



The last time around, we covered the basics in getting the front suspension, steering and braking system back on our respective freshly powder coated chassis. As promised, let's move on to the chain drive, wheels and tires.

#### Chain drive and drive couplings:

This drive is a simple, rugged little guy. After placing our orders for all bearings, seals and gaskets, it was back to the old putty knife to scrape off the grease and other accoutrements that had accumulated prior to disassembly.

Both of our cars had experienced a bad case of "donutitis" in their former lives which had not only scarred the transmission and shot a bolt through Bruce's right rear mud guard but also scarred the triangular metal oil seal ring just behind the drive case input flange and bent the rear shift rod (which had been "lengthened" to work better, I guess).

Besides the transmission case and flange damage, the Triple Crown of Isetta drive coupling failure was achieved in that the drive shaft had bent flanges as did the output flange on the transmission. It must have been a sight to see when the unsuspecting driver had this happen.

On top of new drive couplings for both cars, Bruce also went with a replacement drive shaft. Topping off the new drive coupling system were two shiny new retrofit flanges on the transmission and chain drive side. These are absolutely beautiful pieces of machine work (looks like they're right off of a Top Fuel dragster) and are available from Werner. Considering the vulnerability of this system, everything was upgraded and/or replaced.

FYI: a reliable source tells us that the BMW parts counter can supply you with donuts, too. Just ask for the drive couplings for a BMW 325 automatic transmission model if you want the real McCoy. Take your old ones along for matching but I know of two people who have done this and they are perfect.

Bruce's car had an additional minor headache in that the drain plug on the bottom of the housing would turn but wouldn't back out ... stripped threads. We'd guess that many a jack found this drain plug due to its location under the chain drive housing and eventually compressed the steel threads on the plug into the aluminum threads on the housing. With the case apart, it was easy to get to the top of the plug from inside, give it a "love whack" with a drift punch to set the threads and back it out. These are 8mm threads but the fact that Hans also sells a 10mm plug suggests that this is a common problem. The 8mm threads were drilled out and tapped for the new 10mm plug ... one less problem in the world.

The bearings came out with little after heating slightly with the torch. The guts were a bit dirty but very oily and everything was intact. The front drive sprocket was a little tricky, particularly given the tight fit of the sprocket on its splined shaft in the middle of both outer bearings.

Be sure to make note of the direction of the chain before you remove it from the sprockets so you can reinstall it in the same direction. Bruce put a tie wrap on the outside (left hand side) of the chain between two of the links with the tail facing forward to indicate which side was out and its original direction of travel. You can probably come up with your own scientific method of doing this as well. Also, be sure that the connecting link has its closed end facing forward, open end facing to the rear once you thread the chain back onto the sprockets and button it up.

The use of a torch added greatly to the removal of old and installation of new bearings. It doesn't take a huge amount of heat on an aluminum surface to accomplish this so don't overdo it. Be sure and replace all five of those bearings; two for the front sprocket, three for the axle ... right, left and center. You might also want to cover the threaded ends of your axle (this goes for the front axle/swing arms as well) with a rag secured with a tie wrap or a rubber thread protector from your local hardware store. Cheap insurance!

Both of our chain drive casings did time in Robert's bead blaster. Those glass beads really do a nice job on cast aluminum! The first pass makes it look great but the second pass really does the trick!

Another batted around concept comes into play here: To gasket or not to gasket? Bruce went with new gaskets all around and Blue Permatex Silicone Sealer. Robert initially decided to go with the sealer by itself but went with the gasket/sealer motif in the end. Have your ducks in a row here folks! This stuff sets up fairly fast so you want to have your housings and gaskets ready to mate up and tighten down. We were advised to tighten down all bolts and then give it one more little tug so everything is snug. Don't crack those aluminum flanges ya'll!

When putting the case back together, pay attention to how the bearing housing in the front is seating into the case. Robert's initial try had it a bit too much to one side. When he turned the chain, it sounded like one of those old roller coasters climbing up the pick hill. Note that the silicone sealer really (really!) does

its job and seals. It's a drag to have to take stuff apart after using the sealer (who needs those bolts!). Plus, it ain't fun getting that stuff off the case surfaces and resealing it again. If you get yourself into this kind of a jam, lighter fluid helps if you let it soak for a minute or two.

We both replaced the small bolts that hold on the grease seal retaining rings on both sides as well as the four that are used on the chain adjuster plate. Bead blasting the original case bolts turned them back into brand new condition although new nuts and spring washers replaced the originals. Robert went an extra step and put a really nice polished finish on his chain adjuster plate. Looks sharp!



Nice new, shiny chain drive sporting new Michelins.

You'll want to replace the two bushings in the cast aluminum drag link (4-24) that connects the chain drive casing to the rear of the frame. The originals should both be completely shot (assuming they even exist) due to the twisting and abuse they've gotten under normal conditions. While you're ordering new parts, go ahead and get six of these; two for the drag link, two for the instrument panel mounting bracket on your door and the final two for each end of the door piston. They're all the same part. And don't forget those cotter pins when you install the link!

One last item on this fairly straightforward project. Thoroughly clean and lube the threads on the lower left hand side of the case where the left spring bolt screws in. Be sure and run your bolt into the threads just to make sure everything is OK prior to installing rear the springs. Here's another one of those steel vs. aluminum areas. The lube will make things go smoothly and should make removal much easier at a later date. Do not over tighten that left bolt!

#### Wheels and tires:

Here's a fork in road (nothing to do with the Slauson Cutoff though) in our cars. Robert's car had the solid wheels, being a later '58 model while Bruce's '57 came with splitters. You could probably build an argument either way on this topic but the solid wheels require less maintenance, you don't need inner tubes and the hubcaps fit snugly.

Both sets were bead blasted and powder coated, Robert's in a nice almond white and Bruce's in Silvadillo, a medium pearlish silver/gray. Both look really nice. Add new stainless steel nuts and bolts to the splitters and a fresh set of hub caps and you're done.

One note about hub caps: You have to specify which wheel type you have when ordering them. When Bruce got his "splitter caps" they didn't fit tightly at all. Looked like the solid rim caps had been shipped instead of the split rim caps. (By the way, these will fit on a one piece wheel to totally confuse the issue) Seems like one company in Great Britain is the source that everyone gets them from. Well, the caps were correct. If you have the split rim, you will need to make a clear tubing run to the hardware store. Try the 1/4" ID x 5/16" OD. 3/8" OD would be even better if you can find it. Pooch it in as flat as you can get it between your thumb and forefinger and wiggle it on to each of the three tabs on each wheel facing. Leave about a quarter inch protruding outside each tab. It was easier to cut the tubing once it was on the wheel rather than try to second-guess the right length. It's also easier to work with a longer piece of tubing than a little stubby piece. If in doubt, leave more protruding as you can always cut it down if the cap won't go on.

Robert went with BF Goodrich Silvertown wide whitewalls and Bruce went with the Michelin MX 145R10 blackwalls. Then came the other running gun battle about bias ply vs. radials and the wider cross section on the Michelins. First, Bruce's car isn't being built for a show judge's sake so the "minus points" issue was moot. He also wanted a nice, aggressive tread in case he ever got involved in a high speed chase and needed a surefire edge in outmaneuvering those Crown Vic Police Interceptors. Second, bias ply tubes (the only type of 10" bent stem tubes available from Coker, or anyone else for that matter) in radial tires that are going to spend their lives mounted on a 13 horsepower, 30-45 mile per hour, one-lung-hemi racing machine is hardly an issue. Coker Tire blessed the application under those circumstances. Robert wanted to keep his car as close to spec as he could, liked the whitewall look and explained that he would simply use his great line of bull to talk his way out of a ticket rather than take Bruce's tactical approach.

Here's one that some of you might want to chime in on: Coker didn't have rubber "bands" for 10" splitters. Those would be the bands that wrap around the inside middle of the wheel to protect the inner tube. In the old days, it was called welting, a heavy woven cloth material that was generally glued on to the wheel and served the same purpose. Coker recommended PVC tape instead. After months of trying to find the tape, or anyone that had ever heard of it, we finally found a 600' roll on the Web, enough to do about 50 Isettas. All that having been said, the tubes and tires have since been mounted on the splitters. Several sources mentioned that they had put them straight on the wheel and since the splitters had been blasted and powder coated, they were nice and smooth anyway.

Now, what about the shock tower clearance debacle? Enter Firemarshal Bill Waite. He had just switched his bias ply tires to a set of Pirelli P3 145SR10's and was blown away by the difference, not the first time we had heard that observation. He enlisted the services of a local machine shop in Oak Harbor, Washington to fabricate a beautiful set of 1/8" thick, 5 1/2" diameter aluminum spacers for the front drums. End of problem. He was kind enough to have a second set made for Bruce's car and shipped them within a few days. They were beautifully made and fit perfectly! Thanks again, Bill. Hope our T-shirt fit you as well as the spacers fit the '57!

If anyone out there is experiencing the same problem or wants to go with the radial / slightly wider tire setup, we see no reason that a pair of the steel rings (4-28) that fit on the left rear hub wouldn't work as well. You'll have to remove those two metal tabs that they're identical in every respect to the aluminum plates. Hans gets \$16.00 a copy plus shipping if you're keeping score at home. Avoid washers as a spacer substitute.

Both of our tire/wheel motifs look great. As you all know and will probably agree, almost nothing you can do to a car helps set it off like a good, clean tire and wheel combo.

What rolls must hopefully stop at some point in time so we move on to a topic we erroneously passed on to you in Part 2. We're not the final word on this but we were HIGHLY discouraged from using DOT 5 silicon brake fluid. Apparently, while it has some great characteristics such as not absorbing moisture over time, we were told by more than one source that it will eventually eat the rubber innards in an ATE (or European style) brake system. Bruce unknowingly pulled a similar stunt on his 1968 Triumph TR-250 years ago and finally, on the third master cylinder rebuild in a year, the parts guys finally snapped and got him the correct fluid. End 'o problem!

Bottom line, both of our cars run Belray Super DOT3/4 fluid. Your motorcycle shop will have this for you along with Belray's first class line of motorcycle engine oil (20W50), gear oil (85W140) for the chain drive and transmission and waterproof grease for the front oil reservoirs. These products come highly recommended and have been used in several Texas Isettas over the years. You can check out [www.belray.com](http://www.belray.com) for more info.

One blurb on those front oil reservoirs ... Perry Bushong has been modifying his restorations by drilling out the top cap, tapping it and installing angled grease fittings in them. By doing this, it's easy to get a grease gun on them from time to time and keep the reservoirs packed. The waterproof grease does its job well and DOESN'T LEAK. Looks kinda cool too. This will run you about \$4.00 in parts and about 10 minutes at the drill press and work bench with your tap and die set.

By the way, we're well aware of the raging debate over motor oil and we'll revisit this topic in a bit more detail in Part 4.

Well, that's it for now. Keep them cards and letters coming. Your positive feedback has been much appreciated and makes writing worth the effort. Next time we will move on to discussing getting the engine and transmissions rebuilt, engine/transmission installation and look forward to the electrical system.

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