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HOW TO PHOTOGRAPH AUTO RACING

By Gordon Chittenden

75
Cents

INTRODUCTION

Car racing, next to horse racing, is America's favorite spectator sport. And where the cars race you'll find thousands of photographers exposing miles of film. Why are the photos seen in car racing magazines so exciting and the pictures taken by Joe Amateur so dull?

This booklet will tell you why and – more important – how to take better pictures at the races. It is written and illustrated by Gordon Chittenden, one of America's most experienced auto racing photographers, currently filling the pages of *Road & Track* Magazine with his dramatic photos. Gordon has worked all the famous tracks on the racing circuit. He knows

the best positions on each track; he knows what he wants and what he will get when he releases the shutter.

Ponder his sage advice, then shoot up a storm. But please keep off the track while the race is on.

Jim McGrath
Technical Services Editor
Vivitar Products
Ponder & Best, Inc.

PREPARATION

The average amateur photographer gets to the track just in time to yank his camera out of the gadget bag and shoot the first race. He doesn't know it, but he's already a loser. The experienced racing photographer knows that preparation is essential to good racing pictures.

Scouting a course before the races begin is the first step. Do this early in the day, while the drivers are practicing. Remember that once the races start, the crowds build up to the point where you can't readily go wherever you want to go. Spectators at the fence will spoil some choice angles you might otherwise count on. Check the wind to see which way the dust will blow when the cars are running—don't pick places downwind. Try to keep in mind that the sun, as it moves through the long afternoon, will change your shadows and exposures.

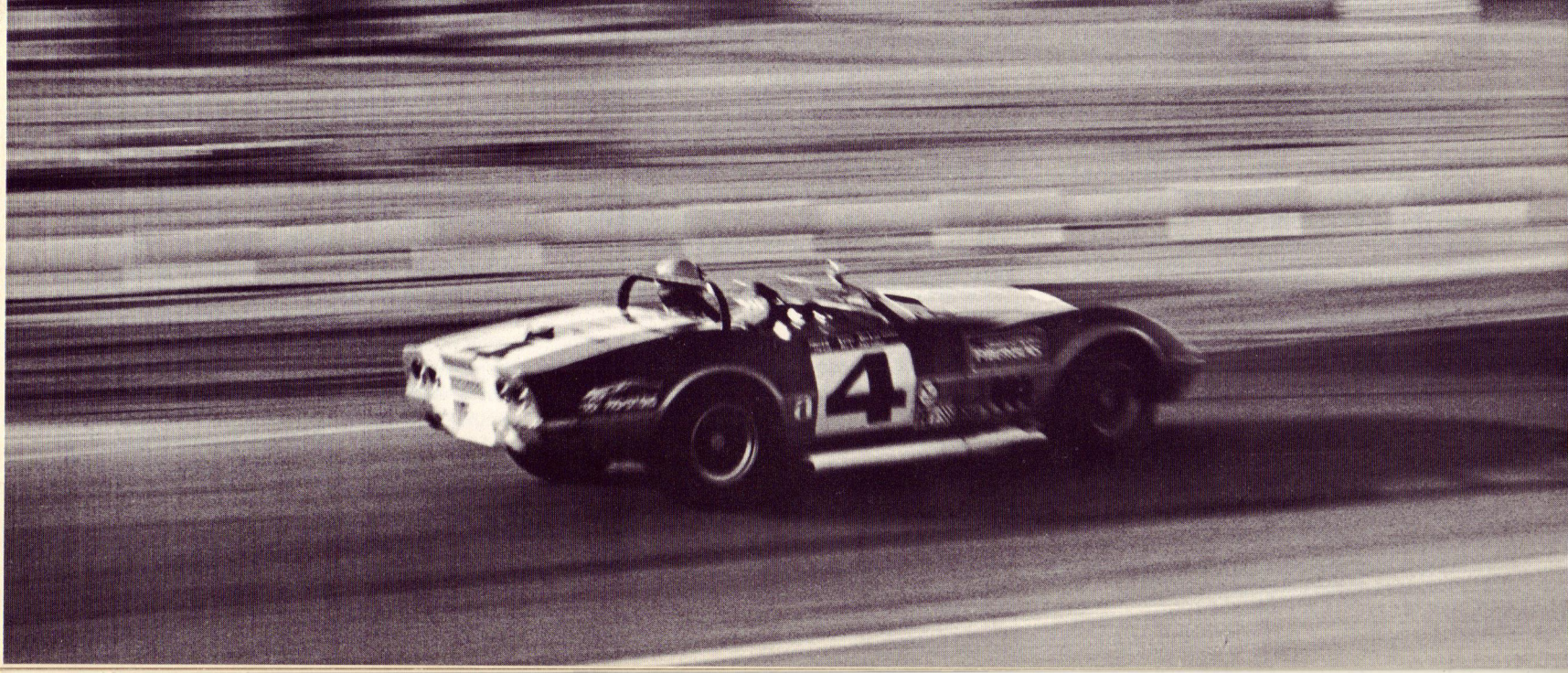
All but four of the photographs in this booklet were taken from outside the fence—where any amateur can roam. Most courses are laid out to snake in and out so much that you can get at least one good shooting position on every turn and straightaway from outside the fence.

There are some shots you can get only from the pit area. For these you need a press pass. If you don't have one, get in touch with a racing magazine editor, or the editor of your local newspaper. Show him your pictures and ask for authorization to cover the race. If you get a go-ahead (which is just possible if you are an unknown but offer to produce the pictures with no commitment on the editor's part) then contact the publicity department at the race track and request a press pass. Good luck.

Now think about the weather. You will be out in the open all day exposed to the hot sun, cool winds, driving rains or whatever the weatherman ordered. Think ahead. If you wear a sweater or raincoat and the weather turns hot, what will you do with it? Can you stow it in your carrying bag or strap it to the bag?

Bad weather can be an enterprising photographer's godsend, simply because many photographers stay home or leave early. Foul-weather racing photographs are therefore relatively rare and, in addition, have a moody quality that can be very dramatic and appealing, especially in color.

The greatest "weather problem" a racing photographer faces is dust—not just airborne dirt but particles of oil, grease, rubber and concrete. The last is contributed liberally by



"Panning actually heightens the feeling of speed. You can actually 'see' how the car whizzes past the grandstand..."
(Auto Vivitar 200mm f/3.5 Lens)

track maintenance men when they pour powdered concrete on oil slicks, which threaten the drivers.

Greasy, sticky dust gets in and on everything. It has a particular affinity for cameras with open backs and for extra uncapped lenses. Once inside a camera, the dry dust jumps and dances each time the shutter bangs open and shut, then settles back on each fresh frame of film to leave a permanent record of its presence. The stickier dust smears lenses and gums up delicate moving parts inside the camera.

You can never win the war with dust, but you can control it by using 36-exposure rolls instead of 20s, changing lenses infrequently or using another camera body for each additional lens, and keeping on the upwind side of the

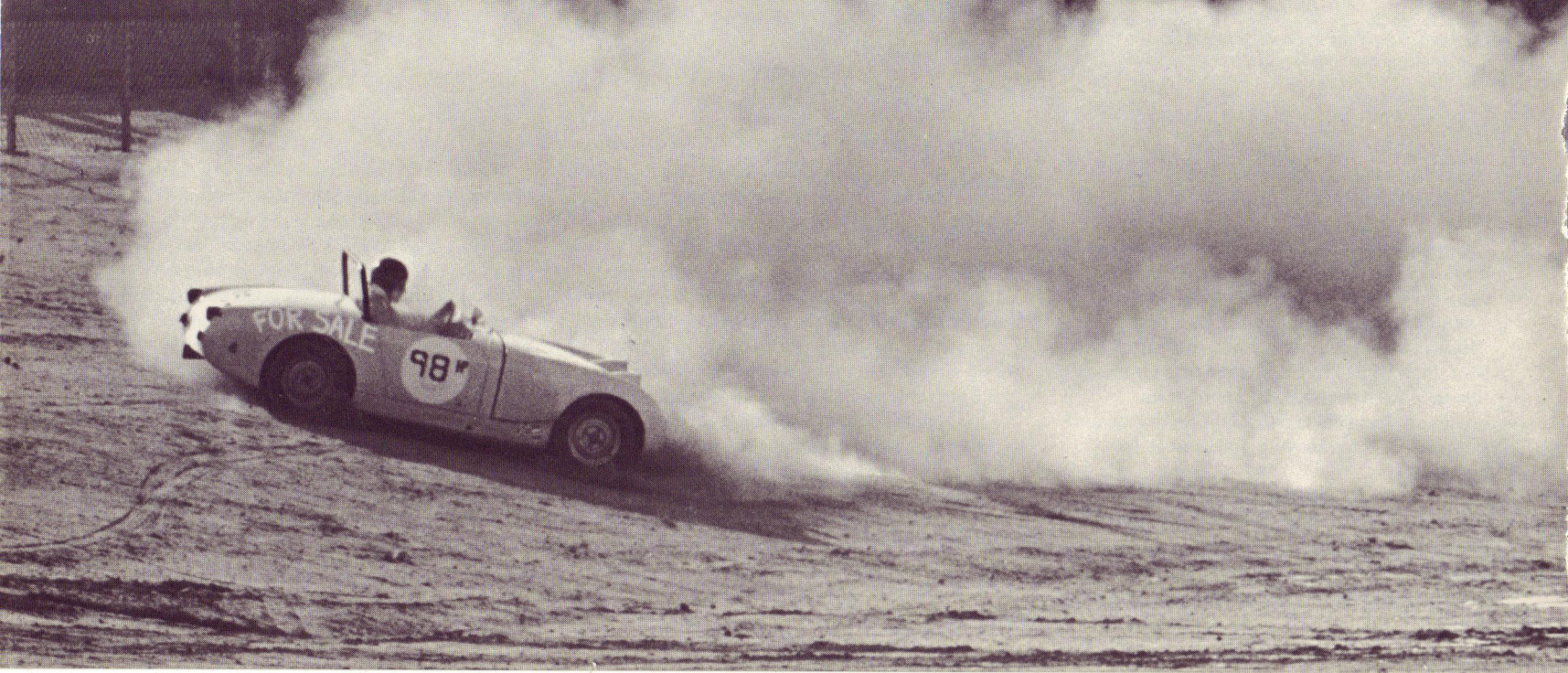
track as much as possible. When you change film, seek a sheltered place and keep your back to the wind. If you're a perfectionist you can even change film in a changing bag.

Some photographers remove the film from the boxes at home to save time changing film at the track. Leave the foil wrappers on and mark each roll if you are carrying more than one kind of film in the same kind of wrapper.

Carry at least half a dozen rolls more than you think you'll shoot. Learn from the professional. He rewinds and reloads with a fresh roll whenever there is a lull in the action and he's down to a few exposures on a roll. You can waste a few frames this way but you'll get those once-in-a-lifetime pictures other photographers miss because they shot their last frame just as the action began.

The careful technician marks individual rolls when special development is needed. Use stick-on labels which can be written on, or a grease pencil to mark directly on the film cartridge or film leader. For example, on days when the sun periodically goes behind clouds and sharply reduces contrast as well as exposure time, you may want to overdevelop the cloudy-dull negatives to pep them up. When the sun is low and side-lighting your subjects, you may wish to underdevelop to soften the contrast.

Also, if you accidentally expose a roll at the wrong ASA setting, mark it. Maybe it can be saved in the darkroom.



“My advice to the beginning racing photographer is to start with the 200...” (Auto Vivitar 200mm f/3.5 Lens)

LENSES: WHICH TO GET FIRST?

The “normal” lens for racing photography is the 200mm lens. In 15 years of shooting the sport, I’ve found this is the one lens I rely on above all others. It gives the right image size for most picture situations most of the time. The Auto Vivitar 200mm f/3.5 is fast enough, sharp enough, small enough and quick-handling enough to stand out in my mind as *the* lens for racing photography. I use it constantly.

The 50 or 55mm “true” normal lens that comes with your camera isn’t of much use at the track, whether you shoot from the stands, inside the paddock or behind the fence. My advice is: leave it home.

During a race, the 200 fills the frame with one or two cars from most angles at most distances. During a pit stop, the 200 pulls in the frantic

activity of the crew just enough from across the track or from inside the fence. During the quiet moments before and after a race, the 200 is the lens I choose for good head shots of drivers as they talk with crew members and friends.

If the 200 is considered the “normal” lens, the 100 or 105mm lens makes the best “wideangle” in the situations I’ve described. At working distances of 10 to 50 feet, the 100/105 takes in more subject matter than you would think. It also produces a very respectable amount of depth of field.

For the photographer who would prefer the convenience of a single lens that brackets the focal lengths of these two most important racing lenses, I recommend a telephoto zoom lens, such as Auto Vivitar 85-205 Zoom or the

Vivitar Automatic T-4 90-230 Zoom. At the cost of some speed and extra weight, the telephoto zoom offers increased flexibility and less need to change lenses — no small advantage in the fast-paced arena of racing photography.

For true wideangle coverage, and as the third lens to have in the ideal kit for racing photography, I suggest the 28 or 35mm lens (I personally prefer the 28). Such a wideangle lens will give you the coverage for long shots showing the cars against the grandstands, or the cars at a distance with spectators at the fence in the foreground, or car-and-driver shots in the paddock, for example. A 28 or 35mm lens will take in all such views easily and without objectionable distortion. Vivitar’s lenses in these focal lengths are both fast and sharp.

"Most courses are laid out to snake in and out so much that you can get at least one good shooting position on every turn and straightaway from outside the fence." (Vivitar Preset 400mm f/5.6 Lens)

Some photographers like distortion and use a wideangle lens – or even an ultrawide, such as a 20 or 21mm – to twist racing cars all out of shape in the name of "Artistic Photography." I call it distortion, and I hate to see a beautiful racing machine mangled in the hands of such photographers. So I don't use a 20 or 21 at all for racing photography, and you won't find any distorted racing pictures in this booklet (or in my negative files).

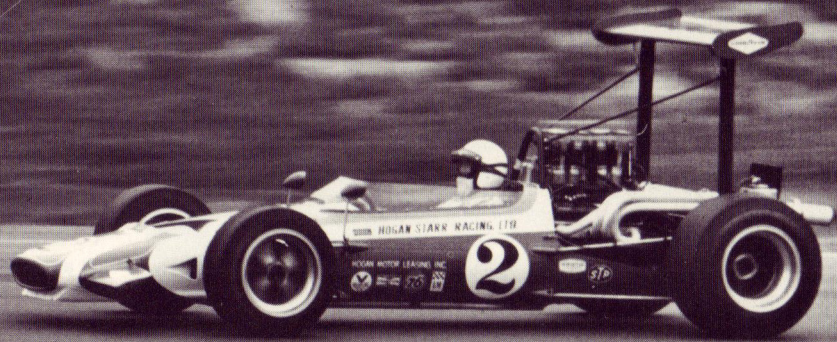
While I'm knocking certain focal lengths, let me say that I think the 135mm lens is useless for racing photography, if not for just about everything I cover as a photojournalist. Personally, I can't find a use for a 135; it doesn't do anything my 100 and 200 don't do better for the way I work at the track.

Now that I've given you my individual peculiarities, tastes and prejudices, let me admit that racing photographers as good as I use the focal lengths I dislike and get fine pictures with them.

Yes, you can take good pictures at the track or anywhere with a 20/21, 50/55 or 135mm lens. You would figure this out even if the guys selling Vivitar lenses weren't standing here ready to pelt me with lens caps if I didn't say it. The point is, I am telling you how I work and what I think, and this is how I work and what I think.

My advice to the beginning racing photographer is to start with the 200, then get the 100 or 105 (or a telephoto zoom instead of the two), then a 28. These three (or two) lenses will put you in business.

One last point about lenses: in addition to the camera/lens combination I use for the pictures I intend to shoot at a race, I like to carry a spare camera with a wideangle to catch the shots I don't expect to take – as when a car shunts (spins or leaves the track) right in front of me when I'm shooting with the 200, which just can't cover nearby action. Ideally this "emergency" camera should be an automatic exposure camera like the lightweight Olympus 35 EC, so you need only grab it, point it and hit the release button.

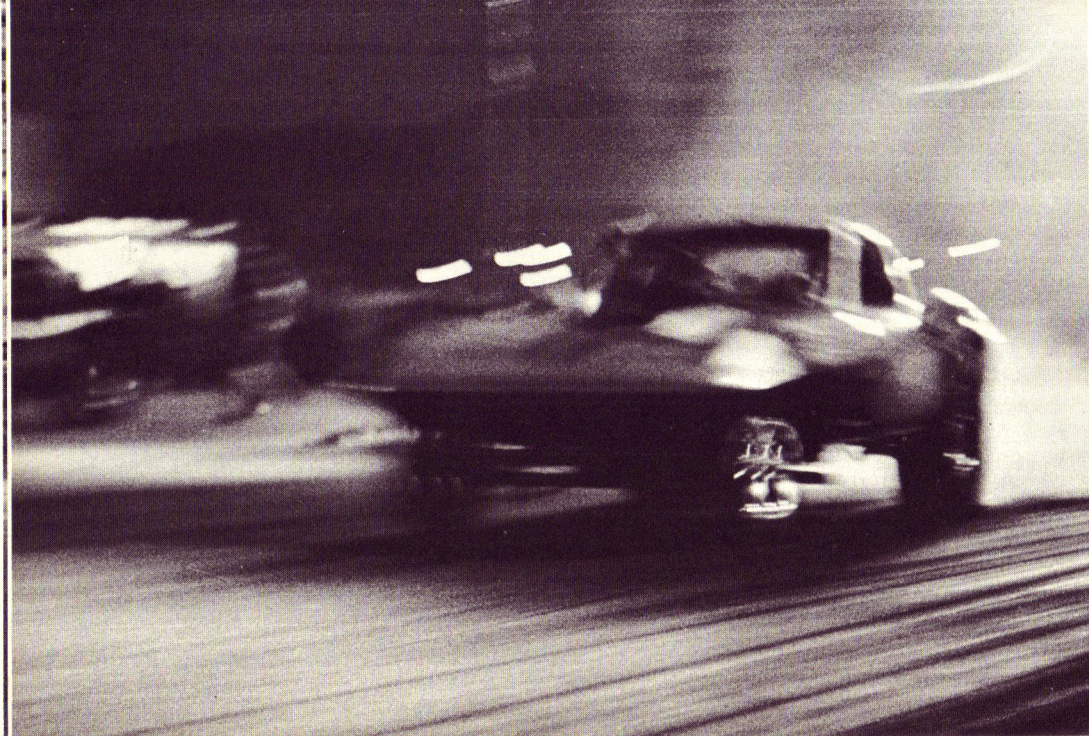


"'Jiggle-blur' gives an urgent or disaster-like feeling..."
(Auto Vivitar 35mm f/2.8 Lens)

ACTION=SHARP OR BLURRED?

Even if the top speed on your camera is 1/500, 1/1000, or 1/2000, some of your racing photos will be blurred if you shoot track action up close. By "up close" I mean either your being physically close or the action being brought optically close with a long lens.

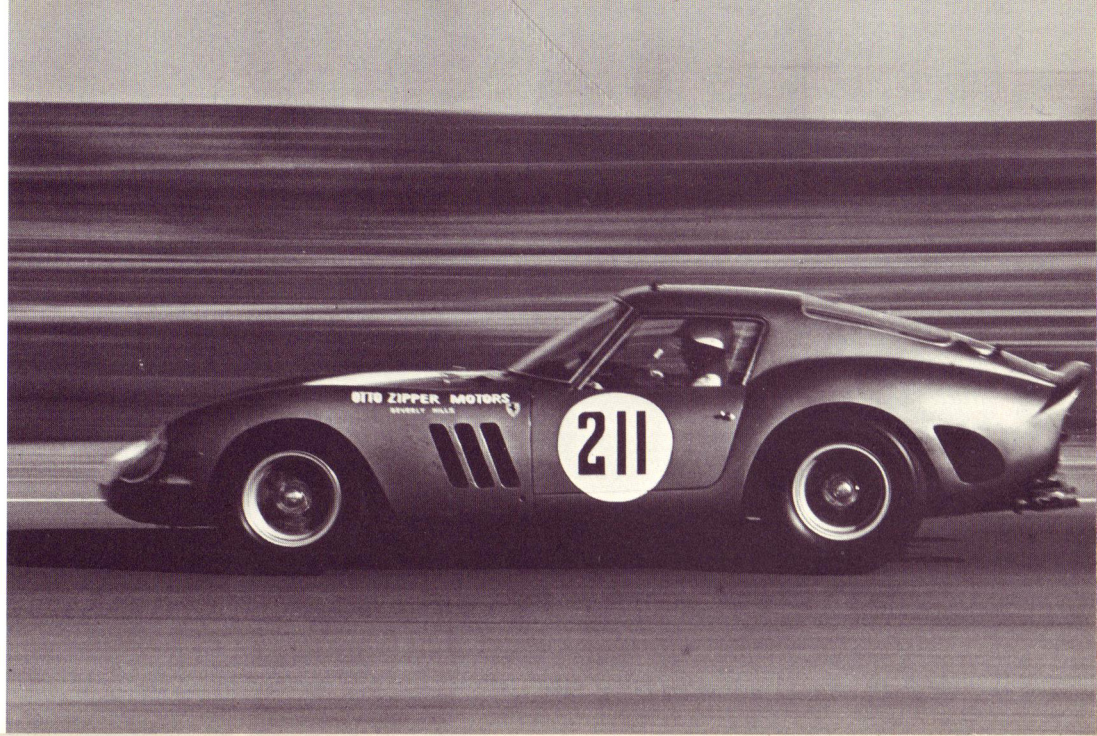
The laws of optics being fixed, there just is no possible way to point a conventional camera at an object moving 120 to 140 miles per hour and get a large image on the negative (or transparency) that renders sharply the object and the rest of the picture. A race car alone, however, can be "frozen" by the technique of panning, which consists merely of tracking the car as it speeds across your field of view and pressing your shutter release while the camera and lens are actually moving. The car comes out extremely sharp and the background is blurred.

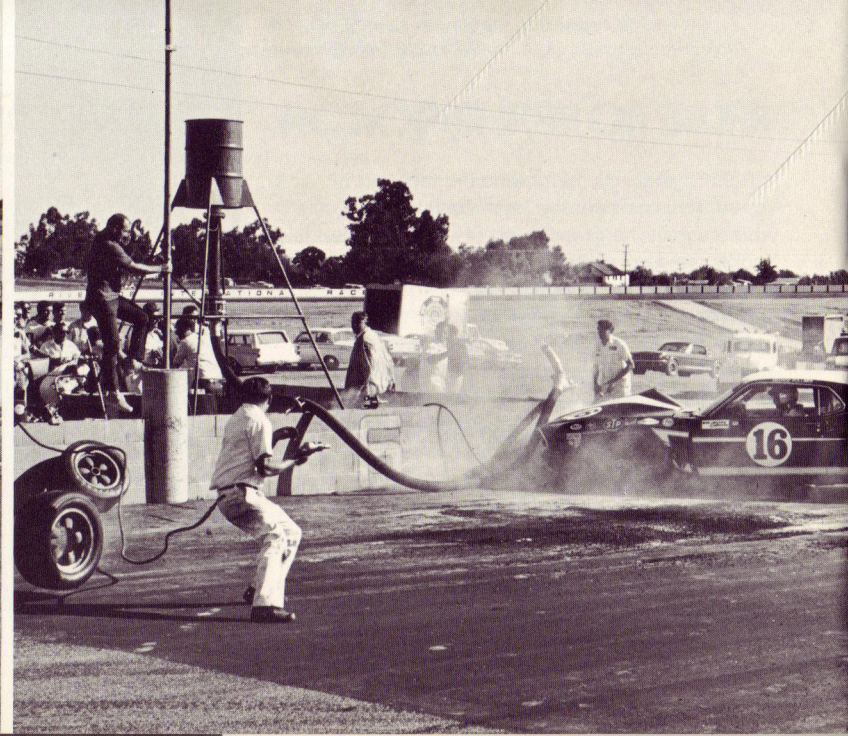
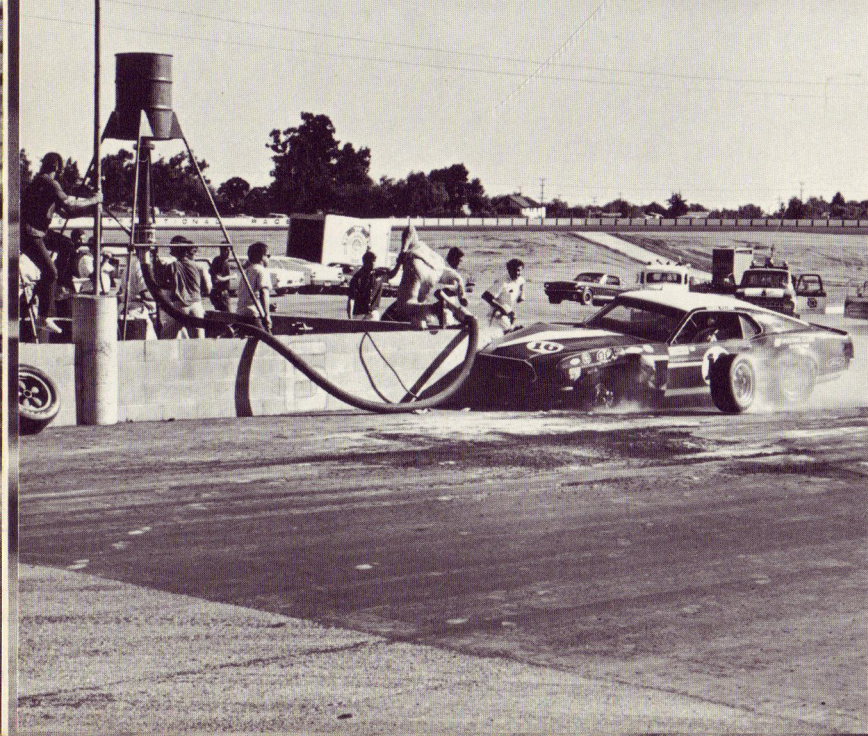


"...in contrast to the simple 'speedy' effect of subject-motion blur..." (Auto Vivitar 200mm f/3.5 Lens)

Panning actually heightens the feeling of speed. You can actually "see" how the car whizzes past the grandstand or whatever the background consists of. Furthermore, you can use panning to obtain moderately sharp pictures of cars at speed even at shutter speeds as low as 1/15 or 1/30. At such a shutter speed and with an image large enough to more or less fill the film frame, you will of course get subject motion on the film, but how much is too much is a matter of taste. I personally like to go below 1/30, for particular effects, but you as a beginner should experiment and see what happens.

You'll save yourself an enormous amount of film and time, by the way, if you take detailed notes when you experiment. At the minimum you need to write down the focal length,





"I like to carry a spare camera with a wideangle to catch the shots I don't expect to take..."
(Vivitar Automatic T-4 35mm f/2.8 Lens) In the sudden sequence on the facing page, Gordon Chittenden caught the Mustang crashing into the wall as a pit man leaps from danger and the left front wheel, which came off before the crash, passes the car. In the second photo another pit man has dashed forward, fuel hose nozzle in hand, as the errant tire rolls over the hose and out of the picture.

aperture, distance and shutter speed for each exposure or sequence. It is helpful to note also the track locations, since cars of the same type will tend to hit about the same speed every time they reach a given turn or straightaway.

The one variable not yet mentioned that affects sharpness is the angle of the car's path to the lens. When it's perpendicular, as it is for most shots, blur is at a maximum for a car at a given speed. When the car is coming head-on, blur is at a minimum. At in-between angles, the amount of blur will be in-between.

You can't exploit blurred-motion possibilities when you use a fast film such as Tri-X or High Speed Ektachrome at ASA 400 (the Ektachrome being push-processed, of course). Few lenses stop down to less than f/22, which with these films means you can't shoot slower than 1/250

in daylight. To shoot blur you could use filters to cut down the light, but you'll get better quality and more freedom of choice by switching to a medium-speed or slow film. With Kodachrome II, for example, you can go down to 1/15 at f/22.

With a long lens such as the 200, 1/15 will give you plenty of blur. Even with a short lens, a shutter speed this slow will tend to produce "jiggle-blur" from camera shake in handheld shooting. "Jiggle-blur" gives an urgent or disaster-like feeling, in contrast to the simple "speedy" effect of subject-motion blur, but it should be used sparingly.

"...both the men and the machines are dynamic in spirit as well as in fact. Perceptive photography should capture or emphasize this dynamic look." (Vivitar lenses used—clockwise from top left—were the 100mm f/2.8, 35mm f/2.8, 100mm f/3.5, 200mm f/3.5 and 35mm f/2.8.)

PORTRAITS: THE DRIVERS, THE CARS

Portraying individual drivers and cars can be a photographic specialty all by itself. Both are "still life" subjects when "at rest" off the track, but both the men and the machines are dynamic in spirit as well as in fact. Perceptive photography should capture or emphasize this dynamic look.

The camera "headhunter" generally must get physically close to his quarry. This usually means he'll have to wrangle a press pass or a paddock pass, or avoid major races at major tracks, where restrictions are greatest. It is technically possible to fill the negative with a head shot with a 600 or 800mm lens from quite some distance away, but the resulting flat perspective is poor for portraits.

In addition to finding a way to get within 10 to 12 feet (a good distance with the 200 for head-

and-shoulders shots), the racing portrait photographer has to get there at the right time. During a pit stop in the midst of a race is not the time. The driver's face will be obscured completely by his helmet, visor and dust mask.

Short focal-length lenses, the normal and wideangle ones, can be used to portray drivers, but most people don't like the distortion that results when a short lens is used close enough to fill the frame with the subject's face, or even with his head and shoulders. By the same token, some people oppose distorting the lines and spatial relationships of a carefully designed racing auto with a short focal-length lens. Others love it, and move to within inches of a car with a 20 or 21mm lens—or even a "fisheye" lens that produces a circular, 180° image.

One aspect of racing cars that fascinates some photographers is how quickly racing car designs change. The day-after-tomorrow look all too quickly becomes a memory of yesteryear. The racing photographer who pursues his hobby for only a few years will be able to look back and see much of the history of auto racing in his collection.

Historically significant automobiles are prized subjects for the racing photographer. Whenever you have the opportunity to photograph an unusual or limited-production racer, be sure to cover it thoroughly.

THE ULTRA-LONG LENSES

When the racing photographer goes up to telephotos of 400mm or more in focal length, he moves into tripod country. A few gifted individuals can maneuver and operate these behemoths without noticeably blurring their pictures with camera shake, but most of us ordinary mortals must plant such lenses on a sturdy tripod.

The typical and most obvious reason for using the ultra-long lenses is to get ultra-big images of objects very far away. This isn't a good enough reason for a racing photographer like me. I want to be able to move around and shoot fast and freely when covering a race. The only time I tie myself to a tripod at one spot—essentially for one picture situation—is to obtain the special optical effects of the ultra-long lens. By this I mean first the

compression of the near and the far in a scene, so a line of cars coming toward you appears to be glued together, and second the shallowness of field, which makes the object focused upon (or only a thin wedge of it) pop out sharply against nearer and farther objects.

It is difficult to pre-gauge the compression effect. You really can't do it before a race, you have to see it with a pack of cars being driven hard and competitively close together in an actual race. For the same reason you won't be able to pre-gauge the degree of selective focus in such a shooting situation. You can, however, pick your tripod location so you'll be sure of a clear line of fire, with no spectators or other photographers in front of you.

The ultra-longs also offer a reasonable possibility for shooting vertical compositions.

This is worth attention, since you should shoot verticals as well as horizontals whether you aim to please an editor, as I do, or a slide show audience, as you may.

An excellent way to see for yourself what a really long lens can do is to try a tele converter (also called a tele extender) on a moderate telephoto in the 100 to 200mm range. You can boost the effective focal length of such a lens to 200-400 or 300-600 with the Vivitar Automatic 2X or 3X Tele Converter. The results are not quite as sharp as those from a Vivitar lens of the same focal length, and the effective lens aperture is slower by two stops when the focal length is doubled, but the modest price of a Tele Converter may well pay dividends in different and better photos.

VIVITAR LENSES AND ACCESSORIES FOR RACING PHOTOGRAPHY

AUTO VIVITAR FIXED MOUNT LENSES

Designed to operate automatically with almost all popular 35mm SLR cameras and styled to match their finish and markings. Feature smooth focusing mechanisms, deep-etched aperture and distance markings, and easy-to-handle broad-knurled focusing and aperture-control rings. Each Auto Vivitar Lens has fully automatic aperture control and meter coupling, depth of field preview control, depth of field scale, infrared mark and, on telephoto and zoom lenses, a built-in retractable lens hood.

20mm f/3.8 Nine elements, viewing angle 95°, weight 29 oz.

28mm f/2.5 Eight elements, viewing angle 74°, weight 16 oz.

35mm f/2.8 Six elements, viewing angle 63°, weight 8 oz.

100mm f/2.8 Five elements, viewing angle 24°, weight 9½ oz.

135mm f/2.8 Five elements, viewing angle 18°, weight 20 oz.

135mm f/3.5 Four elements, viewing angle 18°, weight 16 oz.

200mm f/3.5 Five elements, viewing angle 12°, weight 24 oz.

85-205mm Zoom f/3.8 Thirteen elements, viewing angle 12-28°, weight 32 oz.

Auto Vivitar Fixed Mount Lenses are made in mounts individually tailored for Mamiya/Sekor, Pentax, Canon, Nikon, Nikkormat and Minolta cameras.

VIVITAR AUTOMATIC T-4 LENSES

Designed to fit all popular 35mm SLR cameras by means of interchangeable adapters that permit use of one lens with many cameras. Vivitar Automatic T-4 Lenses feature automatic aperture control and meter coupling, depth of field preview control, depth of field scale, infrared mark and, on telephoto and zoom lenses, a built-in lens hood.

21mm f/3.8 Nine elements, viewing angle 90°, weight 11 oz.

28mm f/2.8 Seven elements, viewing angle 74°, weight 8½ oz.

35mm f/2.8 Six elements, viewing angle 63°, weight 8 oz.

105mm f/2.8 Four elements, viewing angle 23°, weight 10½ oz.

135mm f/2.8 Four elements, viewing angle 18°, weight 13 oz.

135mm f/3.5 Four elements, viewing angle 18°, weight 12 oz.

200mm f/3.5 Four elements, viewing angle 12°, weight 25 oz.

250mm f/4.5 Four elements, viewing angle 10°, weight 27½ oz.

300mm f/5.5 Five elements, viewing angle 8°, weight 26 oz.

90-230mm f/4.5 Eleven elements, viewing angle 11-28°, weight 32 oz.

Vivitar Automatic T-4 Lens Adapters are available for Mamiya/Sekor, Pentax, Exakta, Nikon, Nikkormat, Canon, Minolta and Miranda cameras.

VIVITAR PRESET "T" MOUNT LENSES

Designed to fit all popular 35mm SLR cameras by means of replaceable adapters that permit

use of one lens with many cameras. Vivitar Preset "T" Lenses feature depth of field preview control, depth of field scale, infrared mark and, on the zoom lens, a built-in lens hood.

28mm f/2.8 Eight elements, viewing angle 74°, weight 16 oz.

35mm f/2.8 Six elements, viewing angle 63°, weight 6¾ oz.

35mm f/3.5 Five elements, viewing angle 63°, weight 6¾ oz.

85mm f/1.8 Six elements, viewing angle 28°, weight 16½ oz.

135mm f/2.8 Five elements, viewing angle 18°, weight 15½ oz.

135mm f/3.5 Four elements, viewing angle 18°, weight 9 oz.

180mm f/3.5 Five elements, viewing angle 14°, weight 20¾ oz.

200mm f/3.5 Five elements, viewing angle 12°, weight 24 oz.

300mm f/5.6 Five elements, viewing angle 8°, weight 36 oz.

400mm f/5.6 Five elements, viewing angle 6°, weight 3 lb. 7½ oz.

500mm f/6.3 Three elements, viewing angle 5°, weight 4 lb. 12 oz.

600mm f/8 Three elements, viewing angle 4°, weight 4 lb.

800mm f/8 Four elements, viewing angle 3°, weight 5 lb.

85-205mm Zoom f/3.8 Thirteen elements, viewing angle 12-28°, weight 32 oz.

Vivitar Preset "T" Mount Lens Adapters are available for Mamiya/Sekor, Pentax, Exakta, Topcon, Nikon, Canon, Minolta, Miranda, Konica, Petriflex, Leicaflex, Leica (thread-

mount), Olympus Pen F, Alpa, Zeiss Contarex and Icarex, and 16mm "C" mount movie cameras.

VIVITAR AUTOMATIC TELE CONVERTERS

Designed for use with popular 35mm SLR cameras to double or triple the focal length of any normal or telephoto lens, providing automatic diaphragm coupling between camera and lens.

Vivitar Automatic 2X Tele Converter is supplied in mounts to fit Mamiya/Sekor, Pentax, Exakta, Nikon, Nikkorex, Nikkormat, Canon, Minolta, Miranda, Konica, Olympus Pen F Series, Zeiss Icarex, Retina Reflex (both 126 and 35mm models) and Topcon cameras and lenses.

Vivitar Automatic 3X Tele Converter is supplied in mounts to fit Mamiya/Sekor, Pentax, Nikon, Nikkorex, Nikkormat, Canon and Minolta cameras and lenses.

VIVITAR FILTERS

For color photography: Skylight, 80B, 81A, 82A, 85A, 85B.

For black and white photography: K-2 Medium Yellow, O-2 Medium Orange, X-1 Light Green, 25-A Red.

For both color and black and white photography: Polarizing, UV-Haze, 2X-ND, 4X-ND.

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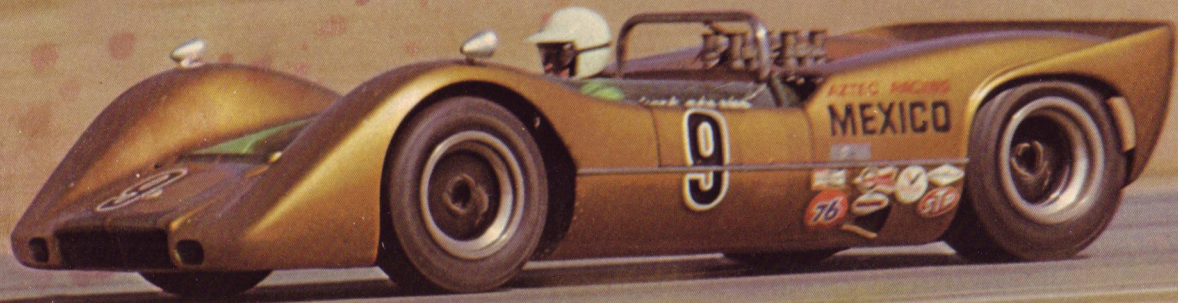
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