



MOTOR FACTORS

SMARTCHOICE

ISSUE 76 • FEB - APR 2025

THE SMART CHOICE FOR TODAY'S TECHNICIAN!

TECH SPECIAL 2025

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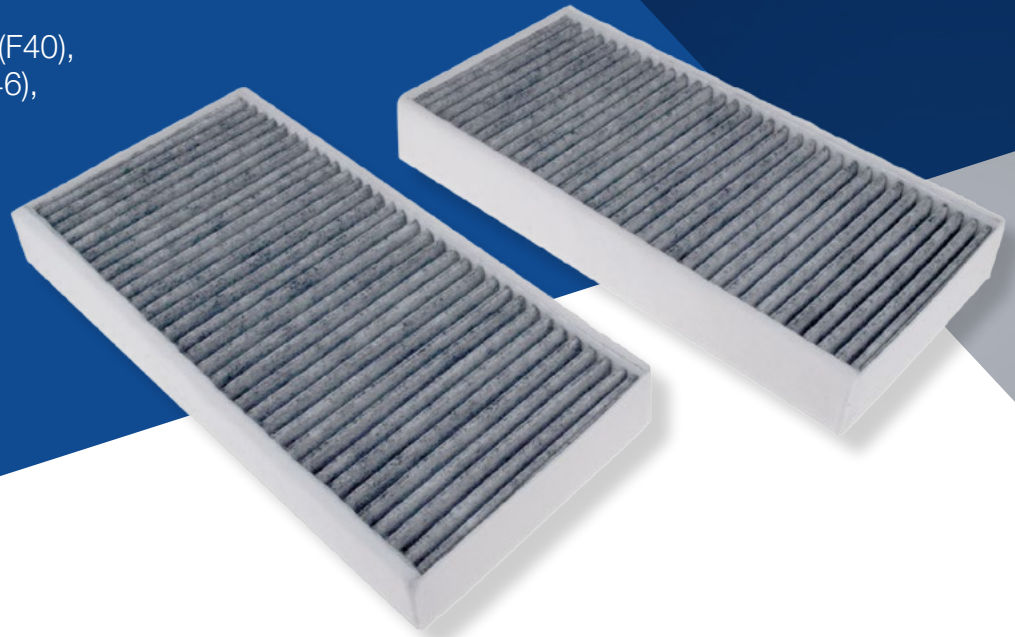
Cabin Filter Troubleshooting



Blue Print ADB112512 &
ADB112513

To Fit: BMW 1 Series (F40),
2 Series (F44, F45, F46),
X1 (F48), X3 (F39).

MINI (F54, F55, F56,
F57, F60)



Problem

Front footwell carpets are wet. On removal of the cabin filter during routine maintenance it is found to be moist and has started to become moldy, causing odour within the car.

Cause

The heater housing evaporator drain is blocked or excessive leaf litter within or near the heater intake is causing an obstruction. Another possible cause is that the air conditioning housing access cover - located next to the cabin filter service cover - is incorrectly fitted and allowing condensation to leak into the vehicle's interior.

Solution

Remove any leaf litter from the heater intake and check and clear the heater housing drain tube. Take off the air conditioning evaporator housing access cover and check that the mating surfaces will provide a good seal. Refit and apply pressure while tightening the retaining screws.

For vehicles equipped with climate control, replace the cabin filter with Blue Print part ADB112512 (activated charcoal filter). For vehicles without climate control use Blue Print part ADB112513.

Blue Print cabin filters ADB112512 and ADB112513 are made to OE-matching quality.

From February 2016 the vehicle manufacturer removed spacers on the edge of the filter and naturally Blue Print follows this change in the OE design.

PROTIPS contain important information regarding optimised repair solutions explained clearly and precisely!

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ALLIED NIPPON EXPLAINS ITS FRICTION RECIPE FOR UK TECHNICIANS



When it comes to brake pads, there's an art and science to their creation that mirrors the baking of a cake. Allied Nippon, one of the UK's foremost braking brands, has coined this analogy as a relatable way of explaining brake pad construction.



Just as a master baker carefully selects and balances ingredients to achieve the perfect texture and flavour, Allied Nippon's engineers meticulously blend raw

materials to craft friction materials that deliver safety, performance, and reliability.

Dr Keith Ellis (pictured above), Director of Braking Product Development explains: "There are striking parallels between the creation of friction material in brake pads, and making a cake. The raw materials we use are the ingredients, and the production process—where heat and pressure play a crucial role—is akin to baking. Any adjustment in materials or proportions will influence the end product's performance."

The Ingredients of a Brake Pad

A brake pad isn't made of a single material; it's a carefully formulated composite of raw materials, each serving a specific purpose. Here's a closer look at some of the key "ingredients" and their roles:

1. Friction and Noise Modifiers (The Spices)

- These include graphite, sulphides, or other additives that tweak the friction level to meet performance specifications.
- **Role:** Modulate braking feel and friction level, ensuring smooth stops without sudden jolts or squeals.
- Dr Ellis notes, "Friction and noise modifiers are like spices in a cake recipe—small amounts have a big impact on the final result."

2. Fillers (The Flour)

- Fillers such as barium sulphate or calcium carbonate are essential for shaping and stabilising the compound.
- **Role:** Provide the structural body of the brake pad and influence wear rates.
- "Think of fillers as the flour in the cake," says Dr Ellis. "They form the backbone of the recipe, giving the material its base properties."

3. Binders (The Eggs)

- Resins and binders like phenolic resin act as the glue that holds the components together.
- **Role:** Ensure durability under extreme temperatures and pressures.
- Without proper bonding, the "cake" will crumble, which for a brake pad can mean inferior durability or a product that is simply not fit for purpose.

4. Reinforcements (The Nuts)

- Steel fibres or Kevlar serve as reinforcements, adding strength and resilience to the brake pad.
- **Role:** Withstand the intense mechanical forces of braking, reducing the likelihood of cracking or breaking.
- "Much like nuts or seeds add texture and strength to a cake, reinforcements ensure the brake pad stays intact during rigorous use," Ellis explains.

5. Abrasives (The Sugar)

- Abrasive particles such as aluminium oxide or zirconium silicate are sprinkled into the mix to generate the friction needed to stop a vehicle.
- **Role:** Deliver the grit that creates braking force without damaging the rotor.
- These are what give the brake pad its "bite," much like sugar adds sweetness to a cake.

6. Copper free (The Icing)

- Copper is a known contaminant of marine ecosystems that is often found in brake pad friction formulations. Allied Nippon pads are certified copper free by the AASA carrying the 'N' leafmark to denote this status.
- **Role:** Traditionally, copper is used to provide improved durability.
- "Whilst it's not mandatory here in Europe to avoid copper in brake pad manufacturing, Allied Nippon has

taken this proactive step. It's the icing on the cake that makes our pads that little bit sweeter for the installer!"

The Baking Process

Once the ingredients are mixed, the brake pads undergo a curing process in high-temperature moulds and ovens - essentially, they are "baked"! The precise temperature and duration are critical to achieving optimal compressibility, wear resistance, and friction stability.

"Even a slight variation in the baking process can lead to underperforming brake pads, much like overbaking or underbaking a cake ruins the texture," says Dr Ellis.

The Perfect Balance

The brilliance of Allied Nippon brake pads lies in achieving the perfect balance of these materials. Too much abrasive might increase stopping power but accelerate wear. Too little resin might reduce heat resistance, compromising safety during prolonged use. Every adjustment to the "recipe" is carefully tested to ensure the final product meets rigorous performance and safety standards, including ECE R90 regulations.

A Recipe for Success

Dr Ellis concludes: "At Allied Nippon, we treat brake pad development as a craft. Every material is selected with purpose, and every step of the process is calibrated to deliver consistent, high-quality performance."

For technicians, Allied Nippon brake pads are the ultimate outcome of a well-balanced, perfectly baked recipe. Whilst the exact formula for the brand's friction compound is a closely guarded secret, installers can be confident that each Allied Nippon pad is meticulously blended for the ideal combination of stopping power, durability, and low-noise output.

To get more of a flavour for Allied Nippon, visit www.allied-nippon.eu

For more information...

To discover more about the Allied Nippon range, installers can download a comprehensive product brochure at <https://tinyurl.com/Allied-Nippon-Brochure>.

Ceramic Paste

26711, 26712, 185732

To Fit: various makes and models



Problem

Brake pad squeak and metal corrosion within braking components or the cylinder head.

Cause

These issues may occur due to the components operating in highly variable temperatures (cold and hot), or the effects of acidic water and road salt. 'Brake squeal' is generally caused by vibration between the brake pad and disc, the brake pad and sliders, or the brake shoes and back plates due to corrosion on surrounding components. Injector seals and glow and spark plug threads become corroded due to the high operating temperatures within a cylinder head.

Solution

febi Ceramic Grease/Brake Pad Paste

- An operating temperature of -30°C to +1400°C, much higher than that of conventional copper grease.
- Metal free and therefore suitable for both all aluminium and cast-iron brake calipers, aluminium cylinder heads, and copper sealing rings.

- Resistant to hot and cold water as well as most acids.
- Perfectly suited for separation and corrosion protection of threads, bolts, pins, etc - even those exposed to high temperatures.
- Use febi anti-seize Ceramic Paste to lubricate the abutment points for brake pads and caliper carriers and also brake shoe baking plates to ensure free movement and efficient braking. Avoid the use of copper grease because this can potentially affect ABS signals and encourages galvanic corrosion which will prevent the brake pad from moving freely, resulting in noisy operation.
- Ceramic grease should not come into contact with plastics or EPDM during assembly.

For quiet, effective brakes, make sure you fit quality braking parts and the appropriate accessories from febi's extensive range whenever you service the braking system. Rely on tested OE matching quality replacement parts from febi. The entire range of braking parts can be found at: partsfinder.bilsteingroup.com.





BRAKE PAD WEAR INDICATORS

The brake pad wear indicator is a simple component that plays a critical role in vehicle safety. There is a multitude of factors that affect how quickly brake pads wear. Varying driving conditions, speeds and pad compounds make it difficult to predict the lifespan of the brake pad. What we do know, is that below a certain level of wear, the effectiveness of the brake pad reduces significantly. The challenge faced by vehicle manufacturers is how to alert the driver once brake pads reach this point.

Early Brake Pad Wear Indicators

The most basic form of brake pad level indication is a groove cut into the profile of the pads. Once the groove is no longer visible, the pads are due for replacement. This of course involves a visual inspection so is not ideal. Another simple form of indication involves embedding a metal plate in the pad at the level where maximum wear is reached. At this point the metal plate is exposed and contacts the brake disc, creating a high pitch squeal. Effective, if a little crude.

The first electric brake pad wear indicators appeared in the 1970's and consisted of a loop of wire with a low current passing through it. As the brake pad wears past an acceptable level, the sensor loop is exposed and contacts the brake disc. This creates an open circuit and a warning light is illuminated to alert the driver. These basic sensors were prone to failure caused by damage and corrosion and often replacement was avoided by simply splicing the two wires together, leaving the driver with no indication of brake wear.

Brake Pads Worn
Press [OK] To Clear



Modern Brake Pad Wear Indicators

Today, the most advanced brake pad wear indicators are seen on German marques like BMW and Mercedes. These two-stage sensors have two parallel resistor circuits. One at a higher level and the second at the lowest acceptable level. Resistance in the sensor increases when the first circuit is broken and becomes an open circuit when the second circuit is broken.

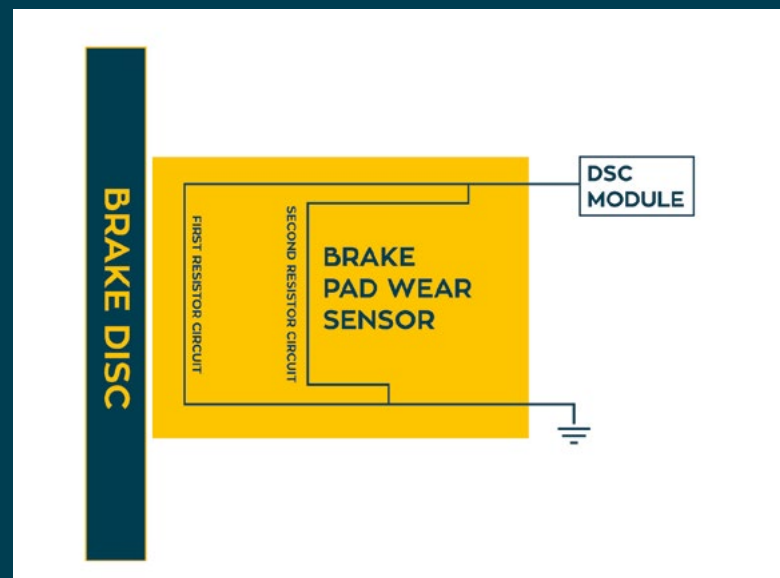
By working in conjunction with the first circuit of the brake pad wear indicator and considering wheel speed, brake pressure and temperature information; the vehicle's dynamic stability control module (DSC) calculates the estimated brake pad lifespan and replacement intervals. This is often displayed to the driver via the car's information system.

Replacing Wear Indicators

Brake pad wear indicators should be inspected regularly and changed if there are signs of damage to the clips or wiring. They should also be replaced every time the brake pads are changed. Unlike single stage sensors, there is no 'cheat' to avoid replacing a two-stage sensor and as they are relatively inexpensive component it makes perfect sense to replace them whilst work is being carried out on the vehicles brakes.

TechASSIST TIP:

Remember to reset the brake life service indicator after replacing brake pads and wear sensors.



MODERO

MODERO BRAKE PADS, RELIABLE PERFORMANCE YOU CAN TRUST

When it comes to recommending the right brake pad, vehicle technicians know that quality and reliability are non-negotiable. Modero brake pads have rapidly earned a reputation for delivering consistent performance and dependability, making them a trusted choice for workshops across the UK. Built with precision and tested to the highest standards, Modero is redefining expectations for braking products.

Manufactured to Meet OE

Standards Every Modero brake pad is engineered to align with Original Equipment (OE), Matching Quality standards, and fully complies with ECE R90 regulations. These rigorous benchmarks ensure that Modero pads meet or exceed the braking performance of the original parts they replace.

In the UK's diverse driving conditions—whether navigating bustling city streets or winding country roads—drivers demand reliable braking. Modero brake pads are designed to perform under these everyday challenges, providing technicians with confidence in their recommendations and customers with peace of mind.

Premium Materials for Superior Braking Performance

At the heart of Modero brake pads lies a commitment to high-quality

materials. By investing in premium friction layers, Modero ensures consistent stopping power, smooth operation, and reduced brake fade across a range of road and weather conditions. These features translate into a responsive and dependable braking experience that drivers can rely on mile after mile.

Designed for Today's Demanding Drivers

Modero brake pads are crafted to provide balanced durability and performance, making them suitable for a wide range of vehicles and driving styles. Whether it's the daily commute or long-distance travel, Modero delivers the reliability and control drivers need to feel secure on the road. For vehicle technicians, this means offering a product that not only meets but exceeds customer expectations.

Why Choose Modero?

Modero brake pads stand out as a practical and

reliable solution that bridges the gap between everyday needs and exceptional quality. With products built to meet stringent industry standards and backed by trusted performance, Modero is a name you can confidently endorse.

Final Thoughts

Modero brake pads offer a winning combination of quality, durability, and performance, making them a standout choice for workshops and drivers alike. For technicians, recommending Modero means providing a product that inspires confidence, supports safety, and consistently delivers on expectations. Choose Modero brake pads and experience the quality that's built to perform.

Modero braking. It's the Smart Choice.



“
At the heart of Modero brake pads lies a commitment to high-quality materials.”

Control Your Profits

FAI Suspension Arms



Steering and suspension dynamics have significantly evolved over the 20 years FAI have supplied the aftermarket, as manufacturers have adopted more complex systems. Multi-link suspension and double wishbone have become commonplace, not only on the front but also at the rear of vehicles, replacing the heavily relied-on torsion beam.

This revolution was perfect for UK roads, as they were more equipped to absorb pot-hole-scarred highways and keep the rear of the vehicle stable whilst navigating undulating country roads.



With the rise of electric vehicles and electric variants of existing models, these complex systems are put under further strain as curb weight increases far beyond ICE-driven vehicles; not to mention the need to keep what is often an SUV-style application flat and stable in the corners.



Many manufacturers realised the use of aluminium components to counteract the weight of batteries. FAI has kept pace with industry manufacturing techniques and demand for modern vehicles where components experience failure. Vehicles such as the award-winning Jaguar i-Pace and Audi e-Tron are perfect examples of this scenario, sporting newly developed aluminium front control arms.

Traditional steel arms, when placed under strain outside design parameters such as fully depressing a wheel in a deep pothole, tend to bend the metal structure, while retaining its functionality.

During winter months, as the road deteriorates, failures of suspension parts are common yet with aluminium components, the arm doesn't behave like the steel counterparts, splitting or shearing off when load is exceeded.

Quality is key

FAI prides itself on quality practices with all products and especially so with safety-critical items such as control arms. OE specifications are adhered to and quality control measures at the factory level provide a solid foundation. Product specialists are on hand to check all components prior to sale as a final QC procedure.

Audi e-tron

Control Arm Front Lower L & R

SS10452



SS10453

Jaguar I-Pace

Control Arm Front Lower L & R

SS11155



SS11156





A WHEEL BEARING IS JUST A BEARING, RIGHT?

Wrong, say National, who are a leading brand within the MJ Allen Group, and a major supplier of automotive bearings in the UK. Modern wheel bearings are now more durable and reliable than ever, due to design and manufacturing improvements driven by the need for vehicle manufacturers to reduce weight to meet tighter emissions limits or, in the case of EVs, counter the additional weight of the battery.



In fact, we don't pay much attention to them until there is a complaint, such as a strange noise, a rumbling sensation or an ABS or a Traction Control warning light illuminates.

Often, the customer books the vehicle in with little way of accurately describing the fault other than the noise getting louder as their car goes faster. Failed wheel bearings generally do cause noise, but that's not the only issue. Repetitive brake rotor vibration failures, steering issues and strange tyre wear can be attributed to a failed or failing wheel bearing assembly. However, they are often overlooked when investigating a noise or fault, because there aren't always any typical wheel bearing noises associated with the complaint.

Wheel bearings must deal with several forces and the loads they generate; vehicle weight, acceleration, braking and cornering are some of the forces which create radial and axial loads. Other factors needing to be considered

are road grime, water ingress, brake dust, brake heat, potholes, and a myriad of other conditions have driven the need for design improvements over recent years. Given that the average wheel bearing is subjected to around 75 million revolutions by the time it has travelled 100,000 miles, it's no surprise that even the best units can eventually fail.

From standard bearings to Gen 1, 2 & 3, plus units with built in magnetic ABS sensors, National have you covered. Their range of top-quality bearing kits are manufactured in a state-of-the-art facility using only the highest quality materials and processes, and all product is tested against OE specification to ensure maximum performance. The bearing material is GCr15 steel, hardened to 64 HRC, and plastics are high quality PA66 nylon. All necessary fitment accessories are included in each kit, such as screws, bolts, split pins and caps, saving downtime for your workshop and technicians.

Choose National for trusted quality!



MAHLE

PREPARING FOR WINTER WITH KNECHT'S CAREMETIX CABIN FILTERS

Boost winter service offerings by stocking Knecht's CareMetix cabin filters, providing superior protection against winter pollutants and allergens.

The range is designed to tackle the challenges of winter driving conditions and ensure clean air and optimal vehicle performance.

As the colder months approach, it's crucial for garages to remind customers of the importance of maintaining clean air inside vehicles, with Knecht, a brand of MAHLE Aftermarket, advising that regular cabin filter replacements should be part of every winter service to ensure optimum air quality.



winter, when windows are kept closed and ventilation systems are heavily relied upon.

CareMetix filters are designed to combat the unique challenges of winter driving, filtering out harmful pollutants such as diesel soot, fine particulates, brake dust and exhaust fumes.

The five-layer construction goes beyond standard filtration, with layers dedicated to capturing fine particles, allergens, bacteria and mould, while also neutralising strong odours.

Replacing cabin filters annually, or every 10,000 miles, depending on what comes sooner, helps prevent clogged ventilation systems, which can lead to foggy windows and added strain on air conditioning systems, says Knecht.

The specialist's CareMetix® cabin filters offer the industry's most comprehensive protection against pollutants, allergens and unpleasant odour, helping to keep the vehicle interior fresh during

This makes CareMetix ideal for workshops looking to provide customers with a high-quality cabin filter upgrade that delivers superior protection, especially during winter when the risk of poor air quality inside vehicles is at its highest.

The CareMetix filter not only ensures clean air for occupants, but it also protects the vehicle's

HVAC components from costly damage caused by dust and dirt buildup.

By stocking Knecht's CareMetix filters, garages can offer customers a premium solution to winter air quality issues, keeping vehicles running efficiently while enhancing passenger comfort.

For more details on the CareMetix range, visit caremetix.mahle.com.



Find out more at www.mahle-aftermarket.com

HEALTHY EXHAUSTS, HAPPY CUSTOMERS

Whether it's rubbish bins, drains, or exhausts, people always seem to dismiss the importance of things that we use to get rid of waste. As anyone who has had their exhaust fail the day before a holiday – or had the bin men inexplicably fail to show up one week – knows all too well, however, anyone neglecting these vital systems does so at their peril.



Here, we're going to look at how to keep your customers happy by not only keeping their exhaust systems in top condition, but also (hopefully) helping them to appreciate the vital role those systems play.

The benefits of a better exhaust

One of the most important things to understand about exhaust systems is that they do far more than simply give gases somewhere to go; they are vital to a vehicle's overall functionality and efficiency.

For example, the exhaust system plays a key role in optimising engine performance through proper back pressure. The right level of back pressure helps maintain the engine's efficiency, ensuring smooth power delivery and fuel economy. A poorly functioning exhaust system, on the other hand, can cause reduced power, increased fuel consumption, and even damage to engine components.

Exhaust systems are also instrumental in reducing harmful emissions. Components such as catalytic converters (CATs) and diesel particulate filters (DPFs) play a major

role here, breaking down pollutants into less harmful substances before they are released into the atmosphere.

Another critical function is noise management. A well-maintained exhaust system minimises noise levels, ensuring a quieter, more comfortable ride for most people, and for certain customers there are systems designed to do quite the opposite—delivering their choice of sporty roar.

Practical steps for garages

We've covered the 'why' of a healthy exhaust system, but now it's time to tackle the 'how'. While we could easily fill a book on the details of manifold maintenance, efficient exhaust repairs generally come down to a combination of good habits and appropriate tools.

- Get your inspections up to grade: The easiest repair is one you never have to make. Train staff to identify corrosion, wear, or looseness in fittings. Simple diagnostic tools can detect leaks or alignment issues early.

- Invest in quality aftermarket products: Poor parts make for unhappy customers. Using reliable, fit-first-time parts, such as Klarius exhausts, ensures compatibility and reduces installation errors.
- Organise your inventory: Don't waste hours hunting through the garage. Keep commonly used parts and fittings well-stocked. Having essentials like clamps, flex repairs, and hangers on hand can cut wait times and eliminate delays during replacements.

Building customer trust

If keeping customers happy was always as easy as delivering quality work, the life of a garage owner would be much simpler. People have an unfortunate habit of downplaying the importance of exhaust systems, but taking the time to show them why your work matters can go a long way in earning their confidence and loyalty.

Start by making it visual. Show them the worn clamps or corroded fittings you're replacing, side-by-side with the new parts. It's one thing to explain the risks of a bad seal or vibration issues; it's another to hold up a rusty hanger and let the evidence speak for itself.

Next, highlight the bigger picture. Preventive maintenance isn't just about fixing what's broken today—it's about avoiding costlier problems tomorrow. When you explain how replacing those fittings alongside a new exhaust can extend the system's lifespan and improve performance, you're giving customers a reason to invest in quality repairs now.

By focusing on transparency and showing the value of every repair, garages can foster trust and loyalty while delivering the reliable service every customer deserves.



BM CATALYSTS OFFERS ADVICE ON HOW WORKSHOPS CAN HELP CUSTOMERS' CARS RUN MORE EFFICIENTLY

Mark Blinston, Commercial Director of BM Catalysts, Europe's leading manufacturer of hot end emissions products, is exploring the opportunities for garages and the wider aftermarket to support motorists in improving vehicle efficiency.



The aftermarket industry has a unique opportunity to play a pivotal role in ensuring vehicles on the road run more efficiently. Garages are at the forefront of this effort, directly engaging with motorists, but it's clear that the entire supply chain, including motor factors, suppliers and trade bodies, can contribute to this mission.

Mark Blinston of BM Catalysts explains: "The relationship between the motor factor, garage and motorist must go beyond mere transactions. Through our membership of the IAAF, we've seen a push to strengthen this relationship and provide more support to garages in their communications with motorists. The IAAF has rightly emphasised the importance of helping MOT testers and stations communicate the value of the MOT to motorists. It's not just about roadworthiness; it's about promoting trust and understanding of vehicle maintenance."

Regular servicing and maintenance

A vehicle's efficiency begins with adhering to routine servicing and maintenance schedules. Failure to do so can result in costly issues and increased air pollution if emissions-related components are neglected. Blinston highlights: "Garages play a

critical role here. Ensuring motorists stay on top of maintenance, particularly during a cost-of-living crisis, can save them money in the long run while contributing to cleaner air."

Having robust systems in place to remind motorists of their MOT and service schedules is key, but so is educating them on the broader benefits of regular maintenance for both performance and the environment.

The importance of quality

Another cornerstone of efficient motoring is the use of high-quality replacement parts. "In the emissions control sector, where we operate, choosing best-in-class products is non-negotiable," says Blinston. "Garages must ensure they're fitting components that meet legal type-approval requirements and deliver long-term performance. This is critical as vehicles incorporate more advanced emissions-reducing technologies."

Communication builds trust

Post-pandemic, garages have increasingly turned to social media and digital platforms to communicate

with their customers. Many have embraced this shift, providing educational content to help motorists better understand vehicle care. Some even offer workshops on basic maintenance tasks, further building trust and strengthening relationships.

"The motor vehicle has transformed dramatically over the past two decades, and garages are stepping up to meet drivers' demand for information," Blinston notes.

A collaborative future

The automotive aftermarket is already the leading choice for UK motorists, with a recent survey by IAAF finding that 92 percent of drivers agreed that they should have the option to choose which workshop services and maintains their vehicle.

Blinston concludes: "The opportunity is there for the industry to work together. By creating stronger relationships and providing clear, valuable guidance, we can help motorists achieve more efficient motoring while reinforcing the critical role of the independent aftermarket."

SHAFTEC BRAKE CALIPERS IT'S ALL IN THE DETAIL!

Remanufacturing as it should be, and to the highest standards.

At Shaftec, remanufacturing is not just an inferior substitute for 'new', it's a process which results in components that are as good as new, and provide long lasting performance.

Drive. Steer. Stop Expert, Shaftec, strongly believes that where possible, automotive parts should be remanufactured, as it's a more sustainable alternative to new, and is more cost effective for the end user.

With this attitude, and more than 40 years' experience, Shaftec is now firmly recognised as the UK market leader in the remanufacturing sector. Here, we take a more in-depth look at what goes into a quality remanufactured brake caliper.

Did you know?

The only parts of a brake caliper that are remanufactured are the casting, and sometimes the levers, everything else is brand new. Electric Parking Brake (EPB) calipers are all fitted with new motors. Furthermore, we only remanufacture old units if they pass stringent inspection and quality tests, for example there are no defects or weak points in the casting.

All calipers are disassembled by hand to avoid damage to delicate parts, such as levers and threads. Units are then shotblasted and thoroughly inspected, with some hand finishing where required, ready for painting.

Hand built using new parts.

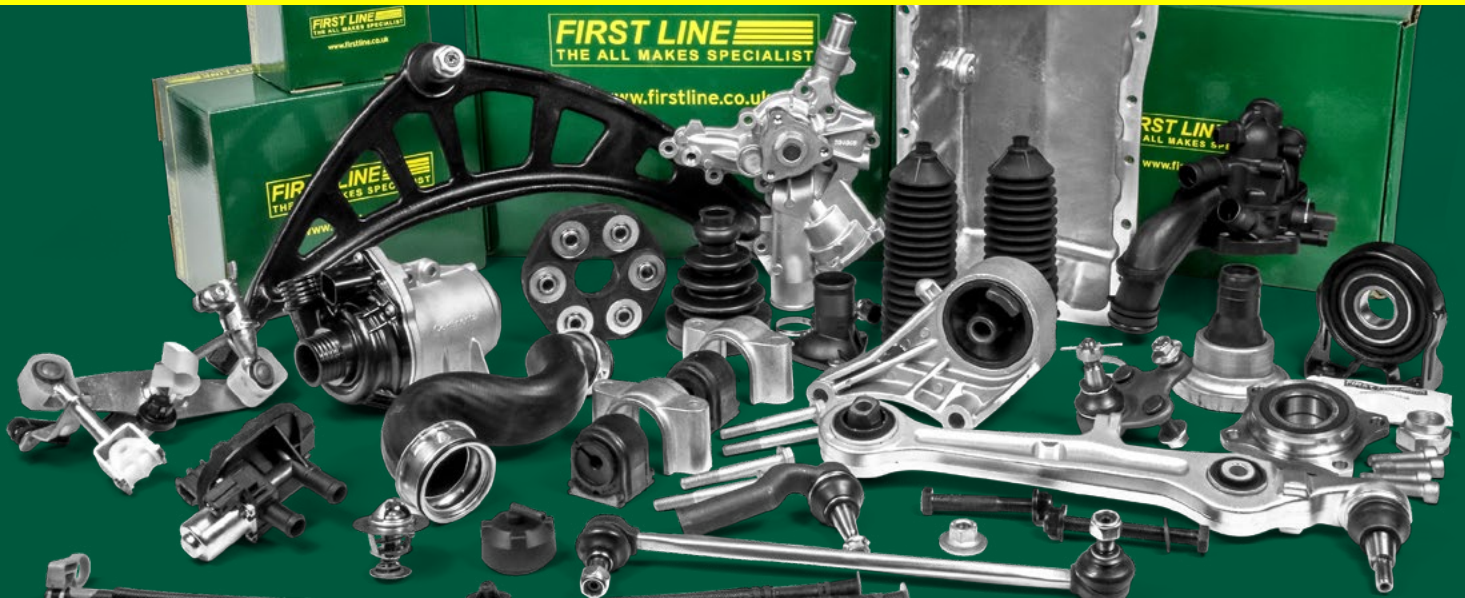
Each caliper is reassembled by hand. All components, such as pistons, seals, springs, and EPB motors are brand new. In fact, the seals are often better quality than original, due to improvements being made since the original caliper was manufactured.

Following the remanufacturing process, each individual caliper is 100% pressure tested beyond the capacity experienced on the vehicle. It is important to understand that Shaftec do not carry out batch testing, every single component is tested individually.

That's why, with confidence, Shaftec provide a 24 Month/24,000 Mile warranty.



PREMIUM QUALITY STEERING & SUSPENSION



AVAILABLE FROM FIRST LINE

Common Steering & Suspension Failures

Road conditions can affect the wear of the steering & suspension parts. Pot holes can be one of the most common causes of suspension arm failures with the sudden impact either bending or braking the suspension arm. Exposure from the road conditions can also cause the arms to corrode. Furthermore, if one part of the steering & suspension system has not been fitted correctly or sub-standard parts are used, this can cause issues for not only that part but also the rest of the steering & suspension. This is because the system works as a unit and if one part is installed incorrectly, this is highly likely to cause issues with the rest.

**MAKE FIRST LINE YOUR FIRST CHOICE FOR STEERING & SUSPENSION
QUALITY YOU CAN DEPEND ON**



First Line Ltd offers a market leading range of 9,200 Steering & Suspension parts to the aftermarket including Suspension Arms, Stabiliser Links and Ball Joints, plus many more.

Where applicable all the necessary fitting components are supplied for ease of installation.

All First Line Steering & Suspension components meet or exceed OE characteristics and performance standards.

FIRST LINE
THE ALL MAKES SPECIALIST

www.firstline.co.uk

FROM WINTER INTO SPRING, WHY BATTERY TESTING MATTERS YEAR-ROUND



As winter fades and spring approaches (well, not quite yet), it's easy for vehicle batteries to slip off the radar for a thorough check when they're in your workshop. Yet, the change in seasons is the perfect time to remind drivers that battery care is essential year-round. While winter is considered the most common time for battery failure, the issues often start long before the first frost – and can persist well into the warmer months.

Battery-related faults remain the leading cause of vehicle breakdowns, and recovery services replace over half a million batteries annually. This presents a critical opportunity for garage owners because routine battery testing prevents customer inconvenience, drives loyalty, and boosts revenue.

The Challenges of Winter

Winter's impact on vehicle batteries is well-documented. Cold temperatures reduce a battery's cranking power by up to 30%, slow its internal chemical processes, and make it harder for engines to start. Add the increased use of lights, heaters, and wipers, and the strain begins the drain.

"A battery's performance deteriorates naturally with use, but extreme winter conditions can accelerate this decline," explains Ian Newham, Training Manager for GS Yuasa Battery Sales UK Ltd. "If a battery starts the spring season in a weak state, it's unlikely to survive through the heat of the summer.

Although winter draws the most attention, the effects of warmer weather are often overlooked. High under-bonnet temperatures, typical in spring and summer, accelerate battery degradation by causing electrolyte evaporation and increasing self-discharge rates.

Heat speeds up the natural ageing process of a battery, often setting the stage for failures that become apparent in winter," Ian Newham explains. "Every 10°C increase in temperature doubles a battery's self-discharge rate."

Why Testing All Year Matters

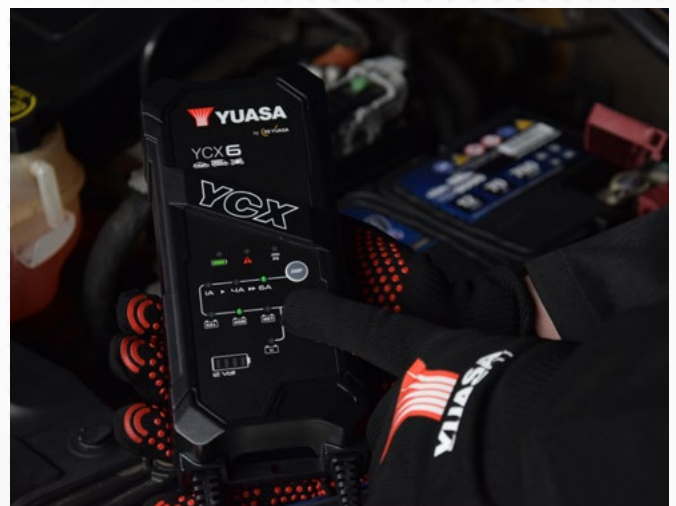
Testing batteries at every service or repair—regardless of the season—is the simplest way to prevent failures and ensure customer satisfaction. Research shows that one in three vehicle batteries requires attention, whether recharging or replacement. For workshops that see 50 vehicles per month, this could translate into a significant revenue boost of up to £10,000 per year while enhancing customer trust and loyalty.

GS Yuasa's 'Always Check the Battery' initiative encourages workshops to make battery testing part of their routine. Tools like the GYT050 and GYT250 battery testers provide fast, accurate assessments of a battery's state of health, and state of charge, making it easier to identify potential issues before they escalate.

Spring: The Ideal Time to Check Batteries

Spring offers an excellent opportunity to reinforce the importance of year-round battery care. As customers shake off the winter blues and prepare for the warmer months, they may be more receptive to preventative maintenance advice.

Checking batteries in spring helps address any lingering damage from winter and ensures customers' vehicles are 'summer ready.' We say that by making battery testing part of your workshop routine, you can keep your customers on the road – no matter the season.



ALL ROLCO ALTERNATORS AND STARTER MOTORS ARE 100% BRAND NEW...

At Rollco, we ensure our products meet the highest standards of quality and reliability. Here's why you should ask for Rollco.

SAFETY
with US

**BRAND NEW
UNITS**

Seasonal Dependability: No matter the weather, Rollco starters and alternators deliver consistent performance.

Crafted with Care: Our products undergo meticulous manufacturing processes, guaranteeing durability and longevity.

Factory-Fitted Confidence: Rollco meet the same standards as those fitted by vehicle manufacturers.

Problem-Solving Precision:

We address common faults in specific vehicles.

Empowering Support: Gain access to comprehensive training and online support, at www.rollingcomponents.com

Choose Rollco for Excellence:

With Rollco, you get more than just a product, you get a commitment to excellence that sets us apart from the competition. You can trust Rollco for reliability, performance, and peace of mind.



**DISCOVER ROLCO:
QUALITY ROTATING ELECTRICS**



MOVING PARTS

Rotating electric specialists since 1979

WE VALUE YOUR TIME ABOVE ALL ELSE, SO WHEN YOU CHOOSE ROLCO, YOU CAN BE REST ASSURED YOU'RE INSTALLING THE FINEST QUALITY ROTATING ELECTRICS AVAILABLE, ENSURING OPTIMAL PERFORMANCE EVERY TIME!



#**BESTUNDERPRESSURE**

 **ENGINEERED
IN GREAT BRITAIN**

WHY DOES THE ORIGINAL FAIL?

Overheating, Excessive Pressure,
Age & wear, Improper Installation.

WHY BGA IS THE SOLUTION!

BGA has been manufacturing and re-engineering Gaskets for 95+ years, offering high-quality, durable head gaskets and full kits to ensure complete installations first time.



COMMON REPAIR:

**FORD FOCUS III 1.0 ECOBOOST
2012-2017**

Using a complete head gasket repair kit ensures all components are replaced simultaneously, preventing premature wear and maximizing the lifespan of the repair.



HK2327

*Fits B-Max, Ecosport,
Fiesta, Focus, Grand
C-Max, Mondeo, Tourneo
Courier, Transit Connect
and more...*





TRUPART DELIVERS QUALITY AND AFFORDABLE WIPER BLADES ALONG WITH ADVANCEMENTS IN WIPER BLADE TECHNOLOGY

Wiper blade technology has advanced significantly, driven by the need for better performance and vehicle-specific designs.

Vehicle manufacturers now craft wiper blades to match the contours of their vehicles' windshields, ensuring precise fit and optimal operation. Trupart mirrors these advancements by producing blades that meet or exceed OEM specifications, delivering exceptional quality at an affordable price.

Trupart's innovative heated and unheated spray wiper blades offer:

- Enlarged wiping patterns for improved visibility.
- Even washer fluid distribution for streak-free cleaning.
- Minimised splashback on the windshield for less disruption while driving.

- Reduced fluid waste, making them economical and eco-friendly.

These features provide a superior driving experience, especially in challenging weather. The blades are sold in pairs, simplifying the replacement process and saving garages valuable service time.

These blades are engineered for precise performance, ensuring a snug fit and reliable operation.

Heated variants are beneficial in colder climates, preventing ice buildup on the blades and maintaining clear visibility during winter weather.

Trupart's spray wiper blades integrate washer fluid channels

directly into the blade, eliminating traditional nozzles. This design:

- Distributes washer fluid evenly along the blade's length for efficient cleaning.
- Reduces distractions caused by jets of fluid spraying across the windshield.
- Enhances visibility and cleaning performance at all vehicle speeds.

This innovation not only improves safety but also minimises fluid usage, making it an environmentally conscious choice. Ultimately, the driver benefits from clearer vision and a distraction free driving experience.



NEW TO RANGE - HEATED & NON-HEATED BLADES



ADVANCED F1 FLUID TECHNOLOGY NOW AVAILABLE FOR EVERYDAY CARS

David Aldous, OEM Business Development Manager at Petronas Lubricants

Technological motorsport advancements are helping everyday drivers worldwide enjoy new levels of engine performance



As the pinnacle of motoring technology, it's no surprise that numerous innovations first developed in Formula One have slowly trickled into the ordinary road vehicles we drive today. Take the carbon fibre chassis first pioneered by the McLaren team in the 1980s, or even our steering wheel radio controls that began life in F1 as engine switches.

However, one area of innovation in which F1 might appear to be lacking is maximising engine efficiency. After all, the main aim within F1 is simply to build the fastest car, with other goals seemingly a secondary concern. But that all changed with new rules introduced by Formula One's governing body in 2014.

Ever since Formula One cars have been using hybrid components to minimise fuel consumption, harnessing their own energy produced by the car during a race and redeploying it as part of the power unit's output, it has been advising the development of everyday road cars. Recently, in 2022 the rules in F1 racing were tweaked further to mandate more efficiencies and will change again in 2026, by which time cars must use significantly less energy and produce net-zero exhaust CO2 emissions.

In response to these rule changes, the accessories that support F1 power units, such as engine lubricants, are seemingly more advanced than ever. One high-profile example of this is PETRONAS Syntium, the engine oil first used by the Mercedes-AMG PETRONAS F1 Team in each of their eight consecutive Constructors' Championship-winning seasons.

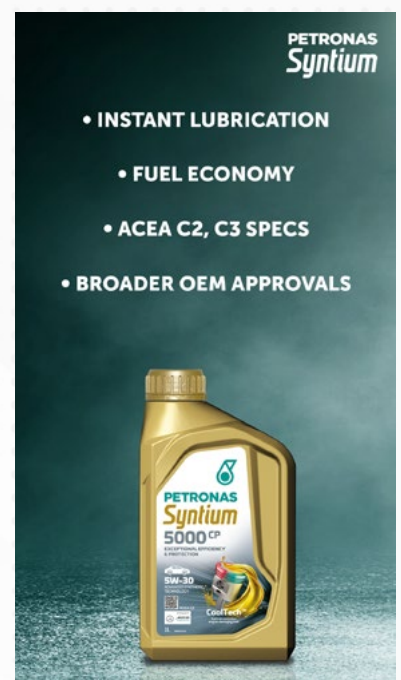
Most modern engines only convert around 33% of their potential fuel energy into power, meaning much of the useful energy produced by cars globally is sadly lost to engine inefficiency. Plus, excessive heat can also damage critical engine parts like turbochargers, pistons, and bearings, causing costly breakdowns. Here's where PETRONAS Syntium saves the day.

Through a 2022 reformulation and the addition of new 'CoolTech+ Technology', the engine oil now offers 37.8% stronger protection against the wear of critical parts than previous formulas, preventing engine deposit build-up to extend parts life and lower maintenance costs.

It also provides up to 68% higher oxidation resistance, controlling sludge, delaying oil thickening, and maintaining a stable, protective film for maximum engine performance. And with its ability to control heat by reducing friction, PETRONAS Syntium contributes to cut fuel consumption by up to 3%, which ultimately means less emissions, thus saving motorists money and minimising the environmental impact of driving.

Fausto Lupone, Automotive Sector Expert, Technical Service EMEA at PETRONAS Lubricants International explains: "CoolTech+ technology means whatever the road throws at your engine, it now wastes less energy and maximises efficiency. With enhanced engine protection, PETRONAS Syntium protects critical parts to deliver optimal performance every time." Drivers can learn more about PETRONAS Syntium on the explore-cool.com content hub, which features exclusive tools, guidance, and updates on how to reduce the emissions and fuel costs of your vehicle.

With technological motorsport advancements helping everyday drivers worldwide enjoy new levels of engine performance, it's hard to say what the next transformation that F1 brings to everyday driving will be. But for now, this journey of a thousand miles begins with a single step: PETRONAS Syntium.





SILENCIO™
THE ORIGINAL

MADE IN EUROPE*



Front wipers are replaced on average every 3 years - the recommendation is every year!

TRUST THE N°1 WIPER

Valeo is the World's N°1 O.E. Wiper system specialist, with over 100 years of wiping innovation!

WIPING AS A SAFETY FACTOR

It is a major safety factor to have a reliable functioning wiper system to ensure maximum driver visibility when cleaning the windscreen and travelling at speed.

Wiper systems are used for 7% of the total driving time, so it's a must to have them regularly checked and replaced as necessary.

ENSURE WIPERS ARE MOT READY!

Windscreen wipers not clearing the windscreen effectively are a common cause of MOT failure. If the blades don't clear the water effectively from the screen and leave areas untouched, or smears across the driver's view, then this may result in a failure.

It is recommended that wiper blades are replaced annually due to damage caused by road and driving conditions.

SILENCIO™ THE ORIGINAL

To supply customers with the exact same blade as the original conventional, hybrid, flat and rear wiper blades

SILENCIO™ CONVENTIONAL RANGE

Covers all O.E specifications available on the market: standard, metal, curved, spoiler and washer ramp.

SILENCIO™ FLAT BLADES

Ensure perfect initial wiping quality and improved wiping efficiency over time thanks to the brand new VisioRubber™.

SILENCIO™ REAR BLADES

Provide the driver with perfect visibility at the rear of their vehicle. Improve safety by also replacing the rear blade!

SILENCIO™ HYBRID

Is a mix of conventional and Flat blade technology developed for asian car manufacturers.

SILENCIO™ AQUABLADE™

SILENCIO™ Aquablade™ delivers wiper fluid directly onto the windshield via the wiper blades, rather than via nozzles mounted on the hood.

The windshield is wiped instantly and uniformly, regardless of vehicle speed, allowing for constant and perfect visibility.

Front-facing cameras, which are now more and more common on car windshields, also benefit from an improved field of vision.





IGNITION
PARTS

With NGK glow plugs you won't be phased by a cold start

If winters in the UK are teaching us anything it's that a cold snap can come at any time, even if it's been mild. With NGK glow plugs you don't need to be phased by a sudden cold morning or forecasted snow.

Arguably, the milder weather is the best time to encourage your customers to consider glow plug servicing that they may have been putting off when they aren't experiencing any fault symptoms.

Thanks to an aging UK vehicle parc* glow plugs are also aging, and pre-emptive servicing could help your customers to not get caught out. NGK glow plugs reliability and heating ranges are why they are the go-to solution no matter what the season has in store.

Stay up and running between cooler and milder weather this winter thanks to NGK glow plugs.

*GIPA data indicates the age of vehicles on UK roads rose to an average of 9 years old in 2024



Top Tech Tips

- **Select the right plug:** Always verify vehicle compatibility using NGK's PartFinder website.
- **Clean and check the housing:** Before fitting, inspect the glow plug bore for debris or carbon buildup to avoid improper seating or damage.
- **Torque it right:** Over-tightening can damage the glow plug or the cylinder head, while under-tightening can lead to poor performance. Always follow the vehicle manufacturer's torque specifications.
- **Test before you fit:** Test glow plugs for proper resistance or continuity to ensure peak performance.
- **Replace in sets:** For even performance across all cylinders, it's best practice to replace all glow plugs in the engine simultaneously.

Keep Running This Winter

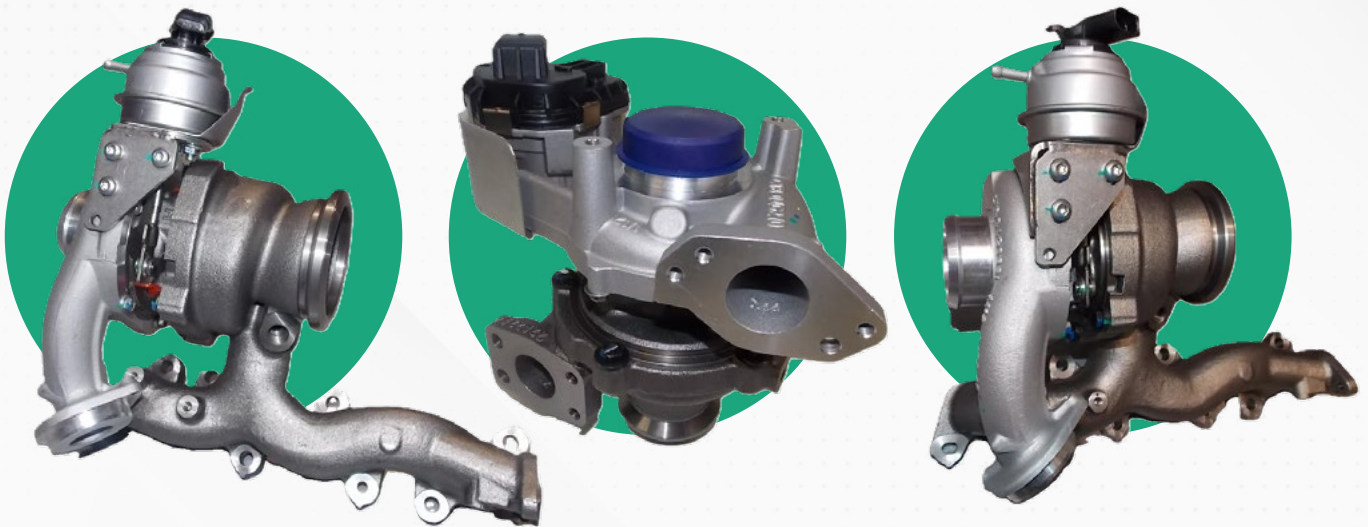
ngkntk.com/uk
ngkpartfinder.com



Niterra

BOOST YOUR WORKSHOP WITH AUTOCHARGE TURBOCHARGERS

In the fast-paced world of automotive repair, choosing the right turbocharger supplier can make all the difference. Autocharge sets a benchmark for quality and reliability in the industry, offering workshops a dependable source for both new and remanufactured turbochargers.



With their State-of-the-Art Quality, You can Trust every Autocharge NEW Turbocharger

Manufactured using cutting-edge processing equipment and dynamic balancing facilities to ensure maximum performance. Built and tested to match the vehicle manufacturer's original factory specifications and meet OE Matching Quality, Autocharge delivers turbochargers that you and your customers can trust. Their ever-expanding product range means you'll always have access to the latest part numbers for even the most recent vehicle models.

Remanufactured to Perfection

Autocharge doesn't just offer new turbochargers; their remanufactured options are crafted to meet stringent standards in facilities across the UK and

Europe. These products are backed by ISO9001 accreditation, guaranteeing OE-matching quality and reliability. By choosing Autocharge remanufactured turbos, you're not just getting a cost-effective option—you're getting premium quality that rivals new components.

Confidence Backed by a Market-Leading Warranty

When you invest in an Autocharge turbocharger, you're not just buying a product; you're buying peace of mind. Both their new and remanufactured turbochargers are supported by an industry-leading warranty, underscoring their commitment to delivering reliable, high-quality products.

Comprehensive Support for Workshops

Autocharge knows

that quality extends beyond the product itself. That's why 95% of their turbochargers come complete with gasket kits, fitting instructions, troubleshooting guides, and warranty details. Plus, their team of dedicated turbocharger engineering experts always provides technical support and advice whenever needed.

Why Choose Autocharge?

By choosing Autocharge turbochargers, workshops gain access to products that are not only built to perform but are also backed by a company dedicated to quality, innovation, and customer satisfaction. Whether you're looking for new or remanufactured turbochargers, Autocharge is the trusted partner you can rely on to keep your customers' vehicles running at peak performance.

Make the smart choice for your workshop today. Ask for Autocharge turbochargers and see the difference in quality, reliability, and service for yourself!

HONESTY

INTEGRITY

CAPABILITY



Super
Strong

Made from
UK Paper

Always
Reliable

SAPPHIRE
a FOURSTONES brand

Reliable Paper Products
with credentials that matter



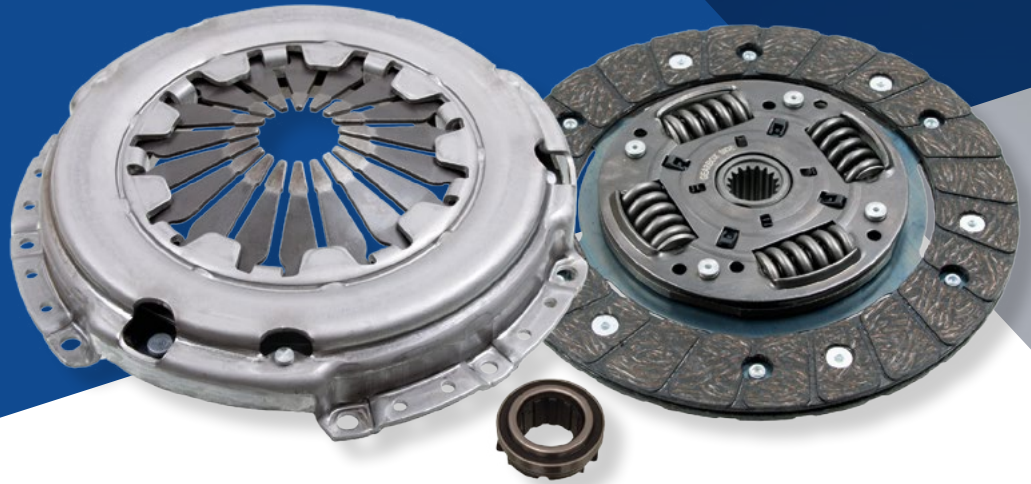
only
FSC® certified
paper used

Deal with people today, not automated replies
www.fourstonespapermill.co.uk

Clutch Fork Fractures



Blue Print ADG030148, ADG030149, ADG030150
 To Fit: BMW MINI 1.4DT/1.6i
 2001>2006



We have had reports of clearance and gear selection problems for the BMW MINI 1.4DT/1.6i 2001-2006. Repairers understandably assume that the clutch is at fault and fit a new clutch kit; however this does not always rectify the problem.

We have found that the cause of the problem can lie with a fracture in the weld of the clutch fork, allowing the fork to flex during operation which prevents the clutch from fully engaging. The symptoms are a dragging clutch, difficult gear selection and clutch judder.

It is imperative that the clutch fork is cleaned and thoroughly checked for fatigue/damage during normal clutch replacement. Good practice would be to recommend fitting a new fork at the same time as the clutch, as fork failure is a known issue with the MINI. With a repair time of 6.5 hours, this is one job that you wouldn't want to do twice on the same vehicle.

Failure to identify and replace a faulty fork could cause clearance problems and difficulty in selecting gears. This would not be covered under the Blue Print warranty agreement.

Currently, the fork is only available from BMW. Blue Print also recommends that the fork pivot bushes and locking pin are renewed at the same time.

See fracture in Fig.1 across.



PROTIPS contain important information regarding optimised repair solutions explained clearly and precisely!

All of our **PROTIPS** can be found with their relevant part number on the bilstein group partsfinder. Check it out now at:

partsfinder.bilsteingroup.com



Right First Time®

www.blue-print.com

HOW TO IMPROVE POWER TRANSMISSION WORK AND REDUCE THE RISK OF MISTAKES

The service and repair sector is constantly evolving and workshops face numerous challenges, among them, the wide variety of vehicles that they are faced with on a daily basis. The diversity of the vehicle parc, exaggerated by multiple models from within the same brand, increases the risk of ordering the wrong parts, or making a mistake during their installation.

As a global leader in the research, design, manufacture and distribution of essential engine products and drive systems, Dayco understands the needs of the workshop. The mismatch of parts or availability issues can delay repairs, resulting in measurable losses, and incorrect or poor quality parts can also pose serious risks, as they may contribute to premature vehicle failure, which will ultimately damage the workshop's reputation.

Aware of these challenges, for the most popular applications, Dayco offers its original equipment (OE) products as complete kits, which ensures that all the parts and accessories that are necessary to perform a full and successful repair, are included in the box.

Timing Belt Kits

The timing belt system plays a crucial role in the engine, so its replacement must only be carried out by competent professionals, using premium quality OE components. In addition, to ensure that the job is performed correctly, it is increasingly necessary to replace the entire system, rather than just individual components. This is the only way a workshop is able to guarantee the maximum reliability of the repair.

Dayco's wide range of timing belt kits answers the needs of this constantly evolving market and is divided into:

- KTB - Timing belt kit
- KTBWP - Timing belt kits complete with water pump

In addition to the timing belt, each Dayco KTB kit contains: idlers and an automatic tensioner, along with any bolts that need to be replaced during the installation. Dayco's KTBWP kits also include a water pump and its seal/gasket (if required); in other words, all the essential, technically compatible components that are required to perform a complete and reliable repair.

It is also important to mention that Dayco pioneered the development of belt in oil (BIO) technology on behalf of several vehicle manufacturers, so it naturally supplies its OE BIO kits to the aftermarket.

Poly-V Auxiliary Belt Kits

Although if an auxiliary belt fails, the consequences are generally less severe than a timing belt failure, in most cases, it will still result in an inconvenient breakdown of the vehicle and, sometimes, may even cause damage to the neighbouring timing belt system.

Furthermore, the increasing number of components (air conditioning compressors, power steering pumps, alternators, water pumps, vacuum pumps, etc.) they have to drive and operating conditions that reach temperatures of up to 130°C have placed greater demands on the auxiliary belt.

It therefore became essential to improve the materials and construction technology of the system to withstand these stresses, but alongside these developments and to ensure its proper function, is the necessity to comprehensively maintain the auxiliary drive system with premium quality components.

Dayco Poly-V belt kits again provide the complete solution by including all the necessary replacement wearing parts. Dependant on the vehicle model, in addition to the auxiliary belt, its kits can therefore contain components such as the tensioner pulley, damper pulley, accessory pulley, alternator pulley and their associated parts, as well as (if driven by the auxiliary belt) a water pump with seal/gasket (if required).

Timing Chain Kits

Dayco's longstanding tradition in toothed belt power transmission systems, combined with its in depth understanding of functional requirements and capability in quality, testing and reliability, is also successfully applied to its chain kits.

Dayco chain kits are also designed to ensure all the elements (chain, hydraulic tensioner, sprockets, guides) are included and that all meet the technical requirements of each component to guarantee maximum functionality, quiet operation and longer transmission life.

Why Choose Dayco Kits? Key Benefits

As demonstrated, Dayco's kits are a convenient and safe solution for

the independent workshop, the key advantages include:

- They contain all the necessary premium quality parts provided by a single, OE supplier.
- The comprehensive nature of the kits helps ensure that every element is perfectly compatible, which improves overall system performance and reduces the likelihood of repeat repairs.
- Dayco's approach ensures that both technicians and vehicle owners benefit from high quality, reliable solutions that enhance both the quality of repairs and the reputation of the workshop.

Dayco's comprehensive kits, therefore, offer an effective solution to many of the challenges workshops now face.

Not Sure Which Parts Are Needed?

No problem - simply use the Dayco Catalogue to find the correct part and then use the assembly instructions and other useful technical information and tips to complete the job successfully.

As well as through a desktop, the Dayco Catalogue is available as an app for mobile devices with Apple and Android systems. For more information regarding the OEM quality power transmission products in the Dayco range, please email: info.uk@dayco.com or visit: www.dayco.com





BECKERMANN TECHASSIST



NAVIGATING COMPLEXITY: HOW BECKERMANN'S TECHASSIST SIMPLIFIES ENGINE MANAGEMENT REPAIRS

The modern car is a marvel of engineering, blending mechanical ingenuity with sophisticated electronics. The demand for improved safety and reduced emissions means that in recent years the car has evolved quickly.

The electronic control unit (ECU) now calls upon more switches and sensors than ever before. And as a result, replacing such components has become more complex.

Proliferation: Some vehicles now feature multiple ECUs, powering systems as varied as lane-keeping assistance and autonomous driving capabilities.

Data-Driven: ECUs now gather more information from sensors, monitoring everything from coolant temperatures to oxygen levels in exhaust gases.

High-Speed Processing: Millions of calculations are performed each second to optimize performance,

such as determining precise spark timing or fuel injector openings.

Integrated Systems: ECUs enable seamless communication between vehicle components, ensuring smooth operation.

Replacing engine management components that connect to these intricate, interconnecting systems can be challenging. Moreover, the sheer number of vehicle variations makes identifying the correct part a time-consuming task for workshops.

Beckermann's TechASSIST: Supporting Technicians Fitting Beckermann Parts

To support workshops and auto technicians fitting Beckermann components, the TechASSIST service has been expanded to offer even greater accessibility.

Available via telephone and now **WhatsApp**, TechASSIST provides direct access to Beckermann's team of experts, who bring a wealth of technical knowledge and data to every interaction.

Why WhatsApp is a Game-Changer

With the addition of **WhatsApp**, technicians can now share images and videos directly with the Beckermann TechASSIST team, helping to pinpoint issues quickly and accurately. This innovative approach ensures faster problem-solving and minimizes downtime - because in the workshop, time is money.

Contact TechASSIST Today

Don't let modern automotive complexities slow you down. Whether you need help identifying the right part or troubleshooting a tricky installation, Beckermann's expert TechASSIST team are just a call - *or message* - away.



 **01675 437 429**

FREE TECHNICAL SUPPORT FOR BECKERMANN PARTS NOW AVAILABLE TO TECHNICIANS BY WHATSAPP
SCAN THE QR CODE TO START A CHAT OR CONTACT THE NUMBER ABOVE MONDAY - FRIDAY 08:00-16:00



SCAN TO CHAT

GRANNING GROUP

THE NUMBER ONE CHOICE FOR QUALITY LCV LEAF SPRINGS.

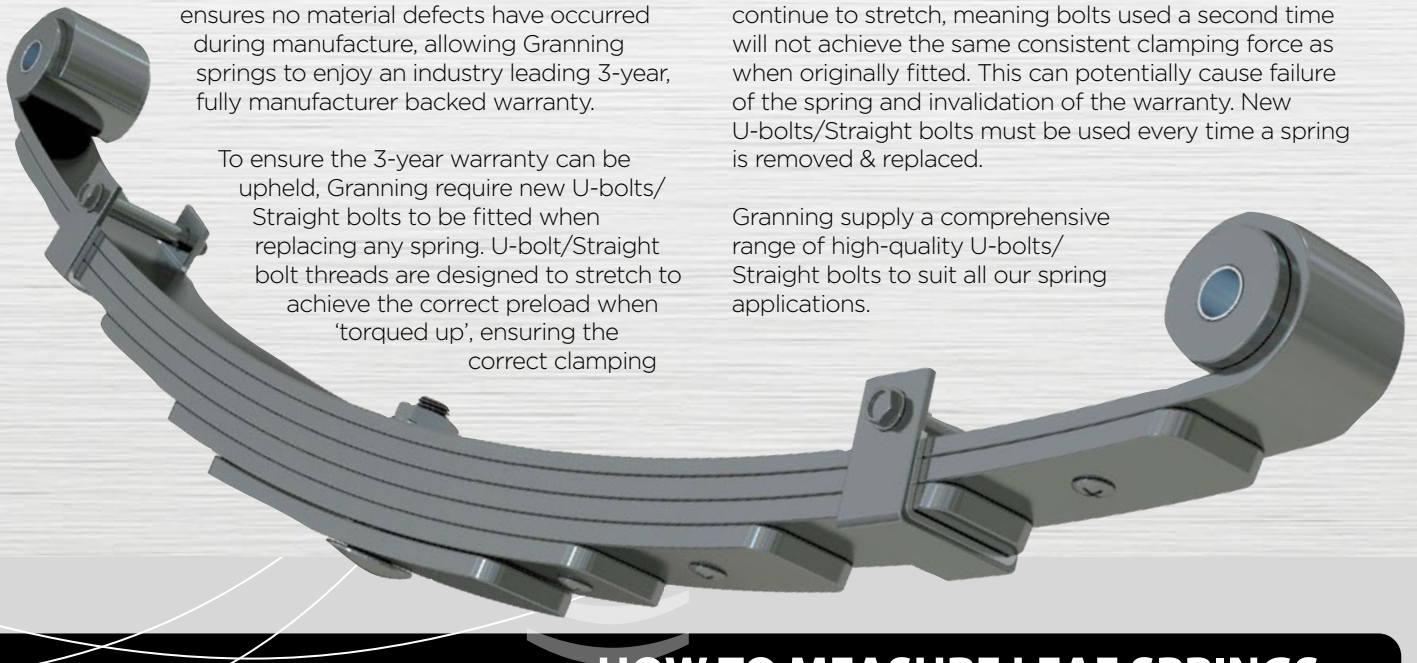
Granning springs are manufactured in a state-of-the-art production facility which is fully OEM accredited. All springs are subject to rigorous proof testing after production and assembly, ensuring that each spring is capable of a load capacity of at least 110% of the original design parameter. The process also ensures no material defects have occurred during manufacture, allowing Granning springs to enjoy an industry leading 3-year, fully manufacturer backed warranty.

To ensure the 3-year warranty can be upheld, Granning require new U-bolts/ Straight bolts to be fitted when replacing any spring. U-bolt/Straight bolt threads are designed to stretch to achieve the correct preload when 'torqued up', ensuring the correct clamping

force is achieved. This improves the fatigue life of the bolts whilst under the high frequency load forces exerted on vehicle suspension when in service.

U Bolts/Straight bolts should not be used more than once, as each time they are 'torqued up' the threads will continue to stretch, meaning bolts used a second time will not achieve the same consistent clamping force as when originally fitted. This can potentially cause failure of the spring and invalidation of the warranty. New U-bolts/Straight bolts must be used every time a spring is removed & replaced.

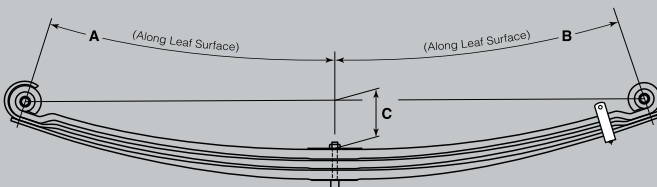
Granning supply a comprehensive range of high-quality U-bolts/ Straight bolts to suit all our spring applications.



HOW TO MEASURE LEAF SPRINGS

The correct way to measure leaf springs

You need to measure the spring as though the spring were flat. All you need is to follow the below diagram, use a measuring tape & a straight edge.



Divisional Length

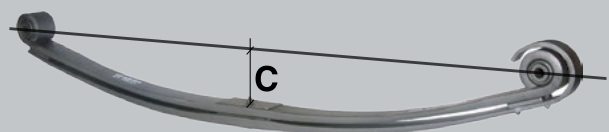
- A. Follow the curve of the spring, measuring from the centre of the front eye down to the centre of the centre bolt
- B. Then, measure from the centre of the centre bolt up to the centre of the other eye.

e.g - 900mm + 900mm or possibly 900mm + 700mm depending on your measurements and centre bolt location. By measuring in this way, we also know the location of the centre bolt.

Camber (Spring Arch)

Camber is measured by splitting the centre of the spring eyes with a straight edge. (Place the straight edge across the spring through the centre of the eyes)

- C. Measure from the line created by the straight edge to the main plate where the centre bolt is positioned.



Don't take the measurement with the spring flipped upside down.



Our Precision, Your Advantage

DRIVING INNOVATION: INSIDE KYB'S GLOBAL RESEARCH, DEVELOPMENT, AND MANUFACTURING PROCESSES

The warranty statistics for KYB Europe show the European warranty rate of all KYB products is approximately 0.2% – one of the lowest rates on the market.

The company is continually investing in and improving its research, testing and development to ensure this only gets better over the coming years. We take a look at what it takes to ensure optimum quality...

Research and Development

The development of new shock absorbers involves a collaborative effort from Product Management teams across the globe, working together seamlessly. Product design is led by engineering teams, primarily based in Japan and Spain, before being sent for rigorous testing at KYB's state-of-the-art test facility in Kashio, Japan. Opened in 2011, this \$35 million facility spans over 580,000 square meters – to put it into context, that's the equivalent of around 64 football fields - and is equipped with several specialised test tracks tailored for suspension and steering component testing. Notable features include a massive circular test track with a 345-foot radius and a 0.5% camber, a 550-meter straight track with 15 lanes and 22 different road surfaces, and a handling and comfort course that stretches over 1 kilometre through a Japanese forest. The facility also houses a research and development building where additional indoor testing is conducted, and results are thoroughly analysed. Having a purpose-built facility significantly reduces lead time for both OE and aftermarket product development.

Manufacturing

Once a product has been tested and approved, it will then be manufactured in one of KYB's many factories across the globe. Of these, Gifu North – also located in Japan – is the largest shock absorber factory in the world, producing over 12,000 different part numbers for both OE and the aftermarket. The fastest production line at Gifu North can manufacture one piece in just 4.2 seconds and the factory itself is capable of manufacturing 2.5 million pieces every single month to be distributed across the globe.

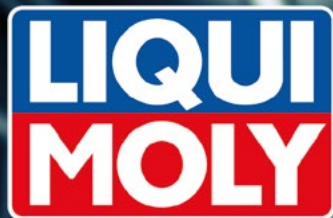


One Final Check

Before being sold within Europe, a vehicle fitting test is also conducted, which ensures that the on-vehicle performance of all new applications is fully evaluated before being approved. KYB Europe has a fitting and testing centre in France, which includes two lifts and a full range of garage equipment, including the latest 3D geometry check equipment. From the manufacturing process to the technician's hands, KYB products go on a strict and thorough journey of development and testing, ensuring that warranty rates remain low, and customers remain happy.

**SCAN HERE TO GO BEHIND THE
SCENES OF KYB'S FACTORY**





OIL CABINET CONCEPT

Motor oils are a vital part of the engine and modern oils have had to change to meet the demands of the industry. For instance, lower displacement engines and thinner oils, all to achieve better fuel economy and ultimately lower emissions.

Why are there so many different engine oils?

Every engine design has its own characteristics and therefore also specific requirements for the motor oil. Excessive wear and reduced efficiency can be expected if an oil with specifications outside the required values is used. For example, using an oil with the wrong viscosity can affect the timing of variable valve control systems and/or lead to increased fuel consumption due to lower engine efficiency. For this reason it is essential to observe manufacturer's approvals.

The LIQUI MOLY Oil Cabinet Concept

With so many manufacturer approvals, it's not possible to stock a few approved oils but with LIQUI MOLY, we have the right oil for almost every vehicle. Store them cleanly and organised in the LIQUI MOLY Oil Cabinet.

Buy the oils to fill the cabinet, get the Oil Cabinet free of charge!



Oil Cabinet Features

- Specially developed for the 20ltr canister and 60l barrels from LIQUI MOLY.
- Designed to hold a range of vehicle specific oils
- Offset shelves prevent drops falling onto the lower levels.
- Integrated oil drip tray, to comply with spillage requirements.
- Lockable, for added security.
- Document compartments integrated into the door, e.g. for technical data sheets.

Dimensions: (HxWxD) 2,100 x 950 x 550mm
Weight: 118kg

Available in 2 configurations:

- 8x 20ltr & 2x 60ltr (Includes 8x Outlet Taps & 2x Plastic Hand Pumps)
- 12x 20ltr (includes 12x Outlet Taps)

Product	UK Coverage	SAE Grade	20Ltr Part Number	60Ltr Part Number	ACEA
Special Tec F	20%	5w-30	3854	3856	A5/B5
Top Tec 4600	14%	5w-30	3757	3758	C3
Leichtlauf High Tec	13%	5w-40	3867	3868	A3/B4
Top Tec 4200	10%	5w-30	3708	3709	C3
Top Tec 4300	7%	5w-30	3742	3743	C2
Top Tec 4400	5%	5w-30	3752	3753	C4
Special Tec F	3%	0w-30	20724	20725	C2
Top Tec 4310	3%	0w-30	3737	3738	C2
Top Tec 6310	3%	0w-20	21877	21878	C5/C6
Top Tec 6200	3%	0w-20	20782	20783	C5
Top Tec 6600	2%	0w-20	21412	21442	C5/C6
Special Tec F ECO	2%	5w-20	3842	3843	C5
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SAVE ON TIME AND LABOUR WITH SKF PRE-ASSEMBLED HUB BEARING KITS | SIMPLIFY REPAIRS WITH SKF PRE-ASSEMBLED WHEEL BEARING KITS

Why struggle with dismounting and mounting the flange when you can replace the entire assembly with a pre-mounted solution?



SKF Pre-Assembled Hubs deliver a streamlined technology solution by offering fully assembled, pre-pressed hub units with brand-new components. This innovative approach saves valuable time while ensuring top-quality, factory-precise assembly that meets OEM standards.

With SKF Pre-Assembled Hub Kits, technicians can complete repairs more quickly because all components are pre-assembled, offering:

No complicated press work:

- Avoid the hassle of using special tools or improvising with inadequate ones.

Reduced component handling for longer-lasting performance:

- Kits include new seals, flanges, bearing modules, and bolts, eliminating the need to manage multiple parts.

Effortless installation:

- Pre-assembled units are pre-pressed and ready for quick bolt-on installation, minimising the risk of damage during assembly.

Lower vehicle downtime and labour expenses:

- Skip the time-consuming press work—no outsourcing or manual pressing is needed.

Enhanced safety with SKF quality assurance:

- Rigorously tested components ensure dependable, factory-standard performance.

Why Choose SKF Pre-Assembled Kits?

Enjoy a seamless one-piece exchange process with SKF's pre-assembled wheel bearing kits. This solution makes replacements faster, easier, and free from common installation challenges.

- No need to detach the flange.
- No need to remove the inner ring from the flange.
- No need for flange inspection or cleaning.
- No need to press the flange into a new bearing.

Save time and reduce costs with SKF's Pre-Assembled Hub Bearing Kits—your go-to choice for quick and reliable wheel bearing replacements.

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