

CRASH TALK

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Sidewall Tire Information

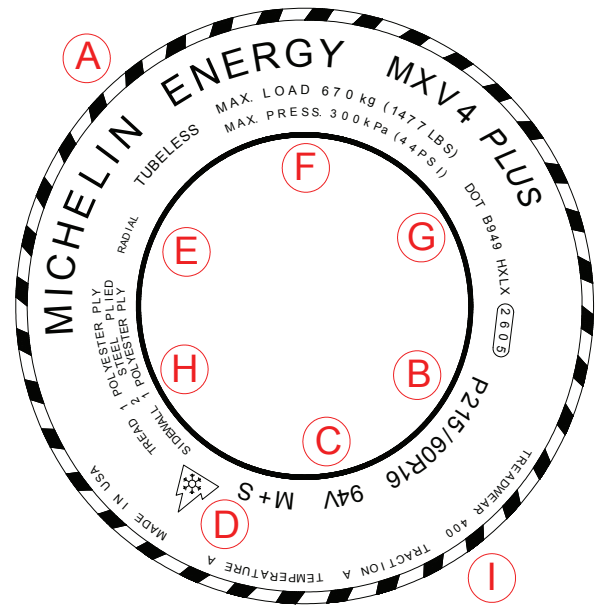
NEXT ISSUE: *The Return of the Low Speed Investigation*

Tire Sidewall Information

By Donald K. Pohl, P. Eng.

The sidewall of your tires contains a lot of useful information. There is basic information about the manufacturer and size of the tires as well as important information pertaining to the performance of the tires.

- A. Tire Manufacturer and Model** - **Michelin Energy MXV4 Plus**
- B. Tire Size** - **P215/60R16**, **P**=Passenger car vs. LT (Light Truck) or ST (Specialty Trailer) or T (Temporary), **215**=Tire width in mm, **60**=Aspect ratio (sidewall height/tread width – the sidewall height is 60% of the tread width), **R**=Radial construction, **16**=Rim diameter in inches
- C. Load and Speed Ratings** - **94V**, 94 means 670 kg capacity per tire, V corresponds to 240 km/h maximum speed (see the tables on page 2 for all load and speed ratings)
- D. Tire Type** - **M+S** = Mud and Snow, Mountain + Snowflake symbol = winter/ice tire
- E. Tire Construction** - **Radial** plies vs. Bias plies or Diagonal plies
- F. Load and Air Pressure Capacities** – specifies the maximum load capacity and maximum air pressure rating of the tire (e.g. **670 kg @ 44 psi**). The load capacity must meet the load requirements of your vehicle.
- G. U.S. DOT (Department of Transportation) codes** - specify the tire manufacturer, plant, size, etc, while the last 3 or 4 digits specify the **tire manufacture date** – **2605** = 26th week of 2005. For 3 digit codes, the first 2 digits specify the week and the last digit specifies the year in the decade. e.g. 269 = 26th week of 1999.
- H. Tire Construction** – the number of plies and materials used to construct the tire – both for the tread and sidewall of the tire. e.g. **1 polyester ply encasing 2 steel plies for the tread and 1 polyester ply for the sidewall.**



- I. U.S. DOT Uniform Tire Quality Grade (UTQGS) Standard** – grades tires based on **Treadwear**, **Traction** and **Temperature** performance. A treadwear grade of “100” is the baseline or index. Our sample tire has a grade of “**Treadwear 400**” so it would (theoretically) last 4 times as long as the baseline. Traction grades measure a tire’s braking performance in wet conditions only, and do not measure cornering ability, dry roadway performance or performance in snow. A traction grade of “AA” is the best, followed by “A”, “B” and “C”. Temperature grades measure a tire’s ability to dissipate heat under loaded conditions. A temperature grade of “A” is best and means the tire can sustain a speed of 185 km/h while loaded in a heat generating test. A Temperature grade of “B” is good and “C” is acceptable.

Other Markings:

TL – Tubeless

SFI – Side Facing Inwards (inside of asymmetric tires)

SFO – Side Facing Outwards (outside of asymmetric tires)

SL – Standard Load

XL – Extra Load

Arrows – indicate the rotational direction (forward) for certain directional tires

Harmonic Markings: Some manufacturers place a dot on the high spot of the tire which can then be matched to the low spot on the rim to cancel out any harmonic vibration.

When matching tires to your vehicle, it is important to consider:


1) Load and speed requirements of your vehicle.

Vehicle manufacturers commonly govern the maximum speed of a vehicle based on the maximum speed rating of its tires.

2) Tire type. Mud & Snow tires (i.e. All Season tires) are the most common; however summer performance tires and winter snow and/or ice tires are becoming more common in Alberta due to the climate variations. In our experience, dedicated winter tires provide vastly better grip than All Season tires on ice and snow.

3) Tire manufacture date. It is now recommended to replace your tires if they are more than 6 years old. This also pertains to new tires. Ensure the “new” tires you purchase have not been sitting on the shelf for years already.

4) UTQG Standard. Consider the treadwear, traction and temperature requirements of your vehicle.

Proper tires are the one of the most important components on your vehicle. Without proper tires, your braking ability (anti-lock or conventional), Electronic Stability Control (ESC) features and steering ability may be compromised. The information on the sidewall helps ensure the tires meet the requirements of your vehicle and driving needs. 

Don Pohl, P. Eng. has been a Collision Reconstruction Engineer with Graham Ryan Consulting Ltd. for nine years. He is a firm believer in winter tire use in Alberta.

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Load Rating:

Load Index	Maximum Load (kg)	Load Index	Maximum Load (kg)
71	345	91	615
72	355	92	630
73	365	93	650
74	375	94	670
75	387	95	690
76	400	96	710
77	412	97	730
78	425	98	750
79	437	99	775
80	450	100	800
81	462	101	825
82	475	102	850
83	487	103	875
84	500	104	900
85	515	105	925
86	530	106	950
87	545	107	975
88	560	108	1000
89	580	109	1030
90	600	110	1060

Speed Rating:

Speed Designation	Maximum Speed Rating (km/h)
M	130
N	150
Q	160
R	170
S	180
T	190
U	200
H	210
V	240
W	270
Y	300
Z	Over 240

Crash Corner



It takes about one year for a rubber tree to create 5 kg of white sap (latex), which is roughly the amount needed for one small car tire.

Recalls



Goodyear tires – Dunlop Winter Sport 3D tires, size 225/50R17 and Dunlop Winter Sport M3 tires, size 275/35R18 manufactured Sep. 4/05 to May 17/08. These tires do not conform to strength requirements.