CATEGORY 2.

IMPROVED SEALING OF THE SCINTILLA CHOKE THERMAL DELAY SWITCH

The switch is designed to serve as a thermal delay in the choke circuit and it operates in response to under-bonnet temperature and the heating effect of current supplied by the generator.

The switch is mounted on the dashboard and is secured by a 3BA. screw which passes through an extended boss. This boss provides a clearance between the body of the switch and the mounting surface.

Failure of the switch may be caused by water entering the unit during heavy rain or when the car is being washed. This results in serious corrosion of the internal assembly.

It has therefore been agreed to fit a neoprene washer between the switch body and the dashboard, in order to overcome this problem.

PROCEDURE

Disconnect the leads from the two inner terminals, unscrew the central securing bolt and remove the switch from the dashboard.

Detach the cover from the rear of the unit and inspect the internal assembly for signs of corrosion or the presence of water. Any water should be removed with a clean lint-free cloth, care being taken to ensure that the contacts and bimetallic strips are not disturbed. If serious corrosion is evident, the unit should be renewed.

Refit the cover and place the new sealing washer in position over the extended boss on the switch base.

Insert the securing bolt through the earth lead spade terminal and secure the switch to the dashboard, so that the earth terminal is on the side adjacent to the blower motor resistance.

Connect the two leads, noting that the white lead enters the lower terminal (marked B).

Start the engine and check that the switch is operating. No attempt should be made to carry out adjustments; if operation is unsatisfactory, the unit should be renewed.

MATERIAL

UD.5472 - Sealing Washer - 1 off

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FOR INFORMATION

SPARKING PLUGS

It is necessary to draw attention to the deletion of item 7 under Schedule 'A' in Service Bulletin S2/D1.

In cases where the engine is fitted with sparking plugs which have nickel electrodes, it is a wise and economical precaution to change the plugs at 10,000 miles.

If the plugs have platinum points it is necessary only to inspect them, brush off any carbon or soot (do not sandblast) and reset the gaps.

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This Bulletin cancels Service Bulletin S2/M3 dated 16.2.60.

No. S2/M3

FOR INFORMATION

INSTRUMENT ILLUMINATION

An improvement in the illumination of the instruments has been incorporated in cars on current production. Should complaints arise with respect to earlier cars, similar improvement can be obtained;

1) by fitting larger bulbs in the speedometer and the 4 in 1 instrument
2) by modifying the panel lamp switch.

It is not recommended that the larger bulbs be fitted to the electric clock as it is considered that adequate illumination of this instrument is provided by the existing bulbs.

Cars produced prior to November 1959 are fitted with switches incorporating both a fixed and a variable resistor. Elimination of the fixed resistor immediately improved illumination of the instrument and must be carried out at the same time as the fitting of larger bulbs. After November 1959, all cars were fitted with an improved two-position switch which requires no modification. The following chassis are fitted with this two-position switch.

SILVER CLOUD II		SRA. 235 onwards
BENTLEY S2	B.	212. AM onwards
PHANTOM V	5.	AS. 65 onwards
SILVER CLOUD II LONG WHEELBASE	L.	CA. 20 onwards
BENTLEY S2 LONG WHEELBASE	L.	BA. 4 onwards

BENTLEY CONTINENTAL S2 chassis are subject to variations in coachwork which may involve altogether different switches.

MODIFICATION PROCEDURE

1) Replace the two existing 12V 2.2W M.E.S., bulbs, which illuminate the speedometer, and the single 12V 2.2W M.E.S. bulb in the 4 in 1 instrument by three 12V 3.6W M.E.S. bulbs, identified as UD.5500 or Lucas No.948.

2) To modify the early panel lamp switch (UD 4498)
Disconnect the wire soldered to the base of the fixed resistor. Re-connect this wire to Terminal 3 of the switch.

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CATEGORY 2

METHOD OF MODIFYING FUSE HOLDER FOR

MAIN FUSE BOARD AND WINDOW-LIFT FUSE BOARD

On late S1 cars and certain S2 cars, failure of the fuses to make good contact may be due to the fuse wires being located too high in the fuse clips. This fault can be attributed to one of the following causes.

(a) Dimensional differences which produce a foul between the base of the fuse holder and the fuse clips, thereby preventing the holder from being pushed fully down into the clips.

(b) The copper contact strips being incorrectly fitted, do not locate correctly on the moulding, which means that unless the fuse is carefully assembled the wire makes poor contact.

Where it is established that either of these faults exist, proceed as follows.

FUSE HOLDER - TO MODIFY

Remove .050 in. from the bottom of the fuse holder and reduce the width of the bottom to between .630 and .635 as shown in Figure 1.

This allows the position of the fuse wire to be lowered from .425 in. to .375 in. and enables the fuse holder to fit fully down between the clips.

METHOD OF FITTING FUSE WIRE

It is important, when fitting the fuse wire, that the correct method is adopted.

Ensure that the wire is wrapped around the bollard on the fuse holder one and a half times, and passed across the air space along the ledge, parallel with the bottom of the holder, then wrapped around the other bollard one and a half times. The ends of the wire must be positioned so that they are securely trapped by the copper strips when they are fitted.

The correct method of fitting the wire is shown, in comparison with incorrect methods, in Figure 2.

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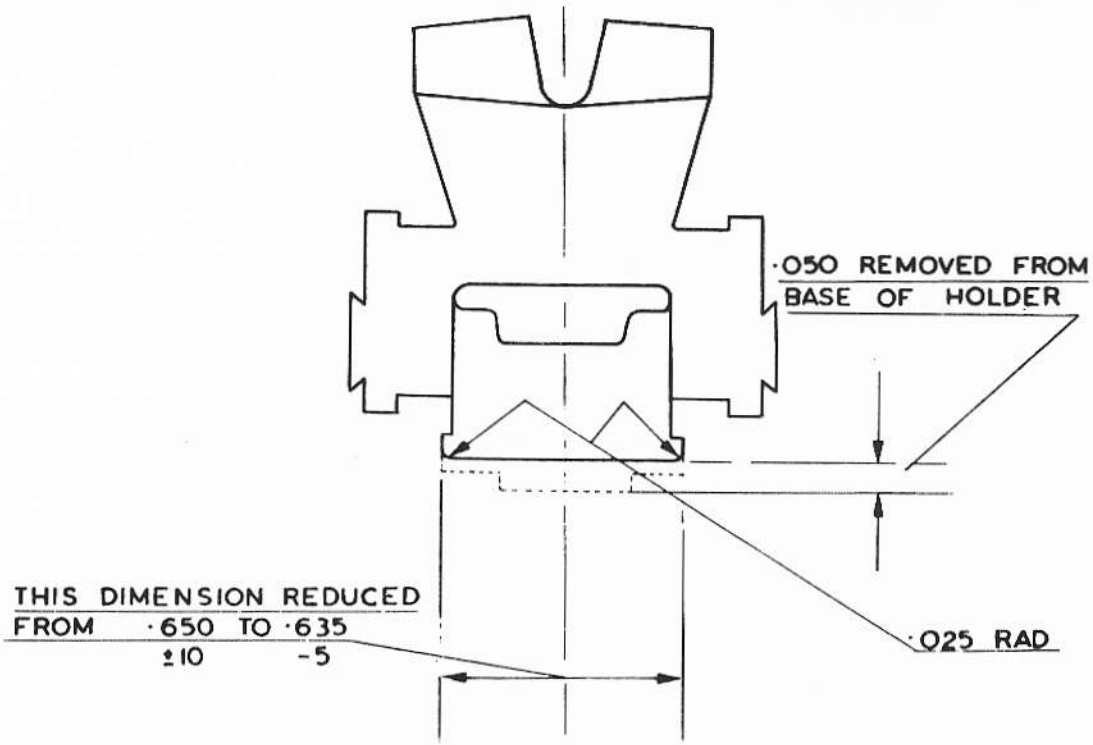

Fig.1. Method of Modifying the Fuse Holder

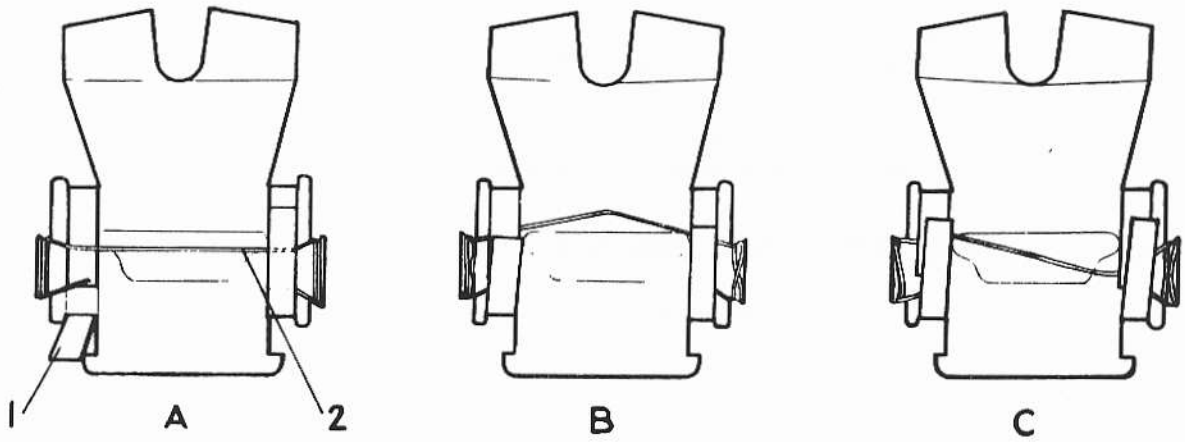

Fig.2. 'A' Correct Method of Fitting the Fuse Wire, 'B' and "C" Incorrect Method

1. Contact Strip
2. Fuse Wire

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METHOD OF FITTING COPPER CONTACT STRIPS

Fit the copper strips to the fuse holder so that the fuse wire is firmly trapped and that each end of the copper strip overlaps the wire by an equal amount. The correct method of fitting the fuse wire and the contact strips is shown in 'A' of Figure 2.

ATTENTION TO FUSE CLIPS

Ensure that the fuse clips are not distorted. They should be set square and parallel in order to maintain the holder firmly in position.

Figure 3 shows a comparison between the fuse clips set correctly and incorrectly.

IDENTIFICATION OF MODIFICATION

In order to identify that these Modifications have been incorporated, a small green spot should be painted on the side of the fuse boxes nearest the car centre, adjacent to the cover fixing clip.

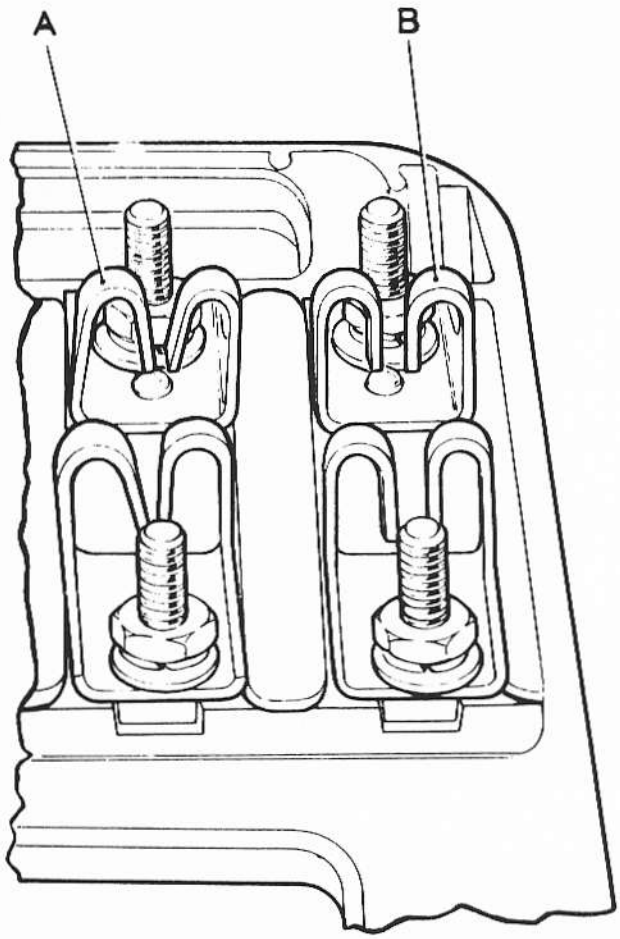

Fig.3. 'A' Fuse Clips set Incorrectly. 'B' Correctly.

All S2 cars without the green spot must be inspected and if found to have been already modified, a green spot should be painted as instructed.

If the modification has not been incorporated, carry out the instructions previously stated.

The following S1 chassis should be inspected and if necessary modified to the above information.

Bentley S1	Chassis No. B-38-GC onwards.
Bentley S1 Long Wheelbase	Chassis No.ALB-32 onwards.
Silver Cloud	Chassis No.SMH-117 onwards.
Silver Cloud Long Wheelbase	Chassis No.CLC-31 onwards.

No. S2/M5

CATEGORY 3A

STARTER MOTORS.

Applicable to:-

Silver Cloud II
Bentley S2
Bentley Continental S2
Phantom V

A number of Starter Motor failures have occurred on S2 Cars, and modification action is required in the case of failure, or on customers complaint. The failures are attributed to the following reasons:-

1) Slipping of Starter Motor Clutch.
2) Poor electrical connections.

Slipping of Starter Motor Clutch. The symptoms of this failure are; that the starter motor engages normally when the ignition key is turned, and then spins without turning the engine; this is due to the Starter Motor Clutch slipping. A modified clutch unit incorporating stronger springs is now available and in the event of a failure the Starter Motor assembly should be changed for a unit incorporating the modified clutch.

To remove the Starter Motor. Access to the Starter Motor is obtained from beneath the car, it is therefore desirable to have the car placed on a ramp or over a pit.

1) Disconnect battery lead.
2) Remove the undershield attached to the frame side member beneath the Starter Motor.
3) Pull back the rubber cover which shrouds the terminal at the front end of the solenoid casing and detach the heavy duty lead only.
4) Unscrew the set-screws retaining the Starter Motor. It should be noted that the upper set-screw is not readily detachable from the bell housing owing to the close proximity of the crankcase breather pipe.

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5) Remove the Starter Motor by lowering it between the engine and the chassis frame.

Action to be taken - U.K. Starter Motors assemblies with failed clutch units should be returned to the factory for a replacement unit incorporating a modified clutch.

Action Overseas. Arrangements have been made with Joseph Lucas Ltd., agents overseas to re-work any starter motor with a failed clutch. Retailers dealing with a failure of this nature should contact their Lucas agents to obtain a replacement unit.

Part Numbers. After the above modification has been incorporated to a Starter Motor the Part No. of the complete assembly changes from UD. 4587 to UD. 5706.

Identification. The modified Starter Motor is identified by a blob of yellow paint on the Starter Motor Solenoid.

Time Allowance. 1 hour.

Failure due to Poor Electrical Connections. The symptoms of this failure are that the Starter Motor engages correctly with the normal 'clonk' as the pinion engages and then remains silent. This is due to the fact that the poor electrical connections produce a high resistance in the circuit resulting in insufficient current being available to turn the engine, although it is sufficient to engage the starter pinion.

Action required. The simple remedy in the event of this failure is to inspect and tighten all electrical connections on the Starter Motor and Solenoid.

Time Allowance. Half an hour.

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CATEGORY 2

STARTER MOTOR RELAY

DESCRIPTION

A protective device, in the form of a relay switch, was fitted to S2 cars to prevent drivers from engaging the starter motor pinion when the engine was running. Recent Service experience has shown that this relay does not function correctly and Retailers and Service Personnel should remove these relays when affected cars next come in for Service or in the case of customer's complaint.

APPLICABLE TO:-	Chassis Numbers
Bentley S2	B.252.CU. to B.738.CU.
Bentley S2 L.W.B.	LBA.25. to LBB.12.
Silver Cloud II	SXC.351. to SYD.306.
Silver Cloud II L.W.B.	LCB.66. to LCC.6.
Bentley Continental S2	BC.72.BY. to BC.19.CZ.

PROCEDURE.

To ascertain whether the starter relay is functioning correctly a check may be made as follows:-

If the engine cannot be started with the ignition key but will start when the rubber button on the solenoid is depressed then the relay is not working.

Disconnect the battery.

Remove the two Brown/Red wires from the connection W.1 on the relay and connect them together using a double-ended 'Lucar Blade'

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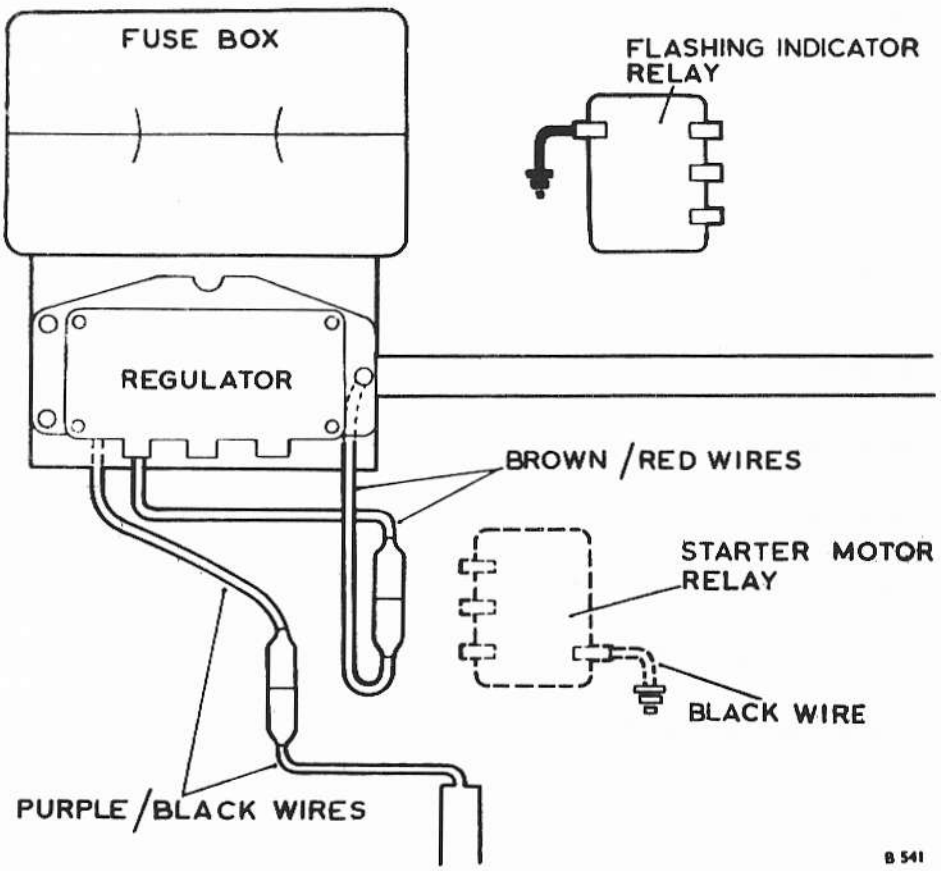

Fig. 1. Positioning of Starter Motor Relay and Re-wiring of Connections

connector (UD.6074), (See Fig.1).

Remove the two Purple/Black wires from the connections C.2 and C.3 on the relay and connect them together using another double-ended connector (UD.6074).

Remove the Black earthing wire from the connection W.2 on the relay and from the bulkhead.

Remove the relay. The two cheese-headed screws and washers should be refitted to the bulkhead.

The starter relay is identifiable by a yellow spot of paint on its top side and by its part number 33226B (Lucas).

MATERIAL REQUIRED

Description	Part Number	Quantity
Double-ended connector	UD.6074	2 off

Time allowance:- 1 hour.

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No. S2/M7

This bulletin cancels Service Bulletin S2/E6.

CATEGORY 3A

CHAMPION WATERPROOF SPARKING PLUG ADAPTORS

DESCRIPTION

A new Champion waterproof sparking plug adaptor is available for fitting to S2 cars. The new adaptor has been designed to grip the insulator of the sparking plug and the high tension lead is now bonded into the plug adaptor with an adhesive compound, thus preventing the ingress of any water to the sparking plug terminal and eliminating misfiring.

In cases of complaint due to engine misfiring where it is known that water is penetrating to the plug terminals, the existing adaptors should be replaced with the new Champion adaptors.

PROCEDURE

Disconnect the battery.

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

Remove the wheels.

Remove the two access panels fitted to either valance.

Remove the eight leads from the sparking plugs, then remove the existing plug covers.

Roughen the ends of the cables where they are to be bonded to the covers.

Clean the inside of the plug cover and the end of the lead with Carbon Tetrachloride or Trichlorethylene. The cover and lead should be immersed in either of these solvents for a minimum of time, otherwise the rubber may tend to swell and soften.

Allow 10-15 minutes for the cleaner to dry.

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Mix the'Bostik'2402 adhesive with its catalyst.

NOTE:-

The 'Bostik' 2402 sealing compound must be mixed with its catalyst according to the directions given on the tins by the makers. It is permissible to mix smaller quantities than those supplied if required, but care should be taken to ensure that the compound and catalyst are mixed in exact proportions.

Fit the sparking plug connecting tag to the end of the high tension lead.

Apply the compound to the end of the lead and to the inside of the rubber cover. Allow 2-3 minutes for the compound to become tacky, then push the lead into the cover ensuring that the connecting tag is correctly located.

Repeat this operation for the remaining seven leads.

Fit the covers to the sparking plugs. As the compound does not dry immediately care should be taken to ensure that the leads are not disturbed when fitting the covers to the plugs. Once fitted, the heat from the exhaust manifolds will be sufficient to complete the bonding of the covers to the leads.

Fit the access panels.

Fit the wheels.

Reconnect the battery.

MATERIAL REQUIRED

Part Number	Description	Quantity
UE.9258	Rubber Sparking Plug Cover	8
UE.8587	Sparking Plug Connecting Tag	8

Time Allowance :- 3 hours.

CATEGORY 3

SPEEDOMETER DRIVE CABLES

DESCRIPTION

An improved type of speedometer cable has recently become available for fitting to S2 series cars. The new cable has been designed to improve the operation of the speedometer, and to eliminate the factors which are likely to cause needle fluctuation. These factors are overcome by a new cable incorporating an improved inner cable and indicated clipping areas which ensure that the run of the cable is kept as smooth and kink free as possible.

In cases of complaint due to speedometer needle fluctuation, the existing cable should be replaced with a new type of cable.

APPLICABLE TO :-

Bentley S2
Bentley S2 L.W.B.
Silver Cloud II
Silver Cloud II L.W.B.
Bentley Continental S2

IDENTIFICATION

The new cable may be identified by two white plastic wrappings placed at approximately 1/4 and 1/2 way along the cable from the gearbox drive end.

PROCEDURE

Speedometer cable - To remove

Access to the drive end of the speedometer cable is gained beneath the car. It is therefore desirable that the car be placed on a ramp or over a pit.

Disconnect the battery.

Remove the facia panel.

Remove the speedometer head, taking care to note the position in which the various warning and illuminating lamp sockets are fitted.

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Disconnect the speedometer cable at the gearbox drive end.

Remove the clips which support the speedometer cable on the frame and bulkhead; disconnect the earthing strip.

Withdraw the speedometer cable, together with the bulkhead grommet and seal, from the engine side of the bulkhead.

New speedometer cable - To fit

Remove and inspect the clips from the old speedometer cable. Should the clip rubbers show any sign of deterioration, new clips will be required.

Fit the clips to the new cable, ensuring that the two clips nearest to the gearbox drive end are fitted in the positions denoted by the white plastic wrappers.

Fit the speedometer cable to the car by reversing the procedure given for its removal and noting the following points.

The clip on the chassis frame and the lower of the two clips on the bulkhead MUST be fitted in the positions denoted by the white plastic wrappers.

If a kink occurs owing to the speedometer cable having to pass over the front near-side body mount, the clip on the chassis frame may be bent upwards to obviate the kink.

Finally, when fitting the cable to the speedometer head, ensure that the felt washer is in position.

MATERIAL REQUIRED

Description	Part number	Quantity
Assembly - Flexible drive - Speedometer	UD 8675	1

When fitting the above new speedometer cable, would Retailers and Service Personnel please note that upon removal, the old speedometer cable MUST be returned to :-

Messrs. Rolls-Royce Limited.
Spares Central Stores,
Pym's Lane,
Crewe

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

Time allowance 2 Hrs. 15 Mins.

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No. S2/M9

Circulation - All Distributors and Retailers

CATEGORY C

DIRECTION INDICATOR SWITCH

APPLICABLE TO:

All Rolls-Royce Silver Cloud II and III cars and all Bentley S2 and S3 cars.

DESCRIPTION:

The direction indicator switch UR 5273 is no longer available. For replacement purposes, the switch used on Silver Shadow cars (UR 16530) will be fitted. When it is fitted, the terminal connectors must be changed.

PARTS REQUIRED

UR 16530 - Direction Indicator Switch	- 1 off)	
X 4401 - Washer	- 2 off)	Kit number RH 2725
UD 6072 - Lucars	- 5 off)	
UD 19094 - Lucar Sleeves (clickfit)	- 5 off)	

PROCEDURE:

1. The removal and replacement procedure for the new switch remains the same as for the old. However, there is a small modification to be carried out on the new switch as follows:

2. Remove the two screws and discard the brown insulation board (see Fig. 1). Replace the screws with a washer (X 4401) behind each screw head (see Fig 2).

3. Cut the 7 pin plug off and withdraw the insulation board along with the green/yellow and green/blue wires.

4. Fit 'Lucar' connectors to all the wires except the black one to which a bullet connector is fixed. Connect the wires as follows.

New Colour	Existing Colour	Connected To
Green/Red	Pink	Left-hand Flasher
Green/Brown	Green/Yellow	Supply
Green/White	Purple	Right-hand Flasher
Black	Black	Extension to Earth
Blue/Black	Purple/Green	Flick Relay W/L

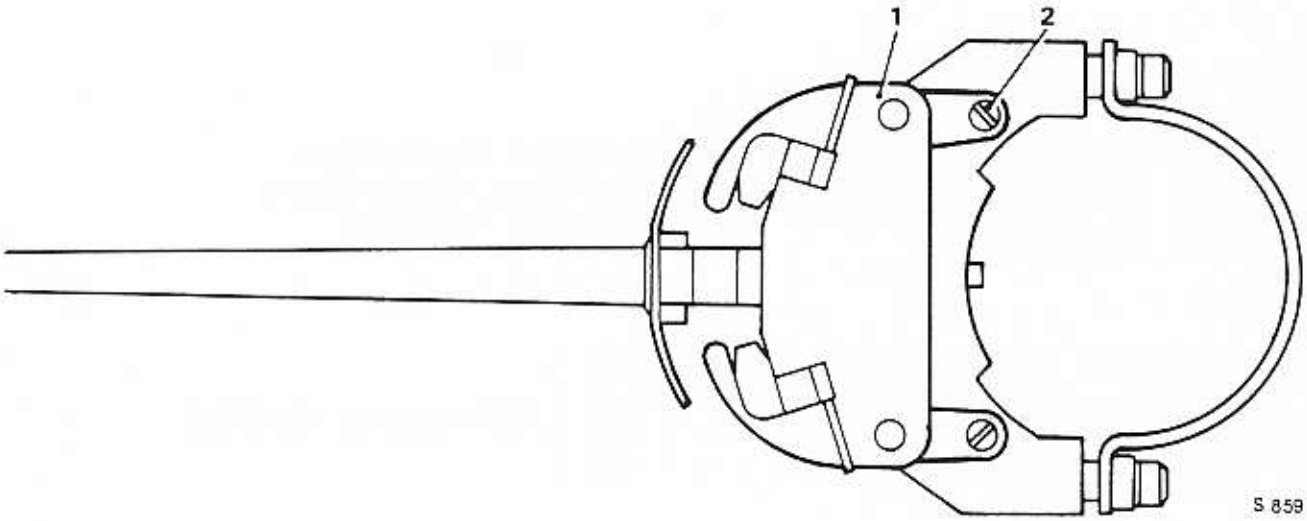

Figure 1. Direction indicator switch (UR 16530)

1. Insulation board
2. Screw