



AUSTRALIAN  
MADE & OWNED  
SINCE 1926



**A Better Class of Oil**

**PRODUCT CATALOGUE**  
2022





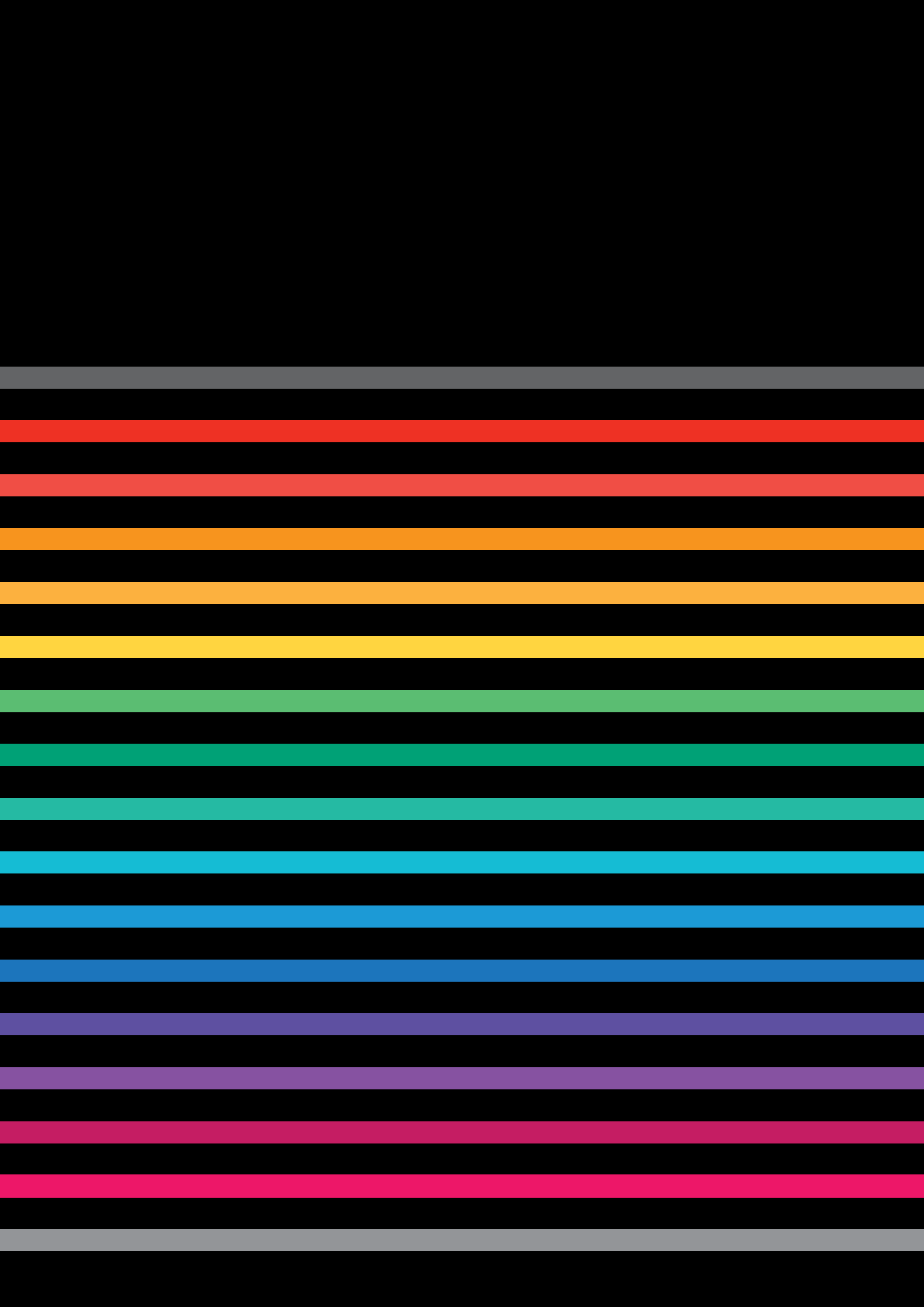
## **To deliver innovative and tailored lubricant products and services to our customers, globally.**

Over 90 years, Penrite has built a sound and trusted brand designed to offer the best service to our customers. We partner together to ensure success is sustainable and long term.

We don't treat customers as "one size fits all". We tailor solutions to meet their needs and requirements. We have over 70 people dedicated to customer service, field sales representation and technical support.

We have a fully trained sales representative dedicated to each of our customers who are recognised as the best within the industry. As trusted advisers, they provide technical advice, training and business support with the goal to make every business partnership successful.

Our friendly and knowledgeable customer service team are available during business hours to receive all orders and assist with other enquiries. We accept all forms of payments with attractive credit terms. Orders can be submitted via online, phone, fax or email 24/7 days a week.





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**1926**

Sole owner & employee,  
Les Mecoles, establishes  
Penrite Oil Company

**1979**

Penrite Oil Company  
is purchased by  
John Dymond

**1981**

The flagship HPR range  
is created

**1995**

Development of the  
premium 10 Tenths  
Racing range

**2008**

Low SAPS Enviro+  
range launched

**2014**

Melbourne head office  
relocated to Dandenong  
South, VIC

**2018**

Acquired the Lightning  
brand name

**2020**

Melbourne blending  
facility relocated to  
Dandenong South, VIC

# COMPANY INFORMATION

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**Les Mecoles - Founder**  
1926 - 1979





# OUR HISTORY

From small beginnings in 1926, 16 year old, Les Mecoles, founded Penrite Oil Company from his parents' home in St. Kilda, Melbourne, Australia. The first batches of oil were made on his mother's kitchen stove and delivered to service stations, milling factories and the local shipping port using his father's wheelbarrow.

Oils were manufactured from the highest quality lubricants from Pennsylvania (PEN) base stocks, regarded at the time as the best in the world. Only the right oils (RITE) would ever be sold to local customers, hence Penrite, with its unique name, gained trust and respect amongst many. As the business began to grow, a new blending facility was built in Richmond.

After several years, Penrite again moved to Abbotsford. Penrite was experiencing further growth as Melbourne and regional Victoria grew in population and the road and railway network expanded across Australia. New automotive products were introduced including batteries and oil filters.

In 1965, Penrite again was forced to move to nearby East Brunswick as the Abbotsford site was purchased by the Victorian Government to make way for the newly commissioned Eastern Freeway. The business continued to grow, but in 1979, Les Mecoles, suffering from poor health, sold the company to John and Margaret Dymond.

**“Oils are cheap, engines are expensive.”**

**John “JD” Dymond**  
1979 - 2006

John served a 7 year apprenticeship at Vauxhall Motors, Luton, (starting work), at the age of 16 years. He obtained a Mechanical Engineering Degree at night school. Whilst at Vauxhall, he became a draughtsman, specialising in the design of gearboxes. Moving to Melbourne in March 1958, he took up a position with BP Australia, in the Technical Department.

During this time he assisted in the development of lubricants for the harsh climates of Malaysia, Papua New Guinea and Northern Australia. In 1968, a vacancy became available at Lubrizol Australia, an American international additive producer. John took this opportunity to become involved in the additive industry which was becoming an important part of lubricant production.

John's 20 years experience in, not only the oil industry, but also the additive market gave him the background and knowledge he needed to take up the challenge of his own company; Penrite Oil.

In 1981, Penrite launched a new range of premium multigrade engine oils known as HPR (High Performance Range), identified to solve automotive oil consumption problems and tailored for the local, harsh Australian driving conditions. Other products introduced included 10 Tenths racing oils for classic and modern cars, motorcycle plus heavy duty engine oils, gear oils and transmission fluids.

Penrite continued to grow and expand, opening up new distribution channels and market segments. A second blending facility was opened in Brisbane, soon followed by new warehousing in Perth, Adelaide, Hobart, Sydney and Darwin. Exports commenced in New Zealand, South East Asia, America, UK and Europe. New smaller pack sizes for the DIY (Do-It-Yourself) market were introduced complementing the traditional DIFM (Do-It-For-Me) market of the 205L drum.

In 1997, the existing blending facility in Melbourne could no longer keep up with the demand and was relocated to Wantirna South in Melbourne's east and soon after, the Brisbane site was also relocated to a larger premises in Crestmead. Further product ranges were introduced including Everyday and Enviro+, driven by the goal to develop the right product for every application. The business continued to grow, and in 2014, Penrite moved to larger premises in Dandenong South.

Today, Penrite continues to be 100% Australian owned continuing on the core values and philosophy of the business.

# ABOUT US

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**We partner with our customers to deliver sustainable and long term growth through our passion and commitment to excellent service, delivery and product quality.**

Penrite Oil Company is an Australian independent international lubricants company established in 1926. It is privately owned and the Head Office is located in Dandenong South, Melbourne, Australia, with other major offices in Sydney, Brisbane, Adelaide, Perth, and Auckland, New Zealand, exporting to over 35+ countries in Europe, Asia and America.

Penrite is very committed to providing a workplace and external environment that meets local and regulatory requirements. It strives to minimise any environmental impact by reducing emissions and developing safe and sustainable, production, packaging, storage and distribution methodologies and is a signatory to the Australian Packaging Covenant.

**The Covenant Ensures:**

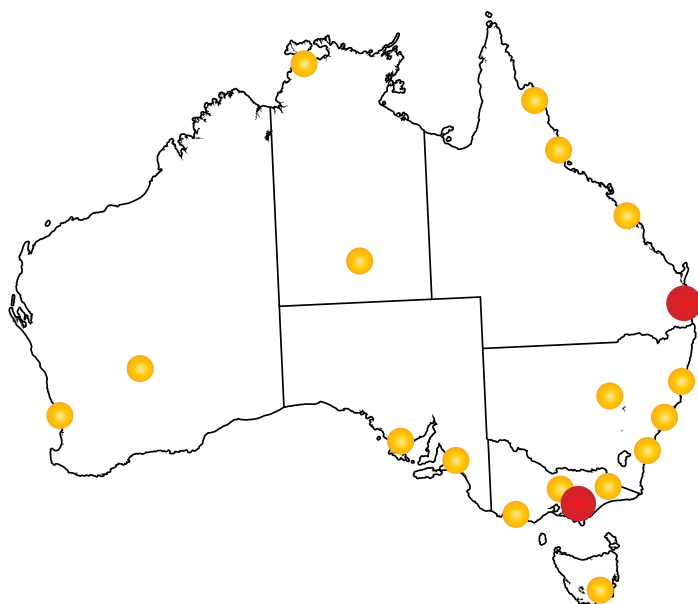
- Compliance with environmental laws, regulations and licenses
- Explore opportunities for waste recycling and recovery
- Recycling product packaging
- Using recyclable packaging
- Ensure environmentally responsible behaviour is practiced
- Minimise waste and conserve resources

Penrite continues to win prestigious National and International Awards, reflecting its position in the marketplace amongst suppliers and customers. Awards include Retail and Trade Supplier of the Year, Most Innovative Products and Services, Supply Chain Excellence, Environmental Sustainability, Best Sales Representation and Outstanding Manufacturing Service.



**GOLD**  
AUSTRALIAN  
AUTO  
AFTERMARKET  
AWARDS





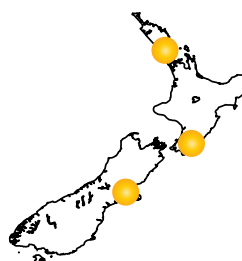
**Warehouse**



**Production & Warehouse**

**Our delivery promise is within 24-48\* hours.**

**Delivered-In-Full-On-Time (DIFOT)**



Penrite has built a sound and trusted brand designed to offer the best service to our customers. We have the best supply chain in the industry. With 2 blending plants in Australia, with an annual capability of 40 million Litres, it allows manufacturing and packaging flexibility.

Our automated and in-line filling facilities cater to all types of packaging ranging from 1L to 1000L, with the process constantly monitored by the Quality Control department. With 23 warehousing facilities across Australia (20) and New Zealand (3), this ensures our customers receive their orders promptly.

Our delivery promise is within 24-48\* hours and our DIFOT (Delivered-In-Full-On-Time) is 99.3%. Highly trained team members work together to ensure stock is picked, packed and transported efficiently. As an ISO 9001 Certified Company, we not only talk a lot about the importance of quality, we have the processes, systems and support structures to back it up.

With continuous surveillance audits along the entire supply chain, all products meet the highest standards specified. We pride ourselves on establishing and nurturing strong relationships with our key supply partners, both local and international. We work together to access the latest product technology including packaging. We develop and test these new products in our R&D facility in Melbourne and use customer focus groups to gain feedback. We pride ourselves on being innovative and being first to market with successful products.

We also endeavour to expand our product range to suit customer demands. If we do not have a product and it is feasible to do so, we will, in conjunction with our technology and industry partners, work together with our customers to develop and introduce a product to complement our existing offer.

As part of Penrite's commitment to producing premium, high quality and trusted products, we have quality assurance laboratories based at each blending plant. Utilising state of the art testing equipment, our laboratories ensure that products manufactured on site, pass all analysis requirements prior to packaging.

We conduct quality assurance testing on all raw materials used in the many and various blending processes. In addition, we integrate these tests into R&D activities during the development phase of many products. Our laboratory staff are highly skilled and experienced in oil testing and assurance, providing a valuable resource for any investigative work.

Penrite manufactures over 170 different products across 12 different market segments ensuring the right product is recommended for every application.

Products include engine oils and coolants that are officially approved and registered by major Original Equipment Manufacturers (OEM) and industry bodies such as API.

Penrite embraces the latest technologies and uses only quality base oils and additives. From hydrocracked Group 2 base oils, right up to premium Group 4 & 5 (PAO & Ester) base oils, Penrite develops and manufactures products to meet and exceed the most current industry specifications including API, ACEA, ILSAC & JASO.

- Automotive Engine Oils
- Motorcycle
- Motorcycle Care range
- Automatic Transmission Fluids
- Manual Gear & Differential Oils
- Engine Coolants
- Power Steering & Suspension Fluids
- Fuel Treatments & Additives
- Brake Fluids
- Maintenance including Aerosols
- Marine
- 2 Stroke, 4 Stroke & Garden Equipment Oils
- Heavy Duty Engine, Hydraulic & Gear Oils
- Industrial, Farm & Construction products
- Greases
- Veteran, Vintage & Classic products

**ALL PRODUCTS  
100% QUALITY  
SATISFACTION  
GUARANTEED!**

\*72 hours in some regional areas.

# THE TEAM

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**Penrite has over 150+ staff across Australia, New Zealand and Europe, and more than 29 of those have over 15 years of loyal service. Penrite is proud to be an employer of choice with employee satisfaction rates above 96%.**



**Tony Lobosco**  
Sales Development Manager

I joined Penrite in January 1975 and it was my first and only job. I started as a Storeman/Delivery Driver in Melbourne, driving an old 1963 Bedford truck. It had no tailgate lift, so every 44 gallon drum had to be rolled off the back of the truck onto an old truck tyre. After a few years, I traded in my overalls for a clean shirt and tie and moved into sales. The sales car was a brand new 1978 Cortina that Les Mecoles won in a local raffle and I travelled all over Victoria to service and find new customers.

In 1979, John and Margaret Dymond purchased the business from Les Mecoles retaining all 6 existing staff members. I was John's right hand man and I worked closely with him to develop and market some new products. I am very thankful to my loyal customers who have supported Penrite over the 40+ years. The market continues to evolve but I still love working each day with my customers to make them successful.



**Tony Antzakas**  
Delivery Driver

I joined Penrite in 1993 as a Delivery Driver in the Melbourne area. It's amazing to see that I am servicing the same customers that I did when I first started. It's a true testament to the type of company we are.

In the early days, the major deliveries were all in large drums, but now it's a real mix of small and large drums as the customer's needs change. The number and types of cars on the road is always increasing and I see this everyday as I'm typically stuck in traffic behind them!

I get a lot of pleasure working with customers and I feel they are like family now. I love representing the brand and I feel very much a part of the success of Penrite now and into the future.



**Bill Cooper**  
Sales Development Manager

I joined Penrite in 1986 as a Storeman in Brisbane. I was their first full time employee in Queensland and soon after, moved into production to build a new blending plant in Beenleigh with the late Mark Dymond. After building the plant, I was taught by John Dymond how to blend products and the importance of using quality additives and base oils.

With Penrite's growth in Queensland, more staff were employed and I moved into sales in the 1990's. I loved doing all the technical calls, customer service and sales but best of all was driving my VS Commodore.

The product mix has certainly changed over the many years as the car parc continues to diversify from the big V8 engines made in Australia to the smaller 4 cylinder engines made in America, Asia or Europe. I remember the biggest selling product was the heavy HPR 50 (40-70) but now it's certainly the lighter weight HPR 5 (5W-40).

We now sell a full range of specialty products in addition to our great range of engine oils. I am passionate about selling products that are trusted to solve problems and meet customer servicing and warranty requirements. We offer the best range of OEM warranty approved coolants, fuel additives and treatments, greases, power steering and suspension fluids in the industry.

I am proud that Penrite products are Australian made and owned and so are my customers. It's great to see manufacturing kept in Australia and we are employing so many people. It's a privilege to work here and I'm proud of what we have achieved collectively now and into the future.



# ENVIRONMENTAL COMMITMENT

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**Penrite strives to minimise any environmental impact by reducing emissions and developing safe and sustainable, production, packaging, storage and distribution methodologies.**

Penrite has committed to a sustainable future by becoming a signatory to the Australian Packaging Covenant (APCO) and their Sustainable Packaging Guidelines. Under the APCO guidelines, Penrite has committed to producing sustainable consumer packaging with efficient use of resources that reduces environmental impacts.

Under the APCO Guidelines, the end-result is to develop sustainable packaging which is:

- Fit-for-purpose
- Resource efficient
- Made from low impact materials
- Recyclable at the end of its useful life

Penrite has developed a sustainability strategy utilising the Australian Packaging Covenant in relation to its packaging by using recycled plastic. Up to 100% of recycled plastic is used in some packaging across Penrite products. All new products are assessed against the APCO Guidelines for their impact on primary, secondary and tertiary packaging requirements.

Our environmental commitment is further enhanced by using 100% recyclable FSC (Forest Stewardship Council) certified cardboard on certain cartons and ensuring we otherwise only source cartons made from recycled cardboard. In addition, we promote and encourage the full recycling of all of our cartons.

Penrite's award-winning Enviro Box™, a bag-in-a-box concept for packaging and dispensing lubricant is another example of our commitment to environmentally conscious packaging. The introduction of the Enviro Box™ has meant a reduction in the number of 20 Litre HDPE packs that Penrite is putting into the landfill waste.












# TODAY'S SOLUTION, FOR A BETTER TOMORROW



Penrite Oil Company has been proudly Australian and family owned since 1926. Innovation, premier quality and a focus on local manufacturing are three key attributes behind our 90 year plus success story. Therefore, we are proud to be the first Australian lubricant manufacturer to introduce a new dispensing system that is kind to our environment, decreases packaging wastage, increases bulk lubricant storage capacity and increases workplace safety for trade customers.

## BENEFITS

-  85% reduction in landfill waste
-  Can be used to hold and dispose of used oil
-  Ease of disposal
-  100% cardboard recycling
-  Keep track of oil usage with 'Litres Used' tracker
-  Robust bladder design
-  Simple and compact storage

\*Check website for availability



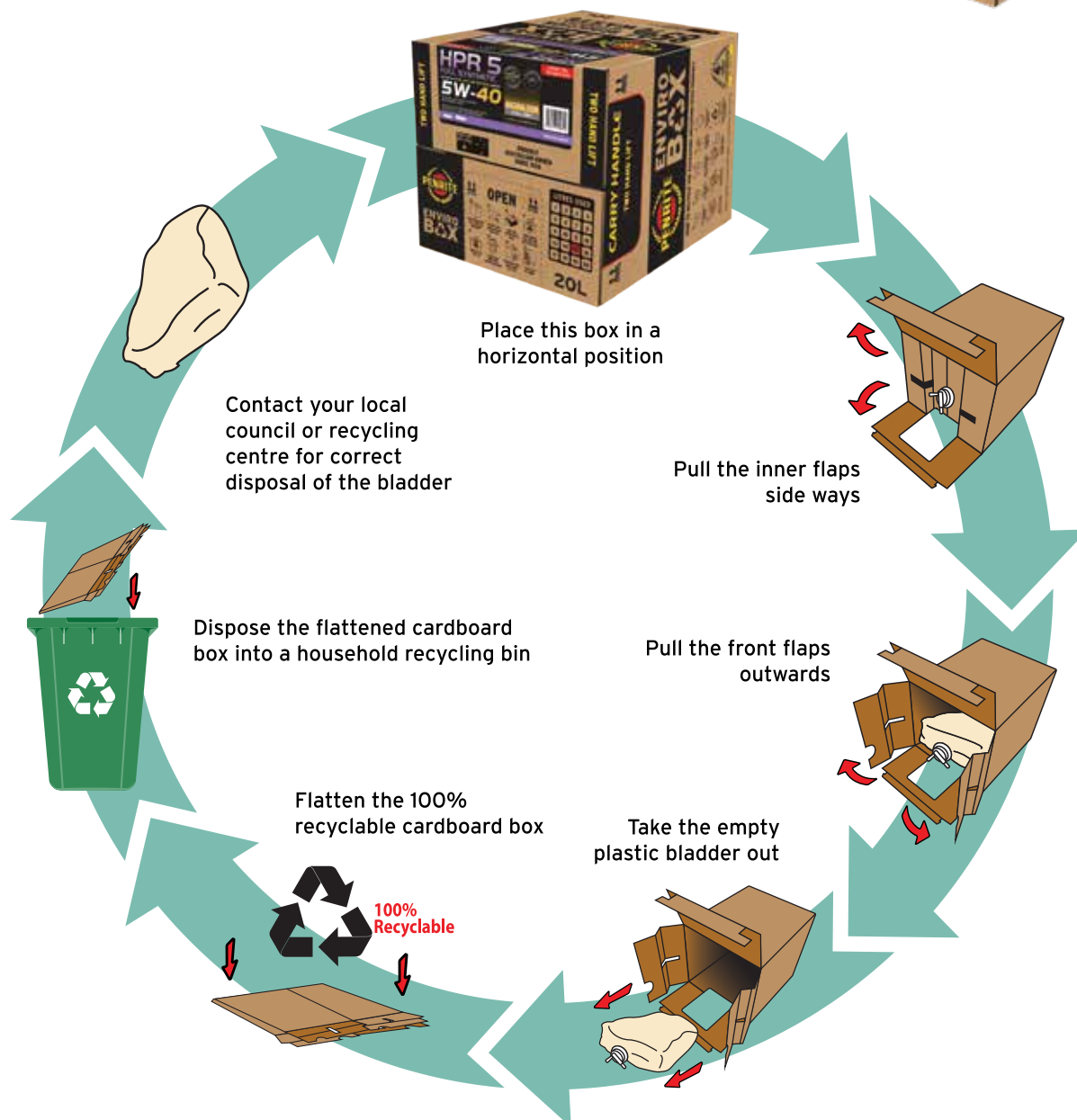
## WHAT IS ENVIRO BOX™?

Enviro Box™ is a bag-in-a-box concept for packaging and dispensing lubricant. A bladder bag is housed inside a 100% recyclable cardboard box, as opposed to the traditional plastic drum method. It will revolutionise the way lubricants are manufactured, packaged, distributed, handled & stored.

Enviro Box™ is designed to reduce landfill waste, increase productivity and reduce costs.



## HOW TO RECYCLE ENVIRO BOX™?



### ENVIRONMENTAL BENEFITS

- By using the Enviro Box™ you are helping contribute to an 85% reduction in the landfill waste of Penrite 20L packaging
- Cardboard carton is recyclable
- No drop tap means no product is spilled or wasted due to leakage

### MANUAL HANDLING AND WORKPLACE SAFETY

- Handles on each side, making Enviro Box™ easier to carry
- Two people can carry each Enviro Box™ if needed

### CONVENIENCE

- Very sturdy bladder
- Customers can keep track of their oil usage with the 'Litres Used' tracker on the front of the box packaging
- Easier and more responsible solution to dispose of 20L containers. Simply recycle the cardboard box and contact your local council or recycling centre for correct disposal of the bladder
- The bladder can be used to hold and dispose of waste oil
- Simple and compact storage
- Shorter in height than 20L drums, meaning more flexibility when storing



**Australian Auto Aftermarket  
Association 2017 Most Innovative  
New Packaging Award WINNER**

### ALL OF OUR ENVIRO BOX™ STANDS FEATURE:

- Integrated drip trays to manage any drips or leaks
- Jug guides for correct alignment
- Optimised shelf angle to improve lubricant flow and minimise product waste
- Easy, one tool assembly



#### ENVIRO BOX™ POUR STAND

- Dispense up to 6 different lubricants
- Store up to 120 Litres of lubricant for easy product access and to maximise workshop efficiency

Product Code: 20EBOXPOURSTAND



#### ENVIRO BOX™ 20L POUR & 60L STORE STAND

- Dispense up to 3 different lubricants
- Store up to 2 X 60 Litre drums of lubricant for easy product access and to maximise workshop efficiency

Product Code: 20EBOX60STAND

### FREQUENTLY ASKED QUESTIONS

#### WHAT ARE THE DIMENSIONS OF THE ENVIRO BOX™ POUR AND POUR & STORE STANDS?

The dimensions are 50cm deep x 102cm wide x 190cm high.

#### WHAT PACK SIZE IS THE ENVIRO BOX™ PACKAGING?

Enviro Box™ is currently available in the 20L pack size. In future, smaller pack sizes will be available.





# PENRITE

## PRODUCT RECOMMENDATION APPS

There seems to be an app for everything these days. But just how helpful are some of them? If you are a mechanic or find yourself recommending oils to consumers in the retail environment, Penrite have developed 4 "must have apps"!

With the complexity of the car parc constantly increasing, it's difficult to keep up with the correct recommendations. It's clear how drastic an incorrect recommendation can be.

Penrite has developed 4 outstanding apps to ensure you have the correct recommendation in the palm of your hand, 24/7. These apps allow for fast and accurate product selection. The design is responsive, decreasing lag or delay, and is supported across various screen sizes. A detailed description of the product provides you with all the information you need, plus special notations are given to maximise the service experience. Regular updates ensure the most accurate recommendations.



Penrite's 2ST Ratio Selector App helps you calculate the oil to fuel ratio for 2 stroke engines.

This easy to use app determines the amount of oil to add to the fuel based on the ratio as suggested by the engine manufacturer.



Penrite Pro app has been designed specifically for the workshop/commercial environment.

The Penrite Pro app hosts recommendations for Cars and Commercial Vehicles - Light/Medium & 4WD.



Penrite Product Selector assists in fast and accurate retail lubricant recommendations for a comprehensive range of equipment across 13 different categories of automotive vehicles, marine craft, agricultural machinery and industrial equipment. It is the one stop shop to finding the right product every time.



Find the right product for your application. Use this tool to find the Penrite product that suits your application specification or OEM manufacturer approval/license.



Finding the right product for your vehicle is now even easier with the Penrite Rego Search.

Simply enter your license plate number and receive the right Product Recommendations for your vehicle.





# Concierge

Your 24/7 Online Personal Assistant



- ✓ Place orders & track delivery progress 24/7 online
  - ✓ View and download invoices, statements and credit notes
  - ✓ Access exclusive product discounts & promotional activities
- Online access 24 hours a day, 7 days a week
  - Create new orders
  - View product availability in your nearest warehouse
  - Check pricing
  - Save orders and complete later
  - Track recent confirmed orders and get a delivery ETA
  - View order history
  - View and download invoices, statements and credit notes
  - View latest promotional activities
  - Access our Recommendation Guide
  - View the Penrite Competitor Equivalents Guide and Substitution Guide
  - Give feedback and view your Penrite call logs
  - Manage your account by updating your details or changing your password



**CONTACT YOUR PENRITE REPRESENTATIVE TODAY!**

# TECHNICAL SERVICES

Technical advice and training in lubricants is critical to ensuring the right product is selected for every application. Our Technical Services team has access to multiple tools and systems from all over the world, to ensure the correct advice and recommendation is sourced, to answer the many questions relating to the use and characteristics of the many types of products we manufacture. We have extensive experience and knowledge of lubricants and applications and, with access to many additional resources, are often able to provide advice for the less commonly available or even historical equipment.

Other Technical Services offered include:

- Lubrication Surveys
- Client Database Updates
- Safety Data Sheets
- Product Training
- Product equivalents against competitors

Our recommendation guides are available on the internet, mobile devices via a downloadable app & in-store touch screens. All our latest technical information, including technical bulletins, frequently asked questions and product specifications are available on our website and can be printed or emailed.

Our Technical Services team can be contacted Monday - Friday, 8:00AM - 5:30PM (AEST) on:

**Ph: 1300 PENRITE**  
(1300 736 748)

OR

**Technical Enquiry Email**  
lubetech@penriteoil.com.au

OR

Hi! How can we help you?

**www.penriteoil.com.au**

## Chat with our technical team

Our Live Chat function allows you to communicate instantly with our highly trained technical team to find out the right product for your application.

Just simply click on the icon on the bottom right hand side and the Chat With Us box will appear.

Now you are ready to start a conversation.



## TECH TEAM FACTS

The Technical Team at Penrite based in Melbourne, Victoria has been known as the heart and soul of the business.

They keep our customers and end consumers informed of the right product for the right application via phone, chat and email.

The Penrite Tech Team has a combined experience level in the lubricants industry of over 40 years encompassing laboratory testing and used oil analysis, product formulations, technical advice, sales and marketing. This is complimented by some of the team also having extensive professional automotive mechanical experience.

This busy team answers well over 500 phone calls, around 70 - 80 chats and 50 one on one email queries weekly.

The Tech Team receives a variety of queries, however the majority involve determining (or confirming) the right oil for the right application. Usually for a vehicle and usually engine oil. With the different vehicle manufacturers having their own particular requirements these days, the result is an array of lubricants to try and cover the plethora of specifications. Other questions relate to alternative Penrite products to those recommended, equivalent products to those of other oil companies and general product information.

When calling, it is always recommended to have your (or your customer's) owner's manual on hand.

The vehicle user or owner's manual gives a comprehensive description of the workings of the vehicle from how to change a tyre to how to replace a headlight globe. From how to adjust the seats to what each gear setting is for. Importantly, when it comes to fluids and lubricants a vehicle requires, the manual provides the ultimate guide to the correct specifications for optimum performance and efficiency. It is handy to have this information available, just in case we need it, but we normally have the resources already at hand to determine what is needed.

There are different methods of contacting Penrite or using online self-help tools in order to satisfy a query. There is an online Product Selector or recommendation guide, a mobile phone app, detailed product information including our Knowledge Centre as well as Where to Buy guides. If further assistance is needed, a phone call to our Tech Team is a direct way of achieving a solution to a query but for those that feel more comfortable conversing online, we have Live Chat, a chat service with one of our Technical experts where the query is typed and an answer conveniently supplied. An email of the conversation is then provided at the end of the chat.



# MERCHANDISE STORE

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The Merchandise Store is your one stop shop for Penrite t-shirts, shirts, jackets, jumpers, jerseys, headwear, giftwear, bags, magnets, signage, sticker kits, table tops, drum cushions, lanyards, key rings, bar runners, can coolers, mini oil drum pencil holders, DVDs, patches, posters and more.

**To order: Visit the Penrite website and click on the Merchandise button and begin shopping.**



**Trade customers can register their account details via the online store to receive exclusive promotions, discounts and free shipping\***

\*Free shipping available over \$100





# AMBASSADORS & PARTNERSHIPS

With a long and proud history in motorsport spanning back nearly 100 years, the Penrite brand has been part of Australian motorsport DNA.

Partnering with numerous teams and privateers across a wide range of motorsport disciplines, Penrite gain real world testing and analysis while being able to further develop and refine its racing products in actual race conditions.

The Penrite Brand Ambassador Program aims to create positive change in the lives of competitors within grass roots motorsport. With access to market leading products, access to marketing support and technical assistance, Penrite Brand Ambassador's gain the winning edge to take on the competition.

As a family owned and operated business, Penrite are always looking to partner with like-minded, passionate motorsport people.

If you think you are Penrite Brand Ambassador material keep an eye out for application details on the Penrite website between 1st December and 1st January each year.

## Penrite Oil have Brand Ambassador representation in:

### CARS

Circuit Racing, Drifting, Drag Racing, Burnout, Rally, and Time Attack.

### MOTORCYCLES

Motocross, Supercross, Circuit Racing, Desert Racing, Drag Racing, Speedway and Enduro.

### MARINE

Jet Boat Racing, Ski Racing, Offshore, and Dingy Racing.

### OFF ROAD

Off-Road Racing, 4WDs and Speedway.

### GO KARTS

Circuit Racing, Speedway and Super Carts.



This logo shows that the profiled product has been tried and tested under some of the harshest competition conditions. Race Proven and Competition Ready. Our products are ready to go from the shelf, to the race track.

### PENRITE RACING





**RACING** 

AUSTRALIAN OWNED SINCE 1926 

Penrite Oil was looking to re-enter the Supercars Championship for the first time since 2008 when a unique opportunity presented itself before the 2015 Bathurst 1000 where Penrite formed an alliance with Erebus Motorsport competing at the 'Mountain' with Will and Alex Davison driven Mercedes E63 AMG wrapped in a black, red and gold Penrite livery.

Penrite Oil became the full-time title sponsor in 2016 and grew to a two-car team four years later. Penrite Oil's tenure with the team was highlighted with an outstanding Supercars Bathurst 1000 victory for Penrite Racing drivers David Reynolds and Luke Youlden in 2017.

Penrite Oil's alliance with Erebus Motorsport came to an end after a five-year association before joining Kelly Grove Racing for the 2021 season where the team announced that David Reynolds will be also joining the team as driver of the #26 Penrite Racing Ford Mustang for the 2021 Supercars Championship and beyond.



Penrite first partnered with the factory Honda Racing team in 2013 with the aim to highlight their dedicated Motorcycle range at the highest level of competition, as well as improving its product range through extensive team and rider feedback.

The successful alliance between Penrite and Honda Motorcycles Australia includes multiple National Championships across Motocross, Supercross, and Superbike disciplines. Riders that have represented Penrite Honda Racing include Chad Reed (SX), Justin Brayton (SX), Brett Metcalfe (MX), and Troy Herfoss (ASBK).

Winning the 2018 Australian Superbike Championship (ASBK) in his first year with the team, Troy Herfoss is one of Australia's most decorated Superbike riders. The two-time ASBK Champion competes on a Honda CBR1000RR-R Fireblade SP with speeds capable of more than 300km/h and is protected by Penrite's high-performance range of engine oils and specialty products.







Launched in 2021, Penrite Oil and Motorcycling Australia (MA) have partnered together to usher in a new era in the Australian Motocross Championship. The Penrite ProMX Australian Motocross Championship is the new home of professional motocross racing in Australia.

The Penrite Oil ProMX Championship is designed as a tiered system featuring three racing classes with MX3 providing an environment where juniors are able to safely graduate into the senior ranks.

The professional level classes begin at MX2 where riders at 15 can enter the pro ranks, competing on 122cc to 150cc 2-Stroke & 200cc to 250cc 4-Stroke machines. The MX1 class is the elite category in the championship, seeing many factory-backed teams field the nation's elite athletes against visiting international competition on state-of-the-art 450cc four-stroke machines and 255cc and over two-stroke machines.



Penrite Oil is no stranger to all forms of motorsport, having been a part of a variety of categories over the years. The V8 Superboats Championship gives Penrite the ability to showcase an extensive Marine range. What better place to put engine oils, gear oil, and even greases to the ultimate test than flat out on the water.

The Penrite Australian V8 Superboats Championship is one of the most extreme and spectacular forms of motorsport on the planet. Imagine 1600-horsepower in a purpose-built aluminum boat that can accelerate to 120kph in under 2-seconds, and turn with the kinds of G-forces usually only experienced by fighter pilots.

The Penrite Australian V8 Superboats Championship is contested year-round at dedicated venues in New South Wales (Temora and Griffith), Tweed Coast, and Keith in South Australia starting early in the year and concluding in a season finale in December.





# ENGINE OILS

## OIL FUNCTIONS

### LUBRICATE PARTS AND PREVENT WEAR

This is the basic function of all oils. Keeping the moving parts separated. In general, the thicker the oil film, the better the wear protection, but the oil additives also play an important role. Modern oil additives allow an oil of lower viscosity to be used and still provide the same level of protection.

### REDUCE FRICTION

The film of oil reduces friction simply because there is no metal-to-metal contact. The heavier the oil though, the greater the drag and hence more heat may be generated. Correct oil selection is therefore a balance between what is needed to protect the component without generating excessive drag and heat, thereby decreasing fuel economy.

### PROTECT AGAINST RUST AND CORROSION

As oils degrade, they form corrosive by-products so the oil contains anti-corrosion and acid neutralising additives to protect components against rust and corrosion.

### PREVENT FOAM

Foam reduces the lubrication properties of the oil, therefore oils must be resistant to foaming or be able to "release" or "dissipate" any foam quickly.

### PERMIT EASY STARTING

Most wear occurs in an engine at start up. Therefore, the oil must have the correct low temperature viscosity to flow quickly to the bearings and valve train to prevent wear. Some engines require a low viscosity oil to actually start at all, especially some diesel engines found in four wheel drives, where the oil is used to operate the pump to prime the fuel injectors.

### COOL THE ENGINES

At least 40% of the engine is cooled by the oil, not the radiator system. This means the oil is always under heat stress (oxidation) as it transfers heat from hot spots back to the sump. This includes main and big end bearings, the crankshaft, connecting rods, other bearings, pistons and the timing gear.

### REDUCE COMBUSTION CHAMBER DEPOSITS

Some oil will always reach the combustion chamber either via the cylinder walls or via the valves. It is then burned off with the fuel. It therefore must burn clean enough that it does not build up on valve seats or piston tops which can cause problems.

### KEEP ENGINE COMPONENTS CLEAN

Oils need to be very stable under heat and not cause system deposits. They also have the added responsibility of keeping internal surfaces clean and to prevent sludge. This is achieved by a combination of detergent and dispersant additives.

### BE COMPATIBLE WITH SEALS

Above all, oils must lubricate and not cause deterioration, shrinking or hardening of commonly used seals.

## BASE OILS

All oils are made up of base oils and additives. The API classifies base oils into 5 main groups.

Group	Sulphur %	Saturates %	VI	Manufacturing Method
I	>0.03	<90	80-119	Solvent Refined
II	<0.03	<90	80-119	Hydro-processed
III	(0.03	<90	120+	Severely hydro-processed
IV	Poly Alpha Olefins (PAOs)			Oligomerisation (man made)
V	All Others (including esters)			Various

Group III and IV base oils are 100% synthetic. Some very high quality Group II oils (called Group II Plus) are also accepted as having synthetic performance. When looking at the table, think of saturates (relates to aromatics and other hydrocarbon molecules) and sulphur levels as the degree of purity of the oil. The Group III products used by Penrite are over 99% pure. PAOs are even more pure than Group III oils. Group I and II base oils are considered mineral.

Synthetic base oils are used for two main reasons; greater oxidation stability (for longer oil life) and low volatility (to decrease oil consumption). In order to meet the ACEA specifications on oil volatility, many lighter engine oil viscosity grades must use a percentage of these products, especially if Group I base oils are used.

Group V contains all other base oil types not included in Groups I, II, III and IV e.g. Esters, Naphthenics, etc.

From a Penrite perspective, we choose the combination of the above base oils to ensure maximum performance for a given oil.

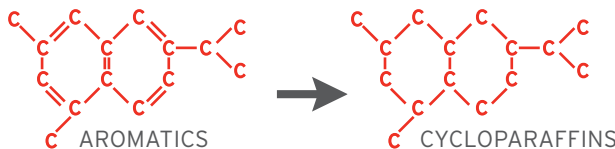


## HYDROPROCESSED BASED OILS

### WHAT DO THEY LOOK LIKE?

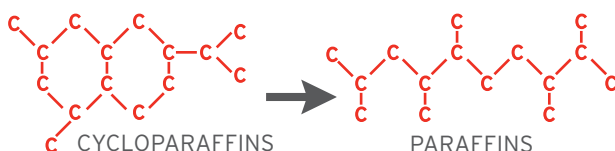
#### Group II:

- 400°C
- >500 psi H
- Removes sulphur and nitrogen
- Converts aromatic hydrocarbons to cycloparaffins



#### Group III:

- 425-430°C
- 1,500-3,000 psi H
- Converts cycloparaffins to paraffin chains



## SYNTHETIC BASE OILS

### PAOs - POLY ALPHA OLEFINS:

PAOs are derived from the oligomerisation, usually of 1-decene. Oligomerisation refers to a process where a monomer or a molecule is linked to many others of the same type to form a long chain.

1-decene is further derived from the oligomerisation of high purity ethylene (C<sub>2</sub>H<sub>4</sub>).

### PAOs are extremely pure:

- Identical molecules
- No sulphur or phosphorus
- No wax

### Benefits of PAOs:

- Excellent cold flow properties
- Highly resistant to thermal breakdown
- Excellent shear stability

### ESTERS:

Manufactured by reacting an acid and an alcohol to give ester plus water. There are many types of esters, such as diesters and polyolesters.

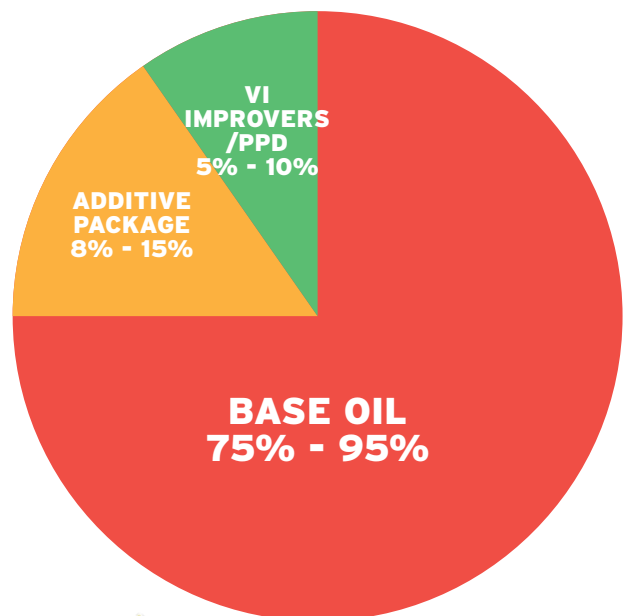
### Benefits of Esters:

- Resistant to thermal breakdown
- Good metal-wetting ability
- High film strength
- Good shear stability

## OIL COMPOSITION

Different oils require different percentages of additive package depending on viscosity grade, specification, oil type etc.

Typical blended engine oil variations below:



## OIL ADDITIVES

There are different types of oils and they use many of the same types of ingredients. However, these are put together a little differently. Not all of these are found in every oil. Firstly you have base oils, made from either crude oil at a refinery or man-made (synthetics). To achieve the functions required by finished lubricants, you must then put additives in with the oil. These all do different things.

### Detergents:

Any oil with an API engine rating of SC, or above has a level of detergency. This detergency level is not necessarily related to all of the quoted API ratings of the oil, as some high detergent diesel oils may only meet lower petrol engine oil specifications. It is a balance. Detergents are usually metallic based compounds and they control deposits and keep engines clean.

### Dispersants:

These are polar additives that are used to organically keep contaminants and by-products dispersed in the oil helping to prevent deposits and sludge from forming. They are highly effective in controlling low temperature contaminants. They can keep them so fine in suspension, they pass through the oil filter with the oil additives!

### Friction Modifiers:

Used to reduce internal engine friction and are common in low viscosity oils where fuel economy is important.

### Oxidation Inhibitors:

Reduce oxygen attack or oxidation of the oil, helping to reduce oil thickening, especially at consistently high temperatures experienced over the life of the oil drain period.

### Anti-Wear Agents:

Prevent wear from seizure or scuffing of metal surfaces that would otherwise rub or contact each other. They are normally zinc and phosphorus or other organo-metallic based compounds.

### Rust and Corrosion Inhibitors:

Prevent rust and corrosion attack on metal surfaces from acids that can build up in oils, by helping to neutralise their effect.

### Foam Depressants/Air Release Agents:

Prevent foam from forming, thereby maintaining a lubricating film based on oil not air bubbles, resulting in the ability of the oil to be pumped effectively at the required rate.

### Pour Point Depressants (PPD):

Reduce the oils tendency to crystallise at very low temperatures, i.e. its ability to pour or flow. Most oils contain wax and, at very low temperatures, wax can crystallize. PPDs assist to lower the temperature at which this occurs.

### Viscosity Index Improvers (VII):

These change the oils rate of thinning or its Viscosity Index (VI). The higher the VI, the lower the rate of thinning of the oil with increase in temperature. They are polymers that expand as temperature increases - think of them as like a slowly uncoiling spring. They also assist in making oils into multigrades.

## SAE VISCOSITY

SAE stands for Society of Automotive Engineers. The SAE developed a classification system to define the viscosity or thickness of oil. This system has been progressively modified over the years. It defines "operating temperature" engine oil viscosities for different grades and contains specifications for "cranking" viscosity and pumpability at start up, the "W" grades or winter. A multigrade oil is one that meets both a "W" low temperature viscosity requirement and a 100°C "operating temperature" requirement.

For engine oils there is a specification that must be met at 150°C, known as a High Temperature/High Shear (HT/HS) viscosity. HT/HS simulates what happens in high stress areas of the engine e.g. bearings, cams, etc. It measures the viscosity and indicates the oil film thickness under severe high-speed conditions. An oil that is too thin under these conditions may not provide the required protection to prevent significant wear in these critical engine parts.

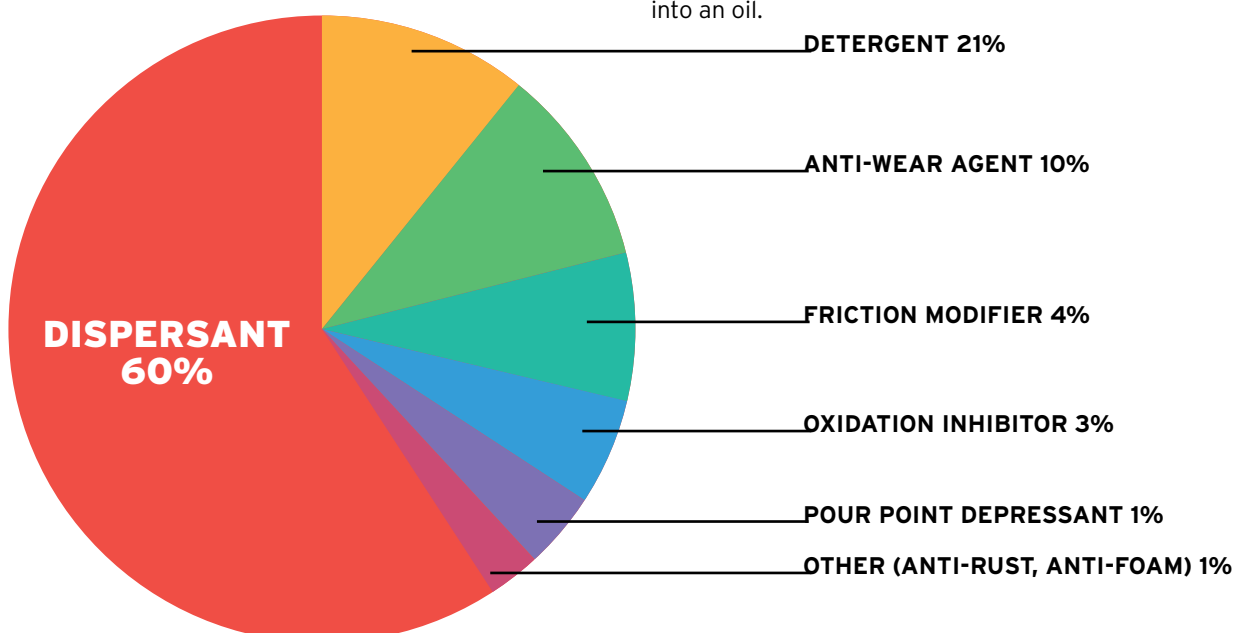
## OIL ADDITIVES PACKAGE

Depending on the oil type and specification, the performance pack will alter significantly.

Engine oils are comprised of base oil and additives.

The amount of each depends on the application, this can range from 65% to 93% base oil.

The graph below demonstrates what additives can go into an oil.



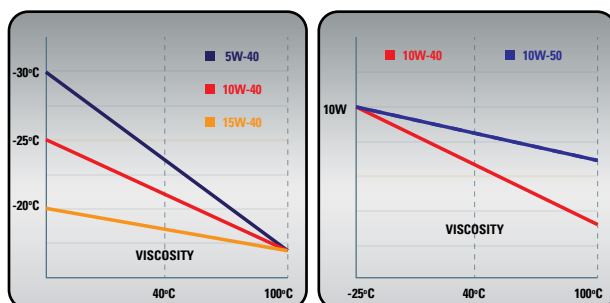
In addition, gear oils require a KRL test. This is a severe oil shear test, and the oil must stay in grade or within a nominated range after shear. Its severity is the main reason why 75W-x gear oils are expensive as these are difficult to make.

Centipoise (cP) and Centistokes (cSt) are the units viscosity is measured in.

## UNDERSTANDING VISCOSITIES

The number in front of the "W" signifies the viscosity of the oil at cold/start up temperature (tested at -10 to -35°C depending on the grade. Please refer to the SAE J300 - Engine Oils Chart opposite). The lower the first number, the faster the oil flows (pumpability) when the engine is cold.

The second number represents the oil's thickness at operating temperature (100°C). All oils thin out as they get hotter. So, the higher the second number, the less the oil will thin out as it heats up, compared to an oil with a lower second number.



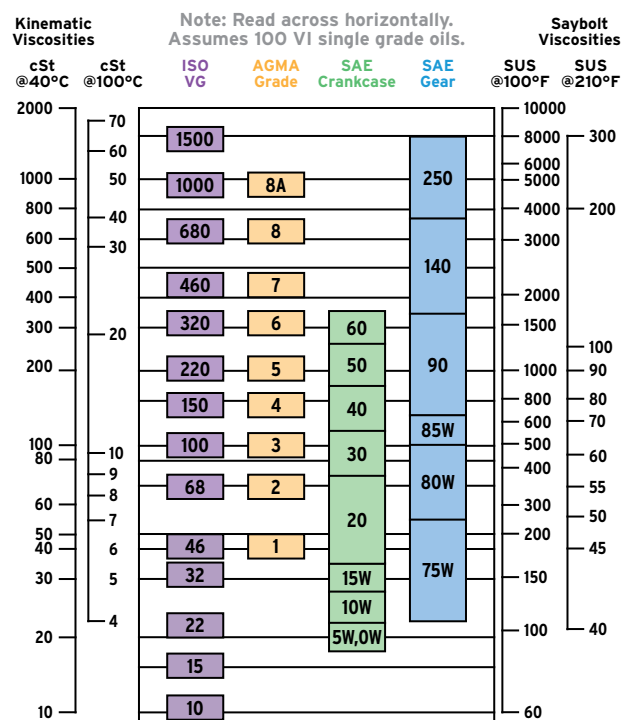
5W-40, 10W-40 & 15W-40 have the same operating temperature and different start up viscosities.

10W-40 & 10W-50 have the same start up viscosities and different operating temperature viscosities.

SAE J300 - Engine Oils 2015					
SAE Grade	Cold Cranking MAX Viscosity cP @Temp, °C	Pumpability Max Viscosity cP @ Temp, °C	Viscosity @ 100°C		HT/HS @ 150°C Min cP
			Min cSt	Max cSt	
0W	6200 @ -35	60,000 @ -40	3.8	NA	NA
5W	6600 @ -30	60,000 @ -35	3.8	NA	NA
10W	7000 @ -25	60,000 @ -30	4.1	NA	NA
15W	7000 @ -20	60,000 @ -25	5.6	NA	NA
20W	9500 @ -15	60,000 @ -20	5.6	NA	NA
25W	13000 @ -10	60,000 @ -15	9.3	NA	NA
8	NA	NA	4.0	<6.1	1.7
12	NA	NA	5.0	<7.1	2.0
16	NA	NA	6.1	<8.2	2.3
20	NA	NA	6.9	<9.3	2.6
30	NA	NA	9.3	<12.5	2.9
40	NA	NA	12.5	<16.3	See note
50	NA	NA	16.3	<21.9	3.7
60	NA	NA	21.9	<26.1	3.7

Note: 3.5cP for 0W-40, 5W-40 & 10W-40 grades, 3.7cP for 15W-40, 20W-40, 25W-40 & 40 grades. Penrite defines "70" engine oils as above 26.1cSt at 100°C & "30W" as less than 13,000cP at -5°C.

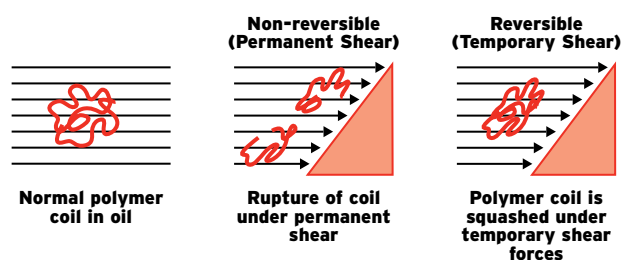
## COMPARATIVE VISCOSITY CLASSIFICATIONS



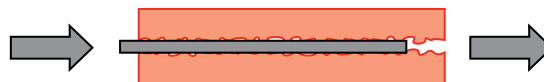
## PERMANENT VS TEMPORARY SHEAR

The below diagrams show the two types of shear that can occur with Viscosity Index Improvers (VII). Permanent Shear is defined as the physical breaking apart of the polymer into smaller pieces and hence the oil suffers from a permanent loss of viscosity.

Temporary Shear occurs when the polymer is squashed but does not break apart and hence "springs back" to its original size after going through the area of high stress.



The shearing effect occurs when the oil is forced through areas of tight clearances or is "squashed" (e.g. cam lobe to follower) and if the gap is too small, then the polymer will rupture.



Penrite 10 Tenths Racing range are formulated to be "shear free" and do not use any polymers. A special base oil combination is used to achieve the desired viscosity grades. As such, there are no components in the oil that can suffer from Permanent Shear so the oil holds its original viscosity for the life of the oil drain.



## API SERVICE CLASSIFICATIONS

API stands for American Petroleum Institute. In 1970, along with the SAE and ASTM (American Society for Testing and Materials), they established the API Service Classification System to define the performance level of a given oil, unrelated in the main, to oil viscosity.

The API requirements "S" for Spark Ignition (petrol) and "C" for Compression Ignition (diesel) can be briefly described as follows. The latest API "S" and "C" classifications are backwards compatible and suitable for use in place of earlier classifications.

### DESIGNATION AND DESCRIPTION:

#### PETROL:

<b>SA</b>	Oil without additive. Now obsolete.
<b>SB</b>	Some antioxidant and anti-scuff properties. Now obsolete.
<b>SC</b>	Meets 1964-1967 requirements of Automotive manufacturers. Now obsolete.
<b>SD</b>	Meets 1968-1971 requirements of Automotive manufacturers. Now obsolete.
<b>SE</b>	Meets 1972-1979 requirements of Automotive manufacturers. Now obsolete.
<b>SF</b>	Meets 1980-1988 requirements of Automotive manufacturers. Now obsolete.
<b>SG</b>	Meets 1989-1993 requirements of Automotive manufacturers. Now obsolete.
<b>SH</b>	Meets 1994-1997 requirements of Automotive manufacturers. Now obsolete.
<b>SJ</b>	Meets 1998-2000 requirements of Automotive manufacturers.
<b>SL</b>	Meets 2001-2004 requirements of Automotive manufacturers.
<b>SM</b>	Meets 2004-2010 requirements of automotive manufacturers. XW-20 and XW-30 grades have chemical limits.
<b>SN</b>	Introduced in October 2010, designed to provide improved high temperature deposit protection for pistons, more stringent sludge control and seal compatibility. API SN with Resource Conserving matches ILSAC GF-5 by combining API SN performance with improved fuel economy, turbo charger protection, emission control system compatibility and protection of engines using E85 fuel.
<b>SN PLUS</b>	Introduced in November 2017, this is a new classification that may be used in conjunction with API SN and API SN Resource Conserving. Oils meeting this classification are formulated to provide API SN performance and additional protection against low-speed pre-ignition for turbo charged direct injection petrol vehicles. Backwards compatible to API SN, API SN Resource Conserving and ILSAC GF-5.
<b>SP</b>	Introduced in May 2020, designed to provide protection against low-speed pre-ignition (LSPI), timing chain wear protection, improved high temperature deposit protection for pistons and turbochargers, and more stringent sludge and varnish control. API SP with Resource Conserving matches ILSAC GF-6A by combining API SP performance with improved fuel economy, emission control system protection and protection of engines operating on ethanol-containing fuels up to E85.

#### DIESEL:

<b>CA</b>	Light duty, high sulphur diesel engines built before 1960. Equivalent to MIL-L-2104A. Now obsolete.
<b>CB</b>	Introduced in 1949 for moderate duty, high sulphur diesel engines built before 1962. Now obsolete.
<b>CC</b>	Introduced in 1951 for moderate to severe duty diesel engines built before 1991. Equivalent to MIL-L-2104B. Now obsolete.
<b>CD</b>	Introduced in 1955 for severe duty diesel engines, including turbo and Caterpillar Series 3, built before 1995. Equivalent to MIL-L-2104C. Now obsolete.
<b>CD-II</b>	Introduced in 1985. API CD plus Detroit Diesel 6V53T approval for two stroke engines built before 1995. Now obsolete.
<b>CE</b>	Introduced in 1985 for turbo/supercharged heavy duty diesel engines built before 1995. Now obsolete.
<b>CF</b>	Introduced in 1994, for off-road, indirect injection diesel engines and others using a broad range of fuel types including high sulphur. May be used to replace API CD oils. Now obsolete.
<b>CF-2</b>	Introduced in 1994 for severe duty two stroke diesel engine service from 1994. Can be used in place of API CD-II oils. Now obsolete.
<b>CF-4</b>	Introduced in 1990 for severe duty four stroke diesel engines, including turbos. Can replace API CD & CE oils. Now obsolete.
<b>CG-4</b>	Introduced in 1995 for severe duty four stroke diesel engines meeting 1994 emission standards (less than 0.5% sulphur). Can replace API CD, CE & CF-4 oils. Now obsolete.
<b>CH-4</b>	Introduced in 1998 for high speed four stroke diesel engines meeting 1998 emission standards (less than 0.5% sulphur). Can replace API CD, CE, CF-4 & CG-4 oils.
<b>CI-4</b>	Introduced in September 2002 for high speed four stroke diesel engines, designed to meet 2004 exhaust emission standards and using low sulphur fuel (less than 0.5%). Can replace API CD, CE, CF-4, CG-4 & CH-4 oils.
<b>CI-4 PLUS</b>	As per CI-4 but with further restrictions on after-shear viscosity and performance.

### FREQUENTLY ASKED QUESTIONS

#### WHAT DOES ACEA AND API STAND FOR?

##### API

American Petroleum Institute

##### ACEA

Association des Constructeurs Europeens de l'Automobile

**CJ-4** Introduced in 2006 for 15ppm maximum fuel sulphur. Enhanced wear protection, 1.0% ash maximum. For engines designed to meet 2010 model year on-highway emission standards. Effective where particulate filters and other after-treatment systems are used. Improved performance for soot handling, oxidative thickening, engine wear piston deposit formation, foaming and viscosity loss due to shear. Can replace API CI-4 Plus, CI-4, CH-4, CG-4 & CF-4 oils.

**CK-4** API Service Category CK-4 describes oils for use in high-speed four-stroke cycle diesel engines designed to meet 2017 model year on-highway and Tier 4 non-road exhaust emission standards as well as for previous model year diesel engines. These oils are formulated for use in all applications with diesel fuels ranging in sulfur content up to 500 ppm (0.05% by weight). However, the use of these oils with greater than 15 ppm (0.0015% by weight) sulfur fuel may impact exhaust after treatment system durability and/or oil drain interval. These oils are especially effective at sustaining emission control system durability where particulate filters and other advanced after treatment systems are used. API CK-4 oils are designed to provide enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low- and high-temperature properties, and soot-related viscosity increase. API CK-4 oils exceed the performance criteria of API CJ-4, CI-4 with CI-4 PLUS, CI-4, and CH-4 and can effectively lubricate engines calling for those API Service Categories. When using CK-4 oil with higher than 15 ppm sulfur fuel, consult the engine manufacturer for service interval recommendations.

**FA-4** API Service Category FA-4 describes certain XW-30 oils specifically formulated for use in select high-speed four-stroke cycle diesel engines designed to meet 2017 model year on-highway greenhouse gas (GHG) emission standards. These oils are formulated for use in on-highway applications with diesel fuel sulfur content up to 15 ppm (0.0015% by weight). Refer to individual engine manufacturer recommendations regarding compatibility with API FA-4 oils. These oils are blended to a high temperature high shear (HTHS) viscosity range of 2.9cP-3.2cP to assist in reducing GHG emissions. These oils are especially effective at sustaining emission control system durability where particulate filters and other advanced after treatment systems are used. API FA-4 oils are designed to provide enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low- and high-temperature properties, and soot-related viscosity increase. API FA-4 oils are not interchangeable or backward compatible with API CK-4, CJ-4, CI-4 with CI-4 PLUS, CI-4, and CH-4 oils. Refer to engine manufacturer recommendations to determine if API FA-4 oils are suitable for use. API FA-4 oils are not recommended for use with fuels having greater than 15 ppm sulfur. For fuels with sulfur content greater than 15 ppm, refer to engine manufacturer recommendations.

## API CERTIFICATION

### API "STARBURST" AND "DONUT" LICENSES:

API license two types of Marks or Licenses: a certification mark commonly referred to as a "Starburst" and a service symbol, commonly referred to as a "Donut". These marks identify a quality, API licensed motor oil for petrol and diesel powered engines. API have designed these licenses that define, certify and monitor engine oil performance that vehicle and engine manufacturers as well as the lubricants industry have considered necessary for satisfactory engine life and performance.

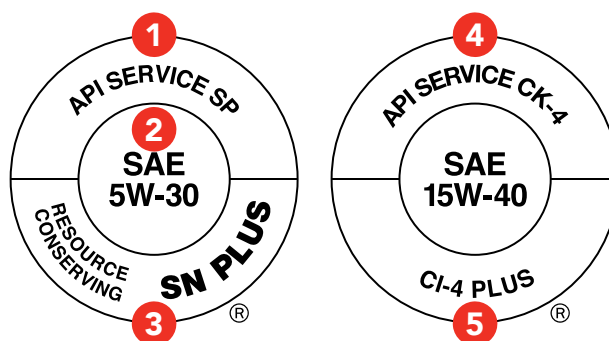
They are intended to assist the end user to identify products that have satisfied the requirements for licensing by the API and therefore provides confidence in the quality of the oil they are purchasing. In some countries, a lubricant cannot be sold without an API quality mark.

### API CERTIFICATION MARK OR "STARBURST":

An oil showing this mark identifies it as meeting the current ILSAC (International Lubricant Standardisation and Approval Committee) performance standard for engine protection and fuel economy requirements. The ILSAC GF-6A minimum performance standard is the current basis for issuing a license to use the API Certification Mark or "Starburst."

### API SERVICE SYMBOL OR "DONUT":

An oil displaying a "Donut" denotes a licensed oil's performance properties through the use of API "S" service categories and, if applicable, the Resource Conserving and API "C" designations. Below are examples of "Donuts".



### THERE ARE DIFFERENT PARTS TO THE SERVICE SYMBOL OR "DONUT":

#### 1. Performance Level

This will indicate the API performance level attained by the oil. Petrol engine oil specifications are designated by API "S" Service Categories, in this case, API SP.

The use of more than one API "S" Service Category in this section of the Service Symbol is prohibited. Diesel engine oil specifications are designated by API "C" categories, such as CK-4.

#### 2. Viscosity Grade

This is where the viscosity grade of the licensed product is shown.

#### 3. Resource Conserving and Energy Conserving

These designations apply to oils intended for petrol engine use. Using these oils may result in an overall saving on fuel use or increased fuel economy.

#### 4. Multiple Performance Levels

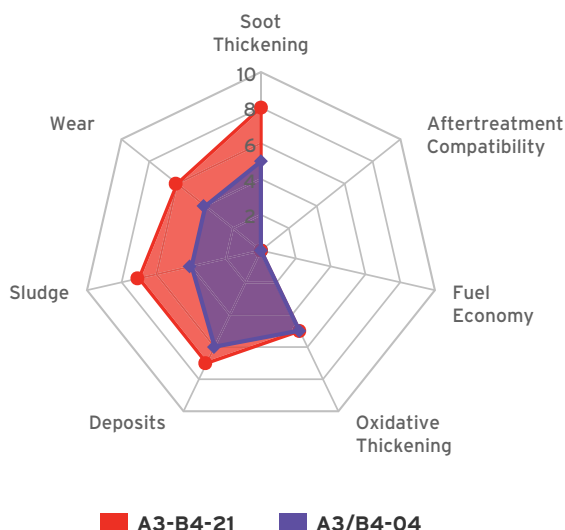
This section may include more than one API performance level. Oils designed for diesel use might also meet a petrol performance level. In this case, the "C" category is listed first followed by the "S" category.

## 5. Service Symbol with CI-4 Plus

The "CI-4 PLUS" designation identifies oils that are formulated to provide a higher level of protection against soot related viscosity increase and viscosity loss due to shear in diesel engines. When originally introduced, "CI-4 PLUS" identified CI-4 oils meeting a higher level of performance. CJ-4 oils include all "CI-4 PLUS" performance requirements. In this case, the "CI-4 PLUS" appears in the lower portion of the "Donut". This portion is also known as where the Performance Designation is listed.

## ENGINE OIL IMPROVEMENTS

### Current Specification vs Older Specification: A3-B4-21 vs A3/B4-04



Spec.	HTHS (cP) SA (%)	SA (%)	P (%)	S (%)	Min T
A3-B4-21	≥3.5	≥1.0 to ≤1.6			≥10.0
A3/B4-04	≥3.5	≤1.6			

- ✓ Better wear protection
- ✓ Protects seals
- ✓ Reduces engine deposits
- ✓ Reduces sludge
- ✓ Better protection against soot thickening



## ACEA ENGINE SERVICE CLASSIFICATIONS

ACEA stands for Association des Constructeurs Européens de l'Automobile. This classification system is the European equivalent of the API classification system, but is stricter and has more severe requirements.

Hence an oil that meets both API & ACEA specifications uses a better additive package than one that is designed to meet only API specifications. Unlike the API, ACEA has three main groups - "A/B" for petrol (A) and light duty diesel (B) engines, "C" for light duty three way catalyst (TWC) and Diesel Particulate Filter (DPF) compatible oils, usually Low and Mid SAPS (Sulphated Ash Phosphorus Sulphur) and "E" for heavy duty diesel engines. These can be defined as follows.

### DESIGNATION AND DESCRIPTION:

- A1/B1** For use in petrol and light duty diesel engines capable of using low friction, low viscosity, and low HT/HS shear (2.9 to 3.5cP) oils.
- A3/B3** Stable, stay in grade oil intended for use in high performance petrol and diesel engines or extended drain intervals.
- A3/B4** For use in direct injection diesel engines where special oils may be required, but also suitable for applications described under A3/B3.
- A5/B5** Similar to A1/B1 but for high performance engines capable of using low friction, low viscosity, and low HT/HS oils. May be unsuitable for use in some engines.
- A7/B7** Similar to A5/B5 but for high performance engines capable of using low friction, low viscosity, and low HT/HS oils without exhaust after treatment technology. May be unsuitable for use in some engines.
- C1** Stable, stay in grade oil for use in vehicles fitted with DPFs & TWCs and in high performance diesel and petrol engines requiring low friction, low viscosity and Low SAPS (Sulphated Ash ≤0.5%) oils, with a minimum HT/HS viscosity of 2.9 cP. Now obsolete.
- C2** Stable, stay in grade oil for use in vehicles fitted with DPFs & TWCs and in high performance diesel and petrol engines requiring low friction, low viscosity and Mid SAPS (Sulphated Ash ≤0.8%) oils, with a minimum HT/HS viscosity of 2.9 cP.
- C3** Stable, stay in grade oil for use in vehicles fitted with DPFs & TWCs and in high performance diesel and petrol engines requiring low friction, low viscosity and Mid SAPS (Sulphated Ash ≤0.8%) oils, with a minimum HT/HS viscosity of 3.5 cP. These oils may also meet A3/B4\* and API SN.
- C4** Stable, stay in grade oil similar to C1 but with tighter volatility limits, no lower limit on phosphorus and with a minimum HT/HS viscosity of 3.5 cP.
- C5** Stable, stay in grade oil similar to C2 and C3 but with a lower HT/HS viscosity of 2.6-2.9 cP.
- C6** Provides low speed pre-ignition and wear protection for turbocharged DI gasoline engines as well as diesel turbocharger compressor deposit (TCCD) protection for low SAPS class, being compatible with catalyst & GPF/DPF exhaust after treatment systems.
- E2** General purpose oil for naturally aspirated and turbocharged diesel engines, medium to heavy duty service and mostly normal drain intervals. (Obsolete by 2010).

- E4** Stable, stay in grade oil more severe than E7, for significantly extended oil drain intervals. Usually synthetic or predominantly synthetic. Suitable for Euro 3, Euro 4 & Euro 5 engine emission requirements. (Obsolete by 2017).
- E6** As for E4 but with chemical limits to allow use in engines with particulate filters and SCR NOx reduction systems. Only for diesel fuel with <50ppm sulphur, 1.0% ash, 0.08% phosphorus. Suitable for Euro 4, Euro 5 & Euro 6 engine emission requirements.
- E7** Designed for use in Euro 3, Euro 4 & Euro 5 emission diesel engines in severe heavy duty service and extended drain intervals, where allowed. More severe than E2/E3 but not as severe as E4.
- E9** Designed for Euro 4, Euro 5 & Euro 6 emission diesel engines, with and without DPFs. SAPS limits line up with API CJ-4 & TBN 7 minimum.

ACEA specification oils have tighter shear stability and oil volatility requirements than equivalent API specification oils.

\*ACEA 2010 specification oils can no longer meet both C3 & A3/B4.

## ILSAC ENGINE SERVICE CLASSIFICATIONS

ILSAC (International Lubricants Standardisation and Approval Committee) includes the major automobile manufacturers that manufacture vehicles in the USA and Japan. Effectively, ILSAC specifications are the fuel economy version of the API specifications.

- GF-1** Is obsolete.
- GF-2** Is equivalent to API SJ.
- GF-3** Is equivalent to API SL.
- GF-4** Is equivalent to API SM.
- GF-5** Is obsolete.
- GF-6A** Is equivalent to API SP.
- GF-6B** Applies only to oils having an SAE viscosity grade of OW-16. Is equivalent to API SP.

ILSAC grades only apply to viscosities XW-16, XW-20 & XW-30.

The latest ILSAC specification, GF-6A/6B is backwards compatible and is suitable for use in place of earlier ILSAC classifications.

## SUMMARY

ILSAC, API and ACEA specifications require a large range of engine and laboratory tests on the oil. Parameters such as high and low temperature wear, oxidation, soot control, oil thickening, deposit control, volatility, stay in grade performance, fuel economy, chemical composition and many others are tested against limits and rated.

In the case of the API, the oil specifications become more severe as the letters climb the alphabet, e.g. SN is more severe than SM. This is not necessarily the case with ACEA as their specifications are more application specific.

## GLOBAL SPECIFICATIONS

Developed by ACEA, EMA (Engine Manufacturers Association) & JAMA (Japanese Automobile Manufacturers Association) for diesel oils with different limits to the 'donor' categories.

**HEAVY DUTY:** DHD-1 = E7/CI-4 + JASO tests

**LIGHT DUTY:** DLD-1 = B2 + JASO tests

DLD-2 = B1 + JASO tests

DLD-3 = B3 + JASO tests

## OEM APPROVALS

Using the correct fluid during the warranty period for a vehicle ensures that you maintain your manufacturer warranty for that vehicle. Using a non-approved oil for servicing during the warranty period can jeopardise the manufacturer's warranty and could lead to engine failure if the product does not meet the OEM specifications for that engine. Penrite has a number of products that are approved by major manufacturers or registered with industry bodies. Below are examples of some of our many approvals.



## OTHER FOUR STROKE CLASSIFICATIONS

### HEAVY DUTY:

JASO - Japanese Automotive Standards Organization

### THEY HAVE 3 HEAVY DUTY CLASSIFICATIONS:

**JASO DL-1** Light duty diesel engine oil specification developed for use in engines equipped with an exhaust after treatment device such as a DPF or a catalyst.

**JASO DH-1** Heavy duty diesel, higher ash formulation with performance superior to API CF-4. Has additional valve train wear and piston cleanliness requirements.

**JASO DH-2** Heavy duty diesel engine oil specification, similar to API CJ-4 and ACEA E9. It was developed for use in engines equipped with an exhaust after treatment device such as a DPF or a catalyst.

### MOTORCYCLE:

JASO also have 4 classifications for motorcycle oil, MA, MA1, MA2 and MB. Their differences are determined by a clutch system friction test.

**JASO MA** Delivers the desired friction performance motorcycles need to prevent slippage in the wet clutch.

**JASO MB** Delivers to scooters friction performance via friction modifiers in order to provide fuel economy benefits.

### MARINE:

**NMMA FC-W®** Released in 2004 for four stroke outboard oils.

**NMMA FC-W® CAT** Mid-SAPS oil for four stroke outboard engines with exhaust after treatment catalyst systems.



## ACEA LOW AND MID SAPS SPECIFICATIONS

Low and Mid SAPS (Sulphated Ash Phosphorus and Sulphur) engine oils are formulated for modern fuel efficient, low emission engines.

The European body ACEA classes these light duty diesel oils under a "C" grade specification meaning "catalyst compatible", and a numbering system from 1 through to 4. Hence we have ACEA C1, C2, C3, C4, C5 & C6 grade oils, all of which have different chemical and performance standards. The table below shows some of the different chemical requirements for each grade.

REQUIREMENT	ACEA C1 (Low SAPS) - Obsolete	ACEA C2 (Mid SAPS)	ACEA C3 (Mid SAPS)	ACEA C4 (Low SAPS)	ACEA C5 (Mid SAPS)	ACEA C6 (Mid SAPS)
Viscosity HTHS @ 150°C	≥ 2.9	≥ 2.9	≥ 3.5	≥ 3.5	≥ 2.6 < 2.9	≥ 2.6 < 2.9
Sulphur, Mass %	≤ 0.2	≤ 0.3	≤ 0.3	≤ 0.2	≤ 0.3	≤ 0.3
Phosphorus, Mass %	≤ 0.05	≥ 0.07 ≤ 0.09	≥ 0.07 ≤ 0.09	≤ 0.09	≥ 0.07 ≤ 0.09	≥ 0.07 ≤ 0.09
Sulphated Ash, Mass %	≤ 0.5	≤ 0.8	≤ 0.8	≤ 0.5	≤ 0.8	≤ 0.8

ACEA "C" grade oils can be made in various viscosities. ACEA C2 & C3 have similar chemical limits but different HT/HS figures, the lower HT/HS for C2, means it provides better fuel economy, although this HT/HS number is not suitable for all engines.

Some manufacturers also have their own specifications such as Mercedes Benz with MB 229.31/229.51/229.52, BMW Longlife-04 & VW 507 00. The Japanese Standards Organisation also have a specification - JASO DL-1 which is used by some Mazda and Mitsubishi diesels.

## OEM ENGINE OIL SPECIFICATIONS

### BMW:

**Longlife-98:** Special long-life engine oil, approved by BMW. Also meets ACEA A3/B3, API SJ/CD. Usually required for BMWs manufactured before MY 2002. Obsolete since 2009.

**Longlife-01:** Special BMW approval for full synthetic long-life oil. Product meets ACEA A3/B3 & API: SJ/CD EC-II. Usually required for BMWs built after MY 2002. This specification is based on the N52 engine test and is now obsolete.

**Longlife-01 FE:** Full synthetic long-life oil with fuel economy properties. Oils meeting this specifications must have a low HTHS viscosity to meet the manufacturer's fuel economy requirements.

**Longlife-04:** Special BMW approval for full synthetic long-life oil. Viscosities are SAE 0W-30, 0W-40, 5W-30 and 5W-40. Usually required for BMWs equipped with diesel particulate filter (DPF). General performance: ACEA C3. This specification is based on the N52 engine test and now obsolete.

**Longlife-12:** Special BMW motor oil. Compatible with ACEA C2. Viscosity is SAE 0W-30.

**Longlife-14 FE+:** Special BMW petrol motor oil. Not allowed for diesel engines. Based on ACEA A1/B1-12.

**Longlife-17 FE+:** BMW gasoline engine oil specification with low HTHS. Only permitted for certain BMW Group petrol engines with and without petrol particulate filter from model year 2017.



### CATERPILLAR:

**ECF-1-A:** Heavy duty diesel engine oil specification. Replaces ECF-1. Effective from March 1, 2007. API CH-4 requirements.

**ECF-2:** Heavy duty diesel engine oil specification. Replaces ECF-1 and is preferred over ECF-1-A oils. API CI-4/CI-4 Plus requirements. Effective from March 1, 2007.

**ECF-3:** Heavy duty diesel engine oil specification. For both on and off-road truck engines. Based on API CJ-4 requirements. Effective from March 1, 2007. These oils are strongly recommended for Caterpillar engines with DPF.

### CUMMINS:

**CES 20071:** Cummins Engineering Standard (CES). Heavy duty diesel engine oil specification. For engines without EGR. SAE 15W-40. Complies with API CH-4, API CH-4 + SJ and Global DHD-1.

**CES 20072:** Heavy duty diesel engine oil specification. Complies with API CH-4, Global DHD-1 & ACEA E5.

**CES 20074:** Heavy duty engine oil specification. For natural gas B, C, G5.9 & G8.3 engines. SAE 15W-40 or SAE 40.

**CES 20075:** Heavy duty diesel engine oil specification. Minimum quality for mid-range engines without EGR outside of North America. SAE 15W-40. Complies with API CF-4/SG, JAMA DH-1 & ACEA E2/E3. Oil drain intervals must be reduced to 250 hours/15,000km if CES 20075 oils are used.

**CES 20076:** Heavy duty diesel engine oil specification. For heavy duty and high horsepower engines without EGR in North America. SAE 15W-40. Complies to API CH-4 with the added requirement of a 300 hour Cummins M11 test.

**CES 20077:** Heavy duty diesel engine oil specification. For heavy duty and high horsepower engines without EGR in North America. SAE 15W-40. Complies to ACEA E5 with the addition of a 300 hour test to ACEA E5.

**CES 20078:** Heavy duty diesel engine oil specification. For heavy duty and mid-range engines with EGR. SAE 15W-40 or 10W-30. Complies with API CI-4.

**CES 20081:** Heavy duty diesel engine oil specification. For heavy duty and mid-range engines with exhaust after-treatments.

#### **DETROIT DIESEL:**

**DFS 93K222:** Heavy duty diesel engine oil specification for use with and without after-treatment systems. Similar to API CK-4.

**PGOS 93K214:** Heavy duty diesel engine oil specification designed to meet cooled exhaust gas recirculation (EGR) technology and existing retarded fuel injection timing introduced in October 2002.

**PGOS 93K218:** Heavy duty diesel engine oil specification. Based on API CJ-4.



#### **FIAT:**

**9.55535-G1:** Qualification for petrol engine lubricants granting fuel economy and extended drain. Synthetic based lubricant.

**9.55535-G2:** Qualification for petrol engine lubricants with standard characteristics.

**9.55535-H2:** Qualification for petrol engine lubricants, granting high performances and high viscosity at high temperatures. OEM recommended product also meets API SM, ACEA A3-04/B3-04.

**9.55535-H3:** Qualification for petrol engine lubricants granting very high performances.

**9.55535-D2:** Qualification for diesel engine lubricants with standard characteristics.

**9.55535-M2:** Qualification for lubricants with extended drain. OEM recommended product also meets ACEA B3-04/B4-04, GM-LL-B-025.

**9.55535-N2:** Qualification for lubricants with a very good characteristics for turbocharged engines, diesel and petrol, with extended drain. Minimum requirement is ACEA A3/B4-04.

**9.55535-S1:** Qualification for diesel and petrol engine, with exhaust treatment system, lubricants, granting fuel economy and extended drain. OEM recommended product is also approved to ACEA C2.

**9.55535-S2:** Qualification for diesel and petrol engine, with exhaust treatment system, lubricants, with extended drain. OEM recommended product also meets: ACEA C3-04, MB 229.51 & API SM/CF.

**9.55535-GS1:** ACEA C2 based, 0W-30 viscosity, Mid-SAPS engine oil for the latest petrol engines of the Fiat Group (Fiat, Alfa-Romeo, Lancia).

**9.55535-DS1:** ACEA C2 based, 0W30 viscosity, Mid-SAPS engine oil for the latest diesel engines of the Fiat Group (Fiat, Alfa-Romeo, Lancia).

#### **FORD:**

**M2C171-F1:** Engine oil meeting the requirements of API CK-4 with additional Ford requirements. Particularly recommended for use in Ford Power Stroke diesel engines.

**M2C913-A:** Engine oil, initial and service fill, SAE 5W-30. This specification meets the ILSAC GF-2, ACEA A1-98 & B1-98 and additional Ford requirements.

**M2C913-B:** Engine oils used for lubrication of spark ignition engines using petrol and for compression ignition engines using diesel fuels. The oil shall meet all the requirements of the ILSAC GF-2 & GF-3 specification, the ACEA A1-98 & B1-98 specification and additional Ford requirements.

**M2C913-C:** Fully backwards compatible and is strongly recommended for all applications that require the specification and M2C913-B. Provides various benefits to the customer such as improved fuel economy benefits and high robustness to biodiesel fuels. General requirements: ACEA A5/B5.

**M2C913-D:** Introduced in 2012, oils meeting this specification are recommended for all Ford diesel engines except Ford Ka TDCi models manufactured before 2009 and Ford Galaxy 1.9 TDi models manufactured between 2000 and 2006. Especially recommended for diesel engines where M2C913-B or M2C913-C oils were initially required. Oils meeting this specification can be used with extended oil change intervals and are also suitable to be used in engines running on biodiesel or high sulfur diesel.

**M2C917-A:** Viscosity SAE 5W-40 engine oil for pump injector diesel engines. Ford's code for VW specification 505 01. Equivalent performance includes ACEA A3/B4/C3.

**M2C934-B:** Extended drain engine oil for vehicles equipped with diesel particulate filter (DPF). General requirement is ACEA C1.

**M2C937-A:** Special engine oil for Ford Focus RS. Viscosity should be SAE 0W-40. General requirement is ACEA A3/B4.

**M2C948-B:** Largely based on the ACEA C2 oil sequence this specification requires a low SAPS 5W-20 oil and is primarily designed for the 2012- on, 1.0 liter, 3-cylinder EcoBoost engine. Contains in-house tests for fuel economy and piston deposit control. Oils meeting this spec must provide a 0.9% fuel economy improvement over regular 5W-20 oils.

**M2C950-A:** Special engine oil for Ford Focus Diesel 2.0 manufactured from September 2014, Ford Mondeo Diesel 2.0 manufactured from 2015 and many other late model Ford diesel vehicles. Viscosity should be SAE 0W-30.



## GENERAL MOTORS:

**GM-LL-A-025:** Special GM approval for long-life engine oil for petrol engines. Viscosity is SAE 0W-30. Product meets ACEA A3/B3. Drain interval can be as long as 30,000km. Recommended for vehicles built before MY2011.

**GM-LL-B-025:** Special GM approval for long-life engine oil for diesel engines. Viscosity is SAE 5W-40. Product meets ACEA A3/B3/B4. Drain interval can be as long as 50,000km. Recommended for vehicles built before MY2011.

**GM dexos1™:** Designed with petrol engines from MY 2011 onwards, GM dexos1™ replaced the GM-LL-A-025, GM 6094M & GM 4718M specifications. Compared to ILSAC GF-5, it has stricter requirements regarding piston deposit formation, aeration, oxidation stability, wear, low-temperature pumpability and volatility. SAE 0W-20, 5W-20 & 5W-30. Superseded by dexos1™ Gen 2.

**GM dexos1™ Gen 2:** Introduced in 2015, replacing GM dexos1™. It is backwards compatible to dexos1™ and offers additional protection against LSPI (Low-Speed Pre-Ignition).

**GM dexos2™:** The GM dexos2™ specification replaces both GM-LL-A-025 (petrol) and GM-LL-B-025 (diesel) specifications for the European market. Oils meeting GM dexos2™ are required for vehicles manufactured from MY2011 onward but they are also backwards compatible with older models. This specification is built on the ACEA C3 standard but also contains elements from the ILSAC GF-4 deposit formation test and low-temperature sludge build-up test.

**GM dexosD™:** Also known as GMW18006/Opel OV0401547. Replaces GM dexos2™. Intended for use in passenger cars and light duty diesel with diesel or petrol engines. Viscosity is SAE 0W-20.

## MACK:

**EO-N Premium Plus 03:** Heavy duty diesel engine oil, exceeding API CI-4 and must pass Mack T-10 & T-11 tests. Available in multiple viscosities but a 5W-40 must be synthetic.

**EO-O Premium Plus:** Heavy duty diesel engine oil, intended for use in engines which meet the 2007 (EPA 07) and later emissions requirements. These engines are designed with exhaust after-treatment systems. They are based on API CJ-4 with additional performance requirements, to fulfil the drain interval demands of Mack engines. It supercedes EO-N Premium Plus and is comparable to Volvo VDS-4.

**EOS-4.5:** Special heavy duty Mack specification based on API CK-4 with some additional requirements.

## MAN:

**M3271-1:** Heavy duty diesel engine oil specification for CNG/LPG engines.

**M3275:** Heavy duty diesel engine oil specification for high return engines.

**M3277:** Heavy duty diesel engine oil specification for high return engines.

**M3277 CRT:** Heavy duty diesel engine oil specification for high return engines.

**M3377:** Heavy duty diesel engine oil specification for super high performance engines intended for extended oil change intervals. These oils have better performance on deposits and piston cleanliness compared to M3277 engine oils.

**M3477:** Heavy duty, high performance diesel engine oil specification for oils meeting SAE 0W-XX, 5W-XX or 10W-XX viscosity grades. Suitable for engines fitted with after-treatment devices up to and including those meeting Euro 4 emission standards. Low SAPS oil complying to ACEA E6.

**M3677:** Heavy duty diesel engine oil specification for high performance oils which can be used for extended oil drains intervals for Euro 6 engines.

## MERCEDES-BENZ:

The name of the MB specifications derives from the Mercedes Bluebook scheme, divided by numbered paragraphs and pages. It is used by dealers to identify the products certified by the manufacturer and their correct application on the engines.

**MB 226.5:** This specification is required for Mercedes vehicles with petrol engines supplied by the Renault-Nissan Alliance. Specification requirements are similar to MB 229.5.

**MB 226.51:** This specification is based on RN0720 and is recommended for Mercedes vehicles with DPF fitted diesel engines supplied by Renault. Oils meeting this specification have very good thermal stability and after-treatment compatibility.

**MB 228.1:** Heavy duty, diesel engine oil specification for MB engines without ASSYST. Meets ACEA E2 and additional MB demands.

**MB 228.3:** Heavy duty, multigrade, diesel engine oil specification superseding MB 228.1.

**MB 228.31:** Heavy duty, low ash, diesel engine oil.

**MB 228.5:** Heavy duty, multigrade, diesel engine oil specification superseding MB 228.3.

**MB 228.51:** Heavy duty, diesel engine oil specification applicable for high performance engines meeting Euro 4 emissions standards. Can also be used for Euro 3, Euro 2 and Euro 1 requirements.



**MB 229.1:** For petrol and diesel engines. Minimum quality required ACEA A2/B2 with additional limits on engine.

**MB 229.3:** For petrol and diesel engines. Minimum quality required ACEA A3/B3/B4 and MB 229.1. It can only certify 0/5 W-X oils.

**MB 229.31:** Multigrade, low SAPS engine oil, advised or both diesel and petrol engines of Mercedes Benz, Smart and Chrysler. Only low viscosity engine oils which can realize a 1,0% saving on used fuel in the M111 Fuel economy test (CEC L-54-T-96) can get this approval. In this test the fuel savings are compared to the performance of the Reference oil RL 191 (SAE 15W-40).

**MB 229.5:** MB sheet for energy conserving oils for certain car and van engines. Approved oils must meet ACEA A3, B3 & B4 specification and some additional demands by Daimler Chrysler AG. Oil must be on the approval list.

**MB 229.51:** Low SAPS long life engine oil for diesel engines with particle filter meeting emission EU-4 → standards.

**MB 229.52:** Oils meeting this specifications must have lower ash content, at least 1% better fuel economy compared to the requirements of MB 229.31 & MB 229.51 and better oxidation stability for biofuel compatibility. Can also be used where an MB 229.31 or an MB 229.51 oil is required. Just like MB 229.5 and MB 229.51 this spec requires a long life oil. Specification for BlueTEC OM642.xxx engines.

**MB 229.71:** Low SAPS engine oil corresponding to ACEA C5 performance.

#### **PORSCHE:**

**Porsche A40:** Introduced in 2009 for all Porsche petrol cars from 1994 onwards, except for long drain applications for Cayenne V6.

**Porsche C30:** Porsche engine oil specification for diesel engines. Equivalent to VW 504 00/507 00.

#### **PSA PEUGEOT-CITROEN:**

The French PSA group issued a set of oil specifications in 2009 in order to exercise greater control over the motor oils used in their vehicles. All specifications are based on ACEA specs but also require further conditions to be met.

**B71 2290:** Peugeot/Citroën engine oil specification introduced in 2009. B71 2290 is a low-SAPS oil intended for engines with diesel particulate filters and with Euro 5 emission standards. General specifications are: ACEA C2 or C3 with additional PSA tests.

**B71 2294:** Peugeot/Citroën engine oil specification introduced in 2009. Main specification: ACEA A3/B4 with additional PSA tests.

**B71 2295:** Peugeot/Citroën engine oil standard for engine before MY 1998. General specification: ACEA A2/B2.

**B71 2296:** Peugeot/Citroën engine oil specification introduced in 2009. General specifications: ACEA A3/B4 + additional PSA tests.

**B71 2312:** Specification for oils able to endure the most severe thermal constraints along with most modern after-treatment systems compatibility. Applies to all Peugeot and Citroën vehicles equipped with “BlueHDi” Diesel engines fitted with SCR (Selective Catalyst Reduction) allowing NOx (Nitrous oxides) treatment through the use of AdBlue® additive or so-called “diesel exhaust fluid”. The standard also requires improved cold flow properties to reduce hydrodynamic friction of the oil, in order to obtain fuel economy benefits especially when the oil is cold. Complies to ACEA C1/C2 with additional PSA requirements.



#### **RENAULT:**

**RD-2:** Heavy duty engine oil specification complying with ACEA E3-96 issue 4 and Volvo VDS-2. Discontinued in 2013. Can be replaced by RLD-2.

**RLD:** RLD (Renault Long Drain), is a heavy duty engine oil specification that complies with ACEA E7 and Volvo VDS-3. Discontinued in 2013. Can be replaced by RLD-2.

**RLD-2:** Heavy duty engine oil specification complying with ACEA E7-02 and Volvo VDS-3.

**RLD-3:** Heavy duty engine oil specification for Euro 5 engines. General requirements are ACEA E9-08 & Volvo VDS-4.

**RN0700:** Renault engine oil specification; introduced in 2007 upon introduction of the Laguna III. General requirements: ACEA A3/B4 or ACEA A5/B5.

**RN0710:** Renault engine oil specification; introduced in 2007 upon introduction of the Laguna III. General requirements: ACEA A3/B4 + additional Renault demands.

**RN0720:** Renault engine oil specification; introduced in 2007 upon introduction of the Laguna III. General requirements: ACEA C4 + additional Renault demands. RN0720 is designed for use in the latest generation diesel engines equipped with DPF.

**RXD:** RXD (Renault Extra Long Drain) is a heavy duty engine oil specification, meeting ACEA E4-99, ACEA E7-04 and Volvo VDS-3. Discontinued in 2013. Can be replaced by RLD-2 or ACEA E6.



**VOLKSWAGEN:**

**VW 500 00:** Volkswagen specification for multigrade engine oils for petrol engines with SAE 5W-X/10W-X viscosity. This is an "old" oil specification and is applicable to engines built before model year 2000 (up to August 1999). Oils with an approval made post March 1997 were given an alternative, later VW specification.

**VW 501 01:** Conventional motor oils suitable for some VW petrol engines built before MY 2000. This is an "old" oil specification and is applicable to engines built before model year 2000 (up to August 1999). Oils with an approval made post March 1997 were given an alternative, later VW specification.

**VW 502 00:** Oil for petrol engines. Successor of VW 501 01 & VW 500 00 specification. Recommended for those which are subject to arduous conditions. It must not be used for any engines with variable service intervals or any which are referred to under other specifications.

**VW 503 00:** Long-life petrol engine oil for VW cars with WIV (system for longer service intervals). Also meets ACEA A1, SAE 0W-30 or 5W-30 specification.

**VW 503 01:** This specification is specifically for Audi RS4, Audi TT, S3 and Audi A8 6.0 V12 models with outputs of more than 180bhp, running with variable service intervals (30,000km or 2 years). SAE 5W-30. Now superseded by the VW 504 00 specification.

**VW 504 00:** Long life petrol specification which supercedes the VW 503 00 & VW 503 01 specifications. VW 504 00 oils are suitable for engines meeting the demands of Euro IV emissions standards.

**VW 505 00:** Passenger car diesel engine oil specification, minimum performance level CCMC PD-2. Lists viscosities SAE 5W-50, 10W-50/60, 15W-40/50, 20W-40/50 requiring 13% max. evaporation loss and SAE 5W-30/40, 10W-30/40 requiring 15% max. evaporation loss.

**VW 505 01:** Special engine oil for VW turbo diesel engines with pump-injector-unit and for the V8 common rail turbo diesel engines. Meets ACEA B4 SAE 5W-40 specification.

**VW 506 00:** These oils are suitable for diesel engines with extended service intervals of up to 50,000km / 2 years. Not for use on engines with a single injector pump. Oil change is indicated by the electronic service indicator. Viscosity is SAE 0W-30.

**VW 506 01:** These oils are especially for "Pumpe-Düse" (unit injector or "PD" engines) running on extended service intervals (30,000 - 50,000km / 24 months). Oil change is indicated by the electronic service indicator.

**VW 507 00:** Low SAPS oils suitable for Euro 4 engines and almost all VAG diesel engines from 2000 onwards with extended service intervals, unitary injector pumps and also Pumpe-Düse ("PD") engines. Excludes V10, R5 engines and VW Commercial vehicles without fitted DPF (diesel particulate filters) - these must use a 506 01 specification oil.

**VW 508 00:** Long life petrol engine oil based on ACEA C5 performance with additional VW tests. SAE 0W-20. Not backwards compatible with earlier VW specifications.

**VW 509 00:** Long life diesel engine oil based on ACEA C5 performance with additional VW tests. SAE 0W-20. Not backwards compatible with earlier VW specifications.

**VOLVO:**

**VDS:** Heavy duty diesel engine oil specification. A field test is required in 3 trucks equipped with Volvo 12 litre intercooled engines. The test is run for a minimum of 300,000km with oil change intervals of 50,000km. Viscosity of SAE 10W-30 or 15W-40. API CD/CE upgraded with the above field test.

**VDS-2:** Heavy duty diesel engine oil specification. A field test is required in 3 trucks equipped with Volvo TD 123 series, 12 litre intercooled engines. The test is run for a minimum of 300,000km with oil change intervals of 60,000km.

**VDS-3:** Heavy duty diesel engine oil specification, based on VDS & VDS-2 but modified for Euro 3 engines. It contains more stringent requirements on piston cleanliness and cylinder polishing and includes quality requirements for ACEA E5.

**VDS-4:** Heavy duty diesel engine oil specification. Suitable for Tier III engines using exhaust after-treatment. Meets API CJ-4 performance level.

**VDS-4.5:** Heavy duty diesel engine oil specification based on API CK-4, to reduce emissions and improve fuel economy. Backwards compatible with older Volvo specifications.

**TWO STROKE OILS**

These are low ash or ashless oils depending on the end use. Products can be used in oil injection systems or premixed with the fuel. As they are consumed with the fuel, two stroke oils must not cause excessive combustion chamber or piston deposits, or engine failure may result.

**THE MOST COMMON TWO STROKE SPECIFICATIONS ARE:****AIR COOLED:****API TC:**

Provides good wear protection and engine cleanliness.

**ISO EG-B/JASO FB:**

Provides good protection against scuffing and varnish.

**ISO EG-C/JASO FC:**

As per EG-B/FB but with severe restrictions on exhaust smoke, system blocking and detergency.

**ISO EG-D/JASO FD:**

Enhanced detergency and varnish protection compared to EG-C/FD.

**TISI:**

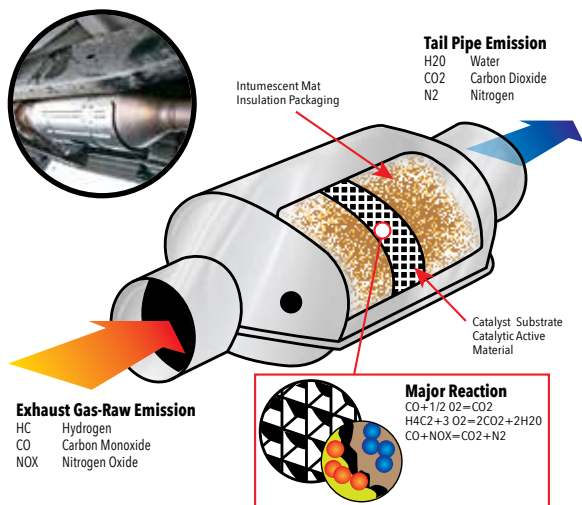
Thai Industrial standard with limits on smoke, generally equivalent to JASO FC.

**WATER COOLED (MARINE):****NMMA TC-W3®:**

Ashless oil for two stroke outboard engines. Oils can be licensed against this category. Oils meeting NMMA TC-WR® are proven to reduce emissions and to reduce fuel:oil ratio while extending engine life.

## DIESEL PARTICULATE FILTERS (DPF) & CORRECT LUBRICANTS

Diesel Particulate Filters (DPF), sometimes known as Catalysed Particulate Filters (CPF), form part of the latest generation systems, designed to clean exhaust emissions in many late model diesel vehicles.



- Exhaust gases enter.
- Particulate matter is trapped by honeycomb patterned filter.
- Cleaner emission gases exit the exhaust.

### WHAT DOES A DPF DO AND HOW DOES IT WORK?

- A DPF captures soot and particulates from the exhaust gas until a predetermined amount is reached.
- At set time intervals, it cleans or regenerates itself by burning off captured soot using a high temperature cleaning process.

For optimum performance of the DPF, most vehicles will require a Low or Mid SAPS oil.

### WHY DO DPFs NEED LOW OR MID SAPS OILS?

- Ash is produced after combustion and is carried, along with soot, to be trapped by the DPF. Too much ash and it won't be able to be removed during regeneration, thus clogging the filter which can then cause exhaust back pressure and potential engine damage.
- Excessive Phosphorus can poison exhaust system catalysts, reducing their efficiency.
- Excessive Sulphur can poison devices that remove nitrogen oxides from exhaust emissions.

### THE EFFECTS OF USING THE INCORRECT OIL IN A DPF

Burnt particulate matter that is starting to block the filter. If the incorrect oil is used, this can block a DPF prematurely and cause expensive repairs.



PARTIALLY BLOCKED DPF

### WHY DOES IT NEED CLEANING?

When the regeneration process is not allowed to complete or driving conditions are not suitable, the DPF may become blocked. Penrite Enviro+ DPF Cleaner can assist by lowering the burning temperature of the soot so it burns during regular driving and prevents runaway regeneration.

## FUEL COMPATIBLE ENGINE OILS

**E85 Fuel** is a mixture consisting of 85% ethanol and 15% unleaded petrol. It is important to use engine oils that are compatible with E85 fuel. Oils meeting API SP Resource Conserving, API SN Resource Conserving, ILSAC GF-6A, ILSAC GF-6B and ILSAC GF-5 are best able to handle E85 fuel as a specific test was introduced for oils meeting these specifications for corrosion protection when used with E85 as the fuel.

**E10 Fuel** is a blend of 90% Unleaded Petrol & 10% ethanol. Many vehicles can run on this blend of fuel and most engine oils, especially those meeting current specifications, with improved additive packs and higher detergency levels, are well suited to providing the protection required.

**LPG Fuel** (Liquid Petroleum Gas) or dual fuel (Petrol/LPG) powered vehicles need specialised engine oils to counteract effects such as oil nitration and valve seat recession. Oil nitration is the main cause of premature bearing failure in these engines. LPG also runs hotter and dryer than petrol and can cause valve seat recession in engines that are not using a correctly balanced engine oil. LPG oils have effective additives that counter balance the effects of running on LPG.

**Diesel Fuel** engine oils contain higher quantities of detergents and dispersants to cope with the increased amount of soot created during engine operation. Later model vehicles fitted with DPFs may also need specialised Low or Mid SAPS oils.

**Racing Fuels** are generally higher octane versions of petrol that provide better engine efficiency and power. Most engine oils can easily cope with high octane fuels, e.g. Avgas.

**Methanol/Alcohol Fuels** are generally used in motor sport. Most modern oils can provide adequate protection with these fuels providing that the oil does not become too diluted with the fuel. It is recommended that oils used with these fuels, be changed at least after each race meeting.

## SHELF LIFE OF OILS

The performance properties of lubricants will remain intact for many years provided they are in protected storage and not exposed to severe high/low temperature cycles and outside contamination. Generally, the simpler the oil formulation, the longer the oil will remain satisfactory. As a rule, shelf life of lubricants is around 5 years, if stored correctly.

### 1. HYDRAULIC/FOOD GRADE/COMPRESSOR/TURBINE AND GENERAL PURPOSE LUBRICATING OILS:

These oils contain low but very effective additive treatments. They may be stored for 3 years under protected conditions without any significant deterioration in performance.

### 2. ENGINE/MOTOR OILS & TRANSMISSION OILS:

Although these oils contain high additive contents, they are extremely stable. They may be stored for 5 years under protected conditions without any significant deterioration in performance. However, as the industry is always developing new specifications, these oils may be out of date by the time they are fully used.

### 3. INDUSTRIAL AND AUTOMOTIVE GEAR OILS:

These highly additised formulations can occasionally exhibit some long term instability. Under protected conditions, they should only be stored for 3 years.

# FEATURES & BENEFITS



## FULL ZINC

Zinc is part of an anti-wear additive used to coat metal surfaces and be a sacrificial agent against wear. Penrite products containing Full Zinc have between 1000 - 1600 ppm (parts per million) of zinc.

Penrite 10 Tenths Racing (10, 15, 20) and Premium Full Synthetic Oils (5, 10) contain Full Zinc+, which have optimised zinc levels plus boron, to lift the total level of the anti-wear package to over 1800+ ppm for Premium Full Synthetic 5 and 10 and up to 2200+ ppm for the 10 Tenths Racing products. Together with Full Zinc and Extra Ten, this combination provides a double layer of engine wear protection over normal engine oils at operating temperature.

## EXTRA TEN

Extra Ten technology is available in all HPR and 10 Tenths range of engine oils. Extra Ten is an increase in the oil's operating temperature viscosity over the normal SAE or manufacturer recommended rating i.e. HPR 10 (10W-50) vs 10W-40. Extra Ten technology was developed over 30 years ago due to local driving conditions and the harsh Australian climatic environment.

It is particularly effective when engines are under load such as when towing and working in harsh conditions.



## SHEAR FREE

As engine oils are compressed and pulverised by the workings of an engine, the VI improvers in the oil are cut or sheared, losing their ability to expand when heated which affects the oil's multigrade viscosity. Penrite 10 Tenths Racing oils and Premium Full Synthetic O feature Shear Free technology that prevents viscosity loss.

This unique benefit and the 100% PAO & Ester full synthetic technology provides ultimate engine performance and protection.

## 100% PAO & ESTER FULL SYNTHETIC

Blended using premium full synthetic 100% PAO (Poly Alpha Olefin) Group IV & Ester Group V base oils for maximum heat resistance and high performance.

PAO (Poly Alpha Olefin) is extremely pure due to its complex petro-chemical manufacturing process. As a result, the chemical structure formation is "flat" compared to lower grade full synthetic chain structures.

Having a "flat" oil structure creates less friction which allows the oil to effectively become "more slippery."

The combination of 100% PAO & Ester together with our premium additives, provides the ultimate protection against oxidation due to their outstanding heat resistance.

Other product benefits include oil pressure stability, longer engine life and greater engine performance.



## LOW EMISSIONS

Enviro+ is a wide range of highly advanced, full synthetic, Low and Mid SAPS engine oils that have been developed for late model low emission fuel efficient passenger, light and heavy duty vehicles including those fitted with Diesel Particulate Filters (DPFs).

The range covers petrol, E85 and diesel fuel types. Many of these products are OEM Approved and will not void vehicle warranties, when used in appropriate applications.





# ENGINE OIL

## KEY LABEL MESSAGES



1

PRODUCT  
NAME

2

BASE OIL  
INDICATOR

3

VEHICLE  
APPLICATION  
DESCRIPTIONS

4

VISCOSITY

5

KEY SPECIFICATIONS  
& OEM APPROVALS

6

REPLACEMENT VISCOSITY  
RECOMMENDATIONS

7

CELEBRATING  
OVER 90 YEARS

8

VEHICLE APPLICATION  
SYMBOLS

9

AUSTRALIAN  
OWNED

10

PRODUCT CODE

13

WARRANTY  
APPROVAL  
STAMP

12

KEY BENEFITS

11

PACK SIZE

Proudly Australian Owned & Made Since 1926



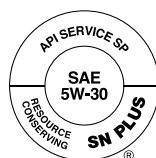


## INDUSTRY & OEM APPROVALS/LICENSES

Penrite prides itself in having a number of products that are approved by major manufacturers or registered with industry bodies. Below are examples of some of our many approvals:

PRODUCT	INDUSTRY & OEM APPROVALS/LICENSES
<b>HPR 5</b>	• MB-Approval 229.5 • API SP & SN Plus Licensed
<b>ENVIRO+ 0W-20</b>	• API SP Resource Conserving & SN Plus Licensed • ILSAC GF-6A Licensed
<b>ENVIRO+ 5W-30</b>	• VW Standard 504 00 & 507 00
<b>ENVIRO+ 5W-40</b>	• MB-Approval 229.51 • API SP & SN Plus Licensed
<b>ENVIRO+ 10W-40</b>	• MB-Approval 228.52 • API CK-4 & CI-4 Plus Licensed
<b>ENVIRO+ C3</b>	• MB-Approval 229.52 • API SP & SN Plus Licensed
<b>ENVIRO+ C5</b>	• API SP Resource Conserving & SN Plus Licensed • ILSAC GF-6A Licensed
<b>ENVIRO+ GF-S</b>	• API SP Resource Conserving & SN Plus Licensed • ILSAC GF-6A Licensed
<b>ENVIRO+ HYBRID</b>	• API SP Resource Conserving & SN Plus Licensed • ILSAC GF-6B Licensed
<b>CONVOY DFX</b>	• MB-Approval 228.3 • API CI-4 Plus Licensed
<b>CONVOY DHD</b>	• Cummins CES 20086 • DFS Oil Specification 93K222 • Mack EOS-4.5 Approval • MB-Approval 228.31 • Renault VI RLD-3 • Volvo VDS-4.5 • API CK-4 Licensed
<b>CONVOY DLA</b>	• Mack EOS-4.5 Approval • MB-Approval 228.52 • Renault VI RLD-3 • Volvo VDS-4 • API CK-4 Licensed
<b>CONVOY DSP</b>	• MB-Approval 228.52 • API CK-4 & CI-4 Plus Licensed
<b>MARINE OUTBOARD 2 STROKE</b>	• NMMA TC-W3® Registration Number RL-00419J
<b>BIOMARINE OUTBOARD 2 STROKE</b>	• NMMA TC-W3® Registration Number RL-38117W
<b>MARINE OUTBOARD 4 STROKE 10W-30</b>	• NMMA FC-W® Registration Number FC-38116W
<b>MARINE OUTBOARD 4 STROKE 10W-40</b>	• NMMA FC-W® Registration Number FB-13811W
<b>MARINE INBOARD 4 STROKE 25W-40</b>	• NMMA FC-W® Registration Number FB-13827W
<b>MARINE FULL SYNTHETIC 10W-40</b>	• NMMA FC-W® Registration Number FB-781778Y

## LOOK FOR THESE LOGOS



TC-W3

# ENGINE OIL RANGE

CHOOSE THE RIGHT ENGINE OIL FOR YOUR VEHICLE

**10 TENTHS**  
100% PERFORMANCE

- ✓ High performance and competition
- ✓ Full Synthetic PAO & Ester base oils (Racing and Premium ranges)
- ✓ Shear free (Racing range) offers start up protection, maintains oil pressure and eliminates viscosity loss
- ✓ Full Zinc+ anti-wear additive package

**HPR**

- ✓ Premium
- ✓ Full Synthetic, Semi Synthetic and Premium Mineral
- ✓ Latest API and ACEA specifications
- ✓ Double layer of engine wear protection with Full Zinc and Extra Ten technology
- ✓ Manufacturer approved to maintain vehicle warranty

**ENVIRO+**

- ✓ Application specific
- ✓ Full Synthetic Low and Mid SAPS
- ✓ Latest API and ACEA specifications
- ✓ Catalyst and DPF compatible oils with fuel saving benefits
- ✓ Manufacturer approved to maintain vehicle warranty
- ✓ Latest low viscosity fuel efficient oil

**EVERYDAY**

- ✓ Everyday motoring
- ✓ Full Synthetic, Semi Synthetic and Premium Mineral

**PRO**

- ✓ Designed specifically for workshops
- ✓ Full Synthetic, Semi Synthetic and Premium Mineral
- ✓ Latest API specifications

**CONVOY**

- ✓ Full Synthetic and Premium Mineral
- ✓ Latest API and ACEA specifications
- ✓ Manufacturer approved to maintain vehicle warranty

# ENGINE OIL RANGE SUMMARY

BRAND RANGE	PRODUCT NAME	PRODUCT CODE	FULL SYNTHETIC 100% PAO ESTER	FULL SYNTHETIC	FULL SYNTHETIC LOW - MID SAPS	SEMI SYNTHETIC	PREMIUM MINERAL	SAE GRADE	API	ACEA	JASO / ILSAC	OEM APPROVED	PETROL / EIO	LPG / DUAL FUEL	E85 FUEL	LIGHT DUTY DIESEL	HEAVY DUTY DIESEL	ZINC PPM
10TENTHS HPR	RACING 5	RACING5W30005/020	✓					5W-30	SN			✓	✓			✓		1800
	RACING 10	RACING10W40005/020	✓					10W-40	SN/CF			✓	✓			✓		1680
	RACING 15	RACING15W50005/020	✓					15W-50	SN/CF			✓	✓			✓		1680
	RACING 20	RACING20W60005/020	✓					20W-60	SN/CF			✓	✓			✓		1680
	RUNNING-IN OIL	RUN005					✓	15W-40	SF/CC			✓	✓			✓		1610
	PREMIUM 0	FS0W40005/020	✓					0W-40	SP	A3/B4		✓	✓			✓		1020
	PREMIUM 10	FS10W60005/020	✓					10W-60	SN/CF		JASO MA2	✓	✓			✓		1240
HPR	HPR 5	HPR05001/005/006/007/010/020/020BOX/060/205	✓					5W-40	SP	A3/B4	JASO MA	✓	✓			✓		1240
	HPR 10	HPR10001/005/006/007/020/060/205	✓					10W-50	SP			✓	✓			✓		1080
	HPR 15	HPR15001/005/020/205	✓					15W-60	SP			✓	✓			✓		1080
	HPR 30	HPR30001/005/020/060/205					✓	20W-60	SM/CF			✓	✓			✓		1530
	HPR 40	HPR40005					✓	25W-70	SL			✓						1450
	HPR 50	HPR50005/020					✓	40-70	SL			✓						1450
	HPR 0	HPR00005/020	✓					0W-30	SP	A7/B7			✓	✓		✓		850
	HPR DIESEL 5	HPRD5001/005/007/010/020/020BOX/060/205				✓		5W-40	CI-4 PLUS/SL		JASO DH-1	✓	✓			✓		1090
	HPR DIESEL 10	HPRD10001/005/007/010/020/020BOX/060/205				✓		10W-40	CI-4/SL	A3/B4	JASO DH-1	✓	✓			✓		1090
	HPR DIESEL 15	HPRD15001/005/007/010/020/060/205				✓		15W-50	CI-4/SL		JASO DH-1	✓	✓			✓		1090
ENVIRO+	HPR DIESEL	HPRD005/010/020/205				✓		20W-60	CH-4/SJ		JASO CD Plus	✓	✓			✓		1090
	HPR GAS 10	HPRG10005				✓		10W-50	CI-4/SL			✓	✓			✓		1090
	ENVIRO+ 0W-20	EPLUS0W20001/005/020/020BOX/205		✓				0W-20	SP R/C		ILSAC GF-6A	✓	✓	✓				850
	ENVIRO+ 5W-20	EPLUS5W20001/005/020/020BOX/060		✓				5W-20	SN	C5		✓	✓			✓		890
	ENVIRO+ 5W-30	EPLUS5W30001/005/007/010/020/020BOX/060/205		✓				5W-30		C3		✓	✓			✓		850
	ENVIRO+ 5W-40	EPLUS5W40001/004 (NZ)/005/006/007/010/020/020BOX/060/205/1000LTR		✓				5W-40	SP	C3		✓	✓			✓		890
	ENVIRO+ 10W-40	EPLUS10W40005/007/010/020		✓				10W-40	CK-4	E9		✓	✓			✓		890
	ENVIRO+ C1	EPLUSC1005/010/020/020BOX/205		✓				5W-30		C1			✓			✓		500
	ENVIRO+ C2	EPLUSC2001/005/007/010/020/020BOX/060/205/1000LTR		✓				0W-30	SP	C2		✓	✓			✓		890
	ENVIRO+ C3	EPLUSC3001/005/007/010/020/020BOX/060/205		✓				5W-30	SP	C2/C3		✓	✓			✓		820
EVERYDAY	ENVIRO+ C4	EPLUSC4001/005/007/010/020/020BOX/060/205		✓				5W-30		C4		✓	✓			✓		770
	ENVIRO+ C5	EPLUSC5001/006/010/020/020BOX		✓				0W-20	SP R/C	C5/C6	ILSAC GF-6A	✓	✓	✓		✓		820
	ENVIRO+ EU	EPLUSEU001/004 (NZ)/005		✓				5W-30	SN	C3		✓	✓			✓		880
	ENVIRO+ GF-S	EPLUSGF5001/004 (NZ)/005/007/010/020/020BOX/060/205		✓				5W-30	SP R/C		ILSAC GF-6A	✓	✓	✓		✓		820
	ENVIRO+ HYBRID	EPLUSHYBOW16005		✓				0W-16	SP R/C		ILSAC GF-6B	✓	✓					890
	FULL SYNTHETIC 5W-30	EDS05001/004 (NZ)/005/006/010/020/020BOX/060/205	✓					5W-30	SL	A5/B5		✓	✓			✓		1050
	FULL SYNTHETIC 10W-40	EDS10001/004 (NZ)/006	✓					10W-40	SP	A3/B4	JASO MA	✓	✓			✓		1080
	SEMI SYNTHETIC 5W-40	ED5W40005			✓			5W-40	SN/CF	A3/B4		✓	✓			✓		1080
	SEMI SYNTHETIC 10W-30	ED10W30004 (NZ)/005			✓			10W-30	SP R/C		ILSAC GF-6A	✓	✓			✓		850
	SEMI SYNTHETIC 10W-40	ED10W40001/004 (NZ)/005/006			✓			10W-40	SP	A3/B4		✓	✓			✓		1080
PRO	SEMI SYNTHETIC 15W-40	ED15W40001/004 (NZ)/005			✓			15W-40	SN/CF	A3/B4		✓	✓			✓		1050
	PREMIUM MINERAL 5W-30	PM005005				✓		5W-30	SP R/C		ILSAC GF-6A	✓	✓			✓		840
	PREMIUM MINERAL 10W-30	PM010005				✓		10W-30	SP R/C		ILSAC GF-6A	✓	✓			✓		780
	PREMIUM MINERAL 15W-40	PM015005				✓		15W-40	SP			✓	✓			✓		910
	PREMIUM MINERAL 20W-50	PM020005				✓		20W-50	SN/CF			✓						1080
	STOPS OIL BURNING 30-70	PM030005						30-70	SJ			✓						1450
	PRO 5	PRO5020/060/205		✓				5W-30	SP	C2/C3		✓	✓	✓		✓		890
	PRO 10	PRO10205			✓			10W-30	SP R/C		ILSAC GF-6A	✓	✓	✓		✓		850
	PRO 15 PLUS	PRO15PLUS020/060/205			✓			15W-50	SN/CF	A3/B4		✓	✓			✓		1050
	PRO 20	PRO20020				✓		20W-50	SM/CF			✓				✓		1080
CONVOY	PRO EU	PROEU020/060/205			✓			5W-30	SN	C3		✓	✓	✓		✓		880
	PRO EXTRA	PROEXTRA020/060/205/1000LTR			✓			10W-40	SP	A3/B4		✓	✓			✓		1090
	PRO ULTRA	PROULTRA060/205			✓			5W-40	SN/CF	C3		✓				✓		890
	CONVOY DFX	DFX005/010/020/060/205/1000LTR				✓		15W-40	CI-4 PLUS	E7	JASO DH-1	✓	✓	✓		✓		1090
	CONVOY DHD	DHD005/010/020/060/205/1000LTR				✓		15W-40	CK-4/SN	E9	JASO DH-2	✓	✓	✓		✓		1110
	CONVOY DLA	DLA020/060/205			✓			10W-40	CK-4	E9	JASO DH-2	✓	✓			✓		890
	CONVOY DSP	DSP020			✓			5W-30	CK-4	E9		✓				✓		890
	CONVOY MFD	MULTIFD010/020/205/1000LTR				✓		15W-40	CI-4/SL	E7		✓	✓			✓		1290
	CONVOY MONO TRUCK 30	MONO30020/205				✓		SAE 30	CF-2/SG	E1		✓	✓			✓		1090
	CONVOY MONO TRUCK 40	MONO40020/205				✓		SAE 40	CF-2/SF	E1		✓	✓			✓		1260
	CONVOY MONO TRUCK 50	MONO50020				✓		SAE 50	CF-2/SF	E1		✓	✓			✓		1260

Minor variations in batches can occur that do not impact product performance. Specifications are current at the time of printing.



**PENRITE**

**Steadfast**

**Reynolds**

**26**

**PENRITE**

**Ford**

**suttontools**

**GROVE**

**MACK**

**GROVE**

**MACK**





Penrite 10 Tenths Racing & Premium range are high performance, premium 100% PAO & Ester and full synthetic engine oils that provide the ultimate protection in on-road and competition applications.

Designed, tested and proven in tough Australian conditions. They are used by Factory Race Teams to provide the ultimate in performance and protection.

#### BENEFITS

- 100% Premium PAO & Ester and full synthetic base oils for ultimate performance (except Running-In Oil & Race Castor Oil)
- Full Zinc+ additive pack for excellent wear protection
- Latest oil specification technology for less wear, sludge and piston deposits
- Competition proven and trusted for performance engines
- Longer oil life in high performance vehicles
- European-standard additive package
- Protects engine at start up
- Shear free formulation reduces viscosity loss (10 Tenths Racing range and Premium 0 only)

## PRODUCTS

	LITRES		
	1	5	20
Racing 5		•	•
Racing 10		•	•
Racing 15		•	•
Racing 20		•	•
Running-In Oil		•	
Race Castor Oil	•		
Premium 0		•	•
Premium 10		•	•
<b>CARTON QUANTITY</b>	6	4	



## RACING 5

RACING5W30005/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Blended for maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 5W-20
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SN
- ✓ Chrysler MS-6395
- ✓ Ford M2C910-A/M2C929-A/M2C946-A
- ✓ GM 4718M/6094M/9986231



## RACING 10

RACING10W40005/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Blended for maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 10W-30
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ BMW LL-98
- ✓ MB 229.3
- ✓ Porsche GL
- ✓ VW 502 00/505 00



## RACING 15

RACING15W50005/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 15W-50

### BENEFITS

- Blended for maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 15W-40 & 20W-40
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ BMW LL-98
- ✓ MB 229.1
- ✓ Porsche GL
- ✓ VW 502 00/505 00



## RACING 20

RACING20W60005/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 20W-60

### BENEFITS

- Blended for maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 20W-50 & 25W-60
- For diesel, LPG/dual fuel, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ BMW LL-98
- ✓ MB 229.1
- ✓ VW 502 00



## RUNNING-IN OIL

RUN005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Full Zinc anti-wear additive package
- Non friction modified
- Prevents glazing of the engine cylinder bores
- Suitable for 20W-40 & SAE 30
- For diesel, LPG & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SF/CC



## RACE CASTOR OIL

RCAS001

**BASE OIL:** Castor/Synthetic Ester

**VISCOSITY:** SAE 20W-40

### BENEFITS

- Soluble in methanol & petrol
- Longer engine life
- Dramatically reduced sticky deposits compared to full castor blends
- Reduced formation of lacquers on engine components
- Suitable for SAE 30 & SAE 40
- For petrol/E10 & racing fuel types



## PREMIUM 0

FS0W40005/020

**BASE OIL:** PAO & Full Synthetic

**VISCOSITY:** SAE 0W-40

### BENEFITS

- Blended for outstanding protection & longer engine life
- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- OEM approved
- Suitable for 0W-30 & 5W-40
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SP/SN Plus
- ✓ BMW LL-01
- ✓ MB 229.5
- ✓ Porsche A40
- ✓ Renault RN 0700/RN 0710
- ✓ VW 502 00/505 00



## PREMIUM 10

FS10W60005/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 10W-60

### BENEFITS

- Blended for maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Competition proven
- Suitable for 10W-50 & 15W-50
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ BMW LL-98
- ✓ JASO MA2
- ✓ MB 229.1
- ✓ VW 502 00







FREE SERVICE & CONSULTATION  
**PENRITE**

**HPR 5**  
FULL SYNTHETIC  
10W-60  
**5W-40**  
EXTRA-TECH  
FLUID ZINC

20

# HPR™

Penrite recognises that different engine designs require a range of oils to properly lubricate and protect while preserving the fuel economy or power of the engine. The first consideration is the original oil requirement for start up viscosity at typical ambient conditions. Then the most appropriate oil grade in our range is applied that would ensure good protection at operating temperatures. This is one of the reasons why Penrite engine oils have some of the widest multigrade ranges of any oil company.

Penrite HPR premium quality engine oils are a performance range of engine lubricants designed for Australian conditions. The Penrite HPR range has been engineered with a unique double layer of engine wear protection with Full Zinc and Penrite's advanced Extra Ten technology.

The Penrite HPR range has been developed for use in vehicles from modern compact, multi-valved family cars through to high performance Supercars, racing & competition machines, 4WDs, SUVs, light & heavy commercials.

Penrite's HPR range of engine oils have the "Extra Ten" in the oil's operating temperature viscosity grade which provides for a slightly thicker oil film between the engine components when the engine is at operating temperature.

## BENEFITS

- Extra Ten provides an extra layer of protection
- Full Zinc to minimise engine wear (except HPR 0)
- OEM approved
- Latest API and ACEA technology
- Available in multiple sizes to suit most applications

## PRODUCTS

	LITRES								
	1	5	6	7	10	20	20 BOX	60	205
HPR 5	•	•	•	•	•	•	•	•	•
HPR 10	•	•	•	•		•		•	•
HPR 15	•	•				•			•
HPR 30	•	•				•		•	•
HPR 40		•							
HPR 50		•				•			
HPR 0		•				•			
HPR Diesel 5	•	•		•	•	•	•	•	•
HPR Diesel 10	•	•		•	•	•	•	•	•
HPR Diesel 15	•	•		•	•	•		•	•
HPR Diesel		•			•	•			•
HPR Gas 10		•							
<b>CARTON QTY</b>	6	4	3						





## HPR 5

HPR05001/005/006/007/010/020/020BOX/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-40

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- OEM approved
- API licensed for quality assurance
- Latest oil specification technology
- Suitable for 5W-30 & 10W-30
- For petrol & light duty diesel fuel types

### OEM APPROVALS

- ✓ MB-Approval 229.5

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SP/SN Plus
- ✓ BMW LL-01
- ✓ Ford M2C153-H/M2C912-A/M2C913-A/M2C913-B
- ✓ GM 4718M
- ✓ GM-LL-B-025
- ✓ JASO MA
- ✓ VW 502 00/505 00



## HPR 10

HPR10001/005/006/007/020/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W-50

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Outstanding protection & longer engine life
- Suitable for 10W-40 & 15W-40
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SP/SN Plus
- ✓ BMW LL-01/LL-98
- ✓ Ford M2C153-G/M2C905-A3/M2C910-A
- ✓ GM 9986126
- ✓ GM-LL-B-025
- ✓ Holden HN 2100
- ✓ MB 229.1/229.3
- ✓ PSA E-02
- ✓ Rover RES.22.OL.22
- ✓ VW 501 01/502 00/505 00



## HPR 15

HPR15001/005/020/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 15W-60

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Suitable for 15W-50, 20W-40 & 20W-50
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SP/SN Plus
- ✓ Ford M2C153-E/M2C902-A3
- ✓ GM 6094M
- ✓ MB 229.1
- ✓ VW 501 01/502 00/505 00





## HPR 30

HPR30001/005/020/060/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-60

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Reduces oil consumption & maintains oil pressure
- Suitable for 20W-40, 20W-50, 25W-60 & SAE 30
- For petrol & light duty diesel fuel types

### SPECIFICATIONS

- ✓ API SM/CF
- ✓ Ford M2C153-E/M2C902-A3
- ✓ GM 6094M
- ✓ Holden HN 2314
- ✓ MB 228.3/229.1
- ✓ VW 501 01/502 00/505 00



## HPR 40

HPR40005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 25W-70

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Reduces oil consumption & maintains oil pressure
- Suitable for 25W-50, 25W-60 & SAE 40
- For petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SL



## HPR 50

HPR50005/020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 40-70

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Prolongs engine life
- Suitable for SAE 50
- For petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SL



## HPR 0

HPR00005/020

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 0W-30

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Less oil consumption
- Enhanced LSPI protection
- Suitable for 0W-20 & 5W-20
- For diesel, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A5/B5
- ✓ ACEA A7/B7
- ✓ API SP/SN Plus
- ✓ BMW Longlife-01 FE
- ✓ MB 229.6
- ✓ Renault RN 0700
- ✓ Volvo VCC 95200356



## HPR DIESEL 5

HPRD5001/005/007/010/020/020BOX/060/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 5W-40

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Minimises sludge formation
- Suitable for 5W-30, 10W-30 & 10W-40
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API CI-4 Plus/SL
- ✓ Ford M2C153-H/M2C171-C/M2C912-A1/M2C913-B
- ✓ Global DLD-3
- ✓ JASO DH-1
- ✓ MB 228.3
- ✓ Opel B 040 2098
- ✓ PSA D-02
- ✓ VW 502 00/505 00



## HPR DIESEL 10

HPRD10001/005/007/010/020/020BOX/060/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Minimises sludge formation
- Can replace 10W-30
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API CI-4/SL
- ✓ Ford M2C153-H/M2C171-C
- ✓ Global DLD-3
- ✓ JASO DH-1
- ✓ MB 228.3
- ✓ Opel B 040 2098
- ✓ PSA D-02
- ✓ VW 502 00/505 00



## HPR DIESEL 15

HPRD15001/005/007/010/020/060/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 15W-50

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Minimises sludge formation
- Suitable for 15W-40, 20W-40 & 20W-50
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API CI-4/SL
- ✓ Ford M2C153-G/M2C171-C
- ✓ JASO DH-1
- ✓ MB 228.3



## HPR DIESEL

HPRD005/010/020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-60

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Minimises sludge formation
- Suitable for 20W-40, 20W-50 & SAE 30
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API CH-4/SJ
- ✓ Ford M2C911-A1
- ✓ Global DLD-1
- ✓ JASO CD Plus
- ✓ MAN 3275
- ✓ MB 228.3
- ✓ MTU Type 2
- ✓ PSA D-99
- ✓ Renault RLD
- ✓ Volvo VDS-2
- ✓ VW 501 01



## HPR GAS 10

HPRG10005

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-50

### BENEFITS

- Extra Ten technology provides an extra layer of engine protection
- Full Zinc anti-wear additive package
- Minimises sludge formation
- Suitable for 10W-40, 15W-40 & 15W-50
- For LPG/dual fuel, petrol/E10 & diesel fuel types

### SPECIFICATIONS

- ✓ API CI-4/SL
- ✓ China National GB 11122-2006
- ✓ Ford M2C153-G/M2C905-A3/M2C910-A
- ✓ Holden HN 2314
- ✓ MB 228.1/229.3
- ✓ PSA D-02/E-02
- ✓ VW 501 01/502 00/505 00







# ENVIRO+™

Enviro+ engine oils are a range of highly advanced, full synthetic, Low and Mid SAPS engine oils that have been developed for late model fuel efficient low emission passenger, light and heavy duty vehicles including those fitted with DPFs. The Enviro+ range has been developed to provide long lasting protection for vehicles with extended oil drain intervals as well as providing OEM approved products to satisfy new vehicle warranty requirements. The range covers petrol, E85 and diesel fuel types.

## BENEFITS

- Designed for low emission engines
- Full Synthetic
- Latest API and ACEA industry specifications
- Vehicle manufacturer approvals
- Maximises DPF and exhaust catalyst life
- Fuel saving technology on selected products
- E85 fuel compatible for selected products

## PRODUCTS

	LITRES										
	1	4	5	6	7	10	20	20 BOX	60	205	1000
Enviro+ 0W-20	●		●				●	●		●	
Enviro+ 5W-20	●		●				●	●	●		
Enviro+ 5W-30	●		●		●	●	●	●	●	●	
Enviro+ 5W-40	●	● (NZ)	●	●	●	●	●	●	●	●	●
Enviro+ 10W-40			●		●	●	●				
Enviro+ C1			●			●	●	●		●	
Enviro+ C2	●		●		●	●	●	●	●	●	●
Enviro+ C3	●		●		●	●	●	●	●	●	
Enviro+ C4	●		●		●	●	●	●	●	●	
Enviro+ C5	●			●		●	●	●			
Enviro+ EU	●	● (NZ)	●								
Enviro+ GF-S	●	● (NZ)	●		●	●	●	●	●	●	
Enviro+ Hybrid			●								
<b>CARTON QTY</b>	6	4	4	3							



## ENVIRO+ 0W-20

EPLUS0W20001/005/020/020BOX/060

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 0W-20

### BENEFITS

- API licensed for quality assurance
- Latest oil specification technology
- Improved engine durability, better fuel economy & increased wear protection
- Long engine oil drain intervals
- Maximum engine life
- Mid SAPS additive technology
- For E85, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP Resource Conserving/SN Plus
- ✓ Chrysler MS-6395
- ✓ Ford M2C945-A/M2C947-A
- ✓ GMW 16182
- ✓ ILSAC GF-6A



## ENVIRO+ 5W-20

EPLUS5W20001/005/020/020BOX/060

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-20

### BENEFITS

- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Long engine oil drain intervals
- Extended exhaust catalyst and oxygen sensor life
- Emissions system friendly
- Highly shear stable
- Mid SAPS additive technology
- For hybrid & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C5
- ✓ API SN
- ✓ Chrysler MS-6395
- ✓ Ford M2C946-A/M2C948-B
- ✓ GM 4718M/6094M
- ✓ STJLR.03.5004/STJLR.51.5122



## ENVIRO+ 5W-30

EPLUS5W30001/005/007/010/020/020BOX/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- OEM approved
- Long engine oil drain intervals
- Maintains fuel economy
- Mid SAPS additive technology
- For diesel (including those with DPFs) & petrol/E10 fuel types

### OEM APPROVALS

- ✓ VW Standard 504 00/507 00

### SPECIFICATIONS

- ✓ ACEA C3
- ✓ BMW LL-04
- ✓ Chrysler MS-11106
- ✓ Fiat 9.55535-S3
- ✓ MB 229.31/229.51
- ✓ Porsche C30



## ENVIRO+ 5W-40

EPLUS5W40001/004 (NZ)/005/006/007/010/020/0200X/060/205/1000LTR

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-40

### BENEFITS

- OEM approved
- API licensed for quality assurance
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Mid SAPS additive technology
- For diesel (including those with DPFs) & petrol/E10 fuel types

### OEM APPROVALS

- ✓ MB-Approval 229.51

### SPECIFICATIONS

- ✓ ACEA C3
- ✓ API SP/SN Plus
- ✓ BMW LL-04
- ✓ Fiat 9.55535-S2
- ✓ GM 16177 (dexos2™)
- ✓ Porsche A40
- ✓ VW 502 00/505 01



## ENVIRO+ 10W-40

EPLUS10W40005/007/010/020

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- OEM approved
- API licensed for quality assurance
- Maximises DPF life
- Suitable for 15W-40
- For diesel (including those with DPFs) fuel types

### OEM APPROVALS

- ✓ MB-Approval 228.52

### SPECIFICATIONS

- ✓ ACEA E9
- ✓ API CK-4/CI-4 Plus
- ✓ Cummins CES 20081
- ✓ Ford M2C171-E
- ✓ MAN 3277CRT/M 3271-1/3477
- ✓ Renault RLD-3



## ENVIRO+ C1

EPLUSC1005/010/020/020BOX/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Maximises DPF life
- Superior cold start protection
- Extends exhaust catalyst life
- Long engine oil drain intervals
- Emissions system friendly
- Maximises fuel economy
- Low SAPS additive technology
- For diesel (including those with DPFs) fuel types

### SPECIFICATIONS

- ✓ ACEA C1
- ✓ Ford M2C934-B
- ✓ JLR STJLR 03.5005



## ENVIRO+ C2

EPLUSC2001/005/007/010/020/020BOX/060/205/1000LTR

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 0W-30

### BENEFITS

- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Shear stable VI improvers help maintain oil viscosity
- Maximum performance & protection
- Long engine oil drain intervals
- Maximises fuel economy
- Latest oil specification technology
- Mid SAPS additive technology
- For diesel (including those with DPFs), LPG & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C2
- ✓ API SP/SN Plus
- ✓ BMW Longlife-12 FE
- ✓ Fiat 9.55535-DS1/9.55535-GS1
- ✓ Ford M2C950-A
- ✓ STJLR.03.5007
- ✓ VW 506 01



## ENVIRO+ C3

EPLUSC3001/005/007/010/020/020BOX/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Maximum wear protection, minimum sludge formation & reduced piston deposits
- API licensed for quality assurance
- ACEA C2 fuel economy with ACEA C3 wear protection
- Long engine oil drain intervals
- Improved fuel economy
- Latest oil specification technology
- Mid SAPS additive technology
- For diesel (including those with DPFs), LPG & petrol/E10 fuel types

### OEM APPROVALS

- ✓ MB-Approval 229.52

### SPECIFICATIONS

- ✓ ACEA C3/C2
- ✓ API SP/SN Plus
- ✓ BMW LL-04
- ✓ Chrysler MS-11106
- ✓ Fiat 9.55535-S3
- ✓ Ford M2C946-A
- ✓ GMW 16177 (dexos2™)
- ✓ MB 229.31/229.52
- ✓ PSA B71 2297





## ENVIRO+ C4

EPLUSC4001/005/007/010/020/020BOX/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Maximises DPF life
- Long engine oil drain intervals
- Extended exhaust catalyst life
- Maximises fuel economy
- Low SAPS additive technology
- For diesel (including those with DPFs) fuel types

### SPECIFICATIONS

- ✓ ACEA C4
- ✓ Ford M2C934-B (level)
- ✓ MB 226.51/229.31/229.51
- ✓ Renault RN 0720



## ENVIRO+ C5

EPLUSC5001/006/010/020/020BOX

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 0W-20

### BENEFITS

- API licensed for quality assurance
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Shear stable VI improvers help maintain oil viscosity
- Enhanced LSPI protection
- Extends exhaust catalyst life
- Mid SAPS additive technology
- For diesel, E85, hybrid, LPG & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C5/C6
- ✓ API SP Resource Conserving/ SN Plus
- ✓ BMW Longlife-17 FE+
- ✓ Chrysler MS-12145
- ✓ Fiat 9.55535-GSX
- ✓ Ford WSS-M2C947-B1
- ✓ GMW 18006
- ✓ ILSAC GF-6A
- ✓ JLR STJLR 03.5006
- ✓ MB 229.71
- ✓ Renault RN17FE
- ✓ STJLR.51.5122



## ENVIRO+ EU

EPLUSEU001/004 (NZ)/005

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Long engine oil drain intervals
- Maintains OEM performance outside of warranty period
- Mid SAPS additive technology
- For E85, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C3
- ✓ API SN
- ✓ BMW LL-04
- ✓ MB 229.31/229.51
- ✓ Porsche C30
- ✓ VW 504 00/507 00



## ENVIRO+ GF-S

EPLUSGF5001/004 (NZ)/005/007/010/020/020BOX/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- API licensed for quality assurance
- Latest oil specification technology
- Improved engine durability, better fuel economy & increased wear protection
- Mid SAPS additive technology
- For E85, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP Resource Conserving/SN Plus
- ✓ Chrysler MS-6395
- ✓ Ford M2C929-A/M2C946-A
- ✓ GM 4718M/6094M
- ✓ GMW 17332 (dexos™ 1 Gen 2)
- ✓ ILSAC GF-6A



## ENVIRO+ HYBRID

EPLUSHYBOWI6005

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 0W-16

### BENEFITS

- API licensed for quality assurance
- Latest oil specification technology
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Mid SAPS additive technology
- For hybrid & petrol/E10 fuel types

### SPECIFICATIONS

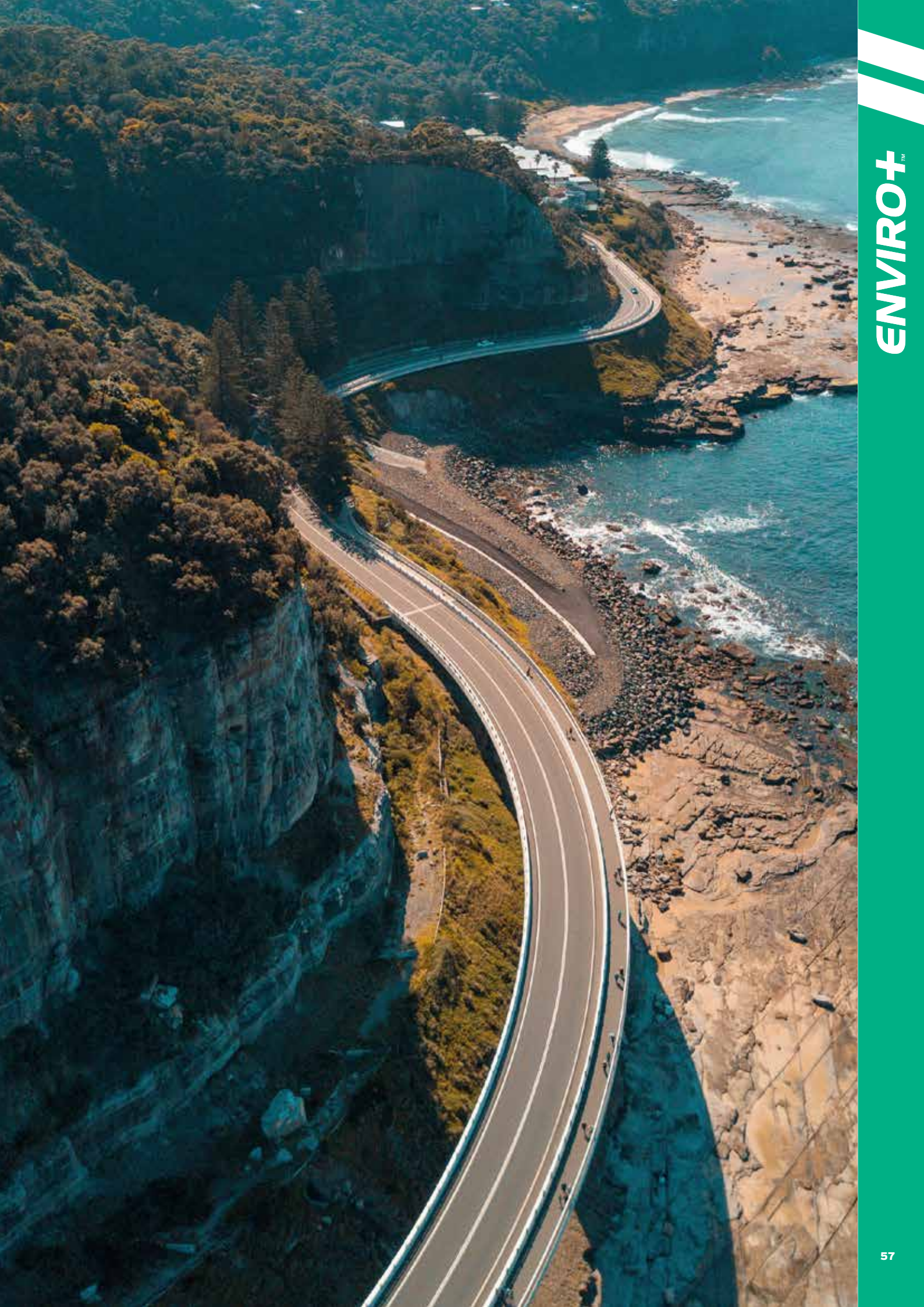
- ✓ API SP Resource Conserving/SN Plus
- ✓ ILSAC GF-6B



## GOT A DPF?

**Enviro+ DPF Cleaner** is a patented, liquid bimetallic platinum & cerium catalyst, diesel fuel additive specifically formulated to clean blocked DPFs (Diesel Particulate Filters) as well as improve the operation and reduce maintenance of the DPF & emissions control systems in diesel engine applications. Its formulation is soluble and stable in traditional diesel & bio-diesel fuels. It cleans and assists in regeneration of diesel particulate filters (DPFs), reduces engine particle matter, cleans injectors, improves diesel fuel combustion improving fuel economy, engine efficiency and maximising catalyst life. 375mL bottle treats 30L of diesel fuel for 1st stage blockage.











# EVERYDAY<sup>TM</sup>

Penrite "Everyday" engine oils are high quality full synthetic, semi synthetic, and premium mineral engine lubricants developed to meet the demands of everyday driving in modern passenger cars, light & heavy commercial vehicles.

The range covers ideal viscosity ranges for everyday driving conditions as well as the latest industry specifications as demanded by modern vehicle manufacturers to meet their requirements including extended oil drain periods.

## BENEFITS

- Complete engine protection
- Rotary engine compatible oils\*
- E85 compatible oils\*\*

\* Selected products

\*\* Check PDS for specified products

## PRODUCTS

	LITRES								
	1	4	5	6	10	20	20 BOX	60	205
Full Synthetic 5W-30	●	● (NZ)		●	●	●	●	●	●
Full Synthetic 10W-40	●	● (NZ)		●					
Semi Synthetic 5W-40			●						
Semi Synthetic 10W-30		● (NZ)	●						
Semi Synthetic 10W-40	●	● (NZ)	●	●		●			
Semi Synthetic 15W-40	●	● (NZ)	●						
Premium Mineral 5W-30			●						
Premium Mineral 10W-30			●						
Premium Mineral 15W-40			●						
Premium Mineral 20W-50			●						
Stops Oil Burning 30-70			●						
<b>CARTON QUANTITY</b>	6	4	4	3					



## FULL SYNTHETIC 5W-30

EDS05001/004 (NZ)/006/010/020/020BOX/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Complete engine protection
- Full Zinc anti-wear additive package
- Low shear VI improvers reduce oil consumption & maintains oil pressure
- Suitable for 5W-20
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A5/B5
- ✓ API SL
- ✓ Ford M2C912-A/M2C913-D
- ✓ Renault RN 0700



## FULL SYNTHETIC 10W-40

EDS10001/004 (NZ)/006

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Complete engine protection
- Full Zinc anti-wear additive package
- Outstanding protection & longer engine life
- Suitable for 10W-30
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SP/SN Plus
- ✓ BMW LL-01
- ✓ JASO MA
- ✓ MB 229.5
- ✓ VW 501 01/502 00



## SEMI SYNTHETIC 5W-40

ED5W40005

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 5W-40

### BENEFITS

- Complete engine protection
- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Better high temperature protection
- Suitable for 5W-30
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SN/CF
- ✓ VW 500 00/501 01/502 00



## SEMI SYNTHETIC 10W-30

ED10W30004 (NZ)/005

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Enhanced LSPI protection
- Reduced turbo charger Deposits
- Fuel saving
- Shear stable VI improvers help maintain oil viscosity
- Suitable for 5W-30
- For E85, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP Resource Conserving/ SN Plus
- ✓ Chrysler MS-6395
- ✓ Ford M2C910-A/M2C929-A/M2C946-A
- ✓ GM 6094M
- ✓ ILSAC GF-6A



## SEMI SYNTHETIC 10W-40

ED10W40001/004 (NZ)/005/006

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Complete engine protection
- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Suitable for 10W-30
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SP/SN Plus
- ✓ MB 229.3
- ✓ Renault RN 0700/RN 0710
- ✓ VW 500 00/501 01/502 00/505 00



## SEMI SYNTHETIC 15W-40

ED15W40001/004 (NZ)/005

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Complete engine protection
- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Suitable for 20W-40
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SN/CF
- ✓ MB 229.1
- ✓ Renault RN 0710
- ✓ VW 501 01/502 00/505 00



## PREMIUM MINERAL 5W-30

PM005005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Latest oil specification technology
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Enhanced LSPI protection
- Better fuel economy & retention
- Blended using premium hydrocracked base oils
- For E85, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP Resource Conserving/ SN Plus
- ✓ ILSAC GF-6A



## PREMIUM MINERAL 10W-30

PM010005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Latest oil specification technology
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Enhanced LSPI protection
- Better fuel economy & retention
- Blended using premium hydrocracked base oils
- For E85, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP Resource Conserving/ SN Plus
- ✓ ILSAC GF-6A



## PREMIUM MINERAL 15W-40

PM015005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Enhanced LSPI protection
- Reduced turbo charger deposits
- Shear stable VI improvers help maintain oil viscosity
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP/SN Plus





## PREMIUM MINERAL 20W-50

PMO20005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-50

### BENEFITS

- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Shear stable VI improvers help maintain oil viscosity
- Catalyst & oxygen sensor friendly
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SN/CF



## STOPS OIL BURNING 30-70

PMO30005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 30-70

### BENEFITS

- Protection of engine parts from wear
- Reduces excessive oil consumption
- Resistance to sludge formation
- Catalytic converter compatible
- Maintains oil pressure
- For petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SJ



# PRO

## FOR PROFESSIONAL USE

The Penrite Pro range of engine oils has been specifically developed for workshops, car dealerships and professional vehicle service and repair centres. This professional range of oils has been blended to meet the oil specifications for most Australia, US, European, Korean and Japanese produced vehicles.

### BENEFITS

- Designed especially for workshops and garages
- Latest additive technology
- For use in petrol and light duty diesel engines
- Latest API and ACEA industry specifications for better wear protection, improved sludge protection & less piston deposits
- Synthetic, Semi Synthetic & Mineral based product range
- Multi vehicle specification oils to lower inventory costs
- Available in 20L, 60L, 205L and bulk sizes
- Pumping to storage tanks available
- Nationwide support and technical service
- Dedicated Penrite Pro app
- Specialised equipment available

## PRODUCTS

	LITRES			
	20	60	205	1000
Pro 5	•	•	•	
Pro 10			•	
Pro 15 Plus	•	•	•	
Pro 20	•			
Pro EU	•	•	•	
Pro Extra	•	•	•	•
Pro Ultra		•	•	





## PRO 5

PRO5020/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Greater heat resistance & high performance
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Catalytic converter compatible
- Suitable for 5W-20 & 7.5W-30
- For diesel (including those with DPFs), hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C3/C2
- ✓ API SP/SN Plus
- ✓ MB 229.31



## PRO 10

PRO10205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Fuel saving
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Suitable for 7.5W-30
- For E85, hybrid, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SP Resource Conserving/SN Plus
- ✓ ILSAC GF-6A



## PRO 15 PLUS

PRO15PLUS020/060/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 15W-50

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Reduces oil consumption & maintains oil pressure
- Suitable for 15W-40, 20W-40 & 20W-50
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SN/CF
- ✓ VW 501 01



## PRO 20

PRO20020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-50

### BENEFITS

- Superior performance to older specification engine oils
- Full Zinc anti-wear additive package
- Reduces oil consumption & maintains oil pressure
- Suitable for 20W-40
- For diesel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API SM/CF



## PRO EU

PROEU020/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- Long engine oil drain intervals
- Maintains OEM performance outside of warranty period
- Improved protection for emission control devices
- For diesel (including those with DPFs) & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C3
- ✓ API SN



## PRO EXTRA

PROEXTRA020/060/205/1000LTR

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Reduces oil consumption & maintains oil pressure
- Suitable for 10W-30
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA A3/B4
- ✓ API SP/SN Plus
- ✓ MB 229.1
- ✓ Renault RN 0700
- ✓ VW 500 00/501 01/502 00/505 00



## PRO ULTRA

PROULTRA060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-40

### BENEFITS

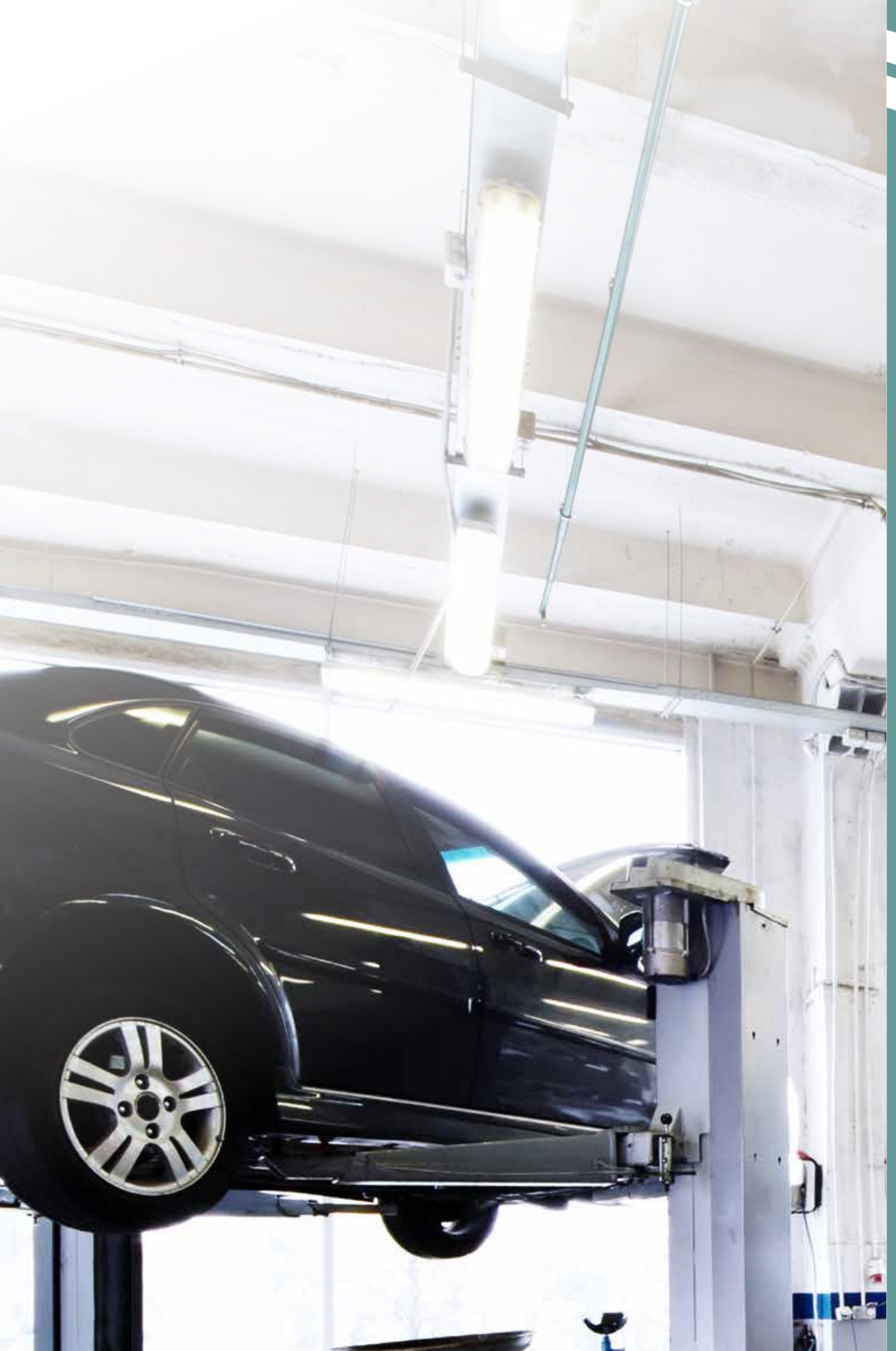
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Long engine oil drain intervals
- Improved protection for emission control devices
- Suitable for 5W-30 & 10W-30
- For diesel (including those with DPFs) & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA C3
- ✓ API SN/CF
- ✓ BMW LL-04
- ✓ Chrysler MS-11106
- ✓ Fiat 9.55535-S2
- ✓ Ford M2C917-A
- ✓ GMW 16177 (dexos2™)
- ✓ MB 229.31/229.51
- ✓ Porsche A40
- ✓ VW 502 00/505 01











# CONVOY

Penrite blends a range of Heavy Truck, Commercial and Farm lubricants that meet and exceed the requirements for major engine manufacturers. Our heavy duty diesel range now spans from monograde 2 stroke oils through to the latest European engine emission standard oils.

## BENEFITS

- Latest industry specifications
- OEM and industry approved formulations
- Premium Mineral & Synthetic range of products
- Products for the latest to classic heavy duty vehicles
- Proven, tried and test formulations
- Australian made and owned
- Made for Australia's most severe conditions
- Multiple sizing options to suit most needs
- Pumping available for bulk deliveries
- Online ordering saving time and money
- Technical service assistance by phone or online
- Online and mobile recommendation guides for heavy duty
- Equipment available for dispensing and storage

## PRODUCTS

	LITRES						
	1	5	10	20	60	205	1000
Convoy DFX		•	•	•	•	•	•
Convoy DHD		•	•	•	•	•	•
Convoy DLA				•	•	•	
Convoy DSP				•			
Convoy MFD			•	•		•	•
Convoy Mono Truck 30				•		•	
Convoy Mono Truck 40				•		•	
Convoy Mono Truck 50				•			
Convoy DPF Cleaner	•						
<b>CARTON QUANTITY</b>	6	4					



## CONVOY DFX

DFX005/010/020/060/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Excellent protection of engine parts
- Resists oil thickening
- Shear stable viscosity modifier
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### OEM APPROVALS

- ✓ MB-Approval 228.3

### SPECIFICATIONS

- ✓ ACEA E7
- ✓ API CI-4 Plus
- ✓ Caterpillar ECF-1-a
- ✓ Cummins CES 20078
- ✓ JASO DH-1
- ✓ MAN 3275
- ✓ Renault RD-2/RLD-2
- ✓ Volvo VDS-3



## CONVOY DHD

DHD005/010/020/060/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Improved shear stability, oxidation resistance & aeration control
- OEM approved
- Maximises DPF life
- Controls oil consumption
- For diesel (including those with DPFs), LPG/dual fuel & petrol/E10 fuel types

### OEM APPROVALS

- ✓ Cummins CES 20086
- ✓ DFS Oil Specification 93K222
- ✓ Mack EOS-4.5 Approval
- ✓ MB-Approval 228.31
- ✓ Renault VI RLD-3
- ✓ Volvo VDS-4.5

### SPECIFICATIONS

- ✓ ACEA E9
- ✓ API CK-4/SN
- ✓ Caterpillar ECF-3
- ✓ Detroit Diesel 93K222
- ✓ JASO DH-2



## CONVOY DLA

DLA020/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- API licensed for quality assurance
- OEM approved
- Maximises DPF life
- Suitable for SCR and EGR systems
- Suitable for 15W-40
- For diesel (including those with DPFs) fuel types

### OEM APPROVALS

- ✓ Mack EOS-4.5 Approval
- ✓ MB-Approval 228.52
- ✓ Renault VI RLD-3
- ✓ Volvo VDS-4.5

### SPECIFICATIONS

- ✓ ACEA E9
- ✓ API CK-4
- ✓ Caterpillar ECF-3
- ✓ Cummins CES 20086
- ✓ JASO DH-2
- ✓ MAN M 3477
- ✓ MTU Category 3.1
- ✓ Scania Low Ash



## CONVOY DSP

DSP020



**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W-30

### BENEFITS

- API licensed for quality assurance
- OEM approved
- Improved shear stability, oxidation resistance & aeration control
- Maximises DPF life
- Fuel efficient, heavy duty diesel engine oil
- Extended oil drains
- For diesel (including those with DPFs) fuel types

### OEM APPROVALS

- ✓ MB-Approval 228.52

### SPECIFICATIONS

- ✓ ACEA E9
- ✓ API CK-4/CI-4 Plus
- ✓ Caterpillar ECF-3
- ✓ Cummins CES 20086
- ✓ Detroit Diesel 93K218/93K222
- ✓ MAN M 3271-1/M3477/M3677/M3777
- ✓ MTU Category 3.1/Type 2.1
- ✓ Renault RLD-4
- ✓ Scania LDF 4
- ✓ Volvo VDS 4.5

## CONVOY MFD

MULTIFD15010/020/205/1000LTR



**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Excellent protection of engine parts
- Resists oil thickening
- Shear stable viscosity modifier
- Mid Ash formulation
- For diesel, LPG/dual fuel & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA E7
- ✓ API CI-4/SL
- ✓ Caterpillar ECF-2
- ✓ China National GB 11122-2006
- ✓ Cummins CES 20077
- ✓ Mack EO-M Plus
- ✓ MAN 3275
- ✓ MB 228.3/229.1
- ✓ MIL-PRF-2104G
- ✓ Volvo VDS-3



## CONVOY MONO TRUCK 30

MON030020/2052

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 30

### BENEFITS

- Balanced base oil & additives pack
- Low Ash formulation
- Multi-use product minimising inventory costs
- Keeps engine clean & prolongs engine life
- For diesel & petrol fuel types

### SPECIFICATIONS

- ✓ ACEA E1
- ✓ Allison C-3
- ✓ API CF-2/SG
- ✓ Caterpillar TO-2
- ✓ Detroit 7SE-270
- ✓ Mack EO-K/2
- ✓ MB 227.0/228.0
- ✓ MIL-L-2104F



## CONVOY MONO TRUCK 40

MON040020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 40

### BENEFITS

- Balanced base oil & additives pack
- Low Ash formulation
- Multi-use product minimising inventory costs
- Keeps engine clean & prolongs engine life
- For diesel & petrol fuel types

### SPECIFICATIONS

- ✓ ACEA E1
- ✓ Allison C-3
- ✓ API CF-2/SF
- ✓ Caterpillar TO-2
- ✓ Detroit 7SE-270
- ✓ Mack EO-K/2
- ✓ MB 227.0/228.0
- ✓ MIL-L-2104F



## CONVOY MONO TRUCK 50

MON050020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 50

### BENEFITS

- Balanced base oil & additives pack
- Low Ash formulation
- Multi-use product minimising inventory costs
- Keeps engine clean & prolongs engine life
- For diesel & petrol fuel types

### SPECIFICATIONS

- ✓ ACEA E1
- ✓ Allison C-3
- ✓ API CF-2/SF
- ✓ Caterpillar TO-2
- ✓ Detroit 7SE-270
- ✓ Mack EO-K/2
- ✓ MB 227.0/228.0
- ✓ MIL-L-2104F



## CONVOY DPF CLEANER

DPFC001

A diesel fuel additive specifically formulated to improve the operation and reduce maintenance of DPF & emissions control systems in diesel engine applications.

### BENEFITS

- Lowers DPF regeneration temperature
- Improves fuel economy and reduces CO<sub>2</sub> emissions
- Safe for use with SCR/DPF systems
- Minimises unscheduled maintenance and operations costs
- Maximises DPF life







# MOTORCYCLE

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Protect your motorcycle with the same expert care as used by professional race teams, with Penrite's premium quality range of motorcycle engine oils and specialty products. Our motorcycle range is suitable for late model Japanese, European and US sourced bikes, Asian made pit bikes all the way through to early model and classic American, British and European bikes.

Our range carries the latest industry specifications and offers 100% PAO & Ester full synthetic, semi synthetic and premium mineral ranges with Full Zinc for anti-wear protection. They are compatible with petrol and racing fuels such as Avgas & methanol/alcohol. Penrite is proud to have a comprehensive range offering quality and value.

Penrite has been synonymous with high quality automotive engine oils for over 90 years.

#### BENEFITS:

- Range of 2 and 4 stroke engine oils
- Available in 100% PAO & Ester, full synthetic, semi synthetic and premium mineral
- Comprehensive range of ancillary products
- Full zinc to minimise engine wear
- Early American and European product range
- Latest JASO and industry specifications
- 2 Stroke available in 1L chamber pack

## PRODUCTS

	MILLILITRES			LITRES				
	150	400	500	1	2.5	4	20	205
MC-4ST 10W-30				•		•		
MC-4ST 10W-40				•	•	•	•	
MC-4ST 10W-50				•		•		
MC-4ST 10W-60						•		
MC-4ST 15W-50				•		•	•	
MC-4ST V-Twin 20W-50				•		•		
MC-4ST Full Synthetic 10W-40				•		•	•	•
MC-4ST Semi Synthetic 10W-30				•		•		
MC-4ST Semi Synthetic 10W-40				•		•	•	•
MC-4ST Semi Synthetic 10W-50				•	•	•	•	•
MC-4ST Semi Synthetic 15W-50						•		•
MC-4ST Premium Mineral 15W-50						•	•	
MC-4ST Premium Mineral 20W-50				•		•	•	•
MC-4ST Premium Mineral HD 50						•		
Enduro HD						•		
MC-2ST Full Synthetic				•				
MC-2ST Semi Synthetic				•				
MC Gear Oil				•				
MC Fork Oil 5				•				
MC Fork Oil 10				•				
MC Fork Oil 15				•				
Chain Lube Race			•					
Chain Lube Road	•	•						
Chain Cleaner		•						
Foam Filter Oil		•		•				
Foam Filter Cleaner				•		•		
<b>CARTON QUANTITY</b>	6	6	6	6	4	4		



## MC-4ST 10W-30

MC410W30001/004

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA



## MC-4ST 10W-40

MC410W40001/0025/004/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 10W-30
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA



## MC-4ST 10W-50

MC4FS10W50001/004

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 10W-50

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Competition proven
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA



## MC-45T 10W-60

MC410W60004

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 10W-60

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Competition proven
- Suitable for 10W-50 & 15W-50
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA2



## MC-45T 15W-50

MC415W50001/004/020

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 15W-50

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 15W-40 & 20W-40
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA



## MC-45T V-TWIN 20W-50

MC4VT20W50001/004

**BASE OIL:** 100% PAO & Ester  
Full Synthetic

**VISCOSITY:** SAE 20W-50

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc+ anti-wear additive package
- Shear free formulation maintains oil pressure & eliminates viscosity loss
- Competition proven
- Suitable for 20W-40
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA





## MC-4ST FULL SYNTHETIC 10W-40

MC4FULL10001/004/020/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Maximum heat resistance & high performance
- Full Zinc anti-wear additive package
- Maximum wear protection, minimum sludge formation & reduced piston deposits
- Shear stable for long term protection
- Suitable for 10W-30
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN/CF
- ✓ JASO MA2



## MC-4ST SEMI SYNTHETIC 10W-30

MC4SEMI10W30001/004

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Premium quality blended base stock
- Outstanding engine & gearbox protection
- Trusted & proven protection for engines
- Wet clutch compatible
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SL/CF
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MC-4ST SEMI SYNTHETIC 10W-40

MC4SEMI10W40001/004/020/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum power & acceleration
- Shear stable for long term protection
- Competition proven
- Greater high temperature engine protection
- Suitable for 10W-30
- For petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SN
- ✓ JASO MA2



## MC-4ST SEMI SYNTHETIC 10W-50

MC410W50001/0025/004/020/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-50

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum power & acceleration
- Shear stable for long term protection
- Greater high temperature engine protection
- Competition proven
- Suitable for 10W-40 & 15W-40
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API CH-4/SL
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MC-4ST SEMI SYNTHETIC 15W-50

MC4SEMI15004/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 15W-50

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum power & acceleration
- Shear stable for long term protection
- Greater high temperature engine protection
- Competition proven
- Suitable for 15W-40 & 20W-40
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API CI-4/SL
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MC-4ST PREMIUM MINERAL 15W-50

MC4MIN15004/020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-50

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum power & acceleration
- Shear stable for long term protection
- Competition proven
- Suitable for 15W-40 & 20W-40
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API CG-4/SL
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MC-4ST PREMIUM MINERAL 20W-50

MC420W50001/004/020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-50

### BENEFITS

- Full zinc anti-wear additive package
- Maximum power & acceleration
- Shear stable for long term protection
- Competition proven
- Suitable for 20W-40 & SAE 30
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SG-CF
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MC-4ST PREMIUM MINERAL HD 50

MC4HD50004

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 50

### BENEFITS

- Full Zinc anti-wear additive package
- Maximum power & acceleration
- Competition proven
- Extends engine life
- Suitable for SAE 40
- For diesel, LPG, petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API SG/CD





## ENDURO HD

END004

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 25W-70

### BENEFITS

- Maintains oil pressure & controls oil consumption
- Full Zinc anti-wear additive package
- Non Friction modified to maintain clutch effectiveness
- Suitable for 25W-60, SAE 40 & SAE 50
- For petrol & racing fuel types

### SPECIFICATIONS

- ✓ API SG



## MC-2ST FULL SYNTHETIC

MC2FULLSYN001CP

**BASE OIL:** Full Synthetic

### BENEFITS

- Extends engine life
- Superior anti-scurf properties
- Synthetic protection
- Red/orange colour
- For petrol/E10 & racing fuel types

### SPECIFICATIONS

- ✓ API TC
- ✓ Aprilia DiTechSR50 (Performance)
- ✓ ISO EG-D
- ✓ JASO FD
- ✓ Piaggio Hexagon (Performance)



## MC-2ST SEMI SYNTHETIC

MC2SEMISSYN001CP

**BASE OIL:** Semi Synthetic

### BENEFITS

- Extends engine life
- Superior anti-scurf properties
- Low ash formulation
- Red/orange colour
- For petrol/E10 fuel types

### SPECIFICATIONS

- ✓ API TC
- ✓ ISO EG-C
- ✓ JASO FC



## MC GEAR OIL

MCGO80001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Smooth & precise gear shifts
- Competition proven
- Optimum clutch slip prevention in 4 stroke motorcycles with wet clutches
- Purpose designed additives improve the shift feel for the life of the drain
- Suitable for 10W-30, 15W-40, 80W-85 & SAE 80 viscosity

### SPECIFICATIONS

- ✓ API GL-4





## MC FORK OIL 5

MCFO05001

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 5W

### BENEFITS

- Stable viscosity over temperature variations
- Protects system from wear
- Compatible with brass & copper alloys
- Excellent low temperature properties
- For petrol/E10 fuel types

### SPECIFICATIONS

- ✓ Fork Oil Grade 7.5 (Non SAE)
- ✓ Fork Oil SAE Grade 5



## MC FORK OIL 10

MCFO10001

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W

### BENEFITS

- Stable viscosity over temperature variations
- Protects system from wear
- Compatible with brass & copper alloys
- Excellent low temperature properties
- For petrol/E10 fuel types

### SPECIFICATIONS

- ✓ Fork Oil SAE Grade 10



## MC FORK OIL 15

MCFO15001

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 15W

### BENEFITS

- Stable viscosity over temperature variations
- Protects system from wear
- Compatible with brass & copper alloys
- Excellent low temperature properties
- For petrol/E10 fuel types

### SPECIFICATIONS

- ✓ Fork Oil SAE Grade 15



## CHAIN LUBE RACE

MCRCLO005

**BASE OIL:** Full Synthetic

### BENEFITS

- Competition proven
- Protects chain and sprockets from wear & corrosion
- Fast acting for competition use
- Low friction for maximum performance
- Highly tenacious lubricant film
- White colour



## CHAIN LUBE ROAD

MCCHAIN000150/0004

**BASE OIL:** Full Synthetic

### BENEFITS

- Protects chain and sprockets from wear & corrosion
- Highly tenacious lubricant film
- Designed to not fling off the chain
- Dries to a clear film
- Easy to apply
- Clear colour



## CHAIN CLEANER

MCACC0004

### BENEFITS

- Competition proven
- Economical & fast acting
- Easily breaks down grease, dirt & grime
- Non corrosive formulation
- Cleans parts without the need for dismantling
- Clear colour



## FOAM FILTER OIL

MCFOAM0004/001



### BENEFITS

- Competition proven
- Fast acting for competition use
- Remains tacky at all times
- Traps airborne dirt & abrasive dust
- Prolongs life of engine induction systems
- Blue colour
- Also available in 400g aerosol

## FOAM FILTER CLEANER

MCFFC001/004



### BENEFITS

- Easily & effectively cleans all types of foam filters
- Non-caustic & non-corrosive to metal parts
- Does not leave harmful deposits
- Extends filter life
- Washes away cleanly
- White colour



# MC CARE

Lavish your motorcycle with the same expert care as used by professional race teams, with Penrite's premium quality range of motorcycle care and specialty products. Our motorcycle care range was developed specifically with your motorcycle in mind.

Our range is all you need to clean, polish and protect your motorcycle to keep the factory new look. Using the latest industry technology, Penrite is proud to have a comprehensive range offering quality and value.

## PRODUCTS

	MILLILITRES		LITRES
	500	740	1
MC Ultimate Wash			•
MC Ultimate Detailer		•	
MC Bio Degreaser		•	
MC Ultimate Shine	•		
<b>CARTON QUANTITY</b>	6	6	6



## MC FOAM FILTER CLEANING KIT

MCFFCKIT

All you need to effectively clean foam air filters for motorcycles, ATVs, UTVs, cars, 4WDs and other machines that use an oil impregnated foam air filter.

### INCLUDES

- ✓ 15L Cleaning Bucket
- ✓ 4L Foam Filter Cleaner
- ✓ 1L Foam Filter Oil
- ✓ 100g Power Sports Grease
- ✓ 3L filter container and lid
- ✓ Pair of black nitrile gloves
- ✓ Filter Oil Tray
- ✓ Filter Rack (Grit Tray)
- ✓ Penrite Sticker



## RACE CHAIN PACK

MCRACEPACK

An economical motorcycle chain care kit with full-sized products and a MC Chain Brush, a great gift idea.

### INCLUDES

- ✓ 500mL Chain Lube Race
- ✓ 400g Chain Cleaner
- ✓ Chain Brush



## ROAD CHAIN PACK

MCROADPACK

An economical motorcycle chain care kit with full-sized products and a MC Chain Brush, a great gift idea.

### INCLUDES

- ✓ 400mL Chain Lube Road
- ✓ 400g Chain Cleaner
- ✓ Chain Brush





## MC ULTIMATE WASH

MCUWASH001

A highly concentrated, rapid foaming formula, designed to remove dirt, insects, mud and road grime quickly and thoroughly.

### BENEFITS

- Creates a long-lasting foam, without the need for further attachments
- Cleans & protects
- Quicker & easier than conventional bucket washing
- Glossy finish
- Safe on many motorcycle surfaces



## MC ULTIMATE DETAILER

MCUD000740

A convenient hydrophobic spray that provides a waterless wash, coat and shine.

### BENEFITS

- Waterless spray & wipe formula
- Easy to use
- Lasts up to 3 weeks
- Glossy finish
- Safe on many motorcycle surfaces



## MC BIO DEGREASER

MCBD000740

An extreme strength, biodegradable, water-based degreaser formulated to quickly and easily remove built-up oil, grime and grease.

### BENEFITS

- Biodegradable water-based formula
- Cuts through grime, oil & grease
- Safe on many motorcycle surfaces
- Leaves no oily residue
- Fresh citrus fragrance



## MC ULTIMATE SHINE

MCUS0003

Detailing spray based on a special blend of silicone, solvents and cleaners.

### **BENEFITS**

- Restores surfaces to factory new finish
- Reduces further adhesion of dirt
- Repels water
- Suitable for many surfaces including vinyl, plastic, chrome, stainless steel, and carbon fibre
- Easy to use
- Displaces moisture to assist damp start



## MC SUPER SUCKER TOWEL

MCSST

A large versatile microfibre towel that can be used for drying, polishing and cleaning.

### **BENEFITS**

- Machine washable and easy to dry & store with its hanging loop
- Soft deluxe 600gsm plush pile
- Large 60 x 30cm size to hold more water with less wringing
- Soft edges to prevent scratches & smears
- Safe for most surfaces
- Versatile and can be used for drying, polishing & cleaning



## MC BIG WASH BRUSH

MCBWBURSH

Soft touch bristles designed to efficiently clean large areas including fairings, frame, forks and more.



## MC SPOKE & WHEEL BRUSH

MCSWBRUSH

Dual prong brush easily cleans hard to reach dirt and grime on wheels, spokes, pegs, bars and levers.



## MC CHAIN BRUSH

CHAINBRUSH

Chain brush takes the effort out of cleaning your chain. With its 3 sided brush, it cleans multiple sides at once, drastically reducing cleaning time.



SHIFT LOCK

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# AUTOMATIC TRANSMISSION FLUIDS

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## SPECIAL PROPERTIES FOR AUTOMATIC TRANSMISSION FLUIDS

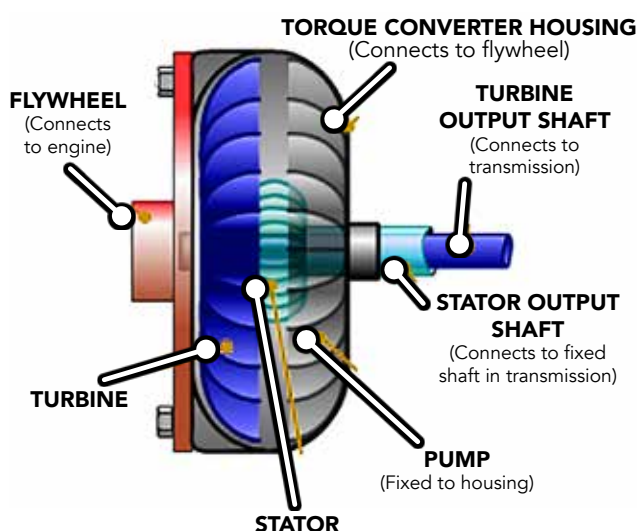
- They're a power transition fluid for the torque converter.
- Act as a hydraulic fluid for hydraulic (and electronic) control systems.
- They must transmit sliding friction energy in bands and clutches. This property varies between transmission makes and is why there are so many different ATFs on the market. Friction is the key.
- They transmit this energy in such a way that the shift is always smooth.

## HOW DOES AN AUTOMATIC TRANSMISSION WORK?

Automatic transmissions do not have a solid style conventional clutch like manual transmissions. Instead, they use a fluid coupling called a torque converter to transmit power from the engine to the transmission.

The changes in the ratios by the planetary gear sets (as distinct from hypoid or bevel type used in differentials or manual gearboxes), are done through the combined use of multiple disc clutches, one-way clutches and bands. These are the friction elements.

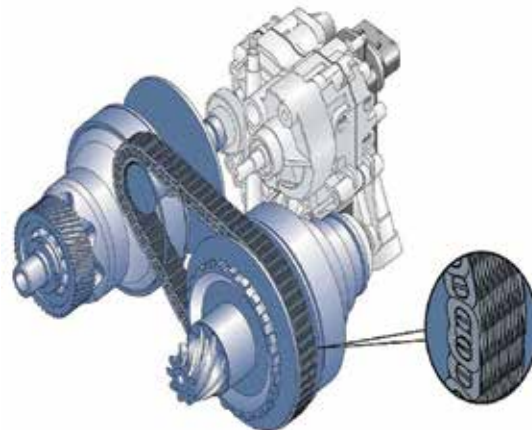
The shift points are now electronically controlled (instead of simple hydraulic pressure) and these electronics in the valve bodies are also reliant on the correct oil.



## HOW DOES A CVT WORK?

A CVT (Continuously Variable Transmission) is different again. There are two types of CVT. They both work on the basis of keeping the engine at the most efficient rev range for power and economy.

Traditional automatic transmissions use gears. CVTs don't have a gearbox but they operate on a pulley system that allows an infinite variability between highest and lowest gears with no discrete feeling of gear change.



### Most CVTs only have three basic components:

- A high-power metal or rubber belt
- A variable-input "driving" pulley
- An output "driven" pulley

The variable-diameter pulleys are the heart of a CVT. Each pulley is made of two 20-degree cones facing each other. A belt rides in the groove between the two cones. V-belts are preferred if the belt is made of rubber.

When the two cones of the pulley are far apart (when the diameter increases), the belt rides lower in the groove, and the radius of the belt loop going around the pulley gets smaller. When the cones are close together (when the diameter decreases), the belt rides higher in the groove, and the radius of the belt loop going around the pulley gets larger. This is how it "changes gear". CVTs may use hydraulic pressure, centrifugal force or spring tension to create the force necessary to adjust the pulley halves.

Variable-diameter pulleys must always come in pairs. One of the pulleys, known as the drive pulley (or driving pulley), is connected to the crankshaft of the engine. The driving pulley is also called the input pulley because it's where the energy from the engine enters the transmission. The second pulley is called the driven pulley because the first pulley is turning it. As an output pulley, the driven pulley transfers energy to the drive shaft. Both types put specific strains on the oil and it must be very shear stable.

## SMOOTH SHIFT CHART

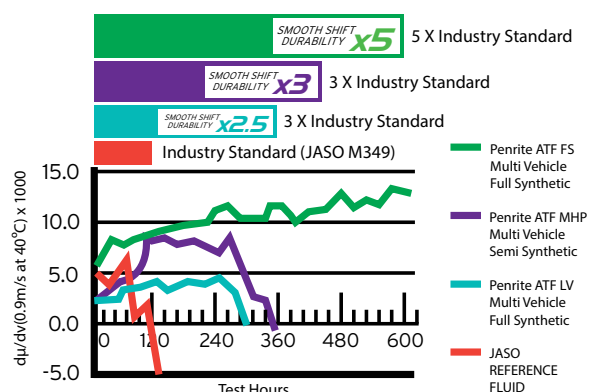
Smooth shift durability is a measure of performance in automatic transmissions.

Penrite's ATF FS is a full synthetic fluid which provides smooth shift durability 5 times longer than the industry standard.

Penrite's ATF MHP is a semi synthetic fluid offering smooth shift performance that is 3 times longer than the industry standard.

The industry standard test method is the JASO M349 - Anti-Shudder test. This means you will experience a smooth shift with ultimate high torque power in your transmissions for longer.

## INDUSTRY STANDARD TEST



## WHAT IS A DUAL CLUTCH TRANSMISSION?

A Dual Clutch Transmission (DCT) is effectively two gearboxes in one. Two clutches to eliminate shift shock - one closes as the other opens. Sophisticated electronics and hydraulics control the clutches, just as they do in a standard automatic transmission.

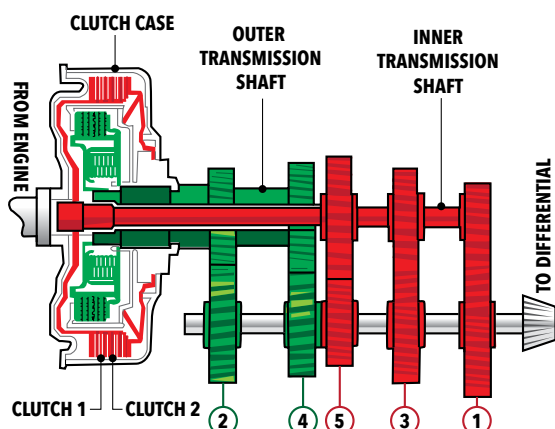
In a DCT, however, the clutches operate independently. One clutch controls the "odd" gears, while the other controls the "even" gears. Using this arrangement, gears can be changed without interrupting the power flow from the engine to the transmission. The gear shafts have constantly meshed gears and synchronisers, so the driving style is very much like a conventional automatic transmission.

Some DCTs use a wet clutch system and some use a dry clutch system - so slightly different oils are required.

### Advantages:

- No torque loss or limitation
- Overcomes "shift shock" associated with the more conventional automated manual transmissions
- Fuel efficiency: +15% vs 5-speed stepped automatic transmissions
- Uses existing manual transmission manufacturing facilities
- Better acceleration than a manual transmission
- Handles higher torque loads than CVTs
- Size

It is expected DCTs will become more widely used and across a wide range of vehicles.



## FREQUENTLY ASKED QUESTIONS

### WHAT DOES ATF AND CVT STAND FOR?

ATF stands for "Automatic Transmission Fluid" and CVT stands for "Continuously Variable Transmission".

## AUTOMATIC TRANSMISSION OEM FLUID SPECIFICATIONS



### GENERAL MOTORS:

**TYPE A & TYPE A SUFFIX A:** The original fluids. They came out in 1949 & 1957 respectively and are obsolete.

**DEXRON®-IID:** Now obsolete, it was the closest we had to an industry specification. Indeed, it formed the basis of many other OEM (Original Equipment Manufacturer) ATFs specifications. It is still used by GM Europe up until recently and by other European and some Japanese OEMs.

**DEXRON®-IIE:** A development that had better low temperature properties than IID. Now superseded.

**DEXRON®-III:** For many years it was in "F" & "G" specifications, which had the same low temperature characteristics as the -IIE version, but with modifications to antioxidancy and friction material. The 2003 -IIH specification was for 160,000km drain intervals and extended durability and superseded "G". This specification became obsolete at the end of 2006 and was replaced by DEXRON®-VI.

**DEXRON®-VI:** Initially released in 2005, this is a special low viscosity fluid which replaced DEXRON®-III in all GM manufactured automatic transmissions. It has a very long oil drain capability of up to 400,000km.

**DEXRON®-ULV:** Introduced in 2014, this is an ultra low viscosity fluid designed for GM 10 speed transmissions.

**DEX-CVT®:** Special specification for CVTs.



### FORD:

**M2C33-F & M2C33-G:** F came out for the USA and G for Europe. These are non-friction modified fluids and as such cannot be used in most transmissions. F is commonly known as Type F.

**M2C138-CJ & M2C166-H:** Introduced to deal with problems with the C-6 and C-5 transmissions, these are satisfied by DEXRON®-IID.

**MERCON®:** The original MERCON® fluids were again satisfied by DEXRON®-IID and the revised MERCON®-IV fluids by DEXRON®-IID/E & DEXRON®-III (now obsolete).

**MERCON®-C:** Special specification for CVTs.

**MERCON®-V:** This is the first MERCON® fluid not satisfied by a standard DEXRON® type fluid. Usually semi or full synthetic, it has more severe requirements on friction, fluidity, shear loss and oil drain. While fluids meeting MERCON®-V must pass DEXRON®-III initially, they are then subjected to many other tests. Updated in mid 2008. Backwards compatible with MERCON®.

**MERCON®-SP:** Based around a ZF specification used in six speed automatic transmissions, for both front and rear wheel drive.

**MERCON®-LV:** Introduced in 2007, LV stands for “Low Viscosity”. Ford M2C938-A is the specification for MERCON®-LV.

**MERCON®-ULV:** Introduced in 2014, this is an ultra low viscosity fluid designed for Ford 10 speed transmissions.

**BTR 5M-52:** Special fluid for Ford Australia that uses the BTR 4 speed automatic models, 85/91/95LE. Modified GM DEXRON®-IID type.



#### CHRYSLER:

**ATF+3® (MS-7176F/MS-7176E):** Satisfied by modified GM DEXRON®-IID/IIE type fluids such as MM SP and MM SP2.

**ATF+4® (MS-9602):** Synthetic or semi synthetic product with special shift requirements.



#### MERCEDES-BENZ:

They have the 236.x series of approvals. Some are GM DEXRON®-IID/III type and some are not. With some of the newer transmissions, highly specific products are used. Their sheet numbers also may be indicative of a transmission from a supplier such as ZF. The more common ones are shown below.

**236.1:** For MB, Allison and ZF transmissions.

**236.2:** Older specification used in power steering and manual transmissions, although it is also used in some MAN automatics and in the Differential Lock in UNIMOG.

**236.6, 236.7:** Most common ones used, and satisfied by GM DEXRON®-IID.

**236.9:** Long drain fluid usually a GM DEXRON®-III type with more severe shear stability limits.

**236.10:** For 5 speed Mercedes EC3 transmissions (NAG-1).

**236.11:** For 5 speed ZF automatics used by Mercedes.

**236.12:** For 7 speed Mercedes automatics (NAG-2) (now replaced).

**236.13:** Issued as an in-service ‘fix’ oil for transmissions specifying 236.12

**236.14:** New initial and service fill specification for NAG-2 transmissions.

**236.15:** Very low viscosity initial and service fill specification.

**236.16:** Mercedes-Benz ATF specification for 9-speed transmissions (9G-TRONIC)

**236.17:** Mercedes-Benz ATF specification for 9-speed transmissions (9G-TRONIC), replaces MB 236.16 from 2017 and on.

**236.20:** For CVTs.



#### MITSUBISHI:

**MM SP & MM SP-II:** GM DEXRON®-III fluidity but with different frictional characteristics.

**MM SP-III:** A more developed version with better low temperature properties and longer drain life and shift durability. Semi-synthetic at minimum.

**PA:** Special ATF for Mitsubishi V5 AWF 5-Speed automatic transmission.



#### ALLISON:

**C-4:** Designed for heavy-duty transmissions in off-highway vehicles. ATFs and special fluids are qualified against it. Supersedes C-3.

**TES295:** Special formulation-specific, PAO based fluid for heavy duty applications.

**TES389:** Introduced in 2006 to cover GM DEXRON®-III applications. Now required for all on-highway transmissions instead of C-4.



#### CATERPILLAR:

**TO-4:** Specialised fluid for Caterpillar units. Oils meeting TO-4 & C-4 find wide application in heavy-duty construction equipment manufactured by many OEMs such as Komatsu.

#### OTHER OEM SPECIFICATIONS WORTH NOTING:

• **Honda:** ATF 96, Z1 • **Nissan:** Matic C, D, J, K, S

• **Mazda:** M-III, M-IV, M-V • **Toyota:** T-II, T-III, T-IV, WS



Penrite manufacture a range of automatic transmission fluids (ATFs) that can be used in passenger, light and heavy duty vehicles. They may also be used as compressor fluids or as power steering fluids where ATFs are specified.

## BENEFITS

- Multi Vehicle application means the same fluid can be used across multiple vehicles. Full synthetic (ATF LV, ATF BMV and ATF FS) as well as semi synthetic (ATF MHP) covers a majority of the Australian vehicle market. Penrite also makes a Multi Vehicle mineral product (ATF DX-III).
- A complete range of fluids covering most vehicles.
- Extended long drain periods.
- Smooth shift durability (ATF FS, ATF MHP, ATF LV and ATF BMV).
- Specialist fluids (ATF 33, CVT Fluid V, CVT Low Vis, CVT Chain and DCT Fluid).
- Passenger car, 4WD and heavy vehicle applications.

## PRODUCTS

	LITRES							
	1	4	5	20	20 BOX	60	205	1000
ATF LV	•	•		•		•	•	
ATF FS	•	•		•	•	•	•	
ATF BMV		•		•		•	•	
ATF MHP	•	•		•		•	•	
ATF DX-III	•	•	•	•		•	•	•
ATF 33		•		•				
DCT Fluid		•		•				
CVT Fluid Low Viscosity		•		•				
CVT Fluid Chain Drive		•		•				
CVT Fluid V		•		•			•	
<b>CARTON QUANTITY</b>	6	4	4					



## ATF LV

ATFLV001/004/020/060/205

**BASE OIL:** Full Synthetic

### BENEFITS

- Designed to meet friction requirements for low viscosity fluids
- 2.5x smooth shift durability over the life of the fluid  
(JASO M349 industry anti-shudder test)
- Extends transmission life through superior wear protection
- Improved power transfer, fuel economy & reduced deposit formation
- Red colour

### SPECIFICATIONS

- ✓ Ford M2C938-A/MERCON® LV
- ✓ GM DEXRON®-VI
- ✓ Honda DW-1
- ✓ Hyundai/Kia SP-IV
- ✓ Infiniti/Nissan Matic S
- ✓ JASO 2A-02
- ✓ MERCON® LV
- ✓ Mitsubishi DiaQueen PA/SP-IV
- ✓ Toyota WS



## ATF FS

ATFLV001/004/020/060/205

**BASE OIL:** Full Synthetic

### BENEFITS

- 5x smooth shift durability over the life of the fluid  
(JASO M349 industry Anti-Shudder test)
- Designed to meet friction requirements of low viscosity fluid
- Prevents clutch shudder in modulated torque converters
- Stable synthetic base oil that resists oxidation
- Extends transmission life through superior wear protection
- Dark red colour

### SPECIFICATIONS

- ✓ BTR 95LE
- ✓ Chrysler ATF+4/MS-9602 (ATF+4)
- ✓ Ford MERCON® V
- ✓ GM DEXRON®-IIIH/GMN10055
- ✓ LT 71141
- ✓ Mazda M-III Fluid/MV
- ✓ MB 236.11/236.2/236.5/236.7
- ✓ MERCON® V
- ✓ Mitsubishi SP-III
- ✓ Nissan Matic K
- ✓ Subaru
- ✓ Toyota T-IV



## ATF BMV

ATFBMV004/020/060/205

**BASE OIL:** Full Synthetic

### BENEFITS

- One product for multiple applications reduces misapplication
- Designed to meet friction requirements for low viscosity fluids
- Extends transmission life through superior wear protection
- Improved power transfer, fuel economy & reduced deposit formation
- Suitable for 0W-20 & 5W-20
- Amber colour

### SPECIFICATIONS

- ✓ Ford M2C949-A/MERCON® SP/MERCON® ULV/WSS-M2C938-A
- ✓ MB 236.14/236.15/236.16/236.17
- ✓ ZF TE ML-11



## ATF MHP

ATFMHP001/004/020/060/205

**BASE OIL:** Semi Synthetic

### BENEFITS

- 3x smooth shift durability over the life of the fluid  
(JASO M349 industry Anti-Shudder test)
- Prevents clutch shudder in modulated torque converters
- Extended oil drain intervals
- Maximises equipment life by maintaining wear protection
- Maintains oil film strength throughout the drain interval
- Red colour

### SPECIFICATIONS

- ✓ BTR 95LE
- ✓ Chrysler ATF+4/MS-9602 (ATF+4)
- ✓ Ford M2C924-A/MERCON®
- ✓ GM 6297M/DEXRON®-IIIH
- ✓ Honda ATF Z1/
- ✓ LT 71141
- ✓ MB 236.7.
- ✓ Mitsubishi SP-III
- ✓ Nissan Matic K
- ✓ Toyota T-IV
- ✓ VW 052990/Part No. G 052 162A



## ATF DX-III

ATFDX3001/004/005/020/060/205

**BASE OIL:** Premium Mineral

### BENEFITS

- Extended drain period up to 160,000km
- Smooth gear changes over the life of the fluid
- Prevents clutch shudder in modulated torque converters
- Extends transmission life through superior wear protection
- Compatible with a wide range of seal materials
- Red colour

### SPECIFICATIONS

- ✓ Allison C-4/TES-389/V-730D
- ✓ BTR 95LE
- ✓ Ford MERCON®
- ✓ GM DEXRON®-IIIH
- ✓ LT 71141
- ✓ MB 236.7
- ✓ Toyota D2/T-II
- ✓ Volvo 97341



## ATF 33 (TYPE F)

ATF33004/020

**BASE OIL:** Premium Mineral

### BENEFITS

- Resists oxidation
- Designed for optimum (sharp) shift for drag racing
- Provides excellent wear protection
- Gives instant power transfer on acceleration
- Red colour

### SPECIFICATIONS

- ✓ Ford M2C33-F/M2C33-G/SQM-2C9007-AA
- ✓ John Deere J21A
- ✓ Type F/Type G



## DCT FLUID

DCTF004/020

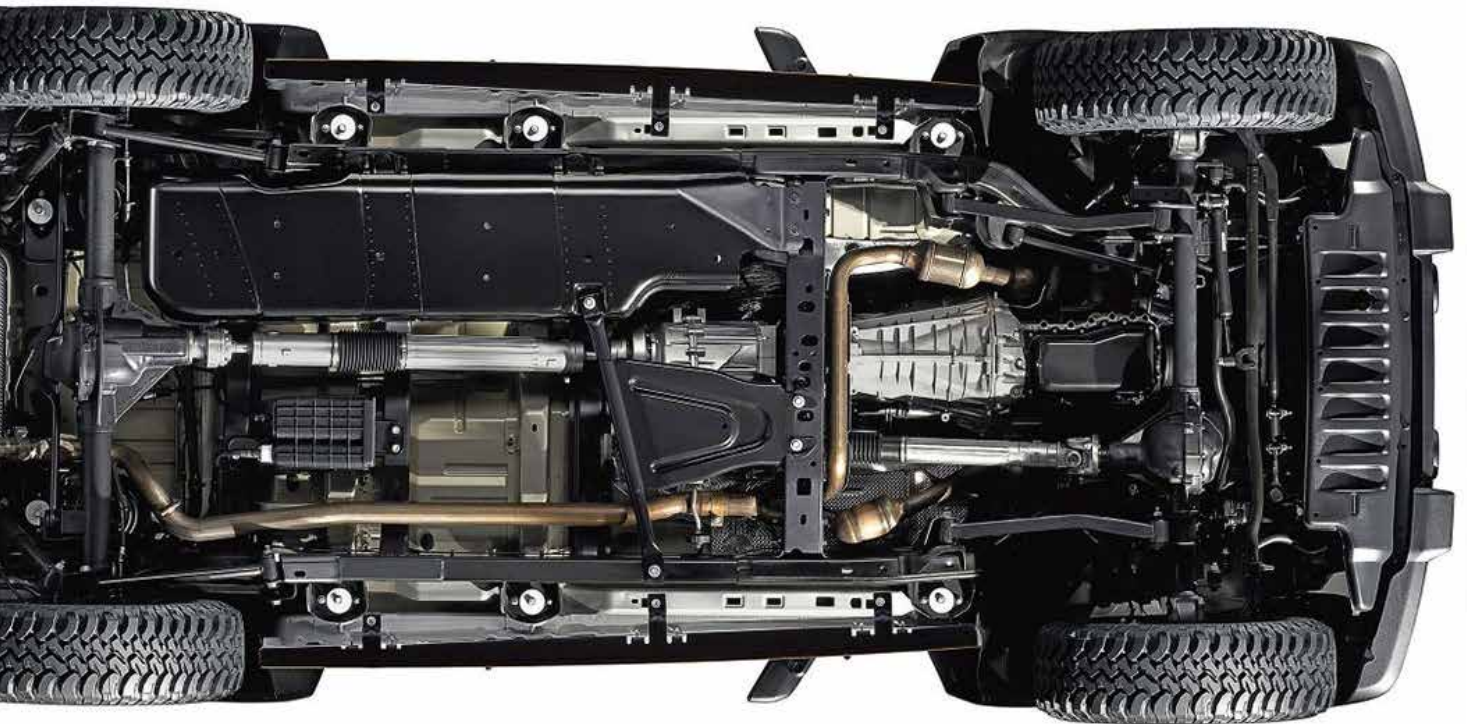
**BASE OIL:** Full Synthetic

### BENEFITS

- Anti-shudder performance
- Long life performance
- Multi vehicle applications for wet DCT transmissions
- Minimises friction for smooth shifting
- Excellent wear protection for prolonged gearbox life
- Maintains fuel economy
- Amber colour

### SPECIFICATIONS

- ✓ BMW 83 22 2 148 579
- ✓ Ferrari TF DCT-F3
- ✓ Ford M2C936-A
- ✓ MB 236.21
- ✓ Mitsubishi DiaQueen SSTF-1
- ✓ Porsche Oil No. 999.917.080.00
- ✓ PSA 9734.S2
- ✓ Volvo 1161839
- ✓ VW TL 052 182/TL 052 529







## CVT FLUID LOW VISCOSITY

CVTLOW004/020

**BASE OIL:** Full Synthetic

### BENEFITS

- Minimises wear & maximises equipment life
- Long life performance
- Minimises friction between belts & pulleys
- Protects against component fatigue
- Excellent low temperature fluidity, reducing start up wear
- Green colour

### SPECIFICATIONS

- ✓ Mitsubishi DiaQueen CVTF-J4
- ✓ Nissan NS-3
- ✓ Suzuki CVTF Green 2
- ✓ Toyota CVTF FE



## CVT FLUID CHAIN DRIVE

CVTCHAIN004/020

**BASE OIL:** Full Synthetic

### BENEFITS

- Minimises wear & maximises equipment life
- Long life performance
- Minimises friction between belts & pulleys
- Shear stable formulation provides consistent shift quality
- Compatible with a wide range of seal materials
- Excellent low temperature fluidity, reducing start up wear
- Amber colour

### SPECIFICATIONS

- ✓ Audi G 052 516/Multitronic Chain CVT/TL 52180
- ✓ Audi/VW TL 52180 (G 052 180)
- ✓ Ford CVT2
- ✓ Subaru CV-30/ECVT/High Torque CVT Fluid/iCVT FG/K0425Y0710/Lineartronics Chain CVT



## CVT FLUID V

CVTV004/020/205

**BASE OIL:** Full Synthetic

### BENEFITS

- Minimises wear & maximises equipment life
- Long life performance
- Minimises friction between belts & pulleys
- Excellent low temperature fluidity, reducing start up wear
- Red colour

### SPECIFICATIONS

- ✓ Ford CVT30/MERCON® C
- ✓ Honda HCF-2/Z-1 (CVT)
- ✓ MB 236.20
- ✓ Mini Cooper EZL 799
- ✓ Mitsubishi CVTF-J1/SP-III (CVT)
- ✓ Mopar CVT Fluid +4
- ✓ Nissan Matic D (CVT)/NS-2
- ✓ Toyota CVTF TC/T-IV (CVT)/WS (CVT)
- ✓ Volvo 4959



# MANUAL GEAR & DIFFERENTIAL OILS

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## SPECIAL PROPERTIES FOR MANUAL GEAR & DIFFERENTIAL OILS

- Capable of providing an easy gearshift for the life of the oil drain. This is a function of both friction modifiers and viscosity.
- Maintain long clutch life and prevent seal leaks.
- Must protect against pitting, spalling, scoring and scuffing caused by the large shear loads placed on the oil by the gear set.
- Protect against copper corrosion. Older technologies were not kind to copper alloys and used to turn them black via chemical attack. Most modern hypoid oils do not tend to do this due to advances in technologies.
- Limited slip oils must enable the cone or clutch to work properly when distributing power to the drive wheels. As such, they contain a special friction modifier to achieve this. It should be noted that oils designed for use in limited slip differentials can be used in standard hypoid differentials.

## GEAR OIL DESIGNATION AND DESCRIPTION

For gear oils, API has the following GL (Gear Lube) classifications:

<b>GL-1</b>	Oil without EP additive.
<b>GL-2</b>	Usually contains fatty materials.
<b>GL-3</b>	Contains a mild EP additive.
<b>GL-4</b>	Equivalent to MIL-L-2105B and is usually satisfied by a 50% GL-5 additive level.
<b>GL-5</b>	Equivalent to MIL-PRF-2105E. Primary field service recommendation for passenger cars and trucks worldwide.
<b>GL-6</b>	Obsolete
<b>MT-1</b>	For non-synchronised manual transmissions in buses and trucks at a higher level than GL-4.
<b>MIL-PRF-2105E</b>	Designed by the US military, it takes conventional GL-5 and adds more demands to the specification. Most hypoid oils conform to this standard. Now superseded by SAE J2360 (2003).

SAE J306 GEAR OILS			
SAE Grade	Max Temperature for Viscosity of 150,000cP (°C) <sup>1</sup>	Viscosity @ 100°C	
		Min (cSt) <sup>3</sup>	Max (cSt) <sup>2</sup>
70W	-55	3.8	NA
75W	-40	3.8	NA
80W	-26	8.5	NA
85W	-12	11.0	NA
65	NA	3.8	<5.0
70	NA	5.0	<6.5
75	NA	6.5	<8.5
80	NA	8.5	<11.0
85	NA	11.0	<13.5
90	NA	13.5	<18.5
110	NA	18.5	<24.0
140	NA	24.0	<32.5
190	NA	32.5	<41.0
250	NA	41.0	NA

**Note:** <sup>1</sup> Using ASTM D983. <sup>2</sup> Using ASTM D445.  
<sup>3</sup> Limit must still be met following CEC L-45-A-99, Method C (20h)

## MANUAL TRANSMISSION FLUID & GEAR OIL OEM SPECIFICATIONS



**HONDA MTF-94/ROVER MTF-94:** Describes a GL-4 type 10W-30/75W-80 oil that is semi synthetic for long drain and good low temperature shift feel.

**MAN 341:** API GL-4 type. There are many variance of this specification.

**MAN 342:** API GL-5 type.

**CATERPILLAR TO-4:** The SAE 30, 50 & 60 versions can be used in manual transmissions and some final drive units.

**CATERPILLAR FD-1:** Describes a fluid used in differentials of heavy duty Caterpillar equipment where additional wear protection is needed. Cannot be used in wet-brake applications. Usually a SAE 60 grade or multigrade synthetic.

**MB 235.5:** Heavy duty API GL-4.

**MB 235.0/235.6:** Heavy duty API GL-5 type oils for long drains.

**MB 235.10:** Light duty, synthetic performance 75W-80 for Mercedes-Benz Sinter Synchromesh transmissions.

**MACK GO-J:** Designed to delivery 250,000km oil drain intervals. More severe than API GL-5. GO-J/S is the synthetic version.

**MACK TO-A PLUS:** Specialised manual transmission fluid with long life.

**VOLVO 1273.07:** SAE 30 type (SAE 80) oil based on GL-4.

**VOLVO 1273.10:** API GL-5, SAE 80/90.

**VOLVO 1273.12:** SAE 50 (SAE 90) type usually satisfied by TO-4 type oils.

**ZF TE ML-01:** Non-synchro, heavy duty manual truck transmissions.

**ZF TE ML-02:** Manual and automatic transmissions for trucks, buses and light commercials. Various sub-groups.

**ZF TE ML-03:** Transmissions in off-road vehicles.

**ZF TE ML-04:** Marine transmissions, SAE 30/40 engine oils.

**ZF TE ML-05:** Axles in off-road vehicles. Various sub groups for different grades and types.

**ZF TE ML-06:** Tractor transmissions and hydraulics.

**ZF TE ML-07:** Hydrostatic and mechanical drives and electric drive systems.

**ZF TE ML-11:** Manual and automatic transmissions in cars.

**ZF TE ML-12:** Axles for cars, commercial vehicles and buses. Various sub-groups.

**ZF TE ML-14:** Powershift transmissions, Ecomat type, for trucks and buses.

**BTR SPECIFICATIONS:** 5M-42, 5M-31, 5M-36, 5M-41, 5M-50, 5M-48

**FORD SPECIFICATIONS:** M2C86-A/B/C, M2C105-A, M2C1013-A, M2C108-A, M2C197-A, M2C1006-B, M2C104-A, M2C200-C

**HOLDEN SPECIFICATIONS:** HN 1855, HN 1820, HN 1046, HN 1070, HN 1181, HN 386, HN 1561, HN 1187, HN 2017, HN 2040

**ROCKWELL:** O-76A, O-76B, O-76N, O-76D

**EATON FULLER:** PS-164 (Rev. 7), PS-386



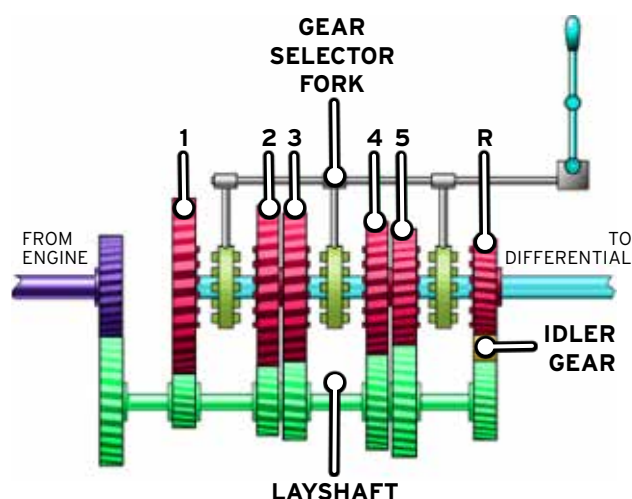


## HOW DOES A MANUAL TRANSMISSION WORK?

A manual transmission consists of a set of gears along a pair of shafts, the input shaft and output shaft. The gears on one shaft engage with those on the other shaft.

The resulting ratio between the gear selected on the input shaft and the gear engaged on the output shaft determines the overall gear ratio for that "gear". Gears in a manual transmission are selected by moving a shift level, which engages a linkage that controls the movement of the gears along the input shaft.

Moving the lever forward or rearward chooses between the two gears available on a given linkage; cars with four gears, or speeds, use two linkages; cars with five or size speeds use three linkages. The driver changes between linkages by moving the shift lever left and right.



To engage a gear in a manual transmission, the clutch pedal is pressed, disconnecting the engine from the input shaft of the transmission. This frees the gears on the input shaft (layshaft) to move, so when the engine is sending torque through the input shaft, the gears on it are engaged.

Once the clutch has disconnected the power from the engine to the transmission, the user selects the appropriate gear (i.e. first, third, reverse). Both the input shaft gear and the output shaft gear need to be spinning at the same speed to avoid clashing of the gears during engagement, preventing clashing of the gear sets.

Once the clutch is released, engine power is re-engaged to the input shaft propelling the vehicle with the selected gear ratio.

Other types of Manual Transmissions include:

**Automated Manual Transmission (AMT)** - A manual transmission where shifting and clutch operation is done by hydraulic or electric actuators under electronic control.

**Dual Clutch Transmissions (DCT)** allow shifting without torque interruption. This is achieved through employing 2 clutches and an additional countershaft.



## HOW DOES A DIFFERENTIAL WORK?

The wheels are connected to the differential unit via half shafts. Power from the transmission drives the pinion gear which in turn drives the ring gear. The ring gear is connected to 1 or 2 pairs of smaller bevel gears (known as spider gears), and ultimately power is transferred to the wheels.

It is these smaller bevel gears that form the heart of the differential unit: A mechanical device that detects when one wheel is turning faster than the other, and uses the spider gears to absorb the different speeds of both wheels and allow smooth cornering.

### TYPES OF DIFFERENTIALS:

#### Open Differential (The most basic differential):

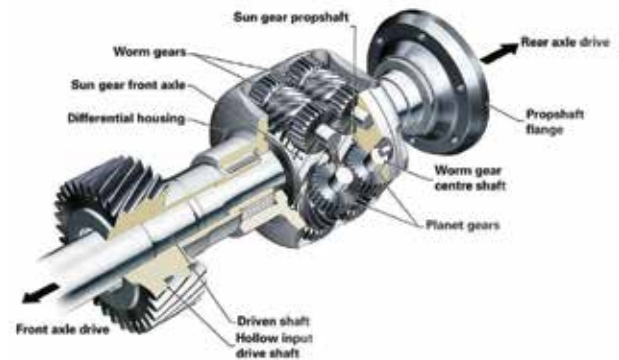
- Under good traction, it applies the same torque to both wheels
- However when traction is poor and one wheel slips on ice or mud, the slipping wheel will receive all the torque whilst the other wheel receives none, even though it does have grip

#### Limited Slip Differentials are better suited in poor traction conditions:

- Similar to open differentials but they have clutch packs inside the differential carrier, which apply friction between the side gears and the carrier
- The friction from the clutches encourages the side gears to turn at the same speed as the differential carrier
- When torque is applied under slippery conditions, friction from the clutch packs prevents the wheel with little traction from spinning wildly and ensures that some torque is transmitted to the other wheel which has grip

#### Locking Differentials contain a mechanism to fully lock both halves of the axle at the same speed:

- Must not be locked on a hard surface, but quite common to improve traction in heavy trucks, especially in poor weather conditions and off-road applications
- Locking differentials may be automatically activated (when the difference in wheel speeds reaches a given point) or driver-actuated



#### Torque Sensing or Torsen® Differentials:

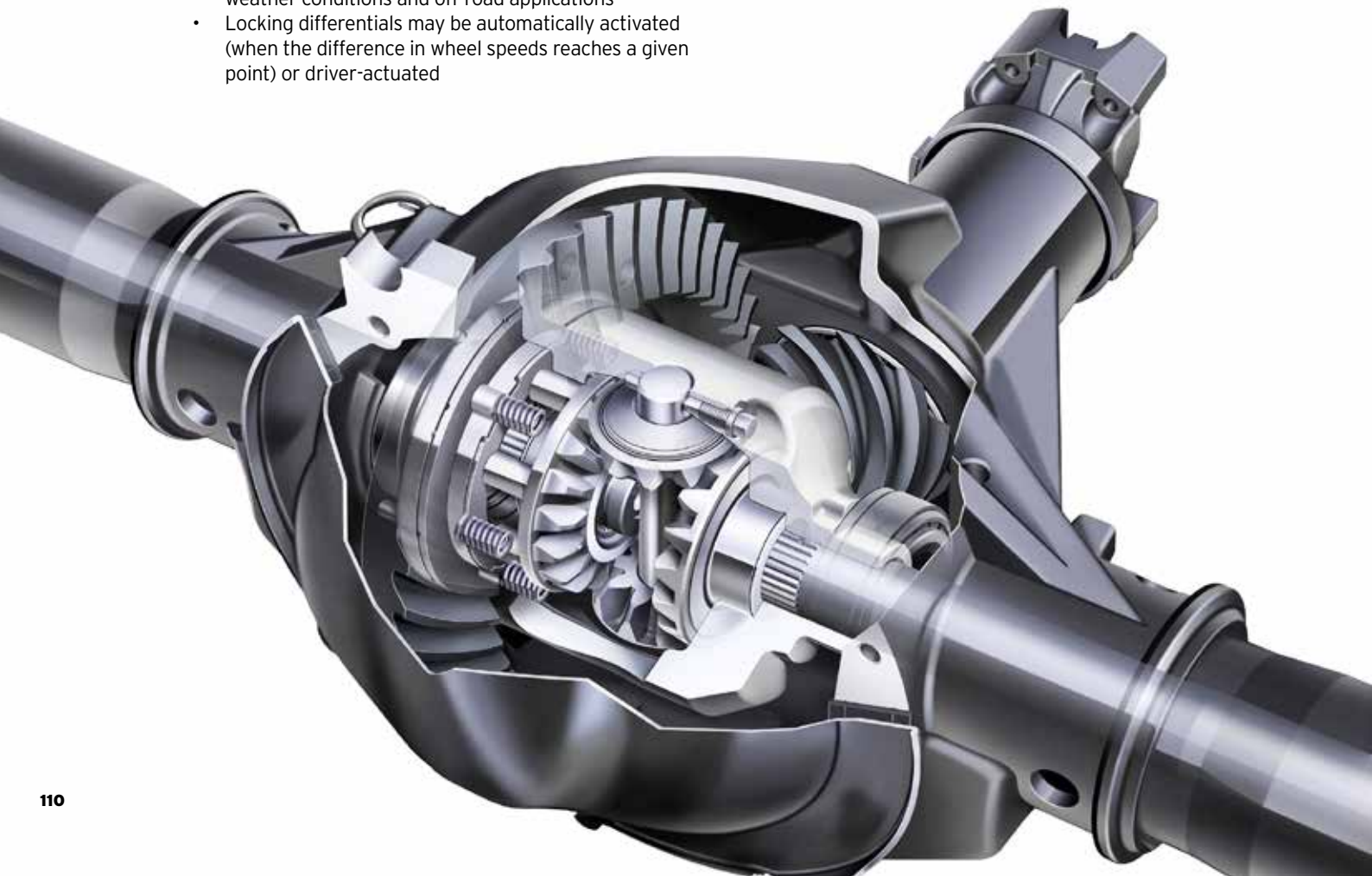
- These tend to be complex arrangements of spur, helical and/or bevel gears, which prevent extreme differences in wheel speeds, therefore maintaining useful traction at each wheel all the time
- They do not use clutches or electronics, so are both reliable and durable, and are used in many rear, front and centre differentials

Transfer cases manage the power split between front and rear axles or axle pairs, in vehicles with more than one drive axle:

- Transfer cases can be any of the above mentioned types, or can be viscous coupling similar to a torque converter in operation

#### Limited Slip Differentials with Electronic Control:

Similar to limited slip differentials with clutch packs to prevent slipping of one wheel. The friction of the clutches is controlled externally using sensors at the wheels to detect slipping. The hydraulic pressure needed for the clutches is electronically controlled.



## PENRITE HAVE A RANGE OF MANUAL GEAR/ DIFFERENTIAL OILS TO SUIT ALL APPLICATIONS:

**PRO GEAR:** Oils include full synthetics, manufactured utilising a special combination of synthetic base oils with an advanced additive system, as well as a premium mineral oil, to provide performance and protection under severe service. Suitable for use in manual gearboxes, transaxles, transfer cases and differentials.

**TRANS GEAR:** Semi synthetic automotive gear oils are manufactured from a blend of highly refined base oils, the latest technology additives, friction enhancers and an advanced viscosity modifier. Suitable for use in manual gearboxes, transaxles, transfer cases and differentials.

**GEAR OIL:** Premium mineral automotive gear oils are manufactured with modern extreme pressure additives and friction modifiers. This formulation allows the one range of gear oil to be used in both limited slip and hypoid type differentials, eliminating the need for multiple products. Can also be used in some manual gearboxes, transaxles and transfer cases.

### BENEFITS

- Specifically designed additives to improve the shift feel for the life of the oil drain.
- Enhanced oxidation stability, reducing harmful deposits.
- Excellent wear protection.
- Compatible with different metal components to protect against corrosion.
- Common differential oils for both limited slip and hypoid differentials.

## PRODUCTS

	mL	LITRES						
	150	1	2.5	4	20	60	205	1000
Pro Gear 70W-75			•		•			
Pro Gear 75W-85		•	•		•	•		
Pro Gear 75W-90		•	•		•	•	•	
Pro Gear 80W-140		•	•		•	•		
Pro Gear GL-4		•	•		•			
Pro Gear GL-5		•	•		•	•		
Trans Gear 75W-80		•	•		•	•		
Trans Gear 75W-90		•	•	•	•	•		
Gear Oil 80W-90		•	•	•	•	•	•	•
Gear Oil 85W-140		•	•		•	•	•	
Gear Oil 140			•		•		•	
HD Gear Oil 80W-90					•		•	
HD Gear Oil 85W-140					•		•	
HDPS Fluid		•						
Limsip Additive	•							
Penrite 4297	•							
<b>CARTON QUANTITY</b>	6	6	4	4				



## PRO GEAR 70W-75

PROG70750025/020

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 70W-75

### BENEFITS

- Smooth shift feel for the life of the oil
- Enhanced oxidation stability & reduces harmful deposits
- Improved load carrying capacity
- Very fast flow at start up for slick gear shifts
- For manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-4 Plus
- ✓ MTF BOT 338
- ✓ Tremec (T-56)
- ✓ ZF TE-ML 11 (manual)



## PRO GEAR 75W-85

PROG7585001/0025/020/060

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 75W-85

### BENEFITS

- Smooth shift feel for the life of the oil
- Reduces harmful deposits
- Will not harm brass or bronze
- Excellent wear protection
- Suitable for 80W-85 & SAE 80
- For manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-4 Plus
- ✓ BTR 5M-42
- ✓ Chrysler MS-9224
- ✓ Ford M2C200-C
- ✓ GM 12346190/HN 1855/HN 2276
- ✓ MAN 341
- ✓ MB 235.5
- ✓ Opel 040 0063/040 1067
- ✓ ZF TE-ML 08



## PRO GEAR 75W-90

PROG7590001/0025/020/060/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 75W-90

### BENEFITS

- Smooth shift feel for the life of the oil
- Reduces harmful deposits
- Excellent wear protection
- Suitable for 80W-90 & SAE 90
- For hypoid/limited slip differentials, manual gearboxes & transaxles

### SPECIFICATIONS

- ✓ API GL-6/MT-1
- ✓ BTR 5M-50
- ✓ Dana Axle
- ✓ Eaton Axle Bulletin 90-104
- ✓ Ford M2C200-C
- ✓ GM HN 2013
- ✓ Mack GO-H/S/GO-J
- ✓ MIL-L-PRF-2105E
- ✓ Rockwell O-76N
- ✓ SAE J2360
- ✓ ZF TE-ML 05D/07A/08/12D/16F/19C/21





## PRO GEAR 80W-140

PROG80140001/0025/020/060

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 80W-140

### BENEFITS

- Ultimate protection
- Race proven performance
- Longer drain intervals
- Suitable for 75W-140, 85W-140 & SAE 140
- For hypoid/limited slip differentials, manual gearboxes & transaxles

### SPECIFICATIONS

- ✓ API GL-6/MT-1
- ✓ BTR 5M-48
- ✓ Dana
- ✓ Eaton Axle Bulletin 90-104
- ✓ Ford M2C190-A
- ✓ GM HN 2040
- ✓ Mack GO-J
- ✓ MIL-L-PRD-2105E
- ✓ Rockwell O-76B
- ✓ SAE J2360
- ✓ ZF TE-ML 05B/07A



## PRO GEAR GL-4

PROGL4001/0025/020

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 75W-90

### BENEFITS

- Smooth shift feel for the life of the oil
- Reduces harmful deposits
- Will not harm brass or bronze
- Compatible with synchromesh materials
- Excellent wear protection
- For manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-4 Plus
- ✓ Ford M2C200-C
- ✓ GM 12346190/HN 2013
- ✓ MAN 341SL (level)
- ✓ ZFN 13010 (level)



## PRO GEAR GL-5

PROGL5001/0025/020/060

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 75W-85

### BENEFITS

- Maximum performance, protection & longer life
- Optimised for differentials requiring a low viscosity fluid
- Suited to many late model vehicle requirements
- Enhanced wear protection additive pack
- Suitable for SAE 80
- For hypoid/limited slip differentials & transaxles

### SPECIFICATIONS

- ✓ API GL-5



## TRANS GEAR 75W-80

TG7580001/0025/020/060

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 70W-80

### BENEFITS

- Smooth shift feel for the life of the oil
- Reduces harmful deposits
- Excellent wear protection
- Will not harm brass or bronze
- For manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-4 Plus
- ✓ Chrysler MS-9224
- ✓ Honda MTF 7289
- ✓ Land Rover MTF 94
- ✓ MB 235.10
- ✓ ZF TE-ML 02D



## TRANS GEAR 75W-90

TG7590001/0025/004/020/060

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 75W-90

### BENEFITS

- Smooth shift feel for the life of the oil
- Reduces harmful deposits
- Excellent wear protection
- Suitable for 80W-90
- For differentials, manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-5/MT-1
- ✓ China National GB 13895-1992
- ✓ Mack GO-J (level)
- ✓ MAN 342 M2/342 N
- ✓ MB 235.6
- ✓ MIL-L-2105D
- ✓ Volvo 1273-10
- ✓ ZF TE ML 08/TE-ML 02



## GEAR OIL 80W-90

G08090001/0025/004/020/060/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 80W-90

### BENEFITS

- Maximum protection
- Anti-shudder additive technology
- Superior thermal stability
- Superior protection against scoring & spalling wear
- Suitable for 85W-90 & SAE 90
- Blue colour
- For hypoid/limited slip differentials, manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-6/MT-1/PG-2
- ✓ BTR 5M-36
- ✓ China National GB 13895-1992
- ✓ Chrysler MS-9020
- ✓ Ford M2C1006-B/M2C1013-A/M2C104-A/M2C105-A/M2C197-A
- ✓ GM HN 1187/HN 1386/HN 1561
- ✓ International B-22
- ✓ Mack GO-J
- ✓ MIL-L-2105D/MIL-L-PRF-2105E
- ✓ SAE J2360
- ✓ White MS-0016
- ✓ ZF TE-ML 02B/05C/07A/08/12C/17B



## GEAR OIL 85W-140

G085140001/0025/020/060/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 85W-140

### BENEFITS

- Maximum protection
- Anti-shudder additive technology
- Superior thermal stability
- Superior protection against scoring & spalling wear
- Blue colour
- For hypoid/limited slip differentials

### SPECIFICATIONS

- ✓ API GL-6/MT-1/PG-2
- ✓ BTR 5M-36
- ✓ China National GB 13895-1992
- ✓ Chrysler MS-9020
- ✓ Ford M2C1006-B/M2C1013-A/M2C105-A/M2C197-A
- ✓ GM HN 1187/HN 1386/HN 1561
- ✓ International B-22
- ✓ Mack GO-J
- ✓ MIL-L-2105D/MIL-L-PRF-2105E
- ✓ SAE J2360
- ✓ White MS-0016
- ✓ ZF TE-ML 05C/07A/08/12C/16/21



## GEAR OIL 140

G0140025/020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 140

### BENEFITS

- Maximum protection
- Anti-shudder additive technology
- Superior thermal stability
- Superior protection against scoring & spalling wear
- Blue colour
- For hypoid/limited slip differentials

### SPECIFICATIONS

- ✓ API GL-6/MT-1/PG-2
- ✓ BTR 5M-31/5M-41
- ✓ China National GB 13895-1992
- ✓ Ford M2C1006-B
- ✓ GM HN 1561
- ✓ MIL-L-2105D
- ✓ MIL-L-PRF-2105E
- ✓ SAE J2360



## HD GEAR OIL 80W-90

HDG08090020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 80W-90

### BENEFITS

- Maximum protection
- High thermal stability for heavy duty usage
- Maintains cleanliness & reduces abrasive wear of critical parts
- Superior protection against scoring & spalling wear
- Amber colour
- For hypoid differentials, manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-6/MT-1/PG-2
- ✓ BTR 5M-36
- ✓ Clark MS-8
- ✓ International B-22
- ✓ Joint Service Designation OEP-220
- ✓ Mack GO-J
- ✓ MIL-L-2105D
- ✓ MIL-L-PRF-2105E
- ✓ Rockwell O-76A
- ✓ SAE J2360
- ✓ White MS-0016
- ✓ ZF TE-ML/05C/07A/08/12C/16/21



## HD GEAR OIL 85W-140

HDG085140020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 85W-140

### BENEFITS

- Heavy duty protection
- High thermal stability for heavy duty usage
- Maintains cleanliness & reduces abrasive wear of critical parts
- Superior protection against scoring & spalling wear
- Amber colour
- For hypoid differentials, manual gearboxes, transfer cases & transaxles

### SPECIFICATIONS

- ✓ API GL-6/MT-1/PG-2
- ✓ BTR 5M-36
- ✓ Clark MS-8
- ✓ International B-22
- ✓ Joint Service Designation OEP-600
- ✓ Mack GO-J
- ✓ MIL-L-2105D
- ✓ MIL-L-PRF/2105-E
- ✓ Rockwell O-76A
- ✓ SAE J2360
- ✓ White MS-0016
- ✓ ZF TE-ML 05C/07A/08/12C/16/21



## HDPS FLUID (HONDA DUAL PUMP SYSTEM)

HDPS001

**BASE OIL:** Semi Synthetic

### BENEFITS

- Good low temperature fluidity
- Protects against rust & corrosion
- Field proven
- Extended fluid life
- Resists oxidation
- Reduces differential squawk & lock up
- Amber colour
- For rear differentials

### SPECIFICATIONS

- ✓ Honda DPSF





## LIMSLIP ADDITIVE

LSADD000150)

**BASE OIL:** Premium Mineral

### BENEFITS

- Compatible with hypoid & limited slip gear oils
- Can be used in mineral or synthetic oils
- Improves differential performance
- Reduces squeal, squawk or chatter
- Purple colour

### SPECIFICATIONS

- ✓ Chrysler MS-5630
- ✓ Dana 40819
- ✓ Ford M2C118-A/Motorsport 7098
- ✓ GM Part Number 1052358



## PENRITE 4297 (TRANSMISSION ADDITIVE)

PEN4297000150ML

**BASE OIL:** Premium Mineral

### BENEFITS

- Improves smoothness of gear change
- Compatible with GM DEXRON®-II or Mitsubishi SP ATFs
- Reduces noise & wear in power steering systems
- Reduces power steering squawk
- Dark brown colour

### SPECIFICATIONS

- ✓ API GL-6/MT-1/PG-2
- ✓ BTR 5M-31/5M-41
- ✓ China National GB 13895-1992
- ✓ Ford M2C1006-B
- ✓ GM HN 1561
- ✓ MIL-L-2105D
- ✓ MIL-L-PRF-2105E
- ✓ SAE J2360



CAUTION  
This product contains  
concentrated chemicals and  
should be handled with care.

**PENRITE**

**Super OEM**  
**COOLANT**  
GENUINE  
ANTIFREEZE • ANTIBOIL • ANTICORROSION  
**PREMIX**  
**8 YEAR**  
500 000

READY  
TO USE

SAFE TO  
MIX

EXCEEDS  
OEM  
SPECIFICATIONS

5L

# COOLANTS

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## WHAT IS COOLANT?

Automotive coolant is a solution mixed with water to improve heat transfer and control the operating temperature of an engine. Besides its function in cooling down the engine, coolant also contains ingredients that inhibit rust, corrosion and scale. These are called inhibitors. They also prevent cavitation which is the rapid formation and collapse of vapour or air pockets, a frequent cause of structural damage.

Some coolants have an Anti-Freeze Anti-Boil package that raises the boiling point and lowers the freezing point of water. Some coolants change the surface tension of the water allowing it to circulate better, removing heat spots and actually lowering the running temperature of an engine.

## ENGINES CAN BE AIR COOLED OR WATER COOLED

Water cooled engines use coolant to assist the heat transfer process from the engine as it operates. Air cooled engines do not use liquid to transfer heat away from the engine.

## WHAT MUST ENGINE COOLANT DO?

- Be an effective heat exchange fluid
- Protect against rust, corrosion, cavitation, freezing and overheating in alloy, mixed metal and cast iron engines
- High temperature stability
- Be compatible with plastics and rubbers
- Be chemically stable (i.e. no "drop out")
- Mix readily with water
- Prevention of deposits
- Little foaming tendency

## THERE ARE TWO TYPES OF COOLANTS

### TYPE "A" COOLANTS - ANTI-FREEZE ANTI-BOIL:

- Inhibitors
- Water
- Glycols

Type "A" has an Anti-Freeze Anti-Boil component such as Ethylene Glycol or Propylene Glycol that raises the boiling point of the water and lowers the freezing point.

There are different types of inhibitor packages used in Type A Anti-Freeze Anti-Boil coolants and different dosages of glycol depending on the application.

### TYPE "B" COOLANTS:

Type "B" typically has no Anti-Freeze Anti-Boil performance and are essentially inhibitors only. There are different types of inhibitor formulations used in Type B coolants. Not all are compatible with one another.

### HINT - COOLANT COLOUR:

Just because a coolant is coloured doesn't mean it's an Anti-Freeze Anti-Boil product. The colour in coolant is a dye and should never be used to distinguish the type of coolant. Penrite coolants are clearly labelled Type "A" or Type "B".

## ANTI-FREEZE ANTI-BOIL COOLANT HISTORY

Ethylene Glycol Anti-Freeze was first used in Automotive in 1926 (the same year Penrite was born). Prior to this it was used to manufacture dynamite.

Alcohol made from methanol was originally used as Anti-Freeze as it had a lower freezing point than water. The problem with alcohol is that it can accelerate corrosion in metals and would evaporate over time. Other glycols used are Propylene Glycol and Glycerol which are non-toxic.

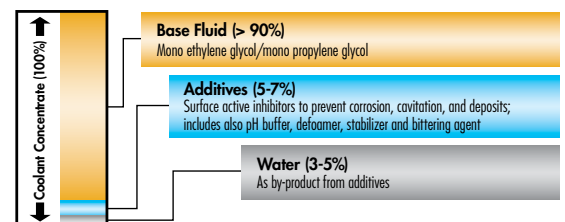
Ethylene Glycol is very toxic and should be disposed of carefully if changing a vehicle's coolant.

## COOLANT COMPOSITION

Water is an excellent heat transfer liquid especially in an internal combustion engine but when it freezes, it actually expands, which is called Negative Thermal Expansion. If the water freezes inside a radiator or engine, it can then cause damage due to this expansion.

Water combined with glycol and inhibitors form a Type "A" engine coolant. The typical composition of a premixed Type "A" is shown on the chart below. Glycol and water form the majority of the cooling system solution. Inhibitors are only a small percentage of the coolant.

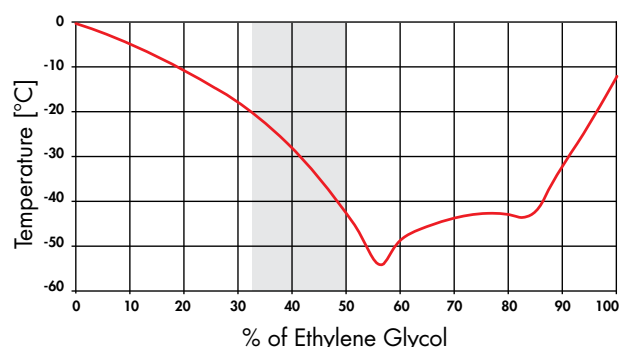
### CHEMICAL COMPOSITION OF COOLANTS:





## GLYCOL CONTENT

Coolants that have an Anti-Freeze Anti-Boil component generally have a glycol base. Glycol never loses its Anti-Freeze Anti-Boil properties but inhibitors deplete over time, causing the need to change coolant. The level of glycol in the coolant mixture, gives an indication of the freezing point and boiling points. The coolant mixture needs to be between 33% and 50% for best results.



### DOSE FREEZING / POINT BOILING POINT - UNPRESSURISED:

33%	-18°C	104°C
50%	-38°C	109°C

## CORROSION INHIBITORS

A corrosion inhibitor is a chemical compound that, when added to a liquid (in this case coolant), decreases the corrosion rate of a material, typically a metal or alloy.

A common mechanism for inhibiting corrosion involves formation of a coating, often a passivation layer, which prevents access of the corrosive substance to the metal.

Inhibitors only make up a small fraction of the overall coolant as water and glycol form the majority of the product but they can have a vast effect on the performance of the coolant in maintaining the system in good condition.

## ADDITIVES MAY INCLUDE

### THESE ALL FULFIL DIFFERENT FUNCTIONS WITHIN THE COOLANT:

- Organic acids
- Silicates and phosphates
- Nitrites
- Defoamers
- Bittering agents
- Borates

## THE THREE BASIC "TYPES" OF INHIBITOR PACKAGES

**CONVENTIONAL:** Uses conventional technology, in other words, does not use any of the newer style, organic inhibitors.

**ORGANIC:** Uses 100% organic acid salts.

**HYBRID:** These products use mainly organic acids but with up to two or three conventional inhibitors.

Automotive manufacturers will generally specify silicates and phosphates. Heavy duty engine manufacturers will generally specify nitrites and molybdates

## OAT FORMULATIONS

OAT formulations are generally not compatible with conventional formulations. Care needs to be taken when mixing coolants.

OAT formulations react to some extent with some of the inorganic salts and caustics used in conventional types. The result in combining the two leads to the generation of cloudiness and loss of extended life properties.

### CHARACTERISTICS OF OAT COOLANT:

- Low inhibitor depletion rates, "fill for life" coolant (Long Life)
- Compatibility with many coolant standards
- Extreme stability under high temperatures
- Provides excellent heat transfer rate

## HYBRID FORMULATIONS

Hybrid formulations are called hybrid because they contain ingredients from both OAT and conventional formulas. Hybrid formulations partially or totally eliminate the problem of straight OAT and straight conventional compatibility. Hybrid formulations contain significant concentrations of conventional inhibitors as well as organic carboxylate or other salts.

### CHARACTERISTICS OF HYBRID COOLANT:

- Nitrites form a stable layer that protects the internal surfaces against corrosion, cavitation and scaling.
- High reliability.
- Compatible with engines and cooling systems of different design.
- Good expertise over years from many car producers.
- Extended change intervals.

### OTHER COOLANT FACTS:

- Type "A" Anti-Freeze Anti-Boil coolants are now found in new vehicles.
- The type of coolant, whether it be an OAT or hybrid formulation, is dependent upon the vehicle manufacturer and determined by region, climate, type of vehicle etc.
- The colour of the coolant is a dye only and may change from region to region depending on the preference of the vehicle manufacturer and the supplier of the coolant to the manufacturer.
- Depletion rates of inhibitors determines the lifespan of coolants. Long Life coolants can last up to and beyond 10 years.
- There are OEM Approvals on coolants for some manufacturers.

## STORAGE LIFE OF COOLANTS

Concentrated coolants have a safe shelf life of 3 years when stored correctly. Keep in a cool location out of direct sunlight.

## RADIATOR FLUSHES

### "WHEN IN DOUBT, FLUSH IT OUT"

Flushing the cooling system prior to using new coolant ensures that the old fluid won't contaminate the new (especially as they may be incompatible), as well as improving the operating efficiency of the cooling system by cleaning out the system internally.

#### CHARACTERISTICS OF A GOOD RADIATOR FLUSH:

- Be fast acting
- Remove rust, scale and other deposits
- Prepare the system for the new coolant
- Neutralises any leftover coolant remaining in the engine
- Be harmless for all metals
- Safe for rubber and hoses
- Compatible with all coolants



## RADIATOR STOP LEAKS

A radiator stop leak product provides a temporary repair for leaking radiators, heater cores, hoses and joints, weeping head gaskets and welsh plugs. They are designed to be compatible with most coolants.

It is important that these types of products are used as a temporary repair until mechanical work can be obtained to permanently fix leaking cooling systems. Failure to fix leaking cooling systems can lead to expensive engine repair work from overheating.



## RADIATOR OIL REMOVER

A highly alkaline cooling system flush additive specifically designed to remove oil from an engine's cooling system. It emulsifies oil that has entered the engines cooling system allowing it to be flushed clean.

It can be used in all types of liquid-cooled engines that are contaminated with engine oil, transmission oil or hydraulic oil. It can be poured directly into the radiator, overflow or expansion bottle. It is safe to use and won't harm plastics, hoses, gaskets, seals, header tanks, water pumps, radiator or engine.



## OTHER USES FOR COOLANT

### HYDROLASTIC SUSPENSION FLUID:

Suspension fluid for Morris, Austin, Leyland BMC and Wolseley vehicles.

Hydrolastic Suspension Fluid is a "fluid" system that was used on a number of Morris 1100 derivatives, Austin and Morris 1800s, Minis between 1964 and 1971 and Wolseley 18/85s as well as MG/F's produced from 1995 to 2002.

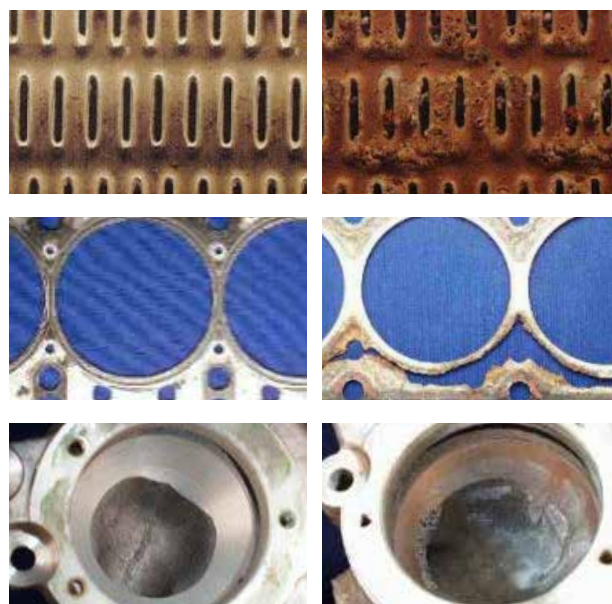
The units were filled with a mixture of alcohol, water and additives to prevent corrosion. A valve in the top of the fluid separating chamber replaced the conventional damper of other systems.

When either wheel on one side of the car hit a bump in the road, the fluid was displaced and caused the unit on the other wheel to react. In this way a bump at the front made the rear of the car rise to a corresponding height and the car always remained level.

There is not a particular dedicated product replacement for the original fluid. Available off the shelf in most outlets, a comparable product for this application can be made mixing: 33% by volume Anti-Freeze Anti-Boil coolant with 67% by volume distilled water.

## RESULTS WITH & WITHOUT COOLANT

### RADIATOR, HEAD GASKET AND THERMOSTAT HOUSING:



## FREQUENTLY ASKED QUESTIONS

### WHAT HAPPENS IF YOU MIX DIFFERENT COOLANTS TOGETHER?

Different types of coolants have different types of additive packs in them to stop corrosion, rust, scaling etc.

Some of these additive technologies aren't compatible with others and can cause a chemical reaction that can cause major damage to the cooling system and ancillary parts.

# OEM APPROVED COOLANTS

Using the correct fluid during the warranty period for a vehicle ensures that you maintain your manufacturer warranty for that vehicle. Using a non-approved product for servicing during the warranty period can jeopardise the manufacturer's warranty and could lead to engine failure if the product does not meet the OEM specifications for that engine. Penrite has a number of products that are approved by major manufacturers or registered with industry bodies. The below list are OEM Approved Coolants.

## **PURPLE OEM COOLANT** (Concentrate/Premix)

- Audi TL 774-L
- Bentley TL 774-L
- Bugatti TL 774-L
- Deutz DQC CC-14
- Lamborghini TL 774-L
- Porsche TL 774-L
- SEAT TL 774-L
- Skoda TL 774-L
- VW TL 774-L

## **RED OEM COOLANT** (Concentrate/Premix)

- Audi TL 774-G
- Bentley TL 774-G
- Bugatti TL 774-G
- Cummins CES 14603
- Lamborghini TL 774-G
- MAN 324 Type Si-OAT
- MB-Approval 325.5
- MB-Approval 325.6
- MB-Approval 326.6
- Porsche (From 2010)
- SEAT TL 774-G
- Skoda TL 774-G
- Smart MB-Approval 325.6
- VW TL 774-G

## **BLUE OEM COOLANT** (Concentrate/Premix)

- Audi TL 774-D/F
- Bentley TL 774-D/F
- DAF MAT 74002
- Deutz DQC CB-14
- Lamborghini TL 774-D/F
- MAN 324 SNF
- MB-Approval 325.3
- Mini Diesel (2007-2011)
- MTU MTL 5048
- Porsche (1996-2009)
- SEAT TL 774-D/F
- Skoda TL 774-D/F
- VW TL 774-D/F

## **GREEN OEM COOLANT** (Concentrate/Premix)

- Audi TL 774-C
- BMW GS 94000
- Deutz DQC CA-14
- Jenbacher TA-Nr. 1000-021
- Liebherr LH-00-COL3A
- MAN 324 NF
- MB-Approval 325.0
- Mini BMW GS 94000
- MTU MTL 5048
- Opel / Vauxhall (Until 2000) B 040 0240
- Porsche (Until 1995)
- Rolls Royce (From 1998) BMW GS 94000
- Saab 690 1599
- SEAT TL-774-C
- Skoda TL 774-C
- Smart MB-Approval 325.0
- Tesla (From 2013)
- Volvo Truck (From 2005)
- VW TL 774-C

Penrite's premium range of OEM approved coolants and inhibitors, cover most vehicles on the road. As with engine oils, different vehicle manufacturers specify different types of engine coolants and inhibitors for their vehicles. Therefore, the correct engine cooling product for your vehicle is critical in maintaining its performance and longevity as well as preserving your vehicles manufacturer warranty. Penrite coolants are suitable for passenger cars, commercial vehicles, 4WD's, heavy duty vehicles, motorcycles, marine, racing, veteran, vintage & classic and many more.

## BENEFITS

- Many OEM Approved products, 100% guaranteed to meet vehicle warranty requirements
- Latest Si-OAT technology, Organic Acid Technology (OAT), Hybrid and Conventional coolant types
- Type A (Anti-Freeze Anti-Boil with corrosion inhibitor) and Type B (corrosion inhibitor only)
- Conventional long life non approved coolants
- Ethylene and Propylene Glycol products available
- Available in concentrate and premix formulations
- Long term protection against rust and corrosion
- Freezing and boiling protection
- Specialised products for racing and classic vehicles

## PRODUCTS

	mL	LITRES							
	500	1	2	2.5	5	20	20 BOX	60	205
Purple OEM Coolant (Concentrate)		●			●	●			
Purple OEM Coolant (Premix)		●			●				
Red OEM Coolant (Concentrate)		●		●	●	●	●	●	●
Red OEM Coolant (Premix)		●			●				●
Blue OEM Coolant (Concentrate)		●			●	●			
Blue OEM Coolant (Premix)		●			●				
Green OEM Coolant (Concentrate)		●		●	●	●	●	●	●
Green OEM Coolant (Premix)		●			●	●			●
350,000KM Green Coolant (Concentrate)		●		●	●	●			●
350,000KM Green Coolant (Premix)		●			●				
PGXL Coolant (Premix)						●			
HD Longlife EC01 Coolant (Concentrate)						●			
HD Longlife EC01 Coolant (Premix)						●			●
Universal Top Up Coolant (Premix)		●							
Power Sports Coolant (Premix)		●			●				
Radiator Corrosion Inhibitor	●	●				●			
10 Tenths Race Coolant Inhibitor (Concentrate)		●							
Demineralised Water		●	●		●	●			
<b>CARTON QUANTITY</b>	6	6	6	4	3				





## PURPLE OEM COOLANT (CONCENTRATE)

COOLPURPLE001/005/020

**TECHNOLOGY:** Type A PSi-OAT

### BENEFITS

- 8 year or 500,000km drain intervals
- OEM approved
- Improved tolerance for flux-brazed aluminium heat exchangers
- Compatible with plastics, rubbers & seals
- Purple colour

### OEM APPROVALS

- ✓ Audi/Bentley/Bugatti/Lamborghini/Porsche/SEAT/Skoda/VW TL 774-L
- ✓ Deutz DQC CC-14
- ✓ G12evo

### SPECIFICATIONS

- ✓ AS 2108-2004
- ✓ AS/NZS 2108-2004 Type A
- ✓ ASTM D-3306/D-4985
- ✓ BS 6580:2010
- ✓ SAE J1034
- ✓ Toyota Long Life TSK2601G



## PURPLE OEM COOLANT (PREMIX)

COOLPURPLEPMX001/005

**TECHNOLOGY:** Type A PSi-OAT

### BENEFITS

- Ready to use at 50% concentrate
- 8 year or 500,000km drain intervals
- OEM approved
- Improved tolerance for flux-brazed aluminium heat exchangers
- Compatible with plastics, rubbers & seals
- Purple colour

### OEM APPROVALS

- ✓ Audi/Bentley/Bugatti/Lamborghini/Porsche/SEAT/Skoda/VW TL 774-L
- ✓ Deutz DQC CC-14

### SPECIFICATIONS

- ✓ AS 2108-2004
- ✓ AS/NZS 2108-2004 Type A
- ✓ ASTM D-4985
- ✓ BS 6580:2010
- ✓ SAE J1034
- ✓ Toyota Long Life TSK2601G



## RED OEM COOLANT (CONCENTRATE)

COOLRED001/0025/005/020/020BOX/060/205

**TECHNOLOGY:** Type A Si-OAT

### BENEFITS

- 8 year or 500,000km drain intervals
- OEM approved
- Compatible with plastics, rubbers & seals
- Protects all internal surfaces from corrosion, including aluminium
- Phosphate free formulation allows use with hard water
- Borate, nitrite & amine free
- Red colour

### OEM APPROVALS

- ✓ Audi/Bentley/Bugatti/Lamborghini/SEAT/Skoda/VW TL 774-G
- ✓ Cummins CES 14603
- ✓ Deutz DQC CC-14/Fahr Harvesters (from 04/2017)
- ✓ MAN 324 Type Si-OAT
- ✓ MB-Approval 325.5/325.6/326.6
- ✓ Smart MB-Approval 325.6



## RED OEM COOLANT (PREMIX)

COOLREDPMX001/005/205

**TECHNOLOGY:** Type A Si-OAT

### BENEFITS

- Ready to use at 50% concentrate
- 8 year or 500,000km drain intervals
- OEM approved
- Compatible with plastics, rubbers & seals
- Protects all internal surfaces from corrosion, including aluminium
- Phosphate free formulation allows use with hard water
- Borate, nitrite & amine free
- Red colour

### OEM APPROVALS

- ✓ Audi/Bentley/Bugatti/Lamborghini/SEAT/Skoda/VW TL 774-G
- ✓ Cummins CES 14603
- ✓ Deutz DQC CC-14/Fahr Harvesters (from 04/2017)
- ✓ MAN 324 Type Si-OAT
- ✓ MB-Approval 326.5/326.6
- ✓ Porsche (From 2010)
- ✓ Smart MB-Approval 325.6



## BLUE OEM COOLANT (CONCENTRATE)

COOLBLUE001/005/020

**TECHNOLOGY:** Type A OAT

### BENEFITS

- 8 year or 500,000km drain intervals
- OEM approved
- Compatible with plastics, rubbers & seals
- Protects all internal surfaces from corrosion, including aluminium
- Phosphate free formulation allows use with hard water
- Silicate, nitrite, nitrate & amine free
- Blue colour

### OEM APPROVALS

- ✓ Audi/Bentley/Lamborghini/SEAT/Skoda/VW TL 774-D/F
- ✓ DAF MAT 74002
- ✓ Deutz DQC CB-14
- ✓ Ferrari (from 2005)
- ✓ MAN 324 SNF
- ✓ MB-Approval 325.3
- ✓ Mini Diesel (2007-2011)
- ✓ MTU MTL 5048
- ✓ Porsche (1996-2009)
- ✓ Siemens (approved)



## BLUE OEM COOLANT (PREMIX)

COOLBLUEPMX001/005

**TECHNOLOGY:** Type A OAT

### BENEFITS

- Ready to use at 50% concentrate
- 8 year or 500,000km drain intervals
- OEM approved
- Compatible with plastics, rubbers & seals
- Protects all internal surfaces from corrosion, including aluminium
- Phosphate free formulation allows use with hard water
- Silicate, nitrite, nitrate & amine free
- Blue colour

### OEM APPROVALS

- ✓ Audi/Bentley/Lamborghini/SEAT/Skoda/VW TL 774-D/F
- ✓ DAF MAT 74002
- ✓ Deutz DQC CB-14
- ✓ Ferrari (from 2005)
- ✓ MAN 324 SNF
- ✓ MB-Approval 326.3
- ✓ Mini Diesel (2007-2011)
- ✓ MTU MTL 5048
- ✓ Porsche (1996-2009)
- ✓ Siemens (approved)



## GREEN OEM COOLANT (CONCENTRATE)

COOLGREEN001/0025/005/020/020BOX/060/205

**TECHNOLOGY:** Type A Hybrid (HOAT)

### BENEFITS

- 8 year or 500,000km drain intervals
- OEM approved
- Protects all surfaces from corrosion
- Phosphate free formulation allows hard water use
- Nitrite & amine free
- Green colour

### OEM APPROVALS

- ✓ Audi/SEAT/Skoda/VW TL 774-C
- ✓ BMW/Mini/Rolls Royce (from 1998) GS 94000
- ✓ Ferrari (1979-2005)
- ✓ MB-Approval 325.0
- ✓ Opel/Vauxhall (until 2000) B 040 0240
- ✓ Porsche (until 1995)
- ✓ Saab 690 1599
- ✓ Setra MB-Approval 325.0
- ✓ Smart MB-Approval 325.0
- ✓ Tesla (From 2013)



## GREEN OEM COOLANT (PREMIX)

COOLGREENPMX001/005/020/205

**TECHNOLOGY:** Type A Hybrid (HOAT)

### BENEFITS

- Ready to use at 50% concentrate
- 8 year or 500,000km drain intervals
- OEM approved
- Protects all surfaces from corrosion
- Phosphate free formulation allows hard water use
- Nitrite & amine free
- Green colour

### OEM APPROVALS

- ✓ Audi/SEAT/Skoda/VW TL 774-C
- ✓ BMW/Mini/Rolls Royce (from 1998) GS 94000
- ✓ Ferrari (1979-2005)
- ✓ MB-Approval 326.0
- ✓ Opel/Vauxhall (until 2000) B 040 0240
- ✓ Porsche (until 1995)
- ✓ Saab 690 1599
- ✓ Setra MB-Approval 325.0
- ✓ Smart MB-Approval 325.0
- ✓ Tesla (From 2013)



## 350,000KM GREEN COOLANT (CONCENTRATE)

COOL350001/0025/005/020/205

**TECHNOLOGY:** Type A Hybrid (HOAT)

### BENEFITS

- 350,000km drain intervals
- Meets with many manufacturer specifications
- Compatible with plastics, rubbers & seals
- Green colour

### SPECIFICATIONS

- ✓ AS/NZS 2108-2004 Type A
- ✓ ASTM D-3306
- ✓ BS 6580
- ✓ Chrysler MS-9769
- ✓ Cummins CES 14603
- ✓ Ford ESE M97B44-A/  
WSS M97B51-A1
- ✓ Holden HN 1825M/HN1899/HN2043
- ✓ JCB STD00088
- ✓ Leyland BLS.22.AF.01
- ✓ MAN Liste 3.3.7
- ✓ MTU MTL 5048
- ✓ SAE J1034



## 350,000KM GREEN COOLANT (PREMIX)

COOL350PMX001/005

**TECHNOLOGY:** Type A Hybrid (HOAT)

### BENEFITS

- Ready to use at 33% concentrate
- 350,000km drain intervals
- Meets with many manufacturer specifications
- Compatible with plastics, rubbers & seals
- Green colour

### SPECIFICATIONS

- ✓ AS/NZS 2108-2004 Type A
- ✓ ASTM D-3306
- ✓ BS 6580
- ✓ Chrysler MS-9769
- ✓ Cummins CES 14603
- ✓ Ford ESE M97B44-A/  
WSS M97B51-A1
- ✓ Holden HN 1825M/HN1899/HN2043
- ✓ JCB STD00088
- ✓ Leyland BLS.22.AF.01
- ✓ MAN Liste 3.3.7
- ✓ MTU MTL 5048
- ✓ SAE J1034



## PGXL COOLANT (PREMIX)

PGXLPMX020

**TECHNOLOGY:** Type A Hybrid HOAT

### BENEFITS

- Ready to use at 50% concentrate
- Provides long life protection for all metals
- Provides anti-freeze anti-boil protection
- Excellent protection for aluminium & heavy diesel wet sleeve liners
- Low toxicity compared to mono ethylene glycol based coolants
- Contains nitrite & molybdate for cylinder liner protection
- Blue colour

### SPECIFICATIONS

- ✓ ASTM D-6211/D-6257
- ✓ TMC RP 330





## HD LONGLIFE ECO1 COOLANT (CONCENTRATE)

AFABECO1020

**TECHNOLOGY:** Type A Hybrid HOAT

### BENEFITS

- 8 year heavy duty drain intervals
- 15,000 hour drain intervals in off highway engines
- Protects all internal surfaces from corrosion, including aluminium
- Deep Red colour

### SPECIFICATIONS

- ✓ ASTM 4985/6210/D-3306
- ✓ Caterpillar EC-1
- ✓ Detroit 7SE-298
- ✓ Freightliner 48-2288D
- ✓ Isuzu (GM6277M)
- ✓ Kenworth R026-170-97
- ✓ Mack 014 GS 17009
- ✓ MAN 324
- ✓ MTU MTL 5048
- ✓ SAE J1034/J1941
- ✓ Volvo Heavy Truck (Approved)/VCS



## HD LONGLIFE ECO1 COOLANT (PREMIX)

AFABECO1PMX020/205

**TECHNOLOGY:** Type A Hybrid (HOAT)

### BENEFITS

- Ready to use at 50% concentrate
- 8 year heavy duty drain intervals
- 15,000 hour drain intervals in off highway engines
- Protects all internal surfaces from corrosion, including aluminium
- Deep red colour

### SPECIFICATIONS

- ✓ ASTM 4985/6210/D-3306
- ✓ Caterpillar EC-1
- ✓ Detroit 7SE-298
- ✓ Freightliner 48-2288D
- ✓ Isuzu (GM6277M)
- ✓ Kenworth R026-170-97
- ✓ Mack 014 GS 17009
- ✓ MAN 324
- ✓ MTU MTL 5048
- ✓ SAE J1034/J1941
- ✓ Volvo Heavy Truck (Approved)/VCS



## UNIVERSAL TOP UP COOLANT (PREMIX)

AFABPMXYELLOW001

**TECHNOLOGY:** Type A Hybrid (HOAT)

### BENEFITS

- Ready to use at 50% concentrate
- Compatible with all coolant types
- Will not discolour original coolant  
*If not mixed at greater than 10% of system capacity*
- Compatible with plastics, rubbers & seals
- Protects all internal surfaces from corrosion, including aluminium
- Yellow colour

### SPECIFICATIONS

- ✓ ASTM D-3306/D-4985
- ✓ BS 6580
- ✓ Chrysler MS-9769
- ✓ Ford M97-51A/M97-B44-D
- ✓ GM 1899M/6277M/Holden 6277M
- ✓ Holden HN 2043/HN 2217
- ✓ Mitsubishi ES-X64217
- ✓ Nissan NES M5059
- ✓ SAE J1034
- ✓ Toyota Long Life TSK2601G



## POWER SPORTS COOLANT (PREMIX)

COOLPOWERPMX001

**TECHNOLOGY:** Type A

### BENEFITS

- Ready to use at 50% concentrate
- Low toxicity compared to mono ethylene glycol based coolants
- Provides long life protection for all metals
- Provides anti-freeze anti-boil protection
- Dark blue colour

### SPECIFICATIONS

- ✓ ASTM D-6211/D-6257
- ✓ TMC RP 330



## RADIATOR CORROSION INHIBITOR

COOL10005/001/020

**TECHNOLOGY:** Type B

### BENEFITS

- Protects all internal surfaces from corrosion, including aluminium
- Safe for all plastics, rubber hoses & seals
- Helps prevent wet liner erosion
- Contains an anti foam agent to help protect against cavitation
- 1L makes up to 20L
- Green colour

### SPECIFICATIONS

- ✓ AS/NZS 2108.1-1997 Type B
- ✓ Deutz-MWM 0199-209
- ✓ Ford ESD-M99B166C
- ✓ MAN 248/B&W D36 5600
- ✓ Sulzer Diesel ZBS0503
- ✓ Wartsila 32-9011



## 10 TENTHS RACE COOLANT INHIBITOR (CONCENTRATE)

RCI001

**TECHNOLOGY:** Type B

### BENEFITS

- Lowers engine operating temperatures preventing damage
- Leaves no slippery residue if dropped on a race track
- Contains a conventional hybrid inhibitor
- Removes cavitation for better heat dissipation
- 1L makes between 10 - 20L
- Red colour

### SPECIFICATIONS

- ✓ AS 2108-2004 Type B



## DEMINERALISED WATER

DEWATER001/002/005/020

### BENEFITS

- 100°C boiling point
- 7.2pH level
- Complete 100% solubility
- Maximises life of engine coolants & lead acid batteries
- Can be mixed with all types of engine coolants
- Suitable as an engine coolant top up
- Multiple applications in various industries
- Clear colour







# POWER STEERING & SUSPENSION FLUIDS

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## OVERVIEW

Power Steering Fluids are hydraulic fluids that help take the manual effort out of turning the steering wheel. They are extremely important to the cars safety and like all fluids, need changing at regular service intervals to maintain the steering system in good working order.

Some vehicles use ATF (Automatic Transmission Fluids) as Power Steering Fluids, others use specialised fluids, but like all systems within a vehicle, the right type of product needs to be used for the system to function as intended. The most common fluid used is DEXRON® based ATF and many suppliers use this as their base product for Power Steering Fluid. Some systems require fluids that also work with other hydraulic systems and can specify synthetic specialty fluids that contain additives to suit that particular system. Careful attention must be paid to getting the right fluid for your particular application.

### HOW OFTEN SHOULD YOU CHANGE YOUR POWER STEERING FLUID?

Most manufacturers will have defined service intervals for power steering fluid and these will vary by vehicle and manufacturer. These service intervals should be followed to protect the service life of the system. If not defined by a manufacturer in the service schedule, the fluid should be changed approximately every 50,000km.

### HOW DO I KNOW WHAT POWER STEERING FLUID MY VEHICLE TAKES?

The vehicle owner's manual will normally advise what type of fluid is required or alternatively, you can use the Penrite Product Guide to find the right fluid and volume needed.

### HOW DO YOU BLEED A POWER STEERING SYSTEM?

Power Steering Systems are relatively easy to bleed. Simply fill the reservoir to the full mark. Leave the cap slightly ajar, start the vehicle and turn the steering wheel from one side to the other. Do this until the steering becomes smooth and easy to turn. Stop engine, and check the fill level of the power steering fluid reservoir. Top up if needed and refit reservoir cap.

### WHY CAN'T I USE DEXRON® 3 IN MY FORD FALCON?

Ford EL-FG series vehicles require a special fluid with a specification number of M2C134-C/D. Although an ATF based fluid, it has properties that are not available in ATF fluids and therefore a product that meets M2C134-C/C is required.

### MY CAR HAS ELECTRIC POWER STEERING, DO I NEED TO CHECK ANYTHING?

Vehicles with electric power steering may still have a reservoir of hydraulic fluid to drive the system. These should be inspected at regular intervals.

### WHAT ARE THE BENEFITS OF USING A POWER STEERING FLUID OVER AN ATF?

Power Steering Fluids can be adjusted with additives to benefit a power steering system such as anti-shudder additives. They can also be doused with additives such as stop leak to prevent system leaks. Full synthetic fluids can also be engineered to last longer than standard ATFs in a power steering application.

Power steering fluids are formulated with purpose designed additives for power steering systems that can often provide better control of shuddering noise and squawk over the recommended ATF.



At Penrite, we manufacture a wide range of general and specialty Power Steering & Suspension Fluids to ensure that the correct product and specification is available for each vehicle. Modern vehicles use an array of different products with different specifications in their power steering and suspension systems and selecting the correct type of product is critical to the performance and safety of each particular vehicle.

Penrite provides a range of products that cover the vast majority of cars, 4WDs, light and heavy commercial vehicles. The range includes full synthetic, semi synthetic and premium mineral fluids, applicable to vehicles manufactured in Europe, Japan, Korea, China, USA, and Australia as well as many other countries.

## PRODUCTS

	MILLILITRES	LITRES	
	500	1	20
Power Steering Fluid	•	•	•
LDAS		•	
LHM Plus		•	
PAS Fluid		•	
HPSO		•	
MB15 Suspension Fluid		•	
<b>CARTON QUANTITY</b>	6	6	



## POWER STEERING FLUID

PSF0005/001/020

**BASE OIL:** Premium Mineral

### BENEFITS

- Minimises shudder (noise & chatter) in power steering pumps
- Effective anti wear additives provide wear protection
- Protects against rust & corrosion
- Long service through good thermal stability
- Reduces system leaks
- Amber colour

### OEM APPROVALS

- ✓ Chrysler MS-1872
- ✓ Ford M2C134-D
- ✓ GM 9985010
- ✓ PS 11872



## LDAS

LDAS001

**BASE OIL:** Full Synthetic

### BENEFITS

- Good flow rates of fluid at extremes of temperature
- Excellent lubricating properties
- High thermal stability
- Excellent protection against wear & corrosion
- Green colour

### OEM APPROVALS

- ✓ Chrysler MS-11655
- ✓ DIN 51524T2
- ✓ Ford M2C204-A
- ✓ ISO 7308
- ✓ MB 345.0.
- ✓ Opel B 040 0070
- ✓ Pentosin CHF 11S/CHF 202
- ✓ PSA B71 2710/S71 2710
- ✓ Volvo 1273.36/30741424
- ✓ VW G 002 000/TL 52 146.01/TL 521 46 (G2000/G4000 M2)
- ✓ ZF TE-ML 02K



## LHM PLUS

LHMP001

**BASE OIL:** Premium Mineral

### BENEFITS

- Protects against wear & corrosion
- Good flow rates of fluid at extremes or temperature
- Compatible with LHM/LHM+ OEM fluids
- Will not harm internal parts, seals & hoses
- Green colour

### OEM APPROVALS

- ✓ Citroen B71 2710
- ✓ Ford ESN-M6C59-A
- ✓ ISO 7308
- ✓ Massey Ferguson MF 1151
- ✓ PSA B71 2710
- ✓ VW 2000





## PAS FLUID (POWER ASSISTED STEERING)

PAS001

**BASE OIL:** Semi Synthetic

### BENEFITS

- Minimises shudder & noise
- Extends seal & hose life
- Good low temperature fluidity
- Protects against rust & corrosion
- Green colour

### OEM APPROVALS

- ✓ Chrysler MS-5931/MS-9462
- ✓ Ford M2C128-D/M2C195-A (power steering only)
- ✓ GM 9985819/9985835
- ✓ MB 236.3/341.0
- ✓ Opel 90 513486
- ✓ PAS 14315
- ✓ Pentosin CHF 4548/CHF 7.1
- ✓ VW TL VW-570-26
- ✓ ZF TE ML 09B



## HPSO (HONDA POWER STEERING OIL)

HPS0001

**BASE OIL:** Full Synthetic

### BENEFITS

- Correct viscosity for Honda power steering units
- Compatible with OEM fluid
- Reduces power steering shudder (noise & chatter)
- Extends seal & hose life
- Multiple use power steering & suspension
- Long service life
- Protects against rust & corrosion
- Amber colour

### OEM APPROVALS

- ✓ Ford M2C134-D
- ✓ Fork Oil SAE Grade 20
- ✓ Honda PSF-II/PSF-S/PSF-V



## MB15 SUSPENSION FLUID

MB15001

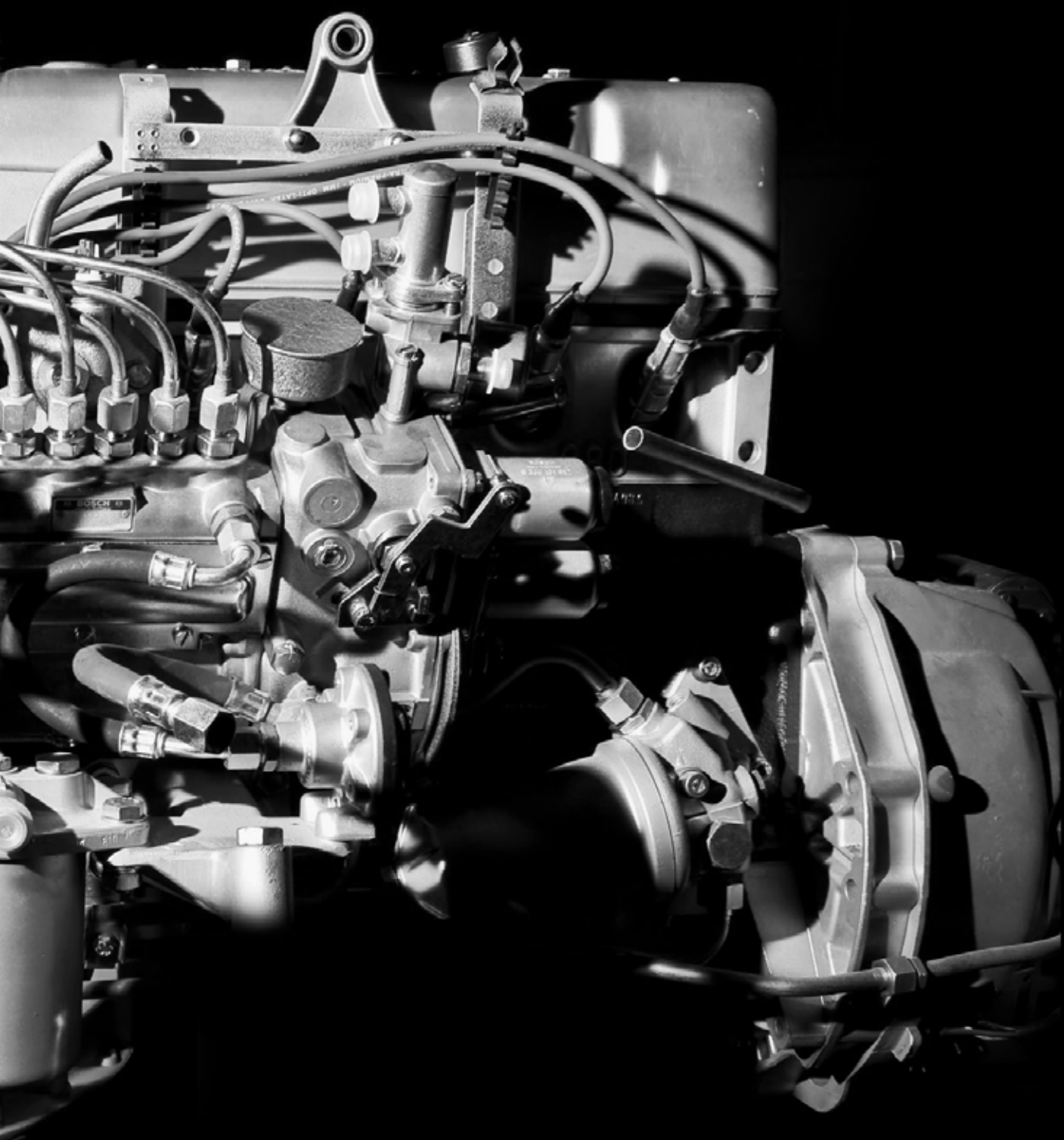
**BASE OIL:** Premium Mineral

### BENEFITS

- Provides excellent wear & anti-corrosion protection
- Good low temperature flow properties
- Compatible with OEM fluids
- Amber colour

### SPECIFICATIONS

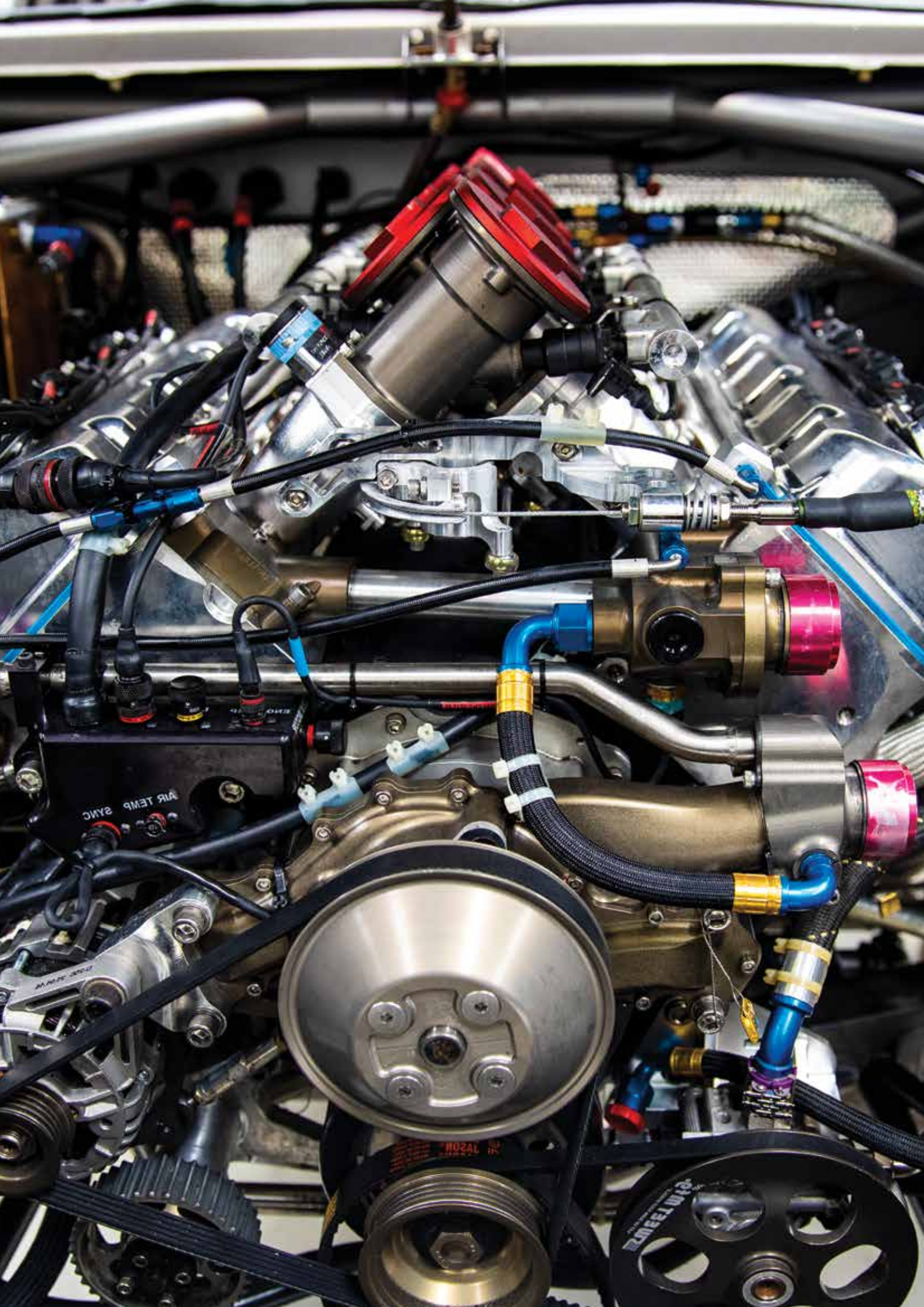
- ✓ ISO 15
- ✓ MB 343.0



# ADDITIVES & FUEL TREATMENTS

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Penrite in conjunction with its international technology partners, have developed and manufactured a range of additive products. Penrite's additive range has been designed to enhance a vehicle's durability, reliability, economy and performance. At Penrite, we believe in setting the standard, so like all Penrite products, our additive range offers real benefits and improved performance from industry firsts that are unique in the marketplace.

## BENEFITS:

- Meet engine emission requirements
- Superior protection of older vehicles
- Designed to protect 'dry' fuel systems
- Additives to reduce emissions
- Improve fuel economy
- To reduce maintenance costs

## PRODUCTS

	MILLILITRES				LITRES						
	30	125	250	375	1L	3.5	10	20	20 BOX	210	1000
Petrol Fuel Stabiliser			●								
Petrol Injector Cleaner				●				●			
Petrol Total System Cleaner				●							
Octane Booster				●							
Valve Shield			●								
Diesel Biocide Fuel Treatment					●			●			
Diesel D-Tox Fuel Additive			●		●						
Diesel Fuel Stabiliser			●								
Diesel Injector Cleaner				●				●			
Diesel Total System Cleaner				●							
Diesel Winter Fuel Treatment				●							
Enviro+ DPF Cleaner				●							
PenBlue					●	●	●			●	●
Engine Flush				●					●		
Engine Stop Leak				●							
Lifter & Tappet Fix				●							
Block & Cylinder Head Seal			●								
Clear Screen	●		●					●			
Shift Eze		●									
Auto Trans Stop Leak				●							
Power Steering Stop Leak				●							
Radiator Flush				●							
Radiator Oil Remover				●							
Radiator Stop Leak				●							
<b>CARTON QUANTITY</b>	30	6	6	6	6	4					



## PETROL FUEL STABILISER

ADPFS250

### BENEFITS

- Prevents fuel from going stale when not used for up to 12 months
- Prevents gum, sediments & polymer formations in the fuel
- 2.5x more economical than current fuel stabilisers
- Optimised for petrol fuel
- Protects against rust & corrosion
- 250mL treats 200L
- Red colour

### OEM APPROVALS

- ✓ DEF-STAN 91-91 Issue 6
- ✓ MIL-DTL-5624U/MIL-DTL-83133F/MIL-PRF-25017



## PETROL INJECTOR CLEANER

ADPIC375/020

### BENEFITS

- Fuel economy gains of up to 2.4%
- Cleans blocked fuel injectors & carburettors
- Increases engine power by up to 2.6%
- Easier starting & smoother idling
- Reduces intake valve deposits
- Protects fuel system against rust & corrosion
- For LPG/dual fuel, petrol/E10 & racing fuel types
- 375mL treats 60L, every 3000km
- Red colour



## PETROL TOTAL SYSTEM CLEANER

ADPTSC375

### BENEFITS

- Cleans fuel tank, lines, injectors, carburettors & inlet valves
- Prevents fuel system deposits & contaminants
- Improves power & performance
- Improves fuel economy & reduces emissions
- 375mL treats 75L, every 10,000km
- Amber colour

### OEM APPROVALS

- ✓ ASTM D-5500-98 (2014)/D-5598-01 (2012)/D-6201



## OCTANE BOOSTER

ADOCTB375

### BENEFITS

- Increases octane rating by up to 2.5
- Keeps injectors clean
- Improves power & acceleration
- Enhances fuel economy
- For hybrid, petrol/E10 & racing fuel types
- 375mL treats 50L
- Orange colour



## VALVE SHIELD

ADVS250

### BENEFITS

- Protects against valve seat recession
- Cleans & protects fuel system components
- Provides a lubricant into the fuel system which is absent with the "dry" LPG
- Prevents power loss by lowering intake deposits on valves
- 50mL treats 50L
- Red colour



## DIESEL BIOCIDES FUEL TREATMENT

ADDSLTTREAT001/020

### BENEFITS

- Contains a biocide to eliminate & control the growth of bacteria in the fuel
- Prevents fuel system & filter blockages
- Suitable for decontaminating on-site storage & tank facilities
- 1L treats 2000L (25mL per 50L)
- Deep red colour



## DIESEL D-TOX FUEL ADDITIVE

ADDTOX250/001

### BENEFITS

- Protects fuel system from gum, varnish & other deposits
- Disperses moisture & micro-biological organisms
- Cleans and lubricates injectors & pumps
- Extends life of catalysts & reduces emissions
- Improves fuel economy & restores power
- Prevents corrosion
- For diesel (including those with DPFs) fuel types
- 250mL over 400L
- Blue colour



## DIESEL FUEL STABILISER

ADDFS250

### BENEFITS

- Prevents fuel from going stale when not used for up to 12 months
- Prevents gum, sediments & polymer formations in the fuel
- 2.5x more economical than current fuel stabilisers
- Optimised for diesel fuel
- Prevents fuel system corrosion
- 250mL treats 200L
- Green colour

### OEM APPROVALS

- ✓ DEF-STAN 91-91 Issue 6
- ✓ MIL-DTL-5624U/MIL-DTL-83133F/MIL-PRF-25017



## DIESEL INJECTOR CLEANER

ADDIC375/020

### BENEFITS

- Can improve fuel economy by up to 2.5%
- Cleans blocked injectors & reduces nozzle blockages
- Restores acceleration & power
- Reduces exhaust emissions
- Easier starting, smoother idling
- For diesel (including those with DPFs) fuel types
- 375mL treats 200L, every 2500km for regular maintenance
- Greenish blue colour





## DIESEL TOTAL SYSTEM CLEANER

ADDTSC375

### BENEFITS

- Cleans fuel tank, lines, injectors, rails & inlet valves
- Prevents fuel system deposits & contaminants
- Improves power & performance
- Improves fuel economy & reduces emissions
- Improved idling & engine starting
- Safe for emission systems & oxygen sensors
- Reduces soot & smoke emissions
- 375mL treats 75L, every 10,000km
- Straw colour



## DIESEL WINTER FUEL TREATMENT

ADDWFT375

### BENEFITS

- Prevents the formation of wax which blocks fuel injectors
- Depresses the pour point & cloud points of fuel
- Modifies the size & shape of any wax crystals
- Allows starting of engines in sub-zero temperatures
- Contains a detergent to keeps injectors clean
- For diesel fuel types
- 375mL treats up to 100L
- Cloudy yellow colour



## ENVIRO+ DPF CLEANER

ADDPFC375

### BENEFITS

- Cleans blocked DPFs
- Lowers DPF regeneration temperature
- Improves fuel economy & reduces CO<sub>2</sub> emissions
- Visibly reduces smoke & opacity
- 375mL treats 60L (or 30L: 1st stage blockage)
- Amber colour

### SPECIFICATIONS

- ✓ European and EPA registered
- ✓ MSHA-accepted
- ✓ VERT-approved with DPF



## PENBLUE (AdBlue®)

PENBLUE001/0035/010/210/1000LTR

### BENEFITS

- Reduces the NOx emissions generated during the combustion process
- Non toxic & safe to handle
- Registered & licensed product - AdBlue®
- Clear colour

### OEM APPROVALS

- ✓ AUS 32
- ✓ DIN 70070
- ✓ Ford M99C130-A
- ✓ ISO 22241



## ENGINE FLUSH

ADEF375/020BOX

### BENEFITS

- Contains zinc for added wear protection
- Fast acting, cleans in 10 minutes
- Solvent free to prevent engine seal damage
- Removes engine sludge, varnish & deposits with oil drain
- 375mL treats up to 7.5L
- Amber colour



## ENGINE STOP LEAK

ADESL375

### BENEFITS

- Revitalises worn seals & gaskets
- Reduces system leaks
- Reduces oil consumption
- Compatible with mineral & synthetic oils
- Reduces oil burning
- Can reduce costly repairs
- Prevents messy oil stains
- Reduces risk of fire from leaks
- 375mL treats up to 6L
- Amber colour



## LIFTER & TAPPET FIX

ADLTF375

### BENEFITS

- Unique combination of solvents, base oils & additives cleans and quietens noisy lifters in one application
- Safe for all types of engine oils & will not harden oils seals
- Frees up roller lifters & rockers reducing abrasive overhead valve train wear
- Removes varnish & other engine deposits
- Cleans oil galleries preventing future lubrication problems
- Suitable for pushrod & overhead camshaft engines
- 375mL treats up to 6L
- Amber colour



## BLOCK & CYLINDER HEAD SEAL

ADBCS250

### BENEFITS

- Latest ceramic fibre & copper technology
- Seals leaks in one application
- Fixes expensive cylinder head & gasket repairs
- Very economical compared with mechanical repairs
- Compatible with all coolants, metals, plastic & rubber
- 250mL treats up to 19L
- Copper colour



## CLEAR SCREEN

ADCS030SINGLE/250/020

### BENEFITS

- Cuts through road grime & insect splatter
- Anti-smear properties
- Concentrated formula for less waste
- Measuring chamber on 250mL pack allows correct dosage every time
- Won't induce stress cracks in polycarbonate headlight lenses
- Improves the efficiency of the wipers.
- Provides clear vision in seconds
- Orange colour



## SHIFT EZE

SHIFTEZE000125

### BENEFITS

- Improves cold changing performance
- Smoother easier gear shifting
- Quietens noisy gearboxes, transaxles, transfer cases & differentials
- Extra protection for competition & vehicles under heavy load
- Mixes with all types of gear oils
- Initial treatment - 250mL treats 2.5L
- Maintenance - 125mL treats 2L
- Grey to yellow-brown colour



## AUTO TRANS STOP LEAK

ADTSL375

### BENEFITS

- Revitalises worn seals & gaskets
- Reduces leaks
- Contains additives to maintain performance
- Compatible with Mineral & Synthetic ATFs
- Extends component life
- Compatible with automatic transmission sensors
- Reduces noise & wear
- 375mL treats up to 10L
- Amber colour



## POWER STEERING STOP LEAK

ADPSL375

### BENEFITS

- Reduces system leaks
- Revitalises worn seals & gaskets
- Extends component life
- Reduces squawk
- Increases the viscosity of the power steering fluid
- Can reduce costly repairs
- 375mL treats up to 1L
- Red colour





## RADIATOR FLUSH

ADRF375

### BENEFITS

- Fast acting, cleans in 7 minutes
- Removes internal rust & corrosion
- Improves cooling system circulation
- Harmless to all metals, rubber & water pump seals
- Compatible with all types of coolants
- Non-acidic formulation
- 375mL treats up to 15L
- Blue colour



## RADIATOR OIL REMOVER

ADRO375

### BENEFITS

- Dissolves oil in cooling system
- Prevents expensive replacement of cooling system parts that have been contaminated
- Safe for cooling system & engine
- Cleans scale, corrosion & rust from the cooling system improving efficiency
- Prepares cooling system for new coolant
- 375mL treats up to 15L
- Green colour



## RADIATOR STOP LEAK

ADSL375

### BENEFITS

- Stops coolant leaks
- Safe for rubber hoses & all metals, including aluminium
- Compatible with anti-freeze anti-boil solutions
- 375mL treats up to 12L
- Blue colour



km/h

km

152.3

71573

# PRO SERIES

**INTRODUCING THE LATEST NEW GENERATION PROFESSIONAL SERIES ADDITIVES DESIGNED FOR OUTSTANDING PERFORMANCE AND SATISFACTION.**

**PRO SERIES DIESEL COMPLETE CLEAN+:** A professional strength diesel fuel additive that effectively cleans the entire fuel system from fuel tank to engine. It uses a powerful and proven additive technology that cleans stubborn deposits and inhibits new contaminant build ups forming.

**PRO SERIES DIESEL FUEL BOOST+:** A fuel treatment designed to enhance the cetane rating of regular diesel fuel. It improves the combustibility of diesel fuel providing increased power, smoother running, easier starting and better fuel economy.

**PRO SERIES EGR & CAT CLEAN+:** New generation, low volatility, professional automotive cleaning product that effectively cleans and prevents build up of deposits that block emission control devices such as catalytic converters and exhaust gas recirculation (EGR) systems.

**PRO SERIES PETROL COMPLETE CLEAN+:** A professional strength, petrol fuel additive that effectively cleans the entire fuel system from fuel tank to engine. It uses a powerful and proven additive technology that cleans stubborn deposits and inhibits new contaminant build ups forming.

**PRO SERIES PETROL ENGINE BOOST+:** A professional oil booster additive that reduces friction and improves anti-wear performance of engine oils. Its advanced technology also helps to maintain the engine oils specifications for fuel economy, performance and longevity.

**PRO SERIES PETROL FUEL BOOST+:** A fuel treatment designed to enhance the octane rating of regular 91 (RON) unleaded octane petrol. It is formulated to increase the octane rating by up to 3.0 when used at a ratio of 500ml per 50L of petrol.

## PRODUCTS

	MILLILITRES
	500
Pro Series Diesel Complete Clean+	•
Pro Series Diesel Fuel Boost+	•
Pro Series EGR & CAT Clean+	•
Pro Series Petrol Complete Clean+	•
Pro Series Petrol Engine Boost+	•
Pro Series Petrol Fuel Boost+	•
<b>CARTON QUANTITY</b>	6



## PRO SERIES DIESEL COMPLETE CLEAN+

PSDCC0005

### BENEFITS

- Cleans fuel tank, lines, injectors, rails & inlet valves
- Protect & cleans internal carboxylate salt deposits that cause sticking in diesel fuel injectors
- Prevents fuel system deposits & contaminants
- Improves power & performance
- For diesel (including those with DPFs) fuel types
- 500mL treats 135L
- Amber colour



## PRO SERIES DIESEL FUEL BOOST+

PSDFB0005

### BENEFITS

- Increases cetane number by up to 6
- Restores power & acceleration
- Enhances fuel economy by up to 2.1% following treatment
- For diesel (including those with DPFs) fuel types
- 500mL treats 100L
- Amber colour



## PRO SERIES EGR & CAT CLEAN+

PSECC0005

### BENEFITS

- Powerful low cost alternative to costly repairs
- Reduces exhaust emission
- Increases engine performance & improves fuel economy
- For diesel (including those with DPFs), E85, hybrid, LPG/dual fuel & petrol/E10 fuel types
- Blue colour





## PRO SERIES PETROL COMPLETE CLEAN+

PSPCC0005

### BENEFITS

- Cleans fuel tank, lines, injectors, carburettors & inlet valves
- Prevents fuel system deposits & contaminants
- Improves power & performance
- For hybrid, petrol/E10 & racing fuel types
- 500mL treats 100L
- Amber colour



## PRO SERIES PETROL ENGINE BOOST+

PSPEB0005

### BENEFITS

- Increased wear protection
- Reduces friction by up to 10%
- Decreases friction as temperature increases
- For E85, hybrid, LPG/dual fuel, petrol/E10 & racing fuel types
- Dark brown colour



## PRO SERIES PETROL FUEL BOOST+

PSPFB0005

### BENEFITS

- Increases octane rating by up to 3.0
- Keeps injectors clean
- Improves power & acceleration
- For hybrid, petrol/E10 & racing fuel types
- 500mL treats up to 50L
- Orange colour



# BRAKE FLUIDS

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## CHOOSING THE RIGHT BRAKE FLUID

Most drivers today probably don't have much of an idea of what type of brake fluid they have in their vehicle. Brake fluids that do not meet the appropriate DOT specifications can speed up the deterioration of brake components and can also lead to the malfunctioning of ABS (Anti Brake Skid), ESP (Electronic Stability Program) or AEB (Automatic Emergency Braking) systems.

## BRAKE FLUID SPECIFICATIONS

DOT (Department of Transportation), is an American government transport department. DOT set standards such as FMVSS (Federal Motor Vehicle Safety Standard) very similar to the JIS in Japan or DIN in Germany. AS (Australian Standards), SAE & ISO also set standards for brake fluids.

The table below shows brake fluid specifications.

PROPERTY	AS 1960.1			FMVSS 116			SAE		ISO
	GRADE 1	GRADE 2	GRADE 3	DOT 3	DOT 4	DOT 5.1	J1703	J1704	4925
DERBP °C min	230	260	260	205	230	260	205	230	205
WERBP °C min	140	155	170	140	155	180	140	155	140
VISCOSITY (-40°C) max	1500	1800	1800	1500	1800	900	1800	1800	1800

### DERBP (Dry Equilibrium Reflux Boiling Point):

Boiling point temperature when the fluid is brand new, no moisture absorption.

### WERBP (Wet Equilibrium Reflux Boiling Point):

Boiling point temperature with fluid that has 3.7% water by volume, typically after 1-2 years of fluid use.

## OTHER BRAKE FLUIDS

### Mineral Brake Fluid:

Mineral based brake fluids as used by Rolls Royce in a few of its models during the 1980's as well as other makes are suspension and brake fluids that have different properties to DOT fluids. These are more like an oil.

### Silicone Brake Fluid:

A silicone brake fluid is also known as a DOT 5 brake fluid. Silicone brake fluids are not hygroscopic so they do not absorb moisture. They are extremely expensive compared to standard polyglycol based fluids, and may require compatible braking system components before these can be used. DOT 5 fluids will not mix with any other DOT specification or a mineral brake fluid.

## VISCOSITY

A measure to represent the brake fluid flow property. They higher the value, the more difficult for the fluid to flow. If the value is high when the air temperature is low, the fluid can have a negative effect on ABS performance.

## pH

Shows the acidity/basicity of the fluid. If the pH value is lower than 7.0 (acidic), the fluid can accelerate corrosion of other brake components.

## MIXING BRAKE FLUIDS

This is not recommended. By adding new brake fluid to old brake fluid, you are potentially mixing water absorbed brake fluid with new product, lessening the effect and lowering the lifespan of the newer fluid. DOT 3, DOT 4, Super DOT 4 & DOT 5.1 fluids are miscible although this is not recommended. DOT 5 fluid is NOT mixable with DOT 3, DOT 4, Super DOT 4 or DOT 5.1 fluids.

## FREQUENTLY ASKED QUESTIONS

### WHAT IS BOILING POINT TEMPERATURE?

The temperature at which the fluid boils. Water boils at 100°C whereas brake fluid with high boiling point will boil at over 300°C, and low boiling point brake fluid will boil around 140°C depending on condition of fluid.

### HOW FREQUENTLY SHOULD BRAKE FLUID BE REPLACED?

For everyday drivers who use brake fluids that exceed DOT 4 specification, fluid replacement once every 2 years is acceptable. For people who use DOT 3 fluid, replacement every year is recommended. For people who drive aggressively on winding roads, fluid replacement every six months to a year is recommended. For people who drive their cars on the race circuit, replacement before each event is recommended.





Penrite market a complete range of brake fluids designed for most applications. Our products meet and exceed industry specifications and include premium synthetic fluids as well as a petroleum based mineral oil (LHM Plus). They are designed for use in brake and clutch systems in passenger cars, light and heavy commercial vehicles, 4WDs, tractors, motorcycles and wherever these type of fluids are specified by the manufacturer.

The range includes DOT 3, Super DOT 4 and DOT 5.1 for colder temperatures and micro-valved ABS systems as well as ultra high boiling point Racing Brake Fluid and a DOT 5 Silicone brake fluid.

**BENEFITS:**

- Complete range of DOT fluids
- Excellent braking response due to minimal vapour formation over a wide temperature range, ensuring good braking performance
- Compatible with all common brake system materials
- Product application from road to racing vehicles

## PRODUCTS

	MILLILITRES	LITRES	
	500	4	20 BOX
DOT 3 Brake Fluid	●	●	●
Super DOT 4 Brake Fluid	●	●	●
DOT 5.1 Brake Fluid	●		
Racing Brake Fluid 600	●		
Silicone Brake Fluid	●		
<b>CARTON QUANTITY</b>	6	4	



## DOT 3 BRAKE FLUID

DOT30005/004/020

**BASE OIL:** Full Synthetic

### BENEFITS

- Excellent braking response due to the high boiling point of the fluid
- High wet boiling point ensures long term retention of fluid performance
- Compatible with all common brake system materials
- Amber colour

### OEM APPROVALS

- ✓ AS 1960-2005 Grade 1
- ✓ DOT 3
- ✓ ISO 4925 Class 3
- ✓ SAE J1703
- ✓ US FMVSS No 116 DOT 3



## SUPER DOT 4 BRAKE FLUID

BF0005/004/020

**BASE OIL:** Full Synthetic

### BENEFITS

- Excellent braking response due to the high boiling point of the fluid
- High wet boiling point ensures long term retention of fluid performance
- Better performance for life of fluid compared to DOT 3 fluids
- Amber colour

### OEM APPROVALS

- ✓ AS 1960.1-1995
- ✓ DOT 3/4
- ✓ Ford ESZ-M6C55-A
- ✓ Holden HN 1796
- ✓ ISO 4925
- ✓ JIS K2233 (Japan)
- ✓ SAE J1703/J1704
- ✓ SUPER DOT 4
- ✓ US FMVSS No 116 Super DOT 4



## DOT 5.1 BRAKE FLUID

DOT510005

**BASE OIL:** Full Synthetic

### BENEFITS

- Suitable where DOT 5.1 fluids are required and for ESP & AEB braking systems
- Low viscosity (at -40°C), suitable for faster fluid circulation in micro-valves of ABS systems
- High boiling point 275°C/525°F
- Amber colour

### OEM APPROVALS

- ✓ DOT 3/4/5.1
- ✓ FMVSS 116 DOT 5.1
- NON SILICONE BASE
- ✓ Ford WSS-M6C65-A2
- ✓ ISO 4925 Class 4/5.1/6
- ✓ SAE J1703/J1704



## RACING BRAKE FLUID 600

RBF0005

**BASE OIL:** Full Synthetic

### BENEFITS

- Excellent braking response due to the high boiling point of the fluid
- High wet boiling point ensures long term retention of fluid performance
- Better performance for life of fluid compared to Super DOT 4 fluids
- Amber colour

### OEM APPROVALS

- ✓ AS 1960.1- 2005
- ✓ DOT 4
- ✓ SAE J1704
- ✓ SUPER DOT 4/Plus
- ✓ US FMVSS No 116 Super DOT 4



## SILICONE BRAKE FLUID

BFSIL0005

**BASE OIL:** Full Synthetic

### BENEFITS

- Excellent braking feel due to stable viscosity over a wider temperature range than polyglycol type fluids
- Does not absorb water, is safe for paintwork & non-toxic
- High boiling point (>300°C/572°F) resisting fade & vapour lock
- Amber colour

### OEM APPROVALS

- ✓ DOT 5 (Silicone)
- ✓ US FMVSS 116 DOT 5



Penrite's award-winning EnviroBox™ revolutionised the way lubricants are manufactured, packaged, distributed, handled & stored. They are designed to reduce landfill waste, increase productivity and reduce costs.

The EnviroBox™ range includes **Dot 3 Brake Fluid** & **Super Dot 4 Brake Fluid**. Brake Fluids are naturally hygroscopic and will absorb water from the air. The 20L bladder reduces exposure to air and prolongs brake fluid storage ability.







# ACCESSORIES & MAINTENANCE

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Penrite manufacture a range of car care cleaning and maintenance solutions for workshops and retailers that like to provide a better class of service for their customers or supply world standard car care products to their customers. Penrite car care products are designed to provide the very best possible performance and minimise downtime and effort. The extensive range includes products for both interior and exterior use.

They are tested internationally to ensure that they meet the most stringent of standards expected by the most discerning customers.

**BENEFITS:**

- Many & varied product uses
- Professional strength
- Easy to use
- Economical to use

## PRODUCTS

	MILLILITRES		
	130	240	400
P26 Multi-Purpose MoS2 Lubricant			●
P26 Petrol Foaming Intake Cleaner		●	
P26 Diesel Foaming Intake Cleaner	●		
P26 Throttle Body & Carb Cleaner			●
P26 Brake & Parts Cleaner			●
P26 Multi-Purpose Degreaser			●
<b>CARTON QUANTITY</b>	6	6	6

# QUICK GLOVES

LQG50S/M/L/XL/XXL



Non-slip, tough, durable, latex and silicone-free disposable gloves that last up to 5 times longer than normal disposable gloves.

Can be used for both commercial and domestic applications. They are ambidextrous so can be used on either hand. They are made from 100% nitrile and have excellent puncture protection for tackling the toughest and dirtiest of jobs.

They are chemical resistant but are also touch screen friendly, so there is no need to remove the gloves to handle mobile phones, tablets or computers. They have a patented non-slip grip that makes them especially suitable for use in mechanical workshops, mining, agriculture, forestry, engineering, plumbing and many other areas.

## BENEFITS

- Patented non-slip grip for dry, wet & greasy conditions
- Touch screen friendly
- 100% silicone & latex free
- Chemical resistant
- Better puncture resistance compared to normal disposable gloves
- Moulds to the hand for better fitment
- Snag resistant design
- Ambidextrous & maximum dexterity
- 50 gloves per pack
- Black colour
- Available in Small, Medium, Large, X Large & XX Large sizes



## P26 MULTI-PURPOSE MoS2 LUBRICANT

P26MPL0004

### BENEFITS

- Protects against corrosion, rust & oxidation
- Acts as a water displacement fluid
- Stops squeaks & creaks
- Many & varied product uses
- New design spray nozzle with built-in tube
- Brown-grey colour



## P26 PETROL FOAMING INTAKE CLEANER

P26PETAIC000240

### BENEFITS

- Improves engine performance & fuel economy
- Reduces engine emissions
- Smooths rough idling
- Safe for use catalytic converters & oxygen sensors
- Reduces engine pinging
- Improves compression ratio
- Contains no CFCs, LPG propelled
- Light yellow colour



## P26 DIESEL FOAMING INTAKE CLEANER

P26DSLAI000130

### BENEFITS

- Improves engine performance & fuel economy
- Reduces engine emissions & smoke output
- Smooths rough idling
- DPF & sensor safe
- Reduces pre-ignition from carbon deposits
- Improves compression ratio
- Contains no CFCs, LPG propelled
- Clear colour





## P26 THROTTLE BODY & CARB CLEANER

P26TBCC0004

### BENEFITS

- Professional strength formulation
- Breaks down grime, sediment & sludge with ease
- Fast acting, quick drying formulation
- Cleans parts without the need for dismantling
- Lubricates throttle plates/butterfly valves & bushings
- Easy aerosol application
- Clear colour



## P26 BRAKE & PARTS CLEANER

P26BAPC0004

### BENEFITS

- Professional strength
- Evaporates completely without residue or staining
- Fast acting, non-corrosive formulation
- Safe for ABS sensors
- Cleans brake parts without the need for dismantling
- Cleans & degreases
- Free from aromatic or halogenated hydrocarbons
- Clear colour



## P26 MULTI-PURPOSE DEGREASER

P26MPD0004

### BENEFITS

- Professional strength
- Breaks down grease, oil & sludge with ease
- Fast acting, non corrosive formulation
- Cleans parts without the need for dismantling
- Easy aerosol application
- Free from aromatic or halogenated hydrocarbons
- Clear colour



# MARINE

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The National Marine Manufacturers Association (NMMA) is the leading trade association representing boat, marine engine and accessory manufacturers.



NMMA FC-W® lubricants have demonstrated the necessary performance and quality needed in today's high performance 4 stroke marine engines. The next time you are purchasing 4 stroke oil for your marine engine, look for the FC-W® trademark.



NMMA TC-W3® approved lubricants have demonstrated the necessary lubrication performance qualities needed for TC-W3® certification testing by NMMA approved laboratories. TC-W3® oils are licensed around the world and are recommended for use by 2 stroke marine engine manufacturers.

Penrite's marine range has the right product for the right application whether you fish the estuaries or roam the open ocean, our range of marine oils and lubricants have you covered.

All of our petrol 2 and 4 stroke oils have NMMA (National Marine Manufacturers Association) TC-W3 (2 stroke) or FC-W (4 stroke) approvals so you are guaranteed that they meet the specifications and requirements of the engine manufacturers.

#### BENEFITS:

- NMMA Approved products
- Protects against rust even in marine salt water environments
- Longer engine life by protecting against wear
- 2 stroke and 4 stroke products available

## PRODUCTS

	mL	LITRES					
	500	1	4	5	20	205	1000
Marine Outboard 2 Stroke		•		•	•		
Biomarine Outboard 2 Stroke				•			
Marine Full Synthetic 10W-40		•	•				
Marine Outboard 4 Stroke 10W-30				•	•		
Marine Outboard 4 Stroke 10W-40				•	•	•	
Marine Inboard 4 Stroke 25W-40				•	•		
Marine Diesel 4 Stroke 15W-40					•	•	•
Marine Gear Oil 75W-90	•				•		
<b>CARTON QUANTITY</b>	6	6	4	4			





## MARINE OUTBOARD 2 STROKE

OUTB001/005/020

**BASE OIL:** Semi Synthetic

### BENEFITS

- Minimises plug fouling, pre-ignition, ring sticking & exhaust port blockages
- Low smoke performance
- Provides excellent anti-seize & anti-scuff performance
- Correct viscosity for consistent flow rates in oil-injected engines
- Blue/green colour

### OEM APPROVALS

- ✓ NMMA TC-W3® Registration Number RL-00419J

### SPECIFICATIONS

- ✓ API TC
- ✓ ISO EG-B
- ✓ JASO TB



## BIOMARINE OUTBOARD 2 STROKE

BIOOUTBTS005

**BASE OIL:** Full Synthetic

### BENEFITS

- Low smoke, clean burn performance
- Exceptional wear protection
- Excellent engine cleanliness
- Blue colour

### OEM APPROVALS

- ✓ NMMA TC-W3® Registration Number RL-38117W

### SPECIFICATIONS

- ✓ API TC

### ENVIRONMENTAL

- Readily biodegradable; 67% according to OECD 301F testing
- Toxicity to aquatic organisms is low
- Meets Canadian Environmental Choice and ICOMIA 27-97 standards



## MARINE FULL SYNTHETIC 10W-40

MARFULL10W40001/004

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Registered NMMA FC-W® approved oil
- Specially formulated for protection in marine salt water environments
- Maximum heat resistance & high performance
- Full Zinc anti-wear additive package
- Suitable for 10W-30

### OEM APPROVALS

- ✓ NMMA FC-W® Registration Number FB-781778Y

### SPECIFICATIONS

- ✓ API SL
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MARINE OUTBOARD 4 STROKE 10W-30

MAR10W30005/020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Specially formulated for protection in marine salt water environments
- Registered NMMA FC-W® approved oil
- Superior high temperature wear protection
- Longer engine life
- Ensures correct catalyst operation & life

### OEM APPROVALS

- ✓ NMMA FC-W® Registration Number FC-38116W

### SPECIFICATIONS

- ✓ API SM
- ✓ ILSAC GF-4



## MARINE OUTBOARD 4 STROKE 10W-40

MAR10W40005/020/205

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-40

### BENEFITS

- Specially formulated for protection in marine salt water environments
- Registered NMMA FC-W® approved oil
- Fast start up oil flow with superior high temperature wear protection
- Full Zinc anti-wear additive package
- Suitable for 15W-40

### OEM APPROVALS

- ✓ NMMA FC-W® Registration Number FC-13811W

### SPECIFICATIONS

- ✓ API SL
- ✓ China National GB 11121-2006
- ✓ JASO MA



## MARINE INBOARD 4 STROKE 25W-40

MAR25W40005/020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 25W-40

### BENEFITS

- Specially formulated for protection in marine salt water environments
- Registered NMMA FC-W® approved oil
- Complete anti-wear additive package
- Suitable for SAE 30

### OEM APPROVALS

- ✓ NMMA FC-W® Registration Number FB-13827W

### SPECIFICATIONS

- ✓ API SL
- ✓ China National GB 11121-2006

## MARINE DIESEL 4 STROKE 15W-40

MARD15W40020/205/1000LTR



**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 15W-40

### BENEFITS

- Meets long drain requirements of European, U.S., & Japanese engines
- Excellent anti-corrosion protection of engine parts
- High TBN to protect against & neutralise acid build up
- Resists oil thickening
- Start-up viscosity protection
- Suitable for 20W-40

### SPECIFICATIONS

- ✓ Allison C-4
- ✓ API CI-4
- ✓ Caterpillar ECF-1-a
- ✓ China National GB 11122-2006
- ✓ Cummins CES 20078
- ✓ Detroit DDC
- ✓ JASO DH-1
- ✓ Mack EO-M Plus
- ✓ MAN M3277
- ✓ MB 228.5 (level)
- ✓ MTU Type 3
- ✓ Renault RLD-2/RXD
- ✓ Volvo VDS-3

## MARINE GEAR OIL 75W-90

MAR75900005/020



**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 75W-90

### BENEFITS

- Synthetic performance & service life
- Easy gear engagement at low temperatures
- Longer component life
- Superior thermal & oxidation stability
- Outstanding protection at operating temperatures
- Suitable for 80W-90 & SAE 90
- Blue colour

### SPECIFICATIONS

- ✓ API GL-5





# SMALL ENGINE

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Small internal combustion engines require just as much care as larger capacity engines. Smaller engines also come in different variations such as 2 stroke, 4 stroke, industrial, general purpose, marine, motorcycle and stationary.

Some small engines may require either monograde or multigrade oils. Some 2 stroke and some 4 stroke. Many small engines require servicing at specified hourly periods. Many do not have filters, so changing oil is essential to enhancing durability of the engine.

#### BENEFITS:

- Range of 2 stroke and 4 stroke oils
- Available in range of sizes for the home handy man or professional landscape gardener
- 2 stroke oils maximise spark plug life through low ash formulation and are formulated to mix readily with fuel
- Provide for excellent engine cleanliness and wear protection

## PRODUCTS

	mL	LITRES				
	200	1	2.5	5	20	205
Small Engine 4 Stroke 10W-30		•	•	•	•	
Small Engine 4 Stroke SAE 30		•	•	•	•	
Greenkeepers 2 Stroke	•	•	•		•	
Hi-Per 2 Stroke		•			•	
Chain Saw Bar Oil		•		•	•	•
<b>CARTON QUANTITY</b>	12	6	4	4		

## 2 STROKE MIX RATIO CHART

Fuel/Oil Ratio	mL per 1L of fuel	mL per 5L of fuel	mL per 10L of fuel	mL per 20L of fuel
<b>10:1</b>	100	500	1000	2000
<b>20:1</b>	50	250	500	1000
<b>25:1</b>	40	200	400	800
<b>50:1</b>	20	100	200	400
<b>100:1</b>	10	50	100	200



## SMALL ENGINE 4 STROKE 10W-30

SEFS1030001/0025/005/020

**BASE OIL:** Semi Synthetic

**VISCOSITY:** SAE 10W-30

### BENEFITS

- Excellent engine cleanliness
- Ultimate wear protection
- Protects against rust & corrosion

### SPECIFICATIONS

- ✓ ACEA A3/B3
- ✓ API SL/CF
- ✓ China National GB 11121-2006



## SMALL ENGINE 4 STROKE SAE 30

SEFS30001/0025/005/020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 30

### BENEFITS

- Excellent engine cleanliness
- Ultimate wear protection
- Protects against rust & corrosion

### SPECIFICATIONS

- ✓ API SG/CD
- ✓ MIL-L-2104B



## GREENKEEPERS 2 STROKE

SEGNKTS0002/001/0025/020

**BASE OIL:** Premium Mineral

### BENEFITS

- Maximises spark plug life through low ash formulation
- Reduces exhaust port blockages
- Keeps piston rings free from deposits
- Mixes readily with petrol
- Base oil selection offers excellent lubricity
- Provides piston pick up protection

### SPECIFICATIONS

- ✓ API TC
- ✓ JASO FB





## HI-PER 2 STROKE

SEHPTS001/020

**BASE OIL:** Semi Synthetic

### BENEFITS

- Low smoke, low ash formulation
- Extends engine life
- Good anti-scuff properties
- Maximises spark plug life
- Reduces exhaust port blockages
- Keeps piston rings free from deposits
- Mixes readily with petrol
- Enhanced lubricity & detergency, keeping engines clean

### SPECIFICATIONS

- ✓ API TC
- ✓ ISO EG-C
- ✓ JASO FC



## CHAIN SAW BAR OIL

CSB001/005/020/205

**BASE OIL:** Premium Mineral

### BENEFITS

- Tacky additives reduce throw or fling off
- Lubricates chain, bar & sprocket
- Special additive system reduces wear of components
- Provides corrosion protection to chain & bar
- Suitable for electric & petrol type chainsaws

### SPECIFICATIONS

- ✓ ISO 125



# COMMERCIAL /INDUSTRIAL

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## TYPES OF INDUSTRIAL OILS

### HYDRAULIC OILS

The primary purpose of a hydraulic oil is to transmit force applied at one point in a system to another. As well as this, it must also protect seals, lubricate, transfer heat and protect against wear.

The viscosity of the oil is important to ensure efficient power transfer. Too heavy and high-pressure drops may occur, the system becomes sluggish and power usage increases. If too light, then wear can be a problem, efficiency decreases and leaks may occur.

Typically, these products contain anti wear, anti-rust/ corrosion and anti-oxidation inhibitors. These may be ashless (non-metallic) or use a zinc di-thiophosphate type system. Some older, high zinc additives can be corrosive to silver, so many manufacturers may specify a zinc free oil.

Hydraulic oils may also be of high viscosity index types. These oils provide better flow when cold and also don't thin out as much when at operating temperatures.

### INDUSTRIAL GEAR OILS

Typically API GL-3 oils which use low doses of conventional sulphur-phosphorus additives. They tend to be straight grade oils utilising the ISO VG viscosity classification.

### COMPRESSOR OILS

Compressors may use a multitude of different products, depending on the type of compressor and its service. Types of oils include:

- Conventional motor oils
- Non-metallic (zinc) hydraulic oils
- Ashless engine oils
- Specialised compressor oils (mineral or synthetic)
- Automatic transmission fluids
- Refrigeration oils

The use of the wrong oil can cause wear, failure, carbon build up and even reaction with the gas being compressed, so great care must be taken when recommending fluids.

### HEAT TRANSFER FLUIDS

As the name suggests, they transfer heat in a system. They must be highly oxidation stable to minimise build up of carbon deposits (which of course inhibit heat transfer).

### MISCELLANEOUS

There are many special products used by industry that are not covered here. The mining and food industries have some special lubricants for very specific applications. These may be fire resistant fluids, specialised greases, control fluids and many others.



Penrite knows what it takes to be competitive and successful in Australia. Since 1926, we have listened and worked closely with generations of Australian businesses/construction companies to understand, not only your product requirements, but also your business needs.

We understand it's not just about quality products that meet the latest requirements of global manufacturers. We recognise the importance of inventory management, reducing maintenance requirements and downtime,

increasing profitability and the service life of equipment. From these learnings, we continue to tailor the highest quality lubricants and fluids for your vehicles, equipment and machinery. Our locally produced performance products cover all your needs for your entire commercial, mining and construction fleet, whether aged or modern.

Penrite is not only made in Australia, but tried and tested for the harshest and toughest conditions.

## PRODUCTS

	mL	LITRES			
	500	5	20	205	1000
Indus Pro Hydraulic 32		•	•	•	
Indus Pro Hydraulic 46		•	•	•	•
Indus Pro Hydraulic 68		•	•	•	•
Indus HV 46			•	•	
Indus HV 68			•	•	
Indus HV 100			•	•	
Indus MR 68			•	•	
Harvester Hydraulic Oil			•	•	
Tractor Transmission & Hydraulic Oil			•	•	•
Universal Farm Oil			•	•	
Indus Compressor Oil 2KH ISO 68			•		
Indus Compressor Oil 4KH ISO 46			•		
Indus Compressor Oil 4KH ISO 68		•			
Indus Compressor Oil 8KH ISO 68			•		
Rockslide ISO 68			•		
Rockslide ISO 150				•	
Rockslide ISO 320			•	•	
Gear Oil Syn 220			•	•	
Indus Gear Oil EP 68				•	
Indus Gear Oil EP 150			•	•	
Indus Gear Oil EP 220			•	•	
Indus Gear Oil EP 320			•		
Indus Gear Oil EP 460				•	
Indus IndGear B220				•	
Indus IndGear B320				•	
Convoy Fleet Gear 10			•	•	•
Convoy Fleet Gear 30			•	•	•
Convoy Fleet Gear 50			•	•	•
Convoy Fleet Gear 50 Full Syn			•	•	
Convoy Synfleet 40			•	•	
Convoy FD-01 Fluid				•	
Hydraulic Jack Oil	•				
Pneumatic Tool Oil	•				
Honing Oil			•		
Soluble Oil		•	•		
<b>CARTON QUANTITY</b>	6	4			



## INDUS PRO HYDRAULIC 32

PROHYD32005/020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 32

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Amber colour

### SPECIFICATIONS

- ✓ Cincinatti Milacron P-68 (32)
- ✓ Denison HF-2
- ✓ DIN 51524 Part 2 (HLP Type)
- ✓ ISO 32/6743 Part 4, Type HM
- ✓ US Steel 127
- ✓ Vickers I-286-S/M-2950-S



## INDUS PRO HYDRAULIC 46

PROHYD46005/020/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 46

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Amber colour

### SPECIFICATIONS

- ✓ Cincinatti Milacron P-70 (46)
- ✓ Denison HF-2
- ✓ DIN 51524 Part 2 (HLP Type)
- ✓ ISO 46/6743 Part 4, Type HM
- ✓ US Steel 127
- ✓ Vickers I-286-S/M-2950-S



## INDUS PRO HYDRAULIC 68

HYD68005/020/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 68

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Amber colour

### SPECIFICATIONS

- ✓ Cincinatti Milacron P-69
- ✓ Denison HF-2
- ✓ DIN 51524 Part 2 (HLP Type)
- ✓ ISO 68/6743 Part 4, Type HM
- ✓ US Steel 127
- ✓ Vickers I-286-S/M-2950-S

## INDUS HV 46 (ZINC FREE)

INDUSHV46020/205



**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 46

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Can be used over a wide range of temperatures
- Zinc & chlorine free
- Green colour

### SPECIFICATIONS

- ✓ AAMA 524 Part 3
- ✓ AFNOR NFE 48-603/NFE 48-690
- ✓ Bosch Rexroth RE90 220
- ✓ Cincinnati Milacron P-70
- ✓ Denison HF-O (T6H20C)/HF-2
- ✓ DIN 51524 Part 3 (HLP/HVLP)
- ✓ German Steel SEB 181 222
- ✓ Hagglunds AC-4.8
- ✓ ISO 46/11158/11184/6743 Part 4, Type HV
- ✓ SAE MS 1004 Type HV
- ✓ US Steel 127
- ✓ Vickers I-286-S3/M-2952-S

## INDUS HV 68 (ZINC FREE)

INDUSHV68020/205



**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 68

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Can be used over a wide range of temperatures
- Zinc & chlorine free
- Green colour

### SPECIFICATIONS

- ✓ AAMA 524 Part 3
- ✓ AFNOR NFE 48-603/NFE 48-690
- ✓ Bosch Rexroth RE90 220
- ✓ Cincinnati Milacron P-69
- ✓ Denison HF-O (T6H20C)/HF-2
- ✓ DIN 51524 Part 3 (HLP/HVLP)
- ✓ German Steel SEB 181 222
- ✓ Hagglunds AC-4.8
- ✓ ISO 11158/11184/6743 Part 4, Type HV
- ✓ SAE MS 1004 Type HV
- ✓ US Steel 127
- ✓ Vickers I-286-S3/M-2952-S

## INDUS HV 100 (ZINC FREE)

INDUSHV100020/205



**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 100

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Can be used over a wide range of temperatures
- Zinc & chlorine free
- Green colour

### SPECIFICATIONS

- ✓ AAMA 524 Part 3
- ✓ AFNOR NFE 48-603/NFE 48-690
- ✓ Bosch Rexroth RE90 220
- ✓ Denison HF-O (T6H20C)/HF-2
- ✓ DIN 51524 Part 3 (HLP/HVLP)
- ✓ German Steel SEB 181 222
- ✓ Hagglunds AC-4.8
- ✓ ISO 100/11158/11184/6743 Part 4, Type HV
- ✓ SAE MS 1004 Type HV
- ✓ US Steel 127
- ✓ Vickers I-286-S3/M-2952-S



## INDUS MR 68 (ZINC FREE)

INDMR68020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 68

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Can be used over a wide range of temperatures
- Orange colour

### SPECIFICATIONS

- ✓ AAMA 524 Part 2
- ✓ Bosch Rexroth RE90 220
- ✓ Cincinnati Milacron P-69
- ✓ Denison HF-2
- ✓ DIN 51524 Part 2
- ✓ German Steel SEB 181 222
- ✓ Hagglunds AC-4.8
- ✓ ISO 6743 Part 4, Type HM
- ✓ US Steel 127
- ✓ Vickers I-286-S3/M-2952-S



## HARVESTER HYDRAULIC OIL

HARVESTER020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 68

### BENEFITS

- Excellent protection against wear, corrosion, sludge & deposit formation
- Shear stable for long term protection
- Can be used over a wide range of temperatures
- Compatible with silver components
- Provides good water separation & anti-foaming properties
- Orange colour

### SPECIFICATIONS

- ✓ AAMA 524 Part 2
- ✓ Bosch Rexroth RE90 220
- ✓ Cincinnati Milacron P-69
- ✓ Denison HF-2
- ✓ DIN 51524 Part 2
- ✓ German Steel SEB 181 222
- ✓ Hagglunds AC-4.8
- ✓ ISO 68/6743 Part 4, Type HM
- ✓ US Steel 127
- ✓ Vickers I-286-S3/M-2952-S



## TRACTOR TRANSMISSION & HYDRAULIC OIL (UTTO)

TTH020/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 10W-30/75W-80

### BENEFITS

- Reduces inventory holding
- Lessens the chance of misapplication
- Reduces squawk & chatter from wet brake systems
- Effective anti-wear additives
- Protects against rust & corrosion.
- Long service through good thermal stability
- Suitable for ISO VG 68

### SPECIFICATIONS

- ✓ Allison C-4
- ✓ API GL-4
- ✓ Ford ESN-M2C92-A/M2C-B
- ✓ Case New Holland Case Hydra Trans/FNHA-2-C-201.00/MAT 3526/NH410B
- ✓ Caterpillar MTO Fluid/TO-2
- ✓ Clark HR600/TA-18
- ✓ John Deere J121A/J14C/J27 (10W-30 or 30)/JTD303/Quatrol



## UNIVERSAL FARM OIL (STOU)

UF0020/205



**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 15W-40

### BENEFITS

- One oil for both hydraulic & engine applications
- Saves on inventory costs
- Reduces the chances of mismatching products
- Can be used in both petrol & diesel applications
- Suitable for 15W-30, 20W-40, SAE 80 & SAE 90
- For diesel, LPG & petrol/E10 fuel types

### SPECIFICATIONS

- ✓ ACEA E3
- ✓ Ford M2C134-C/M2C159-C/M2C86-A
- ✓ John Deere JD20C
- ✓ MAN 271
- ✓ Massey Ferguson MF M1145
- ✓ MB 227.1
- ✓ New Holland 420A/82009203

## INDUS COMPRESSOR OIL 2KH ISO 68

CO2KH68020



**BASE OIL:** Premium Mineral

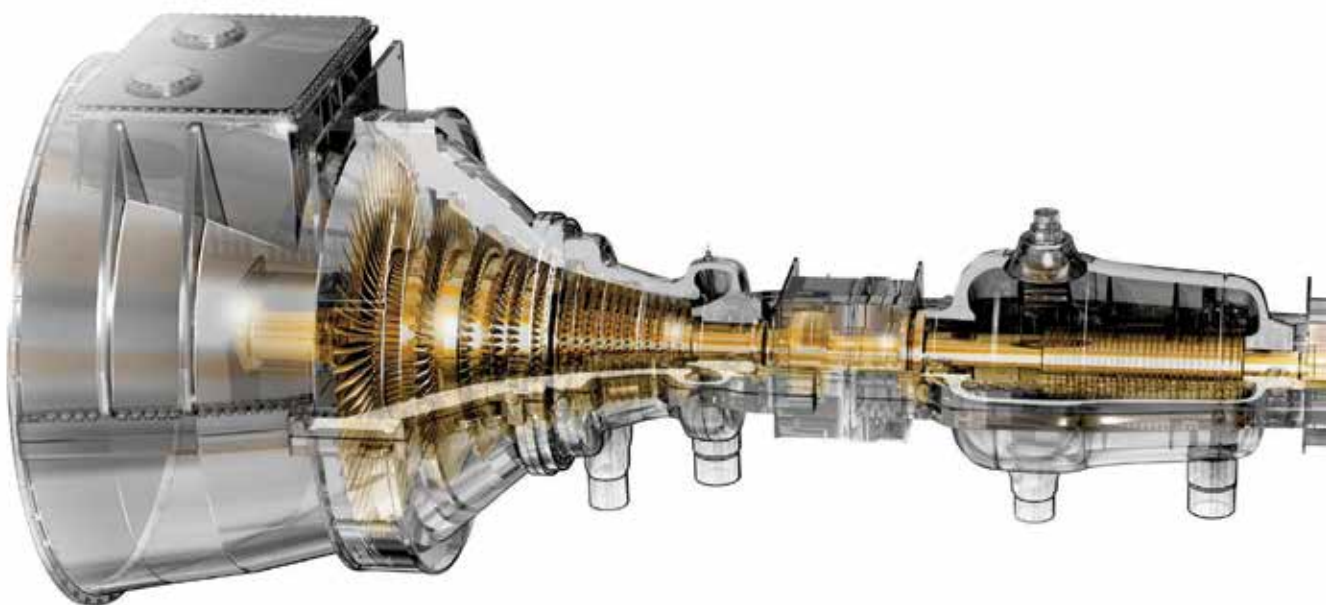
**VISCOSITY:** ISO VG 68

### BENEFITS

- Up to 2000 hour oil drains
- High resistance to oxidation, reducing sludge deposits
- Good water demulsibility
- Excellent protection against wear
- Excellent filterability

### SPECIFICATIONS

- ✓ Cincinatti Milacron
- ✓ DIN 51506 VDL/51524 Part 1
- ✓ Hagglunds Denison HF-1





## INDUS COMPRESSOR OIL 4KH ISO 46

CO4KH46020

**BASE OIL:** Full Synthetic

**VISCOSITY:** ISO VG 46

### BENEFITS

- Up to 4000 hour oil drains
- Reduced system deposits
- Good water demulsibility
- Excellent protection against wear

### SPECIFICATIONS

- ✓ DIN 51506 VDL
- ✓ ISO 6743-3A-DAJ/DAH
- ✓ SAE MS 1003-2



## INDUS COMPRESSOR OIL 4KH ISO 68

CO4KH68005

**BASE OIL:** Full Synthetic

**VISCOSITY:** ISO VG 68

### BENEFITS

- Up to 4000 hour oil drains
- Reduced system deposits
- Good water demulsibility
- Excellent protection against wear

### SPECIFICATIONS

- ✓ DIN 51506 VDL
- ✓ ISO 6743-3A-DAJ/DAH
- ✓ SAE MS 1003-2



## INDUS COMPRESSOR OIL 8KH ISO 68

CO8KH68020

**BASE OIL:** Full Synthetic

**VISCOSITY:** ISO VG 68

### BENEFITS

- Up to 8000 hour oil drains
- Reduced system deposits
- Good water demulsibility
- Excellent protection against wear

### SPECIFICATIONS

- ✓ ISO 68
- ✓ SAE MS 1003-2

## ROCKSLIDE ISO 68

RS68020



**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 68

### BENEFITS

- Outstanding cutting fluid compatibility
- Excellent hydraulic performance including wet & dry filterability
- Brugger performance for steel fatigue prevention
- Ideal friction requirements for stick-slip performance
- Effective tackifier additive to ensure adherence to moving parts

### SPECIFICATIONS

- ✓ AGMA 250.04
- ✓ API GL-3
- ✓ Cincinnati Machine Gear P-63/ Machine Slideway P-47
- ✓ DIN 51502 CGLP68
- ✓ Muller Weingarten
- ✓ US Steel 224

## ROCKSLIDE ISO 150

RS150205



**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 150

### BENEFITS

- Outstanding cutting fluid compatibility
- Excellent hydraulic performance including wet & dry filterability
- Brugger performance for steel fatigue prevention
- Ideal friction requirements for stick-slip performance
- Effective tackifier additive to ensure adherence to moving parts

### SPECIFICATIONS

- ✓ AGMA 250.04
- ✓ API GL-3
- ✓ Cincinnati Machine Gear P-77
- ✓ DIN 51502 CGLP150
- ✓ Muller Weingarten
- ✓ US Steel 224

## ROCKSLIDE ISO 320

RS320020/205



**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 320

### BENEFITS

- Outstanding cutting fluid compatibility
- Excellent hydraulic performance including wet & dry filterability
- Brugger performance for steel fatigue prevention
- Ideal friction requirements for stick-slip performance
- Effective tackifier additive to ensure adherence to moving parts

### SPECIFICATIONS

- ✓ AGMA 250.04
- ✓ API GL-3
- ✓ Cincinnati Machine Gear P-59
- ✓ DIN 51502 CGLP320
- ✓ Muller Weingarten
- ✓ US Steel 224



## GEAR OIL SYN 220

GOSYN220020/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** ISO VG 220

### BENEFITS

- Premium performance & durability
- Protects against rust & corrosion
- Minimises wear by using effective extreme pressure additives
- Outstanding oxidation & thermal stability for long life

### SPECIFICATIONS

- ✓ AIST 224
- ✓ ANSI/AGMA 2005-E02 EP
- ✓ API GL-3
- ✓ DIN 51517 Part 3 (CLP)
- ✓ HITACHI CONSTRUCTION
- ✓ Joy TO-SMEP (ISO220)
- ✓ MAG Cincinnati Machine P-74 (ISO 220)
- ✓ US Steel 224



## INDUS GEAR OIL EP 68

G068205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 68

### BENEFITS

- Compatible with copper alloy components
- Protects against rust & corrosion
- Minimises wear by using effective extreme pressure additives
- Good oxidation & thermal stability for long life
- Minimises foaming
- Excellent demulsibility

### SPECIFICATIONS

- ✓ AGMA 2005-D94/250.04
- ✓ AAPI GL-3
- ✓ Cincinnati Milacron
- ✓ Clean Panel Coker and S-200 Oxidation
- ✓ US Steel 224



## INDUS GEAR OIL EP 150

G0150020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 150

### BENEFITS

- Compatible with copper alloy components
- Protects against rust & corrosion
- Minimises wear by using effective extreme pressure additives
- Good oxidation & thermal stability for long life
- Minimises foaming
- Excellent demulsibility

### SPECIFICATIONS

- ✓ AGMA 250.04/2005-D94
- ✓ API GL-3
- ✓ Cincinnati Milacron
- ✓ Clean Panel Coker and S-200 Oxidation
- ✓ US Steel 224





## INDUS GEAR OIL EP 220

GO220020/205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 220

### BENEFITS

- Compatible with copper alloy components
- Protects against rust & corrosion
- Minimises wear by using effective extreme pressure additives
- Good oxidation & thermal stability for long life
- Minimises foaming
- Excellent demulsibility

### SPECIFICATIONS

- ✓ AGMA 250.04/2005-D94
- ✓ API GL-3
- ✓ Cincinnati Milacron
- ✓ Clean Panel Coker and S-200 Oxidation
- ✓ DIN 51517 Part 3 (CLP)
- ✓ US Steel 224



## INDUS GEAR OIL EP 320

GO320020

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 320

### BENEFITS

- Compatible with copper alloy components
- Protects against rust & corrosion
- Minimises wear by using effective extreme pressure additives
- Good oxidation & thermal stability for long life
- Minimises foaming
- Excellent demulsibility

### SPECIFICATIONS

- ✓ AGMA 250.04/2005-D94
- ✓ API GL-3
- ✓ Cincinnati Milacron
- ✓ Clean Panel Coker and S-200 Oxidation
- ✓ US Steel 224



## INDUS GEAR OIL EP 460

GO460205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 460

### BENEFITS

- Compatible with copper alloy components
- Protects against rust & corrosion
- Minimises wear by using effective extreme pressure additives
- Good oxidation & thermal stability for long life
- Minimises foaming
- Excellent demulsibility

### SPECIFICATIONS

- ✓ AGMA 250.04/2005-D94
- ✓ API GL-3
- ✓ Cincinnati Milacron
- ✓ Clean Panel Coker and S-200 Oxidation
- ✓ US Steel 224



## INDUS INDGEAR B220

IGB220205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 220

### BENEFITS

- Long oil life
- Reduced wear leading to longer component life
- Reduced running costs & downtime
- Energy savings
- Optimum thermal stability
- Safe for bronze, copper alloy or white metal bearings

### SPECIFICATIONS

- ✓ AGMA 9005 E02-EP
- ✓ AIST (US Steel) 224
- ✓ API GL-5



## INDUS INDGEAR B320

IGB320205

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 320

### BENEFITS

- Long oil life
- Reduced wear leading to longer component life
- Reduced running costs & downtime
- Energy savings
- Optimum thermal stability
- Safe for bronze, copper alloy or white metal bearings

### SPECIFICATIONS

- ✓ AGMA 9005 E02-EP
- ✓ AIST (US Steel) 224
- ✓ API GL-5



## CONVOY FLEET GEAR 10

FG10020/205/1000LTR

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 10

### BENEFITS

- Wide application range allows for rationalisation of products
- Longer equipment life
- Designed for heavier load than engine oils
- Longer oil life through enhanced oxidation stability
- Minimises degradation of equipment

### SPECIFICATIONS

- ✓ Allison C-4
- ✓ API CF/GL-3
- ✓ Caterpillar TO-4
- ✓ Komatsu
- ✓ Vickers M-2950-S
- ✓ ZF TE-ML 03

## CONVOY FLEET GEAR 30

FG30020/205/1000LTR



**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 30

### BENEFITS

- Wide application range allows for rationalisation of products
- Longer equipment life
- Designed for heavier load than engine oils
- Longer oil life through enhanced oxidation stability
- Minimises degradation of equipment

### SPECIFICATIONS

- ✓ Allison C-4
- ✓ API CF/GL-3
- ✓ Caterpillar TO-4
- ✓ Komatsu
- ✓ ZF TE-ML 03

## CONVOY FLEET GEAR 50

FG50020/205/1000LTR



**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 50

### BENEFITS

- Wide application range allows for rationalisation of products
- Longer equipment life
- Designed for heavier load than engine oils
- Longer oil life through enhanced oxidation stability
- Minimises degradation of equipment

### SPECIFICATIONS

- ✓ API CF/GL-3
- ✓ Caterpillar TO-4
- ✓ Komatsu
- ✓ Rockwell O-81
- ✓ Volvo 1273.13/97305-90
- ✓ ZF TE-ML 01

## CONVOY FLEET GEAR 50 FULL SYN

FG50FULLSYN020/205



**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 50

### BENEFITS

- Superior protection of transmission parts
- Long drain life
- Reduces wear even in high ambient conditions
- Possible improved fuel economy
- Less transmission friction & drag
- Resists oil thickening
- Superior oxidation resistance

### SPECIFICATIONS

- ✓ API CD/MT-1
- ✓ Eaton PS-081/PS-164 Rev 7
- ✓ Mack TO-A Plus
- ✓ ZF Eurotronic 2/Freedomline



## CONVOY SYNFLEET 40

SYNF40020/205

**BASE OIL:** Full Synthetic

**VISCOSITY:** SAE 40

### BENEFITS

- Improved fuel economy up to 1.5%
- Superior high & low temperature performance
- Extended drain capabilities
- Less transmission friction and drag
- Superior oxidation resistance

### SPECIFICATIONS

- ✓ API MT-1
- ✓ Con Met
- ✓ Eaton PS-386
- ✓ Mack TO-A Plus
- ✓ Meritor (Rockwell) O-81 (synthetic)
- ✓ Navistar MPAPS B68-16 Type II



## CONVOY FD-01 FLUID

FD01205

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 60

### BENEFITS

- Superior extreme pressure properties compared to TO-4 fluids
- Protects against rust & corrosion
- Excellent foam control
- Improved shock load capability
- Extends component life
- Long oil drains reduces downtime

### SPECIFICATIONS

- ✓ Caterpillar FD-1



## HYDRAULIC JACK OIL

HJ00005

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 46

### BENEFITS

- Formulated to combat rust, oxidation, wear & foaming
- Reduces sludge formation
- Compatible with silver components
- Provides good water separation
- Compatible with other hydraulic oils
- Amber colour

### SPECIFICATIONS

- ✓ Cincinnati Milacron P-69 (HM)
- ✓ Denison HF-2
- ✓ DIN 51524 Part 2 (HLP Type)
- ✓ ISO 46/6743 Part 4, Type HM
- ✓ US Steel 127
- ✓ Vickers I-286-S/M-2950-S





## PNEUMATIC TOOL OIL

PTO0005

**BASE OIL:** Premium Mineral

**VISCOSITY:** ISO VG 22

### BENEFITS

- Anti-wear formulation for outstanding machine protection
- Highly resistant to thermal breakdown
- Low toxicity zinc free formulation
- Compatible for all types of hydraulic hoses & seals
- Protects against rust & corrosion
- For use in wet & dry environments
- Amber colour

### SPECIFICATIONS

- ✓ DIN 51524 Part 2 (HLP Type)



## HONING OIL

HON020

**BASE OIL:** Premium Mineral

### BENEFITS

- Excellent surface finish obtainable
- Economical operation by providing superior cooling with minimal drag out
- Maintains stone cleanliness & maximises operation life
- Removes heat from tool & work pieces
- Facilitates rapid settling of swarf & chips
- Excellent anti-weld properties
- Low odour & misting
- Amber colour



## SOLUBLE OIL

SOL005/020

**BASE OIL:** Premium Mineral

### BENEFITS

- Forms highly stable emulsions
- Helps prevent rust & corrosion
- Low foaming
- Resists biological degradation
- Amber colour



# GREASES

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## GREASE CHARACTERISTICS

### **GREASE = BASE OIL + ADDITIVES + THICKENER**

A lubricating grease is made by mixing 2-15% of a thickener and other additives into a base oil.

### **HOW DOES GREASE WORK?**

The thickeners in grease contain oil and additives and release them like a sponge when under pressure. The oil prevents friction and creates a barrier or film between moving parts.

### **WHAT IS GREASE EXPECTED TO DO?**

- Reduce friction and wear
- Provide corrosion protection
- Seal bearings from water and contaminants
- Resist leakage, dripping and throw off
- Resist change in structure or consistency during service
- Maintain mobility under conditions of application
- Be compatible with seals
- Tolerate or repel moisture
- Be suitable for a wide range of temperatures

### **WHAT ARE THE PROPERTIES OF GREASE?**

- Amount and type of thickener
- Additives
- Solids (i.e. Moly, Graphite)
- Water wash out and spray off
- Mechanical stability
- Oil separation
- Storage life
- Oxidation resistance
- Rust/corrosion resistance
- Viscosity and type of base oil
- Bearing life (wheels, electric motors)
- Compatibility (other greases, seals)
- Low temperature torque

### **WHAT TYPE OF THICKENERS ARE USED?**

- Clay (Organo Clay, i.e. Bentone)
- Lithium
- Lithium Complex
- Lithium/Calcium Mixed Complex
- Calcium Complex
- Aluminium Complex
- Others (Calcium, Sodium, Polyurea)

## **WHAT TYPES OF BASE OILS ARE USED?**

- Castor Oils
- Mineral Oils
- Synthetic Oils (Group 3, PAO & Ester)
- White Oils (Pharmaceutical Grade)
- Vegetable Oils (Food Grade)

## **GREASE ADDITIVES**

- Extreme Pressure (EP) additives
- Rust/Corrosion inhibitors
- Tacky Additive - adhesive/cohesive (polymers/resins)
- Insoluble solids (Moly, Copper, Graphite, Zinc Oxide)
- Oxidation inhibitors
- Anti-wear additives
- Dyes, pigments



## GREASE TYPES

There are many types of greases which are shown below. As can be seen, they have different properties which helps to define where they are best suited.

THICKENER	DROP POINT (°C)	MAX SERVICE CONTINUOUS OPERATING TEMP (°C)	HIGH TEMP USE	STRUCTURE	SHEAR STABILITY	WATER RESISTANCE
Calcium	100	<80	□	□	○	■
Lithium	160 - 200	125	■	□	■	■
Calcium Complex	>260	150	■	□	■	■
Lithium Complex	>240	160	■	□	■	■
Aluminium Complex	>260	150	■	□	■	■
Barium Complex	>200	150	■	□	○	■
Polyurea	>230	150	■	□	■	■
Bentone	N/A	150	■	□	○	■
Sodium	170 - 190	125	■	□	■	□

□ Very Poor □ Poor ○ Fair ■ Good ■ Excellent  
 ▽ Buttery □ Smooth ▽ Fibrous ▽ Gel ■ Opaque

## GREASE SERVICE CLASSIFICATION

There are different categories for greases developed by the NLGI (National Lubricating Grease Institute). The classification (ASTM D 4950), covers greases designed for the lubrication of chassis components and wheel bearings of passenger cars, truck and other vehicles.

### CONSISTENCY

The degree of stiffness of a grease and may vary considerably with temperature i.e. from fluid to very hard. This is determined by the NLGI Grade Penetration. The viscosity of the base oil used in grease also varies from ISO 15 (very thing) to 1500 (extremely thick), and can have an effect on consistency.

### NLGI GRADE PENETRATION

NLGI is measure by a cone drop method. A special cone is dropped into the grease at 25°C and the depth of the fall is measured. This describes the consistency of a grease via an NLGI grade number. A grease is identified by an NLGI number that ranges from 000 to 6. NLGI 000 is a pourable or fluid grease and an NLGI 6 grease is solid, like wax.

NLGI GRADE PENETRATION @ 25°C (1/10TH MM)		
000	445 - 475	Fluid
00	400 - 430	Semi-Fluid
0	355 - 385	Very Soft
1	310 - 340	Soft
2	265 - 295	Normal
3	220 - 250	Firm
4	175 - 205	Very Firm
5	130 - 160	Hard
6 (block grease)	85 - 115	Very Hard

## GREASE TESTING

### DROP POINT TEST:

The dropping point of grease is the temperature at which the thickener can no longer hold the base oil. Grease is placed in a small cup and heated in an oven-like device. When a drop of oil falls from the low opening of the cup, the dropping point of the grease is calculated using the temperatures in the oven and inside the cup.

### 4 BALL WELD TEST:

A 12.7mm steel ball is rotated against three stationary balls of the same size. Lubricant surrounds the balls. Test conditions are 1770rpm, 25°C and 10 seconds duration. Testing steps continue with new balls and an increase load until welding of the four balls occurs.

## GREASE SHELF LIFE

The shelf life of any grease is affected by the type and amount of thickener used, consistency of the grease, manufacturing method employed and the formulation complexity. Generally, straight Lithium, Lithium Complex and Calcium Complex greases remain stable for a long time. Aluminium Complex greases tend to set and harden, but remain stable. Bentone and Barium greases tend to soften on aging. Based on these observations:

The shelf life of most Penrite greases is about 5 years. However, Semi Fluid Grease only has a 2 year shelf life.

## GREASE COMPATIBILITY

Occasionally, grease substitution in an application may be necessary to correct problems arising from the original product in service. If the thickeners are incompatible, the mixture will not meet the properties of the individual greases and in some cases, the greases will fall apart. The below table provides a rough guide.

	Calcium	Lithium	Calcium Complex	Lithium Complex	Aluminium Complex	Barium Complex	Polyurea	Bentone	Sodium
Calcium		✓	✓	✓	●	×	✓	×	×
Lithium	✓		✓	✓	●	●	✓	×	●
Calcium Complex	✓	✓		●	×	●	●	×	×
Lithium Complex	✓	✓	●		●	●	✓	×	●
Aluminium Complex	×	●	×	●		×	●	×	×
Barium Complex	×	●	●	●	×		●	×	×
Polyurea	✓	✓	●	✓	●	●		×	×
Bentone	×	×	×	×	×	×	×		×
Sodium	×	●	×	●	×	×	×	×	

✓ Compatible    × Incompatible    ● Borderline

It is strongly advised that, in all cases, the old grease be purged or cleaned out from the system before a new one is introduced. Compatibility between greases is also temperature dependent. As the temperature rises, the problems associated with incompatibility also increase. With unknown competitors' products, it is strongly advised to treat them as incompatible.

## GREASE COLOUR

A grease's colour is determined by base oil, thickener, additive and dye. A grease can be made to almost any colour to suit a particular environment, application or for identification purposes.

## WHICH GREASE DO I USE? FOLLOW THE "L.E.T.S." PRINCIPLE

When selecting a grease to use there are four main considerations to be made. These are referred to as the "L.E.T.S." principle.

**L**OAD • **E**NVIRONMENT • **T**EMPERATURE • **S**PEED

LOAD				
Load	ISO	NLGI	Additives/Base	Recommended Penrite Grease
High	220 460 680	1 - 2	High Base Oil Viscosity EP & AW Additives	Extreme Pressure Grease ACT Grease XEP2 Heavy Duty Bearing Grease
Low	100 150 220	2 - 3	Low Base Oil Viscosity Firm Consistency	Indgrease Lith R3 Indgrease 100 LXEP2

When selecting the correct grease, what sort of load will it have placed on it? High load products may have a higher degree of extreme pressure and anti-wear additives than a grease that is only exposed to lower loadings. There can also be a difference in the base oil viscosity with heavily loaded greases having higher viscosity base oils.

ENVIRONMENT			
Environment	Protection Type	Additives/Base	Recommended Penrite Grease
Water	Rust Protection Water Resistance	Corrosion Preventative Adhesiveness Tackiness	Marine Grease Indgrease 1615 WR
Acid / Alkali	Acid Protection Alkali Protection	Inert Thickener & Additives	Indgrease BM3
Long Dispensing Lines	Good Pumpability Soft Consistency		Indgrease Lith EP 0

Where a grease has to work is an important criteria for selecting the correct product. Environmental factors such as weather, wet, dry, dusty, cold, hot etc. requires special properties in the grease to cope. A good example is a grease that has to operate in a marine environment where it's exposed to salt and water. It needs to stay in place to prevent corrosion and still provide lubrication. It needs good water wash out and spray protection and high levels of anti-corrosion to protect from rust and oxidation.

## TEMPERATURE

Temperature	Protection Type	Additives/Base	Recommended Penrite Grease
Very High	Up to 180°C	Clay Based Greases	Copper Eze Indgrease BM3
High	Up to 170°C	Complex Greases	Marine Grease High Temperature Wheel Bearing Grease
Moderate	Up to 140°C	Lithium Greases	Indgrease Moly HT Indgrease 1615 WR ACT Grease XEP2
Low	Down to -20°C	Lithium & Complex Greases	Extreme Pressure Grease Molygrease EP3% Indgrease 100 LXEP2 ACT Grease XEP2

Greases are developed to work at different temperature ranges. These can be from extremely cold or arctic conditions through to sizzling hot if working in a wheel bearing with a disc brake rotor. Greases are engineered differently for each type of temperature based application.

## SPEED

Speed	Load	ISO	NLGI	Additives/Base	Recommended Penrite Grease
High	Low	100 to 150	2 - 3	Low Base Oil Viscosity Firm Consistency	Indgrease Lith R3 Indgrease 100 LXEP2
Low	High	220 to 680	2	High Base Oil Viscosity Soft Consistency	Indgrease Moly HT

Speed is another consideration. Greases designed to work at high speed need to have strong anti-fling properties so they don't just spin off the surface they are protecting. Generally, the higher the speed, the less the load. A grease designed for low speed applications may need to take heavy loads.

# APPLICATION CHART

		High Temperature Wheel Bearing Grease	Heavy Duty Bearing Grease	Marine Grease	ACT Grease XEP2	CV Joint Grease	Power Sports Grease	IndGrease Moly HT	IndGrease 100LX EP2	Extreme Pressure Grease	MolyGrease EP 3%	Semi Fluid Grease	Cam Assembly Lube	IndGrease Lith EP2	IndGrease Lithium EPO	IndGrease CX 152WR	IndGrease 1615WR	Copper EZE	Rubber Grease	White Grease
		Lithium Complex									Lithium						Calcium Complex	Clay Based (Bentone)	Aluminium Complex	
SPECIFICATIONS	NLGI GRADE	2	2	2	2	1.5	2	1.5	2	2	2	00	Paste	2	0	2	1.5	1.5	2	2
	COLOUR	Blue	Purple	Green	Red/Orange	Grey/Black	Green	Grey/Black	Brown	Red	Grey/Black	Light Brown	Grey/Black	Amber	Light Brown	Beige	Brown	Copper	Red	White
	EXTREME PRESSURE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes
	SOLIDS AND %	No	No	No	No	5	No	5	No	No	3	No	Yes	No	No	No	No	20	No	No
	"ISO" BASE OIL VISCOSITY	220	220	220	800	460	220	460	100	320	220	150	NA	180-210	150	200	460	460	320	NA
	BASE OIL TYPE	Min	Min	Min	Semi Syn	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Castor	Min
	DROP POINT, °C	290	275	275	>270	300	275	300	275	190	190	170	NA	195	195	>280	>260	Non Melt	275	265
	RECOMMENDED OPERATING TEMPERATURE RANGE, °C	Minus 10 to plus 170	Minus 10 to plus 170	Minus 15 to plus 170	Minus 20 to plus 140	0 to plus 160	Minus 15 to plus 170	Minus 20 to plus 160	Minus 20 to plus 160	Minus 20 to plus 130	Minus 20 to plus 130	Minus 20 to plus 130	NA	Minus 20 to plus 130	Minus 20 to plus 130	Minus 20 to plus 150	Minus 20 to plus 150	0 to plus 1093	Minus 9 to plus 80	Minus 30 to plus 160
	FOUR BALL WELD LOAD, KG	315	620	315	350	500	315	500	315	400	315	250	NA	250	250	>765	>660	NA	NA	200
	CONTAINS TACKY ADDITIVE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No
TRUCK & BUS	WHEEL BEARINGS	R	R	R			R		S							R				
	ENGINE ASSEMBLY												R							
	CHASSIS	R	R	S	S	S	S	R	S	R	R			S		R	S			S
	GENERAL PURPOSE	R	R	S	S		S		S	R	R			S		S				R
	CV JOINTS					R		S			S									
	PETROL RESISTANT																		R	
	TYRE MOUNTING																		R	
	UNIVERSAL JOINTS	S	S	S		R	S	R			R					S				
	STEERING BOXES											S								
TRUCK & BUS	WHEEL BEARINGS	S	S	S	R		S									S				
	CHASSIS	S	S	S	S	S	S	R	S	S	R			S	S	R	S			S
	GENERAL PURPOSE	S	S	S	S		S		S	S	S			S		R	S			R
	TRAILER COUPLINGS					R		R			R					R				
	UNIVERSAL JOINTS				R	R		R								S				
	FIFTH WHEEL					S		S			S	S								
	TRUCK MOUNTED AUTOMATED GREASING SYSTEMS														S					
INDUSTRIAL	HIGH SPEED	R	R	R			R		R							R				
	LOW SPEED	S	S		S	R		R		S	S			S			R			S
	ELECTRIC MOTORS/FANS								R											
	HIGH TEMPERATURE	R	R	R	R	R	R	R	R							R	R	R		
	HIGH LOAD	S	S	S	R	R	S	R		S	R			R		R	R			
	CENTRAL SYSTEMS					S		S	S	S		S		S	R					
	LONG LIFE				R	S		S	R							R	R			
	SHOCK LOADS	S	S	S	S	R	S	R	R	S	R			S		R	R			
	ANTI SEIZE																	R		
	SLIDING SURFACES/SPLINES										R									
AGRI	WET ENVIRONMENTS	S	S	R	S	S	R	S	S		R					R	R	S		R
	GENERAL PURPOSE	R	R		S	S		S	S	S	S			S		S	S			S
	SLASHER GEARBOXES											R								
MINING & CONSTRUCTION	SUGAR MILLS																S			
	WHEEL BEARINGS	S	S	S	R		S									S				
	KING PINS/SHACKLES				S	R		R			S					S	S			
	GEARBOXES										S									
	ANTI SEIZE																	R		
	WIRE ROPES															S	S			
	VIBRATING CONDITIONS				R	R		R			S									
	HIGH TEMPERATURES	R	R	R	R	R	R	R	R							R	R			
	WET ENVIRONMENTS	R	R	R	R	R	R	R	R		S					R	R			R
MARINE	CENTRAL SYSTEMS								S			S			R					
	BOAT TRAILER BEARINGS	R	R	R			R		S							R				
	DECK EQUIPMENT	S	S	R	S	S	R	S	S		S			S		R	R			R
	ANTI SEIZE																	R		
	OPEN GEARS															R				
	WIRE ROPES & CABLES														S	S				S

Penrite has an extensive range of grease products covering most applications in the industrial and automotive sectors, from wheel and trailer bearings to anti-seize and assembly compounds. The range also includes semi-fluid greases, right up to very firm greases and also includes molybdenum disulphide and graphite containing greases to suit all lubrication requirements.

## PRODUCTS

	GRAMS			KILOGRAMS		
	100	450	500	2.5	20	180
Extreme Pressure Grease		●	●	●	●	●
High Temperature Wheel Bearing Grease		●	●	●	●	●
Molygrease EP 3%		●	●	●	●	●
Heavy Duty Bearing Grease		●			●	●
Marine Grease		●	●	●		
Semi Fluid Grease		●	●		●	
ACT Grease XEP2		●				●
Copper Eze	●		●			
Rubber Grease	●		●			
Cam Assembly Lube	●					
CV Joint Grease	●					
Power Sports Grease	●					
White Grease			●			
Indgrease Moly HT		●			●	●
Indgrease Lith EP2		●				
Indgrease Lithium EPO					●	
Indgrease CX 152WR		●				
Indgrease 1615WR					●	
Indgrease 100LX EP2		●				
<b>CARTON QUANTITY</b>	6	6	6	6		





## EXTREME PRESSURE GREASE

EPGR00045/0005/0025/020/180

**SOAP TYPE:** Lithium

**NLGI GRADE:** 2

### BENEFITS

- Extreme pressure performance for protection against shock loadings
- Resists water wash out
- Protects against rust & corrosion
- Long service life
- Tackiness additive helps grease stay in place
- Temperature range: -20°C to 130°C
- Red colour

### SPECIFICATIONS

- ✓ DIN 51502
- ✓ ISO 6743: KP2K-30
- ✓ NLGI 2



## HIGH TEMP WHEEL BEARING GREASE

HTGR00045/0005/0025/020/180

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 2

### BENEFITS

- High temperature performance
- Excellent resistance to water wash out
- Protects against rust & corrosion, even in salt water
- Contains tackifiers to help grease stay in place
- Temperature range: -10°C to 170°C
- Light blue colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-30
- ✓ ISO 6743: ISO-L-XCDIB 2
- ✓ NLGI 2
- ✓ Volvo 97720 (level)



## MOLYGREASE EP 3%

MOLY00045/0005/0025/020/180

**SOAP TYPE:** Lithium

**NLGI GRADE:** 2

### BENEFITS

- Protects against shock loadings
- Excellent resistance to water wash out & squeeze out
- Protects against rust & corrosion
- Tackiness additive helps grease stay in place, extending regreasing intervals
- Temperature range: -20°C to 130°C
- Grey/black colour

### SPECIFICATIONS

- ✓ Ford ESA-M1C75-A/ESA-M1C75-B
- ✓ Holden HN 1416
- ✓ NLGI 2



## HEAVY DUTY BEARING GREASE

HDBG00045/020/180

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 2

### BENEFITS

- Excellent extreme pressure performance
- Protection against shock loadings
- Outstanding resistance to water wash out
- Protects against rust & corrosion, even in salt water
- Temperature range: -10°C to 170°C
- Purple colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-30
- ✓ ISO 6743: ISO-L-XCDIB 2
- ✓ NLGI 2
- ✓ Volvo 97720 (level)



## MARINE GREASE

MARGR00045/0005/0025

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 2

### BENEFITS

- Enhanced protection against rust & corrosion
- Protects against shock loadings
- Excellent resistance to water wash out
- Contains tackiness additives to help grease stay in place
- Temperature range: -15°C to 170°C
- Green colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-30
- ✓ ISO 6743: ISO-L-XCDIB 2
- ✓ NLGI 2



## SEMI FLUID GREASE

SEMI00045/0005/020

**SOAP TYPE:** Lithium

**NLGI GRADE:** 00

### BENEFITS

- Extends bearing and gear life by minimising wear & shock loads
- Does not splash so maximises lubrication efficiency
- Resists leakage even under heavily loaded conditions
- Protects against rust & corrosion
- Temperature range: -20°C to 130°C
- Light brown colour

### SPECIFICATIONS

- ✓ NLGI 00



## ACT GREASE XEP2

ACTXEP200045/180

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 2

### BENEFITS

- Heavy duty multi-purpose grease
- Excellent load carrying capacity
- Longer re-lubrication intervals
- Excellent water resistance
- Protects against wear & corrosion
- Excellent stay-in-place properties
- Temperature range: -20°C to 140°C
- Orange colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-20
- ✓ ISO 6743: ISO-L-XBDIB 2
- ✓ NLGI 2



## COPPER EZE

CEZE0001/0005

**SOAP TYPE:** Clay

**NLGI GRADE:** 2

### BENEFITS

- Protects against corrosion in severe environments
- Reduces friction & wear
- Synthetic lubricant prevents galling
- Does not wash or burn off in everyday use
- Protects against seizing
- Temperature range: 0°C to 1093°C
- Copper colour

### SPECIFICATIONS

- ✓ NLGI 1.5



## RUBBER GREASE

RUBGR0001/0005

**SOAP TYPE:** Clay

**NLGI GRADE:** 2

### BENEFITS

- Excellent lubricity
- Compatible with natural & synthetic rubbers
- Easy to use
- Temperature range: -9°C to 80°C
- Red colour

### SPECIFICATIONS

- ✓ NLGI 2



## CAM ASSEMBLY LUBE

CAM0001

**SOAP TYPE:** Lithium

### BENEFITS

- Withstands loads greater than 200,000psi
- Added zinc for increased anti-wear protection
- Has a tacky additive & will not run off surfaces like normal engine oil
- Provides highest protection possible in the vital first seconds after starting
- Will not harm white metal bearings
- Grey/black colour



## CV JOINT GREASE

CVJGR0001

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 1.5

### BENEFITS

- Extreme pressure grease for high load applications
- Contains molybdenum disulphide for boundary lubrication protection
- High product stability & shear resistance for long life protection
- Excellent water wash out resistance
- Temperature range: 0°C to 160°C
- Grey/black colour

### SPECIFICATIONS

- ✓ NLGI 1.5



## POWER SPORTS GREASE

PSGR0001

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 2

### BENEFITS

- High water resistance & low water wash out
- Excellent rust & corrosion protection
- Multi-purpose product suitable for many greasing applications
- High shock loading protection
- Temperature range: -15°C to 170°C
- Green colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-30
- ✓ ISO 6743: ISO-L-XCDIB 2
- ✓ NLGI 2



## WHITE GREASE

ZWG0005



**SOAP TYPE:** Aluminium Complex

**NLGI GRADE:** 2

### BENEFITS

- Reduced wear under high or shock loads
- Excellent resistance to water wash out
- Superior protection against rust & corrosion
- Temperature range: -30°C to 160°C
- White colour

### SPECIFICATIONS

- ✓ NLGI 2

## INDGREASE MOLY HT

INDGRSMOLYHT00045/020/180



**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 1.5

### BENEFITS

- Extreme pressure for high load applications
- Contains molybdenum disulphide for boundary lubrication protection
- Excellent water wash out resistance
- Adhesive, cohesive grease, resisting "squeeze out"
- Temperature range: -20°C to 160°C
- Grey/black colour

### SPECIFICATIONS

- ✓ NLGI 1.5

## INDGREASE LITH EP2

IGRLITHEP200045



**SOAP TYPE:** Lithium

**NLGI GRADE:** 2

### BENEFITS

- Reduced wear under high to medium loads
- Superior protection against rust & corrosion
- Excellent resistance to water wash out
- Excellent mechanical stability
- Temperature range: -20°C to 130°C
- Amber colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2K-20
- ✓ ISO 6743: ISO-L-XBCEB 2
- ✓ NLGI 2



## INDGREASE LITHIUM EPO

IGRLITHEP0020

**SOAP TYPE:** Lithium

**NLGI GRADE:** 0

### BENEFITS

- Reduced wear under high or shock loads
- Superior protection against rust & corrosion
- Excellent resistance to water wash out
- Excellent mechanical stability
- Temperature range: -20°C to 130°C
- Light brown colour

### SPECIFICATIONS

- ✓ DIN 51502: KP0K-20
- ✓ ISO 6743: ISO-L-XCCFB 0
- ✓ NLGI 0



## INDGREASE CX 152WR

INDGRCX152WR00045

**SOAP TYPE:** Calcium Complex

**NLGI GRADE:** 2

### BENEFITS

- Superb mechanical stability
- Excellent corrosion protection
- Excellent water resistance
- Excellent load carrying capacity
- Temperature range: -30°C to 140°C
- Brown colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-30
- ✓ ISO 12924: L-XC(F)DIB2
- ✓ NLGI 2



## INDGREASE 1615WR

INDGR1615WR020

**SOAP TYPE:** Calcium Complex

**NLGI GRADE:** 1.5

### BENEFITS

- Superb mechanical stability
- Good corrosion protection
- Excellent water resistance
- Exceptional load carrying capacity
- Temperature range: -20°C to 150°C
- Brown colour

### SPECIFICATIONS

- ✓ DIN 51502: KP1.5N-20
- ✓ ISO 6743: ISO-L-XBDFB 1.5
- ✓ NLGI 1.5



## INDGREASE 100LX EP2

INDGR100LXEP200045

**SOAP TYPE:** Lithium Complex

**NLGI GRADE:** 2

### BENEFITS

- Reduced wear under high speed & shock loads
- Long life protection
- Superior protection against rust & corrosion
- High temperature capability
- Temperature range: -20°C to 160°C
- Brown colour

### SPECIFICATIONS

- ✓ DIN 51502: KP2N-20
- ✓ ISO 6743: ISO-L-XCDIB 2
- ✓ NLGI 2









# PENRITE

## *Classic*<sup>TM</sup>

**ENGINE OIL RANGE**



**CLASSIC RANGE:**

For vehicles made between Post War and 1989.



**SHELSLEY RANGE:**

For vehicles made between 1920s and 1950s.



**HERITAGE RANGE:**

For vehicles made Pre-1920s.

# VETERAN, VINTAGE & CLASSIC OILS - FREQUENTLY ASKED QUESTIONS

## ENGINE INFORMATION

### WHY DO OUR HOBBY CARS NEED A SPECIAL ENGINE OIL RATHER THAN THE LATEST PRODUCTS ON THE MARKET?

Modern engine oils are formulated to meet the requirements of the latest designs and also the fuel consumption and emission targets laid down by the legislators in many parts of the world. To meet these targets the largest engine oils are very light viscosity multigrades which whilst being suitable for modern engine designs, are not suitable in earlier veteran and historic engines.

These cars were originally built with different technologies and tolerances to late model vehicles. They also spend the vast majority of their time idle. Whilst a non-working engine is not wearing itself out, unprotected surfaces such as cylinder walls, camshafts etc., can be subject to corrosion. Modern thin oils designed to circulate quickly through an engine will drain away from the internal surfaces back to the sump leaving little protection to the parts above the oil level and therefore prone to corrosive attack.

Penrite Heritage, Shelsley and Classic oils are specially formulated to overcome this problem in two ways:

1. Incorporation of a tacky additive which makes the oil remain on the surface of the hot metal which not only provides an oil film to protect the surface from corrosion but overcomes the dry "start-up" problem.
2. Making sure that the residual oil film has exceptional corrosion protection by means of special anti-corrosion additives in the oil formulation.

The engine is thus protected whether it is running or laid up.

### WHAT ARE THE ROLES OF DETERGENTS AND DISPERSANTS IN ENGINE OILS?

Detergents are incorporated into all modern motor oil formulations and have been since the 1940s. Their function, as the name suggests, is to maintain internal engine cleanliness particularly in areas of high temperatures such as piston skirts, ring lands (the slots in which the rings sit) and other components. They are also useful in combating the effect of acid contamination of the crankcase oil caused by the by-products of combustion.

Dispersants keep all the soot particles and other solid contaminants in a "dispersed" condition and stops these collecting together (agglomerating) into large molecules and forming engine sludge and other harmful deposits. These two additives are mainly instrumental in giving marked improvement in engine lubrication when comparing today's formulations with those of the vintage and classic period.

These improvements are:

1. All the contaminants that can cause sludging in engines are now neutralised and removed during oil change. This is why modern oils discolour with use but the engine stays clean whereas in the past, oils stayed clean but the engine became dirty. To summarise, if modern oil gets dirty, it's doing its job.
2. Problems of piston ring sticking have been virtually eliminated and engine life extended. Corrosion of bearings etc. are now a thing of the past.

In cars with restored engines, the use of an engine oil containing detergents and dispersants will not cause any problems.

### IS THERE A PROBLEM WITH MODERN MULTIGRADE OILS ATTACKING RUBBER SEALS?

Many years ago, an inferior supply of synthetic rubber seals gave no end of trouble, causing significant leaking problems. Rubber seals today are made from Viton and poly-acrylate and, if properly fitted, will certainly do their intended job. Prior to the use of rubber, seals were either made of cork or felt, and before that leather, and trying to make them leak proof was nearly an art in itself! Modern oils will not harm these seals.

Cars still fitted with original type seals may encounter leakage past the seal due to hardening. In such cases the seal should be replaced.

### PENRITE PRODUCES A RANGE OF ENGINE OILS CALLED "HERITAGE", "SHELSLEY" & "CLASSIC". WHAT ARE THESE OILS?

These oils have been designed specifically to cater for veteran, vintage and classic vehicles based around the characteristics of engine design of the period.

**HERITAGE:** Comprises two grades and caters for vehicles up to 1920. The oil for these engines has been designed around the lubrication system incorporated in these early vehicles; namely total loss, wick feed, mechanical and the early forms of pressurised lubrication.

**SHELSLEY:** Comprises three oils and relates to the manufacturing period of 1920-1950. The oils in this range have been formulated to cover a wide span of ambient temperatures, which is more beneficial in these types of vehicles than the more modern oils used in vehicles today.

**CLASSIC:** Comprises three oils and covers the period from 1950-1989. The additive package used in these oils differs from the Shelsley and Heritage ranges in that these oils have been designed specifically for vehicles of this period, but with far superior performance levels than those used at the time.

### MY CAR IS 1920'S VINTAGE AND I'VE BEEN TOLD THAT I MUST USE A MONOGRADE OIL BECAUSE THAT IS WHAT WAS USED WHEN NEW. IS THIS CORRECT?

There is no problem using 1920s technology if you are prepared to put up with the problems associated with these types of oils. One of the problems encountered in the '20s was that prior to moving off from cold, the engine had to be warmed up to reduce the viscosity to enable the oil to "flow". The thickness of the oil probably determined the time it took to warm up.

Another problem encountered with monograde oils was how rapidly the viscosity fell away once the oil was hot, leaving little oil pressure, and consequently little in the way of engine protection. The Shelsley range of engine oils has been developed to offer good low temperature flow, the necessity to "warm up" being reduced. Coupled to that, the rate of viscosity loss with increasing oil temperature is far superior than the original oils used, thus maintaining better oil pressure, oil consumption and general overall protection.

### WHY CAN'T I USE MODERN THIN GRADE MULTIGRADES SUCH AS OW-30 OR 5W-40 IN MY OLD CAR?

There are a number of reasons why it is imperative to use a high viscosity multigrade oil in the lubrication of veteran, vintage, and classic cars.



Listed here are just a few:

1. Most of the early engines stipulated a SAE 40 or 50 grade engine oil or equivalent. In many cases, oil travelling down vertical shafts usually ended up lubricating bevel gears and cross shafts etc. A thin oil being used in the same application would result in the oil being thrown from the bevel gears leaving the cross shaft gears dry.
2. Most of the cars covering this period had, by modern standards, poor oil pumps. A light viscosity oil will not provide the sealing required and loss of both volume and pressure will be noticed.
3. Oil seals in these vehicles are somewhat rudimentary, and oil leakage would certainly be a problem with the use of thin grade multigrade.
4. Oil consumption and smoking will be noticeably higher with low viscosity oils due to ring design and lack of valve stem seals. It is therefore important to choose the correct oil for the right application and period.

#### **I HAVE A SLEEVE VALVE ENGINE. WHAT SHOULD I BE USING?**

The Charles Knight designed sleeve valve engine used in large vintage cars such as Minerva, Daimler and Mors have always had a reputation of consuming large amounts of oil mainly due to poor sealing of the sleeves. It was of great importance to build up a good carbon seal, which would aid this consumption problem. Today this problem has been largely overcome by better machining practices and the use of far superior lubricants, which certainly go a long way in reducing oil consumption.

Having said that, sleeve valve engines today are far better off using an oil such as those found in the Penrite Shelsley range, the most common grade being Shelsley Medium. Being of a heavy viscosity when hot, this oil will go towards both sealing sleeves and reducing consumption and at the same time maintain excellent oil pressure.

#### **ARE THERE ANY MAJOR BENEFITS IN USING SYNTHETICS IN OLD CAR ENGINES?**

To the average classic car owner, there would probably be none. However, the competition enthusiast, competing in historic rallying or prolonged highway road racing using a synthetic oil, may find a more sustainable level of oil pressure on the gauge and, coupled with longer drain intervals and better high temperature performance are benefits one will see in using a synthetic based engine oil.

As most synthetics today are fairly low in viscosity, it is not recommended to use these oils in any pre-1970 engine unless used in reasonably hard long distance competition or a heavy synthetic oil is used.

#### **WHAT CAN YOU TELL ME ABOUT CASTOR OILS AND ARE THEY OKAY FOR USE TODAY?**

Castor based oils were developed as far back as 1912, and were used initially in rotary aero engines before being widely used in both production and racing cars. Vegetable based as opposed to mineral based oils, they were made from castor or bean oils and treated with an oxidation inhibitor. Whilst castor based oils provided excellent lubrication in aero engines with total loss oiling systems, in car engines, the use of this type of oil produced excessive carbon deposits, the end result being in having to "de-coke" the engine every 1,000 miles or so.

The other drawback was high viscosity at low temperatures and a very rapid drop of viscosity as temperatures increased. The high viscosity problem at low temperatures was solved by gently warming the engine, or to be more precise, the engine's lubricant. Today, castor-based oil differs remarkably to their ancestors. Still incorporating vegetable oils, they are now blended with synthetics used to reduce the formation of gum and lacquer deposits and are of a multi-grade type viscosity. Their application is mainly associated with two stroke engines or where fuels such as methanol/alcohol are used in competition engines.

Running a vintage car or a racing car on old style castor oil is now a dated and long since superseded technology. Its use, although traditional, should no longer be contemplated. The only thing that castor can do that mineral oil cannot is to make the right smell and this can still be achieved by adding a cupful of castor synthetic in with the petrol, thus re-smelling the glorious past.

## **LEAD FUEL REPLACEMENT**

#### **LEAD REPLACEMENT FUELS ARE NO LONGER AVAILABLE. WHAT SHOULD I USE IN MY CLASSIC CAR?**

Leaded fuel was introduced in the mid-1930s so every car made before that date ran, when new, on unleaded fuels. Lead based additives (Tetra Ethyl Lead or TEL) were blended into petrol to improve the octane rating, which enabled the use of higher compression ratios, which improved engine efficiency.

Octane number is the measure of the anti-knock qualities of a fuel. The higher the number the higher the compression ratio that can be used. One of the side benefits of TEL has been to act as a lubricant to eliminate exhaust valve seat wear. Valve seat recession will be experienced in engines designed to run on leaded fuels, if using unleaded petrol.

Penrite Valve Shield is an unleaded petrol treatment formulated primarily for vehicles originally designed and manufactured to run on leaded fuel. It protects these engines against valve seat recession (VSR) using current unleaded or premium unleaded fuels. Penrite Valve Shield is sold in a 250mL bottle which incorporates a 25mL measuring chamber - enough product to treat 25L of fuel.

## **VALVE SEAT RECESSION**

If you drive a pre-1986 vehicle, you have to know about VSR or Valve Seat Recession.

Valve Seat Recession is when the valves from an internal combustion engine embed themselves into the cylinder head. This is generally due to a lack of lubrication between the valve and the cylinder head.

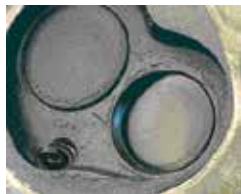
The lead in petrol pre-1987, greatly improved combustion and increased octane levels. This high-octane fuel enabled cars to run higher compression ratios than cars of today. In addition, the lead oxides that formed during combustion would settle on the valve seats and act as a cushion, protecting the seats from erosion.

When leaded fuel was phased out, car manufacturers lowered compression ratios and started using hardened valve seats that did not require the lubricating properties of lead.



Consequently, when cars designed to run on leaded fuels were run on unleaded fuels, they run the risk of suffering valve seat recession.

Valve seat recession generally affects the exhaust valve in the head. This is because this is the valve that opens to expel the burnt combustion gas. Inlet valves are lubricated by the petrol fuel mixture or only have air passing by them and hence are closed during and after combustion.



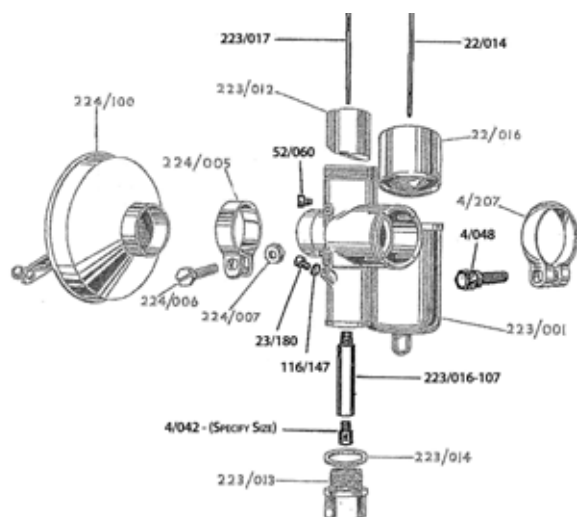
## CARBURETTORS

### WHAT'S THE DIFFERENCE BETWEEN DASHPOT AND DAMPER OIL?

Both of the oils are used for the lubrication of S.U. type carburettors.

Penrite SU Dashpot Oil is suitable for early pre-1940 carburettors, which do not incorporate a damper in the dashpot assembly. Removing the dashpot can readily identify this type carburettor design. There is no damper rod on the inside.

Penrite SU Damper Oil on the other hand is required for post-1940 vehicles using S.U. or Stromberg carburettors incorporating a damper in the dashpot assembly. The damper assembly is attached to the dashpot cap and can be seen when the cap is removed.



## GEAR OIL INFORMATION

### DOES YOUR TRANSOIL RANGE OF GEAR OILS CONTAIN ADDITIVES?

The only additive used in straight gear oils is an anti-foam and some anti-wear agents. Excessive foaming, through agitation leads to ineffective lubrication. Water contamination can also lead to foaming.

These oils can therefore be used in veteran, vintage car and motorcycle transmissions without the worry of chemical additives attacking yellow metals.

The Penrite Transoil range of gear oils is available in grades of SAE 90, 140 and 250.

### MY 1950S CAR REQUIRES AN EP90 GEAR OIL IN THE REAR AXLE. CAN I USE A MODERN 80W-90 HYPOID GEAR OIL?

The Penrite equivalent of an EP90 gear oil of the 1950s is Mild EP Gear Oil. This oil is a mild extreme pressure gear oil suitable for early forms of hypoid gear design. This design was such that the oil required the addition of chemical-based additives to control wear.

Many of these rear axles contained yellow metals, therefore the additional additive packages used have to be compatible with the likes of brass, bronze and copper.

## COOLANT INFORMATION

### I DON'T THINK A GLYCOL BASED COOLANT IS THE WAY TO GO IN VINTAGE CARS. WHAT ELSE CAN I USE?

Penrite Classic Car Coolant is a non-glycol based corrosion inhibitor which offers a host of benefits for the vintage car enthusiast both in cars on the road or during restoration. It is a very efficient inhibitor against electrolysis and oxidation. Its effectiveness in "soft" and "hard" water is well proven. The product contains no glycol as mentioned and is also biodegradable and non-toxic. Once diluted with water, the product never becomes corrosive, nor does it change the basic cooling characteristics of water. Engines indeed will run cooler, yet not suffer from internal corrosion.

However, Classic Car Coolant whilst being a very effective anti-boil agent because of its superior heat transfer characteristics, it is not an anti-freeze. If you use your car under conditions where freezing may be experienced then the use of a glycol product is essential and to ensure that the correct concentration is used. Otherwise corrosion, and damage to radiator and engine could be experienced.

You may even want to boost the level of corrosion protection in situations when using glycol. This is fine, the glycol will not harm Classic Car Coolant. If you are using Classic Car Coolant, and wish to do some restoration work over winter, then simply drain the cooling system of water and coolant.

## STEERING BOX INFORMATION

### MY MANUAL EXPLAINS THAT FOR THE STEERING BOX I NEED A MIXTURE OF GREASE AND OIL. WON'T THE OIL SIT ON TOP OF THE GREASE?

The lubrication of steering boxes in the early days centred around the use of gear oils which were fine when cold, but had a tendency to leak out past the drop arm when hot. Grease was added to the oil to give it a bit more "body" but usually the grease would "slump" to the bottom of the box, with the oil on top, thereby offering very little to lubrication of the working surfaces of the gears. Penrite Semi Fluid Grease is a high viscosity grease containing non-corrosive extreme pressure additives to provide film strength and is ideal for the task.

### WHAT OIL DO I USE IN A RACK AND PINION STEERING BOX?

In these particular units, the correct lubrication calls for a mild extreme pressure gear oil such as Penrite Mild EP Gear Oil.

It's often the case however, because of leakage, people tend to use a semi fluid grease. This is incorrect, as the product is far too heavy for this application. It would be imperative that if leakage is a problem, that the unit be removed, the seals replaced, and filled with the correct lubricant.



Penrite is the only company in Australia manufacturing a complete range of products for Veteran, Vintage, Classic and Edwardian vehicles, dating to the beginning of the last century.

Penrite is very proud to be one of the few remaining companies around the world with a complete range of products specifically designed to meet the original requirements of Veteran, Vintage & Classic vehicles.

Penrite has been blending the highest quality oils since 1926, when Veteran, Vintage & Classic vehicles were considered cutting edge technology. Since then, Penrite has been utilising the latest technology to protect your investment, passion or everyday drive with 90 years of R&D experience.

Modern lubricants may contain additives that can have adverse effects in many older vehicles. Yellow metals such as brass and copper used in mechanical manufacturing, as well as early types of lubrication systems need specialised lubricants.

## PRODUCTS

	MILLILITRES		LITRES		
	150	500	1	5	20
Classic Light				•	•
Classic Medium				•	
Classic Mini				•	
Shelsley Light				•	
Shelsley Medium				•	•
Heritage LTM				•	
Gear Box Oil 30			•		
Gear Box Oil 40			•		
Mild EP Gear Oil			•		
Transoil SAE 90			•		
Transoil SAE 140			•		
Transoil SAE 250			•		
Shocker Oil No. 1		•			
Shocker Oil No. 2		•			
SU Damper Oil	•				
SU Dashpot Oil	•				
Classic Car Coolant (Concentrate)			•		
<b>CARTON QUANTITY</b>	6	6	6	4	





## CLASSIC LIGHT

CLASL005/020

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-60

### BENEFITS

- Formulated to give much improved low temperature pumpability
- Improves operating temperature wear protection
- Extends bearing and gear life by minimising wear and shock loads
- Optimised zinc levels for wear protection
- Suitable for SAE 30, 20W-50 & 25W-60
- For diesel, LPG, petrol & racing fuel types

### SPECIFICATIONS

- ✓ API SG/CD



## CLASSIC MEDIUM

CLASM005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 25W-70

### BENEFITS

- Formulated to give much improved low temperature pumpability
- Improves operating temperature wear protection
- Extends bearing and gear life by minimising wear and shock loads
- Optimised zinc levels for wear protection
- Suitable for SAE 40
- For diesel, LPG, petrol & racing fuel types

### SPECIFICATIONS

- ✓ API SG/CD



## CLASSIC MINI

CLASMINI005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-50

### BENEFITS

- Excellent combined engine & gearbox lubrication for all classic Minis
- Smoother gear shift & excellent gear wear protection
- Stay-in-grade engine protection
- High zinc levels for wear protection
- Protects against rust & corrosion
- Suitable for SAE 30 & 20W-40
- For petrol & racing fuel types

### SPECIFICATIONS

- ✓ API SJ/CE
- ✓ CCMC G2
- ✓ MB 227.1
- ✓ MIL-L-2104D





## SHELSLEY LIGHT

SHELL005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-60

### BENEFITS

- Formulated to give improved low temperature pumpability
- Improves operating temperature wear protection
- Extends bearing and gear life by minimising wear and shock loads
- Optimised zinc levels for wear protection
- Suitable for SAE 30, 20W-40 & 20W-50
- For diesel, kerosene (paraffin) & petrol fuel types

### SPECIFICATIONS

- ✓ API SC/CC



## SHELSLEY MEDIUM

SHELM005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 25W-70

### BENEFITS

- Formulated to give improved low temperature pumpability
- Improves operating temperature wear protection
- Extends bearing and gear life by minimising wear and shock loads
- Optimised zinc levels for wear protection
- Suitable for SAE 40, 25W-50 & 25W-60
- For diesel, kerosene (paraffin) & petrol fuel types

### SPECIFICATIONS

- ✓ API SC/CC



## HERITAGE LTM

HERLTM005

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 30

### BENEFITS

- Non-detergent formulation for pre-1920s vehicles
- Contains modern additives to provide corrosion protection
- Improved water resistance
- Tacky additive provides increased storage protection
- For diesel, kerosene (paraffin) & petrol fuel types



## GEAR BOX OIL 30

GB30001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 20W-60

### BENEFITS

- Does not contain friction modifiers
- Will not cause overdrives & pre-selector bands to slip
- Does not contain EP additives
- Compatible with synchro cones & other metal parts
- Suitable for SAE 30

### SPECIFICATIONS

- ✓ API GL-1



## GEAR BOX OIL 40

GB40001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 25W-70

### BENEFITS

- Does not contain friction modifiers
- Will not cause overdrives & pre-selector bands to slip
- Does not contain EP additives
- Compatible with synchro cones & other metal parts
- Suitable for SAE 40 & SAE 50

### SPECIFICATIONS

- ✓ API GL-1



## MILD EP GEAR OIL

MILD001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 110

### BENEFITS

- Protects against wear
- Good anti-friction characteristics
- Compatible with copper alloy components
- Protects against corrosion
- Increased load carrying capacity
- Suitable for SAE 90 & SAE 140

### SPECIFICATIONS

- ✓ API GL-4



## TRANSOIL SAE 90

T90001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 90

### BENEFITS

- Does not corrode ferrous & non-ferrous materials
- Compatible with leather & synthetic rubber seals

### SPECIFICATIONS

- ✓ API GL-1



## TRANSOIL SAE 140

T140001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 140

### BENEFITS

- Does not corrode ferrous & non-ferrous materials
- Compatible with leather & synthetic rubber seals

### SPECIFICATIONS

- ✓ API GL-1



## TRANSOIL SAE 250

T250001

**BASE OIL:** Premium Mineral

**VISCOSITY:** SAE 250

### BENEFITS

- Does not corrode ferrous & non-ferrous materials
- Compatible with leather & synthetic rubber seals

### SPECIFICATIONS

- ✓ API GL-1



## SHOCKER OIL NO.1

SHOK10005

**BASE OIL:** Premium Mineral

### BENEFITS

- Replaces old style damper oil
- Specialised product for lever arm & piston type
- Formulated to exceed original requirements
- Green colour

### SPECIFICATIONS

- ✓ ISO 46



## SHOCKER OIL NO.2

SHOK20005

**BASE OIL:** Premium Mineral

### BENEFITS

- Replaces old style damper oil
- Specialised product for lever arm & piston type
- Formulated to exceed original requirements
- Green colour

### SPECIFICATIONS

- ✓ ISO 68



## SU DAMPER OIL

SUDAMP000150

**BASE OIL:** Premium Mineral

### BENEFITS

- Specifically formulated for dampers
- Convenient size & pouring mechanism
- Amber colour

### SPECIFICATIONS

- ✓ ISO 68





## SU DASHPOT OIL

SUDASH000150

**BASE OIL:** Premium Mineral

### BENEFITS

- Specifically formulated for dashpots
- Convenient size & pouring mechanism
- Amber colour

### SPECIFICATIONS

- ✓ ISO 15



## CLASSIC CAR COOLANT (CONCENTRATE)

VC1001

**TECHNOLOGY:** Type B

### BENEFITS

- Suitable for use in both hard & soft water
- Biodegradable & non-toxic
- Will not stain engine castings or radiator surrounds
- Overdosing will not cause corrosion or deposition
- Can lower running temperatures by 8-10°C cooler than glycol treatments
- 1L makes up to 15L
- Clear colour

### SPECIFICATIONS

- ✓ AS 2108-2004 Type B





*The Art of Cleaning*



**1961**

The Lightning brand was first registered for business by Werthiem Laboratories



**1978**

Under the Lightning name, the iconic Scrubber product was introduced to the market



**2004**

Continued growth necessitated the move to a larger premises in Altona



**1975**

The Lightning brand was acquired by Red Star Products



**1985**

Began pioneering the use of orange citrus in hand cleaners



**2018**

Penrite Oil Company acquired the Lightning brand name



# ABOUT US

Charles Goodall saw an opportunity in 1955 to start his own business from the backyard of his suburban house selling eucalyptus oil products. As the business grew, he moved to larger premises in Williamstown and at the same time acquired the Red Star business. Red Star was first registered in 1936 as a manufacturer of hand cleanser soap bars and as the retiring owners of the business knew Charles well, the transaction to sell the business was made.

His son, Leigh, joined the business in 1963 and continued the growth and evolution of the Red Star brand and in 1975, after taking over the reins of the business, Leigh acquired the Lightning brand of hand cleaner products.

In 1978, the popular and iconic Scrubber product was introduced to the market and it is still widely in use today.

In 1985, Leigh began pioneering the use of orange citrus in hand cleaners and as the business grew, he soon realised he had to move to larger premises. So in 2004, he moved to a new site in Altona and to this day, he has continued to be at the forefront of product innovation.

In 2018, the Penrite Group was given the opportunity to take over the Lightning brand and the inspiration is to make the Lightning name synonymous with cleaning, care & protection.



# HAND CARE & CLEANERS

Lightning hand care and cleaners offer a wide variety of solutions including scrubbers, jell and creams to meet your growing needs. Our hand care range expands from everyday use to industrial grade.

From the iconic Scrubber products to the newly developed Walnut Hand Scrub, our hand wash range has the strength to remove grease, oil, grime, paint, adhesives, and all other soils.

Together our Barrier Hand Cream and Revive Skin Conditioner act as the perfect hand care routine for your working hands. The Barrier Hand Cream acts as a barrier between the skin and hard soils while Revive Skin Conditioner helps prevent your hands from drying out and cracking.

## PRODUCTS

	LITRES/KILOGRAM							
	240mL	500mL/g	2L/Kg	3.5Kg	4L/Kg	19Kg	20L/Kg	20Kg BOX
Scrubber		•			•		•	•
Scrubber Lite							•	
Jell		•		•		•		
Citrajell					•		•	
Orange Pumice		•	•		•		•	
Lemon Pumice			•				•	
Eucalyptus Fresh		•	•				•	
Citrus Cream		•			•			
Walnut Hand Scrub (Tuffnut)	•		•		▲			
Botanical		•						
Barrier Hand Cream		•						
Revive Skin Conditioner		•						
<b>CARTON QUANTITY</b>	12	6	4	4	▲ x 2 • x 4			





## SCRUBBER

A heavy duty petroleum-based hand cleaner that quickly removes all types of hard industrial soils. It contains soaps, surfactants, mild solvents and high quality fine pumice plus emollients to help moisturise the skin.

### BENEFITS

- Heavy duty to clean and remove soil & grime
- High quality fine pumice abrasive
- Contains lanolin for skin care
- Citrus lemon fragrance

Note: Not suitable for use with pumps

500g - 390C

4Kg - 390I

20Kg - 390J

20Kg Box - 390BB



## SCRUBBER LITE

An easy to pump version of the popular Scrubber. It is a heavy duty petroleum-based hand cleaner that quickly removes all types of hard industrial soils. It contains soaps, surfactants, mild solvents and high quality fine pumice plus emollients to help moisturise the skin.

### BENEFITS

- Easy to pump formula
- Heavy duty to clean and remove soil & grime
- High quality fine pumice abrasive
- Contains lanolin for skin care
- Fresh citrus fragrance

20L - 397JP



## JELL

The original heavy duty petroleum-based hand cleaner quickly removes most types of hard industrial soils. It contains soaps, surfactants, mild solvents and citrus oil plus lanolin to moisturise the skin.

### BENEFITS

- Heavy duty to clean and remove soil & grime
- No abrasive & does not require rinsing
- Contains lanolin for skin care
- Fresh citrus fragrance

Note: Not suitable for use with pumps

500g - 052C

3.5Kg - 052I

19Kg - 052J





## CITRAJELL

A premium quality, heavy duty petroleum-based hand cleaner that contains pure citrus oils (d-limonene) quickly removes all types of hard industrial soils. It contains soaps, surfactants, mild solvents and high quality pumice plus lanolin to moisturise the skin.

### BENEFITS

- Heavy duty to clean and remove soil & grime
- High quality fine pumice abrasive
- Contains lanolin for skin care
- Fresh citrus fragrance

Note: Not suitable for use with pumps

4Kg - 395I

20Kg - 395J



## ORANGE PUMICE

A heavy duty hand cleaner that contains citrus oil and pumice quickly removes most types of hard industrial soils.

### BENEFITS

- Heavy duty to clean and remove soil & grime
- Contains fine pumice for quick & effective cleaning
- Added skin moisturiser
- Contains a natural citrus oil (d-limonene) & leaves a fresh orange fragrance
- Suitable for both hard & soft water areas

500mL - 899C

2L - 899F

4L - 899I

20L - 899J



## LEMON PUMICE

A non-petroleum, heavy duty hand cleaner that contains citrus oil and pumice to quickly and effectively cleanse the hands of grease, oil, dirt, and other spoils leaving them feeling fresh and supple. It contains no petroleum solvents or harsh alkalis so it will not dry out or crack the user's skin or leave unpleasant solvent odours. It contains selected conditioning agents and a non-persistent perfume to keep hands feeling fresh and free from irritation.

### BENEFITS

- Heavy duty to clean and remove soil & grime
- Fine pumice abrasive for more effective cleaning
- Free of petroleum solvents & harsh alkalis
- Citrus fragrance
- Biodegradable & non toxic

2L - LTLHC002

20L - LTLHC020



## EUCALYPTUS FRESH

A premium quality, heavy duty biodegradable hand cleaner that contains eucalyptus oil and quickly removes all types of hard industrial soils. It contains soaps, surfactants, mild solvents and high quality pumice plus lanolin to moisturise the skin.

### BENEFITS

- Heavy duty to clean and remove soil & grime
- High quality pumice abrasive
- Contains lanolin for skincare
- Pleasant eucalyptus fragrance
- Biodegradable

500mL - 820C

2L - 820F

20L - 820J



## CITRUS CREAM

A unique heavy duty hand cleaner that contains natural citrus oils (d-limonene) and lanolin that quickly removes most types of hard industrial soils. It is recommended for use as a commercial and domestic hand cleaner that doesn't contain pumice. It can be used for automotive workshops and service centres, marine, industrial, agriculture, mining and forestry industries.

### BENEFITS

- Heavy duty to clean and remove grease, carbon, rubber, soil & grime
- Contains no abrasive
- Contains lanolin for skincare
- Fresh citrus fragrance

500mL - 999C

4L - 999I



## WALNUT HAND SCRUB (TUFFNUT)

A heavy duty, biodegradable hand cleaner containing all natural abrasives with no harsh solvents. Formulated with surfactants, walnut shells and pumice to help exfoliate the skin and remove even the toughest soils. It contains mild cleansers and skin conditioners that are gentle and leave hands clean and smooth.

### BENEFITS

- Ideal for industrial & automotive shops
- Free from harsh solvents & gentle on the skin
- Formulated with surfactants
- Uses walnut shells & pumice to exfoliate the skin
- Contains mild cleansers and skin conditioners to leave hands clean & smooth
- Biodegradable
- Pleasant rainforest scent

Note: LTWSD (2L/4L Black Wall Mounted Dispenser)

240mL - LTWS240

2L - LTWS002

4L - LTWS004

2L/4L Dispenser - LTWSD



500mL - 063CBOT

## BOTANICAL

A liquid hand soap that is enriched with Australian Kakadu plum extracts, as well as sweet orange, and mandarin oils. It contains skin conditioners to keep hands hydrated. It is blended to gently and effectively clean, condition and nourish the skin without altering the skin's natural pH.

### BENEFITS

- Cleans & nourishes skin
- Suitable for wall top fill dispensers
- Pleasant botanical fragrance
- Contains Australian Kakadu plum extracts and sweet orange & mandarin oils



500mL - 055C

## BARRIER HAND CREAM

A hand protection cream that creates an insulating barrier between the skin and hard soils to help retain moisture and avoid skin irritations. It contains almond and avocado oils that make hands easier to clean, and vitamin E to prevent the skin from drying and cracking.

### BENEFITS

- Provides a protective barrier for the skin
- Contains vitamin E to soften & moisturise the hands
- Non-greasy formula that protects for hours
- Prevents skin irritations
- Utilises natural plant-based oils without added fragrances
- Makes hands easier to clean afterwards



500mL - 150C

## REVIVE SKIN CONDITIONER

An after-work skin repair hand cream that penetrates dry and chafed skin and softens damaged skin. It contains calendula oil and tea tree oil that offers gentle and soothing relief.

### BENEFITS

- Soothing relief for irritated skin
- Contains calendula oil to heal & moisturise the skin
- Rehydrates dry & damaged skin
- Safe for all over body protection





# CLEANERS & DEGREASERS

## PRODUCTS

	LITRES/KILOGRAM						
	250mL	500mL	4L	10L	20L	200L	205L
Tuff Cleaner/Degreaser (Concentrate)			•		•	•	
Tuff Cleaner/Degreaser (Ready to Use)		•	•	•			
Solvit Citrus Clean	•	•			•		
W66 Multi-Surface & Glass Cleaner		•			•		
ISD (Instant Solvent Degreaser)					•		
Solvent Degreaser					•		•
Parts Washing Fluid					•		
Brake & Parts Cleaner					•		
Bioclean					•		
<b>CARTON QUANTITY</b>	6	6	4				



## TUFF CLEANER/DEGREASER (CONCENTRATE)

A non-flammable, biodegradable, water-based, industrial-strength concentrated cleaner and degreaser that uses the natural cleaning power of citrus (d-limonene) and eucalyptus oils.

### BENEFITS

- Multi-purpose cleaning & degreasing
- Versatile cleaner for both inside & outside use
- Penetrates porous surfaces to remove grime
- Dissolves grease & oil-based stains on most surfaces

4L - 930N

20L - 930T

200L - 930BU



## TUFF CLEANER/DEGREASER (READY TO USE)

A ready to use, non-flammable, biodegradable, water-based, industrial-strength cleaner and degreaser that uses the natural cleaning power of citrus (d-limonene) and eucalyptus oils.

### BENEFITS

- Multi-purpose cleaning & degreasing
- Versatile cleaner for both inside & outside use
- Penetrates porous surfaces to remove grime
- Ready to use & no mixing required (prediluted at 25%)

500mL - 930C

4L - 931N

10L - 931V



## SOLVIT CITRUS CLEAN

A powerful, 100% natural cleaner and stain remover made from the extracts of orange peel and the distilled solvent from sugar cane. It has superior levels of active ingredients and does not use synthetic or perfume boosters for application or smell.

### BENEFITS

- Powerful fast-acting surfactants
- Multiple uses for cleaning & spot removing
- Pleasant orange fragrance
- Dissolves glue, wax, sap & gum

250mL - 260B

500mL - 260C

20L - 260T



500mL - 066C

20L - 066T

## W66 MULTI-SURFACE & GLASS CLEANER

A streak-free multi-surface and glass cleaner that is quick-drying and anti-static to repel dust and grime keeping surfaces cleaner for longer.

It is recommended for removing dust, dirt and grime from all the types of surfaces found in the home and workplace including kitchens, bathrooms, toilets, laundries, and other hard surface wet areas.

### BENEFITS

- Glass & multi-surface cleaner in one
- Streak-free cleaning
- Anti-static to repel dust & grime
- Safe for most surfaces



20L - 046T

## ISD (INSTANT SOLVENT DEGREASER)

A solvent-based ready to use general degreaser which is non-corrosive, non-caustic and contains a rust inhibitor.

It can be used in soaker tanks as well as a general degreaser for engine and parts cleaning where needed.

### BENEFITS

- Quick break formula for use in triple interceptors
- Quickly dissolves grease & oil from most surfaces
- Contains a rust inhibitor
- Low toxicity for safer handling



20L - MASD020

205L - MASD0205

## SOLVENT DEGREASER

A professional-strength, solvent-based degreaser that rapidly dissolves oil, grease, brake dust, silicone, and other contaminants. Its solvent base consists of a blend of emulsifying agents and petroleum hydrocarbons that rapidly breaks down oily residue, grease and sludge.

### BENEFITS

- Professional-strength
- Solvent base breaks down grease, oil & sludge with ease
- Fast-acting, non-corrosive formulation
- Cleans parts without the need for dismantling



20L - LTPWF020

## PARTS WASHING FLUID

A solvent-based, non-emulsifiable degreaser designed specifically for use in automotive and industrial parts washing machines. It quickly dissolves all petroleum-based oils and greases from ferrous & non-ferrous metals, most plastic and painted surfaces.

It is ideal for use in circulating, agitating, immersion & continuous parts washing machines, cleaning & soaker tanks.

### BENEFITS

- Dissolves grease & oil from most surfaces
- Excellent for use in parts washing machines
- Ideal as a soaker for parts cleaner



20L - MABAPC020

## BRAKE & PARTS CLEANER

A professional-strength, residue-free cleaner rapidly dissolves oil, grease, brake dust, silicone, and other contaminants on brake components. Surfaces are left clean and dry even after removing the most stubborn of contaminants.

### BENEFITS

- Professional-strength
- Evaporates completely without residue or staining
- Fast-acting & non-corrosive
- Cleans brake parts without the need for dismantling
- Cleans & degreases
- Free from aromatic or halogenated hydrocarbons



20L - BIOCLEA020

## BIOCLEAN

An industrial-strength, all purpose, heavy duty product that can be used as both a degreaser and detergent. It is water-based, biodegradable and phosphate-free, making it environmentally safer to use. It is also a quick-break detergent, allowing oil and water to separate making it easier to remove the oil/grease layer when used with oil/water separators, interceptor pits and oil traps.

### BENEFITS

- Water-based, non-flammable
- Biodegradable, quick-break formulation
- Effective degreaser & detergent
- Easy & economical to use; easy to rinse off
- Pleasant citrus fragrance
- Wide range of applications; suitable for most surfaces







# EUCALYPTUS DISINFECTANT



20L - 017T

A general and commercial-grade, heavy duty disinfectant. It contains fast-acting surfactants that provide exceptional performance and efficiency for cleaning and disinfecting. It is specifically formulated for use in cleaning and disinfecting all types of surface areas. Its biodegradable and phosphate-free formulation make it suitable for many applications including use in food preparation areas.

It is suitable for use on a wide range of surfaces such as tiles, painted surfaces, stainless steel, ceramic, plastic, laminated surfaces and aluminium. It can be used for cleaning and disinfecting of bathrooms, kitchens, laundries, showers, baths & sinks, toilets, rubbish bins, change rooms, urinals and drains.

#### **BENEFITS**

- Powerful fast-acting surfactants
- Multiple uses for cleaning & disinfecting
- Pleasant eucalyptus fragrance
- Cleans, deodorises & sanitises
- Suitable for food preparation areas
- Kills germs & bacteria







# BRITE METAL POLISH



A cream metal cleaner and polish that removes oxidation, tarnish and corrosion from metal surfaces. It contains specialised microcrystalline waxes to seal the polished surface and protect it from further oxidation.

Suitable for use on aluminium, chrome, copper, nickel, brass, stainless steel and silver. It can be used for marine, automotive, commercial and domestic use.

It is ideal for removing glazing and scratches on composite materials such as headlights. Excellent for vehicle chrome work where it removes built-up road grime.

## BENEFITS

- Wipe on wipe off, easy application with no residue
- Removes oxidation, tarnish & corrosion from surfaces
- Leaves surfaces with an extreme shine
- Suitable for most metals

90mL - 82390  
(Carton Qty: 6)

250mL - 823D  
(Carton Qty: 6)

Always test products on an inconspicuous area prior to direct application to a surface.



# ACCESSORIES & MAINTENANCE

## PRODUCTS

	LITRES/KILOGRAM			
	1 Unit	15Kg	20L/Kg	30 Units
TYRE SHINE			•	
QUICK RAG				•
POLISHING CLOTH	•			
ZSORB		•		
<b>CARTON QUANTITY</b>				12



20L - CCTS020

## TYRE SHINE

A long-lasting, rich, deep shine, "Wet Look" spray for the tyres. It simultaneously improves the appearance of the tyres and maintains and protects them from cracking, premature aging, brown discolouration and colour bleaching. It improves the appearance of the vehicle and gives it a finishing touch.

Can be used as a tyre maintenance product for all types of vehicle tyres. Suitable for passenger cars, 4WD's, light and heavy duty commercial vehicles. It is easy to apply and can last for several weeks depending on conditions.

### BENEFITS

- Cleans & protects tyres
- Stops tyres from prematurely aging & cracking
- Provides a professional job presentation
- Spray formulation for easy & even coverage
- Economical, quick & easy to use



30 Pack - LQR030

## QUICK RAG

Clean, soft and reusable microfiber cloths for use where a clean, dry and non-scratch cloth is needed for spills, wipe ups, and many other tasks.

It can be used for tasks such as vehicle polishing, window cleaning, wiping hands, wiping spills and general cleaning where a normal cloth rag was once used.

### BENEFITS

- Clean, dry & soft cloths
- Large 30cm x 30cm size
- Economical 30 per box size
- Convenient, washable & reusable
- Can be used wet or dry, with or without chemicals
- No hard edges that can scratch surfaces
- Highly absorbent for cleaning up spills
- Excellent for all types of cleaning jobs



1 Pack - LTPC

## POLISHING CLOTH

The ultra soft dual-sided 100% microfiber polishing cloth provides excellent results with no trace of lint, streaks or scratches.

It is ideal for use with Lightning Brite Metal Polish. The ultra absorbent microfibres remove polish and wax residues effortlessly, leaving an extreme shine.

### BENEFITS

- Large 30cm x 40cm size
- Lint & scratch-free design
- Washable & reusable
- Designed especially for polishing producing an extreme shine





15Kg - ZSORB

## ZSORB

An all natural, environmentally friendly industrial oil absorbent product with no free crystalline silica. Absorbs most liquids including acids, alkalis, oils, chemicals and petroleum products. It also absorbs vapours and fumes.

Can be used as a sweeping compound, removing traces of oil and chemicals on concrete and asphalt. An inert, natural absorbent for almost any liquid spill, leaving minimal residual, quick and easy to clean up.

### BENEFITS

- Non-toxic & organic
- Absorbs most liquids
- Natural & environmentally friendly
- Contains no free crystalline silica
- Quick & easy to use



## PUMPS & TAPS

Easily decant a range of Lightning products with these specially designed pumps and taps.

No need to open lids with these easy to use hand pumps designed for Lightning products.

CODE	SIZE	USED FOR
TAP58MM	58mm Tap	Universal Application
LSSS550	Soap Scrape Stick	Universal Application
TAP	13mm Bung Tap	Universal Application
702P	20Kg Tin Pump	397JP
705P	20L Drum Pump	899J / 999J / 820J / LTLHC020





# CAR & TRUCK WASH



4L - 501N  
(Carton Qty: 4)

## FLASH WASH

A biodegradable, non-phosphate concentrated vehicle wash designed to remove all soils on vehicle paintwork and chassis. It contains a water soluble wax and fluoropolymer to give a residual shine and protective coating that helps prevent re-soiling of the surfaces for a freshly washed look that lasts longer. It also has a built-in rust inhibitor to protect all metal surfaces from corrosion.

### BENEFITS

- Biodegradable, phosphate-free formulation
- Contains a rust inhibitor for metal protection
- Leaves surfaces shining
- Works in all pressure wash systems

20L - 501T



20L - DETCTW020

## MULTI-PURPOSE WASH

A heavy duty, multi-purpose, biodegradable, detergent cleaner, capable of cleaning the most heavily soiled vehicles. Its unique formulation will not cause damage or streaking to the paintwork. It is safe to use on all modern automotive paintwork finishes and will not harm aluminium, vinyl, rubber, glass or fibreglass. It is pH neutral and free of phosphate and salt, making it environmentally safer to use. It is also a quick-break detergent, allowing oil and water to separate, making it easier to remove the oil/grease layer when used with oil/water separators, interceptor pits and oil traps.

### BENEFITS

- Water-based & non-flammable
- Biodegradable, quick-break formulation
- pH neutral, phosphate & salt-free
- Easy & economical to use
- Capable of heavy duty cleaning
- Wide range of usage







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10 Tenths Racing 20  
10 Tenths Racing Running-In Oil  
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350,000KM Green Coolant (Premix)

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Convoy Mono Truck 40  
Convoy Mono Truck 50  
Convoy Synfleet 40  
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CVT Fluid Low Viscosity  
CVT Fluid V

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## P

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P26 Multi-Purpose MoS2 Lubricant  
P26 Petrol Foaming Intake Cleaner  
P26 Throttle Body & Carb Cleaner  
Parts Washing Fluid  
PAS Fluid  
PenBlue  
Penrite 4297  
Petrol Fuel Stabiliser  
Petrol Injector Cleaner  
Petrol Total System Cleaner  
PGXL Coolant (Premix)  
Pneumatic Tool Oil  
Polishing Cloth  
Power Sports Coolant (Premix)  
Power Sports Grease  
Power Steering Fluid  
Power Steering Stop Leak  
Pro 5  
Pro 10  
Pro 15 Plus  
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Quick Rag

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Silicone Brake Fluid  
Small Engine 4 Stroke 10W-30  
Small Engine 4 Stroke SAE 30  
Soluble Oil  
Solvent Degreaser  
Solvit Citrus Clean  
SU Damper Oil  
SU Dashpot Oil  
Super DOT 4 Brake Fluid

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Tractor Transmission & Hydraulic Oil  
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Trans Gear 75W-90  
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Transoil SAE 140  
Transoil SAE 250  
Tuff (Concentrate)  
Tuff (Ready to Use)  
Tyre Shine

## U

Universal Farm Oil  
Universal Top Up Coolant (Premix)

## V

Valve Shield

## W

W66 Multi-Surface & Glass Cleaner  
Walnut Hand Scrub (Tuffnut)  
White Grease

## Z

Zsorb

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## AUSTRALIAN HEAD OFFICE

110-116 Greens Road,  
Dandenong South VIC 3175  
Australia

PH: 1300 736 748  
FAX: 1800 736 748  
INT: +61 (0)3 8710 6600

WEBSITE  
[www.penriteoil.com.au](http://www.penriteoil.com.au)

## AUSTRALIA TECHNICAL & CUSTOMER SERVICE

PH: **1300 PENRITE** (1300 736 748)

Monday - Friday  
8:00am - 5:30pm (Australian Eastern Standard Time)

**SALES AND CUSTOMER SERVICE EMAIL**  
[sales@penriteoil.com.au](mailto:sales@penriteoil.com.au)

**TECHNICAL ENQUIRY EMAIL**  
[lubetech@penriteoil.com.au](mailto:lubetech@penriteoil.com.au)

## OTHER AUSTRALIAN STATE OFFICES

### New South Wales

9 Widemere Road,  
Wetherill Park NSW 2164

### Queensland

172 Magnesium Drive,  
Crestmead QLD 4132

### South Australia

491 Cross Keys Road,  
Cavan SA 5094

### Western Australia

5 Reggio Road,  
Kewdale WA 6105

### Northern Territory

Cnr Hidden Valley & Beaton Roads,  
Berrimah NT 0828

### Australian Capital Territory

Building 3/34-42 Sheppard Street,  
Hume ACT 2609

### Tasmania

14-18 Linear Court,  
Derwent Park TAS 7009

## NEW ZEALAND HEAD OFFICE

75 Lady Ruby Drive,  
East Tamaki, Auckland 2013  
New Zealand

PH: 0800 533 698  
FAX: 0508 736 748

## NEW ZEALAND TECHNICAL & CUSTOMER SERVICE

PH: 0800 533 698

Monday - Friday  
8:00am - 5:30pm (Australian Eastern Standard Time)

**SALES AND CUSTOMER SERVICE EMAIL**  
[sales@penriteoil.com.au](mailto:sales@penriteoil.com.au)

**TECHNICAL ENQUIRY EMAIL**  
[lubetech@penriteoil.com.au](mailto:lubetech@penriteoil.com.au)



### When calling customer service to place an order you will need:

- Account Number
- Product Name or Part Number

Our Melbourne, Victoria based technical team proudly  
boasts a collective industry experience of well over 40  
years. Your technical inquiry is in the best hands.

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**MY PENRITE REPRESENTATIVE IS:** .....

**CONTACT ON**

**PHONE:** .....

**EMAIL:** .....

**YOUR ACCOUNT NUMBER:** .....



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