

# Tires and Wheels

## The Best Combinations for the Superformance Coupe



BRE is often asked for our recommendations concerning the best wheel and tire choices for the Coupes. From the outset we knew that new products would continue to emerge on the market and our experiences and recommendations would change over time. I doubt however that we suspected just how quickly the tire industry would move the last few years. In just a short time span we've gone from only one possible tire for the Coupe to several different options which accommodate street, track or combined street/track use. As you've no doubt heard us say before, these are our own personal experiences and recommendations. We've not had the opportunity to test every possible tire and size on the market so we can only share what we know. We do not represent High-Tech or Superformance or any other company. The following are our experiences but ultimately the choice is yours.

### The Beginning

When the Coupe was being readied for production a few years ago there were several choices available for the Coupes front 18" wheels but a dearth of suitable, larger diameter, high performance tires, for the Coupe's rear wheels. Since the Coupe was ostensibly a modern version of the 1964-65 Cobra Daytona Coupe, a factory racer that had run on 15" diameter Halibrand wheels with special Goodyear "stock car special" racing tires, the men who had conceived the new car (Jimmy Price of Hi-Tech/Superformance, designer Peter Brock and chassis specialist Bob Negstad) all wanted a DOT legal tire that approximated the aesthetic stance of the original racer. This was an all but impossible task as tire technology had moved beyond the era of 15" wheels. The only tires capable of matching the new Coupe's slightly larger size and greater speed potential were now 18" in diameter. Since no tire manufacturer was willing to make tires in quantities of less than several thousands of tires at a time, Coupe owners had to be satisfied with the only wheel/tire combination available at the time, the stock wheels and the Dunlop 9000 Sports.

The only problem with the Dunlop solution was the fact that the front and rear Dunlop 9000s, although the same in name, were actually two different designs/compounds providing totally different performance characteristics between the front and the rear. The visual aesthetics were correct for both front and rear but with the casing designs being entirely different, it led to a less than ideal road performance. The 255/45 fronts were actually fine high performance automobile tires giving Coupes excellent road holding capabilities in front. In the rear, the 285/50 were actually designed as "light truck" rubber (a euphemism for SUVs) vehicles that weighed some 6000 lbs, about twice the weight of a Superformance Coupe. SUVs have high centers of gravity making them

rather unstable in high G situations. If an SUV tire was designed with too high a coefficient of friction it would further unsettle the vehicle, so SUV tires are typically designed with rather hard compounds so the tire tends to break loose rather than stick at the limit of adhesion, which would cause a high c.g. SUV to overturn. To make matters worse the stiff SUV casing on the rear Dunlop 9000 had little road compliance with the Coupe's light weight, so the car's ride was overly firm and tended to breakaway suddenly under high load. You can readily see that such a combination is not conducive to good handling in a high performance automobile as it tends to promote oversteer (the rear-end breaking loose before the front). Many owners of early Coupes chose the Dunlop 9000 Sport tires because they "looked" correct on the car and thought they were a "matched set", with no real understanding of what the tires would do when pushed to the limit.

### **Better Choices**

Within a few months of the Coupe's debut however, Nitto introduced their "555" series high performance 18" tires, which soon became the selection of choice for those who had some interest in the Coupe's, now respected, high performance capabilities. With the Nittos the Coupes gained some good measure of stability. The main advantage with the Nitto 555s was that now both front and rear had the same performance and design characteristics so the car was more predictable at speed. Another visual benefit was that the taller rear 295/45-18s actually "fit" the rear wheel opening better aesthetically than the Dunlops which were so large in diameter that the front edges of the tread came perilously close to the chassis.

### **Track Work**

In time other manufacturers came to market with other specialty "high performance" tires that were even better in terms of adhesion. For those Coupe owners interested in occasional track work the Kumho V710 series of DOT legal "cheater slicks" became quite popular. These high performance tires were designed for weekend warriors who liked to autocross and so had comparably soft compounds with only a thin set of radial grooves for tread (which made them "street legal" under the federal regulations for legal highway compliance). There were just a couple of problems with the V710 Kumhos, which were not the tire's fault but the way in which they were used. To begin with, they were not suited to wet conditions and their super soft compound tended to pick up road debris if hot. In short, the Kumho V710s were not ideal "street tires". To get optimum traction on the track from the Kumhos it was advisable to use the 315/35 at the rear and the 250/40s at the front. The 315s however were just too much tire for the Coupe's standard 10" wide rear rims so BRE introduced their special lightweight (10 pounds lighter per wheel) 11" wide rims for those interested in competition. The 250/40s for the front worked well on the track because they provided more contact patch, ideal for heavy braking but their extra width made turning difficult for normal street situations, like parking, as there simply wasn't enough room in the coupe's front wheel wells to allow full lock to lock steering. The 250s also tended to "tramline" more than the Kumho 245s which were just slightly narrower than the 250s. It is simply a



matter of personal choice. We used the V710s on the street occasionally so preferred the 245s over the 250s.

### **Wheel Weight**

In addition to creating wheels in a size that accommodated the best tire choices on the market, we were primarily focused on weight. The advent of BRE's new competition grade wheels made performance numbers for the coupe really shine as their lighter weight (10 lbs per wheel lighter in the rear and 8.3 lbs lighter per wheel in front) meant the car weighed some 36lbs less, but more importantly the inertial and unsprung weights on each corner were also vastly improved! Just mounting a set of BRE wheels could cut tenths off any Coupe's best quarter mile times set with the same tires mounted on stock wheels. Combine the BRE wheels with superior tires and the results were even better.

### **Travel Use**

For those interested in really using their Coupes in the manner they were designed for, high speed cross country travel, the absence of a real spare tire was daunting. A jack and some "tire seal" aren't exactly comforting solutions if a side wall is cut or the tire has gone flat breaking the bead. Being out of cell phone range in the back country is no answer to this vexing problem and being withIN cell range is no solution either if you remember how long it took to get your first set of tires delivered. It's not much different as you sit at a gas station somewhere trying to locate a replacement tire. It can be days (our exact experience when we had a flat on the road was it took 3 days to have a replacement tire shipped to us in Colorado Springs). To solve this situation, BRE invented its own very special spare wheel/tire solution for the Coupe.

Without this BRE spare, you are faced with a real dilemma of potentially using stock sized wheels and tires as "spares" when in fact a spare rear cannot be fitted to the front (wheel well too small) and a spare front isn't suited for use on the rear as the overall diameter's on each side of the car would be different, which is not recommended for cars equipped with LSDs (Limited Slip Differentials). LSDs are normally activated (locked up) by a difference in tire speeds, such as when one tire slips on a less tractive surface. Mounting a "spare" stock-sized front wheel on the back of a Coupe would essentially create the same situation, as the two different wheels/tires would rotate at different speeds.

BRE's solution was to design a special, narrow "look alike" spare rim and fit it with a tire narrow enough to fit in the front wheel well yet tall enough to match the diameter of the rear. No automotive tire on the market come even close to meeting these criteria but a high performance motorcycle tire does. By creating this spare wheel with a special 4" wide rim it is possible to mount a speed-rated motorcycle tire that will now match the diameter of a Coupe's rear tire, yet not lose the visual, aesthetic appearance of a full sized tire and wheel it is replacing.



Another unique feature of the Superformance Coupe is its delivery with a “Hydratrack” LSD differential from the Australian Holden automobile. The main disconcerting factor to this otherwise fine unit is that it only comes in a single, 3.46:1 rear end ratio. This rather “tall” 3:46 ratio is not ideal for the Coupes six speed T56 transmission as the overdrive ratios of this transmission are so high that running in 6<sup>th</sup> gear tends to lug the engine if it drops below 2000 RPM at 80 mph on the highway. The obvious solution would be to find a lower ratio, but since these are unobtainable an easier solution is to build the car with a five speed with less overdrive in 5<sup>th</sup> gear. The compromise of a 5 speed is the car is then running too much RPM at high driving speeds. The best solution is to stick with the 6 speed and mount a slightly smaller overall diameter tire, which achieves the same result, with the added advantage that the car’s c.g. can be lowered as well.

### **Best Street Solution Today**

We think the best current solution for street use is Michelin’s high performance “Pilot Sport 2” series tire. Its 295/35-18 happens to have the same OD as the Metzler “Marathon” motorcycle tire that BRE uses for its spare, so it is perfectly compatible on the rear while it has the almost the same footprint and OD as the sticky V710 Kumho “cheater slick” that we often use for track work. Is this a perfect world or what?

For the front BRE now recommends Michelin’s PS2 in the 245/35 size. Want even more good news? These Michelins are even lighter than the Nitto 555’s and are quieter and more comfortable on the road. You might be interested to know that Michelin PS2s have won the One Lap of America the last three years. This is a fantastic tire. There is one caveat however...the rear 295/35 HAS to be mounted on BRE’s 11” wide rear wheel; the Michelin casing is simply too wide for the Coupe’s stock rear 10” rim.

With the above being said, you can now make an intelligent choice of wheels and tires for your coupe. This is not to say that other similar sized tires won’t work on your coupe....they may. It’s just that we haven’t had the opportunity to test other brands and are so satisfied with the Michelin PS2s that we haven’t even looked.

### **To Summarize**

#### **Street Use:**

- Wheels: Stock 10” rears and 8” fronts with
- Tires: Michelin PS2 275/40-18s on rears and PS2 245/35-18s on fronts  
or
- Wheels: BRE 11” rears and 8.5” fronts
- Tires: Michelin PS2 275/40-18s on rears and PS2 245/35-18s on fronts

#### **Track Use:**

- Wheels: Stock 10” rears and 8” fronts with



- Tires: Michelin PS2 275/35-18s on rears and PS2 245/35-18s on fronts  
or
- Wheels: BRE 11" rears and 8.5" fronts
- Tires: Kumho V710 315/35-18s rear and 245/35-18s front

**Combination of Street/Track Use:**

- Wheels: BRE 11" rears and 8.5" fronts
- Tires: Michelin PS2 295/35-18s and PS2 245/35-18s on front

**Spare:**

- Wheel: BRE 4" wheel works on front or rear
- Tire: Metzeler ME88 Marathon Cruiser Rear Tire 120/90HB-18

Should you have any additional experiences or questions regarding wheels and tires for your Coupe don't hesitate to contact us.



Peter Brock

