WHEELS & TYRES

SECTION GG - ELISE 2001 M.Y. Onwards

GG.1 - GENERAL DESCRIPTION

The single piece, light alloy roadwheels are fitted with Bridgestone Potenza tyres, engineered to provide the optimum balance of ride and handling characteristics. In order fully to exploit the dynamic qualities and packaging opportunities, the wheel and tyre sizes are different front and rear, so that interchanging of wheels and tyres between axles is not permissible. Note that the tyre tread pattern is directional, and must be fitted on the wheel with sidewall arrow pointing in the direction of forward rotation.

The tyres should be inspected frequently by the vehicle user, and also at every service, for signs of cuts, abrasions or other damage, and for any uneven tread wear patterns. Uneven treadwear may indicate that the suspension geometry or dampers require attention. Care should be taken when parking to avoid tyre contact with high or sharp edged kerbs, as mistreatment of this nature can cause internal damage to the tyre structure which may not readily be apparent. The alloy wheel rims may also be distorted or damaged by careless parking, and result in wheel imbalance or loss of tyre pressure. Safety considerations should always be paramount when assessing tyre condition and serviceability, and the tyres replaced if any doubt exists, or if the legal tread depth limits are approached.

The cold tyre pressures should be checked every week, or every 1,000 miles (1,700 km), whichever is the sooner, and corrections made as necessary. Under-inflation will cause excessive wear, rapid deterioration of the tyre sidewalls and heavy steering, whereas overinflation results in a hard ride and increased susceptibility to tyre damage. Both conditions will cause a degradation in the vehicle handling qualities. It is important that the tyre pressures are adjusted only when the tyres are cold (driven less than one mile), as the pressures may increase by 0.3 - 0.5 bar (4 - 8 lb/in^2) when the tyres are warmed to normal running temperature. The tyre valve dust cap should always be replaced in order to prevent the ingress of dirt and moisture into the valve, which could cause leakage.

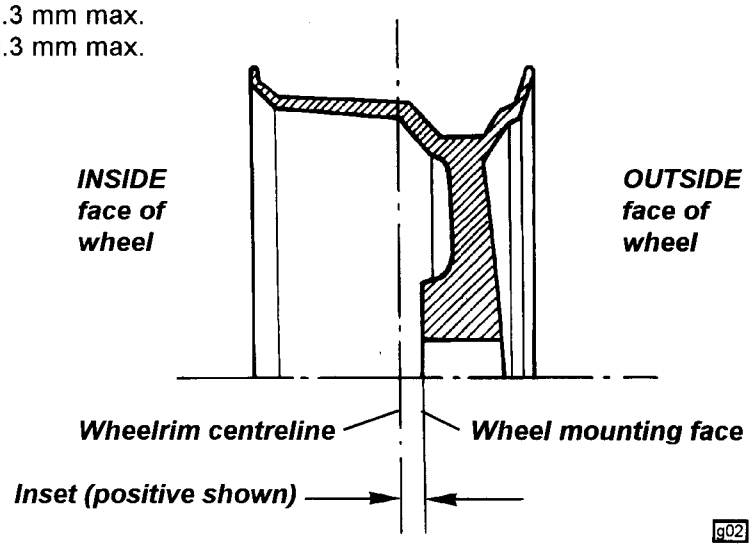
When balancing the wheel and tyre assemblies, the wheels should be located by the centre spigot - NOT by the wheel bolt holes. In order to maintain the correct handling feel and minimum steering wheel shake, it is very important that the radial and lateral run out of the tyres are to the high standard required by Lotus Cars. If any difficulty is experienced with replacement tyres, refer to the tyre manufacturer.

GG.2 - WHEELS & TYRES (normal use)

Wheels

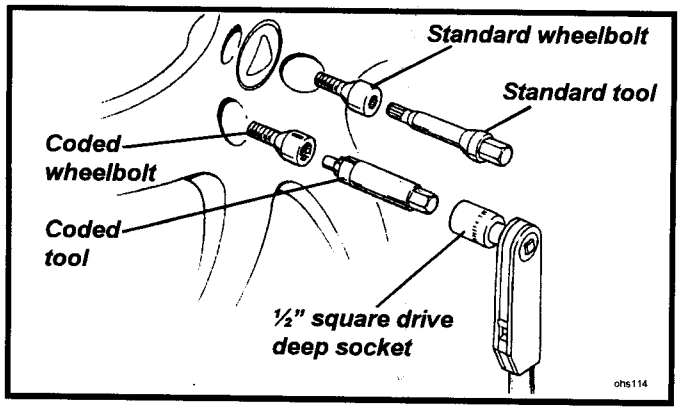
Type	Light alloy; 6 spoke style; 4 bolt fixing
Size - front	5.5J x 16
- rear	7.5J x 17
PCD	100 mm
Inset - front	+ 31.3 mm
- rear	+ 17.75 mm
Centre spigot hole diameter	56.5 mm
Wheel bolt torque	105 Nm
Radial run-out at bead seat	0.3 mm max.
Lateral run-out at rim flange	0.3 mm max.

Note that the inset figure is the displacement of the wheelrim centreline reletive to the wheel/ hub mounting face. A positive inset indicates that the wheelrim centreline lies inboard of the wheel mounting face, whereas a negative inset means the wheelrim centreline is outboard of the mounting face.



Wheel Bolts

The wheel bolts used on the Elise 2001 are of a special design to suit the small diameter fixing tunnels in the wheel centres. The bolts have an M12x1.75 thread, 60° conical seat, and a 10 spline socket head for which a special extension tool is supplied with the car. A 17 mm a/f **deep** socket and 1/2 inch square drive wrench should be applied to the extension tool, with a tightening torque of 105 Nm required.



To protect against wheel theft, one of the four bolts securing each wheel is key coded, and requires a corresponding coded extension tool. Rotate the tool until full engagement into the bolt head is ensured before applying release torque. Note that an alignment mark is provided on the coded bolt head and tool to aid refitting. Both the standard and coded spline drive extension tools are stowed in the vehicle tool kit, and should remain with the car at all times to ensure that servicing may be performed.

Tyres

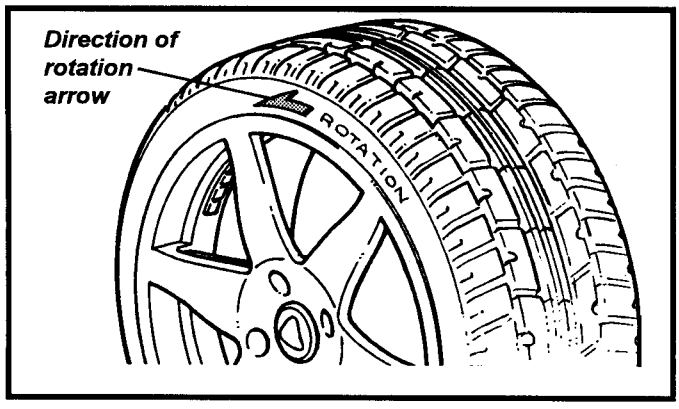
Lotus engineers have worked with the tyre manufacturer Bridgestone, to produce a version of the 'Potenza' tyre specifically for the Lotus Elise 2001, to optimise performance on both road and track. This tyre is identified by the construction code element of the DOT code moulded on one of the tyre sidewalls, and it is most important that ONLY this version is fitted if the correct handling characteristics are to be maintained.

DOT #### DCK ####

Front tyre code = CFE Rear tyre code = DCK

Type		Bridgestone Potenza RE040
Size - front		175/55 R16 80V
- rear		225/45 R17 90V
Identification code (see above)	- front	CFE
	- rear	DCK
Pressure (cold) - front		1.8 bar (26 lb/in²)
- rear		1.9 bar (27.5 lb/in²)

Wear indicators are moulded into the bottom of the tread grooves at intervals around the tyre, indicated by small pointers on the outer tread blocks. The tyres should be replaced before being worn to this minimum legal tread depth. Note that the 'Potenza' tread pattern is directional, so that the tyre must be fitted onto the wheel with regard to which side of the car the wheel is to be fitted. A direction of rotation arrow is included in the tyre sidewall markings.



GG.3 - WINTER TYRES & SNOW CHAINS

If the car is to be used in very cold territories, or driven on snow covered roads, it is recommended to fit winter wheels and tyres developed specifically for such conditions. Winter wheels are smaller than the standard wheels, and allow for the fitment of snow chains on only the rear wheels.

Winter Wheels

Type	Light alloy; 6 spoke style; 4 bolt fixing
Size - front	5.5J x 15
- rear	7J x 16
PCD	100 mm
Inset - front	+ 31.3 mm
- rear	+ 17.75 mm
Centre spigot hole diameter	56.5 mm
Wheel bolt torque	105 Nm

Winter Tyres

Type	Bridgestone LM22
Size - front	185/55 R15
- rear	205/55 R16
Pressure (cold) - front	1.8 bar (26 lb/in²)
- rear	1.9 bar (27.5 lb/in²)

WARNING:

- **When winter tyres are fitted, a maximum speed of 118 mph (190 km/h) must be observed.**
- **The tyres are NOT suitable for studding.**

Snow Chains

In extreme conditions, Lotus approves the fitment of Pewag Neon X3 - NX 369 snow chains, used only in conjunction with winter tyres (see above) and fitted only on the rear wheels. Close attention should be paid to the fitting and tensioning instructions supplied with the chains, and the chains should be removed as soon as road conditions allow.

GG.4 - PUNCTURED TYRE EMERGENCY INFLATOR (If fitted)

In order fully to exploit the benefits of light weight, and to maximise stowage space, no spare wheel is included in the Elise specification, but a temporary puncture repair facility is provided in the form of a tyre inflator aerosol. The aerosol is mounted in spring clips at the extreme right hand front corner of the rear luggage compartment.

When the aerosol is connected to the tyre valve, and the button pressed, a mixture of liquid latex and propellant is injected into the tyre, such that the solidifying latex is forced into the puncture site at the same time as the tyre is inflated, effecting a temporary repair and enabling the car to be driven at moderate speed to the nearest tyre depot.

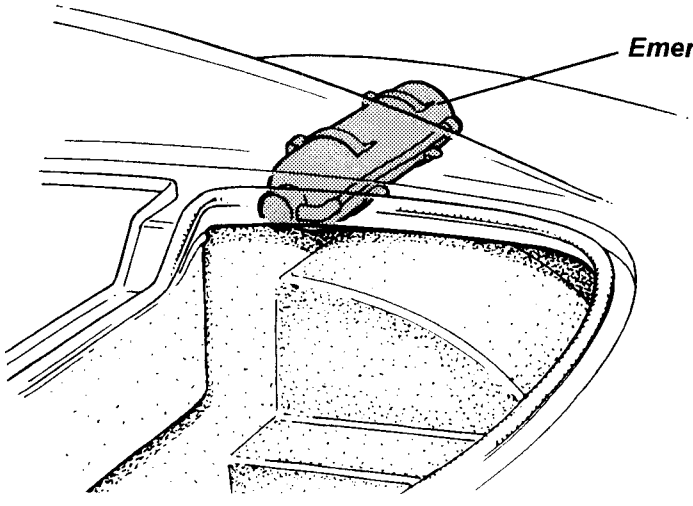
WARNING:

- **Use of the aerosol does not constitute a permanent repair, but is designed to allow the car to be driven to the nearest tyre depot. At the earliest opportunity, the tyre should be professionally repaired or replaced dependent on the severity of the damage.**
- **Until the tyre is repaired or replaced, the car should be driven in a moderate manner, not exceeding 30 mph (45 km/h).**
- **Do not use the aerosol for large holes or repairs, or when the tyre sidewall has been damaged, or if the tyre has been displaced from the rim.**
- **For safety reasons, the aerosol should be carried at all times in the designated stowage position. Never carry in the passenger compartment.**

As soon as a puncture is suspected, the car should be stopped at the first safe opportunity. Continued driving on a deflated tyre will cause irreparable damage to the tyre.

Directions for use of the aerosol: Before using, carefully read all the instructions on the canister, or on any literature accompanying the product. The following instructions apply to the use of Holts Tyreweld:

1. Remove the object causing the puncture, and position the wheel with the puncture site lowermost. Deflate tyre fully.
2. Shake the can vigorously. In cold conditions, warm the can using the car's heater outlets, or by body warmth.
3. Screw the aerosol tube onto the tyre valve, remove the cap, hold the can upright and press the button until the tyre is firmly inflated.
4. Immediately drive for 6 - 12 miles (10 - 20 km) (or to the tyre depot if nearer) in a moderate manner and not exceeding 30 mph (45 km/h), to allow the sealant to spread. Then check and adjust the tyre pressure as necessary.
5. Have the tyre professionally repaired or replaced at the earliest opportunity, and until such time, limit speed to 30 mph (45 km/h) with a moderate driving manner. Note that some tyre repairers may make an additional charge for cleaning the sealant off the tyre before repair, and that any subsequent repairs may not be guaranteed.
6. Renew the puncture repair aerosol.



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