ANOTHER TOUCH DRIVER ACADEMY

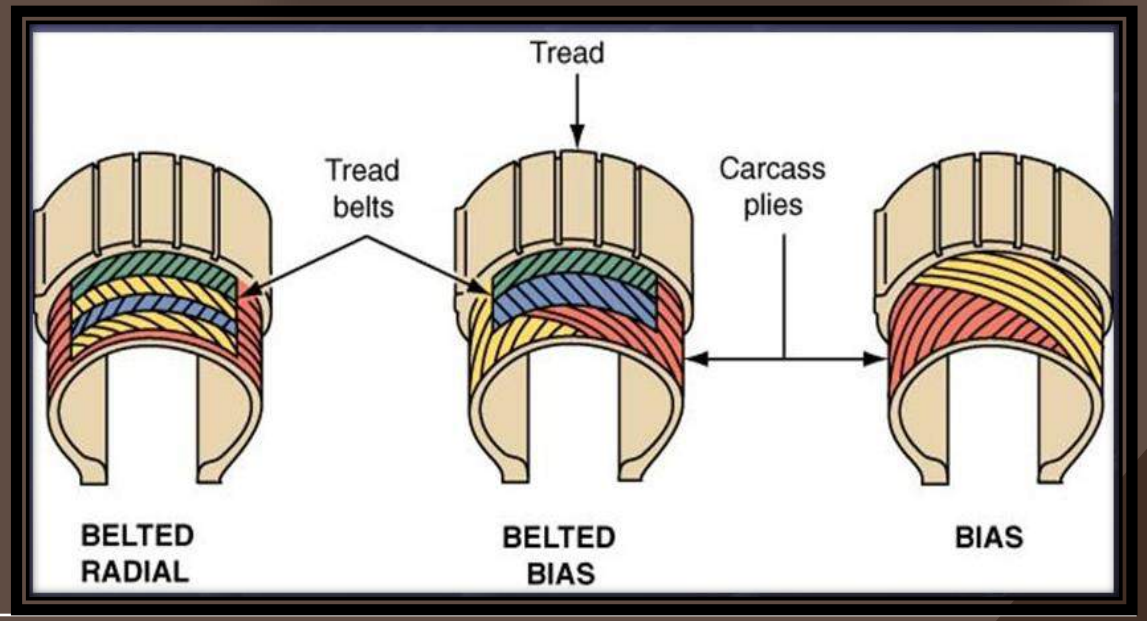
LESSON 12 & 13

TYRE CARE / VEHICLE COMPONENTS

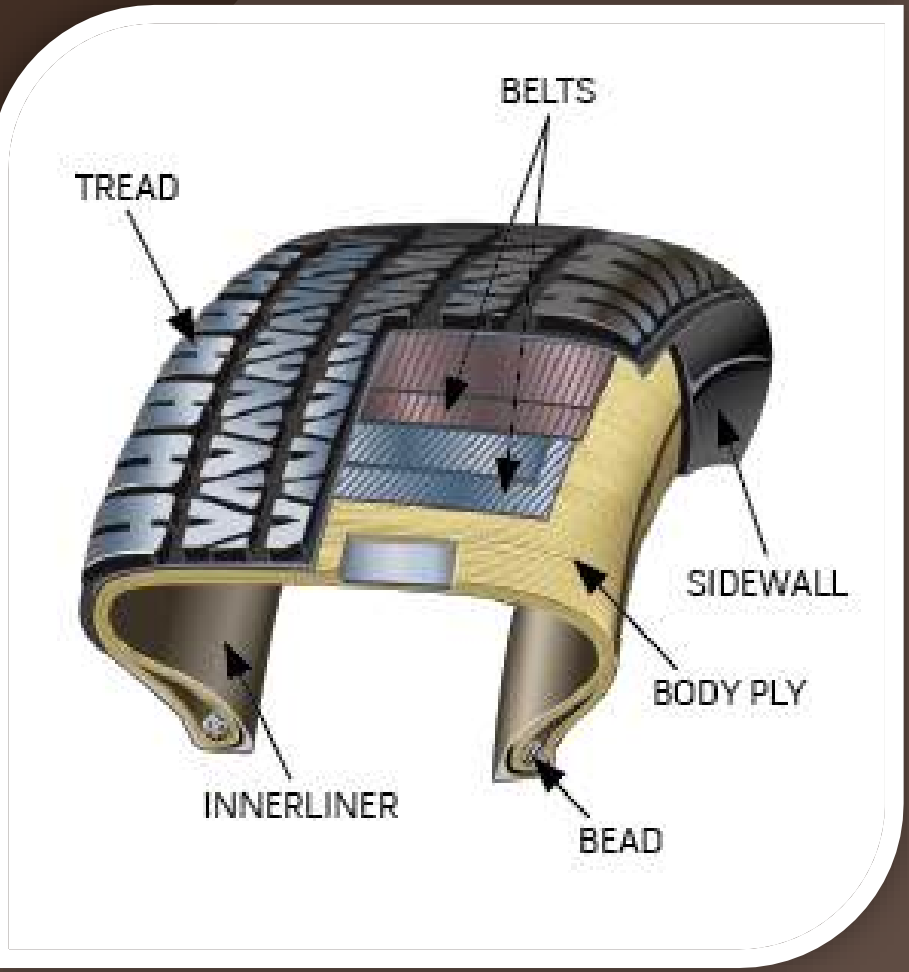
INTRODUCTION TO TYRES

- ✓**PURPOSE:** Tires are crucial for vehicle safety, providing **traction**, **Stability** and **handling**.

- ✓**TYPES:** Radial, Bias-ply, and Tubeless tires.



TYRE CONSTRUCTION



- **TREAD:** Out part in contact with the road, designed for grip
- **SIDEWALL:** Provides support and flexibility
- **BEAD:** Inner edge that sits on the wheel rim
- **BELT LAYERS:** Reinforce the tread area typically made of steel or fabric.

IMPORTANCE OF TYRE CARE

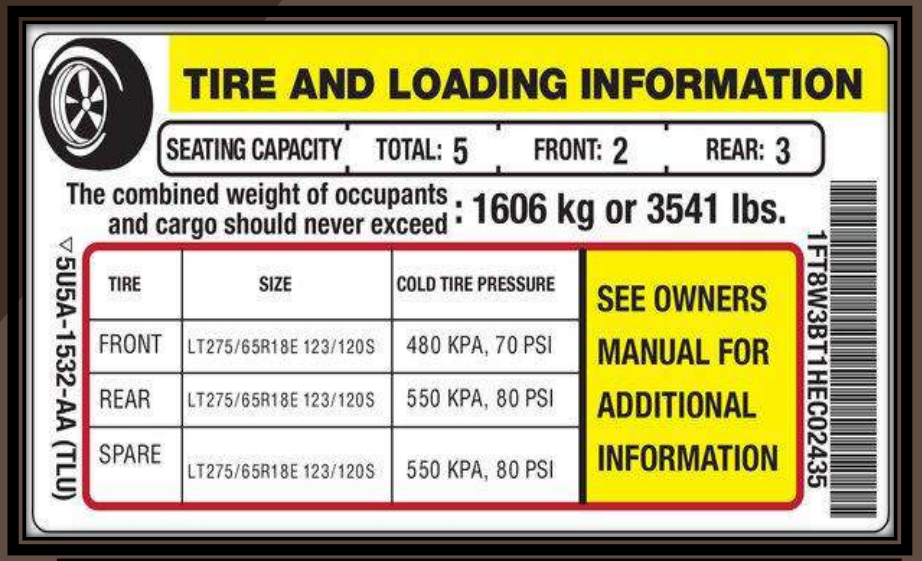
- **SAFETY:** Properly maintained tires reduce the risk of blowouts and accidents

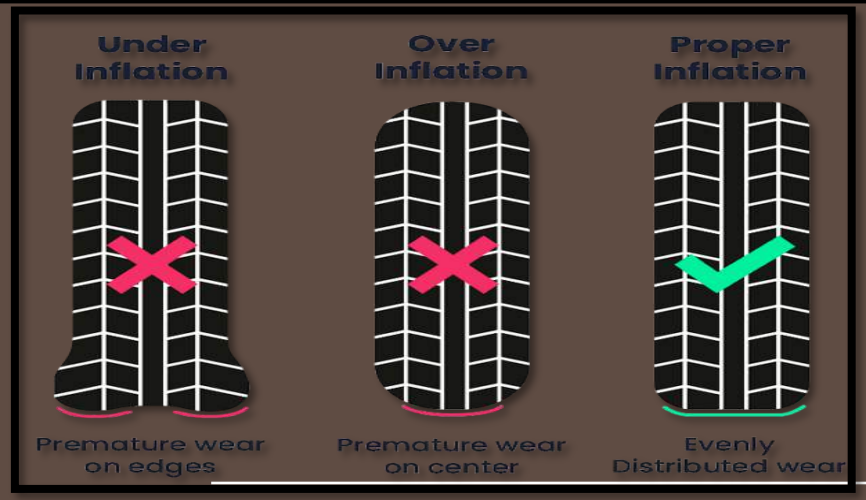
- **PERFORMANCE:** Well maintained tire ensure better handling and fuel efficiency.

- **LONGEVITY:** Regular care extends tire life, saving costs in the long run

TYRE MAINTENANCE TIPS

A. TIRE PRESSURE:





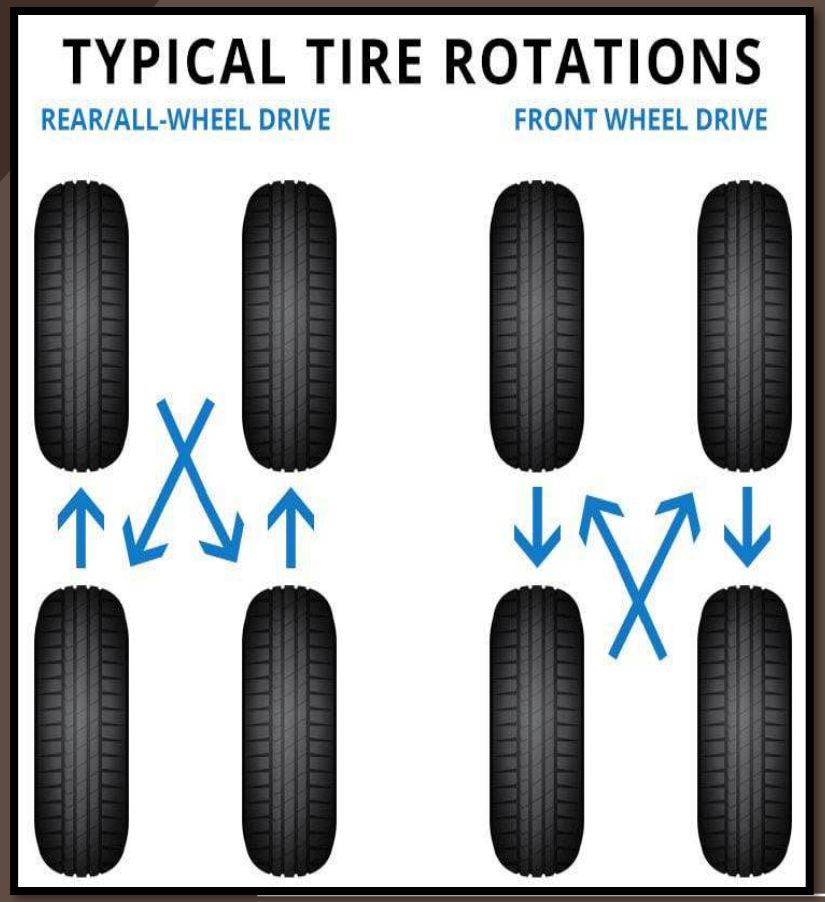
- **CHECK REGULARLY:** Use tire pressure gauge to check the pressure always and before long trips
- **RECOMMENDED LEVELS**: Follow the manufacturers recommended pressure, found in the owner's manual or on a sticker inside the driver's door frame
- **EFFECT OF INCORRECT PRESSURE:**
  - ✓ **UNDER-INFLATION:** leads to increased wear on the edges, reduce fuel efficiency and risk of overheating.
  - ✓ **OVER-INFLATION:** Causes uneven wear in the center, reduce traction and a harsher ride.

TYRE MAINTENANCE TIPS continued

B. TIRE TREAD:

- **TREAD DEPTH:** Use a tread depth gauge or th penny test to ensure sufficient tread depth (at least 1.6mm or 2/32 inch)
- **UNEVEN WEAR:** Can indicate alignment issues, improper inflation, or suspension problems
- **TREAD PARTTERNS:** Regularly inspect for cracks bulges and foreign objects

TYRE MAINTENANCE TIPS continued



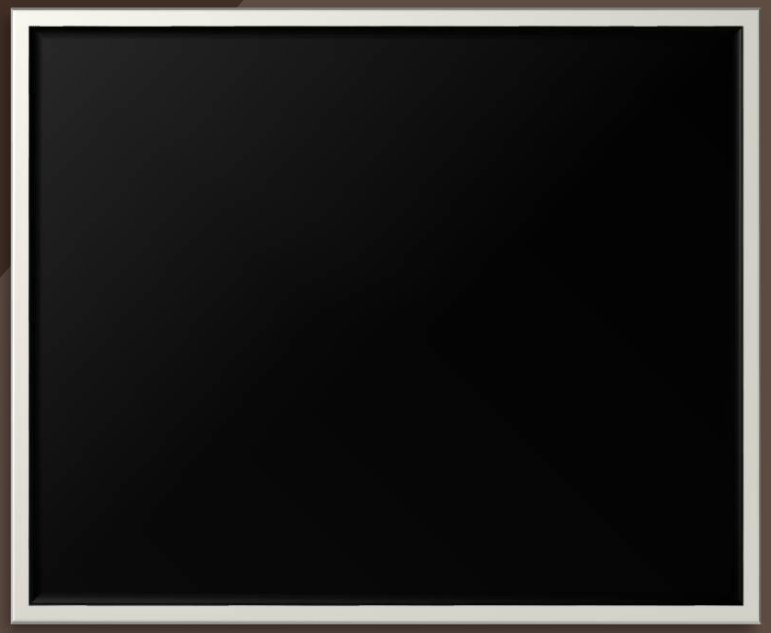
C. TIRE ALIGNMENT & BALANCING:

- **ALIGNMENT:** Ensure that the tires are angled correctly, preventing uneven wear and improving handling.
- **BALANCING:** Ensures even distribution of weight around the tire, reducing vibration and improving stability.

D. TYRE ROTATION:

- **ROUTINE:** Rotate tires every 5000-8000m (8000-12000Km) to ensure even wear
- **PATTERNS:** Common rotation patterns include front-to-back, side-to-side, or diagonal

SEASONAL CONSIDERATIONS



- **WINTER TIRES:** Provide better traction in cold and snowy conditions
- **SUMMER TIRES:** Optimized for warm, dry condition
- **ALL SEASON TIRES:** Offer balanced performance throughout the year but may not excel in extreme conditions.

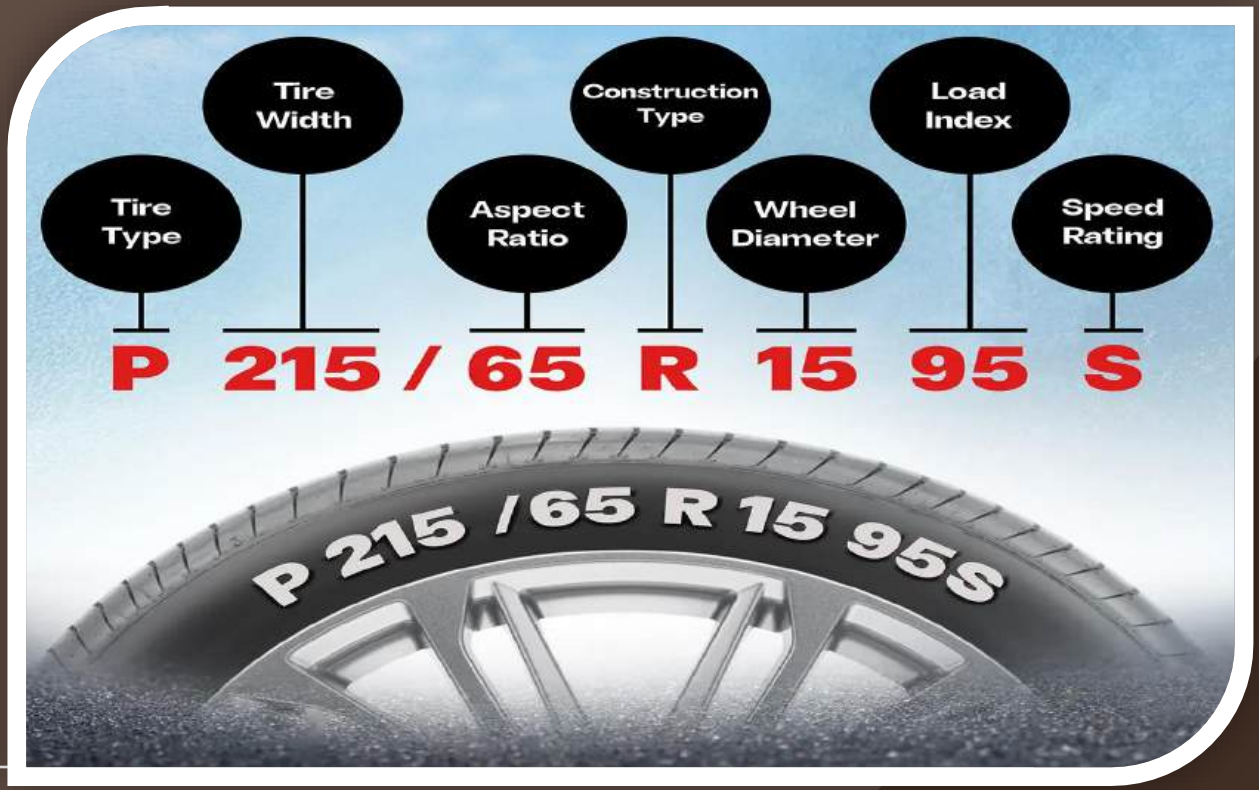
EMERGENCY MEASURES

FLAT TIRE: Use a spare tire or a tire repair kits if you encounter a flat. Ensure to get the damaged tire repaired or replaced as soon as possible

INTRODUCTION TO SIDEWALL MARKINGS

The sidewall of a tire contains crucial information about the **Tire Size**, **Construction** and **performance capabilities.**

Understanding these markings helps in selecting the right tire and maintaining safety.



KEY SIDEWALL MARKINGS

A. TYRE SIZE:

EXAMPLE: P215/65R15 95H

P: Passenger car tire (Can also be LT for light trucks, T for temporary and C for commercial)

215: Width of the tire in millimeters

65: Aspect ratio (height as a percentage of with)

R: Radial construction (Common in modern tires)

15: Diameter of the wheel in inches.

KEY SIDEWALL MARKINGS continued

B. LOAD INDEX:

EXAMPLE: 95

- Indicates the maximum load the tire can support. Higher numbers mean higher load capacity.
- **95** corresponds to approximately 1520 pounds (680Kg) per tire

KEY SIDEWALL MARKINGS continued

C. SPEED RATING:

EXAMPLE: H

- Indicates the maximum speed the tire can handle safely
- Common ratings include:

S: Up to 112mph (180Km/h)

H: Up to 130mph (210Km/h)

V: Up to 149mph (240Km/h)

OTHER IMPORTANT MARKINGS

A. DOT CODE

- Department of Transportation certification marking.
- Contains information about the tire Manufacturer, Plant and Production Date.
- **EXAMPLE:** DOT U2LL LMLR 3218

The last four digits **(3218)** indicate the tire was manufactured in the **32nd week of 2018**

OTHER IMPORTANT MARKINGS continued

B. TREADWEAR, TRACTION AND TEMPERATURE GRADES:

EXAMPLE: 400 AA

- **TREADWEAR: 400 -** indicates the tire's longevity. The higher the number the longer the expected life.
- **TRACTION: A -** Graded from AA (best) to C (lowest) based on wet road braking performance.
- **TEMPERATURE: A -** Ranges from A (best) to C, indicating resistance to heat

TIRE CERTIFICATION

- **E-mark:** European Certification for tires
- **M+S (Mud & Snow):** Indicates tires suitable for all season use, though not as effective as dedicated winter tires.

VEHICLE COMPONENTS

- **ENGINE:** Types – ICE, EM, Hybrid. Its Key components
- **TRANSMISSION:** Types – Auto, Manual. Its key components
- **SUSPENSION SYSTEM**
- **FUEL SYSTEM**
- **BRAKING SYSTEM:** Types – Disc, Drum. Its Key components
- **ELECTRICAL SYSTEM**
- **EXHAUST SYSTEM**
- **COOLING SYSTEM.**

VEHICLE SERVICING

- ROUTINE SERVICES:
- DIAGNOSTIC SERVICES (OBD-II)

THE END

THANK YOU FOR YOUR PARTICIPATION