Ultraflex4x4

Off Road Harness Kit.

UF-HAR-OR & UF-HAR-OR-2R (GTW)

The Harness kit you have been supplied has multiple uses:

a). Negative Switching conversions to LED lights.

b). Power upgrade to Conventional systems.

First thing first .. this harness plugs in .. you do NOT cut out your Harness from your car.
Used successfully on : Toyota, Landrover, Subaru, Holden, Mitsubishi, Mazda, Isuzu.
The hardest part is removing the old screws and not breaking the grill clips.

Why is it an off road harness ? Because as is it comes, it has 4 low beam activated . Which is not legal in Australia ..

Wiring

1. There are 4 x H4 type connectors these are also suitable for H1
2. The grey wire is the low beam
3. The brown wire is the high beam
4. The black wire is the earth or negative on vehicle
5. The RED wire with 5 mm diameter lug is the battery 12Volts positive OR the Positive terminal on the GROUNDED battery in 24V systems (runs lights at 12V , 24V relay kit required) . Run from the NON grounded battery to deliver 24V to the lights.
6. **The Black plug (with red,white,black wires) on the new harness plugs in to the OUTER light H4 plug where you removed the headlight from.**

For vehicles with quad lights: (80 Series , Brumby , Fuso etc)

a) **It is only legal to run two outer lights on low beam** (if fitting LED units) (ADR 13/00)
b) **Only the two outer DRL are legal to connect** if fitting new lights also
c) On the 80 Series and other Toyota there is a square box on the drivers side inside is a fused connection to “ACC”essories. Connect the two red wires of the DRLs to this with custom wiring.
d) You may cut the inner light's grey wire to prevent the low beam in the inner lights comming on.
e) You may reconnect these inner low beams to a fog light switch the switch must have a rating of 5 Amps for the Ultraflex4x4 LEDs (60W, 80W)
f) Snip the inner grey wire on the passenger side against the harness.
g) Snip the grey wire on the drivers side inner light at the mid point.
h) Run a wire from the Light ends of BOTH these inner connectors to one side of the fog light switch.
i) Run a wire from the Harness side of the Drivers side inner light (mid way snip) to the other side of the fog light switch(one side not both).

- **The placement of the harness on Toyota is on passenger side** between the battery and the radiator support panel. The red wire goes directly to the battery.
- **The placement of the harness on Landrover is on drivers side** between the lights and the radiator support panel. The red wire goes directly to the battery.
- **The black wires** go to the 10mm bolts on each guard on the 80 series (use some grease to prevent corrosion).

The relay supports have been removed. Why ? Because the harness is 400g and the mountings will fatigue and snap off the relay connectors *yes we tested it in a FINK Race*. You must cable tie this or make a custom bracket and support the cables using a “P” clamp if you wish to mount it.

For other DUAL LAMP vehicles you do not have to do any changes.
the inner or spare pair of connectors may be used to easily trigger Fog/ Spot lights, with appropriate wiring.

Negative Switching Issues:
The car is Positive Ground but the wiring is switching the Negative and supplying the positive as a Common. This creates complications !

Spot lights wired into the OEM harness cause a voltage RISE on the negative lines that are NOT connected, above the relay normal turn off voltage, around 4-5 Volts. The new harness detects the difference between the Low/High and the Common . The Common is positive, and when adding voltage to the negative LOW/high this reduces the difference . Toyota are famous for wiring issues and mostly because they put the High Beam Dash indicator across the low beam switch. When a harness kit is installed .. it gives a feedback voltage to the Coil trigger of the relays.

The UF-HAR-OR-2R (GTW) does not need any special wiring or re-wiring .

Now when Spotlights are wired prior to the installation of a Positive switching conversion harness, This creates MORE voltage feed back !
The remedy here is either :

1./ Install 2 x 6 ohm 50W resistors across common and low beam and common and high beam on your OEM harness. This is power hungry and the resistors get HOT .. like 120 Degrees C Hot .. !
These are available from local auto shops and sold as "LED RESISTORS"
or
2./ Put a 27 ohm 5W resistor in the same place *
3./ Change the 85 and 86 pin on your spot light wiring . Pin 85 goes to the new harness high beam (brown wire) and and pin 86 to ground on the chassis.

If you are using this for Negative switching conversions. Do some reading here :
https://www.facebook.com/notes/ultraflex-4x4/installaion-notes-for-60-and-80-series-toyota-led-lights/1543968692307899/

*For 24Volt Systems the resistor should be 66 ohms and 10W or 27 ohm and 30W

Variations: 24 Volt relays

Note: Normal and GTW harness (Guaranteed To Work no re-wiring). works for 12V and ***24V systems with a change of relays.***

CONDITIONING OF *Ultraflex4x4* LIGHTS:
During WINTER months the lights made in a humid climate may cause some fog to appear in our colder climate. Please remove the breathers at the rear and then leave them on a warm window sill for one day prior to installation. Put the breather back on before fitting !

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Ultraflex4x4 LED Lights follow this convention: Green wire Turn signal, Red Wire DRL or Parking light.

Illustration 1: ***Plugs in to your Car harness see Illustration 3***

The GTW harness has added resistors on the high and low beam circuits for those pesky vehicles that just will not play ball or who have a moderate birds nest under the bonnet or dash. You need only plug the harness into your existing light socket.

On the Quad Lights such as Brumby and 80 Series this will be the low beam light on the OUTER connector .

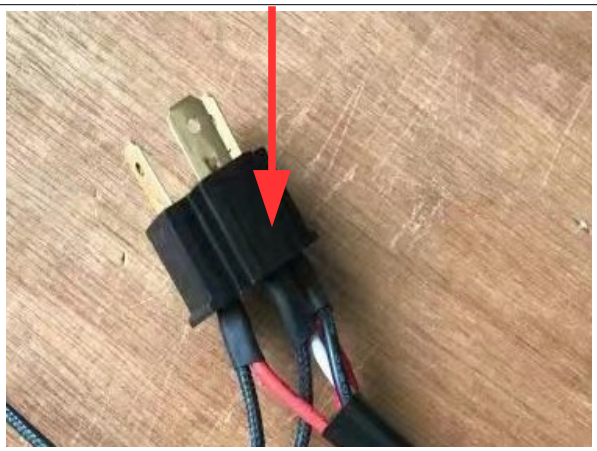
We also do a Universal H4 Halogen kit for those vehicles that are just UN-economical to make a LED conversion for . It includes H4 and H1 globes.
Suitable for GU Patrol and Sahara 80 Series Subaru etc Positive or negative switched.
The 5800K colour temperature is the Peak of Mi-optic Vision at night .. but does not add blue to reduce fatigue. We usually add 200K to 700K to to the colour temperature to reduce driver fatigue on long trips. This is not an arbitrary "I THINK" it is based on real science and hundreds of studies world wide.
5800K also gives you the BEST daylight colour rendering associated with around 3PM.

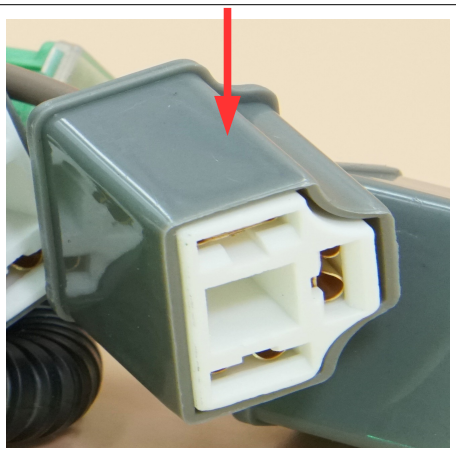
As with all products .. there are better and worse .. we designed ours to be appropriately priced and offer exceptional value for money .

There are harnesses out there in wonderland that are $275+ AUD that give about 1-3% better performance .
We think we have an appropriate solution at a resonable price .

Pins and wires

On the male plug		On the harness
High Beam	Red	Brown - Positive(+)
Low Beam	White	Grey - Positive(+)
Common	Black	Black - Negative(-)

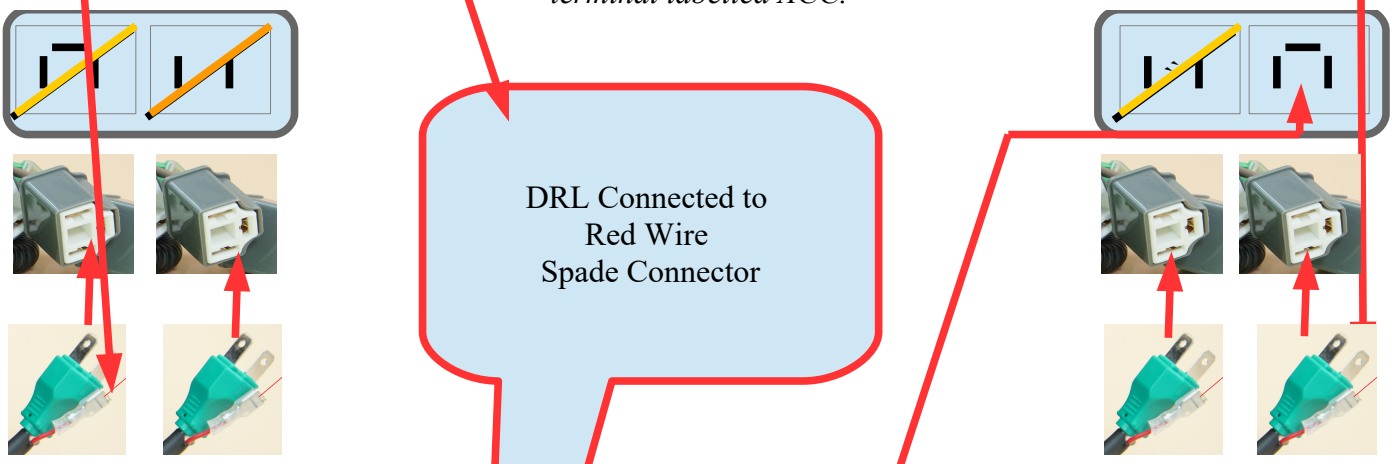




12 Volt relay	24 Volt relay	LOW BEAM ON	HIGH BEAM ON
ON 8-15 volts	ON 16-32V	LOW to common ON	LOW to common OFF
OFF 4-5 Volts	OFF 8-10 V	HIGH to common OFF	HIGH to common ON
98 Ohms	200 Ohms	See the voltages at left for relay type	

80 Series Toyota

Illustration 2: Connect the RED Wire spade connectors to the ACC terminal in the box on drivers side to terminal labelled ACC.



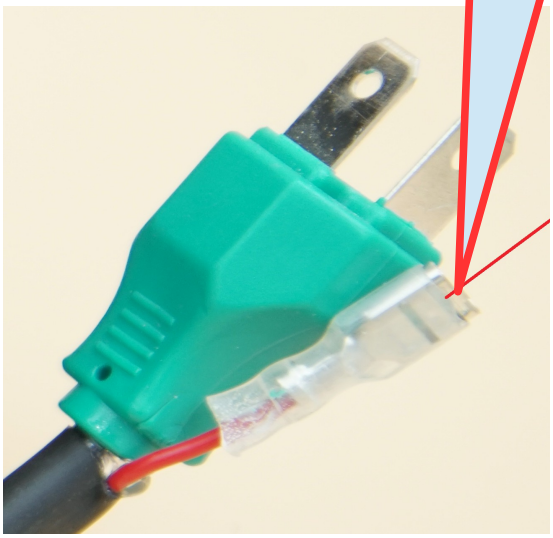


Illustration 3: This MALE plug . Plugs into the OUTER light H4 Connector where you removed your old lights from the OE car wiring harness.