

## ***Air-Bag Longevity***

*How long should air bags be used on a GMC Motorhome? When they start to crack, will they blow out like a tire and leave you stranded? What do you think about carrying a spare? Lastly, how do you change one?*

*Donald Yent*

*Palo Alto, California*

**A**ir bags that are not allowed to hot dog will last a very long time, Don. I replaced the original air bags on my 1976 Glenbrook in 1989. I did not replace the air bags because they leaked or had some-

thing wrong with them. I replaced them because they got to looking "ratty."

According to Firestone Industrial Products (which is the company that developed the air bags for General Motors) the air bag on the GMC Motorhome was originally developed as a canvas bag cushion to support precision laboratory benches. When General Motors and other companies started testing them for air-suspension applications, Firestone simply added an exterior rubber coating to protect the canvas from the elements. A Firestone engineer told me sometime ago that the exterior rubber coating was somewhat like putting a rubber glove on the air bag.

As a result, the appearance of the exterior rubber on an air bag is unimportant. This is quite important to know, because just about all air bags develop flexure cracks at the fold after a year or so of use. As time goes on these cracks get bigger and the canvas bag can be seen through the cracks. Eventually, pieces of the exterior rubber will come off the bag and make it vulnerable to perforation. When that time comes, the air bag should be replaced.

Air bags rarely blow out, and, when they do, the cause can usually be traced to vandalism. When the GMC Motorhome first came out, kids thought it was great fun to stick an ice pick into an air bag

and run. That is one of the many reasons General Motors added fender skirts beginning with the 1975 model year.

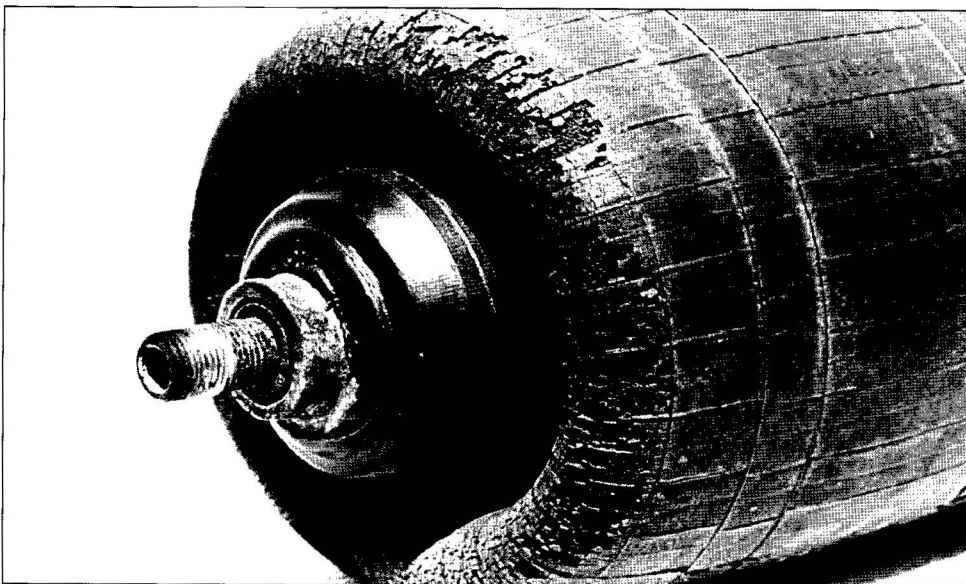
We discourage GMC Motorhome owners from carrying spare air bags for a number of reasons. First, some of them leak when they are new. If you purchase an air bag and store it without testing it, the warranty may have expired when you discover it is a leaker. General Motors' warranty is 90 days, and other suppliers often do not provide any warranty at all. Second, spare air bags take up valuable storage space in a GMC Motorhome. Third, air bags deteriorate in storage. Fourth, our GMC Motorhome Parts Distribution Center can get an air bag to you anywhere in North America in less than 24 hours.

For all of these reasons, we recommend carrying a set of good chock blocks instead of a spare air bag. All GMC Motorhomes should carry a set of good chock blocks anyway, because the parking brake system is not reliable in most coaches. The chock blocks can be cut to the travel length of an air-bag assembly and used as temporary air bags with 3/4-inch diameter lag screws in the ends of the blocks. Another alternative is to carry a pair of 3/4-inch diameter steel rods 18 to 19 inches long that are threaded at each end, and eight nuts. Two nuts are put on the ends of each rod. If an air bag fails, one of the rods can be installed in place of the air bag, and the nuts can be used to adjust ride height. Both alternatives will get you home, but the ride will be a bit rough!

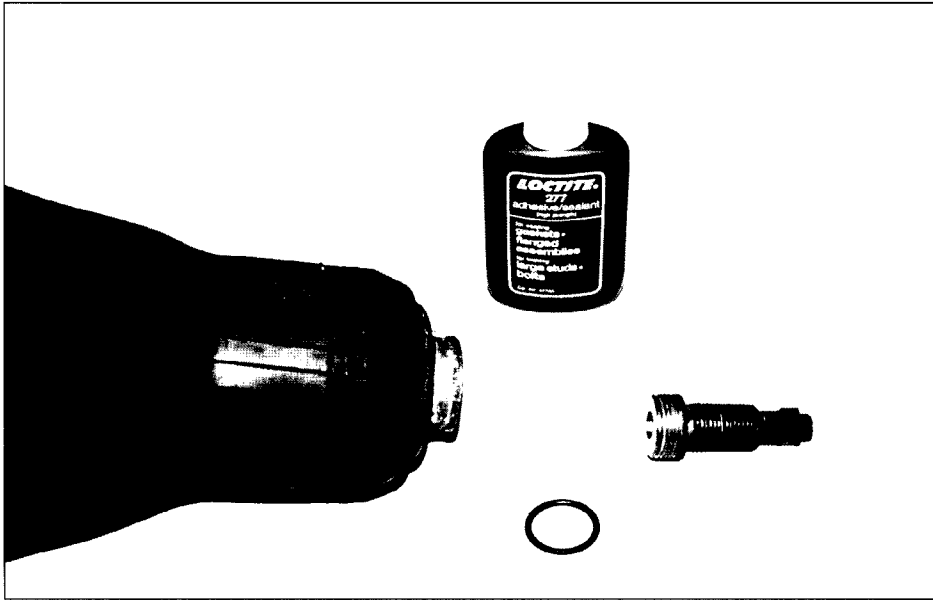
Changing an air bag is easy, once you know how. Since Maintenance Manual X-7525 is not very thorough on air-bag removal and installation, a procedure that we prepared in the 1970s follows. If it is read first, anyone who is handy with tools can change an air bag safely.

## ***Air-Bag Removal And Installation Procedure***

**1.** This job should be planned so that penetrating oil can be applied to the stud/nut interface for a day or two in advance, if possible.



***A "ratty" air bag that still holds air. When you can see the canvas, it's time to replace it.***



*An inflation stud leak can be repaired with a new "O" ring and Loctite 277 Threadlocker.*

2. Place a 6" x 8" block under the control arm mounting and deflate the air bag.

3. Remove the air line and the fitting from the inflation stud. Install a 1/4-inch NPT Schrader valve in the inflation stud. (GMC Motorhome part number 2214695.)

4. Reinflate the air bag with an external air source so the motorhome is slightly above normal ride height, but leave the block under the control arm mounting. Inflating with shop air is fastest. However, a 12-volt portable air compressor will do the job, if it is not allowed to overheat.

5. Select or purchase a 1 1/8-inch box or combination box/open-end wrench. Such wrenches are widely available.

6. Start with the non-inflation stud end. Using the box wrench, slightly tighten the nut, and then try to loosen it while watching the stud. The air in the air bag should hold the stud and the nut should turn on the stud. Loosen but do not remove the nut.

7. Move to the inflation stud end and try the same slightly tightening then loosening procedure while paying particular attention to the inflation stud. If the nut does not turn on the inflation stud and the stud visibly turns with the nut, **STOP!** If the nut turns on the stud, loosen it, but do not remove it.

8. Deflate the air bag by removing the core in the Schrader valve. Remove the nut from the non-inflation stud. Then rotate the inflation-stud nut or stud/nut combination until the air bag is loose between the control arms. Compress the air-bag/cone assembly like an accordion and remove it.

9. If the inflation-stud nut came off normally, go to step 12. If the inflation stud visibly turned with the nut, the inflation stud/nut combination will be trapped in the control arm. To remove it, insert a number six Easy-Out in the unthreaded end of the inflation stud and hold it with an appropriate wrench. Using the 1 1/8-inch box wrench, remove the nut from the inflation stud.

10. Chase the threads on both studs with a 3/8-16 die or thread chaser. Polish the face of the inflation stud and slightly lubricate it with silicone "O" ring grease or Vaseline. Install two 3/8-16 jam nuts on the inflation stud and jam them together.

11. Remove the cones from the air bag and pull out the inflation end. Clean the female threads in the 1 1/8-inch female opening. Obtain a new (3/8" I.D., 1 1/8" O.D., 3/2" Section) "O" ring from a local plumbing store, lubricate it with silicone "O" ring grease or Vaseline, and place it in the female

opening. Reinstall the inflation stud using Loctite 277 on the stud's large-diameter threads. Hold the collar on the air bag with an appropriate tool and tighten the stud using the 1 1/8-inch box wrench on the jam nuts. Even a pipe wrench can be used to hold the collar, because the collar's outside dimension is not critical. Remove any excess Loctite 277 and the jam nuts and file off any wrench burrs on the collar. Allow the Loctite 277 to cure overnight.

12. All new original equipment GMC Motorhome air bags come with the cones installed because the cones are almost impossible to install the first time without special tools. If you are repairing an inflation stud leak or installing a used air bag that has already been taught where to fold on the cones, reinstall the cones by collapsing the air bag on the cones. Compress the air-bag/cone assembly like an accordion, and insert the studs in the control arms.

(Jacking the motorhome will widen the gap between the control arms.) Install the nuts loosely and install the Schrader valve in the inflation stud. Inflate the air bag with an external air source so the motorhome is slightly above normal ride height and tighten the nuts on the air-bag studs. Deflate the air bag and remove the Schrader valve. Reinstall the fitting and the air line. Inflate the air bag and remove the block.