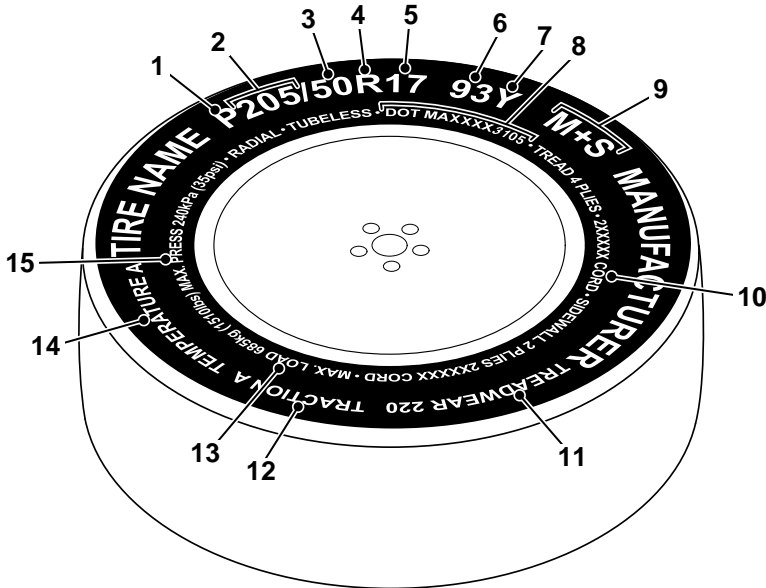


Wheels and tires

GENERAL INFORMATION

Tire markings



E80640

1. P indicates that the tire is for passenger vehicle use.
2. The width of the tire from sidewall edge to sidewall edge in millimetres.
3. The aspect ratio, also known as the profile, gives the sidewall height as a percentage of the tread width. So, if the tread width is 205 mm, and the aspect ratio is 50, the sidewall height will be 102 mm.
4. R indicates that the tire is of Radial ply construction.
5. The diameter of the wheel rim given in inches.
6. The load index for the tire. This index is not always shown.
7. The speed rating denotes the maximum speed at which the tire should be used for extended periods. †
8. U.S. DOT Tire Identification Number (TIN) This begins with the letters **DOT** and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers **3106** means the 31st week of 2006. The other numbers are marketing codes used at the manufacturer's discretion. This information can be used to contact consumers if a tire defect requires a recall.

Wheels and tires

9. M+S or M/S indicates that the tire has been designed with some capability for mud and snow.
10. The number of plies in both the tread area, and the sidewall area, indicates how many layers of rubber coated material make up the structure of the tire. Information is also provided on the type of materials used.
11. Wear rate indicator. A tire rated at 400 for example, will last twice as long as a tire rated at 200.
12. The traction rating grades a tires performance when stopping on a wet road surface. The higher the grade the better the braking performance. The grades from highest to lowest are, AA, A, B, and C.
13. The maximum load which can be carried by the tire.
14. Heat resistance grading. The tires resistance to heat is grade A, B, or C, with A indicating the greatest resistance to heat. This grading is provided for a correctly inflated tire, which is being used within it's speed and loading limits.
15. The maximum inflation pressure for the tire. This pressure should not be used for normal driving. See **TIRE CARE** (page 176).

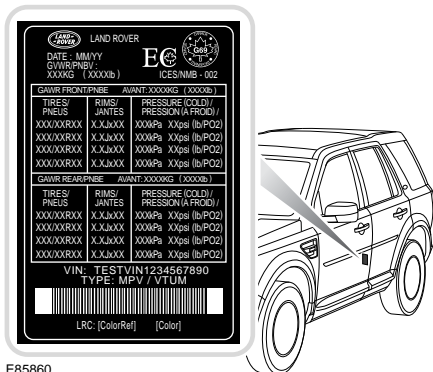
† Speed ratings

Rating	Speed mph (kmh)
Q	99 (160)
R	106 (170)
S	112 (180)
T	118 (190)
U	124 (200)
H	130 (210)
V	149 (240)
W	168 (270)
Y	186 (300)

Wheels and tires

TIRE INFORMATION LABELS

Tire pressure label/placard (Canada only)



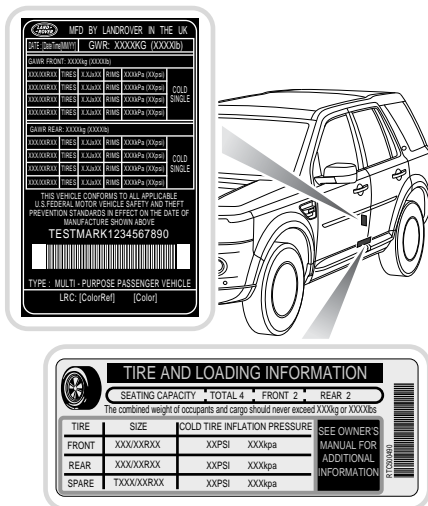
E85860

A tire information label is visible on the B pillar.

The label contains information relating to tire and wheel sizes and recommended pressures for all wheel and tire combinations fitted to the vehicle.

Note: The label must not be changed, even if different wheels are fitted at a later stage.

Tire pressure label/placard (U.S. only)

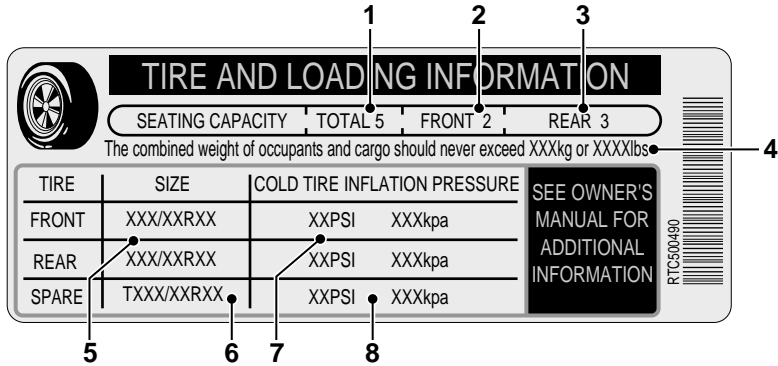


E85861

Two tire information labels are visible on the pillar behind the driver's door (known as the B pillar), giving information specific to the wheel and tire equipment fitted to the vehicle when it was built.

The top label contains information relating to tire and wheel sizes and recommended pressures for all wheel and tire combinations.

Wheels and tires



E84925

The lower label contains the following information:

- The maximum number of occupants **1**, divided between the front **2** and rear **3** of the vehicle.
- The vehicle capacity weight **4**, which includes the weight of the driver, passengers and cargo.
- The size of the tires **5** with which the vehicle was originally equipped, including the compact spare **6**.
- Cold inflation pressures for the front and rear tires **7**, and compact spare tire **8**.

Note: The label must not be changed, even if different wheels are fitted at a later stage.

Wheels and tires

UNIFORM TIRE QUALITY GRADING

United States Department of Transportation/Uniform Tire Quality Grades

The following information relates to the tire grading system developed by the National Highway Traffic Safety Administration which will grade tires by tread wear, traction and temperature performance.

Note: *Tires that have deep tread, and winter tires, are exempt from these marking requirements.*

Quality grades can be found where applicable on the tire sidewall between the tread shoulder and maximum section width.

For example: Treadwear 200 Traction AA Temperature A

In addition to the marking requirements, passenger car tires must conform to Federal Safety Requirements.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course.

For example; a tire graded 150 would wear one and a half (1 1/2) times as well on a government test course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction

The traction grades, from highest to lowest, are; **AA**, **A**, **B**, and **C**. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked **C** may have poor traction performance.

WARNING



The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning or peak traction characteristics.

Wheels and tires

Temperature

The temperature grades are **A** (the highest), **B**, and **C**, representing the tires resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on an indoor laboratory test wheel. Sustained high temperatures can cause the material of a tire to degenerate, and reduce the tire life, and excessive temperature can lead to sudden tire failure.

The grade **C** corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard (FMVSS) 109.

Grades **B** and **A** represent higher levels of performance on the laboratory test than the minimum required by law.

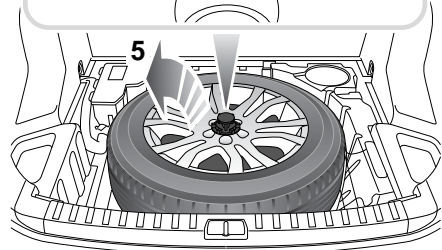
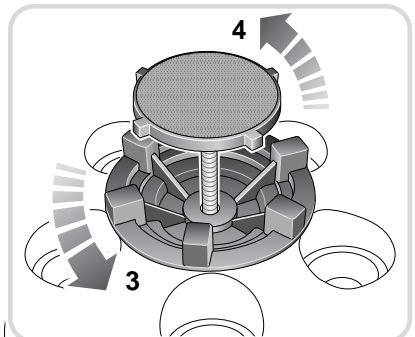
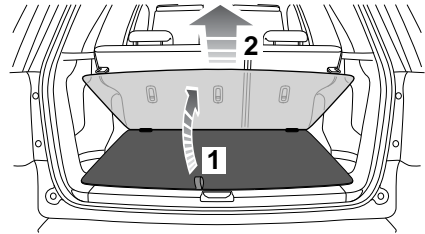
WARNING



The temperature grade for this tire is established for a tire that is properly inflated and not overloaded.

Excessive speed, under-inflation, or excessive loading, either separately, or in combination, can cause heat build up and possible tire failure.

CHANGING A ROAD WHEEL



E80161

To access the spare wheel and tool kit :-

1. Lift the floor panel.
2. Pull the floor panel towards the rear of the vehicle and remove it from the vehicle.
3. Slacken the spare wheel locking ring.
4. Undo and remove the retaining bolt.
5. Remove the spare wheel.
6. Remove the tool kit.

Wheels and tires

WARNINGS



The spare wheel is heavy and if handled incorrectly may cause injury. Use extreme caution when lifting or manoeuvring the wheels.



Always secure the spare wheel, or the removed wheel, in the correct position using the retaining bolt. Failure to do so may cause the spare wheel to move in the event of a sudden manoeuvre or accident, leading to death or serious injury.



Ensure that the floor panel is placed where it cannot fall and cause injury when it is removed from the vehicle.



When removing or replacing the floor panel ensure that fingers and hands are kept clear. Failure to do so may result in crush injuries.

Note: When replacing the spare wheel ensure that the retaining bolt is screwed fully home before tightening the clamping ring.

Wheel changing safety

Before raising the vehicle, or changing a wheel ensure that you read, and comply with the following warnings.

WARNINGS



Always find a safe place to stop, off of the highway and away from traffic.



Ensure that the vehicle is on firm level ground.



Disconnect trailer/caravan from vehicle.



Switch on the hazard warning lamps.



Ensure that all passengers, and animals, are out of the vehicle, and in a safe place away from the highway.

WARNINGS



Place a warning triangle at a suitable distance behind the vehicle, facing towards oncoming traffic.



Ensure that the front wheels are in the straight ahead position, and engage the steering lock.



Apply the parking brake, and engage Park in vehicles fitted with an automatic transmission.



Ensure that the jack is on firm level ground.



Never place anything between the jack and the ground, or the jack and the vehicle.



Always chock the wheels using suitable wheel chocks. Place the chocks on both sides of the wheel diagonally opposite the wheel to be changed.



If jacking the vehicle on a slight slope is unavoidable, place the chocks on the downhill side of the two opposite wheels.



Take care when lifting the spare wheel, and removing the punctured wheel. The wheels are heavy, and can cause injuries if not handled correctly.



Remove the spare wheel prior to jacking the vehicle. To avoid destabilising the vehicle when raised.



Take care when loosening the wheel nuts. The wheel brace may slip off if not properly attached, and the wheel nuts may give way suddenly. Either unexpected movement may cause an injury.

Wheels and tires

Positioning the jack

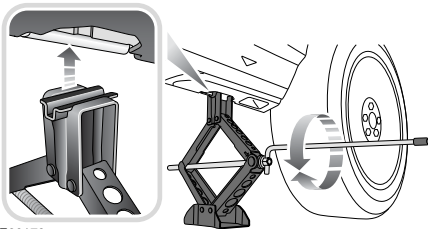
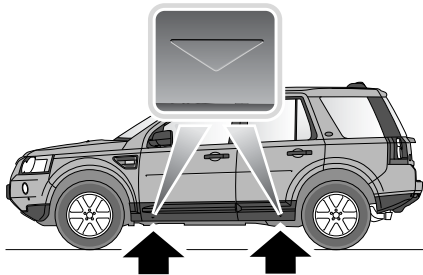
WARNINGS



Never work beneath the vehicle with the jack as the only means of support.



Ensure that the jack is correctly located onto the jacking point.

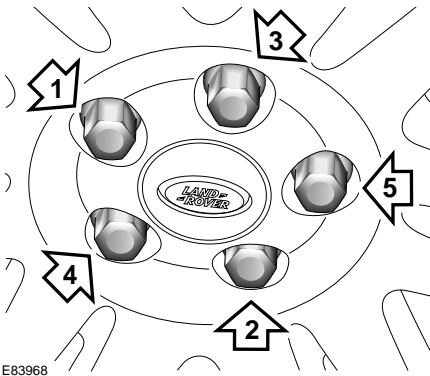


E80178

1. Read and observe the warnings in **Wheel changing safety**.
2. Loosen the wheel nuts half a turn (anti-clockwise).
3. Position the jack beneath the relevant jacking point.
4. Raise the vehicle using the jack with a slow steady operation. Avoid rapid, jerky actions as they may cause the vehicle/jack to become unstable.
5. Remove the wheel nuts and place them together where they cannot roll away.
6. Remove the wheel and place to one side. Do not lay the wheel on it's face, as this may damage the finish.
7. Fit the spare wheel to the hub.
8. Re-fit the wheel nuts, and lightly tighten them. Ensure that the wheel is making contact with the hub evenly.
9. Ensure that the space under the vehicle is clear of obstructions, and lower the vehicle slowly and smoothly.
10. With all wheels on the ground and the jack removed, fully tighten the wheel nuts. The wheel nuts should be tightened in sequence to the correct torque of 133 Nm (98 lb.ft).
11. If an alloy spare wheel is to be fitted, using a suitable blunt tool, knock the centre cap out of the removed wheel. Using hand pressure only, press the centre cap into the newly fitted spare.

Note: If it is not possible to torque the wheel nuts when a wheel is replaced, they should be set to the correct torque as soon as possible.

Wheels and tires





E83968


11. If an alloy spare wheel is to be fitted, using a suitable blunt tool, knock the centre cap out of the removed wheel. Using hand pressure only, press the centre cap into the newly fitted spare.
12. Check and adjust the tyre pressure as soon as possible.


Important - Use of spare tire

WARNINGS

 Please note the temporary spare warning label affixed to the wheel, and adhere to the instructions. Failure to comply with the instructions may result in incorrect use of the temporary spare wheel. Which may in turn cause vehicle instability and/or tire failure.

 Drive with caution while the temporary spare wheel is fitted, and ensure that an original size wheel and tire are fitted as soon as possible.

 Do not fit more than one temporary spare wheel.

 Do not exceed 50 mph (80 km/h) while the temporary spare wheel is fitted.

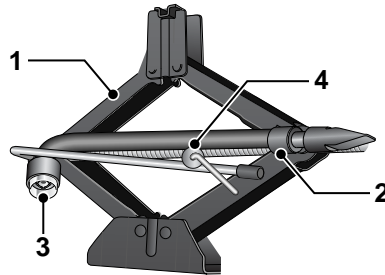
WARNINGS



DSC must be switched on while the temporary spare wheel is in use.

TOOL KIT

Tool kit contents



LAN1048

1. Jack.
2. Wheel brace.
3. Locking wheel nut adapter.
4. Tool kit retaining bolt.

WARNING



After use the tool kit should be returned to the under floor storage area, and correctly stowed. Do not leave the tool kit, or it's components, loose in the storage area as they can prove hazardous during an impact or sudden manoeuvre.

Note: The jack requires occasional maintenance. Examine the jack for wear, damage, or corrosion, and lubricate the moving parts.

Wheels and tires

TIRE REPAIR KIT

WARNINGS



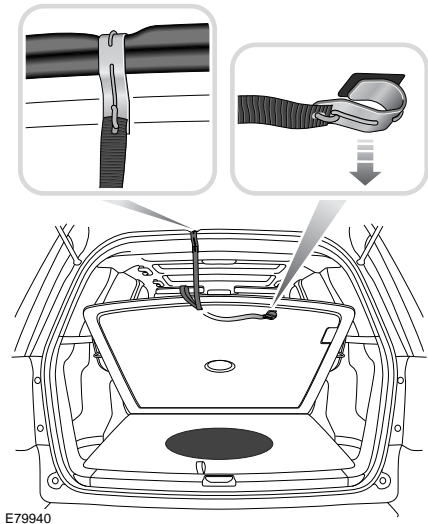
To ensure vehicle safety, it is essential that you read and understand the following information. Failure to follow the instructions given here may lead to serious tire damage, and may result in death or serious injury.



If you are in any doubt regarding your ability to carry out the instructions, contact your Land Rover Dealer before attempting the repair.

Your vehicle may not be equipped with a spare tire. If this is the case, in its place you will find a Land Rover tire repair kit. The Land Rover tire repair kit can be used to repair one tire, and it is essential that you read the following guide before attempting to repair a tire.

The Land Rover tire repair kit seals most punctures caused by nails, or similar items, with a maximum diameter of 6 mm (1/4 inch).



The tire repair kit is located in the rear underfloor storage compartment.

Note: The sealant used in the tire repair kit has a shelf life, and the expiry date is shown on the top of the bottle. Ensure that the bottle is replaced before the expiry date.

Land Rover tire repair kit safety information

WARNINGS



Some tire damage may only be partially sealed, or may not seal at all, depending on the amount and type of damage. Any loss of tire pressure can seriously affect vehicle safety.



Do not use the tire repair kit if the tire has been damaged by driving while under inflated.



Only use the tire repair kit to seal damage located within the tire tread area.

Wheels and tires

WARNINGS



Do not use the tire repair kit to seal damage to the tire sidewall.



Do not exceed 50 mph (80 km/h) when a repaired tire is fitted to the vehicle.



The maximum distance that should be driven when a repaired tire is fitted, is 125 miles (200km).



When a repaired tire is fitted, drive with caution and avoid sudden braking or steering manoeuvres.



Only use the tire repair kit for the vehicle with which it was supplied.



Do not use the tire repair kit for any other purpose than tire repair.



Never leave the tire repair kit unattended when in use.



Only use the tire repair kit within the -30 °C to +70 °C temperature range.



Always keep children and animals at a safe distance from the tire repair kit when in use.



Do not stand directly beside the compressor when it is operating.



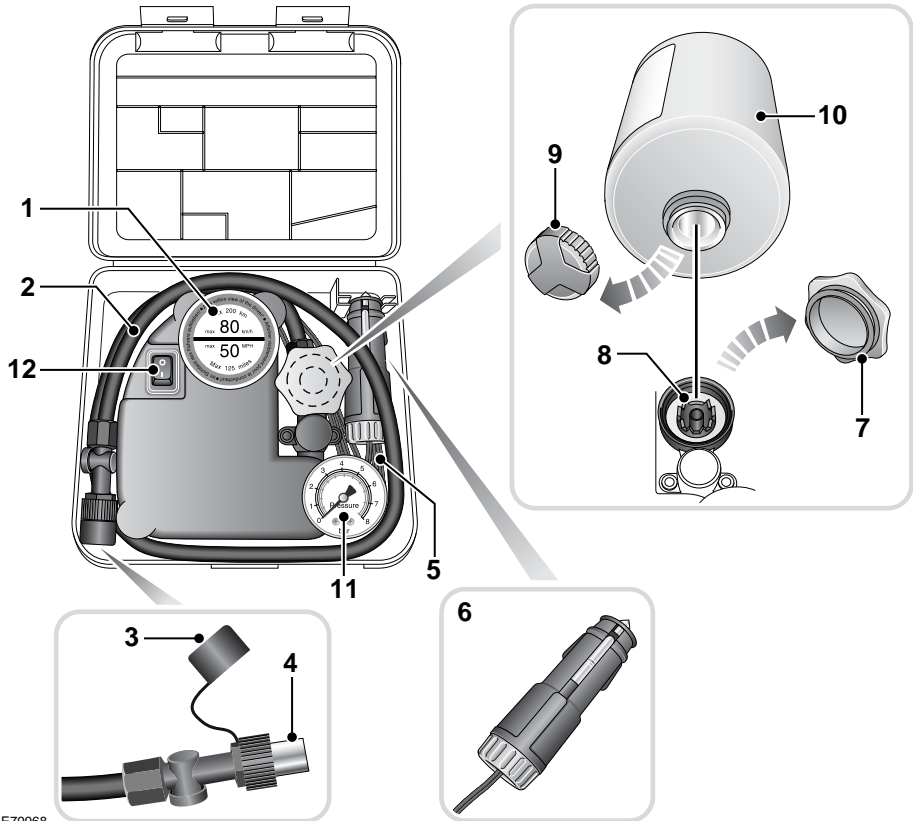
Check the tire sidewall prior to inflation. If any cracks, damage, or deformities are apparent do not inflate the tire.



Watch the tire sidewall during inflation. If any cracks, damage, or deformities are apparent switch off the compressor, and deflate the tire.

Wheels and tires

Land Rover tire repair kit



E79968

1. Maximum speed label. 50 mph (80 km/h).
2. Tire inflation hose.
3. Inflation hose protective cap.
4. Inflation hose connector.
5. Compressor power cable.
6. Power cable connector.
7. Sealant bottle receiver cap (orange).
8. Sealant bottle receiver.
9. Sealant bottle cap.
10. Sealant bottle.
11. Tire pressure gauge.
12. Compressor on/off switch. (1 = on. 0 = off.)

Wheels and tires

Using the Land Rover tire repair kit

WARNINGS



Avoid skin contact with the sealant which contains natural rubber latex.

Do not unscrew the sealant bottle from the receiver until it is empty, as sealant will leak out.



If the tire inflation pressure does not reach 26 psi (1.8 bar) within seven minutes, the tire may have suffered excessive damage. A temporary repair will not be possible, and the vehicle should not be driven until the tire has been replaced.

CAUTIONS



Before attempting a tire repair, ensure that the vehicle is parked safely, as far away from passing traffic as possible.



Ensure that the parking brake is applied, and P is selected if an automatic transmission is fitted.



Do not attempt to remove foreign objects such as nails, screws, etc from the tire.



Always run the engine when using the compressor, unless the vehicle is in an enclosed, or poorly ventilated space.



To prevent overheating do not operate the compressor continuously for longer than ten minutes.

Note: All vehicle drivers and occupants should be made aware that a temporary repair has been made to a tire fitted to the vehicle. They should also be made aware of the special driving conditions imposed when using a repaired tire.

Repair procedure

1. Open the tire repair kit and peel off the maximum speed label. Attach the label to the fascia in the driver's field of view. Take care not to obstruct any of the instruments or warning lights.
2. Uncoil the compressor power cable and the inflation hose.
3. Unscrew the orange cap from the sealant bottle receiver, and the sealant bottle cap.
4. Screw the sealant bottle into the receiver (clockwise) until tight.
 - Screwing the bottle onto the receiver will pierce the bottle's seal. Do not unscrew a full, or partly used bottle from the receiver. Doing so will result in the sealant leaking from the bottle.
5. Remove the valve cap from the damaged tire.
6. Remove the protective cap from the inflation hose, and connect the inflation hose to the tire valve. Ensure that the hose is screwed on firmly.
7. Ensure that the compressor switch is in the off (0) position.
8. Insert the power cable connector into an auxiliary power socket. See **AUXILIARY POWER SOCKETS** (page 100).
9. Unless the vehicle is in an enclosed or poorly ventilated area, start the engine.
10. Set the compressor switch to the on (I) position.
11. Inflate the tire to a minimum of 26 psi (1.8 bar) and a maximum of 51 psi (3.5 bar).[†]

Wheels and tires

12. During the inflation, switch the compressor off briefly to check the tire pressure using the gauge mounted on the compressor.
 - It should not take longer than seven minutes to inflate the tire. If after seven minutes the tire has not reached the minimum pressure, the tire should not be used.
13. Once the tire has been inflated switch off the compressor. If desired the engine may be turned off after the compressor has been turned off.
14. Remove the power connector from the auxiliary power socket.
15. Remove the inflation hose from the tire valve by unscrewing it as quickly as possible (anti-clockwise).
16. Replace the inflation hose protective cap, and the tire valve cap.
17. Do not remove the sealant bottle from the receiver.
18. Ensure that the tire repair kit (including the bottle, and receiver caps) are placed securely in the vehicle. You will need to use the kit to check the tire pressure after 2 miles (3km) so ensure they are easily accessible.
19. Immediately drive the vehicle for 2 miles (3km) to allow the sealant to coat the inner surface of the tire and form a seal at the puncture.

†When pumping the sealant through the tire valve, the pressure may rise up to 87 psi (6 bar). The pressure will drop again after approximately 30 seconds.

Checking the tire pressure after a repair

WARNINGS



When driving the vehicle, if you experience vibrations, abnormal steering, or noises, reduce speed immediately. Drive with extreme caution and reduced speed to the first safe place to stop the vehicle. Visually examine the tire, and check its pressure. If there are any signs of damage or deformity to the tire, or the tire pressure is below 19 psi (1.3 bar) do not continue driving.



Consult a tire repair centre, or your Land Rover Dealer for advice concerning the replacement of a tire after using a tire repair kit.

1. Drive the vehicle for 2 miles (3 km) then stop in a safe place. Carry out a visual examination of the tires condition.
2. Remove the protective cap from the inflation hose.
3. Screw the inflation hose connector firmly onto the tire valve.
4. Read the tire pressure from the gauge.
5. If the pressure of the sealant filled tire is above 19 psi (1.3 bar) adjust the pressure to the correct value. See **TECHNICAL SPECIFICATIONS** (page 188).
6. Ensure that the compressor switch is in the off position (**O**), and insert the power cable connector into an auxiliary power socket. See **AUXILIARY POWER SOCKETS** (page 100).
7. If the vehicle is in a well ventilated area, start the engine.
8. Switch on the compressor (**I**), and inflate the tire to the correct pressure.

Wheels and tires

9. To check the tire pressure turn off the compressor then read the pressure from the gauge.
10. When the compressor is off, if the tire pressure is too high, release the required amount of pressure using the pressure relief valve.
11. Once the tire is inflated to the correct pressure, switch off the compressor and remove the power plug from the auxiliary socket.
12. Unscrew the inflation hose connector from the tire valve, replace the tire valve cap and the inflation hose connector protective cap.
13. Do not remove the sealant bottle from the receiver.
14. Ensure that the tire repair kit (including the bottle, and receiver caps) are placed securely in the vehicle.
15. Drive to the nearest tire repair centre, or Land Rover Dealer for a replacement tire to be fitted. Ensure that you make the repair centre aware that the tire repair kit has been used before the tire is removed.
16. Both the tire inflation hose, and the sealant bottle should be replaced once a new tire has been fitted.



Only sealant bottles which are completely empty should be disposed of with normal household waste. Sealant bottles which contain some sealant, and the tire inflation hose, should be disposed of by a tire specialist, or your Land Rover Dealer in compliance with local waste disposal regulations.

TIRE CARE

WARNINGS



Defective tires are dangerous. Do not drive the vehicle if a tire is damaged, excessively worn, or incorrectly inflated. Doing so may lead to premature tire failure.



Avoid contaminating the tires with vehicle fluids as they may cause damage to the tire.



Avoid spinning the wheels. The forces released can damage the structure of the tire, and cause it to fail. Doing so may lead to premature tire failure.



If wheel spin is unavoidable due to a loss of traction (in deep snow for example) do not exceed the 50 km/h (30 mph) point on the speedometer. Doing so may lead to premature tire failure.

Note: *tire condition should be checked after the vehicle has been used off-road. As soon as the vehicle returns to a normal, hard, road surface stop the vehicle and check for damage to the tires.*

All of the vehicle's tires (including the spare) should be checked regularly for damage, wear and distortion. If you are in any doubt about the condition of a tire, have it checked immediately by a tire repair centre, or your Land Rover Dealer.

Tire wear

Good driving practise will improve the mileage you obtain from your tires, and avoid unnecessary damage.

- Always ensure that the tire pressures are correctly adjusted.
- Always observe the posted speed limits, and advisory speeds for bends.

Wheels and tires

- Avoid pulling away quickly, or hard acceleration.
- Avoid making fast turns or braking sharply.
- Wherever possible, avoid potholes, or obstacles on the road.
- Do not drive up kerbs, or rub the tires against them when parking.

Wear indicators

WARNING



Wear indicators show the minimum tread depth recommended by the manufacturers. Tires which have worn to this point will have reduced grip and poor water displacement characteristics.

CAUTION



If tread wear is uneven across a tire, or the tire wears excessively, the vehicle should be checked by your Land Rover Dealer as soon as possible.



E80236

When the tread has worn down to approximately 2 mm, wear indicators start to appear at the surface of the tread pattern. This produces a continuous band of rubber across the tread as a visual indicator.

To maintain performance and grip the tire must be replaced as soon as the wear indicator becomes visible. Sooner, if legislation requires replacement at a greater tread depth.

Note: Tread depth should be checked regularly, in some case more frequently than the service intervals. For advice on checking tires contact your Land Rover Dealer, or a tire dealer.

Age degradation

Tires degrade over time due to the effects of ultraviolet light, extreme temperatures, high loads, and environmental conditions. It is recommended that tires are replaced at least every six years, but they may require replacement more frequently.

Land Rover recommends that even if unused, the spare tire be replaced at the same time as the four road tires.

Punctured tires

WARNING



Do not drive the vehicle with a punctured tire. Even if the punctured tire has not deflated, it is unsafe to use as the tire may deflate suddenly at any time.

Tire checks

Not all punctures result in the tire deflating immediately. Therefore, it is important to check the tires for damage and foreign objects, regularly.

When driving, if a sudden vibration, or change to the vehicle's handling is noticed, reduce speed immediately. Do not brake hard, or make any sudden manoeuvres or direction changes. Drive slowly to an area off of the main highway and stop the vehicle.

Note: Driving the vehicle to a safe area may cause damage to the punctured tire, but occupant safety is far more important.

Wheels and tires

Inspect the tires for signs of punctures, damage, or under inflation. If any damage or deformity is detected, the tire should be replaced. If a spare tire is not available, then the vehicle should be recovered to a tire repair centre, or Land Rover Dealer.

Note: *The tires should be checked immediately after any off-road use, and prior to using the vehicle on a public highway.*

Replacement tires

WARNINGS



Do not fit cross-ply tires.



Do not fit tubed tires.



Do not swap tires around the vehicle. Tires bed in to the specific characteristics of each wheel position. Swapping them around may affect the vehicle's handling and traction.



Always fit replacement tires of the same type, and wherever possible of the same make and tread pattern.



Replacement wheels should be genuine Land Rover parts. This will maintain the designed driving characteristics both on and off road.



If the use of tires not recommended by Land Rover is unavoidable, ensure that you read, and fully comply with the tire manufacturers instructions. Failure to do so may lead to tire failure due to incorrect fitment or use.

Ideally, tires should be replaced in sets of four. If this is not possible, replace the tires in pairs (front and rear). When tires are replaced, the wheels should always be re-balanced, and alignment checked.

The correct tire specification for your vehicle can be found on the tire information label.

High performance wheel and tire combinations

CAUTION



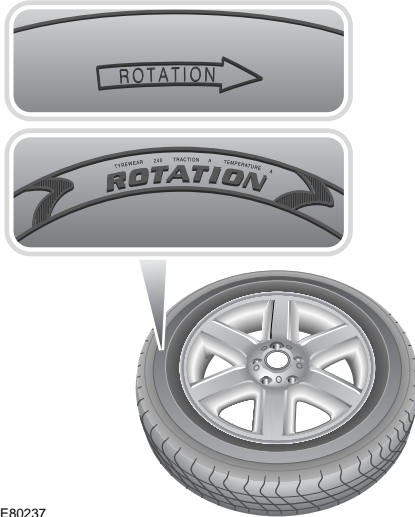
This vehicle may be fitted with a high performance wheel and low aspect ratio tire combination designed to give enhanced dry road performance with consideration for aquaplaning resistance. Low profile, high speed rated tires have a softer tread compound. If driven aggressively they may suffer increased tread wear and a shorter life than can be expected from other tire types. This wheel and tire combination is susceptible to damage if driven off road. This combination has less performance in snow or ice conditions than M and S tires. High performance tires must be replaced with winter tires when weather conditions dictate.

Directional tires

Directional tires are designed to operate correctly when rotating forwards (when the vehicle is travelling forwards).

Wheels and tires

Typical direction indicators



E80237

Tire pressures

WARNINGS



Never drive your vehicle if the tire pressures are incorrect.

Under-inflation causes excessive flexing and uneven tire wear. This can lead to sudden tire failure. Over-inflation causes a harsh ride, uneven tire wear and poor handling.



Pressure checks should only be carried out when the tires are cold, and the vehicle has been stationary for more than three hours. A hot tire at or below recommended cold inflation pressure is dangerously under-inflated.



If the vehicle has been parked in strong sunlight, or used in high ambient temperatures do not reduce the tire pressures. move the vehicle into the shade and allow the tires to cool before re-checking the pressures.

Tire pressures (including the spare) should be checked at least once a week with normal on-road use, but should be checked daily if the vehicle is used off-road. Always check the tire pressures before setting off on a long journey.

Use a reliable gauge to check the pressures when the tires are cold. Driving as short a distance as 1 mile (3 km) can warm the tires up sufficiently to affect the tire pressures.

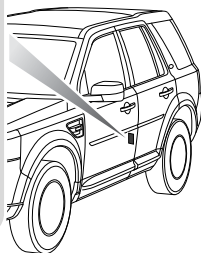
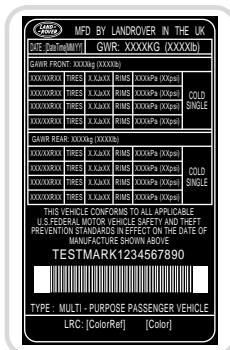
If it is necessary to check tire pressures when the tires are warm, you should expect the pressures to have increased by up to 4 - 6 psi (30 - 40 kPa). Do not reduce the tire pressures to the cold inflation pressure under these circumstances. Allow the tires to cool fully before adjusting the pressures.

Cold tire inflation pressures

Wheel size	Axle	kPa	bar	psi
All except 19 inch	Front and rear	220	2.2	32
19 inch only	Front and rear	240	2.4	35

Wheels and tires

Checking the tire pressures



E85346

Tire pressures are shown on a label attached to the driver's door pillar.

WARNING



Tire pressures should be checked regularly using an accurate pressure gauge, when the tires are cold. Failure to properly maintain your tire pressures could increase the risk of tire failure resulting in loss of vehicle control and personal injury.

The following procedure should be used to check and adjust the tires pressures.

1. Remove the valve cap.
2. Firmly attach a tire pressure gauge/inflator to the valve.
3. Read the tire pressure from the gauge, and add air if required.
4. If air is added to the tire, remove the gauge and re-attach it before reading the pressure. Failure to do so may result in an inaccurate reading.
5. If the tire pressure is too high, remove the gauge and allow air out of the tire by pressing the centre of the valve. Refit the gauge to the valve and check the pressure.

6. Repeat the process adding or removing air as required until the correct tire pressure is reached.

7. Refit the valve cap.

Note: It is an offence in certain countries to drive a vehicle with incorrect tire pressures.

Note: It is the driver's responsibility to ensure that the tire pressures are correct.

Tire valves

Keep the valve caps screwed down firmly to prevent water or dirt entering the valve. Check the valves for leaks when checking the tire pressures.

Steps for determining correct load limit

WARNINGS



Do not exceed the vehicle capacity weight (the total weight of driver, passengers and cargo) given.



The weight of accessories must also be subtracted from the available cargo and luggage load capacity. If you are unsure of the weight of any accessories fitted to your vehicle, contact your Land Rover Dealer.



Overloading the vehicle will have an adverse affect on braking and handling characteristics, which could compromise your safety. Overloading a vehicle may also cause tire damage or failure. Never overload your vehicle.

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX pounds" on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.

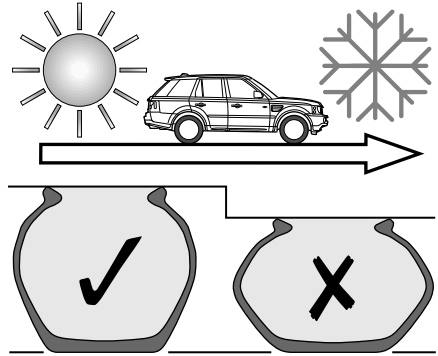
Wheels and tires

3. Subtract the combined weight of the driver and passengers from XXXX kg or XXXX pounds.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. ($1400 - 750 (5 \times 150) = 650$ lbs.).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

The number and weight of passengers will affect the cargo and luggage load capacity. In the example above, the cargo and luggage load capacity is 650 lb. However, if fewer passengers ride in the vehicle, the luggage load capacity will increase. If this vehicle carries three 150 lb. passengers, the cargo and luggage load capacity will increase to 950 lb.: ($3 \times 150 = 450$ lb., and $1400 - 450 = 950$ lb.).

If the passengers weigh more, the cargo and luggage load capacity will decrease.

Pressure compensation for ambient temperature changes



E80321

If the ambient temperature drops, the tire pressures will decrease, which may cause under inflation. This should be borne in mind when travelling to, or through, areas of lower temperature.

Under inflation causes the tire side wall height to reduce, which in turn results in uneven tire wear, and a risk of tire failure.

Tire pressures may be adjusted before setting off on a journey to, or through, areas of low temperature. Alternatively, the tire pressures can be adjusted when low temperature areas are reached.

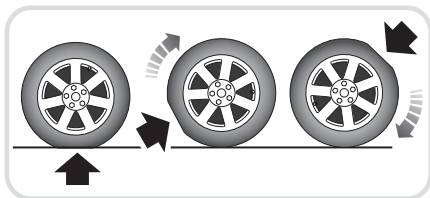
Note: *If the tire pressures are to be adjusted in the lower temperature area, the vehicle should be left standing for at least one hour prior to adjustment.*

Tire pressures should be increased by 2 psi (14 kpa) for each 10 °C (20 °F) temperature decrease.

Wheels and tires

Flat spots

If the vehicle is stationary for a long period when the ambient temperature is high, the tires may form flat spots. When the vehicle is driven these flat spots will cause a vibration which will steadily disappear as the tires warm up and regain their original shape.



E80322

In order to minimise flat spotting, the tire pressures can be increased.

Tire pressures should be increased by 2 psi 14 kPa for each 10 °C (20 °F) temperature increase above 20 °C (68 °F).

Long term storage

Flat spotting can be minimised during long term storage by increasing the tire pressures to the maximum indicated on the tire sidewall.

Note: The tire pressures should be reduced to the correct pressure before the vehicle is driven.

USING WINTER TIRES

If winter tires are fitted to the vehicle, the tire manufacturers instructions should be followed. Pay particular attention to instructions regarding the maximum speed that the vehicle can be driven, and the correct pressures for the tires.

USING TRACTION DEVICES

WARNING



Only use traction devices in heavy snow conditions, on hard road surfaces.

Dynamic Stability Control (DSC) must be switched off when using traction devices. DSC limits wheel spin which is required to maintain traction in deep snow conditions.

Never exceed 50 km/h (30 mph) when traction devices are fitted.

Never fit traction devices to a temporary use spare wheel.

Land Rover approved traction devices may be used to improve traction on a hard road surface in heavy snow conditions. They should not be used in off-road conditions.

If it becomes necessary to fit traction devices, the following points should be observed:-

- Single sided Spike-spyder traction devices can only be fitted to the front wheels of vehicles fitted with 17 or 18 inch diameter wheels.
- The wheels and tyres fitted must conform to the specifications of the original equipment.
- No traction devices should be fitted to the rear wheels.
- Only Land Rover approved traction devices should be used on the vehicle. Only Land Rover approved traction devices have been tested to ensure that they do not cause damage to the vehicle. Contact your Land Rover Dealer/Authorised repairer for information.
- Always read, understand, and follow the snow chain manufacturer's instructions. Pay particular attention to the maximum speed, and fitting instructions.

Wheels and tires

- Avoid tyre/vehicle damage by removing the traction devices as soon as the conditions allow.

TIRE PRESSURE MONITORING SYSTEM (TPMS)

WARNING



The Tire Pressure Monitoring System (TPMS) is not a substitute for manually checking tire pressures.

The TPMS only provides a low tire pressure warning and does not re-inflate the tires. The tire pressures should be checked regularly when cold, using an accurate pressure gauge. Failure to properly maintain tire pressures can increase the risk of tire failure, leading to a loss of vehicle control. The TPMS cannot register damage to a tire. Regularly check the condition of your tires, especially if the vehicle is driven off-road.

CAUTION



When inflating tires, care should be taken to avoid bending or damaging the TPMS valves. Always ensure

correct alignment of the inflation head to the valve stem.

Note: *Non-approved accessories may interfere with the system. If this occurs, TIRE PRESSURE MONITORING SYSTEM FAULT will be displayed in the message centre.*

Note: *Different types of tire may affect the performance of the TPMS. Always replace tires in accordance with recommendations.*

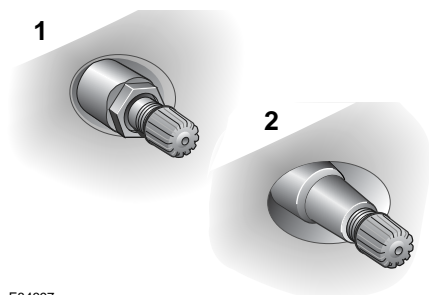
Note: *The TPMS only provides a low tire pressure warning and does not re-inflate the tires.*

Your vehicle has been equipped with a TPMS which monitors pressure in each tire, including the full-size spare tire. Temporary spare tires are not fitted with sensors and are consequently not monitored.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability. Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Wheels and tires



E84697

1. Wheels fitted with a TPMS can be visually identified by the external metal lock nut and valve.
2. Non-TPMS wheels have a rubber valve fitted.

TPM system operation

The TPMS monitors the pressure of the tires via sensors located in each wheel and a receiver located within the vehicle. Communication between sensor and receiver is via Radio Frequency (RF) signals.



The tire pressure warning comprises an yellow warning indicator (telltale) within the instrument pack and an associated message within the message centre.

If the telltale light illuminates, you should stop and check your tires as soon as possible and inflate them to the recommended pressure. If low pressure warnings occur frequently, the cause must be determined and rectified. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

The TPMS also monitors the full size spare tire pressure. If the pressure for the spare tire is incorrect, the message CHECK SPARE TIRE PRESSURE will be displayed, accompanied by illumination of the warning telltale.

When driving through variable climatic conditions, the TPMS warnings may be intermittent.

TPMS malfunction

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly.

The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

A text message will accompany the system malfunction and will display TIRE PRESSURE MONITORING SYSTEM FAULT.

Spare tire pressure

The full size spare tire should be inflated to the highest pressure for the specified tire size, when not in use on the vehicle.

Wheels and tires

Full size spare wheel and tire change

Should it be necessary to change a wheel and tire with the spare then the system will automatically recognise the change in wheel positions. The vehicle needs to be stationary for fifteen minutes during the wheel and tire change, before the system is ready to detect the change in positions. The vehicle must be driven for a minimum of fifteen minutes after a tire change, and then remain stationary for fifteen minutes to activate full TPMS operation. After driving above 25 km/h (18 mph) any deflation warning will clear typically within five minutes.

Temporary spare wheel and tire change

If the temporary spare wheel is fitted, the system will automatically recognise the change in wheel positions. After approximately ten minutes of driving above 18 mph (25 km/h), the message TIRE PRESSURE FRONT (REAR) RIGHT (LEFT) NOT MONITORED will be displayed, accompanied by illumination of the warning telltale.






The warning telltale will initially flash and will subsequently revert to continuous illumination. Extended use of the temporary spare wheel, will produce an additional text message TIRE PRESSURE MONITORING SYSTEM FAULT.

This TPMS display sequence will be activated at every starter switch cycle until the temporary spare wheel is replaced by a fully operational full size wheel and tire assembly.

Always replace the temporary spare wheel before having TPMS faults investigated. The fault may well be rectified with the fitment of a fully operational full size running tire in lieu of the temporary spare wheel assembly.

If a tire needs to be changed

CAUTIONS

-  The valve stem seal, washer, nut, valve core and cap should be replaced at every tire change.
-  The valve stem seal, washer and nut must be replaced if the valve retention nut is loosened.
-  Sensor units and nuts must be refitted using correct torque figures and associated profile.
-  Sensors can be removed from the wheel by unscrewing the valve retention nut.
-  Damage to the vehicle may result if these precautions are not taken.

It is recommended that you should always have your tires serviced by a dealer or qualified technician. If a TPMS is fitted, each wheel and tire assembly, with the exception of a temporary spare, is equipped with a tire pressure sensor connected to the tire valve stem.

In order to avoid damage to the sensor, the tires must be removed and refitted to the road wheel in a specified manner. Care must be taken to avoid contact between the bead of the tire and the sensor during removal and refitting of the tire, otherwise the sensor may become damaged and/or inoperable.

Replacement sensor fitment procedure

Sensor replacement should be carried out by a Land Rover Dealer.

A replacement sensor must be fitted to a running wheel in order to be recognised by the TPMS. Recognition only occurs when the vehicle is driven above 25 km/h (18 mph) for approximately ten minutes.

Wheels and tires

Should the TPMS warning for any wheel not clear, even after ensuring correct inflation and driving for more than ten minutes above 25 km/h (18 mph), consult your Land Rover Dealer.

FCC and Canadian warning statement

This device complies with part 15 of the FCC rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with RSS-210 of Industry Canada.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

The TPMS radio frequency approval numbers for the USA and Canada are shown below:-

USA FCC ID: KR5S120123.

IC: 267T-120123.

PRODUCTION OPTION WEIGHTS

WARNING



The weight of accessories and vehicle options above the weight of a standard vehicle must be subtracted from the cargo, luggage and passenger load capacity available. Failure to correctly calculate the weight of accessories and production options may lead to the vehicle being overloaded.

Overloading the vehicle will have an adverse affect on the braking and handling characteristics of the vehicle, which may compromise your safety.

CAUTION



Overloading the vehicle may cause tire failure.

Note: *If you are unsure of the weight of any accessories or production options fitted to your vehicle, contact a Land Rover Dealer for advice.*

TIRE GLOSSARY

psi or lbf/in²

Pounds per square inch, an imperial unit of measure for pressure.

kPa

Kilo Pascal, a metric unit of measure for pressure.

Cold tire pressure

The air pressure in a tire which has been standing in excess of three hours, or driven for less than one mile.

Wheels and tires

Maximum inflation pressure

The maximum pressure to which the tire should be inflated. This pressure is given on the tire side wall in psi (lbf/in²) and kPa.

***Note:** This pressure is the maximum allowed by the tire manufacturer. It is not the pressure recommended for use. See **TIRE CARE** (page 176).*

Curb weight

The weight of a standard vehicle, including a full tank of fuel, any optional equipment fitted, and with the correct coolant and oil levels.

Gross vehicle weight

The maximum permissible weight of a vehicle with driver, passengers, load, luggage, equipment and towbar load.

Accessory weight

The combined weight (in excess of those items replaced) of items available as factory installed equipment.

Production options weight

The combined weight of options installed which weigh in excess of 3 lb (1.4 kg) more than the standard items that they replaced, and are not already considered in kerb or accessory weights. Items such as heavy duty brakes, high capacity battery, special trim etc.

Vehicle capacity weight

The number of seats multiplied by 150 lb (68 kg) plus the rated amount of load/luggage.

Maximum loaded vehicle weight

The sum of curb weight, accessory weight, vehicle capacity weight, plus any production option weights.

Rim

The metal support for a tire, or tire and tube, upon which the tire beads are seated.

Bead

The inner edge of a tire that is shaped to fit to the rim and form an air tight seal. The bead is constructed of steel wires which are wrapped, or reinforced, by the ply cords.

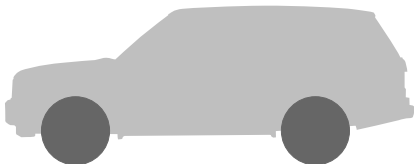
Wheels and tires

TECHNICAL SPECIFICATIONS

Wheel size	Tyre size	Speed rating
8.0J x 19	235/55 R 19	H
8.0J x 18	235/60 R 18	V
7.5J x 17	235/65 R 17	V
*7.0J x 17	*225/65 R 17	*H
*7.0J x 17	*235/65 R 17	*V

* Temporary use spare wheel. See **CHANGING A ROAD WHEEL** (page 167).

Accessory wheels and tires



1 _____ 2 _____

3 _____

E81991

Note: Use the diagram above to record accessory wheel and tire information.

1. Front tire pressure.
2. Rear tire pressure.
3. Wheel and tire information (size, speed rating, etc).

WARNING



Contact your Land Rover dealer before fitting any accessory wheels and tires. Your Land Rover dealer will be able to offer guidance regarding the correct accessories. Fitting incorrect wheel/tire combinations can seriously affect the ride and handling of your vehicle. In extreme cases this may lead to loss of control of the vehicle.