I'm not a robot

Turbo vs supercharger is a classic debate among car enthusiasts who want more speed, better throttle response, and improved efficiency. Both upgrades push extra air into your engine for stronger combustion. But they achieve this in very different ways. Read on as we break down how turbochargers and superchargers work. Let us help you choose [] Are you thinking of buying a Ford? But wondering, are Ford cars reliable enough for long-term use? Youre not alone here. Its a common concern among UK car buyers. For some drivers, Ford is synonymous with long-lasting performance. Others report issues with certain models. So, whats the real story? In this blog, well answer the [] Finding a dependable vehicle isnt always easy, especially with so many options on the market. Whether youre commuting or heading out on long drives, your car should be stress-free and consistent. Thats why weve handpicked the most reliable cars in the UK for 2025, so you can drive with confidence every day. From solid engineering [] In recent years, Renault has moved up the reliability rankings and won back the confidence of UK motorists. However, there are still many who ask; are Renault cars reliable enough for long-term use in the UK? Which are the most reliable cars from Renault? And how long do they really last? If youve been wondering [] If you just bought your first car, you may be struggling to find cheap car insurance. Its really hard to find affordable car insurance for young drivers under 1000 in the UK. So, what can you do about it? Well, the good news is, there are several practical ways to keep car insurance costs for [] Is your car running slower than usual? Does your engine misfire every time you press down the accelerator? These are some of the most common bad spark plug symptoms. If you ignore these signs, it may result in minor issues such as MAF sensor malfunction or major problems like a damaged catalytic converter down the [] Not sure where is the catalytic converter is located on your car? Youre not alone. Many drivers dont know what a catalytic converter looks like or where to find it. However, its location in the cars anatomy does matter. Finding it helps with repairs, replacements, or vehicle theft prevention. This saves a lot of time [] A faulty MAF sensor can cause all sorts of engine issuesfrom rough starts to poor fuel economy. This sensor plays a key role in maintaining the right air-fuel balance for your engine. But how do you know when the bad MAF sensor symptoms show up? For that you need to be able to recognise these [] Are you wondering what is a junction? Well, in the UK, there are several different types of junctions. These include T-junctions, crossroads, roundabouts, and box junctions. On each junction, you have to follow specific rules to ensure safe and smooth traffic flow. This complete guide to UK road intersections will explain the various types of [] There are no less than 500 different types of UK road signs. With so many symbols, colours, and shapes, its easy to feel overwhelmed. However, understanding road signs and markings is essential for safe drivingand passing your test. Missing or misinterpreting these signs can lead to accidents, fines, or failed driving tests. This guide breaks [] Tackling ULEZ charge can be tricky, especially if youre driving to one of the UKs busiest airports. Even experienced drivers are not sure and wonder, Is Heathrow in ULEZ? Since its not just about paying a fee, its about avoiding fines and staying road-legal. This blog will clear up every uncertainty you have about Heathrow [] Many drivers overlook tyre tread until its too laterisking poor grip and costly penalties. Uneven or worn tyres arent just illegal; they can be dangerous. This guide on how to check tyre tread walks you through safe, DIY checks that anyone can do. Know how long your car tyre last and when to replace them. [] Yellow lines on road can be confusing, leaving you uncertain where to park. And thats not even it. If you happen to misinterpret the meaning and park out of your spot, it can lead to hefty fines. Many drivers unknowingly do so and risk getting their car towed. Not following yellow line rules can also [] Caravan towing completely transforms your vehicles handling even if you have one of the best cars for towing caravans. Therefore the speed limit for car towing caravan isnt just a legal formality; its a critical safety measure. Caravan towing speed limits are strictly enforced all across the UK. Every year, thousands of UK drivers receive [] Are you wondering how much will electric car tax be in 2025? Well, from April 1, 2025, all-electric vehicles (EVs) will be subject to Vehicle Excise Duty (VED). This will end the years of tax-free benefits for EV owners. However, there is a lot of confusion around the new road tax calculations. Dont worry! This [] Selling a car can be frustrating if youre not getting the price you expected. Buyers often negotiate hard, and even small issues can lower your cars value. A poorly presented car with minor scratches, dull paint, or an untidy interior can make buyers walk away. With car detailing and smart preparation, you can boost your [] Switching to an EV doesnt have to burn a hole in your pocket. With the arrival of the cheapest electric cars in the UK, the scenario has completely changed. You can now own a decent, long-range yet cheapest electric car in the UK. Heres a list of the 10 best affordable EVs for 2025. Whether [] In 2025, electric cars are pushing the limits of speed and performance. With instant torque and cutting-edge in-car tech, they now rival the fastest fuel-powered cars. As a testament to that, weve rounded up the 10 fastest electric cars in the UK. Whether you crave lightning-fast acceleration or top-end speed, this guide has you covered. [] An MOT is a legal requirement for most vehicles over 3 years old. It ensures your car is safe, roadworthy, and meets UK standards. But have you ever wondered how long does an MOT take? On average, the test lasts 45 minutes to an hour. However, if faults are found, repairs and retesting can extend [] Can you park on a single yellow line in the UK? Well, that depends. Sometimes, you can park on a single yellow line, while sometimes, you cant. The rules around yellow road lines can be confusing to say the least. But if you get it wrong, youre looking at substantial fines and other repercussions. To [] A rough idle, sluggish acceleration, or a sudden drop in fuel economy could all point to a failing EGR valve. While this small component is often overlooked, it plays a crucial role in your engines efficiency and emissions control. When it starts to fail, it can lead to performance issues, increased emissions, and even long-term engine damage if left unaddressed. The EGR valve is part of the exhaust gas recirculation system, which helps lower combustion temperatures by redirecting a portion of exhaust gases back into the intake manifold. This process reduces nitrogen oxide emissions and prevents engine knocking. However, over time, carbon deposits can clog the valve, causing it to stick open or closed. A faulty EGR valve can lead to rough idling, engine misfires, hesitation, or even a check engine light. Recognizing the warning signs early can help prevent expensive repairs down the line. This guide covers the most common symptoms of a bad EGR valve, how to diagnose the issue, and the steps to replace it if necessary. Understanding how this component works and what happens when it fails can help you keep your engine running smoothly and efficiently. What Is an EGR Valve and What Does It Do? Symptoms of a Bad EGR Valve How to Diagnose a Bad EGR Valve How to Replace a Bad EGR Valve FAQs The EGR (Exhaust Gas Recirculation) valve is a critical component in a vehicles emissions control system. It helps reduce harmful nitrogen oxide emissions by redirecting a portion of exhaust gases back into the engines intake manifold. By reintroducing these gases, the EGR system lowers combustion temperatures, preventing the formation of excessive NOx emissions that contribute to air pollution and smog. When functioning properly, the EGR valve helps improve engine efficiency, prevents detonation (knocking), and reduces overall emissions. It operates by opening and closing at specific times, allowing the correct amount of exhaust gas to mix with incoming air. Modern vehicles use electronic EGR valves controlled by the engine control module, while older models may have vacuum-operated versions. If the EGR valve becomes clogged with carbon deposits or fails to open and close correctly, it can disrupt the air-fuel mixture and lead to a variety of performance issues. Understanding the symptoms of a failing EGR valve can help diagnose and fix problems before they lead to costly engine damage or failed emissions tests. A failing EGR valve can cause a variety of drivability and performance issues. Since it regulates the amount of exhaust gas recirculated back into the engine, any malfunction can lead to rough idling, poor acceleration, increased emissions, and engine knocking. Whether the valve is stuck open, stuck closed, or working intermittently, the following symptoms indicate a potential problem. One of the first signs of an EGR valve issue is an illuminated check engine light. The engine control module monitors the EGR system and will trigger a fault code if it detects improper flow. Common EGR-related codes include: P0401 Insufficient EGR Flow P0402 Excessive EGR Flow P0403 EGR Circuit Malfunction P0404 EGR Valve Performance Issue An OBD2 scanner can help confirm whether the check engine light is related to an EGR valve failure or another issue. A stuck open EGR valve allows too much exhaust gas into the intake manifold, diluting the air-fuel mixture. This can lead to rough idling, misfires, hesitation, and even stalling, particularly when the engine is at low RPMs. The vehicle may struggle to maintain a steady idle or shake noticeably while idling. A malfunctioning EGR valve can affect combustion efficiency, leading to increased fuel consumption. If the valve is stuck closed, combustion temperatures rise, causing the engine to work harder and burn more fuel than necessary. A noticeable drop in miles per gallon (MPG) without other obvious causes may indicate an EGR-related issue. When the EGR valve fails to open or close at the right times, it can cause engine hesitation, stumbling, or outright stalling. This often happens when accelerating from a stop or shifting gears. If the EGR valve is clogged or slow to respond, it can create unpredictable engine behavior. If the EGR valve is stuck closed, combustion temperatures increase, leading to engine knock or pinginga metallic tapping or rattling sound when accelerating. This happens because higher temperatures cause the air-fuel mixture to detonate too early, which can lead to long-term engine damage if not addressed. A malfunctioning EGR valve can cause the vehicle to fail an emissions test due to excessive nitrogen oxides (NOx) being released into the exhaust. Since the EGR system is designed to reduce NOx emissions, a faulty valve can lead to higher pollutant levels. A failed smog test is often one of the first signs of an EGR system issue. If the EGR valve isnt working correctly, unburned fuel vapors may escape into the exhaust system, producing a strong fuel smell or excessive exhaust odor. This is often more noticeable when idling or after turning off the engine. If you notice any of these symptoms, diagnosing the EGR valve should be a priority to prevent more serious issues like engine overheating, detonation, or long-term performance problems. The next step is to determine whether the valve is stuck, clogged, or completely failing. Diagnosing a faulty EGR valve involves checking for trouble codes, performing a visual inspection, and testing the valves operation. Since an EGR valve can fail in different wayssticking open, sticking closed, or functioning intermittentlyusing the right diagnostic methods can help confirm the problem before replacing any parts. Since the EGR system is monitored by the engine control module, a failing valve will often trigger a check engine light and store a trouble code. How to check for codes: Plug an OBD2 scanner into the diagnostic port under the dashboard. Turn the ignition to the ON position without starting the engine. Scan for stored codes related to the EGR system. Common EGR-related codes include: P0401 Insufficient EGR Flow P0402 Excessive EGR Flow P0403 EGR Circuit Malfunction P0404 EGR Valve Performance Issue P0405P0409 EGR Sensor Circuit Faults If you receive one of these codes, the EGR valve or a related component is likely failing. A clogged or damaged EGR valve can often be identified with a simple inspection. How to inspect the EGR valve: Locate the EGR valve, typically mounted on the intake manifold or near the throttle body. Look for carbon buildup around the valve opening, which can prevent proper operation. Check for cracks, leaks, or broken vacuum lines leading to the valve. If the EGR valve has an electrical connector, inspect it for loose or corroded connections. Excessive carbon buildup is a common cause of failure, especially in older engines. If your vehicle uses a vacuum-operated EGR valve, you can manually test whether it opens and closes properly. How to test: Disconnect the vacuum line from the valve. Use a handheld vacuum pump to apply suction to the valve. If the valve does not move or remains open when the vacuum is released, it is faulty. If the valve is stuck open or does not hold vacuum, it will need to be cleaned or replaced. For electronically controlled EGR valves, checking for proper voltage signals can help determine if the valve is responding correctly. How to test: Disconnect the EGR valves electrical connector. Use a multimeter to measure resistance across the terminals. Compare readings to the manufacturers specifications. Start the engine and check for proper voltage changes when the valve is commanded open and closed. If the voltage does not match specifications or the valve does not respond to commands, it may be faulty. An EVAP or intake system smoke test can help detect leaks in the EGR system. How to perform a smoke test: Connect a smoke machine to the intake system. Look for smoke escaping from the EGR valve, hoses, or intake passages. If smoke leaks from the EGR system, there is a vacuum leak or cracked component. A leaking EGR valve can allow unwanted exhaust gases into the intake, leading to rough running conditions. If testing confirms that the EGR valve is stuck, clogged, or non-functional, replacement may be necessary. Replacing a faulty EGR valve is a straightforward process, however the location of the valve on some vehicles makes replacement quite challenging. Replacement requires careful assessment of the job ahead of time, making sure you have the tools and skills to execute it. Whether the valve is stuck open, clogged with carbon deposits, or completely non-functional, replacing it can restore proper engine performance and emissions control. New EGR valve (OEM or high-quality aftermarket) Socket set and ratchet Wrench set Flathead screwdriver Gasket scraper or wire brush New EGR gasket (if required) Throttle body or EGR cleaner (for carbon buildup) Torque wrench (if specified by manufacturer) Gloves and safety glasses The EGR valve is typically mounted on the intake manifold or near the throttle body. Refer to the owners manual or a repair guide for its exact location. If the EGR valve is electronically controlled, unplug the electrical connector by pressing the release tab. If its a vacuum-operated EGR valve, disconnect the vacuum hose leading to it. Inspect the wiring and hoses for any signs of wear or damage.Use a socket and ratchet to remove the bolts securing the EGR valve to the intake manifold. If the bolts are rusted or stuck, apply penetrating oil and let it sit for a few minutes before trying again. Carefully remove the valve and set it aside.Scrape off any old gasket material using a gasket scraper or wire brush. Spray EGR cleaner or throttle body cleaner into the intake passage to dissolve carbon buildup. Wipe the area clean with a shop rag or paper towel.Place the new EGR gasket onto the mounting surface. Align the new EGR valve and thread the bolts by hand to prevent cross-threading. Tighten the bolts securely using a socket and ratchet, following the manufacturers torque specifications if available.Plug the electrical connector back in or reattach the vacuum hose. Ensure all connections are secure to prevent leaks or malfunctions.Start the engine and let it idle for a few minutes to ensure smooth operation. Check for any unusual noises, rough idling, or check engine lights.Use an OBD2 scanner to clear any stored EGR-related trouble codes. Take the vehicle for a short test drive, monitoring for hesitation, knocking, or rough acceleration. If the engine runs smoothly and the check engine light stays off, the replacement is successful. Nice work! Can I drive with a bad EGR valve? Driving with a bad EGR valve is possible but not recommended. A stuck open valve can cause rough idling, engine hesitation, and reduced fuel economy, while a stuck closed valve can lead to higher combustion temperatures, engine knocking, and increased emissions. Ignoring a faulty EGR valve for too long can cause long-term engine damage, including burned valves and piston issues. The cost of replacing an EGR valve varies depending on the vehicle and whether you do it yourself or take it to a shop. DIY replacement: $100 plus Professional replacement: $250 plus Some vehicles have EGR systems with additional components, such as EGR coolers and solenoids, which can increase costs. Most EGR valve failures are caused by carbon buildup, which clogs the valve and prevents it from opening or closing properly. Other causes include electrical failures in electronically controlled valves, vacuum leaks, or worn-out solenoids in vacuum-operated systems. Yes, if the EGR valve is stuck closed, it can lead to higher combustion temperatures because exhaust gases are no longer cooling the cylinders. This can cause engine overheating, detonation, and potential head gasket failure in severe cases. In many cases, yes. If the EGR valve is sticking due to carbon buildup, cleaning it with EGR cleaner or throttle body cleaner can restore proper function. However, if the valve is damaged, leaking, or electrically faulty, it will need to be replaced. Yes, in turbocharged engines, a malfunctioning EGR valve can lead to boost pressure inconsistencies, poor performance, and excess carbon buildup in the intake. If the EGR system is not functioning properly, unburned fuel and excessive exhaust pressure can also accelerate turbo wear and cause performance issues. A healthy EGR valve means a smoother ride, better fuel economy, and a cleaner-running enginefix it now, and your car will thank you later. You may find the following pages helpful: Maintenance Troubleshooting OBD Fault Codes Dont miss this.Grab Breakdown-Proof Your Car free tips from 20 years on the roadside.No fluff. Just the stuff that keeps you out of trouble. There are many points of failure on a modern car. From those that can slow it down, to those that can wreck it completely. In recent years, one of the faults that has become more common is a bad EGR valve. And whilst this part has numerous environmental and performance benefits, it is well known for clogging and causing issues within the engine. Think you might have a problem with your cars EGR valve? We explore some of the most common signs that your valve is playing up. The more boxes on our list you tick the more likely it is that you have a problem and may need a new or used replacement EGR valve. Its vital that you get any issue with the EGR valve resolved as quickly as possible. It can cause knock on issues that could cause havoc with the turbo or engine that could end up being very costly to fix. EGR valve is shorthand for Exhaust Gas Recirculation valve. Your cars engine draws in air, which mixes with the vapourised fuel to form whats known as the air-fuel mix. When this passes into the combustion chamber, its ignited at temperatures far in excess of 1300 C and the force is used to drive the pistons creating forward motion. At these high temperatures the nitrogen, which is usually fairly inert (non-reactive) can actually combine with the oxygen creating nitrogen oxide, a harmful gas emitted by the combustion process. To stop this happening, the EGR valve, which is usually closed when the car starts, opens up as the engine warms up and redirects the exhaust gasses back into the engine to help with cooling. This process also limits the harmful emissions from the engine. Should your EGR valve get stuck in the open position, this will limit the amount of fresh atmospheric oxygen available to the engine at low speed, causing a rough idle as the engine chokes and struggles to effectively combust the air-fuel mix. This can also lead to black carbon deposits on the spark plugs. If the air fuel mix becomes so unbalanced due to exhaust gasses flooding the engine thanks to an open EGR valve, it can even cause the engine to suffocate and actually stall whilst at idle. This can be very annoying if youre in busy traffic and could even be dangerous at major junctions. Whether the EGR valve is stuck in the open or closed position, this will impact the air-fuel balance, causing the engine to use more fuel than normal to achieve the same power output. Youll feel this in a couple of places; first in the accelerator pedal, which will take more time to get up to speed. Secondly in your wallet or purse, which will see you spending more at the pump as the engine uses more fuel due to the faulty valve. When a faulty EGR causes the air fuel mix to become unbalanced this can often result in unburned hydrocarbon fuel passing through the engine and eventually being released from the exhaust pipe. You may be able to smell this at the back of the car and even in the cabin, giving you a good indication that something is not right with the system. Your car will undergo an emissions test when it takes an MOT or if youre asked to undergo a roadside check. If you have a faulty EGR valve theres a high probability that this will cause your car to fail the test. As the engine fails to operate at its optimum level due to issues with the flow of fuel and gasses, the engine sensor will detect that something is not right. It should alert you to the problem via the check engine light on the dashboard. Unfortunately, there are many issues that can cause this light to come on so be on the look out for other symptoms or get a professional to take a look. If your EGR valve gets stuck in the closed position, then this can lead to a build up of heat within the engine, which can cause the air fuel mix to ignite prematurely. This early combustion, which will be especially noticeable at low revs, is likely to create a knocking sound. There are several reasons why an EGR valve can fail, some of the most common include: The valve becomes stuck open generating a vacuum leak, flooding the engine with exhaust gasses which prevent the flow of atmospheric oxygen needed for combustion. Such a problem usually results in a rough idle or stall and could potentially be accompanied by error codes P1404 and P1406 in the engine control system. The valve gets stuck shut and without exhaust gasses to safely lower the temperature of the combustion chamber, it quickly overheats causing the air fuel mix to ignite prematurely. Worst still this disrupts the engines timing, and can cause a knocking sound when idle if left unchecked this can cause severe and costly damage to the engine. It could also be accompanied by P1406 and P041 error codes. The valve is clogged fortunately this is the most common problem, and one that is more readily resolved. Carbon and debris can get in the valve jamming it open or closing it shut. Cleaning the valve should cure this problem before it causes any knock on damage. Remember that the EGR valve was originally designed to prevent harmful gasses from re-entering our atmosphere. When your valve is clogged open or shut, it means that your car is producing more pollution than normal. Everyone already knows that cars are one of the largest sources of bad emissions on the planet make sure yours is causing the minimum damage possible by getting any problems with the valve resolved ASAP. If youre like most car owners, you probably dont think much about your EGR valve until it starts causing problems. The exhaust gas recirculation (EGR) valve is a small but important component that helps reduce harmful emissions and improve fuel efficiency.However, over time, the EGR valve can become clogged or stuck, leading to a range of engine issues. So how do you know if your EGR valve is failing? Here are 8 telltale signs to watch out for: Rough idle or stalling Poor engine performance and acceleration Increased fuel consumption Pinging or knocking sounds from the engine Check engine light illumination Failed emissions test Fuel smell from the exhaust Rough running when cold If you notice any of these symptoms, its a good idea to have your EGR valve checked out by a qualified mechanic. A failing EGR valve can cause serious damage to your engine if left unchecked. The most common cause of EGR valve failure is carbon buildup. Over time, the exhaust gases that pass through the valve can leave behind carbon deposits, causing the valve to stick or leak.Other potential causes include: Use of low-quality or contaminated fuel Lack of regular engine maintenance Faulty electrical connections or vacuum hoses Extreme operating conditions like high temperatures or heavy loads If your mechanic determines that your EGR valve needs to be replaced, heres what the process typically involves: Removing the old valve: The faulty EGR valve is carefully disconnected and unbolted from the engine. Cleaning: The mounting surfaces are scraped clean of any carbon buildup or debris. Installing the new valve: A new EGR valve is bolted in place and connected to the electrical and vacuum lines. Testing: The engine is started and the new valve is tested to ensure proper operation. In some cases, cleaning the EGR valve and associated components may be enough to restore proper function.However, if the valve is severely clogged or damaged, replacement is usually the best option. The cost of replacing an EGR valve can vary depending on your vehicles make and model. In New Zealand, you can expect to pay anywhere from $350 to over $1600 for parts and labour. At My Auto Shop, our EGR valve replacement service starts at just $982.This includes a new, high-quality EGR valve, professional installation by an MTA-approved mechanic, and a 10,000km warranty for peace of mind. When it comes to car repairs and maintenance, you want a mechanic you can trust. At My Auto Shop, we pride ourselves on providing top-notch service and customer care. Here are a few reasons why were the best choice for your EGR valve replacement: Convenience: We come to you! Our mobile mechanics can replace your EGR valve at your home or workplace. Transparent pricing: We provide upfront, competitive pricing with no hidden fees. MTA approved: All of our mechanics are fully qualified and MTA-approved for your peace of mind. Exceptional service: Our friendly, experienced mechanics will keep you informed every step of the way. Dont let a failing EGR valve put your engine at risk. If you notice any of the warning signs, book an EGR valve replacement with My Auto Shop today. With our mobile service, transparent pricing, and top-rated customer care, well have you back on the road in no time. While there are plenty of ailments that can slow down your vehicle, one of the more common with newer vehicles is a bad EGR valve. While these EGR valves have some performance and environmental benefits, theyre notorious for clogging. If you suspect that your vehicle might have a faulty EGR valve, keep reading, and well break down the most common symptoms you should look for. Even better, if you do narrow down the problem to the EGR valve, well walk you through standard repair costs and where its located on your engine to help speed along with your repairs. Lets take a look at the signs first. Symptoms Of A Bad EGR Valve The most common symptom of a bad EGR valve is a check engine light illuminated on your dashboard. You may also notice bad fuel consumption, reduced power, and rough idle. Your car may also fail an emission test with a bad EGR valve. Here down below, you will find a more detailed list of the signs of a bad or failing EGR valve to look for: 1. Check Engine Light There are tons of sensors monitoring your emissions, engine performance, and even the EGR valves performance. Whether the EGR valve is clogged, stuck open, or stuck closed, youre going to get a check engine light. While the check engine light will usually point you straight to the EGR valve, it is possible that it might come on due to a symptom instead of a cause. For instance, you might get a check engine light that indicates excessive exhaust chemicals or misfires, even though the problem stems from a faulty EGR valve. 2. Increased Emissions Your EGR valves primary purpose is to reduce emissions, so you can expect that if its not working correctly, your overall emissions will increase. In fact, if you have a faulty EGR valve, your vehicle will most likely fail an emissions test. You might notice slightly more smoke when the EGR valve is bad, but this isnt very common. 3. Decreased Fuel Consumption Your EGR valve works to send the right amount of exhaust back to the combustion chamber. One of the advantages of this is that it reduces the combustion chambers temperature and improves efficiency. But when the EGR valve is stuck open, the engine will suck in air that is already measured by the MAF sensor, leading to a lean air-fuel mixture and a reduction in fuel consumption. While this might sound like a great symptom, it can damage your engine. 4. Reduced Power Not only does an optimized engine improve fuel economy, but it also improves engine performance. Youll notice the problem more at lower speeds if the EGR valve is stuck open and at higher speeds if the EGR valve is stuck closed. You might also notice that your acceleration has become jerky or rough. 5. Rough Idle If your EGR valve is stuck open, then youre going to get a rough idle, especially when your vehicle hasnt warmed up yet. Thats because usually, the EGR valve starts in the closed position. However, if the EGR valve is stuck closed, youll notice more problems while idling after the engine has already warmed up. Thats because the EGR valve is typically open then as it recirculates exhaust to lower the overall temperature of the combustion chamber. RELATED: Rough Idle Causes & How to Fix it 6. Engine Knock One of the lesser-known perks of the EGR valve is that it actually reduces engine knocking. Keeping the combustion chamber at a lower temperature prevents the fuel from igniting before it should. While this wont always happen if you have a faulty EGR valve, the chances go up dramatically if the valve is stuck closed. If you have a check engine light on for a faulty EGR valve, keep an ear out to see if you can hear any knocking. If you can, you need to make repairs immediately before any further damage occurs. RELATED: 6 Causes of a Knocking or Pinging Car Engine EGR Valve Function The EGR valve takes specific amounts of exhaust and recirculates it back to the combustion chamber. EGR Valve stands for exhaust gas recirculation valve, which breaks down exactly what it does. Recirculating the exhaust does a few things for overall performance. First, it optimizes the fuel to air ratio without pulling in extra air from the intake. Not only that, but the exhaust has a different chemical makeup than fresh air. This different chemical makeup allows the combustion chamber to stay up to 150 degrees Celsius cooler, which produces cleaner exhaust and improves overall engine performance. Since the EGR valve runs off sensors, it knows when to open and when to close to optimize performance. But when these sensors fail or the EGR valve gets stuck, youll run into problems. EGR Valve Location Your vehicles EGR valve is typically located at the top of the engine and generally connects to a pipe that runs from your exhaust. If you know what youre looking for, the EGR valve is usually very straightforward to find and get access to. It can be hidden deep into engine bays on some models, so to say that it is always easy to locate would be a lie. Look for a metal tube coming to the top of your engine, then locate the valve thats attached to it, and youve found your EGR valve in many car models! Some car models are totally integrated into the cylinder head, though, and do not have these pipes. EGR Valve Replacement Cost The average EGR valve replacement cost is between $225 and $800, depending on the vehicle you drive and where you take it into repairs. You can expect the EGR valve to cost $150 to $400, while labor costs $75 to $400 But before you jump straight to replacing the valve, see if you cant clean it first. Start by removing the EGR valve, spraying it with a carb cleaner, and scrubbing it with a wire brush. If this works, youve just saved yourself a few hundred bucks! But if you narrow down your problem to the EGR valve, and cleaning it doesnt do the trick, then theres good news and bad news. The good news is that with even with just a little technical know-how, its straightforward to replace. The bad news is that the valve itself is a bit more expensive than you would expect for such a small part. While you can find an aftermarket EGR valve for somevehicles for around $50, a more typical cost is closer to $150 and $400. If youre looking for an OEM replacement part, youre looking to spend a little more, generally between $250 and $600. If youre going to have a mechanic replace the part for you, labor costs often range between $75 and $400. So, while you can save a little money by doing it yourself, youre still going to be on the hook for the majority of the cost. Categories: Engine Have you been noticing poor engine performance and increased fuel consumption?Did your vehicle fail its emissions test too? Chances are you have a faulty EGR valve.The EGR valve is an often overlooked component in your vehicles Exhaust Gas Recirculation or EGR system. Keep reading to find out how an EGR valve works and the common signs of a malfunctioning EGR valve so you can spot it before its too late. An engines ignition and combustion process requires a precise air-fuel mixture to power the pistons. However, this process generates a lot of heat and harmful nitrogen oxide (NOx) emissions. The exhaust gas recirculation valve (EGR valve) redirects some of these exhaust gasses back into the combustion chambers to reduce your cars nitrogen oxide (NOx) emission. Heres how it functions: The EGR valve operates in two main settings: It stays closed when the engine starts It opens when its idling or running at low speeds When the engine is under partial load, like during idling, the Engine Control Module (ECM) signals the EGR valve to open. This allows the exhaust gasses to mix with fresh air and fuel in the intake manifold before entering the combustion chamber. Now, exhaust gasses dont burn like fresh air-fuel mix. There is a lesser concentration of oxygen in the exhaust gasses, which helps lower the peak combustion temperature. Since NOx usually forms at high temperatures during combustion, the introduction of inert exhaust gasses helps reduce NOx emissions. Wondering how to spot a failed EGR valve?Lets find out. When the exhaust gas recirculation valve fails, there are two ways it can happen: It stays stuck open: Allowing exhaust gas to enter the engine at the wrong time. It stays stuck closed: Preventing exhaust gas from entering the engine. But how do you know if its stuck in an open or closed position?Here are eight common symptoms of a faulty EGR valve to help you figure it out: The first sign of a failing EGR valve is when your vehicle undergoes a rough idle, either when starting the engine or during brief stops. It usually happens when the EGR valve stays stuck open, causing a continuous flow of exhaust gasses (also called an EGR flow) into the intake manifold.This disrupts the air-fuel mixture in the combustion chamber, leading to inefficient combustion and a rough idle. When the EGR valve is stuck closed, it prevents the recirculation of exhaust gasses. Consequently, the temperature in the combustion chamber keeps rising and exceeds the threshold for proper combustion. As a result, the fuel ignites earlier than it should, especially at low RPMs. This untimely fuel combustion may cause engine knocking or a pinging sound. Note: Ignoring this symptom can also damage other vehicle components, like the spark plugs. When the valve isnt working correctly, your engine will likely burn more fuel than it should.This causes your engine to release more unburnt hydrocarbons in the exhaust emissions. As a result, you may notice a fuel smell in the cabin and decreased fuel efficiency. The exhaust gas recirculation valve opens and closes based on the throttle movement and exhaust manifold vacuum.When carbon deposits build up in the valve, the EGR valve can stay stuck open, allowing exhaust gas to re-enter the combustion chamber at the wrong time. It can also result in a vacuum leak in vacuum-operated EGR systems. This again affects the fuel economy as the engine tries to compensate by increasing fuel consumption. A functional exhaust gas recirculation valve helps reduce NOx emissions from your cars exhaust fumes. However, a faulty valve can have the exact opposite effect. This can happen in two ways: Stuck open EGR valve: Lowers the temperature inside the combustion chamber and prevents proper fuel combustion, releasing more unburnt hydrocarbons in the exhaust fumes.Stuck closed EGR valve: Raises the combustion temperature and your car has a higher concentration of NOx emissions in the exhaust fumes. Thats why increased vehicle emissions caused by an EGR valve problem can make your vehicle fail an emissions test. Driving with a faulty EGR valve can reduce engine performance, especially when accelerating. This happens when your engine operates with an incorrect air-fuel mixture. The ECU overcompensates with more fuel to maintain power output, leading to decreased fuel efficiency. Conversely, if the valve is stuck open, your car may take longer to reach higher speeds. In severe cases, the engine might even shut off unexpectedly while driving. A malfunctioning EGR valve can contribute to engine overheating, especially when stuck closed. If the EGR valve is stuck closed, it cant regulate the EGR flow and redirect the exhaust gasses back into the combustion chamber to burn along with the fresh fuel mixture.This increases the oxygen concentration in the chamber, causing the engine to burn more fuel and thereby raising the engine temperature. A clogged or faulty EGR valve can trigger the Check Engine Light. This is common in vehicles with an electronically controlled EGR valve, as the Engine Control Unit (ECU) directly controls the valves movement. If the Check Engine Light comes on with the above-mentioned symptoms, you might have a failing EGR valve. To confirm if the warning light is on due to EGR issues, look for these diagnostic trouble codes (DTC): P0400: Exhaust Gas Recirculation (EGR) Flow Malfunction P0401: Exhaust Gas Recirculation Flow Insufficient Detected P0402: Exhaust Gas Recirculation A Flow Excessive Detected Note: Engine problems resulting from a malfunctioning EGR valve can also be caused by other car parts and sensors. For example, increased hydrocarbon emissions can result from a leaking fuel injector, a bad catalytic converter, or a faulty oxygen sensor. Thats why you should consult a mechanic for a proper diagnosis. But why does the EGR valve fail?Find out next. Several factors can cause the EGR valve to malfunction, including: Use of low-quality or contaminated fuel Lack of regular engine maintenance Faults or malfunctions in the EGR system Manufacturing defects or low-quality parts Extreme driving conditions Next, lets find out if you can continue driving with an EGR valve problem. No, driving with a bad EGR valve isnt recommended. While you can safely take your car to the nearest repair shop, driving for extended periods with an EGR failure can lead to reduced engine power, poor acceleration, and vehicle stalling. If left unchecked, it can cause serious engine damage. Want to keep your EGR valve from failing?Keep scrolling! Follow these tips to prolong the life of your EGR valve: Use a high-quality fuel your car manufacturer recommends and add additives to prevent carbon deposit buildup in the EGR passage.Monitor your engines performance and fuel efficiency. If you notice a decline, get your EGR system inspected.Clean or replace the faulty EGR valve to prevent carbon buildup from clogging the EGR pipe. Note: Diesel engine cars with EGR coolers may require a coolant top-up, as mechanics usually drain some of it during valve maintenance or when replacing the EGR cooler. Have more questions?Check out the following FAQs. Here are the answers to some common queries related to the exhaust gas recirculation valve: An EGR valve typically lasts ten years with routine maintenance and checks. However, its best to refer to the owners manual for specific replacement intervals for your car model. You can also consider replacing it if theres physical damage or an identified EGR problem. You can expect to pay between $100 to $1,000 or even more for an EGR valve replacement. The actual cost of replacing an EGR valve depends on your vehicles make and model, labor charges in your area, repair complexity, and part costs. Yes, you can clean your EGR valve without removing it using an EGR valve cleaner spray.Youll have to spray it directly into the engine while its running at about 2,000 RPMs and follow its application instructions carefully. Remember, this cleaner comes in different versions for a petrol or diesel engine, so ensure you pick the one compatible with your cars engine. And if you lack the knowledge and skills needed to access engine parts, its best to hire a professional mechanic especially if the valve is completely stuck. Your vehicles exhaust gas recirculation valve reduces harmful nitrogen oxide emissions and improves engine performance.Identifying and diagnosing the symptoms of a bad EGR valve early can help you address the EGR problem sooner and avoid costly repairs. And if you have a faulty EGR valve, rather than attempting a DIY fix, get immediate help from professionals like AutoNation Mobile Service. Were a mobile auto repair service available seven days a week. We offer easy online booking and a 12-month | 12,000-mile repair warranty. Contact us to get your EGR system inspected and the valve replaced from your driveway.The EGR valve is a crucial component of most car exhaust systems. When it fails, your car is likely to fail state emission tests. Left too long, it can reduce your fuel efficiency and lead to long-term engine damage.Fortunately, problems with the EGR valve are relatively easy to diagnose and fix. Even if you dont have a lot of repair experience, you can do it in your garage. Read on below to learn more about the EGR valve, how to repair it, and when to replace it.The EGR valve is a crucial component of most car exhaust systems.EGR stands for exhaust gas recirculation. The exact design can vary between manufacturers. The basic form of all EGR valves is similar. These valves are between 4 and 6 inches tall, topped with a round metal disc about 3 inches across. The size and placement of the EGR valve make it easy to identify when you open the hood, though it may be underneath another component.You can find EGR valves on both gasoline and diesel engines. Its one of the oldest emission reduction techniques for combustion engines. Youll find controllable EGR valves on engines dating back to the early 1970s. The design has changed quite a bit over the years, of course, increasing the sophistication and control of the valve.The original EGR valve used a vacuum for the control. If you have an older car, it may have a purely vacuum-controlled EGR valve. Newer vehicles may use a hybrid system that incorporates electronic components into this vacuum control. They may also use a purely electronic EGR control, though. In some cases, this means eliminating the EGR valve completely, replacing it with a digital valve.There are a half-dozen or so different popular configurations for modern EGR valves. Check your cars manual to identify what your vehicle uses before you attempt any repairs or order any new parts.The basic function of the EGR valve is to redirect exhaust back into the intake manifold. To understand why this is important, you first need some background on car exhaust systems.The exhaust is mostly comprised of non-volatile carbon dioxide. The hotter the engine gets, though, the more nitrogen oxides are formed. Nitrogen Oxides are the compounds that produce smog. To prevent this, the EGR valve feeds small amounts of carbon dioxide back into the combustion chambers. This lowers the engine temperature and slows the production of smog-forming compounds.What does this do for the engine? Most obviously, it reduces your vehicles emissions, which makes your vehicle more environmentally sound and helps it pass state emission tests. The EGR valve also improves your engine efficiency, helping it stay at an optimal temperature. Youll get better gas mileage when your EGR valve is working correctly.How An EGR Valve WorksAs we said above, every engine is slightly different in its design. Youll always find the EGR valve on the intake manifold. This is a major component of your engine, so finding it shouldnt be too hard when you know what youre looking for.Open up the hood of your vehicle and look at the top side, closest to the windshield. Find the air filter, which will be the part of the engine that sticks up the most near the top of the engine. Below this is the carburetor, a large piece with a round opening connecting to the throttle body.Following this path will get you to the intake manifold. For a layman, this looks like a series of interconnected pipes. However, many of you have engine valves. Attached to this is where youll find the EGR valve.There are quite a few signs that could indicate a dirty or malfunctioning EGR valve:Some common symptoms of a wrong EGR valveThe check engine light. There are many different systems that will turn on this indicator. Well talk in a second about what trouble code specifically points to a bad EGR valve.Rough idling. This can happen when you start the car or when youre stopped at a light. Your car may also stall on starting or while driving at low speeds.Reduced fuel efficiency. Youll use more gas if your EGR valve is malfunctioning. Youll likely notice your fuel meter dropping faster than usual.Smelling fuel. You may notice this when you start the car or while youre driving.Engine sounds. Faulty EGR valves often cause pinging, knocking, or tapping noises, especially while idling.All of your senses can be helpful when diagnosing car trouble. If you notice a gasoline smell, especially when you start your car, that could point to EGR valve issues. Your ears can help, too. The engine might make pinging, knocking, or tapping noises, especially while idling.Paying close attention to your engines symptoms can tell you not just whether the EGR valve is malfunctioning but how its happening. There are two main ways the EGR valve can malfunction: by sticking open or sticking shut.If the valve is stuck open, gasses can flow continuously into and out of the intake manifold. The car will use more fuel, and youll smell gasoline because the smog release is unrestricted. Idling will be espec

How to know if egr valve is working. How do you know if egr is faulty. How to check egr valve is working. Can a new egr valve be faulty. How to know if egr valve is bad. How do you know if your egr valve is clogged. What damage can a faulty egr valve cause. How do you know if your egr valve is not working.