

# CAR WASHING PROCESS

Written by Bob Lamb (May 28, 2018)

## PREFACE

This document was created by Bob Lamb in an attempt to share information with fellow car detailers. Please note that most of my detailing knowledge came after I purchased a 1989 Corvette in 2001 and I met Brad Blomquist. I had no idea of the small details needed to clean and preserve the finish of a car until I met Brad. Brad has to be the **best and most retentive** car detailer that I have ever met as his garage and cars were maintained better than most residential home interiors. Most of the information in the document below came from Brad (Detailing Tips and Tricks, circa 2005). The rest of the information was obtained the difficult way of learning what not to do in detailing automobiles. Please be aware that I have attempted to document how I detail my cars and this DOES NOT suggest that everyone MUST follow my instructions. If anyone has a better way of doing what is described below, please let me know. Assuming any new information works for me, I will add the new information to this document.

Happy detailing!!!

## WASHING THE EXTERIOR OF YOUR CAR

Washing and drying isn't as easy as you think! The biggest and most obvious improvement you can make to your car is to simply wash and dry it. Sounds simple, doesn't it? Unfortunately, this is where people **often do the most harm** to their cars finish. Most of the scratches and dreaded swirls or spider webs on a vehicle's paint finish is from washing with improper tools. The wrong type of tools, improper techniques and poor-quality shampoos and additives can lead to disaster for your paint's finish. If you are not familiar with spider webs on paint finish, here is an example of this:



Before we discuss the car washing process, here are some relevant comments to digest.

## **Car Wash Liquids/Shampoo**

A high-quality automotive shampoo adds ***lubrication*** in the form of surface conditioners and natural oils that helps prevent paint scratches when you wipe the surface. Sand and abrasive grit slide off in the washing process without damaging the auto paint. These shampoos cost a little more but are worth it for your car. **Meguiar's Gold Class and Mothers California Gold** are among my favorites. Start with the directions on the bottle for the proper concentration. Then immerse your hand into the wash solution and make sure you feel the lubrication when you rub your thumb and fingers in the solution. If you **do not feel** the lubrication, continue adding concentrate until the liquid is slippery between your fingers. I usually add at least ¼+ cup concentrate to the wash water! Some may say "this is a waste"! However, the concentrate is cheap compared to the damage you can do to the car paint without having the needed lubrication present in the wash solution!!!

## **Washing Mitts**

There are several types of washing mitts on the market. The key is to use something that holds plenty of water, has soft loose fibers and will allow debris and dirt to flush through it freely. Also, the more soap it holds, the better lubrication it allows when washing the car. I prefer **100% cotton chenille** mitts. As with all products, cheap imitations abound and you need to shop carefully! Cotton mitts that aren't 100% cotton but are in fact polyester are not very plush and can scratch your car's finish. Cheap sheepskin wash mitts leave swirl marks. Poor quality sponges are hard and leave mars on paint. Always buy from a reputable source. Remember you get what you pay for! Please note that I do not place my hand inside the mitt when washing the car!

Tip: **Use two mitts for car washing.** Use one mitt for the car surfaces and one for the wheels. Keep them separate. The wheels are more likely to have scratch-making brake debris. Don't take a chance scratching the car surfaces with an old/dirty wash mitt!

## Drying the Car

Before we go over all the great new drying tools out there, let's go over some of the old favorites that you really need to "retire"!

**Natural Chamois:** Your dad had one of these didn't he? Well, it's time to send these things the way of the "coon skin" cap. Natural chamois have no way of absorbing surface debris and pulling it away from the finish. They are famous for creating swirls on the finish and abrading wax off the finish. These are really rough on the paint. **Use at your own risk!!!**

**Diapers:** If you look at a cross section of a diaper it is a very flat surface with a very unidirectional, dense weave. It is meant to absorb water and spread it wide so it dries. The problem is, when a bit of debris gets into a diaper it lays right on top of the weave and it has no place to go. When you rub with a diaper, the debris can scratch and re-scratch the surface of the paint over and over. **Use at your own risk!!!**

**Synthetic Chamois:** This is a high-tech version of the natural chamois. The synthetic chamois is extremely compact and is stored in a plastic tube to keep it moist at all times. It can absorb many times its own weight in water. The best way to use these is not to drag them across the surface like a towel, but simply to lay it on the surface for a few seconds, let it absorb, pick it up and move to another location. **Use at your own risk!!!**

### Items that are OK to use:

**Bath Towels:** Polyester is your enemy in all forms of a bath towel. The threads are thick, hard and will scratch your paint. Also, avoid all forms of decorative embroidery, embossing and appliqués since they too will scratch paint. If you choose to use a bath towel, you must choose a 100% cotton bath towel. Research has shown that **100% Cotton Canon Fieldcrest**, made in the USA towels are the softest.

**Water Blades:** In a hurry? California Water Blade makes a product that can safely remove over 80% of the water from your car in just a few seconds. It really works! Just be sure the car and the blade are **clean, clean, clean!** Follow up with a 100% cotton or microfiber waffle weave towel to remove any remaining residue.

**Waffle weave Microfiber Drying Towels:** This microfiber technology is relatively new to the market and **will not scratch** when kept clean of debris

or contamination. **Waffle weaves are my absolute favorite** and I have retired all my other towels!!! Once you try these you will never use anything else again.

**Tip:** Timesaver, learn to “sheet” the water over the car just before you are ready to dry. A gentle stream will chase the “beads” away leaving the surface relatively water free leaving you with very little left to dry and with less chance of spotting.

**What do I use for drying my car?** Many years ago, I watched my neighbor wash his Harley Davidson motorcycle. I was intrigued as to how he would dry such a machine with very little paint and considerable chrome parts. After washing and rinsing, he walked into the garage and came out holding an **electric yard blower**. I am thinking...what is he going to do with that? I was amazed to see him blow the water off the motorcycle. Anywhere water could puddle, the blower removed it. Since that day, I have used such a blower. Start blowing the upper areas of the car as the water will run to a lower level. The blower removes **all water in cracks and crevices**. However, take care not to touch the blower to the car paint.... for obvious reasons. I recommend wrapping the end of the blower tube with a few layers of blue painter’s tape to protect the car in case you accidentally touch the car. After blowing most of the water from the car, I use a waffle weave microfiber towel to remove any remaining water residue. The small amount of water remaining on the car will not wet your waffle weave towel! Try it as you may like it!!!

**Tip:** Follow up each washing session with an application of quick detailer and buff with a microfiber towel. This will rejuvenate your wax and add pop to the shine!

## **WASHING THE EXTERIOR OF YOUR CAR**

### **Items needed to wash your car:**

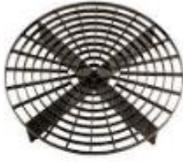
- Five-gallon plastic bucket **with a top, dedicated only to washing your car** (get this online or at Home Depot, Lowe’s, etc.)



- Dirt guard screen for the bucket (buy online as this will cost you about \$10 and last a lifetime). Why use such a device in your wash bucket? The answer is simple. Dirt and debris that is lodged in your wash mitt will settle through the screen and will be deposited at the bottom of the bucket. The dirt screen provides a platform for your wash mitt to rest above the dirt and debris. The dirt and debris you have removed in the washing process cannot contaminate your wash mitt. Brad Blomquist taught me this!!! One photo that I had planned to include in the article....and I forgot to take ... was to show the debris located in the bottom of the 5 gal wash bucket after washing a car.

Shop for dirt guard bucket on Google

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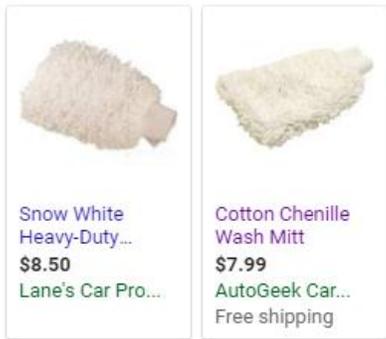
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|--|---|---|--|---|
|  <p>Grit Guard Insert -<br/>Chemical Guys<br/><b>\$6.99</b><br/>Chemical Guys</p> |  <p>Bucket Grate<br/><b>\$4.99</b><br/>Kleen-Rite Corp</p> |  <p>Heavy Duty<br/>Detailing Bucket...<br/><b>\$7.99</b><br/>Chemical Guys</p> |  <p>ABN Grit Guard<br/>Bucket Insert Ca...<br/><b>\$9.99</b><br/>Rakuten.com<br/>Free shipping</p> |  <p>ABN Grit Guard<br/>Bucket Insert Ca...<br/><b>\$9.99</b><br/>Walmart<br/>★★★★★ (9)</p> |
|--|---|---|--|---|

- Car Wash shampoo (available online or big box stores)

Shop for meguiars gold class car... on Google

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|  <p>Meguiar's Gold Class<br/>Shampoo &amp;...<br/><b>\$8.99</b><br/>Target<br/>★★★★★ (59)</p> |  <p>Meguiar's Gold Class<br/>Car Wash Shampoo &amp;...<br/><b>\$6.97</b><br/>Walmart<br/>📍 Store pickup</p> |  <p>Meguiar's Gold Class<br/>Car Liquid Shampoo...<br/><b>\$10.49</b><br/>Advance Auto Parts<br/>★★★★★ (122)</p> |
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- Two 100% cotton chenille wash mitts (buy online) and cheap ones are not a good investment!



- Garden hose spray nozzle with adjustable sprayer



- Electric yard blower



- Waffle weave microfiber towels - 100% cotton (buy online)



### **Considerations Prior to Washing:**

Avoid washing the car in direct sunlight, if possible. The sun will quickly dry any droplets on the surface of the paint. This will create “spotting” which can be very difficult to remove. Always keep the car wetted down until you are ready for the drying process. Never let the car dry naturally as this will surely cause water spotting on the car’s finish.

### **Gettin’ Ready to Wash:**

- Prepare washing solution by first making sure your wash bucket bottom is clean and free of any prior car washing dirt and debris.
- Place a clean dirt screen into the bottom of the 5-gallon wash bucket.
- Add about 3 gallons of clean water. I prefer to use warm water as this tends to clean better than cold water.....my preference.
- Add washing shampoo to water. Here is where I deviate from the instructions on the washing solution! Do you remember this from page 1 “*high quality automotive shampoos add **lubrication** in the form of surface conditioners and natural oils that helps prevent paint scratching when you wipe the surface*”? I usually add 3 to 4 times the amount of shampoo to the water and then place my thumb and forefinger into the solution. I like to feel the lubrication of the solution!!! If it does not feel slippery, I continue to add shampoo. I would estimate that I use somewhere between one half to one cup of shampoo per wash. Please remember the wash shampoo is cheap compared to a new paint job for your garage queen!
- Place your BEST, clean chenille wash mitt into the solution.

## Washing the Car:

1. As stated earlier, do not wash the car when it is in direct sunlight. However, this is not always possible. My technique when washing in sunlight is to keep the car surface WET while doing the washing process. This is a simple matter of spraying the entire car with water every 3-4 minutes.
2. My washing process starts by adjusting the hose spray nozzle to achieve the maximum volume of water coming from the hose under pressure. The setting on the spray nozzle that I use is “soaker”. The objective in this step is to remove all dirt and debris possible from the car finish using high pressure water. Start at the top of the car and position the hose nozzle such that the pressurized water stream hits the car surface in approximately a 30 to 45-degree angle. The angle is needed to dislodge the debris on the finish and wash it away. Blast the top of the car, then the windows, car sides, front and back then the wheels. Remember that water flows downhill 😊
3. Remove the wash mitt from the solution and quickly move the mitt to the top of the car. You want to keep as much wash solution (lubrication) in the mitt as possible before you place the mitt on the car. This is a VERY IMPORTANT step in washing the car!
4. Before you touch the mitt to the car finish, consider doing the following:
  - When washing the upper and side areas of the car, move the wash mitt in a straight line from the front to the back of the car. DO NOT USE A CIRCULAR MOTION as doing this may create spider marks on the finish!!!
  - When washing the front and rear bumpers, move the wash mitt in a straight line from one side of the car to the other side.
5. Begin to wash the top and all windows and place the mitt in the wash bucket. (You should be dipping and shaking the wash mitt in the wash solution three or four times as you wash the top and windows.) Rinse off the wash solution from the top of the car. Before you wash another area of the car, “shake” the mitt a few times while it is immersed in the solution. This allows debris collected by the mitt to be removed and settle to the bottom of the wash bucket below the dirt screen.

6. Wash the remaining areas of the car in the following sequence and note that I usually do this in a counter clock wise manner (don't forget the mitt shake in the wash solution before the mitt touches the car):
  - Hood, front bumper and top half of the driver front area, soak and shake the mitt.
  - Upper half of the driver door, etc.
  - Top left half of driver side rear deck and top half of rear fender area, etc.
  - Top half of the rear bumper area etc.
  - Continue in this manner until you reach the hood on the passenger side.
7. At this point, you have washed most of the car except for approximately the lower one-foot area of the sides and rear bumper. The remaining area to be washed is the most contaminated area of your car's finish.
  - Wash the drivers lower side of the car and make sure you soak, shake and rinse the mitt a few times while doing this area.
  - The rear lower bumper area is next.
  - Finish with the lower passenger area of the car.
8. Remove your "good" wash mitt and lay it aside on a clean area.

### **WASHING THE WHEELS (Most of this information came from Brad)**

The wheels on most cars are painted and clear coated with the same materials used to finish the body of your car. They are, however, subjected to a great deal more abuse than the average paint job. Heated brake dust breaks into the finish, acid rain, road debris and corrosion all take its toll. Special care is needed to remove these contaminants without damaging the finish. The ideal situation would be to wash your wheels in a car wash shampoo similar to one that you would choose for your painted finish on your auto body. Often, on wheels that are cleaned weekly or more often, this will suffice. But if your wheels are very dirty to start, or your brake pads put out copious amounts of black brake dust, then you will need to use a stronger cleaner made specifically to cut through the grime of brake dust and road debris. There are two groups of cleaners:

## Acid Based Wheel Cleaners

Acid based cleaners are the fastest acting and strongest cleaners. These take the least effort. The problem with these cleaners is that some are **too strong** and the acid can etch the surface of the wheel if it is allowed to set on the surface too long or allowed to dry. Care must also be taken to be sure acid does not get into chips or cracks in the surface of the clear coat of the wheel. This will cause eventual discoloration or peeling. Always use on a pre-wetted wheel. I prefer agitation to just “soaking and setting”. Rinse, rinse, rinse!

## Acid-Free Cleaners

Alkaline-based cleaners are “generally” safer but don’t clean as well. They work best by loosening the brake dust and dirt with the aid of some surface agitation. Non-acidic formulas are usually solvents such as ethylene glycol which are not really friendly either. The same rules apply.... use on a pre-wetted wheel, don’t let it set long and rinse well.

## Detergents

Finally, detergent cleaners require the most effort but are the safest to use. They are hard on rubber, though, so be sure to apply a tire protectant afterwards.

## Wheel Cleaners and Tools

Most consumer level wheel cleaners are **acid based**. These are usually 2% solutions of oxalic, phosphoric and hydrochloric acid. These get a bad rap because they “can” do harm if used improperly. And some brands are WAY too harsh. **Acid cleaners are not necessarily a bad thing**, they work well, you just have to use them properly. Eagle One A to Z, Mothers Wheel Mist, and Meguiar’s Mirror Glaze are the best common store brands and ones you can trust. Acid-Free, or **Alkaline** based cleaners, are another type. These are usually weak solutions of ethylene glycol with a wetting agent. Simply agitate the surface and let the cleaner float the dirt away. These too can be harsh, so you need to be cautious. **Eimann Hi-Intensity Cleaner** and **303 Aerospace Cleaner** are excellent Alkaline cleaners. **Detergent** cleaners are the safest but require the most agitation if the brake dust is baked on. **P21S** (gel and liquid) is a nearly neutral PH and one of the safest on the market. And one of the priciest. It’s gentle and requires a bit of agitation, you won’t harm your wheels.

Always use the **least harsh** product that does the job. Auto **Shampoos** are great gentle cleaners, mostly **alkaline or ph balanced** in content and will not harm wheels. Use the leftover shampoo in your wash bucket to do your wheels. Works for me! Always spray the wheel with water before you spray on cleaner. Never spray cleaner on hot wheels. Very bad! Don't forget to spray a stream of water into the brake caliper itself to remove excess brake dust. Buy small inexpensive sponges for cleaning the outside of the wheels and tires. Use a **foam-ended bottle brush** to reach to the inside of the wheel.

**Wax your wheels!** Waxing the insides of the wheels with a synthetic or polymer wax repels brake dust and makes cleaning much easier. It also fills the pores and does not allow the dust a place to stick and settle. Do this twice a year for daily drivers.

**Tip:** Once wheels are clean, a simple solution of 3 parts water to 1 part car shampoo in a spray bottle is all that's needed to wash them. Simply spray on and agitate with a foam brush. Simple, easy, and inexpensive.

### **IMPORTANT**

A quick note about polished and anodized and aluminum wheels that have **no clear coat** on them: these are beautiful but very high maintenance.

**Both** acid and highly alkaline cleaners can easily dull them; the best solution on these wheels is a Ph balanced auto shampoo. Wash them often so the brake dust does not build up. Waxing the wheels will aid cleaning and drying to avoid spotting. There is a price to pay for things of beauty!

### **The Wheel Washing Process**

1. Never wash **hot wheels** as this causes rapid evaporation of water. Rapid evaporation of water creates spots on your wheels which can be difficult to remove.
2. Place your "old" clean wash mitt in the car wash solution.
3. Thoroughly wet down the wheels inside and out first before applying any shampoo or cleaner.
4. Wash the wheel and make sure you soak and shake the mitt before you move to the next wheel.
5. Rinse the washed wheel with water.

**Tip:** At least once a year, I remove my wheels and wax the **insides** of my wheels with a polymer sealant wax. This dramatically aids in the reduction of brake dust and dirt that sticks to the inside of my wheels! I wax the

outside surface of my wheels every time I wax my car. Klasse All-In-One is a great heat resistant sealant for this purpose.

## **DRYING THE CAR**

At this point, you should have clean surfaces on your car and wheels. In addition, you have used water to keep the surfaces wet to avoid “spotting”. Your objective now is:

1. Remove as much water from the car surfaces as possible in minimal time.
2. Get the car in your garage for removal of any remaining water on the car.

The fastest method to remove water from the car is to use an electric yard blower. Using the blower and starting at the upper areas of the car, blow the water so that it runs downward and off the car. Move to lower areas of the car. It usually takes me two trips around the car to remove most of the water. As you move by a wheel, blow it dry. In addition, pay attention to any crevices or areas that tend to trap water. The blower will remove water from these areas. You will not be able to get all the water off your car finish. However, the blower will remove over 95% of it.

Quickly drive the car into your garage away from sunlight. Using a clean waffle weave towel, start removing any remaining water starting at the top of the car. Work downward and leave the wheels untouched until all water is removed from the car finish. At this point, use the towel to dry the wheels. I have found that drying the wheels always creates dirty spots on my towel.....despite how much time I spend removing all the debris from the wheels. Do not use the towel on the car finish after drying the wheels!!!

Now is the time to use detailing spray on the car finish to “pop” the color and appearance.

## Summary:

You have read 12 pages of details on how to wash and preserve the finish on your garage queen. In addition, you have received more information that you probably need. I would like to end this topic with another suggestion .....and you may not want to do it! Preserving the finish of your car is more than “how to wash it”! Like most garage queens, your car spends a lot of time in the garage. While your car is “resting” in the garage, it is very vulnerable to damage by YOU every time you walk by it! Since you already own an expensive car, buy a robust car cover.....and it may be expensive. Remember that you get what you pay for! It is imperative to place a cover on your garage queen while she is resting and here are some tips for you:

1. Buy a cover that is made for your car. Generic covers are a waste of money!
2. Look for multiple layered covers and the interior layer must be a soft fabric that will not scratch your car’s finish.
3. The cover should cover the painted surface of the car.
4. Good covers have a marking strip to assist you in orientating the cover to the front of the car.
5. Good sources for a Corvette cover are Mid America, Corvette Central, Ecklers, etc.

Best regards and Happy Detailing!

Bob Lamb

May 28, 2018; revised 2/2020 and 3/2023.

## **Future Planned Documents:**

- How to use a clay bar on your car finish.
- Removal of spider marks on your car finish.