Tires and Wheels Part 2 of 4

Wheel Swapping

One of the most common questions asked is "what car has wheels that fit my Corvair?" If you have an early, the answer is pretty easy - most 70's and 80's Japanese rear wheel drive cars have the same bolt pattern and approximately the correct backspacing. For lates, it's a good news/bad news answer. The good news is that the lates use the common Chevy RWD pattern. The bad news is that the backspacing is different from pretty much every one of those cars.

Further, I'm not aware of anyone who is making alloy wheels specifically to fit Corvairs. So, the short answer is you should measure before buying wheels you plan on putting on your 'Vair (early or late). This is not to say that you can't find wheels that will fit, just that you should not buy a specific wheel unless you're sure it will fit first.

Let's start with a description of the various dimensions that are used to measure a wheel:

1.) Diameter - Vertical dimension of the wheel, measured where the tire's bead seats. All Corvair cars came with 13" wheels as stock.

2.) Width - The distance between the inner lips of the rim, where the tire beads seat. Both early and late Corvairs used 5 1/2" wide wheels, but I have heard that 60's wheels were only 5" wide.

3.) Lug Pattern - This is the number of lugs used to hold the wheel on, and the diameter of a circle drawn through the center of the lug holes in the wheel. Earlies use 4 lugs on a 4 1/2" circle (4 x 4 1/2"), lates are 5 lugs on a 4 3/4" circle (5 x 4 3/4"). A list of possible donors is near the bottom of this page, if you're looking for info on swapping wheels for another type of car, I also have a fairly complete list of wheel lug patterns.

4.) Backspacing - The distance from the inside of the rim to the point where the wheel contacts the brake drum. All backspacing of 3 7/8". For reference, more backspace moves the wheel further in the wheelwell, less backspace brings it out. [Note: I prefer using backspace to offset, since there is some difference of opinion as to which way is "negative" or "positive" offset. The stock Corvair wheel has a 1" negative offset (source: Chevrolet engineering features, courtesy Larry Claypool) - the mounting surface of the wheel is closer to the outside of the rim than the inside by 1". I will use backspace for the remainder of this article].

5.) Center Hole Diameter - The hole in the center of the wheel that the hub fits through. All are 2 7/8".

Since the standard lug pattern for RWD Chevies from the 50's to the present is 5 x 4 3/4", lots of different wheels will fit on a late model. The pattern for earlies is uncommon among U.S. makers, but is common on Mazdas, Nissans, and Toyotas. 14", 15", or even 16" diameter wheels will fit on all Corvairs, but the width on earlies can't exceed about 6" because of two points of interference. On the front, the end of the steering arm comes close to the sidewall, and on the rear, the upper shock mounting point is close to the sidewall. Fitting quick steering arms may help the clearance problem up front, while some careful trimming may increase clearance in the rear. Lates can handle up to 7" wide wheels in the front, with up to 8" (!) wide in the rear with the correct backspacing. Even wider will fit in certain sizes, but you will need to alter the backspacing to move the wheel out somewhat (less backspace), and perhaps roll the inside edge of the fenders. You should also check the protruding threads on the rear suspension's too control links for clearance. It is legal in E/SP to fit any wheel/tire combo along with any fender mods to make big tires fit. When fitting new wheels, the rim should ideally remain centered in and out rela-

tive to the hub as close to stock as possible (yes, tires sticking way out from the fenders are a bad thing), which can be determined by measuring the backspacing. This dimension is probably the most important for the following reasons: if the tire is not centered the wheel bearings will wear prematurely because they are not loaded evenly, the tires may hit the inside or outside of the fender or other components, and the car may tend to dart around when you hit a bump.

That said, a late model Corvair has a bit more clearance on the outside of the tire than the inside, and with 13" wheels you really can't add much at all to the inside of the rim. Fortunately the dimension also allows some tolerance, you can consider +/- 1/4" to have no effect at all. When sizing a wider wheel, add half of the additional width to the stock backspacing to arrive at the backspacing for the new wheel. If you want to stuff really huge wheels and tires under your 'Vair, it's best to jack the car up, remove the springs so that the suspension can be moved throughout its range, then bolt on a set of stock wheels and tires and measure the actual clearance available. The center hole diameter is fairly common to many cars, but should be checked because this helps support the wheel on the hub, and of course if the hole is too small the wheel won't go on the car. If the hole is too large, it's not especially critical. It does not appear to compromise the strength (in other words, yes, the lugs are strong enough to hold the car up, even in competition).

Some Options

To put this info together, here are a few examples of wheel and tire combinations. All of the street tire options listed keep the overall diameter about the same as stock, so your effective gear ratio stays the same, and your speedometer will be as accurate as it was before. First off, you have to decide if you want to keep your stock wheels. If so, you are limited in both width and diameter. Earlies have fairly small wheelwells, so you are really kind of stuck with a size fairly close to the stock equivalent of 175/80-13. Lates are a bit easier, as they have much larger wheel wells. You are limited by the wheel to a tire no wider than about 205mm. A P205/70 R13 will offer a noticeable increase in grip with only a slight loss of ride quality, but unfortunately this size is all but extinct in the US. Folks in Canada can still get them at Canadian Tire, I'm told.

If you're willing to buy new wheels, the options for tire sizes open up, plus you can vary the looks of the car. For street use, most folks like either 14" or 15" wheels with either 70 or 60 series tires, which give better cornering performance while still having a good ride.

1. Early: A good interchange for early models are the 14" x 6" aluminum wheels from a '70 - '78 Datsun Z, with P185/70-14 or P195/70-14 tires. A P205/70-14 may fit, but will be snug enough on a stock car that it would be best to mount one (try a used tire store) and check the clearance before buying a whole set. 15" x 6" were also a popular aftermarket size for the Datsuns, if you are buying wheels the backspacing for a 6" wheel should be at or just over 4" (ideal would be 4 1/8"). A 185/60-15 or 195/60-15 should work well with these wheels.

2. Late: Many people have used a variety of 14" and 15" wheels on late model Corvairs, one of the most popular donors is the Camaro. Although these wheels do bolt up, you must be careful with the backspacing, especially on those 7" wide or wider. I suggest using the 6" wide versions, since they mount a 205 very nicely and are easier to find in a backspacing of 4", which fits the late Corvair well. You will need at least 4" of backspace on a 7" wide rim, and 4 1/2" is better.

A popular choice is the 15x7 from the '82-'92 Camaro & Firebirds. These wheels have 4 1/4" backspace, which puts them about 5/8" outboard of ideal. The effects are first, the car will be somewhat more twitchy, especially when hitting a bump. Second, you are limited to a tire no wider than 205/60-15, or they will likely interfere with the fender lips (Seth Emerson wrote a nice tech tip on rolling fender lips which appears in the Corsa Tech Guide). And finally the donor cars used a metric lug nut which cannot be used on a Corvair. The optional 16x8 inch Camaro IROC wheel can also be made to fit.

Personally, I've been very happy using 205/60-14 tires on 14" x 6" Chevy steel wheels on the front, and 245/60-14 tires on 14" x 7" Chevy steel wheels rear. Backspace is pretty close, 3 5/8" (ideal would be 4 3/8") front, 4" (optimum 4 7/8") rear. With these, any road imperfections are noticeable, but the ride isn't especially harsh, and the increase in grip is quite large. This front tire size gave me an accurate speedometer too, although it is technically a bit short.