



SERVICE HANDBOOK



SERVICE HANDBOOK

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SERVICE HANDBOOK

**SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.
R. TYPE BENTLEY — PHANTOM IV.**

SECTION A GENERAL INFORMATION

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

SPECIFICATION

SILVER WRAITH, SILVER DAWN, BENTLEY, PHANTOM IV

ENGINE AND CHASSIS NUMBERS:

- The engine number is stamped either on the front left-hand crankcase lifting lug, or on a boss on the crankcase immediately above.

The chassis number will be found on the identification plate, fixed to the front of the dashboard, and also stamped on the left-hand side frame member just in front of the dashboard, under the bonnet.

ENGINE:

Type

- Six cylinders, in line, with overhead inlet and side exhaust valves.

SILVER WRAITH

WTA-1 - WME-67.

Bore
Stroke
Cubic capacity

- 3.500" (88.9 mm)
- 4.500" (114.3 mm)
- 260 cu.ins. (4,257 c.c)

WOF-1 - and onwards.

Bore
Stroke
Cubic capacity

- 3.625" (92 mm)
- 4.500" (114.3 mm)
- 279 cu.ins. (4,566 c.c)

Compression Ratio.

WTA-1 - WSG-101
WVH-1 - and onwards

- 6.4:1 (Cylinder head RE.10429)
- 6.4:1 (Cylinder head RE.10429)
- 6.75:1 (Cylinder head RE.13451)

SILVER DAWN

SBA-2 - SDE-200.

Bore
Stroke
Cubic capacity

- 3.500" (88.9 mm)
- 4.500" (114.3 mm)
- 260 cu.ins. (4,257 c.c)

LSFC-2 - and onwards.

Bore
Stroke
Cubic capacity

- 3.625" (92 mm)
- 4.500" (114.3 mm)
- 279 cu.ins. (4,566 c.c)

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Compression Ratio.

- | | | | | | |
|-------|---|-------------|---|--------|--------------------------|
| SBA-2 | - | SHD-60 | - | 6.4:1 | (Cylinder head RE.10429) |
| SKE-2 | - | and onwards | - | 6.4:1 | (Cylinder head RE.10429) |
| | | | - | 6.75:1 | (Cylinder head RE.19451) |

BENTLEY

B-2-AK - B-401-LH

- | | | | |
|----------------|---|-------------|-------------|
| Bore | - | 3.500" | (88.9 mm) |
| Stroke | - | 4.500" | (114.3 mm) |
| Cubic capacity | - | 260 cu.ins. | (4,257 c.c) |

B-2-HD - and onwards.

- | | | | |
|----------------|---|-------------|-------------|
| Bore | - | 3.625" | (92 mm) |
| Stroke | - | 4.500" | (114.3 mm) |
| Cubic capacity | - | 279 cu.ins. | (4,566 c.c) |

Compression Ratio.

- | | | | | | |
|--------|---|-------------|---|--------|--------------------------|
| B-2-AK | - | B-301-PU | - | 6.4:1 | (Cylinder head RE.10429) |
| B-2-RT | - | and onwards | - | 6.4:1 | (Cylinder head RE.10429) |
| | | | - | 6.75:1 | (Cylinder head RE.19451) |
| BC-1A | - | BC-57B | - | 7.27:1 | (Cylinder head RE.16876) |
| | | | - | 7.20:1 | (Cylinder head RE.19451) |

PHANTOM IV

4-AF-2 - and onwards.

- | | | | |
|----------------|---|-------------|-------------|
| Bore | - | 3.500" | (88.9 mm) |
| Stroke | - | 4.500" | (114.3 mm) |
| Cubic capacity | - | 346 cu.ins. | (5,675 c.c) |

Compression Ratio.

- 6.4:1

Suspension.

- The engine and gearbox are of unit construction, the engine being flexibly mounted on rubber at two points.

Torsional rigidity is controlled by a torque arm, fixed to the rear of the gearbox, bearing on two rubbers. Fore and aft location is obtained by a tie-bar.

CYLINDER BLOCK:

Type

- Monobloc casting, integral with crankcase.

Material

- Cast iron.

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SILVER WRAITH

SILVER DAWN

BENTLEY

PHANTOM IV

CYLINDER HEAD:

Type

Material

CRANKSHAFT:

Material

Number of journals

Balance weights

Crankshaft vibration damper

MAIN BEARINGS:

Number of

Type

- Commencing at chassis WCB-31, short "Bricrome" inserts ($2\frac{1}{4}$ " long) are pressed into top of cylinders. Commencing at chassis WAB-14, phosphor-bronze replace cast iron exhaust valve guides.
- "Bricrome" inserts ($2\frac{1}{4}$ " long) are pressed into top of cylinders. Phosphor bronze exhaust guides.
- Commencing at chassis B-144-DA, short "Bricrome" inserts ($2\frac{1}{4}$ " long) are pressed into top of cylinders. Commencing at chassis B-26-CF, phosphor bronze replace cast iron exhaust valve guides.
- "Bricrome" inserts ($2\frac{1}{4}$ " long) are pressed into top of cylinders. Phosphor bronze exhaust guides.
- Detachable.
- Aluminium alloy, with nickel chrome steel inlet valve seats and cast iron guides.
- Nitrided chrome molybdenum steel. Fully machined and balanced.
- Silver Wraith - Seven.
Silver Dawn - Seven.
Bentley - Seven.
Phantom IV - Nine.
- Silver Wraith, Silver Dawn and Bentley detachable.
- Silver Wraith, Silver Dawn and Bentley, internal, combined spring drive and friction type damper.
Phantom IV - rubber tuned harmonic balancer.
- Seven - Silver Wraith, Silver Dawn and Bentley.
Nine - Phantom IV.
- Copper, lead-indium lined thin steel shells with "pre-sized" bores to suit diameter of crankshaft journals.

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R. TYPE BENTLEY — PHANTOM IV.

CONNECTING RODS:

- | | |
|------------------------|---|
| Type | - 'H' section. Fully machined and balanced. |
| Material | - Chrome Molybdenum steel. |
| Big-end bearings, type | - Copper, lead-indium lined thin steel shells with "pre-sized" bores to suit diameter of crankpins. |
| Gudgeon pin bush | - Pressed in rod. |

PISTONS:

- | | |
|-----------------|--|
| Material | - Aluminium alloy, tin plated. |
| Type | - Early series Silver Wraith and Bentley fitted with solid skirt pistons. Later series and Silver Dawn and Phantom IV, split skirt pistons used. |
| Number of rings | - Two compression and one slotted oil scraper. |

CAMSHAFT:

- | | |
|--------------------|--|
| Material | - Case hardening nickel steel. |
| Number of journals | - Silver Wraith, Silver Dawn and Bentley, four. Phantom IV, six. |
| Bearings | - Babbit lined steel shells. |
| Thrust taken | - Front. |
| Drive | - Helical toothed gear. |

SILVER WRAITH

- Chassis Nos. WTA-1 to WAD-86, fabric type driving gear.
- Chassis WHD-87 and onwards, aluminium driving gear.

SILVER DAWN

- Chassis Nos. SBA-2 to SCA-21, fabric type driving gear.
- Chassis Nos. LSCA-23 and onwards, aluminium driving gear.

BENTLEY

- Chassis Nos. B-2-AK to B-401-GT, fabric type driving gear.
- Chassis Nos. B-2-HR and onwards, aluminium driving gear.

PHANTOM IV

- Aluminium driving gear.

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VALVE GEAR:

General

- Dual inlet valve springs. One overhead inlet valve per cylinder operated by push rods. Gland packings on inlet valve stems to control air leakage and lubrication. One side exhaust valve per cylinder. Exhaust valves have "Stellited" facings; a special heat resisting material.

Valve tappets

- Barrel type, flat face.

LUBRICATION SYSTEM:

General

- High pressure feed to crankshaft, connecting rod and camshaft bearings and the distributor drive skew gear. Dual oil relief valve providing a positive low pressure oil supply to engine gears and to the hollow valve rocker shaft from which valve rockers, push rods, tappets and cams are lubricated.

Type

- Pressure throughout.

High pressure supply

- 25 lbs/sq.in. (approx).

Low pressure supply

- 5 lbs/sq.in. (approx).

Oil pump

- Spur gear type with floating intake strainer.

Oil pressure relief valve unit

- Dual type, controlling both high and low pressure feeds.

Oil filter, types

SILVER WRAITH

- A - E series chassis, 'General' By-Pass Oil Filter.
F series and onwards, 'Vokes' Full Flow Filter.

SILVER DAWN

- A and B series chassis, 'General' By-Pass Oil Filter.
C series and onwards, 'Vokes' Full Flow Filter.

BENTLEY

- A - L series chassis, 'General' By-Pass Oil Filter.
M series and onwards, 'Vokes' Full Flow Filter.

PHANTOM IV

- A series chassis, 'General' By-Pass Oil Filter.
B series and onwards, 'Vokes' Full Flow Filter.

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FUEL SYSTEM:

Carburettor Types

Make and Type

SILVER WRAITH

- R.H. and L.H. drive chassis, WTA-1 to WSG-5 - Stromberg Type AAV-26M, Dual Downdraught pattern.. WSG-7 and onwards - Zenith Type LBVC.42, Single Downdraught pattern.

SILVER DAWN

- R.H. and L.H. drive chassis, WTA-2 to LSPC-10C - Stromberg Type AAV-26M, Dual Downdraught pattern. LSPC-102 and onwards - Zenith Type LBVC.42, Single Downdraught pattern.

BENTLEY

- Twin S.U. Type H.4 (1½" choke). Chassis B-2-AK to B-81-HP, R.H. drive cars only.
Twin S.U. Type H.6. (1½" choke). Chassis B-83-HP to 'R' series, R.H. drive chassis.
Stromberg Type AAV-26M, Dual Downdraught pattern, L.H. drive chassis to 'R' series.
Twin S.U. Type, H.6. Fully Automatic, 'R' Type and onwards.
Continental series BC-2-LA to BC-6-LA, Non-Automatic.
BC-8-LA, Fully Automatic.

PHANTOM IV

Air Cleaner

- Mesh or Oil Bath.

Fuel Pumps

- S.U. Twin electric, Type L, Phantom IV - Heavy duty type.

Fuel Tank capacity

- 18 gallons (Imperial).

Fuel Strainers

- Main fuel strainer mounted on frame cross-member in front of fuel tank. In addition, a small gauze strainer is arranged on the carburettor/s.

Fuel Gauge

- Electric. Registers when the master and ignition switches are "on".

COOLING SYSTEM:

Cooling system capacity

- Silver Wraith, Silver Dawn, Bentley - 4 gallons (Imperial).
Phantom IV - 5½ gallons (Imperial).

Type

- Pressure.

Pump

- Centrifugal.

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COOLING SYSTEM: (Cont'd).

Fan

- Five blade.

Fan diameter

- 16" dia. fan - Silver Wraith WTA-1 to WHD-75, Silver Dawn SEA-2 to LSCA-7, Bentley B-2-AK to B-211-GT. Phantom IV - all.
17½" dia. fan - Silver Wraith WHD-77 and onwards. Silver Dawn LSCA-9 and onwards. Bentley B-213-GT and onwards. Fans are not interchangeable.

Pump and fan drive.

- By adjustable Vee belt.

Radiator matrix, type

- Corrugated.

Radiator shutters

- Silver Wraith - Thermostatic operated.
Silver Dawn - Fixed.
Bentley - Fixed.
Phantom IV - Thermostatic operated.

Coolant temperature control

- Thermostatically controlled by a bypass thermostat, allowing a minimum running coolant temperature of 80°C.

Temperature indicator

- On instrument panel.

Coolant

- The cooling system is filled with a 25% mixture of inhibited ethylene glycol and water (anti-freeze) before the car leaves the factory.

EXHAUST SYSTEM:

General

- The exhaust system comprises four main parts, the front exhaust pipe, two separate silencers and the tail pipe. The front silencer which is of oval section has one baffle through which pass one short and two long perforated tubes. The rear silencer is circular and consists of a resonator chamber followed by three cylindrical co-axial baffles. The exhaust line runs down the left-hand side of the chassis, the tail pipe being carried over the rear axle. The exhaust system is flexibly mounted and is thus at liberty to float in unison with the engine unit. Commencing at Bentley B-2-MD, a twin exhaust system is fitted (to R.H. drive chassis only), consisting of one front silencer and one rear silencer in each branch. Each silencer is of oval section, having a centre baffle plate through which pass three long perforated tubes.

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CLUTCH:

Make

- Borg and Beck (Semi-centrifugal).
Single dry plate.

Size and type

SILVER WRAITH

- 11" 'Heavy', except WTA-1 to WTA-55
- 10" 'Long' type.

SILVER DAWN

- 10" 'Long' type, SBA-2 to SCA-25.
- 11" 'Light' type, SCA-27 to SDB-74.
- 11" 'Heavy' type, SDB-76 and onwards.

BENTLEY

- 10" 'Long' type, B-2-AK to B-40Z-GT.
- 11" 'Light' type, B-2-HR to B-298-LJ.
- 11" 'Heavy' type, B-300-LJ and onwards.

PHANTOM IV

- 11" 'Heavy' type.

Facing material

- Mintex H-14.

Clutch Pressure springs

- Nine.
The original 10" clutch was equipped with orange coloured pressure springs. These have been superseded by red coloured springs.
The 11" 'Light' and the 11" 'Heavy' type clutches are both equipped with orange coloured springs, except Bentley Continental which has six red and three orange.
Phantom IV - red springs.

Damper springs

- The driven plate damper springs are red coloured for all clutches, except Phantom IV - these are orange.

Clutch release bearing

- Ball bearing (single row). Lubricated from chassis Luvax system.

GEARBOX: (Synchromesh)

Number of speeds

- Four speeds and reverse, with positive interlock selector mechanism.
Synchromesh on 2nd, 3rd and 4th speed gears.

Gearbox ratios

- 1st speed - 2.98:1
- 2nd speed - 2.02:1
- 3rd speed - 1.34:1
- 4th speed - Direct
- Reverse - 3.15:1

Oil capacity

- 6 Pints (Imperial) 7.2 Pints (U.S.A)
3.4 litres.

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R. TYPE BENTLEY — PHANTOM IV.

GEARBOX: (Automatic)

General

- Optional on later series left-hand drive cars. A manual control lever on the steering column allows selection of desired ranges to suit operating conditions. Three forward speed ranges are provided also neutral and reverse. Control lever quadrant marked N. 4. 3. 2. R.

Gearbox ratios

- 1st speed - 3.82:1
- 2nd speed - 2.63:1
- 3rd speed - 1.45:1
- 4th speed - Direct
- Reverse - 4.30:1

Oil capacity

- 20 Pints (Imperial) 24 pints (U.S.A)
11.36 litres.

PROPELLOR SHAFT:

Type

- Divided open type having three needle roller bearing universal joints; one near the centre and one at each end. The shaft is supported in the centre by a flexible mounted ball bearing.

REAR AXLE:

Type

- Semi-floating.

Final drive

- .650" off-set Hypoid bevel gears.

Oil capacity

- Silver Wraith, Silver Dawn and Bentley - $1\frac{1}{2}$ pints (Imperial).
Phantom IV - 3 pints (Imperial.)

Pinion Thrust Bearing.

- As from Silver Wraith Chassis WWH-72, Silver Dawn Chassis SLE-11 and approx. the middle of Bentley SR series, a pair of Tinker roller bearings replaces the double thrust bearing. An internal flange separates the two bearings. These are only fitted to chassis with 11:41 or 12:31 ratio pinions.

BRAKES:

General

- Hydraulic operation on front wheels, mechanical operation on rear wheels assisted by a mechanically driven servo motor. The foot pedal operates the rear brakes and also engages the servo. The servo which operates the front brakes, through the medium of a balance lever and a hydraulic master cylinder, at same time augments the direct application of the rear brakes.

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R. TYPE BENTLEY — PHANTOM IV.

BRAKES: (Cont'd)

General, continued

- With the leverages provided, about 55% of the total braking is imposed on the front wheels to counteract the greater weight thrown upon the front wheels when braking. The hand brake operates directly on the rear brakes only.

Brake shoe linings

- Ferodo VG-91.

Friction lining area (4 brakes)

- Silver Wraith, Silver Dawn, Bentley - 186.6 sq.in.
Phantom IV - 272 sq.in.

Hand brake lever

- "Scuttle" type.

SERVO MOTOR:

General

- Dry single disc brake type, driven from the gearbox at approx. 1/10th propeller shaft speed, and is actuated by means of axial cams whose levers are interposed in the rod from the foot brake pedal to the rear brakes intermediate shaft. The servo motor operates equally well for forward or reverse motion of the car. Provision is made for external adjustment of the servo.

Servo motor lining

- Ferodo VG-91.

FRONT HUBS:

General

- Two single row ball bearings. Commencing Silver Wraith chassis WME-1, Silver Dawn chassis SCA-1, Bentley chassis B-1-GT, two taper roller bearings replace the ball bearings.

WHEELS AND TYRES:

Wheels, type

- Bolted on pressed steel wheels with balance weights and covering discs.

Rim-wheel and tyre

SILVER WRAITH

- Well-base rims, 5.00" x 17.00" or 6.50" x 16.00".
Dunlop Fort 'C' tyres, 6.50" x 17.00" or 7.50" x 16.00" may be fitted to standard wheel base chassis. On cars for U.S.A., Canada, Australia and Egypt, 7.50" x 16.00" tyres are fitted. Also to all long wheel base chassis.

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R. TYPE BENTLEY — PHANTOM IV.

WHEELS AND TYRES: (Cont'd).

SILVER DAWN

- Well-base rims, 5.00" x 16.00".
Dunlop Fort 'C' tyres 6.50" x 16.00".

BENTLEY

- Well-base rims, 5.00" x 16.00" India Super Silent Rayon tyres 6.50" x 16.00 except Continental chassis which are India Speed Special, 6.50" x 16.00".

PHANTOM IV

- Semi-drop centre rims, 5.00" x 17.00" Dunlop Fort 'C' tyres 8.00" x 17.00".

STEERING:

General

- The movements of the steering wheel are transmitted by the pendulum lever and the side steering tube to a centre steering lever/s situated on the rear of the front cross member of the frame and then by the two cross steering tubes to each pivot axle.

Steering unit, type

- Cam and roller. Not irreversible.

Ratio

- 15.25:1, except Silver Wraith from chassis WVH-43, 18.7:1.

Drive

- Right-hand or left-hand.

Steering wheel diameter

- Silver Wraith, Silver Dawn, Bentley, 18". Phantom IV, 18.75".

Oil capacity of box

- 1½ pints (Imperial).

SUSPENSION:

Front

- Independent front wheel suspension by means of coil springs controlled by hydraulic dampers. Side sway is checked by an anti-roll torsion bar.

Rear

- Semi-elliptic leaf springs controlled by hydraulic shock dampers. Later model Silver Dawn and Bentley, incorporate spring leaves that are longer, wider and reduced in number. The rear shackle brackets have been turned through 90°, the shackle eyes being above instead of below the side member.

Front shock dampers

- Hydraulic double acting.

The shock damper consists of two pistons operating in oil filled cylinders.

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R. TYPE BENTLEY — PHANTOM IV.

SUSPENSION: (Cont'd).

Front shock dampers (Cont'd).

- The oil is displaced from one cylinder to the other through drilled passages, the degree of damping being controlled by spring loaded valves.

Rear shock dampers

- Controllable hydraulic double acting.

The shock damper consists of a piston assembly operating in an oil filled cylinder; the oil being displaced from one end of the cylinder to the other, past spring-loaded valves. The loading of these valves and hence the degree of damping, is controllable through the "Ride Control" lever by means of a small gear type oil pump carried in a casing bolted to the gearbox, which maintains a pressure of oil in a system of piping coupled to each rear damper. This pressure is variable and is controlled through a relief valve operated by the hand lever; pressure being applied to the damper through the medium of a metallic bellows which isolates the pressure oil from the damper oil.

On later models the single forked link between the shock damper arm and the spring plate has been replaced by two parallel links. A separate bracket for the lower Silentbloc bush is no longer provided, this now being integral with the spring plate.

CHASSIS LUBRICATION:

System

- Luvax Bijur centralised chassis lubrication system supplied by a pedal operated oil pump mounted on the dashboard.

Capacity, oil pump

- 2 pints (Imperial).

CHASSIS FRAME:

Type

- Both front and rear portions have box section side members and rigidity is further increased by a special cruciform stiffening member.

JACKING SYSTEM

General

- A Dunlop "Triple Screw" jack is provided which operates on slides fitted under each side of the body sill,

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JACKING SYSTEM: (Cont'd).

General (Cont'd).

- at about the centre of chassis, also special bracket fitted to front members on certain cars.
Early models were fitted with Smith's "Bevelift" jack.

BATTERY:

Make and type

- Either, P & R Dagenite, 5 HZP9-S, or Exide, 6 MXP9-L.

Voltage

- 12 volts.

Capacity

- 55 ampere/hour at 20 hour rate.

Earth

- Positive side of battery to chassis frame.

IGNITION DISTRIBUTOR:

Make and type

- Delco-Remy. Twin contact breaker type with synchronisable contact breaker arms.

Rotation

- Clockwise.

Advance mechanism, type

- Automatic (centrifugal governor).

Firing order

- Silver Wraith, Silver Dawn and Bentley, 1, 4, 2, 6, 3, 5, No.1 being the front cylinder.
Phantom IV, 1, 6, 2, 5, 8, 3, 7, 4, No.1 being the front cylinder.

IGNITION COIL:

Make and type

- Lucas B.12.

SPARKING PLUGS:

Make and type

- Champion type N.8 or Lodge type CLN.30, except Phantom IV and Bentley Continental, Champion type N.8 only.

DYNAMO:

Make and type

- Lucas R.A.5 (5") except early chassis which had Lucas C.45 PV.(4½).

Maximum output

- 26 amperes at 13.5 volts.

Drive

- By adjustable Vee bolt.

Voltage regulator and cut-out

- Temperature compensated type.

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STARTER MOTOR:

Make and type

- Lucas M-45G 12v with built in planetary reduction gear (1.9:1 ratio) and Bijur type drive incorporating a friction clutch.

Cranking speed

- 80 to 160 engine R.P.M. (under normal temperate climatic conditions).

Rotation

- Clockwise.

Pinion to flywheel ratio

- 14/118.

HORNS:

Make and type

- Lucas, either model WT.29, WT.614 or HF.1748.

DIRECTION INDICATORS:

- Lucas, arm type, model SF.34.N on early series, later model SF.80. Flashing light indicator fitted to L.H. drive export cars only.

WINDSCREEN WIPERS:

- Early chassis, Houdaille "Berkshire" type.
Later, Lucas Rack type.
Later series, Lucas two speed type, the motor has a thermostatic controlled cut-out which operates if wiper is overloaded. Cut-out switch will reset if "Parked" for 15 minutes.

HEADLAMPS:

Make and type

- Lucas Mark I.

SILVER DAWN and BENTLEY

General

- A small red warning light, mounted in the speedometer, is illuminated whenever the headlamps are on the "Driving Beam" (Full on).
Provision is made so that the system can be altered to double filament dipping to the right in both headlamps for use in countries where the car is driven on the right-hand side of the road by:-
 - a) Fitting Lucas 303 or Osram OS 516R right-hand dip double filament prefocus bulbs to both headlamps.
 - b) Connecting together the two pink wires in the right-hand wing valance junction box.Commencing at Bentley Chassis No. B-169-NY and Silver Dawn Chassis No. LSHD-56, Lucas Mark II Headlamps are fitted.

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HEADLAMPS: (Cont'd).

General, (Cont'd)

- These are similar to the Mark I in operation, but differ slightly in design. The reflector unit is secured to the lamp body by three spring loaded screws and these are operated to give the correct alignment. Certain Mark II lamps may be equipped with a fuse unit fitted to the lamp shell; the fuses are rated at 15 amps.

SILVER WRAITH and PHANTOM IV

Make and type

- Lucas, "R.100".

General

- The headlamps are controlled by two switches, the master switch on the switchbox and the foot switch for beam selection. A small red warning light, mounted in the speedometer, is illuminated whenever the headlamps are on the driving beam (full on). These headlamps are of the dipping reflector type, the foot switch normally operates to dip the left-hand headlamp and extinguish the right-hand headlamp. Change-over switch connections in the headlamps allow for this procedure to be reversed if the car is used where the rule of the road is to drive on the right-hand side.

FOG LAMP:

- One centre lamp fitted to Silver Wraith and Bentley. Two lamps fitted to Silver Dawn and Phantom IV.

FUSE BOX:

- Main fuse carried in separate box on Phantom IV and later models Silver Wraith, Silver Dawn and Bentley. Circuit fuses one strand of No.32 S.W.G. copper wire. Main fuse, three strands.

DEMISTER AND DEFROSTER:

General

- The normal system consists of directing pre-heated air through suitable vents in the capping rail on to the windscreen, assisted by a blower motor. An electrically heated element was incorporated on the driver's side on early cars. Later models incorporate a hot and cold air demisting system.

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CAR HEATER:

General

- A hot water heater is normal equipment, under the front passenger's seat. Extra heaters can be fitted as required.

WINDSCREEN WASHER:

General

- Later models are fitted with the Trico Vacuum operated windscreen washer, the pump and reservoir being installed on the front of the dashboard and operated by a push button on the fascia board.

COACHWORK:

SILVER WRAITH

Dimensions (Short Wheelbase chassis) -

Wheelbase	-	10' 7"	(322.58 cms)	
Track, front (with 6.50" x 17.00" tyres)	-	56. 9"	(144.53 cms)	
Track, front (with 7.50" x 16.00" tyres)	-	57. 9"	(147.06 cms)	
Track, rear (with 6.50" x 17.00" tyres)	-	59. 8"	(151.9 cms)	
Track, rear (with 7.50" x 16.00" tyres)	-	60. 8"	(154.43 cms)	
Overall length, including bumpers (approx).	-	17' 6"	(533.4 cms)	
Overall width, over wings (approx).	-	6' 3"	(190.5 cms)	front and rear.
Overall height, unladen (approx).	-	5' 8"	(172.7 cms)	
Turning circle diameter (to outside edge of tyre)	-	43' 5"	(1,323.34 cms)	R.H. and L.H. locks.

Dimensions (Long wheelbase chassis) -

Wheelbase	-	11' 1"	(337.82 cms)	
Track, front (with 7.50" x 16.00" tyres)	-	57. 9"	(147.06 cms)	
Track, rear (with 7.50" x 16.00" tyres)	-	64"	(162.56 cms)	
Overall length, including bumpers (approx).	-	18' 0"	(548.64 cms)	
Overall width, over wings (approx).	-	6' 5"	(195. 5 cms)	front and rear
Overall height, unladen (approx).	-	6' 0"	(182. 8 cms)	
Turning circle diameter (to outside edge of tyre)	-	45' 5"	(1,384.30 cms)	R.H. and L.H. locks.

NOTE: The overall length of the car, (both short and long wheelbase chassis) will vary according to the body and type of bumpers fitted. In cases where cars are intended for export, bumpers may vary considerably, thus affecting the overall length of the cars.

Chassis Weights: (Short Wheelbase Chassis). Complete with standard tyres 7.50" x 16.00", all accessories, tools, etc. and standard transmission.

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

COACHWORK: (Silver Wraith, Cont'd).

Dry Weight. R.H. drive, with Wilmot Breedon heavy type bumpers.

- 2,925 lbs. (1,326.8 Kgs).

Dry Weight. L.H. drive, with Wilmot Breedon heavy type bumpers.

- 2,955 lbs. (1,340.4 Kgs).

Chassis Weight. (Short Wheelbase Chassis). Complete with standard tyres 7.50" x 16.00", all accessories, tools, etc. and automatic transmission.

Dry Weight. L.H. drive, with Wilmot Breedon heavy type bumpers.

- 3,035 lbs. (1,376.6 Kgs).

Chassis Weights. (Long Wheelbase Chassis). Complete with standard tyres 7.50" x 16.00", all accessories, tools, etc. and standard transmission.

Dry Weight. R.H. drive, with Wilmot Breedon heavy type bumpers.

- 3,000 lbs. (1,360.8 Kgs).

Dry Weight. L.H. drive, with Wilmot Breedon heavy type bumpers.

- 3,030 lbs. (1,374.4 Kgs).

Chassis Weight. (Long Wheelbase Chassis). Complete with standard tyres 7.50" x 16.00", all accessories, tools, etc. and automatic transmission.

Dry Weight. L.H. drive, with Wilmot Breedon heavy type bumpers.

- 3,110 lbs. (1,410.7 Kgs).

NOTE: The above chassis weights are liable to slight variation due to individual chassis fittings.

COACHWORK: SILVER DAWN

DIMENSIONS. (With Standard Saloon all Steel Body). Series A, B, C & D.

Wheelbase

- 10' 0" (304.80 cms).

Track, front

- 4' 8 $\frac{3}{4}$ " (144.14 cms).

Track, rear

- 4' 10 $\frac{3}{8}$ " (148.90 cms).

Overall length, including bumpers (Wilmot-Breedon type).

- 16' 0" (487.68 cms).

Overall length, including bumpers (Pyrene type).

- 16' 4 $\frac{1}{2}$ " (499.11 cms).

Overall width (over wings):-

Front

- 5' 9" (175.26 cms).

Rear

- 5' 10" (177.8 cms).

Rear, with rear wing cover panels

- 5' 11" (180.34 cms).

Overall height:-

Unladen

- 5' 6" (167.64 cms).

Laden

- 5' 4 $\frac{1}{2}$ " (163.83 cms).

Turning circle dia. (To outside edge of tyre).

- 41' 2" (1,254.76 cms) R.H. and L.H. locks.

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

COACHWORK: (Silver Dawn, Cont'd).

WEIGHT: (With Standard Saloon all Steel Body). Series A, B, C & D.

Kerbside weight, R.H. drive
Kerbside weight, L.H. drive
Dry weight, R.H. drive
Dry weight, L.H. drive

- 4,235 lbs. (1,921 Kgs) These weights
- 4,295 lbs. (1,948 Kgs) are liable to
- 4,040 lbs. (1,832 Kgs) slight
- 4,095 lbs. (1,857 Kgs) variation to
individual
chassis
fittings.

- The term "Kerbside" weight means
that the car is complete with all
accessories, petrol (18 galls.
Imperial), oil and water, but less
passengers.

"Dry" weight means that the car is
complete with all accessories, but
less petrol, oil and water.

DIMENSIONS: (With Standard Saloon all Steel Body). Series E and onwards.

Overall length, including bumpers
(Wilmot Breedon type)
Overall length, including bumpers
(Pyrene type)
Overall length, with heavy export
type bumpers

- 16' 7½" (506.73 cms).
- 16' 11½" (516.89 cms).
- 17' 6" (533.4 cms) approx.

WEIGHT: (With Standard Saloon all Steel Body and Standard Transmission.)

Kerbside weight R.H. drive
Kerbside weight L.H. drive
Dry weight R.H. drive
Dry weight L.H. drive

- 4,220 lbs. (1,914 Kgs).
- 4,230 lbs. (1,918 Kgs).
- 4,025 lbs. (1,826 Kgs).
- 4,050 lbs. (1,837 Kgs).

WEIGHT: (With Standard Saloon all Steel Body and Automatic Transmission).

Kerbside weight, L.H. drive
Dry weight L.H. drive

- 4,325 lbs. (1,962 Kgs).
- 4,130 lbs. (1,873 Kgs).

CHASSIS WEIGHTS: (Complete with Standard Tyres, all Accessories, Tools, etc. and Standard Transmission).

Dry Weight. R.H. drive, with Wilmot Breedon export bumpers.
Dry Weight. L.H. drive, with Wilmot Breedon export bumpers.

- 2,745 lbs. (1,245.1 Kgs).
- 2,770 lbs. (1,256.5 Kgs).

NOTE: When Pyrene Bumpers are fitted this increases the weight by 5 lbs. (2.27 Kgs).

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

CHASSIS WEIGHTS. (Complete with Standard Tyres, all Accessories, Tools, etc. and Automatic Transmission).

Dry Weight. L.H. drive, with Wilmot Breedon export bumpers. - 2,850 lbs. (1,292.7 Kgs).
When Pyrene bumpers are fitted this increases the weight by 5 lbs. (2.27 Kgs).

NOTE:- The above chassis weights are liable to slight variation due to individual chassis fittings.

COACHWORK:

BENTLEY

DIMENSIONS. (With Standard Saloon all Steel Body). Chassis Series A to P inclusive.

Wheelbase	- 10' 0"	(304.80 cms)
Track, front	- 4' 8 $\frac{1}{2}$ "	(144.14 cms)
Track, rear	- 4' 10 $\frac{1}{2}$ "	(148.90 cms)
Overall length, including bumpers (Wilmot-Breedon type)	- 16' 0"	(487.68 cms)
Overall length, including bumpers (Pyrene type)	- 16' 4 $\frac{1}{2}$ "	(499.11 cms)
Overall width (over wings):-		
Front	- 5' 9"	(175.26 cms)
Rear	- 5' 10"	(177.8 cms)
Rear, with rear wing cover panels	- 5' 11"	(180.34 cms)
Overall height:-		
Unladen	- 5' 6"	(167.64 cms)
Laden	- 5' 4 $\frac{1}{2}$ "	(163.83 cms)
Turning circle dia. (To outside edge of tyre).	- 41' 2"	(1,254.76 cms) R.H. and L.H. locks.

WEIGHT: (With Standard Saloon all Steel Body). Series A to P inclusive.

Kerbside weight, R.H. drive	- 4,210 lbs. (1,909 Kgs)	These weights are liable to slight variation due to individual chassis fittings.
Kerbside weight, L.H. drive	- 4,250 lbs. (1,928 Kgs)	
Dry Weight R.H. drive	- 4,015 lbs. (1,821 Kgs)	
Dry Weight L.H. drive	- 4,055 lbs. (1,839 Kgs)	

The term "Kerbside" weight means that the car is complete with all accessories, petrol (18 galls. Imperial), oil and water, but less passengers.
"Dry" weight means that the car is complete with all accessories but less petrol, oil and water.

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

COACHWORK: (Bentley, Cont'd).

DIMENSIONS: (With Standard Saloon all Steel Body). R Series and onwards).

Overall length, including bumpers (Willmot Breedon type)	- 16' 7½" (506.73 cms)
Overall length, including bumpers (Pyrene type)	- 16' 11½" (516.89 cms)
Overall length, with heavy export type bumpers.	- 17' 6" (533.4 cms) approx.

WEIGHT: (With Standard Saloon all Steel Body and Standard Transmission).

Kerbside weight, R.H. drive	- 4,215 lbs.	(1,912 Kgs)	These weights are liable to slight variation due to individual chassis fittings.
Kerbside weight, L.H. drive	- 4,270 lbs.	(1,937 Kgs)	
Dry Weight R.H. drive	- 4,015 lbs.	(1,821 Kgs)	
Dry Weight L.H. drive	- 4,070 lbs.	(1,846 Kgs)	

WEIGHT: (With Standard Saloon all Steel Body and Automatic Transmission).

Kerbside weight, L.H. drive	- 4,365 lbs.	(1,980 Kgs)
Dry Weight L.H. drive	- 4,150 lbs.	(1,882.5 Kgs)

CHASSIS WEIGHTS: (Complete with Standard Tyres, all Accessories, Tools, etc. and Standard Transmission.)

Dry Weight. R.H. Drive, with Standard type bumpers.	- 2,740 lbs.	(1,242.8 Kgs)
Dry Weight. L.H. Drive, with Willmot Breedon export bumpers.	- 2,790 lbs.	(1,265.5 Kgs)
Dry Weight. R.H. Drive, with Pyrene Bumpers.	- 2,765 lbs.	(1,254.2 Kgs)

NOTE:- When Pyrene bumpers are fitted to L.H. Models, this increases the weight by 5 lbs. (2.27 Kgs.)

CHASSIS WEIGHTS: (Complete with Standard Tyres, all Accessories, Tools, etc. and Automatic Transmission).

Dry Weight. L.H. drive, with Willmot Breedon export bumpers.	- 2,870 lbs.	(1,301.8 Kgs).
Dry Weight. L.H. drive, with Pyrene bumpers.	- 2,875 lbs.	(1,304.1 Kgs).

NOTE:- The above chassis weights are liable to slight variation due to individual chassis fittings.

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

COACHWORK:

BENTLEY CONTINENTAL SPORTS SALOON.

DIMENSIONS:

Overall length, including bumpers	- 17' 2½" (524.51 cms)
Overall length, with heavy export type bumpers.	- 17' 7½" (537.2 cms) approx.
Overall width (over wings).	- 5' 11½" (181.61 cms)
Overall height (unladen).	- 5' 3" (160.02 cms)

WEIGHT: (Complete car).

Dry weight. R.H. drive	- 3,610 lbs. (1,637 Kgs)	These weights are liable to slight variation due to individual chassis fittings.
Dry Weight. L.H. drive	- 3,635 lbs. (1,649 Kgs)	
Kerbside weight. R.H. drive	- 3,805 lbs. (1,726 Kgs)	
Kerbside weight. L.H. drive	- 3,830 lbs. (1,737 Kgs)	

CHASSIS WEIGHTS: (Complete with all Accessories, Tools, etc. and Standard Transmission, less Radio and Heater.)

<u>Dry Weight.</u> R.H. drive with Standard Wilmot-Breedon bumpers.	- 2,740 lbs. (1,242.8 Kgs)
<u>Dry Weight.</u> L.H. drive with Standard Wilmot-Breedon bumpers.	- 2,765 lbs. (1,254.2 Kgs)

NOTE:- The above chassis weights are liable to slight variation due to individual chassis fittings.

COACHWORK:

PHANTOM IV.

DIMENSIONS:

Wheelbase	- 145" (368.3 cms)
Track, front	- 58.4" (148.3 cms)
Track, rear	- 63.2" (160.5 cms)
Turning circle (to outside edge of tyre).	- 49' 1" (1,496 cms) R.H. and L.H. locks.

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

PERIODIC LUBRICATION AND ADJUSTMENT.

SCHEDULES "A" "B" & "C".

The three Schedules "A", "B" and "C" cover the whole vehicle and operate in the following manner :-

SCHEDULE "A" :-

To be carried out at the conclusion of every 5,000 miles, covers all the items associated with engine, chassis and coachwork requiring lubrication, cleaning and adjustment.

SCHEDULE "B" :-

To be carried out at the conclusion of every 10,000 miles. In addition to the repetition of the whole of Schedule "A", it covers the complete change of lubricant of all the main components, together with the inspection and rectification of those items not included at the lower mileage.

SCHEDULE "C" :-

To be carried out at the conclusion of every 20,000 miles. This schedule especially covers the requirements of periodic servicing of the Automatic Gearbox and only applies to cars fitted with Automatic Gearboxes.

SCHEDULE "A".

EVERY 5,000 MILES.

LUBRICATION:

1. Bonnet fasteners and locks.
2. Door locks and hinges and boot lid lock.
3. Ignition distributor shaft, contact breaker pivots and cam.
4. Steering column controls, accelerator, carburetter and clutch pedal mechanism.
5. Brake system pivot pins and bearings.
6. Propellor shaft universal joints (3 points) and sliding joint (1 point).

OIL LEVEL CHECKS:

1. Steering box.
2. Chassis lubrication tank.
3. Carburetter automatic air valve guides.
4. Lockheed master cylinder.
5. Gearbox.
6. Rear Axle.
7. Front and rear shock absorbers.
8. Drain and refill crankcase. Renew oil filter element.

SERVICE HANDBOOK

SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.

R. TYPE BENTLEY — PHANTOM IV.

ENGINE & CHASSIS ADJUSTMENTS:

1. Check coolant level and top up if required (When climatic conditions warrant, check specific gravity of coolant and advise owner if additional anti-freeze is required).
2. Check fan belt tension. Adjust if necessary.
3. Check and reset inlet tappet clearances.
4. Clean sparking plugs. Check and reset gaps.
5. Clean contact breaker points. Reset gaps check and reset ignition timing.
6. Clean carburettor air valves (Bentley)
7. Check functioning of fuel pump (disconnect electrical leads and check pump independently).
8. Check and adjust clutch pedal free movement.
9. Adjust brakes and servo.
10. Check for excessive leakage at any point in the central chassis lubrication system.
11. Check and adjust tyre pressures.
12. Clean oil bath air filter element if fitted and refill with oil.

ELECTRICAL SYSTEM:

1. Check battery acid level. Top up with distilled water if required. Clean re-vaseline and tighten battery terminals.
2. Check complete electrical system for correct functioning.

ROAD TEST:

1. Test car on road.

SCHEDULE "B".

EVERY 10,000 MILES.

1. Repeat Schedule "A".
2. Drain and refill gearbox (Synchro-mesh type only)
3. Drain and refill rear axle.
4. Check starter motor reduction gear oil level and refill if required.
5. Clean carburettor air filter element.
6. Clean the two fuel strainers.
 1. The main fuel filter on the chassis cross member just forward of the petrol tank.
 2. The filter gauze in the carburettor float chamber feed connection.
7. Remove, check, and refit petrol pumps.

SCHEDULE "C".

EVERY 20,000 MILES.

AUTOMATIC GEARBOXES ONLY.

1. Repeat Schedule "B".
2. Drain and refill gearbox (Automatic type). Check oil pressure. Clean oil breather in top of dipstick.
3. Check band adjustment. Test car on road.