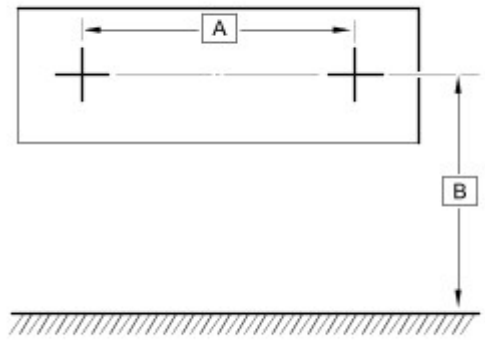
Published: Apr 14, 2006

# Headlamp Adjustment (86.40.17)

1. **NOTE:**
   Check main beam alignment using beam setting equipment. Should this not be available the beam can be temporarily checked and adjusted as follows.

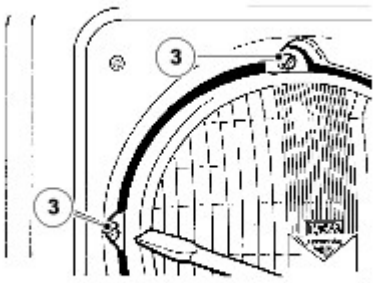
Position vehicle, unladen, on level ground with tyres correctly inflated, approximately 4 metres from a wall or screen, marked as illustrated below.

2. The beam centres 'A' are measured horizontally on the vehicle and dimension 'B' vertically from the ground.




ST1719M

3. Switch on main beam and adjust setting, as necessary, with trimmer screws.

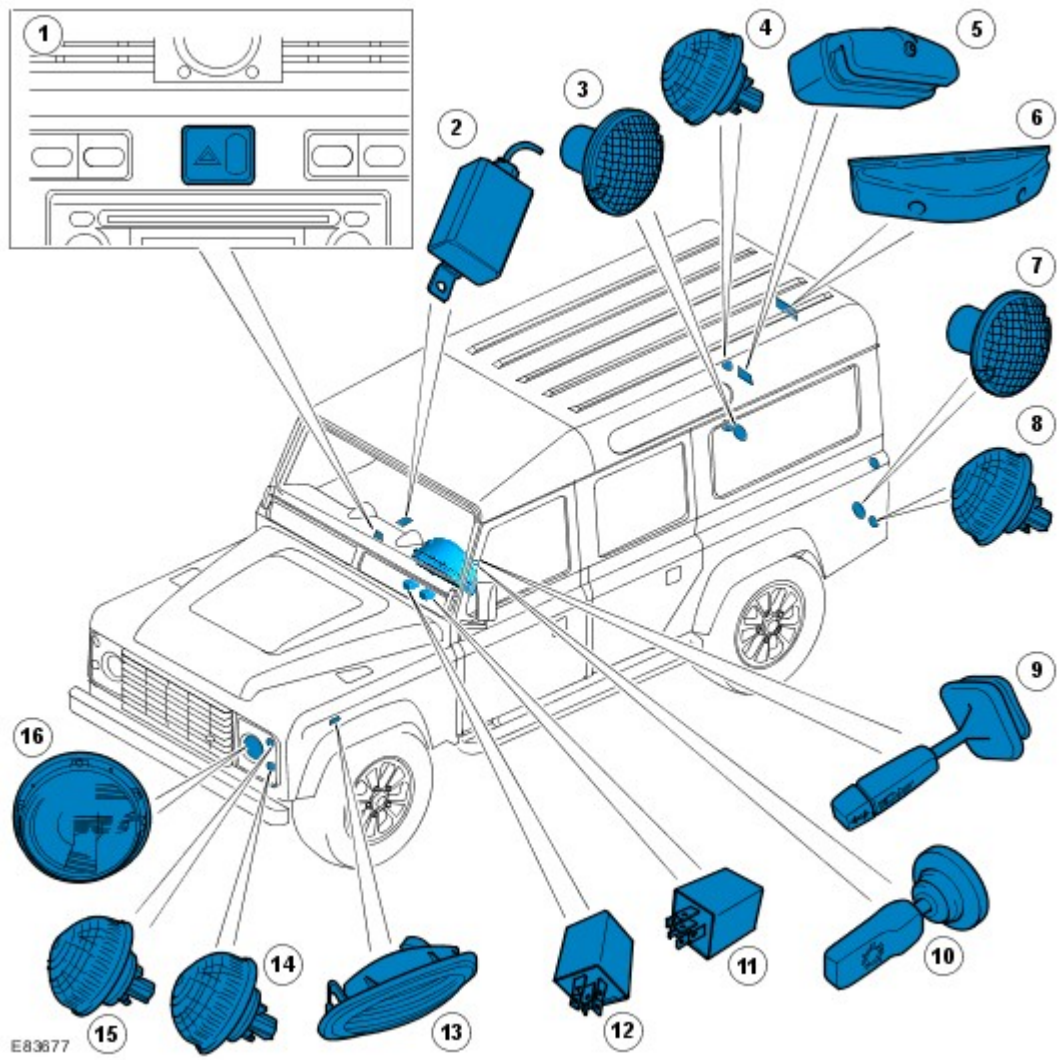



J6450

Published: Apr 22, 2008

# Exterior Lighting

## COMPONENT LOCATION - MODELS FROM 2007MY (NOT SVX (60TH ANNIVERSARY) MODEL)



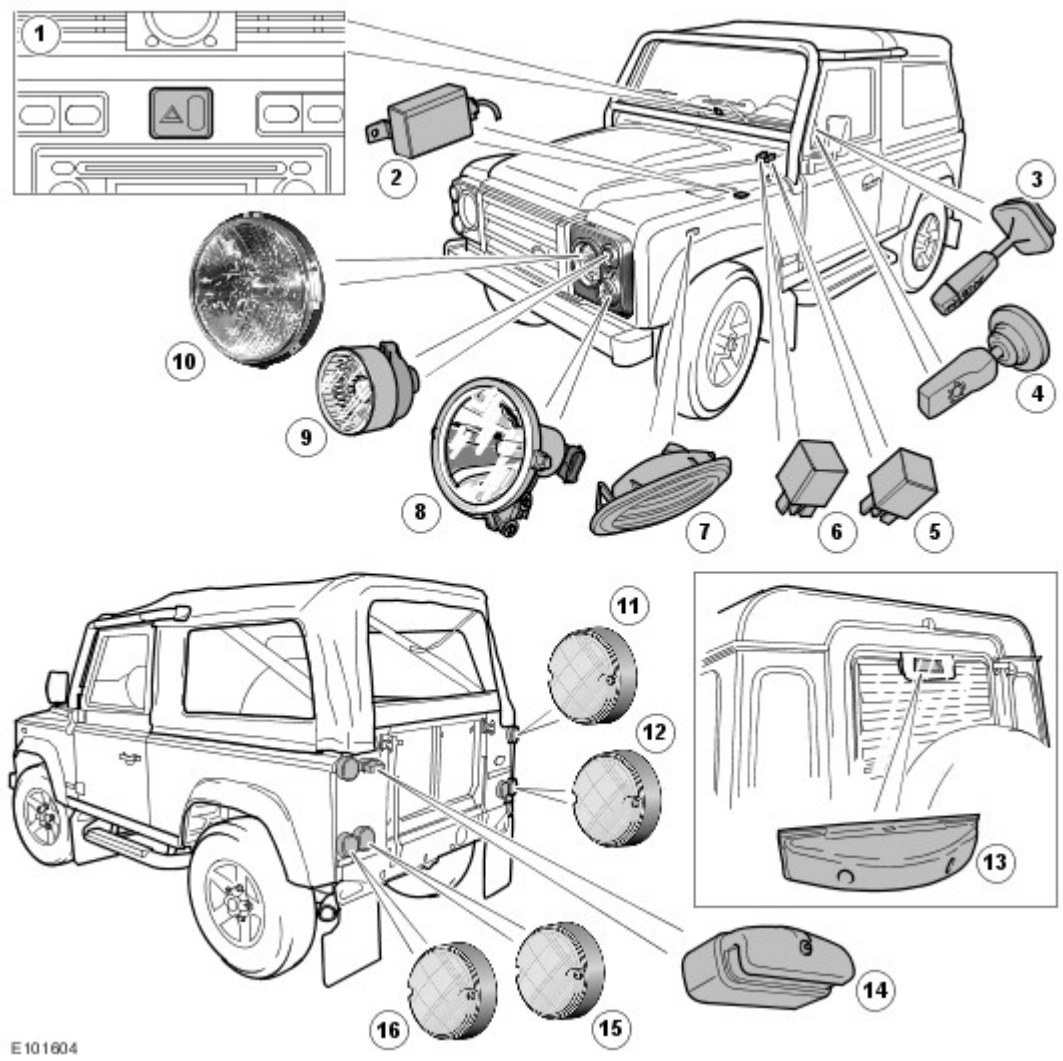

| Item | Part Number | Description |
|---|---|---|
| 1 | | Hazard flasher switch |
| 2 | | Fog lamp control module |
| 3 | | Rear fog lamp |
| 4 | | Rear tail/Stop lamp |
| 5 | | License plate lamp |
| 6 | | High mounted stop lamp |
| 7 | | Reverse lamp |
| 8 | | Rear turn signal indicator lamp |
| 9 | | Steering column multifunction switch |
| 10 | | Lighting control switch |
| 11 | | Headlamp relay |
| 12 | | Hazard flasher relay |
| 13 | | Side turn signal indicator lamp |
| 14 | | Front turn signal indicator lamp |

| | | |
|---|---|---|
| 15 | | Side lamp |
| 16 | | Headlamp |

## COMPONENT LOCATION - SVX (60TH ANNIVERSARY) MODEL

**NOTE:**

90 model shown, 110 model similar




| Item | Part Number | Description |
|---|---|---|
| 1 | | Hazard flasher switch |
| 2 | | Fog lamp control module |
| 3 | | Steering column multifunction switch |
| 4 | | Lighting control switch |
| 5 | | Headlamp relay |
| 6 | | Hazard flasher relay |
| 7 | | Side turn signal indicator lamp (2 off) |
| 8 | | Auxiliary high beam lamp (2 off) |
| 9 | | Front turn signal indicator lamp (2 off) |
| 10 | | Headlamp - incorporating integral side lamp |
| 11 | | Rear tail/Stop lamp (2 off) |
| 12 | | Rear fog lamp or reverse lamp (depending on market) |
| 13 | | High mounted stop lamp (Not 90 models) |

| | | |
|---|---|---|
| 14 | | Licence plate lamp |
| 15 | | Rear fog lamp or reverse lamp (depending on market) |
| 16 | | Rear turn signal indicator lamp (2 off) |

## OVERVIEW

Operation of the exterior lamps is controlled via the lighting control switch and the steering column multifunction switch. The lighting control switch is a 3 way switch mounted on the LH (left-hand) side of the steering column. When pushed forward to the first position the switch will provide a battery feed to the side lamps, tail lamps and number plate lamps irrespective of ignition switch position. When pushed forward to the second position, the lighting control switch will also provide a feed to the headlamp relay.

The steering column multifunction switch is mounted forward of the lighting control switch on the LH (left-hand) side of the steering column and allows the driver to switch between headlamp high beam, low beam and flash operation. The steering column multifunction switch is provided a feed by the headlamp relay, which becomes energized when the ignition switch is turned to position II.

Where fitted, a 4 position rotary headlamp leveling switch is mounted on the instrument panel to allow the driver to raise or lower headlamp alignment according to the load being carried in the vehicle. A motor mounted on the rear of each headlamp adjusts the alignment of the headlamps in response to movements in switch position.

Operation of the turn signal indicator lamps is also controlled using the steering column multifunction switch. The steering column multifunction switch is provided an ignition switch feed from the hazard flasher relay. When the switch is moved to the left or right turn position, the switch contacts close and a feed is provided to the relevant turn signal indicator lamps. A feed is also provided to the instrument cluster to illuminate the turn signal warning indicator.

The hazard flasher switch is located on the instrument panel and operates the LH (left-hand) and RH (right-hand) turn signal indicator lamps simultaneously when pressed. The hazard flasher switch is provided a constant battery feed and will operate the turn signal indicator lamps irrespective of ignition switch position. When pressed, the hazard flasher switch also provides a feed to the instrument cluster to illuminate the hazard flasher warning indicator.

The stop lamps are controlled by the stop lamp switch, which is mounted on top of the brake pedal. When the brake pedal is pressed the switch contacts close allowing an ignition switch feed to power the stop lamps.

The reverse lamp is controlled by the reverse gear switch, which is mounted on the transmission. When reverse gear is selected the switch contacts close allowing an ignition switch feed to power the reverse lamp.

Operation of the rear fog lamp is controlled by the fog lamp control module, which is located beneath the RH (right-hand) front seat. The control module is provided an ignition switch feed from the energized headlamp relay via the CJB (central junction box) . The control module monitors the condition of the fog lamp switch. When the switch is pressed, the switch contacts close and a ground path is created. When the control module registers the ground path it provides a feed to the rear fog lamp and the instrument cluster.

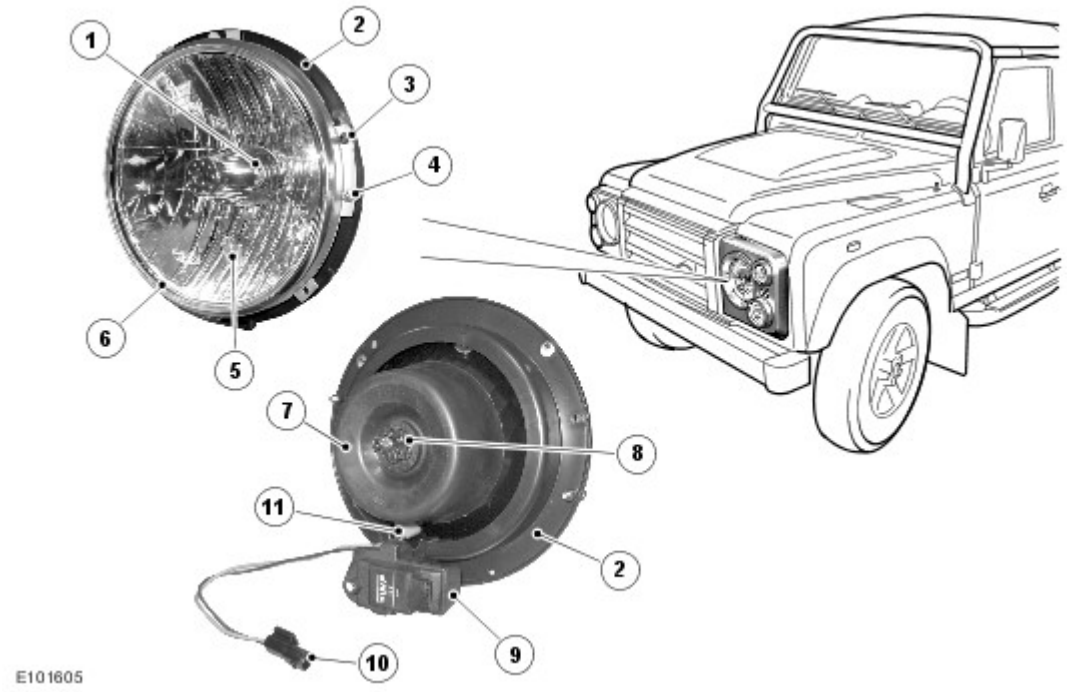
## SVX (60th Anniversary) Model

The exterior lighting system on the 2008MY SVX model is as described above with the following differences:

- LED (light emitting diode) rear lights
- halogen headlamps with a complex surface reflector and integral side lamp
- separate high beam driving lamps
- new front turn signal indicator lamps.

## DESCRIPTION - SVX (60TH ANNIVERSARY) MODEL

## Headlamp




| Item | Part Number | Description |
|---|---|---|
| 1 | | Halogen bulb |
| 2 | | Headlamp mounting |
| 3 | | Headlamp securing screw |
| 4 | | Headlamp beam alignment screw |
| 5 | | Side lamp bulb |
| 6 | | Headlamp assembly |
| 7 | | Rubber cover |
| 8 | | Headlamp bulb connections |
| 9 | | Headlamp adjustment motor (if fitted) |
| 10 | | Side lamp connector |
| 11 | | Side lamp bulb holder |

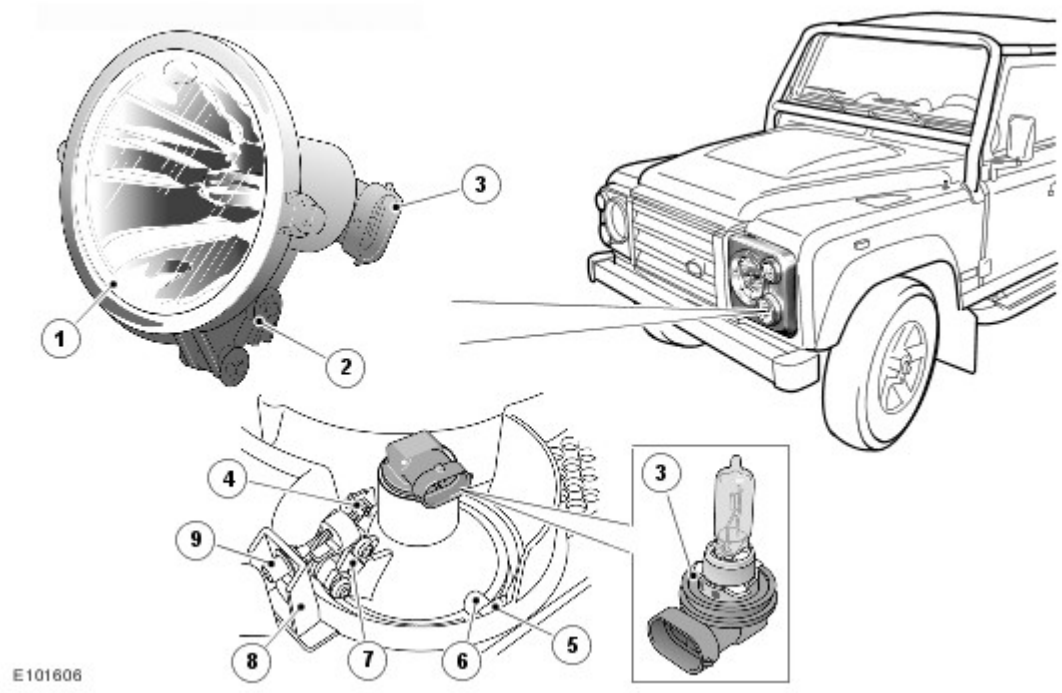
The headlamp is a unique unit to the SVX model. The headlamp is a Wipac unit with a reflector divided into parabolic segments, with each segment having a different focal length. The headlamp uses a H4 60/55W halogen bulb which is retained in the rear of the headlamp with a wire clip. The headlamp also houses the sidelamp which is located in a hole in the headlamp lens. The side lamp uses a W5W bayonet fitting bulb which is located in a rubber holder. A harness connector from the side lamp connects into the existing side lamp connector in the main wiring harness.

The RH (right-hand) headlamp unit is connected into the main wiring harness. The LH (left-hand) headlamp is connected to the main harness via a link harness which also supplies power to the auxiliary driving lamps.

Where fitted, an electric motor mounted on the rear of the headlamp allows for the electrical adjustment of the headlamp alignment.

The headlamp is secured to a metal mounting plate, which is attached to the fender, with 4 self-tapping screws.

## Auxiliary High Beam Lamp

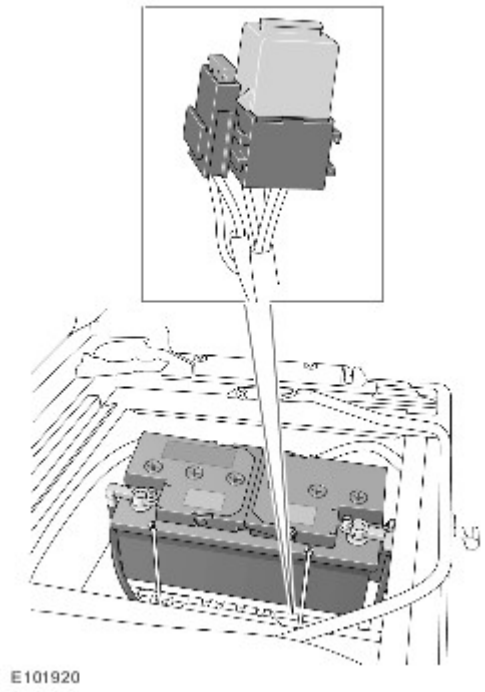



| Item | Part Number | Description |
|---|---|---|
| 1 | | Auxiliary high beam lamp assembly |
| 2 | | Adjustment lever |
| 3 | | Electrical connector and halogen bulb holder |
| 4 | | 'R' clip |
| 5 | | Pivot plate (2 off) |
| 6 | | Pivot pin (2 off) |
| 7 | | Pivot lever |
| 8 | | Headlamp surround |
| 9 | | Alignment adjustment screw |

The auxiliary high beam lamp is unique to the SVX model. The lamp is located within the headlamp surround. Two metal plates are a press fit into the surround and 2 pivot pins on the lamp locate in the plates which allow the lamp unit to pivot up and down in a vertical direction. This allows the vertical aim of the lamp to be adjusted using a worm and screw mechanism located on the lamp. The adjustment screw locates in a hole on a moulded boss on the headlamp surround. A washer is fitted to the screw on each side of the boss and are secured with circlip. The two washers and the circlip retain the screw in the boss, which allows the rotary motion of the screw to be transferred to linear movement of the lamp allowing the alignment to be adjusted. The screw is accessible through a hole in the underside of the lamp surround.

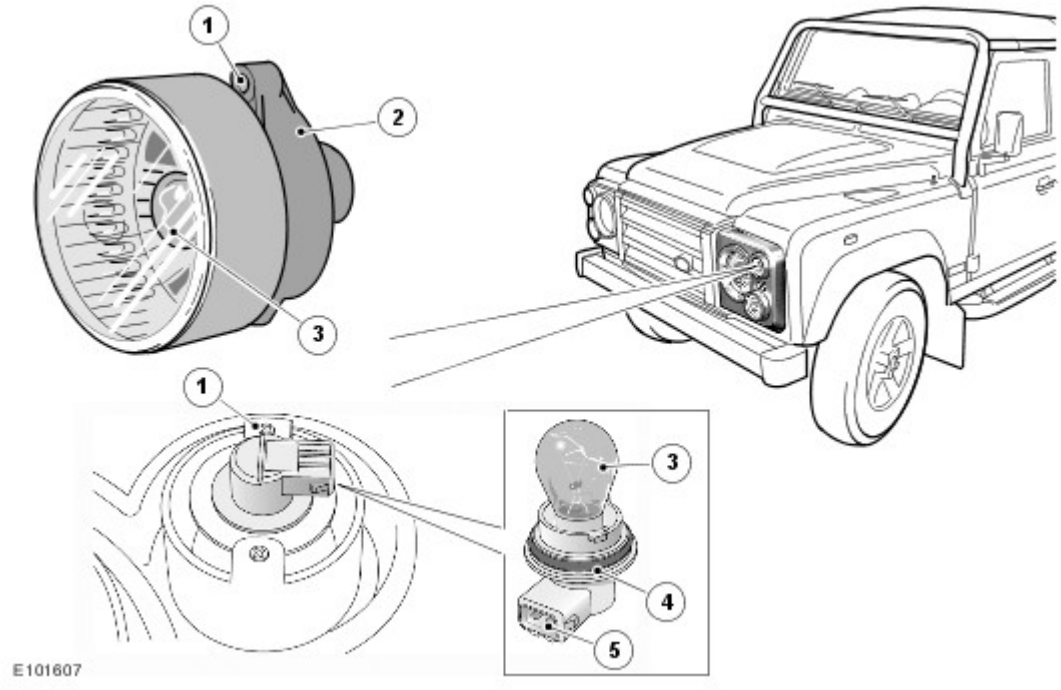
The auxiliary high beam lamp uses a H9 65W halogen bulb which is located in an integral holder. The holder is rotated to lock or remove in the rear of the lamp unit. Access to the bulb requires removal of the headlamp surround.

## Auxiliary High Beam Lamp Relay and Fuse




The auxiliary lamps are connected via the headlamp link harness. A high beam feed from the LH (left-hand) headlamp is supplied from the link harness and activates a dedicated auxiliary high beam lamp relay which is located in the BJB (battery junction box) , adjacent to the battery. The relay and auxiliary lamp circuit is protected by a 15 Amp fuse located on the side of the relay. Activation of the relay allows a direct battery feed to power the auxiliary lamps.

## Front Turn Signal Indicator Lamp

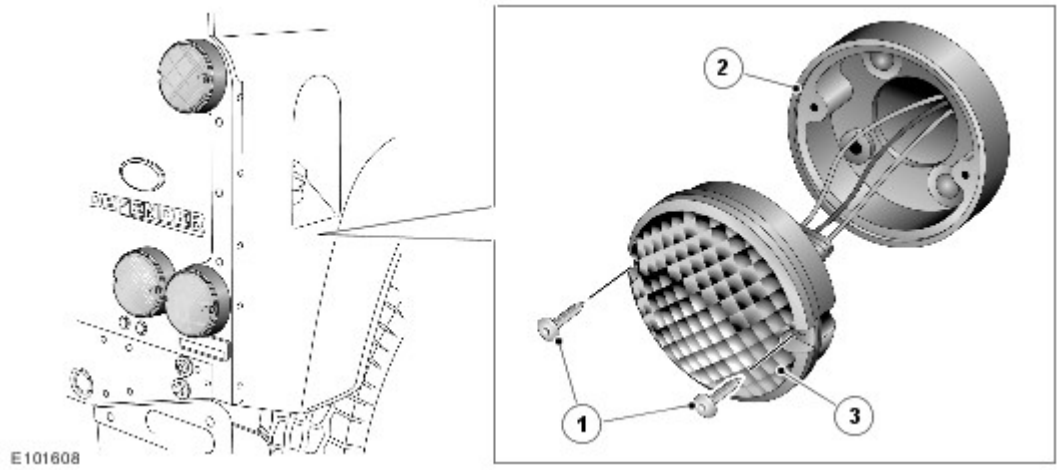



| Item | Part Number | Description |
|---|---|---|
| 1 | | Turn signal indicator lamp attachment hole (2 off) |
| 2 | | Turn signal indicator lamp assembly |
| 3 | | Turn signal indicator bulb |
| 4 | | Bulb holder |
| 5 | | Electrical connector |

The front turn signal indicator lamp is unique to the SVX model. The lamp is located within the headlamp surround and is positioned on 2 lugs integral with the surround and secured with 2 self-tapping screws.

The lamp uses a PY21W Diadem bulb which is located in a holder in the rear of the lamp assembly. The holder has an integral connector which allows for connection to the main wiring harness via a short link harness which converts the main harness connector to the connector on the holder. The holder is rotated to lock or remove in the rear of the lamp unit. Access to the bulb requires removal of the headlamp surround.

## LED Rear Lamps




| Item | Part Number | Description |
|---|---|---|
| 1 | | Screw (2 off) |
| 2 | | Housing |
| 3 | | LED (light emitting diode) lamp assembly |

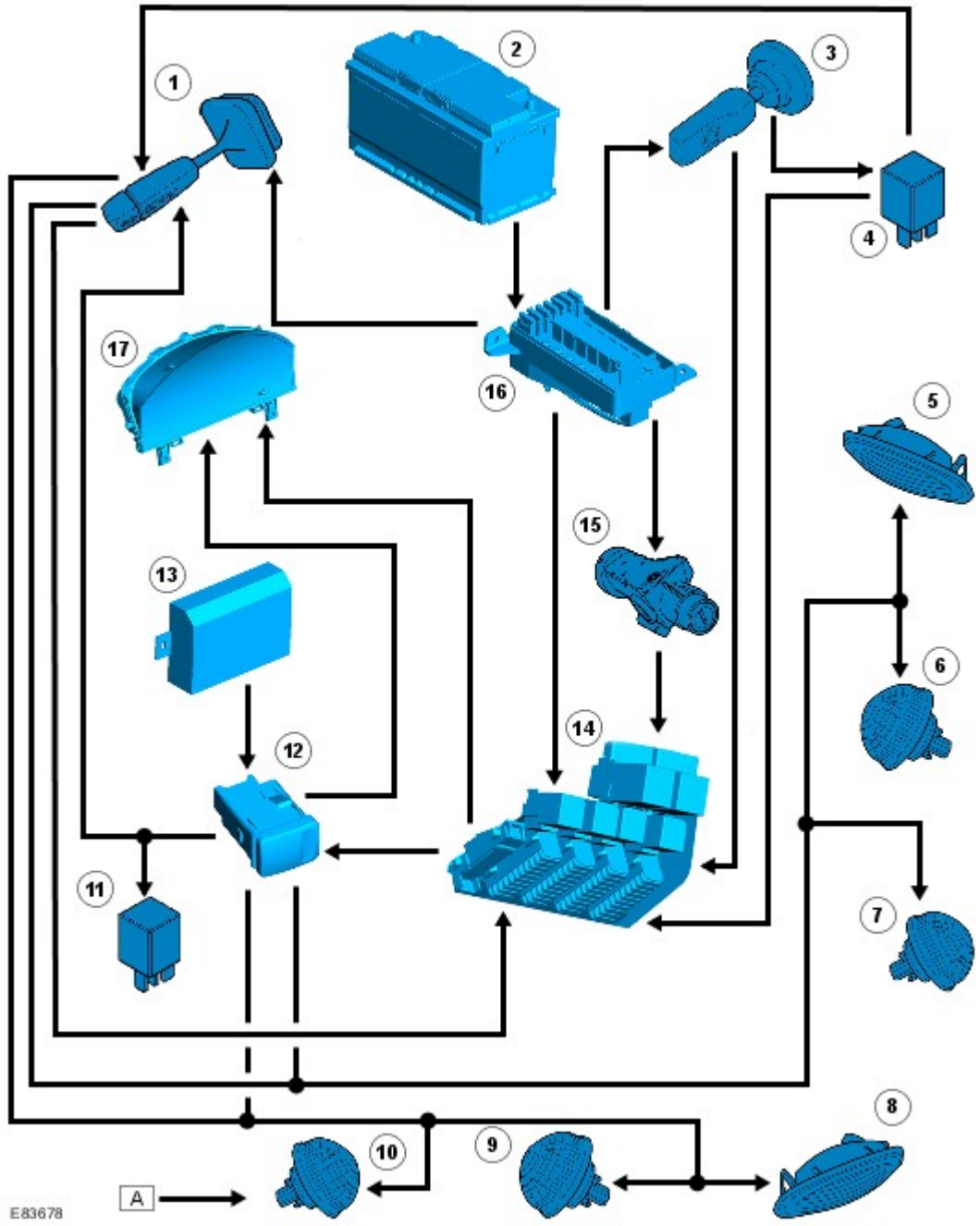
The LED (light emitting diode) rear lamps are unique to the SVX model. The lamps all look similar when not illuminated with a white opaque lens. Once activated, the LED (light emitting diode) 's illuminate in the applicable color for the lamp function.

The 2 upper rear lamps provide for the tail lamps and brake lamps. The inner of the lower lamps operate with the turn signal indicators. On LHD (left-hand drive) vehicles, the LH (left-hand) outer rear lamp is the rear fog lamp and the RH (right-hand) outer rear lamp is the reverse lamp. These 2 lamps alternate positions on a RHD (right-hand drive) vehicle.

## CONTROL DIAGRAM - SHEET 1 OF 2 - MODELS FROM 2007MY (NOT SVX (60TH ANNIVERSARY) MODEL)

**NOTE:**

**A** = Hardwired



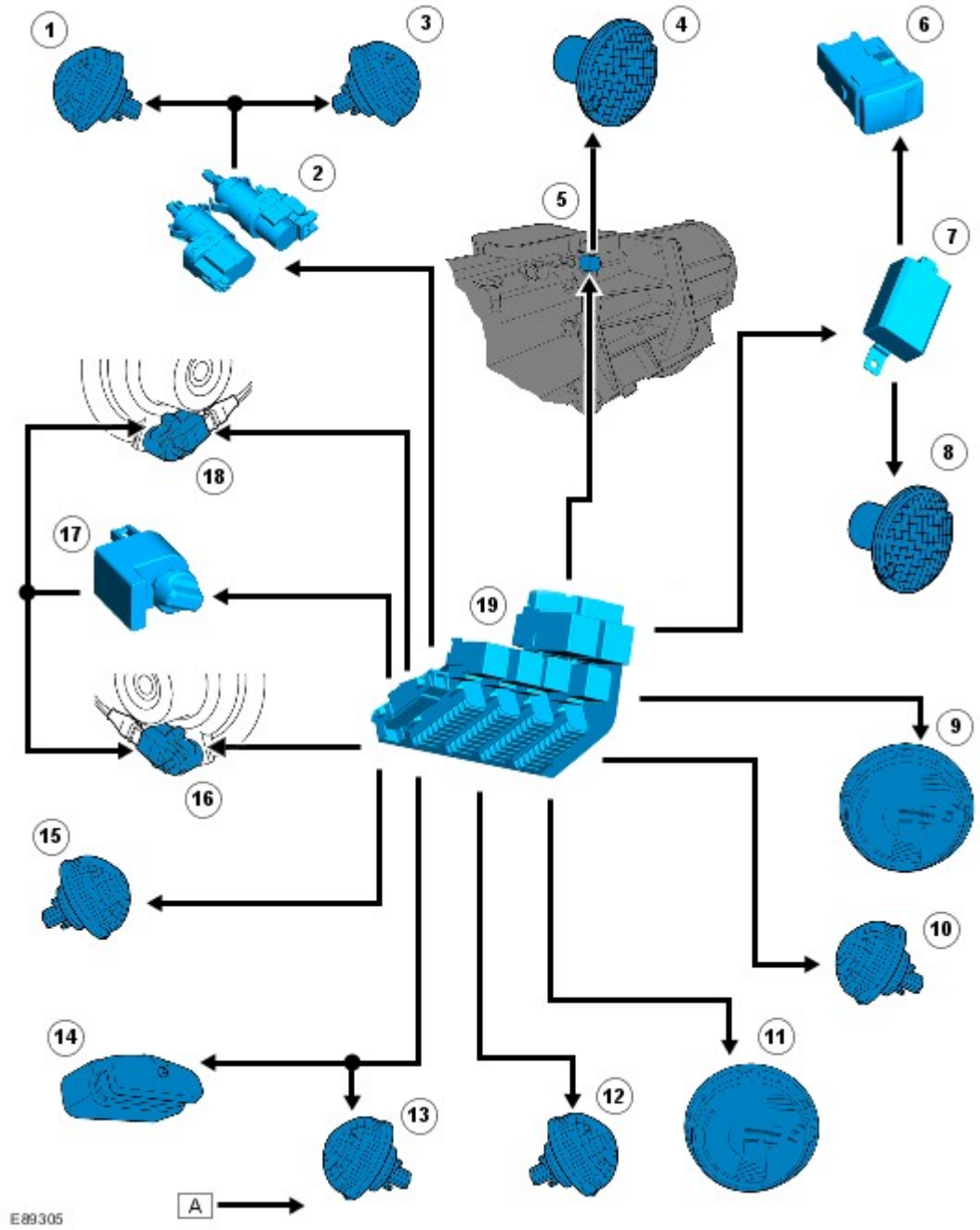

| Item | Part Number | Description |
|---|---|---|
| 1 | | Column switch |
| 2 | | Battery |
| 3 | | Lighting switch |
| 4 | | Headlamp relay |
| 5 | | RH (right-hand) side turn signal indicator lamp |
| 6 | | RH (right-hand) front turn signal indicator lamp |
| 7 | | RH (right-hand) rear turn signal indicator lamp |
| 8 | | LH (left-hand) side turn signal indicator lamp |
| 9 | | LH (left-hand) front turn signal indicator lamp |
| 10 | | LH (left-hand) rear turn signal indicator lamp |
| 11 | | Hazard flasher relay |
| 12 | | Hazard flasher switch |
| 13 | | Anti-theft system module |
| | | |

| | | |
|---|---|---|
| 14 | | CJB (central junction box) |
| 15 | | Ignition switch |
| 16 | | BJB (battery junction box) |
| 17 | | Instrument cluster |

## CONTROL DIAGRAM - SHEET 2 OF 2 - MODELS FROM 2007MY (NOT SVX (60TH ANNIVERSARY) MODEL)

**NOTE:**

**A** = Hardwired



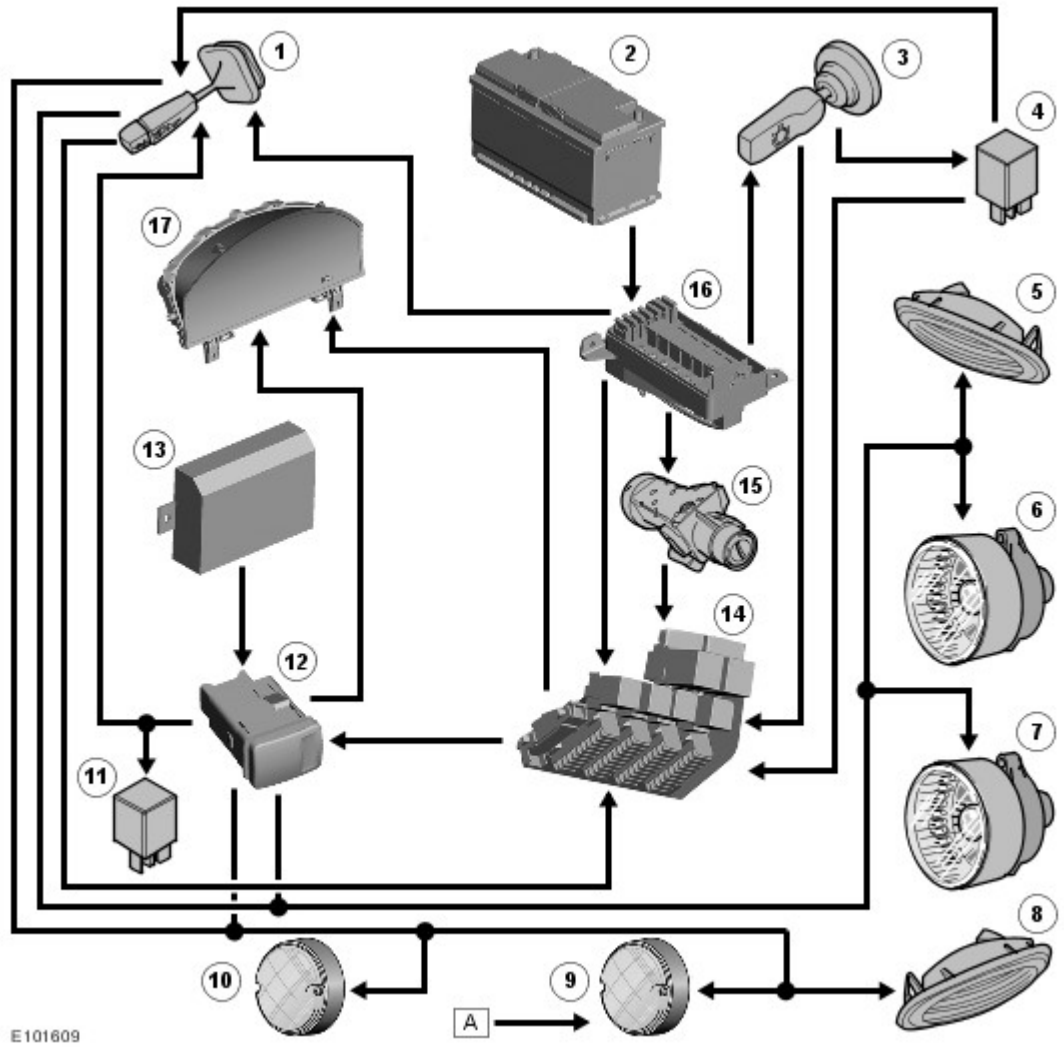

| Item | Part Number | Description |
|---|---|---|
| 1 | | LH (left-hand) stop lamp |
| 2 | | Brake pedal switch |
| 3 | | RH (right-hand) stop lamp |

| | | |
|---|---|---|
| 4 | | Reverse lamp |
| 5 | | Reverse gear indicator switch |
| 6 | | Fog lamp switch |
| 7 | | Fog lamp control module |
| 8 | | Fog lamp |
| 9 | | LH (left-hand) headlamp |
| 10 | | LH (left-hand) side lamp |
| 11 | | RH (right-hand) headlamp |
| 12 | | RH (right-hand) side lamp |
| 13 | | LH (left-hand) tail lamp |
| 14 | | License plate lamp |
| 15 | | RH (right-hand) tail lamp |
| 16 | | RH (right-hand) headlamp levelling motor (if fitted) |
| 17 | | Headlamp levelling switch (if fitted) |
| 18 | | LH (left-hand) headlamp levelling motor (if fitted) |
| 19 | | CJB (central junction box) |

## CONTROL DIAGRAM - SHEET 1 OF 2 - (SVX (60TH ANNIVERSARY) MODEL)

**NOTE:**

**A** = Hardwired



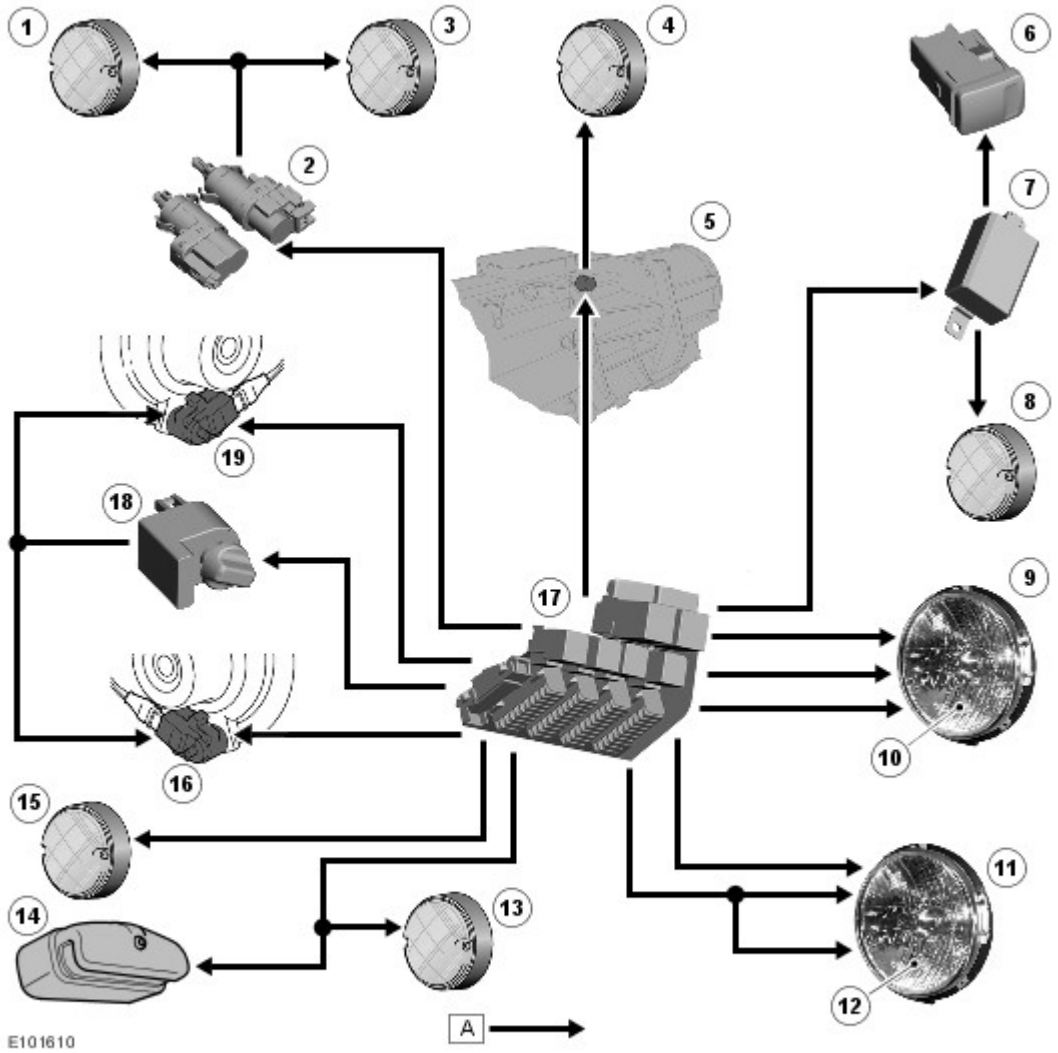

| | | |
|---|---|---|
| | | |

| Item | Part Number | Description |
|---|---|---|
| 1 | | Steering column multifunction switch |
| 2 | | Battery |
| 3 | | Lighting control switch |
| 4 | | Headlamp relay |
| 5 | | RH (right-hand) side turn signal lamp |
| 6 | | RH (right-hand) front turn signal lamp |
| 7 | | LH (left-hand) front turn signal lamp |
| 8 | | LH (left-hand) side turn signal lamp |
| 9 | | RH (right-hand) rear turn signal lamp |
| 10 | | LH (left-hand) rear turn signal lamp |
| 11 | | Hazard flasher relay |
| 12 | | Hazard flasher switch |
| 13 | | Anti-theft system module |
| 14 | | CJB (central junction box) |
| 15 | | Ignition switch |
| 16 | | BJB (battery junction box) |
| 17 | | Instrument cluster |

## CONTROL DIAGRAM - SHEET 2 OF 2 (SVX (60TH ANNIVERSARY) MODEL)

**NOTE:**

**A** = Hardwired




| Item | Part Number | Description |
|---|---|---|
| 1 | | LH (left-hand) stop lamp |
| 2 | | Brake pedal switch |
| 3 | | RH (right-hand) stop lamp |
| 4 | | Reverse lamp |
| 5 | | Reverse gear indicator switch |
| 6 | | Fog lamp switch |
| 7 | | Fog lamp control module |
| 8 | | Fog lamp |
| 9 | | LH (left-hand) headlamp |
| 10 | | LH (left-hand) side lamp |
| 11 | | RH (right-hand) headlamp |
| 12 | | RH (right-hand) side lamp |
| 13 | | LH (left-hand) tail lamp |
| 14 | | License plate lamp |

| | | |
|---|---|---|
| 15 | | RH (right-hand) tail lamp |
| 16 | | RH (right-hand) headlamp levelling motor (if fitted) |
| 17 | | CJB (central junction box) |
| 18 | | Headlamp levelling switch (if fitted) |
| 19 | | LH (left-hand) headlamp levelling motor (if fitted) |

Published: Feb 1, 2006

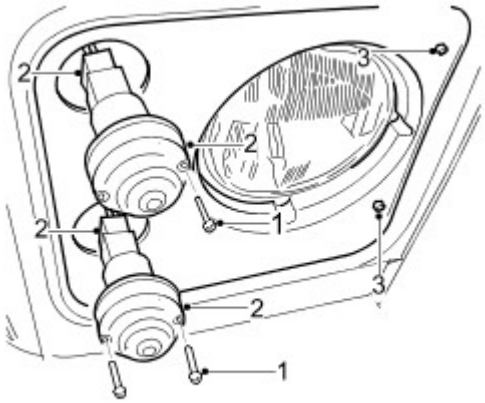
# Headlamp Assembly (86.40.49)

## Removal

1 . Remove 4 screws and release side and turn signal lamps from fender.

2 . Disconnect multiplugs and remove side and turn signal lamps.

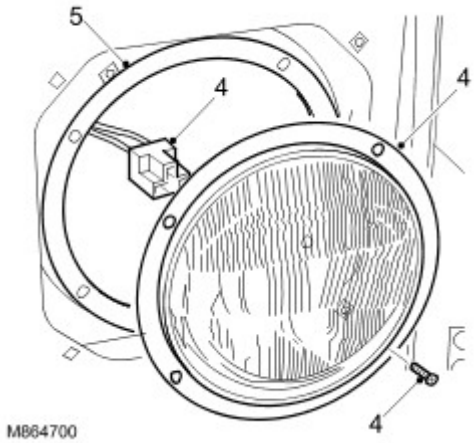
3 . Remove 2 screws and remove headlamp finisher.




M864699

4 . Remove 4 screws securing headlamp to fender, disconnect multiplugs and remove headlamp.

5 . Remove headlamp seal.




M864700

## Installation

1 . Fit headlamp seal.

2 . Position headlamp, connect multiplugs, fit and tighten headlamp screws.

3 . Fit headlamp finisher and secure with screws.

4 . Position side and turn signal lamps, connect multiplugs and secure with screws.

5 . Reset headlamp alignment.
For additional information, refer to Headlamp Adjustment (86.40.17)

Published: Apr 24, 2006

# Headlamp Leveling Motor

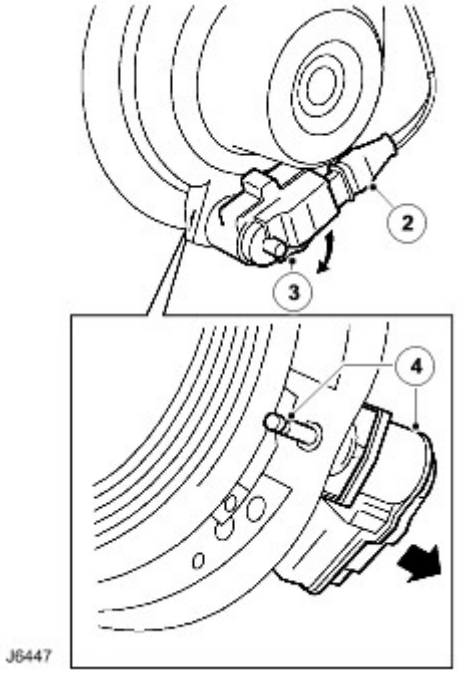
## Removal

1 . Remove headlamp assembly.
For additional information, refer to Headlamp Assembly (86.40.49)

2 . Disconnect headlamp leveling motor harness plug.

3 . Rotate headlamp leveling motor anti-clockwise to release retaining lugs from mounting bracket on headlamp body.

4 . Release headlamp leveling motor spindle from retaining slot on headlamp bezel and withdraw headlamp leveling motor from mounting bracket.




## Installation

1 . Instal headlamp leveling motor into mounting bracket and locate motor spindle into slot in headlamp bezel.

2 . Press in headlamp leveling motor and rotate clockwise to engage retaining lugs behind mounting bracket.

3 . Connect headlamp leveling motor harness plug.

4 . Fit headlamp assembly.
For additional information, refer to Headlamp Assembly (86.40.49)

Published: Jan 18, 2007

# Headlamp Leveling Switch

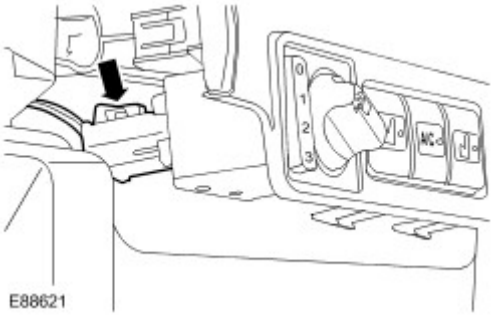
## Removal

1 . Disconnect the battery ground cable.
For additional information, refer to Battery Disconnect and Connect

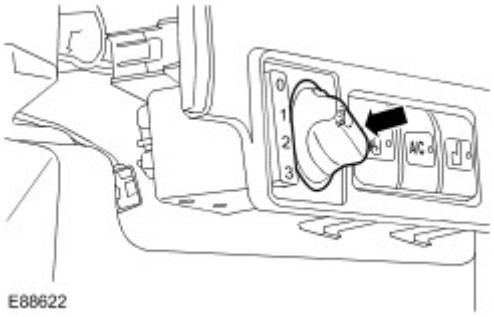
2 . Remove the audio unit.
For additional information, refer to Audio Unit (86.50.81)

3 . Release the instrument panel console.

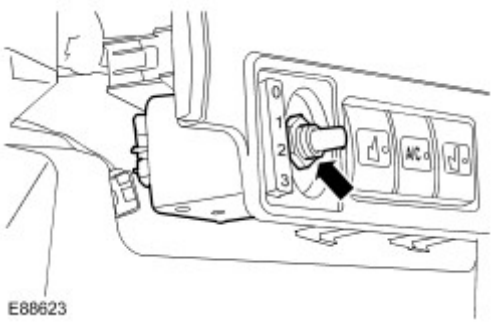

4 . Disconnect the electrical connector.




5 . Remove the headlamp leveling selector knob.




6 . Remove the headlamp leveling switch.
Remove the nut.




## Installation

1 . To install, reverse the removal procedure.

2 . Connect the battery ground cable.
For additional information, refer to Battery Connect

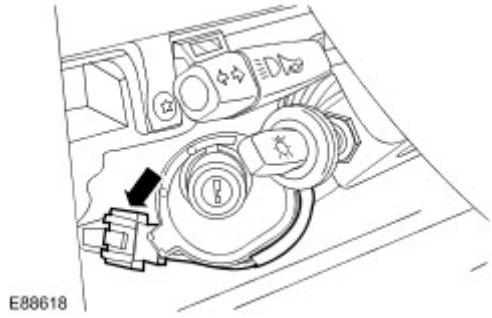
Published: Jan 22, 2007

# Headlamp Switch (86.65.09)

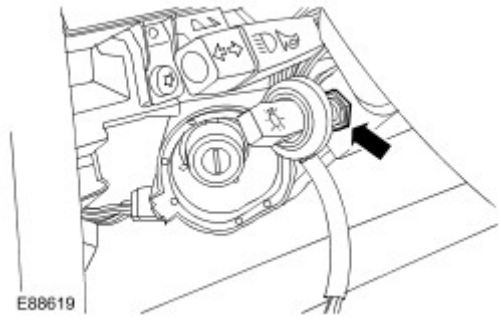
## Removal

1 . Remove the steering column shrouds.
For additional information, refer to Steering Column Shrouds (57.40.29)

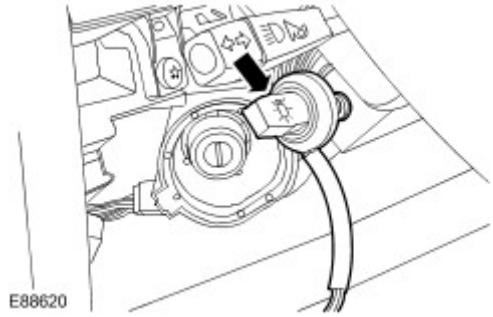
2 . Disconnect the electrical connector.




3 . Release the nut.




4 . Remove the headlamp switch.




## Installation

1 . To install, reverse the removal procedure.

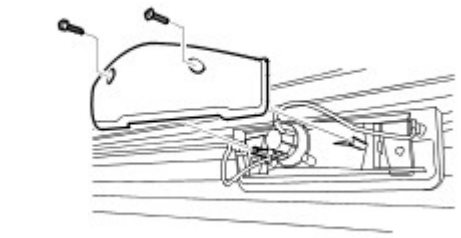
Published: Feb 1, 2006

# High Mounted Stoplamp (86.41.32)

## Removal

1 . Open rear door.

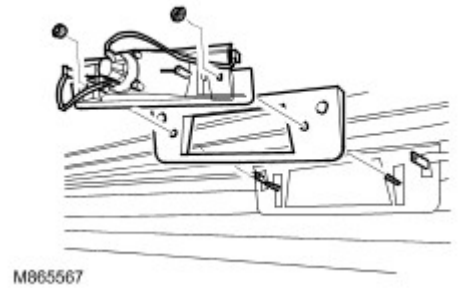
2 . Remove 2 screws and cover from the high mounted stoplamp.



M865536

3 . Remove insulated cover from connector, release catches and disconnect connectors taking care not to damage screen element.

4 . Remove nuts securing lamp to rear screen, withdraw high mounted stoplamp, collect seals and washers.



M865567

5 . Remove rubber backing pad, taking care not to damage screen obscuration band.

## Installation

1 . Clean obscuration band and fit new backing pad.

2 . Fit high mounted stoplamp, seals and washers. Fit nuts and tighten to 3 Nm (2.2 lbf.ft).

3 . Insulate connectors, and connect to rear screen.

4 . Fit cover to high mounted stoplamp and secure with screws.

Published: Feb 14, 2006

# License Plate Lamp (86.40.86)

## Removal

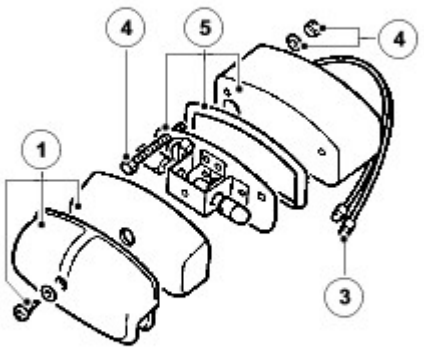
1 . Remove single screw and remove lamp cover and lens.

2 . Unscrew 2 fixings and remove metal cover to gain access to lamp fixings and harness leads inside vehicle.

3 . Disconnect lamp leads from harness.

4 . Remove 2 bolts, nuts and washers securing lamp to vehicle body.

5 . Remove bulb holder, complete with rubber seal and mounting plinth.




J6380

## Installation

1 . Feed lamp unit leads through vehicle body and secure bulb holder, seal and plinth.

2 . Instal lamp leads to harness connectors.

3 . Instal cover to conceal lamp fixings.

4 . Instal lens and lamp cover.

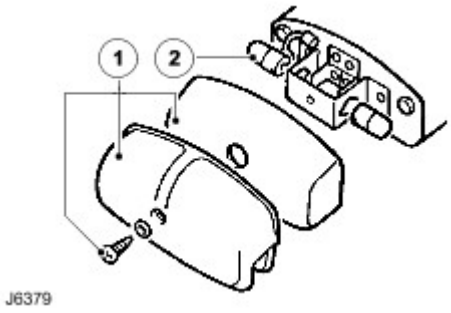
Published: Jun 8, 2006

# License Plate Lamp Bulb

## Removal

1 . Remove single screw securing lamp cover and lens to bulb holder.

2 . Remove bulb/s from holder.




## Installation

1 . Install new bulb/s.

2 . Install lamp lens and cover.

Published: Apr 14, 2006

# Rear Fog Lamp Bulb

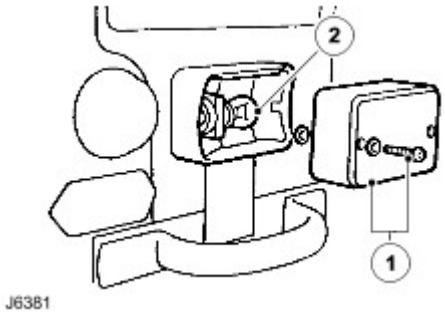
## Removal

**NOTE:**

THis procedure covers removal and installation of reversing lamp bulb and rear fog lamp bulb.

1 . Remove two screws with sealing washers and remove lens from lamp body.

2 . Push and twist bulb to release from holder.




3 . Clean interior of lamp and lens.

## Installation

1 . Fit new bulb.

2 . Fit lens to lamp body.

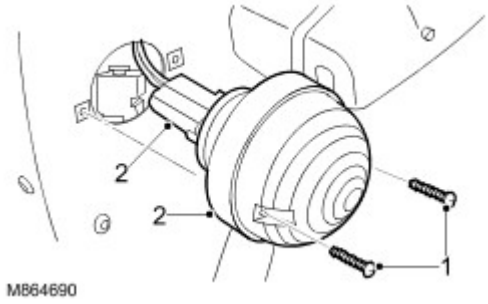
Published: Feb 1, 2006

# Rear Lamp Assembly (86.40.70)

## Removal

1 . Remove 2 screws securing rear lamp to body.

2 . Disconnect multiplug and remove lamp.




## Installation

1 . Position rear lamp and connect multiplug.

2 . Fit and tighten lamp securing screws.

Published: Apr 14, 2006

# Reversing Lamp

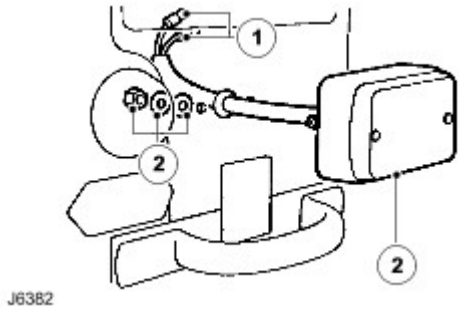
## Removal

**NOTE:**

This procedure covers removal and installation of the reversing lamp and the rear fog lamp.

1 . From underneath the vehicle, lift protective flap and disconnect lamp leads at harness connectors.

2 . Unscrew 2 nuts and washers and withdraw lamp unit from vehicle.




## Installation

1 . Feed lamp leads through grommet and locate lamp studs in vehicle body.

2 . Fit retaining nuts and reconnect lamp leads to vehicle harness.

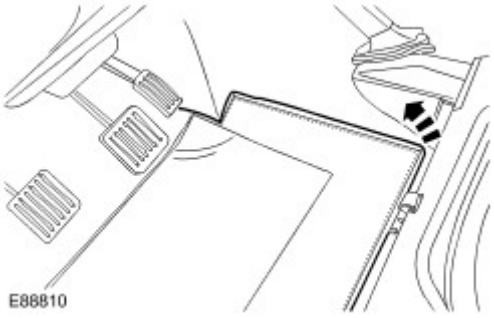
Published: Feb 15, 2007

# Reversing Lamp Switch

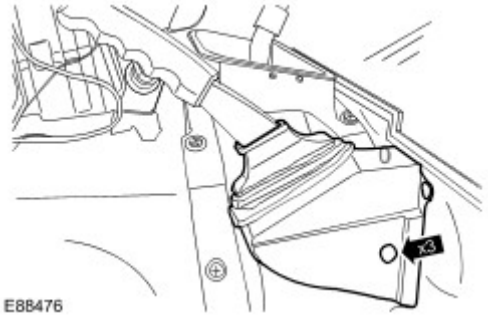
## Removal

1 . Remove the floor console.
For additional information, refer to Floor Console (76.25.01)

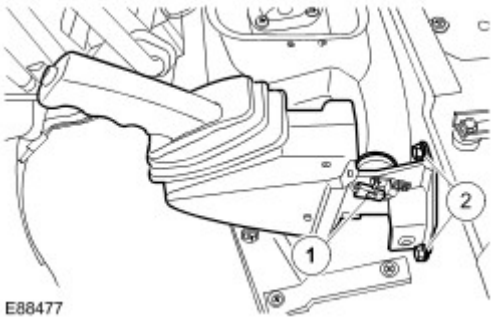
2 . Reposition the LH carpet.



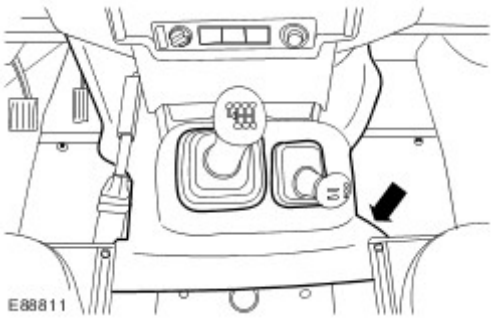

3 . Release the parking brake lever gaiter.
Remove the 3 clips.




4 . Release the parking brake lever.
1) Disconnect the electrical connector.
2) Remove the 2 bolts.



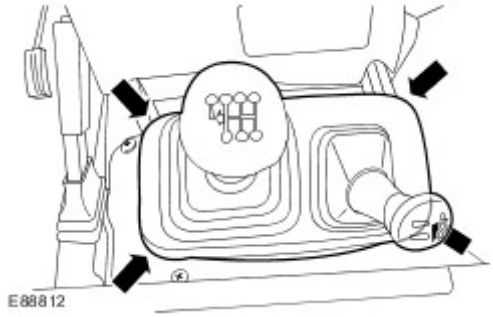

5 . Remove the transmission cover panel floor covering.




6 . **NOTE:**

Do not detach the gaiter from the selector knobs.

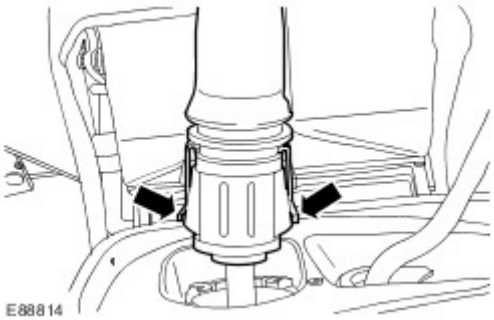
Detach the gaiter from the transmission cover panel.




7 . **WARNING: The gearshift lever knob will be released suddenly, keep face clear during removal. Failure to follow this instruction may result in personal injury.**

Release the gearshift lever knob.

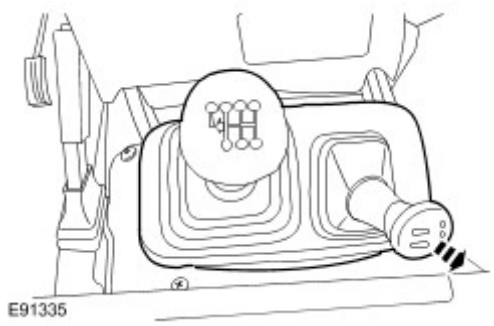
- Release the 2 clips.




8 . **WARNING: The high/low range lever knob will be released suddenly, keep face clear during removal. Failure to follow this instruction may result in personal injury.**

Remove the gaiter and selector levers.

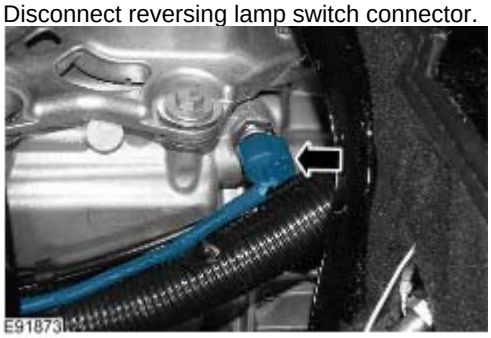
- Detach the high/low range selector lever.




9 . Remove the transmission cover panel.

- Remove the 11 screws.


10 . Disconnect reversing lamp switch connector.




11 . Remove the reversing lamp switch.

- Remove and discard the O-ring seal.


## Installation

1 . Install the reversing lamp switch.

- Install a new O-ring seal.

- Tighten to 20 Nm (15 lb/ft).

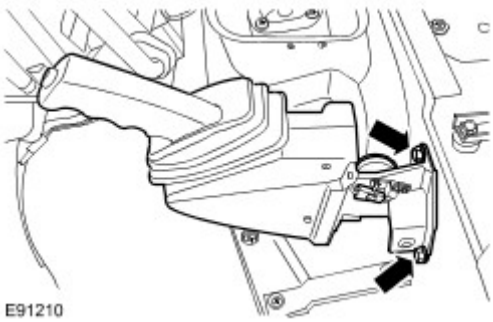

2 . Connect the reversing lamp switch electrical connector.

3 . Install the transmission cover panel.
- Install the screws.

4 . Install the gaiter with the selector levers attached.
- Install the selector levers.
- Fully seat the gaiter.

5 . Install the transmission cover panel floor covering.

6 . Install the parking brake lever.
- Tighten to 25 Nm (18 lb.ft)




7 . Install the parking brake lever gaiter.
- Install the clips.

8 . Reposition the LH carpet.

9 . Install the floor console.
For additional information, refer to Floor Console (76.25.01)

Published: Apr 14, 2006

# Side Marker Lamp

## Removal

**NOTE:**

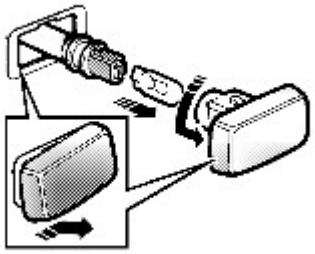
This procedure covers removal and installation of the side repeater lamp.

1 . Push lens firmly to the right.

2 . Lift left edge and withdraw lamp unit from wing.

3 . Twist bulb holder and release from lens.

4 . Pull bulb from holder.



J6378

## Installation

1 . Fit new bulb, if necessary.

2 . Fit bulb holder to lens.

3 . Locate lamp unit in wing and push firmly to the left to secure.

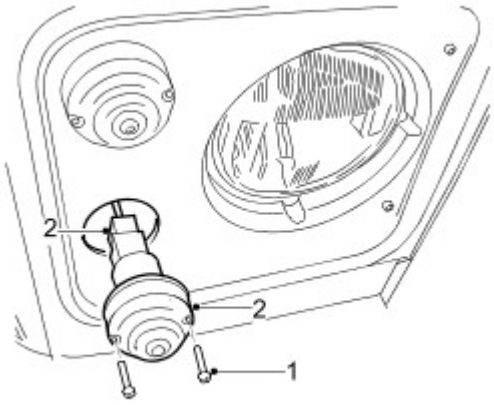
Published: Feb 3, 2006

# Side Turn Signal Lamp (86.40.53)

## Removal

1 . Remove 2 screws securing side turn signal lamp to front fender.

2 . Disconnect multiplug and remove lamp.




M864696

## Installation

1 . Position side turn signal lamp and connect multiplug.

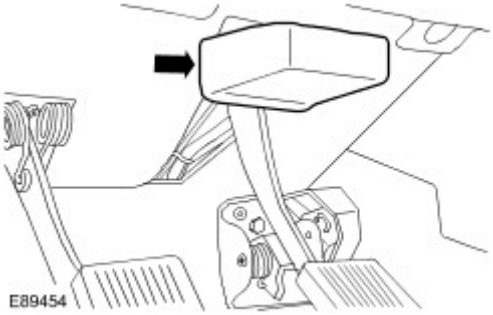
2 . Fit and tighten lamp securing screws.

Published: Jan 26, 2007

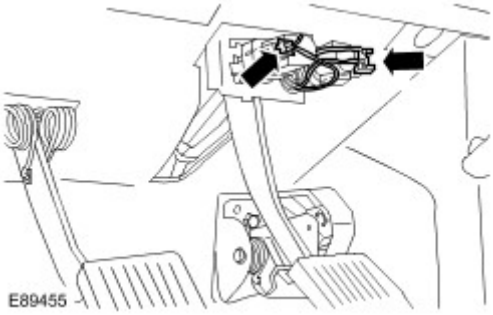
# Stoplamp Switch (70.35.42)

## Removal

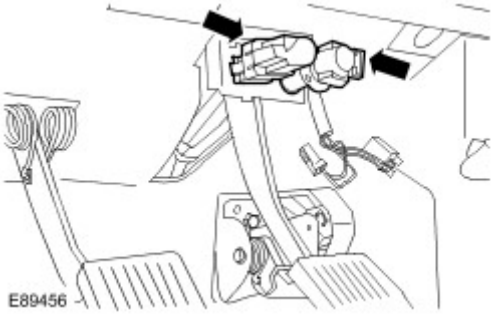
1 . Remove the stoplamp switch cover.




2 . Disconnect the electrical connectors.




3 . Remove the stoplamp switches.




## Installation

1 . **CAUTION: Make sure that the brake pedal is kept in the rest position and is not pressed or moved during the instillation of the stoplamp switch. Failure to follow this instruction may result in damage to the vehicle.**

To install, reverse the removal procedure.