We buy parts. We rebuild engines. We work long hours under less than ideal conditions with fewer tools than we'd like. But nothing can make us as queasy, nervous, or anxious as the thought of a trip to the Chrome shop.

Sometimes it's only a couple of small trim pieces. For others it's a whole load. Talk to anyone who's made the trek and invariably they will complain about how much they spent. This always seemed odd to me because almost no one can tell you anything about the process (anything accurate or correct that is). If you're like most, the process itself is a mystery. Sure we hear things like "all my parts were triple chrome plated", and we see things in ads we read like "Show chrome" and "we copper plate before we chrome". But for the most part we don't really know how to determine who's running a good chrome shop from the guys who loose our parts or worse destroy them. Even if the parts come back shinny and new, how do we know we got a good job, a job that will last? Is it really fair to think you paid too much if you have no idea what you're buying?

So with all this on my mind I thought it would be a good idea to talk to someone who could enlighten us. We in Melbourne are lucky enough to have a chrome shop right here, local, Space Coast Plating. So I decided to visit and meet with Dave Pratt and Terry Sheldon of Space Coast Plating to see if they would dispel the myths and lay out the facts. I had taken some parts in for re-chroming and after a few question Dave offered to give me the nickel tour. What I learned about the business of plating certainly proved I was one of the many out there that knew very

little about the entire process. So as you've probably guessed by now this month's column addresses the TOP TEN QUESTIONS ASKED AND FACTS YOU SHOULD KNOW ABOUT THE CHROME PLATING PROCESS.

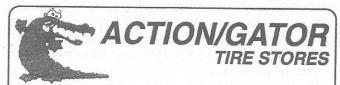
1. WHAT IS THE BASIC PROCESS TO GETTING AN OLD CHROMED STEEL PART LOOKING LIKE NEW? As you might expect it's a lengthy process. Dave tells me that a single part may be handled up to 60 times before it's delivered to the customer. The part first must be received clean and all other brackets, screws, and attached pieces removed. This is your responsibility and rightly so. Only bring the part that is to be plated. First off the part is places into a "strip" tank to remove any old plating or oxidation. Next, before the part even sees a plating tank, hours of time are spent removing dents and dings, rough grinding, and finishing the part off by polishing the surface perfectly smooth. From there it gets a light etching, in you guessed it, an etch tank. Dave explains the effect of the etching process by comparing it to hand sanding the part with 2000 grit sandpaper. After the etch tank the part gets rinsed in a separate tank. The next step is one that not all chrome plating shops take the time to do. That is to copper plate the part. However, Dave tells me that every steel part at Space Coast Plating gets this important step in the chroming process. Following the copper plating the part goes through a two step rinse process and then gets lowered into the nickel plate tank. Contrary to popular belief this nickel plate is what gives the chromed part it's "chromelike look" and not the actual chrome tank. After another two





step rinse, the part finally goes for it's final bath into the chrome tank. This yellowish tinted solution is the final step to preserving the beautiful nickel finish. Dave says that to understand just exactly what the yellowish chrome solution does for the part you need to think of what a clear coat does for your car's paint job. The chrome tank bath gives the nickel a layer of protection in addition to adding a deeper, richer look to the finished part. Once the piece is removed from the chrome tank it is ready to be dried, waxed with a carnauba type wax, and wrapped up for delivery to the customer. Now that is a very simple explanation of a very complicated process. Of course all of these tanks must be regulated and kept at critical temperature ranges. Timing is important, and the process will vary if the part is aluminum, stainless, brass, or the dreaded "pot metal". Which brings us to the second most asked question...

2. WHY ARE POT METAL PARTS SUCH A PROBLEM TO CHROME AND THE COST USUALLY MORE THAN PLATING STEEL PARTS? Even if you have only been in this business of old cars for a short time, you know the heartbreak and headache of pot metal parts. And nobody knows it better than the chrome shops. These parts were pieces often found on cars and trucks throughout the twenties right up through the seventies. By their very nature, that is to say the way they were produced, made them almost predestine to a very short life span. As I have explained before, the word "pot metal" was derived from the way the material for these parts was made. In an effort to control the costs of expensive castings of high grade materials, auto manufacturers would often take a variety of differing "soft metals" and melt them into one large pot. Using this low grade metallic alloy they would pour castings of hood ornaments, body moulding, and other parts. Once chromed they looked great. But as the years went by and the surface broke down the elements began to attack the pot metal itself. Being of poor grade it oxidized easily and began to literally disintegrate. Trying to rechrome, and in some cases recreate a pot metal part, is almost continued on next page...



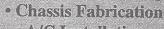
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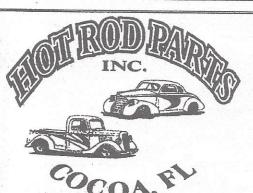


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impossible. Dave explains that he has a special process that is what he feels the best method to date for pot metal re-plating. He cautions that there is no sure fire bulletproof cure and must acknowledge that once a part has been exposed to severe oxidation it is usually deep into the pores. In fact most times the part will continue to oxidize long after it has been re-plated. Dave stresses that the customer must understand that pot metal can not ever be returned to what it was when new. What Dave says he can do is actually fill minor pits and holes using lead and then sanding the part to restore the surface as close to new as possible. After that the part will be copper plated and if necessary, re-sanded and then placed once again into the copper plate tank. After the second trip to the copper tank it will then be buffed to assure all the sanding marks are eliminated before going back for the final nickel and chrome finish. This tedious and time consuming process certainly explains the added cost when done by a conscientious chrome plating shop. However, Dave assures me that each step is absolutely critical when dealing with pot metal parts. Which brings us to the next most often asked question regarding pot metal.

3. WHAT SHOULD I LOOK FOR WHEN SHOPPING FOR A POT METAL REPAIR AND PLATING "SPECIALIST"? Dave tells me that there are a lot of shops out there that claim to specialize in pot metal restoration and plating. This I know. But what Dave told me about some of these shops and the methods they use I didn't know. He cautions that there are many shops out there that call themselves specialists in pot metal repair and plating that are not treating the customer right. He told me that

some of the "specialists" are using a carbon based type of plastic body filler to repair pits and imperfections in the pot metal part. Dave explains that the addition of carbon is necessary in order to make the plastic filler capable of conducting electricity since the plating process depends on an electrical charge passing through the piece. Unfortunately this method results in a part that is highly unstable. The small amount of carbon added to the plastic filler seems in no way significant enough to hold the plating to the part. Dave showed me a small part that had the entire layer of chrome popped off of it exposing the carbon concocted plastic filler throughout the piece. The part in question was brought to Dave in hopes he could save it by doing it the right way. So by now you can see why pot metal is such a special case. If you contact a pot metal specialist be sure that they are using methods that result in a usable part that has been prepared properly. Paying a lot of money is no guarantee you are getting a top notch job. Some shops overcharge in order to cover the expense of redoing the part again and again. Who needs that headache. Remember, one small pot metal trim piece may need to be lead filled, sanded, copper plated two or maybe three times, buffed, and then the nickel plated and chromed in order to "do it right".

4. CAN ALUMINUM BE CHROME PLATED? According to Dave, most certainly. However as with everything, the nicer the finish on the part you provide the better the results. Nice paint over crummy body work won't save a car from the thumbs down. Aluminum is very porous and prone to pitting. As with pot metal tilling pits is possible but the process is time



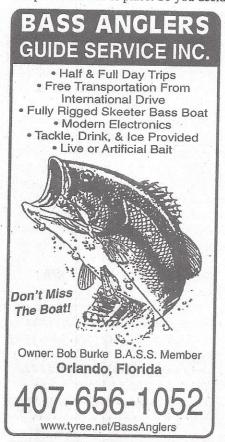


consuming. Once again the part must be copper plated, much like a coat of build primer on your car's body over body work, and then sanded allowing the copper to fill the pits. Dave tells me that aluminum must go through a special 8 step process before it makes its way into the chrome tank. But when its through he says it's as pretty as any steel part. Perhaps one of the most popular items in aluminum brought in for plating are intake manifolds. As you would guess a new intake will plate better than a used one. Used ones have spent years absorbing fuel and oil and it will be almost impossible to cleanse these impurities from deep within the pores of the metal. And once again, a rough casting will not result in a smooth plated finish. For best results you should have the intake polished first to remove all casting marks and surface roughness. Remember the surface quality of the part going into the tank is directly related to the quality of the chrome plated finish coming out of the chrome tank.

5. WHAT ABOUT CHROME PLATING STAINLESS AND OTHER METALS? Stainless is no different than steel in the process of chroming. It will get the same copper, nickel and chrome that a bumper would get. Yet there are some of you reading this that are probably asking yourself "why would you chrome stainless? Can't you just polish it?" Sure you can polish stainless to a beautiful luster but it doesn't have that deep blue look of chrome. Take for instance you have a fifties cruiser. There's a lot of chrome on your ride but some of your side mouldings are stainless. The slight distinct coloration of the stainless doesn't quite match all your other chrome pieces and to you, the stainless parts look out of place. So you decide to chrome them. Or

better yet you can "flash chrome" them. Flash chrome is a process Space Coast Plating offers for stainless. It is a relatively inexpensive way to achieve the look of chrome on stainless. As for plating other metals? Dave says for the most part they are no problem. Yet, remember that the nicer the part is going into the process the nicer it will be when it's done. While most chrome shops can repair a part it is usually a good idea to start with the best condition part you can find.

6. HOW CAN I TELL IF I'M GETTING A GOOD JOB OR JUST GETTING A LINE? We've all heard the "levels of chrome" story. "Do you want show chrome or just nice chrome?" "How much of a warranty do you want?" "Do you want triple chrome plating?" As opposed to what??? Fact is the standard chrome plating process consists of a dip in the nickel plate and then on to the chrome tank. And when I say a "dip" in the nickel tank sometimes that's exactly what it is! We have all seen the cheap foreign imported chrome parts in various stores and flea markets. Some of these parts have a gold-like tint to them. That's a dead giveaway that they were not given enough time in the nickel tanks. Dave told me that some of these production parts spend as little as 2 minutes in the nickel bath. Compare this to what Dave says he does with his customer's parts. Each piece spends at least one hour in his nickel tank to insure the necessary build up of nickel plating on each part. This ensures that the part comes out of the chrome tank with a deep blue chrome finish. And what about the old "triple chrome plate" run around? Triple chrome plating, as the name implies, involves three difcontinued on next page...





ferent tank baths. The key word here is different. Many chrome shops advertise a "triple chrome plate" process when in reality it's no more than a double dip in the nickel tank and then a quick stop in the chrome tank. Dave says that is not what is commonly accepted in the business as "triple chrome plating". According to him, true triple chrome plating starts in the copper tank (at least one hour), and then a trip to the nickel tank (at least one hour), and then on to the final step, the chrome tank. He also added that most times the part will be buffed after copper plating to be sure that all imperfections are removed from the surface. This process results in what Dave calls "a true triple chrome plated quality part". And what about "show chrome"? Dave feels

that all his work is qualified as show chrome when finished. He can't say that there is a true definition as such throughout the industry, but admits once a part has gone through his process it is the "best it can be". So if you ask Dave if they do show chrome, his reply? "We're not in business to do anything but the best". And he's willing to back it up. Space Coast Plating will warranty all chrome plated bumpers for 5 years and all aluminum plating for 2 years. Triple chrome plate? Ah yes another automotive mystery/myth unraveled!

7. WHAT ABOUT CHROME PLATING OF PLASTIC PARTS? There are several companies out there that offer the rechroming of plastic parts. Sadly Space Coast Plating is not one

of them -- yet. The current method of plating plastic parts involves a sort of vacuum chrome, or I should say vacuum metalizing. The part is placed into a chamber where vaporized aluminum is attracted onto the part. The results are adequate, but the part then must be clear coated in order to protect the very fragile "aluminized" finish. Dave assures me there is a new process that is better. He is currently working on acquiring the equipment to perform this new process but admits it's expensive (the equipment that is). If the demand becomes great enough Dave admits he may make the leap and begin offering plating on plastic parts. You may be asking yourself, what is the problem? Detroit produced hundreds of thousands of cars with beautifully chromed plastic parts. The method Detroit used is a somewhat complicated one to duplicate. It is called electroless nickel and usually only works well on certain types of plastics. What's worse it's cost prohibitive unless you have hundreds of thousands of parts to do. So if you have a mid sixties and up vehicle that needs a lot of plastic plating you may want to give Custom Coatings Corporation in Tallahassee, Florida a call. They offer a true electroplate process that involves a copper, nickel and chrome plate over plastic parts. Admittedly it's not the way to go for all your plastic parts. Intricate detail and deep recesses don't respond well to this process. But in many cases it may be the best alternative for now.

8. WHY DOES IT TAKE SO LONG TO GET MY PARTS BACK FROM THE CHROME SHOP? The answer to this is simple. Plan ahead. As you have already seen the process of chrome plating is very involved, with a lot of steps. Yet, most times the chrome shop like any shop has an estimated turn around time. However you need to understand it is always difficult to foresee the work load on a daily basis. Owning my own business, I know this all too well. You have no idea where your next job is coming from or how many will walk



in (or in the case of the plating business, how many will be received in the mail) in a day. So don't expect to have your parts delivered at a particular hour of a designated day. Of course you should expect a reasonable time estimate. Dave tells me his turn around time at Space Coast Plating is about 5 weeks. I know, I know, I can hear you all groaning out there now! But let's face it. Building your ride is going to take a lot longer than 5 weeks. If you take your chrome in early on in the project you will most likely have it back before the seats are even in! It's only when you run down to the chrome shop, parts in hand, two weeks before the big show (you already registered for) that it seems like a long time before your parts are done. Am I right?

9. WHAT KINDS OF REPAIRS TO MY PARTS CAN I EXPECT A CHROME PLATING SHOP TO MAKE? This is a tough question. It will be very important for you to ask if the chrome shop has a "metal man". Some do. Others have an outside restoration shop or other independent source they rely on for their repair work. Problem is you will have no way of determining how experienced that person is in straightening, welding, or making any other repairs to your parts. Be sure the shop you've chosen has a good reputation for the quality of their work. As for what's included in the price to re-plate and what's not, many shops will perform a small amount of "straightening" without a charge. For instance most shops will straighten bumpers. Some dents and dings through the years are expected. However, rusted out portions of a bumper that need to be replaced or more delicate metal repairs will most likely be provided by the chrome shop at an additional cost. In some cases it may be wiser to turn the repairs over to a qualified restoration shop. This gives you the advantage of deciding if the repairs are acceptable before you invest in the time and expense of re-plating.

10. WHAT'S THE BEST WAY TO CARE FOR MY CHROME PARTS? If the chrome is new Dave suggests that nothing more than a good non abrasive wax be used. He tells me that the chrome plated parts on his own classic vehicles get a continued on next page...

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pure carnauba wax. There are a lot of products out there like chrome polishes and chrome protectors, but Dave warns against them. He told me that these products often have aggressive chemicals in them that can actually do more harm to the chrome finish than good. Now if you have old chrome parts with slight to moderate staining, some light rusting, or other surface blemishes, that calls for a different approach. While chrome is a very hard and resilient finish it can be scratched. Care must be taken when trying to remove years of neglect. Remember, no harsh chemicals. Most times a very, very fine bronze wool (used dry) will safely bring back whatever "sparkle" is left in your old chrome bumpers and trim. It is important to use bronze wool and not steel wool. Steel wool can scratch the chrome and in addition leave small steel "fibers" behind that can result in tiny rust specks on your paint and on the very chrome you are trying to rejuvenate! Bronze wool is often used in furniture restoration and can usually be found at local home improvement centers and hardware stores. Once the surface is clean follow up with the carnauba wax. While neglected chrome will never look new again at least you can make it look presentable until you are ready to have the parts re-chromed.

As always, it's never as simple as it looks. Even I had no idea that the process could be as exhausting as it is when dealing with old chromed parts. It's kind of funny that most of us have built a lot of cars and have a good working knowledge of almost every aspect of the process. Yet when it comes to some things

like chrome plating we simply never bother to find out exactly what's involved. We drop off a load of rusty, pitted parts and in a few months we go back and "Ta da!" we get these same parts magically transformed into what appears to be new parts! Heck, sometimes it's even hard to believe they're not new parts! I'm just glad our old car hobby has guys like Dave and Terry. Let's face it, we can rebuild our motors, repaint our bodies, some of us can even coerce our significant other to sew up a set of seat covers, but none of us can do what they do. In the face of unbelievable EPA restraints and rising chemical costs we should be thankful that guys like Dave haven't thrown in the towel. So the next time you see a beautiful sparkling bumper or one of those glittering "jukebox" dashboards, remember how much work goes into a piece like that and be thankful that there are guys out there willing to invest what it takes to make that part what it is. Otherwise we all would be driving a "monochrome theme" vehicle. So until next time keep salvagin' and savin', tunin' and tinkerin'. adillac Ken

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