



**Rover 75**

**HOW TO**

**Convert Xenon or Halogen Projector  
Headlamps from RHD to LHD  
(or LHD to RHD)**

by Spôôk

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## Introduction

The object of this “How to” is to explain, as detailed as possible, how you permanently convert a pair of Xenon or Halogen Projector headlights from RHD to LHD (or LHD to RHD). If you buy a pair for your car that has the wrong position, or wish to move the car permanently to a country with a different setting.

If you dont know how to remove the headlights from your car before you start the conversion you can watch these excellent Youtube videos:

### **Bumper removal**

[https://www.youtube.com/watch?v=7BUGH4\\_VMkU](https://www.youtube.com/watch?v=7BUGH4_VMkU)

### **Headlight removal**

[https://www.youtube.com/watch?v=KeSs1HD\\_sRE](https://www.youtube.com/watch?v=KeSs1HD_sRE)

### **Lens polishing (if you have scratches or it has become milky)**

<https://www.youtube.com/watch?v=2lZ96BXoT10>

Enjoy

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# Xenon Conversion

## You will need:

- 1 Cardboard box 50 x 32 x 25 cm or bigger, but not too big. Check that the headlight unit will fit inside.
- 1 Hair dryer (travel model)
- 1 Hobby knife
- 1 Packaging tape
- 1 Cooking thermometer
- 1 Pair Leather gloves (garden gloves)
- 1 Torx Head T13
- 1 Torx Head T10
- 1 Flat screwdriver
- 1 Hex top 6 mm
- 1 Socket wrench 10 mm
- 1 Pliers
- 1 Drill 8 mm
- 1 Power drill with torx setting
- 1 Piece of metal/aluminium 35 x 7 mm
- 1 Grinder or File (fine)

## Preparing the Headlight housing

You start by loosening the ballast from the lamp housing. It is fixed with 3 Torx T13 screws. The ballasts are fixed with wires and as far as I can tell will not come apart. Remove the wire plug from the bulb connector. Twist the bulb connector 1/4 turn counter-clockwise and remove from bulb. Release springs and carefully remove the D2S Xenon bulb.

Remove the rubber cap from the main beam. Remove the wire plug from the bulb connector. Twist the bulb connector 1/4 turn counter-clockwise and remove the H1 bulb carefully. Gently pull the lower bulb connector from the socket and remove the bulb.

The headlight housing is now ready for disassembly.

## Preparing the Cardboard box

The cardboard box must be reasonably stable. Leave one end open and seal the rest. Opposite the opening cut out a circle the size of the hairdryer head, so that it will squeeze tight and hold it. Make sure the hole for the hairdryer is in a reasonably clear space (not touching the headlight when it is in the box).

Insert the thermometer in the top (again make sure it will not scratch the headlight).

Cut a slit in the bottom corner of the box to allow the Ballast sitting on the wires, to be outside the box. The slit should be long enough for the Headlight to be entirely inside the box, without straining the wires.

Cut a hole in the flaps at the opening (about 5x5 cm). Cover half of it with tape (explanation follows).

Carefully insert the headlight in the box, ensuring the thermometer and hairdryer are free of it.





Tape the box closed.

### Heating Procedure

Turn on the hairdryer and leave it running for 10 mins.

By now the temperature should be approaching 80°C. Once it reaches 80-85°, keep it there for at least 10 mins more. You can cut away some of the tape over the hole if the temperature gets above 85°C.

### Removing the front glass

Put on your leather gloves, open the box and pull the headlight out. You need to work fast as the heat will dissipate quickly.

Gently pry the (3) tabs away from the lock tab and pull the glass away from the main body.

*Although it is sticky, it should be very easy. If not, the unit needs re-heating!*

### Removing the lens section

There is a white locking mechanism between the lens and the reflector. Take the pliers and gently turn it (either way) so it is aligned with the hole.

Pull slightly outwards to release the lock (a few millimeters will do).

On top of the housing you will find two plastic hex adjusters (they adjust the beam).

Using the power drill and the 6 mm hex top (lowest torque and slow speed) turn each adjuster **CLOCKWISE**.

As you do, the lens/reflector will move outwards.

Shift between the two adjusters at regular intervals to move the lens/reflector out evenly.

Keep doing this until the lens/reflector "falls off".



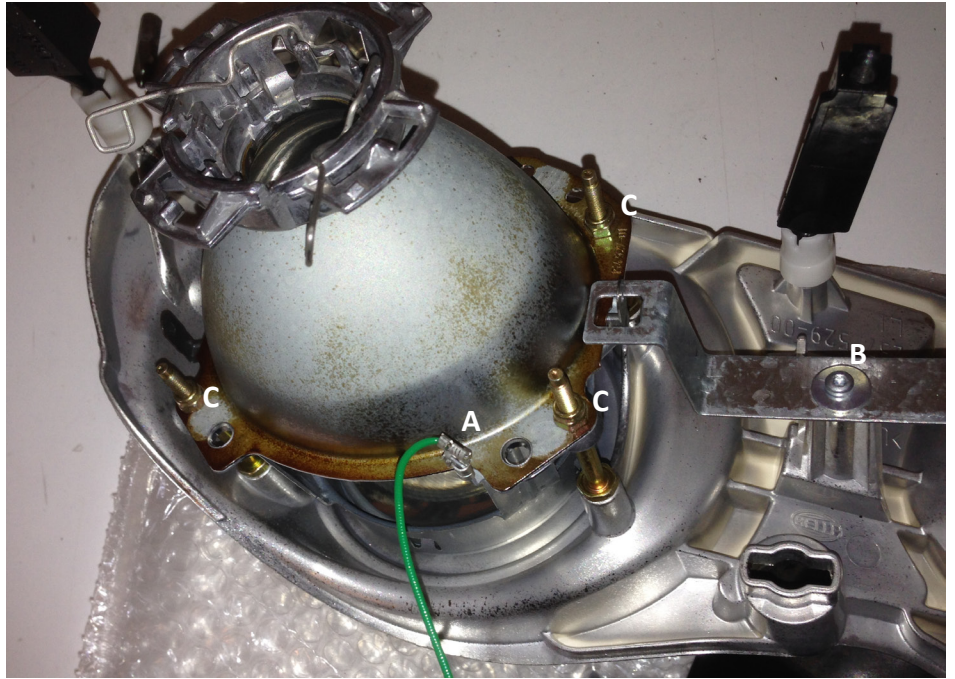


Remove the green wire at "A".

Unscrew the lever at "B" and remove the lever.

Remove the (3) locking nuts "C".

Remove the projector lens unit from the reflector.



### Taking the Projector lens apart

Look carefully at lens where it is marked "D". You will see that the lens parts are held together using a pressfit collar.

Using the 8 mm drill, take away the top only (the part that sits like a collar around the hole). If you have done this right you should be able to pull the parts from each other. It **WILL** be tight. Use force but not violence.

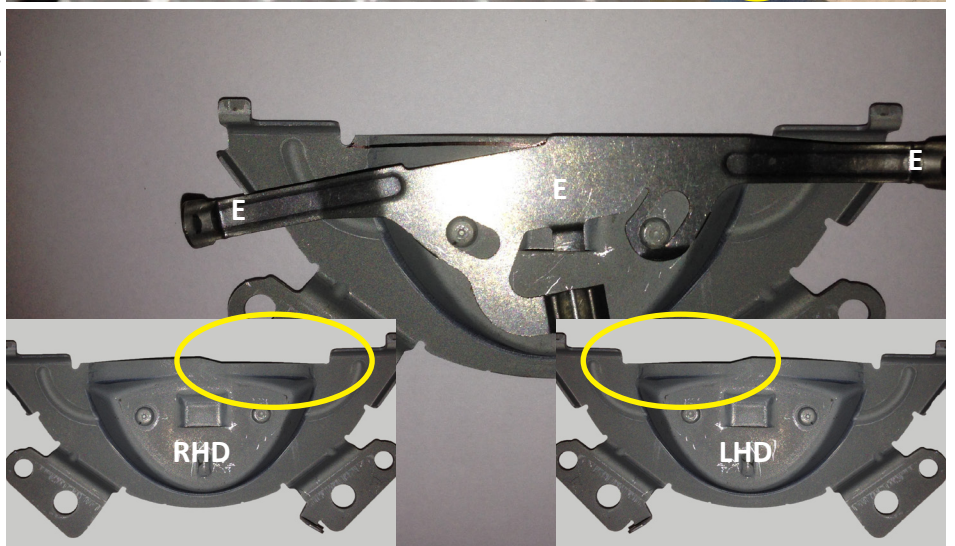
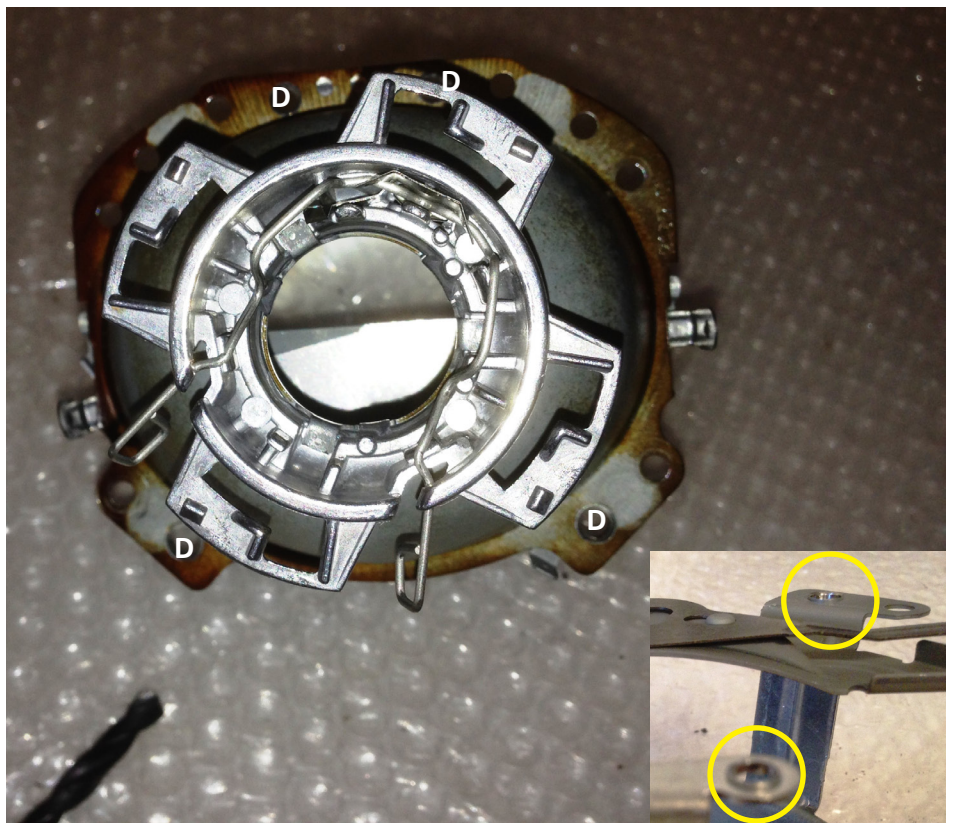
If it is "impossible", check that you have removed all the collars entirely.

The reason you don't drill out the hole completely, is that we need the protuberance as a track, so the lens sits exactly as before when it is re-fitted.

Now we are down to the culprit.

This "beam harmonizer" is the **ONLY** difference between a RHD and a LHD headlight, whether Xenon or Projector.

On the RHD version the cutout is on the right (seen from the front).



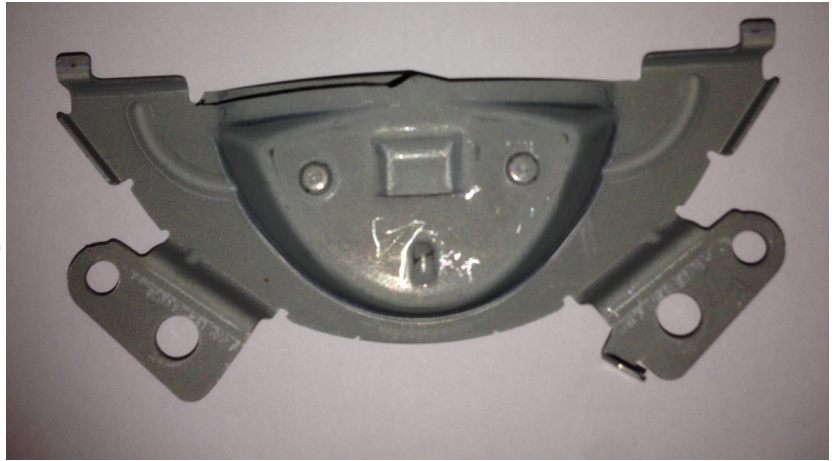


On the LHD it is the opposite.  
Remove the beam cutter "E" by lifting it out.

Now you need a steady hand.

You mark the mirrored cut out with a pen, and using a grinding machine or file remove the material down to the markings.

If you do them one at a time, you can compare the angles and sizes from the other one. They should be a mirror image.



Next you find a suitable piece of bendable metal e.g. aluminium (<1 mm thick), which you cut to size (35 x 7 mm) and bend along the backside of the harmonizer, then file to match (mirror) the profile you filed off. Glue it on with epoxy type glue or similar.



**The end result should look something like this:**

**NOTE:**

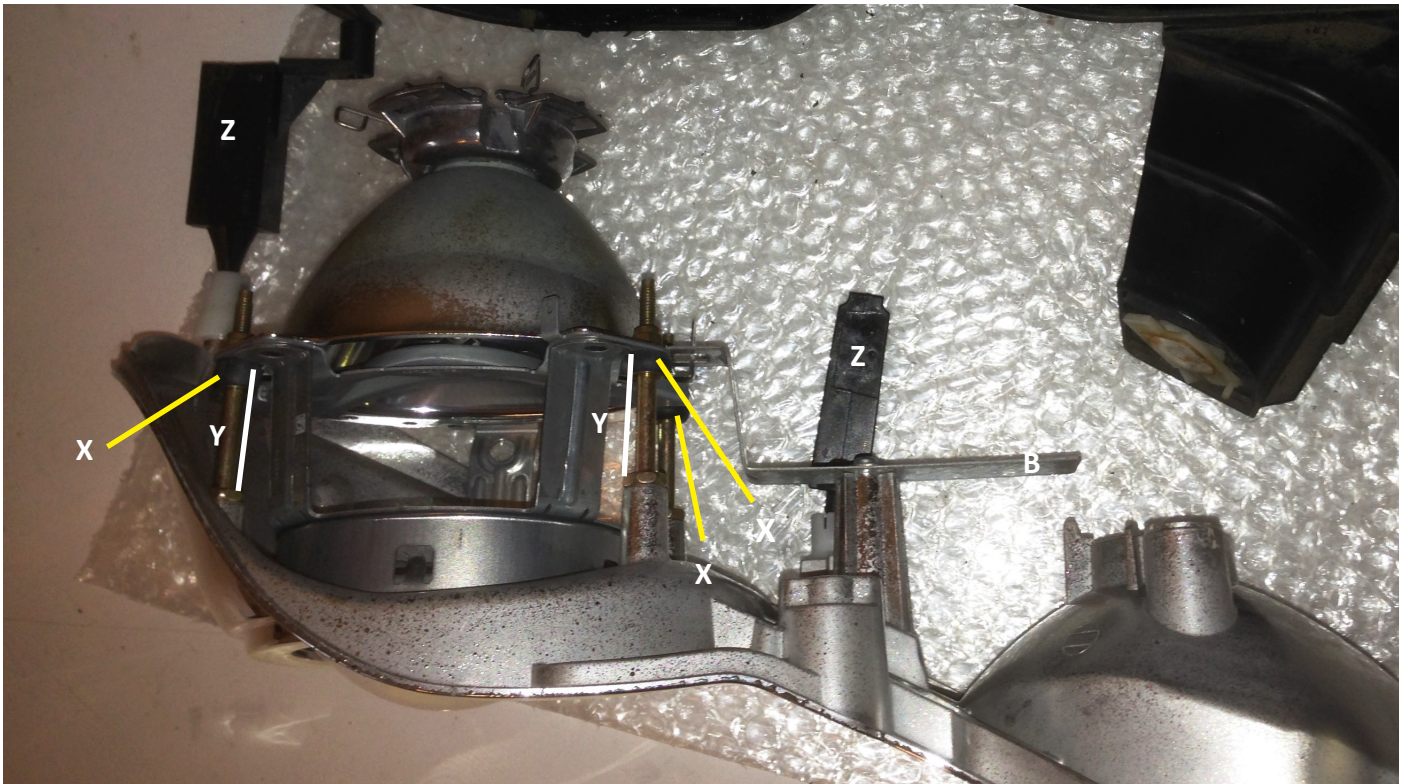
You can no longer use the Beam cutter if you go back to a RHD country, as it will change nothing, so you may want to discard the beam cutter "E" altogether, to avoid accidental use.

Re-assemble the projector lens, beam harmonizer and reflector. Make sure the protrusions you left on the lens part go fully into the holes.

You need to secure the parts the way they were before you drilled them out. You can either glue the parts together (I did) or use a bolt and locking nut. If you glue them, make sure they stay fixed together while they harden.







When you bolt the projector unit back onto the frame, make sure you do NOT squeeze the rubber sleeves (X) too hard. They take up vibrations, and therefore should just start to compress. Also check that they are tightened the same distance (Y) from the lower nut (measure).

You can now opt NOT to refit the switch lever (B) (you cannot use it, so...), otherwise make sure the beam cutter is in the correct position (not blocking the new cutout in the harmonizer).

Re-fit the green wire.

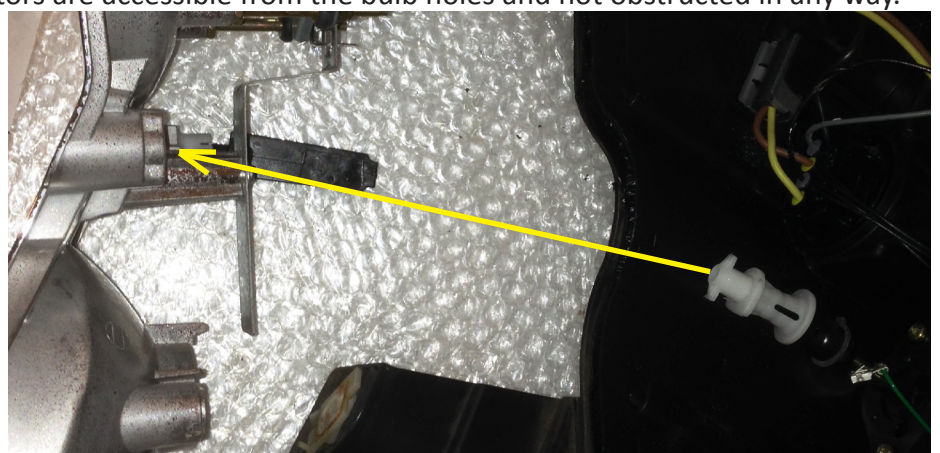
Gently slide the two adjusters (Z) into the tracks in the main housing and push the lens/reflector unit in as far as possible without any force.

Check that all the wires and connectors are accessible from the bulb holes and not obstructed in any way.

Push the T-bar through the slot in the reflector section and turn it 90°. This may be a little tricky.

Using the power drill and the 6 mm hex top (lowest torque and slow speed) turn each adjuster **COUNTER-CLOCKWISE**.

As you do, the lens/reflector will move inwards.



Shift between the two adjusters at regular intervals to move the lens/reflector in evenly.

**Be alert and stop as soon as there is resistance.**

### **Refitting the front glass**

Check everything once more. Turn the (2) beam adjusters to make sure they both move the reflector. Check that all wires are accessible from the bulb holes. Check that the green wire is fitted on the reflector. Check the lever (if fitted).

Check that the “putty” is evenly distributed in the recesses. Any excess should be put into the recess where it appears to be thin.

Put the glass together with the headlight body. Do not press it together, just so it sits in the right position.

### **Do not lock the tabs!**

Put the unit into the cardboard box.

Insert the thermometer in the top.

Check that the Ballast is outside the box, without straining the wires.

Cover half of the hole opposite the hairdryer with tape.

Carefully insert the headlight in the box ensuring the thermometer and hairdryer are free of it.

Tape the box closed.

### **Heating Procedure**

Turn on the hairdryer and leave it for 10 mins.

By now the temperature should be approaching 80°C. Once it reaches 80-85°, keep it there for at least 15 mins more (this time the putty must be **really soft**). You can cut away some of the tape over the hole if the temperature gets above 85°C.

When the time is up, remove the headlight from the box and wriggle the two parts together, using maximum force (not violence) to make sure the putty closes all gaps. Remove any excess putty from the edges. Make sure all the tabs are locked in position. Keep the pressure up until the heat has disappeared.

**Feel the putty, it should be getting hard.**

You now have a set of LHD headlights.

For refitting on the car you can watch the Youtube videos at the beginning of the document.

**You will need to adjust the beams (or have someone do it for you), when the headlights are fixed on the vehicle and the bumper is on.**

Hopefully you found this “How to” useful, easy to follow and did everything correct.