

Ralph's Accident Reconstruction Newsletter

Volume 2, Number 2—Page 2



The 3100 at the end of the code indicates that this tire was made in the 31st week of 2000. Tires manufactured in the previous century had only a three-digit final code. A serial number is not unique to each tire; it is unique to each tire made on the same assembly line at the same plant in the same week.



This section indicates some details of the tire's construction. For this tire, there are two radial plies of polyester cord present from bead to bead. The tread area also has two steel plies (belts) and a polyamide ply (or belt). The latter is probably installed for achieving the rating for the speed and temperature resistance. According to Rex Grogan in **The Investigator's Guide to Tire Failures**, Institute of Police Technology and Management, Jacksonville, 1999, Pirelli was the company responsible for finding an elegant solution to the problem of belt edge separation in radial-ply tires: an additional breaker (belt) of nylon cordage was placed over the belt package before vulcanizing. The nylon cord would contract at vulcanizing temperatures, creating a belt tourniquet for the region under the tread.



This section of the tire states the maximum permissible loading in kilograms and pounds and the maximum inflation pressure in kilopascals and pounds per square inch. Consistent with the load index, the maximum load for this tire is 1653 pounds. The maximum cold inflation pressure is 44 psi. It is important to note that the proper inflation pressure for any regular tire depends on its load; this tire normally carries quite a bit less than 1653 pounds. When it was in use on my car, it was inflated to 32 psi, which pressure provided good ride, good handling, and even tread wear. In other words, just because your tire says that the maximum inflation pressure is 44 psi (or some other number) doesn't mean that you are supposed to inflate it to that pressure on YOUR car. Maybe, maybe not. Check the placard on your door, check your owner's manual, or visit your tire retailer.

Thank you for reading my first newsletter on tires. Please contact me if you need a failure analysis on a tire from a motorcycle, car, light truck, or small trailer, or whenever you have need of the other services I offer.

This is a typical, 21st Century serial number. The DOT means that the tire meets US DOT requirements. B9 indicates the manufacturing plant (Michelin, Lexington, SC). The JJ is a size code; the ENXX are optional symbols.

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Ralph Cunningham Accident Reconstructionist

- Collision Analysis
- On-road, Off-road, Marine
- Pedestrian/Bicyclist
- Motorcycle Collisions
- Conspicuity Evaluations
- Lamp Filament Evaluations
- Crash Data Retrieval
- Tire Failure Evaluations
- Brake/Steering Evaluations

Seat Belts/Airbags



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