

FOR INFORMATION

CAMSHAFTS - S2 ENGINES

Three different methods of feeding oil to the camshaft bearings are employed on early production V 8 engines; these differences involve slight modifications to the camshaft and crankcase. The three stages of camshaft design are shown in Figure 1.

Stage 1

Camshafts fitted to engines employing stage one method of lubrication cannot be fitted to engines employing the second or third method.

Stages 1 and 2

Camshafts fitted to engines employing stage two or three method of lubrication, cannot be fitted to engines with stage one method.

Stages two and three are basically the same and camshafts fitted to engines employing either of these methods of lubrication are interchangeable; the only difference between stages two and three is a modification to the camshaft.

Listed below are the chassis numbers, together with the corresponding engine numbers, showing which method of lubrication is fitted to the engine.

Number 13 is omitted from all chassis numbers.

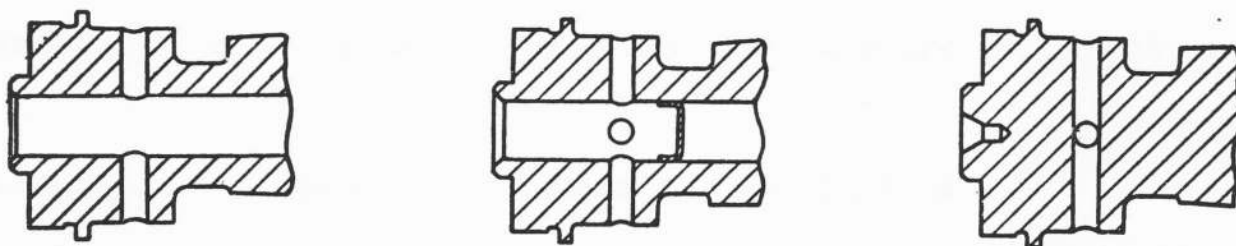


Fig. 1. Three types of camshaft fitted to V8 engines.

STAGE ONE

	<u>Engine No.</u>		<u>Chassis No.</u>	
<u>PHANTOM V</u>	PV.1.A.	to	PV.18.A.	5.AS.1. to 5.AS.37.
<u>BENTLEY CONTINENTAL S2</u>	A.1.BC.	to	A.32.BC.	BC.1.AR. to BC.33.AR.
<u>SILVER CLOUD II (Long Wheelbase)</u>	LC.1.A. LC.22.A.	to	LC.10.A.	LCA.1. to LCA.10. LCA.23.
<u>BENTLEY S2</u>	1.AB. 18.AB. 139.AB. 141.AB. 143.AB. 145.AB. 147.AB.	to	16.AB. 134.AB.	B1.AA. to B.33.AA. B.37.AA. to B.259.AA. B.279.AA. B.283.AA. B.287.AA. B.291.AA. B.295.AA.
<u>SILVER CLOUD II</u>	1.AS. 137.AS. 148.AS. 152.AS. 156.AS. 196.AS.	to	135.AS. 142.AS.	SPA.2. to SPA.270 SPA.274. to SPA.284. SPA.296. SPA.304. SPA.312. SRA.67.

STAGE TWO

<u>PHANTOM V</u>	PV.19.A.	to	PV.21.A.	5.AS.39. to 5.AS.43.
<u>BENTLEY CONTINENTAL S2</u>	A.33.BC.	to	A.37.BC.	BC.34.AR. to BC.38.AR.
<u>SILVER CLOUD II (Long Wheelbase)</u>	LC.24.A. LC.25.A.			LCA.25. LCA.26.

	<u>Engine No.</u>		<u>Chassis No.</u>	
<u>BENTLEY S2</u>	17. AB.		B. 35. AA.	
	135. AB	to 138. AB.	B. 271. AA. to B. 277. AA.	
	140. AB.		B. 281. AA.	
	142. AB.		B. 285. AA.	
	144. AB.		B. 289. AA.	
	146. AB.		B. 293. AA.	
	148. AB.	to 161. AB.	B. 297. AA. to B. 323. AA.	
	165. AB.	to 177. AB.	B. 6. AM. to B. 30. AM.	
	179. AB.	to 186. AB.	B. 34. AM. to B. 48. AM.	
	188. AB.		B. 52. AM.	
	189. AB.		B. 54. AM.	
	195. AB.		B. 66. AM.	
	198. AB.		B. 72. AM.	
	<u>SILVER CLOUD II</u>	136. AS.		SPA. 272.
		143. AS.	to 147. AS.	SPA. 286. to SPA. 294.
149. AS.		to 151. AS.	SPA. 298. to SPA. 302.	
153. AS.		to 155. AS.	SPA. 306. to SPA. 310.	
157. AS.		to 163. AS.	SPA. 314. to SPA. 326.	
164. AS.			SRA. 1.	
165. AS.			SRA. 2.	
167. AS.		to 171. AS.	SRA. 7. to SRA. 17.	
173. AS.		to 178. AS.	SRA. 21. to SRA. 31.	
184. AS.			SRA. 43.	
202. AS.			SRA. 79.	
204. AS.			SRA. 83.	
206. AS.			SRA. 87.	
214. AS.			SRA. 103.	
217. AS.			SRA. 109.	
<u>STAGE THREE</u>				
<u>PHANTOM V</u>	PV. 22. A. onwards		5. AS. 45. onwards	
<u>BENTLEY CONTINENTAL S2</u>	A. 38. BC. onwards		BC. 39. AR. onwards	

	<u>Engine No.</u>		<u>Chassis No.</u>
<u>SILVER CLOUD</u>			
<u>II</u>			
(Long Wheelbase)	LC 11. A. to LC.21. A.		LCA.11. to LCA.22.
	LC.23. A		LCA.24.
	LC.26. A. onwards		LCA.27. onwards
<u>BENTLEY S2</u>			
	162 AB.		B. 325. AA
	163. AB.		B. 2. AM.
	164. AB.		B. 4. AM.
	178. AB.		B. 32. AM.
	187 AB.		B. 50. AM.
	190. AB. to 194 AB.		B. 56. AM. to B. 64. AM.
	196. AB.		B. 68. AM.
	197. AB.		B. 70. AM.
	199. AB. onwards		B. 74. AM. onwards
<u>SILVER CLOUD</u>			
<u>II</u>			
	166. AS.		SRA. 5.
	172. AS.		SRA. 19.
	179. AS. to 183. AS.		SRA. 33. to SRA. 41.
	185. AS. to 195. AS.		SRA. 45. to SRA. 65.
	197. AS. to 201. AS.		SRA. 69. to SRA. 77.
	203. AS.		SRA. 81.
	205. AS.		SRA. 85.
	207. AS. to 213. AS.		SRA. 89. to SRA. 101.
	215. AS.		SRA. 105.
	216. AS.		SRA. 107.
	218. AS. onwards		SRA. 111. onwards

FOR INFORMATION

BRITISH FULL-FLOW OIL FILTERS - S2. ENGINES

It has been established that after servicing, some oil filters have been re-assembled without the cork sealing washer and/or the metal cup washer, which should have been fitted beneath the filter element.

Failure to fit these washers, allows unfiltered oil to pass up the central tube of the filter and this can result in serious damage to the engine bearings.

When servicing an oil filter, it is essential that particular care is taken to ensure that the cork washer is in a serviceable condition and is fitted, together with the cup washer, in the correct position as shown in Figure 1.

Spare washers can be obtained from the Service Departments in Crewe or London.

Cork sealing washer	Part No. CD.255
Cup washer	" " CD.256

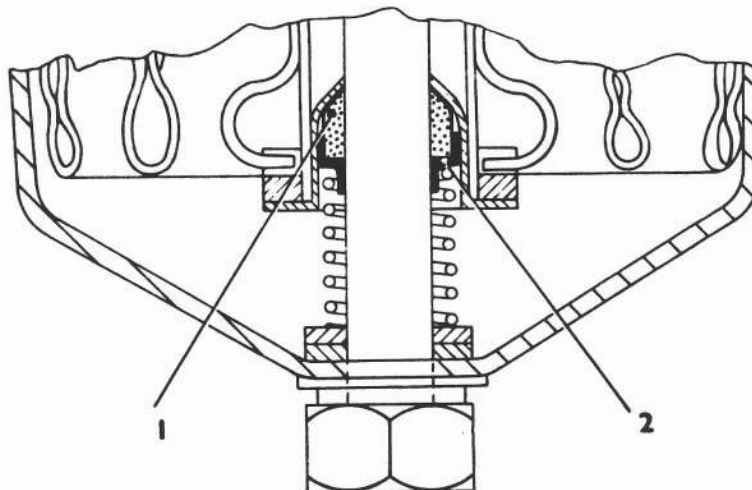


Fig.1. Scrap view of oil filter showing position of washers

1. Cork sealing washer
2. Cup washer

FOR INFORMATION

BREATHER BAFFLE

IN S2 ENGINE CRANKCASE

In isolated cases, loss of oil down the crankcase breather pipe on S2 cars may occur.

This is caused by the camshaft flinging oil through any gap which may exist between the breather baffle and the wall of the crankcase

In this event, the following modification should be carried out.

Remove the baffle plate and relieve the bottom edge to ensure that it clears the boss, formed by the camshaft bearing (see 'A' in Fig 1). Fit the baffle plate in position, and if necessary bend it to ensure that it fits flush against the wall of the crankcase.

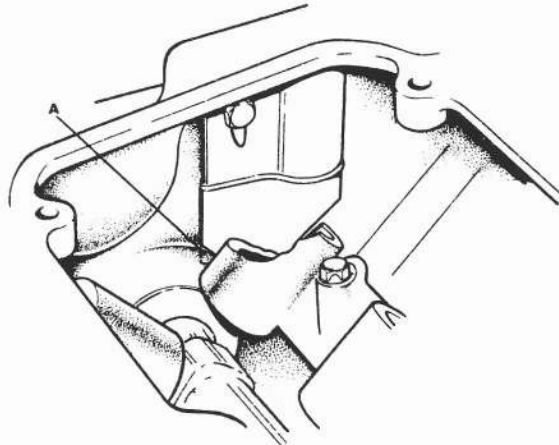


Fig.1. Modified Baffle shown in position.
'A' Area of Metal to be Removed

FOR INFORMATION

FITTING THE OIL PRESSURE TRANSMITTER

To obtain an accurate oil pressure reading on S2 engines it is essential that the oil pressure transmitter is correctly assembled to the oil filter head.

The transmitter should be fitted so that the raised portion of the cover is to the top of the filter and within 60° of either side of the vertical datum. (See Fig.1).

The correct position of the transmitter can be obtained by fitting additional copper washers to the threaded union.

The part number of the copper washer is UD.8017

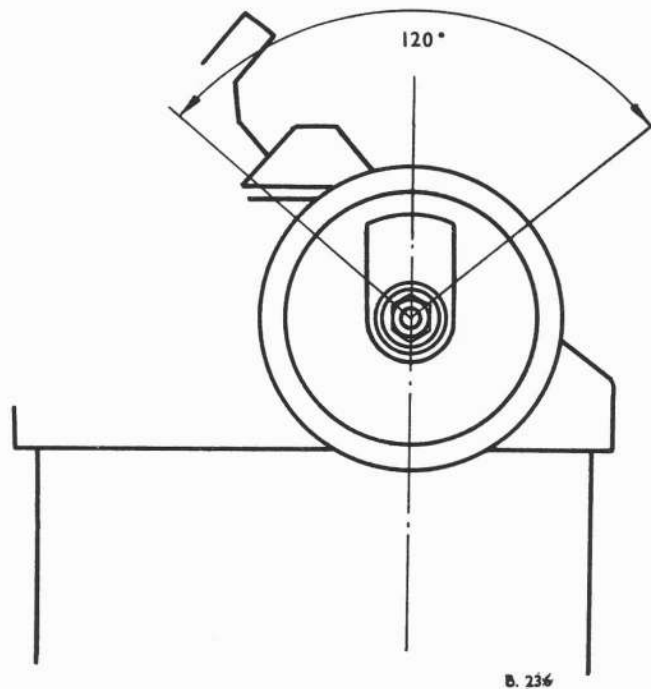


Fig.1. Position of the Oil Pressure Transmitter.

CATEGORY 2REPOSITIONING THE OCTANE SELECTOR.

There is a tendency for the main charging cable to chafe against the knurled adjusting nut of the octane selector thereby creating a short circuit.

The main charging cable is clipped to the bulkhead and runs adjacent to the 'A' bank rocker cover.

To eliminate the possibility of such an occurrence, it is necessary to carry out the following procedure.

Slacken and remove the two $\frac{1}{4}$ U. N. F. nuts and plain washers securing the octane selector to the pedestal, and slacken the clamping bolt retaining the distributor.

The distributor will then lift off, enabling the octane selector to be removed and rotated through 180°

Position the octane selector over the shoulder of the distributor base and refit the distributor.

For ease of accessibility, the adjuster assembly clamping bolt should be reversed.

Finally, with the octane selector fully advanced, reset the ignition timing 2° B. T. D. C., and tighten the two $\frac{1}{4}$ U. N. F. nuts and clamping bolt.

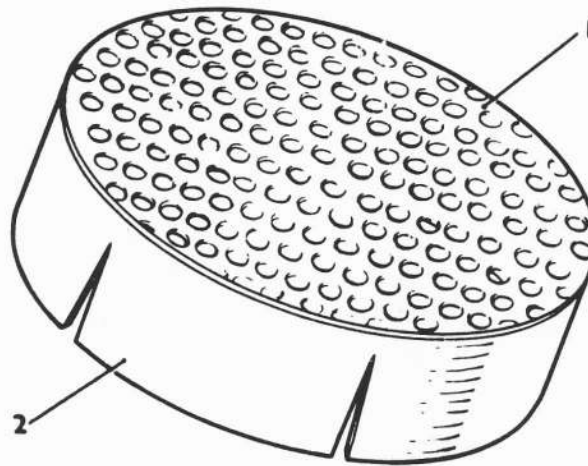
FOR INFORMATION

MASKING THE CARBURETTER CHOKE

AND INDUCTION MANIFOLD.

If, for any reason the air silencer hosing is removed from the carburetter choke housing, it is essential that the choke should be masked with tape immediately, in order to prevent any possibility of foreign matter entering the engine induction system. For the same reason, if the carburetter 'T' piece and carburetters are removed, the induction manifold should also be masked.

Should it be necessary to operate the engine with the air cleaner disconnected, a gauze filter, similar to that shown in Figure 1, should be made and placed over the carburetter choke before running the engine. The sides of the tubing should be cut so that the tubing can be bent to grip the choke housing.



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Fig.1. Sketch of filter for fitting over the carburetter choke housing.

1. Gauze 2. $4\frac{1}{8}$ in. internal diameter tubing.

FOR INFORMATION

OIL FILTER - TOP SEALING RING

The rubber 'O' ring (Part No. CD.1372) fitted to the oil filter head on earlier S.2 cars has proved unsatisfactory in Service. When an element was changed, the 'O' ring had a tendency to drop out of its groove in the filter head and become trapped between the filter bowl and the head, thus resulting in leaks.

To overcome this, a new seal (Part No. UE.9452 or RH.7323) of square cross section has been introduced. Service experience has shown that this seal is satisfactory as, due to its shape, it remains in the filter head whilst the element and filter bowl are being fitted. In future this new seal will be fitted to all S.2 cars.

Until recently the element has been supplied as a separate item, but now it will only be supplied in kit form with the new square sectioned seal. The seal will also be obtainable as a separate item.

Part numbers of the element and seal are as follows:-

RH.2156	Oil filter element and rubber seal assy.	1 off
UE.9452		
or RH.7323	Oil seal - Oil filter head	1 off

FOR INFORMATION

HYDRAULIC TAPPETS - S2 ENGINES

Service Bulletin S3/E1 entitled 'Hydraulic Tappets - S3 Engines' is equally applicable to all S2 engines, and should be consulted in any cases of engine noise or alleged tappet noise.

V8 Engine Rocker Cover Gaskets

Service Replacement of Original Neoprene Cork Gaskets by the Silicone Rubber Type

Applicable to

All Rolls-Royce and Bentley Motor Cars fitted with the V8 engine from Rolls-Royce Silver Cloud II and Bentley S2 onwards.

Introduction

The purpose of this Product Support Information Sheet is to inform service personnel of a new type of rocker cover gasket. It is now available for the above vehicles.

Description

A new design rocker cover gasket is now available for all cars fitted with a V8 engine. The gasket is of black Silicone Rubber and replaces the original cork gasket.

The ferrule and rubber bush have been replaced with a new bonded isolator.

New distance pieces have been added to control the amount of compression of the gasket when assembled to the cylinder head. The distance pieces (3 per head) are fitted over the studs which are used to secure the rocker cover in position.

All the new parts must be used together to achieve the optimum performance for sealing the rocker cover to the cylinder head. No special tools or modifications are required to any of the existing parts or surfaces other than to make sure that they are clean and free of debris.

Procedure.

- 1. With the rocker cover removed from the cylinder head, remove the cork gasket and earthing strips and discard.
- 2. Remove the ferrules and rubber bushes from the rocker cover and discard.
- 3. Remove any debris and thoroughly clean the gasket groove on the rocker cover and the mating face on the cylinder head with a suitable cleaning solvent.
- 4. Using Loctite 406 assemble new gasket to rocker cover groove, allowing time to cure.
- 5. Assemble the 3 bonded isolators to the fixing holes on rocker cover.
- 6. Place the 3 distance pieces over the 3 cylinder head studs.
- 7. Assemble rocker cover to cylinder head.
- 8. Fit the 3 cap nuts through bonded isolator and tighten uniformly.
- 9. Torque tighten cap nuts 8-10 lbs ft.

Note:

The cap nuts should make a solid joint with the spacers so that the designed compression of the gasket is achieved.

Parts affected

New part No.	Displaced part No.	Description	Quantity
UV 11306PA	UE 4324	Gasket	2
	UE 6570	Ferrule	6
UV 11306pa		Bonded isolator	6
	UE 42838	Rubber bush	6
UV 11307PA		Distance piece	6
G2/153		Loctite 406	
	UE 34258	Earthing strip	8

Defect and repair code manual:

For cars prior to those VIN's listed in Appendix 1

Code	Description	Time
Defect 09 05 16 01 21		
Repair 09 05 16 02 S	Replace rocker cover gasket B bank	1.2 hours
Defect 09 05 16 02 21		
Repair 09 05 16 02 S	Replace rocker cover gasket A bank	1.2 hours
Defect 09 05 16 04 21		
Repair 09 05 16 02 S	Replace both A bank and B bank rocker cover gaskets	2.0 hours

A revised MHS time is necessary for certain motor cars.

The revised time and motor cars affected are in accordance with Appendix 1.

APPENDIX 1

For 1994 MY cars onwards.

Number	Description	Time

Defect code 09 05 16 01 21 Repair code 09 05 16 01 S	Replace rocker cover gasket B bank	3.3 hours
Defect code 09 05 16 02 21 Repair code 09 05 16 02 S	Replace rocker cover gasket A bank	3.3 hours
Defect code 09 05 16 04 21 Repair code 09 05 16 04 S	Replace both A bank and B bank rocker cover gaskets	5.3 hours

VIN Numbers - Rolls-Royce Motor Cars

Corniche IV *SCAZDO2C5RCX50001* to *SCAZDO2C5SCH50170*
 Silver Spirit III *SCAZSO2D5RCH54003* to *SCAZSO2CXSCH55760*
 Silver Spur III *SCAZNO2D6RCX54001* to *SCAZNO2C5SCX55749*
 Flying Spur III *SCAZGO3C6SCX54974* to *SCAZGO3C5SCX55761*
 Silver Dawn *SCAZAO2C4SCX54846* to *SCAZA17C9WCH66305*
 Silver Spirit *SCAZSO2C0TCH57003* to *SCAZS12C5VCH59368*
 Silver Spur *SCAZNO2C1TCX57001* to *SCAZN2OCXWCX66511*
 Corniche S *SCAZCO3C7SCX50086* to *SCAZC03C2SCX50156*
 Silver Spur III Limousine *SCAZW02C2RCX80101* to *SCAZW02C4SCX80137*
 Park Ward *SCAZV12CXTCH80205* to *SCAZV12C7TCH80212*
 Silver Spur Park Ward *SCAZV20C4VCH80213* to *SCAZV19C9WCX80252*
 Silver Spur Park Ward *SCAZY20CXVCH80501* to *SCAZY2OCTWCX80535*
 Silver Spur Park Ward *SCAZY21C7WCH80701* to *SCAZY20CWCH80719*

VIN Numbers - Bentley Motor Cars

Brooklands *SCBZEO2CXRCH54007* to *SCBZE2OC7VCH60307*
 Brooklands LWB *SCBZFO2C2RCX54027* to *SCBZF2O2C2WCH66420*
 Brooklands R *SCBZE2OC4WCH66003* to *SCBZE21C9WCX66400*
 Brooklands R LWB *SCBZF2OC9WCH66284* to *SCBZF2OC2WCH66420*
 Brooklands R Mulliner *SCBZF28CXWCH66802* to *SCBZF28C1WCH66901*
 Turbo R *SCBZRO3A9RCH54002* to *SCBZR15C5VCH60314*
 Turbo RL *SCBZP03C5RCX54017* to *SCBZP15C5VCH60321*
 Turbo RT (SWB) *SCBZR23C6WCH66293* to *SCBZR23C1WCX66392*
 Turbo RT (LWB) *SCBZP25C6WCX66701* to *SCBZP26C2WCX66497*
 Turbo RT Mulliner *SCBZP25C6WCX66701* to *SCBZP26C6WCH66750*
 Turbo S *SCBZTO5C8SCH56801* to *SCBZTO5C2SCH56560*
 Continental *SCBZDO2C4RCX50003* to *SCBZDO2C4SCX50167*
 Continental R *SCBZB03C4RCX52001* to *SCBZB15COWCX63124*
 Continental S *SCBZBO5C1SCX52332* to *SCBZB05C9SCX52451*
 Continental T *SCBZU15C1TCH53159* to *SCBZU26C1WCX67052*
 Azure *SCBZK03C3SCH50801* to *SCBZK14C2WCX61635*
 Continental Turbo *SCBZC03C4SCX50140* to *SCBZC03C5SCX50163*