GOODYEAR TECHNICAL CENTER AKRON

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To: Erik Skirmants
President, SCCA Ent.

From: Goodyear Racing

Subject: SRF Tire Data

Springrate

Below is springrate information of the dry and wet tires for various pressures and rim widths.

Tire Code	Inflation Pressure (psi)	Rim Width (in)	Springrate (lbs/in)	Springrate Change per PSI
D2525	18	5.5	1170	36
D2525	26	5.5	1460	
D2525	18	7.0	1290	40
D2525	26	7.0	1610	
D2524	18	5.5	1120	38
D2524	26	5.5	1420	
D2524	18	7.0	1200	49
D2524	26	7.0	1590	

Tire Diameter

Due to the nature of a bias tire, size variation is to be expected. Sizing done to this date has showed the following variation in tire diameter.

Inflation Pressure (psi)	Rim Width (in)	Average Diameter (in)	Variation (in)
18	5.5	22.0	±0.3
26	5.5	22.1	
18	7.0	22.0	
26	7.0	22.1	

Sports Car Tire Data

This booklet is designed to give you, the racer, the data needed to optimize the use of Goodyear sports car race tires for your car.

To ensure that you have the most current edition, or for further information, contact your nearest Goodyear Racing Tire Distributor (listed on the inside of the back cover) or visit us on the web, at www.racegoodyear.com .

Limitations on Use

Goodyear racing tires are designed for racing purposes only. Under no circumstances should Goodyear racing tires be used as street tires. The design and the compounds used in these tires can be extremely dangerous for road use.

No Warranty Policy

Due to the conditions under which they operate, Goodyear MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE MERCHANTABLILITY, FITNESS FOR ANY PARTICULAR PURPOSE or otherwise with respect to Goodyear racing tires and shall not be liable for any special or consequential damages arising out of the use thereof. Non DOT stamped Race tires are not tested or labeled to meet FMVSS 109, and, therefore, it is illegal to sell race tires for use on public highways.

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Sports Car Tire Specifications

Size designations on Goodyear tires show nominal outside diameter, tread width, and bead diameter (i.e. 22.0x9.0-13). All dimensions are taken from an inflated tire under no load conditions. Consult your current Goodyear tire catalog or www.racegoodyear.com for actual dimensions.

Codes

Each Goodyear sports car tire has two code numbers molded into the sidewall. The first, called a "D" number, consists of the letter D and four numbers (i.e. D1197) which identifies each particular tire as to dimensions, construction, and compound. Should any of those characteristics be changed, the "D" number will be changed.

The second code number is a compound designation which consists of the letter R and a three digit number following it (i.e. R160). This identifies only the tread compound, and may be used as a crosscheck when looking for the same compound in a different size or construction.

Compound Comparison

Below is a listing of compounds offered in the sports car line-up. Softer compounds generally offer more grip, while trading off longevity. Harder compounds usually wear longer, but do not offer as much maximum peak grip. Tire temperatures are helpful in deciding the correct compound for certain set-ups or track conditions. Consult the tire temperature section for more information.

Durability (Grip vs. Longevity)

Softer ——— Harder

R075, R115, R160, R175, R250, R380, R430, R475, R600

Tire Temperature

Evaluating the temperature of a tire can be helpful in understanding how the tire is performing, as well as give insight to adjustments the car may need to obtain the best performance possible out of the tires.

When taking the tire temperatures, consistency will lead to better understanding. Comparing values is only useful if the values were obtained by the same means. (The order in which the tires are checked stays the same, as well as the locations checked on each tire). Goodyear recommends using a probe type pyrometer instead of an infrared gun, with temperatures being taken approximately 1.5 inches away from the inside shoulder, the centerline, and 1.5 inches away from the outside shoulder of the tire.

Ideal temperature range for a Goodyear sports car tire is between 160-210 degrees Fahrenheit. If the temperature on a tire is below this, a softer compound could give increased performance. If the temperature is above this, a harder compound might have better longevity.

It is important to remember that all four tires should show similar temperature readings. If the front tires are hotter than the rears, the car might have an understeer condition. If the rear tires are hotter than the fronts, then the car might be suffering from oversteer. Car set-up changes may be required to improve the balance. Also, if the inside shoulder is too hot, there might be too much negative camber. If the outside shoulder is too hot, then there might not be enough negative camber. The inside temperature should be about 10-20 degrees hotter than the outside.

Tire temperatures are hottest, and best reflect your car set-up, on a new set of tires. Tires with worn shoulders may give a misleading temperature spread across the tire because the thin worn areas of the tread don't hold as much heat.

Inflation

Safety is paramount with Goodyear Racing. Always make sure you are running adequate inflation pressures to support the load conditions on the tires. This is important because it allows the tires to maintain structural durability. Too little inflation pressure might cause it to distort, deflect, and roll under itself while cornering or braking. This situation could cause damage to the tire, premature wear, or loss of control. Running uncapped valve stem assemblies poses a high risk for inflation loss. Goodyear requires using firmly tightened valve caps for all on track activities over 150 mph.

Changing air pressure can affect car set-up because the tire acts as part of the suspension. As a general rule, a 1 psi change in tire pressure will change the vertical spring rate of the tire approximately 30-40 lbs/in. Cold starting pressures may need to be adjusted higher or lower on certain wheel positions to achieve balanced hot pressures. For example, on a predominately right hand circuit, the right side tires may need to be started 1 psi higher than the left side because the right side tires won't build up as much pressure.

The cold starting pressure needs to be increased if tire pressures aren't building up to the desired hot pressure. If the cold starting pressures are set on tires that have been sitting out in the sun for a long period of time on a high temperature day, they may not build up as much pressure because the air inside the tire is already relatively hot.

When racing on a counter-clockwise oval/road course such as Daytona, it is recommended that left side tires be inflated to 2 psi above normal cold inflation, while right side tires should receive a 4 psi increase in inflation pressure. This is required, especially on the right side, due to the heavier loads on the tires when racing on high speed banked turns.

Inflation Con't

Radial and DOT tires will respond differently than bias tires to inflation changes. These tires will not change in profile or "crown out" with pressure changes. They will however, change in spring rate with pressure changes. As a result, many DOT tires are raced at higher pressures in the mid 40's hot pressure range.

SCCA Race Class	Recommended Cold Tire Pressure
Formula 500	12-16
Formula Vee	21 FR / 20 RR
Formula Ford	14 FR / 16 RR
Formula Continental	15 FR / 15 RR
Formula Mazda	14 FR / 16 RR
Formula Atlantic	14 FR / 16 RR
S2000	14 FR / 16 RR
EP/GT-3	21FR / 21 RR
F,G,HP,GT2-5	18-21
GT-1	19FR / 18RR
AS,T2	32FR / 30RR
T1	34FR / 31RR
T2	34FR / 31RR
FWD	32FR / 42RR
SSB/SSC/SM	32FR / 29RR

Above pressure recommendations are based on successful past performance. They are a starting point that many teams adjust to their individual chassis set-up and car balance. As discussed on previous page, these pressures will need to be increased on oval/road course configurations.

Camber

Negative camber will provide more lateral grip in the middle of the corner, but too much camber can cause problems. A car with too much front camber might have a reduction in braking traction because the entire footprint isn't in contact with the track. Too much negative camber in the rear compromises forward traction for the same reason. Also, too much negative camber can cause excessive heat and wear problems on the inner shoulders of the tires, which could result in a vast reduction in longevity.

Scuffing Tires

Scuffing tires is a recommended practice because it reduces tread temperatures, increases longevity, and improves wear. It is our recommendation when scuffing tires to run a few moderately hard laps to bring the tires up to operating temperature, then run one hard lap, followed by a slow cool down lap, or ideally, removal of the tires from the vehicle.

Attempt to avoid long periods of hard running on new tires because the tread compound may tear early in a run due to sliding on the track surface before the grip level comes in, and/or the tread may overheat towards the end of a long run which may cause the grip level to go away.

It's best to scuff a new set of tires at least one day prior to running them for an entire track session. Scuffing tires in a morning session for use in an afternoon session is the next best thing. If you run on a new sticker set of tires for an entire session, after following the scuffing procedure, remember to take a couple of slower laps to allow the tires to cool down before running hard the rest of the session.

Radial vs. Bias

Radials tend to respond better to increased negative camber adjustments, and generate more lateral grip in corners as well as increasing braking and acceleration performance in a straight line. They are also more consistent in size, and provide more longevity and more consistent lap times. Because of their sensitivity, radials tend to require a change in driving style and car set-up. Radials are less forgiving than a bias tire, and require a more precise driving style. Finally, radials have a rigid belt package that prevents the shape from changing with tire pressure. Designers control footprint shape and size and pressure has limited influence.

Tire Care & Storage

Goodyear tires should not be stored in high temperature areas, in direct sunlight, around welding areas, or high voltage electric motors. Exposure to ultra-violet light and ozone can lead to a loss in performance of tread compounds. A used tire will continue to harden with age at an accelerated pace. Proper storage will limit this degradation.

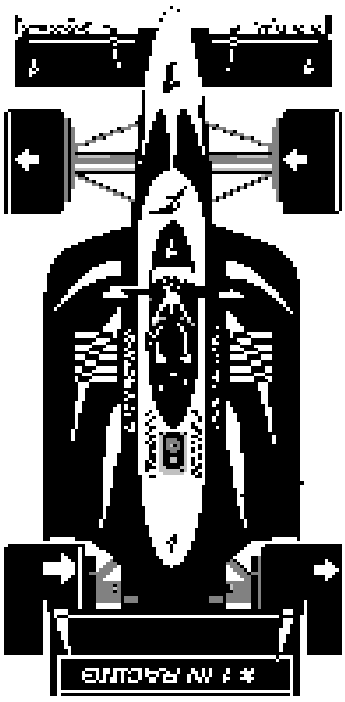
At the Track

1) A quality Goodyear distributor will mount your tires using metal valves, metal valve caps and high temperature valve cores.
2) Used tires may be rotated, or dismounted and reversed on the wheel, to extend life. Splice directional mounting is not required on used tires.
3) Tires can be cleaned with "Armor-All" or similar cleaners. Brake cleaners are not recommended.
4) Goodyear does NOT recommend, under any circumstances, the addition of any materials deemed to help tire performance. (i.e. tire soaking)
5) Attempting to patch or repair a race tire should never be performed.
6) Tires involved in a car fire should not be re-used under any circumstances. Even trained professionals cannot determine the extent of damage from fire.

Directions for Mounting

When mounting Goodyear tires, the molded serial# should face left on both front tires and face right on both rear tires. A picture indicating this is shown below. After running one or two sessions on a set of tires mounted in these locations, the tires can be rotated to other positions on the car in any manner to extend wear and longevity.

Arrows point toward serial number stamping:



TIRE SPRING RATES

CODE	SIZE	0 MPH 0 CAMB	100 MPH / -1.5 CAMB	PSI
Formula Ford				
D2273	22.0X6.5-13	988	1000	18
D1671	22.5X7.5-13	1623	1460	18
Formula Mazda				
D1026	20.0X7.0-13	1140	1295	20
D1027	22.0X9.0-13	1375	1422	20
Formula Continental				
D1561	20.0X7.0-13	1060	1133	18
D2104	22.0X9.0-13	1293	1450	18
GT1-Bias				
D1570	25.0X13.0-16	2095	1932	28
D1571	27.0X14.0-16	2240	1943	28
GT1-Radial				
D6729	25.5X12.0-16	1980		26
D6730	27.0X13.0-16	1970		24
GT/Production				
D1782	23.0X9.0-15	1756	1866	35

All values in lbs. per inch deflection

Ordering Procedure

To help your Goodyear racing tire distributor in making the proper tire recommendation, please have the following information available when ordering:

1. Car type and class
2. Car weight
3. Rim size
4. Current tire size, D#, R#

Please reference the last page for a list of Goodyear Race Tire Distributors, or call 1-877-881-RACE to get connected to the Goodyear Race Tire Distributor nearest you.

A full list of products can be found at www.racegoodyear.com, or a catalog is available from your local dealer.

GOODYEAR RACING TIRE DISTRIBUTORS

EAST
COMPETITION TIRE EAST, INC.
150 Franklin, P.O. Box 1056
Reading, Pennsylvania 19603
610/375-6191 (FAX) 610/375-0196

MIDWEST
COMPETITION TIRE WEST, INC.
12666 U S 12, P.O. Box 666
Brooklyn, Michigan 49230
517/592-6681 (FAX) 517/592-3696

CANADA
COMPETITON TIRE CANADA
360 York RD RR #4
Niagara-On-The-Lake, Ontario
Canada L0S 1J0
905/684-7418 (FAX) 905/684-1774

WEST
CARROLL SHELBY ENTERPRISES, INC.
10921 S. Figueroa St.
Gardena, California 90248
310/538-2914 (FAX) 310/538-1815

SOUTH
COMPETITION TIRE SOUTH, INC.
771-28 Fentress Blvd.
P.O. Box 11586
Daytona Beach, Florida 32120-1586
386/274-5332 (FAX) 386/274-5442

SOUTHWEST
CARTER-MAXWELL
4215 N. Wilburn Ave.
Bethany, Oklahoma 73008
405/789-8253 (FAX) 405/789-9201