



## **RSA175 AND RSA275 SOCKET ASSEMBLY** **FITTING INSTRUCTIONS**

### **RSA 175 (12N Socket)**

#### **INTRODUCTION**

To tow a caravan or trailer legally you must reproduce the obligatory lighting from the towing vehicle on to the rear of the caravan or trailer. The system used to do this is via a 7 pin plug and socket assembly. The plug and socket assembly allows the connection between the vehicle and the caravan or trailer to be temporary. The pins are arranged in such a way that the plug and socket can only be connected in one position ensuring that no circuits can become crossed. The kit is designed as a replacement for an existing kit or as Fast Fit System. If it is to be fitted as a new assembly to a vehicle, extra components may be required to complete the installation.

1. A visual or audible warning that the indicators are functioning. This is a legal requirement. If your vehicle flasher unit does not provide this, it can be achieved using an RCT380 or RCT480 relay (not supplied).
2. If towing a caravan and running the caravan fridge and/or charging the caravan battery you will need an RCT360 or RCT460 relay (not supplied) to protect the vehicle battery when the engine is not running.
3. If the towing vehicle has a Canbus wiring system or bulb failure system then you should fit RCT480 7 way Smart relay. This comes complete with an audible warning buzzer.
4. If the towing vehicle has a Canbus wiring system or bulb failure system and you are running the caravan fridge and/or charging the caravan battery then you should fit RCT460 Smartcom relay (not supplied).

It is a legal requirement to have a device to show that the caravan, trailer, or trailer board indicators are operating. Any one of the above products will fulfill this requirement.

#### **NOTE:**

The socket assembly should only be fitted after the towing bracket has been fitted. It is advisable to read these instructions carefully before beginning any fitting and to retain them for future use.

#### **FITTING**

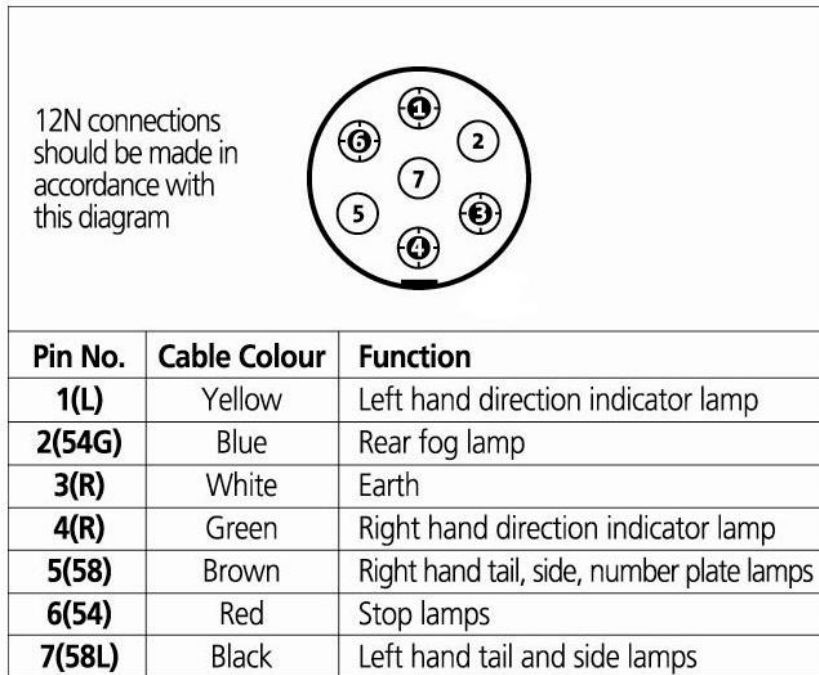
**IMPORTANT** Before commencing any of the fitting operations ensure that the vehicle is parked safely off the road with the hand-brake on and check that the correct fuse or fuses are removed to isolate the circuit. If in doubt consult a qualified auto electrician.

## **TOOLS REQUIRED**

Pliers  
Electrical screwdriver  
1/2" or 13mm drill  
5mm spanner (or adjustable spanner)  
2 x 16mm spanners (or 2 adjustable spanners)

## **SOCKET AND VEHICLE WIRING**

**Fig 1.**



## **MAKING THE CONNECTIONS**

In order to make the necessary connections feed one of the 7 core cable wires and the relevant vehicle wire into the channels in the connector. The connector should then be squeezed together firmly with the pliers to make the connection. The plastic cover should then be clipped into place.

## **CHECKING CONNECTIONS**

Before replacing the boot floor coverings and any other items removed during the fitting it is advisable to re-check all connections. If possible connect the socket to a caravan, trailer or trailer board to check that all functions are operating correctly.

**PLEASE NOTE** For vehicles with either a Bulb Failure Indicator or Dimmer Relay, the connections for the Left and Right Hand Tail, Indicator, Stop and Fog Lamps should be made to the input side of the Failure Indicator or Dimmer Relay. For vehicles equipped with Bulb Failure or Dimmer Relay systems, use of an RCT480 7 way smart relay (not supplied) is recommended.

1. Attach the mounting plate (with the socket fitted) to the towing bracket in between the tow ball and the tow bar itself using the existing bolts and ensuring that the hinge of the socket cap is uppermost. If a stabiliser is fitted ensure that the mounting plate is fitted on the opposite side of the tow bar. You may have to re—position the sockets on the mounting plate to ensure the socket hinges remain uppermost.
2. Pass the cable into the boot compartment through an existing hole if available. Otherwise using a ½” or 13mm drill carefully, make a hole in the rear of the vehicle in a suitable position close to the tow bar. Ensure that as you drill you do not damage any other cables or fittings. You may find it useful to remove the spare wheel prior to fitting. It is advisable to clean the hole with a suitable file and to treat with an appropriate rust inhibitor. Seal the hole with the grommet supplied.
3. Locate the vehicle wiring harness in the boot compartment which supplies the rear lamp clusters. In most cars this will usually be to one side of the vehicle, i.e. Cables supplying the left hand side (near side) lamp cluster will pass via the right hand (off side) of the vehicle before crossing the back of the vehicle. Therefore it should be possible to make all the connections to one side of the vehicle.
4. Strip back approx 10” or 250mm of the outer sheath of the 7 core cable. Bare the end (approx ½” or 13mm) of the White (Earth) cable only.
5. Identify each cable in the wiring harness for its function by tracing back to the bulb holder, or by using a circuit tester (if you use a circuit tester you will have to temporarily re-connect your battery). Connect the appropriate 7 core cable to the relevant vehicle cable in accordance with the diagram above (Fig 1) using the connections provided.
6. Connect the Earth cable to a suitable point on the vehicle chassis. Ensure that it is bare metal free of paint and rust.
7. Re-connect the vehicle battery and replace any fuses removed whilst fitting.

### **RSA 275 (12N and 12S Socket)**

The 12N socket in this kit should be fitted in accordance with the instructions for the RSA175.

### **12S SOCKET**

#### **INTRODUCTION**

The 12S socket is used to provide a 12V supply for the internal power in the caravan. It is used to power the auxiliary battery, refrigerator, internal accessories and the caravan’s reversing lamps (where fitted).

To prevent confusion between the 12N and 12S plug socket the 12S socket had a grey or light coloured cap, and the plug is also grey or light coloured. Also the internal layout of the pins is different as an added safety feature, preventing a 12S plug being connected to a 12N socket and vice versa.

The external lighting functions are all serviced through the black cable and the internal caravan connections plus reversing lights where fitted are made through the grey cable.

There are “free” connections that have no specific allocation and can be used to connect additional circuits should your make of caravan require them. Your caravan handbook will advise you of any.

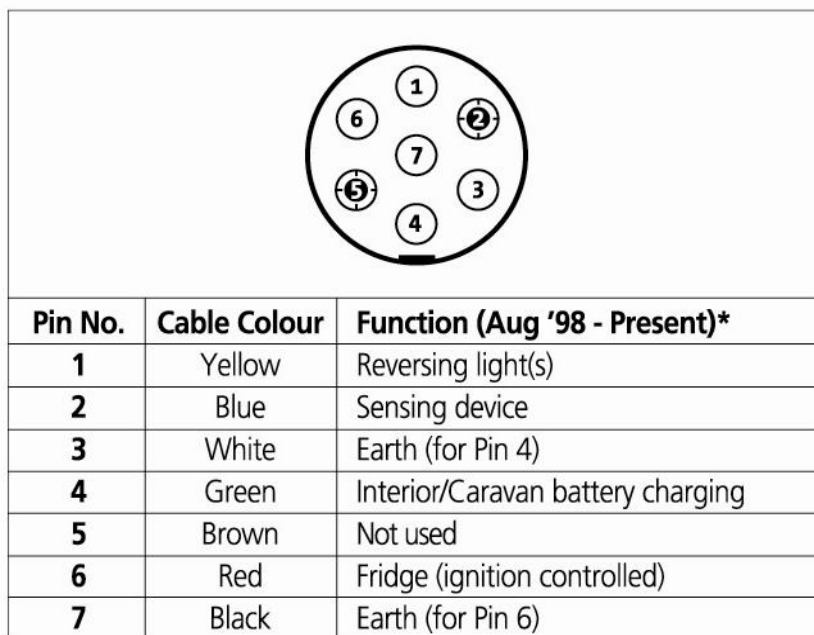
### **FITTING**

The tools and method of making the connections are the same as for the 12N socket. The wiring of the 12S socket should be undertaken after that of the 12N socket.

**IMPORTANT** Before commencing any of the fitting operations ensure that the vehicle is parked safely off the road with the hand-brake on and disconnect the vehicle battery. If in doubt consult a qualified auto electrician.

1. Pass the cable into the boot compartment through an existing hole if available or the second hole drilled earlier.
2. Make all the connections in accordance with the diagram below (Fig 2).

**Fig 2**



***NOTE:*** Most modern caravans require a high amount of power for their internal accessories, refrigerator, battery etc, and therefore to avoid the vehicle battery being discharged it is advised that an RCT360 or RCT460 Split Charge Relay (not supplied) is fitted between the vehicle battery and the auxiliary battery.

3. Re-connect the battery and replace any fuses removed whilst fitting.

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