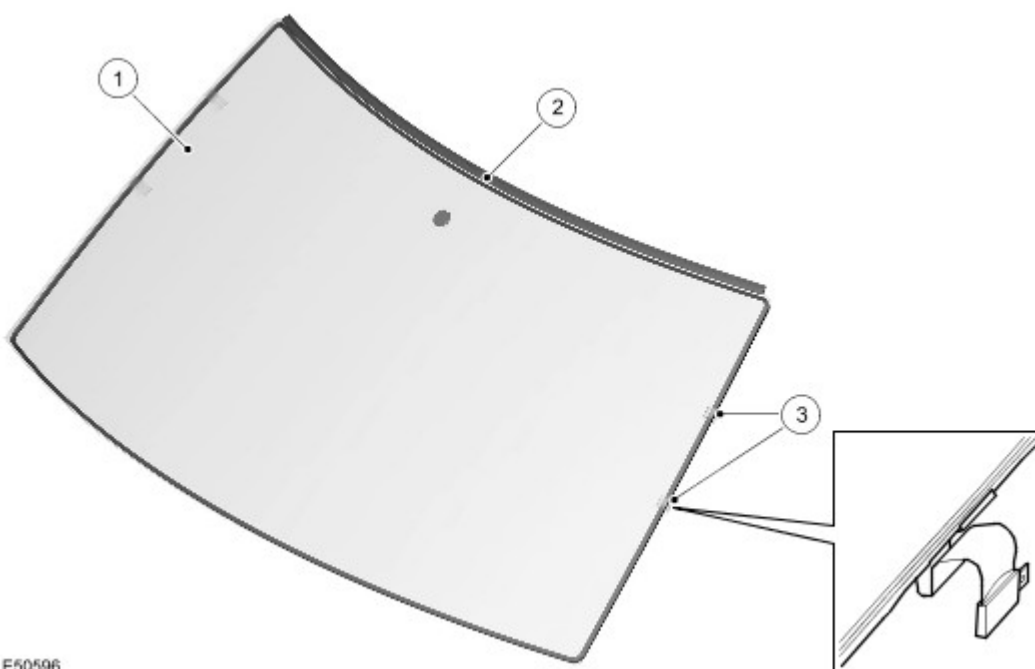


Published : Apr 30, 2004

Glass, Frames and Mechanisms



E50596

Item	Part Number	Description
1.	-	Front screen
2.	-	Finisher
3	-	Heated front screen connectors

FRONT SCREEN

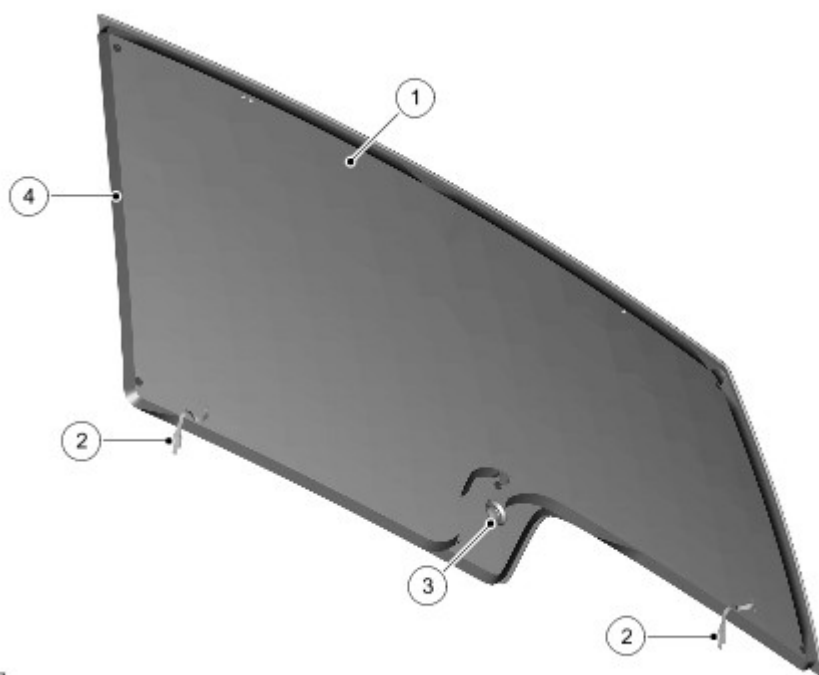
The laminated front screen is bonded, and sealed, to the body aperture using PU sealant. Heat bonded to the inner surface of the screen is the optical unit for the rain sensor and the interior mirror mounting boss.

Vertical fine-wire multi-strand elements are fitted between the glass laminations to de-ice and demist the screen. At the bottom of the screen six horizontal heating elements bonded to the interior glass surface prevent the wiper blades freezing to the screen during adverse weather conditions. For additional information, refer to [Control Components](#) (412-04 Control Components)

The screen is supplied with the heating element flat foil connectors fitted to a moulded sealed terminal block. This terminal block is wired to a connector for connecting to the vehicle harness.

REAR SCREEN

Rear Screen Components



E50597

Item	Part Number	Description
1.	-	Rear screen
2.	-	Heated rear screen connectors
3	-	Rear wiper motor aperture
4	-	Sealant

The tempered glass tinted green rear window is bonded to the upper tail doorframe using PU sealant. Fitted to the inner surface of the rear screen are the heating elements and an extra FM antenna for diversity tuning, if fitted. For additional information, refer to [Antenna](#) (415-02 Antenna)

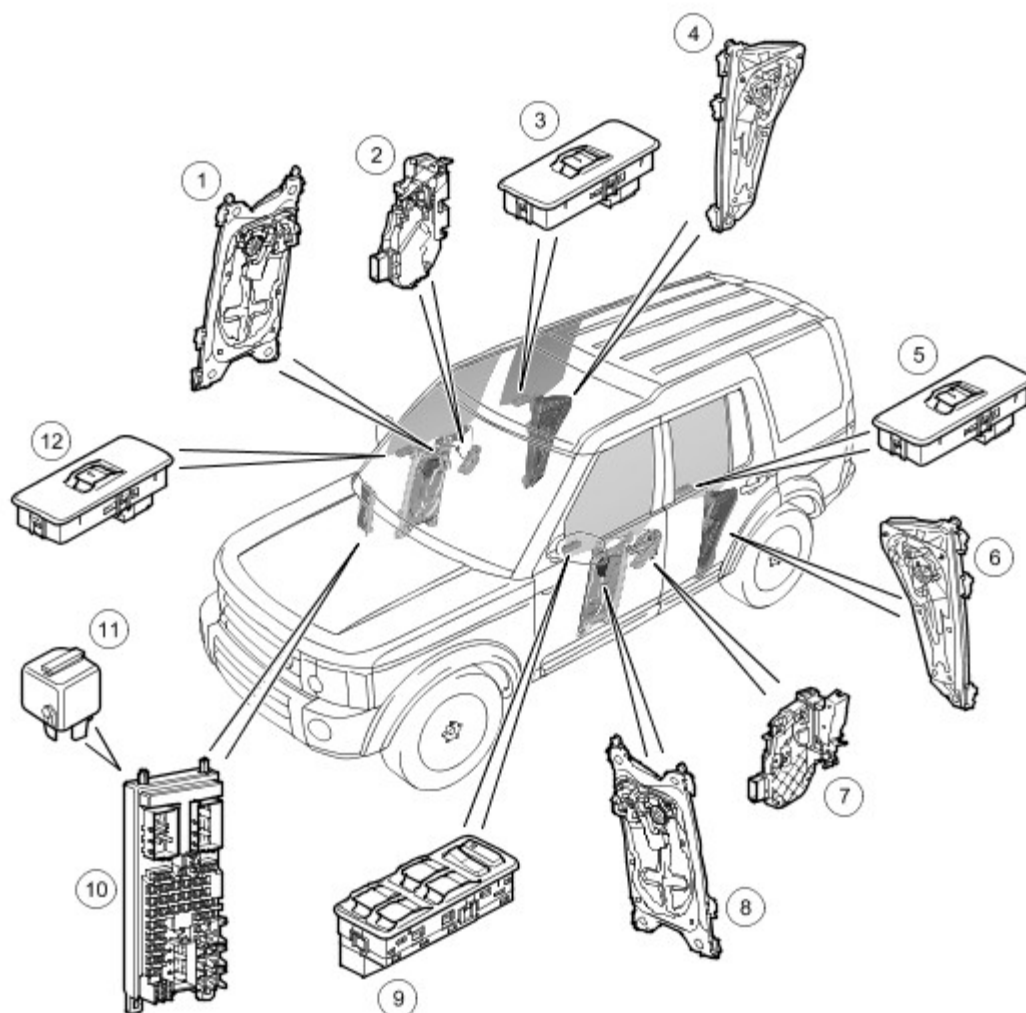
The heating element is connected by 2 lucar terminals while the antenna is connected to the vehicle by a twin and single stud connector at the top of the screen. For additional information, refer to [Control Components](#) (412-04 Control Components)

WINDOW REGULATOR CONTROL

Windows Component Location

NOTE :

LH drive shown, RH drive similar.



E47512

Item	Part Number	Description
1	-	Passenger front window motor
2	-	Front passenger door latch (ajar switch)
3	-	RH rear window switch
4	-	RH rear window motor
5	-	LH rear window switch
6	-	LH rear window motor
7	-	Drivers door latch (ajar switch)
8	-	Drivers window motor
9	-	Drivers window switch pack
10	-	Central Junction Box (CJB)
11	-	Window lift relay
12	-	Passenger front window switch

GENERAL

Electric windows are installed in all four doors. The drivers front window incorporates a self-contained 'Anti-trap' regulator, which features one-shot up and one-shot down functionality. All the passenger windows are hard wired and are powered via the window lift relay in the Central Junction Box (CJB).

Should any of the passenger windows have opposing up/down requests from two separate switches, for example, the drivers door switch and the switch on the operating window, then the operation of that window will cease, until one or both of the switches are released.

System Inputs and Outputs

Inputs	Outputs
Ignition switch	CJB window enable signal
Drivers door switch pack	CJB window power feeds
Front passenger door window switch	Front window lift motors (LH and RH)
Rear passenger door window switch (LH and RH)	Rear window lift motors (LH and RH)
Drivers door ajar switch	-
Front passenger door ajar switch	-

IGNITION SWITCH

The window lift system is enabled during ignition switch positions I and II, but disabled during cranking.

T4 can be used to monitor the state of the ignition switch.

WINDOW SWITCHES

Individual window switches are installed in each of the three passenger doors. Window switches for all of the windows, are installed in the drivers door in the top surface of the door trim.

All window switches are of the non-latching rocker type and contain illumination bulbs that operate when the side lamps or headlamps are on.

The drivers window switch has two switching positions in each direction, inch up/down and one-shot up/down. Operating the switch to the second detent position will activate the one-shot feature. All the passenger windows have conventional power motors, providing an inch up/down operation whilst the corresponding switch is held.

When the switches in the drivers door are used to operate the passenger windows or to isolate the rear windows, the drivers door switch pack outputs a signal to the relevant window regulator. While the isolator is engaged, the rear regulators ignore inputs from the rear window switches, and the drivers door switch pack illuminates a LED in the isolator switch.

With the switches in the rest position, there is battery voltage at both sides of each switch as well as at the window motors. Operating any switch provides a ground path through the switch to the window motor. Operating the switch in the opposite direction switches the voltage path and the earth path to the motor allowing the motor to run in the opposite direction.

Power for window operation is supplied from the window lift relay located in the CJB. When energised, the window lift relay provides feed to the following fuses, which are also located in the CJB:

- 30 (25 Amps)
- 17 (20 Amps)
- 31 (20 Amps).

Fuse	Description
Fuse 7	Drivers window regulator
Fuse 17	Drivers switch pack, RH rear - up/down
RH rear window switch via isolator	
Fuse 30	Drivers switch pack, front passenger - up/down
Front passenger switch - up/down	

Fuse 31	Drivers switch pack, LH rear - up/down
LH rear window switch via isolator	

Driver's Door Window Switch Pack Pin Out Information

Connector C0081

Pin No.	Description	Input/Output
1	Front passenger window down	Output
2	Front passenger window up	Output
3	Front passenger battery power supply	Input
4	Front drivers window down	Output
5	Front drivers window up	Output
6	Ground	-

Connector C0343

Pin No.	Description	Input/Output
1	Rear LH battery power supply	Input
2	Rear RH passenger window down	Output
3	Rear RH passenger window up	Output
4	Rear RH battery power supply	Input
5	Rear LH passenger window down	Output
6	Rear LH passenger window up	Output
7	Switch illumination	Input
8	Ground	-

Connector C2654

Pin No.	Description	Input/Output
1	Not used	-
2	Rear RH battery power supply via isolator switch	Input
3	Not used	-
4	Not used	-
5	Not used	-
6	Rear LH battery power supply via isolator switch	Input
7	Child lock status LED	Input
8	Child lock switch	Output

Front Passenger's Door Window Switch Pin Out Information

Connector C0087

Pin No.	Description	Input/Output
1	Up power supply from drivers door switch pack	Input
2	Up power supply to window regulator	Output

3	Down power supply from drivers door switch pack	Input
4	Not used	-
5	Switch illumination ground	-
6	Switch illumination power supply	Input
7	Down power supply to window regulator	Output
8	Power supply from drivers door switch pack	Input

Rear Passenger's Door Window Switch Pin Out Information

Connector C0732

Pin No.	Description	Input/Output
1	Up power supply from drivers door switch pack	Input
2	Up power supply to window regulator	Output
3	Down power supply from drivers door switch pack	Input
4	Not used	-
5	Switch illumination ground	-
6	Switch illumination power supply	Input
7	Down power supply to window regulator	Output
8	Power supply from drivers door switch pack	Input

T4 can not be used to monitor the state of the window switches because they are part of a hard wired circuit.

FRONT DOOR AJAR SWITCHES

Window operation is immediately disabled when a front door is opened during a 40 second timeout period. The door ajar switches are located in the front door latch mechanisms.

T4 can be used to monitor the state of the front door ajar switches.

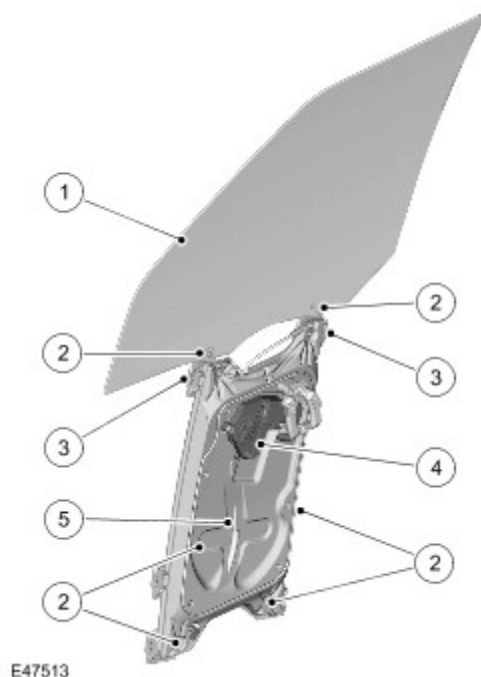
ENABLE LINES

The use of enable lines limits the windows to operate when the ignition switch is in position I or II, and for a period of forty seconds once the ignition has been switched off. If the drivers door or the front passenger door is opened within the forty second period, window operation will be disabled. No window operation is possible during vehicle cranking.

WINDOW REGULATORS

Cable operated window regulators powered by an electric motor are installed in each of the doors.

Front Window Regulators



E47513

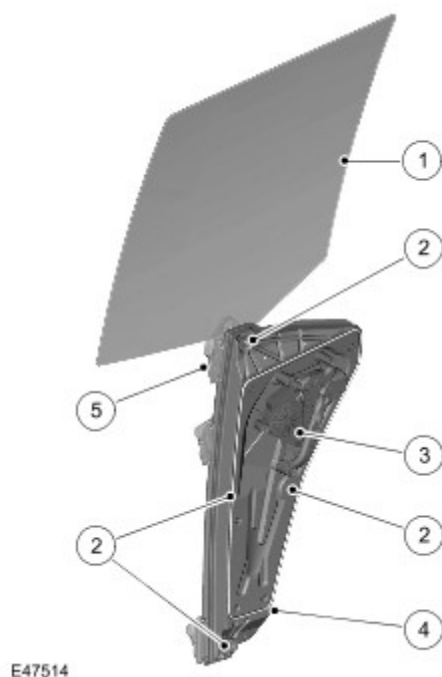
Item	Part Number	Description
1	-	Window Glass
2	-	Fixing points
3	-	Glass carrier
4	-	Window motor
5	-	Mounting frame
6	-	Cable

The front window regulator and motor is supplied as an assembly and is handed. Each assembly comprises a front and rear runner, a continuous cable and a motor.

The runners are secured in the door frame with four screws. The door glass is located in two carriers, which are located in tracks in the runners. The glass is retained in friction pads in each carrier and secured with clamp screws.

Each carrier is attached to the cable which, in turn, is attached to a drum driven by the motor. When the motor is operated the drum pulls the cable in the required direction to raise or lower the glass.

Rear Window Regulators



Item	Part Number	Description
1	-	Window Glass
2	-	Fixing points
3	-	Window motor
4	-	Mounting frame
5	-	Glass carrier

The rear window regulator and motor is supplied as an assembly and is handed. Each assembly comprises a runner, a continuous cable and a motor.

The runner is secured in the door frame with four bolts. The door glass is located in a carrier located in a track in the runner. The glass is retained in friction pads in the carrier and secured with a clamp screw.

The carrier is attached to the cable which, in turn, is attached to a drum driven by the motor. When the motor is operated, the drum pulls the cable in the required direction to raise or lower the glass.

ANTI-TRAP

The anti-trap function is enabled for the drivers window closing in both the inching and one-shot modes. If the anti-trap feature is activated while a window is closing, the window motor is reversed for 0.5 second.

A Hall sensor, located in the drivers window regulator, monitors the speed of the motor and if the speed decreases below a set threshold, indicating an obstruction, the power feed to the motor is reversed so the window goes back down.

In an emergency the anti-trap function can be overridden by holding the window switch in the one-shot closed position.

After the battery has been disconnected it is necessary to initialize the drivers door window motor to be able to operate the one-shot up function.

Driver's Door Window Motor Initialisation

- Operate the drivers window switch until the window glass is in the fully closed position, continue to operate the window switch for a further two seconds
- Release the window control switch
- Operate the drivers window switch in the closed position and continue to operate the window switch for a further

- two seconds
- Operate the drivers window switch until the window is in the fully open position (one-shot down)

NOTE :

If the drivers window motor initialisation has been completed correctly, when the drivers window switch is operated, the window should move to the fully closed position (one-shot up) automatically. If the window does not fully close automatically (one-shot up), repeat the complete procedure.

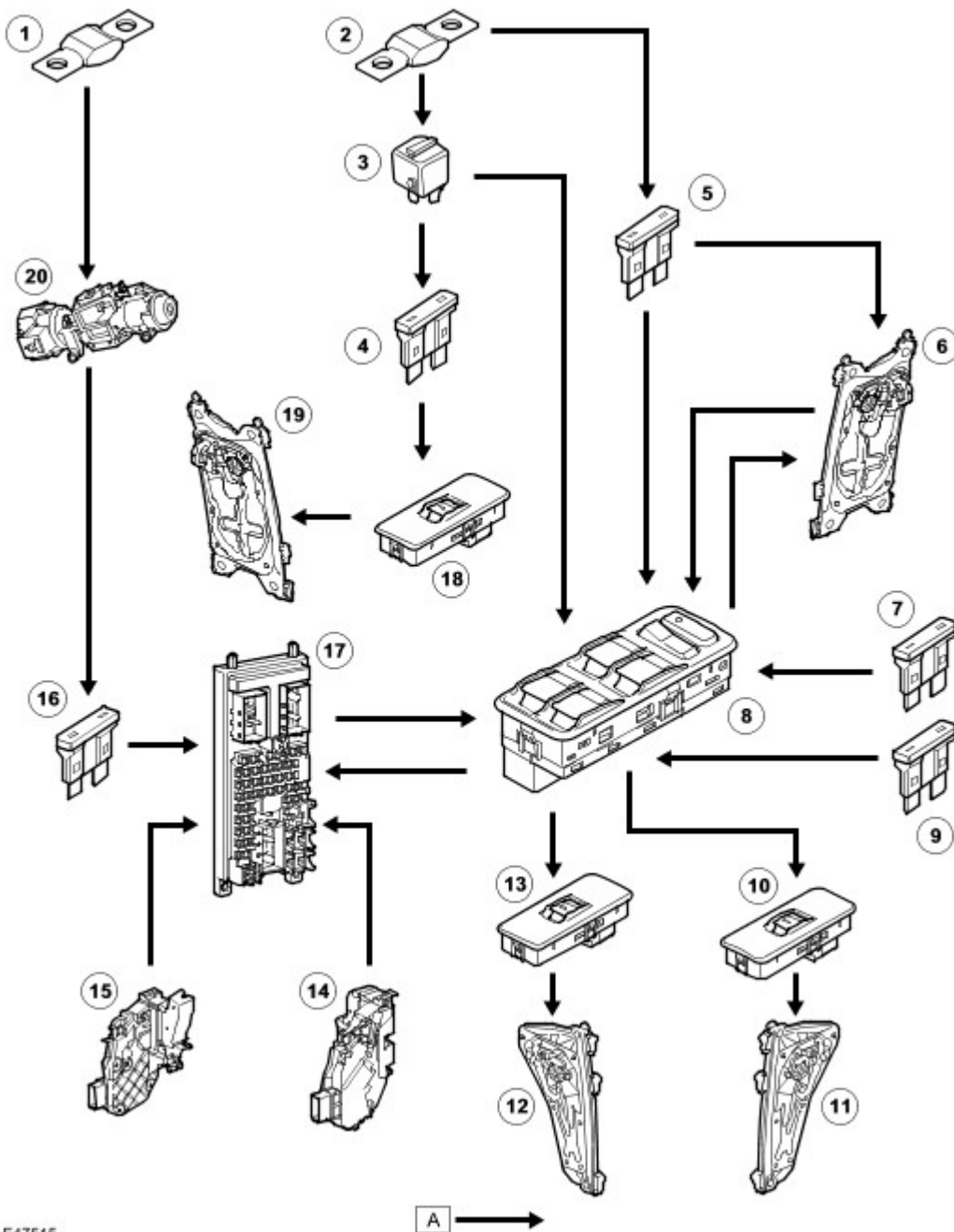
- Operate the drivers window switch once to the close position.

Driver's Door Anti-trap Regulator Pin Out Information**Connector C0740**

Pin No.	Description	Input/Output
1	Up signal	Input
2	Down signal	Input
3	Battery supply	Input
4	Ground	-
5	Not used	-
6	Enable line	Input

WINDOW CONTROL DIAGRAM**NOTE :**

A = Hardwired



E47515

Item	Part Number	Description
1	-	Fusible link 11
2	-	Fusible link 18
3	-	Window lift relay
4	-	Fuse 30
5	-	Fuse 7
6	-	Drivers window motor
7	-	Fuse 31
8	-	Drivers window switch pack
9	-	Fuse 17
10	-	RH rear window switch

11	-	RH rear window motor
12	-	LH rear window motor
13	-	LH rear window switch
14	-	Drivers door latch (ajar switch)
15	-	Passengers front door latch (ajar switch)
16	-	Fuse 60
17	-	Central Junction Box (CJB)
18	-	Passenger front window switch
19	-	Passenger front window motor
20	-	Ignition switch