



instructables

# Mercedes SL S CL Class R230, W220, C215 PSE Central Locking Vacuum Pump Motor Impeller Repair Kit Install Instructions Guide



by x8rltd

## Symptoms

Central locking not unlocking doors, boot not popping open, lumber supports in seats not operating, soft close boot not working.

Key fob won't lock or unlock any door, including rear hatch. (Key fob is perfectly operational otherwise)

Pressing door lock/unlock buttons inside the car fails to lock or unlock any door.

You can hear vacuum pump motor working but nothing is happening, motor runs for too long then cuts out.

Vacuum pump makes clicking sound when you press lock/unlock on key fob.

## Fault

A graphite impeller within the vacuum pump fails causing vehicle faults.

Sometimes water ingress can cause problems with these pumps, often however the impeller on the spindle of the motor can break or shatter over time. A broken impeller will cause a lack of air pressure / vacuum to be provided meaning actions of the PSE pump will be inhibited. It can also lead to a jammed motor which will lead to the pump blowing the 20A fuse and shutting off.

Common associated fault codes:

B1436-012, B1436-014, B1436-015, B1436-016,

B1436-017, B1437, B1438-011, B1438-012, B1440, B1442-012, B1442-015, B1442-016, B1442-017, B1442-018.

## Solution

[Install our replacement impeller and restore your vacuum pump](#)

Dealers will try to sell you a complete new PSE pump at great expense (£900+), but our solution simply replaces the component part that has failed; the motor impeller. This repair with our replacement graphite impeller wheel and new fins will get your pump back to full working order at a fraction of the cost. Our parts are made of an improved Graphite material. Replace just the component that fails, avoid the cost of a whole new PSE pump assembly that would just fail again. Install of our new component is straight forward please check out our instructions and video.

## Vehicles affected

Mercedes Benz SL-Class (R230) 2001-2011

1st gen: 2001- 2006 – SL350, SL500, SL600, SL55AMG, SL65AMG

Facelift 1: 2006 - 2008 – SL350, SL500, SL550, SL600, SL55AMG, SL65AMG

Facelift 2: 2008 - 2012 - SL280, SL300, SL350, SL500, SL550, SL600, SL63AMG, SL65AMG

Mercedes Benz S-Class (W220) 1998-2005

S280, S320CDI, S320CDI L, S350, S350 L,  
S400CDI, S430, S430 L, S500, S500L,

S500 4-Matic, S600L, S55 AMG, S55 AMG L

Mercedes Benz CL-Class (C215) 1999-2006

CL500, CL600, CL55AMG, CL63AMG, CL65AMG

This information is for guidance only, to be sure visit real OEM, click Mercedes catalogue, select your vehicle model, then select your variant, click Vacuum System / Hydraulic System, click Vacuum pump, this will show the part number for your vacuum pump. You can then compare to the part numbers below to confirm compatibility.

Alternatively, you can visually inspect the unit for the part number.

#### Associated part numbers

Bosch motor part number: 1397220291

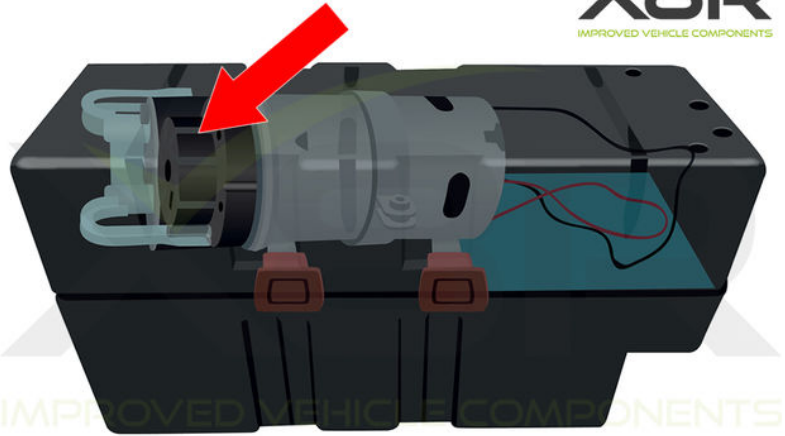
Mercedes pump part numbers:

A2308000648, A2308000548, A2308000448,  
A220800348, A2208000648, A2208000748,  
A2208000548, A2208000848, A2208001148,  
A2208001248, A2208000948.

#### **You will receive**

1 x Graphite impeller wheel

8 x Graphite replacement fins





<https://youtu.be/Zq4q73Og-HE>

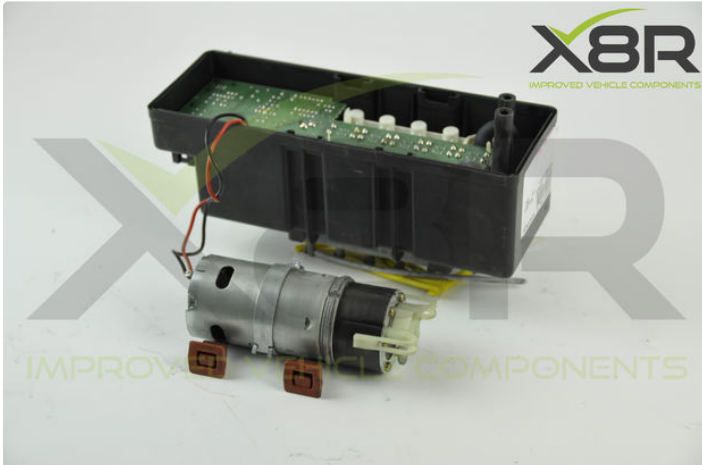
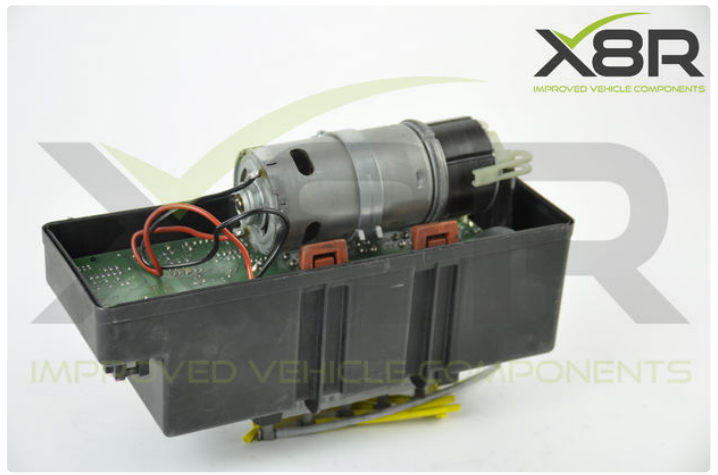
## Step 1: Remove Motor From Pump Housing

Split the two halves of the housing using a large flat head screwdriver. Place the tip in between the two notches as shown and turn clockwise. Make sure the air line connections on the housing are facing downwards.

This will expose the motor which can now be lifted out of position. Be careful of the two wires connecting the motor to the circuit board.

The motor has a white/grey clip with two air line hoses going into it. Pull the unit carefully upwards and the white clip should remove from the hoses. If the hoses come away from the casing and are still attached to the clip, just remove them from the clip and push fit them back into position on the air line connector at the bottom of the housing.



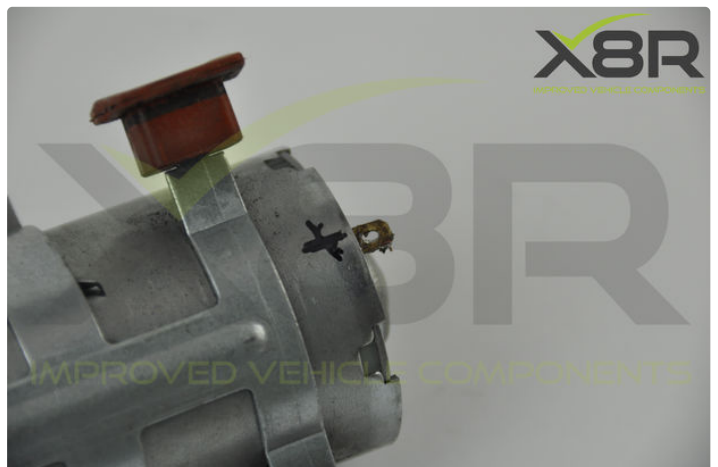


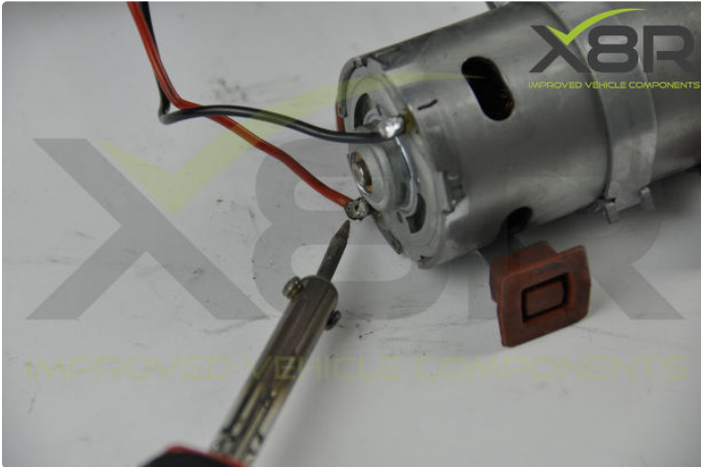
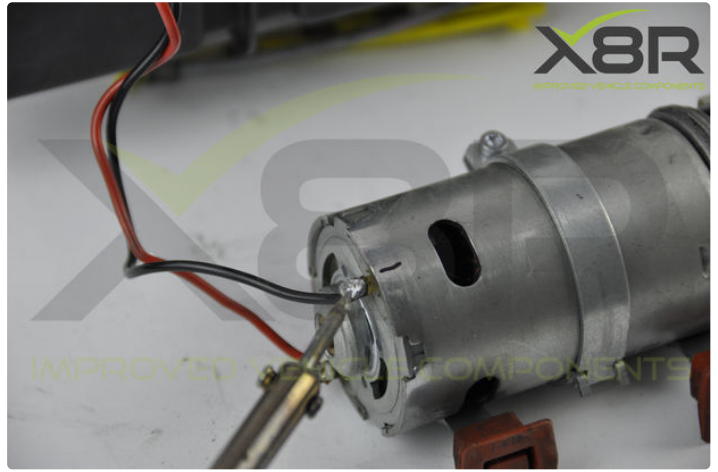
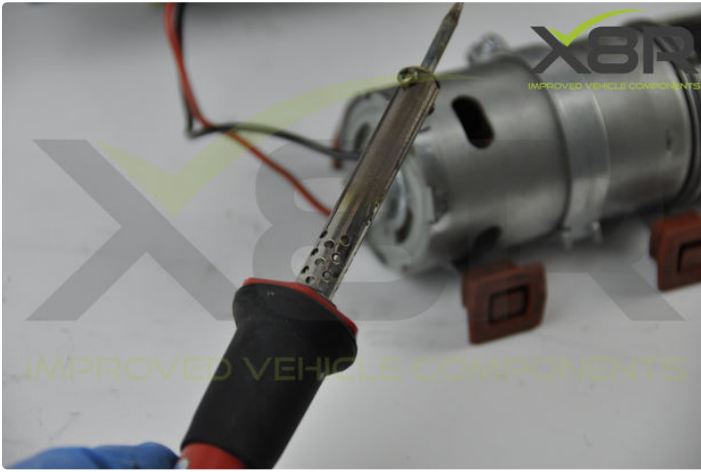
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## Step 2: Disconnect Motor From Circuit Board

It is a good idea at this stage to mark out the positive and negative terminals on the motor so that it is easier to reinstall later.

Using a soldering iron heat the solder to release the wires from the terminals on the motor.



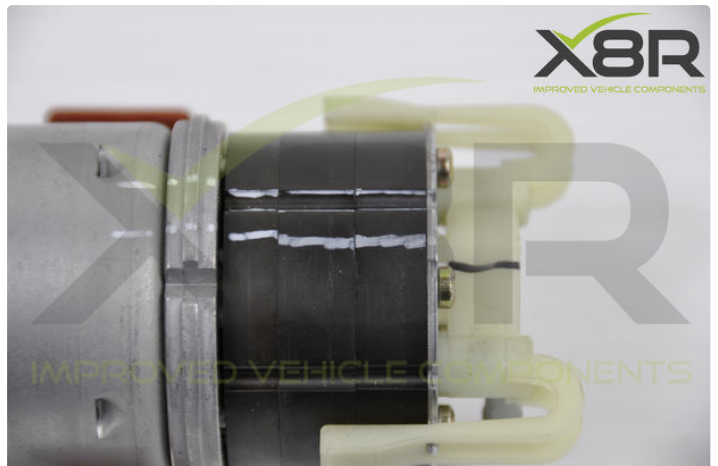
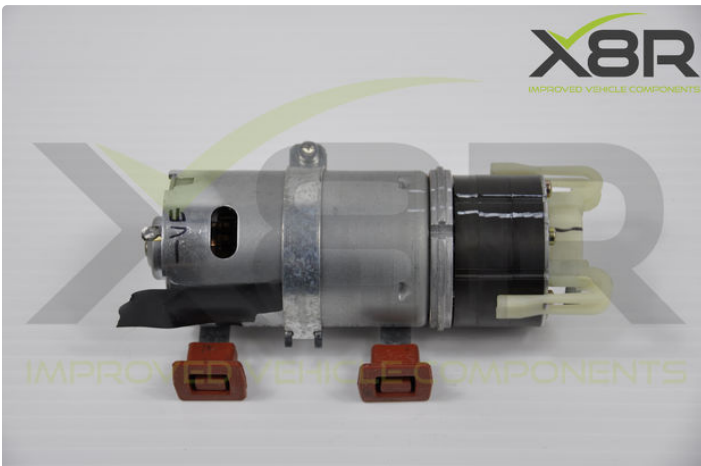


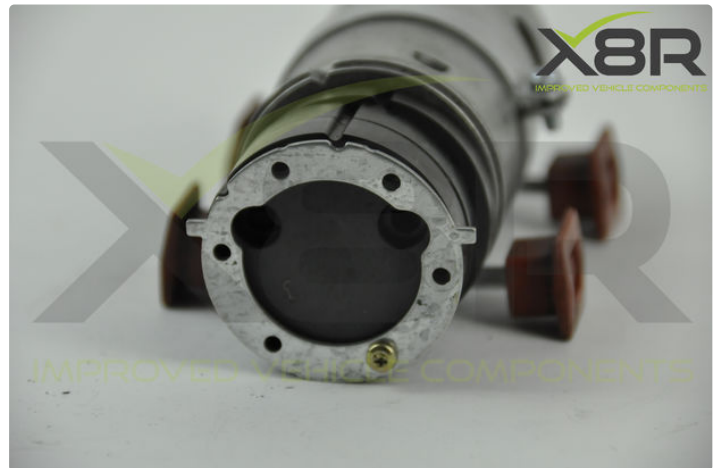
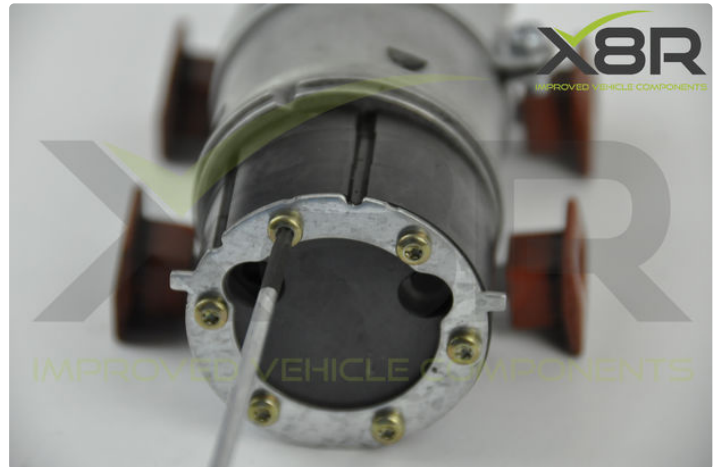
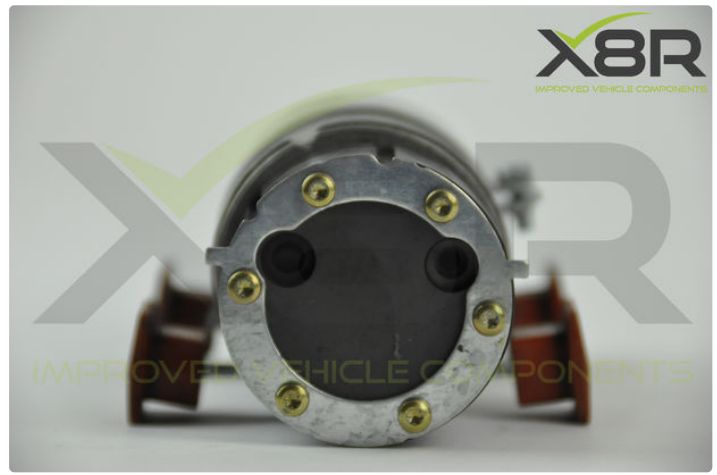
### Step 3: Remove Screws- Motor Housing

Mark the motor with a line to show where all the components line up.

Remove the plastic clip by pulling the side tabs outwards to release it from the metal prongs.

Using a T10 Torx screwdriver undo the screws. There are 6 screws in total but you will only need to completely remove 5 of them. The 6th is left in place, slightly loosen for reasons shown in the next step.





#### Step 4: Remove the Impeller

Leaving the last screw in place but slightly loose means you can swivel the upper part of the assembly as one which means it will be easier to reassemble once the new impeller is in.

Once the old impeller is exposed, you should be able to pull it out easily, or it should just fall out if the motor is turned on its end. Make sure to remove all remnants of the old impeller.



## Step 5: Install New Impeller

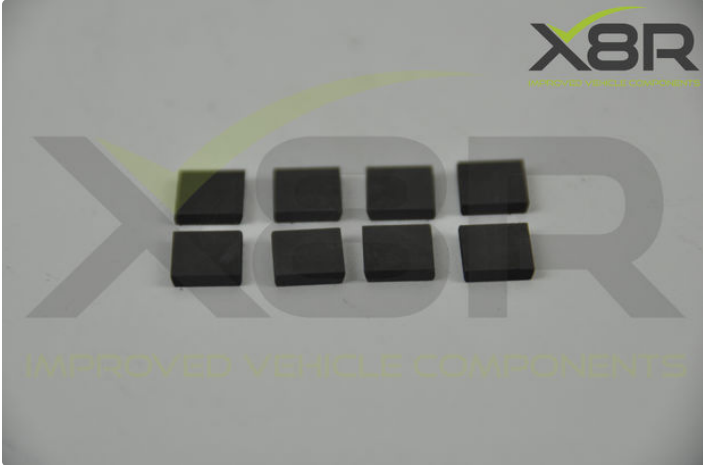
You can now install the new impeller and the new fins.

On the back of the impeller is a notch which should be lined up with the spindle of the motor.

Then install the new fins. These have one side which is slanted and this should be installed with the slant matching the outside edge of the impeller as shown in the pictures.







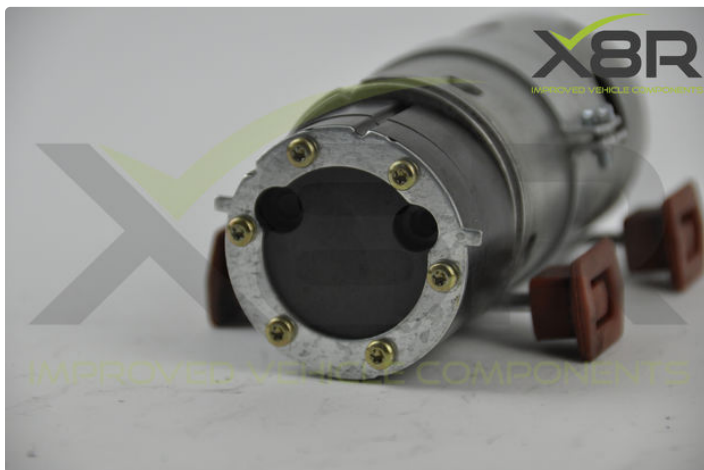
## Step 6: Reassemble Motor Body

Once the new impeller and fins are installed, swivel the impeller housing back round on the remaining screw so that it all lines up and then reinstall the screws.

Make sue they are fairly tight but DO NOT over tighten as this could cause the fragile graphite face to shatter.

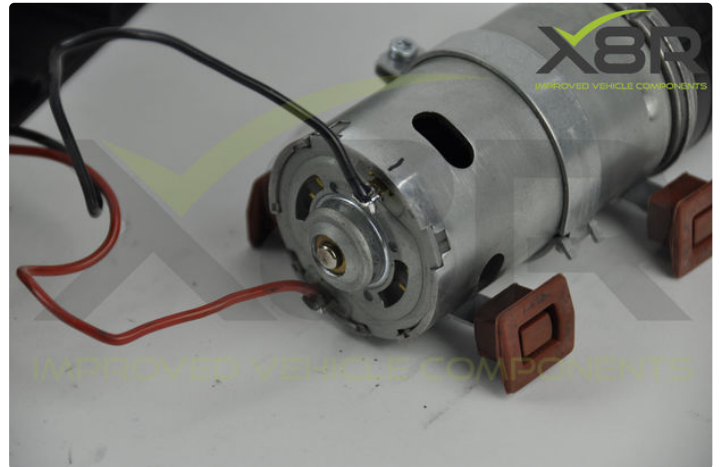
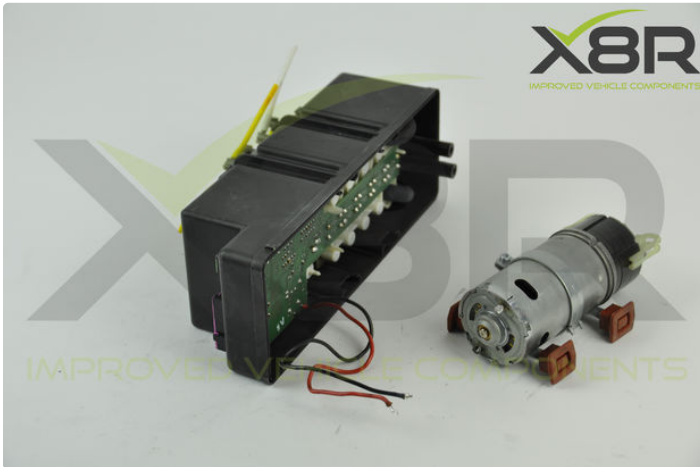
Make sure the previously drawn on marks all line up.

You can then reinstall the air line clip. This is just a push fit installation with the two 'legs' fitting over the metal prongs.



## Step 7: Reattach Motor to Circuit Board

Using a soldering iron melt the solder again and attach the wires to the correct terminals on the motor.



## Step 8: Reassemble Motor Into Housing

You can now place the motor back in the housing.

It has 4 rubber feet which will slot into grooves on the edge of the housing. The two air connectors must be slotted down into the air hoses nice and tightly. Once all in place, the two halves of the housing can be clicked back together.

This completes the repair. If you need any further guidance on this install or would like to purchase the parts shown please call us on +44 01843 446643 or email us at [sales@x8r.co.uk](mailto:sales@x8r.co.uk).

Please also check out our instruction guide on YouTube. [www.x8r.co.uk](http://www.x8r.co.uk)

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