

What: are my options?

You have 3 main options when restricting gears - to better understand the terminology below please read our other documents first:

1. Stay as you are, find the best sprocket/chainring combination to get you closest to the limits and make the changes yourself.
2. Change your setup (chainrings and/or cassette) to enable you to get closer to the limits yourself.
3. Get your bike shop to make the necessary changes or to spec the bike correctly from new.

Stay as you are:

This is fairly straightforward, using the [Gear and Maximum Rollout Distance Tables](#) you simply need to decide which front ring* (assuming a double ring set-up) and sprocket combination best fits and restrict accordingly. Our advice here is that within 5cm is spot on, within 10 cm is acceptable and that outside 15cm the rider may start to be disadvantaged. The level of disadvantage will depend on the course, wind conditions and their ability to pedal smoothly at high cadences; downhill and/or tailwind sections being the most likely to cause athletes to spin out. Read the information below which gives tips on the best gear/sprocket combinations depending on your set up, also read [restricting your front](#) and [rear mech](#) and watch the video clip on [restricting gears](#) to help you.



To aid understanding when describing a gear combination it is written as chainring x sprocket e.g. 39x12

Standard Chainset – works well for Youth limits where a 39x12 is close. At T3 this option (39x13) is approx. 15cm out and is 25cm at T2 (39x14).

Compact and Mid- Compact – a 36 inside ring at 15cm out (36x12) is on the limit of acceptable for T3 and very close (6cm) to the Youth limit but will mean needing an 11 sprocket which are not necessarily standard. A 34 inside ring is a good choice for T2 (10cm - 34x12) but will not work for T3 or Youth.

*It is possible to limit bikes on the outer ring, however, this is almost impossible to do without modification e.g. using a longer limit screw (see [restricting your rear mech](#)). Gear choice is then severely limited (fewer available sprockets) and will likely require a specific 14 or 16 up cassette (see cassettes explained).

Changing your set up:

Our advice here if you have a standard, mid-compact or compact set up would be to acquire a 46 front ring (cyclo-cross outer ring) – these are easily sourced for both standard 110 or 130 BCD and non-standard Shimano chainsets. A 46 front ring is the best choice to work well across all ages and so will not require further expense/modification as athletes go through age groups. They are the most popular choice at Youth (46x14) and T3 (46x15) in both triathlon and cycling. A 46 will also work at T2 (46x16) but be aware is just 2cm inside the limit on the gear table and tyres come in different shapes and sizes, will influence roll out distance and could mean the bike rolling too long. Another option and popular choice for T2 is a 40x14. At present we are not aware of a 40 tooth chainring being available for non-standard chainsets (4 arm spider). We have found that most online suppliers have staff on the phones who are conversant with options and combinations and so can help here if required. Similarly speak to others in your club or at events to find out what they have done.

You may also want to consider a 14 or 16 up cassette as this will give a better choice of gears and mean restricting the rear mech is easier, failing this you will most likely need to use a longer limit screw to restrict onto the correct sprocket - this will though limit gear choice (fewer available sprockets).

Using your bike shop:

If you don't feel confident to make changes yourself a local bike shop can help. The actual mechanics required are straightforward, however, knowledge on restrictions and gear limits is niche, even for bike shops, so check first for their level of understanding as you may want to try another shop or need to take info in with you. If the latter we would recommend the [Gear and Maximum Rollout Distance Tables](#) along with [this document](#). If specing a new bike we would advise going for a mid-compact and swapping out the 52 outer ring for a 46. However, to future-proof the bike keep the 52 ring to be swapped back in for Junior (unrestricted) racing. It would also work best to source a 14 up cassette and get this fitted too. We would also recommend the bike is rolled out on site upon collection so as you are sure it fits within limits.

