



Photo courtesy of The Caravan Club

Motorhome Tyres

Tyres are the only parts of the motorhome which are in contact with the road. Safety in acceleration, braking, steering and cornering all depend on a relatively small area of road contact. It is therefore of paramount importance that tyres should be maintained in good condition at all times and that when the time comes to change them the correct replacements are fitted.

The original tyres for a motorhome are determined by joint consultation between the vehicle and tyre manufacturers and take into account all aspects of operation. It is recommended that changes in tyre size or type should not be undertaken without seeking advice from the motorhome or tyre manufacturers, as the effect on motorhome handling, safety and clearances must be taken into account.

In some other European countries it is illegal to use replacements which differ in certain respects (e.g. size, load, and speed rating) from the tyre fitted originally by the vehicle manufacturer.



And Your Safety

Motorhome Tyres and Your Safety

Don't Forget Your Tyres

Whatever the vehicle, safe driving is extremely important and one major factor frequently overlooked is the tyres. Look after the tyres properly and you will improve the safety and behaviour of your motorhome. This booklet has been produced by the UK tyre industry to help you to do this.

Check The Pressure

It is essential to the safety and stability of the vehicle that all tyres are correctly inflated. This is a 'golden rule' of motoring and of motorhome operation in particular. Incorrect tyre pressures can not only adversely affect the handling, but can also cause dangerous tyre failure. The correct inflation pressure of your motorhome tyres will be shown in the vehicle/chassis handbook.

Furthermore, tyres that are not inflated to the correct pressure wear out more quickly and affect the vehicle's fuel consumption. So in the long run, keeping them at the right pressure could also save you money.

THE VOLUME OF PRESSURISED AIR INSIDE THE TYRE DETERMINES THE LOAD THE TYRE CAN WITHSTAND. REDUCING TYRE PRESSURE REDUCES THE TYRE'S LOAD CARRYING CAPACITY.

Pressures should be checked and, if necessary, adjusted prior to any journey when the tyres are cold – not during or after a run when they will be higher. Never reduce pressures when the tyres are warm, as they could be too low when they cool down. After pressure checking ensure the valve is not leaking and that a valve cap is fitted.

Fit The Right Tyres

As with all road vehicles, it is essential that tyres of the correct specification be fitted. It is always advisable to have the same construction of tyres on all wheels. Only tyres of equal size and service description (Load Index/Speed Symbol) and identical wheels should be fitted across an axle and carried as a spare. Tyre pressures across an axle should be equal.

Tyres originally fitted to motorhomes are usually of a 'Light Commercial' '(C)' type. They are designed to cater for the higher loads imposed by motorhomes. Before changing the tyre specification always consult either the vehicle or tyre manufacturer. Deviating from the original specification of tyre is likely to have an effect on the handling and general characteristics of the vehicle. Never replace the tyres with ones of a lower speed rating or load capacity.

UK Construction and Use Regulations stipulate the legal requirements of mixing different tyre constructions, e.g. Radial ply, Cross ply, Bias belted. Although not recommended, should a mixture of tyre constructions be contemplated contact the tyre manufacturer before doing so.

Most tyres in current use will be of a 'tubeless' construction, although some older vehicles may have 'tube type' tyres fitted. If the tyre is marked 'tube type' it is important the correct size of tube is used. If converting from 'tube type' tyres to 'tubeless' radials, the wheel must be of the 'safety'-

type. Consult a tyre expert before carrying out such a conversion.

If travelling abroad during the winter season, some countries stipulate appropriate winter tyres are fitted to the vehicle. Even if the country being visited does not employ such a legal requirement it is always a good practice to fit tyres that are appropriate for the road / weather conditions. Consult the tyre manufacturer.

Watch Your Speed

Never exceed the speed limit. This may seem an obvious recommendation, but with motorhomes the vehicle load and load distribution is often different from that of more conventional road vehicles, resulting in unique handling characteristics. Drive at a speed that is comfortable for both you and the vehicle.

TABLES OF SPEED SYMBOLS AND LOAD INDICES ARE SHOWN ON PAGES 3 AND 4.

General Recommendations

Spare Tyre/Wheel

It is strongly recommended that a compatible spare heel/tyre assembly be carried for the motorhome. This should be checked for its condition and inflation pressure regularly. The pressure should be set at the maximum required for the vehicle. You never know when it will be needed and for which wheel position.

Minimum Tread Depth

To ensure compliance with regulations throughout Europe a minimum tread depth of 1.6mm **across the full tread width** is strongly recommended. However in the interests of safety it is advisable to replace tyres well before they reach this legal limit.

Tyre Care

Check your tyres regularly but particularly when the motorhome has not been used for some time. Vehicles that are not used normally used during winter should be thoroughly inspected prior to re-use. Look particularly for any sign of age deterioration in the tyres such as sidewall cracking and carcass deformation. Tyres on a stationary vehicle, particularly if parked in coastal areas, always age more quickly than those in regular and frequent use. If your motorhome is going to stand for any length of time, it is wise to cover the tyres and to shield them from direct sunlight and if possible to jack the weight off them. If in doubt about the condition of your tyres, have them checked immediately by a tyre specialist.

There is no known technical data that supports a specific tyre age for removal from service. However, in the interests of safety a number of vehicle and tyre manufacturers recommend that tyres (including spare tyres) that were manufactured more than a certain number of years previously be replaced with new tyres, even when they appear to be usable from their external appearance and the tread may not have reached the minimum wear out depth. It is recommended that any such instruction be followed.

Consumers should note that most tyres would have to be removed for tread wear-out or other causes before any prescribed age is reached. A stated removal period in no way reduces the consumer's responsibility to replace tyres as needed.

Puncture Sealants

The use of a pre-puncture sealant is not recommended; however it is recognised that a post-puncture sealant may well serve a useful function if used to move a stranded vehicle to a safe location where a proper INTERNAL examination and repair of the tyre may be carried out. In view of the fact that the non-punctured tyre on the other side of the axle may have been overloaded following a deflation it is important to have BOTH tyres examined. If the distance travelled on a totally deflated tyre is more than a few metres it is likely that the extent of non-visible damage renders the tyre irreparable and, hence, in need of replacement.

Do Not Overload

It is dangerous to overload tyres at any time. The police may take action against drivers when their vehicle is carrying an excessive or badly distributed load. A poorly distributed load can cause overloading of one or more wheels even when the maximum permissible total load is not exceeded. It is important to spread the load evenly around the vehicle and as low as possible, thus the stability of the vehicle will not be impaired. Failure to adhere to this rule will invite tyre problems and possibly tyre failure.

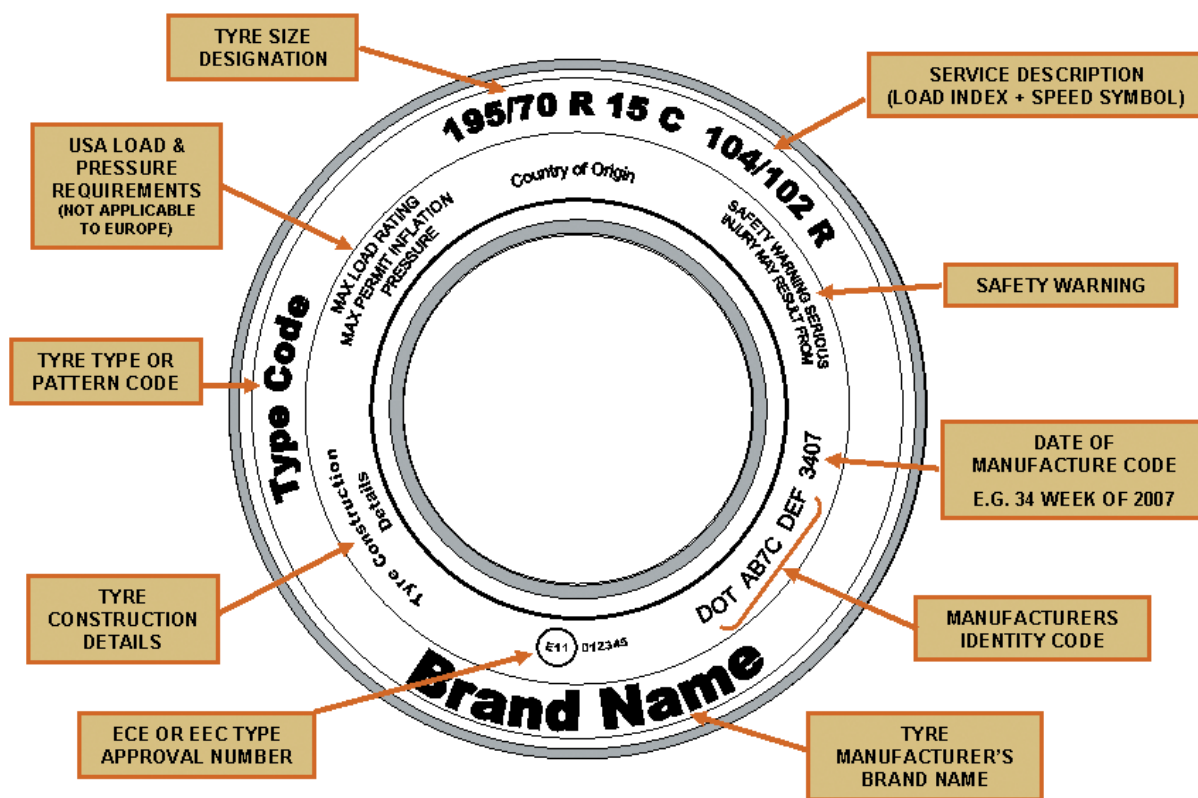
It is advisable to ensure the total vehicle operating weight is below the specified maximum limit, and a margin of 10% will partly compensate for some unequal load distribution.

To ensure a safely loaded vehicle make use of Public Weighbridges

Key Tyre Sidewall Markings

The following diagram shows the markings that can be found on a typical light commercial vehicle tyre.

Note: The loads and pressures moulded on the sidewalls of many tyres are a North American requirement and do not apply in the UK and Europe.



Explanation of Tyre Size Designations – RADIAL COMMERCIAL TYRE EXAMPLE

(S) Nominal Section Width (mm)	Nominal Aspect Ratio (H/S)	Tyre Construction	Nominal Rim Diameter Code*	Service Description	
				Load Index (LI)**	Speed Symbol
195	/70	R	15C	104/102	R

Note * The 'C' after the rim diameter code denotes light commercial vehicle tyres. ** Where two load indices are shown, the first applies to tyres in single formation. The second index applies to tyres fitted in twin formation which do not normally apply to caravans and trailer tents.

On some later models of motorhome, a specialist tyre may be fitted. These are identified by the suffix 'CP' following the size marking, e.g. 215/75R16 CP 113N. 'CP' tyres carry only

a single load index indicating their normal use as a single fitment. Where dual fitment is required the axle load capacity is 1.85 times that for a single wheel fitment axle.

Tyre Speed Symbols

Speed Symbol	Reference Speed		Speed Symbol	Reference Speed	
	mph	Km/h		mph	Km/h
J	62	100	S	113	180
K	68	110	T	118	190
L	75	120	U	125	200
M	81	130	H	130	210
N	87	140	V	150	240
P	93	150	W	169	270
Q	100	160	Y	186	300
R	106	170	ZR	over 150	over 240

Tyre Load Index Table

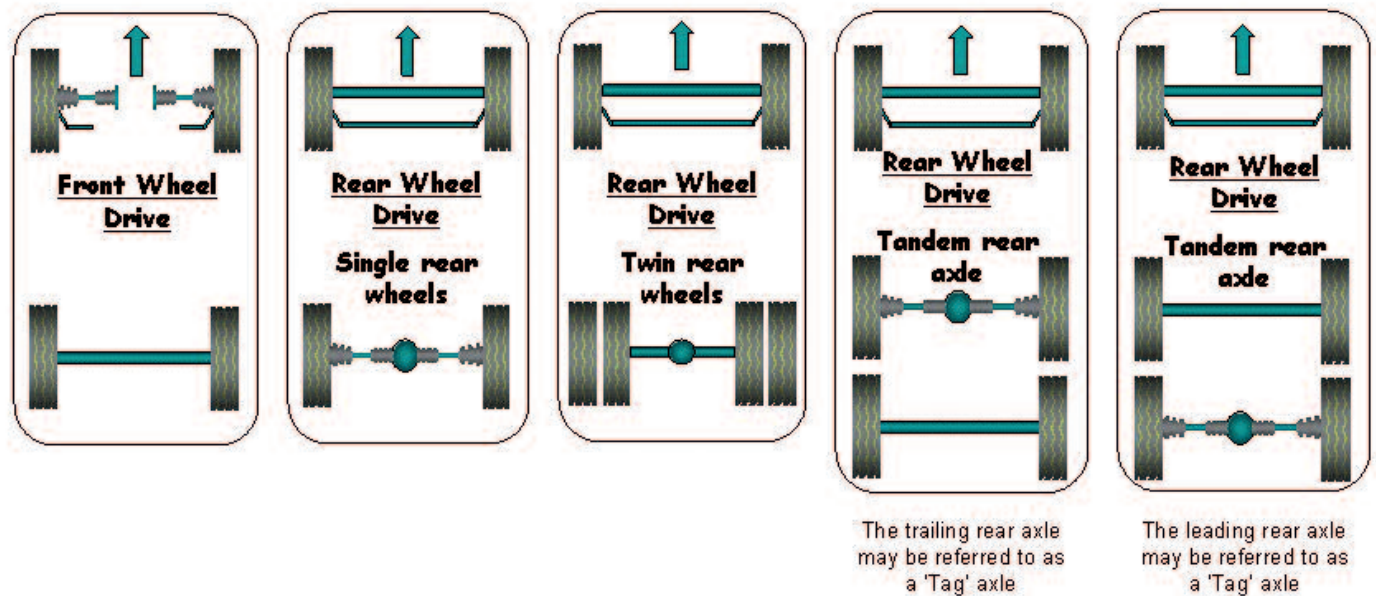
Load index	Load kg	Load index	Load kg	Load index	Load kg	Load index	Load kg
91	615	100	800	109	1030	118	1320
92	630	101	825	110	1060	119	1360
93	650	102	850	111	1090	120	1400
94	670	103	875	112	1120	121	1450
95	690	104	900	113	1150	122	1500
96	710	105	925	114	1180	123	1550
97	730	106	950	115	1215	124	1600
98	750	107	975	116	1250		
99	775	108	1000	117	1285		

Tyre Loads and Inflation Pressures

In the interests of safety it is prudent to avoid continuous operation at the tyre's maximum load capacity. Surveys over the years show that the opportunity for unwittingly overloading a motorhome, or poorly distributing the weight are high. To safeguard against overloading the tyres, the UK

tyre industry strongly recommend that when choosing tyres, the maximum technically permitted mass (MTPLM) of the vehicle should not exceed 90% of the tyre load capacity as indicated by the tyre's load index.

Popular Axle Configurations



Remember the 'Golden Rules'

For safe use of motorhomes:

- Fit tyres of the correct specification
- Tyres must be in good condition
- Tyre pressures must be correctly maintained (obtain a pressure gauge from your auto centre)
- Do not overload
- Check your tyres regularly for any signs of damage and remove from the tread any potential penetrations such as trapped stones.
- Drive the combination at reasonable ('comfortable') speeds – within the speed limits
- Rapid manoeuvres must be avoided, e.g. sudden overtaking or lane changing. Good driving practice includes intelligent anticipation of such moves.
- Respect the car and motorhome tent manufacturer's recommendations at all times.



Look after your tyres and they'll look after you **TyreSafe**

LIGHT COMMERCIAL TYRES

Tyre Size	Load Index	COLD INFLATION PRESSURE (bar/psi)										
		2.50 36	2.75 40	3.05 44	3.30 48	3.50 51	3.75 54	3.95 57	4.15 60	4.25 62	4.50 65	4.75 69
		Axle Load (kg)										
165 R 13 C 175 R 13 C	94 97	837 912	904 985	982 1070	1046 1139	1096 1194	1158 1262	1207 1315	1256 1368	1280 1395	1340 1460	
165 R 14 C 175 R 14 C 185 R 14 C 195 R 14 C 185/75 R 14 C 185/70 R 14 C 185/65 R 14 C 195/65 R 14 C	97 97 102 106 102 98 93 99	912 969 1062 1187 1017 1084 940 1121	985 1045 1146 1281 1098 1170 1014 1209	1070 1136 1245 1392 1193 1271 1102 1314	1139 1209 1326 1483 1270 1354 1174 1399	1194 1268 1390 1554 1332 1419 1230 1467	1262 1340 1469 1642 1407 1500 1500 1550	1315 1396 1532 1712 1467	1368 1453 1593 1781 1526	1395 1481 1624 1815 1555	1460 1550 1700 1900 1628	1700
195/70 R 15 C 195/70 R 15 C 225/70 R 15 C 225/70 R 15 C 205/65 R 15 C	100 104 109 112 102	1157 1125 1489 1400 1229	1248 1214 1607 1511 1326	1356 1319 1746 1641 1441	1444 1404 1860 1748 1535	1514 1472 1949 1832 1609	1600 1556 2060 1936 1700	1622 2018	1687 2100	1720 2140	1800 2240	
195/75 R 16 C 205/75 R 16 C 215/75 R 16 C 195/65 R 16 C 205/65 R 16 C 215/65 R 16 C 225/65 R 16 C	107 110 113 104 107 109 112	1167 1269 1376 1077 1167 1233 1340	1259 1369 1485 1162 1259 1330 1447	1368 1487 1614 1263 1368 1445 1572	1457 1584 1719 1345 1457 1539 1674	1527 1660 1801 1410 1527 1613 1754	1614 1755 1904 1490 1614 1705 1854	1683 1829 1984 1553 1683 1849 1933	1750 1903 2064 1616 1750 1849 2011	1784 1940 2104 1647 1784 1885 2049	1867 2030 2203 1724 1867 1973 2145	1950 2120 2300 1800 1950 2060 2240

LOAD/PRESSURE TABLE FOR SPECIALISED MOTORHOME (CP) TYRES

Tyre Size	Load Index	Wheel Configuration	COLD INFLATION PRESSURE (bar/psi)									
			4.00 58	4.16 60	4.25 62	4.50 65	4.75 69	4.82 70	5.00 73	5.25 76	5.50 80	
			Axle Load (kg) ⁽²⁾									
195/75R14 CP	106	Single	1656	1710	1738	1820	1900					
		Single Rear(1)	1473	1520	1546	1618	1690	1710	1761	1831	1900	
		Twin	3064	3163	3216	3366	3515					
195/75R16 CP	107	Single	1700	1755	1784	1867	1950					
		Single Rear(1)	1511	1560	1587	1661	1734	1755	1807	1879	1950	
		Twin	3145	3246	3301	3455	3608					
195/65R16 CP	104	Single	1569	1620	1647	1724	1800					
		Single Rear(1)	1395	1440	1465	1533	1601	1620	1668	1734	1800	
		Twin	2902	2996	3046	3189	3330					
215/75R16 CP	113	Single	2005	2070	2104	2203	2300					
		Single Rear(1)	1783	1841	1871	1959	2045	2070	2131	2216	2300	
		Twin	3708	3829	3893	4075	4255					
215/70R15 CP	109	Single	1795	1854	1885	1973	2060					
		Single Rear(1)	1597	1648	1676	1754	1832	1854	1909	1985	2060	
		Twin	3321	3429	3487	3650	3811					
225/70R15 CP	112	Single	1952	2016	2049	2145	2240					
		Single Rear(1)	1736	1793	1823	1908	1992	2016	2076	2158	2240	
		Twin	3612	3729	3791	3969	4144					
225/65R16 CP	112	Single	1952	2016	2049	2145	2240					
		Single Rear(1)	1736	1793	1823	1908	1992	2016	2076	2158	2240	
		Twin	3612	3729	3791	3969	4144					

(1) Driven wheels only.

(2) For inflation pressures relating to lower loads, contact the tyre manufacturer.

Note: Figures in bold black are recommended maximum loads. Figures in bold red are absolute maximum loads.