



TWO SPEED WIPER SWITCH PART NO: RD8345 / LUCAS DR1 / DR2 / D3 MOTORS

R-R Silver Dawn, Silver Wraith, Bentley MKVI, R type

N. W. Geeson

SWITCH GENERAL DESCRIPTION

Internally the switch has eight fixed contacts plus one set of contacts between pin four (4) and pin six (6) which are mechanically interrupted by the rotary contact plate. This plate carries four (4) contacts and a fibre cam, which operates the mechanical contact set.

Externally the switch has only six terminals connected to six of the eight internal contacts. Pin one (1) and pin eight (8) have no external connecting terminal. In other words, although they form an operational part of the switch internally, they are not connected to the wiring loom.

PIN 1 / PIN 7

An internal switch link connects pin one (1) and pin seven (7) permanently

PIN 2 / PIN 8

On the rear of the switch, externally a link connects pin two (2) to pin eight (8) permanently. The live feed from the ignition circuit via the petrol gauge is connected to the switch external terminal pin two (2) therefore both pins are live at all times when the master and ignition switches are in the ON position.

PIN 4 / PIN 6

External terminal pin four (4) is connected to Earth or Ground permanently. Pin four (4) can also be connected, or disconnected to pin six (6) by the set of internal contacts that are operated by the rotary switch cam.

SWITCH OFF POSITION DESCRIPTION

The fibre cam inside the rotary switch breaks the mechanical contact set connecting pin four (4) to pin six (6), note pin four (4) is still connected to earth or ground via the wiring loom.

Internal rotary switch contacts connect pin six (6) to pin seven (7). Note pin seven (7) is connected permanently to pin one (1).

Internal rotary switch contacts connect pin two (2) to pin three (3).

Note pins 2, 3 and 8 are therefore LIVE in the switch OFF position. All being connected to pin two (2) the permanent live.

SWITCH ONE OR SLOW WIPER SPEED POSITION DESCRIPTION

The fibre cam inside the rotary switch makes the mechanical contact set connecting pin four (4) to pin six (6). Note pin six (6) is now connected to earth or ground.

Internal rotary switch contacts connect pin seven (7) to pin eight (8).

Internal rotary switch contacts connect pin three (3) to pin four (4). Note pin four (4) is earth / ground and therefore pins 3, 4 and 6 are now earthed.



Note pins 1, 2, 7 and 8 are therefore LIVE in the switch ONE position. All being connected to pin two (2) the permanent live.

SWITCH TWO OR FAST WIPER SPEED POSITION DESCRIPTION

The fibre cam inside the rotary switch makes the mechanical contact set connecting pin four (4) to pin six (6). Note pin six (6) is now connected to earth or ground.

Internal rotary switch contacts connect pin one (1) to pin eight (8).

Internal rotary switch contacts connect pin four (4) to pin five (5). Note pin four (4) is earth / ground and therefore pins 4, 5 and 6 are now earthed.

Note pins 1, 2, 7 and 8 are therefore LIVE in the switch TWO positions. All being connected to pin two (2) the permanent live.

LUCAS DR2 WIPER MOTOR

The motor is connected to the wiring loom by five push fit special bullet connectors arranged in a line. The terminals are numbered adjacent to the terminal block numbers 1 to 5. The motor body is earthed or ground through the wiper mounting bracket which itself is connected by an earth bonding strip to the bulkhead. An internal switch, which has limited external adjustment through a knurled wheel, controls the park position of the wiper blades.

An internal thermal switch is fitted in the motor, which will break contact if the motor is overloaded. When this switch operates it may stay in the circuit broken state for up to 15 minutes. The switch can be overridden permanently but care must then be taken not to operate the wiper blades under load on a dry screen. In addition, it is vital to ensure that the wiper drive rack and wheel boxes are free by removing the wiper blades and wiper gearbox cover and detaching the crosshead. In this condition, the rack and wheel boxes can be operated by hand to ensure freedom from binding.

The main reduction gear to the crosshead is mounted on a spindle. The spindle revolves within a sintered bronze type bush, which is cast and captured with lugs within the alloy case during manufacture. **ANY ATTEMPT TO REMOVE THE BRONZE BUSH WILL RESULT IN BREAKAGE OF THE MAIN CASE.** The best repair method being to bore or reamer out a section of the old bush to true up the bore and then lightly press fit another bush inside the old one. If the press fit is to be say 0.001 inch on the O/D then the internal bore of the new bush needs boring at the gear shaft size plus 0.001 inch.

WIRING LOOM CONNECTIONS FROM WIPER SWITCH PART NO RD8345 TO LUCAS DR2 WIPER MOTOR

- Rotary Switch Pin 3 connects with a Pink wire to Wiper Motor Terminal 1
- Rotary Switch Pin 7 connects with a Dark Blue wire to Wiper Motor Terminal 2
- Rotary Switch Pin 5 connects with a Purple wire to Wiper Motor Terminal 3.
- Note the wire to Switch pin 5 is sometimes RED instead of Purple!
- Rotary Switch Pin 6 connects with a Grey Wire to wiper Motor Terminal 4
- Rotary Switch Pin 2 connects with a Light Blue wire to Wiper Motor Terminal 5
- Rotary Switch Pin 2 also connects with a Light Blue to the incoming ignition feed LIVE.
- Rotary Switch Pin 4 connects with a Black wire to earth or ground at the centre of the triple dash gauge.
- Wiring Loom connections to Lucas DR3 Wiper Motor when replacing DR1 Motor

Disconnect the Light Blue ignition fed live feed cable from No 2 switch terminal together with the petrol gauge feed and connect the wires to a double connector. Take one end of a Red coloured wire and connect it



to the double connector and connect the other end to the wiper motor (Green) cable as shown below. Rotary switch pin 2 will have no wired connection.

Cable Colour on DR3 Motor	Cable Colour on the Wiring Loom
Brown	Pink
White	Dark Blue
Red	Grey
Orange	Purple (can be red on some cars)
Green	Red (New Feed, Live)
Blue	Light Blue