

2004 JUNIOR GEAR RESTRICTIONS for Juniors 10-18 Racing in Junior Races

The following is reprinted from an article by John Tarbert, Technical Director in the 2001 December/January issue of *USA Cycling*:

"Please note that junior gears have been reinstated in junior road events. This will require a rollout measurement of 26 feet in those junior events. There will be only one restriction for all categories. Blocked gears will be allowed, except in National Championships. Juniors riding in elite races will not be required to meet the rollout or gear restriction. The following is the reasoning for this rule change.

It is generally accepted that one's capacity to adapt to stress increases with biological age up to young adulthood. It is also well known that complex motor skills, such as the circular motion of pedaling, are learned by repetition. As a result, the international cycling community has always placed restrictions on the gear development of junior cyclists which result in higher overall cadences and lower overall stress per pedal stroke.

These restrictions are an internationally accepted standard designed to provide young cyclists with the optimal environment for development. Without similar restrictions, our juniors may be missing long-term development opportunities, and would certainly struggle to be competitive in international and European junior pelotons due to their unfamiliarity with the higher cadences results from the gear restrictions in these events."

Director's Comments: This discrepancy in spinning skill was noted during 1999 and 2000 Tours de l'Abitibi in Val d'Or, Quebec and our junior teams were at a distinct disadvantage. I believe that the majority of the coaching staff, in particular, Mike Fraysse, agree with the decision to reinstate junior gear restrictions. It should help our juniors to be on the same page as juniors from other countries.

USCF Rule 1/6 – Junior Gears: "For Junior Men and Women, the authorized maximum chain gear ratio allowed in any road event (*junior event*) is 7.93 meters (rollout at 26'). Blocked gears will be allowed, except at National Championships (45x12 or 52x14 chain ring teeth)." Added in 2002: *For track events the following limits shall be used: "10-14: 21'3", 15-16: 21'9", 17+ Unrestricted.)* All tests for compliance (road and track) shall be done using the "roll-out" method.

There are several ways to obtain these gear ratios:

1. The first is by blocking the gears, which renders certain gears unusable by rear derailleur adjustment. This is acceptable in all races **except National Championships**. This method is recommended as an alternative to the second, better method. The best case for blocked gears is a 52x14 (25'9") Suggested for juniors 14 and under is a 52x15 (24'1") or a 51x15 (23'7"). **As of 2003 junior gears are no longer required for cyclocross races.**
2. The alternative is to replace the outer chain ring so that blocked gears won't be necessary. There are several advantages to this method. The first is cost. The second is that with the advent of 10-speed rear clusters, it is extremely difficult to find a set with a 14 or 15 as the smallest cog; freewheels with 12 or 13 as the smallest cog as more readily available. There are other alternatives so check the enclosed gear ratio chart to find a combination that will comply with the rule.
3. After making the appropriate changes, it is important to check the bike to make sure it will pass roll-out before the junior enters a race. To do this, measure the appropriate distance on a flat, smooth driveway, road or parking area (either 26'0" or 24'1"). Put tape down at both ends - inner edge of both tapes denoting the correct distance. Make sure the tires have air in them - race pressure is best. Put the bike in the largest gear that will be used (biggest ring in the front, smallest gear in the rear). With the rear wheel facing the other end of the distance, put one of the crank arms at 6 o'clock at the inner edge of one tape. Lift front wheel off the ground and roll the bike **backwards on the back wheel only** until that crank arm is again at 6 o'clock. Maintain a straight line. If you do not reach the inner edge of the second tape, it's OK; if, however, you have gone beyond that inner edge, the gear is too big and must be changed.
4. For those juniors who will be racing in international races this year, it is strongly suggested that they have a spare set of wheels equipped with their junior gear configuration. Unless their gear setup is the same as that of the juniors from other countries, they will not receive neutral support. (This occurred at the Tour d'Abitibi this past year and time was wasted getting our support vehicle up to our junior needing a wheel.)

2004 RULE ON NON-HANDHELD RADIOS IN RACES

Rule 1K3 – Non-handheld radios with only one earpiece may be worn or carried by a rider or bicycle only in road events that include category 1 and 2 riders or professional riders, **except in junior races.**