

Reverse Lamp/Turn Signal LED Lamps Upgrade

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Referenced Vehicle	Jaguar S Type SE 3.0L 2005MY
Referenced Vehicle VIN	N2022x
Supporting Video	
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Introduction & Overview

This document provides a hands-on (DIY) guide to upgrading from incandescent rear turn signal lamps to high brightness LED ones with built in additional reverse lamp capability. These lamps are known as “Switchback Lamps” and incorporate electronics within each lamp. New high power 100w LED 1156 lamps replaced the existing incandescent reverse lamp bulbs. The upgrade is shown here is performed on a Jaguar S Type SE 3.0L 2005MY. The resultant effect of this upgrade can be seen in the associated You Tube video clip.



Connection Schematic Diagram.

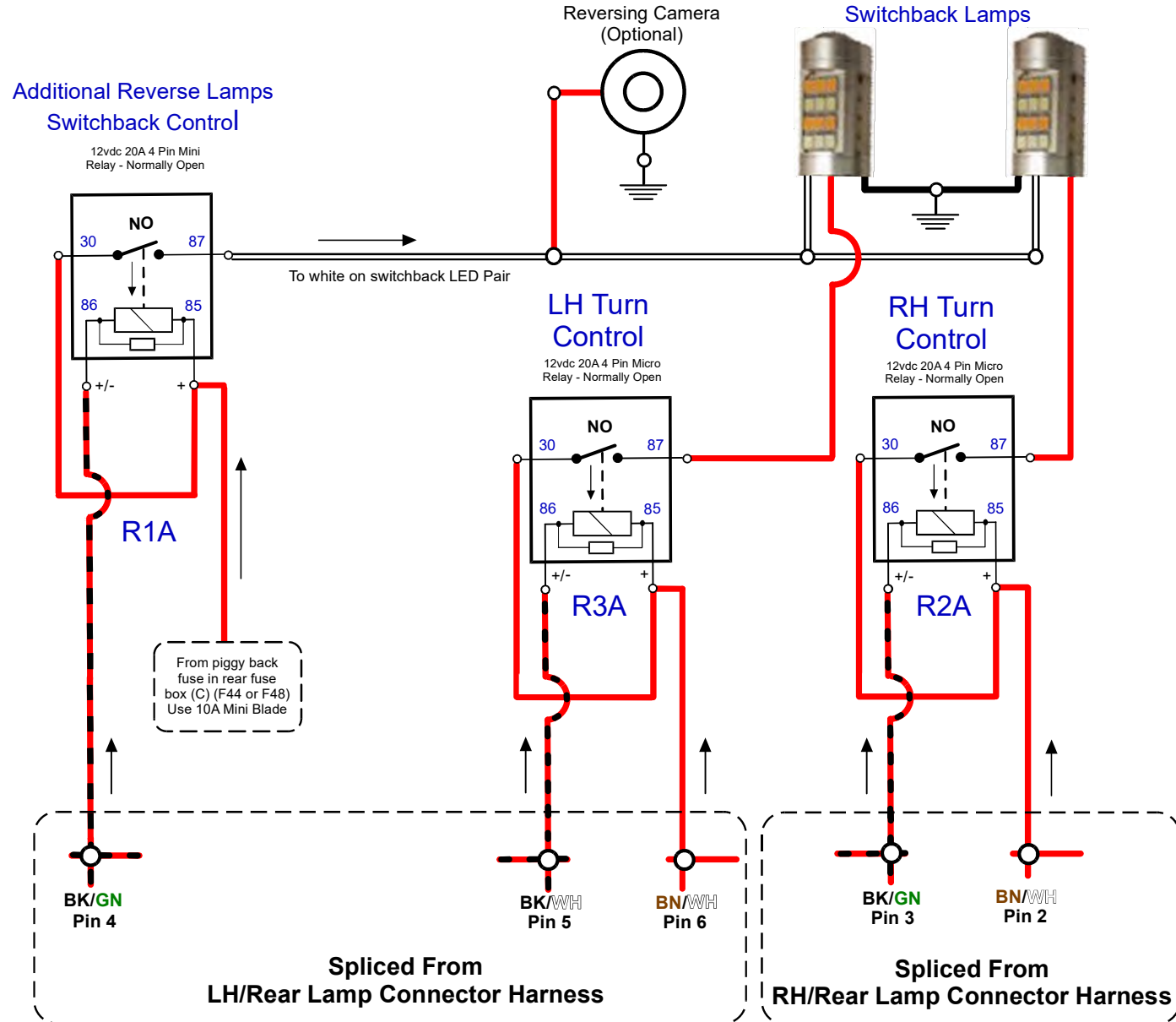


1 x Pair LED Lamps 1156 100W
(fit in place of existing Reverse Lamp bulbs)

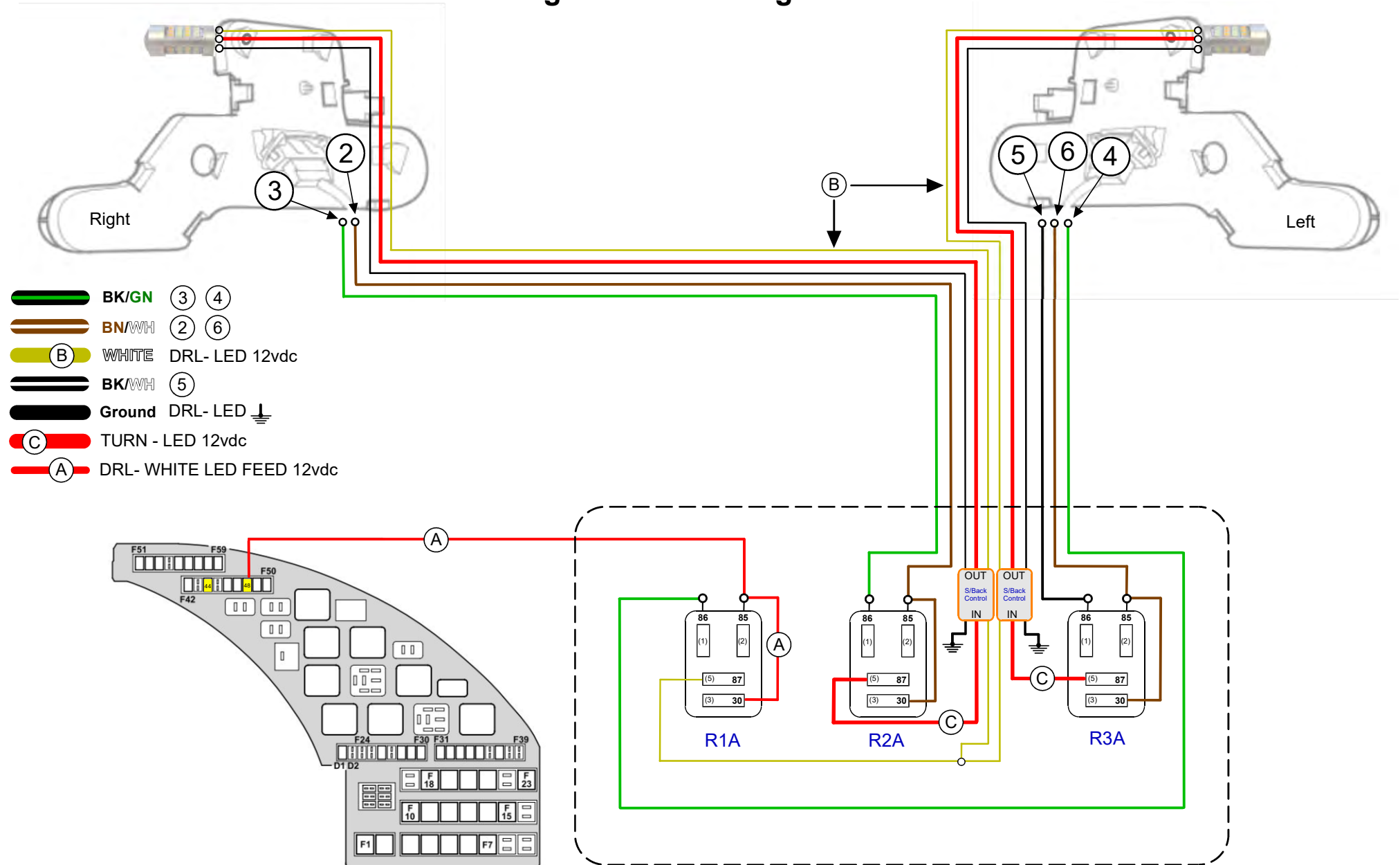
BK/GN Pin 4 (N/S) changes from +ve to -ve when the ignition is on and reverse gear is selected. Controlled by the REM.

BK/WH Pin 5 (N/S) changes from +ve to -ve when L/H Turn signal is pulsed. Controlled by the REM.

BK/GN Pin 3 (O/S) changes from +ve to -ve when R/H Turn signal is pulsed. Controlled by the REM.



Wiring Schematic Diagram.



Pin out voltages of L/H Rear Lamp connector (Disconnected from lamp assy)

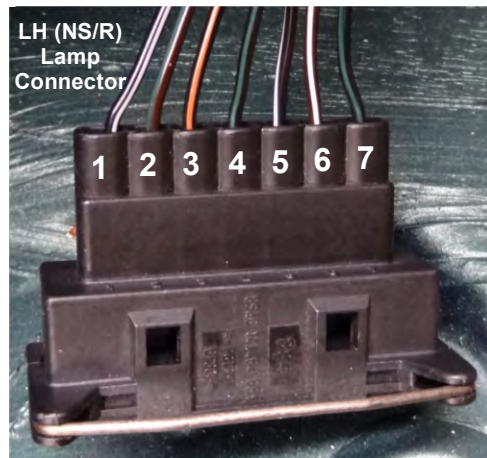
Wire Ref/Colour	Lamp Connector Pin Number	Ignition Off	Ignition On	Ignition On Reverse Selected
BK/OR CA63-2	CA10-3	0Vdc	0Vdc	0Vdc
BK/WH CA63-4	CA10-1	0Vdc	0Vdc	0Vdc
BK/GN CA63-7	CA10-7	12Vdc	12Vdc	12Vdc
BK/WH CA63-3	CA10-5	0Vdc	0Vdc	0Vdc
BK/GN CA63-9	CA10-4	12Vdc	12Vdc	0Vdc

CA63-9 - LH REVERSE LAMP ACTIVATE: TO ACTIVATE REM SWITCHES CIRCUIT TO GROUND
REM = (Rear Electronic Module)

** CA10-2 BN/GN 12Vdc in all three conditions

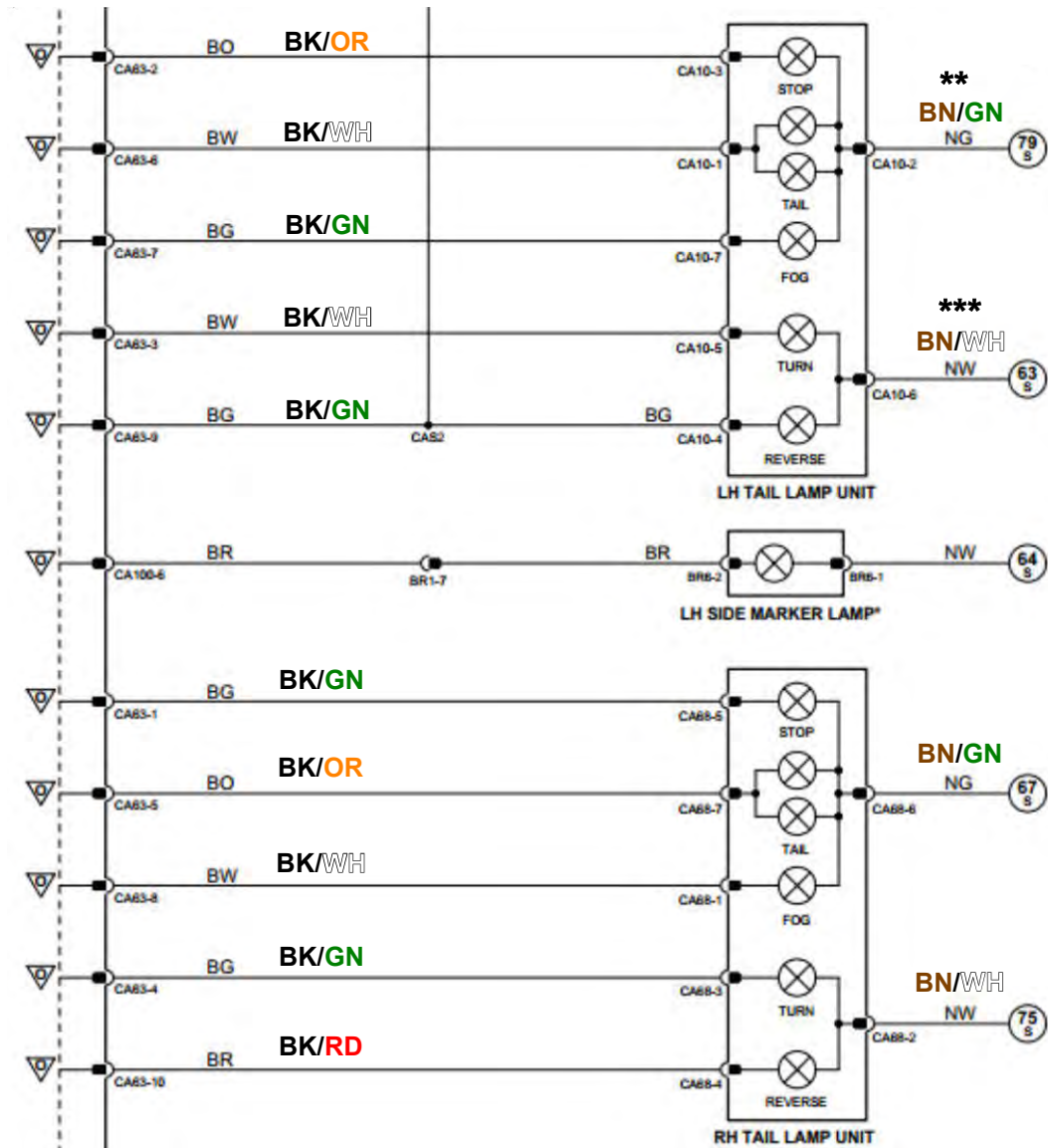
*** CA10-6 BN/WH 12Vdc in all three conditions

CA63-9 BK/GN changes from +ve(Live) to -ve(Ground) when the ignition is on and reverse gear is selected.



Jaguar S Type 3.0 SE 2005MY (RHD)

Rear Lamp Clusters R/H - L/H

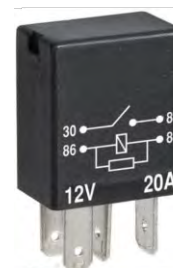




1 x Pair Switchback LED Lamps.



1 x Pair LED Lamps 1156 100W



3 x Micro 12vdc/20A 4 pin relay
(Fitted with circuit protect resistor)



3 x Micro relay base
Interlocking



1 x 10A Mini Blade Fuse.



1 x Mini Blade Fuse
Piggy Back Holder.



Splicing Connector/s
(side lamp pick up)



6.3mm crimp connectors
Fuse box to harness connections.



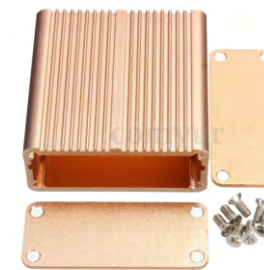
Colour coded cable as required to
match existing.



10 x 6.3mm crimp terminal
(with lock tag for relay base)



10 x 4.8mm crimp terminal
(with lock tag for relay base)



2 x Aluminum Enclosures
for Switchback Circuit Boards



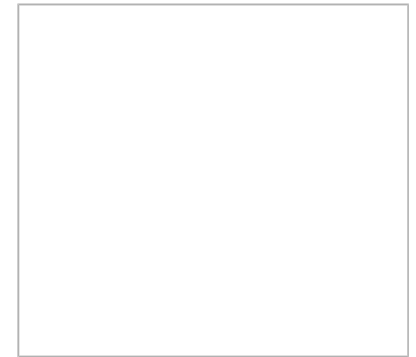
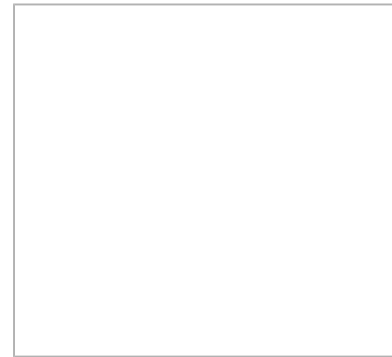
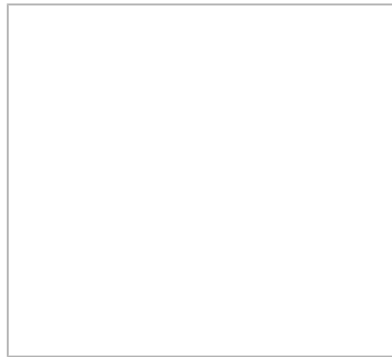
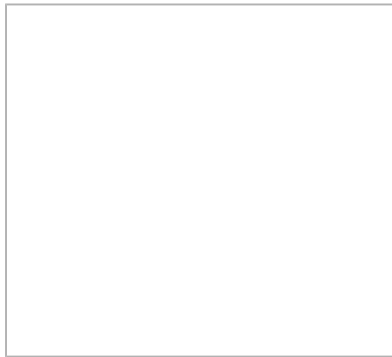
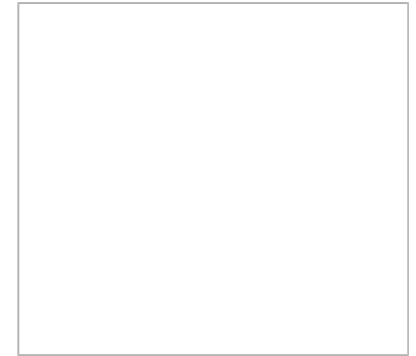
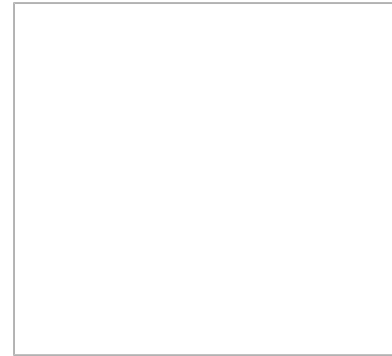
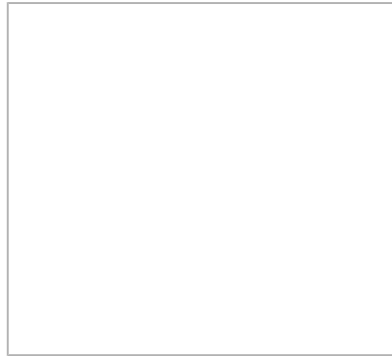
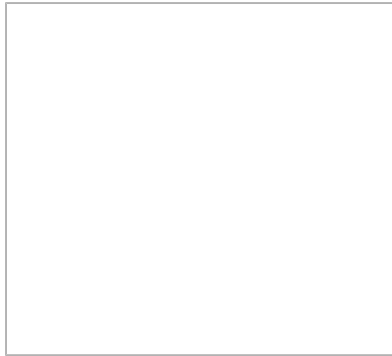
6.5mm Convoluted sleeving T pieces
as required.



6.6mm Unsplit Convoluted sleeving
as required.



6 x 9.5mm x 4mm (6.3mm)
Cable Grommet.



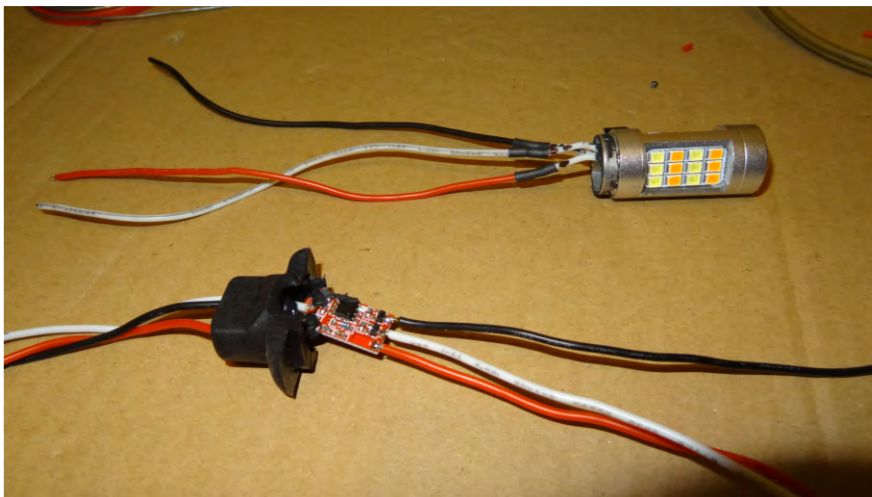
LED Reverse/Turn Lamp conversion overview (Preparing LED lamps and Switchback PCB Housings)



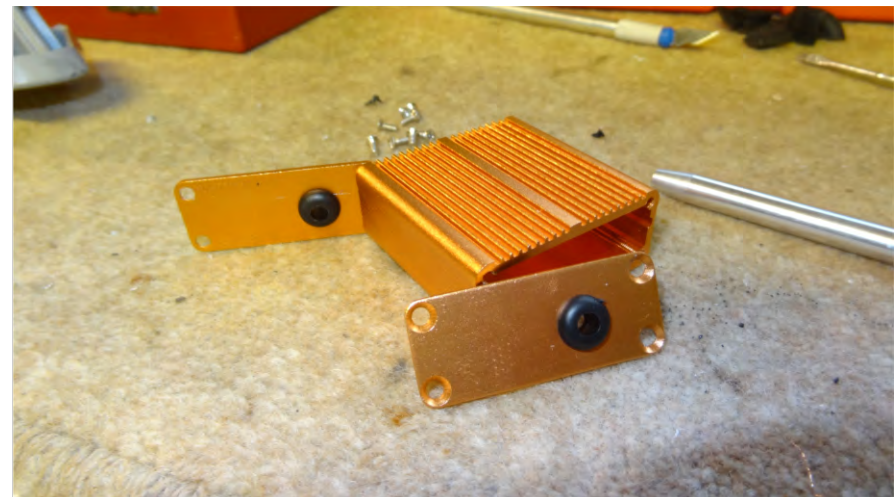
Carefully separate the lamp from the rubber circuit board housing. The lamp and PCB are fixed with black silicon sealer. The solder connections are fragile.



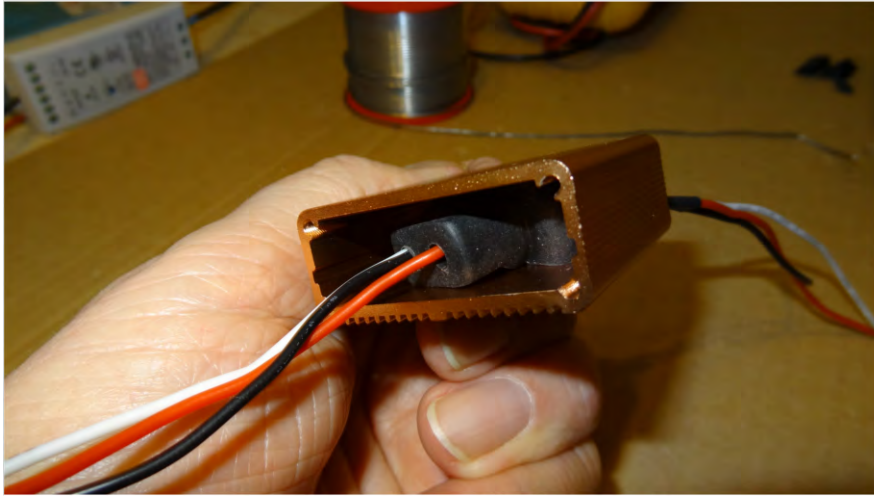
Carefully cut away the rubber which houses the switchback circuit board as shown. Use a very sharp scalpel type knife being careful not to damage or cause undue strain on the circuit board and wires. Mark each wire with black marker as shown and then unsolder the connections. Cut away rubber housing as shown as this will fit snugly into the aluminium housing.



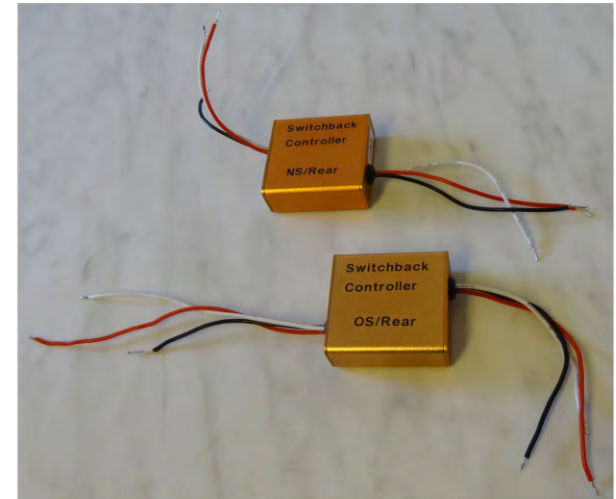
Connect/solder three new wires to circuit board and three new wires to the LED lamp. Ensure continuity of connection as in previous step - black marks.



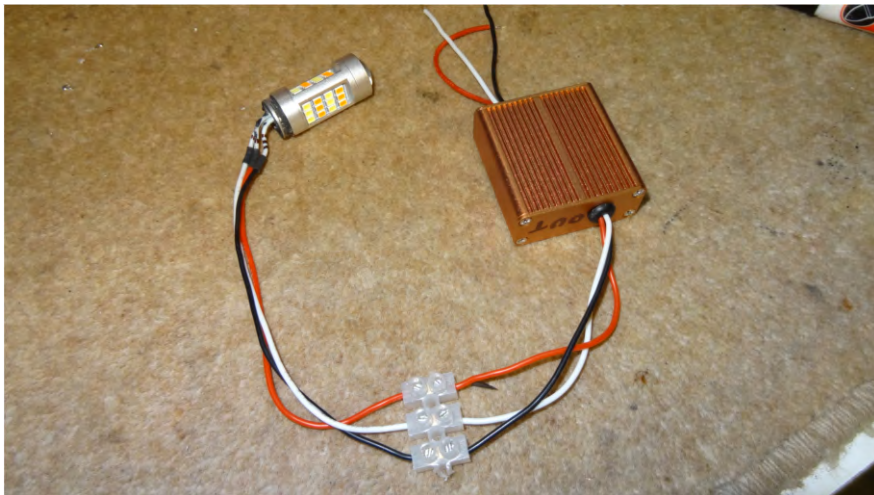
Prepare aluminium boxes by drilling a .25 inch (6.3mm) hole in each end plate and fitting cable grommets.



Fit switchback circuit boards into aluminium housings, thread wires through grommets and fit end plates.

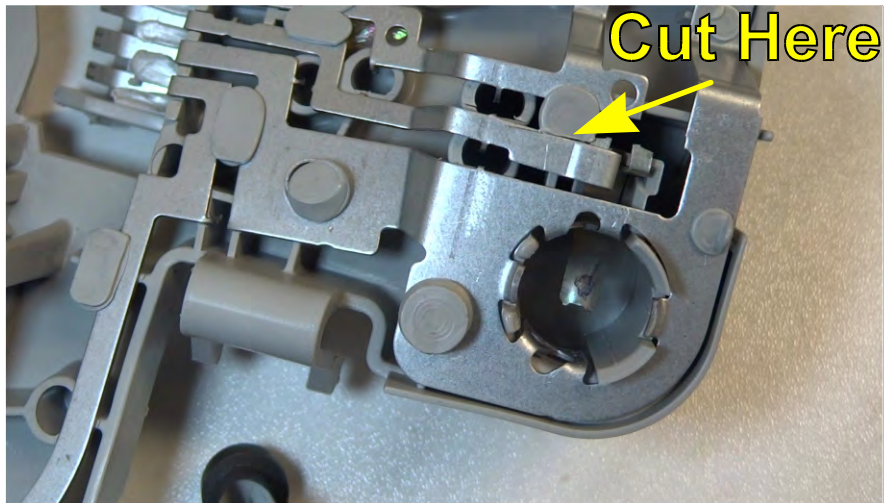


Assembled LH and RH switchback controllers. Be sure to mark which end is Input (from 12v) and which end is Output (to LED).

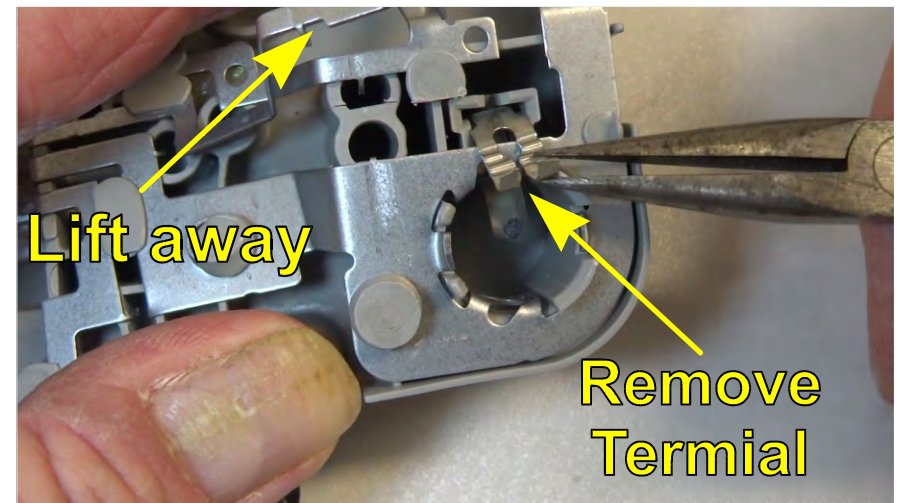


Temporarily assemble switchback units as shown in image and test with external 12vdc power source before fitting in vehicle.

LED Reverse/Turn Lamp conversion overview (Preparing Rear Lamp Holders)

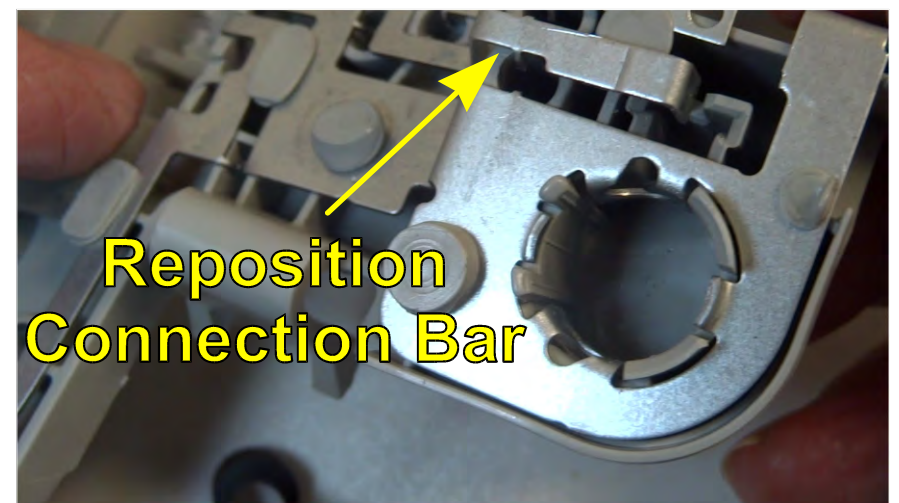


Cut plastic heat staked post as shown to relase circuit connection bar.

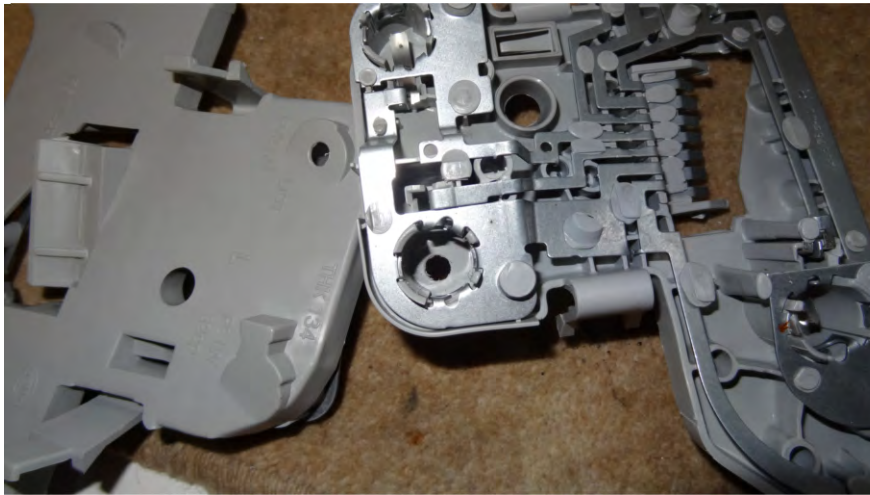


Lift away circuit bar and remove centre terminal.

IMPOTANT - retain terminals should you need to convert back to Factory Standard



Refit connection bar into original position.



Drill a .25 inch (6.3mm) hole in the centre of each turn signal bulb socket.



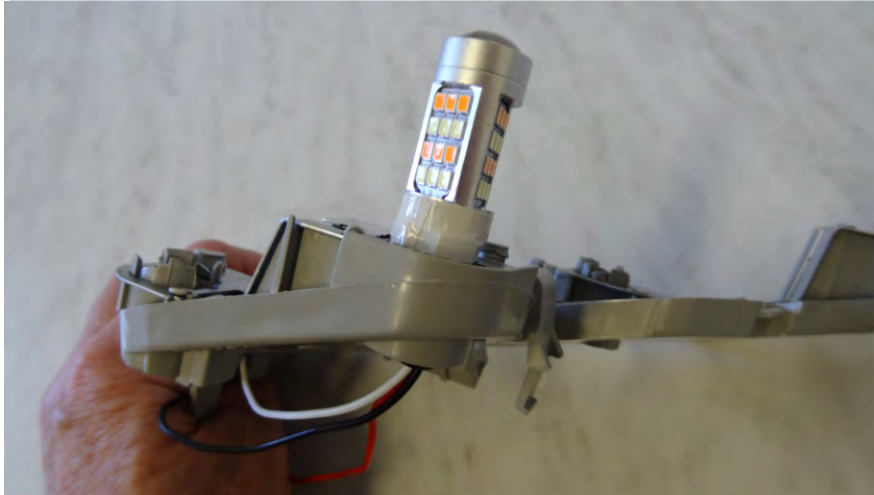
Fit cable grommets in positions shown.



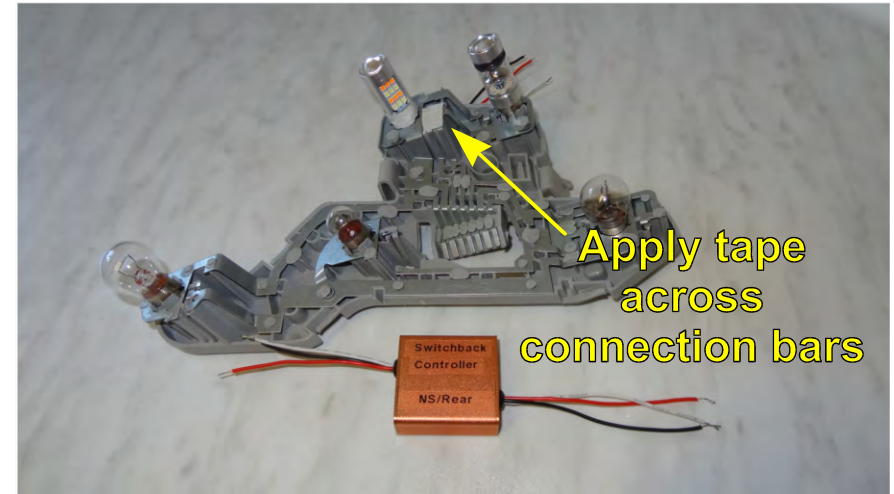
Feed LED lamp cables through rubber grommets..



Push (snug fit) LED lamp into turn signal socket.



Secure LED lamp in socket with strong fibre/adhesive tape.



Lamp holder assembly with LED switchback and LED 1156 100W reverse lamps fitted.
The assembly is ready for fitting to the vehicle..

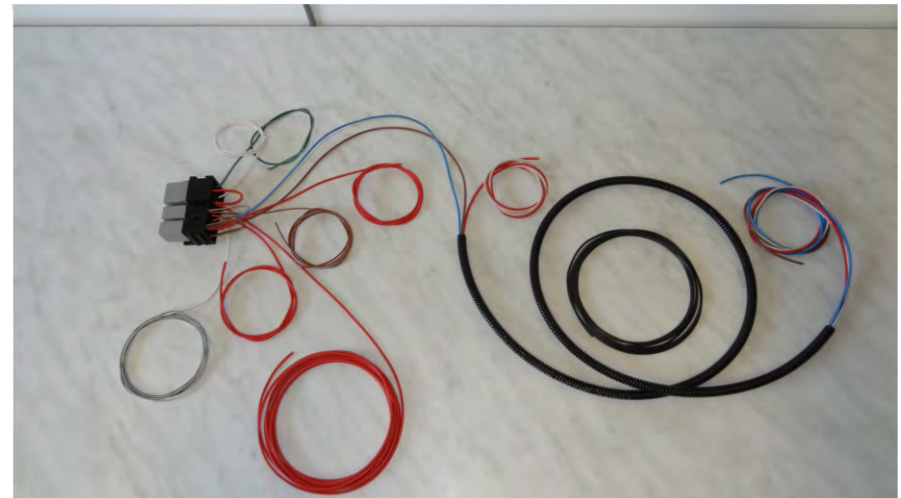
NOTE.

The lamp holders have been converted in such a way that they can be swapped back to factory standard.

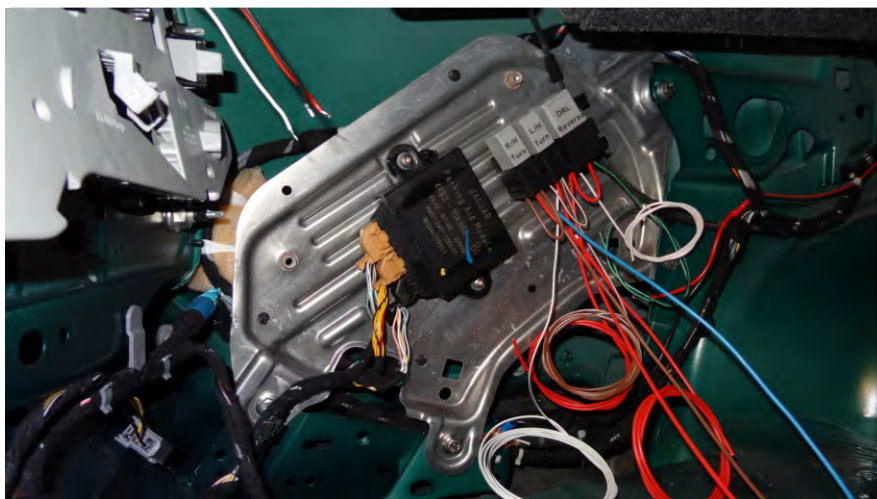
LED Reverse/Turn Lamp conversion overview (Preparing Relays, Wiring Harness and Fitting to Vehicle)



Three relays with interlocking bases. One for each turn signal LED and one for White switchback control..



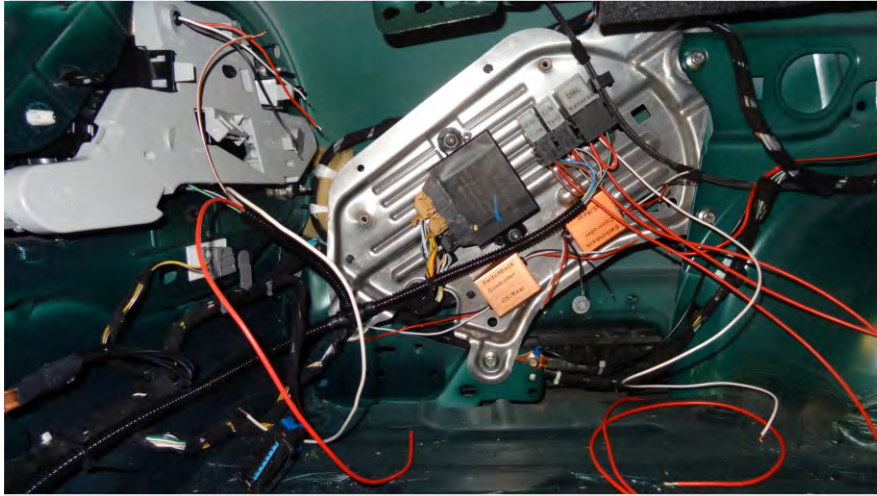
Wire up relays to pre measured harness.
IMPORTANT - Test Relay Switching and Harness with 12vdc source and digital multi-meter **BEFORE** fitting and connecting to vehicle.



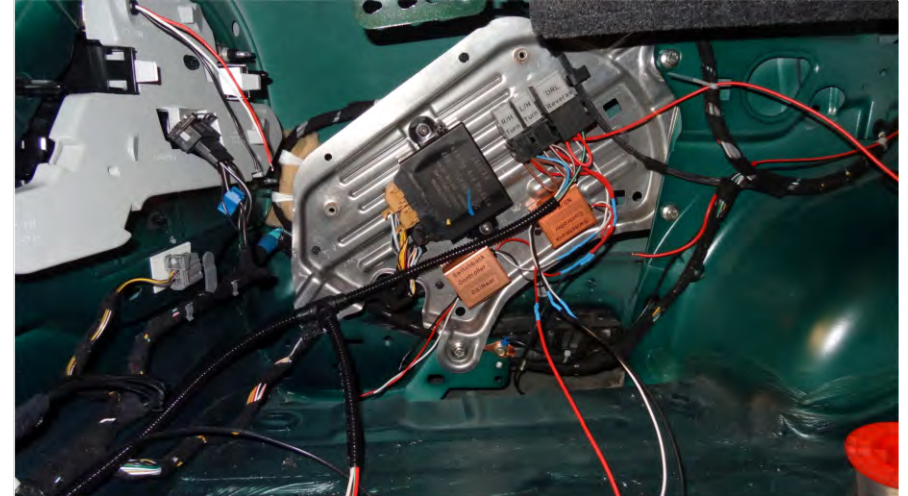
Fit relay and harness assembly to vehicle - (NS/Rear).
(NOTE - If your vehicle is fitted with CD player or SAT Nav - another location will have to be selected).



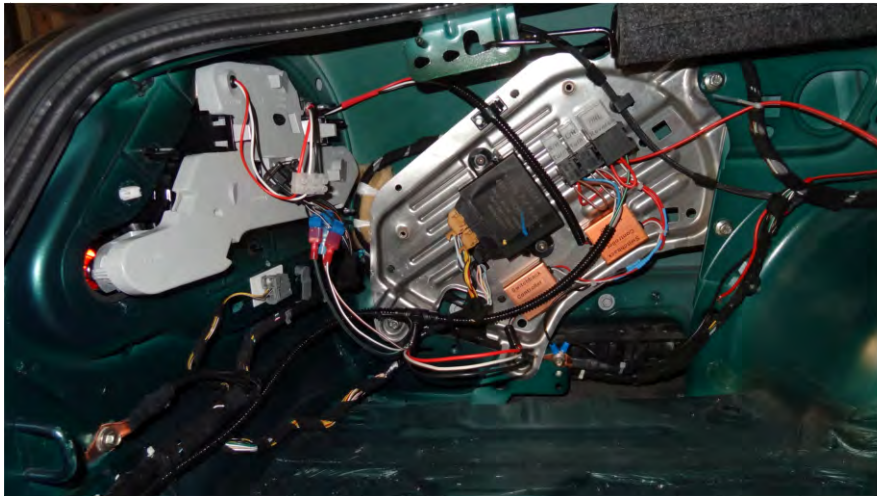
Harness prepped and positioned for OS/Rear Lamp Assembly



Select location and fit both Switchback controller modules.



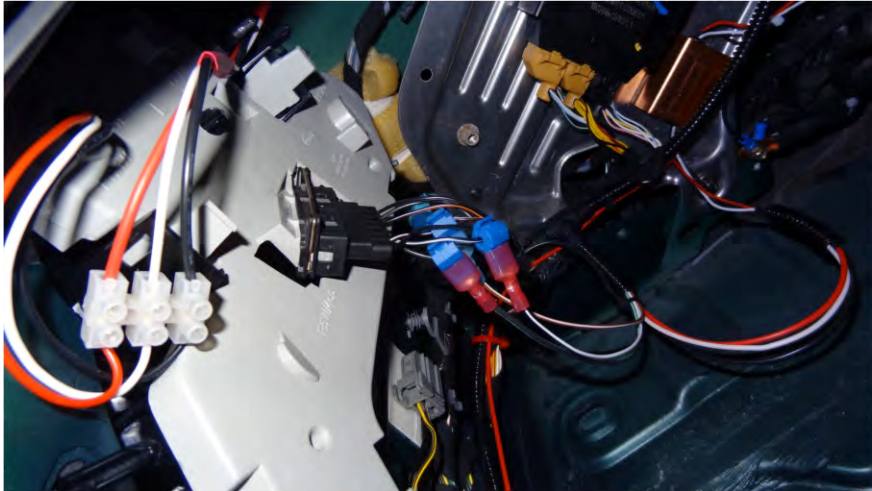
Connect Switchback Controllers to wiring harness.



Connect Switchback LED to harness. Splice harness to lamp assembly connector (Near Side).



Connect Switchback LED to harness. Splice harness to lamp assembly connector (Off Side).



Detail showing spliced connections to the Near Side lamp holder connector.



Connect Piggyback fuse lead to F48 in fuse box to White Switchback control relay.



Hazards and Reverse Gear Selected
New Switchback Turn LEDs and 100W 1156 Reverse LED bulbs



Reverse Gear Selected
New Switchback White LEDs and 100W 1156 Reverse LED bulbs

Additional Notes

Please note that the guidelines provided in this document and related video apply specifically to the Jaguar S Type SE 3.0L 2005MY VIN N2022x range. Other models may be similar.

Always check that replacement parts are suitable/compatible before buying. Use your vehicle's VIN reference (Vehicle Identification Number) to correctly identify part suitability. This can normally be found in your vehicle registration document or quite simply by viewing the number on top of your dashboard cowl through the front windscreen