

This Bulletin cancels all
previous Bulletins numbered
BC2/A1 and S2/A3.

FOR INFORMATION (Strictly Confidential)

CHASSIS SERIES AND ENGINE NUMBERS

FOR BENTLEY CONTINENTAL S2 CARS

The following is a complete list of all engine and chassis numbers which were issued for Bentley Continental S2 cars. It is intended to facilitate the identification of chassis numbers in relation to modifications.

The Letter 'L' preceding the chassis series letter indicates a left-hand drive chassis.

Number 13 is omitted from all chassis numbers.

<u>SERIES</u>	<u>CHASSIS NUMBER</u>	<u>ENGINE NUMBER</u>
<u>BENTLEY CONTINENTAL S2</u>		
Chassis built July 1959.		
A.	BC.1.AR. to BC.151.AR Consecutive Numbers	A.1.BC. to A.150.BC.
Chassis built June 1960.		
B.	BC.1.BY. to BC.101.BY. Consecutive Numbers	B.1.BC. to B.100.BC.
Chassis built February 1961.		
C.	BC.1.CZ. to BC.139.CZ. Consecutive Numbers	C.1.BC. to C.138.BC.

FCR INFORMATION

SETTING INSTRUCTIONS FOR FOUR SHOE BRAKES

BENTLEY CONTINENTAL S2.

Investigation has shown that unless one adheres to the specified tolerances when setting the Bentley Continental S2 four shoe brakes, moans and judders may result.

These settings should be made with the aid of the special cut-away brake drum No. RH. 7119. In addition to this special drum, a set of feeler gauges and a suitable set square are necessary to obtain the correct settings.

The following point should be noted before commencing to set the brakes:-

No greasing is necessary, during the assembly of the brake unit.

SETTING INSTRUCTIONS

Ensure that the wheel cylinders are hard against their abutment faces on the torque plate. The most suitable method of checking this is to remove both the shoe carriers and shoe assemblies, then by slackening the wheel cylinder fixing bolts, the wheel cylinders can be pushed hard against the abutment faces.

Partially tighten the wheel cylinder fixing bolts in order to prevent the wheel cylinders from accidentally moving during the following operation.

By adjusting the shake-back steady post 'E' (see fig 1) set the shoes 'A' and 'B' so that they are square to the hub at the points 'X' and 'Y'. If it is impossible to position both shoes so that they are square to the hub at the same time, then the difference in 'out of squareness' of the two shoes should be split so that they are both an equal amount out of square.

Repeat this operation for the shoes 'C' and 'D'.

Fit the special window drum No. RH. 7119.

- 2 -

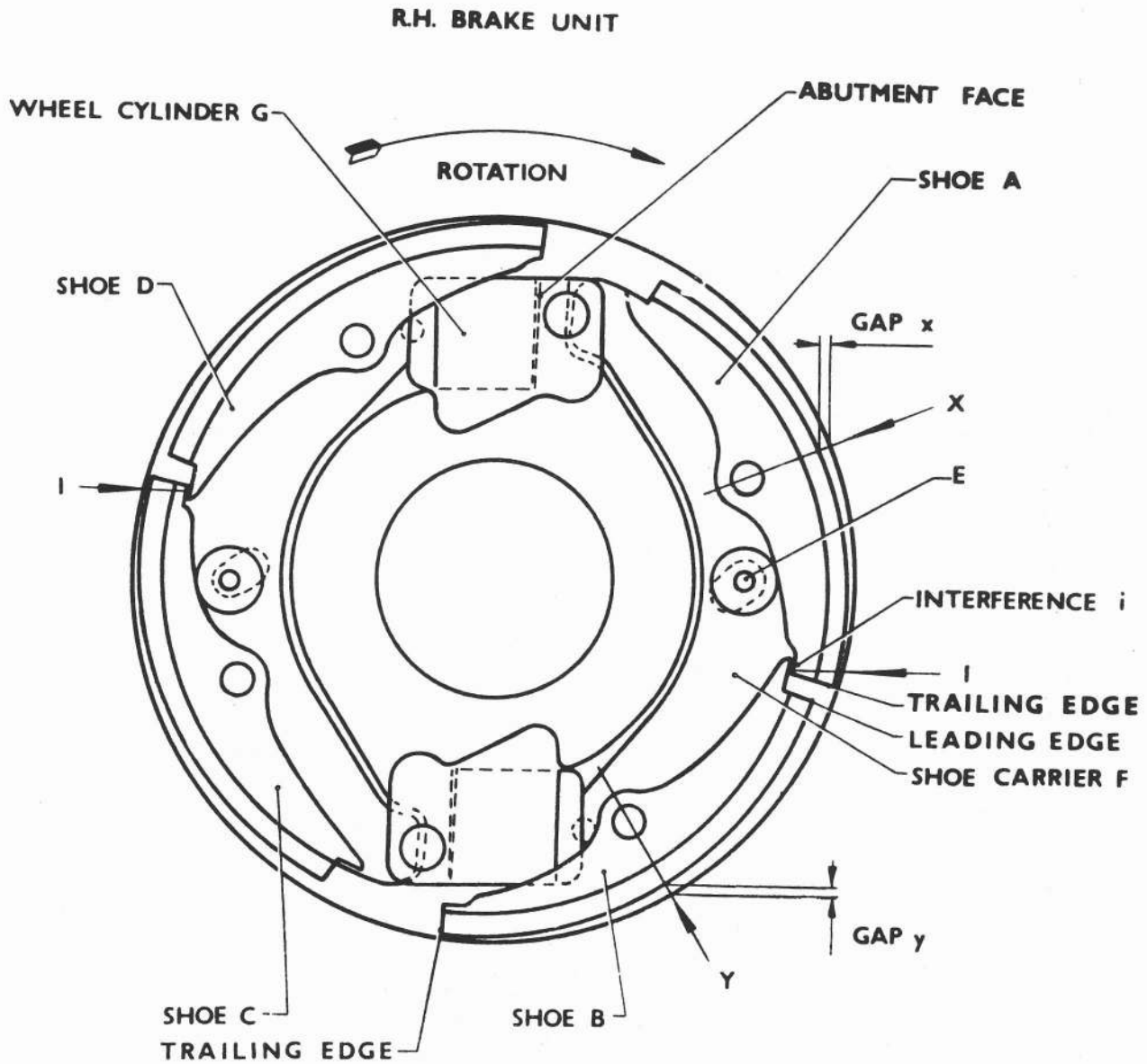


Fig.1 Diagram of Continental S2 Four-shoe Brakes

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- 3 -

Expand the brake shoes against the drum by applying a load to each shoe carrier in the vicinity of the operating link.

The load is best applied with a suitable piece of bar and to carry out this operation, the feed pipes to the wheel cylinders should be disconnected.

Release the pressure thus allowing the shoes to take up their normal 'off' position.

Check clearances (x) and (y) between the shoes and the drum at the points 'X' and 'Y' respectively. Also check the interference or possibly clearance at the point 'I'.

The clearances (x) and (y) must be equal within 0.003 in. and at the same time, the fit at 'I' should be between 0.003 in. clearance and 0.015 in. interference. The interference at 'I' is assumed to be equal to the clearance between the leading edge of the shoe 'B' and the drum, providing that the trailing ends of both shoes 'A' and 'B' are touching the drum.

If these clearances are not within the limits, the wheel cylinders must be repositioned on the abutment faces.

For example, if the clearance (x) is much greater than (y), the wheel cylinder 'G' must be moved out from the centre of the brake along the abutment face until (x) and (y) become equal to within 0.003 in. This operation is made easier with the brake pipes disconnected.

It is recommended that during this adjustment, the brake shoes and carriers be removed in order to ensure that the wheel cylinder remains hard against its abutment face during movement. As a rough guide, it will be necessary to move the wheel cylinder approximately the same distance as the difference between (x) and (y).

Note: The interaction interference (i) at the point 'I' has precedence over the shoe/drum clearance at (x) and (y) and the inequality of (x) and (y) may be varied anywhere in the limit of 0.003 in. in order to achieve the correct tolerance in (i).

Before re-checking any tolerances the shoes should be expanded and then brought to their 'off' position as described previously.

Repeat the procedure for shoes 'C' and 'D'.

- 4 -

Torque tighten the wheel cylinder fixing bolts, the 5/16 in. dia. bolts should be tightened to 16-18 lb. ft. and the 1/2 in. dia. bolts to 48-52 lb. ft.

Finally check again the fits at 'X', 'Y' and 'I'.

Repeat the whole procedure for the other front brake unit.

Note: Once shoes have bedded in, they are not interchangeable.

This bulletin cancels
all previous Service Bulletins
numbered BC2/G2

No. BC2/G2

CATEGORY 2

BRAKE SERVO OPERATING LEVERS

To reduce the front/rear braking ratio of the Bentley Continental S2 car and thereby improve its stability on greasy roads under heavy braking conditions, the existing servo operating levers should be replaced by levers with 47 deg. cams.

APPLICABLE TO :-

All chassis prior to chassis No. BC.93.BY.

PROCEDURE

Place the car on a ramp. Remove the right-hand undershield.

Disconnect the rods from the servo operating levers by removing the two setscrews securing the clevis pin retaining plates in position. Remove the retaining plates and clevis pins.

Disconnect the drag links from the servo brake actuating levers in a similar manner.

To provide sufficient clearance for the removal of the servo, the servo 'on-stop' bracket should be moved to one side. It is most important that the 'on-stop' is refitted in its original position and to ensure this, a line should be scribed on the bracket, adjacent to the chassis frame, before it is removed.

Release the handbrake so that the cable is slack and may be lifted out of the way to give further clearance when removing the servo.

Remove the centre securing bolt, then remove the servo motor.

Place the servo in a vice, gripping the inner end of the servo shaft between fibre jaws.

Remove the lock-nut, adjusting nut and washer, then lift off the two servo cam levers.

Separate the two levers, retaining the torsion spring and three steel balls fitted between the two levers.

Continued...

- 2 -

Refit the torsion spring and the balls to the two new operating levers (UG.2586 and UG.2587). The balls should be lightly coated with 'Molytone' grease.

Fit the two operating levers to the servo shaft, then fit the washer, adjusting nut and lock-nut. Do not tighten the nuts at this stage.

Position the servo motor on the gearbox driving shaft, ensuring that the three driving pegs engage with the holes in the friction plate and the servo shaft flange. Fit the centre bolt and tighten securely.

Rock the servo to ensure that it is free, slackening off the adjusting nut if necessary. Retighten the centre securing bolt.

Reconnect the drag links to the actuating levers, then connect the rods to the cam operating levers.

Tighten the adjusting nut until drag on the plates can just be felt, when the servo is rocked. Unscrew the adjusting nut two flats (i.e. $\frac{1}{3}$ of a turn) to free the servo. Apply the brake pedal to ensure that the outer servo lever has followed the adjusting nut back. Hold the adjusting nut and tighten the lock-nut.

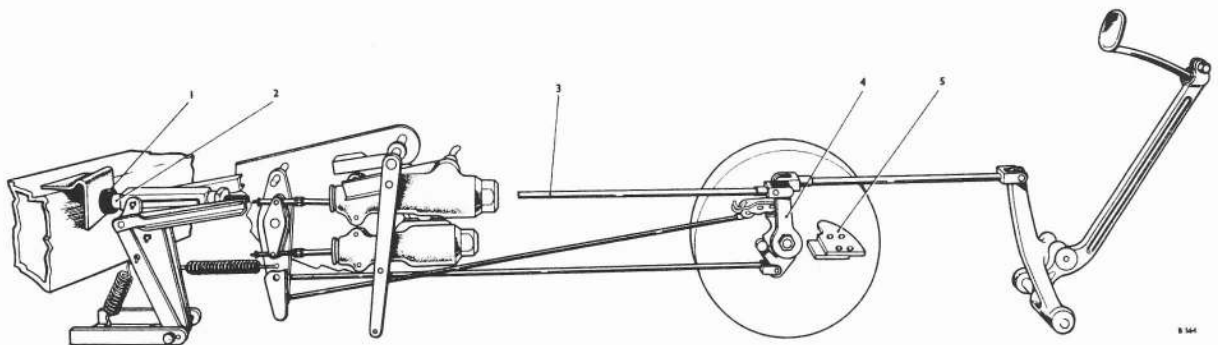


Fig. 1. 'On-stop' adjustment

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|----------------------|-------------------------------------|
| 1. RUBBER 'OFF-STOP' | 3. MECHANICAL LINKAGE OPERATING ROD |
| 2. SLOTTED LINK | 4. SERVO OUTER LEVER |
| | 5. 'ON-STOP' |

Refit the servo 'on-stop' ensuring that it is in its correct position.

If the 'on-stop' requires adjustment proceed as follows:

1. Position the rubber 'off-stop' (see 1. Fig.1) against the bracket on the chassis frame.
2. Adjust rod (3) so that the servo outer lever (4) leans 10 deg. \pm 2 deg. towards the rear of the car when the end of the slotted link (2) is in contact with the rubber 'off-stop' (1). Tighten the lock-nut on rod (3).
3. Place a 1.000 in. distance piece between the end of the slotted link (2) and the rubber 'off-stop' (1). The 'on-stop' (5) should then be positioned so that it is in contact with the outer servo lever (4). Secure the 'on-stop' in position.

NOTE

It is essential that this adjustment is carried out correctly if, in the event of a failure in the mechanical rear brake system the Hydraulic System is to continue operation.

As a check, the distance between the outer servo lever (4) and the 'on-stop' (5) should be 0.800 in., when the distance piece is removed.

Refit the undershield, ensuring that the handbrake cable is correctly routed.

IDENTIFICATION The two 47 deg. servo operating levers should be marked with a spot of yellow paint to distinguish them from the earlier type of levers.

<u>Part No.</u>	<u>Description</u>	<u>Quantity</u>
UG.2586	Assembly Inner Operating Lever	1 off
UG.2587	Assembly Outer Operating Lever	1 off

Time allowed:- 2 hours.

CATEGORY 3

BRAKE CLEVIS PINS - FRONT BRAKES

If, for any reason, it is necessary to carry out work on the front brakes, or, if the brake shoes should need relining, the opportunity should be taken to replace the brake clevis pins on all cars built prior to the following chassis number.

Bentley Continental S2 BC.95.CZ.

PROCEDURE

Remove the wheel discs, and slacken the wheel nuts.

Jack-up the front end of the car and place it on suitable stands.

Remove the road wheels.

Remove the screws securing the brake drums to the wheel hubs, then pull off the drums.

On the Bentley Continental S2, it is necessary to remove two of the brake shoes before the brake clevis pins can be replaced. To do this, remove the two spring clips which secure the shoes to the pivot pins. Remove the pivot pins and the brake shoes.

Remove the circlip securing the clevis pin between the shoe carrier and the wheel cylinder link. Using a 5/16 in. diameter steel bar, push out the clevis pins. The bar should be pushed right through to ensure that the brake shoe is secured to the wheel cylinder link when the pin is removed.

Insert the new clevis pin from the back of the brake, pushing out the bar. Fit the circlip.

Fit the brake shoe and pivot pin and secure them in position with the spring clip. Ensure that the clip is correctly located in the pivot pin.

- 2 -

Repeat this operation for the remaining three clevis pins.

Fit the brake drums, road wheels and wheel discs.

MATERIAL REQUIRED

UG.4161 Clevis Pin - Front Brake 4 off

IDENTIFICATION

The new clevis pin is bronze in colour whereas the original pin was cadmium plated.

TIME ALLOWANCE

2 hours.

FOR INFORMATION

COOLANT AND HEATER HOSES - BENTLEY CONTINENTAL S2 CARS

On modern cars with pressurised cooling systems and in the presence of inhibited antifreeze mixtures it is generally advisable to change coolant and heater hoses annually, at the same time as the cooling system is drained, flushed, and refilled.

Rolls-Royce have however, developed an improved type of reinforced hose which has a life in excess of two years. This hose is now being fitted to all production cars and it is recommended that existing hoses on cars at present in service should be changed immediately for the improved hose.

A recommendation to change hoses once very two years is being added to the Periodic Lubrication and Maintenance Schedules and retailers are requested to make arrangements to change the present type of hoses on cars in their territory for the improved hose. Hoses should be considered as a consumable item and replacements are therefore chargeable to the owner, but in cases where cars are less than one year old this work should be carried out on a free of charge basis and a guarantee claim submitted accordingly.

APPLICABLE TO:-

All cars prior to the following chassis number.
Bentley Continental S2 BC.109.CZ.

On the above cars eleven hoses require replacement: they are the top and bottom coolant hoses from the radiator matrix to the crankcase, the feed and return hoses from the heater and demister matrices to the coolant pump and vacuum taps and the hoses connecting the water taps to the vacuum taps and cylinder heads.

The new type of reinforced hose can be identified by the part number.

Material Required

<u>Part No.</u>	<u>Description</u>	<u>Quantity</u>
UR.5497	Hose - Vacuum Tap to Demister Matrix	1
UR.5492	Hose - Demister Matrix to Pump	1

- 2 -

<u>Part No.</u>	<u>Description</u>	<u>Quantity</u>
UR. 5496	Hose - Cylinder Head to Demister Water Tap	1
UR. 5493	Hose - Connecting - Demister Matrix to Pump	1
UR. 5491	Hose - Heater Matrix to Pump	1
UR. 5494	Hose - Water Tap to Vacuum Tap - Heater	1
UR. 5506	Hose - Elbow - Vacuum Tap to Heater Matrix	1
UR. 5505	Hose - Elbow - Vacuum Tap to Water Tap - Heater and Demister	2
UR. 5502	Hose - Top Water Connection	1
UR. 5485	Hose - Bottom Water Connection	1
RH. 7358	Hose - Bottom Water Connection	1

RH. 7358 and UR. 5485 Bottom Hoses are not interchangeable. Bottom hose UR. 5485 replaces UE. 8446 which was introduced on S2 cars when the fan extension cone was shortened, (see Information Sheet No. 2.L.1.).

RH. 7358 should be fitted to all chassis prior to the following number.

Bentley Continental S2

BC.10.BY. except BC.133.AR. to 151.

Heater Pipes and Hose Connections

As the coolant system on the S2 Car is pressurised care should be taken to ensure that good connections are secured. If the pipes to which the hoses are fitted are not swaged the opportunity should be taken to carry out this operation. Care should be taken to ensure that any sharp edges produced during swaging are removed.

Time Allowance

Bentley Continental S2 5 hours.

This bulletin cancels
Service Bulletin S2/R1
dated 2.11.59.

FOR INFORMATION

INDIA SYNTHETIC TYRES FOR BENTLEY CONTINENTAL CARS.

The following Tyre has now been approved for use on Bentley Continental cars:-

8.00 x 15 India Super Speed Special - Nylon Synthetic, WH.2 Tread.

This tyre is similar in construction and tread pattern to the previously approved Dunlop WH.2 tyre and is available with black or white sidewalls

The pressures for this tyre are as follows:-

For normal speed running as in the United Kingdom

Front	...	20 lb/sq.in.) cold
Rear	...	25 lb/sq.in.)

For maximum speed running as on the continent

Front	...	25 lb/sq.in.) cold
Rear	...	30 lb/sq.in.)

No. BC2/R2

This bulletin cancels
Service Bulletin S2/R2
dated 16.2.60.

FOR INFORMATION

DUNLOP "WEATHERMASTER" TYRES FOR THE

"S2" CONTINENTAL COUPE.

The following tyre has now been approved for use on the "S2" Continental Coupe for winter driving.

7.00/7.60 x 15 (6 ply) Dunlop "Weathermaster".

The correct pressure for this tyre is 30 lbs/sq.in. (2.11kg/sq.cm).

These tyres are designed to provide adequate traction in snow or mud, but owing to the heavier tread, car speeds should be limited to a maximum of 85 m.p.h. and a sustained speed of 70 m.p.h.

FOR INFORMATION

TYRE PRESSURES

BENTLEY CONTINENTAL S2 CONVERTIBLE COUPE

COACHWORK BY PARK WARD.

With the increased rear axle weights of the Bentley Continental S2 Convertible Coupe cars, it has become necessary to increase the rear 8.00 x 15 tyre pressures, to obviate over loading of the rear tyres.

The revised tyre pressures are as follows:-

For normal speed running as in the United Kingdom.

FRONT	20 lb/sq. in.
REAR	28 lb/sq. in.

For maximum speed running as on the Continent

FRONT	25 lb/sq. in.
REAR	33 lb/sq. in.