WHEEL AND TIRE

4170-01/4170-09/4170-12/

GENERAL INFORMATION

OVERVIEW AND OPERATING PROCESS

CONFIGURATION AND FUNCTIONS

REMOVAL AND INSTALLATION

WHEEL AND TIRE

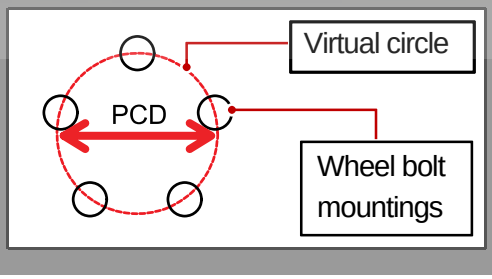
4170-00

GENERAL INFORMATION

1. SPECIFICATIONS

Item			Specifications
Tire	16 inch		205 / 60 R16
	18 inch		215 / 45 R18
Tire inflation pressure	16 inch		35 psi
	18 inch		32 psi
Wheel	16 inch		6.0J X 16 (PCD : Φ112)
	18 inch		6.5J X 18 (PCD : Φ112)
Tightening torque for wheel bolt			107 to 127 Nm
Repair kit	Compressor operating current		15 A
	Sealant capacity		300 ml
Spare tire	Full Size	16 inch	205/60R16(35psi)
		18 inch	215/45R18(32psi)
	Temporary tire		T125/80D16(60psi)

NOTE



Pitch Center Diameter (PCD): The diameter of a virtual circle on which the same elements are arranged at even angles.

2. WHEEL DESIGN

18 inch (215 / 45 R18)		
		
Aluminum silver	Diamond cut	Diamond cut all black

16 inch (205 / 60 R16)	
	
Steel wheel + Wheel cover	Aluminum silver

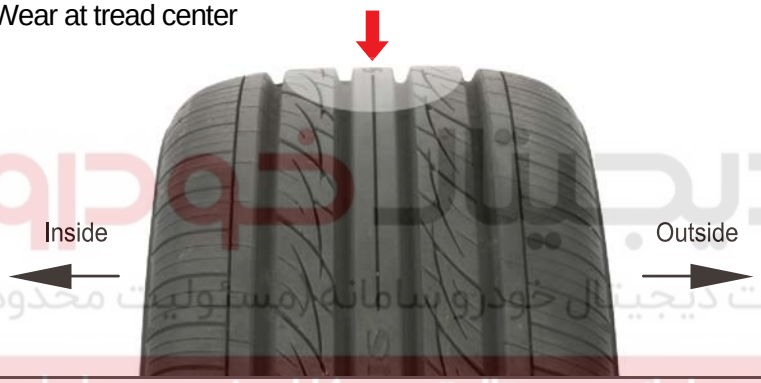
Modification basis	
Application basis	
Affected VIN	

3. TROUBLESHOOTING

Symptom	Cause	Action
Uneven tire wear	Insufficient tire pressure	Adjust
	Poor wheel balance	Adjust
	Improper tire rotation	Rotate tires on the maintenance schedule
	Poor toe-in	Adjust
	Poor adjustment of the wheel bearing pre-load	Adjust
	Poor braking performance	Replace
Driving noise, vibration	Low tire pressure	Adjust
	Poor balance of wheels, tires	Adjust
	Severe vibrations of wheels and tires	Replace
	Uneven tire wear	Check and adjust
Early wear	Excessive tire inflation pressure	Adjust
	High speed driving with low tire pressure	Adjust
	Excessive load	Adjust load

4. CHECK AND INSPECTION

1) Appearance Inspection

Symptom	Cause
Wear at tread edge 	Insufficient tire inflation pressure or over load
Wear at tread center 	Excessive tire inflation pressure
Excessive wear in the outer side of the tread than in the inner side 	Excessive camber or deflection of knuckle arm
Excessive wear in the inner side of the tread than in the outer side 	Insufficient camber

Modification basis	
Application basis	
Affected VIN	

Symptom	Cause
Blade shape wear from outer side toward inner side of the tread 	Excessive toe-in Deflection of knuckle arm Difference in tie rod length between left and right sides
Blade shape wear from inner side toward outer side of the tread 	Excessive toe-in Deflection of knuckle arm Difference in tie rod length between left and right sides
Corrugation wear of tread 	Poor wheel balance, loose wheel bearing, poor wheel alignment
Flat wear in one part or two to three parts of the tread 	Poor wheel alignment, poor wheel balance, loose wheel bearing, loose ball joint, loose tie rod end, deflection of axle

2) General Inspection

1. Tread check
   Inspect the tread condition on the tire surface and various damages resulting from the foreign material, crack, stone or nail etc. If there is any damage in the tire, repair or replace it.

2. Wear limit check
   - Measure the depth of the tire tread. If the depth of the tread is below the specified value, replace the tire.

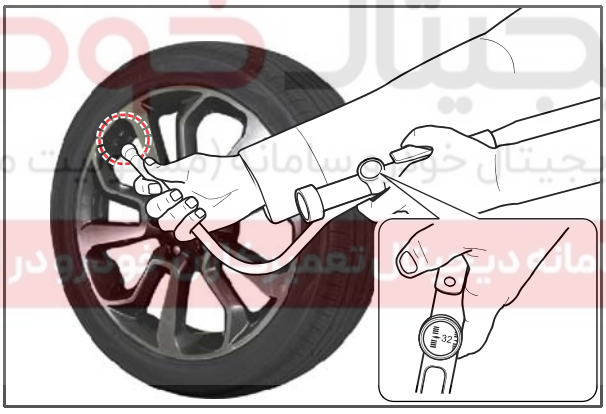
Tire wear limit	1.6 mm

Modification basis	
Application basis	
Affected VIN	

- You can see the mark "▲" in the groove, this is the indicator of the tread wear limit. The limit of the tread wear for all season
- tires are 1.6 mm, which is the same as the general tires, but the wear limit mark is presented as '↓'.

CAUTION

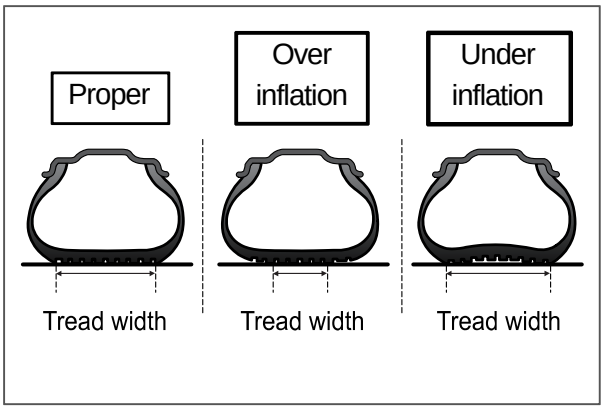
- Higher pressure than the recommended level can cause poor ride comfort and uneven tire wear.
- Excessive tire wear over the limit of the tread wear (1.6 mm) can cause slip with longer braking distance, tire explosion by foreign materials, hydroplaning, and tough brake and steering wheel handling.



3. Measuring and checking tire inflation pressure

- Specified tire inflation pressure

FWD/RWD specified tire pressure	16 inch	35 psi
	18 inch	32 psi



- Check the tire inflation pressure by inspecting the tread width contacting with the road surface.

CAUTION

When the vehicle is driven with low tire pressure, the movement range of each tire increases. This movement generates heat which weakens the rubber, resulting in tire damage. Higher pressure than the recommended level can cause poor ride comfort and uneven tire wear.

4. Wheel run-out
   Too much run-out of wheel or tire may cause uneven wear of the tire. Measure the run-out of the wheel and tire with a dial gauge.

   - Measure the radial run-out at the center of the tread on the outer surface of the tire and wheel.

Radial run-out specification	2.66 mm

   - Measure the lateral run-out on the outer side of the wheel and tire.

Lateral run-out specification	2.03 mm

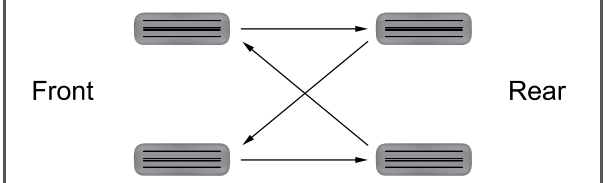
CAUTION
If the measured run-out is above the specified value, replace the wheel or tire with a new one equivalent to the original one.

5. Wheel balance check
   - Check the wheel balance when the wheels are unbalanced or any of the tires have been replaced.
   - If the total weight of the balance weight is 150 g, fit the tire on the wheel again and adjust the wheel balance.
   - Ensure that the balance weight installed does not protrude 3 mm from the wheel surface.
   - Use the specified aluminum wheel balance weights for the aluminum wheels.
     The balance weight can be added in
   - increments of 5 g. There are two types of balance weight: Tape type, Attaching type.

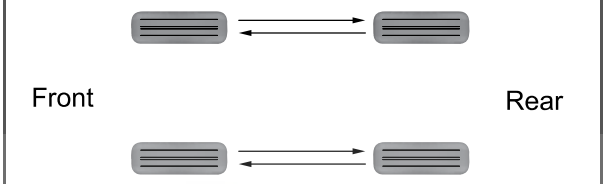
NOTE
Make sure to read the manual provided by the manufacturer thoroughly before using a wheel balance tester.

Modification basis	
Application basis	
Affected VIN	

Vehicle equipped with general tires



Tire rotation



6. Tire Rotation

Front and rear tires perform different jobs and can wear differently depending on the road conditions and driving conditions. To avoid uneven wear of tires and to prolong service life of the tire, inspect and rotate the tires every 5,000 km (3,100 miles).

CAUTION

Do not mix different sizes and types of tires on the same vehicle when rotating tires.
Otherwise, the rack stroke of the steering gear (max. distance which rack gear can move from side to side) may change depending on the tire specifications.

OVERVIEW AND OPERATING PROCESS

1. OVERVIEW

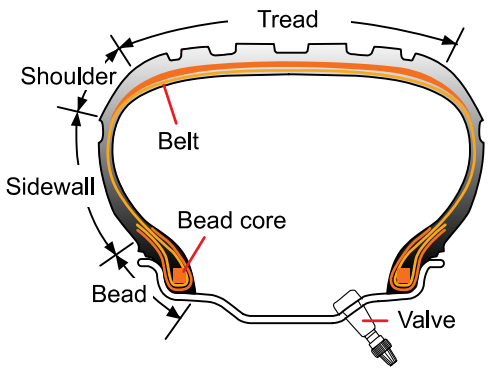
The tire supports the vehicle load, and reduces the impact from various road surfaces. It also transmits the driving power, braking power, and physical effort to the road surface. A radial tire has the design in which the cord plies are arranged at 90 degrees to the direction of travel, or radially (from the center of the tire). To ensure stability, the entire tire is surrounded by additional belts oriented closer to the direction of travel, but usually at some spiral angle. Therefore the radial tire has high stiffness on the tread, and is suitable for driving at high speeds. There is a wear limit mark on the tire, which protrudes as a strip shape located approximately 1.6 mm away from the groove bottom. This wear limit mark is not seen from the outside so there is additional "▲" mark on the shoulder to let the driver find the wear mark easily. To measure the tire groove depth, measure at any point other than the point on which the wear limit mark is located. The tire may be worn unevenly according to the driver's driving habit, improper servicing, low tire inflation pressure, tire rotation, etc. This vehicle us equipped with the TPMS which is used to reduce the accident rate, enhance driving stability and avoid an unnecessary fuel consumption and tire wear by monitoring the tire pressure and temperature to inform the driver of tire pressure information and its status through the instrument cluster.

NOTE

For the detailed information on TPMS, refer to "TPMS" section in "CHASSIS" chapter.

Modification basis	
Application basis	
Affected VIN	

▶ Tire structure



Tread
Tread refers to the thick layer of the rubber on its circumference that makes contact with the road surface. The rubber used in the tire has good anti-wear properties to expand the service life of the tire. Also, it is resistant to abrasion, cut, and impact to protect the inner layers of the tire.

Shoulder
The shoulder is the part of the tire at the edge of the tread as it makes transition to the sidewall. This is the thickest part of the tire. Because of this property, the heat generated inside the tire can be dissipated easily.

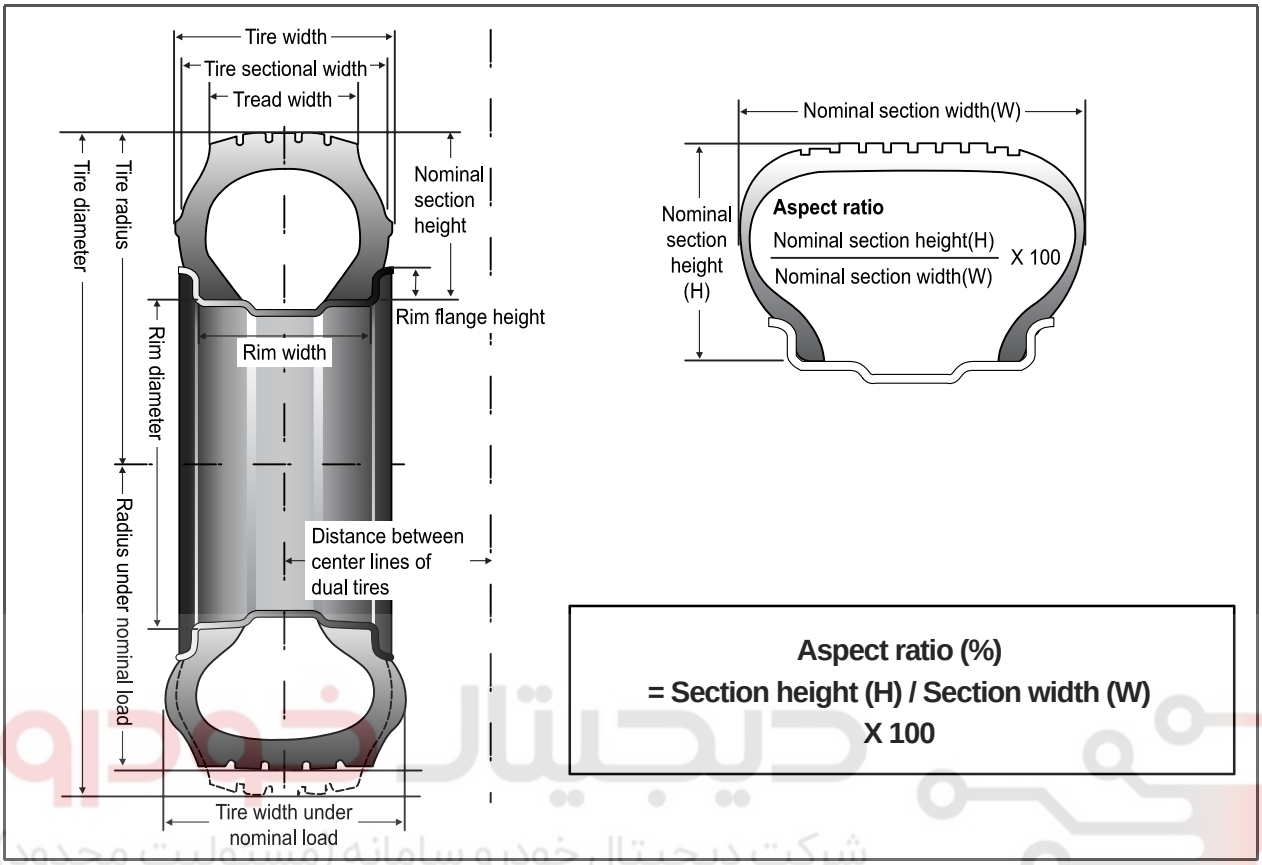
Sidewall
The sidewall bridges between the tire shoulder and bead. The sidewall actually flexes and helps the suspension absorb some of the shock to provide good ride comfort. Sidewalls are molded with tire type, specifications, structure, pattern, manufacturer-specific detail, government mandated warning labels, and other consumer information.

Bead
The bead is a part of the tire that contacts the rim on the wheel. The bead typically consists of bead wire, core rubber, etc. It seats tightly against the two rims on the wheel to ensure that the tire holds the air when the tire pressure drops rapidly.

Carcass
Carcass is the entire inner layer of cord fabric which is the most important framework of a tire. The carcass supports the air pressure as well as the vertical load, and absorbs shocks.

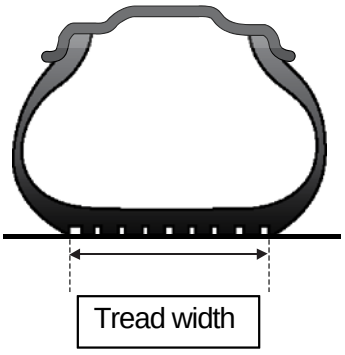
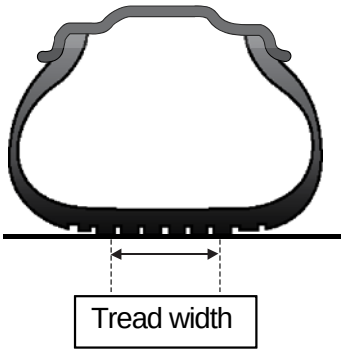
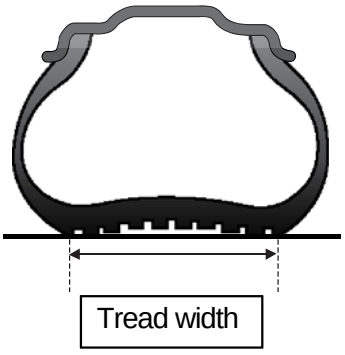
Belt
The belt reduces the shocks from the road surface, and increases the tread rigidity by tightly winding about the carcass to provide the driving stability.

▶ Tire size



Aspect ratio (%)
= Section height (H) / Section width (W)
X 100

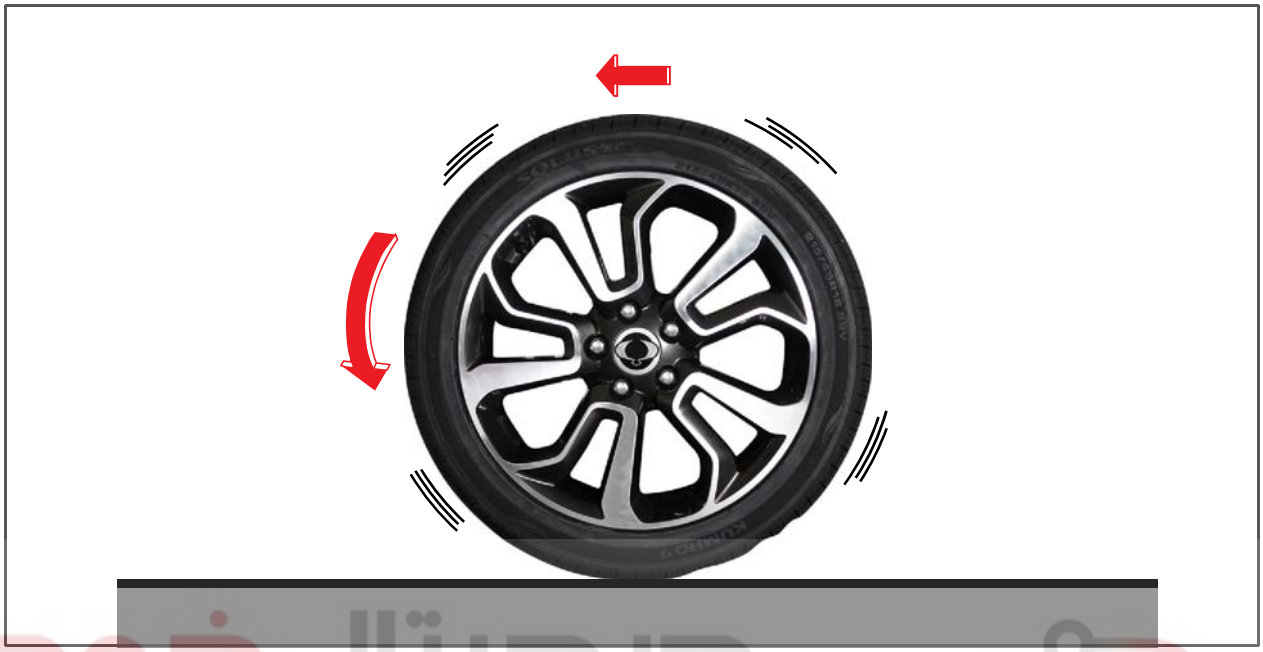
▶ Tire inflation pressure

Proper	Over inflation	Under inflation
 Tread width	 Tread width	 Tread width
The contact area between the ground and tire faces the tread layer completely. Thus the driving force and the braking force are optimized, and the tire is worn out evenly resulting in increased service life.	The contact area between the ground and tire is not sufficient, so the tire is worn out unevenly and the tire is susceptible to external impact.	The contact area between the ground and tire is excessive, so a lot of heat is generated, resulting in damage. Also the tire is worn out unevenly and abnormally.

Modification basis	
Application basis	
Affected VIN	

2. TIRE ABNORMAL STATE

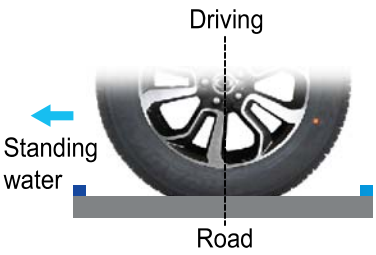
▶ **Standing wave**



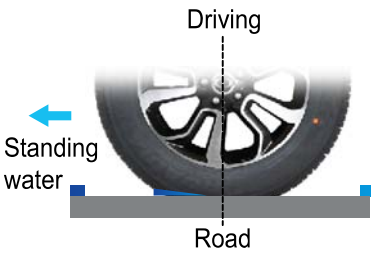
Specified tire inflation pressure	16 inch	35 psi
	18 inch	32 psi

During driving, the rotating tire repeats deformation and restoring movement within the tread width. This happens when the tire pressure is low in high speed driving.
However, when the wheel rotating speed is high, the tire is deformed further even before it returns to its original shape and the trembling wave appears on the tread portion. If this symptom lasts for an extended period of time, the tire can be blown out in a short period of time.
If the standing wave symptom occurs on the tire, rubber on the tread comes off and eventually the tire can be blown out which is very dangerous. When driving at high speeds, prevent the standing wave by increasing the tire pressure. High tire pressure reduces the heat generation due to extension and contraction movement of the tire, and the risk of hydroplaning.
To achieve this, it is recommended to increase the tire pressure 10 to 30 % higher than the specified pressure value when driving at high speeds.

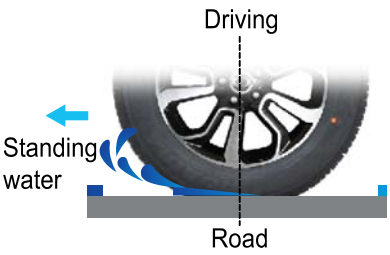
▶ Hydroplaning



Hydroplaning does not start until the vehicle speed reaches 60 km/h.



Partial hydroplaning starts at about 80 km/h.



The tire is totally up on the film of water 100 km/h (hydroplaning).

When the vehicle is driven at high speed on a road surface covered with water, tires do not contact with the road surface but rotates floating on a thin film of water.
This condition causes brake failure, lower traction force and loss of steering performance.
To prevent this, increase the tire inflation pressure, use tires with ribbed treads with good tread depth.
Above all, driving slowly in any circumstances is the safest way.

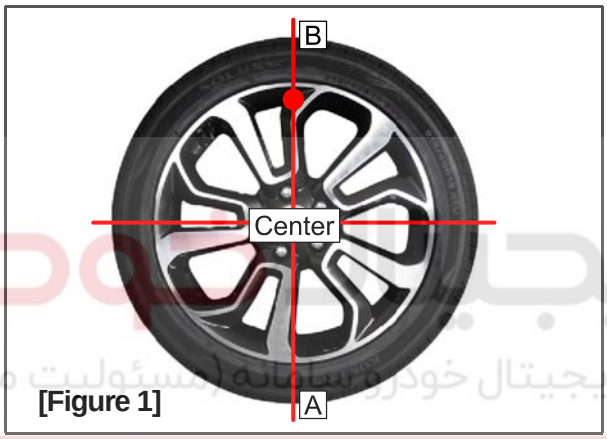
Modification basis	
Application basis	
Affected VIN	

3. WHEEL BALANCE

If the vehicle load is not equally distributed to each wheel, unbalanced centrifugal force by the wheel rotation produces vibrations. As the centrifugal force is produced proportional to the square of the rotating speed, the load applied to the wheels should be balanced even at high speeds. There are two types of the tire and wheel balancing: static and dynamic. Abnormal vibration may also occur because of unbalanced rigidity or size of tires.

▶ Static balance

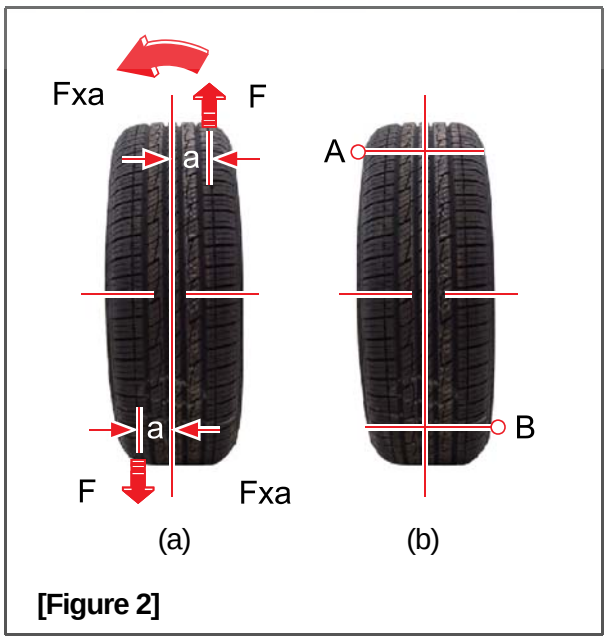
When the free rotation of the wheel is allowed, the heavier part is stopped at the bottom provided that the wheel weight is unbalanced. This is called "Static unbalance". Also, the condition in which tire's stop position is different from the first stop position when the wheel is rotated again is called "Static Balance".



[Figure 1]

If the part A shown in the figure 1 is heavier than other parts, the balance weight which corresponds to the weight difference between the part A and other parts should be added to the part B located on the opposite side of the part A to maintain the static balance. If the static balance is not maintained, tramping (up and down movement of the wheels) will occur.

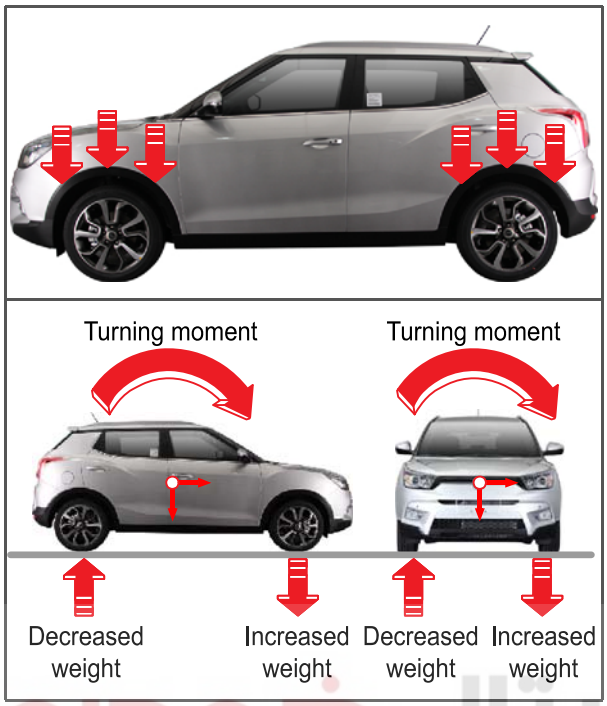
▶ Dynamic balance



[Figure 2]

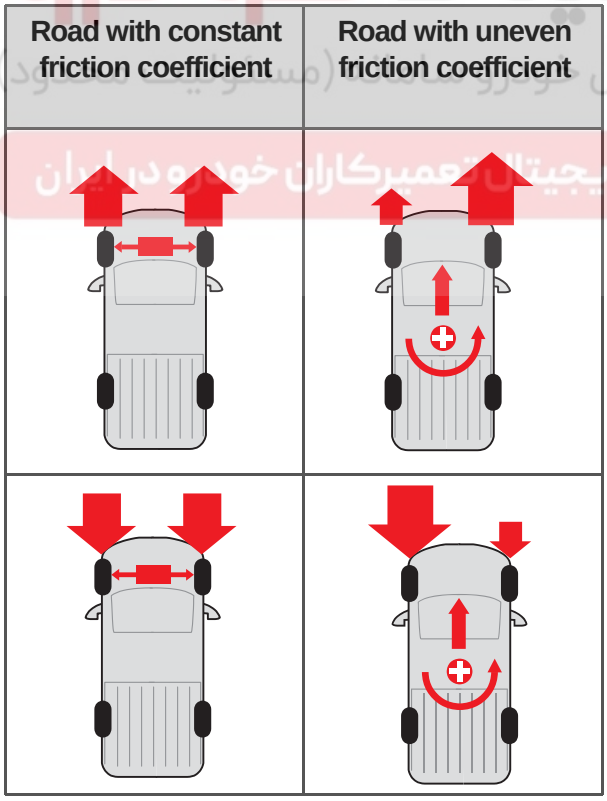
The static unbalance of the wheel creates the vibrations in the vertical direction, while the dynamic unbalance creates the vibrations in the lateral direction. As shown in the figure 2 (a), if two parts, (2) and (3), become heavier than other parts while the static balance is maintained, the condition will be changed to dynamic unbalance, resulting in shimmy (left and right vibrations of the wheels) and the torque Fxa applied to the axial direction. To correct the dynamic unbalance, add the same balance weights to the two points A and B on the circumference of the rim, as shown in the figure 2 (b). Then apply the torque in the opposite direction of the torque Fxa to compensate the torque. This ensures the smooth rotation of the wheel.

4. FUNCTION OF TIRE



▶ Supports vehicle load

The tire supports the vehicle load, and reduces the impact from various road surfaces. It also transmits the driving power, braking power, and physical effort to the road surface.
Tire is designed to endure the high load of a vehicle and can be inflated.
In general, no tubes are installed on the inside of the tire and rubber layer is added instead of tubes. This type is called tubeless type.
When the tubeless tire is inflated, the tire seats tightly against the wheel to prevent air leaks. This type is needed to maintain proper air pressure to ensure stability of the vehicle.

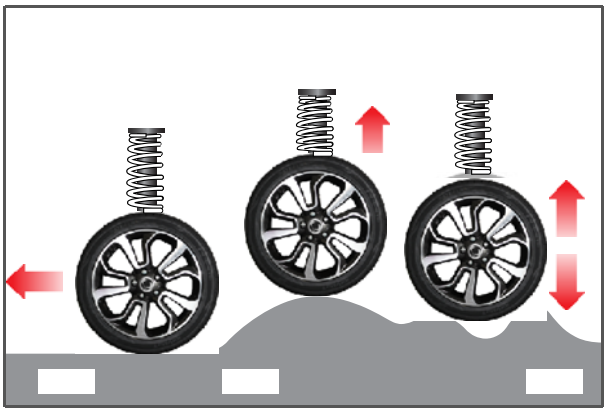


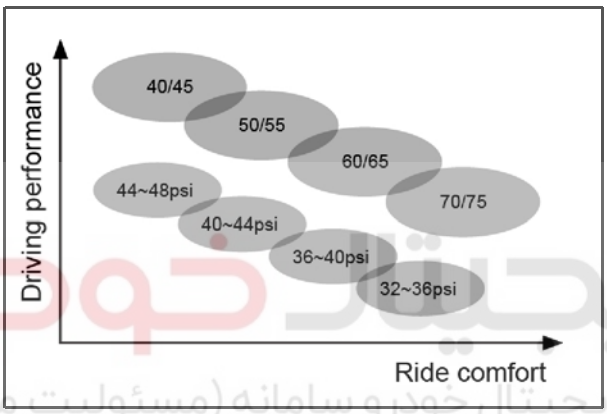
▶ Transmits driving force and braking force to road surface

The driving force from the engine is delivered to the tire through the drive train. Then the tire transmits this force to the road surface so that the vehicle moves in the direction of the tread.

The braking force generated from the brake system is transmitted to the tire to stop or decelerate the vehicle.
The braking force is determined by the friction force between the tire and road surface. It acts in the opposite direction to motion.

Modification basis	
Application basis	
Affected VIN	





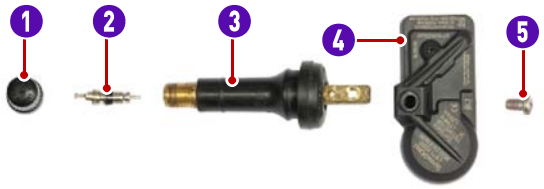
▶ Absorbs impacts from road surface

The tire absorbs the vibrations and impacts from the road surface first and then transmits them to the suspension system.
Once the suspension system receives the impacts, the spring is compressed and stretched repeatedly and the shock absorber dampens the spring movement.
The amount of impacts absorbed by the tire is determined by the tire inflation pressure and the flexibility of the tire sidewall.
If the tire pressure is low, the inside temperature of the tire will be increased rapidly with high rolling resistance. If the tire pressure is too high, the tire will become less flexible resulting in poor ride comfort.
The lower the aspect ratio is, the better the driving performance is and the lesser the ride comfort is.

CONFIGURATION AND FUNCTIONS

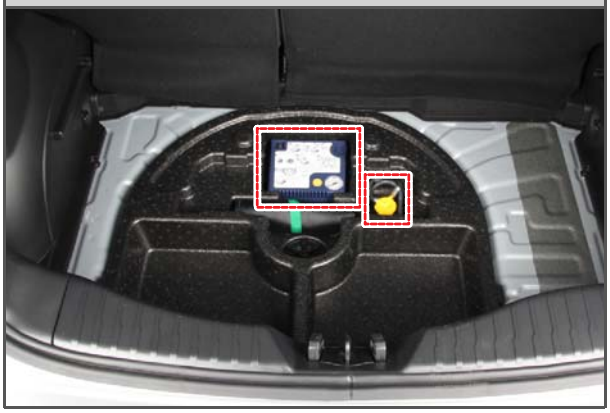
S.G.N. 4170-09 CONFIGURATION

Valve insert

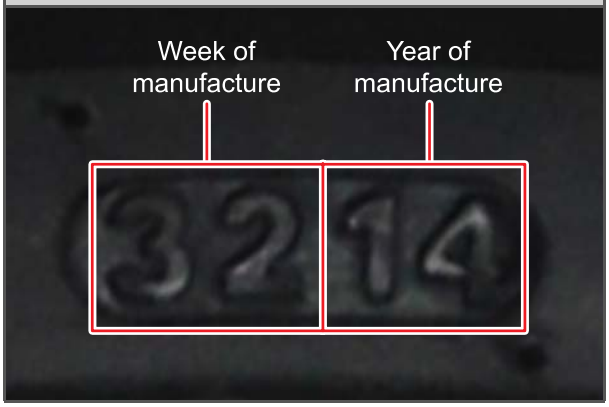


1. Valve cap
2. Insert valve
3. Valve body
4. Wheel module
5. Mounting bolt

Spare tire mounted



Date of manufacture



Tire specification mark

Modification basis	
Application basis	
Affected VIN	

1) Tire Specification Code (for Radial tire)

Speed rating symbol : 240km/h or less
Load index : 580kg
Rim diameter: 18 inch
Radial tire
Aspect ratio : (Nominal section height/width) x 100 = 60%
Nominal section width : 215mm

Tire specification: 215 / 45R 18 89V
Specified tire inflation pressure 16 inch - 35 psi, 18 inch - 32 psi

▶ **Speed rating mark**

Mark	Maximum speed (Km/h)
F	80
M	130
N	140
P	150
O	160
R	170
S	180
T	190
U	200
H	210
V	240
Z	240 or higher

▶ **Load index**

Mark	Maximum Load (kg)
85	515
86	530
87	545
88	560
89	580
90	600
91	615
92	630
93	650
94	670
95	690
96	710

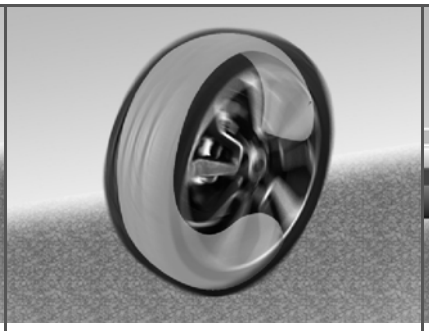
Modification basis	
Application basis	
Affected VIN	

S.G.N. 4170-12

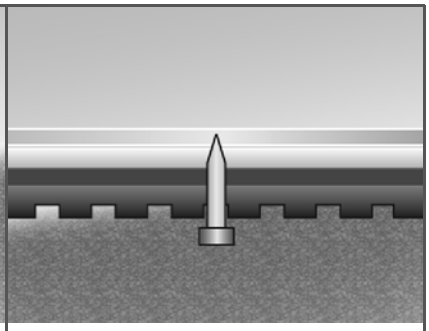
REPAIR KIT

1) Features and Purpose

Inject the sealant into the tire.

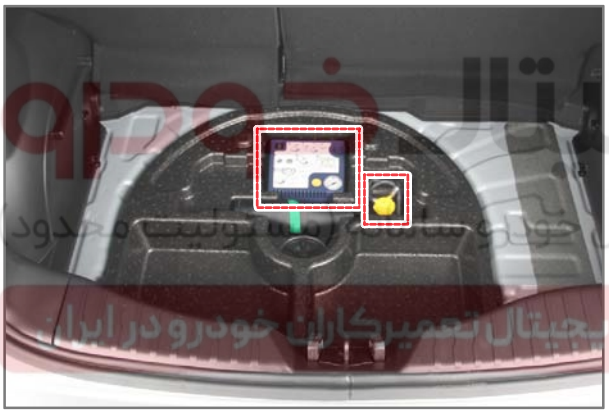


Drive the vehicle to spread the sealant inside the tire.



The sealant covers the hole made by foreign materials

▶ **Use the repair kit when the tire is flat to go to the intended destination or closest service center.**



A. Saving time:
If you change the flat tire with the spare tire, it will take about 30 minutes or so. But if you use the repair kit, 10 minutes is enough.

B. No need to be exposed to a dangerous place:
Because of the short working time, you don't have to wait for a towing vehicle or change the tire on a dangerous road with passing traffic.

C. Reduced fuel consumption because of light weight:
Most of flat tire cases can be resolved using the repair kit without carrying a spare tire.

D. Easy to use:
According to a survey, most of women drivers answered that they couldn't change a flat tire. This repair kit is very easy to use, even for the women drivers.

E. Easy to use and carry with compact size and light weight.

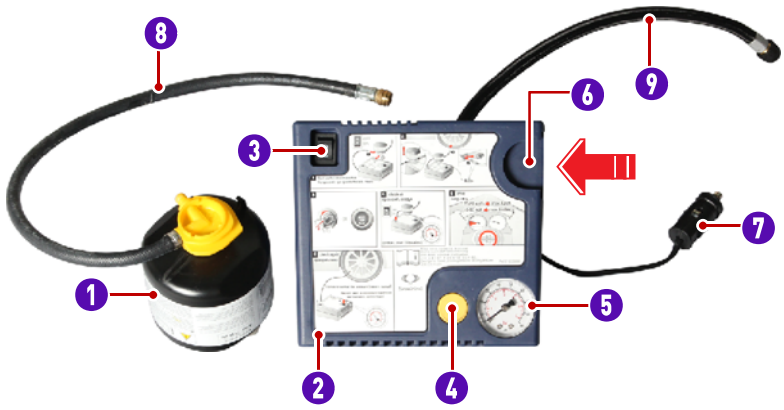
F. Can be used for most kinds of vehicle tires.
Able to inject air and measure tire pressure:

G. In addition to flat tire repair, this kit can be used to add air and measure the tire pressure for safety.

H. It is also possible to air up a tube.

Modification basis	
Application basis	
Affected VIN	

2) Components

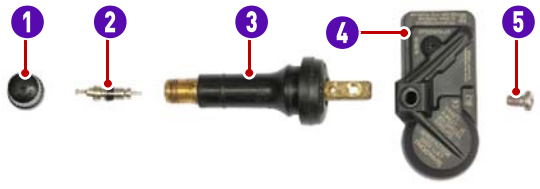


Sealant bottle mounted

1. Sealant
2. Compressor
3. Power switch
4. Pressure release button
5. Pressure gauge
6. Sealant mounting (mounting direction)
7. Power cable
8. Air hose (Compressor to Sealant bottle)
9. Air hose (Sealant bottle to Tire)

WARNING

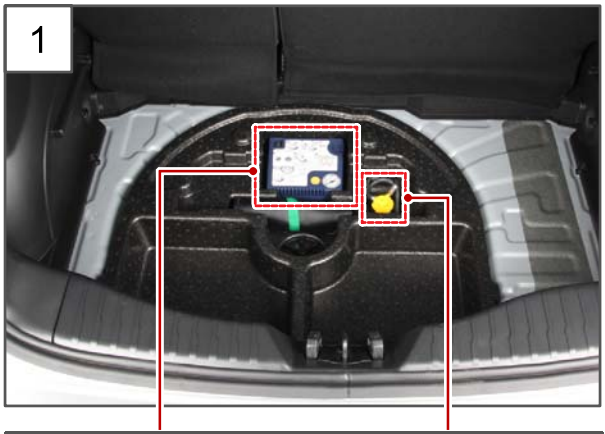
- Use the repair kit only when the hole size on the tread is about 6 mm or less. If the tire sidewall is torn or the hole size is too large, do not use the repair kit. Tow your vehicle or take it to a Ssangyong Authorized Service Center and have the vehicle serviced.
- If the tire pressure is not increased even when the air is injected using the repair kit, stop immediately. And tow your vehicle or take it to a Ssangyong Authorized Service Center and have the vehicle serviced.
- When driving with the repaired tire using the repair kit, make sure that the vehicle speed does not exceed 80 km/h.
- If you feel or hear any vibrations, unstable steering, or noises, stop the vehicle immediately. And tow your vehicle or take it to a Ssangyong Authorized Service Center and have the vehicle serviced.
- The repair kit is for emergency use only. Replace the repaired tire with a new one as soon as possible after using the repaired kit (Max. driving distance: 200 km).
- If the repaired tire using the repair kit is equipped with the wheel module (tire pressure sensor), visit the closest Ssangyong Authorized Service Center and replace the tire with wheel module with a new one.
- When removing the wheel module after using the sealant repair kit, replace the following components with new ones.



1. Valve cap
2. Insert valve
3. Valve body
4. Wheel module
5. Mounting bolt

▶ How to use repair kit

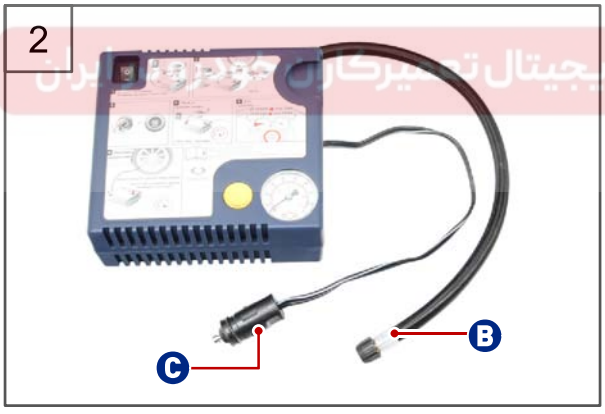
1



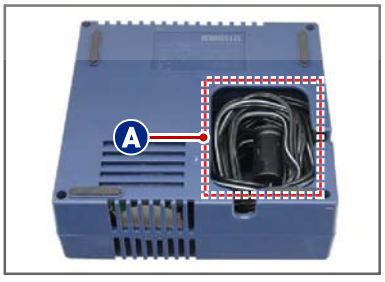
1. Take out the repair kit from the luggage compartment.

Compressor	Sealant
	

2

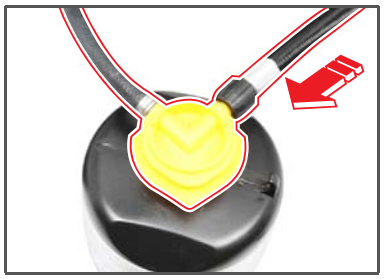


2. Take out the air hose (B) and power cable (C) from the bottom of the compressor (A).



3

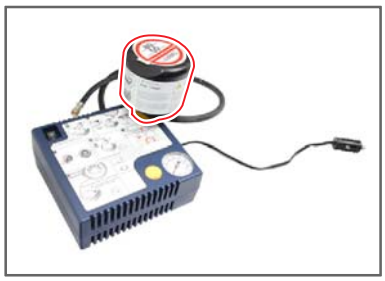
3. Connect the compressor air hose (compressor to sealant bottle) to the sealant cap (yellow).



Modification basis	
Application basis	
Affected VIN	

4

4. Mount the sealant bottle on top of the compressor by pushing in the bottle in the direction of the arrow (A).



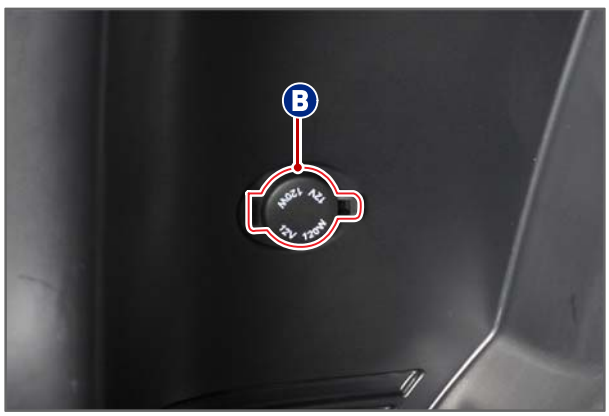
5

5. Fit the repair kit air hose (sealant bottle to tire) to the tire air valve.

CAUTION

Avoid getting sealant on your skin. In case of skin contact, wash thoroughly with soap and water.

6

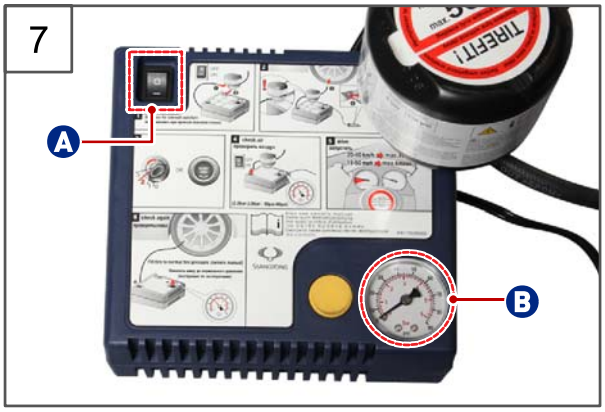


6. Connect the power cable plug in the repair kit to the power socket in the vehicle.
   - Use the front console power socket (A) when the front tire is flat.
   - Use the power socket (B) located on the rear right quarter panel when the rear tire is flat.

CAUTION

- When using the power socket, you must start the engine.
- When the engine is running for a long time, there is a risk of suffocation due to the exhaust gas. Only carry out this work in well-ventilated areas.

7



7. Turn the repair kit power switch (A) ON to operate the compressor. Inject the air into the tire by checking the pressure gauge (B).

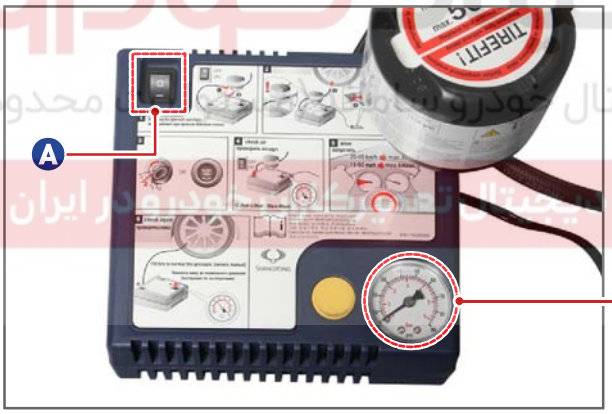
Specified tire pressure	16 inch	35 psi
	18 inch	32 psi

CAUTION

- Do not activate the compressor for more than 10 minutes to prevent overheating.
- If the tire pressure does not increase 26 psi or higher within 10 minutes, the tire is too damaged to repair using a repair kit.

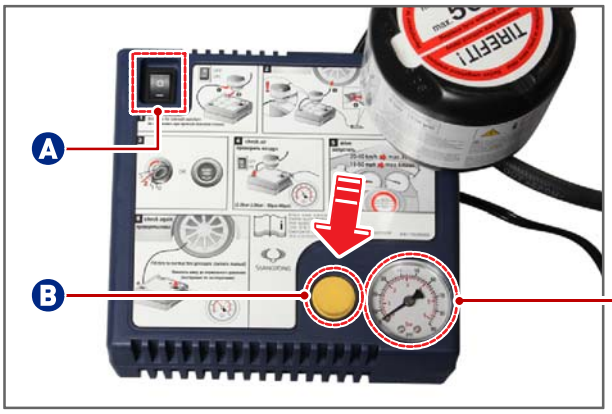
Adjusting tire inflation pressure

▶ Inflating



The tire inflation pressure is increased when the compressor power switch (A) is turned ON.

▶ Releasing



The tire inflation pressure is decreased when the pressure release button (B) is pressed after turning the compressor power switch (A) OFF.

Modification basis	
Application basis	
Affected VIN	

8

8. After inflating the tire to the specified pressure, put aside the repair kit. Then, drive the vehicle approx. 10 km so that the sealant is applied all around the inner surface of the tire.

CAUTION
Drive the vehicle at below 80 km/h.

9

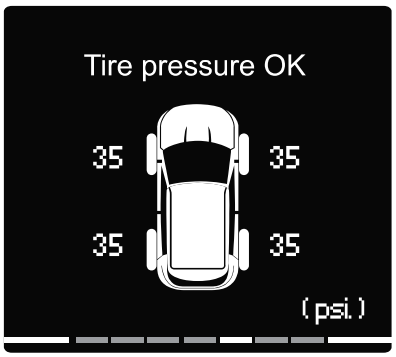
9. After the driving, reconnect the repair kit to adjust tire pressure to the specified value.

Specified tire pressure	16 inch	35 psi
	18 inch	32 psi

NOTE
Do not mount the sealant bottle when rechecking the tire inflation pressure.

CAUTION
After driving of 3 km, repeat the tire pressure adjustment up to 3 times until with no tire pressure loss. If the tire inflation pressure continues to drop below 26 psi, the tire is too damaged to repair using a repair kit.

10



10. Check the tire pressure displayed on the instrument cluster 1 minute (communication between wheel module and TPMS ECU) after the air has been injected to the specified pressure.

REMOVAL AND INSTALLATION

S.G.N. 4170-01 WHEEL AND TIRE

1

1. Place a jack under the vehicle safely. Loosen the wheel nuts and raise the vehicle carefully.

Tightening torque 107 to 127 Nm

CAUTION

Use a hand hinge tool when removing the wheel nuts to prevent the scratches.

2

2. Remove the wheel nuts in sequence to remove the tire by referring to "Cautions for removing wheel nut".

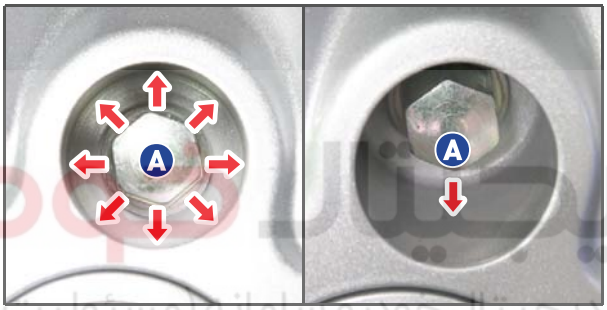
3. Install in the reverse order of removal.

Modification basis	
Application basis	
Affected VIN	

Cautions for removing wheel nut

CAUTION

When removing the wheel nut using a wheel nut long socket (17 mm), the scratches may appear on the outer surface of the long socket from being chafed by inner surface of the wheel nut hole (A).
To prevent the long socket (17 mm) from being scratched, wrap it with tape before removing the wheel nut.



S.G.N.
4170-09 SPARE (TEMPORARY) TIRE

Preceding work - Open the cover in luggage compartment and remove the spare (temporary) tire.

Open the cover in luggage compartment and remove the spare (temporary) tire.

WARNING

The spare (temporary) tire is only for emergency situations. Never use it for normal driving. After installing the spare tire on a wheel, take your vehicle to a Ssangyong Authorized Service Center or a tire-specialized shop to replace it with a new regular tire.

CAUTION

- When reinstalling the spare (temporary) tire to the carrier, be sure to securely lock it to the carrier holder.
- While your vehicle is being raised up with a jack, avoid any impact on your vehicle. Otherwise, you may get injured.
- When taking out the spare (temporary) tire, be careful not to damage the body of your vehicle.

Modification basis	
Application basis	
Affected VIN	

1. Loosen the wheel nuts one or two turns by turning them counterclockwise with the wheel nut wrench.

WARNING

- The parking brake should always be applied when replacing the flat tire.
- Chock the front and rear of the wheel diagonally opposite to the wheel being changed.
- Do not remove the nuts yet from the wheel. If they are removed, the wheel could slip off from the vehicle. Then, the body of the vehicle will fall down on you and you may get seriously injured.
- Loosen the wheel nuts two or three turns.

CAUTION

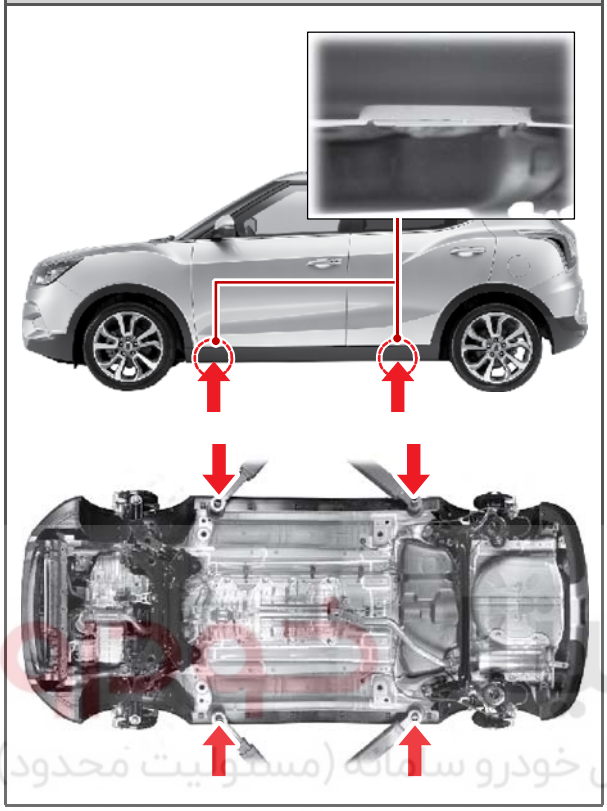
When reinstalling the wheel cap, be sure to completely fit it into its location.

2. Place the jack directly under the jack-up points so that the top of the jack contacts the vehicle at the jack-up point.

WARNING

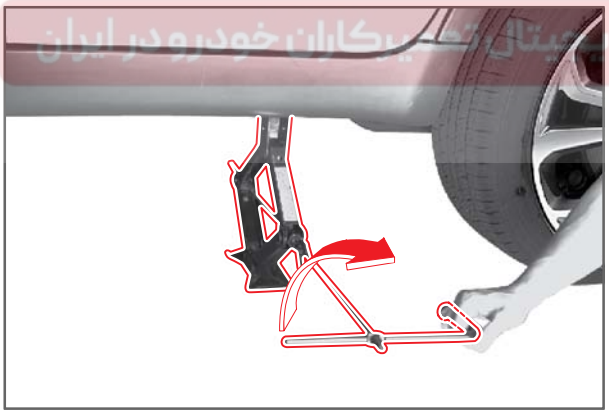
- The jack should be used on level firm ground wherever possible.
- It is recommended that the wheels of the vehicle be chocked, and that no person should remain in a vehicle that is being jacked.
- No person should place any portion of their body under a vehicle that is supported by a jack.
- Jack working load limit 1,000 kg.

Jack up points



CAUTION

Make sure to install the jack so that its upper plate is correctly seated under the vehicle's positions marked in the figure for the flat tire side.



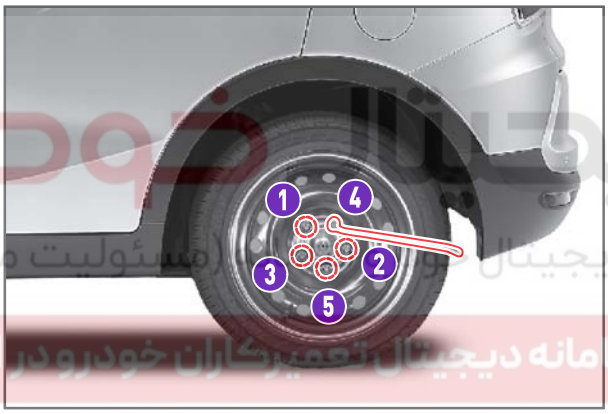
3. Combine the jack, the wheel nut wrench and the jack connection as shown in the figure. Jack up the vehicle by rotating the combined wrench clockwise until the tire is off the ground. Remove the wheel nuts by hands while the
4. vehicle is stationary. Remove all of the wheel nuts.

Modification basis	
Application basis	
Affected VIN	

5. Take the wheel off and place the wheel under the vehicle body. This helps to minimize any danger if the jack slip off position.
6. Then mount the spare tire and temporarily tighten the wheel nuts until the spare tire wheel is no longer loose.

WARNING

By tightening up the spare tire until it is not loose any more, you can avoid any tilting of the tire on the wheel hub when the tire touches the ground.



7. Lower the vehicle by rotating the combined wrench counter-clockwise until the tire touches the ground. Remove the jack.

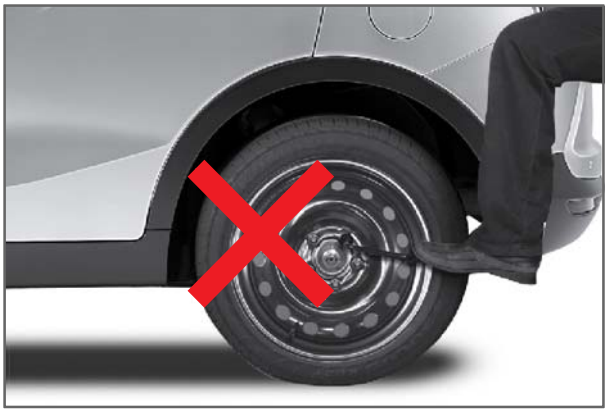
WARNING

While the jack is supporting your vehicle, do not use too much force to tighten the nuts. Otherwise, the vehicle may slip off and you may get injured.

8. Tighten up the wheel nuts in the diagonal sequence as shown in the figure. Each nut should be turned a couple of times at a time. When done with mounting the spare tire,
9. place the flat tire in the luggage compartment. Store the jack and other emergency tools in their storages.

▶ Temporary Tire

The temporary spare tire is smaller than a regular tire and is only for emergency situations. After installing it, drive slowly and take your vehicle to an authorized service center or a tire-specialized shop to replace it with a new regular tire.



If over tightened, the wheel nuts could be damaged. Do not overtighten the wheel nuts by pressing the wheel nut wrench by foot or using an assist pipe.

CAUTION

After changing the tire and driving the vehicle about 1000 km, retighten the wheel nuts.
- Wheel nut tightening torque: 120 ~ 140 Nm

WARNING

- With the emergency spare tire, do not drive faster than 60 km/h.
- The temporary spare tire is only for emergency situations. Never use it for normal driving. After installing the spare tire on a wheel, take your vehicle to a Ssangyong Authorized Service Center or a tire-specialized shop to replace it with a new regular tire.
- Improperly tightened wheel nuts can cause the wheel to become loose and even come off or any malfunctioning in the steering and braking system. This could lead to an accident. Be sure to tighten the wheel nuts as specified. If the wheel comes off due to a loose wheel nut, you may have a fatal accident.
- Using different tires could cause you to lose control while driving. Be sure to use the same size and type tires from the same manufacturer on all wheels.

Modification basis	
Application basis	
Affected VIN	

▶ Cautions when changing the tire

CAUTION

Before Changing the Tire

Turn on hazard flashers and move off the road to a safe place away from traffic. Park on a firm and level ground.

Set up the jack at the specified position. Never get under the vehicle while it is supported by the jack. While the vehicle is on the jack, never start or run the engine or push the vehicle.

Have all passengers get out of the vehicle and stay in a place away from traffic.

During Changing the Tire

Tighten up the wheel nuts in the diagonal sequence as shown in the figure. Each nut should be turned a couple of times at a time.

Never apply oil or grease to either wheel studs or nuts as it will cause them to overtighten.

After Changing the Tire

Check, repair, and retighten the replaced tire at the nearest Ssangyong Authorized Service Center or a qualified tire shop after an emergency change.

Securely store the tire in its carrier. When storing the spare tire, make sure that the outer surface of the tire (wheel nut side) is facing down. And, check to see if the spare tire is securely locked into the carrier without any looseness. Check the tightness of the wheel nuts and tire pressure before driving.

Repair or change the flat tire. Stow the emergency tire in its location properly.

Make sure to check the tightness and inflation pressure of tires before driving.

In the vehicle equipped with TPMS, the TPMS warning lamp comes on and TPMS does not work when installing the emergency tire.

Memo