

**MAINTENANCE
REQUIREMENTS**

SERVICE INSTRUCTION LEAFLET

ISSUED BY
BENTLEY MOTORS (1931) LTD.



BM/C1(a)

SP/VA.1/SF.

Subject :

MAINTENANCE DATA CHART.

Date
of
Issue 1st September, 1953

This Service Instruction Leaflet replaces Service Instruction Leaflet BM/C1, dated the 24th April, 1948, which should be destroyed, together with the Maintenance Data Chart BM/C1.

The accompanying revised Maintenance Data Chart BM/C1a, is intended as a means of easy reference in connection with the periodic maintenance of pre-war Bentley cars. It is necessarily abbreviated, and it has therefore been thought advisable to expand the information by means of this explanatory leaflet.

As continual reference to this leaflet would detract from the ease and rapidity with which the chart can be used, explanation of the notes on the more commonly used items have been printed on the chart itself.

It will be noted that certain figures differ from those in the Instruction Books and previous technical literature issued by Bentley Motors Ltd., and it should be understood that the information on the chart supersedes any given in previous publications.

EXPLANATION.

NOTE:

B. The poundage is measured by means of a spring balance at $1\frac{1}{2}$ " from the axial centre line of the assembly with the radial driving springs removed. The figure quoted will be satisfactory under normal conditions, but a variation of plus or minus 1-3 lb. is permissible to suit individual engines. Generally speaking, a lower setting is beneficial in dealing with a low speed period on pick-up, while a higher poundage may be better to damp out periods at engine speeds of 2,000 - 3,000 r.p.m.

NOTE:

C. The clearance between the friction linings and the friction drum is set by means of the hexagon headed nut on the servo shaft. This nut is locked by rounded serrations formed on its face which engage similar serrations on an adjacent washer. To check and adjust the servo, apply a bar to the flange of the friction drum and while pushing the drum towards the gearbox, simultaneously apply and release the brake pedal a few times, noting the amount of end float of the drum. Adjust as necessary until the drum has an end float of $\frac{1}{32}$ ".

NOTE:

E. The side steering tube poundage must be adjusted on the front ball joint and the rear joint assembled as follows:-

- (i) The forward spring assembly must be so adjusted that the spring can be turned easily with the fingers without end play, when the castle nut is fully secured on the stem of the ball pad. If necessary, packing shims may be used between the spring guide and spring to obtain this adjustment, but it should be noted that the two nuts and tab washer, which are used instead of a split pin and castle nut, may be locked in position anywhere along the thread as necessary. Until the final assembly, do not bend over the tab washer.

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- (ii) The loading between the ball and ball pads during final assembly is obtained by applying a certain pre-load to the springs. To obtain this loading, a pinch is applied to the springs as the steering tube nut is screwed on to the socket. To provide the correct pre-load, the rear spring guide, when the assembly has been placed in the socket, must project .012" beyond the end of the socket before the nut is screwed into position. This projection can be obtained by the use of packing shims between the rear spring and guide; however, when shims have been used to obtain this adjustment, care must be taken to see that the spring can still be turned easily by the fingers and that there is no end play.
- (iii) When the adjustments are correct, the tab washer can be bent down and the assembly completed. Screw on the steering tube nut to its full extent so that the pre-load of the springs is obtained. Replace the locking cap and secure the pinch bolts. Replace the end cap.

SERVICE INSTRUCTION LEAFLET

ISSUED BY

BENTLEY MOTORS (1931) LTD.



BM/C2

SB/GF.2/SF.

Subject :

PERIODIC LUBRICATION & ADJUSTMENT
SCHEDULES 'A' & 'B'.

Date

of 29th Sept. 1947.
Issue

FOR MAINTENANCE DATA REFER TO SERVICE INSTRUCTION LEAFLET BM/C1.
FOR RECOMMENDED LUBRICANTS REFER TO SERVICE INSTRUCTION LEAFLET BM/D2.

GENERAL:

For the purpose of assisting Retailers with the maintenance of Bentley cars in their areas, a system of periodic lubrication and adjustment on a fixed mileage basis has been evolved.

It is recommended that this be instituted as a normal maintenance routine, and that appropriate arrangements be made with any owners who may wish to take advantage of this service.

It is confidently believed that owners will readily subscribe to this system of maintenance, and it is suggested that Retailers make arrangements to provide the necessary information, pointing out the advantages to be gained, such as regularity of maintenance, minimum amount of time that the car will be required, question of having a fixed rate of charge, and the knowledge that the performance and condition of the car will be kept to the maximum standard of efficiency.

It will be noticed that this system is a consolidation, on a bulk mileage basis, of the various routines shown in a handbook, and as such, does not in any way supersede the instructions as laid down in the respective handbook, to owners who may wish to carry out their own maintenance inspections.

This system consists of two Schedules A and B, and operates in the following manner:-

SCHEDULE 'A'. At the conclusion of every 5,000 miles and covers all those items associated with the engine and chassis requiring lubrication and adjustment.

SCHEDULE 'B'. At the conclusion of every 10,000 miles, in addition to the repetition of the whole of Schedule 'A', covers the complete change of lubricant of remaining main components, together with the inspection and rectification of those items not included at the lower mileage.

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SERVICE INSTRUCTION LEAFLET

ISSUED BY
BENTLEY MOTORS (1931) LTD.



BM/C2
3½ LITRE

SB/JSL. 6/NT.

Subject :
SCHEDULE 'A' EVERY 5,000 MILES
AND
SCHEDULE 'B' EVERY 10,000 MILES.

Date
of 22nd April, 1953.
Issue

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SCHEDULE 'A'.

LUBRICATE:

1. All bonnet fasteners and locks.
2. Fan pulley.
3. Water pump bearings.
4. Battery ignition distributor and governor.
5. Starter motor and dynamo bearings.
6. All engine and steering column controls, linkage joints, including radiator shutters.
7. Accelerator pedal and countershaft.
8. All brake system joints.
9. Clutch shaft and toggle levers.
10. Both universal joints.

CHECK OIL LEVEL AND REPLENISH WHERE NECESSARY:

1. Chassis oil tank.
2. Steering box.
3. Shock dampers and manual control pump.
4. Gearbox.
5. Rear Axle.

ENGINE:

Drain crankcase, remove and clean oil filter, and refill with fresh oil.

ADJUSTMENTS:

1. Check water and replenish as necessary.
2. Adjust fan belt if necessary.
3. Check, and if necessary, reset tappet clearances.
4. Clean and reset spark plug gaps.
5. Clean and reset battery ignition contact breaker points.
6. Clean carburettor air cleaner element.
7. Clean carburettor float chamber and lubricate air valve guides.
8. Check fuel pumps.
9. Clean all petrol filters.
10. Check, and if necessary, adjust clutch pedal free movement.
11. Check, and if necessary, adjust external adjustments for all brakes.
12. Check, and if necessary, adjust steering column thrust race.

13. Check steering and shock damper ball joints.
14. Check for excessive oil leakage at any point in chassis lubrication system.
15. Check, and if necessary, adjust all tyre pressures.

ELECTRICAL SYSTEM:

1. Check battery acid level, and if necessary, top up with distilled water.
2. Clean all battery terminals.
3. Check and reset ignition timing as necessary.
4. Check electrical equipment.
5. Remove brush dust from dynamo and starter motor.

SCHEDULE 'B'

EVERY 10,000 MILES.

1. Carry out the whole of Schedule 'A'.
 2. Drain gearbox and refill with fresh oil.
 3. Drain rear axle and refill with fresh oil.
 4. Clean cut-out points.
 5. Remove road wheels and grease hub splines, refit wheels.
 6. Change water in engine unless it is filled with anti-freeze.
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SERVICE INSTRUCTION LEAFLET

ISSUED BY
BENTLEY MOTORS (1931) LTD.



BM/C2
4¼ LITRE

SB/JSL.2/NT.

Subject :

SCHEDULE 'A' EVERY 5,000 MILES
AND
SCHEDULE 'B' EVERY 10,000 MILES.

Date
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SCHEDULE 'A'.

LUBRICATE:

1. All bonnet fasteners and locks.
2. Fan pulley.
3. Water pump bearings.
4. Battery ignition distributor and governor.
5. Starter motor and dynamo bearings.
6. All engine and steering column controls, and linkage joints, including radiator shutters.
7. Accelerator pedal and countershaft.
8. Both universal joints.
9. All linkages and connections of brake system.

CHECK OIL LEVEL AND REPLENISH WHEN NECESSARY:

1. Chassis oil tank.
2. Steering box.
3. Shock dampers and manual control pump.
4. Gearbox.
5. Rear axle.

ENGINE:

Drain crankcase, remove and clean oil filter, and refill with fresh oil.

ENGINE AND CHASSIS ADJUSTMENTS:

1. Check water and replenish as necessary.
2. Adjust fan belt if necessary.
3. Check and reset tappet clearances.
4. Clean and reset spark plug gaps.
5. Clean and reset battery ignition contact breaker points.
6. Clean carburetter air cleaner element.
7. Clean carburetter float chambers, and lubricate air valve guides.
8. Check fuel pumps.
9. Clean petrol filter.
10. Check, and if necessary, adjust clutch pedal free movement.
11. Check, and if necessary, adjust steering column thrust race.

12. Check, and if necessary, adjust all external adjustments for brakes.
13. Check, steering and shock damper ball joints.
14. Check for excessive oil leakage at any point of chassis lubrication system.
15. Check, and if necessary, adjust all tyre pressures.

ELECTRICAL SYSTEM:

1. Check battery acid level, and if necessary, top up with distilled water.
2. Clean all battery terminals.
3. Remove brush dust from dynamo and starter motor.
4. Check and reset ignition timings as necessary.
5. Check electrical equipment.

SCHEDULE 'B'

EVERY 10,000 MILES.

1. Carry out the whole of Schedule 'A'.
 2. Clean fuel strainer on the rear chassis cross members.
 3. Clean cut-out points.
 4. Drain gearbox and refill with fresh oil.
 5. Drain rear axle and refill with fresh oil.
 6. Change water in engine unless filled with anti-freeze.
 7. Remove and refit road wheels, grease hub splines.
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