

This Service Bulletin
cancels all previous
Bulletins numbered S2/D1

No. S2/D1

FOR INFORMATION

PERIODIC LUBRICATION AND MAINTENANCE SCHEDULES

FOR S2 CARS

The following periodic service schedules have been drawn up to assist Retailers and Service Personnel with the maintenance of Rolls-Royce and Bentley motor cars.

These schedules should be adopted by Retailers as a standard service procedure. Retailers should also endeavour to ensure that cars domiciled in their areas are serviced at the stated mileage intervals and to make the appropriate arrangements with Owners who wish to take advantage of this service procedure.

Briefly the schedules are as follows :-

1. 6,000 Mile Schedule At the completion of every 6,000 miles
(10,000 Kms.)

Engine oil change - Check oil in steering pump and gearbox -
Check coolant and brake fluid levels - Carry out minor engine,
chassis and electrical system checks and lubrication.

2. 12,000 Mile Schedule At the completion of every 12,000 miles
(20,000 Kms.)

Repetition of 6,000 Mile Schedule plus - Complete lubrication of
suspension, steering and transmission - Checking of brake system, -
further maintenance of engine, chassis and electrical system
components.

3. 24,000 Mile Schedule At the completion of every 24,000 miles
(40,000 Kms.)

Repetition of 12,000 Mile Schedule plus - Oil change of major
components - maintenance of power assisted steering unit.

4. Seasonal Schedules

Every 12 months - Drain and reverse flush cooling system, servicing
refrigeration system (where fitted).

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Every 24 months: Repetition of 12 months schedule plus -
Renewal of heater and coolant hoses.

6,000 MILE SCHEDULE

This schedule is to be carried out after the completion of every 6,000 miles (10,000 Kms.).

1. Oil Changes

- i Drain and refill the engine crankcase.
If the car is regularly used for town work and is subjected to a considerable amount of 'stop-start' operation, the engine crankcase should be drained and re-filled every 3,000 miles (5,000 Kms.).

NOTE:- On the completion of its first 3,000 miles (5,000 Kms.) running, the engine crankcase should be drained and re-filled and the 3,000 mile Service carried out in accordance with Service Bulletin No. S2/D7.

2. Oil Level Checks

- i Carburetter air valve dampers.
- ii Steering pump reservoir.
- iii Automatic gearbox. (Check with the engine running, as described in the Automatic Gearbox Manual).

3. Engine Adjustments and Checks

- i Renew the oil filter element.
- ii Clean the carburetter air valve dampers.
- iii Clean the contact breaker points, re-set the gaps, check and, if necessary, reset the engine timing.
- iv Check the tension of the belts driving the engine auxiliaries and adjust if necessary.
- v Lubricate the ignition distributor automatic advance and retard mechanism, the shaft bearings, the governor spindle, the contact breaker rocker arm pivots and cam.

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- vi Clean the air filter element - wire mesh type only.
- vii Clean the spark plugs and re-set the gaps as recommended.

4. Chassis Adjustments and Checks

- i Check the coolant level and its specific gravity. Top-up with the correct mixture of anti-freeze as necessary.
- ii Check and, if necessary, adjust the tyre pressures, (including the spare).
- iii Check and, if necessary, adjust the brake servo.
- iv Check and top-up the reservoir of the windscreen washer. Use only distilled water and Rolls-Royce Windscreen Washer Fluid.
- v Remove any foreign matter from the refrigeration condenser matrix - if fitted.
- vi Check the level of the brake fluid in the brake fluid reservoirs, and top-up if necessary.
- vii Lubricate the gear range selector controls and the accelerator linkage.
- viii Lubricate the brake system pivot pins and bearings.
- ix Change the road wheels round and balance.
- x Remove the brake drums and inspect the brake linings for wear. (The lining faces should not be less than 1/16 in. (1.6 mm.) above the rivets.). Check the rear brake adjustment.

5. Electrical System Checks

- i Check the level of the electrolyte in the battery and top-up with distilled water as required.
- ii Check that all lights, direction indicators, and all instruments are operating satisfactorily.
- iii Check that the heater controls are operating satisfactorily.

12,000 MILE SCHEDULE

This schedule is to be carried out after the completion of every 12,000 miles (20,000 Kms.).

1. Repeat 6,000 Mile Schedule.

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2. Oil Level Checks

- i Check the front and rear shock dampers for signs of leakage. If apparent, inspect the oil level and top-up if necessary.
- ii Check and, if necessary, top-up the rear axle with oil.

3. Engine Adjustments and Checks

- i Renew the sparking plugs.
- ii Renew the carburetter air filter element - this only applies where the paper type air filter element is fitted (certain overseas countries only).
- iii Clean the filter gauzes in the carburetter float chamber feed connections.

4. Chassis Adjustments and Checks

- i Lubricate the grease nipple on the master cylinder balance lever pivot.
- ii Lubricate the thirteen grease nipples on the steering mechanism.
- iii Lubricate the eight grease nipples on the front suspension.
- iv Lubricate the three grease nipples on the rear propeller shaft.
- v Clean out the main fuel line filter and filter bowl and the filter gauzes in the fuel pump.
- vi Clean the electrical contact points and check the functioning of the fuel pumps. (Each pump should be tested independently).
- vii Clean the nylon filter gauze (Recirculating heater system) under the front right-hand seat.

5. Electrical System Checks

- i Clean, re-vaseline and tighten the battery terminals.

6. Test the Car on the Road

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24,000 MILE SCHEDULE

This schedule is to be carried out after the completion of every 24,000 miles (40,000 Kms.).

1. Repeat 12,000 Mile Schedule
2. Oil Changes
 - i Drain and re-fill the automatic gearbox. Clean the oil breather in the top of the dipstick
 - ii Drain and refill the rear axle.
3. Oil Level Checks
 - i Check the oil level in the transfer steering box and top-up if necessary.
4. Engine Adjustments and Checks
 - i Clean the filter gauzes in engine breathing tube - on cars fitted with enclosed crankcase breathing system.
5. Chassis Adjustments and Checks
 - i Renew the filter element in the steering pump reservoir.
 - ii Release - but do not remove - the fuel tank drain plug to allow any accumulated water to escape.
6. Electrical System Checks
 - i Inspect the generator commutator and brushes for wear, also check the brushes for freedom in their holders.

SEASONAL SCHEDULES

EVERY 12 MONTHS

1. Cooling System
 - i Drain the cooling system and reverse flush (see Service Bulletin S2/L1). Refill the system with an anti-freeze

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mixture as recommended (See Service Bulletin S2/L8).
This operation should be carried out immediately prior to
the Autumn season. (In the U.K., prior to September
21st.).

2. Refrigerated Cars Only

- i Check that the refrigeration system is functioning correctly
and, if necessary, top-up with refrigerant. If there is a
loss of refrigerant, check for leaks. (See separate instruction
book).
- ii Check the level of the oil in the compressor. (See separate
instruction book).
- iii Clean the air filter gauze fitted over the evaporator unit.
(Boot Unit Only).

EVERY 24 MONTHS

1. Repeat 12 monthly schedule

2. Cooling System

- i Renew all the heater and coolant hoses.
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FOR INFORMATION

MULTIGRADE ENGINE OILS

FOR S1 AND S2 CARS

The following multigrade oil has now been approved for use on S1 and S2 cars:-

Mobil - Mobiloil Special 10W/30

This oil should be added to the list of previously approved multigrade oils which are:-

B.P. - Energol Viscostatic 10W/30

Shell - X-100 10W/30

Wakefield's - Castrolite

No. S2/D3

This bulletin cancels all
previous Service Bulletins
numbered S2/D3.

FOR INFORMATION

LUBRICANTS: S2 CARS

The following is a revised list of Esso lubricants which are now
officially recommended for use in all Rolls-Royce and Bentley S2. motor
cars.

Engine: Winter	
Summer	Esso Extra Motor Oil 20W/30
Carburettor dampers	
Contact breakers	Esso Extra Motor Oil 20W/30
Hand oiling points	
Automatic gearbox	
Shock dampers	Esso Automatic Transmission
Steering pump	Fluid 55
Rear axle	
Steering transfer box	Esso Gear Oil GP 90
Propeller shaft centre bearing	Esso Multi-purpose Grease H
Front hubs	
Rear hubs	Esso Multi-purpose Grease H
Propeller shaft sliding and rear universal joints	Esso Multi-purpose Grease H

Retailers and Service Personnel should amend their Lubricants
Chart accordingly.

No. S2/D4

This Bulletin cancels all
previous Service Bulletins
numbered S2/D4

FOR INFORMATION

PUROLATOR AIR FILTER ELEMENT - S2 CARS

A change has been made to the Lubrication and Maintenance Schedule for S2 cars whereby the air filter element should now be renewed every 10,000 miles instead of every 30,000 miles.

If for any reason it is necessary to remove the element before the stated mileage, care should be taken to ensure that it is not contaminated by oil, nor should any attempt be made to clean the filter in either petrol or paraffin.

A dirty element will cause considerable loss in engine power at speed. To check that loss of power is due to a blocked element, the performance of the car should be checked on a full throttle run with the gear lever in 3 range; first of all with the filter element fitted and then with the element removed. If it is found that the car's performance is seriously impaired when the element is fitted (usually denoted by a reluctance to change into 4th gear) a new element should be fitted.

The part number of the Purolator air filter element is UE.5801.

AUTOMATIC TRANSMISSION FLUID

Automatic Transmission Fluid WA-389 is to be used as an initial running-in oil on all new and reconditioned gearboxes supplied by the Spares Organisation of Rolls-Royce.

In future all new and reconditioned gearboxes will be supplied with three one-gallon cans of Automatic Transmission Fluid WA-389. This oil should be used in the gearbox until the first oil change, as laid down in the Service Schedule, whereupon one of the oils recommended in the Owner's Handbook or the Lubrication Chart should be used.

Gallon cans of Automatic Transmission Fluid WA-389 can be obtained from either:-

Rolls-Royce Limited,
Spares Department,
Pym's Lane,
Crewe.

or

Rolls-Royce Limited,
Repair Department,
Hythe Road,
Willesden,
London, N W 10.

(Counter Service Only)

No. S2/D6

This bulletin cancels all
previous Service Bulletins
numbered S2/D6.

CATEGORY 3

PUROLATOR AIR FILTER ELEMENT

The size of the variations in restriction of air flow to the engine, with the present oil-wetted air filter element (UE. 9513) is not acceptable. Whilst some filter elements give satisfactory engine performance, others, due to the high restriction of air flow to the engine, give increased fuel consumption. It is therefore recommended that the oil wetted elements are discarded and replaced by the dry type of filter element, (UE. 5801).

It should be noted that the return to the dry filter element is an interim measure only and that, in a short time, a wire scrubber filter will be introduced.

All existing stocks of the oil wetted filter element (UE. 9513) should be destroyed.

The servicing procedure laid down in Service Bulletin S2/D4 is still applicable to the dry filter element (UE. 5801).

FOR INFORMATION

3,000 MILE SERVICE - S2 CARS.

The following Service should be carried out on all S2 cars at the completion of the cars' first 3,000 miles. The main purpose of this Service is to ensure that the engine crankcase is drained and re-filled and to enable Retailers to take the opportunity of carrying out the undermentioned checks and making any adjustments which may have become necessary.

1. Drain and re-fill the engine crankcase.
2. Check the carburetter air valve dampers.
3. Check the steering pump reservoir.
4. Check the brake fluid reservoirs.
5. Check the automatic gearbox oil level.
6. Check the coolant level.
7. Check the tension of the belts driving the engine, auxiliaries and adjust.
8. Check and adjust the rear brakes and servo.
9. Check the tyre pressures.
10. Check the battery electrolyte and top-up if necessary.
11. Check and top-up the windscreen washer reservoir.
12. Test the car on the road.

FOR INFORMATION

AIR CONDITIONING SYSTEM - MAINTENANCE PERIODS

Due to the alterations to the Lubrication and Maintenance Schedules it will also be necessary to amend the Service intervals for the Air Conditioning System as laid down in the Workshop Manual (TSD.723).

Lubrication and Maintenance checks should be carried out at the mileage intervals stated below:-

Every 6,000 miles (10,000 Kms.)

1. Check the tension of the compressor driving belts.
2. Apply a few drops of engine oil to the flap actuator Linkages.
3. Examine the condenser matrix and remove all obstructions.

Every 12,000 miles (20,000 Kms) or annually

1. Check the complete system for leaks and correct functioning and if necessary re-charge the system.

These checks apply both to the Underwing Unit and the O.M.C. unit.

FOR INFORMATIONWIRE MESH AIR FILTER ELEMENT (UE.9813) - S.2 CARS

Except in countries where dry dusty conditions prevail, it has been decided to introduce a wire mesh air filter element to replace the existing paper element fitted to S.2 cars. The element is washable and is completely interchangeable with the present paper element. No alterations to the carburetter and automatic choke settings are necessary.

It is recommended that the element is changed at the car's next scheduled service and thereafter that it is cleaned every 6,000 miles.

The wire mesh filter (UE.9813) is to be used in all countries, with the exception of the following, who will continue to use the paper element (UE.5801).

Australia, Bahamas, Gibraltar, Greece, Jamaica, Yugoslavia, Mexico, New Zealand, Portugal, South America and Spain.

The African Continent. (Algeria, Egypt, Kenya, Madeira, Morocco, Nigeria, South Africa, Sudan, Tangiers, Tunis, etc.)

The Asian Continent. (Hong Kong, India, Iran, Iraq, Israel, Jordan, Lebanon, Syria, Turkey, etc.)

INITIAL INSTALLATION OF THE WIRE MESH ELEMENT

The following procedure must be carried out before fitting the wire mesh element to S.2 cars.

1. Immerse the new element in clean engine oil for a period of five minutes.
2. Remove the element from the oil and allow it to drain for a further period of two hours.
3. Fit the element to the air silencer.

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SERVICING PROCEDURE - Every 6,000 miles (10,000 Kms.).

At the completion of each 6,000 miles, the element should be removed and thoroughly washed in petrol. After allowing the element to dry repeat the operation described above for installing a new element.

MATERIAL REQUIRED

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
UE.9813	Wire mesh filter element and end plate assembly.	1 off

This Bulletin cancels all previous Service Bulletins numbered S2/D10.

CATEGORY 1

AUTOMATIC TRANSMISSION FLUID - S2 CARS

The transmission fluid used at the factory for initial fill of automatic gearboxes during the latter part of 1960 has been found to be unsatisfactory under certain operating conditions in service and the following is a list of cars, to which the contents of this bulletin are applicable.

APPLICABLE TO:-

All cars between the following chassis numbers :-

<u>MODEL</u>	<u>CHASSIS NOS.</u>
Rolls-Royce Silver Cloud II	from SVB.191 to SYD.14.
Bentley S2	from B.2.BS to B.434.CU.
Rolls-Royce L.W.B. Silver Cloud II	from LCA.55 to LCB.81.
Bentley L.W.B. S2	from LBA.14 to LBB.1.
Rolls-Royce Phantom V	from 5.AT.34 to 5.BV.95.
Bentley Continental S2	from BC.125.AR to BC.99.BY.

Chassis numbers are inclusive.

Retailers and Service Personnel should refer to the appendix attached to this Bulletin to ascertain whether the car has already been checked.

PROCEDURE

Retailers are requested to call in all cars in their territory that are within the suspect range, and to carry out the following operations:-

1. Drain Gearbox and remove sump.
2. Examine sump for signs of excessive sludge.
3. Examine filter gauze for signs of deterioration.

If there are signs of excessive sludge in the sump, the gearbox is to be removed from the car and replaced or re-worked. If the filter gauze shows signs of deterioration it should be replaced.

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If there are no signs of excessive sludge and the gearbox appears to have been operating satisfactorily, the sump should be replaced and the gearbox re-filled with Mobilfluid 200 type AQ-ATF-752A, which can be obtained through any Mobil Sales Office.

The car should be tested on the road and any necessary adjustments carried out. If there are signs of clutch slip and adjustment does not correct this fault, then the gearbox should be removed from the car and replaced or re-worked.

IDENTIFICATION

To indicate that the foregoing action has been taken the drain plug socket should be circled with yellow paint.

TIME ALLOWANCE

Drain, inspect and re-fill	2 hours
Drain, inspect and change gearbox	16 hours
Re-work gearbox	21 hours

Guarantee Claims will be accepted for the material and labour utilised.

APPENDIX I

The following is a list of cars which, as on the 29th of March 1962, had had the automatic transmission fluid changed. It should be noted that as these cars were attended to before the introduction of this Service Bulletin, they will not carry the yellow identification mark around the gearbox drain plug socket.

Model and SeriesChassis numbersSILVER CLOUD II

B.	SVB.315, 351, 441, 495.
C.	SWC.2, 12, 116, 120, 186, 286, 330, 352, 384, 476, 492, 522, 536, 636 and 648. SXC.5, 9, 129, 167, 203, 209, 229, 257, 303, 369, 389, 401, 407, 409, 485, 495, 513, 517, 519, 541, 601 and 669.

BENTLEY S.2.

B.	B.220.BS, 230, 280, 304, 356, 362, 364, 430 and 494.
C.	B.9.CT, 37, 63, 87, 139, 205, 267, 353, 355, 399, 429 and 433. B.12.CU, 20, 42, 52, 56, 92, 158, 164, 176, 182, 220, 242, 246, 252, 312 and 336.

SILVER CLOUD II L.W.B.

A.	LCA.70,
B.	LCB.8, 22, 29, 38, 45, 67, 75 and 76.

BENTLEY S.2. L.W.B.

A.	LBA.21.
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PHANTOM V

- A. 5.AT.74.
B. 5.BV.1, 57 and 61,

BENTLEY CONTINENTAL S.2.

- A. BC.150.AR.
B. BC.10.BY. 43, 50, 84 and 86,

Would Retailers and Service Personnel please notify the Service Promotion Department, Crewe, of the chassis number of each suspect car when it has been checked, and state at the same time whether the transmission fluid has been changed or a reworked gearbox fitted. Replies should be marked for the attention of MGW/Bvr.

No. S2/D11

This Bulletin cancels
Service Bulletin S2/D5
dated 14.7.61 and Ser-
vice Bulletin S2/D11
dated 30.10.62.

FOR INFORMATION

AUTOMATIC TRANSMISSION FLUIDS

The purpose of this Bulletin is to restate the position regarding Automatic Transmission Fluids recommended for use in the Rolls-Royce Automatic Gear-box.

The following Transmission Fluids are recommended for topping-up gear-boxes in Service, and for use when draining and refilling gearboxes in accordance with the Service Maintenance Schedule.

Castrol	Castrol TQ
Mobil	Mobil fluid 200 AQ-ATF-2320A
	Mobil fluid 200 AQ-ATF-752A
Shell	Donax T6
B.P.	Energol ATF Type A
Esso	Esso Automatic Transmission Fluid

Automatic Transmission Fluid Mobil WA 389 should now be considered only as a 'factory fill' oil for use in new gearboxes within the Rolls-Royce factory at Crewe or in reconditioned gearboxes supplied by the Spares Departments. The Spares Departments at Crewe and Hythe Road will continue to supply this oil with new or reworked gearboxes for 'initial fill' but not for topping-up purposes.

FOR INFORMATION

FUEL TANK DRAIN PLUGS

Difficulty has been experienced in releasing the fuel tank drain plug when carrying out the initial 24,000 mile Service Schedule.

To prevent this difficulty from arising at subsequent Service Schedules, whenever the fuel tank drain plug is removed, the thread should be coated with Marlube Moly 51 lubricant.

FOR INFORMATION

ENGINE OILS

The manufacturers of Esso oils have changed the name of one of their products from Esso Extra Motor Oil 20W/30 to Esso Motor Oil 20W/30 and therefore the following pages in the Workshop Manual and Service Bulletin should be amended accordingly.

Workshop Manual (T.S.D. 729) Page D.16

Service Bulletin S2/D3 dated 29.5.61. Page 1

Furthermore, a new Esso oil has been introduced and is called Esso Extra Motor Oil 10W/30. This oil has not been approved for use in Rolls-Royce engines and therefore should not be used for engine oil changes or topping-up.

No. S2/D14

Circulation - All Distributors
and Retailers

CATEGORY C

AUTOMATIC TRANSMISSION FLUIDS

APPLICABLE TO:

All Rolls Royce Silver Cloud II, Phantom V and Bentley S2 cars.

DESCRIPTION

Automatic transmission fluids made to the Dexron specification are now available. The purpose of this Service Bulletin is to advise Distributors, Retailers and Service personnel that fluids made to the Dexron specification and shown in the following chart are approved for topping-up or refilling the Four Speed Automatic Gearbox fitted to the above cars.

It is most important however that a new or reconditioned automatic gearbox should initially be filled with a Type A Suffix A fluid shown in the following chart. On completion of the first 12,000 miles (20000 km.) or 12 months of service life, the automatic gearbox should be drained and refilled with any fluid shown in the chart.

Type A Suffix A fluids and Dexron fluids are miscible and therefore either can be used for topping-up purposes.

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APPROVED FLUIDS - Four Speed Automatic Gearbox

	Type A Suffix A Fluids	Dexron Fluids- U.S.A. and Canada only	Dexron Fluids- All countries other than U.S.A. and Canada
B.P.	B.P. Automatic Transmission Fluid	B.P. Autran DX (Dexron)	B.P. Autran DX (Dexron)
CASTROL	Castrol TQ	Castrol TQ Dexron (®)	Castrol TQ Dexron (®)
ESSO	Esso Automatic Transmission Fluid	Esso Automatic Transmission Fluid (Dexron)	Esso Automatic Transmission Fluid (Dexron)
MOBIL	Mobilfluid 200 AQ/ATF 752A OR AQ/ATF 2320 A	Mobil ATF 220 Dexron	Mobil ATF 220 (Dexron)
REGENT	-	Regent Texamatic Dexron	Regent Texamatic Dexron
SHELL	Donax T6	Shell Donax T6 (Dexron (®))	Shell Automatic Transmission Fluid (Dexron (®))

Note :- Dexron is a registered trade name.