Basic Uncoated Aluminum Wheel Care

1. Never wash a warm or hot wheel.
2. Never use a detergent or caustic cleaner on an Aluminum wheel.
3. Never “wipe down” an Aluminum wheel, always wash it to clean it.
4. If an Aluminum wheel is exposed to salt or other corrosive agents, wash it ASAP.

Polishing an Uncoated Aluminum Wheel

1. Remove the wheels from the vehicle in order to properly clean and polish them. After you have the wheel off, the first thing you want to do is to remove anything you can from the wheel. This includes center caps, valve stem covers, etc. This will save you detailing time later.

2. The next step is to wash the wheels. Your objective here is to get most of the loose dirt and brake dust off the wheel. I use regular car soap (no detergents EVER) and a lambskin cleaning mitt with a slow, constant stream of water after the initial soaping. This will remove the dirt and prevent any major scratching of the wheel. After washing it, dry it off with a chamois or microfiber towel. Realize that any toweling or mitts used for wheel polishing are now wheel polishing tools forever. Keep them separate from all other cleaning supplies.

3. Next you'll want to remove any dirt, tar, or grease that was left over from after washing the wheel. I use wax and grease remover (paint prep) for this job. Put some on a soft 100% cotton rag and wipe down the whole wheel several times. Spend as much time as you need to in order to get the stubborn areas clean. This includes recesses in the backside, the joint where the face meets the hoop, and the lug nut and center cap holes. Do this in a well-ventilated area.

Washing the wheel thoroughly is the most important part of the polishing process. Any dirt on the wheel will be mixed in with the polish and will scratch while you are polishing. Cleanliness is critical.

4. Next you'll want to re-wash the wheel using the same methods you used in #2. This will allow any dirt that became dislodged with the wax and grease remover to be washed away. Dry the wheel off and inspect it. You should have a perfectly clean wheel. If you notice anything that could contaminate the polish, remove it now.

5. Polishing procedure.
Before you begin to polish make sure the wheel is cool and out of the sun.

The first method is the more aggressive way to polish. This is to be used on an oxidized wheel. It requires the use of a cloth applicator or a product like the Mothers Powerball. This process will remove the oxidation quickly and will leave the wheel with a nice shine. However, if brought into sunlight you’ll notice small micro-scratches on the wheel.

The second process of polishing is less aggressive but will remove small scratches and enhance the reflection of the finish. It requires the use of a latex glove as an applicator. Doing this will not remove oxidation. It is only to be used on an already shiny wheel. It will remove the small micro-scratches that were left over from process one. This method of polishing will leave you with a clear and nearly scratch free shine.

6. Polishing. Use the Mothers Powerball on a drill for initial polishing. It does an excellent job and is much quicker than doing it by hand, which allows for more time for process two polishing. Mothers Billet Aluminum Polish is excellent for all the polishing on the wheels. There are many other great polishing products from Meguiars, Griots, and Simichrome. Apply some polish to the wheel and to the Powerball and slowly start spreading the polish around at low speed. After a thin layer of polish is on the wheel you can increase the speed of the drill and use moderate pressure. It is important to keep the drill moving so that you end up with an even shine.

Continue running the drill until the polish turns black. You can then remove it with a 100% cotton polishing cloth, as they will not scratch, thus sending you back to polish again. Use 2 polish removal cloths. With the first one wipe the majority of the polish off with and the second buff off any excess. This will keep the second cloth cleaner and will speed up the process. Never let any of your cloths touch the ground. Any dirt they pick up on the ground will transfer onto your wheel when you’re removing the polish, resulting in scratching. Continue using the Powerball on all surfaces of the wheel. If there are spots that it will not reach, use a 100% cotton polishing cloth or a microfiber cloth to apply the polish in those areas. You’ll have to use some elbow grease in order to achieve the same shine as what the Powerball produces. Continue polishing until you have the shine you desire. The more times or longer you polish, the clearer the shine will be, until you get to the point where there is no oxidation left.

7. Final Polishing. So now you have a nice shiny looking wheel. Your wheels haven’t looked this great since they were new. You bolt them back on your truck, roll out of the garage, and BAM… the sun hits it and you have micro-scratches. It looks similar to a dark colored car that hasn’t been properly waxed. These were formed from the last polishing.

The way polish works is that there are large particles in the polish to remove oxidation quickly, but at the same time put very tiny scratches in the soft aluminum. As these particles remove the oxidation they break down into smaller particles whose job is to remove the tiny scratches the big particles put in. The problem lies in the applicator. Using a foam or cloth applicator allows the particles to be
soaked up before they are finished doing their job. Choose an applicator that is soft but does not soak anything up. For this use a Latex glove. Simply put one on your hand, dip your finger in polish and start applying the polish in small circles using moderate pressure. You’ll notice the polish turn from a white paste into a gray/black thinner paste into a black liquid. Don’t rush; this procedure takes a lot of time. When it is a black liquid, it has broken down as far as it’ll go. Continue to rub the liquid on the wheel for at least 30 seconds. Removal of the polish is the same as before. Use two cloths, the second one being your clean polishing cloth. Continue to do the whole wheel working small sections. This procedure takes a lot of time and elbow grease, but it will produce the shine you seek. When you think your finished roll the wheel back out in the sun and look for the micro scratches. They should be all gone and the wheel will have a smooth clear shine similar to that of a properly waxed car. If there are any small scratches left a second polishing may be needed.

7. The Details: Take the time to finish removing any excess polish. All the cracks, hard to reach areas, around the valve stem, around the center cap, and the lug nut holes are places I see a lot of left over polish. I like to take a very thin flat head screwdriver, wrap it in my polishing cloth, and run it in all the cracks. BE CAREFUL! You’ll want a thin cloth layer over the tip of the screwdriver so that it can reach further down in the cracks but you don’t want to poke through the cloth and scratch your wheel. Go slow, take your time, and you’ll eventually become comfortable with it.

8. When applying tire shine, apply it to an applicator and then use the applicator on the tire. Never spray it directly on the wheel. If any silicone gets on the wheel, it’ll smear and eventually ruin your perfect polish job. When cleaning your wheels after a fresh polish, I like to use a small California Duster. This will lift and remove the dirt and dust keeping the scratching to a minimum. Unfortunately, if a wheel isn’t sealed it will start to scratch as soon as you wipe it. Using the duster reduces this but only a Finish Polish will restore the perfectly clear shine you once had.

9. The Finished Product. Step back and admire your work in different lighting. If you followed the steps you should have an excellent looking wheel. You took the time and hard work that most others don’t to improve the look of your vehicle. Congratulations!

10. One more optional step: There is a method you can use to polish your wheels with the aide of flour. The flour brings out a lot of the oxidization in the pores of the Aluminum to keep the wheels looking as bright as possible. Put some polish on your fingers, and spread it over the entire wheel. This is the flour step. The purpose of the flour is to cut deep and absorb all the oxidization that is in the pits of the wheel. Just throw the flour on top of the polish, and use enough to cover the surface. Use the Powerball and to work the flour and polish into the wheel. Polish it until the wheel is very warm to the touch and the polish starts to turn a dark, hazy color. After the Powerball, Use a micro fiber cloth to buff away all the dry hazy polish.

After a coat of sealant, you’re done! A sealant can be a wax product like Wheel Wax or a semi-permanent coating. This is up to you. Make sure you use some product to protect the aluminum from brake dust, water, and the corrosive environment a wheel operates within.

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