

Range Rover LED Headlights Retrofit Adapter

Brief Overview and Schematic Diagrams

Revision 2.06

02/2020

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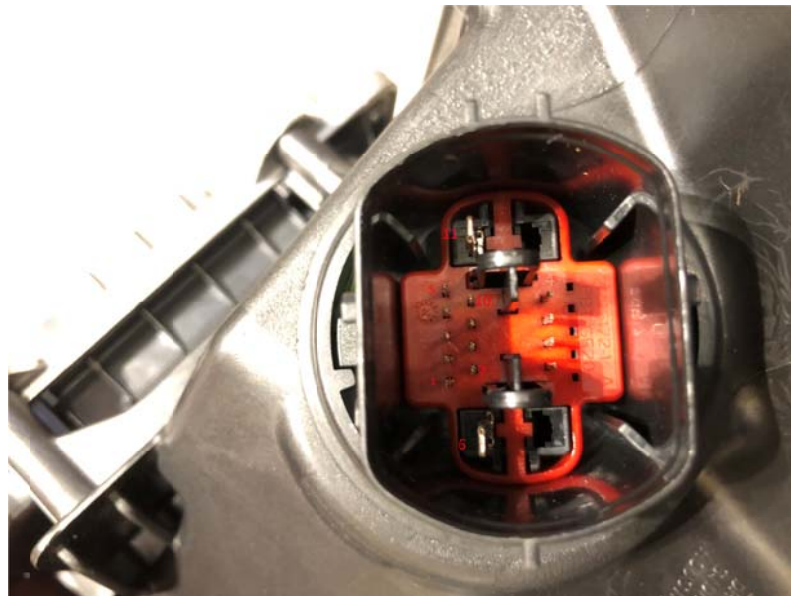


Before starting coding procedure and connection USB cable to PC from retrofit adapter it is ***strongly recommended to disconnect all chargers equipment*** (car charger from the car and laptop charger from the laptop)!

Ignoring this rule can destroy car equipment or the retrofit adapter.

Due to the imperfection of the Tyco electronics connectors, used on new headlights, you need to be very careful when plugging the connector to the headlamp. You need to follow these simple rules:

- 1) Before plugging in the connector it is necessary to make sure that the pins on the headlamp connector are straight and arranged evenly, without bends and tilts. As in this photo:



- 2) Plug in the connector to the headlamp very carefully, with minimal push. Otherwise, the consequences will be as in these photos (headlight defect may occur):



Design and pinout

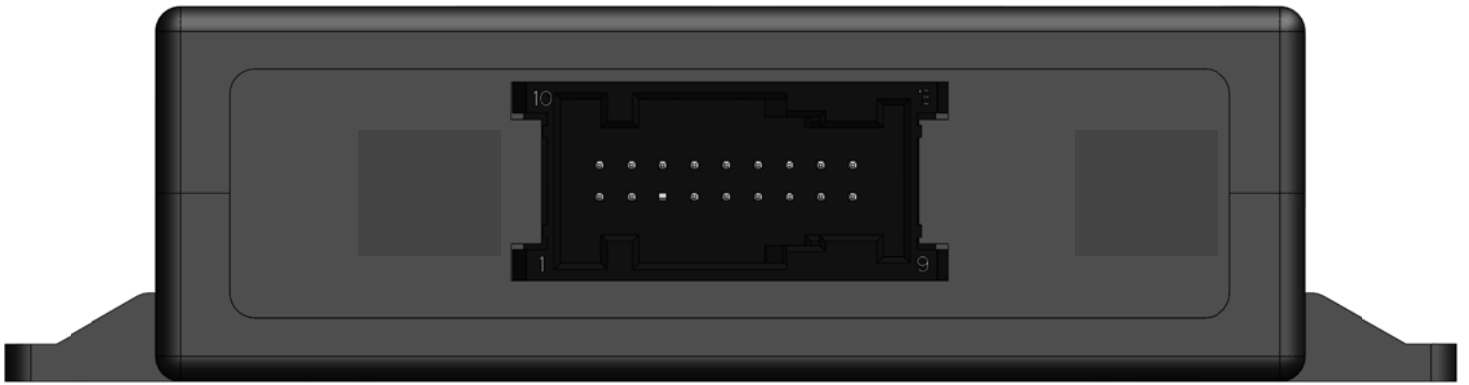


Fig 1a Front view



Fig 1b Rear view

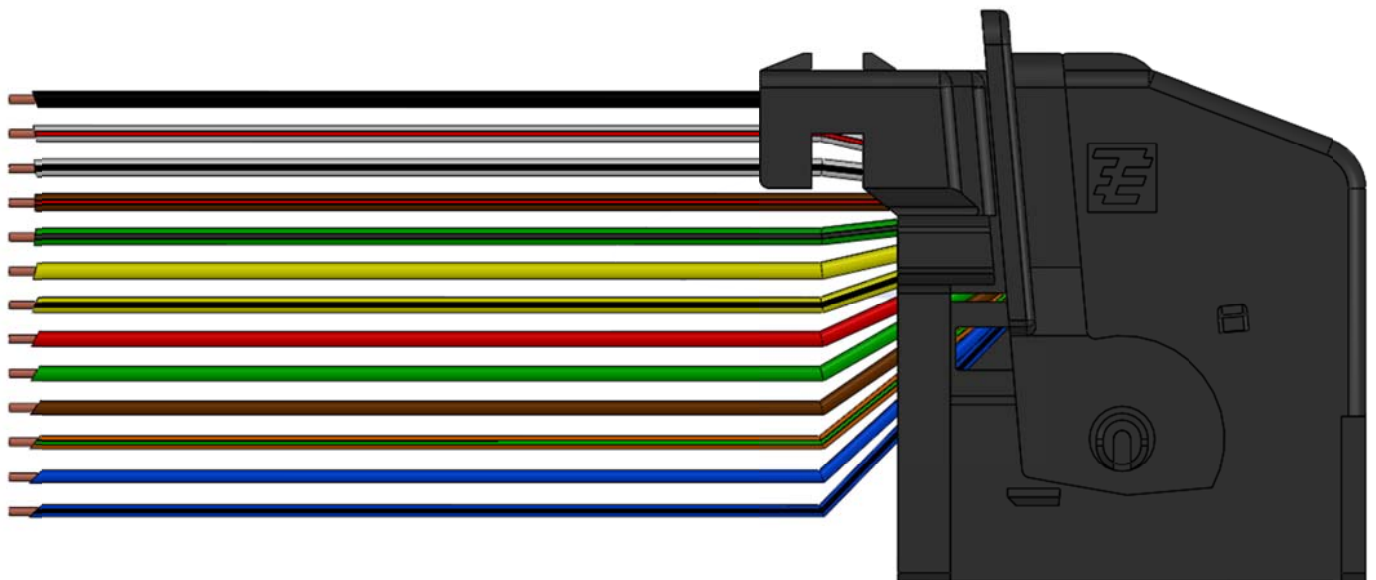


Fig 1c Connector view

Table 1 Pinout and pins designation

Pin #	Name	Color	Connection
1	GND	Black	Chassis Ground Point
2	OUT1	White/Red	Direction Indicator Left
3	OUT2	White/Black	Direction Indicator Right
4	OUT3	Black/White	Direction Indicator Animation
5	OUT4	Green/Black	High Beam Out
6	IN2	Brown/Red	DRL Left
7	IN4	Green/Red	Position Light Left
8	CAN1H	Yellow	Car CAN High
9	CAN2H	Yellow/Black	Headlights HS CAN High
10	+12V	Red	Adapter power supply
11	+12V	Red	Adapter power supply
12			
13	LIN2	Green/White	
14	LIN1	Green	Headlights LIN Bus
15	IN1	Brown	
16	IN3	Orange/Green	High Beam In
17	CAN1L	Blue	Car CAN L
18	CAN2L	Blue/Black	Headlights HS CAN L

Notice:

- 1) In case car with AFS (MY 2013-2015), and it has HCM module (L405) or Headlamp Leveling control module(L494) – before retrofitting you should disconnect and remove this module, it is no more in use.
- 2) Only for L494 with facelift taillights – you should connect Black/White wire (pin 4 from retrofit adapter) to both taillights (left and right) to its pin 3.

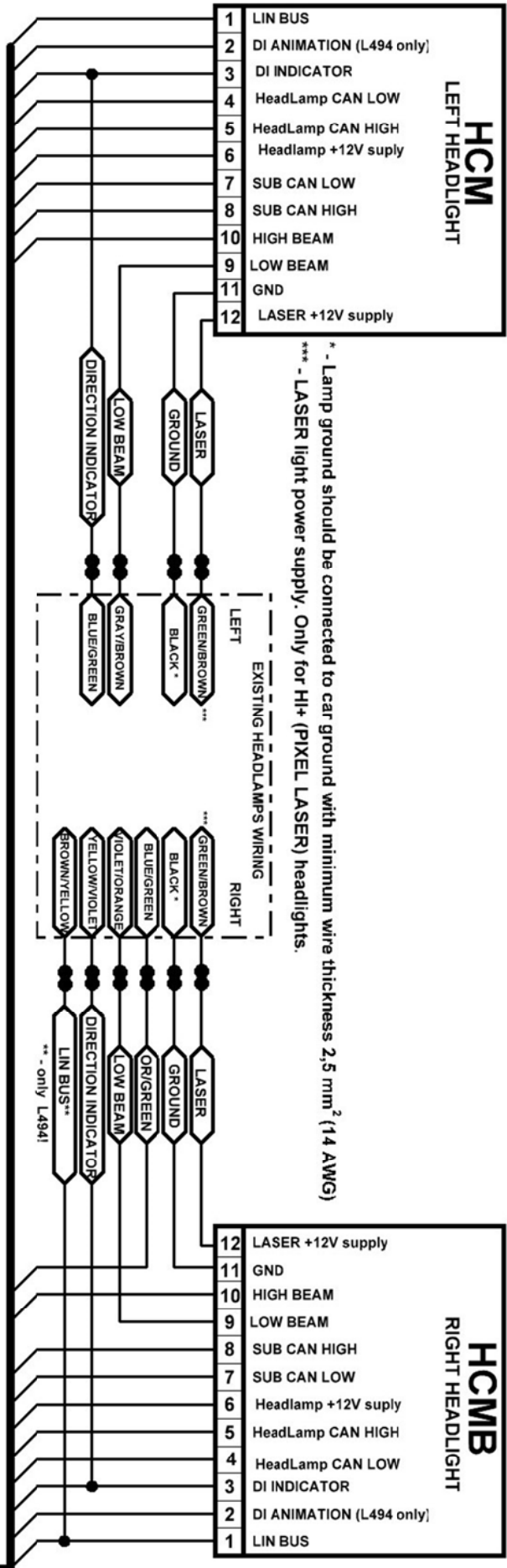
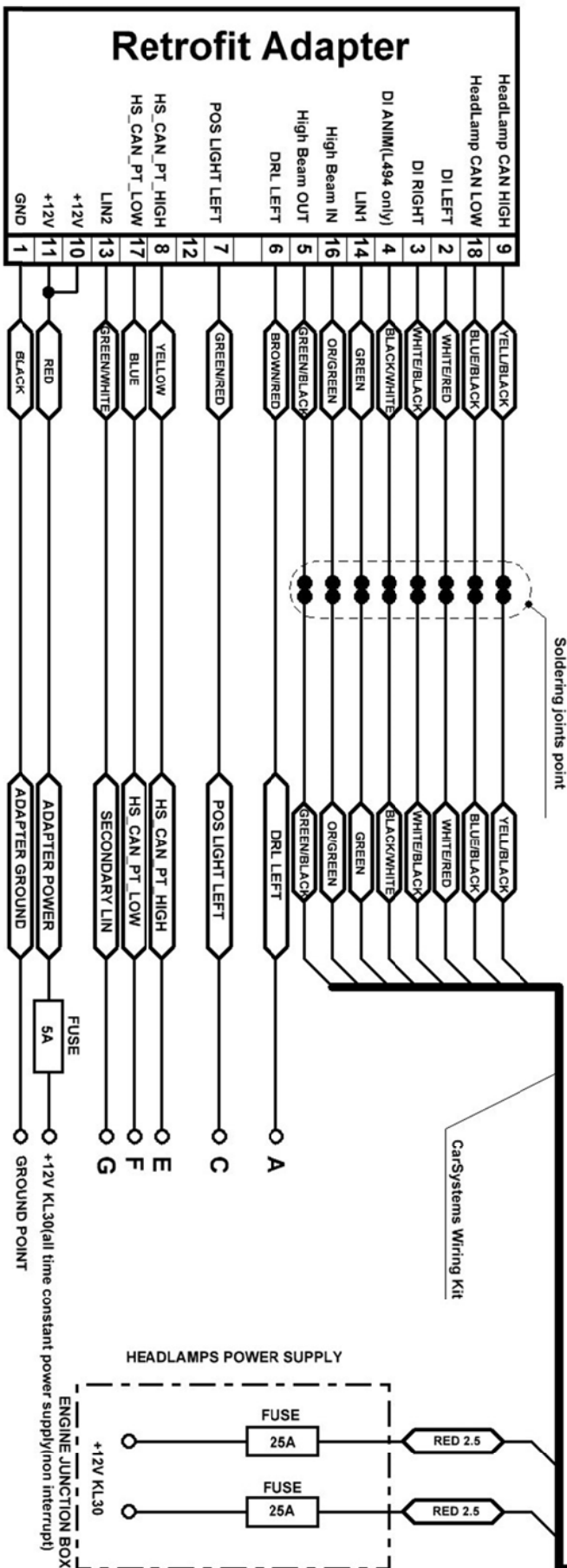


Table 2a Range Rover L405 MY13 - MY17 connections

		A	C	E		F		G
		DRL L	POS L	CANH		CANL		LIN
L405 MY13	schematic designator	C2BP01D	C2BP01C	HCM MODULE	WITHOUT HCM MODULE	HCM MODULE	WITHOUT HCM MODULE	N.C.
	pin	PIN 28	PIN 7	PIN 14	PIN 10	PIN 13	PIN 9	
	connector	C583	C582		C584		C584	
	wire color	GREEN	GREEN/ORANGE	WHITE/BLUE	WHITE/BLUE	WHITE	WHITE	
L405 MY14	schematic designator	C2BP01D	C2BP01C	HCM MODULE	WITHOUT HCM MODULE	HCM MODULE	WITHOUT HCM MODULE	N.C.
	pin	PIN 28	PIN 7	PIN 14	PIN 10	PIN 13	PIN 9	
	connector	C583	C582		C584		C584	
	wire color	GREEN	GREEN/ORANGE	GREEN/ORANGE	GREEN/ORANGE	GRAY/BLUE	GRAY/BLUE	
L405 MY15	schematic designator	C2BP01D	C2BP01C	HCM MODULE	WITHOUT HCM MODULE	HCM MODULE	WITHOUT HCM MODULE	N.C.
	pin	PIN 28	PIN 7	PIN 14	PIN 10	PIN 13	PIN 9	
	connector	C583	C582		C584		C584	
	wire color	GREEN	GREEN/ORANGE	WHITE/BLUE	WHITE/BLUE	WHITE	WHITE	
L405 MY16	schematic designator	C2BP01G	C2BP01G	C2BP01H		C2BP01H		N.C.
	pin	PIN 19	PIN 10	PIN 44		PIN 45		
	connector	G	G	H		H		
	wire color	GREEN	GREEN/ORANGE	BLUE		BLUE/GREEN		
L405 MY17	schematic designator	C2BP01G	C2BP01G	C2BP01H		C2BP01H		N.C.
	pin	PIN 19	PIN 10	PIN 44		PIN 45		
	connector	G	G	H		H		
	wire color	GREEN	GREEN/ORANGE	BLUE		BLUE/GREEN		

* N.C. – Not Connected

Table 2b Range Rover Sport L494 MY14 - MY17 connections

		A	C	E		F		G
		DRL L	POS L	CANH		CANL		LIN
L494 MY14		N.C.	N.C.	HCM MODULE	WITHOUT HCM MODULE	HCM MODULE	WITHOUT HCM MODULE	N.C.
				PIN 14	PIN 10	PIN 13	PIN 9	
					C584		C584	
				GREEN/ORANG E	GREEN/ORANGE	GRAY/BLUE	GRAY/BLUE	
L494 MY15		N.C.	N.C.	HCM MODULE	WITHOUT HCM MODULE	HCM MODULE	WITHOUT HCM MODULE	N.C.
				PIN 14	PIN 10	PIN 13	PIN 9	
					C584		C584	
				GREEN/ORANG E	GREEN/ORANGE	GRAY/BLUE	GRAY/BLUE	
L494 MY16		N.C.	N.C.	C2BP01H		C2BP01H		N.C.
				PIN 44		PIN 45		
				H		H		
				BLUE		BLUE/GREEN		
L494 MY17		N.C.	N.C.	C2BP01H		C2BP01H		N.C.
				PIN 44		PIN 45		
				H		H		
				BLUE		BLUE/GREEN		

* N.C. – Not Connected