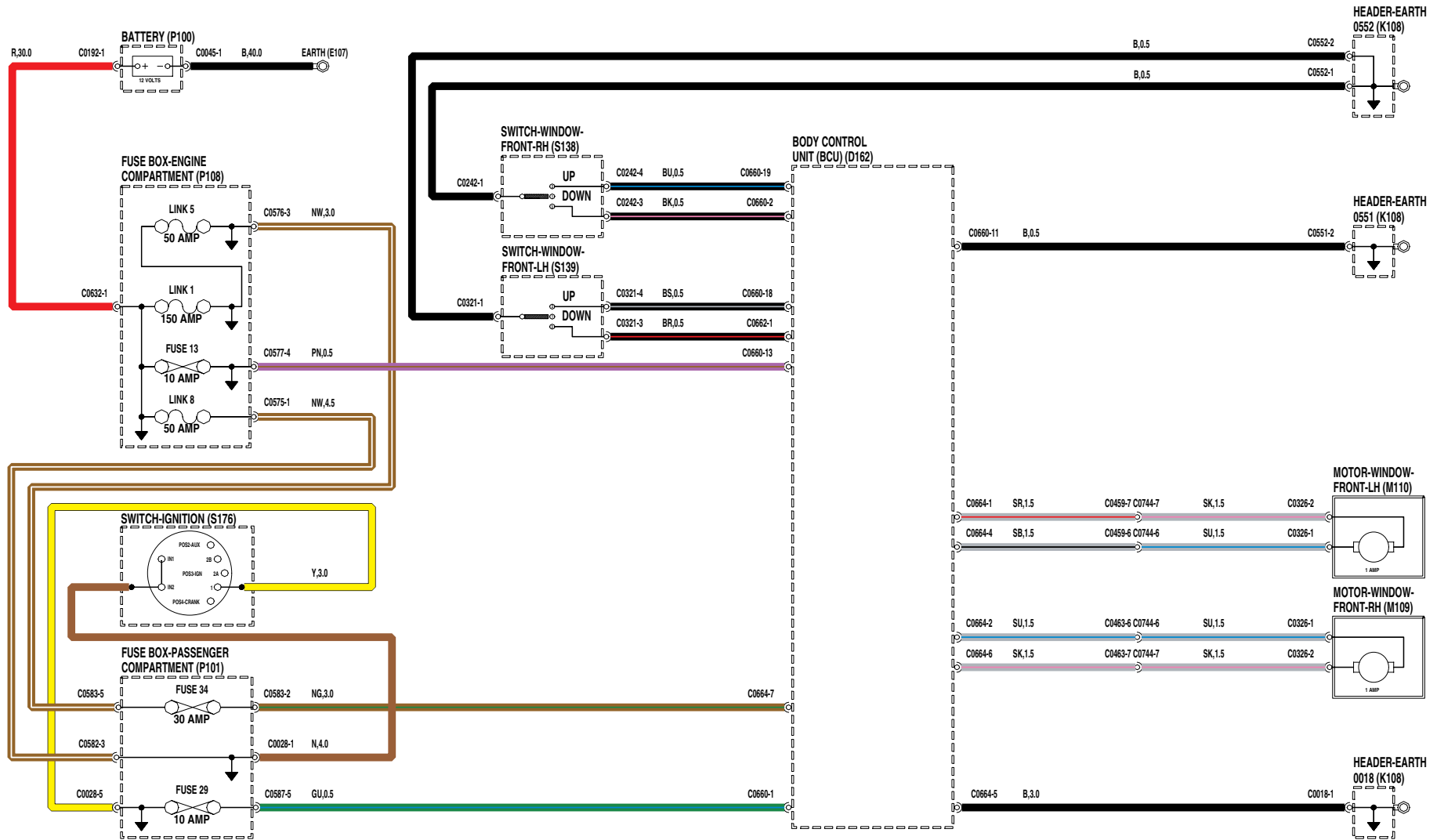


WINDOWS FRONT



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WINDOWS - FRONT

DESCRIPTION

Windows - Front Description

The front windows are electrically operated from two rocker switches located in the centre console. The front windows are controlled by the Body Control Unit (BCU) which limits the operation of the windows to when the ignition is in position II and for a period of 44 seconds after the ignition is switched off or after the driver's door is opened. The front window operation is suspended when the ignition switch is in the crank position III.

The front windows are powered by electric motors located in each front door. The window up/down functions are controlled by reversing the polarity to the motors. The BCU logic circuits have a stall detect function that monitors the current drawn by the window motor. When the window contacts the top of the door frame or an obstruction the current drawn by the electric motor rises. If the BCU detects a sudden current rise the internal logic will remove the power supply to the front window motor.

The front windows have a one shot down function which operates if the switch is pressed for less than 0.4 seconds. Operation of the switch for more than 0.4 seconds operates the windows in inch down mode. The windows stop when the switch is released.

The front windows only operate in the inch up mode for as long as the switch is pressed. The windows stop when the switch is released.

Fault conditions related to the front windows can be retrieved from the BCU via the diagnostic socket using TestBook/T4.

OPERATION

Windows - Front Supply

Circuit supply

A feed from the battery positive terminal is connected on an R wire to the engine compartment fusebox where it passes through fusible links 1, 5 and 8 and fuse 13. Fusible links 1 and 5 are connected in series.

A feed from fusible links 1 and 5 is connected from the fusebox on an NW wire to the passenger compartment fusebox, where it passes through fuse 34. From fuse 34, the feed is connected to pin C0664-7 of the BCU on an NG wire. This feed provides the power for the window lift motors.

A feed from fuse 13 is connected from the fusebox on a PN wire to pin C0660-13 of the BCU. This feed is the permanent battery supply to the BCU.

A feed from fusible link 8 is connected on an NW wire to the passenger compartment fusebox and from the fusebox to the ignition switch on an N wire.

DESCRIPTION AND OPERATION

Ignition switch supply

With the ignition switch in position II, the feed from fusible link 8 passes through the ignition switch to fuse 29 in the passenger compartment fusebox on a Y wire. From fuse 29 the feed is connected to pin C0660-1 of the BCU on a GU wire.

Windows - Front Operation

BCU earth connection

The BCU is earthed from pin C0660-11 on a B wire to earth header C0551.

Front left window up

The left window switch up contact is connected to pin C0660-18 on the BCU by a BS wire. When the switch is set to the up position an internal supply from the BCU flows along the BS wire through the contacts of the switch and to earth via earth header C0552 on a B wire.

The BCU internal logic monitors the current flow from pin C0660-18 and uses this input as an up signal. The BCU routes power from the permanent feed from pin C0664-7 to pin C0664-4. From pin C0664-4, the power flows to connector interface C0463-6/C0744-6 on an SB wire, and from the connector interface to the LH front window motor on a SU wire. The motor is energised and drives the window mechanism towards the up position.

The front left window motor is earthed via an SK wire to connector interface C0744-7/C0463-7, and an SR wire from the connector interface to pin C0664-1 on the BCU. The BCU completes the earth via pin C0664-5 on a B wire to earth header C0018 LHD/C0017 RHD.

Front left window down

The left window switch down contact is connected to pin C0662-1 on the BCU by a BR wire. When the switch is set to the down position an internal supply from the BCU flows along the BR wire through the contacts of the switch and to earth via earth header C0552 on a B wire.

The BCU internal logic monitors the current flow from pin C0662-1 and uses this input as a down signal. The BCU routes power from the permanent feed from pin C0664-7 to pin C0664-1. From pin C0664-1, the power flows to connector interface C0463-7/C0744-7 on an SR wire, and from the connector interface to the LH front window motor on a SK wire. The motor is energised and drives the window mechanism towards the down position.

The front left window motor is earthed via an SU wire to connector interface C0744-6/C0463-6, and an SB wire from the connector interface to pin C0664-4 on the BCU. The BCU completes the earth via pin C0664-5 on a B wire to earth header C0018 LHD/C0017 RHD.

Front right window up

The right window switch up contact is connected to pin C0660-19 on the BCU by a BU wire. When the switch is set to the up position an internal supply from the BCU flows along the BU wire through the contacts of the switch and to earth via earth header C0552 on a B wire.

The BCU internal logic monitors the current flow from pin C0660-19 and uses this input as an up signal. The BCU routes power from the permanent feed from pin C0664-7 to pin C0664-6, from pin C0664-6 on an SK wire to connector C0326-2 on the RH front window motor. The motor is energised and drives the window mechanism towards the up position.

The front right window lift motor is earthed via an SK wire to connector C0664-2 on the BCU. The BCU completes the earth via pin C0664-5 on a B wire to earth header C0018 LHD/ C0017 RHD.

Front right window down

The right window switch down contact is connected to pin C0660-2 on the BCU by a BK wire. When the switch is set to the down position an internal supply from the BCU flows along the BK wire through the contacts of the switch and to earth via earth header C0552 on a B wire.

The BCU internal logic monitors the current flow from pin C0660-2 and uses this input as a down signal. The BCU routes power from the permanent feed from pin C0664-7 to pin C0664-2. From pin C0664-2, the power flows to the RH front window motor on an SU wire. The motor is energised and drives the window mechanism towards the down position.

The front right window motor is earthed via an SK wire to connector C0664-6 on the BCU. The BCU completes the earth via pin C0664-5 on a B wire to earth header C0018 LHD/ C0017 RHD.

Ignition key modes

Depending on the vehicle specification:

The BCU controls operation of the front windows and will allow operation for a period of 44 seconds after the ignition switch is moved to the off position.

On some models if the time is less than 44 seconds and the drivers door (or any door on some models) is opened the BCU will disable the function of the windows.

On some models the BCU disables the windows as soon as the ignition is turned off.

On all models the windows will not operate while the ignition key is turned to the cranking position III.