

## Changing a Flat Tire on a Senior Center Van

**(1) Find a safe spot to pull over.** If you're on the freeway, taking the next exit is the safest bet, even if you have to drive on a blown tire. Otherwise, pull as far onto the shoulder as possible. Don't park in the middle of a curve where approaching cars can't see you. Also, choose a flat spot; jacking up your car on a hill can be a disaster.

**(2) Turn on the hazard lights.**

**(3) Locate the tire changing tools.** Open the rear of the van. The lug wrench should be inside the red suitcase. A pouch containing the jack and a long box containing the ratchet wrench, tire iron, and connecting tools for using the jack are under the back bench seat, usually on the right-hand-side.



**(4) Secure the van so it won't roll.** Put the van in Park and set the emergency brake. Find large rocks to block the wheels at the opposite end of the car from the end that is to be raised. If a front tire is flat, turn the wheels as straight as possible.

**(5) Prepare to lower the spare tire.** Connect the ratchet wrench to the tire iron so the DOWN label and arrow are facing out or toward you, and insert the pointed end of the tire iron into a hole in the back of the van near the center right just above the bumper. Seat the tire iron blade in the lowering mechanism.



Turn the wrench to the left (counter clock-wise) and lower the tire until it is touching the ground. Continue lowering the cable until there is enough slack to drag the heavy spare tire from under the van and rotate the retainer on the cable end and remove it from the center hole in the spare tire. Check the spare tire pressure (there is a tire gauge in the red suitcase). If the pressure is less than 30 psi, it is useless unless you have a compressor available. If the tire has over 55 psi and is going on the front, reduce the pressure to 55 psi.

**(6) Remove the hubcap & black lug nut covers.** You may need to loosen the lug nut covers using the lug wrench.

**(7) Loosen the lug nuts.** Don't remove the lug nuts at this point; simply loosen them. Connect the aluminum extender rod to the lug wrench. Use the extended lug wrench to loosen the lug nuts by turning counter-clockwise. If the lug nuts are really tight, try placing the wrench on the nut and standing on the extended wrench arm to use your full weight on it.

**(8) Lift the vehicle off the ground.** Connect the long tubes in the long box and connect them to the jack.





Consult the laminated instruction sheet that accompanies the jack for the best spot to put the jack. If the ground is muddy or very sandy, place the plywood square under the jack. Connect the ratchet wrench to the other end of the long tubes.

Once the jack is securely in the correct spot, turn the wrench to raise the jack.



You want the jack to lift straight up. Jack up the car until the tire is a few inches off the ground.

**DANGER: DO NOT CRAWL UNDER A VAN THAT IS RAISED ON A JACK; IT COULD FALL AND CRUSH YOU.**

**(9) Remove the lug nuts and pull the tire off the car.** Make sure to place the lug nuts in a pile that won't get scattered, and pull the tire straight toward you to remove it from the wheel

base. Place the flat tire under the vehicle so in the event of a jack failure the vehicle will fall on the old wheel, hopefully preventing injury.

**(10) Place the spare on the car.** The valve stem of the tire should face outwards, away from the vehicle. Line up the lug nut posts with the holes in the spare, and push the spare all the way onto the wheel base until it can't go any further.

**(11) Put on the lug nuts.** Tighten them by hand until they are snug. You will tighten the lug nuts again once the car is down and there is no risk of it falling.

**(12) Lower the van without putting full weight on the tire.** Tighten the nuts as much as possible in a star pattern. Avoid using so much force that you risk upsetting the jack.

**(13) Lower the car back to the ground.** Use the jack to bring the car back down to ground level. Remove the jack from underneath the car.

**(14) Make sure the lug nuts are tightened.** With the van back on the ground, you can now fully tighten the lug nuts. Rather than tightening them one by one in order, start with one lug nut, use the extender on the lug wrench to tighten it about 50%, move to the opposite nut (across the circle) and tighten that one about the same amount.



Keep tightening opposite lug nuts in a star pattern gradually in turn until each lug nut is as tight as it can be (the desired torque is 140 ft-lbs).

**(15) Put the flat tire and tools back in the back of the van.** Make sure you don't leave anything on the side of the road. Remove any rocks you placed as wheel blocks in step 4.

You may find it useful to carry a few extra tools:

- 12-volt compressor
- 7/8 in deep well socket plus 1/2 in ratchet and breaker bar
- 10-12 in crescent wrench
- slot & phillips-head screwdriver
- large slotted screwdriver
- tool & plugs for patching tires
- tire inflation gauge