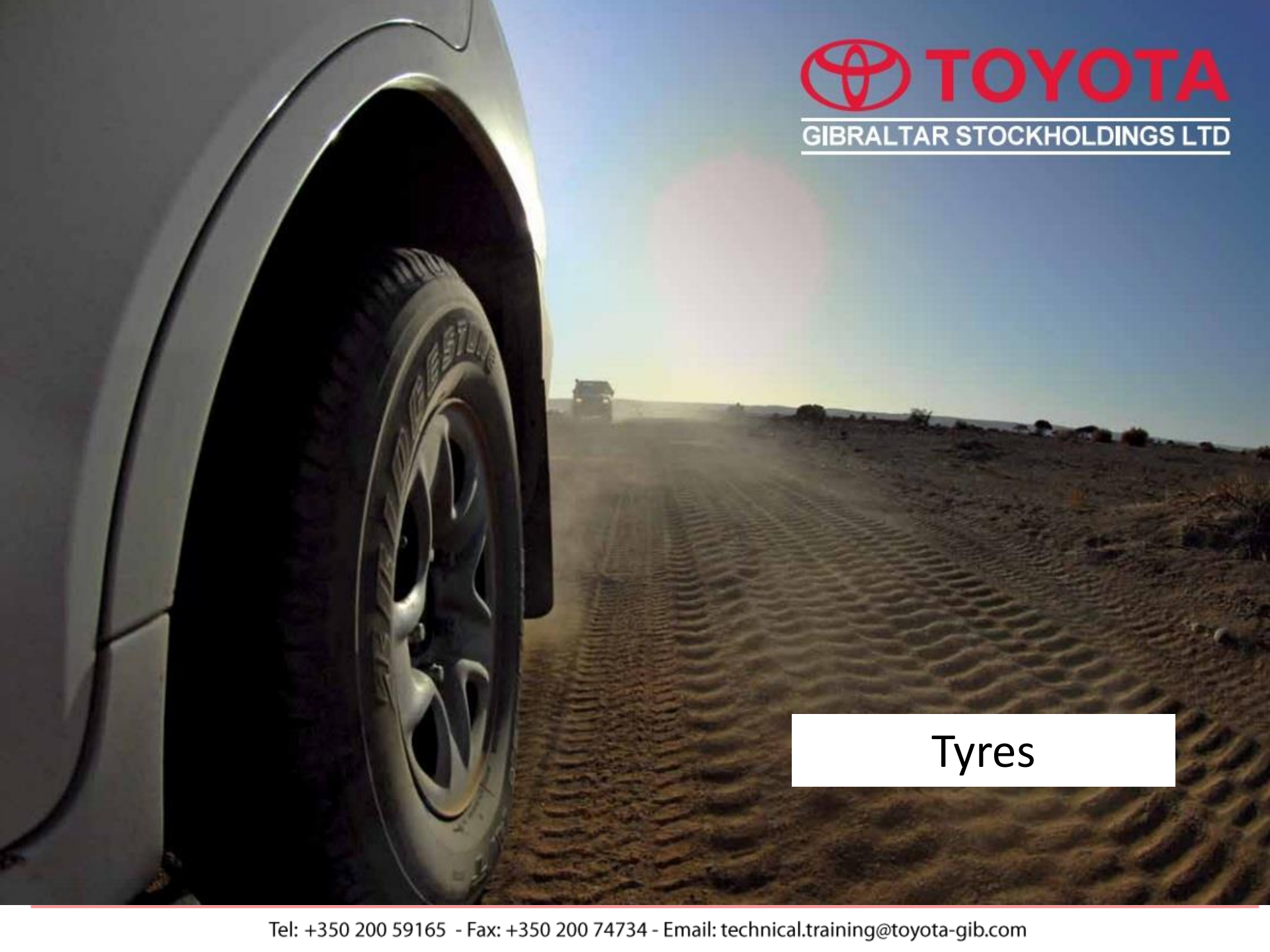




Tyres

Roles of a tire

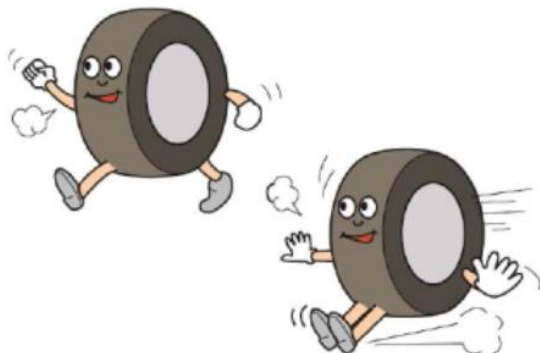
Supporting the vehicle weight



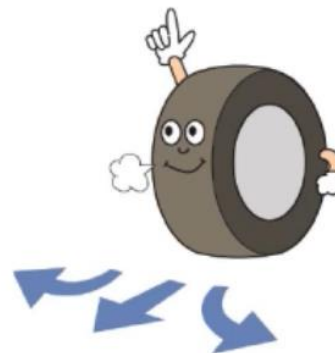
Softening impacts from the road surface



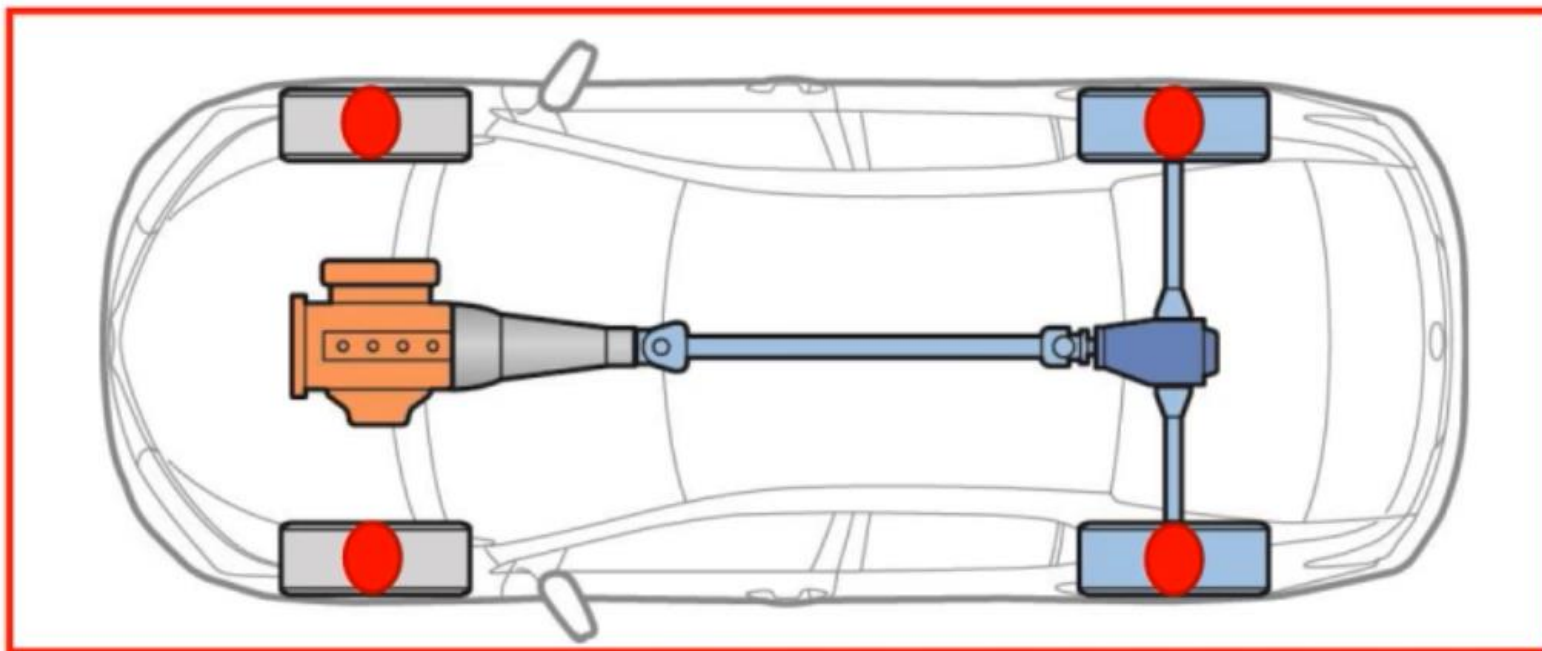
Transmitting drive force and braking force
to the road surface



Changing and maintaining the direction
of travel



Tire contact patch



Different Types of Tyres



Tire markings



195	/	65	R	15	91	S
(1)		(2)	(3)	(4)	(5)	(6)

- (1) Tire width (mm)
- (2) Tire profile (%)
- (3) Tire construction code
- (4) Rim diameter (inches)
- (5) Load index
- (6) Speed code



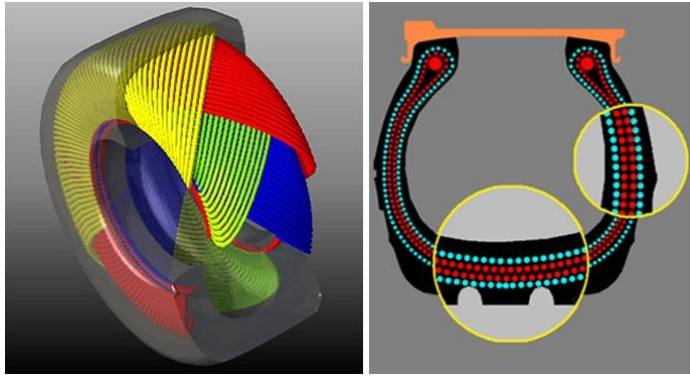
GIBRALTAR STOCKHOLDINGS LTD

TGS Technical Training Courses
Expertise and flexibility

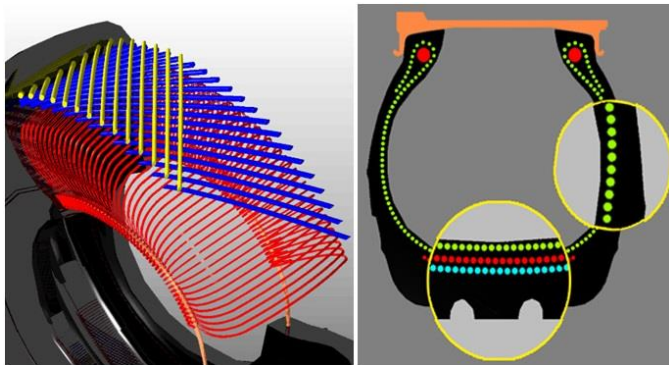


Construction des pneumatiques

The cords run diagonally across the tread pattern



Diagonal Tyre or Cross Ply Tyre

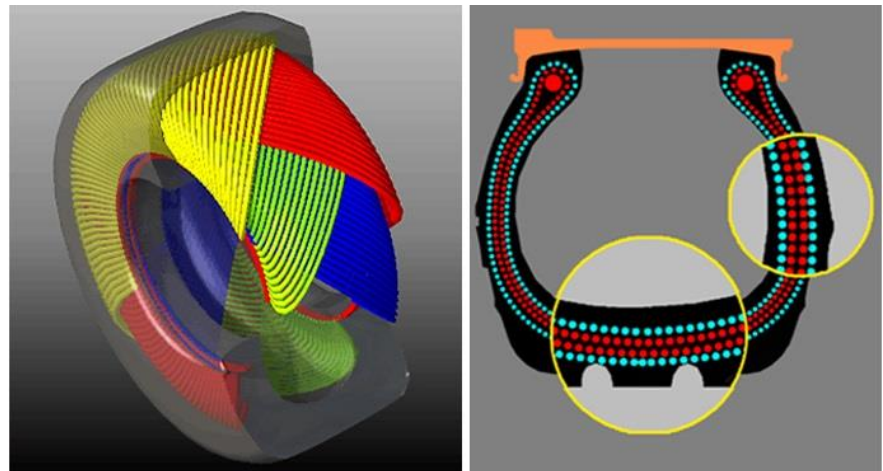
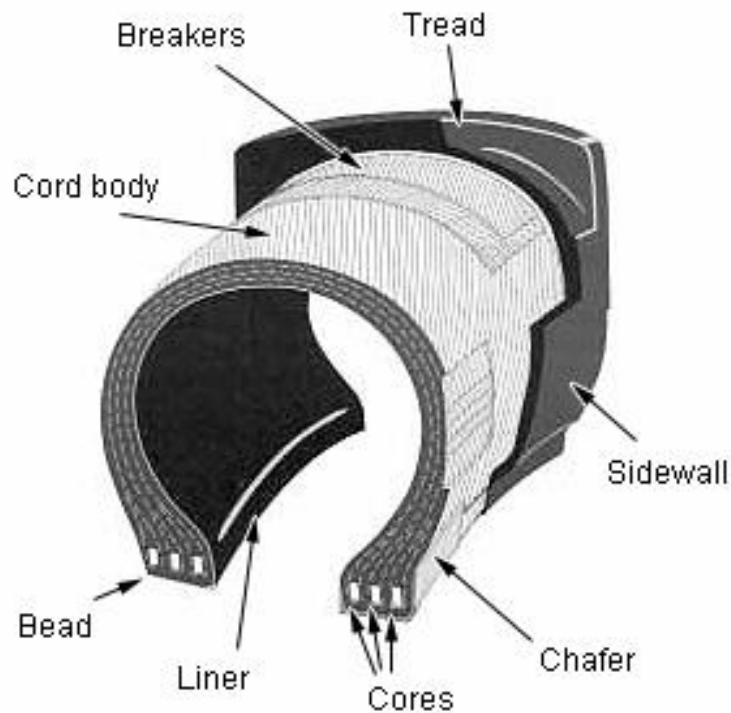


Radial Tyre

The cords run "radially" around the casing, across the tread and there is a belt of textile or steel cords running around the circumference of the tyre, between the radial cords and the tread.

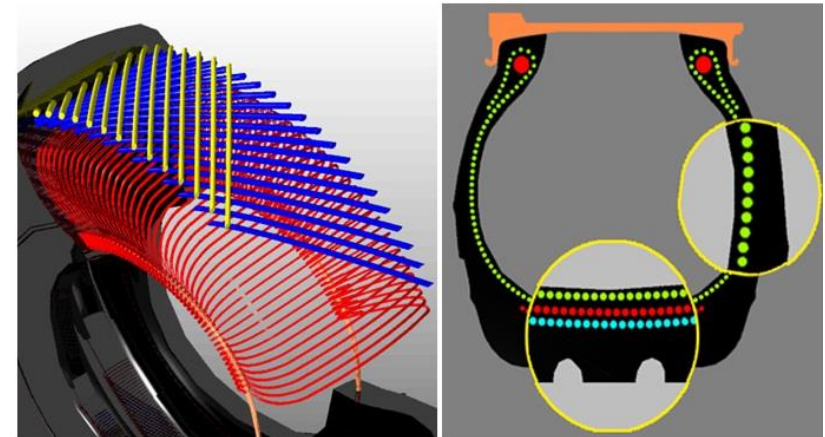
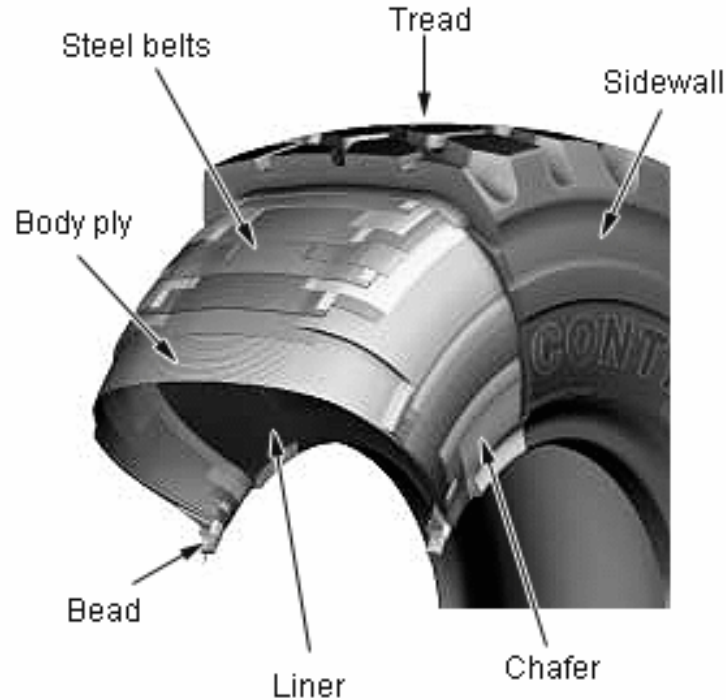
Tyre Construction

Bias / cross-ply Construction.



Tyre Construction

Radial Construction.





Never buy Cross – ply construction tyres

Tyre Construction Markings

195/50 R 15 88V	The letter 'R' in the tyre size indicates that this is a RADIAL construction tyre
195/50-15 88V	The dash symbol '-' in the tyre size indicates that this is a Crossply tyre
195/50 B 15 88V	The letter 'B' in the tyre size indicates that this is a Bias construction tyre, a combination of Radial and Crossply construction techniques

Tire markings



Load Index	Kilograms
80	450
81	462
82	475
83	487
84	500
85	515
86	530
87	545
88	560
89	580
90	600
91	615
92	630
93	650
94	670

Speed Symbol	Maximum Speed
Q	99 MPH/160 KPH
R	106 MPH/170 KPH
S	112 MPH/180 KPH
T	118 MPH/190 KPH
U	124 MPH/200 KPH
H	130 MPH/210 KPH
V	Above 130 MPH/210 KPH
(Without service description)	
V	149 MPH/240 KPH
(With service description)	
Z	Above 149 MPH/240 KPH
W**	168 MPH/270 KPH
Y**	186 MPH/300 KPH
Z	Above 186 MPH/300 KPH

****W- and Y-speed ratings are subcategories of the Z-speed rating.**

195 / 65 R 15 91 S
 (1) (2) (3) (4) (5) (6)

- (1) Tire width (mm)
- (2) Tire profile (%)
- (3) Tire construction code
- (4) Rim diameter (inches)
- (5) Load index
- (6) Speed code

Load Capacity Symbol

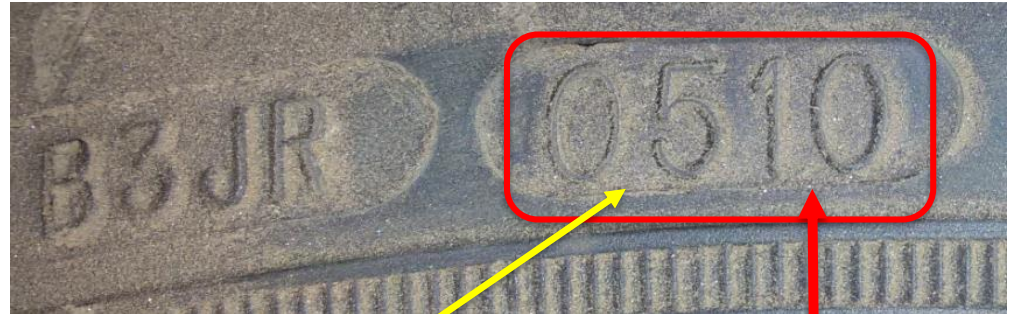
Load Index	Max Load (Kg)	Load Index	Max Load (Kg)	Load Index	Max Load (Kg)	Load Index	Max Load (Kg)	Load Index	Max Load (Kg)	Load Index	Max Load (Kg)
60	250	71	345	82	475	93	650	104	900	115	1215
61	257	72	355	83	487	94	670	105	925	116	1250
62	265	73	365	84	500	95	690	106	950	117	1285
63	272	74	375	85	515	96	710	107	975	118	1320
64	280	75	387	86	530	97	730	108	1000	119	1360
65	290	76	400	87	545	98	750	109	1030	120	1400
66	300	77	412	88	560	99	775	110	1060	121	1450
67	307	78	425	89	580	100	800	111	1090	122	1500
68	315	79	437	90	600	101	825	112	1120	123	1550
69	325	80	450	91	615	102	850	113	1150	124	1600
70	335	81	462	92	630	103	875	114	1180	125	1650

| Tire markings



$\frac{52}{(1)}$ $\frac{11}{(2)}$ (1) **Manufacture week**
(1) (2) (2) **Manufacture year**

52nd week of 2011 = December, 2011



05 = week 5

10 = year 2010

**Never buy a tire that is more than 5 years old
EVEN if THE TIRE IS NEW**



Tyre pressure units

- **kPa (Kilo Pascal)**
- **Pounds per square inch - psi**

100 kPa = 1 Bar

250 kPa = 2,5 Bar

1 Bar = 14,5 psi

Tyre Pressure Measurement Converter

BAR	PSI
1.30 bar	17 psi
1.35 bar	18 psi
1.40 bar	19 psi
1.45 bar	20 psi
1.50 bar	21 psi
1.55 bar	22 psi
1.60 bar	23 psi
1.70 bar	24 psi
1.75 bar	25 psi
1.80 bar	26 psi

BAR	PSI
1.90 bar	27 psi
1.95 bar	28 psi
2.00 bar	29 psi
2.10 bar	30 psi
2.15 bar	31 psi
2.20 bar	32 psi
2.25 bar	33 psi
2.30 bar	34 psi
2.40 bar	35 psi
2.50 bar	36 psi

BAR	PSI
2.60 bar	37 psi
2.65 bar	38 psi
2.70 bar	39 psi
2.75 bar	40 psi
2.80 bar	41 psi
2.90 bar	42 psi
3.00 bar	43 psi
3.05 bar	44 psi
3.10 bar	45 psi
3.20 bar	46 psi

BAR	PSI
3.25 bar	47 psi
3.30 bar	48 psi
3.40 bar	49 psi
3.50 bar	50 psi
3.55 bar	51 psi
3.60 bar	52 psi
3.70 bar	53 psi
3.75 bar	54 psi
3.80 bar	55 psi
3.90 bar	56 psi

Tyre Pressure



Tyre pressure table

Normal conditions**

Model	Tyre size	Unladen vehicle*		Fully laden vehicle	
		Front	Rear	Front	Rear
HZJ 76	7.50 R 16 8PR	2.4 bar, 35 psi	2.6 bar, 38 psi	2.5 bar, 36 psi	4.25 bar, 62 psi
HZJ 78	7.50 R 16 8PR	2.5 bar, 36 psi	3.0 bar, 44 psi	2.5 bar, 36 psi	4.75 bar, 69 psi
HZJ 79 SC/DC	7.50 R 16 8PR	2.5 bar, 36 psi	3.0 bar, 44 psi	2.5 bar, 36 psi	4.75 bar, 69 psi

* Unladen HZJ76 = with 2 occupants + 200 kg or less

Unladen HZJ78 = with 2 occupants + 400 kg or less

Unladen HZJ79 SC/DC = with 2 occupants + 500 kg or less

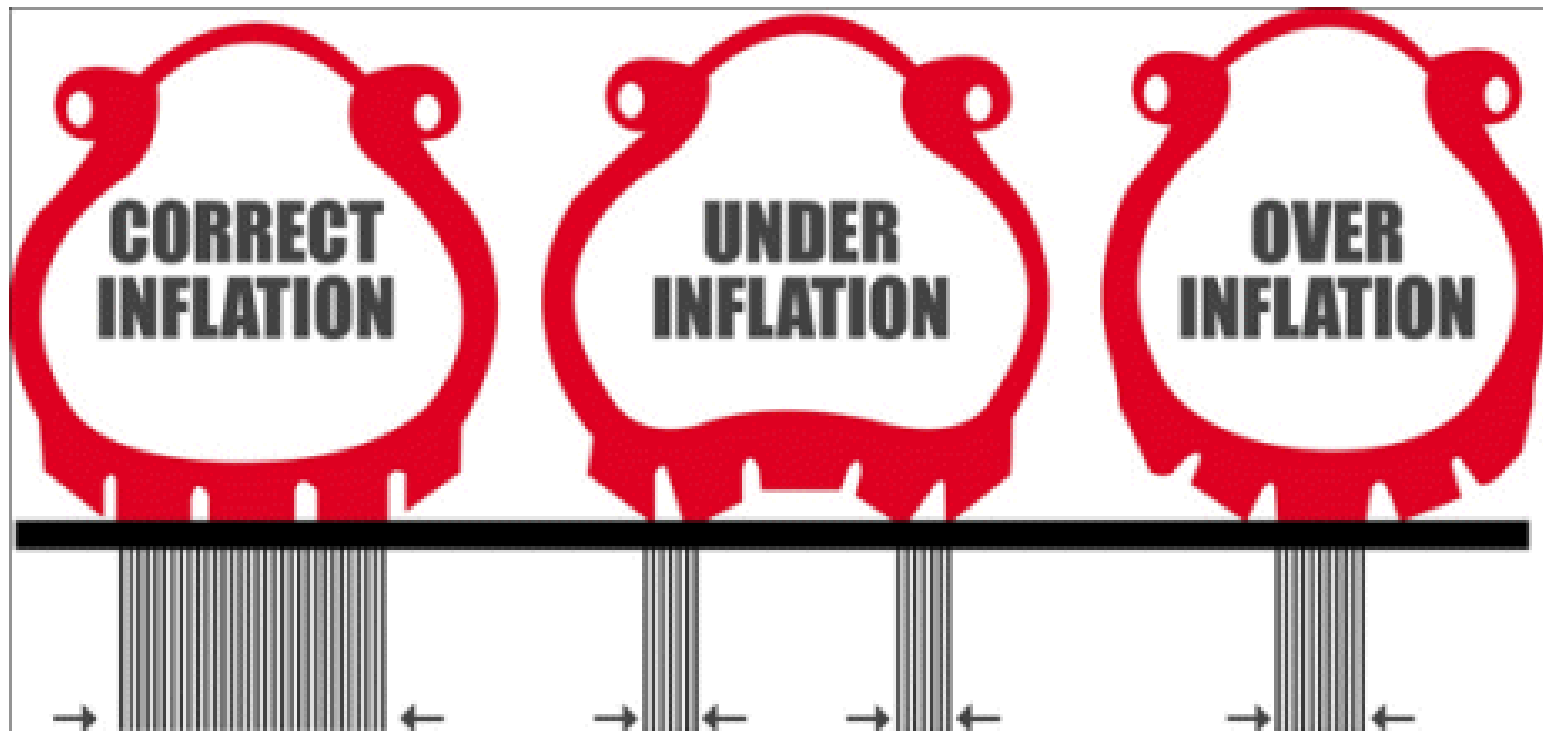
**Measure pressure when tyre is cold

Tyre pressure Summary

Surface Conditions	Pressure reduction	Max. Speed
Sealed surface/Tarmac road	100%	--
Gravel/Corrugations	↓ 10 – 15%	80 km/h
Rocks	↓ 15 – 20% (Take care: possible Sidewall damage!!)	< 20 km/h
Mud	↓ 25%	< 40 km/h
Sand	↓ 50 – 60%	< 40 km/h
Lowest (emergency) pressure	0.6 bar, 9 psi	< 10 km/h

Note: re-inflate after returning to normal conditions!!

Tyre Pressure

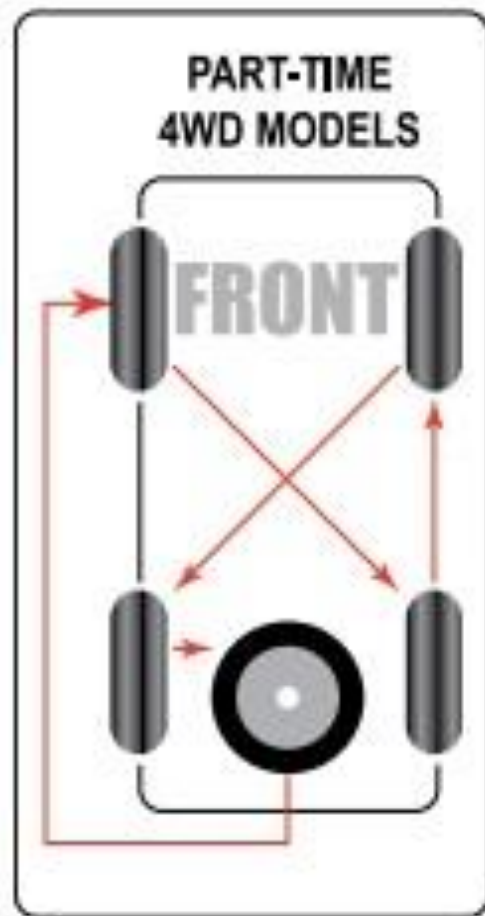


**Tread wear
on the sides**

**Tread wear in
the middle**

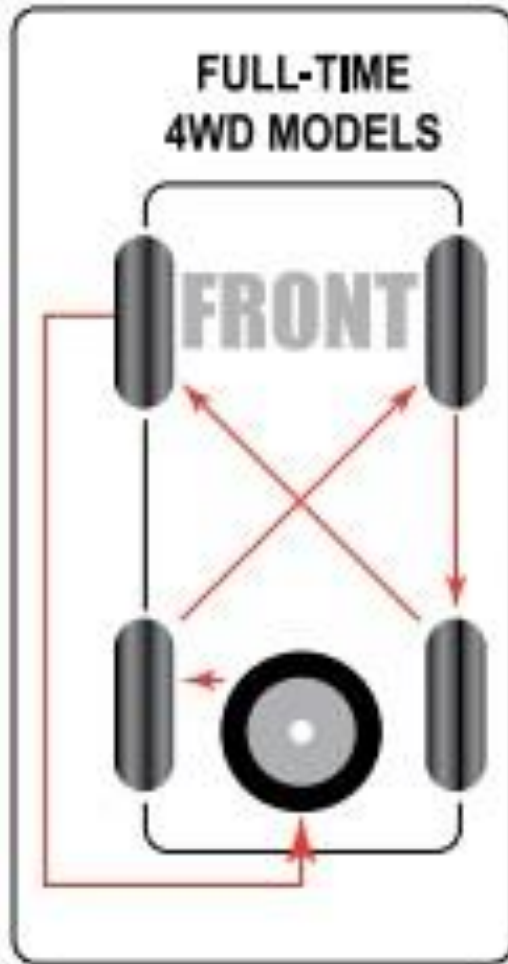


Tyre Rotation



Part-time 4WD models
Every 10000km (6000
miles)

Tyre Rotation



Full-time 4WD models
Every 5000km (3000 miles)

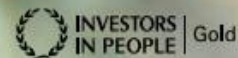




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