

Want to improve your action car photos? Here's how.

Thomas A. DeMauro at 8:00 am | 7 comments

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Shutter speed 1/200, aperture F/14, focal length 200mm. A little fire from the exhaust can certainly add interest. This race car provided it at the same point—entering the Andretti hairpin at Laguna Seca—on each lap, so there was time to realize that and wait for the right moment to get a shot featuring the burst of flame. All photos by author.

Has this happened to you? Seizing the opportunity to attend a race, you had the time of your life watching the action, walking the paddock or the pits and shooting photos to capture some memories. Once you got home, however, you realized that few really conveyed the excitement you experienced or the scope of the event—and many were just blurry or boring.



Shutter speed 1/100, aperture F18, focal length 200mm. As the laps passed at Laguna Seca, I reduced the shutter speed in increments to see how low I could go and still get good photos. Note the sharpness of the car and the blur of the wheels and the Michelin signage in the background.

Hopefully, this article will offer some insight to improving your photography skills for future races, along with finding vantage points at the track that can provide more dynamic photos, but don't require special passes or permission to access.



Shutter speed 1/320, aperture F9, focal length 97mm. A vantage point close to the starting line, like turn 1 at Laguna Seca, provides opportunities to get a group of cars in the same photo, before they spread out. I was shooting from an area outside the fence at the entrance of the Andretti hairpin (same as photos 1 and 2)—no credentials needed. Just inside the fence about 30 feet away were two photographers with proper credentials and a vantage point that seemed to be no better than mine.

Camera

Put aside your cellphone, iPad and wide-angle-to-long-zoom compact. Though you may be able to get by with using them in the pits or paddock area, they will not be conducive to high-quality track action shots.



Shutter speed 1/250, aperture F7.1, Focal length 70mm. Quickly running up into the stands, when this session was starting, I was able to get a few semi-artsy shots with the retaining wall obscuring the lower portions of the cars. Since you can see more on the Sam Posey #77 Challenger and it's leading, that's one I focused on. At 1/250 I was afforded acceptable focus on the Challenger and good background blur.

You want to bring a DSLR. Any current name brand DSLR—Canon, Nikon, Pentax, Sony etc.—will work well. I use the 15-megapixel Canon 60D, which is not a pro camera, but has produced very good results. My backup is an older 10-megapixel Canon 40D, which can be purchased in great shape used for about \$250.



Shutter speed 1/50, aperture F11, Focal length 70mm. Some behind-the-scenes photos can be interesting, too. Shot at just 1/50th of a second and panning with the Javelin that was entering the track, resulted in the number and most of the car being sharp, while all of the people are semi-blurred, so your eye is drawn to the car. Since you can still see the people, you can also see that they are all looking at the car, which again draws the viewer's eye toward the car.

I'm assuming for the purposes of this article that you know your way around a camera and are familiar with the various manual settings, what they mean and how they affect each other.

Lenses

While Canon L-series or Nikon's pro equivalent lenses with a constant 2.8 aperture through the zoom range would be great, they are expensive. Though less costly lenses will generally provide somewhat lesser results, they can still work well for your intended purpose and many companies offer them. For instance, if your goal is to show the photos on your computer screen or TV, or have 8 x 10s printed, critical sharpness and other differences between the expensive and affordable lenses shouldn't be much of an issue. (Depending upon the lenses compared, you will likely see some variation in quality when viewed on the computer at 100 percent, however. Even the kit lenses that come in some of the name-brand DSLR kits will probably work.



Shutter speed 1/800, aperture F5.6, focal length 200mm. This photo was taken through a slot in the fence at turn 3. Though I liked the composition, the shutter speed is too fast, as evidenced by too little blur on the wheels. This was one of the first photos I took when we arrived, so let's chalk it up to nerves—I had decided that getting the cars sharp was most important, hence a safe 1/800th shutter speed. I then worked the shutter speed down from there as the day wore on.

Paddock areas at road race tracks and pit areas at drag strips can be tight, so you may want to use a wide angle lens when photographing individual and/or groups of cars there. I generally use a Canon 17-40mm F4 aperture L lens. Its quality is high and its price is less than the F2.8 aperture 16-35mm L lens.

For the convenience of the larger zoom range, I even sometimes use the much cheaper 18-135mm kit lens that came with the 60D DSLR kit for some static photos in the pits or paddock areas.

Since many cameras in the non-pro price ranges use APS-C sized sensors, which are smaller than the full-frame sensors that are equal in size to the 35mm film cameras and used in pro cameras, there is a focal length multiplication factor (aka crop factor) to be considered when choosing lenses. For instance, on the 60D the ratio is 1.6:1. Since the sensor is smaller than full frame, when an 18mm lens is attached it actually provides the field of view equal to a 28mm lens on a full-frame sensor DSLR or 35mm film camera.



Shutter speed 1/320, aperture F8, Focal length 200mm. Desiring a higher vantage point, Matt Litwin, Kurt Ernst and I walked up the outside stairs of the tower and shot from there for a while; again, no photo pass needed. This is turn 3 again from on high. Those guys at the fence are just to the left of where we were standing for the previous photo.

Because most of you will be using APS-C sized sensor-equipped DSLRs, your wide angle zoom lens should at least begin as wide as 18mm. It can be an 18-55mm or 18-70mm, 18-80mm, 18-135mm or even 18-200mm or 18-250mm. Keep in mind, however, that quality varies. Generally, the larger the zoom range, the more compromises had to be made to get there, so image quality may suffer at some or all focal lengths and apertures when compared to shorter zooms.

While the ratio is usually viewed as detriment to wide angle zooms, it can be viewed as a benefit for the telephoto zoom lenses. For instance, thanks the 1.6:1 ratio, a 70-200mm lens now has the field of view of 112-320mm. (Though the actual focal length is not increased, the reduced field of view gives the impression that it was). I currently use a 70-200mm Canon F4 L lens, again less expensive and considerably lighter in weight than the F2.8 L series Canon of the same focal range. It's very sharp, yet still a substantial investment.



Shutter speed 1/1000, aperture F5, Focal length 200mm. The Trans-Am cars negotiate Rainey Curve (turn 9). This was also shot from the tower, and I was pleased to get the cars in a group going through some corners. If you zoom in on this photo, you can see the heat waves making all the cars look rippled.

The more affordable zooms you will likely find will have variable maximum apertures. For instance, my 17-40mm and 70mm-200mm L lenses retain access to their widest aperture of F4 through their zoom ranges—I can set F4 at 17mm and 40mm or 70mm and 200mm. Many general-purpose lenses have a maximum aperture of around F3.5 at its widest angle that rises to about F5.6 at its telephoto end, which means substantially less light gets in at F5.6 than at F2.8 or F4 and that could be an issue on a dark day.

One way to compensate without having to use a lower shutter speed and running the risk of blurry images is to increase the ISO setting, but it will add some digital noise to the photos. Experiment to learn what works best for you.



Taking a few photos of the track and surroundings will help to convey the scope of the venue and can serve as sort of an establishing shot like you'd see in the beginning of a TV show or movie.

Another consideration is image stabilization, which is usually offered to thwart vertical camera movement when photographing stationary subjects. A second mode, which Canon offers as do others on some lenses, is for panning and can help to improve photos of moving subjects and allow you to use slower shutter speeds to blur the background more. The 70-200mm F4 L lens I have has two-mode image stabilization. However, image stabilization is not imperative for getting good track photos. Photographers were doing it for decades with manual-focus film cameras and no image stabilization, so you can do it, too with some panning practice.

Panning

To get the best photos of a moving subject, you need to pan with it as you shoot. If done correctly, the object will remain sharp, while the background and foreground are blurry. I stand with my feet shoulder-width apart facing the track. I hold the camera up to my eye with two hands, while keeping my elbows tucked into my body. I turn my upper body at my hips and focus on the car as it comes into view at a road race or focus on the car at the starting line at a drag race, and then pan with it by turning my upper body while keeping my feet planted as I shoot. The smoother I can do it, the more photos I'll have in focus.

If it's a pan blur from the stands at the drag strip, I fire off shots once the car is large enough in the viewfinder for a good front $\frac{3}{4}$ shot and then continue to shoot as it passes. If it's a road course, I shoot as the car enters the corner, travels through it and out the other side. If done well, I can get front $\frac{3}{4}$ shots, dead-on-side shots and rear $\frac{3}{4}$ shots that are in focus on a single pass at either venue. It's tricky to get all three sharp through

multiple shots and it doesn't happen all the time. It's easier if I'm just going for one type of shot, because I can concentrate more on one area and net a higher success rate of sharp photos.

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Shutter speed 1/500, aperture F6.3, focal length 97mm. Many of the same techniques discussed for the road race track carry over to the drag strip. In my opinion, this photo is stronger when taken from the stands at a higher vantage point (no line pass needed) than it would be from ground level at the line if the intent is to show fan interaction with Arnie Beswick and his race car. Note that just about everyone in the photo is looking at the car and reacting in their own way, which draws your attention to the car.

Set the focusing point in the viewfinder where it works best for you. It's important to leave some space around the car to show the blurred background and foreground. For me, the focus point is usually in the middle. When panning, if I'm taking front $\frac{3}{4}$ shots, I keep the focusing point on the grille emblem or headlight area that is closest to me as I shoot. For dead-on-side, I use the number on the door of a road race car or an emblem or decal on the front fender of a drag race car. If the car has no numbers or emblems, I use the A-pillar. (If you try to simply focus on the expanse monochromatic body paint of the side of the car, the autofocus will "hunt" for a focus point and you will probably get a blurry shot.) For the rear $\frac{3}{4}$ shots, I place the focus point on the taillight area closest to me.

You want avoid a front $\frac{3}{4}$ shot with a blurry nose and an in-focus tail, or a rear shot with blurry taillights and sharp front fender—yet it can happen often. In my experience, people judge the sharpness of a picture by checking the emblem, number, decal, or headlight that is closest to them in the photo, so that's what I focus on.

Camera Settings

I use a Class 10 high-speed memory card, as the faster write times ensure uninterrupted high-speed shooting. The settings I use at the track are:

ISO—100. It's the lowest setting on my Canon and provides the least amount of digital noise. However, I may have to increase it to ensure proper exposure while maintaining the same shutter speed if it's a dark day.

Shutter Priority—I determine the shutter speed and the camera chooses the aperture to get the correct exposure.

Shutter Speed—fast enough to get the car sharp while panning, slow enough to blur background and see spinning wheels. (Experiment with different speeds, as the requirement will differ with your skill level and the speed of the car.)

High Speed Continuous Shooting—to get as many shots as I want as quickly as possible on each pass by simply holding the shutter button down

AI Servo—automatically adjusts the focus continuously when holding the shutter button halfway down or while firing.

White Balance—Sunny, Cloudy or Auto as required by the available light.

Vantage Points

Dragstrip

With the 70-200mm lens on an APS-C sensor camera, you can get great drag race shots from the stands. I go to the whichever side of the track offers the best light on the cars—sun at my back. I then go to the front of those stands closest to the starting line to zoom in on two-car or single car burnouts and/or launches.

When the stands fill up with people to see the exhibition cars, I may use a wider angle to include some spectators and the car(s) in the burnout box or at the starting line at the same time.

For pan blurs, I walk the stands to the 60-foot mark, half-track or further, climb high enough so that the cars aren't blocked by the retaining wall and fire away.



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Shutter speed 1/320, aperture F/9.5, focal length 95mm. Pan blurs from the stands can look great and they don't require a line pass either. Blurred signs on the wall behind the cars add a splash of color and a sense of speed more-so than the plain cement retaining wall in the second photo.

Some tracks have fenced-in spectator crossovers back behind the burnout box. You can get some great smoky burnout shots through the fence from there. For safety, just don't stand directly behind the cars.

I also walk the pit area to take photos of the racers prepping their cars, as it adds human interest.

You now have five different places to get compelling drag race photos without having to ask for a line pass.

Road Race

At a road race, in my experience, the corners are the best. Corkscrew, hairpin, whatever—if the car has to brake, shift its weight, turn and/or accelerate, great photos opportunities are likely. Again, if possible try to find an area where the sun is at your back and you are photographing the sunlit side of the car. The starting

line and just after it are good areas to capture the cars in a large group, because after a few laps they will most likely be spread out.

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Shutter speed 1/250, aperture F/7.1, Focal length 75mm. At the Pittsburgh Grand Prix, spectators are allowed generous views of the track from behind chest-high fences. This vantage point on a tight corner provided some interesting photos that include multiple cars. The lead car is acceptably sharp, but its wheels are blurred and the other cars are out of focus, all of which convey motion.

All events are different, but usually there are multiple places near enough to the track where spectators can stand in a safe area and still get dynamic photos without needing a special pass.

At the strip and at a road race, always be mindful and respectful of the track personnel and do exactly as you are told.

The photos presented here are jpegs straight out of the camera. Though all of them could be improved upon with some Photoshop tweaking and cropping, none were altered. This way, you will have a better idea of what to expect. The road race photos at Laguna Seca and the Pittsburgh GP were shot with my Canon 60D and the 70-200mm F4 L-lens with image stabilization. The drag race photos were taken with a Canon 50D and 70-200 F2.8 L-lens without image stabilization. All photos were shot at ISO 100 to minimize digital noise.



Shutter speed 1/200, aperture F/7.1, focal length 135mm. When you can see the expression on the driver's face, the shot is probably sharp pretty sharp. Yes, I know the crop could be better. There should be more open area in front of the car to reveal more of where it's going than where it has been. This was one of a group of shots taken at the same time, and the one with the best crop happened to be blurry. (That's why I take multiple photos of each pass.)

Keep in mind, presented here are simply the ways I approach this type of photography, and I'm not saying that it's the only way or the best way, it's just my way. Talk to other photographers and their methods may differ. Regardless, you now know my techniques, have some photographic results and the shooting information for each photo so you can see what the settings were. Hopefully, they will help you get the photos you desire at your next race.