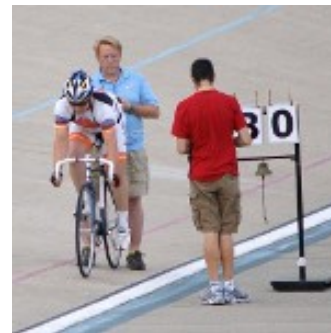


Introduction to Keirin Racing

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Good Stuff You Need To Know Before Your First Keirin Event



General Information

The keirin is a mass start track cycling event in which groups of 6-9 sprinters compete in races 2km in distance. The first 1500 meters of the races are led by a pacer, typically a small motorcycle, that controls the speed of the first part of the race.

Riders draw lots to determine starting positions. Once riders are staged, the race starts as the pacer (which could be a motorcycle, or a tandem bicycle, for example) approaches the starting line. The riders jockey for position behind the pacer, and are required to remain behind the pacer, which starts at the deliberately slow speed of about 15 mph, gradually increasing in speed and leaves the track approximately 500 meters before the end, at speeds above 30 mph, releasing the racers to go any speed they desire.

In competitions, this event is often conducted in several rounds in order to reduce the number of competitors to one "final" round of 6-9 riders. Eliminated cyclists may get the opportunity to try again in the repechage.

Since this is considered to be an event for sprinters, track sprint rules apply, as well as track keirin rules.

Before The Start

Each Keirin race is staged from the apron, near the officials tent. As each Keirin heat is called to staging, each rider is obligated to bring a holder with them. There may be 5 - 9 riders in a heat. When all riders (or their representatives) are present, lots are drawn to determine their starting order for the race.

The home straight pursuit line is used as the starting line. This line is NOT the finish line. The finish line is the massed start finish line, 16 meters farther down-track from the pursuit line. (making the race 2,016 meters, and not 2km).

Staging The Start

Once the track is clear from the previous race, riders are asked to move to the starting line with their holders. The rider that has drawn the #1 position starts down-track on the far left of the starting line, in the "pole" position. The rider that has drawn the highest number will be up-track on the far right of the pursuit line, closest to the rail.

Typically, holders are behind their rider, holding the bike by using the seatpost or seat rails. In this event, holders are allowed to push their rider. Because of this, if there is room, you will sometimes see a holder beside their rider, on the down-track side, as they believe they can get a stronger push from this position. As the riders settle into their start positions, the starter will confirm that each rider is ready to start.

The Pacer (Motorcycle)

While the riders are settling into their starting positions, the pacer is rolling on the apron, about 3 feet from the track, at a speed around 15 mph. As the pacer rolls around the apron, they are watching the official that is the Starter for the race, waiting to see when the event will start.

When the starter believes that the racers are ready (or nearly ready) they will raise their hand, to let everyone know that the start is imminent. If the start is 2 laps away, the starter holds up 2 fingers, and if the start is 1 lap away, one finger is held up by the starter. This is the sign that the pacer has been waiting for. The pacer now holds up 1 or 2 fingers to confirm when the start will happen. At 1 to go The Starter and Pacer again hold up 1 finger to confirm when the start will happen.

As the pacer moves onto the back straight, with 1/2 lap until the start, they move into position at the bottom of the track. Since each track has a different shape, width, and apron, the line taken by the pacer may vary slightly. The pacer may move onto the measurement line, onto the blue band, or stay on the apron, but close to the blue band. The pacer continues in this position through turns three and four, preparing for the start of the race.

The starter is trying to time the start, such that the riders can get into a paceline behind the pacer before the group has gone 20 meters. The starters pistol will be fired when the starter believes this timing can happen. The start typically happens when the pacer is somewhere between the start line and 20-30 feet before the start line.

BANG!

As the pacer moves past and under the racers, it moves up track to the measurement line (If not already on the measurement line).

At the sound of the gun, the riders jump, pushed by their holders and attempt to gain position behind the pacer. The pacer may need to adjust their speed slightly to help racers get into position behind them.

As the keirin is considered a sprint event, and sprint rules apply, there is a rule that requires the rider in the #1 position to go directly to the pacer and assume the lead position. Some riders will want to be directly behind the pacer. Others will want to be in the 3-4th position, etc.. Because of this, although obligated to lead, the #1 rider may sometimes dawdle on their way to the pacer, hoping that someone else will go directly to the pacer. This process usually works, and someone moves directly to the pacer.

Sometimes, however, no one wants to be behind the pacer (including rider #1 who has an obligation to take the lead position). if no one goes to the pacer in a timely fashion (typically 30 meters or the entrance to turn 1) a double pistol shot is fired, signifying a stoppage of the race. The race is restarted, and rider #1 is removed from the start, as they did not go directly to the pacer. Rider #2 is now the new #1, and has the obligation to go to the pacer in the restarted race.

The Build

As the racers settle into position behind the pacer, the pacer slowly builds up speed. The pacer starts at 15-16 mph, and slowly builds speed at a rate of 1.5 - 1.8 mph each 1/2 lap.

The pacer is not concerned about the riders behind them. Instead it is their role to slowly & steadily increase their speed. The riders follow behind, taking advantage of the draft and lead-out, and prepare for their upcoming sprint.

Typical Pacer Speeds on 333m tracks

333m	Speed for 1/2 lap Splits		
	World	Natz	Regional
6 to go	16.0	16.0	15.0
5.5	17.8	17.5	16.5
5	19.5	19.0	18.0
4.5	21.3	20.5	19.5
4	23.0	22.0	21.0
3.5	24.8	23.5	22.5
3	26.5	25.0	24.0
2.5	28.3	26.5	25.5
2	30.0	28.0	27.0
1.5	31.8	29.5	28.5

One of the roles of the pacer is to set the pace of the race. There is a keirin rule that states that you are not allowed to pass the pacer. This is measured by looking for any overlap between the pacer and the bicycles. If any rider overlaps the pacer before it leaves the track, they are disqualified

Incidental Contact

During the first 2-3 laps the riders are jockeying for position. As mentioned previously, each rider will strive for positions behind the pacer that they believe are beneficial to them. When multiple riders want the same position there is often conflict.

As an example, if three riders want the number 2 position behind the pacer, there may be some intimidation or contact between the riders. As the Keirin is a sprint event, some incidental contact is acceptable and expected. Although this contact is more acceptable, the keirin is not exempt from the rules.

If any illegal behavior happens before the pacer leaves the track, The race is stopped. The offending riders are removed from the race, and the race is restarted.

The Pacer Pulls Off

The pacer has slowly and steadily been increasing the speed of the race. As the pacer exits turn 2, nearing 500 meters to go, the pacer should be at their maximum speed. This is around 28 mph for elite women and 31 mph for elite men.

Once onto the back-straight, the pacer guns the motor, and moves left onto the apron, away from the riders. The racers are now free to race at any speed. This does not need to happen at a fixed location. The pacer can pull onto the apron anywhere on the back straight, although at MTV the pacer usually leaves the track between turn 2 and the 500 meter line.

The Sprint

At 500 meters to go, the race is now "open" and run like a typical race.

Seeding The Sprint Tournament

Keirin events should always have heats, a repechage, and a final. Since the number of participants may vary, the formulas for heat size and composition also vary. The UCI has published standard keirin composition tables. Contact Ken Hart for copies of these.

An example of a composition table for 18 racers:

3 heats of six riders, top 2 riders advance to the finals
(This produces six winners and 12 losers)

2 repechage heats of 6 riders, the winners advances to the final

1 final heat of 8 riders
(6 riders from heats and 2 riders from repechage)

The Rulebook

Keirin rules are in section 2H of the USA Cycling rulebook. sprint rules are section 2F of USA cycling rulebook.