

SECTION 0

THE WHEELS AND TYRES (1½ and 2½ LITRE)

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Section O.1

GENERAL

Tyre pressures

It is of the utmost importance that the tyres be carefully maintained at the following recommended pressures :—

When carrying two passengers :—

Front and rear (normal): 24 lb./sq. in. (1.7 kg./cm.²) for the 2½ litre car.

Front 22 lb./sq. in. (1.55 kg./cm.²); rear 24 lb./sq. in. (1.7 kg./cm.²) for the 1½ litre car.

When carrying five passengers and luggage the front and rear tyres should be inflated to 26 lb./sq. in. (1.8 kg./cm.²) for the 2½ litre car. For the 1½ litre car the front tyres should be inflated to 24 lb./sq. in. (1.7 kg./cm.²) and the rear tyres should be inflated to 26 lb./sq. in. (1.8 kg./cm.²).

Spare wheel

The spare wheel is carried in a separate compartment beneath the boot lid and is secured in position by a wing nut and clamp plate, which must be removed before the wheel can be withdrawn. Keep the tyre inflated to the correct pressure for use on the rear wheels.

The jack

When using the special jack, apply the hand brake and remove the rubber plug from the square section tubes which are welded to the frame at either end beneath the over-riders.

Road wheels removal and replacement

Remove the hub cover by inserting the flattened end of the wheel nut spanner adjacent to the retaining studs, then give the spanner a sideways twist.

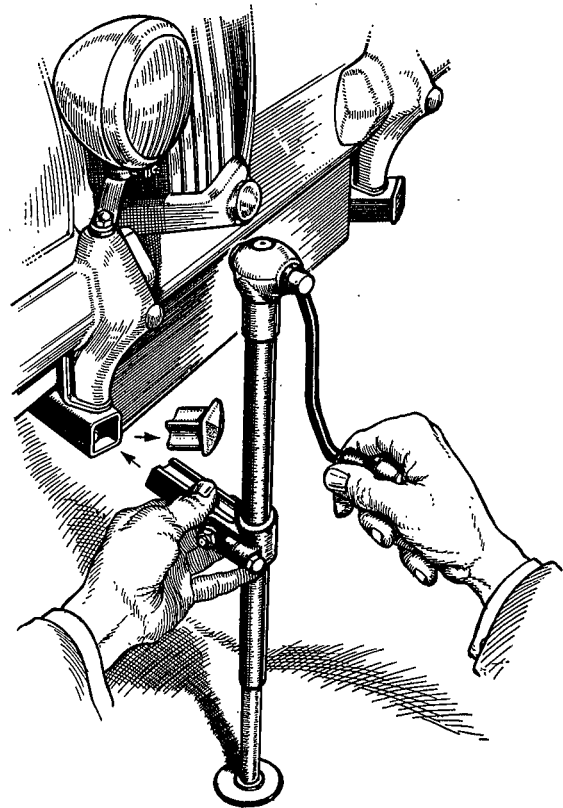


Fig. O.1.

The method of applying the jack is the same at the rear as at the front.

Remove the five nuts securing the road wheel to the hub. The wheel nuts have right-hand threads, i.e. turn clockwise to tighten and anti-clockwise to remove. Lift the road wheel from the studs.

Reverse this procedure when replacing the road wheel and ensure that the wheel stud nuts are tight.

This is important.

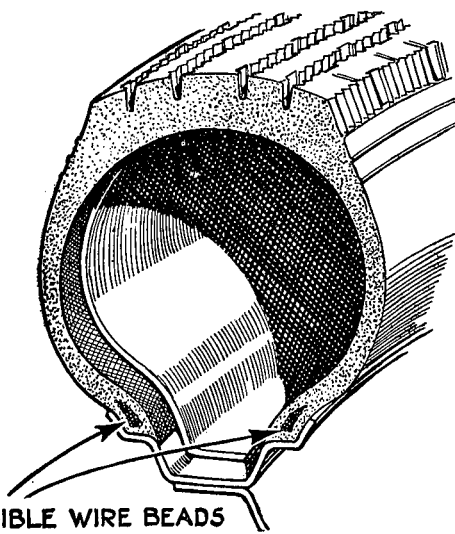
To refit the hub disc, the rim should be placed over two of the buttons on the wheel centre and the outer face given a sharp blow of the fist over the third button.

The valves

Valve caps, in addition to preventing dirt from entering the valve, form a secondary air seal and should always be fitted. The valves may be tested for airtightness by rotating the wheel until the valve is at the top and inserting its end in an egg-cup full of water. If bubbles appear the seating is faulty and should be removed and replaced by a new one. It is advisable to change the valve interiors every twelve months.

Tyre wear

Even tyre wear is promoted by changing the positions of the tyres on the car at intervals of about 2,000 miles (3200 km.).



INEXTENSIBLE WIRE BEADS

Fig. O.2.

†The Dunlop tyres fitted as standard to Riley cars have wired edges and no attempt must be made to stretch them.

Attention should be paid to the following points, with a view to obtaining the maximum mileage from the tyres fitted to the car :—

Test the tyre pressures daily by means of a suitable gauge, and restore any air lost. It is not sufficient to make a visual examination of the tyre for correct inflation. Inflate the spare wheel to the correct rear wheel pressure at the same time.

Should any tyre appear to lose an appreciable amount of air between short intervals, have it removed and checked for air leaks.

Regularly remove and examine both covers and tubes. Keep the tread free from grit and stones, and arrange for any repairs to be carried out.

Clean the wheel rims and keep them free from rust.

Paint the wheels if required, and replace the tyres and tubes. Keep the brakes and clutch adjusted correctly and in good order. Fierceness or uneven action in either of these units has a destructive effect on the tyres.

Misalignment is a very costly error. Suspect it if rapid wear of the front tyres is noticed, and correct the fault at once. See Section K for details of front wheel alignment.

Keep oil and grease off the tyres. Should the tyres get oily, petrol should be applied sparingly and wiped off at once.

Note.—*Inextensible wires are incorporated in the edges of the tyres. Do not, therefore, attempt to stretch the edges of the tyre cover over the rim edge.*

Force is entirely unnecessary and detrimental, as it tends to damage the wire edges and serves no useful purpose. Fitting or removing is quite easy if the wire edges are carefully adjusted into the rim base; if it is found to be difficult the operation is not being performed correctly.

Section O.2

THE IMPORTANCE OF BALANCE

In order to obtain good steering it is of importance to ensure that the wheels, with tyres fitted, are in good balance. To assist this, the tyre manufacturers are now marking their tyres with a white spot or spots in the neighbourhood of the bead at the lightest point of the cover; similarly, they are marking the inner tubes with a group of coloured spots to indicate their heaviest point. When tyres are assembled care must therefore be taken to see that they are assembled with the white spots on the cover coinciding with the coloured spots on the tube, and not opposite to the valve as recommended hitherto.

It must be noted, in addition, that special balancing discs are fitted to the inside of the cover casing in some cases and that these should on no account be removed, as the tyre balance will be upset if this is done. These balance discs are not repair patches and do not indicate any fault in the tyre.

The maximum out of balance of the tyre and wheel assembly permissible to ensure good steering is 20 in./oz. (.015 m./kg.). Assemblies which are out of balance beyond this amount should be balanced by means of special rim weights obtainable from Messrs. Dunlop Rubber Co., Part Nos. WBW/1 to 7, which cover a range of weights weighing from ½ oz. to 3½ oz. in steps of ½ oz. **On no account must balance weights be placed on the inner rim of the wheel.**

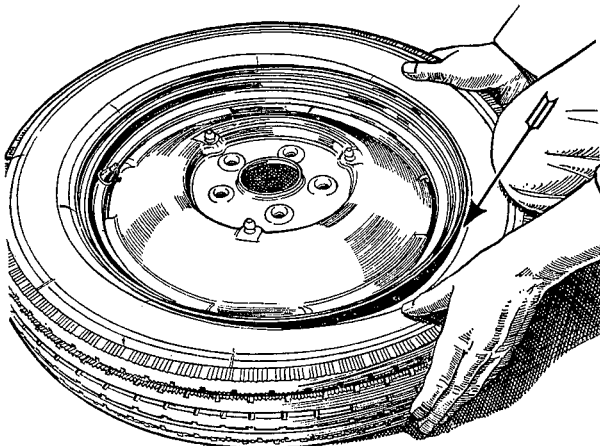


Fig. O.3.

The first step in tyre removal is the pushing of the bead into the well of the rim opposite the tyre valve.

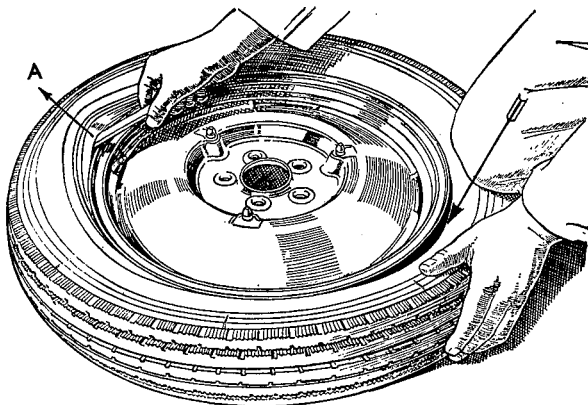


Fig. O.4.

Tyre levers can then be inserted close to the tyre valve and the tyre lifted over the rim without difficulty.

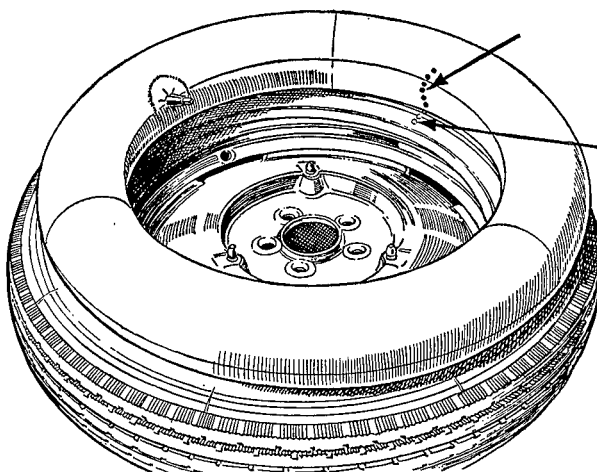


Fig. O.5.

When replacing a cover and tube make sure the balance marks on the tube and cover coincide.

Section O.3

TYRE REMOVAL

Remove all valve parts to completely deflate the tyre and push both edges into the base of the rim at a point diametrically opposite the valve, then lever the cover edge near the valve over the rim of the wheel (see "A," Fig. O.4), using two levers at intervals of 6 in. (15 cm.) apart. Remove the tube carefully, do not pull on the valve. Stand the tyre and wheel upright, keeping the head on the base of the rim. Lever the bead over the rim flange, and at the same time push the wheel away from the cover with the other hand.

Section O.4

FITTING TYRES AND TUBES

The following procedure is recommended when fitting tyres and tubes to well-base rims :—

1. Inspect the inside of the cover carefully and remove all dirt. The wheel rim must be clean, free from rust and undamaged.
2. Dust the inside of the cover evenly with french chalk.
3. Inflate the tube until it begins to round out, then insert it in the cover.
4. Apply a frothy solution of soap and water generously around the entire base of the **tube**, extending upwards between the tyre beads and the tube itself for at least 2 in. (5.0 cm.) on both sides. Also apply the solution to the bottom and outside of the tyre beads. Do not allow the solution to run into the crown of the tyre. The solution must be strong enough to feel slippery when the fingers are wetted with the solution and rubbed together.
5. Mount the tyre on the rim immediately, whilst the soap solution is still wet.

Push one edge of the cover over the edge of the rim. It will go quite easily if the part first put on is fitted on the opposite side to the valve and is pushed right down into the rim base. Move it round so that its balance spots coincide with those of the inner tube when it is inserted with the valve passing through the hole in the rim. (Take care that the valve, which is fitted in the side of the tube, is on the correct side of the rim.)

6. Before inflating, be sure that the tyre beads are clear of the well of the rim all the way round.
7. Inflate slowly until the beads are fully seated.

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8. Remove the valve core to **deflate the tube completely.**
9. Re-inflate to the correct working pressure (see page O.1). This procedure must be followed whenever a tube is fitted.

The object of the double inflation is to permit any stretched portions of the tube to readjust themselves in the cover and relieve any local strains in the tube.

In an emergency french chalk may be used as a substitute for the soap solution, provided it is evenly and generously applied. This practice, however, is not recommended.

Repairing tubes

Punctures or injuries must be vulcanised. Ordinary patches should only be used for emergencies and cannot be relied upon.

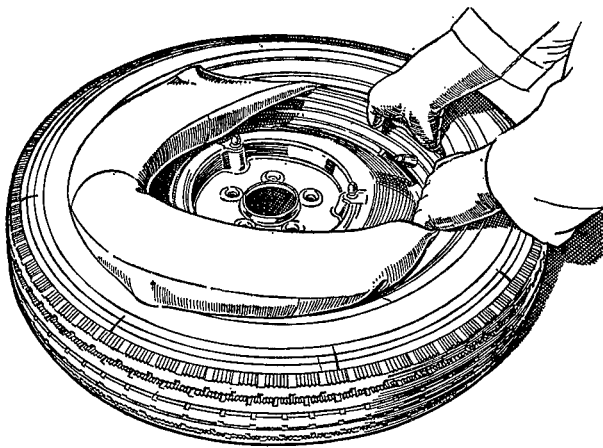


Fig. O.6.

After slight inflation the tube is introduced into the cover, fitting the valve in position first.

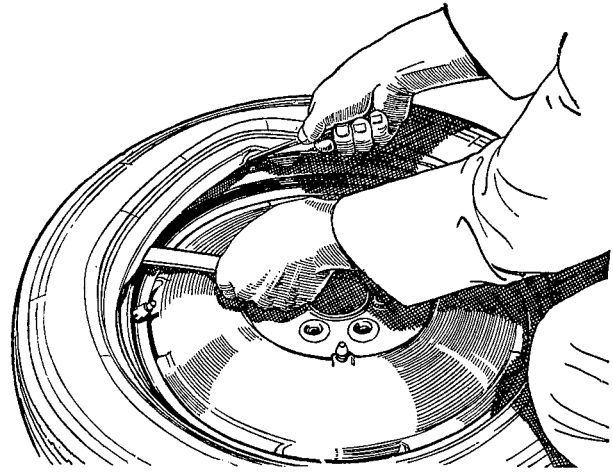


Fig. O.7.

When refitting the cover, start at a point diametrically opposite to the valve and finish at the valve.

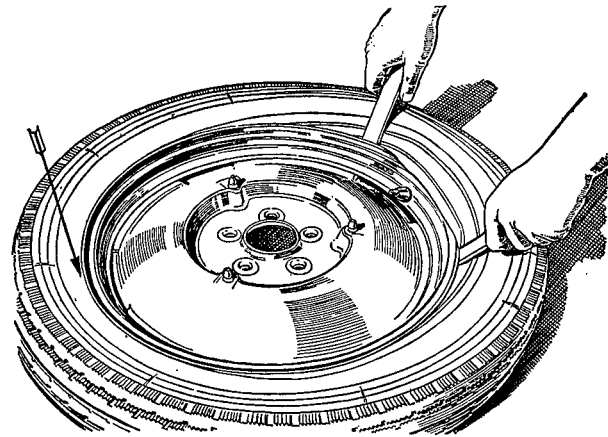


Fig. O.8.

If the portion of the cover first fitted is kept well into the well of the rim no difficulty will be encountered in replacing the last portion of the cover.