

Installation instructions for lower seat cushion foam, Volvo 240

Step 1, Removal of the Seat from the Vehicle

Volvo 240 seats are attached to the floor with two bolts and two nuts. Slide the seat to its full forward position. At the back of the seat, on the floor, you will find the inner leg attached to the floor by a single 8mm bolt. Head size either 12 or 13mm. Remove it. On the outer side the seat foot is covered by a plastic trim piece. The trim is held in place by two plastic snap buttons. A door card removal tool is the best solution to removing the buttons. However you can also slip a screwdriver between the sides of the plastic trim and the metal base and pry outward, the snaps will pop out. Put a hand over the head before prying, they can disappear easily! Once the cover is removed you will see the second rear mounting bolt—remove it.

If the seats are heated, reach underneath and unplug the connector. Often the plug will be tucked under the carpet above the floor duct for the heater/AC. It may be attached to the top of the duct with butyl adhesive. Remove and disconnect the plug before proceeding.

Slide the seat to its rearward position. In the very front of each seat track you will find a single nut. Loosen with a deep socket, remove your ratchet and then spin the nut off with just the socket. The extra depth gives you some grab room. Don't let the nut fall out of the socket and down into the seat rail.

Passenger side seats are easily removed through the front door. The driver's seat is a little more difficult as the steering wheel gets in the way. The trick is to rotate the seat 90 degrees so the entire seat is upright, facing the door opening. As you move the seat towards the doorway, lean the seat back down towards the floor and tip the seat bottoms up, below the steering wheel, and out of the doorway. This gives you extra room to clear the headrests. Removing the headrests first helps, but they are often difficult to extract from the seat back on older cars. You can also remove the seats by laying them sideways and taking them out through the back doors. If you do this, place something like an old rug or heavy cardboard on the rear seat. It's very easy to snag the back seat legs on the seat and tear your back seat cover.

Step 2, Separating the Upper and Lower Seat Sections

The upper and lower seat sections do not need to be separated to replace the lower foam, but it is considerably easier to work with the seat bottom alone.

If the seats have heaters, locate and disconnect the leads attaching the top heater to the lower heater and connector. If the heaters have been replaced, or rewired, you may have to cut one wire and reconnect later. Pull the seat back wires up and out of the way of the lower cushion frame.

Remove the inner recliner mechanism cover. This is the plastic panel at the "crotch" of the seat on the inner side. Flex the bottom of the cover outward to remove

the snap tabs from the underside of the recliner inner metal cover. Once loose at the bottom, slide the plastic cover upwards. It is clipped on to two small, metal tabs via two plastic “hoops” on the inside of the plastic cover. You must keep the lower tabs from reengaging while you slide the cover up and off the upper tabs.

On the outer side of the seat you must first remove the recliner adjuster knob. Use a sharp mechanics pick. Locate the edge of the round, snap in cover in the knob. Drive the pick into the very edge of the cover and pry it out. Inside you will see one of two types of retainer discs. Early cars have a three-eared black disc. Insert needle nose pliers into two of the holes in the disc and turn while rotating the knob in the opposite direction. The retainer will come free as will the knob. On later vehicles the retainer disc has four, tiny ears that clamp it to the center shaft. Using a right angle pick, pry each of these four ears outward slightly until the disc comes free. Remove the disc and the knob. It may take a couple of “trips” around the center shaft to get all four ears loose enough to remove the disc.

Remove the recliner cover panel in the same fashion as on the other side of the seat.

From here I like to turn the seat upside down on my workbench. I put a towel on the bench (which is about 40” high) and a step stool on the floor. With the seat inverted on the bench, the headrest will sit on my step stool and the seat is well supported.

Removing the seat height adjuster mechanism will make access to the seat springs easier. On the driver’s seat, remove the four, 8mm bolts in the oval slots on each corner of the height adjuster. Watch carefully for the washers, tubular spacers and plastic oval guides—don’t break the guides! The guides snap into the seat frame.

With the hardware removed, use the seat height adjuster release handles front and back to disengage the adjuster from the frame.

On the passenger seat the height subframe is bolted solidly to the frame by four 8mm bolts. Remove the bolts and the subframe.

The recliner arms reach into the lower seat frame and are attached to it by four 10mm bolts with 14mm heads. With the height adjuster out, this is an easy reach. Remove all four bolts and slide the seat back, complete with the recliner mechanism out of the seat bottom and set it all to one side. You now have just the lower seat cushion on the bench.

Step 3, Disassembly of the Lower Seat Section

The lower seat cover is attached to the sides of the frame at the tail end by two, steel clips, one on each side. By this age the vinyl of the seat covers is usually fragile.

If you simply drive off the clips with a blunt instrument and a hammer, the vinyl will usually tear. When the clips are reinstalled it is wise to stretch the vinyl tighter and find an undamaged area over which to attach the clip. Unfortunately, if the vinyl has been badly damaged, this can be next to impossible. Start by using a small screwdriver to pry open the clip as much as possible. Remember, it is spring steel. If you pry too much, it will break. Once loosened, it can be more easily removed, hopefully with minimal damage to the vinyl.

Next, take a look at the very back of the frame. You will see that the seat cover is wrapped around a tubular member between the side plates. The end of the seat cover is a pocket through which runs a flat steel bar. This bar has two tabs, one on either side, that notch into slots on the side plates. Raising the center of this bar where it wraps around the tube will provide enough clearance to disengage the tabs from the side plates and will release the back of the seat cover. Do the same up front.

The seat cover is attached to the frame by six hog rings. I've often found that seats have been doctored and have more. If not, there are two on the lower edge of each side—remove them. I find a diagonal cutter to be very handy for this, just be careful not to cut the hog ring. Once you have the ring open, you can unwind it from the cover and the frame.

Lift the front of the seat cover free of the foam. Be careful not to stretch the cover too much over the front corners of the old foam or they can tear. Once clear, remove the front foam insert. You will see, in the center of the seat that the cover is drawn down into the cushion. There are two hog rings down in that valley. They attach a wire in the seat cover to the insert in the foam. Dig them out and remove them.

You can now completely remove the seat cover from the foam. If you don't have enough hog rings to reassemble because some of them broke, now is the time to get more, or you can use nylon wire ties to reassemble the seat as well—just make sure you get good quality ties! Remove the heater and foam cover if applicable.

Step 4, Rebuilding the Seat Cushion—Underside Support

If your seat foam is a mess, there is a good chance that your seat underside support, the wire basket, is in pieces. In my opinion the design for this little rat's nest is incredibly poor. There is a replacement that is marginally better, available from Volvo or iPD. The problem is that this still leaves the thin wires and the heavy springs riding right against the foam. This is a cheese grater—or foam grater—just waiting to happen all over again.

Your new seat foam has a rust-proofed, steel plate embedded in the bottom of the foam. While no foam cushion will stand up to 100-300 pounds wiggling around in it forever, the purpose of this plate is to eliminate the underside support's rubbing against

the foam. It also allows great versatility in replacing the support, since the support is now just a means to locate the springs, and the steel plate in the foam does most of the supporting. You may choose to “restring” the springs using wire, cording, expanded metal or some other material. If you are concerned about your new support rubbing against the foam that is visible under the cushion’s steel support, insulate the two with a piece of supported vinyl, a sheet of rigid plastic or some sort of fabric. Denim or burlap are both favorites in the upholstery industry for such applications.

Removing and installing the seat support springs is always a nightmare. No doubt some of them are already disconnected, possibly even lost. If you are discarding the old seat support, you can cut it to release the remaining springs.

There are several tools that work well for removing and installing the springs. The very large, oil filter pliers with big, crescent shaped jaws allow one to grasp the seat frame sides and the wire support and stretch it to remove the springs. Large hands or a helper are sometimes required as it may take both hands to close the pliers enough to get the springs on or off.

Brake spring pliers are another wonderful helper. Again, you may need another pair of hands.

I find that the best method is to first fashion an extension hook from a piece of 3/16” rod. A piece about a foot long is good. Bend each end into a hook. If you tried the pliers method and found that the springs have a tendency to move up or down making it difficult to engage/disengage them from your old support or your newly developed one, try using the hook in conjunction with either the filter pliers or the brake spring pliers. The hook allows you to extend your reach from the spring on one side, to the frame on the opposite side. This lessens the angle of the pull considerably and the springs become more manageable. Certainly there are other methods using C-clamps, large screwdrivers etc. Be careful, the springs are very strong. I recommend safety glasses for this operation.

Once you have your old support out, and your new support in, you are ready to proceed to foam and seat cover reinstallation. This is the time to completely wash your seat frame, height adjuster and rails, and to lube the rails if necessary.

Step 5, Rebuilding the Seat Cushion—Installing Foam and Seat Cover

With your new support installed, or the old one reinstalled, turn the frame right side up with the front facing you. Set your new seat foam down on the frame. You will find that the steps under the front edge of the foam conform to the front frame member. Jostle the cushion a bit and it should sit properly. If the side ears don’t come down just about to the bottom of where the side hog rings installed, try sliding the cushion a bit further forward. There are two steps under the front.

The steel insert in the foam is designed to grab a stock or stock-replacement support grid. While it's not imperative that the foam be locked in place by these tabs, it's not a bad idea either. If you are using something other than a stock style grid, you may wish to devise some means of attaching the grid to the clips anyway. The tabs in the new and original foam are more like "stops". They keep the foam from being scrunched backwards every time you sit down.

With the foam in place, set your seat cover on top. Remove the front foam insert and dig out the top hog ring clips. They are usually somewhat covered by the foam material. Using needle-nosed pliers, thread a hog ring first through the wire on the seat cover underside and then pull the ring down to engage the tab in the foam. Yes, I know that sounds easy, but in practice is annoying and frustrating. Just wait until you have to crimp the hog ring shut—that's the tough part. Proceed to the second hog ring. Once properly installed, the two rings should give you that nice, "tucked in" look on the top of the cushion. Replace the front foam insert. Replace the seat heater and cover.

Pull the front and back edges of the seat cover down over the foam. Tuck the foam in a little to make this easier. It is at this point that it will be evident if the foam needs trimming for the GL, button tufted seat covers. I've not tried one yet. I do know that these covers are very stiff even when new.

You will notice, regardless of which cover you are reinstalling, that the fit is tight. Certainly the cushions are a little denser, the old ones were deteriorated and shrunken, and your seat cushions are probably somewhat shrunken too, even though they may have appeared wrinkled before. Pulling the cover down around the new foam takes care and patience to avoid damaging your cover. Don't rush!

Insert the front and rear bars into the seat cover pockets and reinstall them into the frame by flexing them as you did to remove them. This is easier than doing the side hog rings, so I like to get a leg up on the seat covers by pulling them into place front and back first. You may choose to do the reverse.

Much has been written about replacing all of the hog rings on a 240 seat with nylon wire ties. This is up to the individual. Certainly the wire ties are much easier to work with. I only advise that you get good quality ties. If you use inferior ones, they will snap in short order and, especially on the side of the seat that is toward the middle of the car, are very hard to replace without removing the seat again.

Pull the sides of the seat cover down so you can thread a hog ring (or wire tie) through the vinyl and around the side frame. Make certain you grab the wire inside the vinyl or you will tear the vinyl. It's very helpful to have a helper compress the seat foam at the top while you do this. I have also put a long, small screwdriver through the vinyl and used it to lever the side of the cover down to where I can easily install the hog ring.

The wire tie make this easier, but remember you are running it against a piece of sheet metal while drawing it tight.

The last part of the cover to be replaced involves the back ears of the cover that are held on with the flat, steel clips removed at the start of step 3. If you bent the clips open, flatten them out. They don't have to be closed, just snug. Start by stretching the vinyl back, down, and around the side frame extension. I like the vinyl to be below the bottom edge of the metal by about $\frac{1}{4}$ ". Once you have it where you want it, and folded in place, grasp tightly. Put the clip on so that it does not extend below where the metal ends. Push to hold in place while you grab a hammer and tap it on over the vinyl and onto the metal underneath. Remember, if you tore the vinyl, you need to get the vinyl stretched to a point where you are clipping on over vinyl, not dead air, or the cover will not only snap back, it will tear more.

Step 6-Reassembling the Upper and Lower Seat Sections

Turn the lower cushion upside down on the bench again, with the front facing away from you. Grab your seat back and turn it upside down. Take a good look at the arms of the recliner mechanism on each side. Are they parallel? It's common for the seat back to have been forced backwards with such strength that the recliner may have jumped a tooth on one side, leaving the seat back crooked. Now would be a good time to fix this, but these are instructions left for another document.

This is where that step stool under the headrest will be a big help. Feeding the recliner arms back into the lower side frame is always a picnic. It came out, should just slide right back in, right? Unfortunately the side frame stampings are very convoluted pieces of metal. It may take you a bit of twisting, grunting, cursing, to get the threaded receivers on the recliner arms to line up with the holes in the side frames. Once you have the four bolts started, run them in until they are just about ready to snug up. At this point, pull the seat back as if you were reclining it. That is, leaning it backwards. The idea is to evenly locate the four bolts so that one side of the seat back is not further forward or back than the other. If you pull the seat back so that all four bolts are tight against the lower side frame, at least you have an even starting point. If the seat back is crooked at that point, the seat back frame is probably bent. Tighten the four bolts in the lower seat frame.

Reinstall the recliner side covers by first sliding the plastic hoops on the inside tops down over their metal hooks on the sides of the metal recliner cover plates. Draw the cover down and snap the bottoms down over the metal tabs.

To replace the adjuster knob, you must first locate the knob on the steel hub of the recliner adjuster mechanism. There are alignment tabs on the hub that fit into the back side of the knob. Align the knob. For earlier cars, insert the retainer and again

using needle-nosed pliers in two of the holes; rotate the plate until it locks in position. Snap in the round center cover.

For seats with the later style retainer, start by bending the four little tabs in the center back in. I do this with needle-nosed pliers from the inside of the retainer. With the knob in place, carefully set the retainer into the recess in the knob, over the center shaft. It must be straight, and of course, it wants to fall right out. To install the plate I like to use a deep, 7mm socket. Place it over the plate, centered over the shaft hole. Give it one or two smacks with a hammer. If you use too large a socket, the tabs will bend out again as the plate moves inward, leaving the knob loose. Too small a socket and it will hit the shaft and won't allow the retainer to move inward. The 7mm bears against the tabs slightly as the retainer is driven in, resulting in a nice, tight fit. Replace the center cap.

As our friends from Haynes Publishing are wont to say, "Installation is the reverse procedure to removal". Keep in mind that if you install the seats through the back doors, you should protect your back seat from damage by the front seat's feet.

Enjoy your new foam cushion! If response is strong enough, I will continue with development of seat back replacement foam. Keep those 240s rolling!

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