

How to Rebuild a Subaru SVX Alternator

Edited by enstele

If voltage is low when the engine is running, the alternator may be faulty and may need to be rebuilt.
(13 volt minimum)



This would be proper charging voltage with the engine running.



#1 – Removal of the Alternator

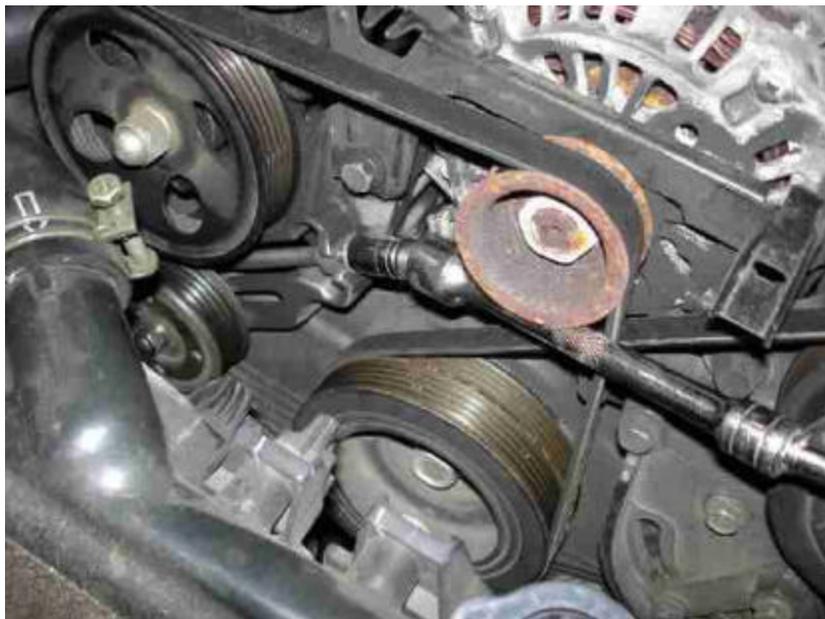
First disconnect the negative battery cable.

Remove the belt cover by disconnecting the 2 bolts on each side and sliding it towards the front of the car. If you try to lift up on it, you will break it.

Loosen the locking nut which secures the tensioner pulley about 1 turn (see arrow below). Be careful, it can be difficult to reinstall if it were to come off.



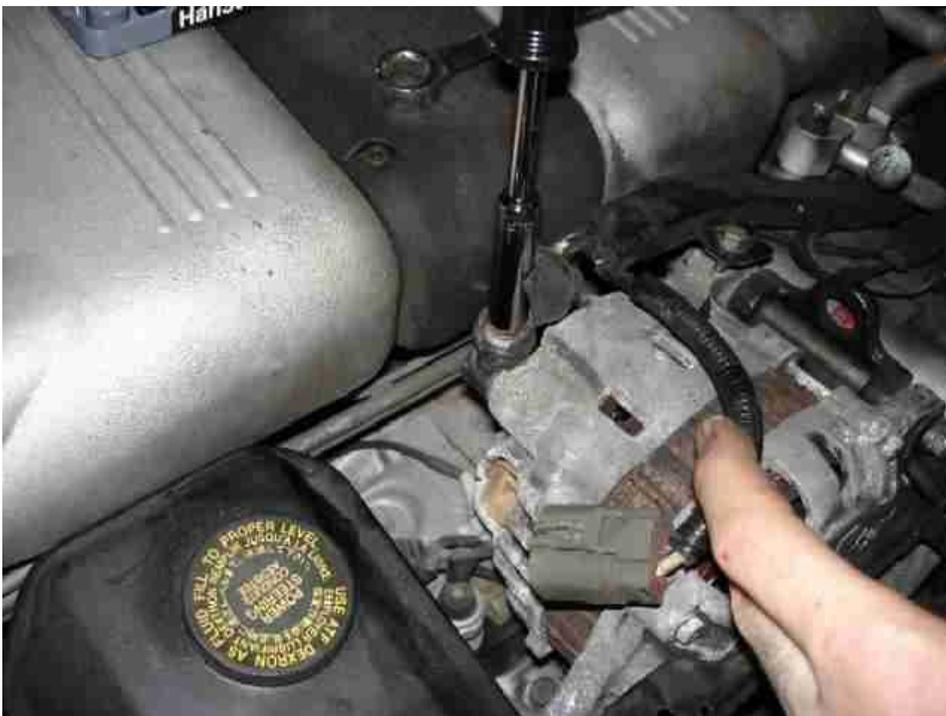
Loosen the tensioner adjustment screw counter-clockwise (socket wrench is on it below).



Remove the belt.



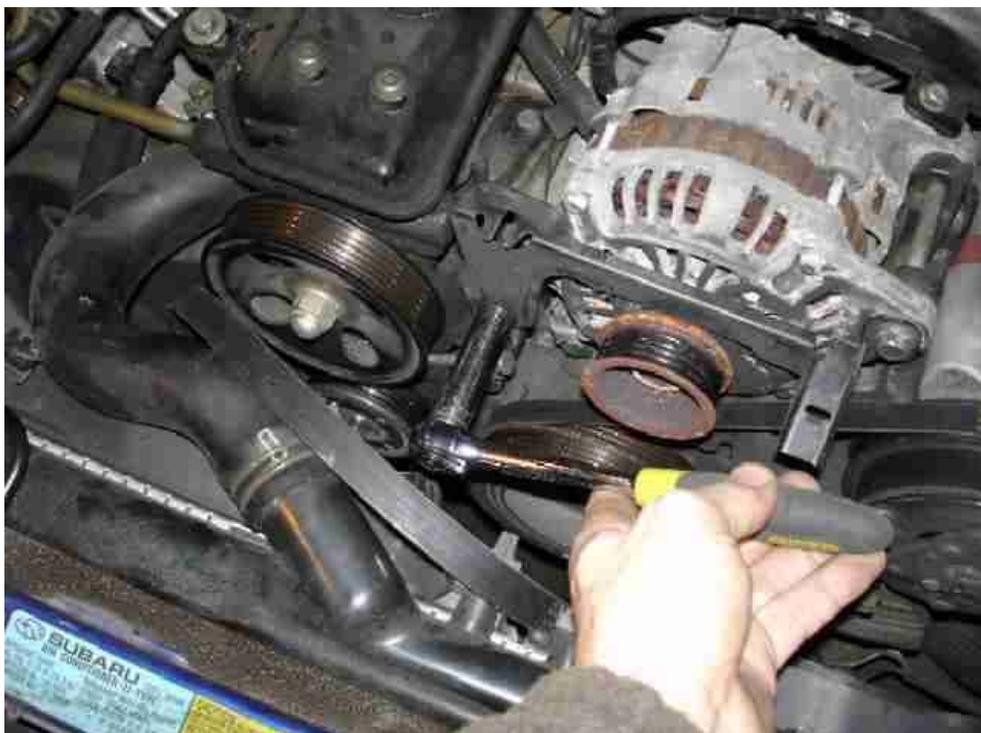
Remove the charging cable and unplug the indicator / exciter plug from the side of the alternator. Be sure that the battery ground cable is disconnected before doing this step.



Remove the cable guide / sheath.



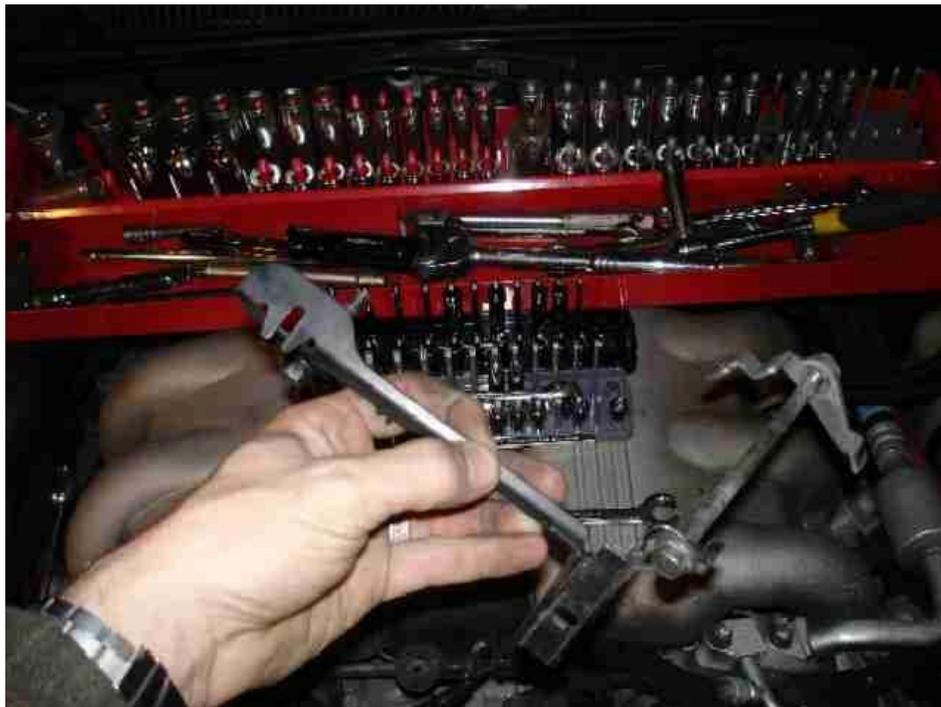
Remove the lower alternator and bracket screw.



Remove the upper alternator pivot and bracket screw.



Pay attention to how the parts go together.



Remove the alternator. You may need to use a pry bar (as shown below) to get it up and out.



The alternator lifted from the mounting location.



#2 - Disassembly of the Alternator

Carefully pop the cap of the charging cable lug cover.



Remove the charging cable lug nut.



Remove the charging cable lug assembly.



Remove the four screws which hold the two halves of the alternator together.



Separate the alternator by removing the side with the pulley. The windings should stay attached to the other half of the alternator.



Unsolder the windings. This is by far the hardest part of the process. A high-powered soldering iron will be necessary for this.

I don't recommend this technique, but if you are very careful, you can stretch the winding leads a bit and partially remove the windings. This will provide you with access to the screws and then the whole assembly can be removed together.

The ends of each wire are pressed into a horseshoe-shaped notch on the rectifier which is crimped together, then soldered.

You will need to pry the 'horseshoe' apart to remove the wire

The best method I've found is to melt the solder, and then blow it away with compressed air.

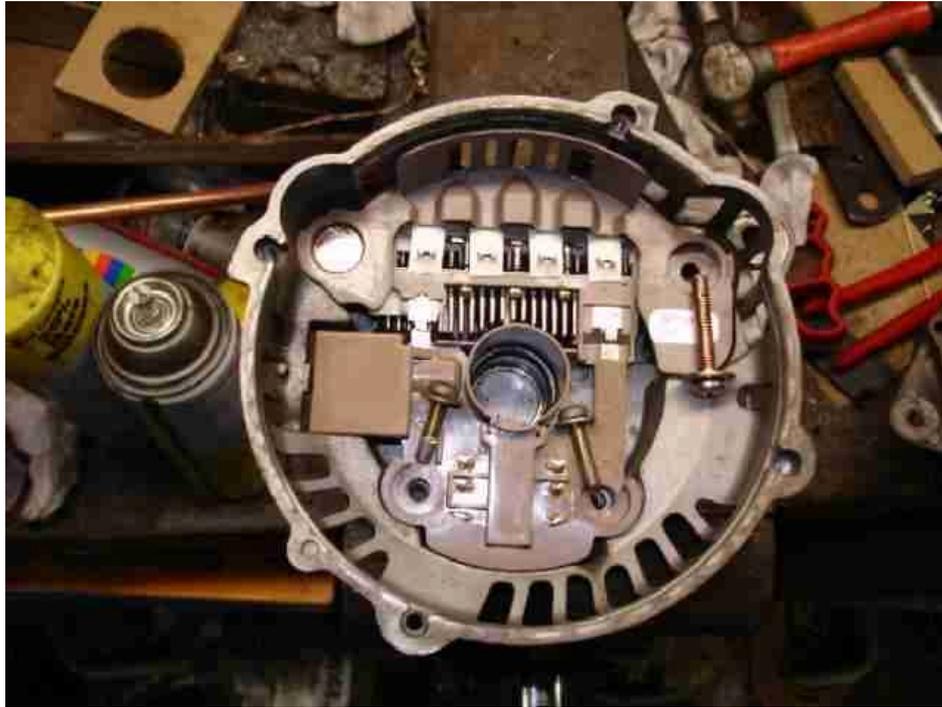
Protect the windings from hot solder if you choose to do this.

Once the solder is removed, it's easier to pry apart the 'horseshoe.'

Don't worry about damaging the rectifier or regulator because you are replacing them.



Once the windings are removed, remove the three screws that secure the regulator and rectifier and then remove the parts. You may need to tap out the charging cable lug screw.



These are all of the parts after the alternator is taken apart.



#3 - Reassembly of the Alternator

Remove the rubber plug in the hole next to the idler bearing hole.



You should be able to see light through the hole.



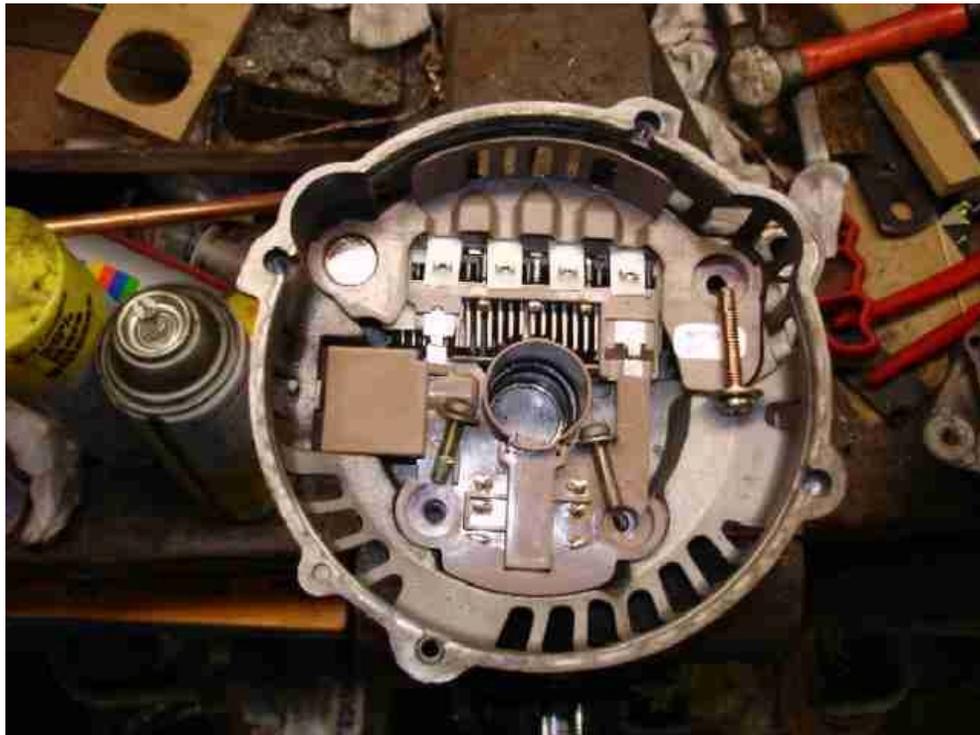
Install the rectifier and brush shroud.



Install the regulator, pushing the red brush retaining wire through the hole where the rubber plug was. You may need to straighten the wire so that it aligns with the hole.



Install the three screws. You may need to tap the charging cable lug screw into the housing.



Solder the regulator to the rectifier in two places.



Install the windings and crimp the 'horseshoes' around the leads.



Solder the winding leads to the rectifier.



Install the rotor and housing.



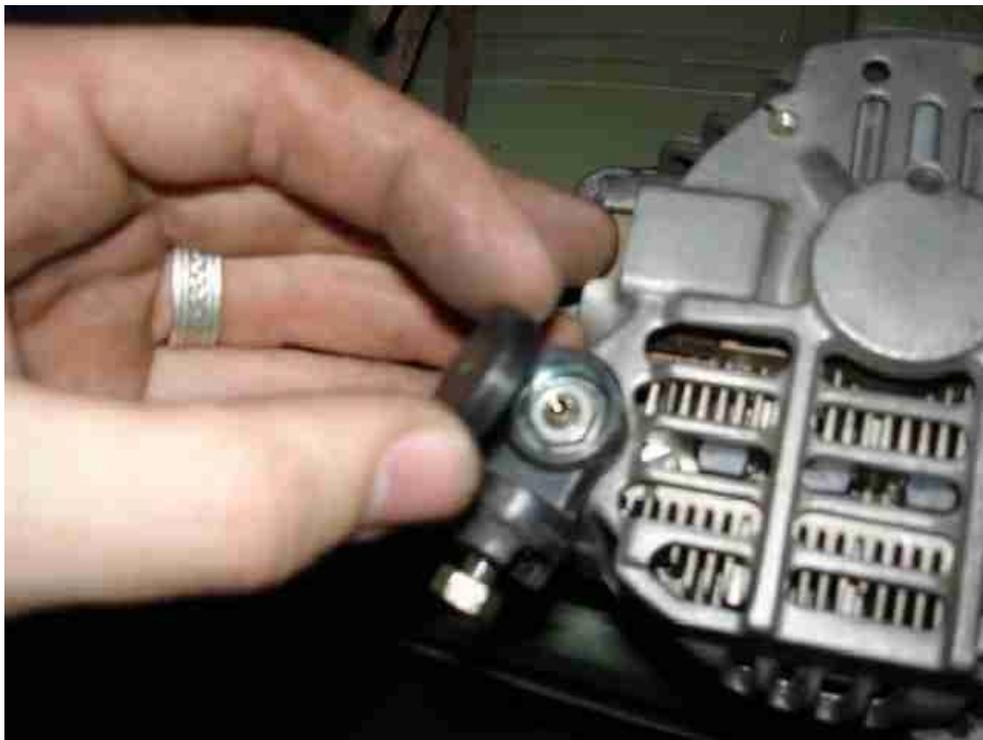
Make sure the halves of the housing are aligned and install the screws.



Install the charging cable lug.



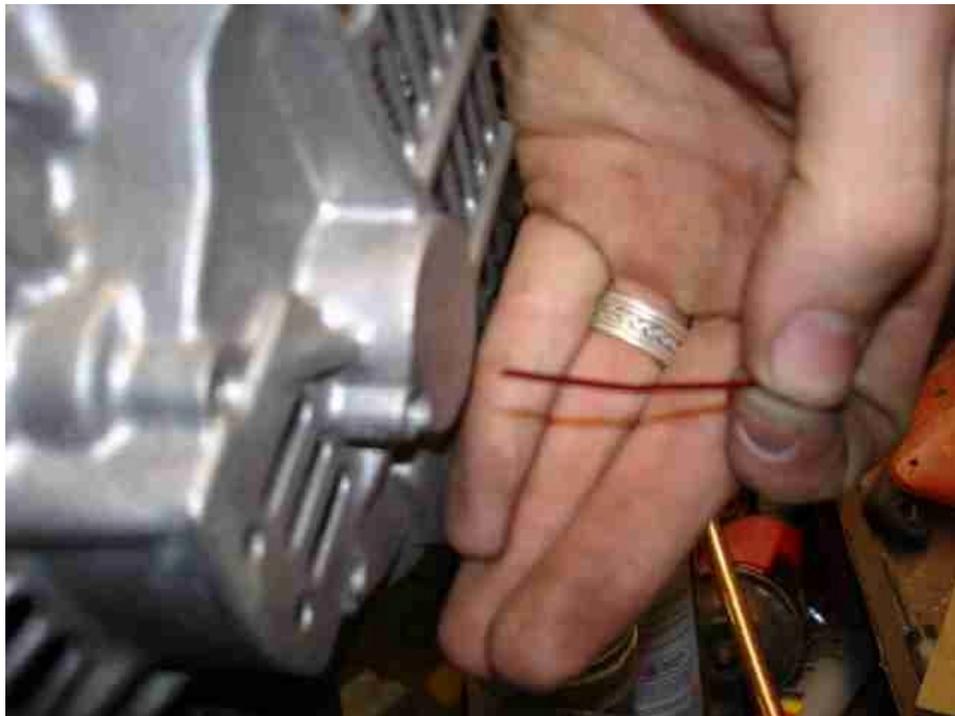
Install the charging cable lug cap.



Remove the brush retaining wire.



You will hear the brushes snap into place when the wire is removed.



#4 – Re-Installation of the Alternator

The rebuilt alternator is ready to go back in. If the pulley looks like this one, you may want to replace it.



Careful use of a pry-bar and hammer are the best tools for getting this to fit back into the mounting area.



Hopefully you remember how the bracket goes in. If not, this picture might help.



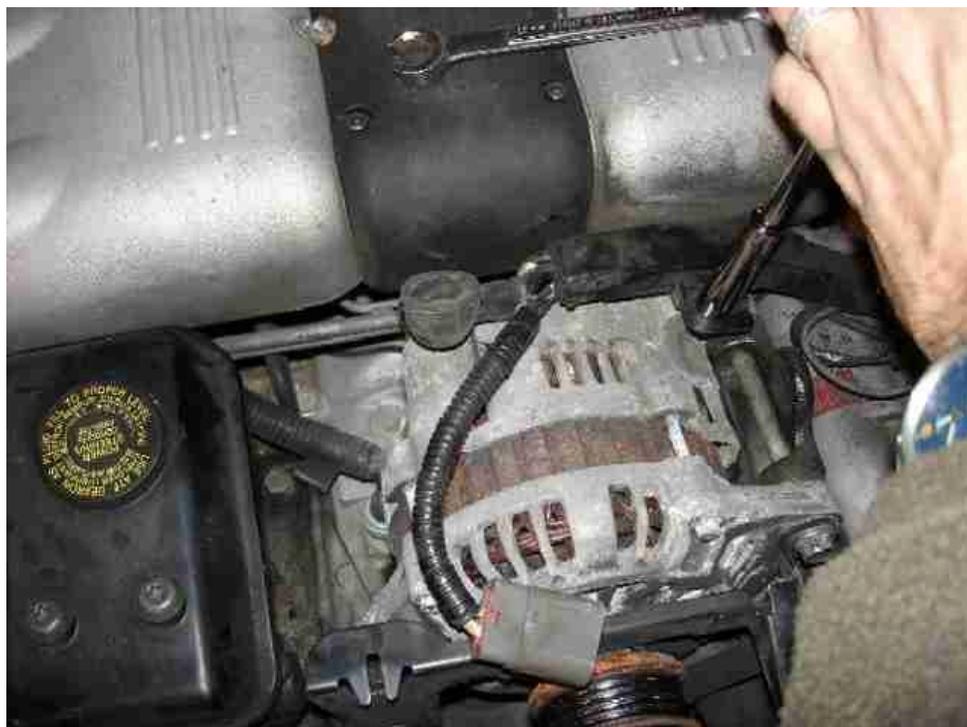
Install the upper alternator pivot screw. Leave it loose at this time.



Install the lower alternator screw. Tighten it and also tighten the upper pivot screw.



Secure the charging cable sheath.



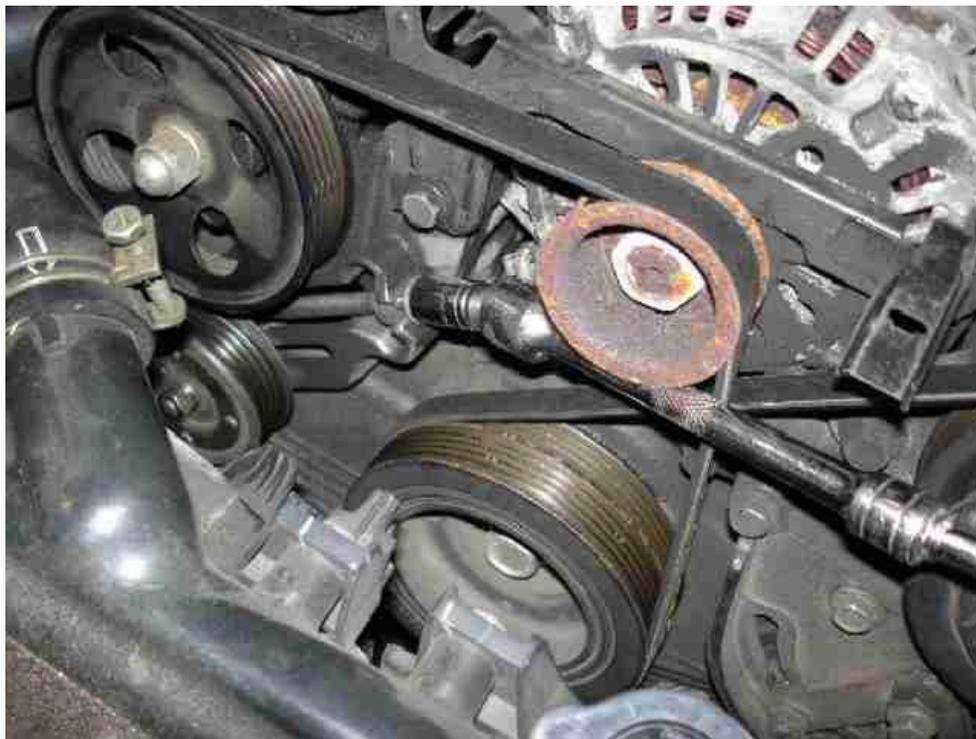
Secure the charging cable to the lug on the alternator. Reattach the battery ground cable.



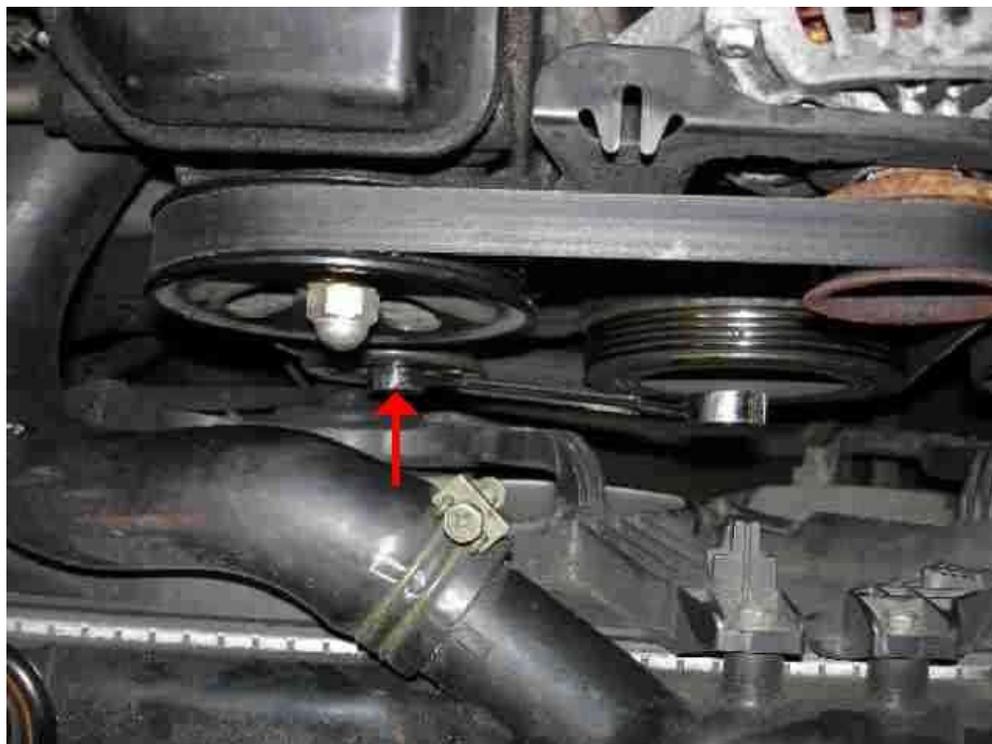
Install the alternator belt.



Tighten the tensioner pulley screw clockwise.



Tighten the locking nut on the tensioner pulley.



Reinstall the belt plastic belt cover and fasten the 2 screws.

#5 - Parts List

Parts list (In the picture below, from upper left to right in columns)

Column 1

- New regulator box (#IM277)
- New regulator
- New brush shroud
- Old regulator screws (2)
- Old regulator and brush shroud (DISPOSE)

Column 2

- New rectifier box (#IMR10068)
- New rectifier and screw
- Old rectifier parts disassembled - diodes (DISPOSE)
- Old rectifier parts disassembled - insulator (DISPOSE)
- Old rectifier parts disassembled - diodes and screw (DISPOSE)
- Old rectifier parts disassembled - frame (DISPOSE)

Column 3

- Rotor, shaft, and housing
- Windings, and housing
- Charging cable lug cap, nut, insulator
- Charging cable lug screw (DISPOSE)
- Alternator housing screws (4)

Column 1

Column 2

Column 3

