apd AUTOPARTS & DIAGNOSTICS

SMART CHOICE

ISSUE 81 • MAY - JUL 26

THE SMART CHOICE FOR TODAY'S TECHNICIAN!

NO SWEAT. AIR CON SORTED!

IN THIS ISSUE

AC SERVICING & PROFIT OPPORTUNITIES FOR BUSY WORKSHOPS

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autopartsanddiagnostics.com

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25.267.00
THE REVOLUTION IN ENGINE OIL FILTRATION

The UFI oil filter for Renault applications features several innovative aspects. A key innovation is the **internal sealing between the "dirty" side**, where the oil enters, **and the "clean" side**, downstream of the filter media. This seal, crucial for perfectly containing the oil circuit, required specific development for both its geometry and material.

The filter also meets strict requirements for dirt-holding capacity and service life, achieved through optimisation of the filter media and geometry. It provides **99% efficiency for particles larger than 40 microns** and allows replacement intervals of up to 40,000 km. **The cartridge's design makes replacement particularly easy.**

99% FILTRATION EFFICIENCY
for particles up to 40 µm
according to ISO 4548-12

CARTRIDGE CODE

25.267.00

MAIN APPLICATIONS

RENAULT Captur II 1.5 Blue dCi 01/20 ›
RENAULT Kadjar 1.5 Blue DCI 08/18 ›
RENAULT Master IV 2.0 Blue dCi 06/24 ›
RENAULT Megane IV 1.5 Blue DCI 08/18 ›
RENAULT Trafic III 2.0 DCI 08/21 ›
NISSAN NV250 (X61) 1.5 dCi 07/19 ›
NISSAN NV300 2.0 dCi 05/21 ›
NISSAN Qashqai II (J11) 1.5 DCI 06/18 ›
MERCEDES B Classe (W247) B 05/19 ›
MERCEDES CLA Classe (C/X118) CLA 03/19 ›
DACIA Duster II (HM) 1.5 dCi 10/17 ›
DACIA Sandero II 1.5 Blue dCi 08/18 ›

PLUS

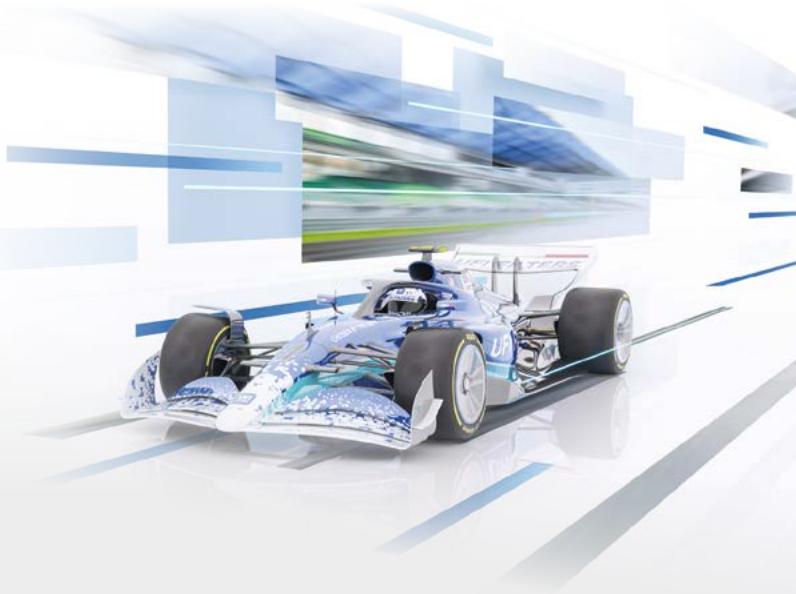
+ 100% environment-friendly: made of recyclable materials
+ Filtering media in FORMULA UFI.CELL

UFI CONFIRMS LEADERSHIP IN FILTRATION SYSTEMS FOR FORMULA 1, SUPPLYING 11 OUT OF 11 TEAMS

UFI has cemented its position as a top producer of filtration systems by supplying **eleven of the eleven teams competing in the 2026 Formula 1 season**.

The announcement is a prestigious recognition of the technologies developed by the Advanced Technologies Division of UFI, founded in 1999. In Formula 1, UFI does not limit itself to providing teams with oil, air and petrol filters. The complexity of today's racing cars also demands up to fifteen filter elements in a car. In total, UFI produces **around 8,000 such F1 filters annually.**

For Formula 1, **each filter is tailor-made** for the needs of the different teams, with **customised solutions provided in terms of size and materials** used. Their design requirements are the result of a co-design process between technicians in UFI's Advanced Technologies Division and the individual racing teams.



Allied Nippon

Allied Nippon is urging independent workshops to reconsider the use of copper-based grease on brake pads, as modern braking systems become increasingly reliant on electronic sensors and precise component movement.

While it is not a legal requirement, Allied Nippon's brake pads have never contained copper in their friction formulation. As a result, the company earned the distinguished 'N'-rated leaf mark from the Automotive Aftermarket Suppliers Association – a recognised symbol of environmental responsibility in friction materials.

However, while copper-free brake pads are becoming more common, some workshops continue to use copper-based greases during installation. It is this practice that Allied Nippon is now urging the trade to reconsider, as part of its ongoing commitment to safety and professional repair standards.

Why should copper grease be avoided?

While copper grease is commonly applied to reduce brake noise, it poses pitfalls:

- Interference with ABS and ESP systems: While copper grease is electrically conductive, if it spreads onto wheel speed sensors or electronic components, it can disrupt signal transmission. This can cause faults in ABS or ESP systems.
- Restricted brake pad movement: Copper grease attracts brake dust and road debris. Over time, this accumulates into an abrasive paste that can stop brake pads from moving freely inside the caliper. This can lead to uneven wear, noise or brake binding.
- Rubber seal deterioration: Most copper greases are petroleum-based and should not be used near rubber components. Prolonged contact can cause rubber seals and boots to swell, soften or crack. This can increase the risk of fluid leaks, contamination and reduce braking performance.

Allied Nippon's braking expert, Dr Keith Ellis, said: "This is an important reminder about the threats associated with using copper grease with brake pads. By adhering to this advisory, workshops can ensure a professional repair and ensure motorists don't return prematurely with issues – maintaining their relationship with the customer."

NEW TO RANGE

Brake pad sets for (but not limited to):

- Mercedes C-Class (2021-onwards)
- Ford Ranger (2022-onwards)
- Kia Picanto (2011-2017)
- Hyundai Tucson (2022-onwards)
- Kia Sportage (2021-onwards).

Popular EV+ range expansion:

- MG 4 (2023-onwards)
- Kia EV6 (2021-onwards)
- Kia Niro (2022-onwards)
- Hyundai Ioniq 5 (2021-onwards)
- Hyundai Ioniq 6 (2022-onwards)

Brake pad sets all now available

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.

COMMON ENGINE PROBLEMS

Modern engines rely heavily on high-performance oil to protect components, manage heat, and support hydraulic systems

TIMING CHAIN WEAR

Hydraulic chain tensioners rely on clean oil at the correct viscosity. Degraded or incorrect oil can lead to chain stretch, guide wear, and timing faults. Granville oils maintain stable viscosity and cleanliness, supporting tensioner operation and reducing premature wear.

SLUDGE AND RESTRICTED FLOW

Oxidised oil and contaminants can form sludge, blocking passages and starving components. Short trips make engines especially vulnerable due to low operating temperatures. Granville oils use advanced detergents to minimise sludge formation, ensuring consistent oil flow and component protection.

TURBOCHARGER DAMAGE

Turbochargers run at extreme speeds and temperatures, with oil carrying heat and preventing friction. Oil breakdown can lead to carbon deposits (coking), bearing wear, and turbo failure. Granville high-temperature stable oils resist coking and maintains lubrication, even under demanding turbo conditions.

VARIABLE VALVE TIMING FAULTS

Hydraulic VVT systems depend on clean oil for cam phasers and valves. Contaminated oil can trigger fault codes, poor running, or reduced efficiency. Granville formulations keep VVT systems operating smoothly, helping prevent avoidable faults.

CAUSED BY POOR LUBRICATION

CHOOSING THE RIGHT OIL

Many lubrication failures can be avoided by using the correct oil viscosity specification and regular service intervals. Granville Oil products are engineered with advanced additives to resist oxidation, maintain viscosity, and protect critical components. For garages, choosing the right oil is a simple step that supports long-term engine reliability.

Granville Oil's advanced formulations help prevent these issues and keep engines running reliably.

FIND THE RIGHT OIL

Granville®
MORE THAN JUST AN OIL COMPANY

WWW.GRANVILLEOIL.COM

Tel: +44 (0)1709 890099 | Email: sales@granvilleoil.com

BOSCH

Invented for life

Why Technicians Choose Bosch Engine Management Components

Accurate diagnosis matters, but the quality of the component fitted determines whether the repair truly lasts.

ENGINE MANAGEMENT IS A SYSTEM

Modern petrol engines rely on electronic engine management to control fueling, ignition timing, air intake and emissions in real time. Sensors, actuators and the ECU constantly exchange data to keep combustion efficient, clean and predictable.

A single inaccurate signal can influence multiple control strategies, often creating symptoms that don't immediately point to the original fault. For technicians, this means engine management should always be approached as a complete system, not as a collection of individual parts.

Bosch pioneered integrated engine management by combining fuel injection and ignition under one ECU strategy. That same system-level thinking continues in Bosch replacement components, helping preserve original vehicle behaviour after repair.

OE QUALITY YOU CAN TRUST

Bosch engine management components are manufactured and calibrated to original equipment standards. Sensors and actuators deliver precise, repeatable signals that match the ECU's expectations.

For technicians, this brings clear benefits:

- Live data can be trusted during diagnosis
- The ECU does not need to compensate for incorrect inputs
- Adaptation limits are less likely to be reached

When OE-quality signals are restored, post-repair checks reflect genuine system performance, not masked issues caused by poor-quality parts.

Incorrect components can lead to unstable idle, increased fuel consumption, or emissions failures as the ECU attempts to correct inaccurate data. Bosch components support accurate closed-loop control, allowing lambda regulation, cold-start enrichment and load calculation to operate as intended.

CONSISTENCY THAT REDUCES COMEBACKS

Despite the move towards electrification, there are around 21 million petrol engined vehicles in operation across the UK vehicle parc. Bosch systems are fitted by multiple vehicle manufacturers, allowing technicians to apply consistent diagnostic logic from one vehicle to the next.

Using Bosch replacement components helps ensure that logic still applies after repair. The original control strategy is maintained, diagnostics behave as expected, and the risk of repeat faults is reduced.

Each component is engineered to work as part of the wider system, not in isolation.

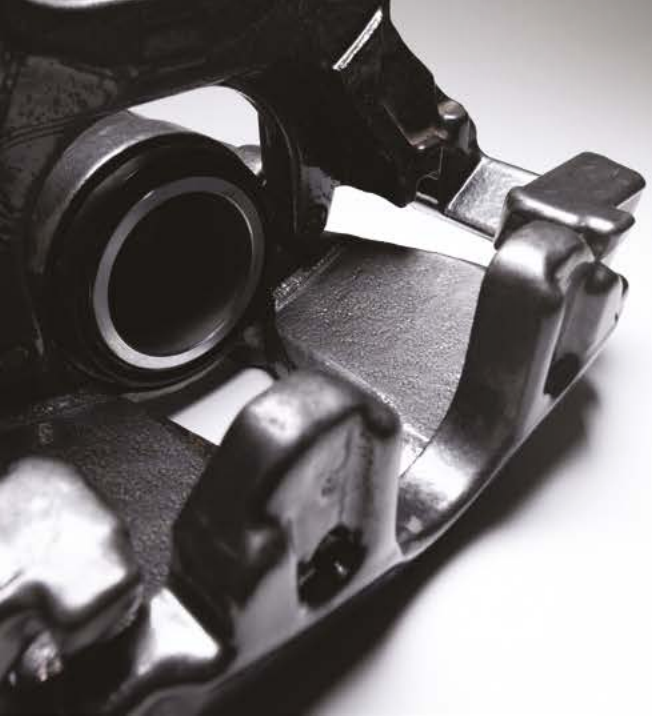
The Bosch engine management range includes:

- Air mass meters
- Exhaust gas sensors
- Fuel injectors & pumps
- Ignition coils and spark plugs
- Powertrain sensors

Workshop tip

Think system, not component.
Bosch engine management parts are designed to work exactly as the ECU expects, supporting accurate diagnosis, reducing comebacks and delivering repairs that last.

Bosch Engine Management, OE-quality components designed to preserve original ECU control strategies for accurate diagnosis and lasting repairs.



Braking is Better with MODERO

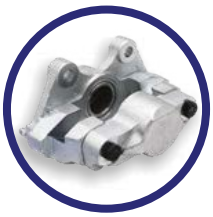
Modero offers the full range of braking components for over 98% of UK and European vehicles, blending exceptional build quality with efficient and dependable performance.

Whether we supply complete kits or specific items, our commitment to quality is built in to all of our products and brings renewed performance and safety to any vehicle.

Produced with the latest materials, every Modero product is tested to industry-leading standards in both our own and external centres, meaning improved performance, reduced returns and increased repeat orders.

- **OE Specification**
  Engineered to original equipment standards for guaranteed fit and performance.
- **Brand New Units**
  Every caliper is 100% new, never remanufactured or refurbished.
- **Fully Tested**
  Each unit is rigorously tested to ensure consistent, high quality performance.

SLIDING



FIXED

REAR
Manual

REAR
EPB

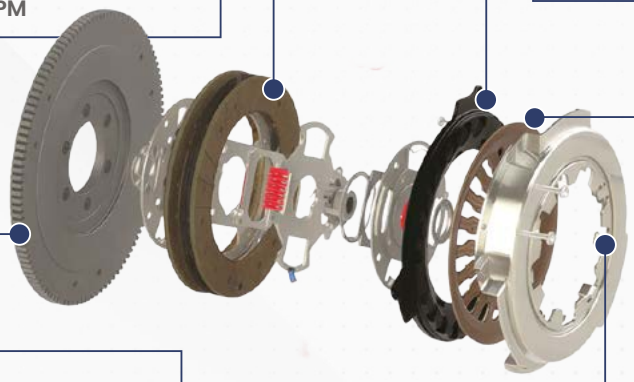
EVERY COMPONENT TESTED TO PERFORM. EVERY TIME.

For technicians replacing clutches, the priority is straightforward: install a product that functions correctly the first time and maintains performance throughout its service life. Consistent engagement, correct pedal feel and long-term durability depend on the quality of the individual components within the clutch assembly.

National clutch systems are designed with this in mind. Each component is manufactured from carefully selected materials and validated through durability testing to support consistent, reliable performance.

CLUTCH DISC
- Torsional fatigue test: **1,000,000** cycles
- Axial compression fatigue test: **500,000** cycles
- Over-torque test: **135,000** cycles
- Burst test at **200°C / 10,000 RPM**

PRESSURE PLATE
- **HT250** grade cast iron pressure to ensure excellent vibration damping qualities
- **QT250** used for heavy duty applications



DIAPHRAGM SPRING
- **50CRV4** grade chromium-vanadium alloy steel selected for strength and durability

FLYWHEEL
- Close grained pearlitic cast iron
- Tensile strength: **220-320N/MM²**
- Brinell hardness: **150 – 230 HB**
- Ring Gear Material: **SA1045** medium-carbon non-alloy steel

CLUTCH COVER
- Static release fatigue test: **500,000** cycles
- Burst test: **10,800 RPM**
- Dynamic release fatigue test: **500,000** cycles
- Clamp load rated to max engine torque +20%

CLUTCH PLATE

The clutch plate must withstand repeated engagement cycles and variable load conditions. National clutch plates undergo extensive fatigue, load and overspeed testing to verify performance under demanding operating conditions.

PRESSURE PLATE

The pressure plate is made of HT250-grade cast iron to provide a strong clamping force and effective vibration damping. For more demanding applications, QT250 material is used to deliver increased strength and resistance to deformation under load.

DIAPHRAGM SPRING AND COVER ASSEMBLY

Within the clutch cover assembly, the diaphragm spring is manufactured from 50CrV4 chromium-vanadium alloy steel, selected for its durability and resistance to fatigue. The cover assembly undergoes static and dynamic release-fatigue testing up to 500,000 cycles, with a clamp load rated to exceed the maximum engine torque by 20%.

FLYWHEEL

National flywheels are manufactured from close-grained pearlitic cast iron, providing the strength and stability required for smooth clutch engagement in demanding operating conditions.

QUALITY CERTIFICATION

All National clutches are supplied as 100% brand new units to minimise potential failures and ensure consistent quality. Specifications are designed to match or exceed OE standards, with Matching Quality compliance under Commission Regulation (EU) No 461/2010 and quality management systems certified to BS EN ISO 9001:2015.

With every component engineered, tested, and validated, National gives technicians the confidence to fit and forget.

COMMA®

made for mechanics

Driving to make oil selection simpler and safer for mechanics

The adoption of manufacturer-specific engine oils is a response to evolving engine technology being guided by environmental regulations.

Each vehicle manufacturer may take a different approach to the construction and materials used in its engines, influencing what type of oil is required. In simple terms, modern engines require modern, OEM approved, high-performance engine oils.

Why choosing the right oil matters

Topping the list is engine performance. The correct oil for a vehicle needs to not only properly lubricate engine parts but also reduce friction and wear and tear. In contrast, choosing the wrong oil could result in reduced power output, decreased fuel efficiency and sluggish acceleration. The engine may also not operate at its optimal temperature and efficiency, leading to decreased overall vehicle performance.

You are also at risk of oil leaks, which can damage engine components, create safety hazards and result in unwanted mess.

Also, incompatibility between the oil and the engine can lead to sludge and deposits forming, clogging vital engine components and reducing efficiency. If that's not challenging enough, selecting an oil that doesn't meet the manufacturer's specifications could potentially void a vehicle's warranty, resulting in expensive repair bills.

Comma oil is made for mechanics

By choosing Comma Performance Motor Oil, you're selecting a range formulated to meet OEM specifications — delivering confidence you can rely on.

Each product has undergone extensive testing to ensure full compliance. Choosing the right motor oils and lubricants is essential for optimal performance, longevity, and safety.

Workshops can research product recommendations through commaoil.com, which are supported by Comma's 100% Compatibility Guarantee promise.

Simply input a registration number, or search by make and model, to find the perfect product profile for that vehicle. These factors provide significant benefits for garages and workshops, as they allow them to use Comma oil in their customers' vehicles with complete peace of mind.

For vehicle-specific product recommendations, scan the QR code or visit our website.

commaoil.com

EuroFlo
ULTRA PREMIUM EMISSION SYSTEMS

Keeping Customers on the Road

EuroFlo takes a practical look at exhausts & emissions in today's workshops.

FOR MANY MOTORISTS, THE EXHAUST SYSTEM IS 'OUT OF SIGHT, OUT OF MIND' - UNTIL SOMETHING GOES WRONG

FOR GARAGES AND WORKSHOPS, IT'S A DIFFERENT STORY. . .

WHY WORKSHOPS SHOULD REFRESH THEIR APPROACH

Exhaust and emissions issues remain one of the most frequent reasons customers visit workshops, especially as MOT standards continue to tighten. With evolving regulations, seasonal performance changes, and growing public awareness of air quality, now is an ideal time to refocus both technicians and customers on the importance of exhaust system health.

WHY EXHAUST SYSTEMS MATTER

A vehicle's exhaust system does far more than reduce noise. It manages harmful gases, protects engine performance, and ensures compliance with UK emissions laws.
The DVSA sets strict MOT procedures for emissions testing, including limits for vehicles equipped with advanced systems such as catalytic converters, DPFs, and SCR units.

For workshops, this reinforces two priorities:

- Accurate diagnostics, particularly with modern emissions technologies
- Customer education, helping motorists understand how early intervention prevents costly failures

MOT EMISSIONS TESTING: KEY POINTS FOR WORKSHOPS

The MOT inspection manual outlines clear rules for noise, emissions, malfunction indicator lamps (MIL/EML), and luid leaks, each a potential failure point.

VISUAL CHECKS
Testers inspect the exhaust for leaks, corrosion,

insecure mounting, and visible smoke. Even small leaks can affect emissions readings and lead to a fail.

GAS ANALYSIS
Depending on age and fuel type, testers measure CO, HC, and lambda values. Diesel vehicles undergo smoke opacity testing.

ENGINE MANAGEMENT LIGHT (EML/MIL)
If the EML is illuminated for an emissions-related fault, the vehicle fails the MOT. This has become one of the most common failure reasons since the rule change.

ADVANCED EMISSION SYSTEMS

Modern vehicles rely on DPFs, EGR valves, SCR systems, and catalytic converters. The DVSA's in-service emissions standards provide detailed limits and procedures, making it essential for workshops to stay current.

TURNING EMISSIONS CHALLENGES INTO CUSTOMER VALUE

With motorists increasingly aware of environmental impact, workshops can position themselves as trusted advisors.

- Pre-MOT emissions checks help identify issues early and reduce retests.
- Seasonal exhaust health checks catch problems before they escalate.
- Driving habit guidance, such as longer runs for diesel vehicles, helps prevent DPF blockages.
- High quality exhaust components reduce comebacks and build customer trust.
- Regular technician training ensures compliance with the latest MOT updates.

LOOKING AHEAD

The UK's ongoing push for cleaner air means emissions standards will continue to evolve. Workshops that stay informed and proactive will remain competitive, compliant, and ready for whatever changes come next.

Premium Emission Systems
3 Year Warranty
EuroFlo
Premium Emission Systems

Delivery and Availability

As a distributor of EuroFlo products, our branches have same-day access and availability from their regional warehouses. This means that the chances of even the most exotic or unusual vehicle clogging up your ramp while waiting for a EuroFlo emissions component are extremely low. After all - Time is money!

For more information on EuroFlo's full range
Please visit www.euroflo.co.uk or contact your local branch

A/C Compressor Replacement, Key Checks for Reliable Repair

The compressor is the heart of the air-conditioning system. If it fails, refrigerant cannot circulate and performance is lost. However, compressors do not fail without reason. Before fitting a replacement, the root cause must be identified and corrected to prevent repeat failure.

Common causes include contamination, incorrect oil levels, system blockages, or lack of lubrication. Replacing the unit without addressing these issues will almost certainly lead to premature failure.

Inspection and Removal

Before installation, inspect the replacement compressor for transit damage and confirm that mounting points, pulley alignment, and electrical connections match the original unit. Transfer any required components such as hose manifolds or switches if needed.

The system must be safely recovered using certified equipment before removing the failed compressor.

System Flushing is Critical

When a compressor fails, debris and contaminated oil can circulate throughout the system. A large proportion of oil also remains in the condenser, evaporator, and pipework.

Flushing is essential to remove:

- Contaminated oil
- Debris from internal failure

Failure to flush the system properly risks immediate damage to the new compressor.

Replace the Receiver Drier

The receiver drier must always be replaced when the system is opened, particularly during compressor replacement. It acts as a filter and moisture trap and will often contain debris from the failed unit. Reusing it risks reintroducing contamination.

Oil Level and Preparation

Correct oil quantity is critical. Not all new compressors come with a full system charge of oil, always refer to fitting instructions.

Before installation:

- Check oil type and quantity
- Adjust to vehicle specification if required

Rotate the compressor clutch plate manually in both directions to distribute oil and prevent liquid lock on start-up.

Installation and System Evacuation

Once the system is flushed and components replaced, install the new compressor and confirm correct alignment. Evacuate the system using a vacuum pump for at least 45 minutes to remove moisture and air introduced during repair.

Moisture can lead to corrosion and reduced system efficiency.

Recharge and Final Checks

Recharge with the correct refrigerant type and quantity. After charging:

- Check clutch engagement
- Confirm fan operation
- Monitor vent temperature for stable cooling

A correctly installed system should operate without abnormal noise or pressure fluctuations.

Reliable Components and Support

Compressor replacement is a significant repair, and component quality is key to long-term reliability. Using proven, OE-quality parts helps reduce comebacks.

With strong stock availability and technical support, Auto Air continues to supply the aftermarket with reliable components and guidance for correct installation.











TOP 20 SELLING CONSUMABLES

PART NO: 41-0002A

DESCRIPTION:
LEAK STOP
ELKE R134A

PART NO: 41-1020A

DESCRIPTION:
1 LTR PAG OIL ISO 46
SP10 R134A

PART NO: 41-1020

DESCRIPTION:
250ML PAG OIL ISO 46
SP10 R134A

PART NO: 42-0018

DESCRIPTION:
250MLUV DYE R134A/
R1234YF/HYBRID

PART NO: 41-0002B

DESCRIPTION:
LEAK STOP
ELKE 1234YF

PART NO: 41-1020B

DESCRIPTION:
PAG 46 C/W DYE
1 LTR R134A

PART NO: 42-0022

DESCRIPTION:
UNIVL 1L PAG OIL 68 R134A
& 1234YF

PART NO: 43-AAG0357

DESCRIPTION:
O RING KIT
UNIVERSAL

PART NO: 41-1132

DESCRIPTION:
1/4 X 16MM
HI SIDE Adapter

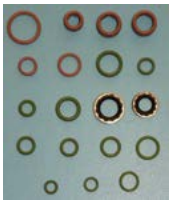
PART NO: 41-1130

DESCRIPTION:
1/4 X 13MM
LO SIDE Adapter

PART NO: 41-1025

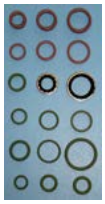
DESCRIPTION:
PAG46 ND12 COMP
250ML 1234YF

PART NO: 16-COND



DESCRIPTION:
COND
O RING KIT

PART NO: 14-COMP



DESCRIPTION:
COMP
O RING KIT

PART NO: 41-1029

DESCRIPTION:
POE 85 UNI OIL 250ML
1234YF, HYBRID, R134A

PART NO: 41-50015A

DESCRIPTION:
FLUSHING FLUID
FLAMMABLE

PART NO: 41-1009A

DESCRIPTION:
VALVE CORE KIT
76PCS

PART NO: 43-0358

DESCRIPTION:
DOUBLE
O RING KIT

PART NO: 41-5374

DESCRIPTION:
CAP KIT
R134A

PART NO: 41-4168

DESCRIPTION:
VALVE CAP & SHRADER
VALVE 1234YF

PART NO: 41-1117

DESCRIPTION:
BUBBLE
LEAK

TOP 10 SELLING COMPRESSORS

PART	DESCRIPTION
14-9698P	GOLF SANDEN
14-1309P	CITROEN/PEUGEOT
14-9731P	RENAULT
14-7479P	ASTRA
14-0128P	FORD RANGER 3.2D
14-1274P	DENSO AUDI
14-4992P	HONDA
14-9721P	AUDI A6
14-6256P	MERCEDES
14-0075P	VOLVO

TOP 10 SELLING CONDENSORS

PART	DESCRIPTION
16-9817	NISSAN QUASHQAI 2013
16-1058	VW GOLF/AUDI A3
16-9007	SEAT IBIZA
16-1054	AUDI/GOLF COND 04> C
16-9948	BMW 3
16-9127	FORD FOCUS/C MAX 14-
16-8917	BMW MINI COOPER
16-9928	CIT C4 PICCASO
16-1335	HONDA CIVIC 06
16-1985	NISSAN JUKE 1.6 DIG

NATIONAL

Stricter regulations and reduced quotas are increasing prices and reducing the availability of R134a.

READY FOR THE CHANGE FROM R134a to R456A?

More than 20 million vehicles on UK roads still rely on R134a to keep their air-conditioning systems running. But with the next round of F-Gas quota reductions approaching, the availability of this long-standing refrigerant is set to change dramatically.

Industry forecasts suggest supply could fall significantly short of demand, pushing prices higher and placing pressure on workshops; particularly if the UK experiences another hot summer.

While newer vehicles have transitioned to lower Global Warming Potential (GWP) refrigerants, millions of cars still depend on R134a, leaving the aftermarket facing an important question: what comes next?

Keeping you cool under pressure

Scan the QR code to read the full article and see the implications.

www.nationalref.com

AC advice from specialists Nissens Automotive and AVA

To function correctly and operate at its optimum efficiency, all of the elements within every vehicle system need to be in good condition and working in harmony with all the others. This is particularly true of the air conditioning (AC), which, although it utilises certain common properties, such as electrical power from the battery and drive from the engine, in some ways is a separate system that works independently of many of the others.

Although AC has been a standard feature in nearly all cars manufactured since around 2010 , the primary reason why problems arise is down to operator error, i.e. the fact that many people still turn the system off in the winter and only turn it back on when there is a summer heatwave!

In stark contrast, AC systems are designed to run all the time, so shutting them down means that the O-rings fitted to the key components to contain the pressurised refrigerant/oil gas mixture within the system, for example, can dry and crack, which is the primary cause of gas leakage.

While this is a sales opportunity for workshops, rather than just offering the all too familiar 'AC gas top up' service, they need to thoroughly inspect the whole AC system to get a clear picture of its condition, and then replace any failing components, whether that's the O-rings or something more fundamental.

To enable them to carry out the work proficiently and to use premium quality replacement components, aftermarket specialists Nissens Automotive (Nissens), and sister brand AVA, are on hand to help them with both expert instruction and the required parts.

As leaders in thermal management solutions, Nissens and AVA have the specialist knowledge to understand the requirements of the AC system and therefore the quality of the replacement components needed to support its correct operation.

Traditionally, road salt and grit is used liberally during the winter months and this can damage and corrode the AC condenser, which is the primary heat exchanger for the system. The loss of fins within this core element, for example, could result in the failure of the system. This in turn can cause the compressor to fail because, as the damaged condenser is unable to convert the hot gas back into cooled liquid, the compressor can overheat and require both components to be replaced.

So, the key message is that when a customer comes in for a recharge of the AC system, first check the condition of the main components, and never forget that when recharging the system, the receiver drier must be replaced.

Nissens and AVA offer a comprehensive range of AC components with excellent market coverage of condensers, compressors, receiver driers, thermal expansion valves, evaporators, and pressure sensors.

However, being totally dedicated to the needs of the aftermarket, not only in terms of the quality of the parts it supplies and the technical support it makes available, for the 2026 AC season, Nissens is introducing replacement AC hoses into its growing product portfolio.

This launch provides the aftermarket with a premium quality solution to the need for reliable, high performance and long lasting replacements, that fulfil the functional demands of the AC system.

For more information about the Nissens AC hoses range, contact the local Nissens representative or visit: **nissens.com/ac-hose**

PREMIUM QUALITY CLUTCH COMPONENTS

AVAILABLE FROM BORG & BECK

OE MATCHING QUALITY

The demand for high-quality clutch components continues to grow as vehicles become more advanced and performance expectations increase.

Clutch systems are critical for smooth power transfer, gear engagement, and overall drivability – which is why worn or failing clutches must be replaced promptly with trusted, OE-matching quality parts.

Borg & Beck offers over 1,600 clutch kits covering thousands of passenger car and light commercial vehicle applications – all available through your local branch.

DUAL-CLUTCH REPLACEMENT ENTERS THE MAINSTREAM

Dual-clutch transmissions (DCTs), particularly 7-speed DSG units found across many VAG models, are now firmly part of the UK's everyday car parc. As a result, DCT clutch replacement is becoming routine workshop work. With two clutches operating in parallel to deliver fast, efficient gear changes, these systems demand precise installation and correct tolerances, while wear is more likely to show as judder, hesitation or poor shift quality than traditional clutch slip. Post-repair adaptations may also be required to restore smooth operation.

To support workshops, Borg & Beck supplies its HKDCT1000 DCT clutch kit for a wide range of VAG applications, including popular Audi, SEAT, Skoda and Volkswagen models. Designed as a complete, OE-matching solution with the necessary fitment components included, the kit helps technicians carry out accurate, efficient and reliable DCT repairs.

SAMPLE POPULAR REFERENCES AVAILABLE NOW

Here are a selection of the most requested applications entering the workshops today.

Clutch Kit:

HK2842 - Fiat 500 2008>

HKT1458 - Toyota Auris 2013>

HKF1014 - VAG A3 2003>

Clutch Slave Cylinder:

BES298 - Citroen Berlingo 2017>

BES139 - VAG Caddy III 2014>

Clutch Master Cylinder:

BCM123 - VAG Golf V

BCM223 - Nissan Qashqai I 2007>2013

BORG & BECK CLASSIC CLUTCH RANGE

Borg & Beck offers a comprehensive range of Classic Clutch part numbers with examples including:

Clutch Kit:

HK8854 - Austin Mini 1959>1980

HK6604 - Austin Mini 1991>2001

HK5229 - Jaguar E-Type 3.8 1961>1964

HK9702 - Jaguar E-type 4.2 1965>

HK9694 (carbon bearing) & HK9679 (roller bearing) - MGB, MGB GT 1.8 1962>1981

HK5110 - Austin A50/55/60, MG MGA, Morris Oxford & Wolseley 4/50, 15/50 1948>1960

CHECK OUT OUR WEBCAT

Scan the Webcat QR code to view Borg & Beck's extensive parts catalogue

VXPRO

WHEEL SPEED SENSORS

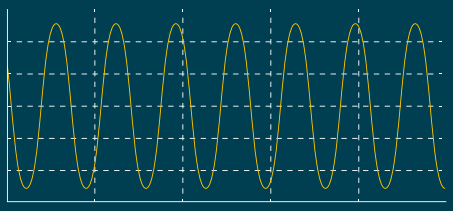
FAST + PRECISE BRAKING CONTROL

TECHASSIST

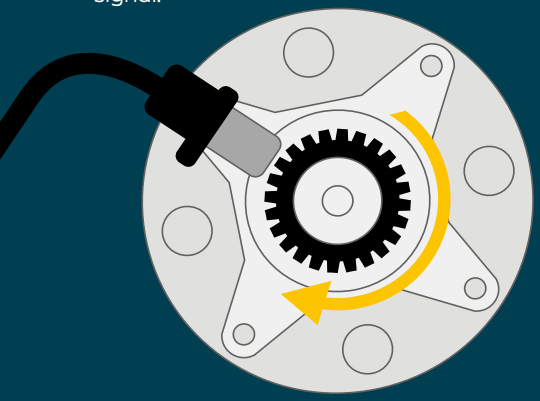
PASSIVE Vs. ACTIVE SENSORS

When testing ABS sensors it is important to determine if the sensor type is passive or active. A resistance test can be used on passive sensors but could damage active sensors

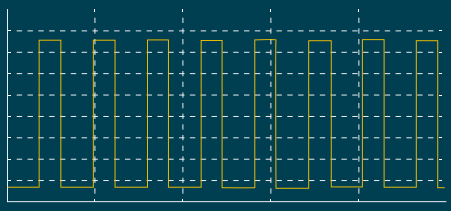
PASSIVE ABS SENSORS



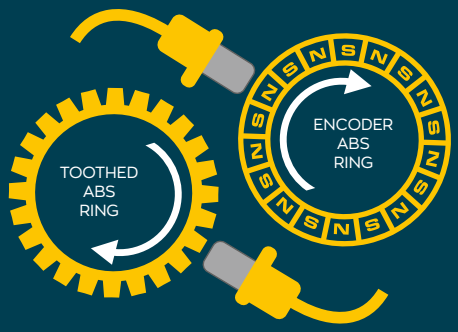
A passive ABS Sensor does not require a power source. The sensor extends a magnetic field to the ABS ring using a coil winding surrounding a pole pin that is connected to a permanent magnet. This type of sensor requires a toothed ABS ring, as the ring rotates and each tooth passes the sensor, a change in the magnetic field occurs. This change is measurable as a voltage signal, which is communicated to the ABS system control unit. The control unit then converts this AC signal into a digital signal.



ACTIVE ABS SENSORS



In contrast to passive sensors an active ABS Sensor requires its own power source. Active sensors are more accurate and overcome some of the limitations of their passive counterparts. They are able to measure lower speeds, and some can even determine wheel rotation direction. Active sensors utilise the Hall effect, named after Edwin Hall, who made the discovery in 1879. The Hall effect is the production of a voltage difference (the Hall voltage) across an electrical conductor that is transverse to an electric current in the conductor and to an applied magnetic field perpendicular to the current.
The hall sensor again uses changes in magnetic field to measure rotation and features a semiconductor chip hall sensor to communicate a digital signal to the control system.



This type of active sensor can use a similar toothed ABS ring to passive sensors, but often uses a magnetic or encoder ABS ring. The latter requires no permanent magnet in the sensor, and as it is much flatter it can be integrated into the wheel bearing resulting in a much more compact system.

Watch our in depth video guide in partnership with PMM and Uckfield Garage Services here.
Simply scan the QR code!

PROTIPS

Single Mass Flywheel Clutch Conversion Kit

ADN130247
To Fit: Nissan Navara D40 2.5DT 2005>2010,
Pathfinder R51 2.5DT 2005>2010

The clutch friction plate in Blue Print kit ADN130247 uses high performance damper springs to absorb noise and vibration. New flywheel bolts are included within the kit and should replace the original bolts. The new flywheel bolts should be set to the correct torque setting of 108 Nm.

Additional Replacement Parts Recommendation

Blue Print recommends that the Spigot bearing is replaced.
The Nissan OE ref number is 32202B9500

As the prop-shafts will need to be removed to carry out the clutch kit replacement, Blue Print recommends that the prop-shaft yokes and matching flanges are marked with paint on the transfer box and final drives so that they can be reassembled in the same position to avoid the risk of imbalance/ vibration.

Blue Print also recommends that the prop-shaft bolts are replaced and tightened to the correct torque setting.

The Nissan OE refs are:

- 371207S00A (rear prop-shaft bolt, x 4), 95Nm
- 371204P00A (front prop-shaft bolt, x 8), 60Nm
- 37171VC30A (rear prop-shaft nut, x 4), 95Nm
- 371710P00A (front prop-shaft nut, x 8), 60Nm.

Once fitted, the new clutch should not be put under high loads for the first 500 miles / 800 kilometres, including towing and off road use.

For more technical information please visit: **partsfinder.bilsteingroup.com**

3 YEAR MANUFACTURER GUARANTEE
blue-print.com/3

Right First Time®

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The Intelligent Rapid Test for Oils and Fluids

Fast Checks. Smart Calls.

With the febi Testing Device for Operating Fluids you can run in depth analysis of the condition of engine oil, power steering oil, transmission oil, hydraulic oil and brake fluid in less than 2 hours*, from on site in your workshop!

Scan here for more information

Your Advantages

Time Savings - Up to **10x faster results***

More Profit - Test strips are vastly cheaper than equivalent, lab based test services.

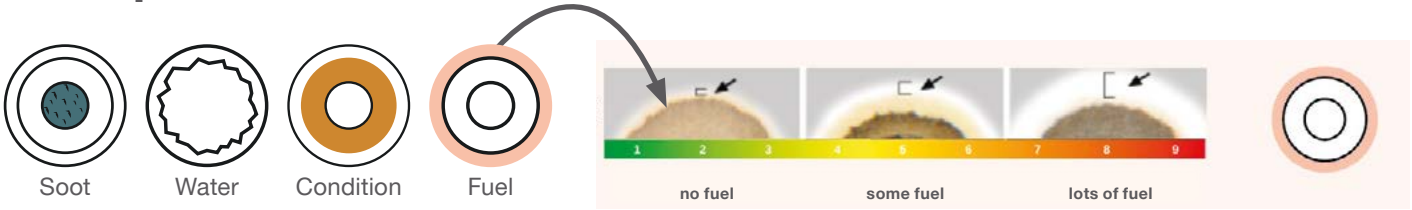
Easy to Use - Just drop, dry and go!

One-stop-solution - No need to send to third-party test sites.

Compliance - Functionality & effectiveness was tested under strict conditions by the automotive industry association.

*Test requires fluid to fully dry before scanning to receive an accurate analysis, this is faster compared to conventional lab based test services.

Example Result



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DRIVEN BY YOU

www.febi.com

bilsteingroup®

Original Equipment Quality
Manufactured to ISO and TUV standards

Advanced Technology
Advanced Nitrogen gas-charged technology

Comprehensive Range
All popular cars and light commercial vehicles

2 Year Warranty

Aftermarket prices

Original Equipment Quality
Made to ISO and TUV standards

Advanced Protection
Coatings protect against corrosion

Comprehensive Range
All popular cars and light commercial vehicles

2 Year Warranty

Aftermarket Prices

CD Shock Absorbers

Premium quality shock absorbers from **Continental Direct**. Manufactured to ISO and TUV standards to achieve OE matching quality, CD Shock Absorbers offer the confidence of a premium quality solution at market friendly prices.

Shock absorbers play a vital role in optimum vehicle performance, working constantly to keep all wheels in optimum contact with the road. New shock absorbers contribute to a balanced return to the vehicles original ride height, allowing more fully responsive handling and cornering. Improvement in tyre contact with the road surface adds to braking performance, more even tyre wear and better fuel economy.

CD Coil Springs

Premium quality coil springs from **Continental Direct**. Made to ISO and TUV standards with the latest in OE specification steel for OE matching quality, CD Coil Springs give you the confidence of a premium quality product at affordable prices.

Quality coil springs can rightly be considered safety critical, as they sit right at the heart of the suspension setup and play a vital role in a vehicle's performance. Help achieve optimium handling, original ride height and balanced wheel contact with the road surface for improved safety and economy.

Available in singles, CD do recommend replacing coil springs in pairs.

Original Equipment Quality
Manufactured to ISO and TUV standards

Premium One Box solution
Vehicle specific matched front pairs with factory mounted fittings

Comprehensive Range
All popular cars and light commercial vehicles

Aftermarket Prices

CDPlus Direct-Fit

Premium quality exact wiper blades from **Continental Direct**. Made to original equipment quality matching standards and engineered for performance, CDPlus Direct-Fit Wiper Blades are the premium quality 'one box' solution with a competitive pricing advantage.

Many modern vehicles now have front wiper blades of differing lengths with fittings that are specific to the vehicle. Each CDPlus Direct-Fit box has the right size wiper blades in matched front pairs (or a rear single) and with the right fittings attached. Fast and simple installation with no more need for assorted adaptors!

Original Equipment Quality
Manufactured to ISO and TUV standards

Comprehensive Range
All popular modern cars and light commercial vehicles

Complete Rear Arms

Aftermarket Prices

CDPlus Rear Arms

Premium quality rear wiper blades from **Continental Direct**. Made to original equipment quality matching standards and engineered for the very highest levels of performance, CDPlus Rear Arm and Blade are the premium quality option with market appeal.

The CDPlus Rear Arm and Blade range is the answer for a growing number of modern vehicles where it is only possible to replace the rear wiper blade and the arm as a complete unit. CDPlus Rear Arm and Blade - complete rear arms for fast and simple fitting.

www.continental-direct.com

QUALITY YOU CAN SEE ON THE RAMPS AND TRUST ON THE ROAD

Mechanics don't need marketing hype; they need filters that install cleanly, seal the first time, and protect engines through real-world service intervals. WIX Filters has built its reputation by focusing on **repeatable manufacturing processes, tight quality controls, and application-specific design**, the things that reduce comebacks and keep customers' vehicles running right.

Built around consistency, not guesswork

A quality filter starts with consistent materials. WIX designs around **filter media selection, pleat geometry, and component fit**, so performance doesn't vary from one unit to the next. That means controlling the basics: media basis weight and resin content, end-cap bonding, centre tube strength, and gasket material. In the workshop, this shows up as **stable oil pressure behaviour, reliable sealing, and predictable service life**.

Manufacturing processes that protect the details

In modern filter production, the "small" steps are the big steps. WIX manufacturing emphasises process control in areas that commonly cause failures:

- **Pleat forming and spacing control** to maintain effective surface area and avoid pleat bunching
- **End-cap and seam bonding** to prevent bypass paths and media separation
- **Gasket moulding and cure control** to ensure proper compression set and leak resistance
- **Canister forming and base-plate integrity** to handle pressure pulses and vibration
- **Valve function checks** (where applicable) so anti-drainback and bypass valves operate as intended

These aren't just engineering talking points - each one directly affects whether a filter holds up to cold starts, extended idling, towing, or stop-and-go heat cycling.

Quality checks that reduce comebacks

WIX quality systems are designed to catch issues before they reach your parts shelf. Typical controls in a mature filtration plant include **incoming material verification, in-process inspections**, and **end-of-line checks**. For mechanics, the payoff is simple: fewer out-of-box defects, fewer sealing surprises, and fewer "it looked fine but failed early" stories.

Designed for the application, not the catalogue

A filter that "fits" isn't always a filter that works for the duty cycle. WIX engineering focuses on matching the filter design to the application - oil flow demands, operating temperature range, and service interval expectations. That's why details like **media type, valve calibration, and structural support** matter. When those are right, you get **cleaner oil/air/fuel delivery and better component protection**, especially under harsh conditions.

What this means for the workshop

For a mechanic, WIX quality shows up as:

- **Confident installation** (threads, gasket fit, and sealing feel 'right')
- **Reliable performance** across the whole service interval
- **Lower risk of comebacks** tied to filtration-related issues

In short: WIX quality is built into the process, so you can focus on the repair, not the filter.

WWW.WIXEUROPE.COM

The Power of WAI

STARTERS AND ALTERNATORS

Starter motors and alternators are critical to a vehicle's electrical system - and as vehicles transition out of winter and into spring, these components often begin to show the effects of increased seasonal strain.

During the colder months, starter motors work significantly harder. Low temperatures thicken engine oil and reduce battery efficiency, meaning the starter must draw more current and operate under greater load to turn the engine. As temperatures rise heading into spring, this added stress can reveal underlying wear or damage.

Workshops may begin to see an increase in slow or laboured cranking, clicking with no start, grinding noises, or intermittent starting issues. In many cases, these symptoms are the result of worn solenoids, tired internal components, or poor electrical connections exacerbated by winter conditions. In addition, exposure to moisture, road salt and temperature fluctuations can lead to corrosion on terminals and wiring, further impacting performance.

Alternators are also heavily affected by seasonal change. After a winter of shorter journeys and high electrical demand, batteries are often left in a low state of charge, placing additional strain on the charging system. As spring arrives, increased use of electrical systems such as air conditioning, cooling fans, entertainment system and charging devices continues to load the alternator. Early warning signs of failure can include dim or flickering lights, inconsistent electrical performance, battery warning lights or repeated battery issues. Left unchecked, this can lead to complete charging system failure.

Rising under-bonnet temperatures as the weather improves can also accelerate wear. Heat places additional stress on bearings, regulators and internal electronics, reducing efficiency and potentially leading to premature failure if components are already weakened.

For workshops, this seasonal transition presents an ideal opportunity to carry out proactive checks on the starting and charging system, helping to prevent breakdowns and costly repairs.

WAI supports this with a comprehensive range of over 2,000 starter motors and alternators, designed to meet or exceed OE specifications. All units are built using high-quality internal components and subjected to rigorous testing, including endurance, thermal cycling and vibration testing, to ensure reliable performance in real-world conditions.

With a strong focus on first-to-market availability, consistent quality and dependable supply, WAI provides workshops with confidence when replacing critical rotating electrics. The result is reduced comebacks, improved reliability and a solution that performs consistently, whatever the season – for the ultimate in peace of mind for workshops.

- Extensive product line available with **1200+ starter motor and 1750+** alternator part numbers
- WAI products are tested to **OE specifications**

WAI, A USA COMPANY

Discover more at
WAIglobal.eu

STEERING & SUSPENSION

RIGHT FIRST TIME FOR WORKSHOPS

Steering and suspension components are among the most frequently replaced parts in today's aftermarket, driven by ageing vehicles, demanding UK road conditions and seasonal exposure. For workshops, this means consistent repair demand and the need to source reliable, fast-moving components that support efficient turnaround and dependable results.

Typical workshop symptoms include knocking over uneven surfaces, uneven tyre wear and reduced steering precision—commonly linked to worn control arms, ball joints and tie rod ends. These issues are often intensified during winter months, where corrosion and contamination accelerate component wear and failure.

5 YEAR MANUFACTURERS WARRANTY

High-Volume Applications Drive Demand

A typical example is the **Ford Focus MK3 (2011–2018)**, where suspension arm bush wear and ball joint failure are well documented. These high-parc vehicles create steady demand for replacement components, making them a frequent and essential repair for workshops.

SJ2321 BALL JOINT

BU2322 BUSH

GRANNING
GROUP

LCV & 4x4
LEAF SPRINGS & U-BOLTS

Granning offers a comprehensive range of premium-quality leaf springs and U-bolts designed for LCV and 4x4 applications. Built to meet and exceed OEM standards, our products deliver exceptional durability, reliability, and performance in even the most demanding environments.

OEM-Accredited Manufacturing

Granning springs are manufactured in a state-of-the-art production facility that is fully OEM accredited. This ensures every component meets the highest industry standards for quality, consistency, and performance.

Proven Strength & Reliability

All Granning springs undergo rigorous proof testing after production and assembly. Each spring is tested to ensure it can handle at least **110% of the original design load capacity**.

This process guarantees no material or manufacturing defects, consistent performance under load & a long-term durability in real-world conditions. As a result, Granning springs are backed by an **industry-leading 3-year manufacturer warranty.**

Why New U-Bolts Matter

To maintain performance and warranty compliance, it is essential that **new U-bolts / straight bolts are fitted whenever a spring is replaced.**

U-bolt threads are specifically designed to stretch when torqued, creating the correct preload and clamping force required for safe operation. This design improves fatigue life & ensures consistent clamping under high-frequency suspension loads.

However, once used, the threads permanently stretch. Reused bolts cannot achieve the same clamping force, which can lead to spring failure and invalidates warranty coverage.

Best Practice:
Always replace U-bolts or straight bolts when replacing leaf springs to ensure safety, performance, and full warranty protection.

Complete Range Available

Granning supplies a comprehensive range of high-quality U-bolts and straight bolts, designed to suit all our spring applications - ensuring you have everything needed for a complete and reliable installation.

www.airsprings.com

#BESTUNDERPRESSURE

ENGINEERED IN GREAT BRITAIN

5 YEAR MANUFACTURERS WARRANTY

TIMING CHAIN REPAIR

DON'T CUT CORNERS!

Why replace sprockets, tensioners and guides with a Timing Chain repair?

- ✓ **PREVENTS PREMATURE FAILURE**
  Worn components cause uneven tension and misalignment, leading to early chain failure.
- ✓ **ENSURES EVEN WEAR**
  New sprockets and guides allow the chain to engage correctly, reducing friction and wear.
- ✓ **MAINTAINS PROPER TENSION**
  A fresh tensioner prevents slack, preventing skipping or excessive strain on the chain.
- ✓ **AVOIDS COSTLY REPAIRS**
  A failing chain can cause severe engine damage, leading to expensive fixes.
- ✓ **OPTIMISES ENGINE PERFORMANCE**
  A fully replaced kit ensures smooth operation, efficiency and long-term reliability.

ENGINEERED IN GREAT BRITAIN

SHAFTEC® STEER.

HYDRAULIC STEERING RACK REMANUFACTURING PROCESS

Precision Engineering from Core to Completion: Delivering OE-Quality Hydraulic Steering Racks

In today's demanding aftermarket, quality and reliability are non-negotiable. At Shaftec, hydraulic steering rack remanufacturing is a tightly controlled process, combining skilled engineering with rigorous inspection and testing to deliver consistent, OE-level performance.

Core Acquisition & Identification Core is sourced from Shaftec's customer network and the secondary market to maintain a consistent supply. Each unit is checked for part number accuracy, origin compatibility, and remanufacturing suitability before being batched for processing.

Pre-Disassembly Scrap Segregation Gaiters and track rod ends are removed and scrapped. The casting is visually inspected for damage before processing begins.

Degreasing & Initial Cleaning The unit is fully degreased using the Technowash Hot Wash system to remove grease, oil, and debris, preparing it for inspection and surface treatment.

Shot Blasting — Surface Preparation Temporary gaiters are fitted and all hydraulic ports and openings are sealed to prevent contamination during surface preparation. All external surfaces are shot blasted to remove oxidation, corrosion, and old paint, exposing the base material for visual inspection.

Manual Disassembly The rack is fully disassembled by hand to protect precision components. Tie rods are removed, the rack bar is extracted from the casting, and all dynamic seals and O-rings are set aside for replacement.

The pinion is removed from its housing and all associated seals, bearings, and O-rings are stripped out ready for inspection.

Component Inspection & Cleaning All components are individually inspected for wear, fatigue, and damage. Those approved for reuse are degreased and cleaned before reassembly.

Rack Bar & Housing Internal Inspection The rack bar and housing bore are checked for contamination, scoring, or internal damage to confirm geometry is within specification.

Critical Dimensional & Structural Inspection Threads, mounting points, and hydraulic ports are inspected for cracks, cross-threading, or damage. Rack bars are assessed for dents, tooth wear, surface pitting, and piston condition.

Pinion Spool Valve Inspection & Reconditioning The pinion spool valve is fully inspected and all sealing surfaces are polished to ensure correct valve operation and hydraulic sealing.

Hydraulic Pipework Assessment All hydraulic pipes and lines are inspected for damage, corrosion, or deformation. Any non-conforming pipes are replaced with new parts.

Reassembly with New Components Units that pass all inspection stages are manually reassembled by trained technicians using 100% new seals, O-rings, and gaiters in a controlled environment.

Quality Assurance Testing Each completed unit is air and hydraulic pressure tested to validate seal integrity and performance, in accordance with ISO 9001:2015 requirements.

Corrosion Protection, Packaging & Inventory The unit is painted for corrosion protection, packed in Shaftec branded packaging, and logged into the Warehouse Control System (WCS) for inventory and traceability.

STEERING & SUSPENSION

Have you ever wondered what ensures the safety, durability, and reliability of an FAI Steering or Suspension part?

Safety-critical components have always driven FAI's development of quality Steering & Suspension parts. Trends like heavier vehicles, larger alloy wheels, and lower profile tyres demand a higher standard than ever.

Just as we keep up with vehicle parc demand, we have also kept up with the processes that ensure the best possible product. What we deem as a successful range doesn't relate to competitor comparison, but an ethos of competency from start to finish.

All FAI Steering & Suspension components use bespoke CNC machinery and robotic welding to produce like-for-like replacement parts, adhering to pre-production technical specifications. Industry-approved material grades are used, along with anti-corrosive coatings, to ensure the highest quality of finished products.

Our partner factories are ISO/TS 16949-accredited. This means they follow comprehensive processes in design, development, and production. As a result, we greatly reduce variation and defects. FAI products are made in the same facilities as OEM parts, with the capacity to produce over 50 million units a year.

At every stage, from design to delivery, we focus on ensuring hassle-free fitment and longevity. This results in satisfaction throughout the supply chain.

Factory testing machines put all component designs through a battery of testing, checking for any weaknesses before the main production run is approved. Suspension arms are subjected to a 3-axis test and ball pin pull-out force, with all products exposed to corrosion and fatigue rigs.

As a triple check, our team of in-house product specialists always inspects new products upon arrival, ensuring that all technical drawings match the specifications for the part in the box.

ENGINEERED FOR REAL ROADS. BUILT FOR REAL CONDITIONS.

- Corrosion Protection Against Salt & Moisture
- Advanced Rubber & Metal Components
- OE-Standard Manufacturing

faiauto.com

UNDERSTANDING PSA 1.2 PURETECH TIMING BELT FAILURES

Why technicians need to pay close attention to lubrication and belt condition on one of the most widely used small petrol engines in today's workshop.

The PSA 1.2 PureTech engine is now commonly found in Peugeot, Citroën, DS, and Vauxhall vehicles, making it a familiar sight in independent garages. Created to replace earlier PSA TU engines, the 1.2 PureTech offers impressive efficiency and performance from a compact three-cylinder design.

However, technicians will already know that the engine's oil-immersed timing belt system has caused numerous issues.

Unlike traditional dry timing belts, the PureTech system operates within the engine and lubricates it with oil. While this design improves efficiency and reduces friction, it also exposes the belt material to contamination from engine oil and fuel dilution.

Why the timing belt can deteriorate

Over time, this exposure can cause the belt material to swell, crack or degrade. As deterioration advances, fragments of belt material may start to circulate within the lubrication system.

When belt debris enters the oil system

One of the most common issues reported by repair professionals is that fragments from the deteriorating belt start to collect in the engine's oil pickup strainer. When debris accumulates in the oil pump filter, it can restrict oil flow throughout the engine.

Reduced lubrication can then cause higher engine temperatures, poor performance, and in severe cases, significant engine damage. Often, the first sign of an issue is a loss of oil pressure due to this blockage.

Two typical failure scenarios

Technicians working on these engines have identified two primary types of timing belt failure.

The first occurs gradually, with the belt beginning to swell and crack before eventually breaking apart. In these cases, deterioration can sometimes be detected during inspection or servicing, particularly if debris is found in the lubrication system.

The second type of failure occurs more suddenly. Internal deterioration within the belt structure can cause it to break unexpectedly, even with few visible warning signs. When this happens, the timing system can lose synchronisation immediately, resulting in severe engine damage.

Why oil servicing is important

Oil servicing practices also significantly influence the long-term reliability of the PureTech engine. The design of the crankcase cover means that during gravity-fed oil changes, old lubricant may not always drain completely from the sump.

If the oil contains belt debris, some of these particles might stay in the engine after the service.

Therefore, it is especially important to ensure that contaminated oil and debris are completely removed during servicing.

Watch for early warning signs

Like many engine problems, vehicles often give early warning signs before a major failure happens. Unusual metallic knocking or clicking sounds, rough idling, loss of power, or rising engine temperatures can all suggest potential issues forming within the timing system.

In response to these challenges, later versions of the PureTech engine have introduced improvements including reinforced timing belt materials and, in some newer variants, chain-driven timing systems designed to enhance long-term durability.

GETTING COMPRESSOR INSTALLATION RIGHT - MAHLE'S GUIDANCE TO REDUCE FAILURES AND WARRANTY CLAIMS

Few components in a vehicle's air conditioning system are as critical, or as costly, as the compressor. Yet compressors are among the most commonly returned parts in the aftermarket. In many cases, these returns are not caused by a defective unit, but by mistakes made during installation.

According to MAHLE, the pattern is familiar. A new compressor is fitted, but the wider air conditioning system has not been properly prepared or key installation steps have been overlooked. The result is premature failure, frustrated customers and warranty claims that could have been avoided.

As an original equipment supplier, MAHLE brings significant expertise to compressor technology. One in three vehicles produced worldwide is equipped with a MAHLE compressor, and that knowledge is carried directly into the aftermarket. To support workshops, MAHLE offers a unique dual quality programme. Parts with references ending in "P" (Premium) are identical to those originally fitted by the vehicle manufacturer, while "S" (Standard) references provide a more competitively priced option with the same trusted MAHLE reliability. This gives distributors and workshops flexibility without compromising quality.

The compressor is effectively the heart of the air conditioning system. If it fails, the entire circuit is compromised. Simply fitting a replacement unit is not enough; the system itself must be prepared. That includes removing contaminants, checking oil levels, replacing non-reusable components and carrying out a controlled first start-up. Missing any of these steps can significantly shorten the life of a new compressor.

Flushing is one of the most critical stages. When a compressor fails mechanically, metal debris is often spread throughout the system. This can be compounded by sealant residues, degraded rubber particles or desiccant granules from a saturated dryer. Without thorough flushing, these contaminants remain in circulation and can quickly damage the replacement compressor. MAHLE stresses that flushing is not optional, it is the only reliable way to remove these risks. Components that cannot be flushed, including the filter-drier, accumulator, expansion valve and most modern condensers, must be replaced. Skipping this step is a common cause of repeat failures.

Oil management is another frequent source of error. MAHLE compressors are supplied pre-filled with refrigerant oil, but because a single compressor may be used across multiple vehicle applications, the oil quantity must always be checked and adjusted before installation. The correct process is to drain the oil into a clean container, measure it accurately and refill the compressor according to the vehicle manufacturer's specification. Too much oil can cause hydraulic lock or reduced cooling performance, while too little risks insufficient lubrication and premature wear.

Once the oil quantity is correct, the compressor should be stood upright to lubricate the shaft seal, then the pulley rotated by hand to distribute oil evenly. Although often overlooked, this step plays an important role in long-term reliability. To support technicians, MAHLE provides a filling quantity tool with precise oil specifications via its aftermarket website.

Further care is required during installation. New seals should always be used at every connection point, drive belts must be correctly aligned, and all air and moisture must be fully evacuated before charging the system. Only the refrigerant specified by the vehicle manufacturer should be used.

The first start-up is equally important. MAHLE recommends running the engine at idle before engaging the air conditioning, then cycling the system on and off several times. This allows oil to circulate gradually. If this stage is rushed or missed, the compressor can suffer an oil shock that places immediate strain on internal components.

MAHLE's message to the aftermarket is clear: compressor replacement is not a simple part swap, but a system-level repair. Treating it as a precision process helps reduce repeat failures, protects workshop reputations and keeps customers satisfied.

To support this, MAHLE continues to invest in technical resources, including Technical Messenger bulletins, training videos, online guides, a dedicated training portal at training.mahle.com and the TechTool platform at techtool.mahle.com.

A compressor may be the heart of the air conditioning system, but it can only perform reliably if the system around it is clean, correctly prepared and carefully installed.

For further technical resources and installation guidance, visit:

mahle-aftermarket.com
mahle-aftermarket.com/filling-quantities
training.mahle.com
techtool.mahle.com

Find out more at www.mahle-aftermarket.com

CHOOSE EXCELLENCE
CHOOSE SACHS

Choose SACHS and you don't just choose any part. You choose superior design, outstanding quality and engineering expertise. That's why you can trust SACHS clutch kits. Featuring the technical innovation of the dual-mass flywheel (DMF) and XTend, excellence comes as standard.

CLUTCHES NOW WITH A 3-YEAR WARRANTY

All necessary parts are included for total convenience and simplicity

OUTSTANDING CLUTCHES FOR OUTSTANDING BUSINESSES

With SACHS, excellence always goes beyond. That's why the SACHS range brings you all the key clutch kit parts and accessories you will need in one box.

- Pilot bearings for all common vehicle models – so you can be confident we have the right part for every customer
- Premium SACHS differential before clutch (DBC) provides outstanding vibration damping over the entire speed range – effectively reducing noise and creating a smoother, more comfortable drive quality
- Kits include special grease for assembly – guaranteeing perfect, long-term clutch functioning for mechanics who insist on the best job for their customers
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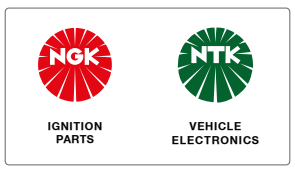

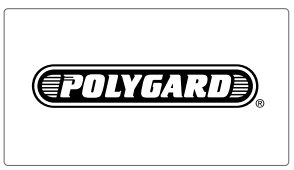

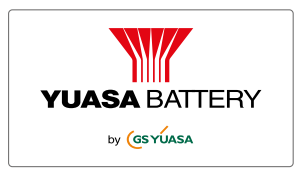

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