

Shannonville Motorsports Park Breakout Time Change Analysis

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Nov 2023

In 2020 the average lap time for classes in a race were:

Average GT1	1:51
Average GT2	01:55.2
Average GT3	01:57.8

Of note from 2020:

- Not one GT2 car was faster than a GT1 car
- Not one GT3 car was faster than a GT2 car
- Two GT2 cars broke out in qualifying, the fastest by 0.311 of a second, otherwise no breakouts.
- During the race, the fastest GT2 car was 1.028 away from breakout during the race; not even close.

- In 2023 the average lap time for the morning race June 4, 2023 classes were:

- Average GT1 1.52
- Average GT2 1.53
- Average GT3 1.57

- The average top four cars in each class 2023:

- Average GT1 1.52
- Average GT2 1.52
- Average GT3 1.55

GT2 cars were running same times as GT1

- Of note from 2023:
- GT1 average is 1 second per lap SLOWER than 2020.
- GT2 average lap times of the top 4 cars (there are only 6 in class) is IDENTICAL to the GT1 cars lap times. Should they not be in GT1?
- The top four GT3 cars average lap time in 2023 (1.55), which is the same as the GT2 cars average in 2020.
- The average of the remainder GT3 (2.00) is two seconds slower than 2020 cars

Analysis:

1. It must be mentioned that the sample size for data analysis is too small to be statistically valid. Further, the data set between 2020 and 2023 do not contain the same drivers and same cars; that being said, it is all I have to work with. If someone had the data from years gone past, it would make the data far more relevant.
2. The data show that GT1 cars are slower in 2023 than 2020. The argument can be made that the repaving of sections of SMP has no effect on lap times, and/or that it has a negative impact on lap times.

Analysis:

3. The lap times of GT2 and GT3 cars have dramatically changed, going faster. GT1 and GT2 (top 4 cars) are, on average, running the same lap time. Let's look at potential reasons for this:
 - a. Some people argue the cars are faster due to new pavement. This is not borne out across all GT groups. So, let's look at the F1600 as a control sample. In 2020 Mac Clark won with a fast lap of 1:50.725 and a class average of 1:55. In 2023 Callum Baxter won with a 1:49.884 and a slower class average lap of 1:56. So, their lap times improved by less than 1 second per lap, yet GT2 and GT3 times improved 3 seconds per lap (on average), and GT1 Times are slower. The argument that repaving the track created faster GT2/3 lap times is not valid with this data.

Analysis:

- 3b

Looking at the composition of the field in 2023 we find the following:

- i. The top of GT2 consist of a GT1 car, and two cars that ran the same times as GT1 cars.
- ii. Upon changing the breakout times 2 cars went 3-4 seconds a lap faster. In comparison, Mark Busscher, Rocco, and Ed Caranci all ran near identical lap times in 2020 as 2023 (despite Ed adding 100hp to his car he isn't any faster). Rocco was 2 seconds slower in 2023 than 2020.....further, all the returning cars from 2020 ran nearly the same lap times in 2023.
- iii. The Top cars in GT3 were composed of a rookie driving a GT1 car (he ran a 1:53 in the afternoon, which was a GT1 time until yesterday); he really should not be taken as representative of a GT3 lap time. As well the GT3 winner was his first race weekend, so his GT3 placement is not representative.

- Summary :

1. The argument that the repaved sections of the track have cause faster lap times cannot be support, however, it what is definitive is that the change in GT2 and GT3 lap times is not directly correlated to the repaving; something else is at play.
2. A review of the drivers/cars in each class is a more logical explanation for the faster lap times in GT2 and GT3. Either the cars, or drivers, or a combination of both, have created faster lap times within those classes. See Richard's report noting sandbagging

- Points for discussion:

1. What are we trying to accomplish with the rule change? More competition? Attract more drivers?
2. We have rules in place to deal with cars that run faster than the class breakout times. Why are we not using it? What was the compelling and valid argument to cause this change?
3. Do we want the fast GT2 cars running the same lap times as GT1 cars? Not sure that makes sense.
4. Under the rules, if you break out more than 2 seconds you are automatically bumped up a class, yet we moved the breakout time by 4 seconds? That is a whole class shift. How does any of that make sense, and what empirical data supports it?

- Points for discussion:

5. Does CASC change the breakout times to suit the cars which show up to race at a particular track, or do we set rules, and the cars must fit a certain class, and if they are too fast move up a class?

6. Ed Caranci, John Hansen, Gary Kwok, Chris Lawson, and others have broken out at CTMP. Are we adding 4 seconds to that breakout? If not, why not? The same logic should apply

7. If we change the rules to accommodate the cars which show up to race, do we only take into account the fastest 3 or 4 cars?

8. What are the criteria for changing the breakouts? Some cars are fast at two track and slow at the other. Are we going to increase the breakout time at the third track, so it makes racing more competitive there? It makes sense if “competition” is the goal.