

how to diagnose a bad wheel bearing

The first step in diagnosing a wheel bearing problem is to take a close look at the tire and wheel. If the tire has some depth or it's bulging, that can be an indicator of a possible wheel bearing issue. The tire should also be flat and round, and not have any bulges or bumps along its sidewalls. You can also check for alignment issues by looking at the treads on both sides of the tire. If one side appears to be higher than another, then you might have a bad wheel bearing.

The next step is to inspect the hub cap. If there are any cracks or dents, then this could be an indication of a bad wheel bearing. If you notice any oil leaks around your car's wheels, then this is also an indication that there may be problems with your wheel bearings.

Another way to diagnose a bad wheel bearing is by listening for squeaking noises coming from your front end when you turn or drive over bumps in the road. This noise can indicate that there are loose bolts or worn out parts inside your front end which could lead to further damage if not addressed immediately by having them replaced before they fail completely.

Inspect the tire and wheel assembly.

A [wheel bearing](#) is a mechanical component that allows a wheel to rotate smoothly at the hub of an automobile or other vehicle. It typically consists of a metal cup-shaped housing, with inner and outer races, and ball bearings or roller bearings housed within the races. The inner race is made of roller bearings or ball bearings, which are mounted in a fixed cage. The outer race is made up of either roller bearings or ball bearings and is mounted in a cage that can rotate around the axle's axis.

If you suspect that your vehicle has a bad wheel bearing, but aren't sure which one, there are several steps you can take to identify the problem:

Check for uneven wear on the tires. If one side of the tire is wearing more rapidly than another side, it could be an indication that there's something wrong with your vehicle's suspension system or steering alignment.

Look closely at each tire's tread pattern. If it appears worn down unevenly across its face — especially if there are visible grooves or cracks — this may indicate that your front end needs some attention.

Inspect each tire for bulges in its sidewall area — especially if it's on both sides of all four wheels .

Remove the wheel and tire.

If you suspect a wheel bearing is bad, the first step is to remove the wheel and tire.

Remove the wheel bolts and pull off the wheel. If you have an impact wrench, use it to remove the lug nuts. Otherwise, use a socket wrench and wrenches for each bolt.

Now remove the tire from the wheel by turning it counterclockwise until it pops loose.

If you have access to a balancer or rim weights, place them on the rim and place your hand on top of them to add weight as needed to balance out any unbalanced weights on either side of the rim (usually caused by bent wheels). The heavier side will cause your car to pull toward that direction at higher speeds.

Inspect the brake rotor and caliper.

If your vehicle is making a humming noise when you're driving, it's probably a wheel bearing. The wheel bearings support the wheels and allow them to rotate in their sockets. As the car goes over bumps and turns, the wheels are forced to turn as well. If there is any damage to the wheel bearings, they can wear out quickly and make a humming noise when you're driving.

Inspect the brake rotor and caliper. If you notice that one side of your vehicle is making more noise than the other side, inspect both sides of your vehicle for damage. Look at both brake rotors and calipers to see if there are any signs of damage or wear on either part. If one side has more damage than the other, then it could be caused by an issue with your brakes or suspension system.

Install a dial indicator.

To properly diagnose your vehicle's wheel bearings, you'll need to use a dial indicator to measure the clearance between the bearing and the hub. You can buy one at a local auto parts store, or make one yourself using a set of calipers and a length of hose (available at most hardware stores).

To use it, take your measurement and add 1/4 inch to it. This is because there are three different types of wheels on vehicles that use different size tires and different rim widths, so there will be variation in the amount of space between the bearing and hub on each wheel.

If your measurement shows that there is too much play - more than 1/4 inch - then you have an issue with either your wheel bearings or with your brake rotor assembly. The brake rotor assembly can be inspected for wear by spinning it with no load on it (you'll need to do this carefully, as it's easy to damage parts when doing this sort of thing).

Rotate the hub flange.

A wheel bearing is a mechanical device that allows the wheels on a vehicle to turn smoothly and be driven by their respective axles. The bearings themselves are small, but they play an important role in keeping your vehicle safe and running efficiently.

When you notice that your vehicle is making excessive noise or having difficulty turning, it's time to check its bearings. If you notice any of these symptoms, it could mean that one or more of your bearings has failed.

Rotate the hub flange will help you determine if there is any play or lateral movement in the hub assembly when it's turned. If there is no movement at all, this indicates that there may be something wrong with your hub assembly or axle shafts. If there is some movement, but not much, this indicates that your bearings are worn out but not completely broken down yet. If there is too much movement, however, this indicates that one or more of your wheel bearings has failed completely and needs to be replaced immediately because it poses an immediate safety hazard for both you and others on the road.

Examine the dial indicator reading.

The wheel bearing is the part of the wheel hub that accommodates the axle, allowing it to rotate. If it fails, you'll hear a grinding noise when you're driving. The wheel will also vibrate and feel rough. If your car has a bad wheel bearing, it needs to be replaced.

To diagnose a bad wheel bearing, examine the dial indicator reading. The wheel bearings are located between the hub and the brake drum or rotor on front-wheel drive cars, or between the hub and axle flange on rear-wheel drive cars.

Remove any dirt or debris from around the wheel bearing using compressed air or a clean rag if necessary. Check your owner's manual to locate where your car's wheel bearings are located so you can easily access them without damaging any other parts.

Place an automatic clicker type dial indicator on top of each wheel bearing and listen for clicks as you turn its dial counterclockwise until it stops clicking (most dial indicators have an arrow pointing down). If there aren't any clicks when turning one way but there are when turning in the opposite direction, then there's something wrong with that particular wheel bearing — either it's worn out or damaged.

The steps outlined above can help you figure out if a wheel bearing is bad.

In theory, yes. You can do this by putting the car on jack stands or ramps and spinning each wheel, listening for any grinding or knocking sounds. If you hear anything like that, that's not good news.

But that test may not be enough to tell if your wheels are okay — because they might still be able to function normally even after they start making noise.

The best way to test whether your bearings are still functional is by driving the car at highway speeds while keeping an ear out for any unusual vibrations or sounds that could indicate a

problem with the wheel bearings.

In this post I have shown you how to check for a bad wheel bearing on a car. It is very easy to check for these bearings and will not take that long to do. Do this test if you think your same noise or vibration has anything to do with the wheel bearings. This test will give you an idea if you need to replace these parts before you go ahead and do the job or if it is something else.