

Boot Light Installation (DIY Version)

Why DIY and not OEM

I decided to install the boot light modification on Sue's Figaro (Jeff), not because you need to be able to see when putting the soft top down, who would need that, but for when the wet boot liner has been used as a storage area and you need the light when you arrive or set off in the dark.

At first I looked for an original Nissan Figaro setup which includes the wiring harness, bracket and light, unfortunately, I couldn't find one online. The Figaro Shop had them advertised, but when I went to order one, they were out of stock.

Also, just for a boot light the cost were around £200 and I assume, plus delivery. Personally I thought was a bit on the high side for a boot lamp, but they are rare and I guess supply and demand justifies the high price to some extent.

After investigating, I decided to do some research with a view to installing a similar system to the OEM version.

The DIY system

Step 1 – What parts would I need.

Looking at the wiring diagrams, some of the parts were easy to replicate or create like the lamp, the bracket and the wiring etc. However, I didn't know the part numbers for the Nissan two pin plug and socket assemblies, so I decided to splice directly into the existing wiring but at the right side of the plugs & sockets.

Note, my background is electrical so I already had some of the smaller items required for the job.

Parts List

Note, as stated, I already had the following parts, but these are all available on eBay.

Heat shrink tube in assorted sizes.

Fiberglass heat protection tubing (to cover the diodes), this was purchased to cover a Figaro water coolant pipe.

Cable ties.

Wiring harness wrapping tape.

2 x Spade crimps (for connecting the light).

3A Mini Blade fuse.

20mm open grommet (to protect the cable near the light, these are normally used in 13A domestic metal back box knock outs).

Ordered Parts, all from eBay.

Cable



80 COLOURS IN STOCK - 3m of 1mm² 12v 16.5A Automotive car marine wire cable

(153620435709)

Colour: Blue/Yellow

£ 

ITEM PRICE:

£3.66



80 COLOURS IN STOCK - 3m of 1mm² 12v 16.5A Automotive car marine wire cable

(153620435709)

Colour: Red/White

£ 

ITEM PRICE:

£3.65

Diodes



Blocking Schottky Rectifier Diodes Variety of Value Solar

(225055053444)

Type: 1000V 10A 10A10

Pcs / Quantity: 2 Pcs

£ 

ITEM PRICE:

£2.20

Bulkhead Grommet - Note, In hindsight, I wouldn't bother with this, it didn't fit and had to be adapted



Wiring Loom Bulkhead Grommet Cable Protect Bush
Dustproof Tapered Rubber Grommet

(175363697337)

Types: JD-08

Amount: 1pcs

£ 

ITEM PRICE:

£1.61

Mini Blade Fuse Holder



In-line Mini Blade Fuse Holder Splash Proof for 12V 20A Fuses Car

(252160318805)

£ 

ITEM PRICE:

£1.99

PVC Flexible Sleeving



PVC Flexible Cable Sleeving / Tubing - Wiring Harness
Black, Earth, Blue & Brown

(202995043679)

Size (ID):: 6mm

Colour: Black

Length: 5 metre

£ 

ITEM PRICE:

£5.95

LED Bulb

ORDER DATE
08 Mar, 2023

ORDER NUMBER
01-09800-09661

SOLD BY
[valley-hid](#)

ORDER TOTAL
£8.99



12v White BA15s LED Reverse Light Bulb 27 SMD 382 207
245 12 VOLT
(253828258711)

£

ITEM PRICE:
£8.99

Delivered on Sat 11 Mar

Two Pin Plug and Socket

ORDER DATE
07 Mar, 2023

ORDER NUMBER
21-09785-57041

SOLD BY
[woodpcb](#)

ORDER TOTAL
£2.76



Pin Connector Plug Socket Kit 2x 6.3mm Way Car
Motorcycle Scooter
(175525628360)

£

ITEM PRICE:
£2.76

No Of Connections: 2 Way

Estimated delivery Thu 9 Mar - Sat 11 Mar

Boot Lamp

This Britax 738 lamp is slightly smaller at 120mm long x 80mm wide x 55mm deep, the original Bosch lamp is approximately 135mm long x 120 wide x 68mm deep.



BRITAX 738 RECTANGULAR REAR REVERSE LAMP LIGHT
WITH BRACKET CAR CARAVAN TRAILER
(232247044482)

£

ITEM PRICE:
£19.99

Estimated delivery Mon 27 Feb - Wed 1 Mar

Total cost for all the parts I ordered = £50.80p

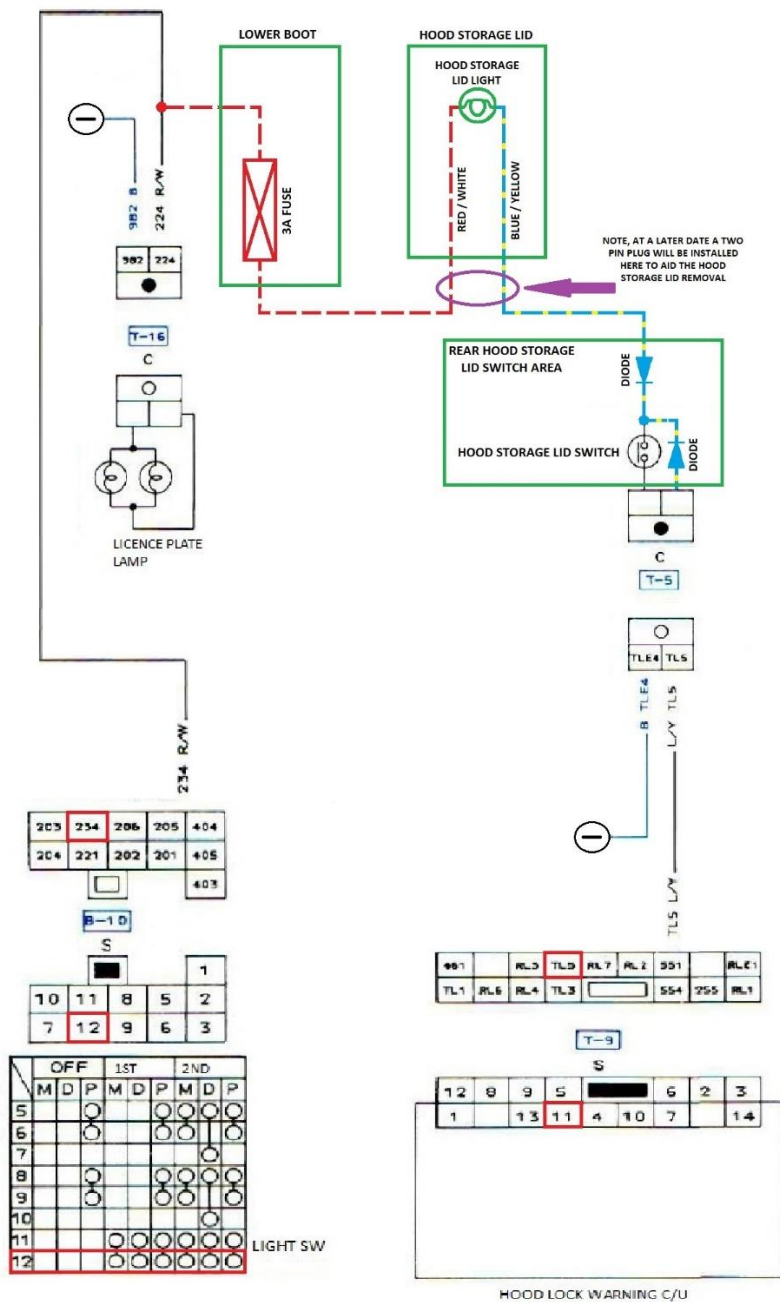
If you take away the cost of the 2 pin plug / socket and the LED bulb, then add the cost of a filament bulb, the cost will be reduced to around £42.

If you had to buy all of the parts I used from scratch, I think the cost would be in the £65 region.

Step 2 – The wiring diagram

Having looked at the excellent threads on the forum from people who have used the OEM system like Tony and Oliver etc, and then checking out the Nissan wiring diagrams, I created the diagram below. Simon Smith then verified this for me, he added one more diode that I had missed (he is good and knows the Figaro inside out!).

Wiring Diagram (spliced in version)



Step 3 – Making The lamp Mounting Bracket

There is a difference between the Bosch lamp and the Britax lamp that I used.

The Bosch lamp uses its mounting bolt as the negative terminal and has one internal connection for the positive wire. Using this OEM system, the bracket has to be electrically isolated from the body otherwise it will always be on when the lights are on because the bracket will earth the lamp (if metal fixings are used).

The Britax lamp has two internal spade connections and doesn't use the mounting bracket as a negative point, therefore you don't need to worry about electrically isolating the bracket.

I chose to make a cardboard template first, then followed this up by fabricating a bracket from a piece of stainless-steel plate, no need to worry about rust!

In addition, I added a third mounting point as shown in red on the lower left hand side of the image, this fits against the central strengthening beam and gives the bracket added strength, it will stop lamp bouncing, I imagine the OEM lamp bounces.

Bracket



Lamp Mounted on the Bracket



Additional Mounting point



Step 4 – Wiring Splice & Diode installation Near the Hood Storage Switch

One surprise that I came across was that the plug and socket connecting the hood storage switch to the hood lock warning C/U was actually unplugged, it turned out that the switch contacts were crusty. A bit of contact cleaner and working the switch sorted this out.

This was dangerous because the boot could have been unlocked while Sue was driving the car and she wouldn't have known.

As per the diagram, I spliced into the Blue and Yellow cable before the plug on the hood lock warning C/U side, this was just in case at some stage the hood lock warning switch needed replacement, this comes with a flying lead and female 2 pin socket attached.

I removed some of the PVC sheathing covering the Blue and white wire (and the black wire) going from the two pin male plug towards the hood lock warning C/U (front of the car), this allowed access to more of the Blue and Yellow wire.

The cable was then cut at the point indicated below, and one end of the diode array was connected to the wire leading to the hood lock warning C/U.

Point of cut



The previously made up diode array was then connected to the wire leading to the hood lock warning C/U (front of the car). this looks bulky because the diodes and the central tap wire were all twisted together for added connection security before soldering.

I am guessing that the Nissan wiring harness must also contain diodes for it to work without back feeding voltages?

All connections were covered with heat shrink plastic.

Connection to the hood lock warning C/U Blue & White wire



The diode array and connections were then covered by fiberglass tubing for a bit of additional heat protection. There is a chance that the diodes could get slightly warm if you use a LLB382 21w (around 2A) bulb as specified with the Britax 738 light, but I have installed a BA15s LED bulb that only takes 1.62w, so there will be no heat build-up.

Diode array soldered connections covered with heat shrink and the whole array totally covered with fiberglass tubing.



Diode array and connections wrapped with wiring harness tape.



Step 5 – Splicing into the numberplate lighting circuit at the inside of the lower boot lid

As per the diagram I only needed to splice into the red and white wire before the plug and socket that goes to the numberplate lights behind the lower boot lid, and install an inline Mini fuse for protection.

Again, I cut the cable, spliced one side of the Mini inline fuse holder into the cable and soldered all three ends together, then I used heat shrink around the soldered joint and installed a 3A fuse.

After doing this I soldered the new Red & White cable that goes to the light to the other side of the mini fuse holder, and then I heat shrunk the covering around it.

The wiring was then made neater using wire harness tape.

Rear of the Lower Boot - Mini Fuse wrapped with wiring harness tape



Rear of the Lower Boot - Mini Fuse cap closed



Step 6 – Harness from the lower boot area to the Hood Storage lid lamp

The Red & White cable and the Blue & Yellow cable, both covered by 6mm PVC sheathing, were now fed through a flexible grommet and an open grommet towards the now mounted boot light.

To be honest, I probably wouldn't bother with the lower boot edge grommet next time, it wasn't the right size and was a struggle to fit, I would still probably use some sort of hole edge protection though.

Like others on the forum have suggested, it's difficult to get the cable harness through the bottom left hand corner under the boot strengthening structure but it is manageable, I even managed to do it with the 6mm sheathing on the outside of the cable but it was a struggle.

Two pin plug and Socket

I added a two-pin plug & socket, it is located behind the offside brake light, if you ever need to remove the hood storage lid, all you need to do is disconnect the plug and you can remove the boot lid. Overkill I know.



Boot lid entry flexible grommet and wiring harness.

Helps to take the flexing strain, and protects from chafing against the hole edge.

As previously stated, although it looks nice, I probably wouldn't bother with this grommet next time because it needed to be modified, I would just use some edge protection around the hole.



Boot lid wiring harness outlet to the boot lamp

Showing the 20 mm open edge protection grommet



20mm Edge protection grommet



Step 7 – Lamp connections

It is fairly straight forward connecting the Britax 738 lamp, it just has two standard spade tabs protruding directly from the lamp base All you need is two red spade connectors and a crimping tool.

Please be aware that if you decide to install an LED bulb instead of a normal 21w filament bulb like I have, some of the LED bulbs are polarity sensitive, so ensure that the Red & White wire (positive) is connected to the centre terminal of the bulb holder.

Lamp Connection



Completed Lamp Installation

Distorted images due to camera angle

Lamp fitted with an LLB382 – 21w Filament bulb.



Lamp fitted with a more expensive BA15s – 1.62w (21w equivalent) LED bulb

