



Breaking-in procedure

The Goodyear Eagle racing tyres enjoy an initial 'break in' to adjust for its life on the car. The procedure is simple and takes very little time to complete, however the advantages are many, as the tyre will then be far more consistent over the course of its life.

By bringing the tyre up to temperature over the first two laps much the same as you would your engine, it creates a heat temperature build up over the complete carcass and tread surface of the tyre. It also allows for any deformations from transit or fitting to be smoothed out.

Another important feature is that it allows the tyre to become accustomed to its "new life", allowing all the components to adjust to the demands of motor racing.

By increasing the speed on lap 3 say to 70% / 80% of race speed and then 90% through to 100% on lap 4 then use lap 5 as the cool down lap and return to the pits.

Many drivers use this system in qualifying, ensuring they produce their best times using the new "fresh" tyre.

Once back in the pits after the cool down lap, check the tyre pressures "hot" and reset to desired race pressure ("hot"), then allow the tyre(s) to cool to the ambient temperature of the day. It is preferable for the tyres to be left overnight

The cycle is now complete.

What you will find is that the cooled air pressure is somewhat lower than when it was hot, this is effectively the "cold" pressure to start at to allow race pressures to be attained with a lap or two of warm up on a consistent basis.

To get a closer cold / hot ratio may require some refining, but using the same method as above is usually very effective. Naturally if you are using nitrogen, then the heat / pressure build up is a lot less, say 2-3 psi, therefore it is easier to get this part of the sequence just right in a shorter amount of time.

The question or issue of weaving etc while doing the warm-up laps is personal choice, the advantages are by weaving and also accelerating and then braking it generates heat build up faster. The heat soak from the brakes can be a factor, the tread and carcass area can only generate so much heat build up in this mode, but generally this should be exercised after the tyres are "broken in".

Heavy braking on cold tyres can also lead to brake lock ups and flat spotted tyres.



Test Day / Race Day Warm Up Procedure

When initially entering onto the track the tyre will need to be:

- Bought up to temperature
- Clean up the tread contact area
- Allow air pressure build up

The Goodyear Eagle range of racing tyres in use have various compounds available therefore it will naturally come up to temperature at different rates, the softer compounds within a couple of laps of running, so possibly the real question is getting a handle on the rate at which it “comes on” and therefore minimising the fall off effect from possibly overheating the tread compound. Trial and error is usually the easiest way to find this answer. Once the compound is “on” the grip levels increase dramatically.

During either breaking in or warming up of tyres some key areas to consider, it does take a few laps for a cold tyre to come on :

- ✓ avoid power sliding out of corners
- ✓ avoid heavy breaking

both of these effects will damage the tyre whether with flat spotting of the tyres or the compound could “fall off” at a faster rate than desired.

Generally this warm up format should be used after the tyres are “broken in”, you are dealing here with bringing the tyre “on” for track work as opposed to the braking in procedure of bringing the tyres up to speed and temperature then cooling down.

If you have access to a pyrometer then the following spreads are what would be deemed ideal.

10 -15 C spread across the face of the tread area. At race temperature, RACE temperature is classed as between 185 and 210 F or 85 – 100 C depending on the ambient and track temperature of the day

Note that the inside of the tread face should be hotter than the outside.

When taking pyro readings the real trick is to establish a format and repeat the same format every time allowing the temperatures you collect to start to make sense as you make changes to the set up of the suspension and the tyres in turn react.

Record all data for reference and always start with the “outside” tyres per track direction to ensure the loaded tyres are pyro-ed first.

Suspension Set Up : Bias Ply construction

Front	Rear (if independent)
Castor : Driver feel, guide = 4 - 6 deg	N/A
Camber : 1.25 – 1.75 deg negative	0.5 – 0.75 deg negative
Toe : 2 – 6 mm Toe OUT	0 – 2 mm Toe IN





GOODYEAR Eagle Racing Information



IMPORTANT NOTES :

Direction of Rotation : Every Goodyear Eagle / Blue Streak racing tyre has a serial number moulded into one of the sidewalls. Once fitted to the car the rear tyre serial numbers should face to the right hand side, while the fronts face to the left hand side.

ie 5AXA MB01 A5R Once identified, fit one up and on down for each axle, then place on car as per above

Air Pressure : starting cold varies due to weight and HP of the vehicle, as a guide start with

Front @ 20 psi COLD and rear @ 19 psi COLD aiming for 26-28 psi HOT, bleed off as required at track hot temperatures to establish correct pressure when cold.

Always get an experience technician to fit your Goodyear Eagle Racing tyres

NEVER EXCEED 35 PSI when inflating tyres for the first time, if need be, deflate, reposition the beads and inflate again, typically they “pop” at around 20-25 psi.

All Goodyear tread compounds are identified by a 4 digit code consisting of a letter and numbers, ie R655 or R160, this identifies the individual tread formulation used.

Definition of Sizing : All Goodyear Eagle racing tyres have the size moulded onto the sidewall ie 27.0x14.0-15, which describes the tyres as follows :

27.0 = 27.0 inch for Overall Diameter
14.0 = 14.0 inch for tread width (not the section width)
15 = 15.0 inch rim diameter

It is important to remember that the tyre is an integral piece of the vehicles suspension, therefore as you adjust your air pressures the actual spring rate of the tyre and in turn the overall suspension changes. As a guide, 1 psi of air pressure change will change the vertical spring rate by approx. 30-40 lbs/inch.

Always use metal valve caps as these can be used as a secondary safety for the valve core, steel caps have a rubber seal inside and can hold up to 80 psi whereas the rubber / plastic variety do not.

Always use high temperature valve cores as these are designed to take the heat soak that will occur during racing applications – high temp valve cores use a red band to distinguish them from normal valve cores.

Tyres should not be stored in high temperature areas, in direct sunlight, around welding areas, in overhead garages, or around high voltage electrical motors. Long term storage is not recommend, they will go off within 12-18 months.





GOODYEAR Eagle Racing Information



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It is therefore illegal to sell or use these racing tyres on any public road or highway.

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