



bullet racing engines



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# Bullet Racing Engines

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## FTS Prep Guide:

**\*\*\* It will be practically impossible to try to cover every single track type, track condition, weather circumstance, tire brand, tire compound, age of tire, class type, etc. So, these are some of the things that we have learned over the last couple years of using this product. Always feel free to experiment with new techniques or reasonings that might not be discussed here. We are still learning about all of the great ways to use the FTS prep line and would be happy to hear what worked for you!**

### **Preface:**

- FTS provides a wide variety of preps for given applications. Inside prep, outside prep, preps for different tire compounds, track conditions, preps to add bite, preps to soften the tire, preps to harden the tire, etc...
- We only work with Burris 33's so this information will be centered around that tire brand and compound.
- We also only work with outside preps, so our knowledge on all things internal preps is very limited and will not be added to this guide.
- All/any FTS preps can be used in sequence, mixed, etc. with one another.

### **Categorizing the Preps:**

- Softening preps (can add bite also, but I think of them as durometer based):
  - HT-1
  - HT-2
  - TT-1
- Bite preps (can also soften, but I think of them mainly as adding bite):
  - Slight Bite
  - Black Bite
  - Hit It & Get It Wet
- Misc.
  - Showtime
  - Tire Cleaner



## Using the Preps:

- Again, it will be about impossible to make any “set-in-stone” accusations as to how to use these preps.
- Your given track conditions, class, tire, etc. will dictate what you need to prep with.
- You will learn the most from trial and error and taking notes of what you learned.
- A few things I use for reference:
  - **HT-1**: A conditioner. Use to keep a tire from drying out, or to keep the tire “fresh” on a track where not much prepping will be needed (or on a brand new tire that cannot be prepped much)
  - **HT-2**: A good layering prep. Can help add longevity and durability to the tires performance by putting a couple coats in through the week or early race day.
  - **TT-1**: A good softening prep to lower the durometer.
  - **Slight Bite**: A good “firing” agent. Can help fire the tire off early in a run.
  - **Black Bite**: More aggressive than “slight bite”. Great product to add bite to the tire without it falling away.
  - **Hit It & Get It Wet**: This is FTS’s newest product, so we are not quite as familiar with this one. More than likely, this will be used in very cold and low bite conditions.
  - **Showtime**: Used to harden the tire on a track where no prep is needed. Also can be used to help activate other preps as well.
  - **Tire Wash**: Can be used to “lightly clean” the tire in between runs if tires will be re-used. Not necessarily used to deep clean the tires after a race weekend.



### **Tire Age:**

- Keep in mind the differences between a brand new, never raced cut tire, and a tire that has a couple nights on it. From our experience, you will not be able to prep a brand new cut tire practically at all (whether softening or bite prep).
- As a result, I would recommend getting a new set of tires and putting a couple heat races on them (or “heat cycles”). Then put them away for a little while and let them harden and “cure”. Then you will likely be able to prep them like you would normally expect to.
- If you have to use the brand new tires right away (which most people do), just keep in mind that you will likely have to change your prep approach once the tires have a couple races on them.

### **Tire Feedback:**

- Often times cleaning your tires after coming off the track can help you see what your tires (or in some cases kart setup) will need.
- If your tires look like they were barely used at all (to the point that you can still see your surfacing marks), you can likely soften and/or add more bite to the tire.
- If the tire looks feathered badly (like the rubber rolled over itself), then the tire is likely too soft.
- If the kart felt good in the beginning of the race, but fell off quickly, the tires may have had too much bite (again, and/or too soft).
- Ideally, we want to see the tires with just a slight chafe on them. This should look like the surfacing marks are gone, but the tires didn’t start chewing themselves up. The tire was working, but it wasn’t overworking.



## Adjusting with Tires (be careful):

- I always recommend and encourage others to have their kart setup dialed in before relying on tires/prep to find extra speed.
- To gain the most accurate information on the changes you are making with the preps, it's best to have tires that are the same durometer, thickness, age, and compound. Remove as many variables as you can when testing preps or prep techniques.
- A few things to keep in mind:
  - **Thicker tires:**
    - Hold more heat for a longer time
    - Create more grip
    - Weigh more, thus increasing rotational mass
    - Used on tracks that are lacking grip, so you need to create the grip with the tires by biting into the track and creating heat.
  - **Thinner tires:**
    - Dissipate heat quicker and run cooler
    - Create less grip
    - Weigh less, thus helping increase acceleration
    - Used on tracks that already have quite a bit of grip, so you are looking to “free things up” or “get on top of the track instead of in the track” with tires that minimize heat generation.
  - **Choosing Your Tire:**
    - Hard Surface vs. Soft Surface (*Harder tire vs. Softer tire*)
    - Dry & Slick vs. Damp & Tacky (*Older/Cured vs. Newer/Fresh*)
    - Hot Track Surface vs Cool/Cold Track Surface (*Thin vs. Thick*)
    - Fast/High Bite vs Slow/Low Bite (*Flatter Cut vs. Rounder Cut*)
      - Flatter cut (which is my preference) leaves more of the edge to the sidewall. This removes bite from the tire, “freeing” it up in the corners. You can always add bite to a tire with prep (or setup for that matter), but it becomes hard to remove bite on a track where you don’t need it.
      - Rounder cut removes more of the edge and makes the sidewall less stiff, thus creating more natural bite in the corners.