

Tire & Wheel Plus Sizing

Upgrading wheels and tires for fashion and performance



Moss Motors offers Panasport wheels for classic style and performance. Plus-size fitments are available for many MG and TR applications (MGB +2 shown).

By Kelvin Dodd

If concours-quality restoration is your thing, or you believe that what the factory offered is sacrosanct, then this article is not for you. If, however, you are open to change and are interested in improving the looks and handling of your car, then read on.

There are two primary reasons to upgrade wheels from their original sizes: increased performance and visual impact. Obviously, the intent of any change is to get the most out of your car without breaking your budget or creating more problems than you already have. As in any modification, a balance between cost, performance, and drivability must be determined, based on each individual's needs. This article will broadly cover some of the positive and negative aspects of wheel and tire changes.

Let's Put Some Rubber On The Road!

When most of our classic cars were new, the factory wheels and tires were sufficient for the vehicles' anticipated performance and to define their looks. Nowadays, that original look may be dated, and the performance expectations have increased to keep up with current trends of high-speed stability and cornering. I'm a firm believer in skinny tires sliding around mountain curves: For me, the "new" sport of sport-compact "drifting" was pioneered by the MGs, Triumphs, and Healeys during the street races and rallies of the '50s. But this type of

excitement at low speeds may not be everybody's cup of tea, particularly during rush hour.

Today, the many available wheel and tire options offer increased stability and safety for performance-minded drivers, or the choices may be merely adequate for those keeping up with modern iron on American freeways. Changing to a wider wheel allows the use of wider, lower-profile tires, which generally have far superior handling characteristics compared to the original-sized tires. Typically, increasing the original rim width by 1" will allow the use of a slightly wider 70- or 65-series tire, the closest sizes to the original 82-series (which were the only factory-offered tires with any kind of performance pretensions). Note that the TR6 and MGB Limited Edition were both equipped with more modern wider wheels from the factory.

A Quick Note On Tire Sizing

Modern tires are listed in Metric sizes. The first group indicates the nominal width of the tire, called the section width. The second group is the aspect ratio, which gives the height of the sidewall as a percentage of the width; this is also referred to as the profile of the tire. So, 70-series tires have taller sidewalls than 50-series sizes. Modern performance tires are generally only available in low-profile 70-series and lower aspect ratios.

Some Popular First-Step Performance Upgrades

CAR	ORIG. WHEEL	ORIG. TIRE	UPGRADE WHEEL	UPGRADE TIRE
Spitfire/Midget	4"	155-13	5"	175/70/13
MGB	4.5-5"	165-14	5.5"	185/70-14 195/65-14
MGA, TR4, A-H	4"	165-15	5.5"	195/65-15

Even these minor upgrades can cause fit problems with the limited clearance in narrow wheelwells. Correct-offset wheels must be used to ensure that the tire is centered in the wheelwell. Generic wheels and older American "Mag" wheels often have the incorrect offset and will cause fitment problems, even with stock tire sizes.

How To Measure Wheel Offset

1. Find the overall width of the wheel. Divide this width in two to give the centerline depth.
2. Lay a straightedge across the inner rim of the wheel. Measure from the straightedge to the mounting rim of the wheel.
3. Subtract the centerline depth from the mounting rim depth. This gives the offset, which is now usually designated in millimeters.

Positive offset indicates that the hub center (mounting surface) is toward the outside of the car; negative offset indicates that the hub center is closer to the brake drum.

Here are some typical offsets necessary to keep the wheel centered for popular British sportscars:

Typical Wheel Offsets

Sprite/Midget: +20mm
MGA/MGB: +22mm
TR2-TR6: +6mm
TR7-TR8: +15mm
Spitfire: +20mm

By keeping the wheel centered in the wheelwell, there is less chance of the wider tires fouling the inner fender, suspension components, or outer fender—this is most important with the narrow rear fenderwells of most British cars. For street driving where there is likely to be a lot of suspension and body movement, it is a good idea to stay conservative on width. Otherwise, the smell of burning rubber and the sounds of tire-rub are going to accompany any spirited driving. Make it a point to do your test-driving with your spouse or significant other in the car. This way, you won't experience the unpleasant surprise of their added weight causing the tires to rub.

If you want that maximum-rubber, road-racer look, be aware that most racecars have had some radical surgery and are often fitted with stiffer springs and panhard rods or other axle locators to ensure that suspension movement is limited. You can't have the same look and performance without making the same sacrifices.

What Are Some Of The Pitfalls?

Sprite/Midget: The square-arch rear-fender cars have very restricted wheelwells. Even a 165-section tire is probably going to rub on the back under hard cornering. The round wheel-arch cars have much less of a problem, and 5.5" wheels can be fitted with wide tires as long as the springs do not allow the tire to contact the fender lip. This led to many a Bugeye that looked like it got mated to a steamroller. Perhaps Austin moved to the square wheel arches specifically to prevent Americans from fitting Chevy Vega wheels with fat, wide-

oval tires to their cars.

Austin-Healey: Big Healeys' wheelwells on the BN2 onward are wide open. Their rear suspension has limited movement, which allows fitting wider wheels and tires without major rubbing problems. However, overly wide tires can spoil the clean lines of the car when negative-offset wheels are installed, which push the tire edge past the fender lip. BN1 fenders are very tight, so wider tires are not advised. On all models, check fender clearance.

MGA: Like the Healey, the rear wheel arches are open and can accommodate tires up to 195 cross-section without problems.

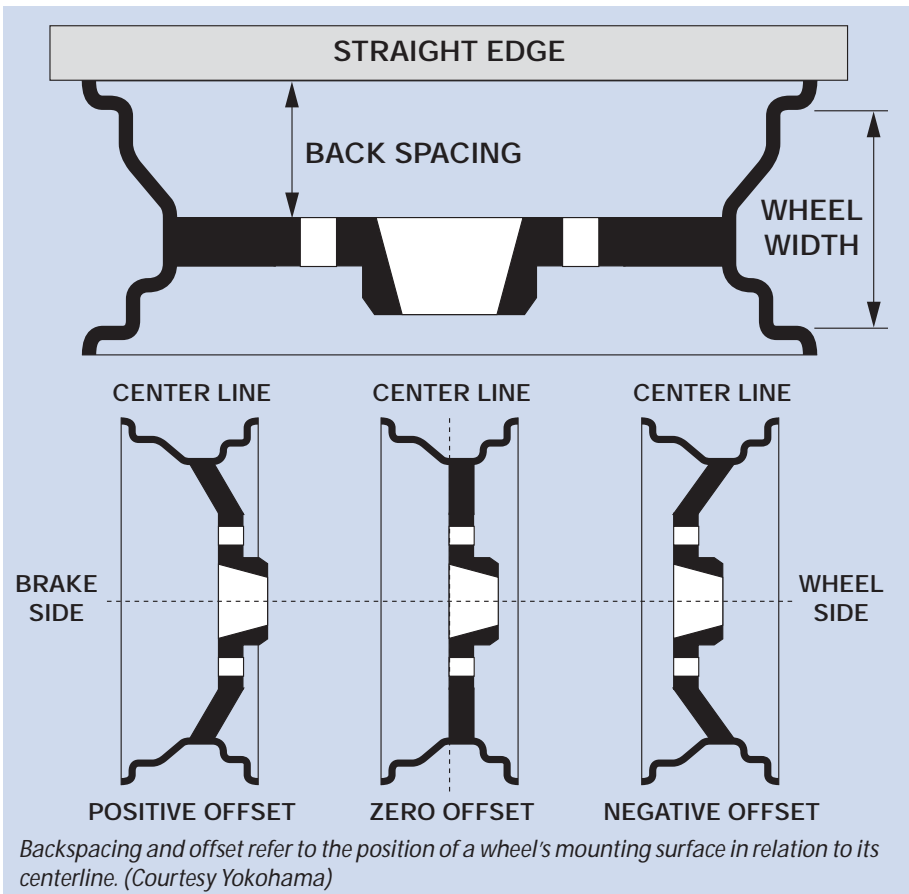
MGB: The rear fender lip on early cars and lowered late cars is at the widest point of the tire, so tire bulge can be an issue. Raising or lowering the suspension may allow extra clearance, but suspension travel can cause clearance issues, particularly on the left-hand side of the car. The inner bumpstop structure and front swaybar can cause clearance issues for wheels that have too much positive offset. Under hard cornering,

the rear axle will move sideways, aggravating clearance problems. On this car it is very important to have the wheel centered in the well, as suspension travel and axle movement can be major problems. Minor fender clearance issues can be addressed by rolling or grinding the rear fender lip. **TR2-TR4A:** Fender clearance is an issue, and a wheel with less positive offset is required to clear the front brake calipers. This restricts the maximum wheel width.

TR250-TR6: Again, a less positive-offset wheel is required to clear the front brake caliper; fender clearance is improved and tires up to 205 cross-section can be installed as long as the car is not significantly lowered. Rear-fender clearance can be a problem on lowered cars.

TR7/TR8: A positive-offset wheel is required, but the wheelwells are quite spacious. 205/60-13 tires will fit on the original factory alloy wheels without any clearance problems.

Spitfire: Open wheelwells allow the use of 5.5" wheels. These can be mounted with 185/70 series tires, but they may stick out beyond the fenders.



Plus-Size Wheel Options

One way to increase the availability of high-performance tires is to increase the diameter of the wheel, which allows the use of lower-profile tires while still maintaining the correct overall tire diameter. Only baseline modern vehicles are equipped with 13" and 14" wheels, so high-performance tire availability in these sizes is very limited. By increasing rim diameter one inch (+1) or even two inches (+2), the availability of lower-profile high-performance tires becomes much greater. In some cases, larger-diameter wheels allow the use of wider tires because the tires' sidewalls don't flex as much, so clearance under load may be greater. **MGB:** An inch-larger wheel allows the use of high-performance low-profile tires without compromising looks and performance. A popular performance option for the 14" wheel is the 195/60-14 tire, which has a much smaller diameter than stock. This reduces the overall gear ratio and does not fill the wheelwell from front to rear.

MGB Plus Sizing

STOCK WHEEL DIAMETER: 14"

Typical Tires: 165/80-14
(diameter 619.6 mm)

185/70-14 (diameter 614.6 mm)

+1 WHEEL DIAMETER: 15"

Tire Choices: 185/65-15
(diameter 621.5 mm)

195/60-15 (diameter 615.0 mm)

There may be clearance problems with

this width of tire on some wheels.

+2 WHEEL DIAMETER: 16"

Tire Choices: 195/55-16
(diameter 620.9 mm)

205/50-16 (diameter 611.4 mm)

This width of tire could only be fitted to a car with modified rear fenders and some type of axle location device such as a panhard rod.

TR6: Moving up an inch in diameter allows the use of a wider wheel due to increased suspension clearance. Note that the only available 15" performance tire has a much smaller diameter than stock.

TR6 Plus Sizing

STOCK WHEEL DIAMETER: 15"

Typical Tire: 185/80-15
(diameter 677 mm)

Performance Alternative: 195/65-15
(diameter 634.5 mm)

+1 WHEEL DIAMETER: 16"

Tire Choice: 205/60-16
(diameter 652 mm)

TR7/TR8: The look of the "wedge" is really improved with more modern tire and wheel combinations. This "shape of things to come" really was ahead of its time and looks dated mainly due to the small 13"-diameter wheels. A number of sticky 205/60-13 tires are on the market, but increasing wheel diameter gives the car a whole new image.

TR7/TR8 Plus Sizing

STOCK WHEEL DIAMETER: 13"

Original Tire: 185/70-13
(diameter 589.2 mm)

Performance Alternative: 205/60-13
(diameter 576.2 mm)

+1 WHEEL DIAMETER: 14"

Tire Choices: 185/60-14
(diameter 577.6 mm)

195/60-14 (diameter 589.6 mm)

RECOMMENDED +1

205/55-14 (diameter 586 mm)

Not many tire options available

+2 WHEEL DIAMETER: 15"

Tire Choices: 185/55-15
(diameter 584.5 mm)

195/50-15 (diameter 576.0 mm)

205/50-15 (diameter 586 mm)

Recommended +2 size

What If I Have Wire Wheels?

Although the classic wire-wheel crowd doesn't have as many performance options, they shouldn't feel left out. Here are some suggestions that will get you going with even more style. **Spline-Drive Alloy Wheels:** An expensive option, but the best alternative to converting to bolt-on wheels for maximum strength and a look that shouts CLASSIC PERFORMANCE!

Clearance is a major issue as the 13", 14", and 15" spline-drive wheels are 5.5" wide and there must be enough clearance to the outer fender for the wheel to be removed. Just because a tire fits the rim doesn't

mean you won't need a body hammer and cutting torch to remove the wheel. A very tasty combination for the MGB is a +1 package of a 15" spline-drive wheel and a 185/65-15 tire. This will clear on most cars; the larger 195/60-15 will likely rub under hard cornering.

Wire Wheel Options: The first option is to look at the factory racing history and see if a wider wheel was available as an option. In the case of the MGB, the factory offered a 5.5" 72-spoke wire wheel, which has the correct offset to handle larger rubber without clearance problems.

Most early cars originally equipped with 48-spoke 15x4 wheels can be easily upgraded to 60-spoke 15x4.5 wheels or even the 15x5 72-spoke wheel originally specified for the MGC. The exception is the Austin-Healey, with front 2" drum brakes: Where 60-spoke wheels foul the brake drum, the wider MGC wheels will fit without a problem.

The 72-spoke 15x5.5 wire wheel was originally fitted to the TR6 and the necessary reduced offset may cause tire-rubbing on the outer fender of cars originally fitted with 48- and 60-spoke wheels.

Center-lace wheels are available in 15x5.5 for the small sportscar hub and also for the larger Jaguar hub. These wheels look stunning, but also have a much-reduced offset. So, outer fender clearance must be carefully checked. The unobstructed rim was a highlight of the AC Cobra, so these wheels are often called "Cobra" wheels and look stunning on a TR250 or TR6.

Tires and wheels are one of the most popular topics for discussion, and I hope that this article may clear up some of the questions about possible fitments. Each car is different, so always check clearance before allowing a tire to become damaged and unsafe. If you are looking for the ultimate in wide rubber, be ready to do some body modifications; if in doubt, stay conservative and minimize headaches. The difference in handling between one tire size to the next may be insignificant compared to the problems caused by tire-rub when cornering. 