

## Specifications

### Wheels - 90 Models



**WARNING:** Always use the same make and type of radial-ply tyres, front and rear. **DO NOT** use cross-ply tyres, or interchange tyres from front to rear.

Wheel type	Wheel size
Steel wheel - UK and Western Europe	6F x 16
Steel wheel - Other markets	5.5F x 16
Alloy wheel	7J x 16

### Wheels



**WARNING:** Always use the same make and type of radial-ply tyres, front and rear. **DO NOT** use cross-ply tyres, or interchange tyres from front to rear. If the wheel is marked 'TUBED', an inner tube **MUST** be fitted, even with a tubeless tire. If the wheel is marked 'TUBELESS', an inner tube must **NOT** be fitted.

Wheel type	Wheel size
Steel wheel - UK and Western Europe	6F x 16
Steel wheel - Other markets except Japan	5.5F x 16
Steel wheel - Japan	6.5J x 16
Alloy wheel	7J x 16

### Tire sizes

Model	Tire size
90	205/80 R16 Radial
	265/75 R16 Radial (Multi terrain)
	7.50 R16 Radial
110 - except Japan	7.50 R16 Radial
110 Japan	7.50 R16C
130	7.50 R16 radial

### Tire pressures

Model - Tire size	Front	Rear
90 - 205/80 R16	1,9 bar	2,6 bar
	28 lbf/in <sup>2</sup>	38 lbf/in <sup>2</sup>
	2,0 kgf/cm <sup>2</sup>	2,7 kgf/cm <sup>2</sup>
90 - 265/75 R16	1,9 bar	2,4 bar
	28 lbf/in <sup>2</sup>	35 lbf/in <sup>2</sup>
	2,0 kgf/cm <sup>2</sup>	2,7 kgf/cm <sup>2</sup>
90 - 7.50 R16	1,9 bar	2,6 bar
	28 lbf/in <sup>2</sup>	38 lbf/in <sup>2</sup>
	2,0 kgf/cm <sup>2</sup>	2,7 kgf/cm <sup>2</sup>
110 - 7.50 R16 (except Japan)	1,9 bar	3,3 bar
	28 lbf/in <sup>2</sup>	48 lbf/in <sup>2</sup>

	2,0 kgf/cm <sup>2</sup>	3,4 kgf/cm <sup>2</sup>
110 - 7.50 R16C (Japan)	2,2 bar	4,1 bar
	32 lbf/in <sup>2</sup>	60 lbf/in <sup>2</sup>
	2,3 kgf/cm <sup>2</sup>	4,3 kgf/cm <sup>2</sup>
130 - 7.50 R16	3,0 bar	4,5 bar
	44 lbf/in <sup>2</sup>	65 lbf/in <sup>2</sup>
	3,1 kgf/cm <sup>2</sup>	4,6 kgf/cm <sup>2</sup>

#### Road Wheel Nut Torque Specifications

Wheel type	Nm	lb-ft
*Steel wheels	100	80
Alloy wheels	130	96
Heavy duty wheels	170	125

\* Wheel nuts must be tightened by diagonal selection

## Wheels and Tires

### GENERAL

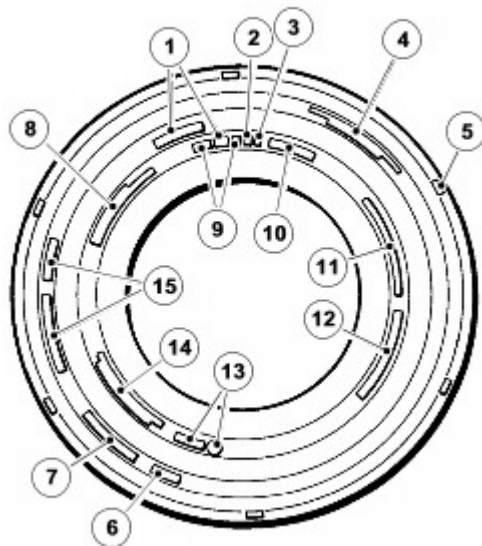
Dependent on specification and model type, the vehicle is equipped with pressed steel or alloy wheel rims, both using tubeless radial ply tires.

### Tire codes

The text, codes and numbers moulded into the tire wall vary between tire manufacturers, however most tires are marked with the information shown in the illustrated example.

#### NOTE:

The illustration is an example of the type of markings moulded into tires and is for guidance only. For specific tire specifications. For additional information, refer to (204-04 Wheels and Tires)



RR3854M

Item	Part Number	Description
1.		Type of tire construction - <b>Radial Ply</b>
2.		Load index - <b>104</b>
3.		Speed symbol - <b>S or T</b>
4.		USA Tyre quality grading - <b>Tread wear 160 Traction A temperature B</b>
5.		Tread wear indicators moulded into tread pattern are located at intervals around the tire and marked by a code - <b>E66 103S6</b>
6.		Tyres with 'Mud Snow' type tread pattern are marked - <b>M and S</b>
7.		Tyre reinforcing mark - <b>Reinforced</b>
8.		USA Load and pressure specification - <b>(900Kg(1984LBS) at 340KA (50PSI) MACS PRESS</b>
9.		Tyre size - <b>205 16 or 235/70 R16</b>
10.		Type of tire - <b>TUBELESS</b>
11.		Country of manufacture - <b>MADE IN GREAT BRITAIN</b>
12.		USA Compliance symbol and identification - <b>DOT AB7C DOFF 267</b>
13.		European type approval identification - <b>E11 01234</b>
14.		Tire construction - <b>SIDE WALL 2 PLIES RAYON. TREAD 2 RAYON 2 STEEL</b>

## GENERAL INFORMATION



**WARNING:** This is a multi-purpose vehicle with wheels and tires designed for both on and off road usage. Only use wheels and tires specified for use on the vehicle.

The vehicle is equipped with tubeless 'S', 'T' or 'H' rated radial ply tires as standard equipment. The tires are of European metric size and must not be confused with the "P" size metric tires available in North America.

Vehicle wheel sets, including spare wheel, must be fitted with the same make and type of tire to the correct specification and tread pattern. Under no circumstances must cross-ply or bias-belted tires be used.



**WARNING:** DO NOT fit an inner tube to an alloy wheel.

For tire specification and pressures. For additional information, refer to (204-04 Wheels and Tires)

### Steel wheels

Tubeless tires are mounted on 5.5 or 6.5 inch wide by 16 inch diameter steel wheels.

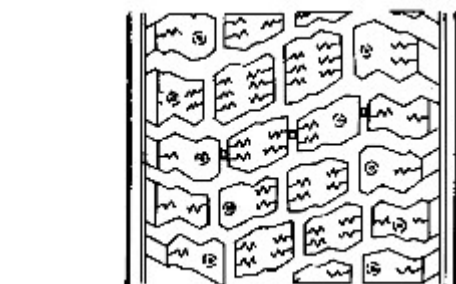
### Alloy Wheels

Tubeless tires are mounted on 7.0 inch wide by 16 inch diameter cast aluminium alloy wheels. The surface has a paint finish covered with a clear polyurethane lacquer. Care must be taken when handling the wheel to avoid scratching or chipping the finish. The alloy wheel rim is of the asymmetric hump type incorporating a safety hump to improve location of the tire bead in its seat. If difficulty is experienced in fitting tires to this type of rim. See For additional information, refer to [Wheel and Tire](#) (204-04 )

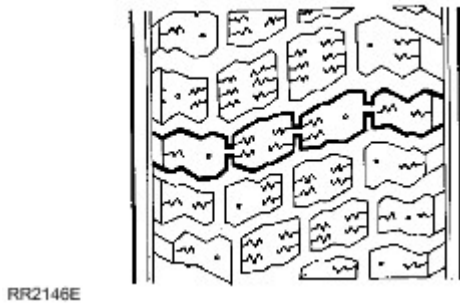
## TIRE INSPECTION

Inspect tires at weekly intervals to obtain maximum tire life and performance and to ensure compliance with legal requirements. Check for signs of incorrect inflation and uneven wear, which may indicate a need for balancing or front wheel alignment, if the tires have abnormal or uneven wear patterns. See Tire Wear Chart in this section.

Check tires at least weekly for cuts, abrasions, bulges and for objects embedded in the tread. More frequent inspections are recommended when the vehicle is regularly used in off road conditions.



To assist tire inspection, tread wear indicators are moulded into the bottom of the tread grooves, as shown in the illustration above.



When the tread has worn to a depth of 1.6 mm the indicators appear at the surface as bars which connect the tread pattern across the width of the tread as shown in the illustration above.

**NOTE:**

DO NOT attempt to interchange tires, e.g. from front to rear, as tire wear produces characteristic patterns depending on their position. If tire position is changed after wear has occurred, the performance of the tire will be adversely affected.

**NOTE:**

Territorial vehicle regulations governing tire wear **MUST** be adhered to.

When the indicators appear in two or more adjacent grooves, at three locations around the tire, a new tire must be fitted.

## Wheel inspection

Regularly check the condition of the wheels. Replace any wheel that is bent, cracked, dented or has excessive runout.

## Valve inspection

Check condition of inflation valve. Replace any valve that is worn, cracked, loose, or leaking air.

## Tire pressures

Maximum tire life and performance will be obtained only if tires are maintained at the correct pressures .

Tyre pressures must be checked at least once a week and preferably daily, if the vehicle is used off road.

The tire inflation pressure is calculated to give the vehicle satisfactory ride and steering characteristics without compromising tire tread life. For recommended tire pressures in all conditions. For additional information, refer to (204-04 Wheels and Tires)

Always check tire inflation pressures using an accurate gauge and inflate tires to the recommended pressures only .

Check and adjust tire pressures **ONLY** when the tires are cold, vehicle parked for three hours or more, or driven for less than 3.2 km (2 miles) at speeds below 64 km/h (40 mph). Do not reduce inflation pressures if the tires are hot or the vehicle has been driven for more than 3.2 km (2 miles) at speeds over 64 km/h (40 mph), as pressures can increase by 0.41 bars (6 lb/in<sup>2</sup>) over cold inflation pressures.

Check **ALL** tire pressures including the spare. Refit the valve caps as they form a positive seal and keep dust out of the valve.

## WHEEL BALANCING



**CAUTION:** It is essential that all wheel balancing is carried out off the vehicle. The use of on the vehicle balancing could cause component damage or personal injury and **MUST NOT** be attempted.

**NOTE:**

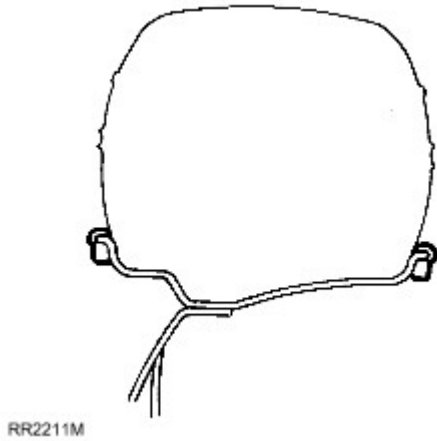
Before attempting to balance a wheel and tire assembly clean all mud and dirt deposits from both inside and

outside rims and remove existing balance weights.

Remove stones from the tire tread in order to avoid operator injury during dynamic balancing and to obtain the correct balance.

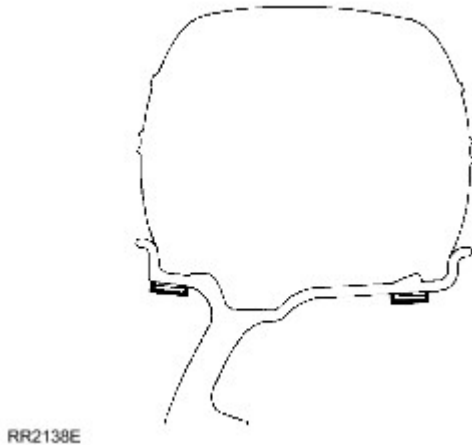
Inspect tires for damage and correct tire pressures and balance according to the equipment manufacturer's instructions.

## Steel wheels



Clean area of wheel rim and attach balance weights in position shown.

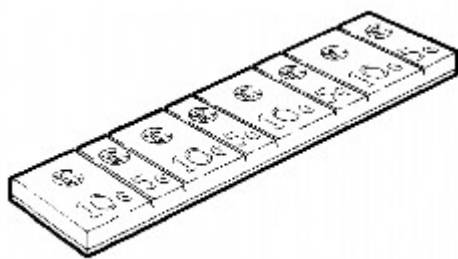
## Alloy wheels



Clean area of wheel rim and attach adhesive balance weights in position shown. Cut through rear face of weight strip to detach required weights.



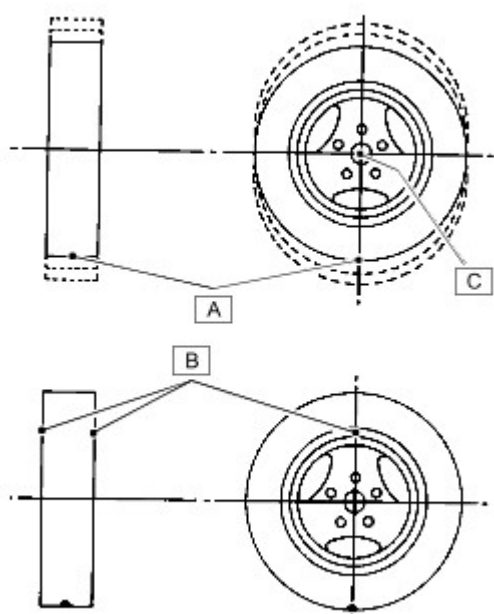
**CAUTION:** Use only correct adhesive balance weights to avoid damage to aluminium wheel rim. DO NOT attempt to use a steel wheel weight on an aluminium wheel.



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## Static Balance

### Wheel tramp



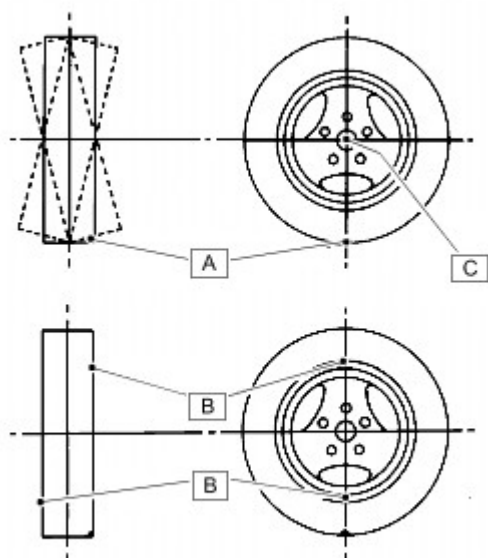
RR3829M

Item	Part Number	Description
A		Heavy spot.
B		Add balance weights here.
C		Centre line of spindle.

Static balance is the equal distribution of weight around the wheel. A statically unbalanced wheel will cause a bouncing action called wheel tramp. This condition will eventually cause uneven tire wear.

## Dynamic Balance

### Wheel shimmy



RR3830M

Item	Part Number	Description
A		Heavy spot.
B		Add balance weights here.
C		Centre line of spindle.

Dynamic balance is the equal distribution of weight on each side of the centre line so that when the wheel spins there is no tendency for side to side movement. A dynamically unbalanced wheel will cause wheel shimmy.

## Off Vehicle Balancing

Balance wheel assembly referring to equipment manufacturer's instructions.

It is essential that the wheel is located by the centre hole NOT the stud holes. To ensure positive wheel location the diameter of the locating collar on the machine shaft must be 112,80 to 112,85 mm (4.441 to 4.443 in). This diameter will ensure that the collar fits correctly within the centre hole of the wheel.

Where possible, always use the vehicle wheel retaining nuts to locate the wheel on the balancer, to avoid damaging the wheel. If this is not possible, the locating nuts must be of a similar pattern to the original wheel nuts. The use of conical type wheel nuts for this purpose may damage the surface on alloy wheels.

## Cleaning

Wash the aluminium wheels using a suitable wash and wax concentrate, correctly diluted and rinse with cold clear water. DO NOT use abrasives or aluminium wheel cleaners containing acid, as they will destroy the lacquer finish.

## Tire changing

Use only tire changing equipment to mount or demount tires, following the equipment manufacturer's instructions. DO NOT use hand tools or tire levers, as they may damage tire beads or the wheel rim.

## Puncture repair

Remove punctured tire from wheel and repair using a combination service plug and vulcanising patch. Always follow manufacturer's instructions when using a puncture repair kit.

Only punctures in tread area are repairable, DO NOT attempt to repair punctures in tire shoulders or sidewalls.

Do not attempt to repair a tire that has sustained the following: bulges or blisters, ply separation, broken or cracked beads, wear indicators visible and punctures larger than 6 mm diameter.





**CAUTION:** Do not use tire sealants that are injected through valve stem to repair punctured tires, they may produce wheel corrosion and tire imbalance.

Aluminium wheel rim bead seats should be cleaned using a non-abrasive cleaner to remove the mounting lubricants and old rubber. Before mounting or demounting a tire, bead area should be well lubricated with a suitable tire lubricant.

## FAULT- SYMPTOMS

- Check tyre pressures. For additional information, refer to (204-04 Wheels and Tires)
- Check condition of tyres.
- Check front wheel alignment. For additional information, refer to [Front Toe Adjustment](#) (204-00 Suspension System - General Information)
- Check wheel balance.

### NOTE:

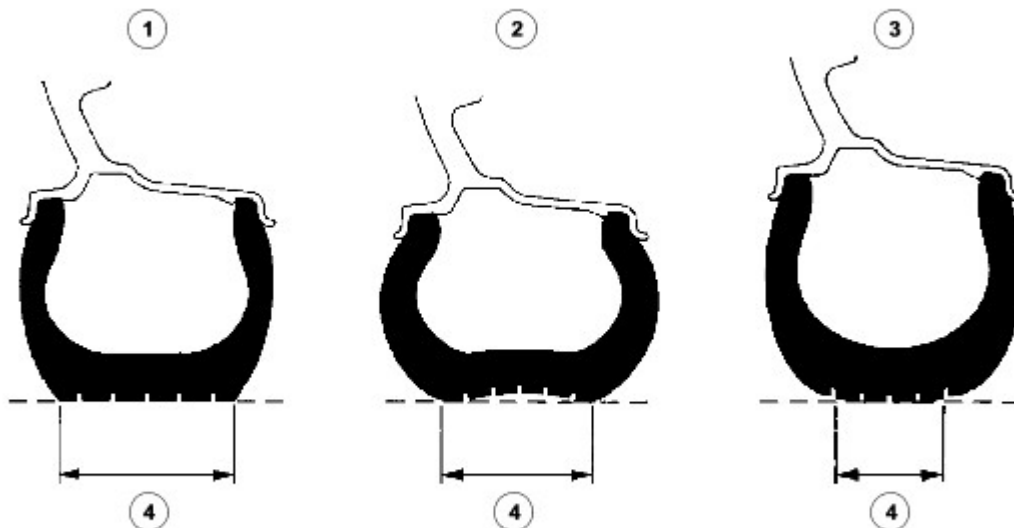
In the event that any apparent vibration is not eliminated at this stage.

### NOTE:

In the event that any apparent vibration is not eliminated at this stage, go to steering Fault Diagnosis, Fault - Symptom (Steering vibration, road wheel shimmy/wobble). For additional information, refer to [Steering System](#) (211-00 Steering System - General Information)

### NOTE:

Radial ply tyres have a flexible sidewall, which produces a sidewall bulge making the tyre appear under-inflated. This is a normal condition for radial ply tyres. Do not attempt to reduce this bulge by over-inflating the tyre.



RR2133E

Item	Part Number	Description
1.		Correct inflation.
2.		Under-inflation.
3.		Over-inflation.
4.		Tread contact with road.

## Tire wear chart



**CAUTION:** This chart is for general guidance only and does not necessarily include every cause of abnormal tire wear.

Fault	Cause	Remedy
Rapid wear at shoulders	Tires under inflated	Inflate to correct pressure
	Worn suspension components; i.e. ball joints, Panhard rod bushes, steering damper	Replace worn components
Rapid wear at centre of tread	Tires over inflated	Inflate to correct pressure
Wear at one shoulder	Track out of adjustment	Adjust track to correct figure
	Bent Panhard rod	Check and replace worn or damaged components
Bald spots or tire cupping	Wheel out of balance	Balance wheel and tire assembly
	Excessive radial run out	Check run out and replace tire if necessary
	Shock absorber worn	Replace shock absorber
	Excessive braking	
Tire scalloped	Track out of adjustment	Adjust track to correct figure
	Worn suspension components	Check and replace worn or damaged components, and replace tire
	Excessive cornering speeds	