

$f^2 C^3$ Graphics



How to Take Great
Photographs of Your Car

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Automotive Photography & *Graphic Art*

-A guide to creating better automotive photography-

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Preface

I am a photographer and graphic artist, with many years of experience in shooting outdoors. I started with wild flowers, and then took up the hobby of birding which I combined with my love of photography. I have extensive collections of both flowers and birds. Automotive photography was a natural extension of my interest in old cars, in particular Studebaker. I then began to toy with graphic programs and have developed quite an affliction for the graphic art. My specialty is the creation of custom collages as show on the cover of this publication. In order to capture the best images possible for the creation of these artistic works, I began to do professional photo shoots of automobiles as well.

The problem that arises, is that often times my customers are to far away for me to travel to do my own professional shoot. Thus the purpose of this publication. I hope the advice I provide, will enable you to take your own great photo's of your car. The advice in this publication is the culmination of my many years of trial and error in shooting automobiles. I don't pretend to have all the answers, the topic is just to complex and the conditions and equipment just to variable.

The advise provided in this publication, is intended to allow you to be able to take photographs which can be passed on to a graphic artist for creation of a graphic piece of art. If you want to take photo's of your car, in a beautiful back drop for your own personnel use, many of the tips still apply. Have fun and enjoy.

When displaying a vehicle at a show, we pay close attention to every detail to ensure that the automobile is perfect. The end quality of your photo's is dependent upon your attention to details as well. Your graphic artist, even if it is yourself, must start with the right photograph in order to obtain the best results.

Chapter One: Clean the Car

Before you drag out the camera, start with the most important part of your photo session. **Clean the Car.**

Digital photographs are great at showing great clarity and detail. So guess what? Yes, every water spot, finger print, road grease, or dust will show up just as detailed. Your car may look clean from 20 feet, but the camera will see it from a few inches. If your giving your photo's to a touch-up artist, or doing touch up yourself, save yourself time and money by making sure it's clean.

The example below, shows a car bumper with light rain spots. An example of details you don't want in your photos.



Also, if your car has small scratches in the chrome or chips in the paint, and the surface right next door is clean and clear, there are touch up tools which can make these flaws go away very quickly. See the before and after photo below, showing how a paint chip was fixed.

Before:



After:



Chapter Two: Camera Settings

In this chapter only one assumption is made, that you understand the features and capabilities of your **digital** camera, at least at a basic level. With that said, lets get started.

Date & Time Stamp.

Find and turn off the date and time stamp feature of your camera. This information has no place in your photo's.

Use a digital camera

Set the camera to save your photo's in the highest quality and resolution setting available. You can reduce the resolution later if needed, but you can never improve it. Starting with the best quality photograph gives you the best possible chance of having a great photograph and a great piece of art. This becomes even more important when making larger prints or even posters. The larger file size will use lots of memory, so use at least a 4G memory card in your camera.

Size.

At least an eight mega-pixel camera is recommended, at the highest resolution, you can capture an image which when printed at 180 DPI will yield a photo print about 13 by 18 inches. Many printers advise at least 300 DPI, but I personally have printed many large format prints at 180 DPI and they turn out very nice. You don't necessarily need a high priced camera, a good point and shoot digital camera will work well, but to have the best results the camera needs to mount on a tripod and be capable of attaching filters to the lens. More mega-pixels do not make better photo's, they just allow for a larger formatted photo to be printed at the same DPI.

Example:

If your camera stores a photo at a resolution of 3264 by 2448 pixels and you print at 180 DPI (dots per inch). To determine how large a print can be made simply divide 3264 by 180 getting about 18 inches of width, then divide 2448 by 180 getting about 13.5 inches of height.

Note: One pixel is the same as one dot.

Keep the camera stable.

There is no substitute for being able to keep the camera as still as possible. Sit in a chair and shoot your shots at about eye level, (unless your purposely getting creative), more on this later. Use every trick available to you, use a tripod if possible and use the timer if your camera has one. Especially, when shooting details of the car, such as special badges, hubcaps, hood ornaments and so on. If you don't have a tripod try using the back of a lawn chair to steady the camera. Modern digital camera's have anti-shake technology built in, but take my word for this, many a shot has been missed (turned fuzzy) shooting hand held.

ISO.

You want a low ISO number to reduce the noise in the photo. However, this also means that you need a great deal of light. You simply cannot get good clear photo's without good lighting. Use the great outdoors as your photo studio and shoot on sunny days early in the morning, just after daylight. The light gets to harsh as you get closer to noon. Some folks say late afternoon is also good, but I think that must be for shooting sunset photo's. Good photographers, who know their gear, can shoot great photo's on overcast days, but this is not for the amateur, and generally takes a better quality camera, like a good DSLR camera.

Note: **If you use the AI setting** on your camera (automatic), in bright light, look at the meta-data (that stuff that shows up at the bottom of your digital files), when viewed on your PC or Mac. Note that the camera will set ISO at 100 to 150, the exposure time will be between 1/150 of a sec to 1/250 of a sec, and F-stop will be f/2.8 to f/4.5. Take

note, that when the light source goes down (a close-up of something on the shadow side of the car), the F-stop goes down (smaller/but larger number), the exposure time goes up and the ISO goes up. Note that the larger the F-stop number the smaller the aperture opening.

Flash or no flash.

Most photographers say “always use flash“. I mostly shoot on sunny days with very good light, so I have found little advantage to flash with a point and shoot camera. Also, most point and shoot camera’s will not allow you to force on the flash function, when shooting in “AI” mode. To “force flash on”, you might have to switch to “Program Mode” P on the mode selection wheel. The need for flash will most likely arise when shooting inside the car, or under the hood. The flash will generally give you more clarity in an under the hood shot or inside the car. Try both ways, with and without flash and see which method gives the best results.

Warning, in “Program Mode” check to see that the ISO setting is not manual, as setting 100 ISO manually will result in the camera selecting longer exposure times, this will make keeping the camera completely still even more critical. If you allow the camera to select a range of ISO, say “ISO Max 400“, it will keep the exposure time shorter and increase the ISO to compensate for lack of light. Shorter exposure times make hand held shots easier to make correctly. A good DSLR camera can stand much higher ISO setting and still create good results, however the best point and shoot cameras will get very grainy at anything above say about 400. (Not all camera's will have a Max ISO settings)

Zoom or no zoom.

If you can, use a tripod, and the camera’s timer, don't zoom, but rather place the camera close enough to the shot to fill the frame at least 80%, focus, trigger the timer, and then get out of the background to avoid having your shadow in the car. Else, you can move back to get your reflection off the car and zoom in to fill the frame at least 80%. Zooming will increase the ISO as this always raised the F-stop number (smaller aperture size) and results in more noise in the photo. In general don’t zoom unless

you have to, but it may be necessary when shooting close up details like badges and hood ornaments‘ to avoid having your reflection, or the cameras reflection in the detail of the object you are shooting.

Filters.

Because we want to shoot our photo session in lots of light, there will most likely be glare off the chrome where the sun hits it just right. Take note of these areas when you focus, sometimes just a small movement of the camera stance can completely eliminate the star burst effect. However, the best solution is to have a circular polarizing filter attached to you lens. These filters are generally fairly inexpensive and will allow you to adjust out some if not all of the star burst effect of the sun. Using the lens shade, which most likely came with your camera, can also be very useful in getting better photos. Always position the sun behind you (more on this in a later chapter).

Car color exceptions.

One exception to the direct sunlight rule is if you are shooting a car with a pastel color, like pink or yellow. For these cars it is best to find a location where the car can be kept entirely in the shade (total shade, not tree shade). The shade must be uniform, like from a large building. Also when shooting these cars, early morning light will give the best distribution of light from the top of the car to the bottom. When the sun get higher, the top becomes much more lit then the sides or bottom of the car. Pastel colored cars are much more prone to washout at the top and back surfaces of your car photo.

Disclaimer:

Earlier I stated that any good point and shoot camera will work for automotive photographs, that is not to say that better cameras don't take better photo's, that would simply not be true. The

better camera's (DSLR) have larger image sensor, better glass, and more features. In the right hands these camera's will out perform the best point and shoot camera manufactured. That being said, I still have shot many a very good photo with my old Panasonic DMC-FZ18.

Chapter Three: Where to hold your photo session

If you want to have a good photo shoot, you must be able to control where you are going to do the session. Don't shoot your car at a car show, there are way to many reflections from other cars showing up on your car.

The best place to shoot your car is in a large parking lot, like a church, school out of session, or a store which is closed on a Sunday. Sports complex parking lots during off hours are also good choices.

Avoid lots which have fences or power lines close by, or large poles. Ideally, you would like to place the car in the middle of a spot where nothing is closer then 50 feet from the car. Avoid lots which have recently sealed the blacktop. You need a light concrete or washed out asphalt lot to give lots of contrast between the pavement and your tires. It is also desirable to have a lot where the yellow parking stripes are washed out. It's hard to find exactly the right place, but keep looking around your city, you may find just the right place by keeping your eyes open.

Never shoot your car on grass, it looks terrible and if you are going to cut out the photo's to make graphic's, the grass on the tires will need to be removed, an additional step which can be avoided.



Remember that what ever surface you choose for your session, will show up as a reflection in the bumpers and lower parts of the car photo's. So as you can see, shooting on gravel is not a good choice even when the contrast between the gravel and the tires is good.



There is no perfect spot, short of shooting in a professional photo booth, but be sure to select the best spot you can.

This is a lot on the side of a Kohl's clothing store. It has a drop off on the edge of the lot, is washed out asphalt and has few if any objects to create reflections in the car. The yellow parking marking are washed out as well and will present little reflective problems.



The shot below shows that there is little if any reflection on the car from this location. It also is a good example of why the car should be clean.



Here we have a close-up of the rear rim, note there is no reflection in the chrome. But good contrast between the tire and pavement.





This example show what happens when you cannot control the environment. This was a close-up photo of a hood badge. See the flowers and the houses on both sides are in the badge. Yielding the photo worthless to the graphic artist.

The best advice I can provide is that you select your location by putting any car where you think the shoot will take place and then walk all around the car at about 15 foot, closely looking for reflection in the car from things like trees, high lines, buildings, and flaws in the pavement. Do everything you can to minimize these effects.

Some reflections cannot be avoided and can actually enhance the photograph. Anything which is reflected that is actually part of the car is OK.



Chapter Four: What to shoot in you photo session.

I generally shoot one photo of each of the following views in every photo shoot.

Front View

Rear View

Front DS 45 View (DS = Driver Side)

Rear DS 45 View

Profile DS View

Front PS 45 View (PS = Passenger Side)

Rear PS 45 View

Profile PS View

Front:

Place the car with the sun behind you and exactly the same amount of shadow on each side of the car. Then fill the frame 80% and shoot your photo with the camera level slightly above center looking into the middle of the car.

***Rear:***

Turn the car around and place the car with the sun behind you and exactly the same amount of shadow on each side of the car. Then fill the frame 80 % and shoot your photo with the camera level slightly above center looking into the middle of the car.



Front DS 45:

Place the sun behind you and have someone drive the car into your view until the exact amount of light is present on both the front and side of the car. Fill the frame 80% and shoot with the camera level slightly above center and in the middle of the car.



Enough of that “fill the frame 80% and shoot with the camera level slightly above and in the middle of the car” I am sure you get it. Shoot (4, 6, & 7) the Rear DS, Front PS, and Rear PS the same way.

Profiles:

The DS and PS profiles, are shot, making sure there is exactly the same amount of shadow in each on the car (even distribution of light from front to back.) Also check to see there are no reflections in the side of the car which should not be there (reflections and shadows caused by parts of the car are OK.)



Interior:

Review chapter two for information on using your camera for

interior shots. However, the most important things to remember in these shots is to keep uniform light on the subject. If you have the car positioned so half of the view is in sunlight and half is in the shade, you will get a very bad result. Also, make sure that everything which does not belong in the photo is removed, such as polishing rags, papers, trash, etc. Make sure the mats or the floor are clean and not cluttered.



Engine:

If the engine and surrounding areas are not clean, don't shoot them. A dirty and non-detailed engine compartment seldom will be used. The shooting requirements are the same as for interior, make sure the light is uniform. The use of flash will often enhance the parts of the photo that are not exactly in focus. In a normal photo, only the exact middle of the photo will be precisely in focus, unless you have taken measures to change that focal point using the camera's focus features.



Special Features

In this shot, the background can be either cut away and replaced with a solid color or left as is. However, notice the building in the background is showing up on the backside of the mirror. With a better location this could have been avoided.



Special Shots

Some interesting shots you can add to your collection if you want to get adventurous, would be the top down or the bottom up (or both) shots.



For the bottom up shot, place your camera on the ground (this will be a blind shot) about 45 degrees on the drivers side front. Start with the camera about 20 degrees from flat and shoot your first photo, raise the camera to 30 degrees and shoot another shot. Then do 40 degrees and 50 degrees. Check your results and see what you get, you may have to adjust how close the camera was so pay attention to your starting point on the pavement and the initial angle to the vehicle. Using flash will help highlight the bottom features on the vehicle, the tires and suspension if you want these details to show up. **This will take some practice, so be patient.**



The top down shot is very similar to the bottom up, but instead, you hold the camera as high above your head as possible positioning yourself at 45 degrees in front of the drivers side front. Start with the camera looking down about 20 degrees, and shot your first shot. Then simply continue to take additional shots moving the camera angle down in approximate 10 degree steps. Usually four shots will do. Look at your results and adjust as necessary until you get the shot you want.

If you look closely at these two photo's, you will see the second shot is slightly blurry (not as sharp as the first). When the first photo is taken, the camera is firmly on the ground and thus fairly steady. The second shot is done hand held, above your head, It may have turned out better using a bit faster shutter speed.

Think out side the box. Ask your graphic artist to provide you with some samples of his or her work so you can get some ideas of what special shots you might need. Here is a graphic created from a shot of the inside of a pristine pickup box and back end of the truck. The artist only need to add a little text (most times unnecessary), a couple of views of the truck (front and back). Then a profile with a nice added reflection, making a very nice collage.



Summery:

If you didn't understand all the camera setting stuff, don't worry. Just set your digital camera on "Auto" and shoot in lots of light, the camera will take care of everything. Actually, unless you're an expert, the camera is smarter than most of us when it comes to making camera adjustments.

You will find that shooting in lots of light does present one major problem, that being the glare off of the chrome. The filter we discussed will assist you in getting rid of most of this problem. If you don't have one, you can minimize this by changing the camera angle slightly. Maybe just a little higher, or a little lower, or move right or left. Some slight star bursts are acceptable, you most likely will not be able to filter out everything.

The flash and zoom sections are for shooting close-up details. The most important thing to remember here is to carefully look at the results of the shot you just made. Check to see the photo is very clear and crisp (most important). Look for unwanted reflections, in your photo's, like your own image, or the camera image. Some times just slight adjustment in the shooting angle can make these go away. You can also zoom to avoid the reflections, but remember that as you zoom in, ISO will go up and exposure times will get much longer, so it is more critical, in getting that crisp photo, that the camera be held very still. An adjustable mono pod, which are fairly in-expensive, can be very flexible and helpful for shooting these close-up details.

In creating your selection of photo's be sure to take several shots of your favorite features of the car at different angles. Be sure to remove anything which should not be in the photo that can distract from the view. Example, a great big key ring in a dash photo, that car caddy or cup holder sitting on the floor board.

I hope this publication has been helpful and will allow you to shot your own very good set of photographs to provide to your graphic artist. Of coarse we hope that graphic artist will be J²C³ Graphics as well. If your doing your own graphic's, have fun, enjoy, and be creative.

Addendum For DSLR Camera users:

In the main body of this book, the focus was on what, where, and how to photograph your car. The assumption was only that you have a digital camera (any digital camera). This addendum is for those of you who have a digital single-lens reflex camera (DSLR) or have access to one from a friend or family member.

Warning: If your familiar with DSLR cameras please stop reading, I don't want to bore you with education you already have.

Sensor Size.

Full-frame DSLR camera sensor size is 36x24mm

Cropped sensor DSLR cameras vary in size depending on the manufacture, but are roughly between 65 and 70 percent smaller. Point and shoot or bridge cameras sensors are roughly 10 to 15 percent or less the size of a full-frame DSLR.

Note: Any sensor smaller then 36x24mm is considered a cropped sensor.

The quality of the photograph you get from your DSLR camera depends on three factors. Shutter speed, Aperture setting, and ISO. Unless you have excellent photographic skills (then your not reading this), you should be using one of three setting on the camera 1) some type of AI, shutter priority, or aperture priority. My personal preference is to select aperture priority, fix the ISO

and allow the camera to select the shutter speed. More details next.

ISO.

This is the reason you have selected a DSLR camera, they will provide you with very good quality photographs with ISO setting as high as 1000, creating very little noise (specking) in the photo. Point in shoot cameras will become quite noisy at any ISO setting greater than 100. In general the larger the sensor size, the more tolerant the camera will be to low light, early morning or late evening. I set ISO to a fixed value around 500 to be sure I am safe for most conditions. You can set IOS to “Auto” as well, but then the camera will sometimes (not often) select a ISO which does not produce the best results.

Aperture.

(Focal-Stop) The f-stops is the “aperture” opening of a camera, which allows light to come in. It also determines how much is in focus in front of and behind the subject. This setting is one factor used to determine the depth of field (DOF). In most cases, you want to fill the frame with the car to about 80 percent, so the F-stop should be set to the lowest possible value you can get with your particular equipment. (example F-3.5 is a larger aperture opening than F-10). We want the car to be clear and in focus and the background softer, (shallow DOF). Normally we want the background to be out of focus and the car to be in-focus. Getting as close to the car as you can will also soften the background.

For your own purposes sometimes you may want the background to be clear, like a “Route 66 Sign” on a building or your beautiful home in the background. In these cases, larger F-stops (F-15) will create a longer DOF and a photograph in which nearly the entire view is in focus.

I use a telephoto lens (18 to 55)mm with the wide angle portion

(anything below 35) allowing for the lowest F-stop of 3.5. I shot most every shot at 18mm F-3.5 and set the camera to “A” aperture priority.

Shutter speed.

When you set your camera to Aperture Priority and fix the ISO, the camera will then determine the shutter speed depending on the conditions the camera sees.

Metering.

In all cases that I know of, DSLR camera's will use a select-able metering mode, where your point and shoot camera or bridge camera may have a fixed metering mode (non-select-able), when shooting in AI, Program, Shutter Priority, or Aperture Priority, (modes where the camera has to make a decision for you). DSLR camera light meter modes are multi-segment, center-weighted, and spot. Sony uses these exact terms, while Cannon call multi-segment “evaluate”, Nikon “matrix”, and Leica “Classic”. There are other as well. For most automotive photography set metering to multi-segment. This helps to firm up the upper and lower lines of the car. There could be times when shooting photographs of the interior (dash) or engine compartment where center-weighted or spot metering might work better, but start with multi-segment first.

Summery.

I fix the ISO at 500 to control the noise in the photo to a minimum and fixed the aperture to the camera's largest opening (smallest number) to create the shallowest DOF (out of focus background) and then let the camera determine the best shutter speed as light conditions vary during the shoot.

Motion shots.

The one case where you would want to change from Aperture Priority to Manual is any motion shots you might want to attempt. I will start this section with a dire warning that shooting photographs from a moving car can be dangerous and should undertaken with great caution. I have no personal experience in motion photography, but from what little I have read, the two methods employed are car to car and panning car in motion. Both methods want the F-stop to be high F-12 or greater and shutter speed to be 125th of a second or less. For more complete information and free advice just Google this topic, there is plenty of free advice.