

Car Care Specialties, Inc

116 South Main Street, Unit # 2, Lodi, NJ 07644-2251 TECH SERVICE (973) 767-0035 FAX (973) 767-0038
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CLEANING YOUR PAINT

Cleaning your paint does not mean washing your car. It means using a pre-wax cleaner to remove oxidation and contaminants, add emollient oils back into the paint to improve brilliance and prepare the paint for wax. There are several pre-wax cleaners on the market that will accomplish one, two or all three of these functions. In fact, there are so many products, by so many names, that the correct choice may be confusing.



Clear Coat Paint: Before we discuss pre-wax cleaners, I have to debunk one major misconception caused by misleading advertising. The misconception is that "clear coat" is some new miracle automotive finish and it does not require waxing. This is pure horse feathers! Clear coat is nothing more than paint without pigment. It requires a protective coating of wax or polymer sealant just like any other paint. Some people feel that clear coated (two stage) paints tend to show scratches and swirls more than the older pigmented (single stage) paints because they are soft. This is not true. Clear coated paints show minor swirls and scratches more readily than pigmented paints due to an optical effect called "backlighting". When you look at the surface of your car, you are seeing light that is reflected off the pigmented paint. Light penetrates the clear coat and reflects off the pigmented paint below and "back-lights" any imperfections in the surface of the clear coat. Anytime you "back-light" any imperfections, you make them more visually obvious. As an example, if you drive towards the setting sun or oncoming headlights on a rainy night, every speck of dirt, smudge or smear on your windshield is suddenly painfully obvious. They were there during the rest of the day, but not noticeable until sunset or oncoming headlights "back-light" them. The same thing happens with clear coated paints. The reflected light from the pigmented paint layer "back-lights" the minor swirls and scratches on the surface of the clear coat paint and makes them more visually obvious. The notation "clear coat safe" merely means that any abrasives are fine enough not to cause "visible" scratches in the top clear coat.



Pre-Wax Cleaner: To better understand pre-wax cleaners, we must define some broad categories of products. A pre-wax cleaning agent may be either friction or chemical. A friction pre-wax cleaner is usually either a silicate or clay particulate. If you examine your paint through a microscope, it would look like a mountain range with peaks and valleys. The friction or abrasive (do not get nervous at the word abrasive) type pre-wax cleaner will clip the tops of these mountains off and help fill in the valleys with a heavy molecular weight emollient oil, to approach the optimum smooth plane that offers the greatest depth of shine. Friction pre-wax cleaners are usually classified from glaze (least aggressive), fine cut, medium cut, heavy cut to compound (most aggressive). Rule # 1: Use the least aggressive product to get the job done. A chemical pre-wax cleaner, usually classified as a polish, will only remove oxidization or stains and not help smooth the paint. A pre-wax cleaner should also remove old wax and other contaminants in the paint. Chemical type pre-wax cleaners are usually more effective in removing the remains of 100 M.P.H. bugs, stains, tree sap and tars. Avoid silicone-based products as they are not beneficial to paint and may cause problems down the road. Ask any professional car painter their thoughts on silicone products and you will usually get a 30-minute tirade.

Glaze: A glaze generally denotes a superfine friction type of pre-wax cleaning agent, usually with essential emollients and lubricating oils and may even contain some mild chemical cleaners. Glazes will usually remove mild swirl marks and minor scratches, refresh the paint with emollient oils and smooth out the finish.

Polish: A polish is normally a nonabrasive product based on a nutrient oil matrix that contains a chemical cleaner. Most polishes use a heavy molecular weight oil that "feeds" the paint and may help hide extremely minor swirl marks. Quality polishes will usually provide the deepest shine.

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Compound: A compound is the “coarse sandpaper” of the paint-cleaning world. This should be used only if the paint is in serious trouble and all else has failed. If you are one step away from 1-800-NEW-PAINT, then you may consider a compound.

Cut Cleaner: A cut cleaner, usually graded as fine, medium, heavy or extra heavy are friction cleaners that are more aggressive than a glaze but less aggressive than a compound. These are designed for the more stubborn scratches, swirls or imperfections that a glaze will not remove.

Clay: Literally a plasticene/abrasive mixture used to smooth new paint and remove fresh paint overspray. This type of product must be used with lots of lubricant. The technique of using a clay is a learned skill. Use too little lubricant or get contaminants in the clay and you have moved into scratch city. This is one product that is the fast lane to trouble if not used with extreme care. I do not recommend frequent use of this type of product. You literally grind off a small amount of paint. It should be used as was intended, to grind off paint overspray or contaminants that may not be dissolved with a solvent.

Cleaner/Wax: A combination, one-step chemical cleaner and a wax. I am not a fan of these types of products, as they are required to perform two, very diverse functions simultaneously. A pre-wax cleaner should remove old wax, so how does it simultaneously apply a coat of new wax? You may wish to use this type of product only in emergency situations or on your daily beater.

Wax: Wax has incorrectly become a generic term for all paint protectants. There are two basic categories of paint protectants, organic waxes and polymer sealants. Technically, a polymer is not a wax but is classified as a sealant, but most people refer to them as waxes or “synthetic” waxes. Wax is an organic compound that may be derived from plants, such as the Carnauba plant or from varmint, such as bees wax or some of the discount store/auto parts store specials contain paraffin refined from dead dinosaurs. The polymer sealants are usually collected from specially trained robotic bees that gather the polymer nectar from plastic flowers (or they may be made in chemical factories).

Degreasers/Tar/Bug Removers: These types of products are normally solvents designed to dissolve surface contaminants, such as road tar or bugs. There are two broad classifications of solvents, petroleum distillates and citrus based. The quality citrus products are better at removing organic contaminants such as bugs or sap and tend to be gentler on the paint. The petroleum distillates are better at removing tar. Any degreaser/tar/bug remover will also remove wax. After you have rid your car of the remains of Billy bee, you will have to reapply a coat of wax to the area. (What is the last thing that goes through a bees mind as he slams into your windshield at 60 mph?.....His stinger.) Be aware that many of the popular discount store/auto parts store tar removers are based on kerosene and may cause long-term damage to paint.

How Often Should You Clean Your Paint? The correct answer is based upon several factors. If your car is a “garage queen” and only sees the outside world once a week or so, then once a year is usually sufficient. If it is a daily driver and sits out in the elements day after day, then twice, maybe three times a year may be required. Your paint will tell you when it needs to be cleaned. It may scream at the top of its little lungs or it may be more subtle and simply lose its luster and look dull (you know your paint better than I do). If the paint is subjected to acid rain and the effects of highly acidic bird offerings, you may have to clean specific areas of the paint a little more often. If someone tells you to clean the paint each time you wax, they are either trying to sell you another paint job or have an excess of pre-wax cleaner they are trying to unload.

Power tools, inexperience and fine automobiles, in my humble opinion, do not mix. If you must use a buffer, then practice,



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practice, practice on someone else's car or a junk body panel. There is nothing that a power buffer can do, that you cannot do by hand. The advantage of power is speed. This also applies to getting yourself into trouble. The edges of



your body panels and raised/creased areas of the sheet metal have the thinnest layer of paint. When the paint is applied, the liquid paint will tend to flow away from these raised areas. A power buffer will concentrate its energy on the thin paint of these high points. This is another way of saying hello to your primer or as the professionals say, "burning an edge". If you must use a power buffer, use only closed-cell foam pads and use one pad for each product. Do not use lambs wool type of pads, as they are swirl marks waiting to happen. Most importantly, use only a cleaner/glaze/polish type product that is specifically formulated for use with a power buffer. The frictional heat of a buffer will cause some product's abrasives to flocculate or clump together and make your paint look like a newly plowed cornfield. Most people do not appreciate this look.

I have defined some of the major types of pre-wax cleaners, but realize that the numberless manufacturers do not all conform to the defined nomenclature. I personally own all dark colored cars (stupid me) and usually use a glaze to clean and prepare the paint for wax. The difference is that a glaze uses a superfine abrasive cleaning agent, whereas a polish uses a chemical cleaner. The glazes tend to remove minor swirl marks more effectively than the polishes. If the paint does not have any imperfections, then a polish should be enough. As a rule, if you have swirls or light scratches, then use a glaze. If you don't, then use a polish. Rule # 1: Always use the least aggressive product that will get the job done.

The first step to your cleaning/waxing regimen is to wash your car with a quality car wash and dry thoroughly. The benefits of a clean surface cannot be over emphasized. Unless you are a fan of swirl marks and feel that hairline scratches are attractive, wash thoroughly before starting. Pick a panel of the car such as the hood, door, top or whatever. Glaze/polish this panel of your car completely, redoing any area(s) that need additional help. It may take 2 or more applications of the glaze/polish on troublesome areas to produce the even, deep gloss that you desire. When this panel dazzles you with its brilliance, then apply a coat of wax or polymer sealant to this panel. Realize that the wax/polymer sealant is nothing more than a clear protectant and will not remove or hide scratches or swirl marks.



Once this panel of your car has been completed, move onto another panel and begin the glaze/polish and wax process again.

If your paint has swirl marks, acid rain marks or faint scratches, then you may wish to use a glaze. The definition of a faint scratch is one that you can see but not feel. If you can feel the scratch with your fingernail, then it is beyond the scope of this article and should be treated as a paint chip. Rule #1: Use the least aggressive product/technique to get the job done! It is very easy to repeat an application of a mild product to achieve a result, but is very expensive to replace paint when you have gotten too aggressive. If your paint does not have swirl marks/scratches but has lost some of its luster, then you may consider using a polish.

Cloths: Any polishing/buffing cloths you use on your car should be a high quality microfiber buffing/polishing with microfiber silk bound edges (17810) or 100% cotton flannel (17608) and should be washed in the washing machine using only detergent (11701). Do not add any fabric softener to the water. Dry the cloths in the dryer and DO NOT use an anti-static dryer sheet (I think that is what they are called). Dryer sheets contain coatings that are transferred to your car cloths and may cause streaks. If you have ever had your wax streak and you could not figure out why, your dryer sheet was probably the culprit. You will remove a giant ball of cloth and static electricity from your dryer but will not have mysterious streaks.

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Application: All glazes/polishes should be applied to a cool surface and in the shade. Never wash, clean or wax your car in the hot sun. Rule #2, if you can hold your hand comfortably on the surface of the paint, then you can clean and/or wax your car. Apply with your choice of a soft, 100% cotton flannel cloth (17608), microfiber/foam applicator pad (17850), 100% cotton/foam applicator pad (17606), or closed-cell foam pad (10291). Squirt a small amount onto your pad or cloth and then apply to the paint surface. Do not squirt any product directly onto the surface, as you will tend to use too much and may wind up with an uneven result. Work the glaze or polish into the surface with a linear motion, front-to-back, back-to-front, the way the air flows over the car. Do not go around in circles. If a piece of grit lodges under your pad, you have made sandpaper and a circular motion will produce a 360-degree swirl mark. All scratches are most visible at a 90 degree viewing angle, so a circular swirl is visible from any vantage point. A linear type scratch is only noticeable from a very narrow viewing angle. Work the glaze/polish into the surface using moderate pressure until all that is left is a very slight haze. Moderate pressure may be defined as greater than spreading jelly on bread and too heavy if you are bending metal. (Read the directions on the bottle to determine the manufacturers recommended method.) Buff off the slight haze with a high quality microfiber buffing/polishing with microfiber silk bound edges (17810) or a soft, 100% cotton flannel cloth (17608). Shake out the cloth frequently (away from the car) to remove any residue on the cloth. Keep using new sections of cloth and change cloths frequently. My personal favorite is the Blu-Velvet Microfiber Buffing/Polishing Cloth (17810). They are super soft and produce a brilliant shine. When the chosen panel of the car has been completed, rebuff with another clean microfiber buffing/polishing cloth (17810) or soft, 100% cotton flannel cloth (17608). If you are happy with the shine and deep-gloss of the panel, then apply a coat of your favorite wax.



Most people will use either a glaze (10103) or a polish (10430) as a pre-wax cleaner and then apply a coat of wax. If you want the ultimate depth of shine and are willing to invest the extra effort, you may glaze (10103) to remove minor swirls/scratches and then polish (10430) to enhance the depth of shine and then wax with a quality carnauba wax. This is the Concours winners' secret. (Some people refer to this three step process as "NUTS".)

I have outlined the types and usage of glazes and polishes and have listed my two favorite hand applied, pre-wax cleaning products. Now I will list several quality paint cleaning agents and give a brief synopsis of each. The most important caveat is "use the least aggressive product to accomplish the task". It is easy to redo an area with a gentle product; it is rather costly to replace paint once you have gotten enthusiastic with a very aggressive product. The list is alphabetical, so infer nothing by the order. You may read between the lines to determine my personal favorites.



3M Imperial Hand Glaze (10103): I have tried just about every product on the market and keep coming back to 3M Hand Glaze. It is gentle on the paint, produces, in my humble opinion, the deepest "wet-look" gloss, yet is aggressive enough to remove fine swirl marks and scratches. It also "feeds" the paint with emollient oils. If an area needs a little more aggressive cleaning, place a 2 inch diameter dollop of 3M Imperial Hand Glaze (10103) on your pad and add a small amount (about the size of your pinkie nail) of P21S Multi Surface Finish Restorer (10417), mix the two together on the pad and then rub out the area using a linear motion. Buff off the slight haze with a Blu-Velvet Microfiber Buffing/Polishing Cloth (17810) or a soft, 100% cotton flannel cloth (17608) and repeat the process if necessary. This combo works very well on swirl marks and scratches that may be seen but not detected with your fingernail. Once the blemish has been removed, follow with an application of straight 3M Imperial Hand Glaze (10103) to restore the deep shine and then wax. The recess behind the door handles is a classic area that responds well to this combination.

3M Foam Pad Polishing Glaze - Dark (10113) or Light (10116): A fine glaze, with additional filling solids, that quickly removes and fills light surface imperfections, swirl marks and light oxidation. It produces a deep, rich, swirl free paint finish, and may be applied either by hand or slow speed buffer (19701). The dark glaze is best used on darker color paints such as black or dark blue and the light glaze on all others.

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3M Rubbing Compound (10121): A fine cut rubbing compound to remove 1200 grit sanding marks, coarse swirl marks or heavy oxidation. It may be used by hand or with a slow speed buffer (17901) and a closed cell foam polishing pad (10622). Compounds are very aggressive, and should be used very carefully.

3M Perfect-It III Finishing Glaze (10184): A machine or hand applied, superfine, liquid glaze to clean, polish and remove swirls, oxidized pigment, acid rain marks, swirls and fine scratches. Formulated for fully cured paint and will produce a deep, "wet look" when used with a slow speed buffer (17901) and a closed cell foam polishing pad. (10622)

3M Perfect It III Machine Glaze (10181): A more aggressive machine glaze developed for fully cured paints to remove minor scratches, wet sanding or compounding swirl marks. Does not contain silicone or wax. Apply with a slow speed buffer (19701) and a closed cell foam polishing pad (10622).

Harly Pre-Wax Cleaner (11209): A pre-wax cleaner and polish for all fully cured paints. Polishes out very minor paint blemishes and feeds the paint with rich nutrients to bring out vibrant color and brilliance while extending paint life

Meguiar's #1 Medium Cut Cleaner (10503): A moderately abrasive cleaner to remove surface defects including harsh swirl marks, oxidation, water marks and wet sanding marks. Follow with a fine glaze (3M or #7) and a coat of wax. This is the "medium sandpaper" of the abrasive cleaner set, so use only if your regular glaze will not do the job.

Meguiar's #2 Fine Cut Cleaner (10507): A mildly abrasive cleaner for fine swirl marks, water spots, and fine defects. Follow with a fine glaze and a coat of wax. The "fine sandpaper" in the abrasive cleaner family.

Meguiar's #6 Cleaner/Wax (10521): A one-step chemical cleaner with a liquid wax. Use for spot application when your favorite cleaning/wax regimen is not practical or use on your "beater".

Meguiar's #7 Showcar Glaze (10524): This is a polish (chemical cleaner with an emollient oil matrix) that works well on clear coat finishes that are in reasonably good shape. May be applied with either a machine or by hand.

Meguiar's #9 Swirl Remover (10528): A hand or machine applied glaze to remove fine swirls and water spots. Also adds emollient oils back into the paint. Follow with a coat of quality wax.

Meguiar's #80 Speed Glaze (10580): A medium fine glaze designed for use with a slow speed buffer (19701) and Meguiars Softbuff Polishing Pads (10622). The medium fine abrasives and penetrating nutrients effectively revitalize the paint and restore the original brilliance.

Meguiar's #82 Swirl Free Polish (10586): A light cut cleaner/polish for clear coat and single stage paints. Polishes out very minor paint blemishes and feeds the paint with rich nutrients to bring out vibrant color and brilliance while extending paint life.

Meguiar's #83 Dual Action Cleaner/Polish (10589): A medium cut cleaner/polish to remove light to medium paint blemishes, swirls and stains. Feeds the paint with rich nutrients to bring out vibrant color and brilliance while extending paint life

Meguiar's #105 Ultra Cut Compound (10598): An ultra fast cutting, low swirl compound formulated for abused and neglected paints. Effectively removes 1200 grit sanding marks, acid rain etching, heavy oxidation and major paint problems. On a scale of 10 this is an abrasive level 12.

One Grand Clean N Wax (10203): A one step chemical cleaner, filler and liquid wax. Will hide minor swirl marks and apply a coat of wax in one operation. This is the best choice for one step applications or for use on large bus or truck type vehicles.

One Grand Omega Glaze (10205): A fine, water-based abrasive glaze that may be applied by hand or machine. Leaves

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a nice paint finish. Seems to work better on American/Japanese paints than European paints.

One Grand Special Touch (10209): An aggressive combination chemical cleaner and glaze developed to remove minor swirls, water spots and other surface defects from clear-coated paints.

P21S Gloss Enhancing Paintwork Cleanser (10430): A thick, rich, creamy, polish that leaves a deep shine and removes minor staining. It is my absolute favorite product to clean any paint that does not have scratches. Very easy to apply and buff off and produces the best, deepest gloss, "wet look" shine of any product I have ever tried. (Read between the lines?) If you want the ultimate depth of shine, the rich emollients in Paintwork Cleanser should be used as the base.

Zymol HD Cleanse (11115): Zymol offers the "pina colada" experience for those who enjoy the olfactory stimulation, while cleaning their paint. A touch aggressive for my taste but defended to the death by Zymol addicts.

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