

# Lotus Esprit S1/S2 Body Removal Process

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**Preface:** I wrote this because there was not a good guide for removing the body on an Esprit. I was working on a slightly fire-damage S1, serial number 77050290H. I also own an S2, so I tried to add those notes where possible. S3 cars are probably similar to the S2. Since there was no a good guide in writing that I could go by, I had to make it up as I went. There were things that could have been done more efficiently than the order that I did them, and I tried to group them in an order that made sense. It took me about 10 hours, but I'll bet that can be cut to 5-6 hours with this guide. The engine bay was fried, so the wires and hoses that might need to be disconnected were already 'disconnected' for me. I had a two-post MaxJax lift which helped a lot in doing this. It should be possible to do this with floor jacks and stands, with the help of a couple friends to lift the body off. At the time of this writing, I have not put the body back on, so I don't know if there is anything that could have been done differently to make it easier.

I highly recommend the use of Ziplock bags and small note sheets during the disassembly process. If there are nuts or bolts that you need to replace, make a note of them. When you remove a part, bag and tag the bolts for that part. It will make the reassembly much easier.

## **With the car on the floor:**

1. Remove the seats.
2. Remove the shifter knob.
3. Remove the spare tire and whatever else you have in the front boot.
4. Empty the fuel tanks. An easy way to do this is to disconnect the fuel line at the carbs and use the fuel pump to pump the fuel into gas cans. Leave the fuel line to the carbs disconnected. If the fuel line interacts with the frame or anything on it, clear the fuel line, as it stays with the body.

5. Drain the brake and clutch master cylinders and remove them. The brake booster servo must also be removed. It and the master cylinder can be removed as a unit. Push the clutch hose down through the hole in the body. Note: If you have not replaced the clutch hose with a stainless steel braided aftermarket hose, it is advised to do this when the body is off.

Note on installation: With a pair of vise grips, bend the left side of the pedal box out slightly. When you go to reinstall the pin for the clutch actuator, install the pin going from left to right, instead of the original right to left. Note the chalk mark on the clutch pedal arm to indicate where the hole is, to help with pin alignment.



**In the engine bay:**

6. Remove the battery.
7. S1: Remove the oil pressure sender electrical connection on the right frame tube. S2,S3: Remove the oil pressure hose from the engine block, located on the top side of the engine, between cylinders 3 and 4.
8. Remove the throttle and choke cables at the carburetors.
9. Remove all electrical connections to the engine, including:
  - a. Fan switch, in the aluminum pipe that wraps around the alternator.
  - b. Temperature sender wire, located just below the thermostat, below the hose that runs to that aluminum pipe that wraps around the alternator
  - c. High tension wire from the coil to the distributor cap
  - d. Electrical wire from the coil to the distributor, and anything else on the frame.
  - e. Thermostat wires for engine bay blower fan on to of air box, if present

**Raise the car, and remove the following:**

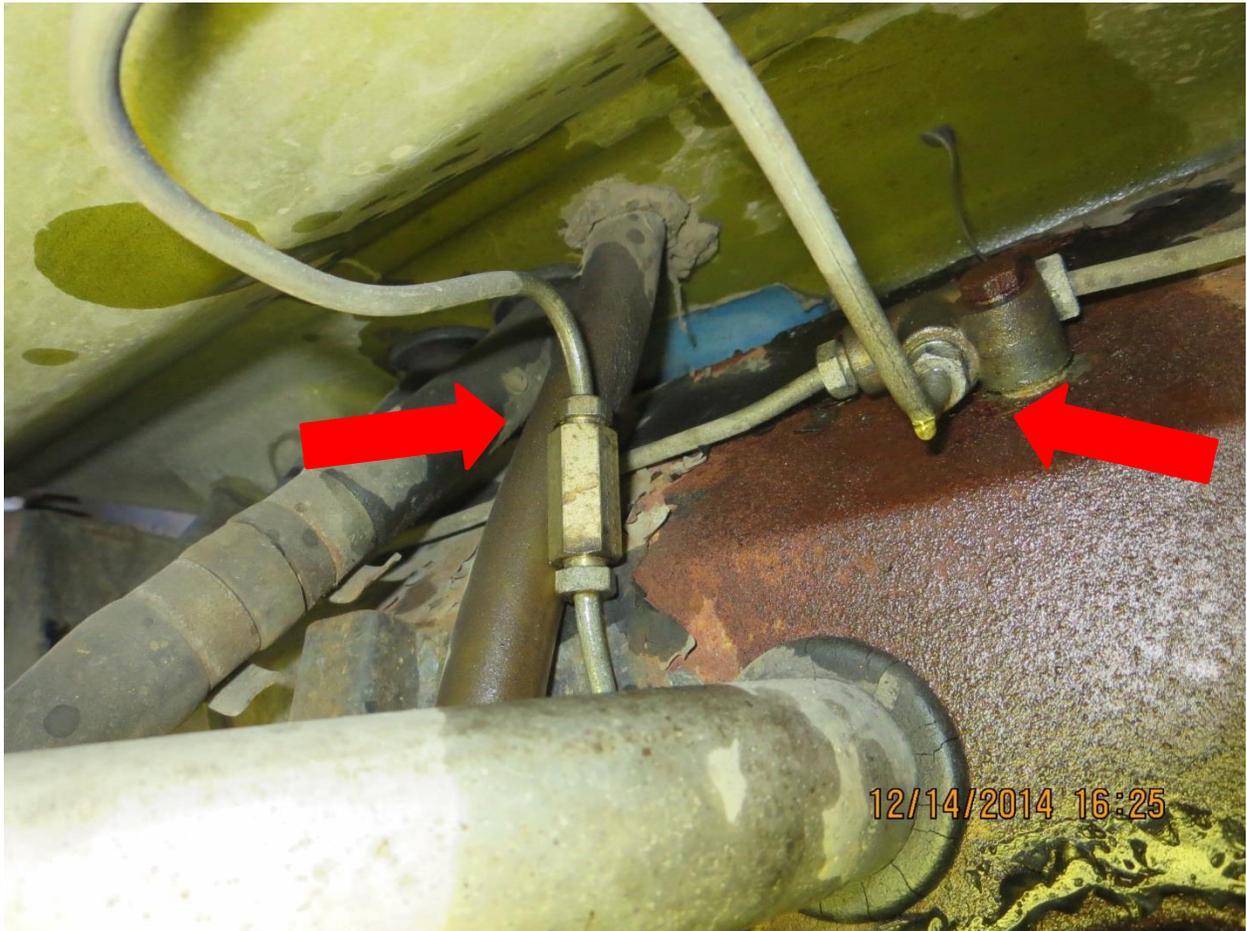
**Front:**

10. Front valance that surrounds the radiator. The radiator is staying with the frame, so anything hanging below the frame, such as wires to the fans, need to be disconnected.

11. Remove the bolt through the lower portion of the steering knuckle. Spraying this with penetrating oil is a good idea. Some people have reported that disconnecting the steering knuckle has been very difficult to do. I didn't have any trouble with it. I simply removed the bolt through the lower portion of the universal joint. When I lifted the body off, the universal slipped off the steering rack. I left the steering column in place, so when the body goes back on, I will either have to very slowly lower this and line up the steering wheel, or just drop the body on and then loosen either the rack or the steering column to get this joint back on.



12. Disconnect the brake lines where they split off to the left and right front brakes, and the connection to the rear brakes. This means that the steel lines running from the brake master cylinder down to these connections are staying with the body when it is lifted off. When you go to reconnect these, note that Lotus did things in a nonconventional manner. The primary side of the master cylinder (closest to the firewall) is plumbed to the REAR brakes, and the secondary side (furthest forward) is plumbed to the front brakes.



**Rear:**

13. Remove the rear valance.
14. Disconnect the speedometer cable running into the back of the transaxle. This requires removing one bolt in the rear transaxle cover. In my case, the muffler was in the way, and I had to remove it in order to get this one bolt in order to remove the speedometer cable.



15. Disconnect the two wires going to the reverse light switch, located on the rear of the transaxle. If there are not connectors here, they are inside the engine bay, behind the panels guarding the taillights, between the left and right lights. There will be two bullet connectors just where the wire exits the body.
16. Disconnect the parking brake cables from the rear calipers, or remove the hoses running to the calipers and remove the calipers from their mounts, and allow the calipers to dangle from the parking brake cables.

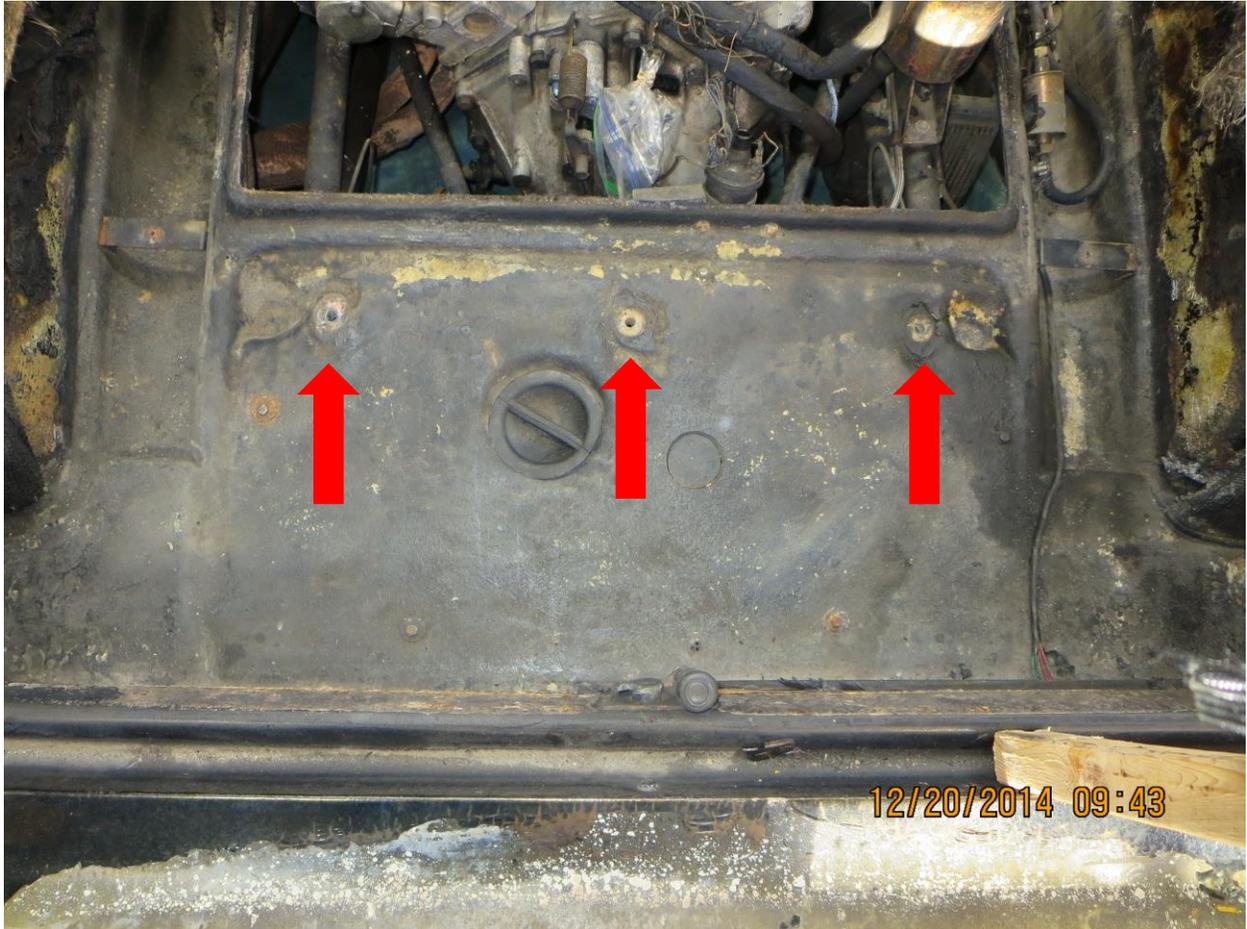
17. Remove the hoses running from the left and right fuel tanks in the body to the cross-fed pipe in the frame under the engine. There will probably be some fuel left in these lines, so expect fuel to come out. This is an ideal time to replace the fuel hose, so just cut the fuel hose between the frame and body, on the left and right sides.



(Note: this picture shows the body lifted several inches off the frame.)

**With the car back on the ground:**

18. Remove the two front body mount bolts located in the front compartment. The bolt under the brake and clutch master cylinders acts as a ground point, so there are a lot of black wires on this bolt.
19. Remove the 2 or 3 body mount bolts located in the engine bay, behind the engine.

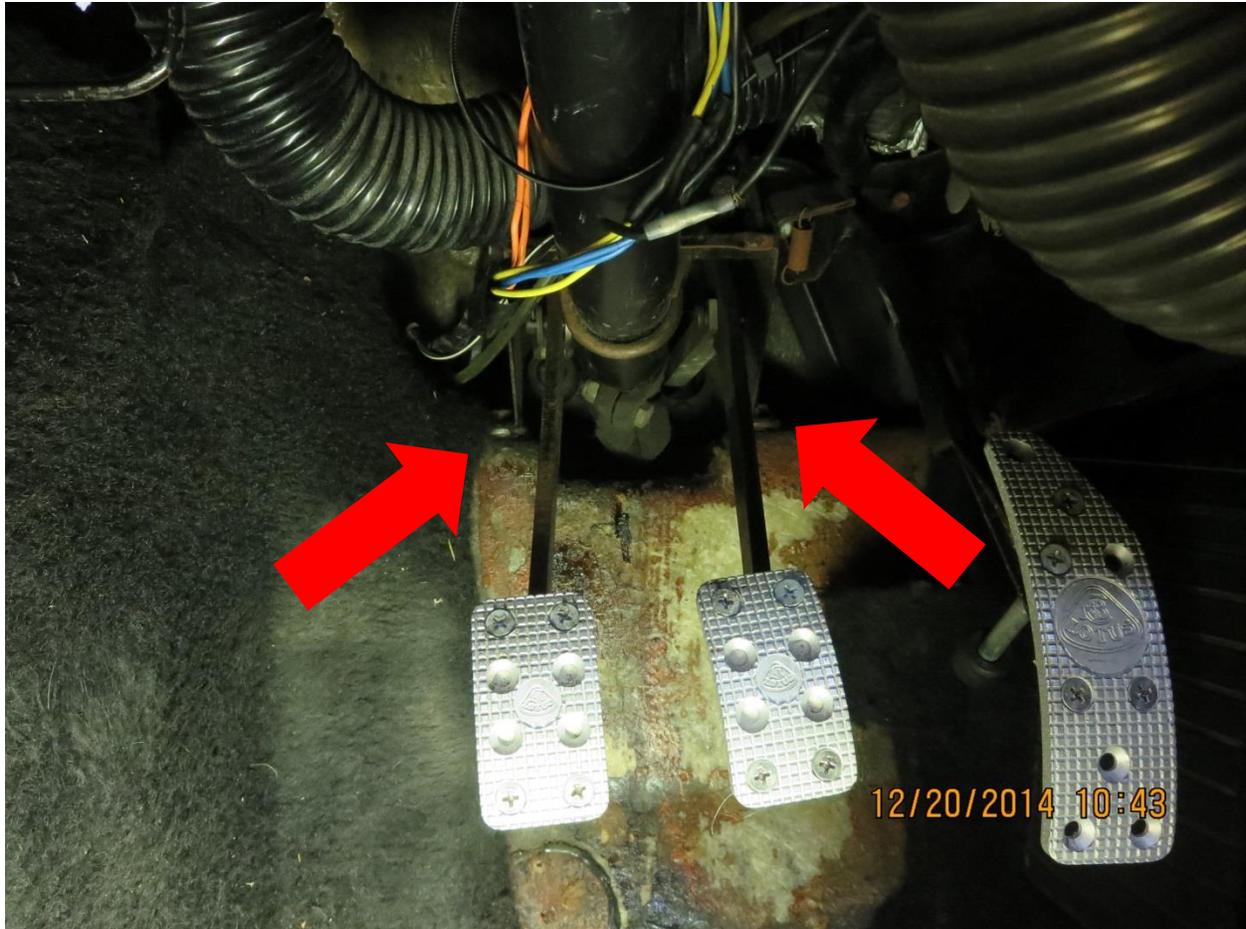


20. In the cockpit, remove the seat belt bolts holding the female receive to the center tunnel on both the driver and passenger sides.

21. Remove two other bolts under the carpet on each side of the tunnel forward of the seat belt bolts, and 1 bolt in each foot well facing forward.



22. Remove the four bolts holding the pedal box to the frame. There are two bolts on each side of steering column, positioned vertically, one behind the other. You should be able to get a ¼" drive socket on these bolt heads. If not, you will have to use an open-end wrench. I left the steering column in place, with the hope that it will make putting the bolts back in easier.



Okay, the body is now unbolted. However, there is a clearance issue on the upper front suspension bolts. They protrude into the body slightly. I resolved this problem by using a pry bar and some pieces of wood, to move the body forward slightly, and blocking it with wood.



**Things to consider doing while the body is off:**

1. Remove and paint fuel tanks – This is almost impossible to do with the body on the frame with the engine in place.
2. Replace clutch hose with stainless steel braided hose.
3. Replace all fuel hoses.
4. Paint engine bay in the body, and the engine frame.
5. Suspension or steering work.
6. Replace all coolant hoses. If you do, start the engine and check for leaks. It's much easiest to correct leaks with the body off.