form shall be sent by the Chief Judge within one week of the completion of the event to:
- The skier's National Federation.
 - The Chairman of the Confederation Waterski Council where the record was performed.
 - The Chairman of the World Waterski Council.

Rule 23 – Records

Under no circumstances will a record application be considered unless the appropriate record application forms are completed, and all rules conformed to within the stated time limits of one week (7 days).

- d) Upon receipt of the form and the necessary support documentation, the Chairman of the World Waterski Council will either approve or disapprove the application and will advise the World Waterski Council members and the IWWF President of his decision.
- e) The record will then be official, pending final ratification by the World Waterski Council.
- f) The World Waterski Council must advise the Chairman of their ratification or disapproval of his ruling within 30 days of their receipt of the information.
- g) Records shall be ratified if approved by a two- thirds majority of the World Waterski Council. There shall be no proxy voting.
- h) A record can only be approved if the performance was achieved during a sanctioned competition. Record performances achieved during a run-off of a tie are not acceptable.
- i) Should the Competition Homologator and/or Chief Judge fail in the responsibilities of these duties, sanction shall be determined and levied by the IWWF Executive Board following receipt of a report by the Confederation Waterski Council Chairman.
- j) In the unusual instance where a potential World Record performance occurred, and it was intentionally not applied for as a World Record, the Competition Homologator, Chief Judge, skier, and Federation may be subject to disciplinary action as determined by the World Waterski Council and the IWWF Executive Board.

Rule 24 – World Ranking List

The World Ranking List is a list of the best men and women skiers in each event ranked by performance. Lists are also produced for skiers meeting the age criteria and based on skiing the appropriate age division rules (see rule [2.03](#) – Excluding U-10).

If a skier competes in a different age division, a Slalom score at 58, 55, 52 or 49 will be equal to a score at any slower speed of 55, 52, 49 or 46. A Tricks score will be accepted as it is. A Jump score will be accepted as it is regardless of speed/ramp height, except that, a Jump performance done in an age division different from the Natural Age Division, will only be used in the Under 21 or Open Division Ranking List, regardless of the skier age, requested speed and ramp height.

The ranking is based on the average of each skiers' two best scores from two separate competitions and two separate sites. Only one score in each event is considered from each competition. Each IWWF Federation sanction Record Capability or World Standings List competitions from which the performances are taken. Performances are taken from published results and submitted by the sanctioning Federation or Confederation.

Any Trick Score over 11,000 point that is submitted to the Ranking List must either:

- Be performed in a "Record Capability" competition.
- Be performed in a "Rankings List" competition AND be ratified by a three judges panel appointed by the World Waterski Council.

If a skier records only one qualifying performance, he/she will not be eligible for the list. Ties on the ranking list will be broken by taking the highest score first to break the tie, then backed up by the second score, then the third score and so on.

If a performance in a Rankings List competition exceeds the current World Record, it will be placed on the rankings list as one increment below the current record. If a record score is made in a Record Capability competition but is subsequently rejected, then the corrected score shall be used.

A separate ranking list overall will be calculated based on fixed scores in each event on a competition by competition basis. This means that an overall score can only be achieved for the list by having an overall performance at a competition. Event scores from multiple competitions will not be combined to calculate an overall score. An overall score shall be from a single round of a competition. The rounds of a competition shall be set by the organisers and are NOT based on the first time a skier ski in a multi round competition.

Ranking List Overall Score Basis

	Under 14 Boys		Under 14 Girls	
Slalom	2.00@55/11.25 (56 buoys)		2.00@52/11.25 (56 buoys)	
Trick	6630		5300	
Jump	35.3		27.0	
	U-17 Boys		U-17 Girls	
Slalom	1.00@58/10.25 (55)		2.00@55/10.75 (50 buoys)	
Trick	12050		10440	
Jump	59.1		46.0	
	Open and U-21 Men		Open and U-21 Women	
Slalom	2.50@58/9.75 (50.5 buoys)		4.50@55/10.25 (46.5 buoys)	
Trick	12570		11260	
Jump	77.4		60.3	
	35+ Men	45+ Men	55+ Men	65+ Men
Slalom	1@10.25 (43 buoys)	3@10.75 (45 buoys)	5@11.25 (53 buoys)	2@11.25 (50 buoys)
Trick	11100	5400	3200	3000
Jump	60.7	53.0	46.0	33.0
	35+ Women	45+ Women	55+ Women	65+ Women
Slalom	2@11.25 (38 buoys)	2@11.25 (44 buoys)	2@11.25 (50 buoys)	4@14.25 (34 buoys)
Trick	6000	4200	3700	2100
Jump	41.7	38.0	34.4	18.3

Ranking List Overall formula:

Tricks:

All categories

Skiers score X 1000 / Ranking List Overall Score Basis

Slalom:

Under 14

Skiers: score X 1000 / Ranking List Overall Score Basis.

Buoys count from 40/18,25 for Girls - 43/18,25 for Boys.

Under 17

Skiers score X 1000 / Ranking List Overall Score Basis.

Buoys count from 49/18,25 for Girls - 52/18,25 for Boys.

Under 21 and Open

(Skiers score + 12) X 1000 / (Ranking List Overall Score Basis + 12)

Buoys count from 55/18,25 for Women - 58/18,25 for Men.

Over 35

Skiers score X 1000 / Ranking List Overall Score Basis

35+: (Buoys count from 52/18,25 for Women - 55/18,25 for Men)

45+: (Buoys count from 49/18,25 for Women - 52/18,25 for Men)

55+: (Buoys count from 43/18,25 for Women - 46/18,25 for Men)

65+: (Buoys count from 40/18,25 for Women - 43/18,25 for Men)

Ranking List Buoys count table:

		25	28	31	34	37	40	43	46	49	52	55	58	16,00	14,25	13,00	12,00	11,25	10,75	10,25	9,75
U-10	Girls	6	12	18	24	30	36	42	48	54	X	X	X	60	66	72	78	84	90	96	102
	Boys	6	12	18	24	30	36	42	48	54	X	X	X	60	66	72	78	84	90	96	102
U-14	Girls						6	12	18	24	30	X	X	36	42	48	54	60	66	72	78
	Boys							6	12	18	24	30	X	36	42	48	54	60	66	72	78
U-17	Girls									6	12	18	X	24	30	36	42	48	54	60	66
	Boys										6	12	18	24	30	36	42	48	54	60	66
U-21 Open	Women	(Please note n. of buoys +12										6	X	12	18	24	30	36	42	48	54
	Men	as per the formula)											6	X	12	18	24	30	36	42	48
35+	Women										6	12	X	18	24	30	36	42	48	54	60
	Men											6	X	12	18	24	30	36	42	48	54
45+	Women									6	12	X	X	18	24	30	36	42	48	54	60
	Men										6	12	X	18	24	30	36	42	48	54	60
55+	Women							6	12	18	24	X	X	30	36	42	48	54	60	66	72
	Men								6	12	18	24	X	30	36	42	48	54	60	66	72
65+	Women						6	12	18	24	X	X	X	30	36	42	48	54	60	66	72
	Men							6	12	18	24	X	X	30	36	42	48	54	60	66	72

Jump:

- Under 14 Girls: ((Skier score – 7) x 1000) / (Ranking List Overall Score Basis – 7))
- Under 14 Boys: ((Skier score – 10) x 1000) / (Ranking List Overall Score Basis – 10))
- Under 17 Girls: ((Skier score – 13) x 1000) / (Ranking List Overall Score Basis – 13))
- Under 17 Boys: ((Skier score – 20) x 1000) / (Ranking List Overall Score Basis – 20))
- Under 21 Women: ((Skier score – 17) x 1000) / (Ranking List Overall Score Basis – 17))
- Under 21 Men: ((Skier score – 25) x 1000) / (Ranking List Overall Score Basis – 25))
- Open Women: ((Skier score – 17) x 1000) / (Ranking List Overall Score Basis – 17))
- Open Men: ((Skier score – 25) x 1000) / (Ranking List Overall Score Basis – 25))
- 35+ Women: ((Skier score – 7) x 1000) / (Ranking List Overall Score Basis – 7))
- 35+ Men: ((Skier score – 20) x 1000) / (Ranking List Overall Score Basis – 20))
- 45+ Women: Skier score x 1000 / Ranking List Overall Score Basis
- 45+ Men: ((Skier score – 15) x 1000) / (Ranking List Overall Score Basis – 15))
- 55+ Women: ((Skier score + 5) x 1000) / (Ranking List Overall Score Basis + 5))
- 55+ Men: ((Skier score – 10) x 1000) / (Ranking List Overall Score Basis – 10))

Rule 24 – World Ranking List

65+ Women: $((\text{Skier score} + 10) \times 1000) / (\text{Ranking List Overall Score Basis} + 10)$

65+ Men: $\text{Skier score} \times 1000 / \text{Ranking List Overall Score Basis}$

For Ranking List & Record Capability Homologation purposes, a competition is allowed a maximum of 4 rounds (in each of Slalom, Tricks, and Jump). The competition must be held on consecutive days, and 3 entire days must lapse before the next competition can start at the same site code.

Additional rounds may be held during the competition which are not Ranking List & Record Capability, if allowed by the hosting federation. However, only the rounds declared in advance within the “Homologation Notice” will be recognized as Ranking List & Record Capability. Note, the “Homologation Notice” must be posted before the competition starts.

To be eligible to be on the ranking list, a competition must post the IWWF Homologation Dossier within 15 days of the competition. This will be done by accessing the following link and uploading the dossier:
<http://www.iwsftournament.com/homologation/UploadDossiers.htm>

To be eligible to be on the ranking list, a competition must post the results within 15 days of the competition. This will be done by accessing the following link and uploading the results (as placed lists or a scorebook):
<http://www.iwsftournament.com/homologation/UploadScorebooks.htm>

SCHEDULE AND SUBMISSION PROCESS

a) October 31 - closing date for the November List

1. **November 15** - Last allowable date for scores submission for the November List
2. **Nov 30** - List is published with a 30-day correction period
3. **December** - (30 days after initial publication) November List is finalised

b) April 30 - closing date for the May List

1. **May 15** - Last allowable date for scores submission for the May List
2. **May 31** - List is published with a 30-day correction period
3. **June** - (30 days after initial publication) May List is finalised

Scores shall be submitted electronically in the following format:

Please note that one record is to be submitted for each performance so that a three-events skier skiing in a two round competition will have 6 records in the shown format.

Scores not submitted in the correct format or missing information will be rejected and returned to the Organising Federation to correct and resubmit.

There are two more official ranking lists, a daily list and a weekly list published every Tuesday. The weekly list is archived, and previous lists are available. Both lists are based on competitions submitted up to the day of calculation and include performances from the previous year to date.

Data format for individual performance records

Field	Field Name	Type	Width	Dec.	Notes
1	LAST	Character	20		IN CAPITAL LETTERS
2	FIRST	Character	20		In normal mode (John Michael)
3	SKIER	Character	11		Federation specific ID Number
4	GROUP	Character	1		1,2, or 3
5	COUNTRY	Character	3		Normal IOC code
6	SEX	Character	1		M or F
7	TOUR	Character	8		alphanumeric code usually year+country code+number 09FRA015
8	SL	Numeric	5	2	number of buoys only at max speed
9	TR	Numeric	5		
10	JU	Numeric	5	1	in meters (decimal point separator 56.2)
11	ALT_SCORE	Numeric	7	2	If a slalom score, buoys of last pass If a jump score, optional use distance in feet If a trick score, blank
12	YOB	Character	4		Change to full 4 digits year
13	CLASS	Character	1		R or L for ranking list perfor.
14	ROUND	Character	2		

Rule 24 – World Ranking List

15	DIV	Character	12		division (local division - must be the same across events for overall calc)
16	PERF_QUAL1	Numeric	6	3	if slalom then line length (14.25,13.00, etc.) if jump then ramp angle (.235,.255,.271 only)
17	PERF_QUAL2	Numeric	2		speed for slalom and jump only
18	DATE	Date	8		date of performance (YYYYMMDD)
19	SPECIAL	Character	1		J if performance done under U-17 Rules F if performance is Ski Flying
20	SPEED_CTRL	Character	1		Y=Yes, N or blank=no
21	SL_MISS	Character	1		* means 1st pass not complete (optional if score is already adjusted)
22	PLACE	Numeric	3	0	Placement in the event - use the final placement in each performance record so if the skier placed 2nd and the competition was 3 rounds each round record will indicate 2nd place. Also, the placement is for the division the skier skied in so that a competition will have a corresponding set of placements for each division.
23	IWWF	Character	12		IWWF License number assigned by the IWWF to each skier
24	Site ID	Character	8		Site Code Country Code followed by a 4 digits number indicating the specific ski site. Multi-lake sites will be given one site code.

**** Total **** **148**

Additional fields for local meaning may be added here such as Club, or State, or League.

Sample text inputs:

HINMAN;Dana;USA1234;;USA;M;98S056R;46.50;;;4.50;1980;R;1;IB;13.00;58;19980524;;Y;;3;USAM80123459;USA0001

HINMAN;Dana;USA1234;;USA;M;98S056R;;4100;;;1980;R;1;IB;;;19980524;;Y;;10;USAM80123459;USA0001

HINMAN;Dana;USA1234;;USA;M;98S056R;;52.8;173.0;1980;R;1;IB;0.255;51;19980524;;Y;;1;USAM80123459;USA0001

Round 1 shown all events with a “;” delimiter

The ID number, if not implemented, should be left blank. However, all Federations are an ID number as soon as feasible.

Year of Birth is mandatory.

Special Condition Code now has two cases and they are

1. J if the skier is of U-17 age and the event was run with U-17 rules
2. F if the event is Ski Flying

Ranking Lists are currently published two times a year for results less than one year old on the following dates: April 30 and October 31.

The normal procedure will be that performances are submitted any time up to 30 days after the results closing dates (listed above). A preliminary list will then be published. Certified changes may be submitted for 30 days after the publication of the preliminary list. At that point, results will be closed, and a final list shall be published.

All data must be submitted through a verification process. It is the responsibility of the submitting authority to ensure that the data is valid. Competition data will not be accepted until all the competition data is valid.

This process is done by submitting the data at the following address:

<http://www.iwsftournament.com/homologation/IWWFRankingScoresUpload.php>

The lists shall be published on the internet at the IWWF Home Page

<http://www.iwwfed.com/>

If you do not have access to this method of publication, contact your federation or Confederation administrator for a copy of the preliminary or final list.

Rule 25 – General Homologation Guidelines

25.01: General

It is the duty of each skier to report to the Chief Judge during the competition if he believes the rules are not being followed or adhered to. The issue will be addressed at the competition.

If a competition is at the same site on subsequent weekends, the Homologator may decide not to carry out another full homologation but make enough checks to satisfy himself that nothing has changed.

The Homologator must be present during the competition.

25.02: Dossier

The Electronic Dossier checklist shall be submitted within 14 days by uploading it to www.iwwfed.com via the Submit Homologation Dossier function.

25.03: Speed Control

Calibration should take place before the competition starts or the skiers arrive.

The homologation notice will state the make and model of the speed control and if specific features/settings are to be used.

25.04: Record Capability and Ranking List Minimum Competition Standards

	World Record	Ranking List
Prior Announcement	YES *4	YES
Confederation Approved Panel	YES	YES
Number of Rounds	4	4
Conflict of Interest Rules	Refer to (3.04)	Refer to (3.04)
Chief Judge	Level 2 Judge	Level 2 Judge
Homologator	Top 2 ratings	Top 2 ratings
Scorer	Confederation Standard *1	Confederation Standard *1
Driver	top 2 ratings	top 3 ratings
Duplication of duty	Any combination of two of the following positions may be held without conflict: Chief Judge/Driver/Scorer/Homologator/Judge (Refer to *5)	

SLALOM

Course Check	SURVEY*2	SURVEY*2
Slalom Course	No single centre line floating courses except of approved design *3	no single centre line floating courses except of approved design *3
Tolerances	Per Rule Book	Per Rule Book
Buoys	Measured	Measured
Timing	Automatic	Automatic
End Course Video	Required	Required
Video method	minimum 1/6th screen width of end buoys, 1/3 recommended-one end only	Confederation Standard*1
Boat Video	Required	Not Required
Gate Video	Required	Not Required
Judging Towers	both sides perfect sight	both sides perfect sight
Judges	5 Level 2, or 3 Level 2	minimum 3 Level 2 and 2 Level 3, or minimum 2 Level 2 and 1 Level 3
Backup timer	Not Applicable	Not Applicable

TRICKS

Course Check	Visual	Visual
Tolerances	Per Rule Book	Per Rule Book
Timing	Video Timing	Video Timing
Video	YES	YES
Judges	5 Level 2 or if immediate review available 3 Level 2 See Rule 10.11	minimum 3 Level 2 and 2 Level 3 or if immediate review available minimum 2 Level 2 and 1 Level 3 See Rule 10.11
Timer	top 2 ratings	top 3 ratings
Boat Judge	Confederation Standard *1	Confederation Standard *1

JUMP

Course Check	SURVEY *2	SURVEY *2
Tolerances	Per Rule Book	Per Rule Book
Timing	Automatic	Automatic
Video Jump Measurement	Required	Required
Distance Calculation	COMPUTER	COMPUTER
Program Check	YES	YES
Judges	3 Level 2	minimum 2 Level 2 and 1 Level 3
Video Judges	Level 2	minimum 1 Level 2 and 1 Level 3
Backup Timer	Not Applicable	Not Applicable
Speed Control	Required	Required
Homologation Dossier	IWWF Electronic Dossier Required	IWWF Electronic Dossier Required

*1 The Waterski Council of each of the five geographic Confederations of the IWWF will set the standard to be used in that Confederation.

All R or L class competitions must meet or exceed the standards of the IWWF Rule Book.

*2 **For survey refer to rule 25.08.**

*3 For a single centre line course to be used, the buoy support structure must be rigid. The buoy support structure is independent of the cable but attached to it. The structure must guarantee that the line of the three buoys is perpendicular to the wire. The centre cable must be taut to ensure a straight line. Please refer to additional material detailing this design in rule (25.5).

*4 To obtain R homologation a competition must be sanctioned 30 days in advance. Competitions will be shown on the IWWF web site using the following link:

<http://www.iwsfranking.com/2014/showrecordtournaments.php>

All data needs to be completed including the proposed Officials panel. If not the maximum level of homologation granted to that event will be L. Competitions may be listed on this calendar using the following link: <http://www.iwsfranking.com/2014/RTournament.htm>

*5 Duplication of duties: (Chief Judge, Scorer, Homologator and Driver)

Chief Judge may also be a panel Judge or, if qualified, be the Homologator. Homologator, if qualified, may also be a panel Judge or the Scorer.

Scorer, if qualified, may also be a panel Judge or the Homologator.

Driver: A driver cannot have 2 roles in the same event, (cannot be at the same time: Driver and Judge, Driver and Scorer or Driver and Homologator), but can have, if qualified, different roles in different events.

Where the duplication causes a conflict, the final decision will be taken by a simple majority of the event Judges.

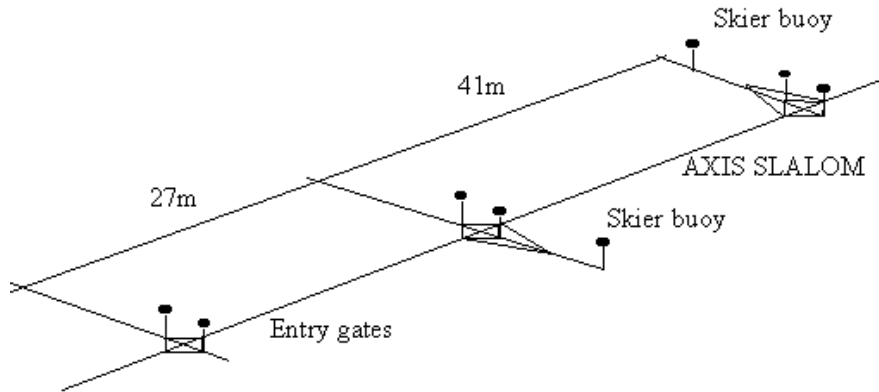
Any duplication of duties is limited to two functions but should be avoided if possible.

25.05: Allowable Structure for a Floating Course

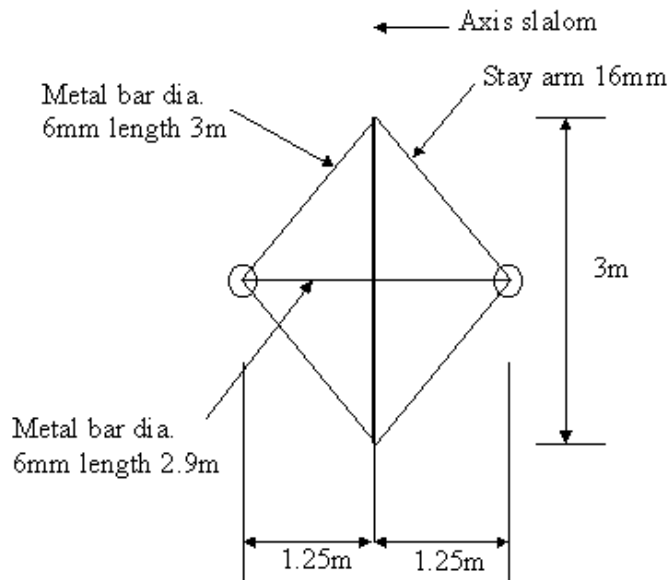
Each frame is separately attached to the cable. The frame must be horizontal in the water.

The 2 main bars of the frame must be perpendicular, so the length of the guy wires must be calculated in order to have a 90° angle and keep the frame square.

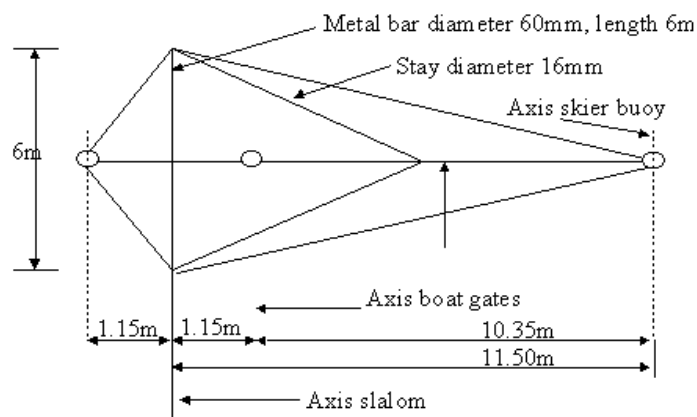
CENTRE LINE SLALOM COURSE PRINCIPLE



SLALOM - ENTRY GATES



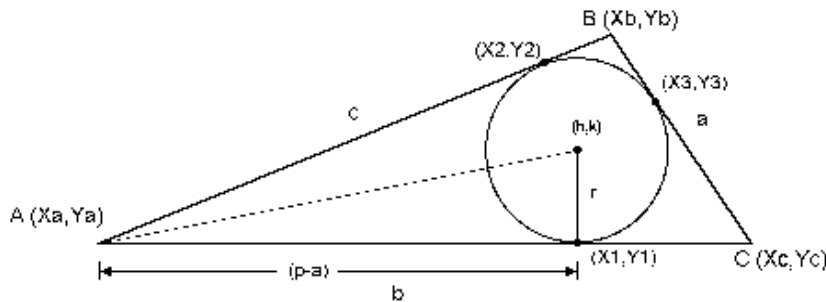
SLALOM FRAME



25.06: Specific Inscribed Circle Algorithm Description

(Note as one type of video system uses 3 cameras, this calculation method is still applicable).

Algebraic Solution of the Inscribed Circle where the absolute positions of the vertices of the triangle are known. This solution assumes that the triangle vertices have been found as required by normal trigonometric solution.



$$r = \text{SQRT}[(p-a)(p-c)/p] \quad p = (a+b+c)/2$$

$$X1 = Xa + (p-a)(Xc - Xa)/b \quad X2 = Xa + (p-a)(Xb - Xa)/c \quad X3 = Xb + (p-b)(Xc - Xb)/a$$

$$Y1 = Ya + (p-a)(Yc - Ya)/b \quad Y2 = Ya + (p-a)(Yb - Ya)/c \quad Y3 = Yb + (p-b)(Yc - Yb)/a$$

Using the general formula $(X-h)^2 + (Y-k)^2 = r^2$, and substituting in $(X1, Y1)$, $(X2, Y2)$, $(X3, Y3)$ and solving the three equations simultaneously gives:

$$X1^2 - 2X1h + h^2 + Y1^2 - 2Y1k + k^2 - r^2 = 0 \quad (1)$$

$$X2^2 - 2X2h + h^2 + Y2^2 - 2Y2k + k^2 - r^2 = 0 \quad (2)$$

$$X3^2 - 2X3h + h^2 + Y3^2 - 2Y3k + k^2 - r^2 = 0 \quad (3)$$

Where subtracting (2) from (1) gives (4) and (3) from (2) gives (5)

$$X1^2 - 2X1h - X2^2 + 2X2h + Y1^2 - 2Y1k - Y2^2 + 2Y2k = 0 \quad (4)$$

$$X2^2 - 2X2h - X3^2 + 2X3h + Y2^2 - 2Y2k - Y3^2 + 2Y3k = 0 \quad (5)$$

Combining terms and reducing (4) gives (6): Combining terms and reducing (5) gives (7):

$$h(2X2 - 2X1) = -k(2Y2 - 2Y1) + Y2^2 - Y1^2 + X2^2 - X1^2 \quad (6)$$

$$h(2X3 - 2X2) = -k(2Y3 - 2Y2) + Y3^2 - Y2^2 + X3^2 - X2^2 \quad (7)$$

Substituting the following terms:

$$A = 2X2 - 2X1 \quad B = 2Y2 - 2Y1 \quad C = Y2^2 - Y1^2 + X2^2 - X1^2$$

$$D = 2X3 - 2X2 \quad E = 2Y3 - 2Y2 \quad F = Y3^2 - Y2^2 + X3^2 - X2^2$$

gives from (6) $h = (C - Bk)/A$ (8), and gives from (7) $h = (F - Ek)/D$ (9)

Since (8) = (9) $k((D^2C - A^2F)/(B^2D - A^2E))$ $h = (F - Ek)/D$

Where h is the X coordinate of the centre of the inscribed circle and k is the Y coordinate of the centre of the inscribed circle.

Note that if $X2 = X3$ the solution will not reduce, and the vertices of the triangle will need to be re-labelled. This is also true of the denominator of k. However, since each of these values is calculated, the chance of this is exceedingly small, but a test should be made for it as it is certain to happen on a World Record jump.

25.07: Homologation Dossier

International Waterski and Wakeboard Federation Homologation Dossier: [Homologation Dossier](#)

IMPORTANT NOTICE:

It is not the intent of this form to add hours of extra work to the Homologator's job, but rather to provide a quick checklist that gives visibility of the technical effort to the general skiing public.

START OF HOMOLOGATION FORM

Name of competition: _____ Code of Competition: _____
 Date: _____ Venue: _____ Site Code: _____
 Organising Country: _____ Type of competition: (_____)
 GPS Location of site: _____; _____ (example: Dubna 56 44 03.28 N; 37 07 41.54 E)
 Were cash prizes or merchandise awarded (Yes/No) (_____)

Homologator's and Chief Judge recommendation to Waterski Council

(Fill in R-Record, L-Standing List)

Event	Round 1	Round 2	Round 3	Round 4
Slalom	()	()	()	()
Tricks	()	()	()	()
Jump	()	()	()	()

OBLIGATORY COMPOSITION OF DOSSIER:

1 copy of this document including the homologation notice.

HOMOLOGATOR'S CHECKLIST

If checked and all according to rules put OK in brackets.

If checked and any variation to the rules put an X in the brackets and explain in "Remarks" section on last page.

Not applicable is NA.

Not applicable is NA.

1. Boats and equipment (W 5.01) ()
2. Speed Control (W 5.02) ()
 Manufacturer: (_____)
 Software Version: (_____)
 Slalom ()
 Tricks ()
 Jump ()
3. Arrangement for checking skis (W 5.08) ()
4. Measure lines and handles (W 5.09) ()
 Slalom ()
 Jump ()
 Handles ()
5. Arrangement for checking of skier
 supplied handles (W 5.09) ()
6. Timing devices (W 6.03) ()
7. Homologation notice posted before start ()
8. Automatic timing-jump ()
9. Jump distance indication (W 10.13) ()
10. Video Jump Distance measurement (W 10.13) ()
 Backup - video tape (_____)
11. Automatic timing () All Buoys ()
12. Position and height of slalom towers () (W 8.06 and W 8.19)
- 12a. 2 Towers x 2 Judges () 2 Central Tower Judges () Boat Video ()
13. Slalom buoys (W 8.06) ()
14. Slalom Boat Path Monitoring (W 8.15) ()

Rule 25 – General Homologation Guidelines

- 14.a Video Screen Width Ratio of Far Gates (minimum 20%) (_____)
- 14.b Video recording is minimum 704x480 pixels @ minimum 25fps (30fps if NTSC) (_____)
- 14.c Boat Path Monitoring System Used: (_____)
(Video/Sure-Path/SplashEye/Corson/Other)
- 14.d If RTK-GPS Boat Path Measurement System is used:
1. Verification method used (W 25.09(b)(2)):
 - i. Self-Check using BPMS (_____), or
 - ii. Comparing to Official Survey (_____)
 2. GPS Calculated Validation Width:
Centreline (Axe) – S1: (_____) m
Centreline (Axe) – S6: (_____) m
- 14.e Video of required passes or BPMS Data forwarded to Confederation (_____)
Filename or Method Used: (_____)
(Video/Sure-Path/SplashEye/Corson/Other)
15. Trick course checked (W 9.23) (_____)
16. Position and height of trick towers (_____) (W 15.11)
- 16a. 5 Judges (_____) 1 x 3 Judges with video (_____) 2x 3 Judges with video (_____)
- 17a. Video Tricks Timing (_____) with Additional Judge (_____) Chief Judge (_____)
18. VHS video tricks (W9.17) (_____)
- 19a. Video Tricks Timing system manufacturer (_____)
20. Slalom Course type: (_____)
- 20.a Boat course straightness checked visually (_____)
21. Jump end course video (_____)
- 21.a Video recording is minimum 704x480 pixels @ minimum 25fps (30fps if NTSC) (_____)
- 21.b Boat Path Monitoring System Used: (_____)
(Video/Sure-Path/SplashEye/Corson/Other)
- 21.c If RTK-GPS Boat Path Measurement System is used:
1. Verification method used (W 25.09(b)(2)):
 - i. Self-Check using BPMS (_____), or
 - ii. Comparing to Official Survey (_____)
 2. GPS Calculated Validation Width:
Centreline (Axe) – 150m: (_____) m
- 21.d Video of required passes or BPMS Data forwarded to Confederation (_____)
Filename or Method Used: (_____)
(Video/Sure-Path/SplashEye/Corson/Other)
22. The ramp surface is a flat plane (W10.02f) (_____)
(no designed in wedge, kicker, bow, etc.)

Slalom Course Type: _____

JUMP COURSE

JUMP MEASUREMENT SETUP

VIDEO JUMP

40m Test buoy			3rd Test buoy		
Survey	x (XXX.XX)	y (XXX.XX)	Survey	x (XXX.XX)	y (XXX.XX)
Video system	x (XXX.XX)	y (XXX.XX)	Video system	x (XXX.XX)	y (XXX.XX)

60m Test buoy

Survey	x (XXX.XX)	y (XXX.XX)
Video system	x (XXX.XX)	y (XXX.XX)

JUMP RAMP

Width at top (W 10.02a)	X.XX m
Width at bottom	X.XX m

Rule 25 – General Homologation Guidelines

Top edge to water line left side (W 10.02b, h) X.XX m
 Top edge to water line right side (W 10.02b, h) X.XX m
 Length underwater (W 10.02c) X.XX m

Maximum Deviation from plane
 Diagonal string measurement (W 10.02f) X.X cm
 Centre string measurement (W 10.02f) X.X cm
 Max deviation point from top of jump (W 10.02f) X.XX m

(OK/X)

Apron under water (W 10.02g) ()
 Apron full length (W 10.02g) ()
 Sighting line (W 10.02i) ()
 Secure anchoring (W 10.02i) ()

Apron Angle (W 10.02k)
 jump height X.XX m (a)
 length of edge of apron from top corner to water X.XX m (b)
 ratio of b/a (X.XXX) ()
 minimum 0.883 maximum 0.643

RAMP SETTING

Setting	Height	Right Side		Left Side		
		Length	Ratio	Height	Length	Ratio
1.35	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X
1.50	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X
1.65	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X
1.80	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X

END OF HOMOLOGATION FORM

It is important to leave the above section in the exact format as it will be processed automatically. The following section is where free form comments are added, and attachments are made.

HOMOLOGATOR'S REMARKS

Give details of any variations of IWWF rules. List any alterations to the course, etc. during the competition. List any malfunction of equipment. Give any further information which might affect the Waterski Council's assessment of the homologation.

Homologator:
(name and address)

Email:

Chief Judge:
(name and address)

Email:

This homologation record has to be uploaded to <http://www.iwsftournament.com/homologation> for E&A: email also to Donal Connolly donal@splasheye.com

To be posted before the competition starts
HOMOLOGATION NOTICE

Competition Name: _____
Date: _____

We recommend to the IWWF Waterski Council the following class of homologation:

Event	Round 1	Round 2	Round 3	Round 4
Slalom	(_____)	(_____)	(_____)	(_____)
Tricks	(_____)	(_____)	(_____)	(_____)
Jump	(_____)	(_____)	(_____)	(_____)

Speed Control Manufacturer: _____

Software Version: _____

Date: _____

Time: _____

Chief Judge

Homologator

Note: These recommendations may change during the competition.

Remarks:

Officials (list as applicable):

- Chief Judge: (.....)
- Assistant Chief Judge: (.....)
- Homologator: (.....)
- Assistant Homologator: (.....)
- Technician: (.....)
- Scorer1: (.....)
- Scorer2: (.....)
- Scorer3: (.....)
- Judge1: (.....)
- Judge2: (.....)
- Judge3: (.....)
- Judge4: (.....)
- Judge5: (.....)
- Judge6: (.....)
- Judge7: (.....)
- Judge8: (.....)
- Judge9: (.....)
- Judge10: (.....)
- Driver1: (.....)
- Driver2: (.....)
- Driver3: (.....)
- Driver4: (.....)

25.08: Survey

a) General

1. A 3-point survey/stations or a 1-point survey/station with laser range finder survey or an approved RTK- GPS System are the only acceptable methods to verify a course for L or R competitions.
2. For a 1-point survey/station, angle only spot checks from a second position are recommended.
3. For a 3-point survey, the maximum size acceptable triangle is one with an inscribed circle diameter of 10cm. If the diameter is greater than 10cm, one vertex may be used if it agrees with an alignment sighting.
4. The surveying instrument must have an accuracy of 20 seconds or better.

b) Slalom

1. The centreline is a line from the middle of the entry gates to the middle of the exit gates.
2. Each boat guide (B1...B12) has a width (distance from centreline/axis) tolerance of +/-11.5 cm, but the left side (B2,B4,B6,B8,B10,B12) and the right side (B1,B3,B5,B7,B9,B11) must each be visually straight. To ensure that each side is straight, it is recommended that each individual boat guide distance/width from the centreline/axis (1.15) is within 4cm of the average boat guide distance/width for that side.
(Example: Axis-B1=1.15, B3=1.16, B5=1.12, B7=1.18, B9=1.15, B11=1.17; Avg.=1.155 (Meets requirements))
3. To ensure that the visual centreline (axis), as seen from the boat guides, is equal to the calculated centreline (axis), the difference between the average boat guide width on each side should not be more than 4cm.
(Example: Axis B1-B11 Avg =1.155; Axis B2 -B12 Avg=1.20 (Does not meet requirement)).

c) Jump

- 1) The Jump axis is a straight line, passing through the ramp centre, which is parallel to the line of buoys 15ST-15MT.
- 2) The boat path centreline is a line from the middle of the 15ST/19ST gates to the middle of the 15ET/19ET gates.

25.09: Boat Path Monitoring System (BPMS)

a) General

1. Verification of RTK-GPS BPMS systems by the Homologator shall take place before the competition starts. It should be performed within 7 days of the competition (recommended the day before). The verification may be repeated during the competition if the Officials believe it is necessary. The Homologator or designee shall homologate the RTK-GPS BPMS system by verifying that the system is setup per the manufacturer's recommendations and these guidelines.

b) Slalom

1. The Homologator must establish the centreline by plotting the entry and exit gates (G1,G2,G3,G4) using the RTK-GPS Antenna and verify centreline with either method below.
2. Verification:
 - i. Validate using BPMS system. To validate using BPMS, the Homologator must plot the gates (G1,G2,G3,G4) and all Slalom buoys (S1,S2,S3,S4,S5,S6) using the RTK-GPS Antenna. The system will perform a self-check and validation. This will ensure that the Centreline from the entry to exit gates is within tolerances for centreline, diagonals, and average width of the Slalom buoys (S1,S2,S3,S4,S5,S6).
 - ii. Validate by comparing the BPMS measurements to the Official Survey. To validate using the Official Survey method, the Homologator must plot gates (G1,G2,G3,G4) and Slalom buoys 1 & 6 (S1,S6) using the RTK-GPS Antenna, then compare the BPMS measurements to the Official Survey measurements and ensure that the differences do not exceed the following tolerances:
 1. Centreline (Axe) – G1 / G2: +/- 3cm
 2. Centreline (Axe) – G3 / G4: +/- 3cm
 3. G1 – G3: +/- 10cm
 4. G3 – G4: +/- 10cm
 5. Centreline (Axe) – S1 / S6: +/- 4cm

A re-validation check during an event can be accomplished by plotting either S1 or S6 and comparing the distance from Centreline (Axe) – S1/S6 with the last validation measurement – either (i) or (ii) above.

3. During the tournament, the Homologator may need to re-validate as necessary depending on conditions by either method. In addition, a quick check can be accomplished by driving down the right-hand side on the course in each direction and verify that the display deviations for each direction are similar. This should be performed each day prior to the start of the event.

c) Jump

1. To verify the RTK-GPS centreline, the Homologator must plot the 15ST, 19ST, 15ET, 19ET and the 150m buoys with the RTK-GPS Antenna and verify centreline with either method below.
2. Verification:
 - i. Validate using BPMS system. To validate using BPMS, the Homologator must plot the 15ST, 19ST, 15ET, 19ET and the 150m buoys using the RTK-GPS Antenna. The system will perform a self-check and validation.
 - ii. Validate by comparing the BPMS measurements to the Official Survey. To validate using the Official Survey method the Homologator must plot the 15ST, 19ST, 15ET and 19ET and the 150m buoys using the RTK-GPS Antenna, then compare the BPMS measurements to the Official Survey measurements and ensure that the differences do not exceed the following tolerances:
 1. Width between 15ST-19ST: +/- 4cm
 2. Width between 15ET-19ET: +/- 4cm
 3. Distance between 15ST-15ET: +/- 10cm
 4. Distance between 19ST-19ET: +/- 10cm
 5. Centreline (Axe) – 150m: +/- 20cmA re-validation check during an event can be accomplished by plotting the 150m and comparing the distance from Centreline (Axe) – 150m with the last validation measurement – either (i) or (ii) above.
- 3) During the competition, the Homologator may need to re-validate as necessary depending on conditions by either method. In addition, a quick check can be accomplished by driving a split +2 and a split -2 and verify that the display deviation is correct. This should be performed each day prior to the start of the event.

25.10: End Course Video (when required by 8.15)

The camera and the video recording equipment must be set up and have sufficient quality for judging during the event and for necessary review after the event. Homologators must also check to ensure that the correct date and time is set on the DVR each day.

Minimum Acceptable Resolution of the camera and the recording equipment is 704 x 480. PAL and NTSC formats meet the minimum requirements and Aspect Ratio size is 4x3. Minimum Recorded Framerate is 25 fps for PAL and 30 fps for NTSC.

Camera Zoom

- a) Far Entry Gates minimum screen width ratio of 20% (recommended 30%).
- b) Digital Zoom may be used if the camera is equipped with sufficient resolution such that (resolution/digital zoom necessary to achieve minimum screen width ratio) is greater than the Minimum Acceptable Resolution (704 x 480)

NOT ACCEPTABLE EXAMPLE:

1. Camera resolution 1080p (1920x1080)
2. Digital Zoom used: 3x
3. Resulting End Course Resolution: 640x360 – Does not meet requirement

ACCEPTABLE EXAMPLE:

1. Camera resolution 4K (3840x2160)
2. Digital Zoom used: 4x
3. Resulting End Course Resolution: 960x540 – Meets requirement

Camera Location

The End course camera must be located on the centreline of the course. It is recommended that the Homologator ensures that the camera placement is within 10cm of the actual centreline.

Recording Quality

The End Course video must be recorded at a minimum resolution of 704 x 480 (PAL/NTSC) and must record at a minimum 25 fps for PAL and 30 fps for NTSC. Homologators must confirm that when recording on a DVR, each recording channel meets the minimum recording resolution requirement.

NOTE: When recording multiple channels on a DVR, some equipment “shares” the total resolution, resulting in lower resolution, the above requirement must be met for each channel recorded.


To be clear, the video submitted to the Confederation for review must contain ONLY the End Course Video, must be minimum 25 fps for PAL and 30 fps for NTSC and must have minimum resolution of 704 x 480. The video must be submitted in an AVI/MPEG-4/MP4/MOV format.

Submission

Required End Course Videos must be submitted to the appropriate Confederation as soon as possible after the competition by any of the means allowed by the Confederation. The responsibility of the Homologator for the competition does not end until the videos have been received.

Boat

Reference Rule [8.15](#) and Rule [10.10](#) for markings that are to be placed on windshield for when using EC Video.

 <small>International Waterski & Wakeboard Federation</small>	Name: _____	Bib: _____
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Speed: _____

J Letter: _____

Power Factor: _____

Mode:	Slalom	Jump
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M

Hyrogate

0(S) 1 2 3 4 5 6 7 8 9 10(J)

P Boat Path: _____

RTB	FAST
------------	-------------

 <small>International Waterski & Wakeboard Federation</small>	Name: _____	Bib: _____
--	--------------------	-------------------

Speed: _____

J Letter: _____

Power Factor: _____

Mode:	Slalom	Jump
--------------	---------------	-------------

M

Hyrogate

0(S) 1 2 3 4 5 6 7 8 9 10(J)

P Boat Path: _____

RTB	FAST
------------	-------------

Trick Timing Chart

Skier _____

Timers _____

Pass 1

Pass 2

Positional Trick

1st Trick in Time

3rd to last Trick in Time

2nd to last Trick in Time

Last Trick in Time

Trick out of Time

Trick Timing Chart

Skier _____

Timers _____

Pass 1

Pass 2

Positional Trick

1st Trick in Time

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Skier _____

Timers _____

Pass 1

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Positional Trick

1st Trick in Time

3rd to last Trick in Time

2nd to last Trick in Time

Last Trick in Time

Trick out of Time



Name: _____

Bib: _____

Pass 1

Pass 2

Speed: _____

Speed: _____

Letter: _____

Letter: _____

Hydrogate: 0(S) 1 2 3 4 5
6 7 8 9 10(T)

Hydrogate: 0(S) 1 2 3 4 5
6 7 8 9 10(T)

Ballast: 0% 25% 50%
75% 100%

Ballast: 0% 25% 50%
75% 100%

Pos. Trick: _____

Pos. Trick: _____

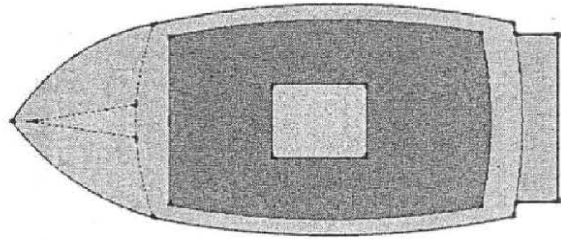
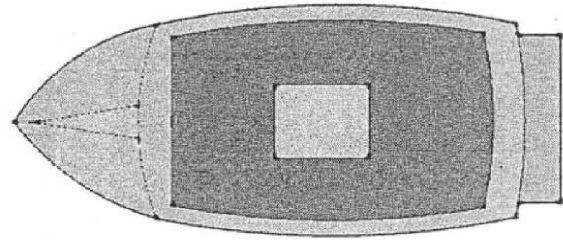
T

R

I

C

K



Draw in where you want the buoy

Draw in where you want the buoy



Name: _____

Bib: _____

Pass 1

Pass 2

Speed: _____

Speed: _____

Letter: _____

Letter: _____

Hydrogate: 0(S) 1 2 3 4 5
6 7 8 9 10(T)

Hydrogate: 0(S) 1 2 3 4 5
6 7 8 9 10(T)

Ballast: 0% 25% 50%
75% 100%

Ballast: 0% 25% 50%
75% 100%

Pos. Trick: _____

Pos. Trick: _____

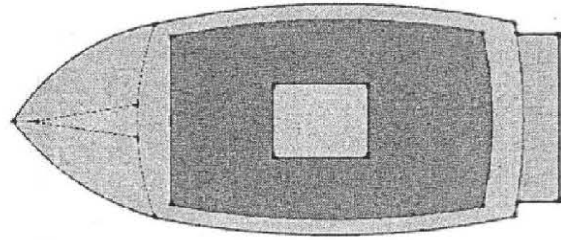
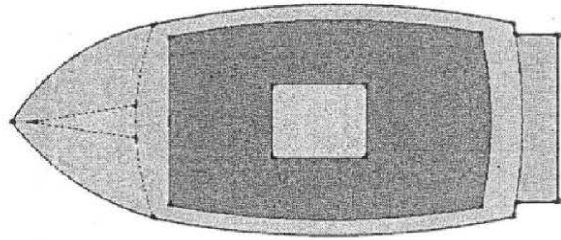
T

R

I

C

K



Draw in where you want the buoy

Draw in where you want the buoy