INSTRUCTIONS

FOR THE CARE OF

Rolls-Royce Cars

40-50 H.P. SIX CYLINDERS

Series 1100 to 1600

Liable to Alteration without Notice

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PREFACE.

Examination of privately-owned cars has demonstrated that while some drivers realise the necessity of periodical lubrication of all moving parts, others, who have not been trained as mechanics, content themselves by oiling the parts which come immediately under their eye, and neglect other parts, thus allowing the chassis to be injured, to become noisy and inefficient, and their masters to be put to unnecessary expense in repairs.

Many owners confess that they are profoundly ignorant concerning the care of a car. with the result that they cannot judge if their drivers are neglectful or industrious.

An endeavour has been made in this book by means of copious illustrations, to enable the least experienced owner to satisfy himself if his driver is or is not giving the attention which is indispensible for the economical and satisfactory working of a chassis.

THE SECRET OF SUCCESSFUL RUNNING.

Before a Rolls-Royce chassis is sold it is very carefully tested and adjusted by experts. It will run best if no attempt be made to unnecessarily interfere with adjustments.

An owner would do well to instruct his driver as follows:-

Lubricate effectively and do not neglect any part.

Use only those oils which are recommended.

Inspect all parts regularly, but take care not to alter any adjustments unless really necessary.

The information in the APPENDICES has been made to treat as fully as is practical with every possible case which may arise, but if a Rolls-Royce car be cared for regularly and properly, and not tampered with, reference to these should seldom be necessary.

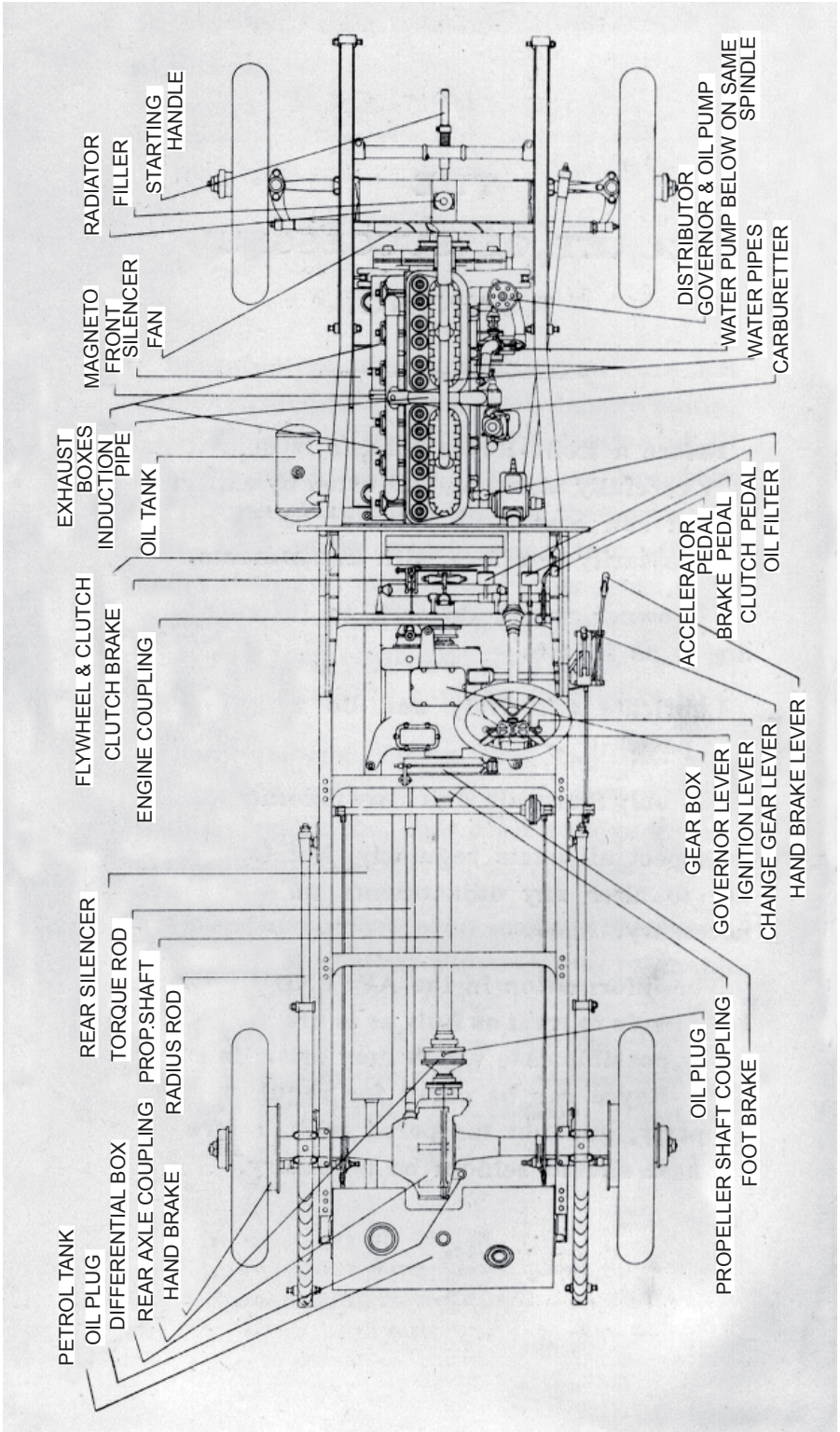

Fig. 1 Plan of 40-50 h.p. 6-cyl. Rolls-Royce Chassis

CHAPTER I

OPERATIONS TO BE CARRIED OUT

EVERY 500 MILES OR WEEKLY

if the car has been run less than 500 miles in that time.

NOTES ON LUBRICATION

It is convenient to keep two syringes, one for engine oil and one for gear oil.

Always wipe off surplus oil after lubricating.

Oil liberally without being wasteful.

NOTE, -- The figures in the right-hand margin of this chapter indicate the approximate times necessary for the performance of each operation, the total amounting to 2h. 5m.

Obtain syringes, wiper, and supplies of engine oil and gear oil.

1. Raise pressure inoil tank by means of tyre pump and run oil from tank into well of crank-chamber up to correct level (p.15) .. .. 4 min.

2. Re-fill oil-tank with engine oil 3 min

3. Add two syringes-full of gear oil to the gear box. The box should contain about seven pints of heavy gear oil; the surface of theoil should be 5 inches from the cover joint .. 2 min.

4. Add gear oil to the bevel gear case on back axle (preferably when the box is warm after running), until it runs out of fillinf plug hole (p.16) .. 2 min.

5. Inject a syringe-full of gear oil into the clutch-coupling sleeve between engine and gear-box (Fig.2, p. 17) .. .. 1 min.

Fill witj GEAR oil the following cups, screwing each one right home.

6. Cup on front end of torque rod (Fig. 3 p. 17) .. .. ..
7. Two cups at back end of torque rod (Fig. 4 p. 18) .. } 4 min.

8. Two cups on the radius rod on the one side (Figs. 5 and 6, pp. 18 and 19) .. .. .. 4 min.

9. Do the same on the other side of the car .. .. .. 4 min.

10. Fill with graphite grease the two cups of the bearings (one each side) which support the springs on the back axle (Fig. 7, p. 119) .. 2 min.

11. Fill with graphite grease FOURTEEN small cups on the ends of the road springs and their shackles (Figs. 8-11 inclusive, pp. 20 and 21) ; these cups should then be screwed right home so as not to be shaken off 19 min.

12. Fill cup over starting handle with gear oil (Fig. 12, p. 22) and screw right home (p. 21) .. .. 2 min.

13. Remove top covers on steering pivots and fill with gear oil (Fig. 13, p. 22) .. .. 4 min.

14. Remove bottom covers on steering pivots and fill with gear oil (Fig. 14, p. 23) .. .. 4 min.

15. Fill with gear oil the TWO cups - one at each end - on the cross steering tube see A in Fig. 15, p. 23), and screw right home .. .. 3 min.

16. Do the same thing with the TWO cups - one at each end - on the longitudinal steering rod (see B, Fig. 14, p. 23) .. .. 3 min.

17. Fill oil cup on steering box with gear oil and screw right home (Fig. 16, p. 24) .. .. 2 min.

18. Fill with gear oil the small cup half way up the steering column (ball thrust bearing) .. .. 1 min.

19. Apply a few drops of gear oil to the control mechanism on steering wheel, at points shown in Fig. 17 (p. 24) .. .. 2 min.

20. Fill with gear oil the cup A on fan bearing (Fig. 18, p. 25) ; also put a drop of oil on joint of belt fastener .. 2 min.

21. Insert a teaspoonful of engine oil into the oil cup on side of commutator (Fig 19, p. 25) .. .. 1 min.

22. Inject half a syringe full of engine oil into the plug-hole of the governor case (see A, Fig 20, p.26) 2 min.

23. Fill with gear oil the TWO small cups on the water pump (se B and B1, Fig. 20, p.26), afterwards screwing them right down to make water tight joints .. .. .. 5 min.

24. Drop a very few drops of engine oil into the three cups on the magneto (Fig. 22, p. 27) .. .. 2 min.

25. Fill with gear oil the cup A on the friction brake of the magneto drive (Fig. 23, p. 28) .. .. .. 1 min.

26. Insert with a syringe half a teaspoonful of gear oil into holes C and C 1 in the magneto shaft drive (Fig. 23, p. 28) .. .. 1 min.

27. Do the same to the each of the universal joints of the pump shaft C (Fig. 20, p. 26) .. .. 1 min.

28. Apply a few drops of engine oil to the SIX links and pins connecting the throttle with governor ; these are marked E in Fig. 20, p. 26 .. .. 1 min.

29. Do the same to the throttle stem D (Fig. 20, p.26) of the carburettor .. .. } 1 min.

30. Do the same to the TWO connecting links F (Fig. 20, p. 26) of the ignition advancing gear .. ..

31. Do the same to the ten connecting points of the control mechanism at side of engine marked A, B, C, D, E, F, H, I, J, K in Fig. 24, p. 29 .. .. 2 min.

Apply with syringe a few drops of GEAR oil to each of the following points :-

32. FIVE points of the clutch mechanism which are shown in Fig. 25, p. 29 .. .. .. 1 min.

33. Three points of pedal mechanism shown at E, F, and G, in Fig. 25, p. 29 .. .. .. 2 min.

34. The FIVE links of the foot brake mechanism (points C in Fig. 26, p. 30) .. .. .. 2 min.

35. The bearing of the side brake lever at A (Fig. 27, p. 30). See first that the hole is free of dirt .. .. 1 min.

36. The pawl of the side brake lever at B & C (Fig. 27, p. 30).. } 1 min.
37. The reverse pawl of the change gear lever, at D & E (Fig. 27, p. 30) .. .. ..

38. Fill with gear oil the cup F on the bearing of the chnge gear lever (Fig. 27, p. 30) .. .. 1 min.

39.Inject half a syringe full of gear oil in the brake differential gear box at A (Fig. 28, p.31) .. .. .. 2 min.

40. Apply a few drops of gear oil to rear brake mechanism on off side (at B & C, Fig. 28 ; and at A, Fig. 29, p. 31). Do the same on near side .. .. 3 min.

41. Jack up driving wheel of car, inject paraffin into side brake mechanism (insert nozzle of syringe between brake drum and cover), then spin wheel round so as to clean it out. 4 min.

42. Do the same on the other side of the car .. .. 4 min.

43. If detachable wheels are fitted, test these for side play, while car is still on jack, and tighten up if necessary .. .. 4 min.

44. Clean contact face of high tension distributor of battery ignition and put a few drops of engine oil on cam rocker lever and rollers (Figs. 30 & 31, p. 31) and at A (fig. 32, p. 33) 3 min.

TOTAL .. .. 1hr.52m.

CHAPTER II

OPERATIONS TO BE CARRIED OUT

EVERY 2,000 MILES OR MONTHLY

if the car has been run less than 2,000 miles in that time.

NOTE.- The figures in the right-hand margin of this chapter indicate the approximate time necessary for the performance of each operation, the total amounting to -

(If wood wheels) .. .. 5h. 17m.
(If wire wheels) .. .. 5h. 57m.

The time for letting the water and oil run out (23 min.) is not included, as this can proceed simultaneously with other work.

The total does not include charging the accumulators.

If re-adjustment of trembler is necessary, add 15 min.

If fan belt has to be shortened (by taking a piece out) add 28 min.

Obtain syringes, wiper, supplies of gear oil and necessary tools.

1. Charge all accumulators fully. See that the bottom of the accumulator box is clean and dry (p. 34) .. .. 2 min.

2. Take out. examine and clean sparking plugs, re-setting the points to guage (p. 34) .. .. 30 min.

3. Empty the oil from engine, clean oil-well and oil-filter (p. 36) ; fill up with fresh engine oil .. .. .. 60 min.

4. Drain out radiator and water system thoroughly, and fill up with clean soft water (p. 36) .. .. 15 min.

5. if detachable wire wheels are fitted, jack up and take off all four, thoroughly clean and lubricate the interior of the outer hubs and the exterior of the inner hubs. Also clean and grease the inside of hub of spare wheel. .. .. 40 min.

6. Remove cover of side brake mechanism and apply a few drops of gear oil to each of the EIGHT points marked A to H in Fig. 38 (p. 38).. 10 min.

7. Do the same on the other side of the car .. .. 10 min.

8. Feel fan belt and tighten if too loose (p. 38) .. .. 1 min.

9. Apply with syringe a few drops of gear oil to the pins A, B and C of the brackets supporting front of engine on each side of the car (Fig. 39, p. 39) .. .. 1 min.

10. Lubricate the leaves of the SIX road springs ; see Figs 40 and 41, pp. 38, 39 and 40 .. .. 60 min.

11. Take out (carefully) and clean supplementary air-valve ; do not put any oil on it (Figs. 42 and 43, pp. 40 and 41) .. .. 3 min.

12. Clean and test setting of platinum points of low-tension contact breaker on magneto ignition, with gauge supplied, re-setting if necessary (Fig. 21, pp. 27 and 41. Lubricate carefully with thin oil the moving parts. Time, without re-setting, 10 min. ; including re-setting .. .. 20 min.

13. Do the same on the battery ignition (pages 42 and 43). Without re-setting, 5 min. ; including re-setting .. .. 10 min

14 Clean contact faces of high-tension distributor on magneto (Fig. 45, p. 43 .. .. 2 min.

15. Examine coil trembler, but do not touch the adjustment unless absoluely sure this is necessary (p. 43) .. 2 min. (15 min. if adjustment is necessary, which is rare.)

16. Replace accumulators when fully charged ; clean their tops. Reverse the direction of current by changing over the wires leading to their terminals (P. 44) .. .. .. 3 min.

17. Inject a syringe full of gear oil into each of the universal joints on the propellor shaft (Figs. 47 and 48, p. 46) .. .. 6 min.

18. Inject a few drops of engine oil into the air filter on dashboard (in later types this is situated under the floorboards on the air pump). This will lubricate the small power pump on gear-box. Also remove and clean the relief valve which is under the footboard. .. .. 3 min.

19. Clean out the extra oil filter on the front of the dashboard (Fig. 49, p. 47) .. .. 10 min.

20. Take off the cover from the front of steering box and inject a syringe full of gear oil over the working parts (Fig. 16) .. .. .. 3 min.

21. Clean out petrol tank and filter 12 min.

22. Adjust position of clutch pedal if necessary, by means of short link at top of clutch throw-out lever (Fig. 25) .. .. 3 min.

23. Disconnect shock absorber links and remove lever by unscrewing adjusting nut. Clean and lubricate leathers with engine oil, replace and readjust (see p. 101) .. .. 40 min.

24. Remove the four hub-caps, fill them with special ball-bearing grease (free from water and acid) and replace .. .. 12 min.

25. Adjust valve tappets if necessary. The clearance should be ‘004’ (p. 51)

CHAPTER III

OPERATIONS TO BE CARRIED OUT

EVERY 5,000 MILES, OR HALF-YEARLY

1. Take off front wheels (also inner hubs if detachable wheels are fitted), carefully clean and examine the ball races to see that there are no traces of rust (caused by water entering), lunricate thoroughly with special ball-bearing grease (free from water and acid) and replace carefully ; this should only be done by a skilled fitter (see Fig. 50, p. 48).

2. Test and note the compressions of each cylinder by holdong the starting handle up against each compreaaion in turn (Fig.51, p.50).

3 Take off valve covers and inspect (with lamp) interior of each cylinder, see that there has been sufficient lubrication and not too much oil (indicated by carbon deposit) (p. 50).

4. If the compressions are bad, grind valves if necessary (pp. 52 and 51).

5 Check the adjustments of tappets after replacing valves (Fig. 52, p. 51).

6. Test adjustment of foot brake (Fig. 53, p. 52), see that the brake pedal does not touch the floor when applied hard.

7. Test adjustment of sidebrake (Fig. 54, p. 53), see that hand lever does not come up against the end when applied hard.

8. Examine and test (for looseness) the steering gear, torque rods, and spring clips (Fig. 55, pp. 53 and 54).

9. Clean out float chamber of carburettor and float-feed valve (Fig. 56, pp. 54 and 55).

10. Get underneath and examine the whole car for loose nuts, etc.

1. Drain off the old oil from gear-box and axle, and fill up to correct level with fresh gear oil.

CHAPTER IV

OPERATIONS TO BE CARRIED OUT

EVERY 20,000 MILES, OR TWO YEARS

It is recommended as the safest and most economical course to send the car to its makers for dismantlement and report at least every 20,000 miles. See Appendix IV., p. 56.

NOTE.-- The foregoing simple instructions, if intelligently followed, are all that are necessary for running the ROLLS_ROYCE cars ; the following Appendices are given for the benfit of anyone wishing to make a closer study of the mechanism, and describe fully the more complex operations.
