

APPENDIX III

EVERY 5,000 MILES OR HALF-YEARLY

The Numbers of the Operations correspond with those in Chapter III.

1. Front Wheels.

The ball bearings on the front wheels should be taken down at least once every 5,000 miles (preferably more often), carefully cleaned and examined for rust caused by water entering (which is extremely harmful to the ball-race).

This, however, should only be done at the Rolls-Royce Works, or by a thoroughly skilled fitter.

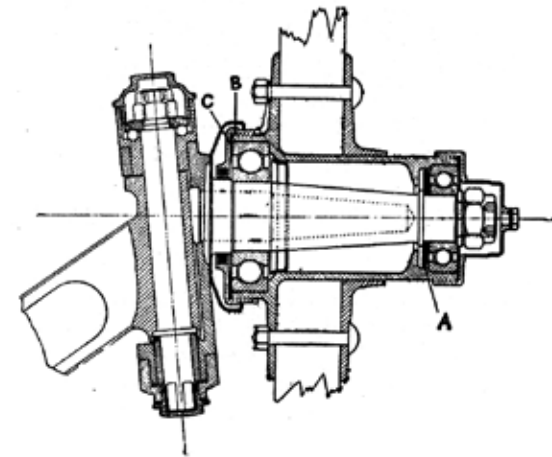


Fig. 50.

FRONT HUB SECTION

A. - Safety Washer. B. - Brass Cap. C. - Fibre Washer

If there are any traces of rust, care should be taken to see that a felt washer in good condition is fitted in the groove specially cut in the large brass cap which holds the large ball-bearing ; this is to prevent water entering.

Fitting and Adjustment of Front Wheels.

WOODEN.

The big ball-race should first nbe placed in position, so that when a " straight-edge " is placed along the top of the seating there should be 1/64 in. clearance between it (the straight-edge) and the ball-race. The brass cap " B " (Fig. 50) should then be put on (fibre washer " C " (Fig. 50) being in postiiion), screwed up dead tight, and locked with the plate provided gor the purpose. Place the wheel on the axle, and thread the safety washer " A " (Fig. 50) on the shaft, after which the small ball-race may be fixed in position ; then put on the large plain washer and fix the ahole in position by screwing up the nut tight on the thread and " split-pinning " it.

When wooden front wheels are taken off (by coach-builders, etc.) be careful to see that they are not changed over, and the wrong wheel put on the wrong side.

The nut on the " near " side axle has left-hand thread, and the " near " side hub cap has a right-hand thread, while the nut on the " off " side axle has a right-hand thread, and the " off " side hub cap has a left-hand thread.

WIRE

In the case of detachable wire wheels, the above procedure is the same for replacing the ball-bearings after dismantlement, except that the words " inner hub " should be substituted for " wheel ".

On *detachable* wire wheels, the outer hub caps (On all four wheels) are right-handed, but should the *inner hubs* of the front wheels be taken off for any purpose, it should be remembered that the nut on the near-side axle has a left-hand thread, and the *inner* hub cap on the near side has a right-hand thread, while the nut on the off-side axle has a right-hand thread, and the *inner* hub cap on the off-side has a left-hand thread.

NOTE. - It is always important to see that the front wheel hubs fit their stub-axles without looseness or end play, as any excessive slackness at this point may cause a breakage through the shocks that would result.

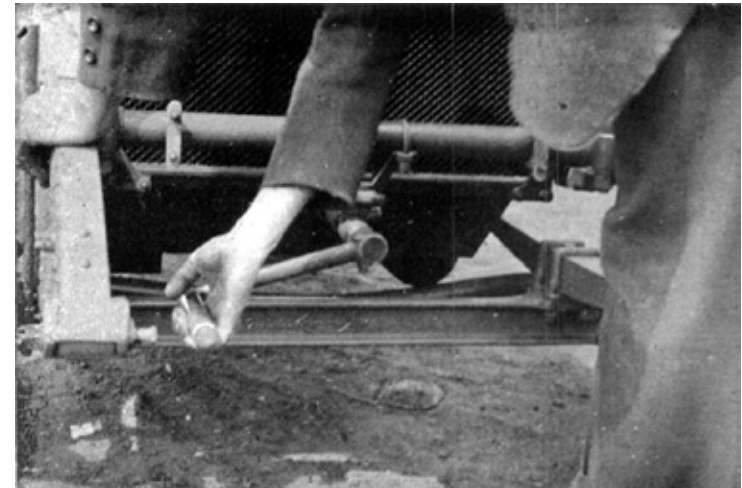


Fig. 51

PULLING UP STARTING HANDLE TO TEST EACH COMPRESSION

2. Compressions.

To secure regular firing and full power, the compressions should be kept good. This can be tested by holding the starting handle against each compression. Poor compressions are generally caused by leaky valves or valve covers. A little oil poured into the latter makes a useful test. It is best to test one cylinder at a time by taking out an ignition plug from each of the five other cylinders.

In the case of the valve covers, the joints should be made with the special copper and asbestos washers ; the faces on these washers should be kept clean and flat. These covers should be screwed up with the special key provided.

3. Cylinders.

These should be kept clean, and a periodical inspection made by taking out the valve covers and inserting a small electric lamp right into the cylinder. Note if there is sufficient lubrication. Caked carbon deposits in the cylinders are a sign of overlubrication. This is a means of ascertaining whether the engine is working with the right pressure of oil. It is essential that the cylinders should not run short of oil, but too much oil will clog the plugs, cause smoke in the exhaust, and will eventually cause

pre-ignition through excessive carbon deposit in the cylinders.

A sooty deposit, especially noticeable on the ignition plugs, is a sign of a strong mixture.

4. Grinding Valves.

Experience would indicate that the examination should be made every 5,000 miles, the compressions being tested as indicated, care being taken that sparking plugs and valve cover joints are quite tight. If the compression of any cylinder is found to be poor, the *exhaust* valve should be ground in first. To get at the valves take off the bridges holding the exhaust chamber on and the pipe union underneath, then remove the exhaust chamber ; take off valve covers ; Take out the valve cotter by lifting spring (with valve lifter) at the same time holding down the valve from the top ; then push up and withdraw valve.

The valve should be ground in very lightly with a large screwdriver and *not* with a brace, lifting the valve occasionally with the stem and starting again in a fresh position. Use the finest emery powder and oil, finishing with emery flour and oil. Never use coarse emery. Occasionally wipe the valve clean and apply fresh emery and oil.

It is more economical to grind valves a little and often rather than allow them to get into bad condition.

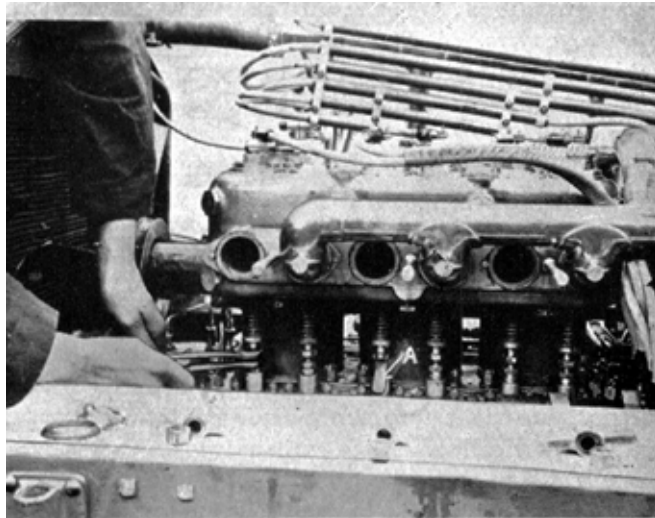


Fig. 52
LOCKING AND TAPPET ADJUSTMENT. A SHOWS
FEELER GAUGE IN USE.

Whenever valves are removed the stems and guides should be thoroughly cleaned with paraffin before replacing.

5. Tappets.

In all cases when the valves have been “ground in”, or changed for any reason, attention should be paid to the tappets.

These should be adjusted (Fig. 52) so that the clearance between the tappet screw and valve spindle is $\cdot 004$ ” when the valve is shut. A special feeler is supplied with the Rolls-Royce feeler gauge.

CAUTION.

The cams are made so that the timing of the valves is correct when the clearance is $\cdot 0004$ in. In checking and unchecking the screw provided for this adjustment, care should be taken that two spanners are used in such a way that one resists the turning exerted by the other (as in Fig. 52) otherwise the pin which prevents the tappet turning may be damaged.

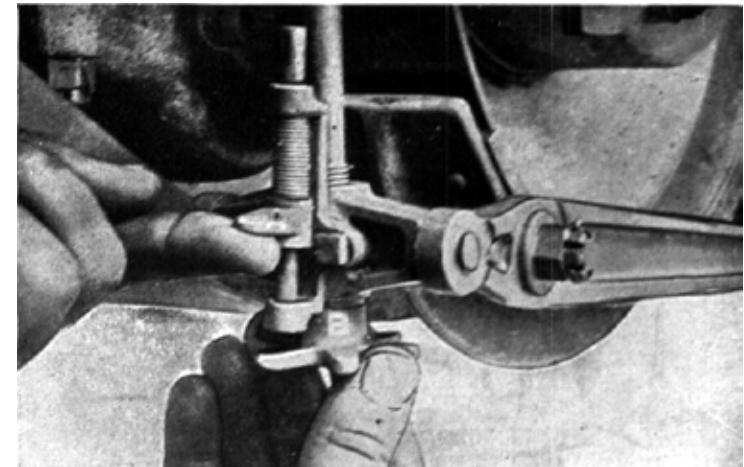


Fig. 53
UNLOCKING AND ADJUSTING STAR NUT

BRAKES

6. Foot Brake.

To adjust the central brake, screw up the star nut (Fig. 53), which is situated underneath the lower brake shoe on the near side. This can be done by withdrawing the spring locking bolt or trigger in Fig. 53 (no tools required). Do not shorten the pull-rod.

The brake should be “ on ” when the foot pedal is half stroke down. If the lower shoe rubs on the brake drum when the brake is in the “ off ” position, the top shoe must be brought nearer by screwing down the set screw (A in Fig. 26), which is in the bracket fixed to the cross-member of the frame. Screw down the top shoe until it clears the drum by 1/64th of an inch, afterwards checking the screw by means of the lock-nut.

N.B.- Remember that the foot brake necessarily expands with heat, and if it is set too close it may not be sufficiently clear in its “ off “ position after a long downhill run.

7. Rear Brakes.

To adjust the rear brakes, withdraw the spring locking bolt B (Fig. 54) and screw up the star nut A until there is 1 1/8 in. movement on the lower end of the curved lever, from the “ off “ to the “ on “ positions. This will give the correct clearance between shoes and drum.

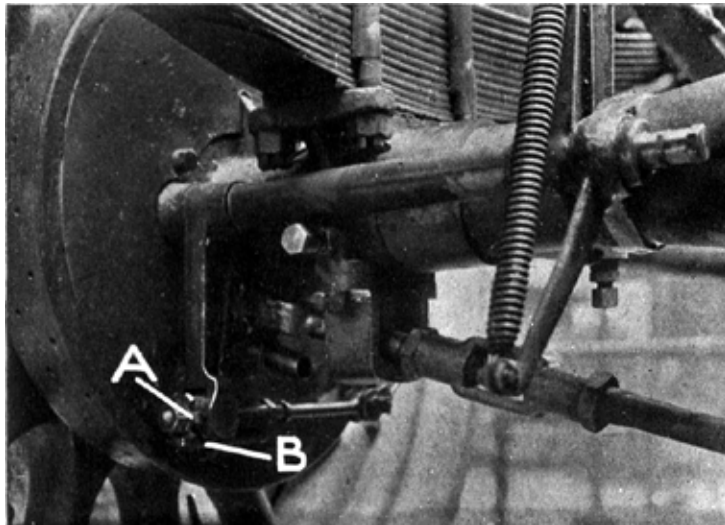


Fig. 54
REAR BRAKE ADJUSTMENT

8. Steering Gear.

This should be examined, particularly to see that the steering horns are tightly attached to the stub axles, and that all bolts are secured with nuts and split pins, especially noticing that the nuts are tight and that the split pins are

not worn through owing to a loose nut rubbing against them. The ball ends of the steering rods can be adjusted when slack in the same manner as the torque and radius rods described in the next paragraph.

Inspect the clips attaching springs to axles and tighten nuts if these are slack.

Torque and Radius Rods.



Fig. 55
ADJUSTMENTS TO BALL JOINTS ON RADIUS
AND STEERING RODS, ETC.

These rods should be examined for sleekness in the ball joints. They may be adjusted as follows :- Release the check nut and make sure that the adjusting nut thread is free ; screw the adjustment nut up fairly tightly and then turn it backward for 1/8 of a turn, this will make it just “ free “ without being slack. The locking nut can then be tightened up, taking great care not to disturb the adjustment.

9. Carburettor.

Shake the float A (Fig. 56) to discover if any petrol has leaked into it ; if so, it should be returned to the makers or to a first-class tinsmith for correction.

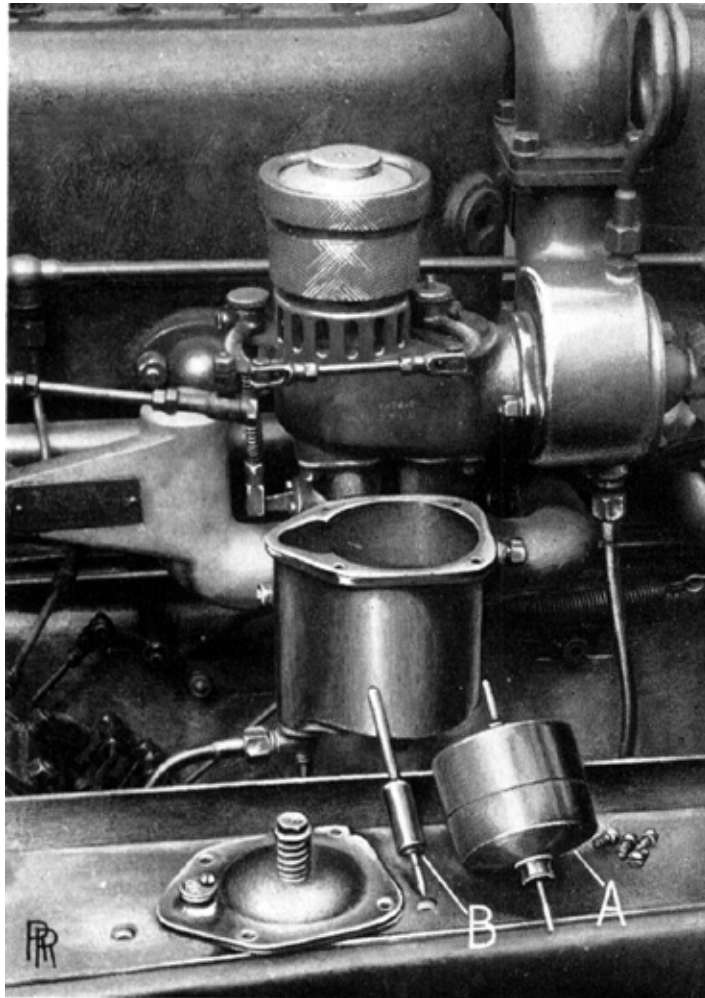


Fig. 56
SHOWING FLOAT A AND NEEDLE VALVE B
REMOVED FOR CLEANING

10. Loose Nuts.

Place the car over a pit and let a careful skilled mechanic examine and test every nut, bolt, and pin throughout the car, in order to tighten up every one that has loosened at all.

APPENDIX IV.

EVERY 20,000 MILES OR TWO YEARS

Should it be impossible to return the car to the makers for overhaul, it is most important that the work is put into the hands of really competent people who have the necessary skilled labour and proper appliances. A great deal of damage can be done to a car during overhaul by lack of knowledge and by carelessness. We consider this a point of great importance, and would impress upon owners the desirability of returning the car to our own Repair Shop, if this is in any way possible.

