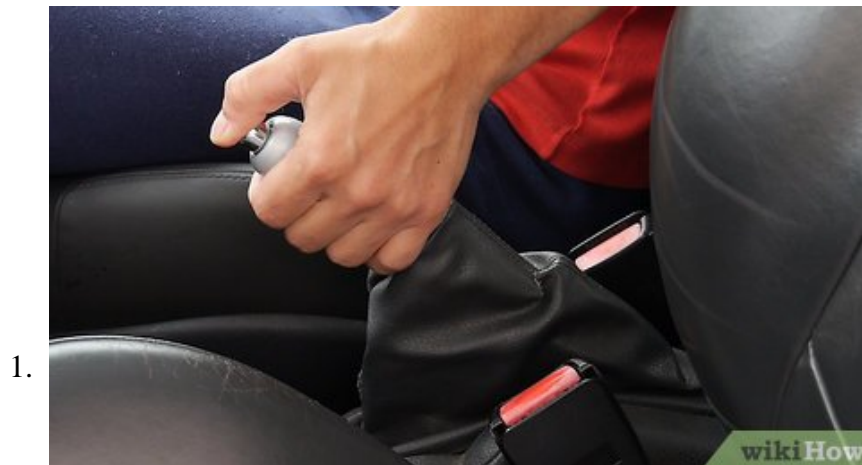


How to Loosen Lug Nuts

Lug nuts are used to secure the wheel to the vehicle, and lug nuts need to be loosened and eventually removed any time you want to change a tire, access the brakes, and do a variety of other repairs on your vehicle. Learning to loosen and...

Method 1 of 2:

Loosening Lug Nuts



Park the car on a level surface, and set the parking brake.

2.

Picture 2 of How to Loosen Lug Nuts

Remove the hubcap (if present) and locate the lug nuts. Depending on your vehicle, the hubcap may need to be removed before you're able to access the lug nuts and loosen them. Hubcaps are usually either attached by metal clips, held on by the lug nuts themselves, or using plastic lugs.^[1]

1. If your hubcaps clip on, pry them off using the flat end of the tire iron or a flathead screwdriver against a thick or solid part of the hubcap.
2. If your hubcaps are held on by the lug nuts, you'll only be able to remove them after you've removed the lug nuts entirely. If you try to remove them before doing so, you'll break them.
3. If your hubcaps screw on using plastic lugs, you'll need to remove these with a lug wrench (and avoid excessive force when reinstalling them to avoid breakage).

3.



Examine the lug nuts. The wheels of cars, trucks, and other vehicles will be affixed to the axle with between four and eight lug nuts, used to center the wheel and secure it onto the vehicle. Some European cars will have lug bolts instead of nuts, though the removal process should be exactly the same.

1. On some cars, locking lugs are used to keep the wheels from being stolen. This is usually only necessary for one lug nut per wheel, and it should look different than the others. These require a special key to unlock require the use of a key to loosen the lock on the end of the lug nut.
2. On some locking lug nuts you can hammer on a 12 point socket and remove the locking lug bolt instead of using the special key. The hardest part is that you also need a vice to put the socket in to hit the locking lug nut off with a punch.

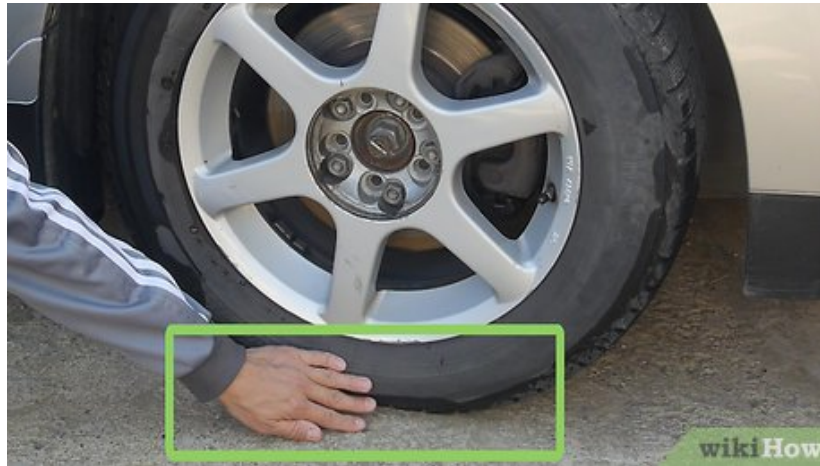
4.



Use a lug wrench to remove lug nuts. A lug wrench, sometimes called a tire iron, tire tool, or a t-bar, should be provided in your vehicle's tire kit, along with a jack and a spare tire. Lug wrenches should fit the lug nuts used on your wheel assembly perfectly, and in most cases you shouldn't need other tools to remove them.

1. Lug wrenches can be either a straight bar or two crossed bars, which is sometimes called a 'spider wrench.' The crossed bars give you extra strength, because you can grab onto either side with your hands and twist with all your arm strength.
2. If your lug nuts are stuck on because of rust, over-tightening, or some other factor, read the next section for tips on loosening especially tenacious lug nuts.

5.



Begin loosening the lug nuts while the car is still on the ground. Don't jack up the car before you attempt to loosen lug nuts. Instead, use the resistance created by the tire's contact with the ground to help you loosen the nuts. They won't spin if they're on the ground, which means you'll be able to remove them much more easily.

6.

Picture 6 of How to Loosen Lug Nuts

Place the lug wrench on a lug nut and turn it counter-clockwise. Turn the wrench after you've secured it onto one of the nuts, pulling hard until you feel the lug nut begin to loosen. You don't need to remove the lug nut entirely, just use the wrench to loosen it until it's loose enough to remove with your fingers.

7.

Picture 7 of How to Loosen Lug Nuts

Continue loosening the bolts. It doesn't matter which nut you loosen first. Pick one, then continue moving around the bolts in a "star" pattern, skipping the lug nut adjacent to the one you just loosened. This pattern helps keep the wheel centered and is more important when you're installing the wheel. Still, it's a good habit to get into when you're loosening the bolts as well.

1. When all the bolts are loose, it's time to jack the car up, remove the lug nuts entirely, spinning them off by hand, and then remove the wheel to complete whatever project you've planned. If your project requires more than just immediately replacing the the wheel with the spare or a new wheel, you should put a frame stand under the car until the project is complete.

Method 2 of 2:

Loosening Stuck Lug Nuts

1.



Double check that the parking brake is on. If your lug nuts are stuck, you'll need to exert extra force to remove them. Before you do that, you want to make sure that your car isn't going anywhere. Make sure you're on a flat surface and that your parking brake is engaged before attempting to wrangle with tenacious stuck-on lug nuts.

2.



Get additional leverage. Factory lug wrenches usually have short handles that don't provide much leverage. The first and safest thing you should do is get the physics of leverage on your side. If the handle of the wrench you're using is longer, it'll be much easier to loosen the nut.

1. Increase your leverage by using a "breaker bar." These are typically longer and stronger than the lug wrenches that come with most cars.
2. If the breaker bar alone is insufficient, find a length of pipe that you can fit over the handle of the wrench or breaker bar so that you are able to turn from farther away from the nut. You should be able to use your hands. When choosing a pipe, the closer to the size of the handle, the better.

3.

Picture 10 of How to Loosen Lug Nuts

Use your foot. If you're stuck with nothing else to use and your arms are not strong enough to loosen the lug nut, you can use your stronger leg muscles to get the loosening process started. Be careful, though, if you must do this.

1. Attach the lug wrench to the nut securely, and arrange the handle at an angle nearly parallel to the ground. Carefully, use one foot to press down on the lug wrench, turning it counter-clockwise. Use

your leg and push hard. Brace yourself against the car and stand on the wrench, bouncing gently, if necessary. When it loosens, stop and use the wrench as normal.

2. Be extremely careful if you're going to try to do this. It's not a trampoline. Don't stomp your foot onto the wrench or jump up and down. Keep your foot in contact with the wrench at all times and let your weight do the work.

4.

Picture 11 of How to Loosen Lug Nuts

Use a mallet or hammer. If you don't have access to any pipe to extend the length of the handle, it might be time to get primitive. Using a rubber mallet or a hammer to pound on the handle of the lug wrench can be an effective way of loosening particularly stuck-on lug nuts in an emergency. If you're stuck on the side of the highway, it might be your only option. If you're without a hammer at all, a rock or another heavy object could also work.

1. Be extremely careful to avoid glancing blows if you're going to try to hammer at the bar of the lug wrench. Use short, controlled strikes with the mallet and stop after a few to see if you've loosened it enough to use another method.

5.

Picture 12 of How to Loosen Lug Nuts

Use a penetrating oil if the lug nuts are rusted to the stud. (*Use this only as a last resort.*) If you're struggling against more than over-tightening, it might be helpful to spray a small to moderate amount of penetrating oil such as PB Blaster or Liquid Wrench directly on the stud threads where they disappear inside the lug nut. Use the thin straw like tube that came with the penetrating oil to apply the penetrant accurately and try to avoid overspray which may get on the brake drum or rotor. Let the penetrant sit for about ten minutes to work its way across the threads and loosen things up a bit.

1. If the lug nut is still stubborn, try one more spritz of a light, directed spray to the surface of the threaded stud exactly where the threads start to disappear inside the lug nut. Let this sit for another ten minutes and check the results. The solid impact of moderate taps by a mallet on the lug wrench may now have an effect.
2. Be sure that your brake discs and drums are free from oil before driving the car again. Oil on these surfaces is a serious safety hazard as it may lead to brake failure, increased stopping distances, and accidents. Clean the metal brake surfaces of the rotor or drum with a clean cloth and suitable solvent such as acetone. If you have saturated the brake pads with penetrating oil, it is best to replace the pads or consult a certified mechanic.
3. If you have gotten oil on the brake surfaces, test the brakes at low speed and in the absence of traffic to gauge the stopping power. Test at higher and higher speeds until you are comfortable with the results. Remember to give other drivers of the vehicle a heads up that the car may not stop as quickly as in the past and have them test the new braking capabilities too.

6.

Picture 13 of How to Loosen Lug Nuts

Use a wheel lock remover to remove locked lugs. If you've lost the key to your locked lugs, you may be able to remove them with a special socket head designed to remove locks. Featuring reverse threads, these heads are great for biting into the lock and loosening it without the need for the key to remove it. These heads are also great for removing rounded-off lug nuts that might be difficult to remove. These are available online and at most auto parts stores.

1. To use a wheel lock remover, snap it onto the end of your socket wrench and lock it into place. Use the breaker bar to turn the locked lug counter-clockwise as normal. It should come loose with some effort.

7.

Picture 14 of How to Loosen Lug Nuts

Use a torque wrench when replacing lug nuts. If you struggled to get your lug nuts off because of over-tightening on the previous tire-change, take care to tighten them to the proper specifications this time by using a torque wrench.^[2] Check your owner's manual to see what the recommended torque is for your tires, then set your torque wrench to the proper specifications on the side of the wrench, then lock it into place with the locking collar. Additionally, tighten the lug nuts in a star pattern. Do it twice to make sure all the lug nuts are tight.

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