

Michelin Tire School Training
3/29 thru 3/31/11
Trip Report
By
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Michelin conducts two three day education sessions for their Agents annually at their Michelin Sales Training Center in Greenville, South Carolina. The purpose of these training sessions is to educate their Agents in the field who are directly dealing with the customers about design, construction, durability, quality, and other specific details about the Michelin tires.

Michelin decided to invite specific automotive type organizations to participate in these sessions as active current and potential customers. NCCC was asked to send a representative to this session, and I was chosen as VP Competition to participate.

During the three days, I got to tour the Design Center facility which designs and does preliminary building of tires. We saw various prototype tires and the processes which go into construction of tires. There were two days of interactive classes with Johnny Valencia, Training & Development Manager TCAR, conducting those sessions. In those sessions we learned about designs, construction, effects on tires, etc. Then we went to Laurens Proving Ground to drive the wet skid pad, a wet autocross course, and a large dry autocross course to experience how various designs of tires react to specific conditions.

The following key bullets are what I learned which not only highlights the program, but will be of benefit to the NCCC membership for both their Corvette and other family vehicles:

Construction/Affects:

- There up to 200 plus components that goes into the construction of a tire.
- The Michelin Man, referred to as “Bib” is embossed in the shoulder of the tire to identify where the 2/32” wear bars are between the treads.
- Majority of Michelin brand High Performance tires have an inner liner built in which is smooth and shiny. These are more uniformly round and will require less balancing weights due to a proprietary exclusive manufacturing process called C3M.
- Tires with less aspect ration have a better handling response.
- The foot print (contact patch) is critical to all tires. If you fold a standard piece of paper in half and then in half again, that is the size of a standard contact patch for one tire. Four of those are the only things touching the ground to keep you and your family safe!
- Tires are containers filled with air. Just sitting a tire will loose 1 PSI per month.

- For each 10 degrees of air temperature change +/-, the tire will change air pressure by 1 PSI.
- Heat is the worst enemy of a tire. That is why checking and keeping tire pressure to the mfr. recommendation is critical.
- Tire pressure is set by the automotive manufacturer and put on the door of the car. It is not set by the tire manufacturer.
- The load recommendation for the tire for your vehicle is set by the automotive manufacturer and not by the tire manufacturer.
- The worst thing you can do is put tire dressing or any substance that contains petroleum or silicone on your tires. It will immediately start enhancing the deterioration and cracking process of the tire. Okay for race tires as they are short lived.
- Sculpture & Compound are the two keys to the performance of a tire.
- Silica in a tire will increase the wet traction and braking of a tire.
- Carbon Black in a tire will improve the dry traction of a tire.
- Identification on the tire means the following:
 - o P = Passenger (If no "P" means it's a European size and okay to use.
 - o 215 = Section width in millimeters (tread width)
 - o 65 = Aspect Ratio of sidewall (this is a % of the section width)
 - o R = Radial construction
 - o 15 = Rim (wheel) Diameter
 - o 95S = Service Description (load index)
 - o Z = Speed Rating
- Must not put a tire on a wheel that does not safely fit. There is a specific tire chart that identifies this.
- Need to change the valve stem every time you change the tire.
- TPMS (Tire Pressure Monitoring System) sensor in your wheel can be affected by nitrogen use instead of air.

Tire Performance (Laurens Proving Grounds):

Laurens is a 3300 acre test facility near Laurens, SC. It has numerous test tracks for cars, semis, large construction equipment, etc.

The track instructor I had was Sarah Robinson. Sarah is an experienced Michelin instructor and racer. Sarah will be in attendance at our 2011 Convention.

The first track driven was a polished concrete wet skid pad. The cars were Ford Fusion. The first car had two new tires on the rear and two half worn tires on the front. This car was driven to feel the front hydroplane and by throttling the car gripped in the rear and kept the car from spinning out of control. The Second car had the new tires on the front and the two half worn tires on the rear. Once the car started to spin, there was no way to control the car as there was no rear grip and the car spun out of control. **Point of Learning, Never** put two new tires on the front of any vehicle whether it is front wheel, rear wheel, or four wheel drive, if you can't put four new tires all the way around. **Only** put two new tires on the rear for grip and control.

The second track was a concrete wet autocross course. We used two BMW 325i vehicles. The first car had all season tires on it. The second car had summer tires on it. The second car performed much better with traction and control. **Point of Learning**, all season tires are for just that. They are to be used in climates that experience the four seasons of rain, sleet, and snow. They have more sipes (slits in the tires) for tractions. The summer tire works the best for the rainy climates, as rain is a condition and not a season. These tires have larger blocks and center groves for traction and water dissipation.

The third track was a 13 acre flat surface area with a large coned dry autocross course setup. Although we had some rain during the day, the course was relatively dry. We use two BMW 325i vehicles. The first car had it factory 205/55ZR16 tires. The second car had 225/40ZR18 tires. Each car was taken around the track three times as running a normal autocross event. **Point of Learning**, although both cars performed rather well, it was apparent the second car with the larger diameter and the shorter aspect ratio tire gave the car a more distinct performance handling. Therefore, the shorter aspect ratio the better performance one will get. Must keep in mind that shorter aspect ratio means the tire and wheel are more susceptible to damage due to pot holes, railroad tracks, etc.

Michelin Tires:

- April 1st, Michelin Pilot Super Sport tires were launched in 17 sizes. This tire greatly improves over the Pilot PS2, which won't be replaced as it is still a great performing tire. It will have 12% greater handling with dual tread compounds which will improve shoulder wear. It will also have better breaking ability with a variable 2.0 contact patch. This tire is also the best street performance tire Michelin has ever produced. That being said, it is still backed by a 30,000 mile warranty.
- If a tire has "Pilot" on it, it means performance,
- The OEM drives the tire market. Not all sizes of tires are or will be offered as it is in part dependent on the affordability to manufacture as it is based on marketability and volume to sell in the main stream market.
- Michelin Primacy MXM4 is a tire for maximum comfort for those quiet moments, improved safety, and focused toward eco friendly environment with reduced carbon emissions while improving fuel efficiency. It is geared for high horsepower luxury sedans.
- Tire manufactures, like Michelin, are changing their "speed rating" to "performance rating" since the auto manufactures are rating the tires for their vehicles with performance ratings. These ratings are all dictated by the auto manufacturers.
- Michelin "Hydro-Edge" is the longest lasting tire up to 90,000 miles. This is 33,000 miles longer than their competitors. Also, increased fuel efficiency.
- Michelin Energy Saver A/S tire is a 60,000 mile tire which has reduced CO2 emissions equivalent to planting 40 trees.

- Michelin has the highest loyalty rating than any other brands.
- Michelin, BFGoodrich, & Uniroyal are the same company.
- Continental & General are the same company.
- Goodyear, Dunlop, & Kelly are the same company.

Summary:

I want to thank Michelin for providing this opportunity for NCCC to be a part of this educational program. A special thanks to Johnny Valencia, Sarah Robinson, and all the others who provided support over the three days.

In addition, I would like to thank NCCC for allowing me to represent this great organization at this school. I hope this report will provide our membership with some beneficial information to keep you and your family comfortable and safe while enjoying both your Corvette and family vehicles.