



TIRE **MANUAL**

petlas



TIRE INFORMATION

A. WHAT IS A TIRE ?

The tire is the most important component of a vehicle because it is the only part that provides vehicle's contact with the ground.

A tire is composed of various materials such as rubber, cord fabric, steel belts and several chemicals. As a result of technological developments along with emerging demands and necessities, tires have become more complex than they were in the past.

B. CLASSIFICATION of TIRES

- a) According to their Structures
 - I. Bias Tires (Conventional Tires)
 - II. Radial Tires
- b) According to Area of Use
 - I. Passenger-SUV, 4x4-Light Truck Tires
 - II. Van and Pickup Tires
 - III. Bus & Truck Tires
 - IV. Agricultural Tires
 - V. OTR-Industrial Tires
 - VI. Military Purpose Tires
 - VII. Aircraft Tires
 - VII. Bicycle and motorcycle Tires
- c) According to Their Air Inflation Types
 - I. Tubeless
 - II. Tube Type

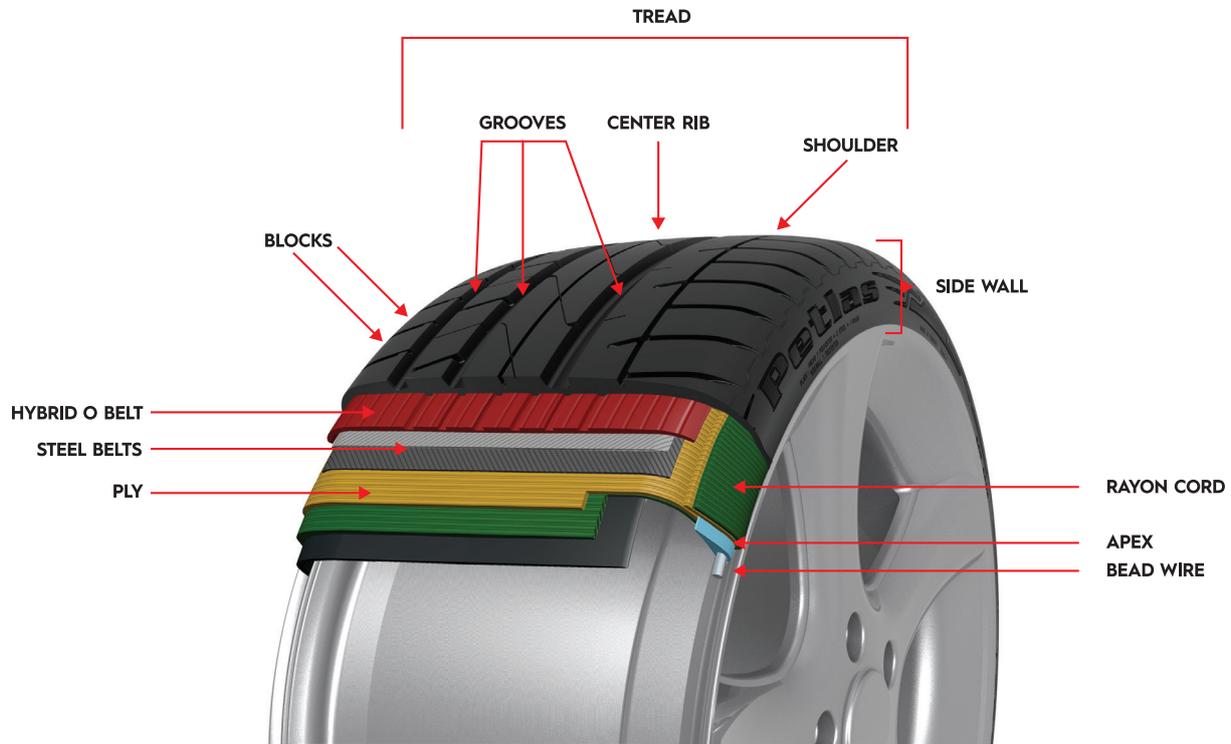
I. CONVENTIONAL (BIAS) TIRES

In bias constructed tires, the carcass plies are laid at angles between 30° and 60° to the centerline or the tires rotating direction. Succeeding plies are laid opposite to each other, with cords running diagonally to provide balanced strength.

II. RADIAL TIRES

The carcass plies are laid at an angle approximately 90° to the centerline or the tire's rotating direction. Each successive layer is laid at this same angle. Tires with radial construction have fewer number of plies than bias construction tires of same sizes since radial construction enables independent optimization of each component.

C. TIRE ASSEMBLY



Radial Tire Constuction

Apex Strip:

The apex strip is a wedge of rubber affixed to the top of the bead bundle.

Bead Heel:

The bead heel is the outer bead edge that fits against the wheel flange.

Bead Toe:

The bead toe is the inner bead edge closest to the tire centerline.

Breakers :

Breakers are reinforcing plies of rubber coated fabric placed under the buffline cushion to protect casing plies and strengthen and stabilize tread area. They are considered an integral part of the casing construction.

Buff Line:

The buff line cushion is made of rubber compound to enhance the adhesion between.

Cushion:

The tread reinforcing ply and the breakers or casing plies. This rubber layer is of sufficient thickness to allow for the removal of the old tread when the tire is retreaded.

Casing Plies:

Plies are alternate layers of rubber-coated fabric (running at opposite angles to one another) which provide the strength of the tire.

Chafer: A chafer is a protective layer of rubber and/or fabric located between the casing plies and wheel to minimize chafing.

Chines:

Also called deflectors, chines are circumferential protrusions that are molded into the sidewall of some nose tires that deflect water sideways to help reduce excess water ingestion into the engines.

Flippers:

These layers of rubberized fabric help anchor the bead wires to the casing and improve the durability of the tire.

Grooves:

Circumferential recesses between the tread ribs.

Liner:

In tubeless tires, this inner layer of low permeability rubber acts as a built-in tube and restricts gas from diffusing into the casing plies. For tube-type tires a thinner rubber liner is used to prevent tube chafing against the inside ply.

Ply:

Casing plies are anchored by wrapping them around the wire beads, thus forming the ply

Sidewall:

The sidewall is a protective layer of flexible, weather-resistant rubber covering the outer casing ply, extending from tread edge to bead area.

Tread:

The tread is made of rubber, compounded for toughness, durability and wear resistance. The tread pattern is designed in accordance with aircraft operational requirements. The circumferential ribbed tread is widely used today to provide good traction under varying runway conditions.

Tread Reinforcing Ply:

Tread reinforcement is one or more layers of fabric that strengthen and stabilize the tread area for high-speed operation. It also serves as a reference for the buffing process in retreadable tires.

Wire Beads:

The beads are hoops of high tensile strength steel wire which anchor the casing plies and provide a firm mounting surface on the wheel.

D. BASIC TIRE & RIM TERMS

1 OUTER DIAMETER

The diameter of the inflated tire on recommended rim without load.

2 SECTION WIDTH

The widest distance between sidewalls of an inflated tire.

3 SECTION HEIGHT

The vertical distance between the middle points of the tread to the bead seat of an inflated tire.

4 STATIC LOADED RADIUS

The height between axle center and road surface of the tire under load.

5 RIM WIDTH

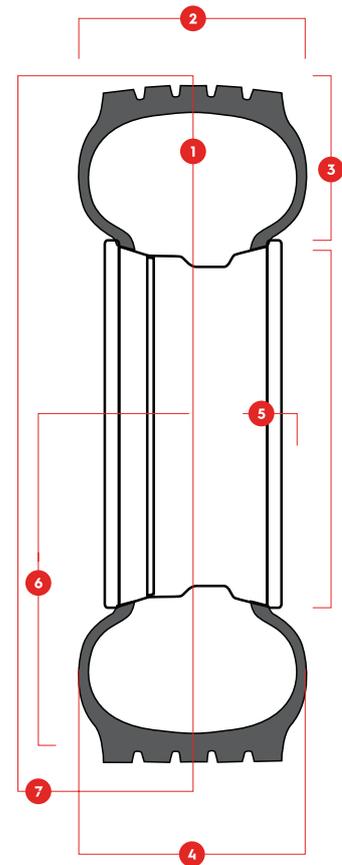
The distance between flanges of the rim.

6 RIM DIAMETER

The vertical distance between the bead seat areas of the rim.

7 DYNAMIC ROLLING CIRCUMFERENCE

The distance a tire covers in single revolution.



Ply Rating:

The term "ply rating" is used to indicate an index to the load rating of the tire. Years ago when tires were made from cotton cords, "ply rating" did indicate the actual number of plies in the carcass. With the development of higher-strength fibers such as nylon, fewer plies are needed to give an equivalent strength. Therefore the definition of the term "ply rating" (actual number of cotton plies) has been replaced to mean an index of carcass strength or a load carrying capacity.

Rated Load:

This is the maximum allowable load that the tire can carry at a rated inflation pressure.

Rated Pressure:

Rated pressure is the maximum inflation pressure to match the load rating. Aircraft tire pressures are given for an unloaded tire; i.e., a tire not on an airplane. When the rated load is applied to the tire, the pressure increases by 4% as a result of a reduction in air volume.

Outside:

This measurement is taken at the circumferential center line of an inflated tire.

Section Width:

This measurement is taken at the maximum cross sectional width of an inflated tire.

Rim Diameter:

This is the nominal diameter of wheel/rim on which the tire is mounted.

Section Height:

This measurement can be calculated by using the following formula:

$$\text{Section Height} = \text{Outside Diameter} - \text{Rim Diameter} \div 2$$

Aspect Ratio:

Measure of the tire's cross section shape. This can be calculated by the following formula:

$$\text{Aspect ratio} = \frac{\text{Section Height}}{\text{Section Width}}$$

Flange Height:

This is the height of the wheel rim flange.

Diameter:

The diameter of the wheel including the flange.

Free Height:

This measurement can be calculated by using the following formula:

$$\text{Free Height} = \text{Outside Diameter} - \text{Flange Diameter} \div 2$$

Radius:

This is the measurement from the center of the axle to the runway for a loaded tire.

Loaded Free Height:

This measurement can be calculated by using the following formula:

$$\text{Loaded Free Height} = \text{Static Loaded Radius} - \text{Flange Diameter} \div 2$$

Tire Deflection:

A common term used when talking about aircraft tires is the amount of deflection it sees when rolling under load. The term % Deflection is a calculation made using the following formula:

$$\% \text{ Deflection} = \frac{\text{Free Height} - \text{Loaded Free Height}}{\text{Free Height}}$$

Aircraft tires are designed to operate at 32% deflection, with some at 35%. As a comparison, cars and trucks operate in the 17% range.

Service Load (Operational Load) :

Load on the tire at max aircraft takeoff weight.

Service Pressure (Operational Pressure) :

Corresponding pressure to provide proper deflection at service load.

Rated Speed:

Maximum speed to which the tire is qualified.

Dynamic Rolling Circumference:

The linear distance of the tire travels at one revolution. This rate depends on load, inflation and speed.

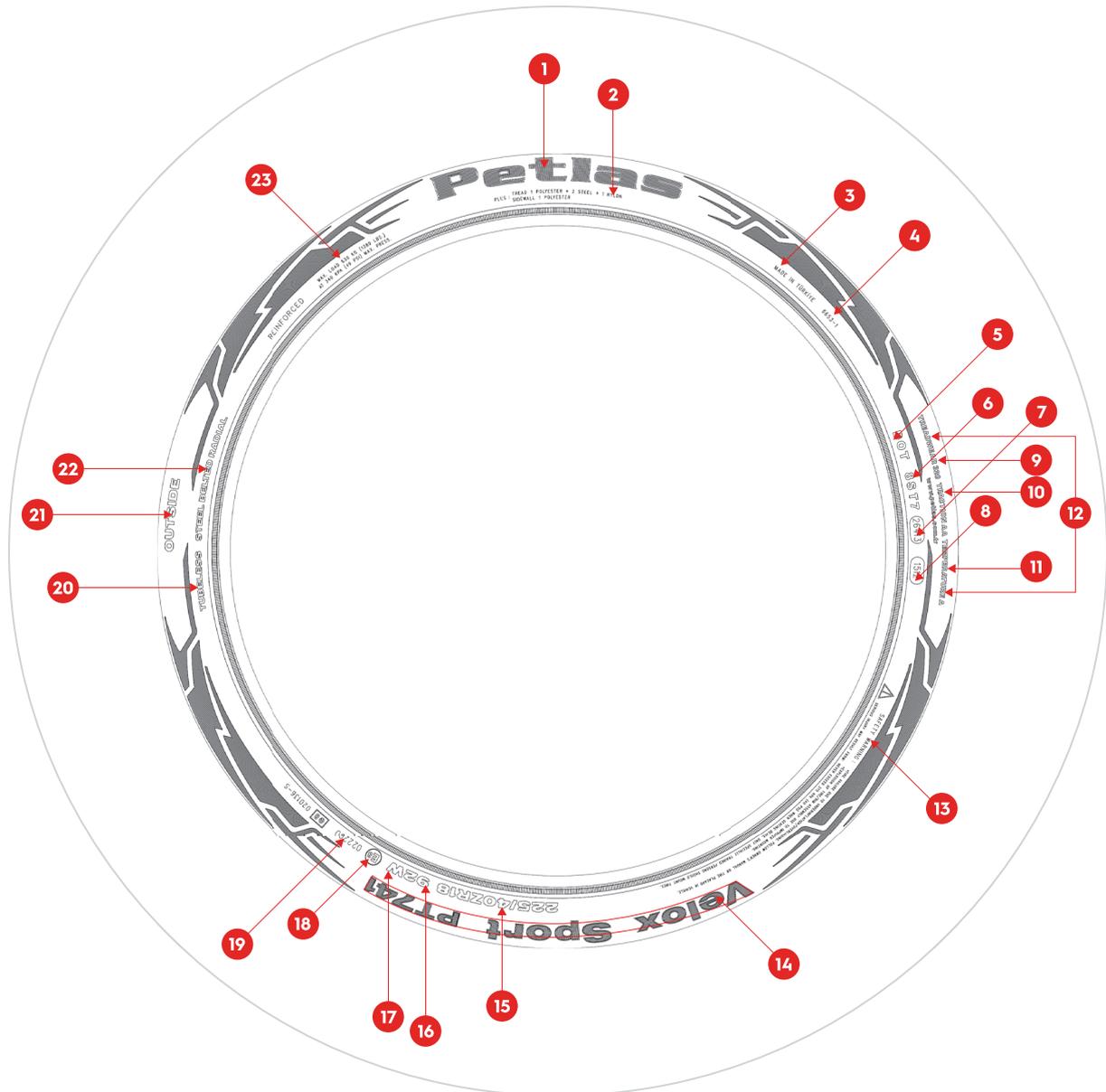
E. LOAD AND SPEED INDICATORS

SPEED INDEX	SPEED, KM/H
A1	5
A2	10
A3	15
A4	20
A5	25
A6	30
A7	35
A8	40
B	50
C	60
D	65
E	70
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200
H	210
V	240
W	270
Y	300

LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg
0	45	40	140	80	450	120	1400	160	4500	200	14000	240	45000
1	46,2	41	145	81	462	121	1450	161	4625	201	14500	241	46250
2	47,5	42	150	82	475	122	1500	162	4750	202	15000	242	47500
3	48,7	43	155	83	487	123	1550	163	4875	203	15500	243	48750
4	50	44	160	84	500	124	1600	164	5000	204	16000	244	50000
5	51,5	45	165	85	515	125	1650	165	5150	205	16500	245	51500
6	53	46	170	86	530	126	1700	166	5300	206	17000	246	53000
7	54,5	47	175	87	545	127	1750	167	5450	207	17500	247	54500
8	56	48	180	88	560	128	1800	168	5600	208	18000	248	56000
9	58	49	185	89	580	129	1850	169	5800	209	18500	249	58000
10	60	50	190	90	600	130	1900	170	6000	210	19000	250	60000
11	61,5	51	195	91	615	131	1950	171	6150	211	19500	251	61500
12	63	52	200	92	630	132	2000	172	6300	212	20000	252	63000
13	65	53	206	93	650	133	2060	173	6500	213	20600	253	65000
14	67	54	212	94	670	134	2120	174	6700	214	21200	254	67000
15	69	55	218	95	690	135	2180	175	6900	215	21800	255	69000
16	71	56	224	96	710	136	2240	176	7100	216	22400	256	71000
17	73	57	230	97	730	137	2300	177	7300	217	23000	257	73000
18	75	58	236	98	750	138	2360	178	7500	218	23600	258	75000
19	77,5	59	243	99	775	139	2430	179	7750	219	24300	259	77500
20	80	60	250	100	800	140	2500	180	8000	220	25000	260	80000
21	82,5	61	257	101	825	141	2575	181	8250	221	25750	261	82500
22	85	62	265	102	850	142	2650	182	8500	222	26500	262	85000
23	87,5	63	272	103	875	143	2725	183	8750	223	27250	263	87500
24	90	64	280	104	900	144	2800	184	9000	224	28000	264	90000
25	92,5	65	290	105	925	145	2900	185	9250	225	29000	265	92500
26	95	66	300	106	950	146	3000	186	9500	226	30000	266	95000
27	97,5	67	307	107	975	147	3075	187	9750	227	30750	267	97500
28	100	68	315	108	1000	148	3150	188	10000	228	31500	268	100000
29	103	69	325	109	1030	149	3250	189	10300	229	32500	269	103000
30	106	70	335	110	1060	150	3350	190	10600	230	33500	270	106000
31	109	71	345	111	1090	151	3450	191	10900	231	34500	271	109000
32	112	72	355	112	1120	152	3550	192	11200	232	35500	272	112000
33	115	73	365	113	1150	153	3650	193	11500	233	36500	273	115000
34	118	74	375	114	1180	154	3750	194	11800	234	37500	274	118000
35	121	75	387	115	1215	155	3875	195	12150	235	38750	275	121000
36	125	76	400	116	1250	156	4000	196	12500	236	40000	276	125000
37	128	77	412	117	1285	157	4125	197	12850	237	41250	277	128500
38	132	78	425	118	1320	158	4250	198	13200	238	42500	278	132000
39	136	79	437	119	1360	159	4375	199	13600	239	43750	279	136000

The load index on the sidewall of the a tire expresses the maximum load that the a tire can hear as the matched

F. ABOUT SIDEWALL MARKING



- | | |
|---------------------------------|--------------------------------|
| 1 Brand Logo | 13 Safety warnings |
| 2 Construction Information | 14 Pattern name |
| 3 Manufacturing country | 15 Tire size |
| 4 Mold no | 16 Max load index |
| 5 Dot mark | 17 Speed index |
| 6 UTOG quality indicator | 18 ECE approval number |
| 7 Factory code | 19 ECE approval mark |
| 8 Tire wear index resistance | 20 Tubeless |
| 9 Tire road grip index | 21 Outside |
| 10 Product code | 22 Construction type |
| 11 Temperature resistance index | 23 Max. load and pressure info |
| 12 Date of manufacture | |

A variety of important information that you should know about your tire are given on the sidewall. Below is a brief explanation on what the symbols and numbers on the sidewall markings stand for:

DOT SYMBOL

Proves that tire complies with DOT regulations.

EUROPEAN COMMISSION OF ECONOMICS CONFIRMATION

It is the legitimate proof that tires comply with all ECE regulations and is represented by a common confirmation number.

MAX. LOAD AND PRESSURE MARKINGS

It is a necessary marking on sidewalls of tires which complies with DOT directives. It consists of necessary information about max. load and pressure of tires.

“EUROPEAN COMMISSION OF ECONOMICS” TIRE VERIFICATION SYMBOL

This marking proves that the tire complies with all necessary standards claimed by European Commission of Economics

CONSTRUCTION INFO

It represents the ply ratings and type of material used in sidewall and base in accordance with DOT regulation.

UNIFORM TIRE QUALITY GRADE (UTQG) QUALITY INDICATOR

a. TREADWEAR GRADES

A wear life index as 100 indicates that the tire life is appropriate when tested under standard conditions. Tire life may significantly depend on road or climate conditions and service properties. While 100 is a good rating, more than 100 means “Very Good” and below 100 translates as weak reputation.

b. TRACTION CLASS INDICATOR

Demonstrates the ability to stop on wet asphalt or concrete surfaces under controlled conditions. Traction grades are AA, A, B and C in order of highest to lowest grades.

c. TEMPERATURE INDICATOR

Indicates a tire’s resistance to heat generation and its ability to dissipate heat. Temperature grades, from highest to lowest are AB, B and C.

SPEED CLASS AND LOAD INDEX

European ETRTO standards set the maximum load limits of a tire.

M+S and 3PMSF MARKINGS

The "M+S" indicates the tire is designed for mud and snow applications. The 3PMSF marking means that tire is suitable to be used in severe winter conditions.

PRODUCTION DATE

This four-digit code tells you the week and year that your tire was manufactured.

INFLATION INFORMATION

Shows maximum inflation pressure for your tire.

H. MOUNTING AND DISMOUNTING INSTRUCTIONS

Mounting and dismounting operations both can be extremely dangerous processes if not handled properly. These operations must be performed by authorized service points with appropriate tools and machinery used by experienced technicians.

Dismounting



Step1

- Remove the tire and the wheel from the vehicle.

Step2

- Deflate the tire completely.
- Never try to unseat the beads of an inflated tire.
- Use tools will not damage the rim or the beads of tire.

Step3

- Lubricate both beads completely

Step4

- Push bead of the bead seat of the wheel with appropriate tools.

Step5

- Completely unset the first bead and then the second bead from the wheel.
- Complete dismounting the bead away from valve.

Mounting



Step1

- Make sure that the rim and the tire are compatible with manufacturer instructions.

Step2

- The rim must be clean and undamaged. Never mount a tire to a cracked, smashed, deformed or repaired/welded rim.
- The rim must be cleaned off any material which may harm the tire such as oil, dust or dirt.

Step3

- Lubricate beads and rim.

Step4

- Make sure that the tire inflation air is moisture free.
- Pry the first and seconds bead over the rim flange one by one.

Step5

- Turn the assembly inflate no more than 5psi, complete inflation process using safety case

Step6

- Any information regarding rotation direction or outer side must be taken into consideration if stated on the sidewall.

I. HOW TO INFLATE A TIRE?



- Keep your distance for your safety.
- Use an inflation cage, mounted to the wall or ground, if there is.
- Do not exceed recommended inflation pressure.
- Use a moisture/dirt filter at the pressurized airline to prevent any moisture/dirt inside the tire.
- Do not exceed the recommended inflation pressure during the seating of the bead. Cancel the process in case the seating is not done appropriately.

J. TIRE INFLATION PRESSURE



Tire inflation pressure is a very important because every tire's load capacity, durability, traction and handling depend on using the right inflation pressure for the application. The tire inflation pressure is determined by vehicle manufacturers and you can find the proper inflation pressure values on the vehicle owner's manual or on the vehicle's tire information placard. In these manuals, you may find information regarding the vehicle's maximum load capacity, cold tire pressure and recommended tire size.

Tire inflation pressure depicted on the sidewall is the maximum inflation pressure of the tire. It is very important to use tires with recommended inflation pressures. You should check inflation pressure (including the spare) at least once a month and before every long trip. To check your tire's inflation pressure you can use air pressure gauge or take your vehicle to a nearby service center or gas station. Then compare the pressure in vehicle owner's manual or in placard.

- If you measure higher pressure, deflate your tire to the recommended pressure
- If you measure lower pressure, inflate your tire up to the recommended pressure

K. STORAGE

Inappropriate storage conditions not only affects a tire's appearance but also decreases performance. Unfavorable conditions lead to shorter service life.

After removing your tire from the vehicle, it's better you note the tires' positions since rotating front and rear tires will increase the tires' lifecycle.

Tires must be stored vertically on special shelves. In case they are stored horizontally one above the other, the number of tires shouldn't exceed 8 and these tires must be switched each month, in case they remain in this status.

When tires are stored fitted on rims, inflation pressure should be reduced.



In the tire storage area, there must not be any material which may create ozone effect such as oil, gasoline, solvent, car battery acid, acid installation system, sodium hydroxide, electrical engine or fluorescent light, even though the tires are already installed on the vehicle.

The tire storage space must be moisture free and must be ventilated regularly, not to cause moisture. Neither the storage space nor the tire should contain any water.

In case there is no facility to store the tire on special shelves, the tires' contact with the ground must be avoided and they must be stored horizontally one above the other, if they are mounted on rim. If the tires are not mounted on rims they should be stored vertically.

Never store tires directly in contact with the ground for long periods.

L. TIRE ROTATION:

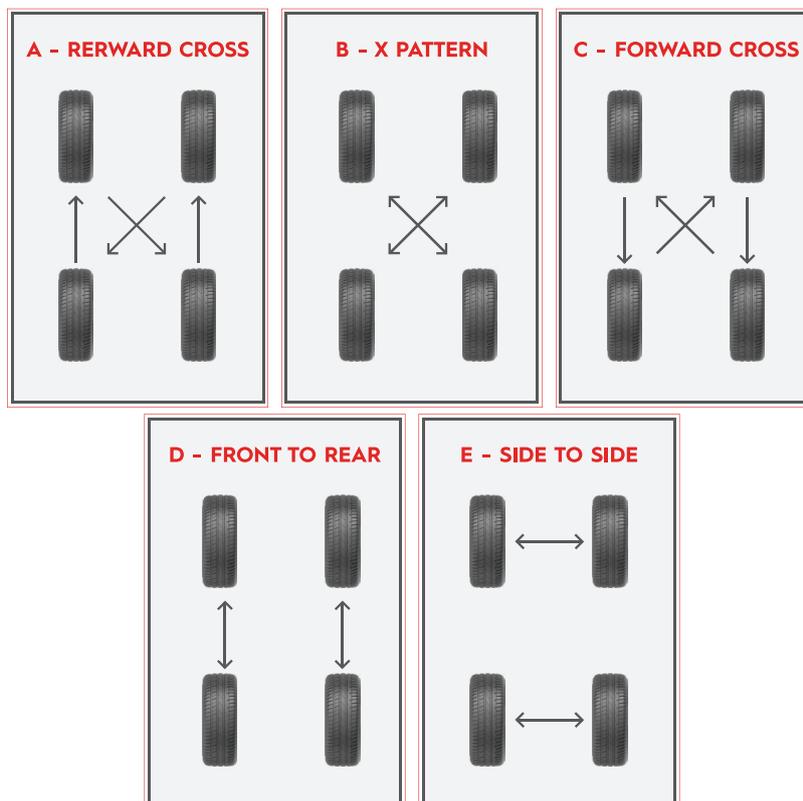
Tire rotation is very important in terms of extending your tires service life. If you examine your tires carefully, you can easily notice that the front and rear tires wear at different levels than each other. This is mainly because both the weights and the forces the front and rear tires have to face are different.

Information on how often the tires should be rotated is usually included in the manuals provided by the vehicle manufacturers. On the other hand, tire rotation should be executed every 3.000 to 5.000 (appr. 4.800 to 8.000 km) miles even if there is no visible sign of wear.

Tire rotation helps even out tire wear by allowing each tire to serve in as many of the vehicle's wheel positions as possible. However you should keep in mind that tire rotation can not correct wear problems originating from worn mechanical parts or incorrect inflation pressures.

II. 4 (FOUR) TIRE ROTATION

The Tire & Rim Association has identified three traditional rotation patterns covering most vehicles (equipped with non-directional tires and wheels which are the same size and offset). The first one is the "Rearward Cross" (Figure A); the second being the "Forward Cross" (Figure C); and the third is the "X Pattern" (Figure B). The X-Pattern can be used as an alternative to A or C for all vehicles. Today's performance tire and wheel trends have created a need for two additional tire rotation patterns, "Front to rear" (Figure D) and "Side to Side" (Figure E).

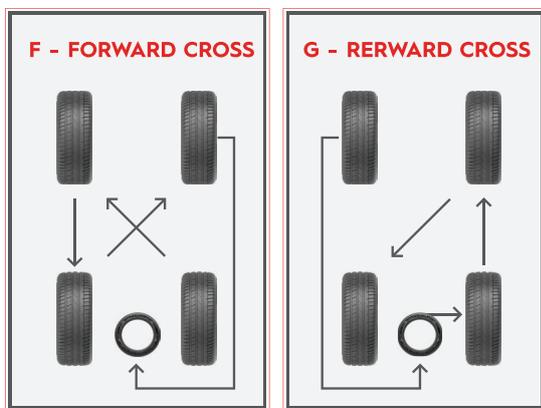


Forward cross is primarily recommended for front wheel drive vehicles while for rear wheel drive and all-wheel drive vehicles, rearward cross pattern may work the best. For vehicles with different sizes and directional pattern tires front to rear and side to side rotations are recommended.

II. 5 (FIVE) TIRE ROTATION

While many vehicles are equipped with temporary spares that cannot be included in a tire rotation program; if the vehicle's four tires, and spare tire and the wheels are the same size, same load rating and not branded for temporary use, they could be included in the tire rotation pattern.

In this case you should periodically check whether the spare tire and wheel are required to be put into service.



On front-wheel drive vehicles with full-size matching spare, the tires should be rotated in a “forward cross pattern” (Figure F)

On rear-wheel or all-wheel drive cars with full-size matching spare, this time it is recommended to rotate the tires in a “rearward cross pattern” (Figure G)

Five tire rotation results in equally distributed use that will help maintain equivalent tread depths on all five tires throughout their life. For many four-wheel drive and all-wheel drive vehicles, this is required to prevent driveline damage if a flat tire necessitates a new spare to be put into service with partially worn tires on the other three wheel positions.

M. DRIVING TIPS

I. WINTER DRIVING



Driving in snowy conditions requires knowing some tips and having certain skills. Please keep the tips below in mind for your safety:

- Using the proper tire is extremely important in winter driving. Worn tires reduce grip performance. Make sure that tires significantly developed for winter conditions are fitted on all four wheels.
- Place both hands on the wheel and reduce your speed.
- While approaching a bend, make sure you slow down gradually. Avoid sudden brakes as much as possible.
- Maintain constant speed and turn the wheel smoothly on a bend. Sudden steering movements may cause your tires to lose grip.
- Keep a secure distance with other vehicles. Snowy road conditions increase brake distances significantly.
- In case the tires lock and start to slide during braking; release the brake so that you can recover grip before slowly braking again.
- Periodically check the tire pressure to make sure it is at the level recommended by the tire manufacturer. Keep in mind that the pressure drops about 1 psi for every 5°C (9°F) drop in temperature.

II. RAIN DRIVING



Driving under rain can sometimes be dangerous. The most important thing for drivers to keep in mind is to slow down. Pedestrians, livestock and wild animals become extremely hard to spot and even harder to avoid. It takes longer to stop or adjust speed in wet weather. The following are tips for a safer drive in the rain:

- Before it starts to rain, replace old or brittle wiper blades.
- Stay toward the middle lanes – water tends to pool in outside lanes.
- Maintain proper following distance which needs to be more than usual on wet roads.
- Driving in the tracks of a vehicle ahead of you may decrease the contact with the wetter parts of the road.
- Don't follow larger vehicles like trucks or busses too closely. The water spraying from their tires may reduce vision.
- Always be alert for the brake lights of the vehicles in front of you.

- If possible, choose to take your foot off the accelerator rather than using your brakes to slow the vehicle down.
- Make sure your headlights are on in a light rain and in gloomy, foggy or overcast weather conditions. This will not only help you see the road more clearly but also help other drivers see you.
- Avoid off-road driving since it is hard to estimate the actual depth of puddles and standing water where your vehicle can easily become stuck.
- Never drive beyond the limits of visibility. The glare of oncoming lights are amplified by the rain on the windshield and this can cause temporary loss of visibility.
- Avoid driving through deep water because this can lead to serious problems on the electrical systems of modern cars.
- Stay off the road during heavy thunderstorms. Large flashes of lightning can temporarily blind and disorient drivers. Besides, the accompanying high winds and heavy rain can create extremely dangerous driving conditions.
- When you need to stop or slow down, avoid sudden brakes which can lock the wheels and create the risk of a skid. Instead, should apply a mild pressure on the brake pedal.
- Watch the contours not only of the road, but also the fences, trees, hedges, and buildings at the side of the road ahead. If they appear to be unnaturally low, slow down at once, because the road is probably flooded.
- Watch out for places where flood water accumulates, particularly below railway or highway bridges and low-lying roads adjacent to streams.

III. SUMMER DRIVING



- Regularly check your tires to see whether there is a visible sign of wear or damage on them.
- Be sure your tires are properly inflated. Check your tire pressure often with a gauge, especially before long journeys. Under inflation or overloading may have negative effects on both the tire and the performance of your vehicle.
- Never overload your vehicle. Your car and tires are designed to operate safely only up to certain weight limits. These limits are shown both in your owner's manual and on the certification plate on the edge of the driver's door.
- Make sure there is enough tread on the tire to operate safely and the tires are wearing evenly. All grooves should be visible and deep enough to at least touch the top of Lincoln's head on a penny inserted head first in the tread. Tires with insufficient tread are unsafe and needed to be replaced.
- If some spots on the tire seem to be wearing faster than others, see your service station or mechanic. You could have misaligned wheels, worn shock absorbers or other potential problems. Make sure your tires are aligned and balanced properly.
- Don't drive at high speeds for a long time, particularly in hot weather. Obey posted speed limits.

IV. FUEL EFFICIENT DRIVING



- One of the best ways to save gas is to simply reduce your speed. When speed is increased, fuel consumption increases consequently.
- Under-inflated tires are one of the most commonly ignored causes of high fuel consumption. Tires lose air with time (about 1 psi per month) and temperature (1 psi for every 9°F drop) and under-inflated tires have more rolling resistance, which means you need to consume more gas to keep your car moving. You may consider buying a reliable tire gauge and check your tires at least once a month. Be sure to check them when they are cold since driving the car warms up the tires along with the air inside them which increases pressure and gives a misleading high value. Use the inflation pressures shown in the owner's manual or on the data plate in the driver's door jamb.
- If the air filter is not clean it can restrict the flow of air into the engine which in turn negatively affects performance and fuel consumption.
- Jack-rabbit starts are an obvious fuel-waster. If you drive an automatic, accelerate moderately so the transmission can shift up into the higher gears. Users of manual transmission vehicles should shift early to keep the revs down, but don't lug the engine - downshift if you need to accelerate. Keep an eye well down the road for potential slowdowns.

N. TIRE TYPES

1. SUMMER TIRES

At temperatures above 7°C only the summer tires can guarantee sufficient grip on the road. With their special less grooved tread patterns, summer tires have more contact with the road. Also the rubber compound used on summer tires help them remain more flexible, allowing for better traction and grip.

Dimensional characteristics, speed capability and other design features make summer tires more suitable and capable for increased performance in wet and dry conditions.



2. WINTER TIRES

Below 7 °C temperatures, all season tires stiffen and lose grip on slippery surfaces so you should change for winter tires. The Three Peak Mountain Snow Flake (3PMSF) marking on winter tires indicate suitability for winter applications. You should also keep in mind that winter tires are not produced for year round usage.

In extreme cold temperatures the tread compound of summer and all-season tires become less capable for proper traction performance whereas the compounds of winter tires are specifically engineered to be more flexible to provide best grip on winter road conditions. Besides, compared to summer and all-season tires, winter tires have densely placed sipes for better traction on icy road conditions.



3. ALL SEASON TIRES

Your tire preferences depend on the location where you live and drive. For example if you live where you can see only a few snow flurries, you may consider using an all-season tire. After all, an all-season tire offers acceptable performance and traction in moderate climates when used on wet, dry or even snowy roads.

The pattern of an all season tire is designed to have higher tread depth than a summer tire and offer longer life compared to a winter tire.



4.HIGH PERFORMANCE TIRES

High-performance tires offer sporty handling, fast responsiveness and superior grip for people who really care about speed and performance. A high-performance tire is particularly designed to maximize the surface area that contacts the road. They are most usually used on sport and premium cars.



5. ALL-TERRAIN TIRES

All-terrain tires are designed for on and off-road usage. They offer higher versatility so that drivers can be confident while driving on side roads but still experience smooth rides on highways and city streets. They provide perfect traction in rough conditions.



6. TOURING TIRES

Touring tires are designed to offer a smoother ride than standard tires on the open road and provide better control and handling. If you want a good blend of dry and wet street performance along with responsive handling and driving comfort, touring tires will possibly be the best alternative.



7. HIGHWAY TERRAIN TIRES

Highway Terrain tires are designed to be used mostly on paved roads, usually in urban areas. These tires can be fitted on family SUV's that offer spacious interior and a big storage area. H/T Tires not only provide comfort and low rolling resistance with a higher percentage of rubber touching the asphalt, but also offer reliable performance on off-road weekend adventures with a rough-enough tread. The compromise of a quieter ride and a better wear behavior is a slight loss in off-road traction, when compared to All Terrain alternatives.





HEADQUARTERS – FACTORY

Petlas Tire Industry and Trade

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