
MAXWind
JAPAN TECHNOLOGY

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TRUCK & BUS RADIAL TIRES

PRODUCT
MANUAL



MARCH FORWARD COURAGEOUSLY
WITH GREAT FORTITUDE



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WIND TECHNOLOGY

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TRUCK & BUS RADIAL TIRES PRODUCT MANUAL



Safe



Environmental-
friendly



Fuel-
saving



Wear
resistance

COMPANY PROFILE

Qingdao Ocsen Industrial Co., Ltd. Hereinafter referred to as: Qingdao Ocsen Tyre is a high-tech company set up in accordance with the modern enterprise system by integration advantages of resources of several well-known domestic enterprises.

Qingdao Ocsen Industrial mainly engaged in tires R & D, manufacturing and marketing, including three marketing segments of tube type tires for light truck and heavy duty truck, tubeless type tires for light truck and heavy duty truck, all-steel OTR tires. Its brands of TOPRUNNER and MAXWIND are well-known to the world.

Located at Jianyang Industrial Park of Sichuan Province, Ocsen Tyre Industrial covers an area of 6070 acre 1000 MU/666,667 m², It is 56 km away from Chengdu City, the capital of Sichuan Province. Chengdu-Chongqing express way, Cheng-An-Yu expressway, Chengdu-Chongqing High Speed Railway HSR, Cheng-Yu Railway and Tuo river go cross the intersections over this area, transportation to the world by Luzhou or Chongqing port of The Yangtze River is very convenient.

Qingdao Ocsen Tyre invested 2.28 billion RMB YUAN about 350 million dollars for building production line of TBR tires with annual production of 2.1 million sets or PCS. Up to now, the first phase of production line has fulfilled its goal perfectly. The company has introduced the globally advanced technology, production equipment and testing equipment, employed marketing, management and technical elites in China, and has established perfect quality control, marketing and customer service system. Achieved ISO/TS16949 quality management system certification, GB/T724001 environmental certification, GB/T28001 occupational health and safety certification; obtained the national compulsory 3C certification and U.S. DOT certification, the United States SMARTWAY certification, EU ECE certification, EU environmental and noise certification; owning product import and export right.

Qingdao Ocsen Tyre has always been adhering to the business philosophy of regarding customer as basis and product quality as our life and technology as our source as well as honesty as fundamental, inheriting corporate culture of "people-oriented, customer first, the pursuit of excellence, the long-term interests", taking product quality as the core, focusing on brand building, continuing to promote technological progress and innovation, in favor of our customers with high-tech, high-quality and high-value-added products and value-added services to win-win fortune for our copartner.



COMPANY HONOR

- 🕒 Sichuan Provincial Labor Award
- 🕒 National Experimental Testing Center
- 🕒 Enterprise Technology Center in Sichuan Province
- 🕒 "Mining use TBR tire with high strength and resistance to cutting" won the Sichuan Provincial Science and Technology Progress Award
- 🕒 Hi-Tech enterprises in Sichuan
- 🕒 "Research and development as well as application into tires for key technologies of high gelling formulation" won the Sichuan Provincial Science and Technology Progress Award



SYSTEM CERTIFICATIONS

🕒 Since its establishment ,Qingdao Ocsen Industrial Co.,Ltd. has obtained ISO/TS16949 Quality Management System Certification, GB/T24001 Environmental certification, GB/T28001 Occupational Health and Safety certification; Passed the China Compulsory Certification CCC and U.S. DOT certification, U.S. SMARTWAY certification, EU ECE certification, Gulf GCC certification, EU Environmental and Noise Certification; obtained the right to import and export product.



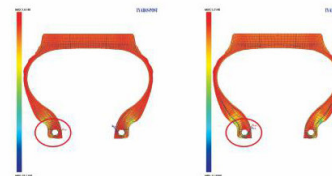
TECHNICAL CHARACTERISTICS

New type structure with double tread

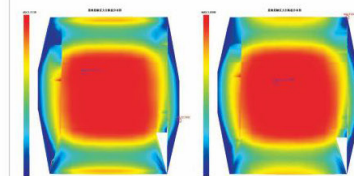


- 🕒 Tires performance improved with sub-tread made by excellent low heat compound and optimized construction process.

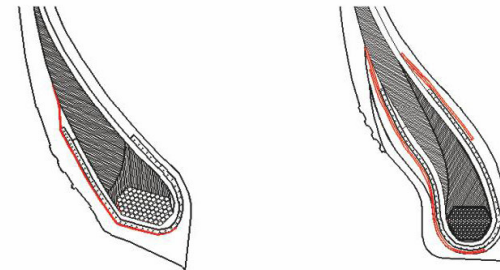
Optimal design



Tire tread ground stress analysis



Design of tire bead reinforced



Design of tubeless type tire bead reinforced Design of tube type tire bead reinforced

Tire loading capability improved greatly with strengthened tire bead using a multilayer and high strength fiber fabric in the toes of tire.

Above pictures are only for reference



PROCESS EQUIPMENTS

As new production line of TBR tires, its overall level of the project has reached the international advanced level of technology with a high starting point for equipment selection and imports of all key equipments as well as configuration of high-technology equipment. Ocsen Technology can reduce raw material and energy consumption effectively and improve the comprehensive utilization of resources to achieve cleaner and energy saving production with safety using advanced energy-saving technologies and taking effective security control measures, fire control measures and occupational hazard prevention measures. Product performance guaranteed to enhance the core competitiveness of marketing with a design and establishment of a perfect internal technology development and process management system.



Production Process

Production line equipped by low temperature mixing mill processing, double machine inner-liner calendar processing, cold and hot dual multiplex extrusion production processing, triplex multiplex extruding production processing, one stage tire building machine with two drums, one stage tire building machine with three drums, nitrogen hydraulic production processing. All tires must be passed test by non-destructive X-ray machine and checked partially by dynamic balance performance test, uniformity performance test and non circularity detection.

Quality Management

With regard to quality of management, Kalevei Technology adheres to the quality of legislation, activate implementation of the ISO/TS16949 quality management system, optimizes the quality management process, strengthen the process control, establishes "Pyramid quality" management model, the implementation of cultural TQM total quality management, guide participation of all employees to ensure a high and stable quality products.

Regarding to production management, company implements and improves the "6S" management with input and output management for material object quantity, by implementation of lean production, forming a more scientific plan and organizational system of production, making internal cost control efficiently.



Reasonable long haul

MAX90



Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
 ● Wheel position allowed
 ● Wheel position not recommended

- Broad tread and deep groove pattern, transversal groove, and shoulder transversal pattern to provide good driving performance and abrasion resistance;
- Optimized ratio of patterns block and optimized pattern block angle improve tires stability and abrasion resistance as well as driving performance;



Long haul series

MAX88



Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
 ● Wheel position allowed
 ● Wheel position not recommended

- Special tire tread formula, provide better wear resistance performance, increase tire mileage.
- Broader tire shoulder design, decrease tires abrasion.
- Broader tires tread design, increase operation stability and safety.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
295/75R22.5	16	146/143	M	9.0	298	1014	20

MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
295/75R22.5	16	146/143	M	9.0	298	1014	12

Reasonable long haul

WM848



Load performance ★★☆☆☆ Wear performance ★★★★★
Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
 ● Wheel position allowed
 ● Wheel position not recommended

- Four consecutive grooves provide outstanding drainage and grip performance; Design of reasonable ratio of grooves and block provides outstanding abrasion resistance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
11R24.5	18	152/149	L	8.25	279	1104	15
295/80R22.5	18	152/149	M	9.00	298	1044	15
315/80R22.5	20	156/153	L	9.00	312	1082	15

Long haul series

MAX98



Load performance ★★★★★ Wear performance ★★★★★
Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
 ● Wheel position allowed
 ● Wheel position not recommended

- Better traction and grip performance, Design of special pattern improves traction and grip performance; extra tread formula with design of deeper pattern enhances wear-resisting performance, extends service life.
- Optimized design of shoulder offers better heat dispersion
- Optimized design of the grooves bottom prevents the bottom from damaging by stone.
- Special design of sipes enhances heat dispersion performance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
11R22.5	18	149/146	L	8.25	279	1054	20.5
11R24.5	18	152/149	L	8.25	279	1104	21

Long haul series

WM888



Load performance ★★★★★ Wear performance ★★★★★
Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
● Wheel position allowed
● Wheel position not recommended



- Deeper pattern with formulation of abrasion resistance and low heating performance for longer miles;
- Open shoulder and block type pattern provides strong traction and gripping stress;
- Stones emitter stones at the bottom of grooves improves anti-puncture performance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
295/80R22.5	18	152/149	M	9.00	298	1044	21
315/80R22.5	20	156/153	L	9.00	312	1082	21

Long haul series

WM887



Load performance ★★★★★ Wear performance ★★★★★
Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
● Wheel position allowed
● Wheel position not recommended



- Big block specially designed for snow road provides good control performance and abrasion resistance;
- Proper steel disc design provides good gripping performance and wet and slip resistance when driving on snow road, improve tire's ice-breaking performance and driving safety;
- Ultra-wide of tread provides better driving performance on the road.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
295/80R22.5	18	152/149	M	9.00	298	1044	21

Reasonable long haul

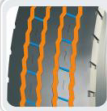
WM898



Load performance ★★☆☆☆ Wear performance ★★★★★
Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
 ● Wheel position allowed
 ● Wheel position not recommended



■ Four consecutive grooves provide outstanding drainage and grip performance; Design of reasonable ratio of grooves and block provides outstanding abrasion resistance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
11R22.5	18	149/146	L	8.25	279	1054	15

Long haul series

WM858



Load performance ★★★★★ Wear performance ★★★★★
Speed performance ★★★★★ Transport distance ★★★★★



● Wheel position recommended
 ● Wheel position allowed
 ● Wheel position not recommended



■ Better traction and grip performance, Design of special pattern improves traction and grip performance; extra tread formula with design of deeper pattern enhances wear-resisting performance, extends service life.
 ■ Optimized design of shoulder offers better heat dispersion
 ■ Optimized design of the grooves bottom prevents the bottom from damaging by stone.
 ■ Special design of sipes enhances heat dispersion performance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
11R22.5	18	149/146	L	8.25	279	1054	20.5
11R24.5	18	152/149	L	8.25	279	1104	21

Mining & Building

WM769PLUS



Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★☆☆ Transport distance ★★★★★



○ Wheel position recommended
 ○ Wheel position allowed
 ○ Wheel position not recommended



- Big block patterns provides better driving performance and gripping stress on bad road;
- Interlaced reinforcing rib design at the pattern block bottom provides better tear resistance and anti-puncturing performance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
12.00R20	20	156/153	E	8.5	315	1136	22.5

Mining & Building

WM126PLUS



Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★☆☆ Transport distance ★★★★★



○ Wheel position recommended
 ○ Wheel position allowed
 ○ Wheel position not recommended



- Big block with deep patterns, provides strong gripping stress on bad road;
- Interlaced reinforcing rib design at the pattern block bottom, prevents groove bottom from being punctured, provides better tear resistance and anti-puncturing performance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
12.00R20	20	156/153	F	8.5	315	1136	24.5

Reasonable Short Haul

WM116PLUS



Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★★★ Transport distance ★★★★★☆



○ Wheel position recommended
 ○ Wheel position allowed
 ○ Wheel position not recommended



- Deeper pattern with formulation of abrasion resistance and low heating performance for longer miles;
- Open shoulder and block type pattern provides strong traction and gripping stress;
- Stones emitter stones at the bottom of grooves improves anti-puncture performance.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
315/80R22.5	22	167/164	L	9.00	312	1076	19.5

Mining & Building

WM119PLUS



Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★★★ Transport distance ★★★★★☆



○ Wheel position recommended
 ○ Wheel position allowed
 ○ Wheel position not recommended



- Big block with deep patterns, provides strong gripping stress on bad road;
- Interlaced reinforcing rib design at the pattern block bottom, prevents groove bottom from being punctured, provides better tear resistance and anti-puncturing performance.



MAIN SIZES AND PARAMETERS




Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
225/80R17.5	16	129/127	F	6.75	226	805	15
315/80R22.5	22	167/161	D	9.00	312	1076	22.5

Long Haul Series

WM112PLUS   

Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★★★ Transport distance ★★★★★



 Wheel position recommended  Wheel position allowed  Wheel position not recommended



- Design of oblique pattern block and zigzag grooves provide better outstanding steering performance and stability as well as safe and good handing performance on dry and wet road;
- Small sipes help to heat dissipation and the applicability of different wheel location.



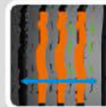
Reasonable Long Haul

WM115PLUS   

Load performance ★★★★★ Wear performance ★★★★★
 Speed performance ★★★★★ Transport distance ★★★★★



 Wheel position recommended  Wheel position allowed  Wheel position not recommended



- Design of four consistent grooves and slant-edge pattern provide outstanding drainage and grip performance;
- Widened tread to improve tire's abrasion resistance and longer tire mileage;
- Design of unique steel disc helps to tire's heating dissipation and suitability for different wheels positions.



MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
7.00R16LT	14	118/114	M	5.50F	200	775	10
225/80R17.5	16	129/127	M	6.75	226	805	11.0

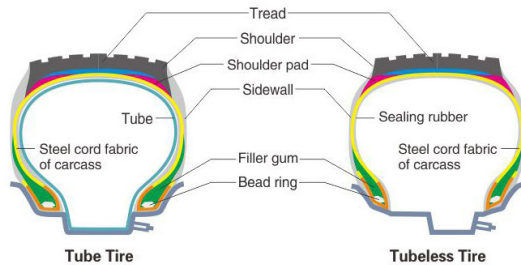
MAIN SIZES AND PARAMETERS

Sizes	Ply	Load index	Speed level	Standard rim	Section width (mm)	Outer diameter (mm)	Design of tread depth (mm)
7.50R16LT	16	125/121	L	6.00G	215	805	12

IV. Better fuel-efficient

1. The total weight of the tubeless tire is reduced, and it will be surely more fuel-efficient under same cargo capacity.
2. Tire temperature is lower, the deformation is smaller, so the rolling resistance

3. Lower section provides slower energy loss, it is more fuel-efficient.
4. The empirical data of the industry shows that the all-steel tubeless is 1%–3% more fuel efficient than all-steel tube tire.



COMMON CONVERSION OF TUBLESS TIRE IN THE MARKET

Tube Tire	Tubeless Tire (British System)	Tubeless Tire (Metric System)
9.00R20	10R22.5	275/80R22.5
10.00R20	11R22.5	295/80R22.5/275/80R22.5
11.00R20	12R22.5	315/80R22.5/295/80R22.5
12.00R20	13R22.5	315/80R22.5



CORRESPONDING TABLE FOR TBR SIZE OF TUBELESS & TUBE TYPE

Tire sizes	O.D.	Common series	80 Sizes	75 Sizes	70 Sizes	65 Sizes/Single
6.50R16	750			205/75R17.5		
7.00R16	775			225/75R17.5	225/70R17.5	
7.50R16	805	8R17.5		235/75R17.5	245/70R17.5	
8.25R16	855	9R17.5			245/70R17.5	
9.00R16		10R17.5			265/70R19.5	
7.00R20		8R19.5				
7.50R20	935	8R22.5			255/70R22.5	
8.25R20	974	9R22.5			275/70R22.5	
9.00R20	1019	10R22.5		285/75R24.5		
10.00R20	1054	11R22.5	275/80R22.5	295/75R22.5	315/70R22.5	385/65R22.5
		11R24.5				
11.00R20	1085	12R22.5	295/80R22.5	315/75R22.5		425/65R22.5
12.00R20	1125	13R22.5	315/80R22.5			445/65R22.5

CORRESPONDING TABLE FOR TBR PARAMETER AS EXCHANGE OF TUBELESS AND TUBE TYPE TIRES

Tire sizes	9.00R20-16	→	10R22.5-14	Tire sizes	9.00R20-16	→	275/80R22.5-16
Dual load capacity	2650kg		2430kg	Dual load capacity	2650kg		2800kg
O.D.	1019mm		1019mm	O.D.	1055mm		1012mm
S.W.	259mm		254mm	S.W.	259mm		276mm
Tire sizes	10.00R20-16	→	11R22.5-16	Tire sizes	10.00R20-16	→	295/80R22.5-16
Dual load capacity	2725kg		2725kg	Dual load capacity	2725kg		3075kg
O.D.	1054mm		1054mm	O.D.	1054mm		1044mm
S.W.	278mm		279mm	S.W.	278mm		298mm
Tire sizes	11.00R20-18	→	12R22.5-18	Tire sizes	11.00R20-18	→	315/80R22.5-18
Dual load capacity	3250kg		3250kg	Dual load capacity	3250kg		3450kg
O.D.	1085mm		1085mm	O.D.	1085mm		1076mm
S.W.	293mm		300mm	S.W.	293mm		312mm
Tire sizes	12.00R20-18	→	13R22.5-18	Tire sizes	12.00R20-18	→	315/80R22.5-18
Dual load capacity	3450kg		3450kg	Dual load capacity	3450kg		3450kg
O.D.	1125mm		1124mm	O.D.	1125mm		1076mm
S.W.	315mm		320mm	S.W.	315mm		312mm

MAINTENANCE OF TUBELESS TIRE

Tubeless tire does not have the tube inside, where a rubber layer with good airtightness is cured into the internal chamber of the tire, which will work as the function of tube. Tubeless tire is the trend of the development of tire, correct maintenance will improve the service life of tire.

1. Change the tire position at regular intervals. Different fatigues and abrasions will be on the tires in different positions, so the position must be changed. For truck tires, normally the position should be changed when running about 12,000 km.

2. Keep the chassis at good technical condition. The conditions such as the misalignment of the front wheel and the deformation of the rims, etc. will quicken the abrasion of the tire.

3. Pneumatic pressure must be inspected every month or for each long-distance travel, including the pressure of the spare tire. Tire pressure must be checked in the cold condition of the tire, namely it should be inspected after parking

at least for 3 hours. If necessary, Tire pressure should be inflated to the specified pressure on the nameplate of the vehicle. Because temperature will increase during driving, it is normal that tire pressure is higher than the pressure in cold condition. If you decrease the pressure in hot condition, the pressure will be insufficient when tire is cold. Additionally, the pressure must be checked by high-quality pressure gauge, please do not always believe your eyes.

4. Other Precautions
- 1) Please check tire pressure in common temperature.
 - 2) Please do not pull out the punctured object immediately.
 - 3) It is forbidden to splash water on the hot tire.
 - 4) It is forbidden to deflate the hot tire.
 - 5) When inflating tubeless tire, we suggest to use air pump with air filter, and nitrogen is the best selection.



**PROPER USE
& MAINTENANCE**

1. Air pressure

- Tire should be inflated as per the pressure stipulated in "Pressure/Load List" in the national standard. After inflation, tire should be checked completely and it should not have any leakage of air. If leaking, it should be handled in time.
- The internal pressure of tire must be correct during the using of the tire. When travelling or working in long time, please check the pressure regularly. When parking in long time, the front axle and rear axle must be putted up.
- If pressure is high, tire tread may be easily worn and it may burst. If pressure is low, tire is easy to deform and it may be crushed.
- When mounting the twin tires, the air pressure of the tires must be same, It must not be a higher one and a lower one.

2. Load

- Tire load must comply with the load specified in the current national standard, it is forbidden to drive with overload.
- Distribution of truck load must be uniform. Unbalance load must be avoided.
- Serious overload will cause unusual abrasion of tire tread, shoulder empty, delamination and bead burst, etc.
- Tire with higher ply and heavy load is inadvisable to run at high speed.
- The load of the reinforced tire can be reasonably increased as per the design standard.

3. Speed

- Different kinds of tires have different limitations of speed, overspeeding will result in early damage of the tire. Do not overspeeding in bad road condition. Hard brake and sudden turn should be reduced to avoid the impact of the obstacle, especially the sharp object.
- Tire temperature increases fast at high speed. If overheated, related measure should be taken in time (For Example: Parking the vehicle to decrease the temperature naturally) to avoid the burst of the tire.

The balance of the assembly with high-speed tire and rim must be inspected, where the counter weight and calibration should be implemented.

4. Storage

- Tire should be stored in warehouse to avoid the sunning and raining.
- Tire must be stored away from heat source, ozone, and power generator.
- Tire should not be stored together with oil, the flammable and corrosive chemical materials.
- Tire should be stored vertically. It is forbidden to put tire in flat condition, or stack and hang from the center.
- Tire should leave the warehouse in the sequence of FIFO (First In First Out) as per the production and warehousing time of the tire.

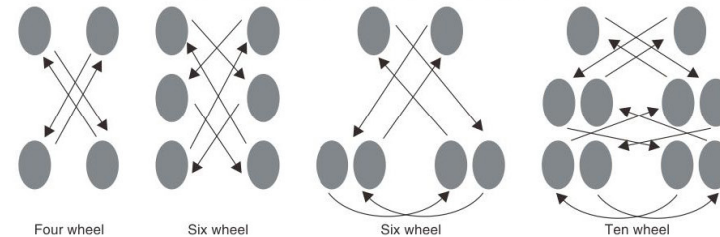
5. Shipping

- When handing tire by forklift, please lift the tire from the sidewall. Do not lift the tire through the center of the bead.
- Do not lift tire directly by rope, hook or fork. Please use side fiber belt to handle tire.
- Tire sets should be packed by rope or packing belt to avoid dropping off and damage.
- When loading goods onto truck, the load should be well distributed.

6. Mounting

- Tire must be mounted onto the specified type of vehicle and rim. Special tool must be used when mounting/removing tire. It is forbidden to pry or hit tire hardly.
- Please mount tires with same size, same structure, same pattern and same ply in the same vehicle axle.
- Bias tire must not be mounted together with the radial tire.
- When mounting tire with directional pattern, the rotation direction of the tire must be the same as the driving direction of the vehicle.
- Tire with anti-skid chain must be mounted symmetrically. It must be removed immediately when not using.

Diagram about Correct Changing of Tire Position



7. Pattern

- Longitudinal tread pattern provides less rolling resistance and fast speed, it is suitable to the hard road surface such as the concrete and asphalt road.
- Crosswise pattern provides excellent grasp and climb performance, it is suitable to the common road in China.
- Combined rib-lug pattern features the performance of longitudinal and crosswise pattern, it is suitable to the asphalt, concrete, snow and muddy road conditions.
- Off-road pattern is suitable to the road surface of off-road or bad road condition.
- Please do not use the tire if tread pattern reaches abrasion mark.