The Rolls-Royce Owners' Club of Australia

Technical Library

Rolls-Royce and Bentley Four Door Cars
From SZ Chassis 30,000
Windscreen Wipers and Windscreen Washers

Note: 20,000-series cars are similar, but the control relays 1, 2 and 3 are located on the left-hand valence by the spring tower, and the windscreen washers operate directly from the stalk button.

Rolls-Royce and Bentley Four Door SZ Cars from Chassis 30,000 Onwards
Windscreen Wipers and Windscreen Washers

Off position 1

Circuit description

There are two wiring diagrams shown for the OFF position, one on page 16-3, the other on page 16-5. Whilst following this circuit description it will be necessary to refer to both diagrams.

With the windscreen wipers control switch set to the OFF position, the green and purple cables at the wipers switch are interconnected (see item 42b). If the windscreen wiper system is operating and OFF position is then selected, the wiper motor continues to rotate until the motor sets the 'On screen' park switch (within the motor assembly) to the park position. This breaks the 12 volts positive supply to the coil of relay 1, thereby de-energizing the relay and removing the 12 volts positive supply from the slow speed brush of the wiper motor.

The slow speed brush of the wiper motor now finds an earth path through the normally closed contacts of relays 3 and 1 to the valance earth point.

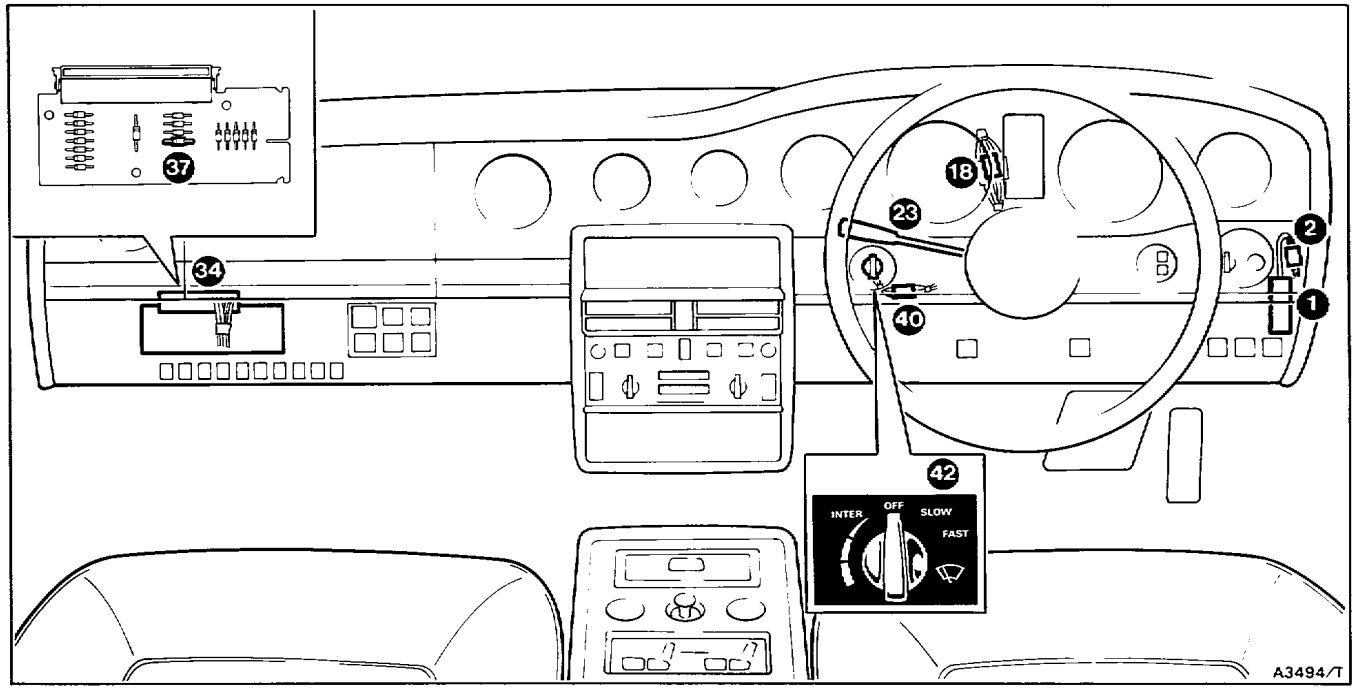
The coil of relay 2 receiving a 12 volts positive supply from the wipers switch (see item 42b), finds an earth path via the run position of the 'Off screen' park switch, thereby energizing relay 2. This provides a 12 volts positive supply through the normally open contacts of relay 2 to the wiper motor. At this point the motor reverses direction, causing the 'Off screen' park switch to be set to the park position. With the switch in this position the earth path to the coil of relay 2 is disconnected, causing the motor to stop immediately (the windscreen wiper blades being in the 'Off screen' park position).

Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

. 42a Wafer switch 2
. 42b Wafer switch 3
. 42c Wafer switch 1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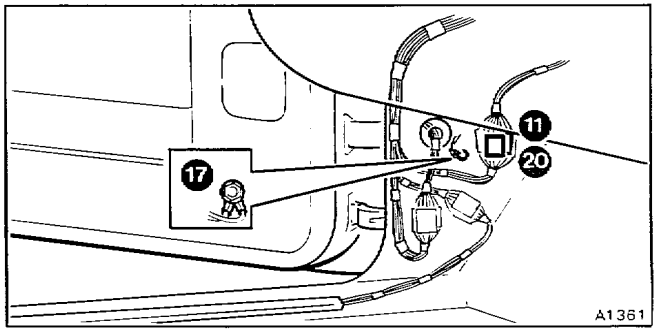
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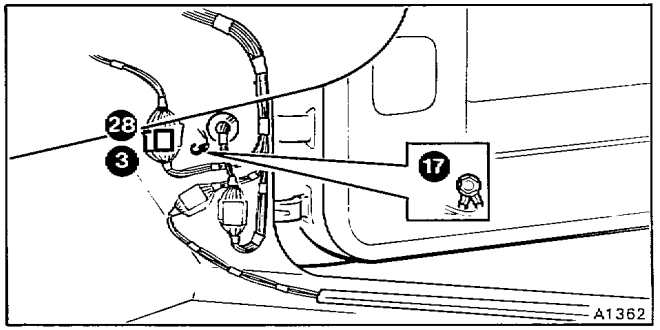
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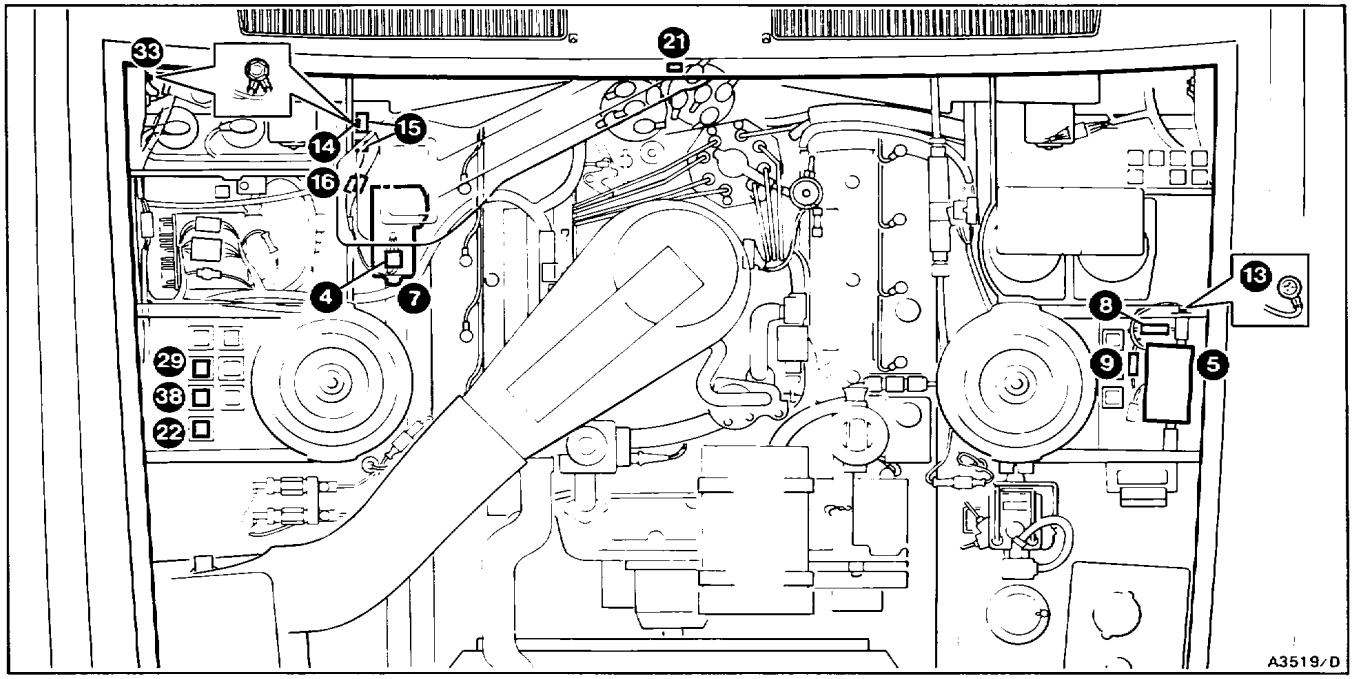
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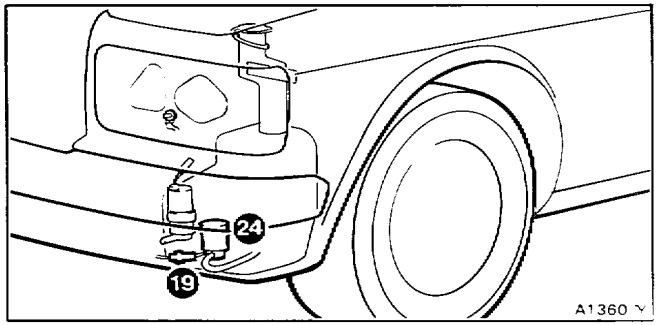
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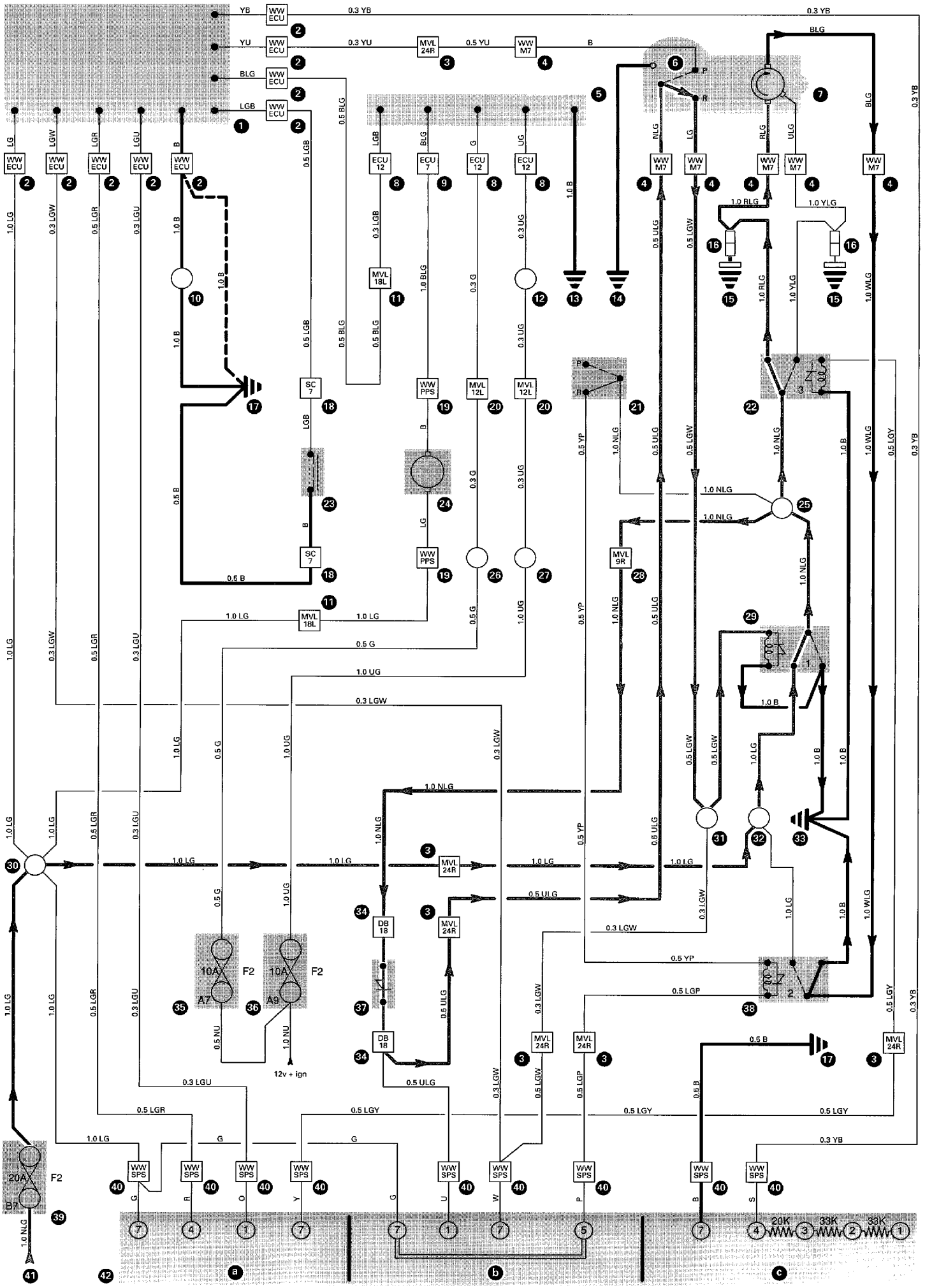
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WW M7
ECU 12
ECU 7
WW PPS
MVL 12L
MVL 18L
SC 7
MVL 9R
DB 18
WW SPS
10A F2
20A F2
12v + ign
20K
33K
33K

Off position 1

Circuit description

There are two wiring diagrams shown for the OFF position, one on page 16-3, the other on page 16-5. Whilst following this circuit description it will be necessary to refer to both diagrams.

With the windscreen wipers control switch set to the OFF position, the green and purple cables at the wipers switch are interconnected (see item 42b). If the windscreen wiper system is operating and OFF position is then selected, the wiper motor continues to rotate until the motor sets the 'On screen' park switch (within the motor assembly) to the park position. This breaks the 12 volts positive supply to the coil of relay 1, thereby de-energizing the relay and removing the 12 volts positive supply from the slow speed brush of the wiper motor.

The slow speed brush of the wiper motor now finds an earth path through the normally closed contacts of relays 3 and 1 to the valance earth point.

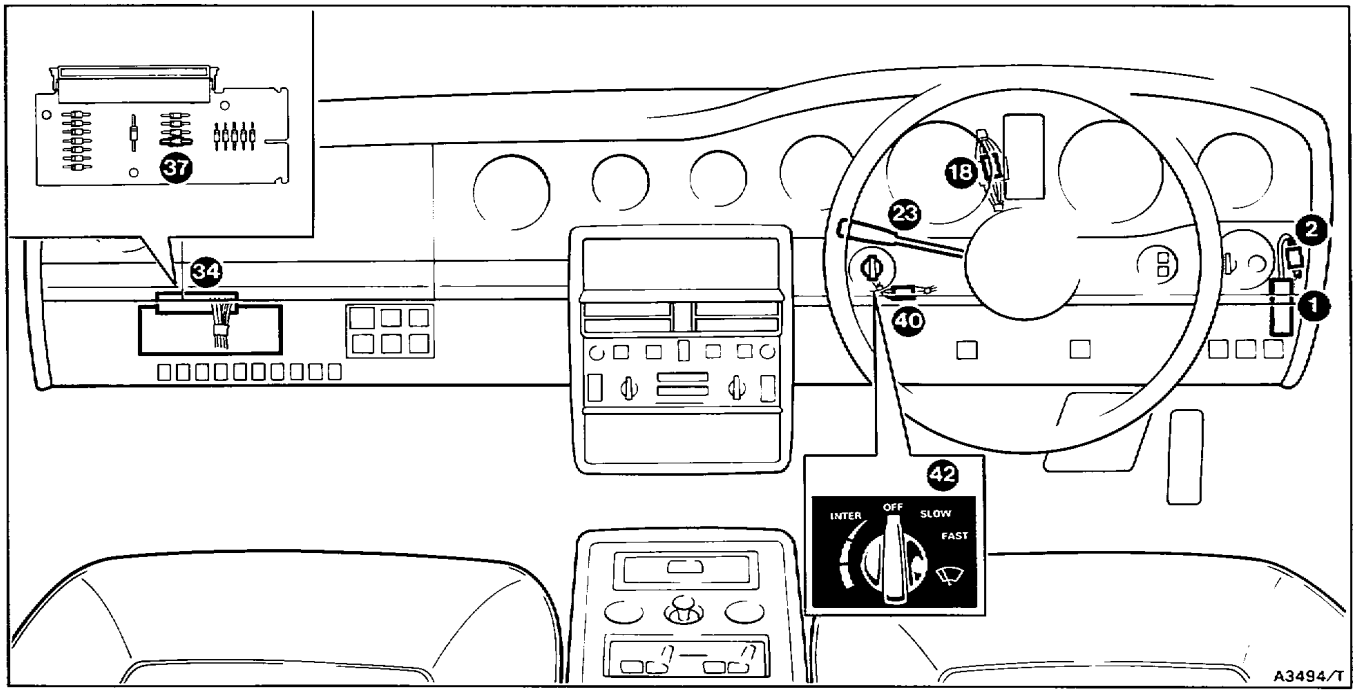
The coil of relay 2 receiving a 12 volts positive supply from the wipers switch (see item 42b), finds an earth path via the run position of the 'Off screen' park switch, thereby energizing relay 2. This provides a 12 volts positive supply through the normally open contacts of relay 2 to the wiper motor. At this point the motor reverses direction, causing the 'Off screen' park switch to be set to the park position. With the switch in this position the earth path to the coil of relay 2 is disconnected, causing the motor to stop immediately (the windscreen wiper blades being in the 'Off screen' park position).

Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

. 42a Wafer switch 2
. 42b Wafer switch 3
. 42c Wafer switch 1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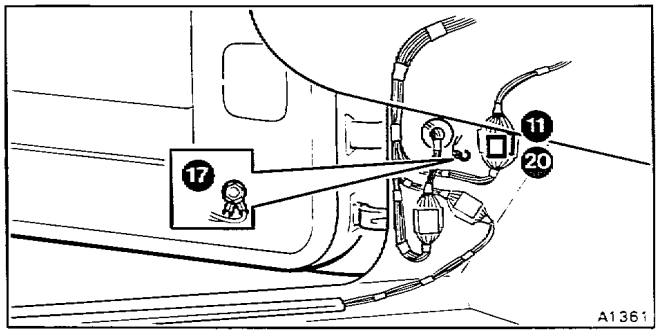
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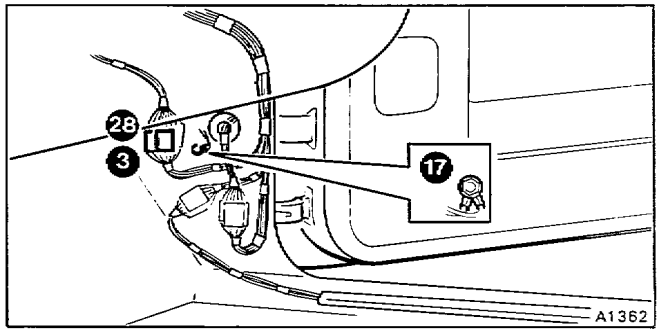
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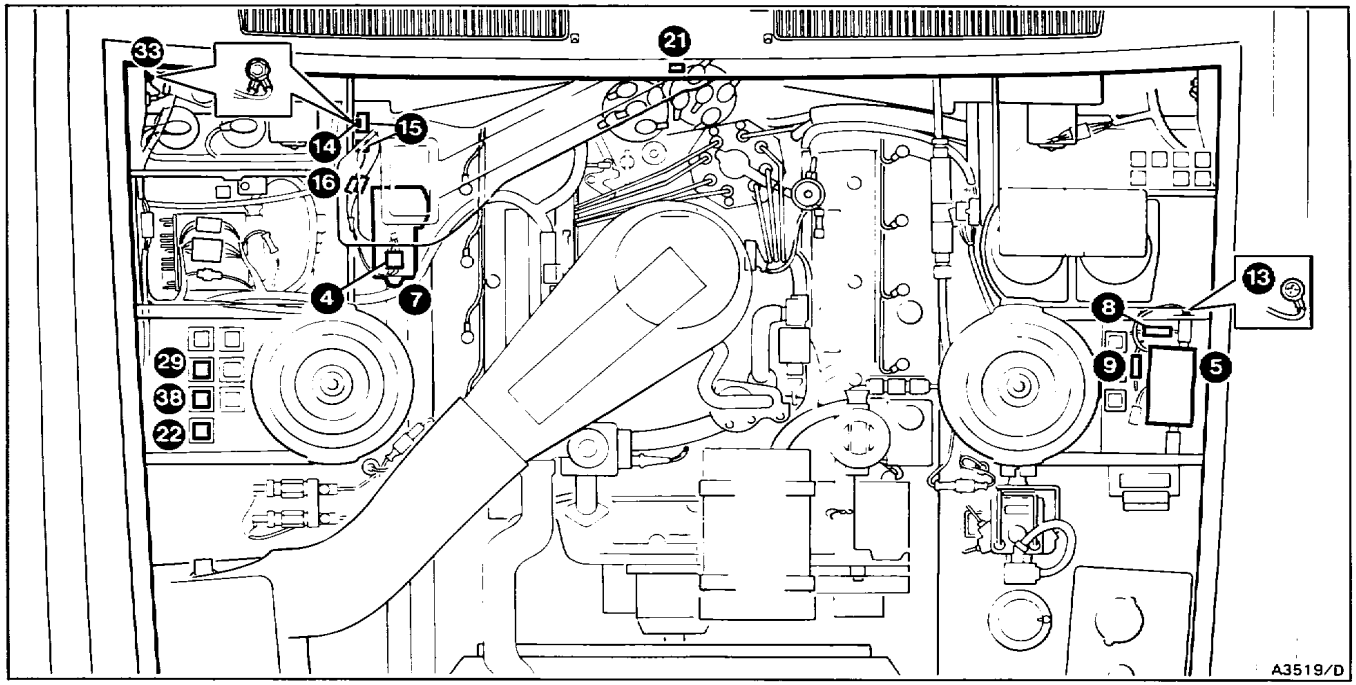
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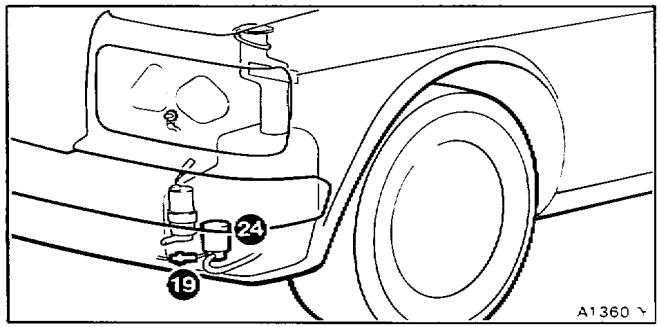
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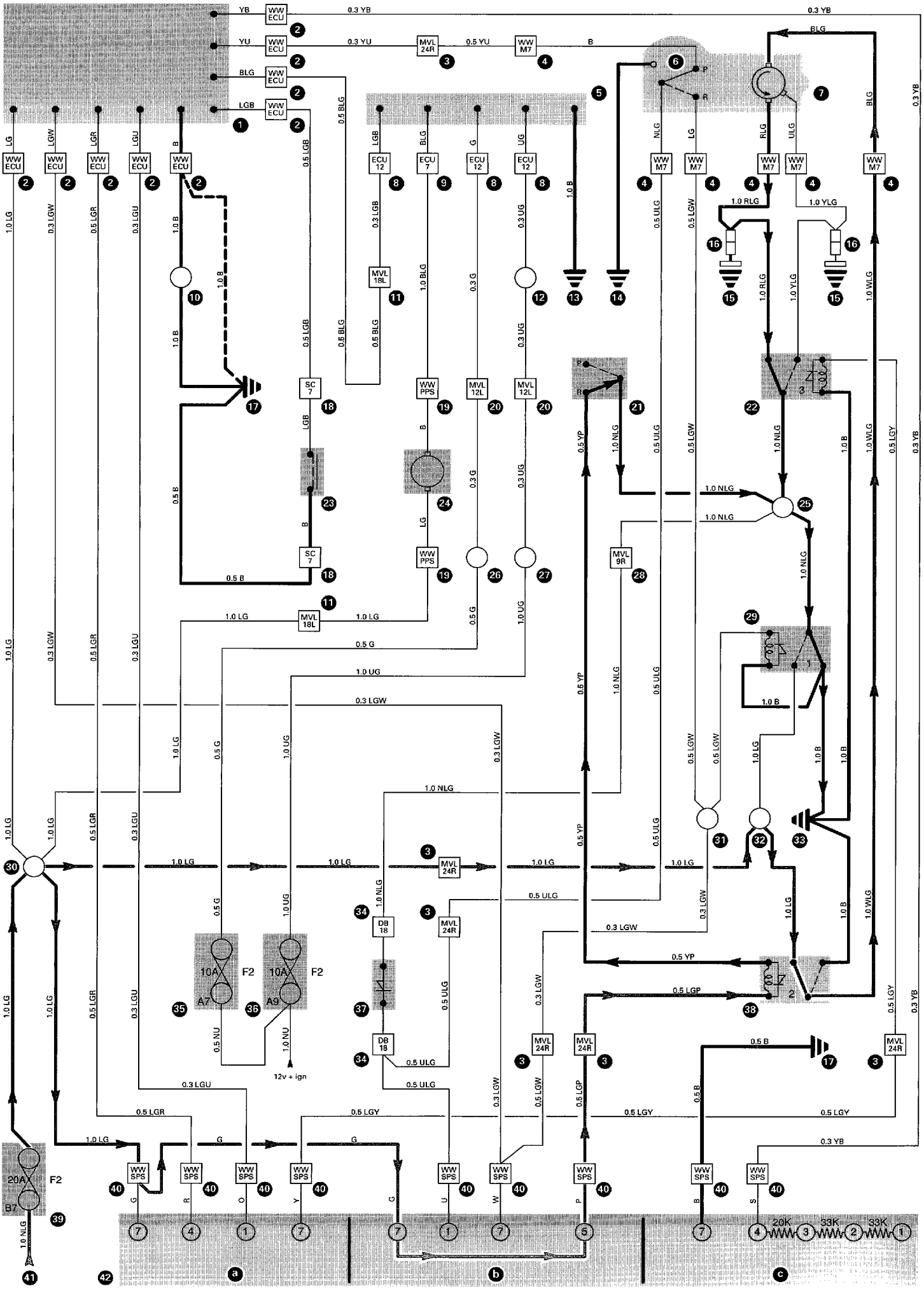
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YU
BLG
LGB
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0.3 YB
0.3 YU
MVL 24R
0.5 YU
WW M7
B
0.5 BLG
0.5 LGB
ECU 12
ECU 7
MVL 18L
0.3 LGB
0.3 UG
1.0 B
NLG
LG
RLG
ULG
1.0 RLG
1.0 YLG
1.0 WLG
SC 7
WW PPS
MVL 12L
0.5 YP
1.0 NLG
0.5 ULG
0.5 LGW
1.0 LG
0.5 LGR
0.3 LGU
0.3 LGW
1.0 UG
0.5 G
0.5 B
1.0 B
0.5 LGY
MVL 9R
DB 18
10A F2
A7
A9
0.5 NU
1.0 NU
12v + ign
0.5 LGP
20A F2
B7
1.0 NLG
WW SPS
20K
33K
33K
a
b
c

Slow speed - Operated from the windscreen wipers control switch

Circuit description

With the windscreen wipers control switch set to the SLOW position, a 12 volts positive supply from fuse B7 at fuseboard F2 is directed through the wipers switch (see item 42b) to energize relay 1. This allows a 12 volts positive supply to pass through the normally open contacts of relay 1, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor. The earth path for the wiper motor is via the normally closed contacts of relay 2 to the valance earth point.

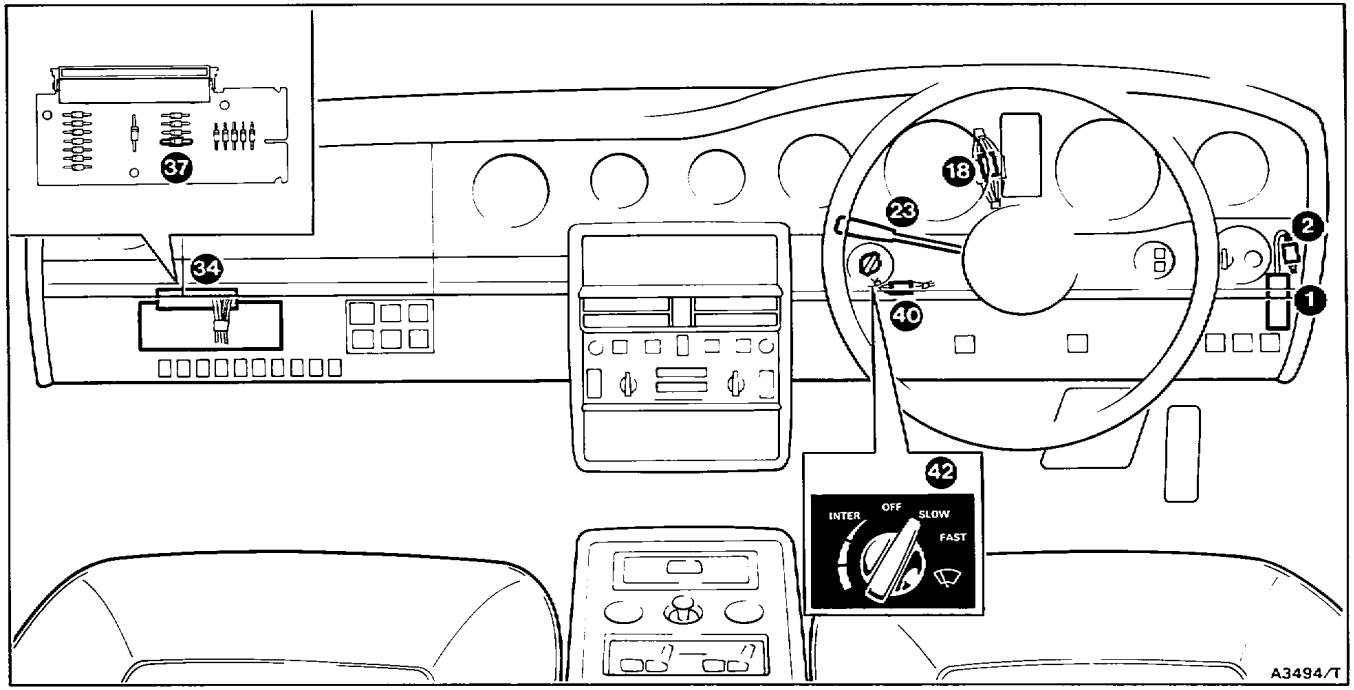
Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

Note:
The windscreen wipers control switch is a mechanically linked, 3-level wafer switch

- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1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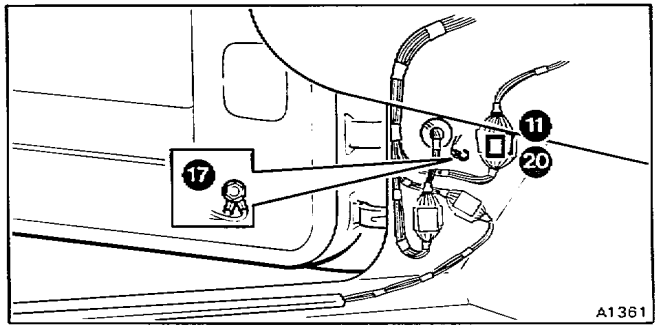
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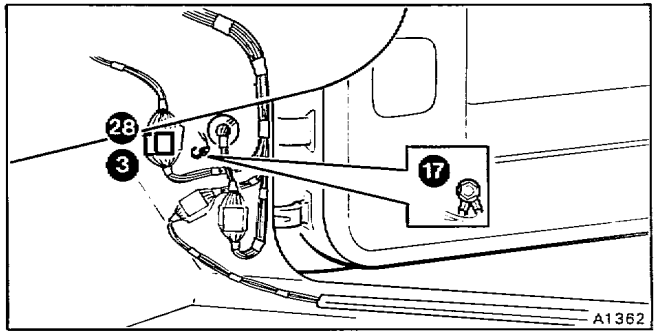
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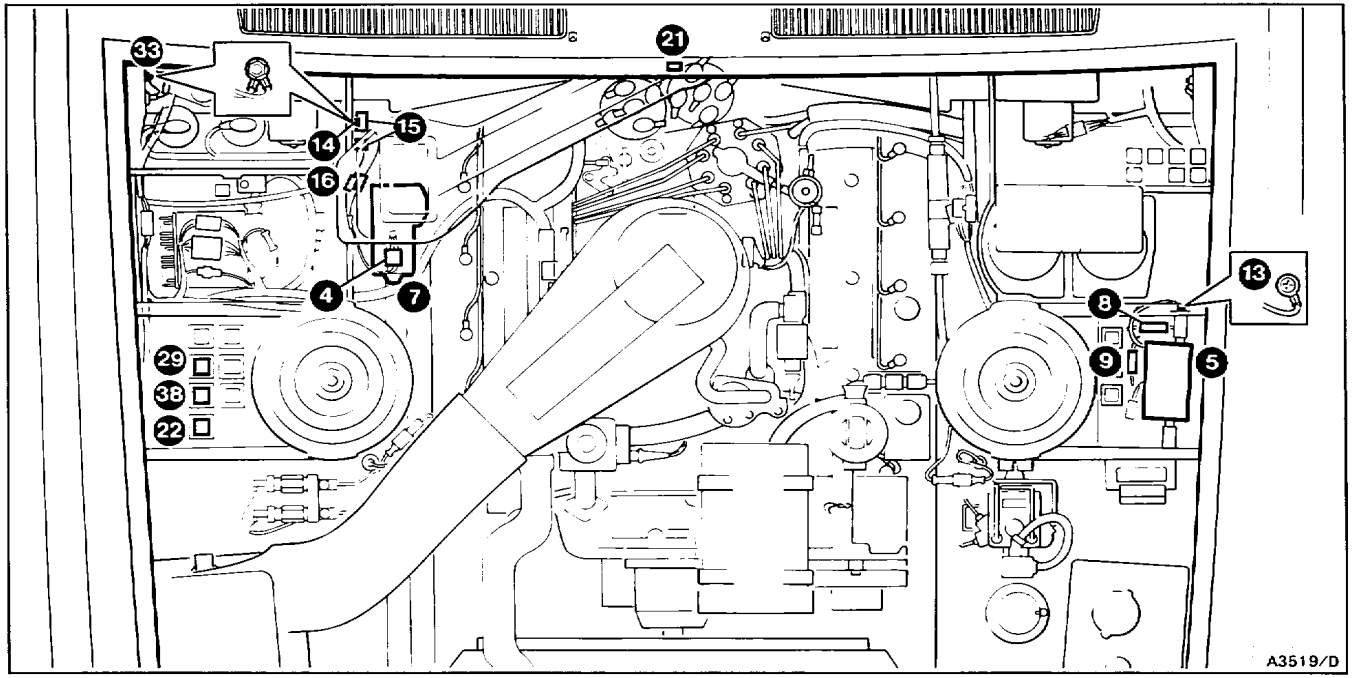
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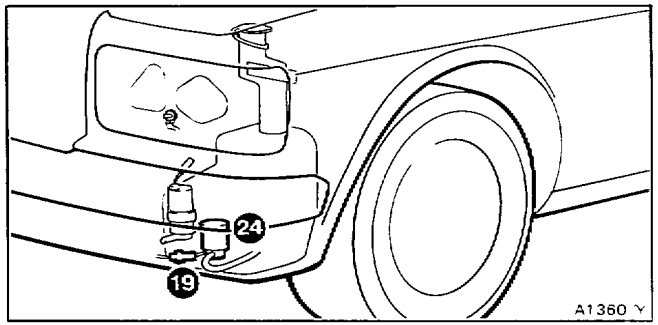
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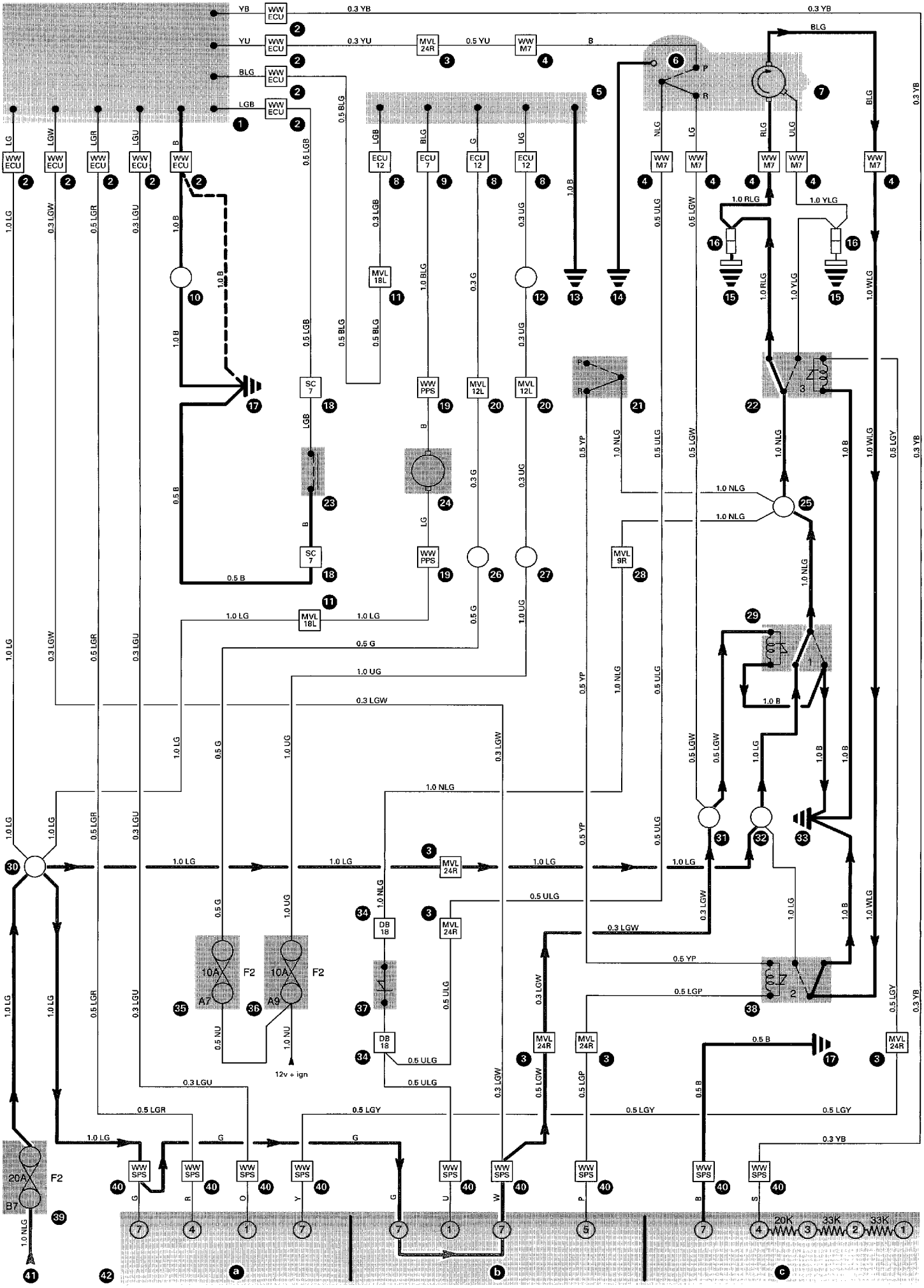
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WW M7
ECU 12
ECU 7
MVL 18L
SC 7
WW PPS
MVL 12L
MVL 9R
DB 18
WW SPS
10A F2
20A F2
12v + ign
20K
33K
33K

Slow speed - Operated from the windscreen wash/wipe switch

Circuit description

With the windscreen wipers control switch set to the OFF position, slow speed operation of the windscreen wipers can be obtained by depressing the wash/wipe switch very briefly (for a period of less than one second). The windscreen wipers system will continue to operate until the wash/wipe switch is again very briefly depressed (for less than one second).

Depressing the wash/wipe switch to obtain slow speed operation of the windscreen wipers provides an earth path for the light green/black cable at the windscreen wipers electronic control unit. In response to this signal, the windscreen wipers electronic control unit provides a 12 volts positive supply on the light green/white cable to energize relay 1. With this relay energized, a 12 volts positive supply is directed through the normally open contacts of the relay, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor. The earth path for the wiper motor is directed through the normally closed contacts of relay 2 to the valance earth point.

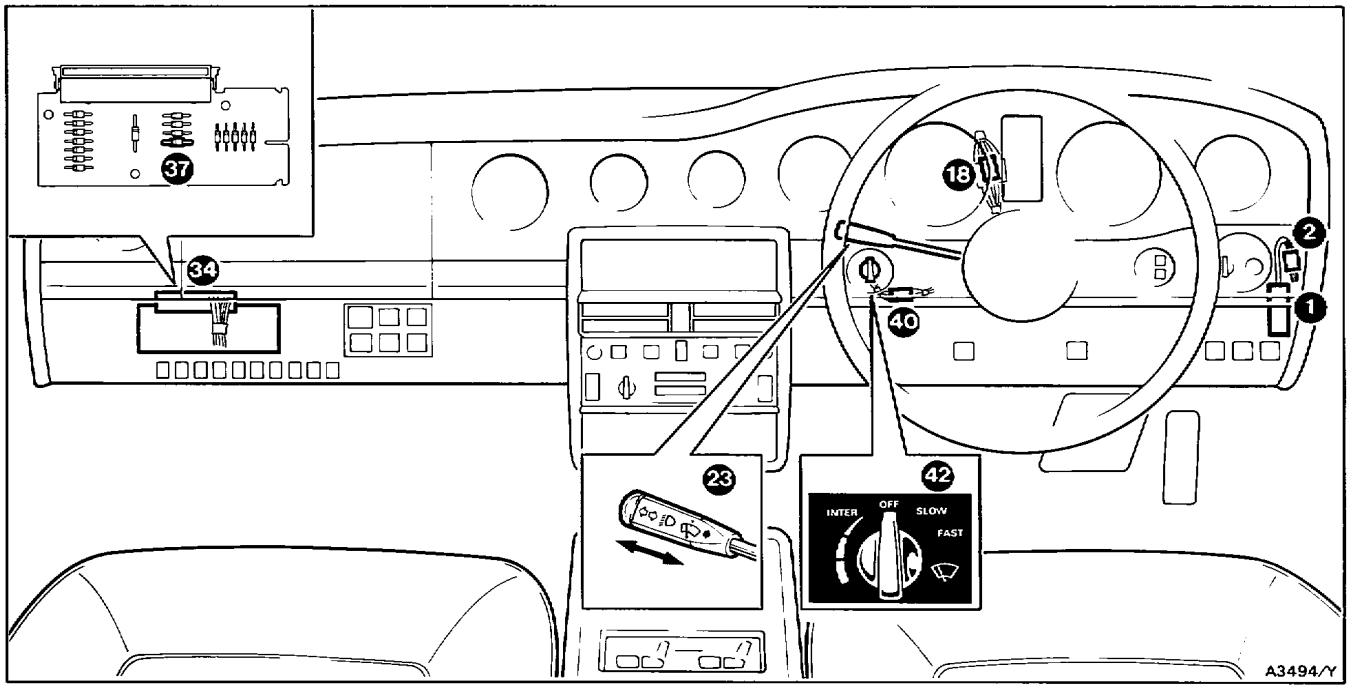
When the switch is briefly depressed a second time, the windscreen wipers electronic control unit removes the 12 volts positive supply from the light green/white cable causing the system to revert to the OFF position.

Component location

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

. 42a Wafer switch 2
. 42b Wafer switch 3
. 42c Wafer switch 1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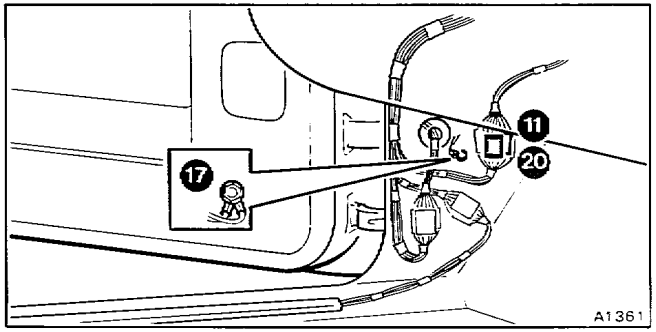
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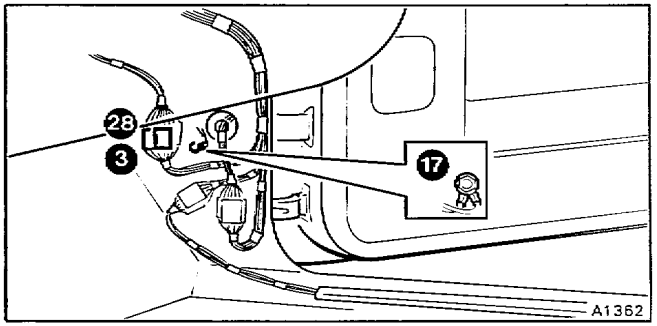
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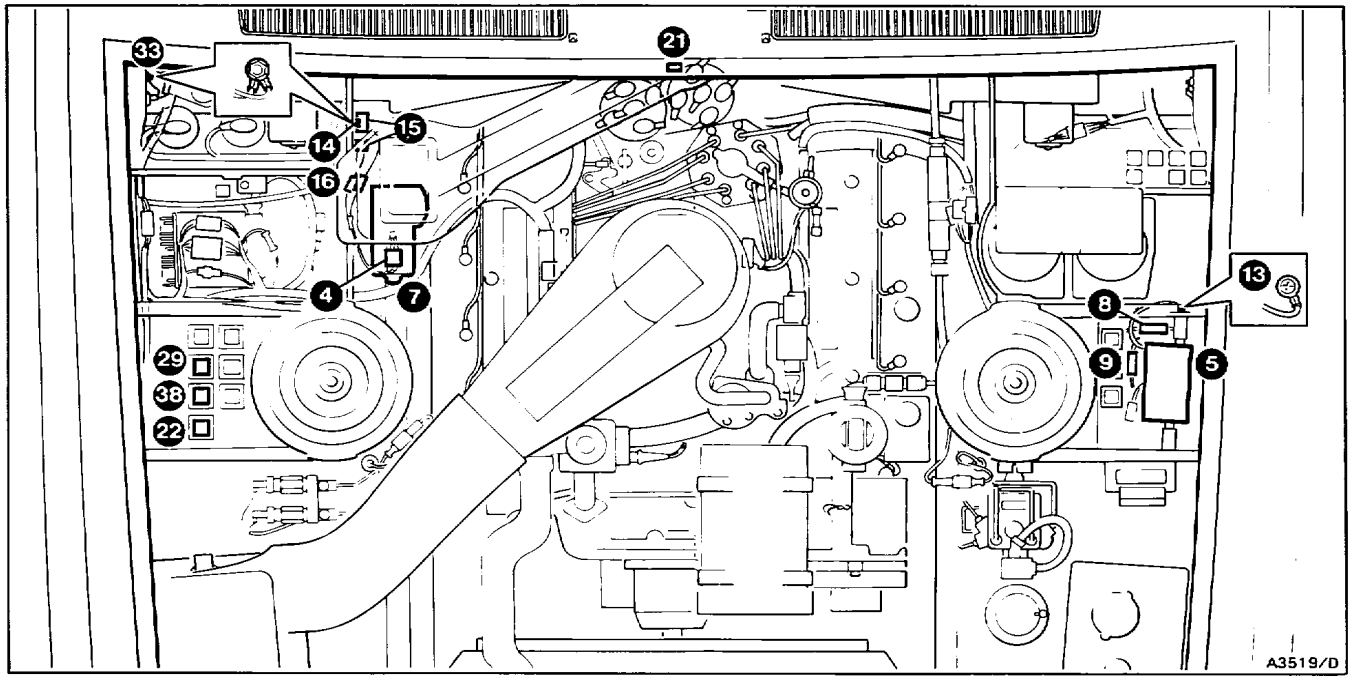
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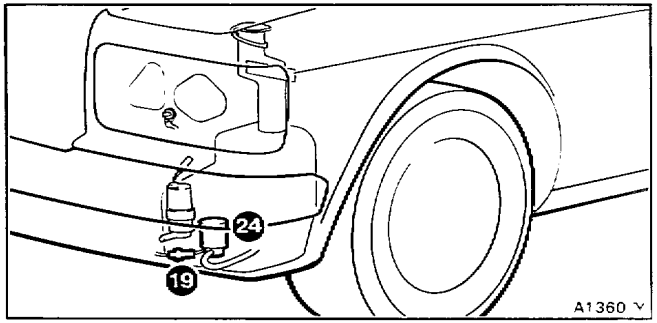
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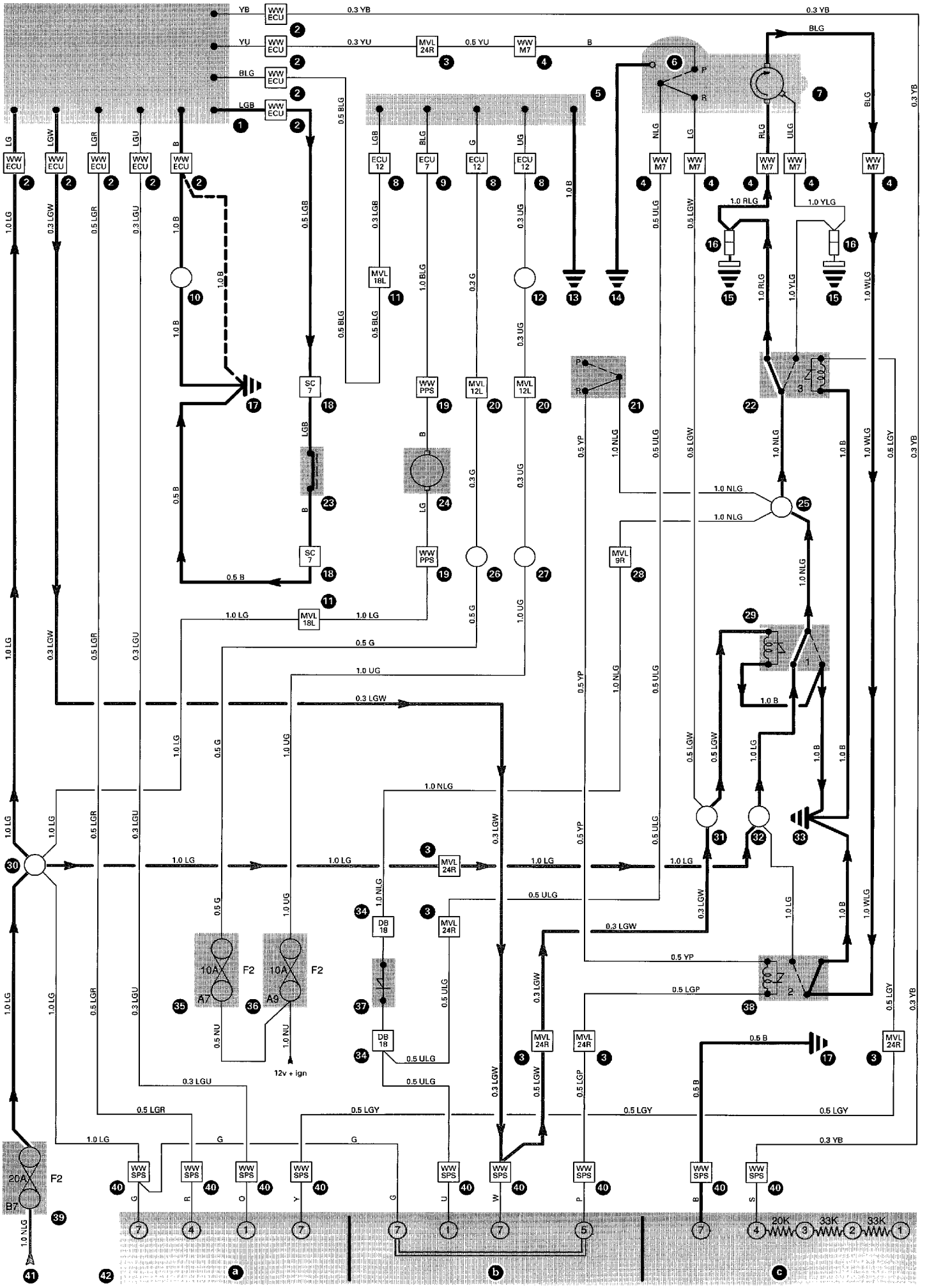
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0.3 YB
0.3 YU
0.5 YU
B
0.5 BLG
LG
LGW
LGR
LGU
NLG
LGY
RLG
ULG
YLG
WLG
1.0 LG
0.3 LGW
0.5 LGR
0.3 LGU
1.0 B
0.5 LGB
0.3 LGB
0.3 G
0.3 UG
1.0 BLG
0.5 ULG
0.5 LGW
1.0 RLG
1.0 YLG
0.5 B
1.0 NLG
0.5 YP
0.5 G
1.0 UG
0.5 NU
1.0 NU
0.5 LGP
0.5 LGY
1.0 WLG
12v + ign
20A F2 B7
10A F2 A7
10A F2 A9
20K
33K
33K
WW ECU
WW M7
WW SPS
MVL 24R
MVL 18L
MVL 12L
MVL 9R
ECU 12
ECU 7
WW PPS
SC 7
DB 18

Fast speed

Circuit description

With the windscreen wipers control switch set to the FAST position, a 12 volts positive supply from fuse B7 at fuseboard F2 is directed through the wipers switch (see item 42b) to energize relay 1 and close the normally open contacts. The 12 volts positive supply from fuse B7 at fuseboard F2 is also directed through the wipers switch (see item 42a) to energize relay 3. With relays 1 and 3 energized, a 12 volts positive supply is passed through the normally open contacts of the relays to the fast speed brush of the wiper motor. The earth path for the wiper motor is via the normally closed contacts of relay 2 to the valance earth point.

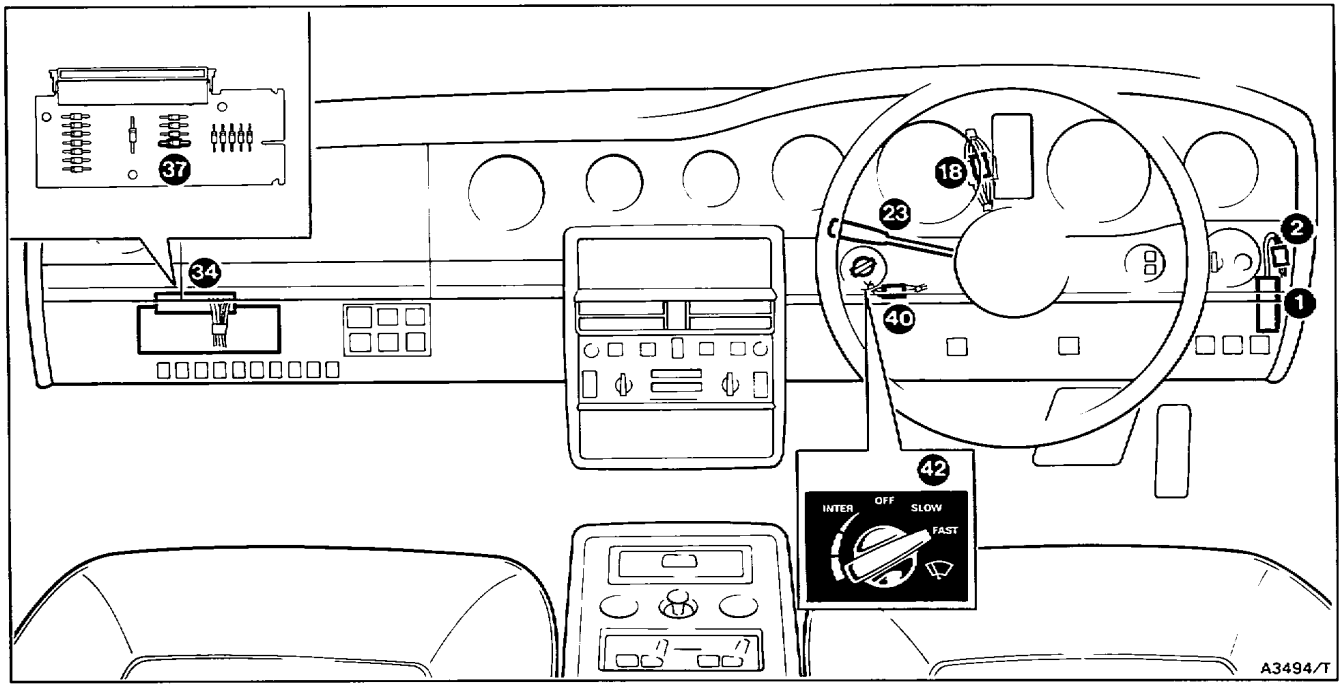
Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

Note:
The windscreen wipers control switch is a mechanically linked, 3-level wafer switch

- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1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1
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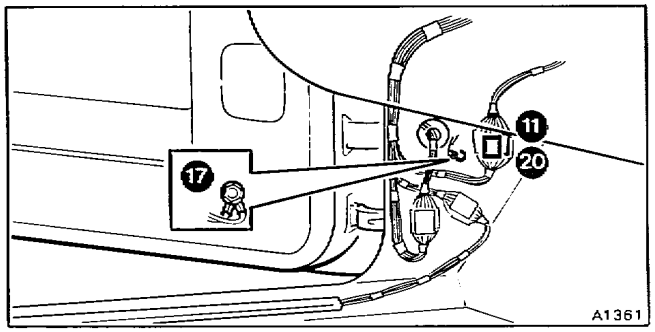
INTER
OFF
SLOW
FAST
A3494/T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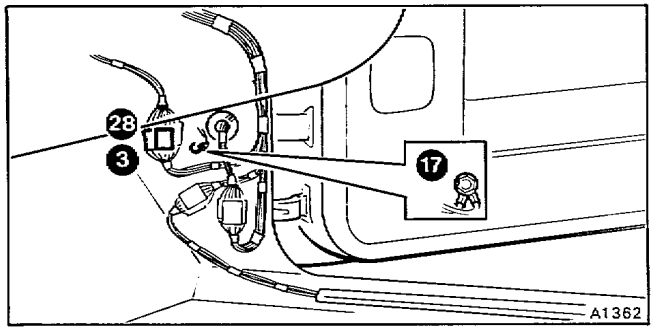
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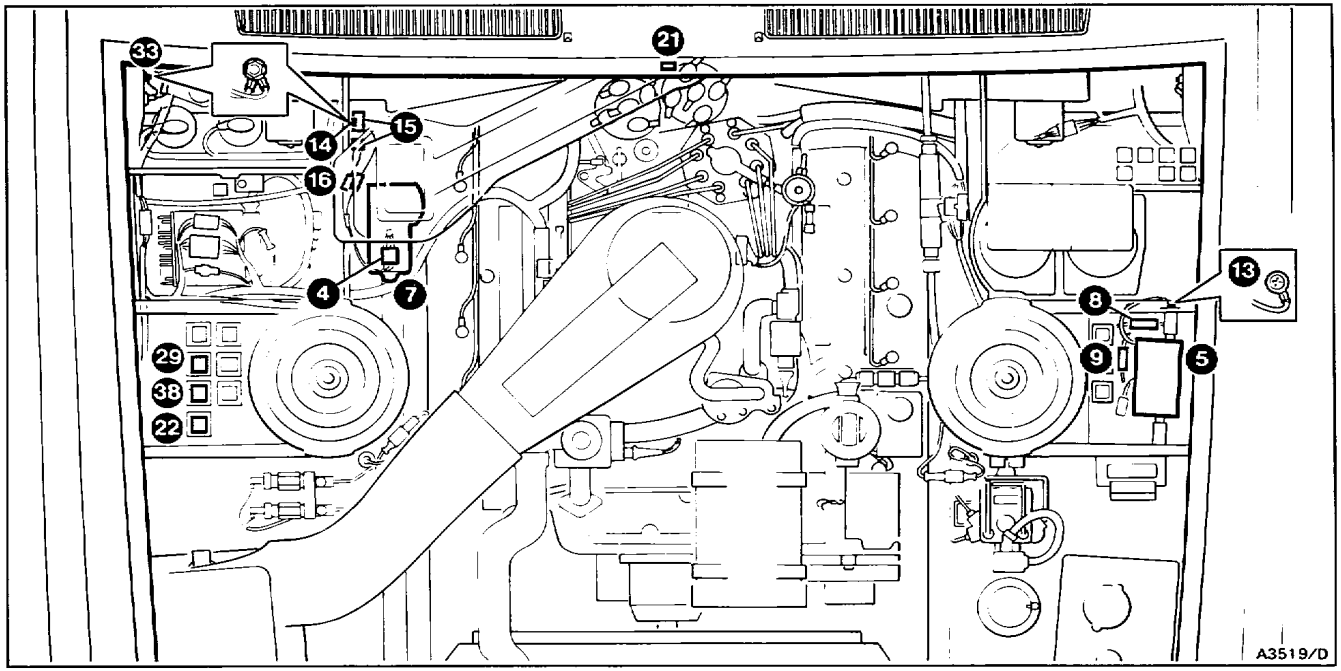
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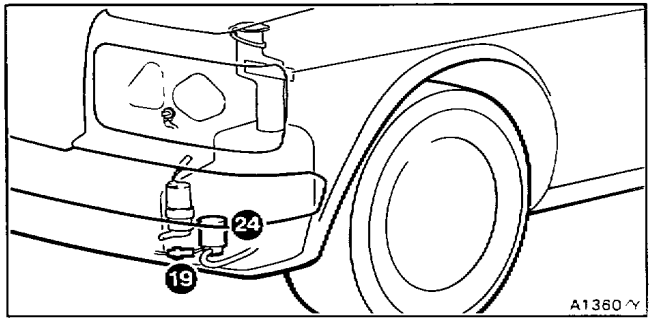
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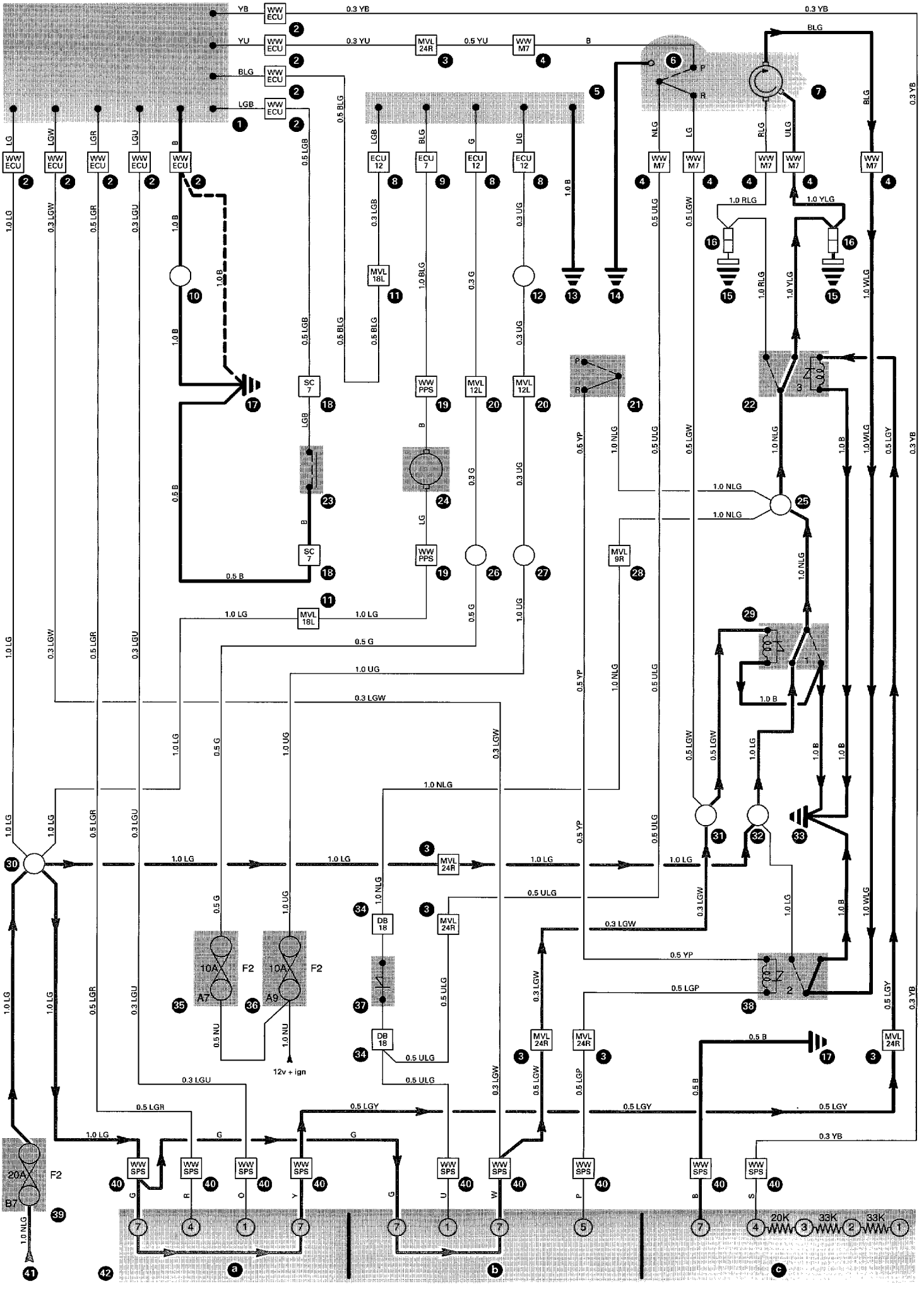
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YU
BLG
LGB
0.3 YB
0.3 YU
0.5 YU
B
0.5 BLG
0.5 LGB
LG
LGW
LGR
LGU
1.0 LG
0.3 LGW
0.5 LGR
0.3 LGU
1.0 B
0.5 B
0.3 LGB
0.3 UG
0.3 G
1.0 BLG
0.6 BLG
1.0 B
NLG
LG
RLG
ULG
0.5 ULG
0.5 LGW
1.0 RLG
1.0 YLG
1.0 NLG
0.5 YP
0.5 LGP
0.5 LGY
1.0 WLG
0.3 YB
1.0 UG
0.5 G
0.5 NU
1.0 NU
12v + ign
0.3 LGU
0.5 LGR
0.5 LGY
1.0 LG
G
0.5 B
0.3 YB
20K
33K
33K
WW ECU
ECU 12
ECU 7
WW M7
MVL 24R
MVL 18L
MVL 12L
MVL 9R
WW PPS
SC 7
DB 18
WW SPS
10A F2 A7
10A F2 A9
20A F2 B7
a
b
c

Intermittent operation

Circuit description

There are four selected switch positions for intermittent operation of the windscreen wipers. Intermittent operation of the wipers gives one complete wipe at pre-set intervals of approximately 4, 7, 14, or 21 seconds. The time intervals increase as the switch is rotated anti-clockwise.

Whenever the windscreen wipers switch is set to an INTER (intermittent) position, the red and orange cables are interconnected at the wipers switch (see item 42a). Also, when the wipers switch is in an intermittent position, a 12 volts positive supply from fuse B7 at fuseboard F2 is directed through the wipers switch (see item 42b) to the 'On screen' park switch.

In addition, dependent upon the intermittent position selected, the slate and black cables are interconnected via a series of resistors as shown in the adjacent illustration.

Whenever the red and orange cables are interconnected, the windscreen wipers electronic control unit provides a 12 volts positive supply on the light green/white cable to energize relay 1. With this relay energized, a 12 volts positive supply is directed through the normally open contacts of the relay, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor.

The earth path for the wiper motor is directed through the normally closed contacts of relay 2 to the valance earth point. The motor then rotates.

After one wipe cycle, the motor sets the 'On screen' park switch (within the motor assembly) to the park position. A 12 volts positive supply is then fed via the park switch to the windscreen wipers electronic control unit. In response to this input, the electronic control unit switches off the 12 volts positive supply to the coil of relay 1 causing the motor to stop immediately (the windscreen wiper blades being in the 'On screen' park position).

After the appropriate time delay, the windscreen wipers electronic control unit again provides a 12 volts positive supply on the light green/white cable causing the cycle to be repeated.

Component locations

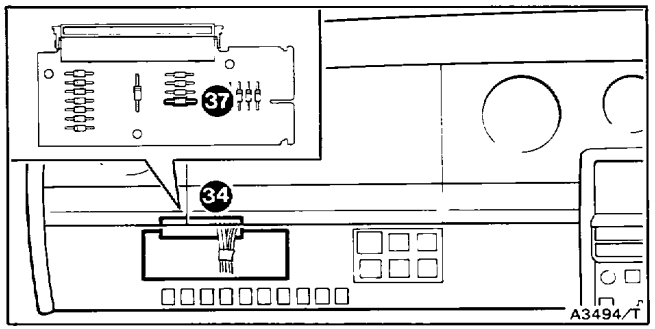
Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2

- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

Note:
The windscreen wipers control switch is a mechanically linked, 3-level wafer switch

- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1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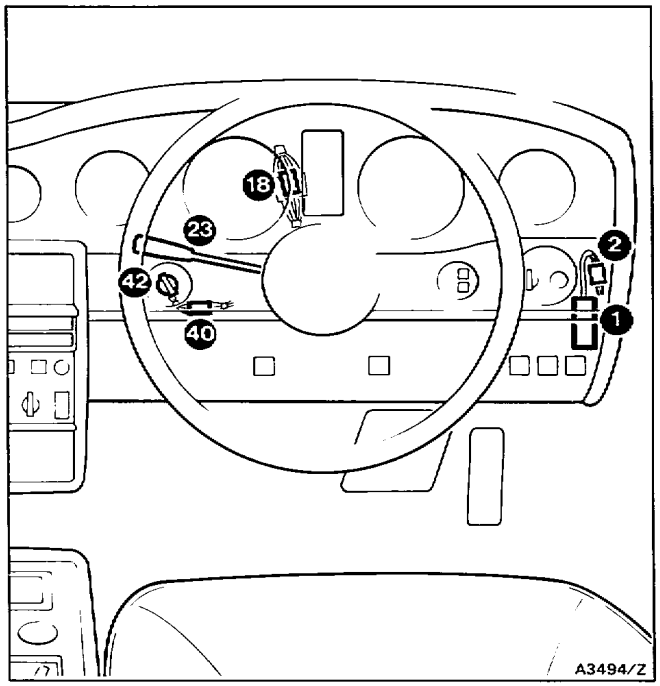
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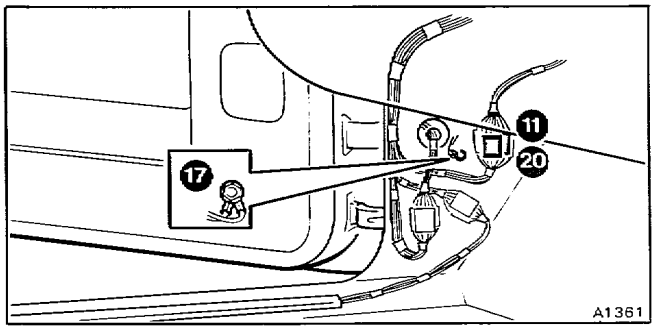
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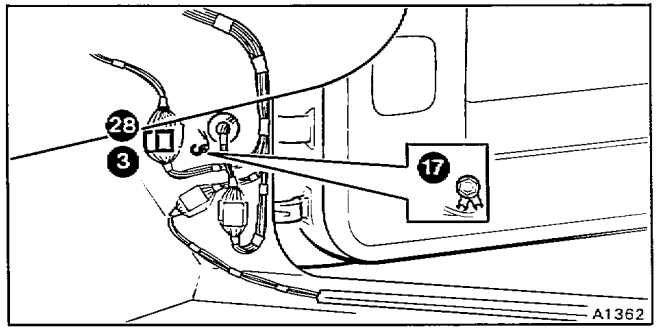
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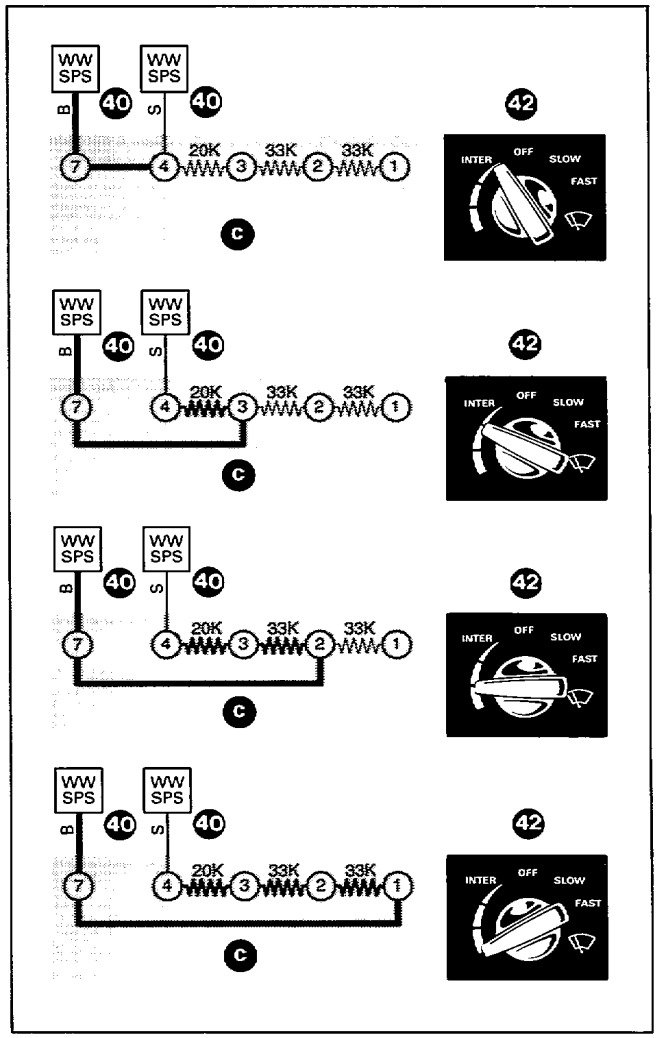
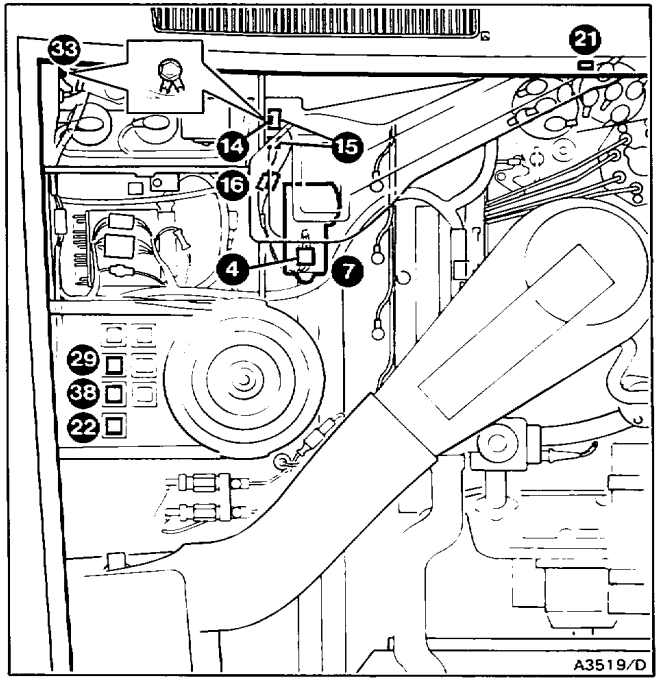

WW SPS
B
S
40
7
4
20K
3
33K
2
33K
1
C
42
INTER
OFF
SLOW
FAST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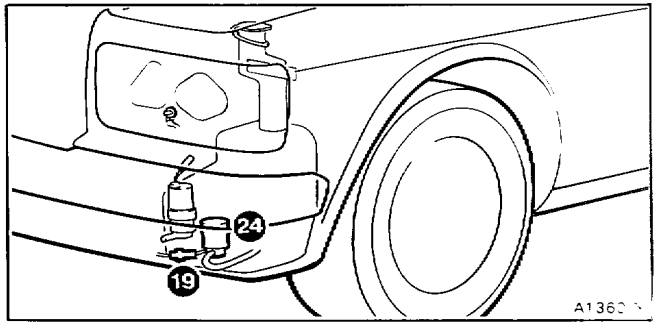
A3519/D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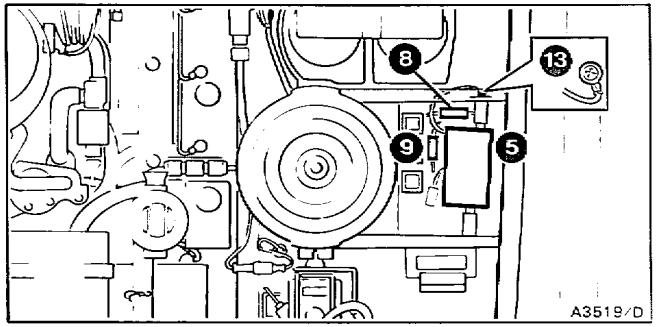
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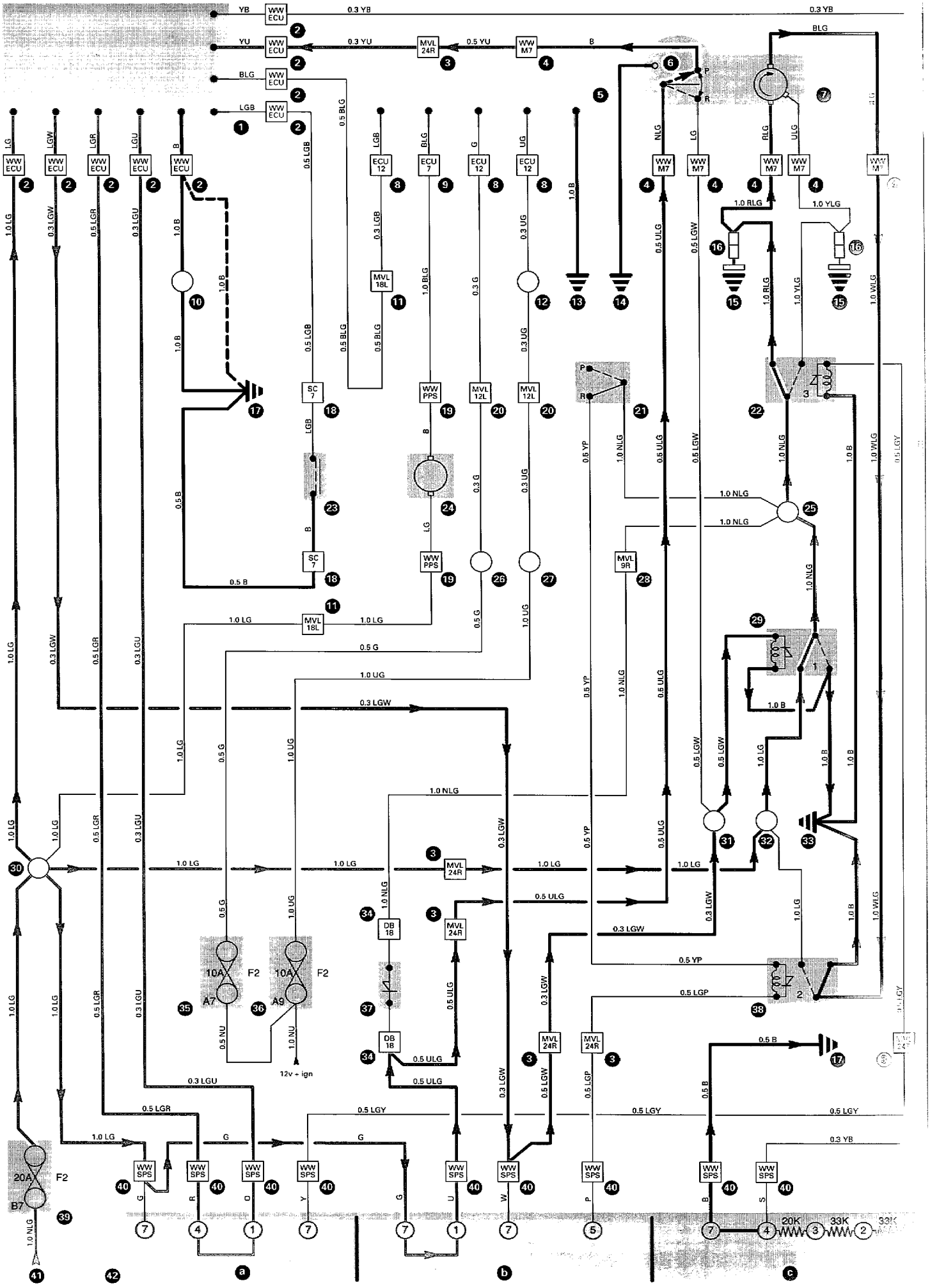
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WW M7
ECU 12
ECU 7
MVL 18L
SC 7
WW PPS
MVL 12L
MVL 9R
DB 18
WW SPS
10A F2
20A F2
12v + ign
20K
33K

Wash/wipe operation

Circuit description

With the ignition switch in the RUN position, the windscreen washers pump receives a 12 volt positive supply from fuse B7 at fuseboard F2. Depressing the wash/wipe switch provides an earth path for the light green/black cable at the windscreen wipers electronic control unit. When the switch is depressed for a period of more than one second, the windscreen wipers electronic control unit applies an earth to the light green/black cable at the headlamps electronic control unit. In response to this signal, the headlamps electronic control unit provides an earth path for the windscreen washers pump. The pump now operates. If the switch is held depressed for a further one second, the windscreen wipers electronic control unit provides a 12 volts positive supply on the light green/white cable to energize relay 1. This allows a 12 volts positive supply to pass through the normally open contacts of relay 1, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor. The earth path for the wiper motor is directed through the normally closed contacts of relay 2 to the valance earth point.

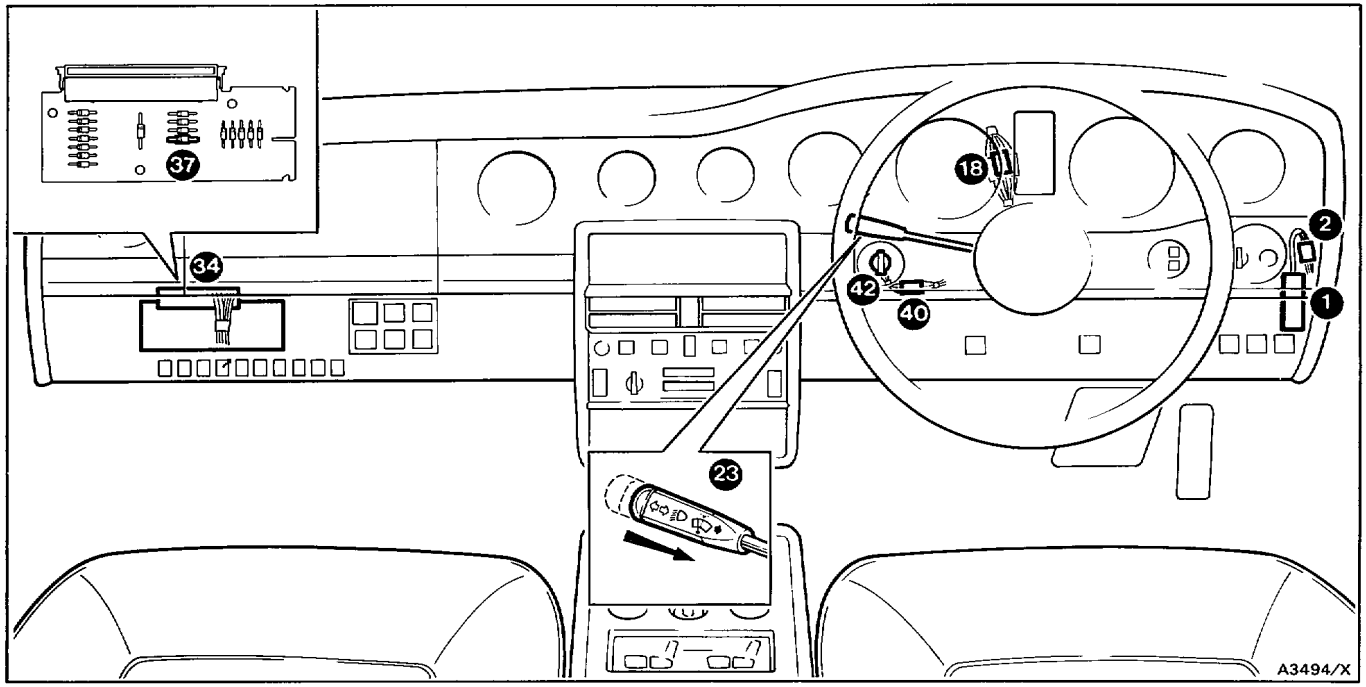
On releasing the wash/wipe switch the windscreen washers pump stops immediately, but the windscreen wipers electronic control unit maintains the 12 volts positive supply on the light green/white cable for a further five seconds, causing the wiper motor to complete approximately five cycles. The wipe cycle ends with the wiper blades in the parked position, details of which are shown in the diagrams for the OFF position.

Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

. 42a Wafer switch 2
. 42b Wafer switch 3
. 42c Wafer switch 1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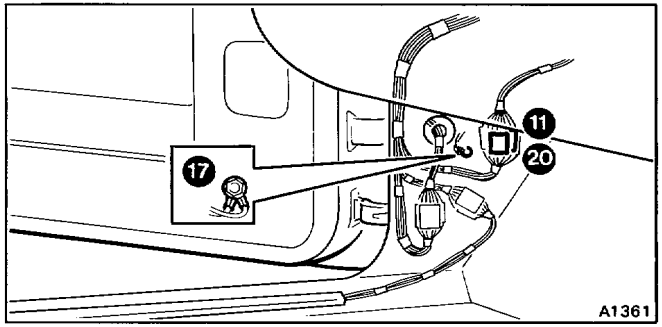
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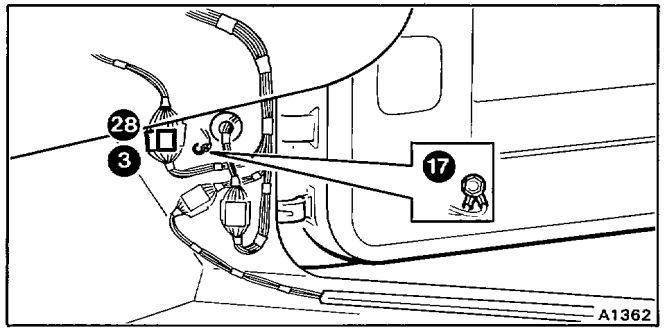
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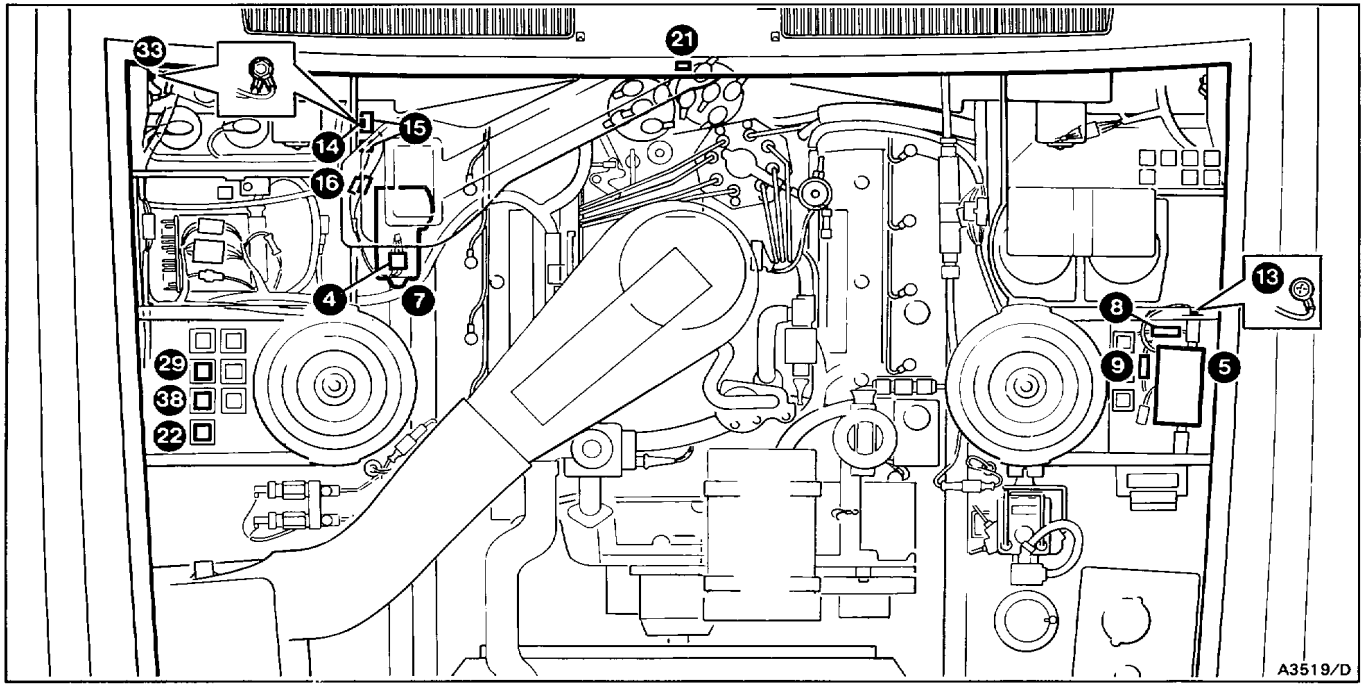
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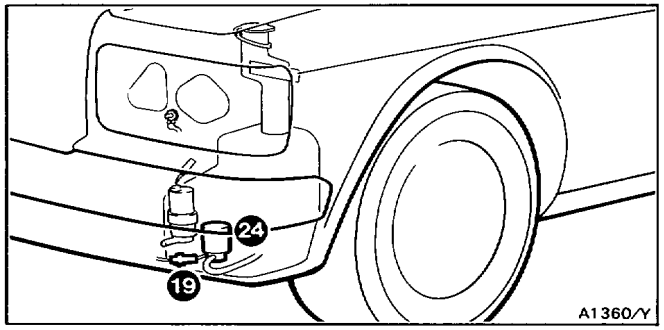
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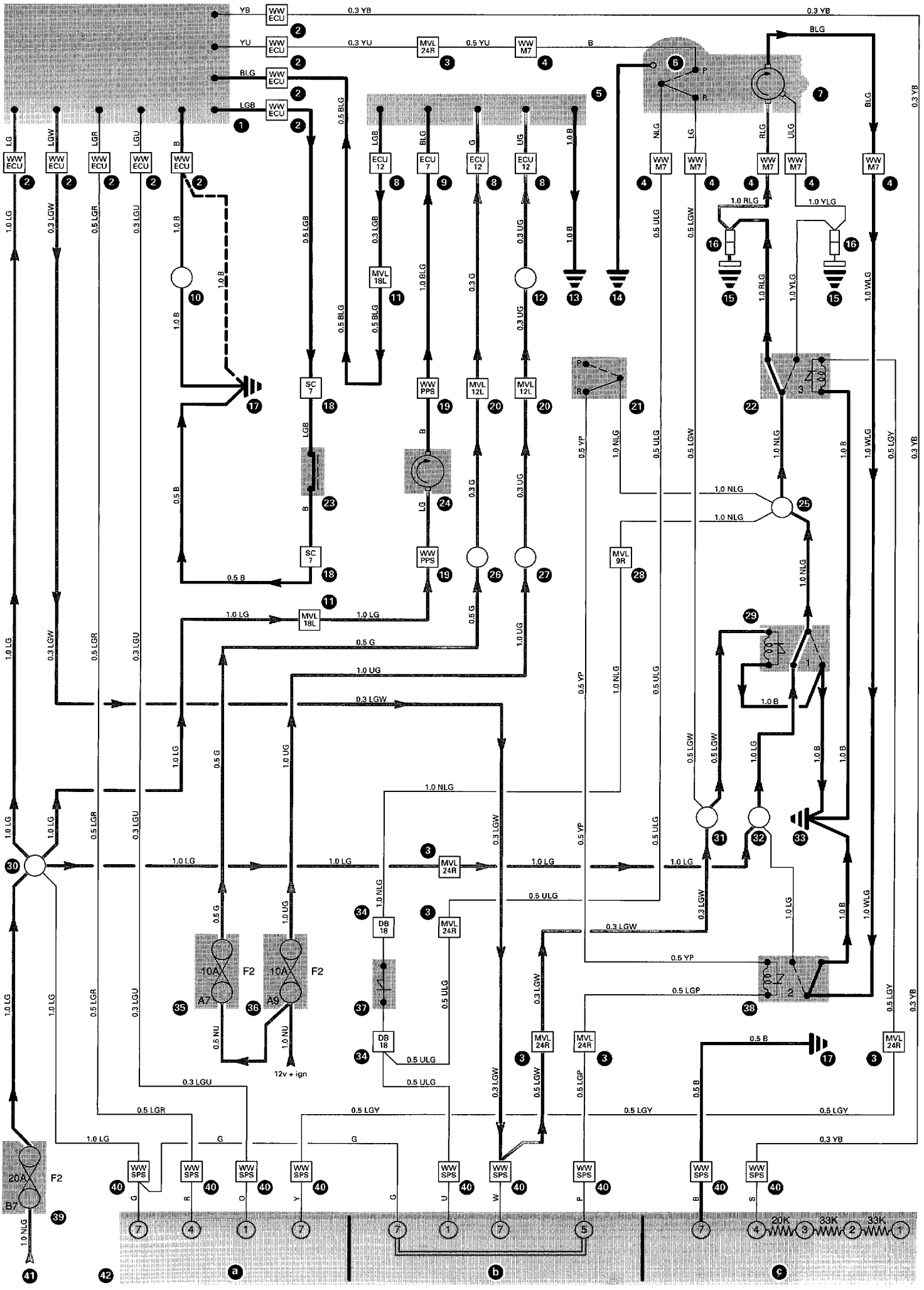
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WW M7
WW PPS
WW SPS
ECU 12
ECU 7
MVL 24R
MVL 18L
MVL 12L
MVL 9R
SC 7
DB 18
10A F2
20A F2
12v + ign
20K
33K
33K