

Alternator

From WikiLEC

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Alternator replacement (ESM method)

This is a proven method to replace the alternator on a UK Elan SE with or without air-con. It might work on other models but is not proven.

Removal

1. Disconnect the battery - if you don't you WILL regret it!
2. Pop the bonnet and locate the black power steering fluid reservoir, this needs to be removed. Remove the bracket - one bolt (10mm head) is obvious, remove it, and open the bracket a little and look for two further screws and undo them as well. The bracket can now be removed completely. Empty the bottle into a container (use a syringe, turkey baster or whatever) and replace the cap, note the position of the breather hole in the cap. Loosen the jubilee clips holding the pipes onto the base of the bottle and push them down the pipes out of the way. Get hold of the bottle, ensuring you cover the breather hole with your thumb, pull it off the pipes and quickly invert it. Pour the remaining fluid from the bottle into your container. Plug the pipes to stop them dripping.
3. You'll now have reasonable access to the belt tension adjusting bolt (12mm spanner), remove it.
4. Now you need to get under the car. Put the car into gear, put handbrake on and chock the left wheels. Support the car with stands under the rear right Jacking Points and beneath the right side bolts securing the rear end of the front suspension raft to the chassis cross-member. Make sure the car is well supported as you will be trusting your life to it!
5. Get under the car and locate the alternator. Peel back the rubber covering the positive post of the alternator, get a 10mm spanner on it, remove the nut and washer and take the connector off the post.
6. You'll see a pipe coming through the space you will be bringing the alternator out through. Unbolt the pipe clamp (13mm socket) holding it to the floor of the car near the wheel.
7. Loosen the pivot bolt of the alternator with a 14mm socket or a spanner (don't try and remove it yet there isn't room). This might need reasonable leverage.
8. Remove the two bolts retaining the alternator mount with a 14mm socket. Again reasonable leverage might be required. This will free the alternator.
9. Remove the remaining plug in the alternator.
10. Remove the pivot bolt (if you didn't loosen it earlier you'll probably have to put it back on at this point to get it started) and pull off the mount.
11. The alternator is now free but you have to remove another pipe clamp before you can withdraw it. The clamp is on the bulkhead, its not too bad to get at. Remove and make sure you get the aluminium spacer off it and put it to one side - its a git to retrieve if it falls being non-magnetic.

12. The power steering pipe will now drop completely out of the way. Remove the alternator rear first - it's not too hard but a couple of attempts might be needed to get the orientation right. Don't drop it on your head.
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Re-fitting

When putting the alternator back in think about the order you do things in or you'll end up reversing half of it:

1. Put the alternator into the cavity.
2. Replace the bulkhead pipe clamp (including the Al spacer) - make sure the top of the pipe is level with the other pipe before tightening up.
3. Put bracket onto alternator and replace pivot bolt (it can be fiddly getting it lined up), no need to tighten it at this stage.
4. Get the alternator into position so you can bolt the mount back on **MAKE SURE YOU LOOP THE BELT OVER THE PULLEY.**
5. Bolt the alternator on.
6. Replace the wire/plug onto the rear of the alternator.
7. Get some tension on the belt and replace the adjustment bolt (be careful the alternator's case is easily broken).
8. Tighten the pivot bolt.
9. Re-bolt the lower power steering pipe bracket.
10. Push the power steering reservoir bottle back onto the pipes, position and tighten jubilee clips.
11. Refill power steering reservoir bottle.
12. Reconnect battery and test start.
13. Replace power steering bottle bracket.

Replacement Parts

A Lotus alternator Pt No A100E6029S £505.59

A reconditioned alternator from SJ lotus SJ100E0010 Exchange £125.00

Soss29 on eBay (<http://myworld.ebay.co.uk/soss29>) sells the Nippon Denso Alternator (used to be brand new but believed to be reconditioned now, albeit to a good standard and with a reasonable warranty) for £125 or sometimes less.

As a cross-reference, this alternator is also used on the 1991 Isuzu Impulse.





Loren's LHD write up

On LEC (<http://lotuselancentral.com/repair/alternator.htm>) and also on the pre-crash LEC (<http://www.lotuselancentral.com/lec/alternator.htm>)

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