SERVICE Bulletin No.BB-44

MODEL: BENTLEY MARK VI

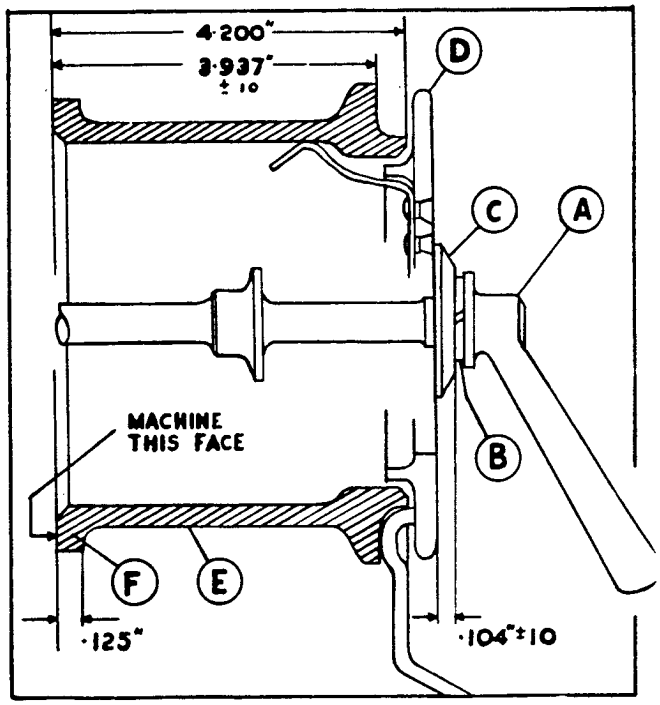
MODIFICATION.

FOR CATEGORY 2 ACTION.

SIDE SPARE WHEEL CARRIER.

When a side spare wheel carrier is fitted, variations in the width of the wheel flange have, in some cases, reduced the number of threads engaged by the clamping handle on the hub bolt, thus decreasing the margin of safety.

A modification has been incorporated on later cars to provide an adequate safety margin, but retrospective action should be taken on cars already in service. It can easily be ascertained whether a sufficient number of threads are engaged by measuring the overall thickness of the washer C; if this does not exceed .104" ± 10 (2.64 m/m ± .254), no further action is necessary. If however, the thickness of the washer is greater than the above, the following action should be taken.



Machine the washer C to an overall width of .104" ± 10 (2.64 m/m ± .254).

Machine the flange F on the dummy hub E to give the dummy hub an overall length of 4.200" (106.687 m/m) as shown in the sketch. The internal chamfer of 45 degrees can be omitted.

The wheel can now be re-assembled on the carrier discarding the spring washer 'B'.

This modification ensures that a minimum of five threads are engaged for a maximum variation of wheel flange.

Will Retailers please notify this Service Depot whenever this modification is incorporated.

DUNLOP TRIPLE-LIFT JACK.

FOR INFORMATION:

On cars equipped with a Dunlop Triple-Lift Jack, cases are known to have arisen whereby the sill (bodywork) has been damaged owing to some owners having jacked up from the sill instead of placing the jack on the slide provided.

Will Retailers therefore kindly note that when there is evidence of damage to a sill caused by incorrect use of the jack, the owner should be informed how it should be used i.e.:-

(i) Pull the hand brake well on.

(ii) Place the jack on the slide provided beneath the body sill near the centre body pillar and push the jack beyond the sill, right up to the bracket which supports the slide.

(iii) Spin the body of the jack to the ground, insert the handle and jack up the car.

FOR INFORMATION:

TYRE VALVES.

A few cases have occurred in service where owners have complained of difficulty in inflating the tyres, due to the tyre valves not protruding far enough through the wheel discs to make efficient connection with the tyre pump air line.

In each of these cases the trouble was overcome by the fitting of suitable valve extensions giving an extra 0.875" valve length, and Retailers are recommended to incorporate these whenever dealing with complaints of this nature.

The valve extension recommended is the Schrader No.7747.

SERVICE Bulletin No. BB-95

MODEL: BENTLEY MARK VI

FOR INFORMATION:

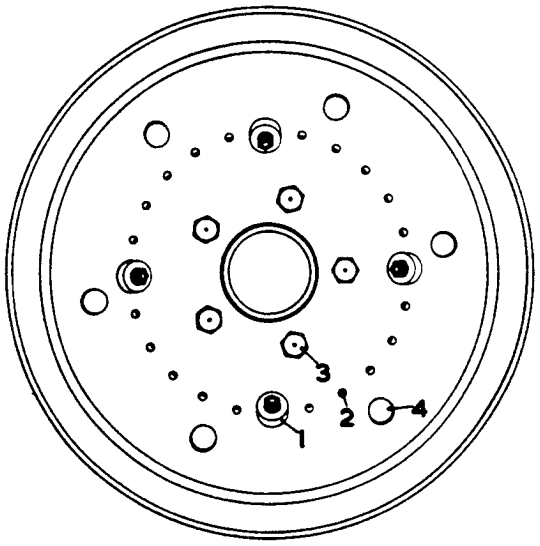
ROAD WHEELS & FRONT HUBS - RIGHT-HAND & LEFT-HAND DRIVE.

("REVISED STEERING GEOMETRY")

New road wheels have been incorporated on the introduction of the Revised Steering Geometry, commencing with G Series, i.e. Chassis B-1-GT. and onwards. These wheels are equipped with Ace Super Silent Discs as a standard fitting.

1. BALANCING THE ROAD WHEELS:

The method of balancing the road wheels has been changed, the weighting washers have been superseded by four equal steel weights spaced at intervals around the wheel as required to effect balance:-



1. Balance Weight (4 off).
2. Balance Weight Hole (24 off).
3. Wheel nut (5 off).
4. Disc Rubber (6 off).

FIG. 1. PLAN VIEW OF ROAD WHEEL SHOWING BALANCE WEIGHTS IN REVERSE POSITION.

To balance a wheel, proceed as follows:-

(i) Remove the wheel.

(ii) If a hub on a bench is not available, make sure that the front hub on the car is quite free to rotate and not restricted by too close adjustment of the brakes.

(iii) Remove all balance weights, bolts and nuts.

(iv) Reverse the bolts in the wheel, this will allow the operation of balancing to be performed more easily, as the balance weights may then be fitted externally.

(v) Refit the wheel to the hub. Allow to swing and note the light point. Put one weight here. Allow the wheel to swing again. If the wheel is in balance, space the other 3 weights evenly round the wheel.

(vi) If the light point is unchanged in position, add a second weight using one of the adjacent holes. If this corrects the balance, add the other 2 weights opposite each other.

(vii) If 2 weights together are too much, try moving them away from each other. Go one hole at a time and move each weight alternatively.

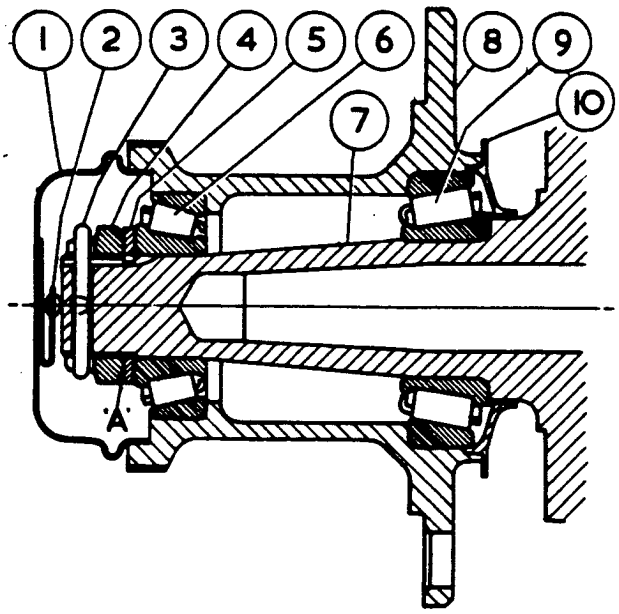
When balance has been achieved, add the 2 weights opposite each other.

(viii) If 2 weights together are insufficient add a third, using an adjacent hole. If this balances the wheel, remove the centre weight and refit it 4 holes to one side. Fit the 4th weight 4 holes to the other side.

(ix) If 3 weights are insufficient add the 4th, and if this is too much, start separating the outer 2 weights as in (vi) above.

(x) Remove the wheel and reverse the bolts so as to return the balance weights to their correct position, on the inside of the wheel.

(xi) Refit the wheel and the wheel disc assembly. The correct tension on the disc is attained by giving the nut one complete turn by the special spanner provided after the disc has been felt to be in contact with the rubber stops on the wheel centre.



1. Dust cover.
2. Earth contact.
3. Split pin.
4. Castellated nut.
5. Key washer.
6. Taper Roller Bearing (outer).
7. Stub axle.
8. Front hub.
9. Taper Roller Bearing (inner).
10. Grease Retainer.

FIG. 2. SECTION - FRONT HUB.

2. FRONT WHEEL HUBS:

The front hubs incorporate taper roller bearings. The correct end float for these bearings is .002" - .004" (.05 - .10 m/m) as described in paragraph 4.

3. TO REMOVE A FRONT HUB:

(i) Remove the hub cap and wheel disc assembly with the special spanner RF-3851.

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(ii) Remove the five wheel securing nuts with the wheel brace RF-3375 and remove the wheel.

(iii) Slacken off the brake adjuster screw so that the brake shoe linings are clear of the drum.

(iv) With the aid of two screw drivers, prise back (remove) the dust cover (1 Fig.2) from the hub.

(v) Remove the sealing strip from split pin (3). Remove the split pin, the nut (4), the washer (5) and withdraw the hub by hand.

(vi) Normally the hub will withdraw with the outer and inner taper roller bearings complete. Should the inner race of the inner bearing remain on the stub axle (7) on withdrawal of the hub, it will be found that the grease retainer (10) has parted from the hub. It will then be necessary to prise the inner race off the stub axle by means of levers. It may be found that the cage and rollers will part from the inner race (due to the difficulty of obtaining a point of leverage whilst the roller cage is in position). Should this occur, it will be possible to obtain direct leverage on the inner race to complete the removal. The greatest care should be taken in the use of levers to avoid damage to the bearing, particularly to the roller cage - also the edges of the grease catcher which is attached to the stub axle. It should be noted that the inner race of each bearing should be a slide fit on the stub axle, and it is permissible to polish the journal/s of the stub axle with a piece of fine emery cloth as necessary. The grease retainer (10) is a light tap fit in the hub.

NOTE: The grease retainer on the right-hand side hub, has a right-hand Acme Thread and the rear of the retainer is distinctly marked "Off Side - Right hand". The retainer on the left-hand side hub is also marked to suit.

(vii) Each hub is packed with $2\frac{1}{2}$ ozs. (70 gms) of Shell Retinax H, grease. For alternative types of grease see "Recommended Lubricants", Chart No. RR/D2a.

4. TO REFIT A FRONT HUB & CHECK THE END FLOAT ON THE FRONT WHEEL BEARINGS:

(i) Place the hub in position, followed by the outer bearing. Fit the key washer (5) and nip up the castellated nut (4) (do not overtighten) sufficiently to take up all end float in the hub. Next unscrew the nut a little to enable two .002" (.05 m/m) thick feeler gauges to be placed diametrically opposite to one another between the nut and the key washer; i.e. at point 'A' Fig.2. With the feelers in this position tighten up the nut hand-tight with a BOX SPANNER (do not use a tommy bar). If now, one of the two split pin holes in the stub axle does not line up with a slot in the castellated nut, then select one of the two key washers RF-8370, .125" (3.17 m/m) thick or RF-8371 .123"(3.12 m/m) thick, now available, to obtain alignment of a split pin hole with a

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slot in the nut and co-incidentally to obtain the required end float of .002 - .004" (.05 - .1m/m)

Using a new split pin (K-4627/Z), twist the pin a $\frac{1}{4}$ of a turn and bend the head of it slightly to ensure that the head of the pin (when fitted) does not foul the bottom of the slot of the nut. It should be noted that if the head of the pin is bent too far outwards, it may foul the earth contact (2) of the dust cover and damage it; this point must be watched during assembly. Fit the split pin and bend the legs of it around the nut and check that the hub turns freely.

(ii) Refit the wheel and the wheel disc assembly. The correct tension on the disc is attained by giving the nut one complete turn by the special spanner provided after the disc has been felt to be in contact with the rubber stops on the wheel centre.

(iii) Re-adjust the front brakes externally as necessary.

BENTLEY MARK V.

FOR INFORMATION:

LUBRICATION OF FRONT HUBS.

The grease at present recommended for the front hubs is Shell Retinax H. Some difficulty has recently been experienced with this grease due to lack of fluidity at low temperatures, resulting in the development of a squeak from the bearings.

Satisfactory results have been obtained with Shell Retinax A which is a lithium base grease.

It is recommended that this grease should be used in future in place of Retinax H.

FOR INFORMATION:

"BUTYL" INNER TUBES

This Bulletin cancels previous Bulletin No. BB.181. dated, 22.12.53. and 10.2.54.

Bentley cars will shortly be fitted with inner tubes manufactured from "Butyl" (synthetic rubber).

The advantage of these tubes is that they retain their inflated pressure for long periods, and it is only necessary to check the tyre pressures monthly instead of the normal weekly interval.

To identify these tubes from the standard rubber tubes, the valve stems are coloured Blue.

In the event of a puncture, "Butyl" tubes may be repaired in an identical manner to that of natural rubber tubes. Providing, that particular care is taken to properly roughen and solution the tubes, they can be satisfactorily "cold" patched.

As these tubes having once been inflated retain their extended size, care must be taken when refitting the tube into the tyre casing, as this may be found a somewhat awkward operation.

FOR INFORMATION:

BENTLEY CONTINENTAL MODELS

TYRE PRESSURES - 7.60 x 15 TYRES.

Owners are being advised that provided continual high speed cruising is not maintained it is permissible to lower the tyre pressures to obtain a more comfortable ride.

"Tyre pressures of 22 lbs/sq. in. on the front and 24 lbs/sq.in. on the rear may be used for all normal running in England and the car may be driven up to its maximum speed for short periods. If, however, it is intended to drive the car as fast as possible for a long run on roads which are known to be straight, and at a time of day when traffic is likely to be slight, then pressures should be increased to 27 front, 30 rear. Conditions when this is desirable practically never occur in England. For touring on the Continent at sustained speeds above 100 m.p.h., it is recommended that the tyres should be inflated to 30 front, 35 rear. It is not necessary to inflate the tyres to this pressure abroad unless sustained high speed cruising is required.

All pressures quoted are with the tyres dead cold, that is after standing for 12 hours."

SERVICE Bulletin No. BB.222.

MODEL BENTLEY MARK VI

FOR INFORMATION.

DUNLOP WHITE SIDEWALL TYRES.

It has been remarked that the white sidewall of the above tyres can appear to become discoloured and turn yellow.

This yellowing is the direct result of the effects of exposure to light, and the degree of yellowing is dependent on the length of time of exposure and the intensity of light.

The colour change is very superficial and can quite easily be removed by the use of any of the proprietary brands of whitewall tyre cleaner.

The condition is usually confined to showroom cars, since, once a car is prepared for the showroom, and whilst every other part of the car receives regular cleaning, the tyres receive no further attention other than the removal of the original protective blue paint.

In Service, the condition is not usually encountered, due to regular cleaning and washing, which the whole car and wheels receive.

The following three points should be noted:-

1. Initially, the protective blue paint must be removed by vigorous washing using soap powder and a brush having brass bristles.

2. When the car is standing in the Showroom, the tyres must be cleaned once a week with Simonize or some other proprietary white-wall cleaner.

3. For owner use, Brillo soap pads or other soap impregnated wire wool pads are convenient for quick whitewall cleansing whilst the car is being washed.

Adherence to the above points will obviate any discolouration of white sidewall tyres in the future.

SERVICE Bulletin No. BB 241

MODEL: BENTLEY MARK VI

DUNLOP TYRE EQUIPMENT FOR BENTLEY VI AND R TYPE CARS.

The following Dunlop Tyre has now been approved for use on Bentley VI and R Type cars:-

6.50/6.70 x 16 (6 ply rating) Heavy Duty Gold Seal

This tyre employs a modern tread pattern utilising a synthetic tread compound on a rayon carcass and is available in black or white sidewall, tubed or tubeless construction.

The correct tyre pressures are:-

Bentley VI -
Chassis No. B-2-AK to B-601-FU

Front 25 lb/sq.in. (1.76 kg/sq.cm)
Rear 30 lb/sq.in. (2.11 kg/sq.cm) Cold.

Chassis No. B-1-GT to B-301-PU

Front 23 lb/sq.in. (1.62 kg/sq.cm)
Rear 30 lb/sq.in. (2.11 kg/sq.cm) Cold.

R Type -
all chassis

Front 24 lb/sq.in. (1.69 kg/sq.cm)
Rear 33 lb/sq.in. (2.32 kg/sq.cm) Cold.

The 6.50/6.70 x 16 (6 ply rating) Heavy Duty Gold Seal tyre now supersedes the 6.50 x 16 Fort 'C'. tyre which is no longer obtainable.

SERVICE Bulletin No. BB-242

MODEL: BENTLEY MARK VI

DUNLOP TYRE EQUIPMENT

FOR BENTLEY CONTINENTAL R TYPE CARS.

The following Dunlop Tyre has now been approved for use on Bentley Continental R Type cars:-

6.50/6.70 x 16 (4 ply) Dunlop Road Speed RS.4.

This tyre employs a modern tread pattern utilising a synthetic tread compound on a nylon carcass and is available in black or white sidewall, tubed construction only. It is quite suitable for the maximum sustained speed of which the car is capable.

The correct tyre pressures are:-

Front 30 lb/sq.in. (2.11 kg/sq.cm)
Rear 35 lb/sq.in. (2.46 kg/sq.cm) Cold.

The 6.50/6.70 x 16 (4 ply) Dunlop Road Speed RS.4. tyre now supersedes the 6.50 x 16 Dunlop Road Speed RS.3. which is no longer obtainable.

SERVICE Bulletin No. BB.245

MODEL: BENTLEY MARK VI

AVON TYRE EQUIPMENT FOR BENTLEY V1 AND 'R' TYPE CARS.

The following Avon Tyre has now been approved for use on Bentley V1 and 'R' Type cars :-

6.50/6.70 x 16 (6 ply rating) H.M. Ribbed Avon.

This tyre employs a modern tread pattern utilising a synthetic tread compound on a rayon carcass. It is available in black sidewalls only and is of tubed or tubeless construction.

The correct tyre pressures are :-

Bentley V1 -

Chassis No. B-2-AK to B-601-FU

Front 25 lb/sq.in. (1.76 kg/sq.cm.) Cold.
Rear 30 lb/sq.in. (2.11 kg/sq.cm.)

Chassis No. B-1-GT to B-301-PU

Front 23 lb/sq.in. (1.62 kg/sq.cm.) Cold.
Rear 30 lb/sq.in. (2.11 kg/sq.cm.)

'R' Type -

All Chassis.

Front 24 lb/sq.in. (1.69 kg/sq.cm.) Cold.
Rear 33 lb/sq.in. (2.32 kg/sq.cm.)

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ALL FRANCHISE HOLDERS

CURRENTLY APPROVED TYRES

APPLICABLE TO:

All Rolls-Royce and Bentley motor cars from 1945.

INTRODUCTION:

This bulletin details currently approved tyres available for fitment to Rolls-Royce and Bentley motor cars from 1945 and supersedes all other tyre availability bulletins.

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Car Type	Manufacturer	Construction	Sidewall	Size	Tyre/Marking	Note
All Rolls-Royce and Bentley motor cars from and including the following car serial numbers	Avon	Radial-ply rayon	Black/white	HR70 HR15	HR70/HR15 Radial T or 235/70 HR15 101H RR Turbosteel 70 235/70 HR15 101H	Not for use in Kuwait, South Africa, USA or Canada
	Avon	Radial-ply steel	Black/white	235/70 HR15		
Silver Shadow SRC 18269 Bentley T SBH 18265 Long Wheelbase LRH 19577	Dunlop	Radial-ply steel	Black/white	235/70 HR15	SP Sport Dunlop Formula 70T/L 235/70 HR15 101H	
Corniche Convertible DRH 18563 Corniche Saloon CRH 18564 Camargue JRH 14674	Dunlop	Radial-ply rayon	Black/white	HR70 HR15	SP Sport Dunlop Formula 70T/L Weathermaster SP44TT/L	
	Dunlop	Radial-ply rayon (Winter) *	Black	205R15		
	Firestone	Radial-ply rayon	Black/white	HR70 HR15	Cavallino wide oval	Not for use in Australia, New Zealand or West Germany
	Michelin	Radial-ply steel	White	HR70 15	Wide x HR70 15	Only for use in USA and Canada
All Rolls-Royce and Bentley motor cars from and including the following car serial numbers up to the serial numbers quoted above Silver Shadow and Bentley T SRH 13485 (including SRH 13066, SRH 12853, SRX 12687 and SRH 12586) Long Wheelbase LRX 13201 (including LRH 13084) Corniche Convertible DRX 12734 Corniche Saloon CRH 12735 All cars from these car serial numbers must always be fitted with radial-ply tyre equipment.	Avon	Radial-ply rayon	Black	205VR 15	Radial T rayon	Not for use in Kuwait, South Africa, USA or Canada
	Dunlop	Radial-ply rayon	Black/white	205HR15	SP68 Rayon T/L Weathermaster SP44TT/L	
	Dunlop	Radial/ply rayon (Winter) *	Black	205R15		
	Firestone	Radial-ply rayon	Black	205SR15	F100 Rayon	Not for use in Australia or New Zealand
All Rolls-Royce and Bentley motor cars prior to the following car serial numbers Silver Shadow and Bentley T SRH 13485 (except SRH 13066, SRH 12853, SRX 12687 and SRH 12586) Long Wheelbase LRX 13201 (except LRH 13084) Corniche Convertible DRX 12734 Corniche Saloon CRX 12735 (see Note 2)	Avon	Cross-ply nylon	Black	8.15 V15	R/R-B Nylon 6PR	Not for use in Kuwait, South Africa, USA or Canada
	Avon	Radial-ply rayon	Black	205VR15	Radial T Rayon	
	Dunlop	Cross-ply nylon	Black	8.15 H15	Roadspeed RS5 Nylon 4PR T/L	
	Dunlop	Radial-ply rayon	Black/white	205HR15	SP68 Rayon T/L Weathermaster SP44TT/L	
	Dunlop	Radial-ply rayon (Winter)*	Black	205R15		
	Firestone	Radial-ply rayon	Black	205SR15	F100 Rayon	Not for use inAustralia or New Zealand
Rolls-Royce Phantom V and Phantom VI	Dunlop	Cross-ply nylon	Black	8.90S15	Fort nylon 8PR WH4T/L	

Car Type	Manufacturer	Construction	Sidewall	Size	Tyre/Marking	Note
Rolls-Royce Silver Cloud I, II, III and Bentley S1, S2 and S3	Avon	Cross-ply nylon	Black	8.20 V15	Avon Turbospeed R/R -B nylon 6PR T/L	Not for use in Kuwait, South Africa, USA or Canada
Standard (123" and 127" wheelbase) and HJ. Mulliner drophead coupe (excluding Rolls-Royce coachbuilt Silver Cloud II and III and Bentley S1, S2 and S3 continental)	Dunlop	Cross-ply nylon	Black	8.20 H15	Fort 4PR WH4 T/L	
Bentley continentials S1 (December 1957 onwards) Bentley S2 and S3 continental. Rolls-Royce coachbuilt Silver Cloud II and III (excluding HJ. Mulliner drophead coupe)	Dunlop	Cross-ply nylon	Black	8.00 15	Roadspeed 6PR RS5 nylon	
Bentley S1 continental (up to December 1957)	Dunlop	Cross-ply			To be issued at a later date	
Rolls-Royce Silver Dawn Bentley MK VI Bentley R Type	Dunlop Dunlop	Cross-ply nylon Cross-ply rayon (Winter)	Black Black	6.50/6.70 16 6.50 16	Roadspeed 6PR RS5 nylon T/L RK 3A 6PR T/T	
Bentley R Type sports continental (dependant upon chassis numbers see note 3)	Dunlop Dunlop	Cross-ply nylon Cross-ply rayon (Winter)	Black Black	6.50/6.70 16 6.50 16	Roadspeed 6PR RS5 nylon T/L RK 3A 6PR T/T	
Rolls-Royce Phantom IV (see Note 4)	Dunlop	Cross-ply nylon	Black	8.00 17	Fort A 8PR Nylon B5T	
Rolls-Royce Silver Wraith (dependant upon chassis number see Note 5)	Dunlop	Cross-ply nylon	Black	6.00/6.50 17	Fort C 6PR F4T T/T	

Notes

1. Tyres marked * indicates tread pattern to accept ice studs
2. Prior to the following car serial numbers only tubed radial tyre equipment should be fitted.
   - Silver Shadow SRX 6752
   - Bentley T SBH 5572
   - Coachbuilt CRH 6760
   - Long Wheelbase LRX 6744 (except LRX 6712, LRX 6714 and LRX 6720).
3. Bentley R type sports continental motor cars Certain cars fitted with 6.70 17 tyres.
4. 8.00 17 tyres - at least six months notice of any requirements is requested by the manufacturer.
5. 6.00/6.50 17 fitted to WTA1 to WME96.
   6.00/6.50 17 or 7.50 16 fitted to WVH116.
   All other series fitted with 7.50 16 Dunlop 6PR Nylon T/L D2/103.

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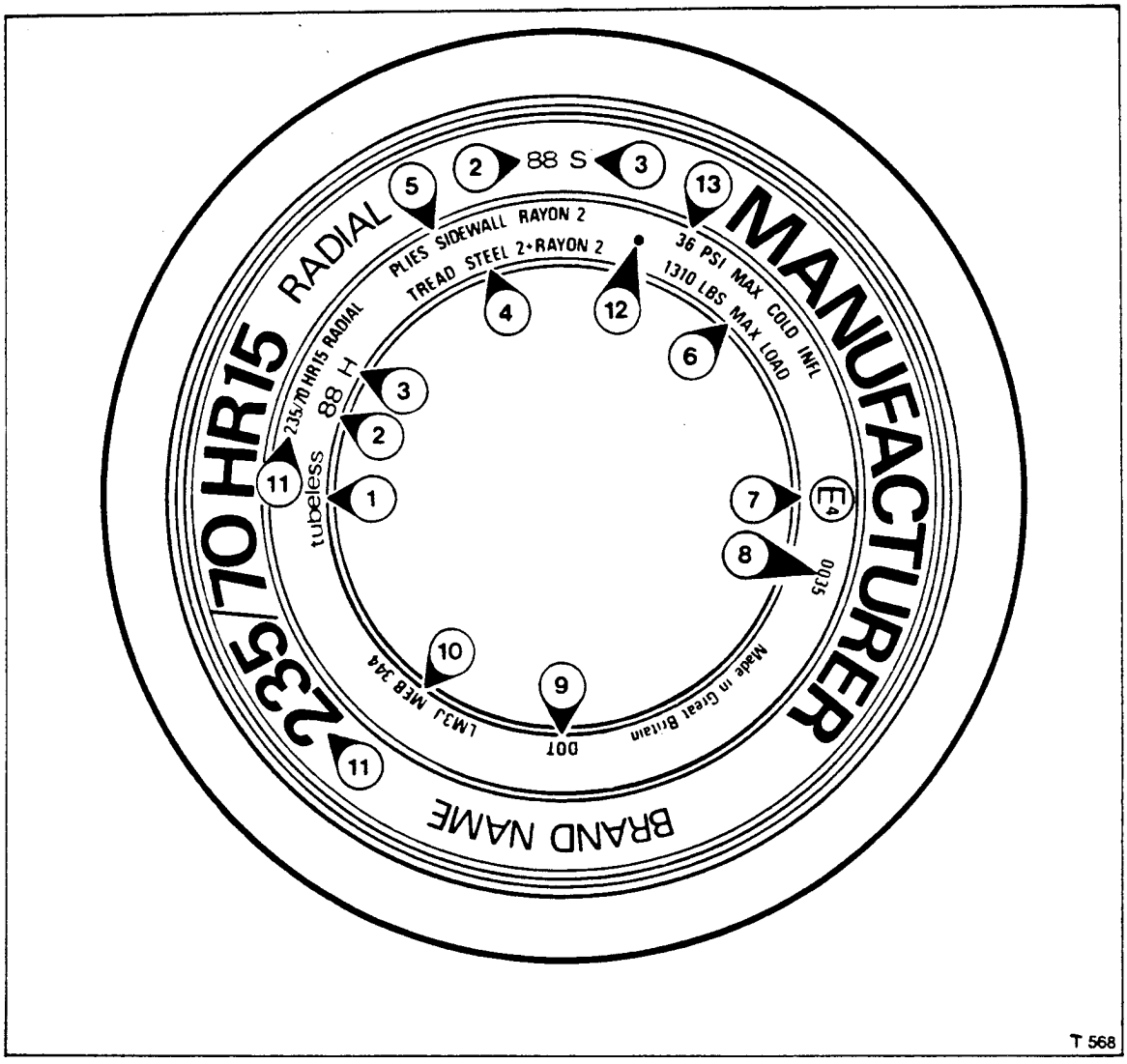
TYRE SIDEWALL MARKINGS



The above drawing identifies the codes or letters that appear on the sidewall of a tyre.

1 Tube or tubeless.

2 88 is the load indicator (as specified by the European standards) referring to the maximum load per wheel.

3 S refers to the speed rating. S max speed 113 mph
H max speed 130 mph V over 130 mph.

4 Material and number of casing and tread plies: tread two steel belts and two layers of rayon.

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5 Sidewall plies: sidewall two layers of rayon.

6 1310 lbs maximum load: this is the maximum load in lbs per wheel.

7 & 8 This is the certificate of approval in accordance with Economic Commission for European Standards. The figure identifies the country in which approval was given - 4 is Holland.

9 DOT stands for Department of Transportation (the United States Federal Transport Authority), certifying that the tyre conforms to US specifications.

10 Manufacturer's coding: LM is the factory, MEB is the type code, 3J is the size code and 344 is the date code.

11 Size designation 235 refers to the width of the tyre in millimeters. 70 refers to the tyre profile and means that the tyre side wall height is 70% of the tyre width. H is the speed rating - 130 mph. R is for radial and 15 is the rim diameter in inches. In addition the word 'Radial' follows, referring to the tyre design.

12 Force variation low spot (see note at the bottom of this section).

13 36 PSI Max cold Infl.,this is the maximum inflation pressure when cold and expressed in lbs per square inch.

POINT OF FIRST HARMONIC OF RADIAL FORCE VARIATION - SEE NO 12

AVON

Avon tyres supplied for service replacement are marked with a GREEN spot to indicate the force variation low spot. When fitting the tyre to a wheel rim the GREEN spot must be positioned adjacent to the letter 'H' stamped in the well of the wheel rim to ensure optimum harmonisation of the wheel and tyre assembly.

MICHELIN

To be fitted as above if supplied with a GREEN spot. If the tyre is supplied with a WHITE spot the tyre should be fitted to the wheel rim with the WHITE spot 180° opposite to the letter 'H' stamped in the well of the wheel rim.

DUNLOP

The radial force variation low spot colour has changed from RED to GREEN from November 1978. The same fitting procedure should be adopted as that instructed above for Avon tyres.

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