

Technical Article: Inflatable Lumbar Seat Repair on C4 Corvette

One of the common problems with the inflatable lumbar seats is that the pump may fail. The pump may continue to work, but the air bladders located in the seat do not inflate. There is a rubber membrane within the pump which can puncture. Below are possible solutions:

Instead of purchasing and replacing the whole pump from GM you can order just the membrane from the Jasco Products, in Sun Valley, CA. They are the manufacturer of the pumps. Their phone number is (323) 254-8889 and their web site is <http://www.jascoprod.com/>. There is also an article on replacing this membrane in the May 1995 issue of Corvette Fever magazine.

The following information is an alternate fix:

1. Purchase a pair of latex rubber dish washing gloves from your local 5&10. Make sure they are the heavy duty kind, and not the ones the thickness of a condom. Also make sure they have a good portion of flat texture on the cuff. You'll need enough to cut out two 1" round diaphragms.
2. Remove the lower seat cushion. There is a wire retainer at the front bottom of the seat. Carefully flip the seat bottom up and out of the way to expose the bladder pump. It is the one with the tubings attached to it.
3. On one end of the pump you will notice two small phillips head screws, holding on a retaining plate. Remove both screws and the retaining plate. The bottom one is a little hard, but it can be done with a small jewelers screwdriver. You do not have to remove the pump itself.
4. Once you remove the retainer, you can wiggle out the diaphragm assembly. It has three tubes attached to it on one end, and the plunger assembly on the other. If your diaphragm is busted, then the plunger will be separated.
5. The diaphragm assembly, is held together by four small bolts and nuts. Remove all four, and break apart the diagram assembly. You can now take it to your workbench.

6. By this time you will clearly see how the diaphragm works. Pull the old diaphragm out, and use it as a template for your new one. Once you cut out a new one, you can mount it on the plunger. Since there is a screw that retains the diagram to the plunger, it is a good idea to use a small dab of silicon sealer to the screw hole.
7. Re-assemble the entire diaphragm assembly and pump. Be careful to get the plunger back on the motor rod.
8. Test the unit before you put on the retaining plate. You will see the pump motor spinning the plunger. Make sure it is inflating the bladders.

The following was submitted by Don Hall on 11/09/02:

"A recommended substitution to the "rubber glove" is the use of a bicycle inner tube. It is much thicker, therefore more durable, and more efficient as a pump diaphragm. Start with a square piece of tubing. Locate the center of the square by intersecting from the corners. This will locate the screw hole. Place a compass at the center, and draw a 1.25" OD circle. Carefully cut out the circle. This is the only activity required to create a replacement diaphragm. Install by using the reverse steps of removal. I am able to compare the original pump (passenger seat) versus the replacement (driver seat), and the "inner tube" is more efficient (takes less time) inflating the bladder."

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