RR Tire Wear $$$
Posted by capt squid - 10 Apr 2013 22:32

I corded 3 RRs on the 10th heat cycle running at Chuckwalla (cement track). I am running 3 1/2 neg front and 2 1/2 neg rear. The current set of RRs have 6 cycles from Autoclub and 6 more from Buttonwillow and look like they will be toast with 6 more. Although the RRs are faster, this is not the way to keep costs down and bring more racers into 944 Spec.

The good old RA-1s were good for 24 cycles up. After Nationals we should consider voting to see if the group wants to go back to RA-1s for 2014.

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Re: RR Tire Wear $$$
Posted by Bottoz - 11 Apr 2013 11:34

Here's what we're seeing in the RM Region:

We have week 32 and week 50 tires. Week 50s are fine. Week 32s have separation after 2 races. Passenger rears start first, then drivers rear. After proper rotation, new separation starts on the freshly rotated rears.

As said earlier... love the grip, hate the wear issues.

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Re: RR Tire Wear $$$
Posted by cbuzzetti - 11 Apr 2013 11:46

I shoot for 37-38 hot. Seems to provide the best performance. I have noticed that tire pressure does not seem to make that much difference in the tire temps. This must be due to the stiffer side wall and I am guessing possibly a stiffer running surface.

I will see if I can scan my data sheets and post them here.

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Re: RR Tire Wear $$$
Posted by cbuzzetti - 11 Apr 2013 14:56

OK so I checked my date codes and all my tires are 3212. All bought at the same time in December.

My quickest lap of the weekend was in qualifying Saturday at a 2:05.056

The old lap record was a 2:08.486 on RA1s over 10 years ago.

The tires had 6 sessions on them and have never been rotated. they now have 11 sessions including 1 hr and 20 minutes of an enduro at sprint racing speeds and the RF tire looks like it is just starting to cord. All other tires look good. I have never rotated these tires and that would have extended the life of the RF for sure. The config we were running is hard on the RF.

temps and pressures for that session are

LF press. 36.5 RF press. 36

temps 129 132 147 Temps 144 134 128

LR press. 35 RR press. 35.5

temps 139 147 156 temps 149 150 145

So you can see that I did not get to my desired pressure. I ran one other session over the weekend that had higher temps, most sessions had lower temps. In most sessions the pressures were in the 35-36 range. Ambient temp was around 75 degrees for Q and Race.

Does anyone know what the optimum tire temps and pressures are from TOYO?

I will say that because these tires do not have a tread across the surface it is more difficult to see the wear developing. This may be the leading cause of cording the edge.

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Re: RR Tire Wear $$$

Posted by 944Racer72 - 11 Apr 2013 15:36

I'll be out for the first time on them this weekend at Thunderhill. I have them mounted correctly, haven't looked at the dates yet for when they were made.

With RA-1s, I usually ran -3.0 to -3.25 camber front and -2.5 rear with 1/8" toe out front and zero rear. Toe can be a big factor in tire wear as well.

For the RR's, I've gone to more front camber, starting at -3.5 but I doubt I'll have a lot of time to test. All other settings the same. I wouldn't be surprised if they like a lot of camber, similar to a Hoosier.

Charlie, how much camber were you running with RA-1s and how much toe?

Despite claims to the contrary, I can't imagine that a higher grip tire will equal the life and "forgiveness" of a lower grip tire.

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Re: RR Tire Wear $$$

Posted by Sterling Doc - 11 Apr 2013 15:37

Thanks for putting the info out there - interesting!

Here are Toyos recommendations for the tire:

Operating Temperature: 160°F to 220°F

Hot Inflation Pressures: High 30s to Low 40s (psi)

Camber: -2.5° to -5.0°

Caster: As much positive as possible

These recommendations are for a fairly broad range, and are identical to the RA-1, FWIW. There may

be aspects to our specific application that are different

We run a wider tire the same width rim as SM, and SE30, for example.

Digging around Toy's website, I came up with a SM setup guide (see below). It is meant for the R-888, but has some useful generalizations for doing tire temp testing. The presssures and camber settings that they recommended there are very different than the RA-1, or RR.

Spec Miata Setup Guidelines

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Air Pressure

The R888 can be used at lower hot pressures as compared to the RA1 because of its design.

Decreasing the air pressure will improve contact pressure and footprint shape. A recommended hot

pressure range is 32 – 38 psi. For a light weight vehicle such as the Spec Miata, 32 psi hot is a good

starting point.

Tread Temperatures

The optimum tread temperature for the R888 is 160°F to 220°F. Below 140°F and above 250°F the tire

may not provide sufficient grip. Generally there will be a 25°F temperature gradient from inside to outside

shoulder, with the inside shoulder being the hottest. Most distance and time on a race track is in a

straight line therefore, the inside shoulder is hottest because of negative camber. The same

temperatures across the tread face should not be expected.

Understand the track layout before pit entry. If for example there is a long right hand turn before entry, the

left tires will be hotter. Take tire temperatures and pressures after a few laps to get the temperatures and

pressures stabilized and come in after a hot lap.

Camber

To maximize the potential of the RA1 a lot of negative camber might have been required. The R888 on

the other hand produces more camber thrust at the same camber angles as the RA1, therefore less

negative camber might be beneficial. Reducing negative camber will improve contact pressure

distribution across the tread face improving wear. Start at -2.5° in the front and -3.0° in the rear.

Analyzing the tire temperatures, wear, and chassis behavior will help you dial-in the optimum camber for

your setup.

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