

90TH ANNIVERSARY COMMEMORATIVE EDITION: VERSION #2



Celebrating
90
Years

**PRODUCT
CATALOGUE**



PENRITE OIL INFORMATION 1



ENGINE OILS 23



UNDERSTANDING & INTRODUCTION 23 - 39

HPR 40 - 44

| | |
|---------------|----|
| HPR 0 | 40 |
| HPR 5 | 40 |
| HPR 10 | 41 |
| HPR 15 | 41 |
| HPR 30 | 42 |
| HPR 40 | 42 |
| HPR 50 | 42 |
| HPR Diesel 5 | 43 |
| HPR Diesel 10 | 43 |
| HPR Diesel 15 | 43 |
| HPR Diesel | 43 |
| HPR Gas 10 | 44 |
| HPR Gas | 44 |

ENVIRO+ 45 - 48

| | |
|------------------------|----|
| Enviro+ Hybrid 0W-16 | 45 |
| Enviro+ 0W-20 | 45 |
| Enviro+ 5W-20 | 45 |
| Enviro+ 5W-30 | 46 |
| Enviro+ GF-5 | 46 |
| Enviro+ DL-1 | 46 |
| Enviro+ C-2 NEW | 47 |

| | |
|------------------------------------|----------------|
| Enviro+ C-3 NEW FORMULATION | 47 |
| Enviro+ C-4 | 47 |
| Enviro+ 5W-40 | 48 |
| 10 TENTHS | 49 - 51 |
| Racing 0 | 49 |
| Racing 5 | 49 |
| Racing 10 | 49 |
| Racing 15 | 50 |
| Racing 20 | 50 |
| Running-In Oil | 50 |
| Race Castor Oil | 50 |
| Premium 0 | 51 |
| Premium 5 | 51 |
| Premium 10 | 51 |
| EVERYDAY | 52 - 54 |
| Premium Mineral 5W-30 | 52 |
| Premium Mineral 10W-30 | 52 |
| Premium Mineral 15W-40 | 52 |
| Premium Mineral 20W-50 | 53 |
| Stops Oils Burning 30-70 | 53 |
| Semi Synthetic 5W-40 | 53 |
| Semi Synthetic 10W-40 | 53 |
| Semi Synthetic 15W-40 | 54 |
| Full Synthetic 5W-30 NEW | 54 |
| Full Synthetic 10W-40 NEW | 54 |
| PRO WORKSHOP | 55 - 57 |
| Pro 5 | 55 |
| Pro 10 | 55 |
| Pro Extra | 56 |
| Pro 15 Plus | 56 |
| Pro 20 | 57 |
| HEAVY DUTY | 58 - 60 |
| Diesel HD | 58 |

| | |
|-------------------------------------|----|
| Diesel FX | 58 |
| Multifleet Diesel 15W-40 NEW | 59 |
| Enviro+ HD 5W-30 | 59 |
| Enviro+ 10W-40 | 59 |
| Mono Truck 30 | 60 |
| Mono Truck 40 | 60 |
| Mono Truck 50 | 60 |

AUTOMATIC TRANSMISSION FLUIDS 61



UNDERSTANDING & INTRODUCTION 61 - 64

| | |
|-----------------------------|----|
| ATF LV (Multi Vehicle) | 65 |
| ATF FS (Multi Vehicle) | 65 |
| ATF MHP (Multi Vehicle) | 65 |
| ATF DX-III (Multi Vehicle) | 66 |
| DCT Fluid (Multi Vehicle) | 66 |
| CVT Fluid V (Multi Vehicle) | 66 |
| ATF 33 (Type F) | 66 |
| Classic ATF | 67 |
| ATF Top Up | 67 |

MANUAL GEAR / DIFFERENTIAL 68



UNDERSTANDING & INTRODUCTION 68 - 71

| | |
|----------------------|----|
| Pro Gear 70W-75 | 72 |
| Pro Gear 75W-85 | 72 |
| Pro Gear GL-5 75W-85 | 72 |
| Pro Gear 75W-90 | 73 |
| Pro Gear 80W-140 | 73 |
| Pro Gear 85W-110 | 73 |
| Gear Oil 80W-90 | 74 |



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| | |
|--|-----------|
| Gear Oil 85W-140 | 74 |
| Gear Oil 140 | 74 |
| Trans Gear 75W-80 | 75 |
| Trans Gear 75W-90 | 75 |
| HD Gear Oil 80W-90 | 75 |
| HD Gear Oil 85W-140 | 75 |
| HDPS Fluid (Honda Dual Pump System) | 75 |
| COOLANTS | 77 |



| | |
|--|----------------|
| UNDERSTANDING & INTRODUCTION | 77 - 80 |
| 8 Year 500,000km Red Concentrate | 81 |
| 8 Year 500,000km Red Premix | 81 |
| 7 Year 450,000km Green Concentrate | 81 |
| 7 Year 450,000km Green Premix | 81 |
| 7 Year 450,000km Blue Concentrate | 82 |
| 7 Year 450,000km Blue Premix | 82 |
| 350,000km Green Concentrate | 83 |
| 350,000km Green Premix | 83 |
| Universal Coolant Top Up Premix | 83 |
| PGXL Coolant Premix (Propylene Glycol) | 83 |
| HD Longlife ECO1 AFAB Concentrate | 83 |
| HD Longlife ECO1 AFAB Premix | 83 |
| RCI 100 Concentrate | 84 |
| Classic Car Coolant Concentrate | 84 |
| 10 Tenths Race Coolant Inhibitor Concentrate | 84 |
| Coolant Test Strips | 84 |
| MOTORCYCLE | 86 |



| | |
|---------------------|-----------|
| INTRODUCTION | 86 |
|---------------------|-----------|

| | |
|--|-----------|
| MC-4ST 5W-40 (100% PAO & Ester) | 87 |
| MC-4ST 10W-40 (100% PAO & Ester) | 87 |
| MC-4ST 10W-60 (100% PAO & Ester) | 87 |
| MC-4ST 15W-50 (100% PAO & Ester) | 88 |
| MC-4ST V-TWIN 20W-50 (100% PAO & Ester) | 88 |
| MC-4ST Full Synthetic 10W-40 | 88 |
| MC-4ST Semi Synthetic 10W-30 | 89 |
| MC-4ST Semi Synthetic 10W-50 | 89 |
| MC-4ST Semi Synthetic 15W-50 | 89 |
| MC-4ST Premium Mineral 15W-50 | 89 |
| MC-4ST Premium Mineral 20W-50 | 90 |
| MC-4ST Premium Mineral HD-50 | 90 |
| Enduro 25W-70 (Classic Range) | 91 |
| HD Oil 50-70 (Classic Range) | 91 |
| MC-2ST Full Synthetic | 91 |
| MC-2ST Semi Synthetic | 91 |
| 10 Tenths KO2ST Karting NEW | 92 |
| Motorcycle Gear Oil (MC GO) | 92 |
| MC Fork Oil 5 | 92 |
| MC Fork Oil 10 | 92 |
| MC Fork Oil 15 | 92 |
| Chain Lube Road | 93 |
| 10 Tenths Chain Lube Race | 93 |
| 10 Tenths Chain Cleaner | 93 |
| 10 Tenths Foam Filter Oil | 93 |
| 10 Tenths Foam Filter Cleaner | 93 |
| MARINE | 95 |



| | |
|-----------------------------|-----------|
| INTRODUCTION | 95 |
| Biomarine Outboard 2 Stroke | 96 |
| Marine Outboard 2 Stroke | 96 |

| | |
|---|------------------|
| PENRITE OIL INFORMATION | 1 - 22 |
| ENGINE OILS | 23 - 60 |
| AUTOMATIC TRANSMISSION FLUIDS | 61 - 67 |
| MANUAL GEAR / DIFFERENTIAL | 68 - 76 |
| COOLANTS | 77 - 85 |
| MOTORCYCLE | 86 - 94 |
| MARINE | 95 - 99 |
| SMALL ENGINE | 100 - 102 |
| POWER STEERING & SUSPENSION FLUIDS | 103 - 106 |
| ADDITIVES & FUEL TREATMENTS | 107 - 114 |
| CAR CARE & MAINTENANCE | 115 - 121 |
| BRAKE FLUIDS | 122 - 125 |
| INDUSTRIAL | 126 - 135 |
| GREASES | 136 - 146 |
| VETERAN, VINTAGE & CLASSIC | 147 - 159 |
| CONTACT INFORMATION | 160 |
| APPLICATION FOR CREDIT ACCOUNT | 161 |

| | |
|---------------------------------|----|
| Marine Outboard 4 Stroke 10W-30 | 96 |
| Marine Outboard 4 Stroke 10W-40 | 97 |
| Marine Inboard 4 Stroke 25W-40 | 97 |
| Marine Diesel 15W-40 | 97 |
| Marine Gear Oil 75W-90 | 98 |
| Marine Gear Oil SS150 | 98 |
| Marine Gear Oil SS300 | 98 |
| Marine Grease | 98 |

| | |
|---------------------|------------|
| SMALL ENGINE | 100 |
|---------------------|------------|



| | |
|------------------------------|------------|
| INTRODUCTION | 100 |
| Small Engine 4 Stroke 10W-30 | 101 |



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| | |
|---|------------|
| Small Engine 4 Stroke 20W-50 | 101 |
| Small Engine 4 Stroke SAE 30 | 101 |
| Small Engine Greenkeepers 2 Stroke | 101 |
| Small Engine Hi-Per 2 Stroke | 102 |
| Chain Saw Bar Oil | 102 |
| POWER STEERING & SUSPENSION FLUIDS | 103 |



| | |
|--|------------|
| INTRODUCTION | 103 |
| Power Steering Fluid | 104 |
| PAS Fluid (Power Assisted Steering Fluid) | 104 |
| HPSO (Honda Power Steering Oil) | 104 |
| LDAS | 105 |
| LHM Plus | 105 |
| MB15 Suspension Fluid | 106 |
| Power Steering Trade Pack NEW | 106 |

| | |
|--|------------|
| ADDITIVES & FUEL TREATMENTS | 107 |
|--|------------|



| | |
|-----------------------------|------------|
| INTRODUCTION | 107 |
| Engine Flush | 108 |
| Engine Stop Leak | 108 |
| Radiator Flush | 108 |
| Radiator Stop Leak | 108 |
| Petrol Injector Cleaner | 109 |
| Petrol Fuel Stabiliser | 109 |
| Petrol Total System Cleaner | 109 |
| Octane Booster | 110 |
| Valve Shield | 110 |
| Diesel Injector Cleaner | 111 |
| Diesel Fuel Stabiliser | 111 |

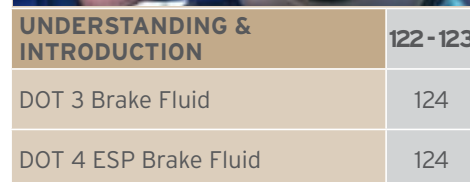
| | |
|---|-----|
| Diesel Total System Cleaner | 111 |
| Enviro+ DPF Cleaner | 111 |
| Diesel Biocide Fuel Treatment | 111 |
| Penblue (AdBlue®) | 112 |
| Auto Trans Stop Leak | 113 |
| Power Steering Stop Leak | 113 |
| Penrite 4297 (Transmission Additive) | 113 |
| Limslip Additive | 113 |

| | |
|-----------------------------------|------------|
| CAR CARE & MAINTENANCE | 115 |
|-----------------------------------|------------|



| | |
|-------------------------------------|------------|
| INTRODUCTION | 115 |
| P26 Multi-Purpose MoS2 Lubricant | 116 |
| P26 Multi-Purpose Degreaser | 116 |
| P26 Throttle Body & Carb Cleaner | 116 |
| P26 Brake & Parts Cleaner | 116 |
| Brake & Parts Cleaner | 116 |
| Clear Screen | 117 |
| Wheel Rim Cleaner | 117 |
| Instant Insect Remover NEW | 117 |
| Instant Car Wash NEW | 118 |
| Instant Tyre Shine NEW | 118 |
| Instant Shine Detailer NEW | 118 |
| Instant Odour Eliminator NEW | 118 |
| Instant Dash Protectant NEW | 119 |
| Solvent Degreaser NEW | 119 |
| Tyre Shine | 119 |
| Bio Clean | 120 |
| Hand Cleaner NEW | 120 |
| Glass Cleaner | 120 |
| Interior Cleaner | 120 |
| Multi-Purpose Wash | 120 |

| | |
|---------------------|------------|
| BRAKE FLUIDS | 122 |
|---------------------|------------|



| | |
|---|------------------|
| UNDERSTANDING & INTRODUCTION | 122 - 123 |
| DOT 3 Brake Fluid | 124 |
| DOT 4 ESP Brake Fluid | 124 |
| Super DOT 4 Brake Fluid | 124 |
| DOT 5.1 Brake Fluid | 125 |
| 10 Tenths Racing Brake Fluid | 125 |
| Silicone Brake Fluid NEW | 125 |
| LHM Plus | 125 |


| | |
|-------------------|------------|
| INDUSTRIAL | 126 |
|-------------------|------------|





| | |
|---|------------------|
| UNDERSTANDING & INTRODUCTION | 126 - 127 |
| Indus Pro Hydraulic ISO 10 | 128 |
| Indus Pro Hydraulic ISO 22 | 128 |
| Indus Pro Hydraulic ISO 32 | 128 |
| Indus Pro Hydraulic ISO 46 | 128 |
| Indus Pro Hydraulic ISO 68 | 128 |
| Indus HV 15 (Hydraulic Oil) | 128 |
| Indus HV 32 (Hydraulic Oil) | 128 |
| Indus HV 46 (Hydraulic Oil) | 128 |
| Indus HV 68 (Hydraulic Oil) | 128 |
| Indus HV 100 (Hydraulic Oil) | 128 |
| Indus MR 68 (Hydraulic Oil) | 128 |
| Harvester Hydraulic Oil NEW | 129 |
| Universal Farm Oil (STOU) | 129 |
| Tractor Transmission & Hydraulic Oil | 129 |
| FD-01 Fluid (Final Drive (CAT) SAE 60) | 129 |
| Synfleet 50 | 130 |



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| | |
|--|----------------|
| Indus Compressor Oil 2KH ISO 68 | 130 |
| Indus Compressor Oil 2KH ISO 100 | 130 |
| Indus Compressor Oil 4KH ISO 46 | 130 |
| Indus Compressor Oil 4KH ISO 68 | 130 |
| Rockslide ISO 68 | 131 |
| Rockslide ISO 150 | 131 |
| Rockslide ISO 320 | 131 |
| Indus TM 46 (Turbine Oil) | 131 |
| HTO 32 (Heat Transfer Oil) | 131 |
| HTO 68 Plus (Heat Transfer Oil) | 131 |
| HTO 100 (Heat Transfer Oil) | 131 |
| Fleet-Gear 10 | 132 |
| Fleet-Gear 30 | 132 |
| Fleet-Gear 50 | 132 |
| Indus Gear EP 150 | 132 |
| Indus Gear EP 220 | 132 |
| Indus Gear EP 320 | 132 |
| Indus Gear EP 460 | 132 |
| Indus Indgear B220 | 132 |
| Indus Indgear B320 | 132 |
| Indus Indgear B460 | 132 |
| Indus Gear Syn 220 | 133 |
| Indus Indgear MP90 | 133 |
| Hydraulic Jack Oil | 134 |
| Soluble Oil | 134 |
| Honing Oil | 134 |
| Cyl Oil Mineral 900 | 134 |
| GREASES | 136 |
|  | |
| UNDERSTANDING & INTRODUCTION | 136-138 |
| High Temperature Wheel Bearing Grease | 140 |

| | |
|--|----------------|
| 10 Tenths Power Sports Grease | 140 |
| Marine Grease | 140 |
| Heavy Duty Bearing Grease | 141 |
| ACT Grease XEP2 | 141 |
| Indgrease 100LX EP2 | 141 |
| Indgrease Moly HT | 141 |
| CV Joint Grease NEW | 142 |
| Extreme Pressure Grease | 142 |
| Molygrease EP 3% | 142 |
| Semi Fluid Grease | 142 |
| Indgrease Lith EP0 | 143 |
| Indgrease Lith EP2 | 143 |
| Indgrease Lith R3 | 143 |
| Cam Assembly Lube | 143 |
| Indgrease 1615WR | 144 |
| Indgrease CX 152WR | 144 |
| Graphite Grease | 144 |
| Water Pump Grease | 144 |
| QCA Grease MX9 | 145 |
| Indgrease CXOG-05 | 145 |
| Copper Eze | 145 |
| Rubber Grease | 146 |
| Indgrease BM3 | 146 |
| VETERAN, VINTAGE & CLASSIC | 147 |
|  | |
| UNDERSTANDING & INTRODUCTION | 147-150 |
| Classic Light | 151 |
| Classic Medium | 151 |
| Classic Heavy | 151 |
| Classic V-Dub NEW | 151 |
| Classic Mini | 152 |

| | |
|---|------------|
| Shelsley Light | 152 |
| Shelsley Medium | 152 |
| Shelsley Heavy | 152 |
| Heritage LTM | 153 |
| Heritage MTH | 153 |
| Enduro 25W-70 (Motorcycle) | 153 |
| HD Oil 50-70 (Motorcycle) | 153 |
| Classic ATF | 154 |
| Shocker Oil No.1 | 154 |
| Shocker Oil No.2 | 154 |
| SU Dashpot Oil | 155 |
| SU Damper Oil | 155 |
| Gear Box Oil 30 | 155 |
| Gear Box Oil 40 | 155 |
| Transoil 90 | 156 |
| Transoil 140 | 156 |
| Transoil 250 | 156 |
| Mild EP Gear Oil | 157 |
| Classic Car Coolant Concentrate | 157 |
| Steering Box Lube | 158 |
| Cam Assembly Lube | 158 |
| Graphite Grease | 158 |
| Rubber Grease | 158 |
| Copper Eze | 159 |
| Water Pump Grease | 159 |
| CONTACT INFORMATION | 160 |
|  | |
| APPLICATION FOR CREDIT ACCOUNT | 161 |
|  | |



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A BETTER CLASS OF OIL FOR OVER 90 YEARS...

LES MECOLES: 1926 - 1979



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.



PACKAGING & BLENDING PLANT

JOHN DYMOND (AKA "JD"): 1979 - 2006



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.

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.



EAST BRUNSWICK HEAD OFFICE

THE GROWTH OF THE BRAND

In 1981, Penrite launched a new range of premium multi-grade 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, Southeast 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 44 gallon 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.

Today, Penrite continues to be 100% Australian owned and managed by Toby and Nigel Dymond from Melbourne, continuing on the core values and philosophy of the business.

IN MEMORY OF MARK DYMOND: 1959 - 2002



Mark, the eldest of John's 9 children, joined his father at Penrite, in the early 80's. He was an extremely capable man and like everybody at Penrite at that time, performed a variety of tasks, including the maintenance of the plant and construction of the first filling machine. He oversaw the company's interstate expansion and when the East Brunswick plant was outgrown, he supervised the building of the Wantirna plant. Mark established Penrite's presence at the race track, frequently on the podium at historic car and motorcycle events.

Sadly, he lost his battle with cancer in 2002. His contribution and legacy to Penrite will always be remembered.



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LOGO HISTORY



1930's



1950's



1960's



1980's



1990's

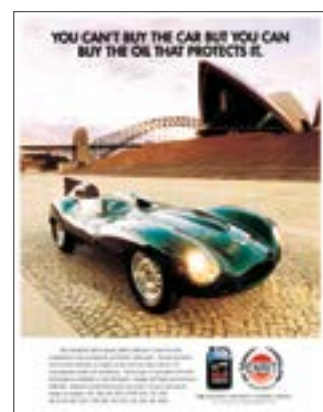


2000's



Current

EARLY ADVERTISING MATERIAL



**JOHN & MARK DYMOND**

A MESSAGE FROM THE GENERAL MANAGERS

NIGEL DYMOND: General Manager - Operations



I started at Penrite in 1981, two years after John and Margaret bought the business, working in production. Here I learnt and understood very quickly that product quality and innovation was indeed the foundation of Penrite's philosophy. Working in production was not my destiny, so I went back to university and obtained a Bachelor Degree in accounting.

When I returned, I began to apply my learnings. I shared a small office with John. We didn't have much office space in those days, so John was up the front and I was out the back.

I heard him talk a lot about many things including product quality, product innovation and the importance of listening to the customer. I like to think I learnt a lot from those days! Not only was the quality of the product important but equally the necessity to provide exceptional customer service.

I like to think that the many years of service has imbedded the qualities John brought to the business; the importance of a quality product, to be a fearless innovator, to work with customers and to work with integrity.

With such a sound base, I am really looking forward to the future. Our plans to take the organisation and products into more countries and industries are truly exciting.

**JOHN, NIGEL & MARK DYMOND**

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TOBY DYMOND:
General Manager - Sales & Marketing



I followed in the footsteps of my late father, John, and studied Mechanical Engineering in Melbourne. After receiving my degree, I was employed as a Design Engineer for General Motors. During this time, I continued studying, receiving a Masters of Business Administration (MBA).

Utilising my qualifications, I travelled internationally working for a number of blue chip insurance companies and banks.

I joined Penrite in 2011, as General Manager - Sales & Marketing, committed to our on-going success in R&D, product innovation, manufacturing quality products and working closely with customers. We have always had the philosophy to solve problems, develop solutions and completely satisfy our customers and that will continue under my leadership. I enjoy working closely with our customers and staff. I regularly visit customer retail stores and mechanical workshops in regional and metro townships to receive feedback as to how we can improve.

We also have an engaged and passionate workforce that helps drive our daily successes and long term vision for the business. I am a big believer in staff and customer training including technical education.



Outside work, I enjoy spending time with my family and being involved in motorsport. I continue to ride motorcycles and participate in car racing events throughout Australia.



THE DYMOND FAMILY



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THE PENRITE TEAM

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%.



THE SALES DEVELOPMENT TEAM

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. We changed GT50 to HPR 50, GT30 to HPR 30 and introduced HPR Turbo, HPR Diesel, HPR GAS plus we painted all our 44 gallon drums to a single blue colour.

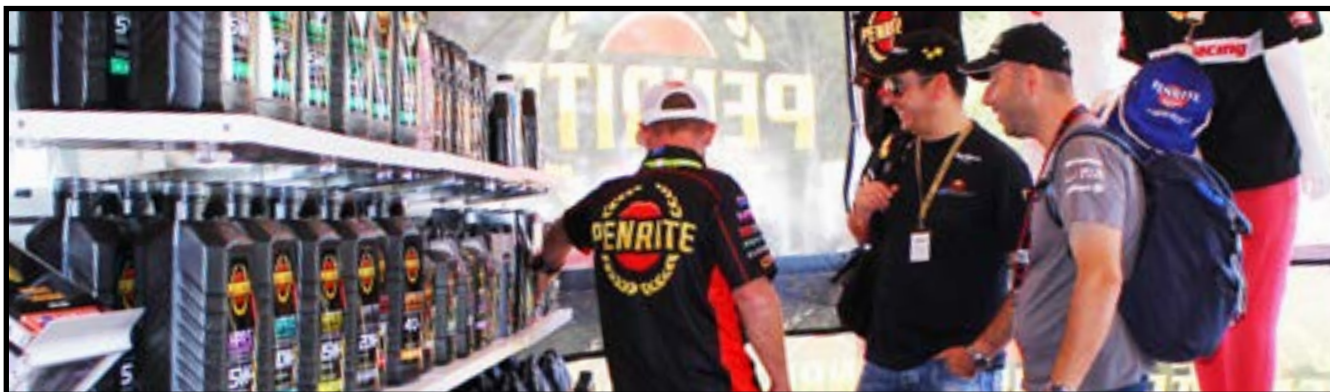
Retail packaging was then introduced in the mid 1980's and it had immediate success in many small independent service stations and retail stores. The packaging was unique at the time with a gold metallic label on the bottle. The labels were simple in design but had a clear message that all products were Australian made and owned, which was a key point of difference at the time. I spent time labelling and packaging oil with my family to help out when we were busy so we could get the product to the customer on time.

Throughout the 1990's and 2000's, the biggest change to my job has been the introduction of new technology with faxes, mobile phones, emails and social media. Technology has changed how we process sales orders or how we market the business but I still love my trusted pen and notepad. All my orders still go into the notepad when I visit my customers and they all joke that this my version of the latest iPad technology.

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.



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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 speciality 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.

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.



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**1963 AC ACE RUDDSPED SPORTS**

KEN BEDGGOOD: Penrite Racing Team



I joined Penrite in 1991 to work with Mark and John Dymond restoring their private classic car and motorcycle collection that had been built up over the many years.

John had a keen eye for classic cars and knew a good car when he saw it. The collection can be traced back to John's early adulthood days in England where he would visit Formula 1 and Hill Climbing circuits in the 1950's including Silverstone, Brands Hatch and Shelsley Walsh. Shelsley Walsh is the world's oldest operational

motorsport venue and John even named one of his classic oils - Shelsley after the famous venue. He loved motorsport and going on weekends to see famous drivers like Sir Jack Brabham and Sterling Moss; watching engineers and mechanics working on race and sports cars including Alfa Romeo, Ferrari, Lola, Lotus, AC, MG, Frazer Nash, Triumph, Bentley, Aston Martin and many more.



John, as a Mechanical Engineer, designed gearboxes and engines for Vauxhall, hence his passion for Vauxhall. When he moved to Australia with Margaret, he fell in love with the race and hill climbing circuits in Australia and New Zealand including Philip Island, Rob Roy and Teretonga. He had great respect for the Australian designed and manufactured Cheetah and Elfin Sports and Racing cars, so he had to have a few of those in the collection.

John was very well respected within the classic and automotive scene. He believed race and sports cars should be enjoyed and used as they were intended

**1960 MK1 LOLA SPORTS****1934 FRAZER NASH**

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1983 MK 8 CHEETAH FORMULA ATLANTIC

to be designed. There are over 10 original race cars in the collection that are used in classic racing events throughout Australia under Team Penrite including a 1960 MK1 Lola Sports 1220cc, 1966 BT16 Brabham 1600cc, 1970 Elfin 600 Repco Brabham V8 2500cc, 1983 MK 8 Cheetah Formula Atlantic 1600cc and an Elfin Sports Clubman. There is also a collection of original classic motorcycles and cars for touring including a 1914 FN Single Cylinder, 1970 Petty Manx 500cc Norton, 1951 500cc BSA, 1922 Vauxhall 30/98 4500cc, 1938 BMW 328 Sports 2000cc, 1959 Aston Martin DB4 Coupe 4200cc and 1963 AC Ace Ruddspeed Sports 2600cc.

The AC (Auto Carriers) Ace is a favourite amongst the collection and is one of only 37 ever built. Designed with a 2.6L Ford Zephyr engine and tuned by AC works driver Ken Rudd, it is the rarest of the three different engines fitted for the AC Ace. It is often referred to as a crossover car between the original AC Ace and the Shelby Cobra that was designed to compete with the Chevrolet Corvette.

Our passion for classic cars and motorcycles is one of the major reasons why we still continue to develop and produce the most extensive range of engine oils and speciality products for classic applications. These oils are often referred to as classic oils but we made these oils when these cars were modern.



1914 FN SINGLE CYLINDER



1938 BMW 328 SPORTS



1973 LOLA FORMULA FORD



ABOUT PENRITE

COMPANY INFORMATION

Penrite Oil Company is an Australian independent international lubricants company established in 1926. It is privately owned. Head Office is located in Wantirna South, Melbourne, Australia, with other major offices in Sydney, Brisbane, Adelaide, Perth and Auckland, New Zealand and Bristol, United Kingdom, exporting to over 50 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, storage and distribution methodologies and is a signatory to the Australian Packaging Covenant.



The Covenant Ensures:

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

BRAND

A premium, high quality and trusted brand that manufactures the right product for every application. Known as "A Better Class of Oil", Penrite is voted Number 1 by independent mechanics and major customers as a supplier of choice.

VISION

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

MISSION

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



KEY FACTS

- Number of Employees: 150+
- Customer Satisfaction: 97%
- Employee Satisfaction: 96%
- Number of Direct Customers: 6000+
- Export Countries: 35+
- Blending Plants: 3
- Blending Capacity: 40 Million Litres
- Blending Method: Hot
- Distribution Centres: 22
- Delivery Promise: Within 24-48 Hours
- DIFOT: 99.3%
- Products: 170+
- OEM (Original Equipment Manufacturer) Warranty Approvals: Yes
- API Registered Products: Yes
- Quality Control and ISO 9001 Accredited: Yes
- Packaging: 50g, 100g, 450g, 500g, 20kg, 55kg, 180kg, 25mL, 50mL, 150mL, 200mL, 250mL, 375mL, 500mL, 1L, 2.5L, 4L, 5L, 6L, 10L, 20L, 60L, 205L, 1000L and Bulk.



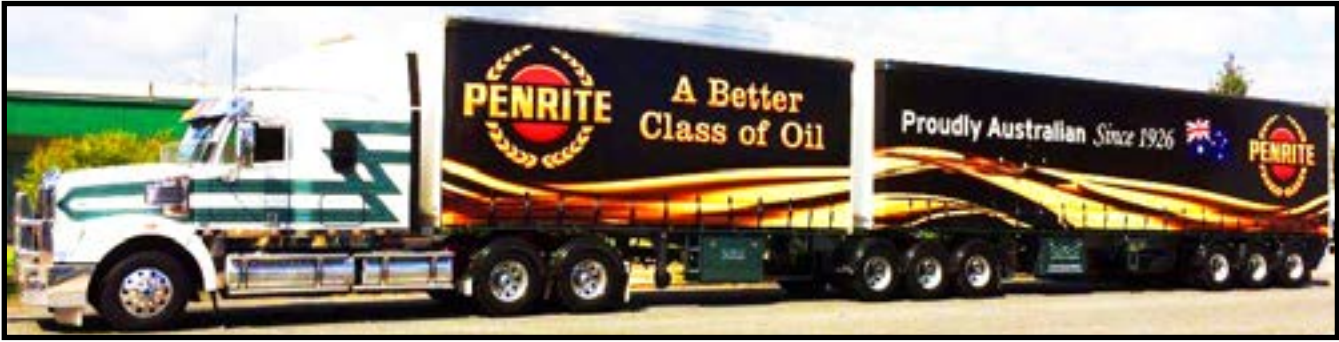
AWARD WINNING

Penrite continues to win prestigious National and International Awards, reflecting its position in the market place 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.



SUPPLIER OF THE YEAR 2015 & 2016





PRODUCTION & SUPPLY CHAIN

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.

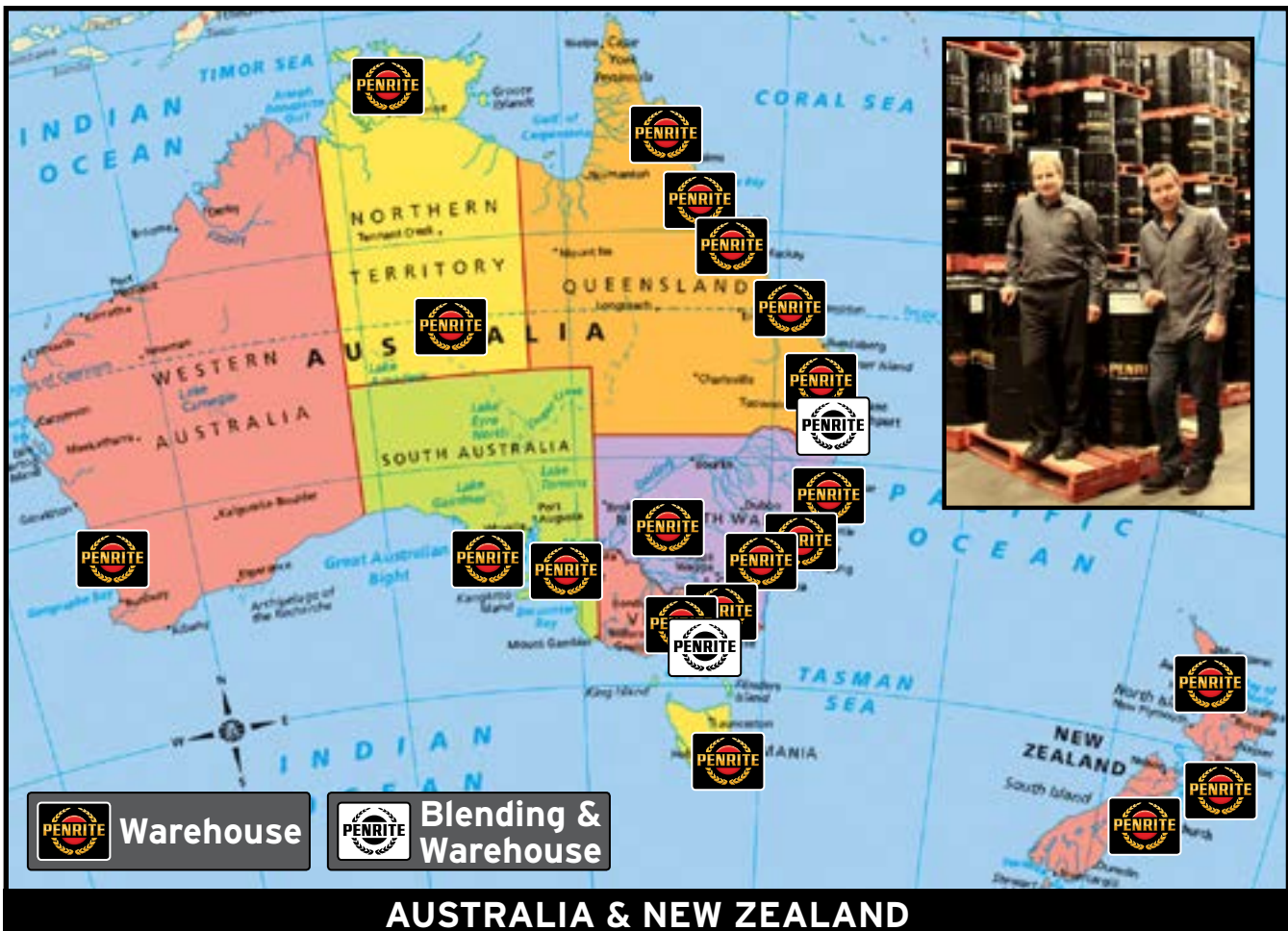
Our automated and in-line filling facilities cater to all types of packaging ranging from 1L to 1000L, with the process constantly monitored by the Quality Control department. With 22 warehousing facilities across Australia and New Zealand, ensures our customers receive their orders promptly.

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.

In 2007, we acquired Forest Lubricants as a third blending facility in Bream, England. This acquisition allows us the flexibility to blend for local demand as well as exporting products to Europe.



AUSTRALIA & NEW ZEALAND



Visit our website at www.penriteoil.com

PENRITE BY NUMBERS



PRODUCTS

All products are 100% quality satisfaction guaranteed. 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 (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.

OUR RANGE INCLUDES

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



CUSTOMER SERVICE & SALES

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" and 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 their business successful.

Our friendly and knowledgeable Customer Service team is available during business hours to receive all orders and pricing enquires. We accept all forms of payments with attractive credit terms. Orders can be submitted via phone, fax, email or online 24/7 days a week.



24/7 ONLINE ORDERING PORTAL

| | | | | | | |
|-----------------------------|---------------------|------|---|-----|--------|-------|
| HPR05005 (3216517020058) | HPR 5 5W40 FULL SYN | 5L | 4 | 255 | QTY: 1 | Add |
| HPR05006 (3216517062181) | HPR 5 5W40 FULL SYN | 6L | 3 | 31 | QTY: 6 | Added |
| HPR05010 (3216517981023) | HPR 5 5W40 FULL SYN | 10L | 0 | 6 | QTY: 1 | Add |
| HPR05020 (3216517020400) | HPR 5 5W40 FULL SYN | 20L | 0 | 9 | QTY: 1 | Add |
| HPR05060 (3216517020053) | HPR 5 5W40 FULL SYN | 60L | 0 | 2 | QTY: 1 | Add |
| HPR05205 | HPR 5 5W40 FULL | 205L | 1 | 11 | QTY: 1 | Add |

| Code | Product | Size | Unit Price (ex) | Unit Qty | Total (ex) |
|----------|---------------------|------|-----------------|----------|------------|
| HPR05006 | HPR 5 5W40 FULL SYN | 6L | | QTY: 6 | |

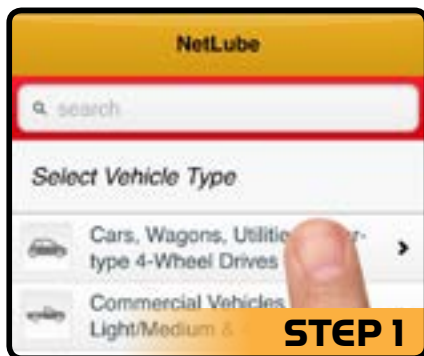
Total Products: 0 Empty Cart Total (ex GST):

To register or login visit onlinesales.penriteoil.com.au

- Order 24 hours 7 days a week.
- Stock Availability & Pricing.
- View invoices/credits/statements.
- Place new orders or save previous orders.
- View New Product releases & Products never purchased **NEW**.
- View all orders entered by Customer Service via Online Portal.
- View account balances.
- SMS or Email order confirmation ALERTS including back orders **NEW**.
- Products listed as entered.
- Order Products, Job Cards, Floor Mats & Lube Stickers (workshops only).
- Promotional Activities & Giveaways.
- Fast & Easy Product Name & Product Code Search.
- Update customer details.
- Convenience of saving & retrieving orders.
- View high frequency product purchases **NEW**.
- Add Special Delivery notes.
- Future Delivery Dates.
- Select Penrite Delivery or Customer Pickup.
- View Back Orders **NEW**.
- Save Orders & submit later.
- Live Chat **NEW**.

PRODUCT SELECTOR

Find the right product easier with Product Selector. Simply download the **FREE APP** on your smart phone and follow the **5 STEP PROCESS** to find the recommended Penrite product for your application! Also available on our **WEBSITE**, visit www.penriteoil.com.au



Click on vehicle **TYPE**



Click on vehicle **MAKE**



Click on vehicle **MODEL**



Click on vehicle **COMPARTMENT**



Scroll and read about your recommended Penrite **PRODUCT**



Visit our website at www.penriteoil.com

TECHNICAL

ADVICE & TRAINING

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 in print, on the internet, mobile devices via a downloadable app, in-store touchscreens and CDs. 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 directly 7 days a week by phone on 1300 PENRITE (736 748) and during business hours via online chat, Facebook or email: tech@penriteoil.com

PENRITE TECHNICAL ADVICE

AVAILABLE 7 DAYS A WEEK!



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 "HOW CAN I HELP?" icon and the LIVE CHAT box will appear.

Now you are ready to start a conversation.



LABORATORY

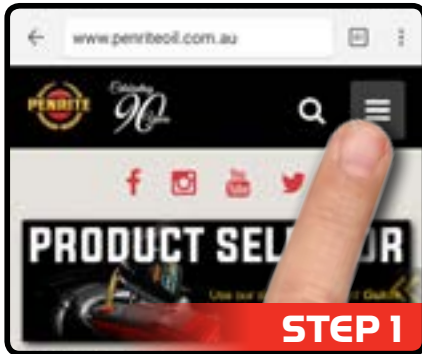
As part of Penrite's commitment to producing premium, high quality and trusted products, we have quality assurance laboratories based at each blending plant. Utilising state of the art testing equipment, our laboratories ensure that products manufactured on site, pass all analysis requirements prior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



SPEC FINDER

Find the right product easier with Spec Finder. Search either **MANUFACTURER SPECIFICATIONS** or **OEM APPROVALS AND LICENSES** on your smart phone or desktop computer! Visit www.penriteoil.com.au


STEP 1

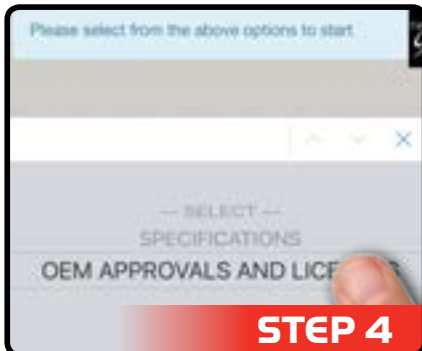
Click on the **MENU** drop down box


STEP 2

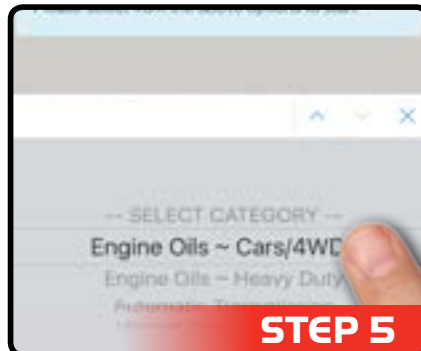
Find and select **SPEC FINDER**


STEP 3

Click on the **SELECT** drop down box


STEP 4

Choose either **SPECIFICATIONS** or **APPROVALS AND LICENSES**


STEP 5

Click on the **SELECT CATEGORY** to choose the correct category option


STEP 6

Click on the **SELECT FROM THE LIST** drop down box


STEP 7

Choose the correct Specification


STEP 8

Scroll and select the appropriate product to view more information



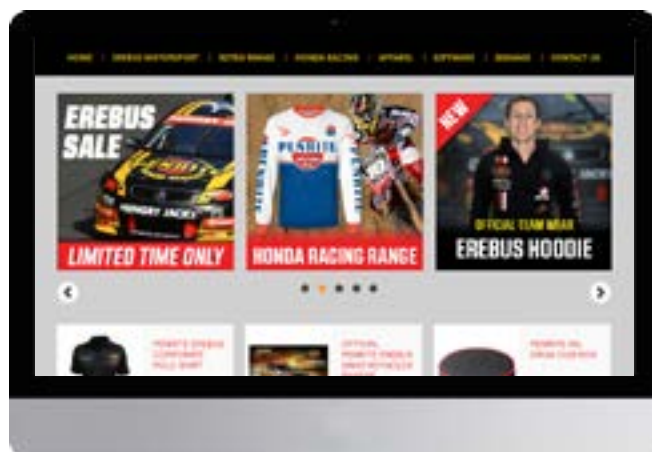
Visit our website at www.penriteoil.com

MERCHANDISE STORE

The Merchandise Store is your one stop shop for Penrite t-shirts, shirts, jackets, jumpers, jerseys, headwear, giftware, 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.

Customer service PHONE & ONLINE PORTAL ordering available!



G:\graphics\luke\BR_Brochures\
BR_0001_Product_Catalogue\
BR_0001_Product_Catalogue_AUS_
SEP16\FOR WEB





SIZES, STYLES & AVAILABILITY MAY VARY



Visit our website at www.penriteoil.com

MARKETING SUPPORT

WEBSITE

The Penrite website offers the most up to date and the very latest information.

Visit www.penriteoil.com to view our product range, workshop locator, events, sponsorships, technical information, catalogues, merchandise and news.

View our product range to find the right product for every application on our website.

We have made it very simple to find all of our products by easily searching by model name, product code or description, which is ideal for consumers as well as distributors, retail stores and workshops.

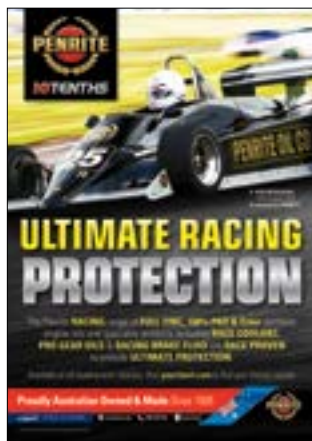


ADVERTISING MATERIAL

The Penrite marketing team create a whole variety of advertising material, ranging from flyers, brochures, posters, signage, banners, business cards, gift vouchers, stickers, banners, magazine ads, catalogues and videos. These materials can be displayed and distributed throughout workshops and retail stores. See some examples below.

Contact your Penrite Sales Representative to order and for additional information regarding our extensive advertising material offer.

MAGAZINE ADVERTISEMENTS



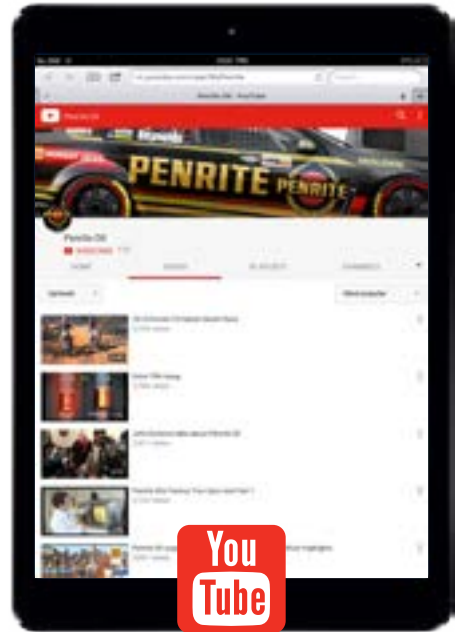
LOCAL AREA MARKETING



SOCIAL MEDIA

INSTAGRAM, TWITTER, FACEBOOK & YOUTUBE

Keep up to date with the very latest Penrite information and news on our social media pages: Instagram, Twitter, Facebook and YouTube.



INSTAGRAM: 3,198 Followers • **TWITTER: 856 Followers**
FACEBOOK: 108,000+ Likes • **YOUTUBE: 57,663 Views**



INSTAGRAM: CLIPSAL 500 - PENRITE GIRLS & VAN



FACEBOOK: EREBUS V8 SUPERCAR TOUR



FACEBOOK: EREBUS V8 SUPERCAR HOTLAP EVENT



INSTAGRAM: SHANNONS NATIONALS - ROUND 5



YOUTUBE: THE RIGHT OIL FOR YOUR VEHICLE



YOUTUBE: CLASSIC RESTOS



TWITTER: HUGHESY'S TECH TIP



TWITTER: EREBUS V8 SUPERCAR ROUND REVIEW

FOLLOW, VIEW & LIKE US!



Visit our website at www.penriteoil.com

EQUIPMENT

Penrite offers a range of workshop equipment to compliment our oils, greases and coolants. Bulk tanks, oil pumps, hoses and reels, drum trolleys, pressure packs and digital metering guns as well as many other types of equipment are all available to Penrite customers by either purchasing direct or as part of a supply contract.

We can also arrange to have your workshop fitted out by professional industry specialists if required. **Contact your Penrite Sales Representative to order and for additional information regarding our extensive equipment offer.**



PARTNERSHIPS & BRAND AMBASSADORS

Penrite has been a keen supporter of grass roots and professional motorsport for over 90 years. The Penrite Brand Ambassador program currently supports 185 active teams with representation across Australia, New Zealand, Malaysia, Czech Republic, Poland and England. Our Brand Ambassadors promote our products and services and embody the core values and ethics of our trusted and respected brand.

Of these 185 Teams, Penrite have Brand Ambassador representation in:

- Corporate
- Cars
- Motorcycles
- Off Road
- Marine
- Go Karts



CORPORATE

Erebus Motorsport, Luddenham Raceway, Baskerville Raceway, Winton Raceway, Tasmania Drag-Way, Classic Restos and Confederation of Australian Motorsport.



CARS

Top Fuel Drag Racing, Circuit Racing, Drifting, GT Racing, Truck Racing, Regularity, Aussie Racing Cars, World Time Attack, Kumho and Dunlop series.



MOTORCYCLES

World Super Bikes, Motocross, Uni-Moto, Super-Cross, Trials and Desert/Endurance Races.

What makes a good Penrite Brand Ambassador:

- Good centre of influence to other motoring enthusiasts.
- Involved in their local community - participates in/and organises events.
- Good family values - Demonstrates values and virtues in line with Penrite.



Visit our website at www.penriteoil.com



OFF ROAD

Speedway, Competition 4WDs, Rock Crawlers and Tractor Pulls.



MARINE

Jet Boat Racing, Southern 80, Circuit Boat Racing and Off Shore Power Boat Racing.



GO KARTS

Juniors from 8 years old, Sprint Karts, Shifter and Super Karts.

- Social media footprint - Facebook, YouTube, Twitter and Instagram.
- Shows a genuine interest and loyalty to the brand prior to approaching Penrite.
- Business to business opportunities

erebus motorsport

OFFICIAL OIL PARTNER

ABOUT EREBUS MOTORSPORT

Since its inception in 2011, Erebus Motorsport has made its mark in Australian motorsport, competing across several categories including V8 Supercars and GT racing, tasting much success along the way. The team set upon its journey with the purchase of a new Victorian facility and an SLS AMG GT3 in 2011.

Erebus Motorsport's first year saw success from the outset with wins in the Australian GT Championship at Phillip Island and Bathurst with Peter Hackett behind the wheel.



Expanding to a second SLS AMG GT3 in 2012, the team finished second in its inaugural Bathurst 12 Hour, before scooping six race wins and four round wins in the seven-round Australian GT Championship with Peter Hackett, Maro Engel and Bernd Schneider piloting the gullwing.

2013 saw the team launch its V8 Supercars campaign with three E63s driven by Lee Holdsworth, Tim Slade and Maro Engel, marking a huge milestone in the history of the team. Days later, the team kicked off the racing season in fine fashion with a win at the Bathurst 12 Hour in February with Thomas Jaeger, Bernd Schneider and Alexander Roloff.

The win at Mount Panorama was followed by six race wins and three round wins in the Australian GT Championship with Craig Baird and Jack Le Brocq. The team then headed to Zhuhai, China, where they scored a race win with Mika Hakkinen and Matthew Solomon, before heading to Macau where Maro Engel secured pole position in the SLS AMG GT3. 2013 also saw the team race a

Mygale M08 in the Australian Formula 3 Championship with Jack Le Brocq and Andre Heimgartner, and a Holden V8 Ute with Stephen White in the V8 Ute Racing Series.

In only its second season in V8 Supercars, Erebus Motorsport scored its maiden V8 Supercars win with Lee Holdsworth at Winton Raceway in 2014. The team finished out the year as the Australian GT Championship winners, picking up eight race wins and two round wins with Richard Muscat piloting the SLS AMG GT3 along the way. An inaugural V8 Supercars pole position at Homebush provided a fitting end to the successful year. The team also prepared two V8 Utes in 2014 driven by Adam Marjoram and Jesse Dixon in the V8 Ute Racing Series, scoring multiple podiums and a race win at Barbagallo with Dixon.

Last year the team celebrated wins across multiple categories including a V8 Supercars win with Will Davison at Barbagallo Raceway, a win in the Australian GT Championship with Morgan Haber at Highlands Motorsport Park, and several podium finishes and a win in the V8 Ute Racing Series with three Erebus Motorsport-prepared Utes driven by Craig Dontas, Adam Marjoram and Kim Jane.

In 2016, under the watchful eye of the team owner Betty Klimenko, Erebus Motorsport will once again push the boundaries of Australian motorsport. The team will campaign two VF Holden Commodore Supercars and two AMG GT GT3s and an SLS AMG GT3 in the Australian GT Championship.

TEAM OWNER: BETTY KLIMENKO

When Betty Klimenko entered V8 Supercars as a Team Owner in 2013, she broke the mold. Giving fans a new level of accessibility, the popular motorsport matriarch loves to provide glimpses of behind-the-scenes action to the public. Not one to shy away from a challenge, in 2016 Klimenko has new drivers, new race cars, and many new faces among her Victorian crew. The team has also now consolidated all its operations at the Erebus Motorsport-owned facility in Moorabbin, Victoria.



The final piece of the puzzle was securing the most competitive platform possible. This has seen the team transition to VF Holden Commodore chassis' and engines. With a long term plan for her motorsport team, the sole female V8 Supercar Team Owner has just begun to bring her dream to fruition.





DRIVER: DAVID REYNOLDS

It's not every day you meet a professional athlete that is so approachable and popular. But that's David Reynolds!

From junior Go-Karting, through to open-wheel Formula Ford, exotic sports cars and now V8 Supercars, David's journey has overcome tragedy to triumph in the world's most competitive formula of motorsport.



Reynolds' infectious personality has earned him the tag of V8 Supercars 'class clown', but there's no doubting his speed, talent and ability to hold an audience! In 2015 we finally saw the raw speed and talent come to the surface, with multiple podiums and wins culminating in a title chase that would eventually yield a third place championship result.

Reynolds transitioned to Erebus Motorsport in the off-season and joined the team for the Bathurst 12 Hour, where a scintillating performance alongside his co-drivers resulted in a fifth place finish in the SLS AMG GT3. Looking ahead to the 2016 V8 Supercars season, Reynolds remains one of the sport's hottest properties - both on and off the track.

If he can retain his aggression, focus and determination, that saw him climb to being a title contender in 2015, there is no doubt he can snare some unexpected silverware for Erebus Motorsport in the #9 entry.

Date of Birth: 3rd July 1985

Birthplace: Albury, NSW

Lives: Melbourne, VIC

Marital Status: Partner - Tahan

Height: 176cm

Weight: 65kg

Children: None

Nickname: Daffid

Hobbies: Cycling, Muay Thai, UFC

Favourite Circuit: Bathurst

PENRITE PRODUCTS USED



| APPLICATION | PRODUCT | CODE |
|----------------|------------------------|----------------|
| ENGINE | RACING 5W-30 | RACING5W30005 |
| TRANSAXLE | PRO GEAR 80W-140 | PROG80W1400025 |
| POWER STEERING | HPSO | HPSO001 |
| BRAKES | RACING BRAKE FLUID | RBF0005 |
| COOLANT | 10 TENTHS RACE COOLANT | RCI001 |



Visit our website at www.penriteoil.com

UNDERSTANDING 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.

BE COMPATIBLE WITH SEALS:

Oils must lubricate and not cause deterioration, shrinking or hardening of commonly used seals.

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 ENGINE:

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 pistons 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.

BASE OILS

All oils are made up of base oils and additives. Not all base oils are created equally however. The API classifies these 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) | | | Oligomerization (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.

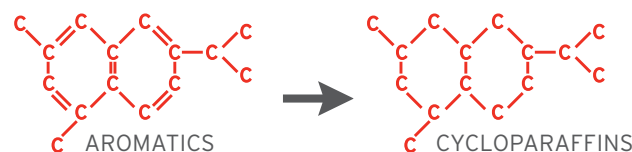
From a Penrite perspective, we choose the combination of the above base oils to ensure maximum performance for a given oil.



Hydroprocessed Based Oils - What do they look like?

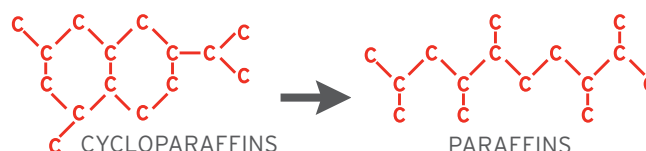
Group II:

- 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: PETRO-CHEMICAL MANUFACTURED TYPES

PAOs - Poly Alpha Olefins:

PAOs are derived from the oligomerization, usually of 1-decene. Oligomerization 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 oligomerization of high purity ethylene (C_2H_4).

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.

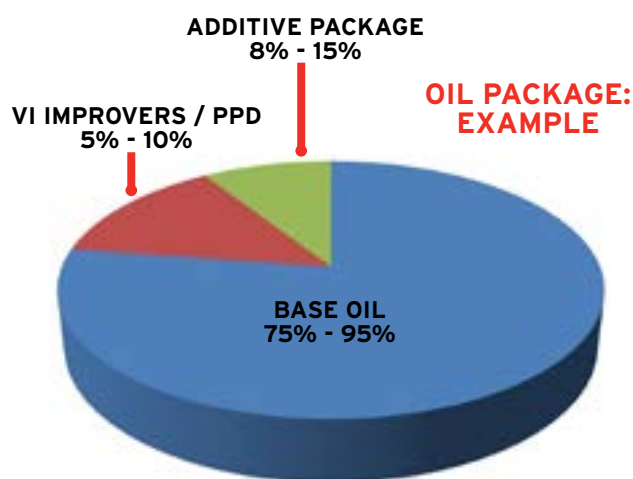
ESTERS:

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.

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.



Visit our website at www.penriteoil.com

DETERGENTS:

Any oil with an API engine rating of SC (see page 26 for API Service Classifications), 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 compounds and they control deposits and keep engines clean.

DISPERSANTS:

These are usually ashless (non metallic) organic chemicals. They 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:

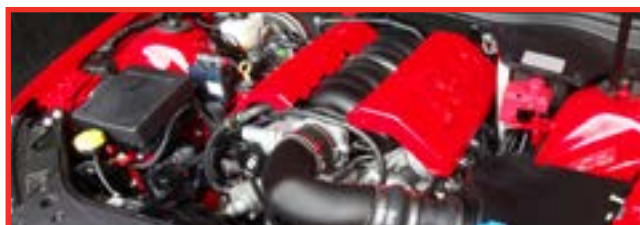
Prevent foam from forming, thereby maintaining a lubricating film based on oil not air bubbles, resulting in the ability of the oil to be pumped effectively at the required rate.

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.

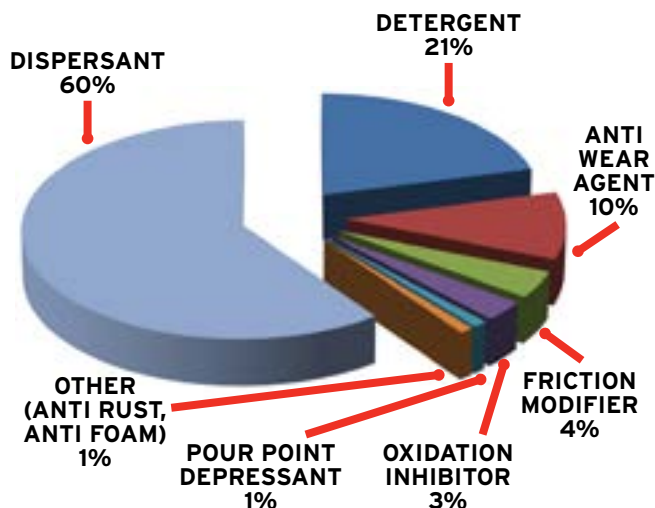
VISCOSITY INDEX IMPROVERS (VII):

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 (see next page).



OIL ADDITIVE PACKAGE

MOTOR OIL ADDITIVE PACKAGE: EXAMPLE



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

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.

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.

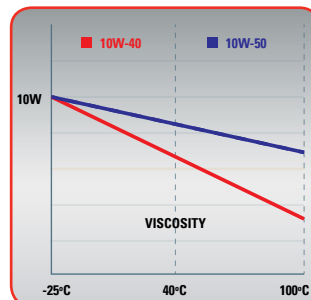
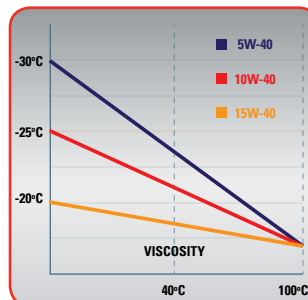
Centipoise (cP) and Centistokes (cSt) are the units viscosity is measured in.

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.

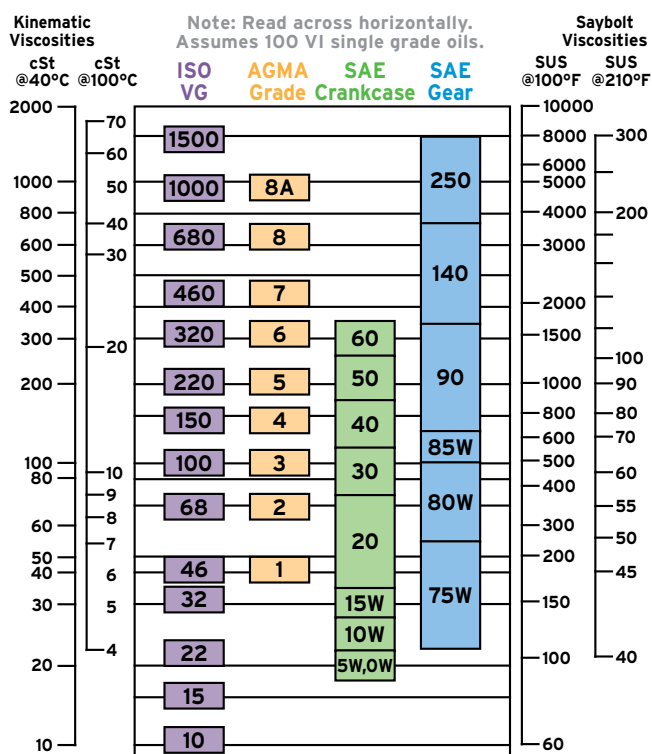


SAE J300 - ENGINE OILS 2015

| 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 |

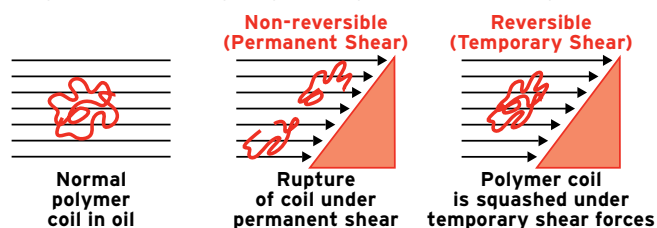
NOTE: 3.5cP for 0W-40, 5W-40 & 10W-40 grades, 3.7cP for 15W-40, 20W-40, 25W-40 & 40 grades. Penrite define "70" engine oils as above 26.1cSt at 100°C & "30W" as less than 13,000cP at -5°C.

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 10,15 & 20 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:

- SA Oil without additive. Now obsolete.
- SB Some antioxidant and anti scuff properties. Now obsolete.
- SC Meets 1964-1967 requirements of Automotive manufacturers. Now obsolete.
- SD Meets 1968-1971 requirements of Automotive manufacturers. Now obsolete.
- SE Meets 1972-1979 requirements of Automotive manufacturers. Now obsolete.
- SF Meets 1980-1988 requirements of Automotive manufacturers. Now obsolete.
- SG Meets 1989-1993 requirements of Automotive manufacturers. Now obsolete.

- SH Meets 1994-1997 requirements of Automotive manufacturers. Now obsolete.
- SJ Meets 1998-2000 requirements of Automotive manufacturers.
- SL Meets 2001-2004 requirements of Automotive manufacturers.
- SM Meets 2004-2010 requirements of automotive manufacturers. XW-20 and XW-30 grades have chemical limits.
- SN 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.

Diesel:

- CA Light duty, high sulphur diesel engines built before 1960. Equivalent to MIL-L-2104A. Now obsolete.
- CB Introduced in 1949 for moderate duty, high sulphur diesel engines built before 1962. Now obsolete.
- CC Introduced in 1951 for moderate to severe duty diesel engines built before 1991. Equivalent to MIL-L-2104B. Now obsolete.
- CD Introduced in 1955 for severe duty diesel engines, including turbo and Caterpillar Series 3, built before 1995. Equivalent to MIL-L-2104C. Now obsolete.
- CD-II Introduced in 1985. API CD plus Detroit Diesel 6V53T approval for two stroke engines built before 1995. Now obsolete.
- CE Introduced in 1985 for turbo/supercharged heavy duty diesel engines built before 1995. Now obsolete.
- CF 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.
- CF-2 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.
- CF-4 Introduced in 1990 for severe duty four stroke diesel engines, including turbos. Can replace API CD & CE oils. Now obsolete.
- CG-4 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.
- CH-4 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.
- CI-4 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.



- CI-4 PLUS As per CI-4 but with further restrictions on after shear viscosity and performance.
- 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.

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 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.

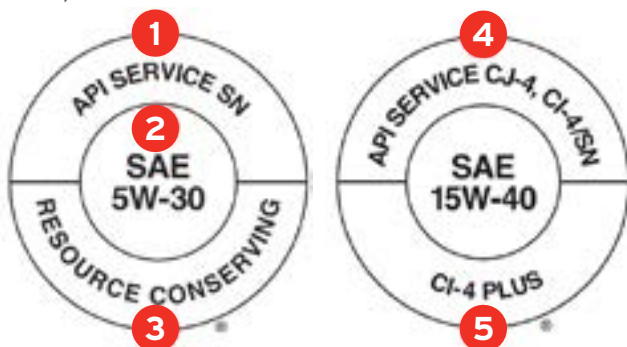
API Certification Mark or "Starburst":

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-5 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 SN.

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 CJ-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

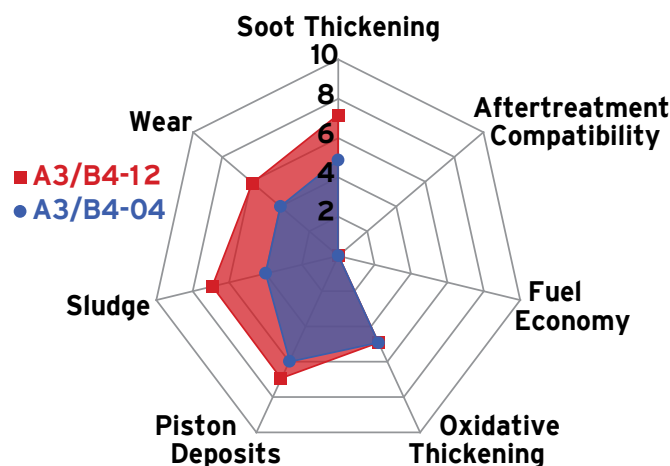
This section may include more than one API performance level. Oils designed for diesel use might also meet a petrol performance level. In this case, the "C" category is listed first followed by the "S" category.

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 or 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/B4-12 vs A3/B4-04



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



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 as well as low HT/HS oils. 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 $\leq 0.5\%$) oils, with a minimum HT/HS viscosity of 2.9 cP.
- 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 $\leq 0.8\%$) 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 $\leq 0.8\%$) 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.
- 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.

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.

ACEA LOW AND MID SAPS SPECIFICATIONS

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

The European body ACEA classes the 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 grade oils, all of which have different chemical and performance standards. The table below shows some of the different chemical requirements for each grade.

ACEA "C" grade oils can be made in various viscosities but it is possible to have for example, a 5W-30 viscosity for each ACEA C1, C2 C3 & C4 grade. C2 & C3 have similar chemical limits but different High Temp High Shear figures, the lower HTHS C2, meaning it provides better fuel economy, although this HTHS number is not suitable for all engines.

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

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.



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 equivalent to API SN.

ILSAC grades only apply to viscosities XW-20 & XW-30. GF-4 has introduced a phosphorus limit of 0.08% maximum and a sulphur limit of 0.2% maximum, GF-5 is similar, but it introduced new requirements relating to phosphorus volatility and compatibility with ethanol fuels.

The latest ILSAC specification, GF-5 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, eg SN is more severe than SM. This is not necessarily the case with ACEA as their specifications are more application specific.

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 Japanese four stroke motorcycles, non-friction modified engine oil suitable for use with wet clutches. Now further split into MA1 and MA2 based on a clutch system friction test.
- JASO MB Japanese four stroke motorcycles friction lowest oil.

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.

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.



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. Can also be used where a BMW Longlife-98 oil is recommended.

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. These oils are only suitable for the following engines: N1x, N2x, N54, N55, N63, N74.

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 a diesel particulate filter (DPF). General performance: ACEA C3. Can also be used where a BMW Longlife-98 or BMW Longlife-01 oil is recommended.

LONGLIFE-12: Special motor oil for certain approved petrol engines and the following diesel engines only: Nx7K1, Nx7U1, Nx7O1 from model year 2013. Not suitable for engines with 2 or 3 turbos. Compatible with ACEA C2. Viscosity is SAE 0W-30.

LONGLIFE-14: Special motor oil for the following petrol engines only: N20, Bx8 from model year 2014. Not allowed for diesel engines. Based on ACEA A1/B1-12.

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/15,000 kms 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:

PGOS 93K124: 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:

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 Ford M2C913-A 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 spec 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 and Ford Mondeo Diesel 2.0 manufactured from 2015. 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 30,000 kms. 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 50 000 kms. Recommended for vehicles built before MY2011.

GM DEXOS™ Motor Oil Specifications: GM Dexos™ approved oils are recommended to be used in all GM vehicles except those built with Duramax diesel engines that require an API CJ-4 quality oil.

GM DEXOS1™: Designed with petrol engines from MY 2011 onwards, GM Dexos1™ replaces the GM-LL-A-025, GM6094M & GM4718M specifications. This specification is usually recommended for GM vehicles built for the North American and Asian markets. 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.

GM DEXOS2™: The GM Dexos2™ specification is meant to be the replacement for both GM-LL-A-025 (petrol) & 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. SAE 0W-30, 5W-30, 0W-40 & 5W-40.

**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.

MAN:

M3271-1: Heavy duty 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 specially for engines equipped with DPFs.

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 for 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.

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: EXD (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 0W30.

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: This standard is not yet released. It will probably require a low SAPS oil with energy conserving properties.

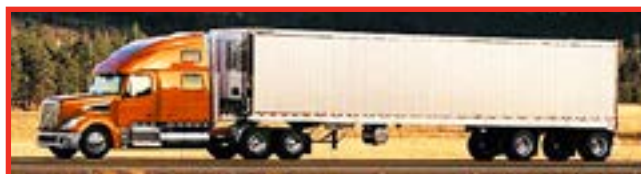
VOLVO:

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 300,000 km with oil change intervals of 50000 km. 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 300,000 km with oil change intervals of 60000 km.

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.



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-W3® 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.

Below is an example of what a DPF may look like:



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.



Visit our website at www.penriteoil.com

- Excessive Phosphorus can poison exhaust system catalysts, reducing their efficiency.
- Excessive Sulphur can poison devices that remove nitrogen oxides from exhaust emissions.

Below is a picture showing 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

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 SN Resource Conserving and ILSAC GF-5 are best able to handle E85 fuel as a specific test was introduced for oils meeting this specification for corrosion protection when used with E85 as the fuel.

LPG Fuel vehicles powered by LPG (Liquid Petroleum Gas) or dual fuel (Petrol/LPG), 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.

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.

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 - Exotic fuels such as methanol and alcohol blends are generally used in motorsport. 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. **For more detailed information see page 126.**

Our Engine Oil Brands

Choose the right engine oil for your vehicle.

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. (see table below).

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. (see table below).
- ✓ Latest low viscosity fuel efficient oils.

10 TENTHS

100% PERFORMANCE

- ✓ High performance and competition.
- ✓ Full Synthetic PAO and 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.

EVERYDAY

- ✓ Everyday Motoring.
- ✓ Full Synthetic, Semi Synthetic and Premium Mineral.
- ✓ Latest API specifications.

HEAVY DUTY

- ✓ Full Synthetic and Premium Mineral.
- ✓ Latest API and ACEA specifications.
- ✓ Manufacturer Approved to maintain vehicle warranty. (see table below).

Classic

- ✓ Classic, Veteran & Vintage vehicles prior to 1990's.
- ✓ Premium Mineral.
- ✓ HIGH ZINC anti-wear additive package.
- ✓ Designed to meet original requirements.

| PRODUCT | INDUSTRY & OEM APPROVALS/LICENSES |
|------------------------|---|
| HPR 5 | Mercedes-Benz MB-Approval 229.5, API SN Licensed |
| Enviro+ 0W-20 | API SN Resource Conserving Licensed, ILSAC GF-5 Licensed |
| Enviro+ 5W-30 | Volkswagen VW Standard 504 00 & VW Standard 507 00 |
| Enviro+ 5W-40 | Volkswagen VW Standard 502 00, VW Standard 505 00 & VW Standard 505 01, Porsche A40, Mercedes-Benz MB-Approval 229.51, General Motors dexos2™ Licensed, API SN Licensed |
| Enviro+ DL-1 | JASO DL-1 On-File |
| Enviro+ GF-5 | General Motors dexos1™ Licensed, API SN Resource Conserving Licensed, ILSAC GF-5 Licensed |
| Semi Synthetic 10W-40 | API SN Licensed |
| Semi Synthetic 15W-40 | API SN Licensed |
| Premium Mineral 5W-30 | API SN Resource Conserving Licensed, ILSAC GF-5 Licensed |
| Premium Mineral 10W-30 | API SN Resource Conserving Licensed, ILSAC GF-5 Licensed |
| Premium Mineral 15W-40 | API SN Licensed |
| Diesel HD | Mercedes-Benz MB-Approval 228.31, Cummins CES 20081, Mack EO-O Premium Plus, Renault RLD-3 Compliant, Detroit Diesel DFS 93K218 Conformance, Volvo VDS-4 |
| Enviro+ 10W-40 | Mercedes-Benz MB-Approval 228.51, Cummins CES 20081, Mack EO-O Premium Plus, MAN M 3575/3477/3271-1, Renault RLD-3, JASO DH-2 On-File, Volvo VDS-4 |

Our Engine Oil Features

The Penrite **DOUBLE LAYER of PROTECTION** is standard on all **HPR and 10 Tenths Racing Oils**.

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 and Premium Full Synthetic Oils contain **FULL ZINC+**, which have optimised zinc levels plus boron and an organomolybdenum complex (Racing 0 & 5 only), to lift the total level of the anti-wear package to over **1800+** ppm for the Premium FS range and **2200+** ppm for the Racing range. 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 Premium Range 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.

EXTRA TEN reduces the rate at which the oil thins as it is heated and provides an increase in film strength, lower heat and friction thus contributing to longer engine life. It is particularly effective when engines are under load such as when towing and working in harsh conditions.



To find out more about how Penrite's **"EXTRA TEN"** protects your engine, simply visit the Penrite website to view the short **VIDEO**.



Visit our website at www.penriteoil.com

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 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.

100% PAO's (Poly Alpha Olefin) are extremely pure due to their complex petro-chemical manufacturing process. As a result, the chemical oil structure formation is "flat" compared to lower grade full synthetic chain structures.

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

The combination of **100% PAO's & 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 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 any vehicle warranties, when used in appropriate applications.

REPLACEMENT VISCOSITIES

Replacement Viscosities means "Can be used where the following SAE viscosities are recommended."

This refers to an oil with a particular viscosity grade being able to be used to replace other viscosity grades, as listed.

Key Label Messages



Engine Oil Range Summary

ENGINE OILS | Understanding Engine Oils

| 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 RATING | ACEA RATING | JASO / ILSAC RATING | OEM APPROVED | PETROL/ E10 | LPG / DUAL FUEL | E85 FUEL | LIGHT DUTY DIESEL | HEAVY DUTY DIESEL | VEHICLES WITHOUT DPF / CPF | VEHICLES WITH DPF / CPF | ZINC PPM |
|-------------------------------------|--------------------------|--|-------------------------------|----------------|-------------------------------|----------------|-----------------|-----------|--------------|-------------|---------------------|--------------|-------------|-----------------|----------|-------------------|-------------------|----------------------------|-------------------------|----------|
| HPR 100% PERFORMANCE | HPR 0 | HPR00001/0005/0020/0205 | | ✓ | | | | 0W-30 | SL/CF | A3/B4 | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | 1050 |
| | HPR 5 | HPR05001/005/006/010/020/060/205 | | ✓ | | | | 5W-40 | SN/CF | A3/B4 | JASO MA1 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1050 |
| | HPR 10 | HPR10001/005/006/010/020/060/205 | | ✓ | | | | 10W-50 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1080 |
| | HPR 15 | HPR15001/005/010/020/060/205 | | ✓ | | | | 15W-60 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1080 |
| | HPR 30 | HPR30001/005/020/060/205 | | | | | ✓ | 20W-60 | SM/CG-4 | A3/B3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1570 |
| | HPR 40 | HPR40001/005/020/060/205 | | | | | ✓ | 25W-70 | SL | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1450 |
| | HPR 50 | HPR50001/005/020/060/205 | | | | | ✓ | 40-70 | SL | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1450 |
| | HPR GAS 10 | HPRG10001/005/020/060/205 | | | | ✓ | | 10W-50 | CI-4/SL | A3/B3 | JASO MA | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| | HPR GAS | HPRG001/005/020/060/205 | | | | ✓ | | 20W-60 | CG-4/SL | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1290 |
| | HPR DIESEL 5 | HPRD5001/005/010/020/060/205/1000LTR | | | | ✓ | | 5W-40 | CI-4 PLUS/SL | A3/B4/E7 | JASO DH-1 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| | HPR DIESEL 10 | HPRD10001/005/010/020/060/205 | | | | ✓ | | 10W-40 | CI-4 PLUS/SL | A3/B4/E7 | JASO DH-1 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| | HPR DIESEL 15 | HPRD15001/005/010/020/060/205 | | | | ✓ | | 15W-50 | CI-4 PLUS/SL | A3/B4/E7 | JASO DH-1 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| | HPR DIESEL | HPRD001/005/010/020/060/205 | | | | ✓ | | 20W-60 | CH-4/SJ | A3/B3/E7 | JASO CD Plus | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| ENVIRO+ | ENVIRO+ HYBRID 0W-16 | EPLUSHYB0W16001/005 | | ✓ | | | | 0W-16 | SN | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 940 |
| | ENVIRO+ 0W-20 | EPLUS0W20001/005/020/205 | | ✓ | | | | 0W-20 | SN RC** | | ILSAC GF-5 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 850 |
| | ENVIRO+ 5W-20 | EPLUS5W20001/005/010/020/060/205 | | ✓ | | | | 5W-20 | SN | C2 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 860 |
| | ENVIRO+ 5W-30 | EPLUS5W30001/005/010/020/060/205 | | ✓ | | | | 5W-30 | | C3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 850 |
| | ENVIRO+ C2 | EPLUSC2001/005/010/020/205 | | ✓ | | | | 0W-30 | SN | C2 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 890 |
| | ENVIRO+ C3 | EPLUSC3001/005/010/020 | | ✓ | | | | 5W-30 | SN | C2/C3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 810 |
| | ENVIRO+ C4 | EPLUSC4001/005/010/020/205 | | ✓ | | | | 5W-30 | | C4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 500 |
| | ENVIRO+ DL-1 | EPLUSDL1001/005/010/020/060/205 | | ✓ | | | | 5W-30 | | C2 | JASO DL-1 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 800 |
| | ENVIRO+ GF-5 | EPLUSGF5001/005/006/010/020/060/205 | | ✓ | | | | 5W-30 | SN RC** | | ILSAC GF-5 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 850 |
| | ENVIRO+ 5W-40 | EPLUS5W40001/005/006/010/020/060/205/1000LTR | | ✓ | | | | 5W-40 | SN/CF | C3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 890 |
| RACING | RACING 0 | RACING0W20005 | ✓ | | | | | 0W-20 | SL/CF | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 2200+ |
| | RACING 5 | RACING5W30001/005/020 | ✓ | | | | | 5W-30 | SL/CF | A1/B1 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 2200+ |
| | RACING 10 | RACING10W40001/005/020 | ✓ | | | | | 10W-40 | SN/CF | A3/B3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 2200+ |
| | RACING 15 | RACING15W50001/005/020/205 | ✓ | | | | | 15W-50 | SN/CF | A3/B3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 2200+ |
| | RACING 20 | RACING20W60005/020 | ✓ | | | | | 20W-60 | SN/CF | A3/B3 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 2200+ |
| | RUNNING IN OIL | RUN005/020/1000LTR | | | | ✓ | | 15W-40 | SF/CC | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1610 |
| | PREMIUM 0 | FS0W40005/020/205 | ✓ | | | | | 0W-40 | SN/CF | A3/B3 | JASO MA | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1800* |
| | PREMIUM 5 | FS5W50005/020/205 | ✓ | | | | | 5W-50 | SN/CF | A3/B3 | JASO MA | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1800* |
| | PREMIUM 10 | FS10W60005/020/205 | ✓ | | | | | 10W-60 | SN/CF | A3/B3 | JASO MA | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1800* |
| | PREMIUM MINERAL 5W-30 | PM005001/005 | | | | ✓ | | 5W-30 | SN RC** | | ILSAC GF-5 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 850 |
| EVERYDAY 100% PERFORMANCE | PREMIUM MINERAL 10W-30 | PM010001/005/006 | | | | ✓ | | 10W-30 | SN RC** | | ILSAC GF-5 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 850 |
| | PREMIUM MINERAL 15W-40 | PM015001/005/006 | | | | ✓ | | 15W-40 | SN/CF | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1100 |
| | PREMIUM MINERAL 20W-50 | PM020001/005 | | | | ✓ | | 20W-50 | SN/CF | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1080 |
| | STOPS OIL BURNING 30-70 | PM030001/005 | | | | ✓ | | 30-70 | SJ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1100 |
| | SEMI SYNTHETIC 5W-40 | ED5W40001/005 | | | | ✓ | | 5W-40 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1080 |
| | SEMI SYNTHETIC 10W-40 | ED10W40001/005/006/020 | | | | ✓ | | 10W-40 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1080 |
| | SEMI SYNTHETIC 15W-40 | ED15W40001/005/020 | | | | ✓ | | 15W-40 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1090 |
| | FULL SYNTHETIC 5W-30 | EDS05001/004/006/020 | | ✓ | | | | 5W-30 | SL | A1/B1A5/B5 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1050 |
| | FULL SYNTHETIC 10W-40 | EDS10001/004/006/020 | | ✓ | | | | 10W-40 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1240 |
| | PRO 5 | PRO5020/060/205/1000LTR | | | ✓ | | | 5W-30 | SN/CF | C3 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 890 |
| | PRO 10 | PRO10020/060/205 | | | ✓ | | | 10W-30 | SN RC** | | ILSAC GF-5 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 850 |
| | PRO EXTRA | PROEXTRA020/060/205/1000LTR | | | ✓ | | | 10W-40 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1090 |
| | PRO 15 PLUS | PRO15PLUS020/060/205 | | | ✓ | | | 15W-50 | SN/CF | A3/B4 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1100 |
| | PRO 20 | PRO20020/060/205 | | | ✓ | | | 20W-50 | SM/CF | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1080 |
| HEAVY DUTY PRO WORKSHOP | DIESEL HD | DHD005/010/020/060/205/1000LTR | | | | ✓ | | 15W-40 | CJ-4/SM | E7/E9 | JASO DH-2 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1260 |
| | DIESEL FX | DFX005/006/010/020/060/205/1000LTR | | | | ✓ | | 15W-40 | CI-4 PLUS/SL | A3/B3/E7 | JASO DH-1 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| | MULTIFLEET DIESEL 15W-40 | MULTIFD15010/020/205/1000LTR | | | | ✓ | | 15W-40 | CI-4/SL | E7 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1270 |
| | ENVIRO+ HD 5W-30 | EPLUSHD5W30020/205 | | ✓ | | | | 5W-30 | CJ-4 | E4/E6/E7/E9 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 880 |
| | ENVIRO+ 10W-40 | EPLUS10W40005/010/020/060/205 | | | ✓ | | | 10W-40 | CJ-4/SM | E4/E6/E9 | JASO DH-2 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 880 |
| | MONO 30 | MONO30020/205 | | | | ✓ | | SAE 30 | CF-2/CF/SG | E1 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1220 |
| | MONO 40 | MONO40020/205 | | | | ✓ | | SAE 40 | CF-2/CF/SF | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1260 |
| | MONO 50 | MONO50020 | | | | ✓ | | SAE 50 | CF-2/CF/SF | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1260 |
| | CLASSIC LIGHT | CLASL005 | | | | ✓ | | 20W-60 | SG/CD | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1610 |
| | CLASSIC MEDIUM | CLASM005 | | | | ✓ | | 25W-70 | SG/CD | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1610 |
| | CLASSIC HEAVY | CLASH005 | | | | ✓ | | 40-70 | SG/CD | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1610 |
| | CLASSIC V-DUB | CLASV005 | | | | ✓ | | 20W-60 | SJ/CG-4 | E2 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1390 |
| | CLASSIC MINI | CLASMINI005 | | | | ✓ | | 20W-50 | SJ/CE | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1390 |
| | SHELSLEY LIGHT | SHELL005 | | | | ✓ | | 20W-60 | SC/CC | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1400 |
| | SHELSLEY MEDIUM | SHELM005/020 | | | | ✓ | | 25W-70 | SC/CC | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1400 |
| | SHELSLEY HEAVY | SHELH005 | | | | ✓ | | 40-70 | SC/CC | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1400 |
| | HERITAGE LTM | HERLTM005 | | | | ✓ | | SAE 30 | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1150 |
| | HERITAGE MTH | HERMTH005 | | | | ✓ | | SAE 50 | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 1150 |

*Total Anti-Wear package includes Zinc & Boron. Minor variations in batches can occur that do not impact product performance.

** RC = Resource Conserving.



Visit our website at www.penriteoil.com



ENGINE OILS

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 protection with FULL ZINC and Penrite's advanced EXTRA TEN technology.

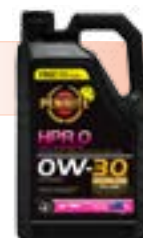
HPR™

ENGINE OILS | HPR

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

HPR O

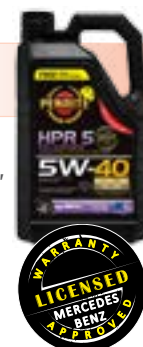
| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: OW-20, 5W-20 | Viscosity: OW-30 |
|--------------|------------|------------|---|------------------|
| HPR00001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SL/CF, ACEA A3/B4, GM 4718M, MB 229.3/229.5, Ford M2C913-A/913-B, BMW Longlife-01 Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel, Hybrid Features: Full Zinc, Extra Ten | |
| HPR00005 | 5 Litres | 4 | | |
| HPR00020 | 20 Litres | 1 | | |
| HPR00205 | 205 Litres | 1 | | |



Penrite HPR O is a premium, full synthetic, SAE 0W-30 engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. Also suitable for use where ILSAC GF-3/GF-4 and ACEA A1/B1 or A5/B5 is required. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.

HPR 5

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: 5W-30, 10W-30 | Viscosity: 5W-40 |
|--------------|------------|------------|--|------------------|
| HPR05001 | 1 Litre | 6 | OEM Approvals: MB-Approval 229.5 Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4, JASO MA1, VW 502 00/505 00, GM 4718M, GM-LL-B-025, Ford M2C912-A/913-A/913-B/913-C/913-D/153-G/153-H, BMW Longlife-01 Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel Features: Full Zinc, Extra Ten, Manufacturer Approved | |
| HPR05005 | 5 Litres | 4 | | |
| HPR05006 | 6 Litres | 3 | | |
| HPR05010 | 10 Litres | 1 | | |
| HPR05020 | 20 Litres | 1 | | |
| HPR05060 | 60 Litres | 1 | | |
| HPR05205 | 205 Litres | 1 | | |



Penrite HPR 5 is a premium, full synthetic, SAE 5W-40, Original Equipment Manufacturer (OEM) warranty, Fully Licensed/Approved engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. Also suitable for use where ILSAC GF-3/GF-4 and ACEA A1/B1 or A5/B5 is required. Licensed by API to meet API SN Service Category. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.

HPR 5 is designed for use in modern 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines. It is suitable for use in passenger cars, 4WDs, light commercial vehicles and it is also suitable for use in four stroke motorcycles that use a wet clutch system. As a manufacturer approved product, it provides full warranty approved service requirements for these vehicles. It also meets and exceeds other manufacturer specifications.

The EXTRA TEN in the oil's SAE rating helps protect your engine by using a normal start up viscosity with an oil that has a higher operating temperature viscosity. This improves engine oil film strength, lowering frictional heat whilst providing an extra layer of anti wear protection over standard SAE grade oils, reducing engine wear in all driving conditions.



Visit our website at www.penriteoil.com

HPR 10

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPR10001 | 1 Litre | 6 |
| HPR10005 | 5 Litres | 4 |
| HPR10006 | 6 Litres | 3 |
| HPR10010 | 10 Litres | 1 |
| HPR10020 | 20 Litres | 1 |
| HPR10060 | 60 Litres | 1 |
| HPR10205 | 205 Litres | 1 |

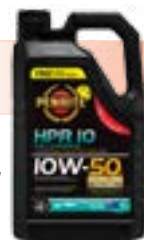
Base Oil: Full Synthetic **Viscosity:** 10W-50
Replacement Viscosities: 10W-40, 15W-40

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4, MB 229.1/229.3, Ford M2C905-A3/910-A/153-F/153-G, GM 9986126, VW 500 00/502 00/505 00, BMW Longlife-01/Longlife-98, Holden HN 2100

Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel

Features: Full Zinc, Extra Ten

Penrite HPR 10 is a premium, full synthetic, SAE 10W-50 engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. It is designed for use in modern 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines. It exceeds the latest European ACEA A3/B4 and API SN/CF requirements, as well as many manufacturer specifications.



HPR 15

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPR15001 | 1 Litre | 6 |
| HPR15005 | 5 Litres | 4 |
| HPR15010 | 10 Litres | 1 |
| HPR15020 | 20 Litres | 1 |
| HPR15060 | 60 Litres | 1 |
| HPR15205 | 205 Litres | 1 |

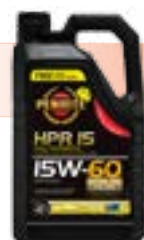
Base Oil: Full Synthetic **Viscosity:** 15W-60
Replacement Viscosities: 15W-50, 20W-40, 20W-50

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4, GM 6094M, Ford M2C153-E/902-A3, MB 229.1, VW 502 00/505 00

Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel

Features: Full Zinc, Extra Ten

Penrite HPR 15 is a premium, full synthetic, SAE 15W-60 engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.



HPR 30

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPR30001 | 1 Litre | 6 |
| HPR30005 | 5 Litres | 4 |
| HPR30020 | 20 Litres | 1 |
| HPR30060 | 60 Litres | 1 |
| HPR30205 | 205 Litres | 1 |



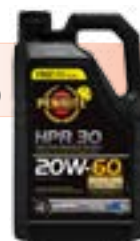
Base Oil: Premium Mineral **Viscosity:** 20W-60
Replacement Viscosities: 20W-40, 20W-50, 25W-60, SAE 30

Industry & Manufacturer's Specifications: API SM/CG-4, ACEA A3/B3, GM 6094M, Ford WSS-M2C153-E, VW 502 00/505 00
Fuel Types: Petrol/E10, Racing, Diesel, LPG/Dual Fuel
Features: Full Zinc, Extra Ten

Penrite HPR 30 is a premium high performance mineral, SAE 20W-60, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC (approx. 1600 ppm) and Penrite's advanced EXTRA TEN technology. It protects against corrosion, oil oxidation and sludge under all operating conditions.

HPR 30 is designed for use in 4, 6 & 8+ cylinder naturally aspirated, supercharged and turbocharged petrol, LPG and diesel engines. It is also suitable for use in older Rotary engines. HPR 30 particularly suited for use under high load conditions such as towing and competition or where ambient temperatures are high. It is a full zinc formulation engine oil for greater protection of cam shafts, lifters and other internal engine parts from wear. No further zinc or other additive is needed with this product.

HPR 30 has been proven for years in race and competition conditions where it has an unequalled reputation for protection in engines requiring a high performance mineral oil. It is the product of choice for many competitors running competition vehicles in circuit and drag racing, rallying, drifting, hill climb, targa, time trials and regularity events. It also provides added protection for small capacity engines of six cylinders or less that are showing signs of excessive oil consumption. HPR 30 is compatible with petrol/LPG & E10 for on road use and racing fuels such as methanol, nitro, avgas, alcohol and E85 for competition use.



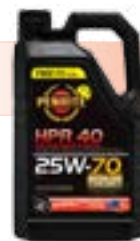
HPR 40

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPR40001 | 1 Litre | 6 |
| HPR40005 | 5 Litres | 4 |
| HPR40020 | 20 Litres | 1 |
| HPR40060 | 60 Litres | 1 |
| HPR40205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 25W-70
Replacement Viscosities: 25W-50, 25W-60, SAE 40

Industry & Manufacturer's Specifications: API SL
Fuel Types: Petrol/E10, Racing
Features: Full Zinc, Extra Ten

Penrite HPR 40 is a premium high performance mineral, SAE 25W-70, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC (approx. 1500 ppm) and Penrite's advanced EXTRA TEN technology. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.



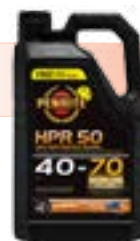
HPR 50

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPR50001 | 1 Litre | 6 |
| HPR50005 | 5 Litres | 4 |
| HPR50020 | 20 Litres | 1 |
| HPR50060 | 60 Litres | 1 |
| HPR50205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 40-70
Replacement Viscosities: SAE 50

Industry & Manufacturer's Specifications: API SL
Fuel Types: Petrol/E10, Racing
Features: Full Zinc, Extra Ten

Penrite HPR 50 is a premium high performance mineral, SAE 40-70, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC (approx. 1500 ppm) and Penrite's advanced EXTRA TEN technology. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.



HPR Diesel 5

| Product Code | Pack Size | Carton Qty |
|--------------|-------------|------------|
| HPRD5001 | 1 Litre | 6 |
| HPRD5005 | 5 Litres | 4 |
| HPRD5010 | 10 Litres | 1 |
| HPRD5020 | 20 Litres | 1 |
| HPRD5060 | 60 Litres | 1 |
| HPRD5205 | 205 Litres | 1 |
| HPRD51000LTR | 1000 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 5W-40
Replacement Viscosities: 5W-30, 10W-30, 10W-40

Industry & Manufacturer's Specifications: API CI-4 PLUS/SL, ACEA A3/B4/E7, MB 228.3/229.3, VW 502 00/505 00, JASO DH-1, Global DLD-2/DLD-3, Ford M2C153-H/171-C/913-B/913-C

Fuel Types: Diesel, LPG/Dual Fuel, Petrol/E10

Features: Full Zinc, Extra Ten

Penrite HPR Diesel 5 is a premium high performance, semi synthetic, SAE 5W-40, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It contains a combination of high technology additives, including increased dispersant levels and low shear viscosity modifiers to protect against corrosion, oil oxidation and sludge under all operating conditions.



HPR Diesel 10

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPRD10001 | 1 Litre | 6 |
| HPRD10005 | 5 Litres | 4 |
| HPRD10010 | 10 Litres | 1 |
| HPRD10020 | 20 Litres | 1 |
| HPRD10060 | 60 Litres | 1 |
| HPRD10205 | 205 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 10W-40
Replacement Viscosities: 10W-30

Industry & Manufacturer's Specifications: API CI-4 PLUS/SL, ACEA A3/B4/E7, MB 228.3/229.3, VW 502 00/505 00, JASO DH-1, Global DLD-2/DLD-3, Ford M2C153-H/171-C

Fuel Types: Diesel, LPG/Dual Fuel, Petrol/E10

Features: Full Zinc, Extra Ten

Penrite HPR Diesel 10 is a premium high performance, semi synthetic, SAE 10W-40, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It contains a combination of high technology additives, including increased dispersant levels and low shear viscosity modifiers to protect against corrosion, oil oxidation and sludge under all operating conditions.



HPR Diesel 15

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPRD15001 | 1 Litre | 6 |
| HPRD15005 | 5 Litres | 4 |
| HPRD15010 | 10 Litres | 1 |
| HPRD15020 | 20 Litres | 1 |
| HPRD15060 | 60 Litres | 1 |
| HPRD15205 | 205 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 15W-50
Replacement Viscosities: 15W-40, 20W-40, 20W-50

Industry & Manufacturer's Specifications: API CI-4 PLUS/SL, ACEA A3/B4/E7, Ford M2C171-C/153-F/153-G, JASO DH-1, MB 228.3/229.3

Fuel Types: Diesel, LPG/Dual Fuel, Petrol/E10

Features: Full Zinc, Extra Ten

Penrite HPR Diesel 15 is a premium high performance, semi synthetic, SAE 15W-50, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It contains a combination of high technology additives, including increased dispersant levels and low shear viscosity modifiers to protect against corrosion, oil oxidation and sludge under all operating conditions.



HPR Diesel

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPRD001 | 1 Litre | 6 |
| HPRD005 | 5 Litres | 4 |
| HPRD010 | 10 Litres | 1 |
| HPRD020 | 20 Litres | 1 |
| HPRD060 | 60 Litres | 1 |
| HPRD205 | 205 Litres | 1 |

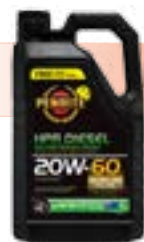
Base Oil: Premium Mineral **Viscosity:** 20W-60
Replacement Viscosities: 20W-40, 20W-50, Mono 30

Industry & Manufacturer's Specifications: API CH-4/SJ, ACEA A3/B3/E7, Global DLD-1, JASO CD Plus, MB 228.3, Ford WSS-M2C911-A1, VW 500 00, MTU Type 2

Fuel Types: Diesel, LPG/Dual Fuel, Petrol/E10

Features: Full Zinc, Extra Ten

Penrite HPR Diesel is a premium high performance, mineral, SAE 20W-60, non-friction modified diesel engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It contains a combination of high technology additives, including increased dispersant levels and low shear viscosity modifiers. It protects against corrosion, oil oxidation and sludge under all operating conditions.



HPR Gas IO

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPRG10001 | 1 Litre | 6 |
| HPRG10005 | 5 Litres | 4 |
| HPRG10020 | 20 Litres | 1 |
| HPRG10060 | 60 Litres | 1 |
| HPRG10205 | 205 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 10W-50
Replacement Viscosities: 10W-40, 15W-40, 15W-50

Industry & Manufacturer's Specifications: API CI-4/SL, ACEA A3/B3, MB 228.1/229.3, Ford M2C153-F/153-G/905-A3/910-A, JASO MA, Holden HN 2314, VW 502 00/505 00

Fuel Types: LPG/Dual Fuel, Petrol/E10, Diesel

Features: Full Zinc, Extra Ten

Penrite HPR Gas IO is a premium high performance, semi synthetic, SAE 10W-50, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It contains a combination of high technology additives, including additives to prevent oil nitration and low shear viscosity modifiers. It protects against corrosion, oil oxidation and sludge under all operating conditions.



HPR Gas

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| HPRG001 | 1 Litre | 6 |
| HPRG005 | 5 Litres | 4 |
| HPRG020 | 20 Litres | 1 |
| HPRG060 | 60 Litres | 1 |
| HPRG205 | 205 Litres | 1 |

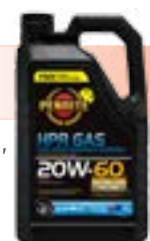
Base Oil: Premium Mineral **Viscosity:** 20W-60
Replacement Viscosities: 20W-40, 20W-50, SAE 30

Industry & Manufacturer's Specifications: API CG-4 /SL, VW 501 01, Holden HN 2314, MB 228.3/229.1, Ford WSE-M2C902-A3

Fuel Types: LPG/Dual Fuel, Petrol/E10, Diesel

Features: Full Zinc, Extra Ten

Penrite HPR Gas is a premium high performance, premium mineral, SAE 20W-60, non-friction modified engine oil. It contains a DOUBLE LAYER of engine wear protection with FULL ZINC and Penrite's advanced EXTRA TEN technology. It contains a combination of high technology additives, including additives to prevent oil nitration and low shear viscosity modifiers. It protects against corrosion, oil oxidation and sludge under all operating conditions.



| PENRITE PRODUCT | Litres | | | | | | | |
|-----------------|--------|---|---|----|----|----|-----|------|
| | 1 | 5 | 6 | 10 | 20 | 60 | 205 | 1000 |
| HPR 0 | ⊙ | ⊙ | - | - | ⊙ | - | ⊙ | - |
| HPR 5 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| HPR 10 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| HPR 15 | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| HPR 30 | ⊙ | ⊙ | - | - | ⊙ | ⊙ | ⊙ | - |
| HPR 40 | ⊙ | ⊙ | - | - | ⊙ | ⊙ | ⊙ | - |
| HPR 50 | ⊙ | ⊙ | - | - | ⊙ | ⊙ | ⊙ | - |
| HPR Diesel 5 | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| HPR Diesel 10 | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| HPR Diesel 15 | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| HPR Diesel | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| HPR Gas 10 | ⊙ | ⊙ | - | - | ⊙ | ⊙ | ⊙ | - |
| HPR Gas | ⊙ | ⊙ | - | - | ⊙ | ⊙ | ⊙ | - |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the HPR range:

- EXTRA TEN provides an extra layer of protection.
- FULL ZINC to minimise engine wear.
- OEM Approved (HPR 5).
- Latest API and ACEA industry specifications.
- Race bred for road and track.
- Available in multiple sizes to suit most applications.

Expert Tip: Penrite's HPR range of engine oils have the "EXTRA 10" in the engines operating temperature viscosity which provides for a slightly thicker oil film between the engine components when the engine is at operating temperature.



ENVIRO+™

Enviro+ engine oils are a range of highly advanced, full synthetic Low and Mid SAPS (Sulphated Ash, Phosphorus and Sulphur) engine oils that have been developed for late model fuel efficient passenger, light and heavy duty vehicles including those fitted with long life catalysts such as Diesel Particulate Filters (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.

ACEA "C" COMPATIBLE PRODUCTS

| PRODUCT | ACEA C1 | ACEA C2 | ACEA C3 | ACEA C4 |
|---------------|---------|---------|---------|---------|
| Enviro+ 5W-20 | | YES | | |
| Enviro+ 5W-30 | | SFU | YES | |
| Enviro+ DL-1 | | YES | | |
| Enviro+ C-2 | | YES | | |
| Enviro+ C-3 | | YES | YES | |
| Enviro+ C-4 | SFU | | | YES |
| Enviro+ 5W-40 | | SFU | YES | |

(SFU = Suitable For Use)

Enviro+ Hybrid OW-16

PETROL ONLY

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|-----------------|----------|---|
| EPLUSHYBOWI6001 | 1 Litre | 6 |
| EPLUSHYBOWI6005 | 5 Litres | 4 |

Base Oil: Full Synthetic

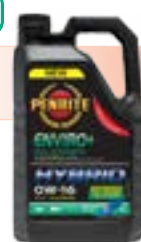
Viscosity: OW-16

Industry & Manufacturer's Specifications: API SN

Fuel Types: Hybrid, Petrol/E10

Features: Mid SAPS, Maximises Fuel Economy & Wear Protection

Penrite Enviro+ Hybrid OW-16 is a premium full synthetic, SAE OW-16 engine oil, particularly suited for modern petrol/hybrid vehicles. It uses the latest advances in Mid SAPS additive technology and features low volatility synthetic base oil that minimises oil loss. Not suitable for use in vehicles fitted with Diesel Particulate Filters (DPFs).



Enviro+ OW-20

PETROL ONLY

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|--------------|------------|---|
| EPLUSOW20001 | 1 Litre | 6 |
| EPLUSOW20005 | 5 Litres | 4 |
| EPLUSOW20020 | 20 Litres | 1 |
| EPLUSOW20250 | 205 Litres | 1 |

Base Oil: Full Synthetic

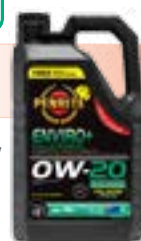
Viscosity: OW-20

Industry & Manufacturer's Specifications: API SN Resource Conserving, ILSAC GF-5, Ford M2C945-A/947-A, Chrysler MS-6395, GMW 16182

Fuel Types: Petrol/E10, E85, LPG/Dual Fuel, Hybrid

Features: Mid SAPS, Maximum Engine Life

Penrite Enviro+ OW-20 is a premium full synthetic, SAE OW-20 engine oil. It uses the latest advances in Mid SAPS additive technology and features low volatility synthetic base oil that minimises oil loss as well as an enhanced corrosion protection package for ensuring compatibility with ethanol based fuels such as E85. Licensed by API to meet API SN Resource Conserving and ILSAC GF-5. Not suitable for use in vehicles fitted with Diesel Particulate Filters (DPFs).



Enviro+ 5W-20

PETROL & DIESEL

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|--------------|------------|---|
| EPLUS5W20001 | 1 Litre | 6 |
| EPLUS5W20005 | 5 Litres | 4 |
| EPLUS5W20010 | 10 Litres | 1 |
| EPLUS5W20020 | 20 Litres | 1 |
| EPLUS5W20060 | 60 Litres | 1 |
| EPLUS5W20205 | 205 Litres | 1 |

Base Oil: Full Synthetic

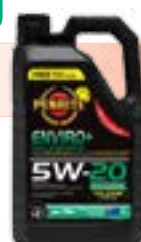
Viscosity: 5W-20

Industry & Manufacturer's Specifications: API SN, ACEA C2, GMW 16182, Chrysler MS-6395, Ford M2C153-H/925-A/930-A/945-A

Fuel Types: Petrol/E10, Diesel, Diesel with DPF, Hybrid

Features: Mid SAPS, Latest Oil Technology, Maximum Power

Penrite Enviro+ 5W-20 is a premium full synthetic, SAE 5W-20 fuel efficient, low viscosity engine oil. It is manufactured using the latest advances in Mid SAPS additive technology. It is designed to maximise fuel economy as well as providing complete protection for vehicles running low viscosity engine oils.



Enviro+ 5W-30

PETROL & DIESEL

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| EPLUS5W30001 | 1 Litre | 6 |
| EPLUS5W30005 | 5 Litres | 4 |
| EPLUS5W30010 | 10 Litres | 1 |
| EPLUS5W30020 | 20 Litres | 1 |
| EPLUS5W30060 | 60 Litres | 1 |
| EPLUS5W30205 | 205 Litres | 1 |



Base Oil: Full Synthetic

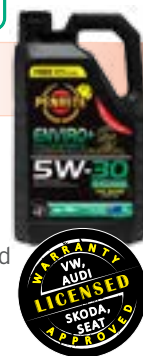
Viscosity: 5W-30

OEM Approvals: VW Standard 504 00 and VW Standard 507 00
Industry & Manufacturer's Specifications: ACEA C3, BMW Longlife-04, MB 229.51/229.31, VW 505 01 (2005), Porsche C30
Fuel Types: Petrol/E10, Diesel, Diesel with DPF
Features: Mid SAPS, Maintains Fuel Economy, Manufacturer Approved

Penrite Enviro+ 5W-30 is a premium full synthetic, SAE 5W-30 Original Equipment Manufacturer (OEM), Fully Licensed and Warranty Approved engine oil. It is fully approved for warranty service for VAG (Volkswagen Automotive Group) vehicles such as Volkswagen/Audi/Skoda/Seat and is also suitable for other premium European brands. It uses the latest advances in Mid SAPS additive technology. Enviro+ 5W-30 has maximum wear protection, minimum sludge reduced piston deposits and superior start up protection.

It is designed for use in modern 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines. It is suitable for use in direct injection (FSI/TSI) petrol and light duty diesel (TDI) engines including those fitted with/without DPFs (Diesel Particulate Filters). It is suitable for use in passenger cars, 4WDs and light commercial vehicles.

It is approved under VW Standard 504 00 and VW Standard 507 00 and exceeds ACEA C3 specifications and is suitable for use in a wide range of vehicles. It can be used where ACEA C3 oils are specified. It can also be used for vehicle models prior to 2008 model year where fuel economy specifications ACEA A1/B1 and A5/B5 are required and where ACEA A3/B4 is specified as well as where ACEA C2 is required. It is also suitable for use where MB 229.31/229.51 and BMW Longlife-04 oils are required in vehicles such as Mercedes Benz, BMW, Porsche, Jeep, Chrysler and SsangYong.



ENGINE OILS | Enviro+

Enviro+ GF-5

PETROL ONLY

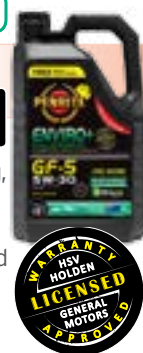
| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| EPLUSGF5001 | 1 Litre | 6 |
| EPLUSGF5005 | 5 Litres | 4 |
| EPLUSGF5006 | 6 Litres | 3 |
| EPLUSGF5010 | 10 Litres | 1 |
| EPLUSGF5020 | 20 Litres | 1 |
| EPLUSGF5060 | 60 Litres | 1 |
| EPLUSGF5205 | 205 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 5W-30

OEM Approvals: GM dexos1™ Licensed
Industry & Manufacturer's Specifications: API SN Resource Conserving, ILSAC GF-5, Ford M2C946-A, GM 4718M/6094M, Chrysler MS 6395
Fuel Types: Petrol/E10, E85, LPG/Dual Fuel, Hybrid
Features: Mid SAPS, Latest Oil Technology, Manufacturer Approved

Penrite Enviro+ GF-5 is a premium full synthetic, SAE 5W-30 Original Equipment Manufacturer (OEM), Fully Licensed and Warranty Approved engine oil. It is approved for warranty service for GM, Holden and HSV petrol engined vehicles, requiring dexos1™ engine oil. It uses the latest advances in Mid SAPS additive technology. Licensed by API to meet API SN Resource Conserving and ILSAC GF-5. Not suitable for use in vehicles fitted with Diesel Particulate Filters (DPFs).



Enviro+ DL-1

PETROL & DIESEL

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| EPLUSDL1001 | 1 Litre | 6 |
| EPLUSDL1005 | 5 Litres | 4 |
| EPLUSDL1010 | 10 Litres | 1 |
| EPLUSDL1020 | 20 Litres | 1 |
| EPLUSDL1060 | 60 Litres | 1 |
| EPLUSDL1205 | 205 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 5W-30

OEM Approvals: JASO DL-1 On-File Registration Number D061POA001
Industry & Manufacturer's Specifications: ACEA C2
Fuel Types: Petrol/E10, Diesel, Diesel with DPF
Features: Mid SAPS, Improved Fuel Economy, Long Drain Intervals

Penrite Enviro+ DL-1 is a premium full synthetic, SAE 5W-30 engine oil, manufactured using the latest advances in Mid SAPS additive technology. It meets ACEA C2 requirements and is On-File for JASO DL-1 applications.



Visit our website at www.penriteoil.com



Enviro+ C-2 **NEW**

PETROL & DIESEL

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|------------|------------|---|
| EPLUSC2001 | 1 Litre | 6 |
| EPLUSC2005 | 5 Litres | 4 |
| EPLUSC2010 | 10 Litres | 1 |
| EPLUSC2020 | 20 Litres | 1 |
| EPLUSC2205 | 205 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 0W-30

Industry & Manufacturer's Specifications: API SN, ACEA C2, VW 506 01, Ford M2C950-A, STJLR.03.5007, Volvo VVC RBS0-2AE, Peugeot PSA B71 2290

Fuel Types: Petrol/E10, Diesel, Diesel with DPF

Features: Mid SAPS, Improved Fuel Economy, Long Drain Intervals

Penrite Enviro+ C-2 is a premium full synthetic, SAE 0W-30 engine oil, manufactured using the latest advances in Mid SAPS additive technology. It meets the requirements of API SN and European ACEA C2 and many other manufacturer specifications.



Enviro+ C-3 **NEW FORMULATION**

PETROL & DIESEL

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|------------|-----------|---|
| EPLUSC3001 | 1 Litre | 6 |
| EPLUSC3005 | 5 Litres | 4 |
| EPLUSC3010 | 10 Litres | 1 |
| EPLUSC3020 | 20 Litres | 1 |

Base Oil: Full Synthetic

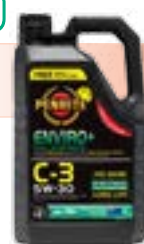
Viscosity: 5W-30

Industry & Manufacturer's Specifications: API SN, ACEA C2/C3, MB 229.31/229.51/229.52, GM 16177, BMW Longlife-04, Ford M2C946-A

Fuel Types: Petrol/E10, Diesel, Diesel with DPF

Features: Mid SAPS, Improved Fuel Economy, Long Drain Intervals

Penrite Enviro+ C-3 is a premium full synthetic, SAE 5W-30 engine oil, manufactured using the latest advances in Mid SAPS additive technology. It meets and exceeds many European manufacturer specifications. Also suitable for use where an ACEA C2 oil is required.



Enviro+ C-4

PETROL & DIESEL

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|------------|------------|---|
| EPLUSC4001 | 1 Litre | 6 |
| EPLUSC4005 | 5 Litres | 4 |
| EPLUSC4010 | 10 Litres | 1 |
| EPLUSC4020 | 20 Litres | 1 |
| EPLUSC4205 | 205 Litres | 1 |

Base Oil: Full Synthetic

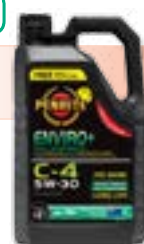
Viscosity: 5W-30

Industry & Manufacturer's Specifications: ACEA C4, Renault RN 0720, Ford M2C934-B (level)

Fuel Types: Petrol/E10, Diesel, Diesel with DPF

Features: Low SAPS, Improved Fuel Economy, Long Drain Intervals

Penrite Enviro+ C-4 is a premium full synthetic, SAE 5W-30 engine oil, manufactured using the latest advances in Low SAPS additive technology. It is also suitable for use in applications requiring ACEA C1 engine oils.



Enviro+ 5W-40

PETROL & DIESEL

Product Code **Pack Size** **Carton Qty**

| | | |
|------------------|-----------------|---|
| EPLUS5W40001 | 1 Litre | 6 |
| EPLUS5W40004 | 4 Litres (Asia) | 4 |
| EPLUS5W40005 | 5 Litres | 4 |
| EPLUS5W40006 | 6 Litres | 3 |
| EPLUS5W40010 | 10 Litres | 1 |
| EPLUS5W40020 | 20 Litres | 1 |
| EPLUS5W40060 | 60 Litres | 1 |
| EPLUS5W40205 | 205 Litres | 1 |
| EPLUS5W401000LTR | 1000 Litres | 1 |

Base Oil: Full Synthetic **Viscosity:** 5W-40
Replacement Viscosities: 0W-40, 5W-30, 10W-30

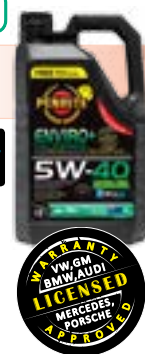
OEM Approvals: GM dexos2™, Porsche A40, VW Standard 502 00, VW Standard 505 00 & VW Standard 505 01, MB-Approval 229.51



Industry & Manufacturer's Specifications: API SN/CF, ACEA C3, MB 229.31, BMW Longlife-04

Fuel Types: Petrol/E10, Diesel, Diesel with DPF

Features: Mid SAPS, Extra Ten, Latest Oil Technology, Manufacturer Approved



Penrite Enviro+ 5W-40 is a premium full synthetic, SAE 5W-40 Original Equipment Manufacturer (OEM), Fully Licensed and Warranty Approved engine oil. It is approved for warranty service for particular GM/Holden (dexos2™), VW, Audi, Skoda, Seat, Mercedes Benz and Porsche vehicles. It uses the latest advances in Mid SAPS additive technology. Licensed by API to meet API SN Service Category. It contains the latest oil technology for less wear, sludge and piston deposits.

It is designed for use in modern 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines. It is suitable for use in direct injection (FSI/TSI) petrol and light duty diesel (TDI) engines including those fitted with/without DPFs (Diesel Particulate Filters). It is suitable for use in passenger cars, 4WDs and light commercial vehicles.

It exceeds API SN and ACEA C3 and may also be used where the fuel economy specifications ACEA A1/B1, A5/B5 and ILSAC GF-5 are specified and in vehicles requiring ACEA A3/B4 made before the 2010 model year, and where ACEA C2 is specified. Enviro+ 5W-40 features the Penrite EXTRA TEN in the oil's SAE rating. The EXTRA TEN helps protect your engine by using an oil that has a higher viscosity at operating temperature than what is normally specified, thus providing better protection and reducing engine wear in all driving conditions.

See page 59 for Enviro+ 10W-40

| PENRITE PRODUCT | Litres | | | | | | | | |
|----------------------|--------|---|---|---|----|----|----|-----|------|
| | 1 | 4 | 5 | 6 | 10 | 20 | 60 | 205 | 1000 |
| Enviro+ Hybrid 0W-16 | ⊙ | - | ⊙ | - | - | - | - | - | - |
| Enviro+ 0W-20 | ⊙ | - | ⊙ | - | - | ⊙ | - | ⊙ | - |
| Enviro+ 5W-20 | ⊙ | - | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Enviro+ 5W-30 | ⊙ | - | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Enviro+ GF-5 | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Enviro+ DL-1 | ⊙ | - | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Enviro+ C-2 | ⊙ | - | ⊙ | - | ⊙ | ⊙ | - | ⊙ | - |
| Enviro+ C-3 | ⊙ | - | ⊙ | - | ⊙ | ⊙ | - | - | - |
| Enviro+ C-4 | ⊙ | - | ⊙ | - | ⊙ | ⊙ | - | ⊙ | - |
| Enviro+ 5W-40 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Enviro+ range:

- Designed for low emission engines.
- FULL SYNTHETIC.
- FUEL SAVING technology on selected products.
- E85 Fuel compatible for selected products.
- Maximise DPF and exhaust catalyst life.
- Vehicle Manufacturer Approvals.
- Latest API and ACEA Industry specifications.

Expert Tip: "SAPS" stands for "Sulphated Ash, Phosphorus and Sulphur." A "Low SAPS" engine oil has a lesser amount of these elements than a standard engine oil. The levels vary depending on the type of oil needed.



Visit our website at www.penriteoil.com

ENGINE OILS | Enviro+

10 TENTHS

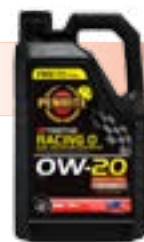
100% PERFORMANCE

Penrite 10 Tenths Racing & Premium Range are high performance, premium 100% PAO & Ester 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.

Racing 0

| Product Code | Pack Size | Carton Qty | Base Oil: 100% PAO & Ester Full Synthetic Viscosity: 0W-20 |
|---------------|-----------|------------|---|
| RACING0W20005 | 5 Litres | 4 | Industry & Manufacturer's Specifications: API SL/CF, BMW Longlife-98, MB 229.1 Fuel Types: Petrol/E10, Racing Features: Full Zinc+, Shear Free, Competition Proven |

Penrite Racing 0 is a premium, 100% PAO & Ester, full synthetic SAE 0W-20, SHEAR FREE modern engine oil. It contains an anti-wear package of FULL ZINC+ (exceeding 2200+ ppm levels) for ultimate engine wear protection. It exceeds the requirements of API SL/CF as well as many manufacturers' specifications.



Racing 5

| Product Code | Pack Size | Carton Qty | Base Oil: 100% PAO & Ester Full Synthetic Viscosity: 5W-30 Replacement Viscosities: 5W-20 |
|---------------|-----------|------------|---|
| RACING5W30001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SL/CF, ACEA A1/B1, BMW Longlife-98, MB 229.1, Ford M2C913-A/913-B/M2C912-A1 Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel Features: Full Zinc+, Shear Free, Competition Proven |
| RACING5W30005 | 5 Litres | 4 | |
| RACING5W30020 | 20 Litres | 1 | |

Penrite Racing 5 is a premium, 100% PAO & Ester, full synthetic SAE 5W-30, SHEAR FREE modern engine oil. It contains an anti-wear package of FULL ZINC+ (exceeding 2200+ ppm levels) for ultimate engine wear protection. It exceeds the requirements of API SL/CF and ACEA A1/B1 as well as many manufacturers' specifications.



Racing 10

| Product Code | Pack Size | Carton Qty | Base Oil: 100% PAO & Ester Full Synthetic Viscosity: 10W-40 Replacement Viscosities: 10W-30 |
|----------------|-----------|------------|--|
| RACING10W40001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B3, BMW Longlife-98, MB 229.1/229.3, VW 502 00/505 00, Porsche GL Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel Features: Full Zinc+, Shear Free, Competition Proven |
| RACING10W40005 | 5 Litres | 4 | |
| RACING10W40020 | 20 Litres | 1 | |

Penrite Racing 10 is a premium, 100% PAO & Ester, full synthetic SAE 10W-40, SHEAR FREE modern engine oil. It contains an anti-wear package of FULL ZINC+ (exceeding 2200+ ppm levels) for ultimate engine wear protection. It exceeds the requirements of API SN/CF, ACEA A3/B3 as well as many manufacturers' specifications.



Racing 15

| Product Code | Pack Size | Carton Qty |
|----------------|------------|------------|
| RACING15W50001 | 1 Litre | 6 |
| RACING15W50005 | 5 Litres | 4 |
| RACING15W50020 | 20 Litres | 1 |
| RACING15W50205 | 205 Litres | 1 |

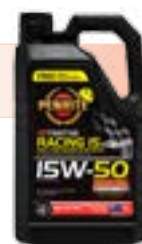
Base Oil: 100% PAO & Ester Full Synthetic **Viscosity:** 15W-50
Replacement Viscosities: 15W-40, 20W-40

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B3, BMW Longlife-98, MB 229.1, VW 502 00/505 00, Porsche GL

Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel

Features: Full Zinc+, Shear Free, Competition Proven

Penrite Racing 15 is a premium, 100% PAO & Ester, full synthetic SAE 15W-50, SHEAR FREE modern engine oil. It contains an anti-wear package of FULL ZINC+ (exceeding 2200+ ppm levels) for ultimate engine wear protection. It exceeds the requirements of API SN/CF, ACEA A3/B3 as well as many manufacturers' specifications.



Racing 20

| Product Code | Pack Size | Carton Qty |
|----------------|-----------|------------|
| RACING20W60005 | 5 Litres | 4 |
| RACING20W60020 | 20 Litres | 1 |

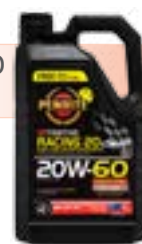
Base Oil: 100% PAO & Ester Full Synthetic **Viscosity:** 20W-60
Replacement Viscosities: 20W-50, 25W-60

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B3, BMW Longlife-98, MB 229.1

Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel

Features: Full Zinc+, Shear Free, Competition Proven

Penrite Racing 20 is a premium, 100% PAO & Ester, full synthetic SAE 20W-60, SHEAR FREE modern engine oil. It contains an anti-wear package of FULL ZINC+ (exceeding 2200+ ppm levels) for ultimate engine wear protection. It exceeds the requirements of API SN/CF, ACEA A3/B3 as well as many manufacturers' specifications.



Running-In Oil

| Product Code | Pack Size | Carton Qty |
|--------------|-------------|------------|
| RUN005 | 5 Litres | 4 |
| RUN020 | 20 Litres | 1 |
| RUN1000LTR | 1000 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 15W-40
Replacement Viscosities: 20W-40, SAE 30

Industry & Manufacturer's Specifications: API SF/CC

Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel

Features: High Zinc, Non-Friction Modified

Penrite Running In Oil is a premium mineral, SAE 15W-40, non friction modified, low detergent and dispersant engine oil, designed for the critical running in period for both new, re-built and crate engines. It contains an advanced anti-wear additive pack featuring HIGH ZINC (exceeding 1600+ ppm levels) for ultimate engine wear protection during these first stages of engine use.



Race Castor Oil

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| RCAS001 | 1 Litre | 6 |

Base Oil: Castor/Synthetic Ester Oil **Viscosity:** 20W-40
Replacement Viscosities: SAE 30, SAE 40

Industry & Manufacturer's Specifications: Karting Australia Approved Lubricant

Fuel Types: Petrol/E10, E85, Racing

Features: Soluble in Methanol & Petrol, Longer Engine Life

Penrite Race Castor is an ashless SAE 20W-40 engine oil manufactured from high quality castor vegetable oil, synthetic ester, anti-corrosion additives and an advanced anti-oxidant. The synthetic base fluids are specially blended to allow suitability for use where SAE 30 and SAE 40 castor based oils were used. It will assist in reducing or eliminating traditional problems such as lacquer and deposit formation. It has been Approved by Karting Australia for use as an engine oil in Go-Karts.



Premium 0

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| FSOW40005 | 5 Litres | 4 |
| FSOW40020 | 20 Litres | 1 |
| FSOW40205 | 205 Litres | 1 |

Base Oil: 100% PAO & Ester Full Synthetic **Viscosity:** OW-40
Replacement Viscosities: OW-30

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B3, JASO MA, BMW Longlife-98, MB 229.1/229.3, VW 502 00/505 00, Porsche GL

Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel

Features: Full Zinc+, Latest Oil Technology

Penrite Premium 0 is a premium 100% PAO & Ester full synthetic SAE OW-40, non friction modified, modern engine oil. It utilises premium synthetic base oil with a FULL ZINC+ (exceeding 1800+ ppm levels) additive pack for the ultimate in engine protection and performance. It exceeds the requirements of API SN/CF, ACEA A3/B3 as well as many manufacturers' specifications.



Premium 5

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| FS5W50005 | 5 Litres | 4 |
| FS5W50020 | 20 Litres | 1 |
| FS5W50205 | 205 Litres | 1 |

Base Oil: 100% PAO & Ester Full Synthetic **Viscosity:** 5W-50
Replacement Viscosities: 5W-40

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B3, JASO MA, BMW Longlife-98, MB 229.1, VW 502 00/505 00

Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel

Features: Full Zinc+, Latest Oil Technology

Penrite Premium 5 is a premium 100% PAO & Ester full synthetic SAE 5W-50, non friction modified, modern engine oil. It utilises premium synthetic base oil with a FULL ZINC+ (exceeding 1800+ ppm levels) additive pack for the ultimate in engine protection and performance. It exceeds the requirements of API SN/CF, ACEA A3/B3 as well as many manufacturers' specifications.



Premium 10

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| FS10W60005 | 5 Litres | 4 |
| FS10W60020 | 20 Litres | 1 |
| FS10W60205 | 205 Litres | 1 |

Base Oil: 100% PAO & Ester Full Synthetic **Viscosity:** 10W-60
Replacement Viscosities: 10W-50, 15W-50

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B3, JASO MA, BMW Longlife-98, MB 229.1

Fuel Types: Petrol/E10, Racing, LPG/Dual Fuel, Diesel

Features: Full Zinc+, Latest Oil Technology

Penrite Premium 10 is a premium 100% PAO & Ester full synthetic SAE 10W-60, non friction modified, modern engine oil. It utilises premium synthetic base oil with a FULL ZINC+ (exceeding 1800+ ppm levels) additive pack for the ultimate in engine protection and performance. It exceeds the requirements of API SN/CF, ACEA A3/B3 as well as many manufacturers' specifications.



Expert Tip: Penrite's 10 Tenths Racing range is SHEAR FREE. What does that mean to you? When your oil does not lose its viscosity as a result of high loads and stress, you get ultimate protection for your engine for the life of the oil drain.

Key Features & Benefits of the 10 Tenths Racing & Premium ranges:

- > 100% PREMIUM PAO and ESTER full synthetic base oils for ultimate performance (except Running-In Oil & Race Castor Oil).
- > FULL ZINC+ additive pack for excellent wear protection.
- > LATEST oil 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.
- > EXTRA TEN provides better engine protection.
- > SHEAR FREE formulation reduces viscosity loss (10 Tenths Racing range only).

| PENRITE PRODUCT | Litres | | | | |
|-----------------|--------|---|----|-----|------|
| | 1 | 5 | 20 | 205 | 1000 |
| Racing 0 | - | ⊙ | - | - | - |
| Racing 5 | ⊙ | ⊙ | ⊙ | - | - |
| Racing 10 | ⊙ | ⊙ | ⊙ | - | - |
| Racing 15 | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Racing 20 | - | ⊙ | ⊙ | - | - |
| Race Castor Oil | ⊙ | - | - | - | - |
| Running-In Oil | - | ⊙ | ⊙ | - | ⊙ |
| Premium 0 | - | ⊙ | ⊙ | ⊙ | - |
| Premium 5 | - | ⊙ | ⊙ | ⊙ | - |
| Premium 10 | - | ⊙ | ⊙ | ⊙ | - |

(All products are available in 1000L Pods, on request)



EVERYDAY™

ENGINE OILS | Everyday

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 car, light and 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.

Premium Mineral 5W-30

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 5W-30 |
|--------------|-----------|------------|---------------------------|------------------|
|--------------|-----------|------------|---------------------------|------------------|

| | | |
|----------|----------|---|
| PMO05001 | 1 Litre | 6 |
| PMO05005 | 5 Litres | 4 |

Industry & Manufacturer's Specifications:

API SN Resource Conserving, ILSAC GF-5

Fuel Types: Petrol/E10, E85, LPG/Dual Fuel, Hybrid

Features: Latest Oil Technology, Maximum Wear Protection

Penrite Premium Mineral 5W-30 is a high quality mineral, SAE 5W-30, friction modified engine oil made from pure hydrocracked base oils and an advanced anti-wear additive system for complete engine protection. It is designed for use in modern 4, 6 & 8+ cylinder naturally aspirated, supercharged and turbocharged engines. Also suitable for use in Mazda RX series rotary engines, requiring a 5W-30 oil such as in Mazda RX-8. It has been Licensed by API to meet API SN Resource Conserving & ILSAC GF-5.



Premium Mineral 10W-30

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 10W-30 |
|--------------|-----------|------------|---------------------------|-------------------|
|--------------|-----------|------------|---------------------------|-------------------|

| | | |
|----------|----------|---|
| PMO10001 | 1 Litre | 6 |
| PMO10005 | 5 Litres | 4 |
| PMO10006 | 6 Litres | 3 |

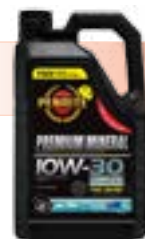
Industry & Manufacturer's Specifications:

API SN Resource Conserving, ILSAC GF-5

Fuel Types: Petrol/E10, E85, LPG/Dual Fuel, Hybrid

Features: Latest Oil Technology, Maximum Wear Protection

Penrite Premium Mineral 10W-30 is a high quality mineral, SAE 10W-30, friction modified engine oil made from pure hydrocracked base oils and an advanced anti-wear additive system for complete engine protection. It is designed for use in modern 4, 6 & 8+ cylinder naturally aspirated, supercharged and turbocharged engines. Also suitable for use in rotary engines. It has been Licensed by API to meet API SN Resource Conserving and ILSAC GF-5.



Premium Mineral 15W-40

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 15W-40 |
|--------------|-----------|------------|---------------------------|-------------------|
|--------------|-----------|------------|---------------------------|-------------------|

| | | |
|----------|----------|---|
| PMO15001 | 1 Litre | 6 |
| PMO15005 | 5 Litres | 4 |
| PMO15006 | 6 Litres | 3 |

Industry & Manufacturer's Specifications:

API SN/CF

Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel

Features: Latest Oil Technology, Maximum Wear Protection

Penrite Premium Mineral 15W-40 is a high quality mineral, SAE 15W-40, friction modified engine oil made from pure hydrocracked base oils and an advanced anti-wear additive system for complete engine protection. It is designed for use in modern 4, 6 & 8+ cylinder naturally aspirated, supercharged and turbocharged engines. Also suitable for use in older rotary engines. It has been Licensed by API to meet API SN.



Visit our website at www.penriteoil.com

Premium Mineral 20W-50

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| PMO20001 | 1 Litre | 6 |
| PMO20005 | 5 Litres | 4 |

Base Oil: Premium Mineral

Viscosity: 20W-50

Industry & Manufacturer's Specifications: API SN/CF

Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel

Features: Latest Oil Technology, Maximum Wear Protection

Penrite Premium Mineral 20W-50 is a high quality mineral, SAE 20W-50, friction modified engine oil made from pure hydrocracked base oils and an advanced anti-wear additive system for complete engine protection, less sludge formation and reduced piston deposits extending engine life. It is designed for use in modern 4, 6 & 8+ cylinder naturally aspirated, supercharged and turbocharged engines. Also suitable for use in older rotary engines.



Stops Oils Burning 30-70

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| PMO30001 | 1 Litre | 6 |
| PMO30005 | 5 Litres | 4 |

Base Oil: Premium Mineral

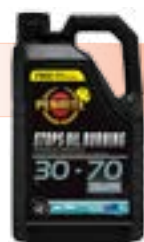
Viscosity: 30-70

Industry & Manufacturer's Specifications: API SJ

Fuel Types: Petrol/E10

Features: Reduces Oil Consumption, Maintains Oil Pressure

Penrite Stops Oil Burning is a high quality premium mineral, 30-70 engine oil. It is designed for older petrol engines where there is excessive oil consumption due to conditions such as worn piston and oil rings, cylinder bore deformation, worn or broken valve stem seals, worn main seals and other gasket and oil sealing issues.



Semi Synthetic 5W-40

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| ED5W40001 | 1 Litre | 6 |
| ED5W40005 | 5 Litres | 4 |

Base Oil: Semi Synthetic

Viscosity: 5W-40

Replacement Viscosities: 5W-30

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4

Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel

Features: Complete Protection of Engine Parts

Penrite Semi Synthetic 5W-40 is a premium quality, semi synthetic, SAE 5W-40, friction modified engine oil for use in a wide range of modern motor vehicles. It is formulated using the latest engine oil technology and high performance additives including a FULL ZINC anti-wear package for complete engine protection.



Semi Synthetic 10W-40

| Product Code | Pack Size | Carton Qty |
|--------------|---------------|------------|
| ED10W40001 | 1 Litre | 6 |
| ED10W40004 | 4 Litres (NZ) | 4 |
| ED10W40005 | 5 Litres | 4 |
| ED10W40006 | 6 Litres | 3 |
| ED10W40020 | 20 Litres | 1 |

Base Oil: Semi Synthetic

Viscosity: 10W-40

Replacement Viscosities: 10W-30

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4, MB 229.1, Renault RN 0700, VW 502 00/505 00

Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel

Features: Complete Protection of Engine Parts

Penrite Semi Synthetic 10W-40 is a premium quality, semi synthetic, SAE 10W-40, friction modified engine oil for use in a wide range of modern motor vehicles. It is formulated using the latest engine oil technology and high performance additives including a FULL ZINC anti-wear package for complete engine protection. It has been Licensed by API to meet API SN.



Semi Synthetic 15W-40

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic Replacement Viscosities: 20W-40 | Viscosity: 15W-40 |
|--------------|---------------|------------|---|-------------------|
| ED15W40001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4, Fuel Types: Petrol/E10, LPG/Dual Fuel Features: Complete Protection of Engine Parts <p>Penrite Semi Synthetic 15W-40 is a premium quality, semi synthetic, SAE 15W-40, friction modified engine oil for use in a wide range of modern motor vehicles. It is formulated using the latest engine oil technology and high performance additives including a FULL ZINC anti-wear package for complete engine protection. It has been Licensed by API to meet API SN.</p> | |
| ED15W40004 | 4 Litres (NZ) | 4 | | |
| ED15W40005 | 5 Litres | 4 | | |
| ED15W40020 | 20 Litres | 1 | | |



Full Synthetic 5W-30 **NEW**

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: 5W-20 | Viscosity: 5W-30 |
|--------------|-----------|------------|--|------------------|
| EDS05001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SL, ACEA A1/B1, ACEA A5/B5, Ford M2C913-B/913-C/913-D, Renault RN 0700 Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel Features: Complete Protection of Engine Parts <p>Penrite Full Synthetic 5W-30 is a premium, full synthetic, SAE 5W-30 engine oil, engineered to provide complete protection for engine durability and cleanliness. It features the latest additive technology with a FULL ZINC anti wear additive package and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. Formulated to meet the latest generation Ford Euro 5 & Euro 6 petrol and diesel emission engines.</p> | |
| EDS05004 | 4 Litres | 4 | | |
| EDS05006 | 6 Litres | 3 | | |
| EDS05020 | 20 Litres | 1 | | |



Full Synthetic 10W-40 **NEW**

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: 10W-30 | Viscosity: 10W-40 |
|--------------|-----------|------------|---|-------------------|
| EDS10001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4, JASO MA, BMW Longlife-01, MB 229.3/229.5 Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel Features: Complete Protection of Engine Parts <p>Penrite Full Synthetic 10W-40 is a premium, full synthetic, non-friction modified, SAE 10W-40 engine oil. It contains a FULL ZINC anti-wear additive pack and uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.</p> | |
| EDS10004 | 4 Litres | 4 | | |
| EDS10006 | 6 Litres | 3 | | |
| EDS10020 | 20 Litres | 1 | | |



Key Features & Benefits of the Everyday range:

- > Complete engine protection.
- > Current API SN specification.*
- > Fuel saving API SN resource conserving specification.*
- > Rotary engine compatible oils.**
- > E85 compatible oils.*

*Check PDS for specified products.

** Premium Mineral range only.

Expert Tip: API SN meet MY (Model Year) 2010 requirements of automotive manufacturers and supersedes SM (MY 2004) and SL (2001-2004) etc.

| PENRITE PRODUCT | Litres | | | | |
|--------------------------|--------|---|---|---|----|
| | 1 | 4 | 5 | 6 | 20 |
| Premium Mineral 5W-30 | ⊙ | - | ⊙ | - | - |
| Premium Mineral 10W-30 | ⊙ | - | ⊙ | ⊙ | - |
| Premium Mineral 15W-40 | ⊙ | - | ⊙ | ⊙ | - |
| Premium Mineral 20W-50 | ⊙ | - | ⊙ | - | - |
| Stops Oils Burning 30-70 | ⊙ | - | ⊙ | - | - |
| Semi Synthetic 5W-40 | ⊙ | - | ⊙ | - | - |
| Semi Synthetic 10W-40 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| Semi Synthetic 15W-40 | ⊙ | ⊙ | ⊙ | - | ⊙ |
| Full Synthetic 5W-30 | ⊙ | ⊙ | - | ⊙ | ⊙ |
| Full Synthetic 10W-40 | ⊙ | ⊙ | - | ⊙ | ⊙ |

(All products are available in 1000L Pods, on request)



Visit our website at www.penriteoil.com

PRO WORKSHOP

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

Pro 5

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: 5W-20, 7.5W-30 | Viscosity: 5W-30 |
|--------------|-------------|------------|---|------------------|
| PRO5020 | 20 Litres | 1 | Industry & Manufacturer's Specifications: API SN/CF, ACEA C3, BMW Longlife-04, MB 229.31, GMW 16177 Fuel Types: Petrol/E10, Diesel, Diesel with DPF, LPG/Dual Fuel, Hybrid Features: Mid SAPS, Minimises Sludge Formation, Maximises Wear Protection | |
| PRO5060 | 60 Litres | 1 | | |
| PRO5205 | 205 Litres | 1 | | |
| PRO51000LTR | 1000 Litres | 1 | | |



Penrite Pro 5 is a premium grade, full synthetic, SAE 5W-30 engine oil developed for use in modern petrol and diesel engines exclusively in professional workshops and vehicle service centres. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. Pro 5 exceeds API SN/CF specifications and ACEA C3 for use in light duty diesel engines including those fitted with DPFs (Diesel Particulate Filters). It may also be used where ACEA A1/B1, A5/B5 & ILSAC GF-5 fuel economy specifications are required as well as where Ford M2C913-D is specified.

Pro 10

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic Replacement Viscosities: 7.5W-30 | Viscosity: 10W-30 |
|--------------|------------|------------|---|-------------------|
| PRO10020 | 20 Litres | 1 | Industry & Manufacturer's Specifications: API SN Resource Conserving, ILSAC GF-5, Ford M2C910-A Fuel Types: Petrol/E10, E85, LPG/Dual Fuel, Hybrid Features: Minimises Sludge Formation, Maximises Wear Protection | |
| PRO10060 | 60 Litres | 1 | | |
| PRO10205 | 205 Litres | 1 | | |



Penrite Pro 10 is a premium grade, semi synthetic, SAE 10W-30 engine oil developed for use in modern petrol engines exclusively in professional workshops and vehicle service centres. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. Pro 10 exceeds API SN Resource Conserving & ILSAC GF-5 fuel economy specifications. It is designed for use in modern 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines. Not suitable for use in diesel vehicles or in rotary engines.





Pro Extra

| Product Code | Pack Size | Carton Qty |
|-----------------|-------------|------------|
| PROEXTRA020 | 20 Litres | 1 |
| PROEXTRA060 | 60 Litres | 1 |
| PROEXTRA205 | 205 Litres | 1 |
| PROEXTRA1000LTR | 1000 Litres | 1 |



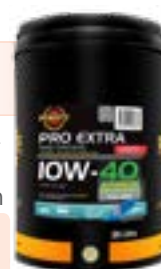
Base Oil: Semi Synthetic **Viscosity:** 10W-40
Replacement Viscosities: 10W-30

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4
Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel
Features: Minimises Sludge Formation, Maximises Wear Protection

Penrite Pro Extra is a premium grade, semi synthetic, SAE 10W-40 engine oil developed for use in modern petrol, LPG and light duty diesel (non DPF) engines exclusively in professional workshops and vehicle service centres. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under tough conditions. It is also catalytic converter compatible.

Pro Extra reduces oil consumption and maintains oil pressure. It exceeds the latest European ACEA A3/B4 & API SN/CF requirements. Pro Extra is designed for use in modern 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines. Suitable for use in many modern vehicles.

It can be used where ACEA A3/B4 is recommended and can also be used where previous API specifications SM (2004-10), SL (2001-04) and SJ are recommended. Pro Extra may be used with LPG and some diesel engine passenger cars, 4WDs and light commercials. It is not suitable for use in diesel vehicles fitted with a diesel particulate filter that require a Low or Mid SAPS engine oil.



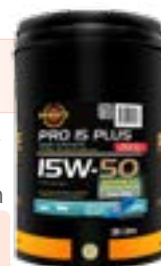
Pro 15 Plus

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| PRO15PLUS020 | 20 Litres | 1 |
| PRO15PLUS060 | 60 Litres | 1 |
| PRO15PLUS205 | 205 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 15W-50
Replacement Viscosities: 15W-40, 20W-40, 20W-50

Industry & Manufacturer's Specifications: API SN/CF, ACEA A3/B4
Fuel Types: Petrol/E10, Diesel, LPG/Dual Fuel
Features: Minimises Sludge Formation, Maximises Wear Protection

Pro 15 Plus is a premium grade, semi synthetic, SAE 15W-50 engine oil developed for use in petrol, LPG and light duty diesel (non DPF) engines exclusively in professional workshops and vehicle service centres. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under tough conditions. Pro 15 Plus exceeds the latest European ACEA A3/B4 and API SN/CF requirements. Suitable for use in many vehicles requiring a slightly heavier viscosity oil. It is designed for use in 4, 6 & 8+ cylinder multi-cam, multi-valve (including VVT), naturally aspirated, supercharged and turbocharged engines.



Pro 20

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| PRO20020 | 20 Litres | 1 |
| PRO20060 | 60 Litres | 1 |
| PRO20205 | 205 Litres | 1 |

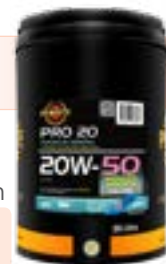
Base Oil: Premium Mineral **Viscosity:** 20W-50
Replacement Viscosities: 20W-40

Industry & Manufacturer's Specifications: API SM/CF

Fuel Types: Petrol/E10, Diesel

Features: Minimises Sludge Formation, Maximises Wear Protection

Pro 20 is a premium quality, SAE 20W-50, mineral engine oil developed for use in petrol, LPG and light duty diesel (non DPF) engines exclusively by professional workshops and vehicle service centres. It uses a combination of the latest additive technology and a low shear rate viscosity modifier, to ensure additional protection against wear, corrosion, oil oxidation, piston deposits and sludge under tough conditions. It is designed for use in 4, 6 & 8+ cylinder multi-cam, naturally aspirated, supercharged and turbocharged engines. It is ideal for use in most older and large capacity engines where this viscosity is recommended by the manufacturer.



Key Features & Benefits of the PRO Workshop range:

- > Designed especially for workshops and garages.
- > Latest technology additives.
- > For use in petrol and light duty diesel engines.
- > Pro 5 is suitable for many DPF applications.

Expert Tip: Search the Penrite website for Training fact sheets, videos, technical bulletins and FAQs.

| PENRITE PRODUCT | Litres | | | |
|-----------------|--------|----|-----|------|
| | 20 | 60 | 205 | 1000 |
| Pro 5 | ⊙ | ⊙ | ⊙ | ⊙ |
| Pro 10 | ⊙ | ⊙ | ⊙ | - |
| Pro Extra | ⊙ | ⊙ | ⊙ | ⊙ |
| Pro 15 Plus | ⊙ | ⊙ | ⊙ | - |
| Pro 20 | ⊙ | ⊙ | ⊙ | - |

(All products are available in 1000L Pods, on request)



HEAVY DUTY

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



Diesel HD

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 15W-40 |
|--------------|-------------|------------|---|-------------------|
| DHD005 | 5 Litres | 4 | OEM Approvals: MB-Approval 228.31, Cummins CES 20081, Mack EO-O Premium Plus, Renault RLD-3 Compliant, Detroit Diesel DFS 93K218 Conformance, Volvo VDS-4 Industry & Manufacturer's Specifications: API CJ-4/SM, ACEA E7/E9, Allison C-4, JASO DH-2, MTU Type 2, MB 228.3, Caterpillar ECF-1a/ECF-2/ECF-3, MAN M 3575 Fuel Types: Diesel, Diesel with DPF, Petrol/E10, LPG/Dual Fuel Features: Manufacturer Approved, Maximises DPF Life | |
| DHD010 | 10 Litres | 1 | | |
| DHD020 | 20 Litres | 1 | | |
| DHD060 | 60 Litres | 1 | | |
| DHD205 | 205 Litres | 1 | | |
| DHD1000LTR | 1000 Litres | 1 | | |



Penrite Diesel HD is a high performance, heavy duty, low ash, OEM Warranty Approved, SAE 15W-40 premium mineral diesel engine oil designed for use in vehicles with and without Diesel Particulate Filters (DPF). It is made from a combination of hydrocracked base stocks and the latest OEM (Original Equipment Manufacturer) approved additive technology. It is designed for use in post 2006, EPA 07 compliant American diesel engines, both naturally aspirated and turbocharged, that meet the newer Australian ADR emissions regulations. It may also be used in Euro 4 & Euro 5 compliant engines. It is also suitable for heavy duty diesel engines fitted with DPFs and/or Selective Catalytic Reduction (SCR) systems that require low ash oils. Ideal for use as a mixed fleet engine oil.

Diesel FX

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 15W-40 |
|--------------|------------|------------|--|-------------------|
| DFX005 | 5 Litres | 4 | Industry & Manufacturer's Specifications: API CI-4 PLUS/SL, ACEA E7/A3/B3, MIL-PRF-2104H/NATO O-1236, MB 228.3/229.1, MAN 3275, Allison C4, Global DHD-1, Volvo VDS-3, JASO DH-1, Cummins CES 20071/20072/20076/20077/20078, Caterpillar ECF-1a Fuel Types: Diesel, Petrol/E10, LPG/Dual Fuel Features: Resists Oil Thickening, Maintains Oil Viscosity | |
| DFX006 | 6 Litres | 3 | | |
| DFX010 | 10 Litres | 1 | | |
| DFX020 | 20 Litres | 1 | | |
| DFX060 | 60 Litres | 1 | | |
| DFX205 | 205 Litres | 1 | | |



Penrite Diesel FX is a premium quality, mineral, SAE 15W-40, mid ash, Full Zinc, diesel engine oil formulated with high quality additives and hydrocracked mineral base oils. It is designed predominantly for use in four stroke heavy duty diesel engines. Diesel FX can be used in both turbocharged and naturally aspirated engines in on-highway and off-highway applications. Ideal for use as a mixed fleet engine oil. Not suitable for use in vehicles fitted with Diesel Particulate Filters (DPFs).



Multifleet Diesel 15W-40 **NEW**

| Product Code | Pack Size | Carton Qty |
|------------------|-------------|------------|
| MULTIFD15010 | 10 Litres | 1 |
| MULTIFD15020 | 20 Litres | 1 |
| MULTIFD15205 | 205 Litres | 1 |
| MULTIFD151000LTR | 1000 Litres | 1 |

Base Oil: Premium Mineral

Viscosity: 15W-40

Industry & Manufacturer's Specifications: API CI-4/SL, ACEA E7, Caterpillar ECF-2, Cummins CES 20071/20072/20076/20077, China National GB 1122-206, Mack EO-M Plus, Volvo VDS-3 MB 228.3/229.1, MIL-PRF-2104G, MAN 3275

Fuel Types: Diesel, Petrol/E10, LPG/Dual Fuel

Features: Resists Oil Thickening, Protects Engine Parts

Penrite Multifleet Diesel is a high quality, premium mineral, SAE 15W-40, mid ash diesel engine oil formulated with high quality additives and premium hydrocracked mineral base oils. It exceeds the requirements of API CI-4/SL and ACEA E7. The formulation controls combustion chamber deposits and resists oil thickening. It can be used in mixed fleets, reducing chance of misapplication.



Enviro+ HD 5W-30

| Product Code | Pack Size | Carton Qty |
|----------------|------------|------------|
| EPLUSHD5W30020 | 20 Litres | 1 |
| EPLUSHD5W30205 | 205 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 5W-30

Industry & Manufacturer's Specifications: API CJ-4, ACEA E4/E6/E7/E9, Caterpillar ECF-3, Cummins CES 20081, Detroit Diesel 93K218, Deutz DQC IV-10 LA, MB 228.31/228.51, Mack EO-O Premium Plus, MAN M3477/M3575/M3271-1, Volvo VDS-4, MTU Category 3.1 (Pending), Renault RLD-3

Fuel Types: Diesel, Diesel with DPF

Features: Maximises DPF Life, Fuel Efficient

Penrite Enviro+ HD 5W-30 is a highly advanced, Low SAPS, low viscosity, heavy duty, full synthetic, extended drain, ultra high performance diesel (UHPD) engine oil. It is formulated with the highest standard synthetic base oil and advanced additives to ensure protection against wear, corrosion, oil oxidation and sludge. It is also designed for use in vehicles fitted with and without Diesel Particulate Filters (DPFs).



Enviro+ 10W-40

| Product Code | Pack Size | Carton Qty |
|---------------|------------|------------|
| EPLUS10W40005 | 5 Litres | 4 |
| EPLUS10W40010 | 10 Litres | 1 |
| EPLUS10W40020 | 20 Litres | 1 |
| EPLUS10W40060 | 60 Litres | 1 |
| EPLUS10W40205 | 205 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 10W-40

Replacement Viscosities: 15W-40

OEM Approvals: MB-Approval 228.51, Cummins CES 20081, Volvo VDS-4, Mack EO-O Premium Plus, Renault RLD-3 Approved, JASO DH-2 (on file), MAN M 3575/3477/3271-1

Industry & Manufacturer's Specifications: API CJ-4/SM, ACEA E4/E6/E9, MB 228.31, MAN 3277CRT, MTU Type 3, Caterpillar ECF-3-a

Fuel Types: Petrol/E10, Diesel, Diesel with DPF, LPG/Dual Fuel

Features: Manufacturer Approved, Maximises DPF Life

Penrite Enviro+ 10W-40 is a highly advanced, Low SAPS, heavy duty, full synthetic, OEM Warranty Approved, extended drain/mixed fleet, ultra high performance diesel (UHPD) engine oil. It is formulated with the highest standard additives to ensure protection against wear, corrosion, oil oxidation and sludge. Enviro+ 10W-40 is primarily designed for use in modern four-stroke, low emission, naturally aspirated and turbocharged, light and heavy duty diesel engines including those with extended drain intervals of up to 100,000km in accordance with the OEM operating conditions. It is also designed for use in vehicles fitted with and without Diesel Particulate Filters (DPFs).



See page 43 for HPR Diesel 5, HPR Diesel 10, HPR Diesel 15 & HPR Diesel

Mono Truck 30, 40 & 50

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 30, 40 & 50 |
|--------------|-----------|------------|---------------------------|----------------------------|
|--------------|-----------|------------|---------------------------|----------------------------|

Mono Truck 30

| | | |
|-----------|------------|---|
| MONO30020 | 20 Litres | 1 |
| MONO30205 | 205 Litres | 1 |

Mono Truck 40

| | | |
|-----------|------------|---|
| MONO40020 | 20 Litres | 1 |
| MONO40205 | 205 Litres | 1 |

Mono Truck 50

| | | |
|-----------|-----------|---|
| MONO50020 | 20 Litres | 1 |
|-----------|-----------|---|

Industry & Manufacturer's Specifications: ACEA E1 (SAE 30), API CF-2/CF/SG (SAE 30), API CF-2/CF/SF (SAE 40 & 50), Allison C3 (SAE 30), MIL-L-2104F (SAE 30 & 40), Mack EO-K/2 (SAE 30 & 40), MB 228.0 (SAE 30), MB 227.0 (SAE 30, 40 & 50), Caterpillar TO-2 (SAE 30, 40 & 50), Detroit 7SE-270 (SAE 30, 40 & 50)

Fuel Types: Diesel, Petrol

Features: Keeps Engine Clean, Reduces Oil Consumption

Penrite Mono Truck 30, 40 & 50 engine oils are for older 2 and 4 stroke diesel engines. They are monograde oils formulated with premium mineral base oil and modern additives to provide outstanding protection in diesel as well as petrol engines against wear, corrosion, oil oxidation and sludge. Mono Truck 30, 40 & 50 are designed for use in naturally aspirated and turbo-charged diesel engines operating under severe on and off highway conditions. They are suitable for many older design small diesel engines used in fishing boats and trawlers and in stationary engines. Mono Truck 40 is the prime recommendation for Detroit Diesel 53, 71 and 91 series 2 stroke engines and Mono Truck 50 is suited to the 149 series engines.



ENGINE OILS | Heavy Duty

See page 129 for Universal Farm Oil (STOU)

See page 112 for Penblue (AdBlue®)

| PENRITE PRODUCT | Litres | | | | | | |
|--------------------------|--------|---|----|----|----|-----|------|
| | 5 | 6 | 10 | 20 | 60 | 205 | 1000 |
| Diesel HD | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| Diesel FX | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| Multifleet Diesel 15W-40 | - | - | ⊙ | ⊙ | - | ⊙ | ⊙ |
| Enviro+ HD 5W-30 | - | - | - | ⊙ | - | ⊙ | - |
| Enviro+ 10W-40 | ⊙ | - | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Mono Truck 30 | - | - | - | ⊙ | - | ⊙ | - |
| Mono Truck 40 | - | - | - | ⊙ | - | ⊙ | - |
| Mono Truck 50 | - | - | - | ⊙ | - | - | - |

(All products are available in 1000L Pods, on request)

Expert Tip: Penrite also produces oils for heavy diesel vehicles that are fitted with a DPF. These include Enviro+ 5W-30, Enviro+ 10W-40 and Diesel HD.



Visit our website at www.penriteoil.com

UNDERSTANDING AUTOMATIC TRANSMISSION FLUIDS

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?

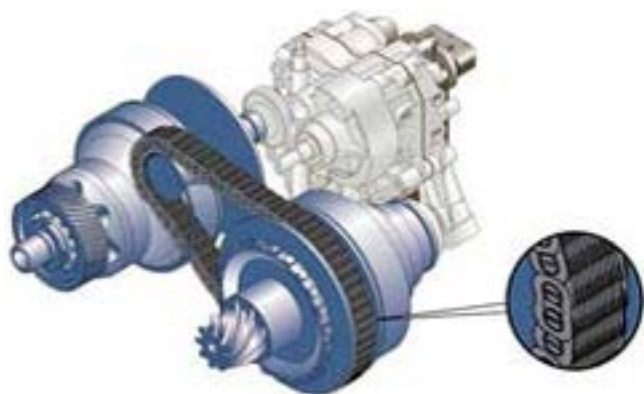
Automatic transmissions do not have a solid style conventional clutch like manual transmissions. Instead, they use a fluid coupling called a torque converter to transmit power from the engine to the transmission.

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.

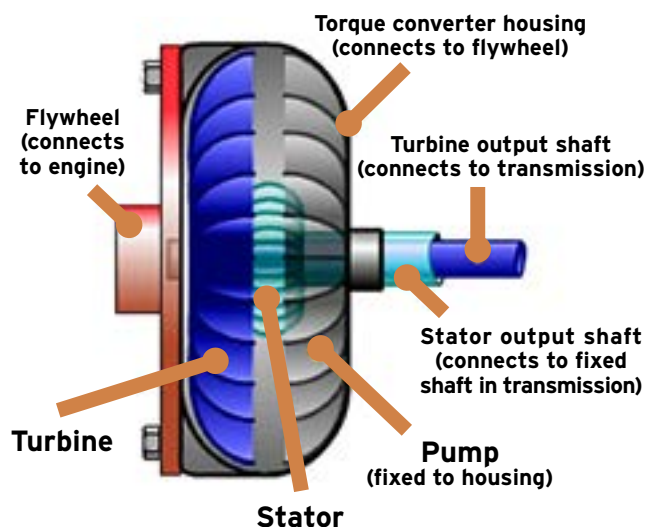
The shift points are now electronically controlled (instead of simple hydraulic pressure) and these electronics in the valve bodies are also reliant on the correct oil.

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. CVT's 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 driveshaft. Both types put specific strains on the oil and it must be very shear stable.





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.

The most common DCT at the time of writing is a six speed unit used by the Volkswagen group. They call it a DSG transmission. VW also have a seven speed DSG and all are now called S-Tronic.

It is felt that these will become widely used and across a wide range of vehicles. High performance vehicles made by Ferrari, Mercedes Benz, Nissan and BMW (large capacity, high output engines) also have DCTs.

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.

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.

MERCON®-SP & MERCON®-LV: Both fluids are low viscosity fluids. MERCON®-SP was based around a ZF specification and was used in six speed automatic transmissions, for both front and rear wheel drive. LV was introduced in 2007 and Ford plan to make it backwards compatible.

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

CHRYSLER:

ATF+3® (MS-7176F/MS-7176E): Satisfied by modified DEXRON®-IID/IE 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 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 DEXRON®-IID.

236.9: Long drain fluid usually a 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.

236.20: For CVTs.

MITSUBISHI:

MM SP & MM SP2: DEXRON®-III fluidity but with different frictional characteristics.

MM SP3: A more developed version with better low temperature properties and longer drain life and shift durability. Semi-synthetic at minimum.

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 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. Also used in manual transmissions.

OTHER OEM SPECIFICATIONS WORTH NOTING:

- **Honda:** ATF 96, Z1
- **Nissan:** Nissanmatic C, D, J, K, S
- **Mazda:** MIII, MIV, MV
- **Toyota:** TII, TIII, TIV, WS



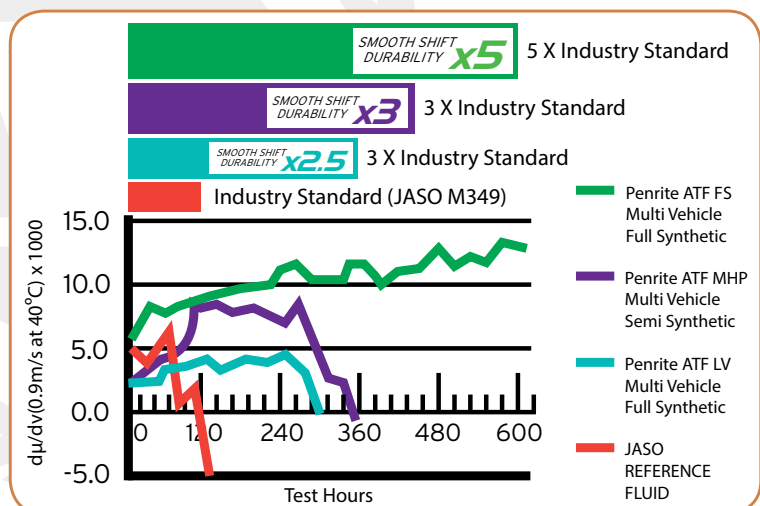


AUTOMATIC TRANSMISSION FLUIDS


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.

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. Our 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.



ATF LV (Multi Vehicle)

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Red |
|--------------|------------|------------|--|---|
| ATFLV001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: Ford MERCON®-LV, GM DEXRON®-VI, Toyota WS, Ford M2C922-A1/M2C924-A, JASO 1A/2A-02, Kia/Hyundai/Mitsubishi SP-IV, Honda DW-1, Mitsubishi Dia Queen J2/J3/PA, Nissan/Infiniti Matic S |  |
| ATFLV004 | 4 Litres | 4 | | |
| ATFLV020 | 20 Litres | 1 | | |
| ATFLV060 | 60 Litres | 1 | | |
| ATFLV205 | 205 Litres | 1 | | |

**ATF LV REPLACES
ATF DX-VI**


Penrite ATF LV is the latest generation technology, full synthetic, multi vehicle, low viscosity automatic transmission fluid meeting the requirements of Ford MERCON®-LV & GM DEXRON®-VI, as well as many other low viscosity manufacturer specifications. It is an advanced formulation automatic transmission fluid designed for optimum performance and outstanding high temperature resistance. ATF LV is suitable for long drain use in 4, 5 & 6 + speed automatic transmissions in passenger cars, 4WDs and light duty commercial vehicles. It is particularly suitable for use in GM Hydra-Matic transmissions, requiring GM DEXRON®-VI from MY 2006 onwards, such as Holden VE Series as well as in late model Ford transmissions requiring Ford MERCON®-LV, as used in Ford Kuga petrol 1.6 4WD, Territory SZ diesels and Ford Ranger PX models.

ATF FS (Multi Vehicle)

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Red |
|--------------|------------|------------|---|--|
| ATFFS001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: GM DEXRON®-II/III/VI*, BTR 91LE/95LE, Ford MERCON®-V, Mitsubishi MM SP2/SP3, Chrysler MS-9602 (ATF+4), Toyota WS*/T-II/III/IV, LT 71141, JASO 1A, MB 236.1/236.10/236.11/236.5, Nissan/Infiniti Matic C/D/J/K/S*, Subaru, Mazda MV/M-III |  |
| ATFFS004 | 4 Litres | 4 | | |
| ATFFS020 | 20 Litres | 1 | | |
| ATFFS060 | 60 Litres | 1 | | |
| ATFFS205 | 205 Litres | 1 | | |

Penrite ATF FS is a full synthetic, highly shear stable, multi vehicle, automatic transmission fluid that exceeds the requirements of Ford MERCON®-V & GM DEXRON®-II/III as well as many other manufacturer requirements. It is an advanced formula designed for optimum performance and outstanding high temperature performance.

ATF MHP (Multi Vehicle)

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic | Colour: Red |
|--------------|------------|------------|--|---|
| ATFMHP001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: Mitsubishi MM SP2/SP3, Toyota T-II/III/IV, Nissan/Infiniti Matic C/D/J/K, LT 71141, BTR 91LE/95LE, Chrysler ATF+3/ATF+4, MB 236.1/236.10/236.11/236.5, JASO 1A, Holden HN 2287, GM DEXRON®-IIIH/G/F, Honda ATF 89/96/Z1, VW 052990, Ford MERCON®-LV |  |
| ATFMHP004 | 4 Litres | 4 | | |
| ATFMHP020 | 20 Litres | 1 | | |
| ATFMHP060 | 60 Litres | 1 | | |
| ATFMHP205 | 205 Litres | 1 | | |

Penrite ATF MHP is a semi synthetic, multi vehicle, automatic transmission fluid that exceeds the requirements of Mitsubishi SP2/SP3, DEXRON®-IIIH & Ford MERCON®-LV as well as many other manufacturer specifications. It is an advanced formula designed for optimum performance and outstanding high temperature resistance.



ATF DX-III (Multi Vehicle)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Red |
|--------------|------------|------------|--|-------------|
| ATFDX3001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: GM DEXRON®-IIIH/G/F, GM DEXRON®-IIE/IID/II, Ford MERCON®/MERCON®-IV, LT 71141, Volvo 97341, BTR 91LE/95LE, MB 236.1/236.10/236.11/236.5, Ford M2C166-H, Toyota T-II/D2 | |
| ATFDX3004 | 4 Litres | 4 | | |
| ATFDX3020 | 20 Litres | 1 | | |
| ATFDX3060 | 60 Litres | 1 | | |
| ATFDX3205 | 205 Litres | 1 | | |
| | | | Penrite ATF DX-III is an advanced technology, premium mineral, multi vehicle, automatic transmission fluid that exceeds the requirements of GM DEXRON®-IIIH. It is manufactured from the latest additive technology and advanced hydrocracked base oils along with a viscosity modifier to minimize shear loss and provide outstanding performance throughout the life of the fluid. | |



DCT Fluid (Multi Vehicle)

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Amber |
|--------------|-----------|------------|---|---------------|
| DCTF001 | 1 Litre | 1 | Industry & Manufacturer's Specifications: Ford M2C936-A, Porsche Oil No. 999.917.080.00, BMW 83 22 2 148 578/579, BMW 83 22 0 440 214, BMW 83 22 2 147 477, Mitsubishi SSTF-1, MB 236.21, Peugeot/Citroen 9734.S2, VW TL 052 182/052 529, Volvo 1161838/39 | |
| DCTF004 | 4 Litres | 1 | | |
| DCTF020 | 20 Litres | 1 | | |
| | | | Penrite DCT Fluid is a highly advanced, full synthetic, multi vehicle, dual clutch transmission (DCT) fluid suitable for DCTs that use a wet clutch system. It is manufactured with advanced synthetic base oils and utilising the latest additive technology for applications in many modern types of wet DCT transmissions, including selected VW & Skoda DSG (Direct Shift Gearbox) and Audi S-Tronic transmissions. | |



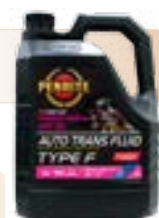
CVT Fluid V (Multi Vehicle)

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Red |
|---|-----------|------------|--|-------------|
| CVTV004 | 4 Litres | 4 | Industry & Manufacturer's Specifications: Nissan NS-1/NS-2, Mini Cooper EZL 799, Mopar CVT Fluid +4, Honda HCF2/HMMF, Volvo 4959, MB 236.20, Toyota CVTF FE/TC, Mitsubishi CVTF-J1 | |
| CVTV020 | 20 Litres | 1 | | |
| Penrite CVT Fluid V is a highly advanced, full synthetic, long drain, automatic transmission fluid manufactured with advanced synthetic and ultra-pure hydrocracked base oils and utilising state of the art additive technology for applications in many modern types of Continuously Variable Transmissions (CVT). Its new and improved formulation means more applications are now possible. Not suitable for use in Luk type CVT systems and where low viscosity CVT fluids are required. | | | | |



ATF 33 (Type F)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Red |
|--------------|------------|------------|--|---|
| ATF33004 | 4 Litres | 4 | Industry & Manufacturer's Specifications: Ford M2C33-F/G, Ford SQM-2C9007-AA | Penrite ATF 33 is special purpose, premium mineral, non-friction modified, automatic transmission fluid designed for Type F transmissions that specify M2C33-F/G or Ford SQM-2C9007-AA specifications. ATF 33 is designed for use in older Ford transmissions and power steering systems wherever a Ford Type F or G fluid is recommended. It can also be used in manual transmissions that specify this type of fluid. |
| ATF33020 | 20 Litres | 1 | | |
| ATF33205 | 205 Litres | 1 | | |



Classic ATF

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Red |
|--------------|-----------|------------|--|-------------|
| CLASATF005 | 5 Litre | 4 | Industry & Manufacturer's Specifications: DEXRON®-IID, MERCON®-IV, Allison C-4, MB 236.6/7, ZF TE-ML11/TE-ML 14, Ford ESR-M2C163-A, Ford M2C166-H, Ford M2C138-CJ, Vickers 35VQ25, Voith Diwa, Denison T5D/P-46/HF-2, Toyota T-II/D2, Sundstrand 22-213L, Mitsubishi SP/SP2, BTR 5M-52, BTR 81LE/91LE | |



Penrite Classic ATF is premium mineral, multi vehicle, DEXRON®-IID automatic transmission fluid for classic and older transmissions that required Type A/Suffix A or GM DEXRON®/DEXRON®-II fluids. It is manufactured with modern additive technology and premium base oils to provide better shift performance and protection than original type automatic transmission fluids.

See page 113 for Auto Trans Stop Leak

See page 113 for Penrite 4297 (Transmission Additive)

ATF Top Up

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Dark Red |
|--------------|-----------|------------|---|------------------|
| ATFTU001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: DEXRON®-IID/IIIE, MERCON®-IV, Allison C-4, MB 236.1, Nissanmatic C/D, Toyota T-II, Ford ESR-M2C163-A/M2C166-H/M2C138C-J, Mazda M-II, ZF TE-ML11 Mitsubishi SP2, Chrysler ATF+3, BTR 91LE/95LE, | |



Penrite ATF Top Up is a multi vehicle, special purpose, heavier viscosity, transmission fluid designed for topping up many Automatic Transmissions and Power Steering systems. ATF Top Up meets the basic frictional and anti-wear requirements of DEXRON®-IIIE and many other manufacturer specifications. It is designed for the top up of most car and truck automatic transmissions to 20% maximum, that require conventional transmission fluids.

| PENRITE PRODUCT | Litres | | | | | |
|-----------------------------|--------|---|---|----|----|-----|
| | 1 | 4 | 5 | 20 | 60 | 205 |
| ATF LV (Multi Vehicle) | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ |
| ATF FS (Multi Vehicle) | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ |
| ATF MHP (Multi Vehicle) | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ |
| ATF DX-III (Multi Vehicle) | ⊙ | ⊙ | - | ⊙ | ⊙ | ⊙ |
| DCT Fluid (Multi Vehicle) | ⊙ | ⊙ | - | ⊙ | - | - |
| CVT Fluid V (Multi Vehicle) | - | ⊙ | - | ⊙ | - | - |
| ATF 33 (Type F) | - | ⊙ | - | ⊙ | - | ⊙ |
| Classic ATF | - | - | ⊙ | - | - | - |
| ATF Top Up | ⊙ | - | - | - | - | - |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Automatic Transmission Fluids range:

- Multi Vehicle application means the same fluid can be used across multiple vehicles. Full synthetic (ATF LV 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).
- Specialist fluids (ATF 33, CVT Fluid V and DCT Fluid).
- Passenger car, 4WD and heavy vehicle applications.



Expert Tip: "Red" is a specification colour used by GM for their transmission fluids. This has been adopted by the industry as a standard colour for ATFs. Apart from that, the colour is just a dye and it has no relevance to the performance of the transmission fluid.

UNDERSTANDING GEAR OILS

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:

- | | |
|---------------|--|
| GL-1 | Oil without EP additive. |
| GL-2 | Usually contains fatty materials. |
| GL-3 | Contains a mild EP additive. |
| GL-4 | Equivalent to MIL-L-2105B and is usually satisfied by a 50% GL-5 additive level. |
| GL-5 | Equivalent to MIL-PRF-2105E. Primary field service recommendation for Passenger cars and trucks worldwide. |
| GL-6 | For severe service involving high offset hypoid gears. Often used to describe oils used in limited slip differentials. (Obsolete now) |
| MT-1 | For non-synchronised manual transmissions in buses and trucks at a higher level than GL-4. |
| MIL-PRF-2105E | 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 (Jun 2005) Gear Oils

| SAE Grade | Max Temperature for a Viscosity of 150,000cP | Viscosity @ 100°C | |
|-----------|--|-------------------|---------|
| | | Min cSt | Max cSt |
| 70W | -55 | 4.1 | NA |
| 75W | -40 | 4.1 | NA |
| 80W | -26 | 7.0 | NA |
| 85W | -12 | 11.0 | NA |
| 80 | NA | 7.0 | <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: Limit must also be met after testing in 20 hour KRL Shear Stability Test (CEC-L45-T-93 Method C).

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 deliver 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.



Visit our website at www.penriteoil.com

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.

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

TE ML-03 Transmissions in off road vehicles.

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

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

TE ML-06 Tractor transmissions and hydraulics.

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

TE ML-11 Manual and automatic transmissions in cars.

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

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:

HN1855, HN1820, HN1046, HN1070, HN1181, HN 386, HN1561, HN1187, HN 2013, HN2040

ROCKWELL:

O-76A, O-76B, O-76N, O-76D.

EATON FULLER:

PS 164 (Rev. 7) (For Roadranger transmissions).

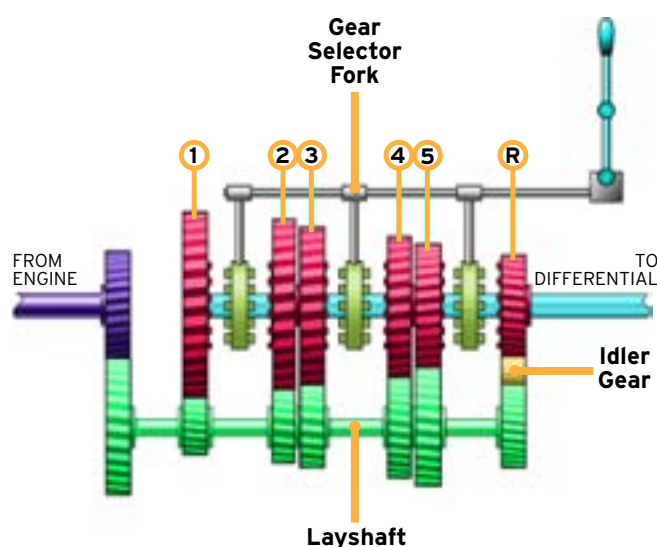


HOW DOES A MANUAL TRANSMISSION WORK?

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 lever, 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 six 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. Synchroniser rings are used to allow the two gears to spin at the same speed before 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 Transmission 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 DIFFERENTIAL:

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 a 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.





MANUAL GEAR / DIFFERENTIAL

Penrite has three categories of Manual Gear / Differential oils:

PRO GEAR: Penrite's range of performance automotive 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: Penrite's range of 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: Penrite's range of premium mineral automotive gear oils are manufactured with modern extreme pressure additives and friction modifiers. This new 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.

Pro Gear 70W-75

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| PROG7075001 | 1 Litre | 6 |
| PROG70750025 | 2.5 Litres | 4 |
| PROG7075020 | 20 Litres | 1 |
| PROG7075060 | 60 Litres | 1 |
| PROG7075205 | 205 Litres | 1 |

Base Oil: Full Synthetic
Colour: Amber

Viscosity: 70W-75

Industry & Manufacturer's Specifications: API GL-4 Plus, ZF TE-ML 11 (manual), MTF BOT 338, Tremec (T-56)

Application: Manual Gearboxes, Transfer Cases, Transaxles

Penrite Pro Gear 70W-75 is a premium full synthetic, high performance gear oil, manufactured from a blend of synthetic base oils including ester. It uses the latest technology, purpose designed additives for long service life and meets the performance requirements of API GL-4 Plus as well as many other manufacturer specifications. It has very fast flow at start up for slick gear shifts. Ideal in many manual gearboxes and transfer cases where the manufacturer originally specified automatic transmission fluids.



Pro Gear 75W-85

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| PROG7585001 | 1 Litre | 6 |
| PROG75850025 | 2.5 Litres | 4 |
| PROG7585020 | 20 Litres | 1 |
| PROG7585060 | 60 Litres | 1 |
| PROG7585205 | 205 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 75W-85

Replacement Viscosities: 80W-85, SAE 80 **Colour:** Amber

Industry & Manufacturer's Specifications: API GL-4 Plus, GM 12346190, MB 235.10/235.4, ZF TE-ML 01/02/08, MAN 341, Chrysler MS 9224, BTR 5M-42

Application: Manual Gearboxes, Transfer Cases, Transaxles

Penrite Pro Gear 75W-85 is a premium full synthetic, manual gearbox oil manufactured from a blend of carefully selected synthetic base oils. It uses the latest technology, purpose designed additives for long service life and excellent load carrying capacity. It contains a unique viscosity modifier for stay-in-grade performance for the life of the drain. It meets the performance requirements of API GL-4 Plus as well as many manufacturer requirements.



Pro Gear GL-5 75W-85

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| PROGL5001 | 1 Litre | 6 |
| PROGL50025 | 2.5 Litres | 4 |
| PROGL5020 | 20 Litres | 1 |

Base Oil: Full Synthetic

Viscosity: 75W-85

Replacement Viscosities: SAE 80 **Colour:** Amber

Industry & Manufacturer's Specifications: API GL-5

Application: Hypoid & Limited Slip Differentials, Transaxles

Penrite Pro Gear GL-5 75W-85 is a premium full synthetic, gear oil optimised for differentials, both hypoid and limited slip, transfer cases, manual transaxles and gearboxes in late model passenger cars, 4WDs and light commercial vehicles that specifically require the use of an API GL-5, SAE 75W-85 viscosity gear oil. It is manufactured with a blend of carefully selected synthetic base oils and purpose designed additives for long service life and excellent load carrying ability. Pro Gear GL-5 75W-85 provides fuel saving benefits over standard differential oils and is suited to many late model vehicle requirements. It can be used to improve shift quality in colder climates where either SAE 75W-90 or SAE 80 API GL-5 oils are specified. It is already dosed with the correct amount of friction additive for use in limited slip differentials, no extra additive is required.



Pro Gear 75W-90

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| PROG7590001 | 1 Litre | 6 |
| PROG75900025 | 2.5 Litres | 4 |
| PROG7590020 | 20 Litres | 1 |
| PROG7590060 | 60 Litres | 1 |

Base Oil: Full Synthetic **Viscosity:** 75W-90
Replacement Viscosities: 80W-90, SAE 90 **Colour:** Amber

Industry & Manufacturer's Specifications: API GL-5/GL-6/MT-1, MIL-L-2105D, BTR 5M-50, ZF TE ML-01/02/05/07/08

Application: Hypoid & Limited Slip Differentials, Manual Gearboxes, Transaxles

Penrite Pro Gear 75W-90 is a premium full synthetic, heavy duty gear oil that uses a special combination of synthetic base oils which include PAO & Ester, with an advanced additive system to provide ultimate performance and protection under all operating conditions. It meets the performance requirements of API GL-5/GL-6/MT-1 as well as many other manufacturer specifications. Suitable for use in both hypoid and limited slip differentials. No further addition of Limslip Additive is recommended. It is pre-dosed with the correct amount and any further addition may result in seal degradation. It can be used as a replacement for a mineral gear oil, of a similar viscosity, operating in severe applications, such as high temperatures and shock loads that may lead to a mineral oil breaking down prematurely. Its resistance to high temperature degradation and oxidation allows it to provide longer oil drain intervals while providing maximum wear protection.



Pro Gear 80W-140

| Product Code | Pack Size | Carton Qty |
|---------------|------------|------------|
| PROG80140001 | 1 Litre | 6 |
| PROG801400025 | 2.5 Litres | 4 |
| PROG80140020 | 20 Litres | 1 |
| PROG80140060 | 60 Litres | 1 |
| PROG80140205 | 205 Litres | 1 |

Base Oil: Full Synthetic **Viscosity:** 80W-140
Replacement Viscosities: 75W-140, 85W-140, SAE 140 **Colour:** Amber

Industry & Manufacturer's Specifications: API GL-5/GL-6/MT-1, MIL-L-PRF-2105E, Ford M2C190-A

Application: Hypoid & Limited Slip Differentials, Manual Gearboxes, Transaxles

Penrite Pro Gear 80W-140 is a premium full synthetic, heavy duty gear oil that uses a special combination of synthetic base oils which include PAO & Ester, with an advanced additive system to provide ultimate performance and protection under all operating conditions. It meets the performance requirements of API GL-5/GL-6/MT-1 as well as many other manufacturer specifications. Suitable for use in both hypoid and limited slip differentials. No further addition of Limslip Additive is recommended. It is pre-dosed with the correct amount and any further addition may result in seal degradation. It can be used in applications where a synthetic oil of this viscosity is required especially where consistent high temperature operations and/or extreme loads are encountered. It has been especially formulated (and field trial-proven) to reduce chatter and whine in BTR/Dana M78/M80 limited slip differentials fitted to V8 Holden, Ford, Chrysler and Jeep vehicles.



Pro Gear 85W-110

| Product Code | Pack Size | Carton Qty |
|---------------|------------|------------|
| PROG85110001 | 1 Litre | 6 |
| PROG851100025 | 2.5 Litres | 4 |

Base Oil: Premium Mineral **Viscosity:** 85W-110
Replacement Viscosities: 80W-90, SAE 90 **Colour:** Amber

Industry & Manufacturer's Specifications: API GL-5, US Steel 224, US Steel 224, AGMA 250.04 (No 6), Harley Trans Oil 99892-84, China National GB 13895-1992

Application: Hypoid Differentials, Manual Gearboxes, Transaxles

Penrite Pro Gear 85W-110 is a premium mineral, heavy duty gear oil formulated with a special, highly effective extreme pressure additive system to provide ultimate performance and protection under all operating conditions. It meets the performance requirements of API GL-5 as well as many other manufacturer specifications. Suitable for use in Harley Davidson FL/FX series transmissions.



Gear Oil 80W-90

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| G08090001 | 1 Litre | 6 |
| G080900025 | 2.5 Litres | 4 |
| G08090020 | 20 Litres | 1 |
| G08090060 | 60 Litres | 1 |
| G08090205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 80W-90
Replacement Viscosities: 85W-90, SAE 90 **Colour:** Blue

Industry & Manufacturer's Specifications: API GL-5/GL-6/MT-1/PG-2, MIL-L-PRF-2105E, MIL-L-2105D, China National GB 13895-1992, Ford ESW-M2C1006-B/1013-A/104-A/105-A/197-A, GM HN 1181/1187/1386/1561,

Application: Hypoid & Limited Slip Differentials, Manual Gearboxes, Transfer Cases, Transaxles

Penrite Gear Oil 80W-90 is a premium, heavy duty, mineral automotive gear oil, manufactured with modern extreme pressure additives and friction modifiers, meeting the requirements of API GL-5/6 & MT-1, as well as many other manufacturer specifications. It is suitable for use in both limited slip and hypoid differentials. Coloured Blue for easy identification.



Gear Oil 85W-140

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| G085140001 | 1 Litre | 6 |
| G085140025 | 2.5 Litres | 4 |
| G085140020 | 20 Litres | 1 |
| G085140060 | 60 Litres | 1 |
| G085140205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 85W-140
Colour: Blue

Industry & Manufacturer's Specifications: API GL-5/GL-6/MT-1/PG-2, MIL-L-PRF-2105E, MIL-L-2105D, GM HN 1181/1187/1386/1561, China National GB 13895-1992

Application: Hypoid & Limited Slip Differentials

Penrite Gear Oil 85W-140 is a premium, heavy duty, mineral automotive gear oil, manufactured with modern extreme pressure additives and friction modifiers meeting the requirements of API GL-5/6 & MT-1, as well as many other manufacturer specifications. It is suitable for use in both limited slip and hypoid differentials. Coloured Blue for easy identification.



Gear Oil 140

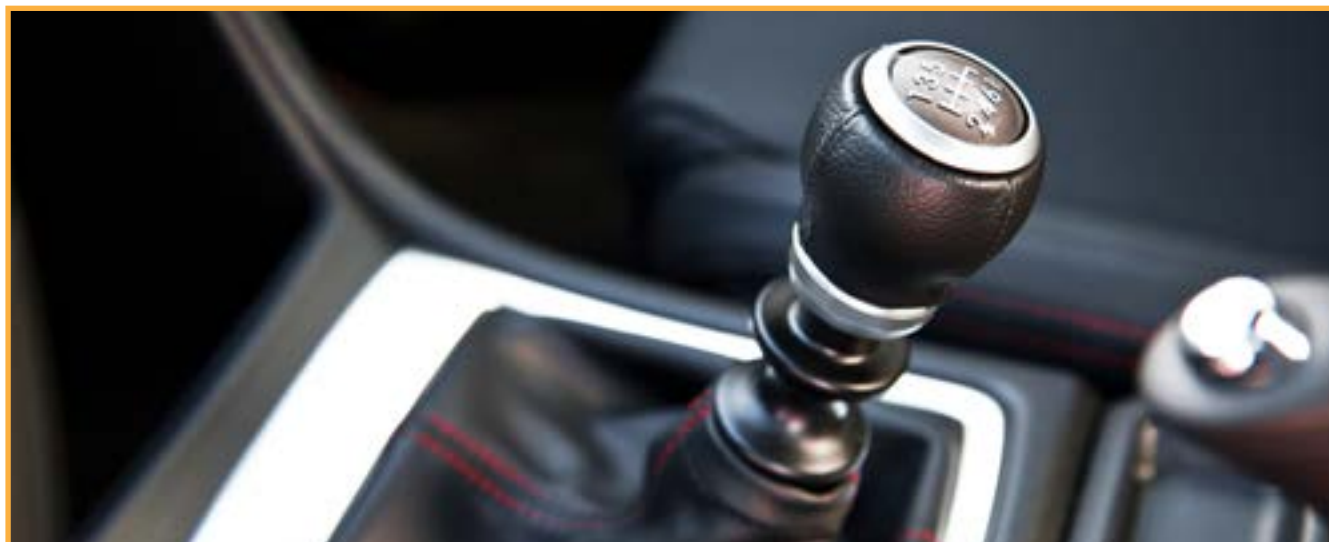
| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| G0140001 | 1 Litre | 6 |
| G01400025 | 2.5 Litres | 4 |
| G0140020 | 20 Litres | 1 |
| G0140060 | 60 Litres | 1 |
| G0140205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** SAE 140
Colour: Blue

Industry & Manufacturer's Specifications: API GL-5/GL-6/MT-1/PG-2, MIL-L-PRF-2105E, MIL-L-2105D, SAE J2360, China National GB 13895-1992

Application: Hypoid & Limited Slip Differentials

Penrite Gear Oil 140 is a premium, heavy duty, mineral automotive gear oil, manufactured with modern extreme pressure additives and friction modifiers meeting the requirements of API GL-5/6 & MT-1 as well as many other manufacturer specifications. It is suitable for use in both limited slip and hypoid differentials. Coloured Blue for easy identification.



Trans Gear 75W-80

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| TG7580001 | 1 Litre | 6 |
| TG7580025 | 2.5 Litres | 4 |
| TG7580020 | 20 Litres | 1 |
| TG7580060 | 60 Litres | 1 |
| TG7580205 | 205 Litres | 1 |

Base Oil: Semi Synthetic
Colour: Amber

Viscosity: 75W-80

Industry & Manufacturer's Specifications: API GL-4 Plus, ZF TE-ML 02D, Chrysler MS-9224, Land Rover MTF 94, MB 235.10, Honda MTF 7289

Application: Manual Gearboxes, Transfer Cases, Transaxles

Penrite Trans Gear 75W-80 is a premium performance, semi synthetic manual gearbox oil. It uses the latest technology, purpose designed additives for long service life and contains a unique viscosity modifier for enhanced low temperature performance. It meets the performance requirements of API GL-4 Plus as well as many other manufacturer requirements.



Trans Gear 75W-90

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| TG7590001 | 1 Litre | 6 |
| TG7590025 | 2.5 Litres | 4 |
| TG7590020 | 20 Litres | 1 |
| TG7590060 | 60 Litres | 1 |
| TG7590205 | 205 Litres | 1 |

Base Oil: Semi Synthetic
Replacement Viscosities: 80W-90

Viscosity: 75W-90

Colour: Amber

Industry & Manufacturer's Specifications: API GL-5/MT-1, BTR 5M-31, MIL-L-2105D, ZF TE ML-01/02/05/07/08, China National GB 13895-1992

Application: Manual Gearboxes, Transfer Cases, Transaxles

Penrite Trans Gear 75W-90 is a premium performance, semi synthetic, manual gearbox and transaxle oil. It is manufactured from a blend of highly refined base oils, the latest technology additives, friction enhancers and an advanced viscosity modifier. It meets the performance requirements of API MT-1 and GL-5 as well as many manufacturer requirements.



HD Gear Oil 80W-90 & 85W-140

| Product Code | Pack Size | Carton Qty |
|-----------------|-------------|------------|
| HDG08090020 | 20 Litres | 1 |
| HDG08090060 | 60 Litres | 1 |
| HDG08090205 | 205 Litres | 1 |
| HDG080901000LTR | 1000 Litres | 1 |

HD Gear Oil 80W-90

| | | |
|-----------------|-------------|---|
| HDG08090020 | 20 Litres | 1 |
| HDG08090060 | 60 Litres | 1 |
| HDG08090205 | 205 Litres | 1 |
| HDG080901000LTR | 1000 Litres | 1 |

HD Gear Oil 85W-140

| | | |
|--------------|------------|---|
| HDG085140020 | 20 Litres | 1 |
| HDG085140060 | 60 Litres | 1 |
| HDG085140205 | 205 Litres | 1 |

Base Oil: Premium Mineral
Colour: Amber

Viscosity: 80W-90 & 85W-140

Industry & Manufacturer's Specifications: API GL-5/MT-1/PG-2, MIL-L-PRF-2105E, MIL-L-2105D, GM HN 1181/1386, Chrysler MS-9020, Rockwell O-76A, Clark MS-8, ZF TE-ML05A/05C/07A/08/12C/16/21, SAE J2360, White MS-0016, Ford ESW-M2C105-A/197-A, BTR 5M-36, Joint Service Designation OEP-600 (80W-90)/OEP-220 (85W-140), Mack GO-J, International B-22

Application: Hypoid Differentials, Manual Gearboxes, Transfer Cases, Transaxles

Penrite HD Gear Oil 80W-90 & 85W-140 are premium mineral, heavy duty gear oil manufactured with modern extreme pressure additives and premium quality base oils, meeting the requirements of API GL-5 and MT-1, as well as many other manufacturer specifications. They are designed for use in heavy duty applications in differentials, manual gearboxes, transfer cases and transaxles in light and heavy duty commercial vehicles, 4WDs, passenger cars, construction, earthmoving and agricultural equipment. They do not contain Limited Slip additive. For Limited Slip differentials add Penrite Limslip Additive at the rate of 150mL per 2 litres of oil.



HDPS Fluid (Honda Dual Pump System)

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| HDPS001 | 1 Litre | 6 |

Base Oil: Semi Synthetic

Colour: Amber

Industry & Manufacturer's Specifications: Honda DPSF

Penrite HDPS Fluid is a premium semi synthetic oil specially designed for use in Honda Dual Pump System differentials. It contains a unique combination of extreme pressure additives, long life friction modifiers, anti-shudder additives and synthetic base oils, to provide maximum wear protection and extended service life.



See page 113 for Limslip Additive

See page 113 for Penrite 4297 (Transmission Additive)



Key Features & Benefits of the Manual Gear / Differential range:

- > 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.

Expert Tip: Anti wear agents prevent wear due to seizure or scuffing of rubbing surfaces. They're normally zinc, phosphorus or other organo-metallic based.

| PENRITE PRODUCT | Litres | | | | | |
|----------------------|--------|-----|----|----|-----|------|
| | 1 | 2.5 | 20 | 60 | 205 | 1000 |
| Pro Gear 70W-75 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Pro Gear 75W-85 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Pro Gear GL-5 75W-85 | ⊙ | ⊙ | ⊙ | - | - | - |
| Pro Gear 75W-90 | ⊙ | ⊙ | ⊙ | ⊙ | - | - |
| Pro Gear 80W-140 | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| Pro Gear 85W-110 | ⊙ | ⊙ | - | - | - | - |
| 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 | ⊙ | - | - | - | - | - |

(All products are available in 1000L Pods, on request)



Visit our website at www.penriteoil.com

UNDERSTANDING COOLANTS

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 water to assist the heat transfer process from the engine as it operates. However, engines are made from metal, usually of more than one type and are likely to rust over time.

Hence an engine coolant is required.

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.
- Be compatible with plastics and rubbers.
- Be chemically stable (i.e. no "drop out").
- Mix readily with water!
- Prevention of deposits.

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 labeled 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.

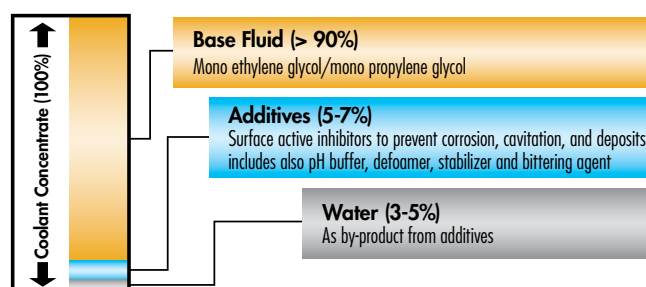


COOLANT COMPOSITION

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.

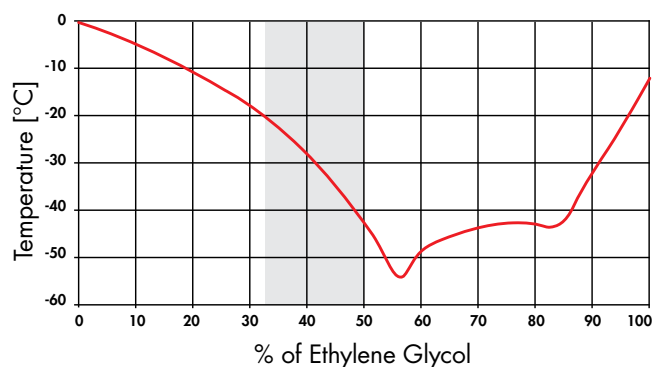
Water combined with glycol and inhibitors form a Type "A" engine coolant. The typical composition of a premixed Type "A" is shown on the chart below. Glycol and water form the majority of the cooling system solution. Inhibitors only a small percentage of the coolant.

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 fulfill different functions within the coolant:

- Organic acids
- Nitrites
- Bittering agents
- Silicates and phosphates
- Defoamers
- 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 compatible with conventional formulations, but care may need to be taken when mixing colours.

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 about 3 years when stored correctly.



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.

See page 108 for Penrite Radiator Flush



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 type 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.

See page 108 for Penrite Radiator Stop Leak

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 by mixing: 33% by volume Anti-Freeze Anti-Boil coolant with 67% by volume distilled water.

COOLANT TEST STRIPS

Coolant test strips are disposable test strips for measuring the concentration level and condition of Anti-Freeze Anti-Boil coolants used in all types of combustion engines.

They effectively test the coolant's concentration as well as the pH level and alkalinity to determine when service of the coolant is necessary.

See page 84 for Penrite Coolant Test Strips

RESULTS WITH & WITHOUT COOLANT

Radiator, Head Gasket and Thermostat Housing:





COOLANTS

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, 4WDs, Heavy Duty Vehicles, Motorcycles, Marine, Racing, Veteran, Vintage & Classic and many more.

TYPES OF COOLANTS: There are 2 main types of coolants available, **TYPE "A"** and **TYPE "B"**

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.

TYPE "B" do not have Anti-Freeze Anti-Boil characteristics and are essentially inhibitors only.

There are different formulations of both Type A and Type B coolants that are available depending on the type of application needed, specification required, OEM requirements etc.

| PRODUCT | INDUSTRY & OEM APPROVALS/LICENSES |
|---|--|
| 8 YEAR 500,000km RED (Concentrate/Premix) | Audi/Bentley/Bugatti/Lamborghini/Seat/Skoda/VW TL 774-G (G12, G12+, G12++), Cummins CES 14603, Porsche (from 2010), MAN 324 Type Si-OAT, Mercedes Benz MB-Approval 325.5/ MB-Approval 325.6, Smart MB-Approval 326.0 |
| 7 YEAR 450,000km GREEN (Concentrate/Premix) | Audi/Seat/Skoda/VW TL 774-C (G11), Mercedes Benz MB-Approval 325.0, Opel B 040 0240, BMW/Mini GS 94000, Deutz DQC CA-14, Jenbacher TA-Nr. 1000-0201, Liebherr TLV 035/ TLV 23009 A, MAN 324 NF, MAN B&W List 3.3.7, Maybach MB-Approval 325.0, MTU MTL 5048, Porsche (pre 1995), Rolls Royce (post 1998) BMW GS 94000, Saab 690 1599, Zastava, Smart MB-Approval 325.0, Tesla (from 2013), Van Hool, Volvo Truck (from 2005) |
| 7 YEAR 450,000km BLUE (Concentrate/Premix) | Audi/Bentley/Lamborghini/Seat/Skoda/VW TL 774-D/F, DAF MAT 74002, MTU MTL 5048, MAN 324 SNF, Porsche (1996-2010), Mini Cooper D (2007-2011), Mercedes Benz MB-Approval 325.3, Deutz DQC CB-14 |



OEM APPROVED COOLANTS

8 Year 500,000km Red Concentrate & Premix

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

Concentrate

| | | |
|----------------|-------------|---|
| COOLRED001 | 1 Litre | 6 |
| COOLRED0025 | 2.5 Litres | 4 |
| COOLRED005 | 5 Litres | 3 |
| COOLRED020 | 20 Litres | 1 |
| COOLRED060 | 60 Litres | 1 |
| COOLRED205 | 205 Litres | 1 |
| COOLRED1000LTR | 1000 Litres | 1 |

Premix

| | | |
|---------------|------------|---|
| COOLREDPMX001 | 1 Litre | 6 |
| COOLREDPMX005 | 5 Litres | 3 |
| COOLREDPMX205 | 205 Litres | 1 |

**8 Year 500,000km Red REPLACES
6 Year 350,000km**



Technology: Type A, Si-OAT

Colour: Red

OEM Approvals: VW/Audi/Bentley/Bugatti/Lamborghini/Skoda/Seat TL 774-G (G12, G12+, G12++), Porsche 911 (from 2010), Mercedes Benz MB-Approval 325.5/MB-Approval 325.6, MAN 324, Type Si-OAT, Cummins CES 14603, Smart MB-Approval 326.0
Industry & Manufacturer's Specifications: VW/Audi/Skoda/Bentley/Lamborghini/Seat TL774-D/F, Toyota Long Life TSK2601G, Ford M97B44-D, Mitsubishi ES-X64217, Nissan NES M5059, Holden/GM 6277M/1825M/1899M

Penrite 8 Year 500,000km Red Coolant, Concentrate & Premix are GENUINE GLYSANTIN G40, OEM, Fully Licensed & Warranty Approved, Type "A" Ethylene Glycol, Anti-Freeze Anti-Boil coolants as used in initial manufacturer factory fills. They use a technically advanced Si-OAT (Organic Acid Technology) based inhibitor system that is Phosphate, Amine, Borate and Nitrite free.

The extended long life inhibitor formulation prevents rust, corrosion, cavitation and degradation of the cooling system. They provide extended long-term protection against rust and corrosion for all materials used in the engine and in the cooling system construction. They protect cast iron, aluminium, copper and solder alloys as well as the hoses, seals and plastics. They are especially effective in all aluminium engines that are under load or used in extreme hot and cold climates.

They are suitable for cars, 4WDs, motorcycles, light and heavy duty commercial vehicles, construction and agricultural equipment. They are especially suited to vehicles of European origin such as Audi, Bentley, Bugatti, Lamborghini, VW, Seat and Skoda, MAN trucks, Mercedes-Benz trucks and Porsche (from 2010).



**Premix Coolant
Concentration
Level is 50%**

7 Year 450,000km Green Concentrate & Premix

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

Concentrate

| | | |
|---------------|------------|---|
| COOLGREEN001 | 1 Litre | 6 |
| COOLGREEN0025 | 2.5 Litres | 4 |
| COOLGREEN005 | 5 Litres | 3 |
| COOLGREEN020 | 20 Litres | 1 |
| COOLGREEN060 | 60 Litres | 1 |
| COOLGREEN205 | 205 Litres | 1 |

Premix

| | | |
|-----------------|------------|---|
| COOLGREENPMX001 | 1 Litre | 6 |
| COOLGREENPMX005 | 5 Litres | 3 |
| COOLGREENPMX020 | 20 Litres | 1 |
| COOLGREENPMX205 | 205 Litres | 1 |

**7 Year 450,000km Green REPLACES
4 Year & HD 50/50**



Technology: Type A, Hybrid (HOAT)

Colour: Green

OEM Approvals: VW/Audi/Skoda/Seat TL 774-C (G11), MAN 324 NF, Mercedes Benz MB-Approval 325.0, BMW/Mini GS 94000 & many more
Industry & Manufacturer's Specifications: AS 2108-2004 Type A, ASTM D3306, BS 6580, Ford M97B44-A/M97B51-A1, SAE J1034, Chrysler MS-9769, Holden HN2217/HN2043, JASO M325 (Japan), GM 1825M/1899M

Penrite 7 Year 450,000km Green Coolant, Concentrate & Premix are GENUINE GLYSANTIN G48, OEM, Fully Licensed & Warranty Approved, Type "A" Ethylene Glycol, Anti-Freeze Anti-Boil coolants as used in initial manufacturer factory fills. They use a technically advanced HYBRID (HOAT - Hybrid Organic Acid Technology) based inhibitor system that is Phosphate, Amine and Nitrite free.

The extended long life inhibitor formulation prevents rust, corrosion, cavitation and degradation of the cooling system. They provide long-term protection against rust and corrosion for all materials used in the engine and in the cooling system construction. They protect cast iron, aluminium, copper and solder alloys as well as the hoses, seals and plastics. They are especially effective in all aluminium engines that are under load or used in extreme hot and cold climates.

They are suitable for cars, 4WDs, motorcycles, light and heavy duty commercial vehicles, construction and agricultural equipment. They are especially suited to vehicles of European origin such as Audi/VW (G11), BMW, Mercedes-Benz, Porsche (pre 1995), Volvo, Opel and Saab, but it may be used in many other types of vehicles.



**Premix Coolant
Concentration
Level is 50%**

OEM APPROVED COOLANTS

7 Year 450,000km Blue Concentrate & Premix

| Product Code | Pack Size | Carton Qty | Technology: Type A, OAT | Colour: Blue |
|--------------|-----------|------------|-------------------------|--------------|
|--------------|-----------|------------|-------------------------|--------------|

Concentrate

| | | |
|-------------|-----------|---|
| COOLBLUE001 | 1 Litre | 6 |
| COOLBLUE005 | 5 Litres | 3 |
| COOLBLUE020 | 20 Litres | 1 |

Premix

| | | |
|----------------|----------|---|
| COOLBLUEPMX001 | 1 Litre | 6 |
| COOLBLUEPMX005 | 5 Litres | 3 |

**7 Year 450,000km Blue REPLACES
3 Year & Anti-Freeze Anti-Boil
Premix Blue**



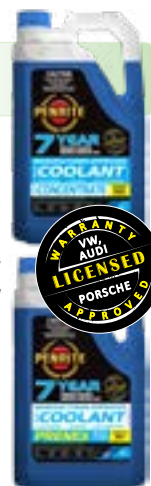
OEM Approvals: VW/Audi/Bentley/Lamborghini/Skoda/Seat TL 774-D/F, DAF MAT 74002, MTU MTL 5048, MAN 324 SNF, Mini Cooper D (2007-2011), Mercedes Benz MB-Approval 325.3, Porsche (1996-2010), Deutz DQC CB-14

Industry & Manufacturer's Specifications: AS/NZS 2108-2004 Type A, ASTM D3306/D4985, GM/Holden 6277M/1825M/1899M, Ford M97B44-D, Mercedes-Benz MB 326.3 (Premix Only), Nissan NES M5059, Mitsubishi ES-X64217, Toyota Long Life TSK2601G

Penrite 7 Year 450,000km Blue Coolant, Concentrate & Premix are GENUINE GLYSANTIN G30, OEM, Fully Licensed & Warranty Approved, Type "A" Ethylene Glycol, Anti-Freeze Anti-Boil coolants as used in initial manufacturer factory fills. They use a technically advanced OAT (Organic Acid Technology) based inhibitor system that is Silicate, Phosphate, Amine, Borate and Nitrite free.

The extended long life inhibitor formulation prevents rust, corrosion, cavitation and degradation of the cooling system. They provide long-term protection against rust and corrosion for all materials used in the engine and in the cooling system construction. They protect cast iron, aluminium, copper and solder alloys as well as the hoses, seals and plastics. They are especially effective in all aluminium engines that are under load or used in extreme hot and cold climates.

They are suitable for cars, 4WDs, motorcycles, light and heavy duty commercial vehicles, construction and agricultural equipment. They are silicate, borate and phosphate free making it particularly suitable for both European and Japanese vehicles that use blue coloured coolant such as Nissan, Subaru and Suzuki.



**Premix Coolant
Concentration
Level is 50%**

COOLANTS



Visit our website at www.penriteoil.com

350,000km Green Concentrate & Premix

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

Concentrate

| | | |
|-------------|------------|---|
| COOL350001 | 1 Litre | 6 |
| COOL3500025 | 2.5 Litres | 4 |
| COOL350005 | 5 Litres | 3 |
| COOL350020 | 20 Litres | 1 |
| COOL350060 | 60 Litres | 1 |
| COOL350205 | 205 Litres | 1 |

Premix

| | | |
|---------------|----------|---|
| COOL350PMX001 | 1 Litre | 6 |
| COOL350PMX005 | 5 Litres | 3 |

350,000km Green REPLACES
PROAFAB

Technology: Type A, Hybrid (HOAT) **Colour:** Green

Industry & Manufacturer's Specifications: AS/NZS 2108-2004 Type A, ASTM D3306, SAE J1034, Chrysler MS-9769, Ford M97B44-A, Ford WSS-M 97B51-A1, Holden HN1825M/HN1899/2043, BS 6580:1992, MAN List 3.3.7, Cummins CES 14603, John Deere JDMH24, Leyland BLS.22.AF.01, MTU MTL 5048, JCB STD00088

Penrite 350,000km Green Coolant, Concentrate & Premix are Type "A" Anti-Freeze Anti-Boil, silicate, phosphate and amine free coolants, safe for many types of light and heavy duty vehicles. They use a technically advanced HYBRID (HOAT - Hybrid Organic Acid Technology) inhibitor formulation which provides a stable, long life coolant that prevents rust, corrosion, cavitation and degradation of the cooling system.



Premix Coolant
Concentration
Level is 33%

Universal Top Up Coolant Premix

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|------------------|---------|---|
| AFABPMXYELLOW001 | 1 Litre | 6 |
|------------------|---------|---|



SUITS ALL
✓ COOLANT TYPES ✓ VEHICLE TYPES
✓ COOLANT COLOURS
NO DISCOLOURING
OF EXISTING COOLANT*

Technology: Type A, Hybrid (HOAT) **Colour:** Yellow

Industry & Manufacturer's Specifications: AS2108-2004 Type A, BS 6580, SAE J1034, ASTM D3306/4985, Ford M97-B44A/B44D/51A, Mitsubishi ES-X64217, Chrysler MS-9769, Nissan NES M5059, Toyota Long Life TSK2601G, GM 6277M/1825M/1899M, Holden HN2217/HN2043 & many more

Penrite Universal Top Up Coolant is ready to use and can be mixed with all coolant and inhibitor types including those that contain ethylene glycol and long life, low depletion rate inhibitors. It is specially designed not to discolour existing coolant if used at no more than 10% of system capacity.



PGXL Coolant Premix (Propylene Glycol)

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|------------|-----------|---|
| PGXLPMX020 | 20 Litres | 1 |
|------------|-----------|---|

Technology: Type A, Hybrid (HOAT) **Colour:** Blue

Industry & Manufacturer's Specifications: ASTM D6257/6211, Freightliner, Scania, MAN, Caterpillar, GM, MTU, Cummins, Kenworth, Mack, Mercedes Benz, Paccar, Detroit Diesel, Ford, Volvo, Peterbilt, New Holland

Penrite PGXL Coolant Premix is a blue coloured, heavy duty propylene glycol based, low silicate, phosphate and amine free hybrid engine coolant. Suitable for use where the manufacturer specifies a propylene glycol coolant. No further dilution is required.



HD Longlife ECO1 AFAB Concentrate & Premix

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

Concentrate

| | | |
|-------------|------------|---|
| AFABECO1020 | 20 Litres | 1 |
| AFABECO1205 | 205 Litres | 1 |

Premix

| | | |
|----------------|------------|---|
| AFABECO1PMX020 | 20 Litres | 1 |
| AFABECO1PMX205 | 205 Litres | 1 |


Technology: Type A, Hybrid (HOAT) **Colour:** Deep Red

Industry & Manufacturer's Specifications: AS2108-2004 Type A, ASTM D3306/D4985/D6210, SAE J1034/J1941, Caterpillar EC-1, MAN 324, Mack 014 GS 17009, Volvo VCS, Isuzu (GM6277M), MTU MTL 5048, Freightliner 48-2288D, Kenworth R026-170-97, Detroit 7SE-298

Penrite HD Longlife ECO1, Concentrate & Premix are red coloured, long life, Type A, Hybrid, US style, heavy duty ethylene glycol based coolant that utilises a long drain, low depletion rate inhibitor system. They are designed for use in trucks, buses, agricultural and construction equipment, stationary engines and in passenger cars/light commercial vehicles where Anti-Freeze and/or Anti-Boil properties are required. They are phosphate, silicate and amine free.




RCI 100 Concentrate


| Product Code | Pack Size | Carton Qty | Technology: Type B Treat Rate: 1 litre makes up to 20 litres | Colour: Green |
|--------------|-----------------|------------|--|---|
| COOL10005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: AS/NZS 2108:1997 Type B, Ford M99B166-C, Deutz-MWM 0199-209, MAN B&W D36 5600, MAN 248, Sulzer Diesel ZBS0503, Wartsila 32-9011 Penrite RCI 100 is a Type "B", radiator corrosion inhibitor that protects against cavitation, scaling and oxidation in vehicles that do not require a Type "A" Anti-Freeze Anti-Boil coolant. It is an effective engine coolant that uses a Hybrid Organic Acid Technology (HOAT) inhibitor to provide maximum protection against corrosion whilst providing superior heat transfer to reduce engine operating temperature and prevent cavitation. |  |
| COOL1001 | 1 Litre | 6 | | |
| COOL1020 | 20 Litres | 1 | | |
| COOL1205 | 205 Litres | 1 | | |

**RCI 100 REPLACES
ADRIC, Pro Coolant Inhibitor &
Radiator Inhibitor**

Classic Car Coolant Concentrate

| Product Code | Pack Size | Carton Qty | Technology: Type B Treat Rate: 1 litre makes up to 15 litres | Colour: Clear |
|--------------|-----------|------------|---|---|
| VC1001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: AS 2108-2004 Type B Penrite Classic Car Coolant is a Type B colourless, hybrid-organic, non-glycol based corrosion inhibitor designed specifically for use in Edwardian, vintage, veteran & classic car cooling systems that protects against corrosion, cavitation, scaling and oxidation. It is an effective engine coolant that uses a hybrid of organic mono/diacid technology and a conventional inhibitor to provide maximum protection against corrosion whilst providing superior heat transfer to significantly reduce engine operating temperature. |  |

10 Tenths Race Coolant Inhibitor Concentrate

| Product Code | Pack Size | Carton Qty | Technology: Type B Treat Rate: 1 litre makes between 10-20 litres | Colour: Red |
|--------------|-----------|------------|---|---|
| RCI001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: AS 2108-2004 Type B Penrite 10 Tenths Race Coolant Inhibitor Concentrate is a non glycol based coolant inhibitor concentrate that protects against corrosion, cavitation, scaling and oxidation in vehicles that do not require an Anti-Freeze Anti-Boil coolant. It is an effective engine coolant that uses a hybrid organic acid technology (HOAT) inhibitor to provide maximum protection against corrosion whilst providing superior heat transfer to significantly reduce engine operating temperature. |  |

Coolant Test Strips

| Product Code | Pack Size | Carton Qty | Reserve Alkalinity: <3.0 - 10.1+ pH Range: <5.0 - 10.1+ | Glycol Range: 0-60% |
|--------------|-----------|------------|--|---------------------|
| TSTRIPS | 50 | 12 | Penrite Coolant Test Strips are disposable test strips for measuring the concentration level and condition of Anti-Freeze Anti-Boil coolants used in all types of combustion engines. They effectively test the coolant's concentration as well as the pH level and alkalinity to determine when service of the coolant is necessary. Coolant Test Strips have 3 indication markers to accurately access the condition of the coolant and to indicate when service of the engine coolant is necessary. | |



See page 108 for Radiator Flush
See page 108 for Radiator Stop Leak





| PENRITE PRODUCT | Box | Millilitres | Litres | | | | | | |
|--|-----|-------------|--------|-----|---|----|----|-----|------|
| | 50 | 500 | 1 | 2.5 | 5 | 20 | 60 | 205 | 1000 |
| 8 Year 500,000km Red Concentrate | - | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| 8 Year 500,000km Red Premix | - | - | ⊙ | - | ⊙ | - | - | ⊙ | - |
| 7 Year 450,000km Green Concentrate | - | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| 7 Year 450,000km Green Premix | - | - | ⊙ | - | ⊙ | ⊙ | - | ⊙ | - |
| 7 Year 450,000km Blue Concentrate | - | - | ⊙ | - | ⊙ | ⊙ | - | ⊙ | - |
| 7 Year 450,000km Blue Premix | - | - | ⊙ | - | ⊙ | - | - | - | - |
| 350,000km Green Concentrate | - | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | - |
| 350,000km Green Premix | - | - | ⊙ | - | ⊙ | - | - | - | - |
| Universal Coolant Top Up Premix | - | - | ⊙ | - | - | - | - | - | - |
| PGXL Coolant Premix (Propylene Glycol) | - | - | - | - | - | ⊙ | - | - | - |
| HD Longlife ECO1 AFAB Concentrate | - | - | - | - | - | ⊙ | - | ⊙ | - |
| HD Longlife ECO1 AFAB Premix | - | - | - | - | - | ⊙ | - | ⊙ | - |
| RCI 100 Concentrate | - | ⊙ | ⊙ | - | - | ⊙ | - | ⊙ | - |
| Classic Car Coolant Concentrate | - | - | ⊙ | - | - | - | - | - | - |
| 10 Tenths Race Coolant Concentrate | - | - | ⊙ | - | - | - | - | - | - |
| Coolant Test Strips | ⊙ | - | - | - | - | - | - | - | - |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Coolants range:

- › 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.
- › Coolant Test Strips for workshops.
- › Retail and bulk sizes available.



Expert Tip: Always follow the manufacturer's recommendation, drain intervals and dilution rates.



MOTORCYCLE

Lavish your motorcycle with the same expert care as used by professional race teams, with Penrite's premium quality range of motorcycle engine oils and speciality 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 is the official oil of the Honda Racing Team, where our products are tried, tested and proven to provide complete protection, whether used for competition, on or off road conditions in either modern or classic machines.

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



YARRIVE KONSKY: Honda Racing Team Manager

"I only trust Penrite quality products for maximum performance and protection under race conditions!"

Honda Racing



Visit our website at www.penriteoil.com

MC-4ST 5W-40 (100% PAO & Ester)

| Product Code | Pack Size | Carton Qty | Base Oil: 100% PAO & Ester Full Synthetic Viscosity: 5W-40 Replacement Viscosities: 5W-30, 10W-30 | Stroke: 4 |
|--------------|-----------|------------|--|-----------|
| MC45W40004 | 4 Litres | 4 | Industry & Manufacturer's Specifications: API SN/CF, JASO MA Fuel Types: Petrol, Racing Features: Full Zinc+, Shear Stable, Competition Proven | |



Penrite MC-4ST 5W-40 is a superior performance engine oil with 100% PAO & Ester, full synthetic base oils combined with the latest additive technology including FULL ZINC+ (exceeding 1800+ ppm levels) for maximum engine, gearbox and clutch protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.

MC-4ST 10W-40 (100% PAO & Ester)

| Product Code | Pack Size | Carton Qty | Base Oil: 100% PAO & Ester Full Synthetic Viscosity: 10W-40 Replacement Viscosities: 10W-30 | Stroke: 4 |
|--------------|------------|------------|--|-----------|
| MC410W40001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SN/CF, JASO MA Fuel Types: Petrol, Racing Features: Full Zinc+, Shear Free, Competition Proven | |
| MC410W400025 | 2.5 Litres | 4 | | |
| MC410W40004 | 4 Litres | 4 | | |
| MC410W40020 | 20 Litres | 1 | | |
| MC410W40205 | 205 Litres | 1 | | |



Penrite MC-4ST 10W-40 is a superior performance engine oil with 100% PAO & Ester, full synthetic base oils combined with the latest additive technology including FULL ZINC+ (exceeding 1800+ ppm levels) for maximum engine, gearbox and clutch protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.

It is designed for use in most modern four stroke road and sports bikes, dirt and enduro bikes, ATV's/Quad bikes and four stroke scooters that require a full synthetic engine oil. It is also equally suitable for use in transmissions with wet clutch systems where engine and gearbox oils are combined. It has optimum clutch slip prevention in these systems and exceeds JASO MA requirements.

MC-4ST 10W-40 is a SHEAR FREE formulation that eliminates viscosity loss and maintains oil pressure during extreme engine operating conditions ensuring the ultimate in protection for your engine. Can be used where semi synthetic or other types of oils are specified by the manufacturer including where SAE 10W-30 & SAE 10W-40 grade oils are recommended such as in Aprilia, BMW, Cagiva, Can-Am, Ducati, Honda, Hyosung, Kawasaki, Suzuki, Triumph, Yamaha and more.

MC-4ST 10W-60 (100% PAO & Ester)

| Product Code | Pack Size | Carton Qty | Base Oil: 100% PAO & Ester Full Synthetic Viscosity: 10W-60 Replacement Viscosities: 10W-50, 15W-50 | Stroke: 4 |
|--------------|-----------|------------|---|-----------|
| MC410W60001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SN/CF, JASO MA Fuel Types: Petrol, Racing Features: Full Zinc+, Latest Oil Technology, Competition Proven | |
| MC410W60004 | 4 Litres | 4 | | |



Penrite MC-4ST 10W-60 is a superior performance engine oil with 100% PAO & Ester, full synthetic base oils combined with the latest additive technology including FULL ZINC+ (exceeding 1800+ ppm levels) for maximum engine, gearbox and clutch protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.

MC-4ST 15W-50 (100% PAO & Ester)

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC415W50001 | 1 Litre | 6 |
| MC415W500025 | 2.5 Litres | 4 |
| MC415W50004 | 4 Litres | 4 |
| MC415W50020 | 20 Litres | 1 |
| MC415W50205 | 205 Litres | 1 |



Base Oil: 100% PAO & Ester Full Synthetic **Stroke:** 4
Viscosity: 15W-50 **Replacement Viscosities:** 15W-40, 20W-40

Industry & Manufacturer's Specifications: API SN/CF, JASO MA
Fuel Types: Petrol, Racing
Features: Full Zinc+, Shear Free, Competition Proven

Penrite MC-4ST 15W-50 is a superior performance engine oil with 100% PAO & Ester, full synthetic base oils combined with the latest additive technology including FULL ZINC+ (exceeding 1800+ ppm levels) for maximum engine, gearbox and clutch protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions.

It is designed for use in most modern four stroke road and sports bikes, dirt and enduro bikes, ATV's/Quad bikes and four stroke scooters that require a full synthetic engine oil. It is also equally suitable for use in transmissions with wet clutch systems where engine and gearbox oils are combined. It has optimum clutch slip prevention in these systems and exceeds JASO MA requirements.

MC-4ST 15W-50 is a SHEAR FREE formulation that eliminates viscosity loss and maintains oil pressure during extreme engine operating conditions ensuring the ultimate in protection for your engine. Can be used where semi synthetic or other types of oils are specified by the manufacturer including where SAE 15W-40, SAE 20W-40 & SAE 15W-50 grade oils are recommended such as in Aprilia, BMW, Honda, Kawasaki, KTM, Moto Guzzi, Suzuki, V Moto, Yamaha and more.



MC-4ST V-TWIN 20W-50 (100% PAO & Ester)

| Product Code | Pack Size | Carton Qty |
|---------------|-----------|------------|
| MC4VT20W50001 | 1 Litre | 6 |
| MC4VT20W50004 | 4 Litres | 4 |

Base Oil: 100% PAO & Ester Full Synthetic **Stroke:** 4
Viscosity: 20W-50 **Replacement Viscosities:** 20W-40

Industry & Manufacturer's Specifications: API SN/CF, JASO MA
Fuel Types: Petrol, Racing
Features: Full Zinc+, Shear Free, Competition Proven

Penrite MC-4ST V-TWIN 20W-50 is a premium 100% PAO & Ester, full synthetic, SAE 20W-50, non-friction modified four stroke engine oil. It contains a superior anti wear package of FULL ZINC+ (exceeding 1800+ ppm levels) for ultimate engine, gearbox and clutch protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. It uses a SHEAR FREE formulation that eliminates viscosity loss. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Full Synthetic 10W-40

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC4FULL10004 | 4 Litres | 4 |
| MC4FULL10020 | 20 Litres | 1 |
| MC4FULL10205 | 205 Litres | 1 |

Base Oil: Full Synthetic **Stroke:** 4
Viscosity: 10W-40 **Replacement Viscosities:** 10W-30

Industry & Manufacturer's Specifications: API SN/CF, JASO MA
Fuel Types: Petrol, Racing
Features: Full Zinc, Shear Stable, Latest Oil Technology

Penrite MC-4ST Full Synthetic 10W-40 is a premium full synthetic, SAE 10W-40, non friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC (exceeding 1200+ ppm levels) for ultimate engine, gearbox and clutch protection combined with the latest engine oil technology that provides protection against wear, corrosion, oil oxidation, piston deposits and sludge under all conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Semi Synthetic 10W-30

| Product Code | Pack Size | Carton Qty |
|------------------|------------|------------|
| MC4SEMI10W30001 | 1 Litre | 6 |
| MC4SEMI10W300025 | 2.5 Litres | 4 |
| MC4SEMI10W30004 | 4 Litres | 4 |

Base Oil: Semi Synthetic **Stroke:** 4
Viscosity: 10W-30

Industry & Manufacturer's Specifications: API SL/CF, JASO MA
Fuel Types: Petrol, Racing
Features: Outstanding Engine & Gearbox Protection

Penrite MC-4ST Semi Synthetic 10W-30 is a premium semi synthetic, SAE 10W-30, non-friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC (exceeding 1000+ ppm) for ultimate engine, gearbox and clutch protection and semi synthetic base oils for outstanding high temperature protection and maximum performance. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Semi Synthetic 10W-50

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC410W50001 | 1 Litre | 6 |
| MC410W500025 | 2.5 Litres | 4 |
| MC410W50004 | 4 Litres | 4 |
| MC410W50004 | 20 Litres | 1 |
| MC410W50004 | 205 Litres | 1 |

Base Oil: Semi Synthetic **Stroke:** 4
Viscosity: 10W-50 **Replacement Viscosities:** 10W-40, 15W-40

Industry & Manufacturer's Specifications: API CH-4/SL, JASO MA
Fuel Types: Petrol, Racing
Features: Full Zinc, Shear Stable, Competition Proven

Penrite MC-4ST Semi Synthetic 10W-50 is a premium semi synthetic, SAE 10W-50, non friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC (exceeding 1200+ ppm) for ultimate engine, gearbox and clutch protection. It also features a higher operating temperature viscosity for greater protection in the harshest of on and off road conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Semi Synthetic 15W-50

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC4SEMI15004 | 4 Litres | 6 |
| MC4SEMI15020 | 20 Litres | 4 |
| MC4SEMI15205 | 205 Litres | 4 |

Base Oil: Semi Synthetic **Stroke:** 4
Viscosity: 15W-50 **Replacement Viscosities:** 15W-40, 20W-40

Industry & Manufacturer's Specifications: API CI-4/SL, JASO MA
Fuel Types: Petrol, Racing
Features: Full Zinc, Shear Stable, Competition Proven

Penrite MC-4ST Semi Synthetic 15W-50 is a premium semi synthetic, SAE 15W-50, non friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC (exceeding 1200+ ppm) for ultimate engine, gearbox and clutch protection. It also features a higher operating temperature viscosity for greater protection in the harshest of on and off road conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Premium Mineral 15W-50

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC4MIN15001 | 1 Litre | 6 |
| MC4MIN15004 | 4 Litres | 4 |
| MC4MIN15020 | 20 Litres | 1 |
| MC4MIN15020 | 205 Litres | 1 |

Base Oil: Premium Mineral **Stroke:** 4
Viscosity: 15W-50 **Replacement Viscosities:** 15W-40, 20W-40

Industry & Manufacturer's Specifications: API CG-4/SL, JASO MA
Fuel Types: Petrol, Racing
Features: Full Zinc, Shear Stable, Competition Proven

Penrite MC-4ST Premium Mineral 15W-50 is a premium mineral, SAE 15W-50, non friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC for (exceeding 1200+ ppm levels) ultimate engine, gearbox and clutch protection. It also features a higher operating temperature viscosity for greater protection in the harshest of on and off road conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Premium Mineral 20W-50

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC420W50001 | 1 Litre | 6 |
| MC420W50004 | 4 Litres | 4 |
| MC420W50020 | 20 Litres | 1 |
| MC420W50205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Stroke:** 4
Viscosity: 20W-50 **Replacement Viscosities:** 20W-40, SAE 30

Industry & Manufacturer's Specifications: API CG-4/SL, JASO MA
Fuel Types: Petrol Racing
Features: Full Zinc, Shear Stable, Competition Proven

Penrite MC-4ST Premium Mineral 20W-50 is a premium mineral, SAE 20W-50, non friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC for (exceeding 1200+ ppm levels) ultimate engine, gearbox and clutch protection. It also features a higher operating temperature viscosity for greater protection in the harshest of on and off road conditions. It has optimum clutch slip prevention for wet clutch systems and exceeds JASO MA requirements.



MC-4ST Premium Mineral HD-50

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MC4HD50004 | 4 Litres | 4 |
| MC4HD50020 | 20 Litres | 1 |
| MC4HD50205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Stroke:** 4
Viscosity: SAE 50 **Replacement Viscosities:** SAE 40

Industry & Manufacturer's Specifications: API SG/CD
Fuel Types: Petrol, Racing
Features: Full Zinc, Extends Engine Life, Competition Proven

Penrite MC-4ST Premium Mineral HD-50 is a premium mineral, SAE 50, non friction modified, four stroke engine oil. It contains a superior anti wear package of FULL ZINC for (exceeding 1300+ ppm levels) ultimate engine, gearbox and clutch protection. It also features a higher operating temperature viscosity for greater protection in the harshest of on and off road conditions. It has optimum clutch slip prevention for wet clutch systems.



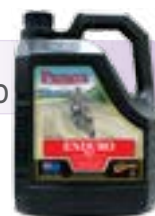
Enduro 25W-70 (Classic Range)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Stroke: 4 | Viscosity: 25W-70 | Replacement Viscosities: 25W-60, SAE 40/50 |
|--------------|-----------|------------|--|-----------|-------------------|--|
| END004 | 4 Litres | 4 | Industry & Manufacturer's Specifications: API SG | | | |
| END020 | 20 Litres | 1 | | | | |

Fuel Types: Petrol, Racing

Features: High Zinc, Extends Engine Life, Competition Proven

Penrite Enduro is a premium, high performance mineral, 25W-70, non friction modified, four stroke engine oil. It contains a superior anti wear package of HIGH ZINC (exceeding 1750+ ppm levels) for ultimate engine, gearbox and clutch protection and a multi-grade viscosity designed to maintain oil pressure and consumption control for older and classic motorcycles. It has optimum clutch slip prevention for wet clutch systems.



HD Oil 50-70 (Classic Range)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Stroke: 4 | Viscosity: 50-70 | Replacement Viscosities: SAE 50/60 |
|--------------|-----------|------------|---------------------------|-----------|------------------|------------------------------------|
|--------------|-----------|------------|---------------------------|-----------|------------------|------------------------------------|

HD004 4 Litres 4

Industry & Manufacturer's Specifications: API SF

Fuel Types: Petrol, Racing

Features: High Zinc, Extends Engine Life, Competition Proven

Penrite HD Oil is a premium, heavy duty, high performance mineral, 50-70, non friction modified, four stroke engine oil. It contains a superior anti wear package of HIGH ZINC (exceeding 1750+ ppm levels) for ultimate engine, gearbox and clutch protection and a multi-grade viscosity designed to maintain oil pressure and consumption control for older and classic motorcycles. It has optimum clutch slip prevention for wet clutch systems.



MC-2ST Full Synthetic

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Stroke: 2 | Colour: Deep Red |
|--------------|-----------|------------|--------------------------|-----------|------------------|
|--------------|-----------|------------|--------------------------|-----------|------------------|

MC2FULLSYN001CP 1 Litre CP 6

MC2FULLSYN004 4 Litres 4

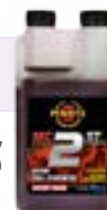
MC2FULLSYN020 20 Litres 1

Industry & Manufacturer's Specifications: API-TC, JASO FD, ISO EG-D, Piaggio Hexagon (performance), Aprilia DiTechSR50 (performance)

Fuel Types: Petrol/E10

Features: Extends Engine Life, Superior Anti-Scuff Properties

Penrite MC-2ST Full Synthetic 2 Stroke Oil is a premium full synthetic, ester based two stroke engine oil for maximum power and protection in motorbikes, go karts, Sea Doo jet skis and in other severe two stroke applications. It uses a powerful, practically ashless, clean burning, high performance additive package for maximum lubricity and low piston deposits. It is suitable for use in all two stroke engines used in motorcycles on road or in competition, using either a premix or oil injection system. Ideal for the latest direct injection engines. Also suitable for use in lawn mowers, chain saws, and whipper snippers.



MC-2ST Semi Synthetic

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic | Stroke: 2 | Colour: Red/Orange |
|--------------|-----------|------------|--------------------------|-----------|--------------------|
|--------------|-----------|------------|--------------------------|-----------|--------------------|

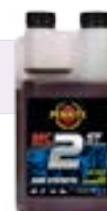
MC2SEMISYN001CP 1 Litre CP 6

Industry & Manufacturer's Specifications: API TC, JASO FC, ISO EG-C

Fuel Types: Petrol/E10

Features: Extends Engine Life, Superior Anti-Scuff Properties

Penrite MC-2ST Semi Synthetic 2 Stroke Oil is a low-smoke, semi synthetic, high performance oil for motorbikes, go karts, Sea-Doo jet skis and in other severe two stroke applications. It is made from highly refined base oils and special synthetic additives. Suitable for use in two stroke lawn mowers, chain saws, whipper snippers and other garden equipment.





10 Tenths KO2ST Karting **NEW**

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Stroke: 2 |
|--------------|-----------|------------|--|-----------|
| KO2ST001 | 1 Litre | 6 | <p>Industry & Manufacturer's Specifications: API TC, JASO FD, ISO EG-D, Karting Australia Approved Lubricant</p> <p>Fuel Types: Racing, Petrol/E10</p> <p>Features: Extends Engine Life, Superior Anti-Scuff Properties</p> <p>Penrite 10 Tenths KO2ST Karting is a premium full synthetic, ester based two-stroke engine oil engineered specifically for elite Kart Racing. It is designed to provide maximum power and protection in all performance two stroke engines. It uses an advanced, powerful, virtually ashless, clean burning, high performance additive package for maximum lubricity and ultra-low carbon and piston deposits. It has been Approved by Karting Australia for use as an engine oil in Go-Karts.</p> | |



See page 50 for Race Castor Oil

Motorcycle Gear Oil (MC GO)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 10W-40 |
|--------------|-----------|------------|--|-------------------|
| MCGO80001 | 1 Litre | 6 | <p>Replacement Viscosities: 10W-30, 15W-40, 80W-85, SAE 80</p> <p>Industry & Manufacturer's Specifications: API GL-4, ZF TE-ML 06A, Ford M2C159-B</p> <p>Penrite Motorcycle Gear Oil (MC GO) is a premium mineral, high performance, SAE 10W-40, API GL-4 gear oil, specially formulated for separate gearboxes used in two stroke and four stroke motorcycles including ATV's. It is especially suitable in gearboxes that have oil immersed clutches. Suitable for use where the manufacturer asks for an API GL-4 gear oil.</p> | |



MC Fork Oil 5, 10 & 15

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Viscosity: SAE 5W, 10W & 15W |
|-----------------------|-----------|------------|---|---|
| MC Fork Oil 5 | | | <p>Penrite MC Fork Oil 5, 10 & 15 are full synthetic, very high viscosity index fluids made from a special combination of synthetic base oils, viscosity modifiers, anti-wear agents and extreme pressure additives. They are compatible with brass, copper alloys and seal materials. MC Fork Oil 5, 10 & 15 are recommended for use in motorcycle forks and other suspension systems.</p> |  |
| MCFO05001 | 1 Litre | 6 | | |
| MCFO05020 | 20 Litres | 1 | | |
| MC Fork Oil 10 | | | | |
| MCFO10001 | 1 Litre | 6 | | |
| MCFO10020 | 20 Litres | 1 | | |
| MC Fork Oil 15 | | | | |
| MCFO15001 | 1 Litre | 6 |  | Visit our website at www.penriteoil.com |



Visit our website at www.penriteoil.com



Chain Lube Road

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

MCCHAIN0004 400 Millilitres 6

Base Oil: Full Synthetic

Penrite Chain Lube Road is a 100% full synthetic, spray on high performance chain lubricant engineered for all chain drive applications. It has exceptional sticking tenacity and is engineered not to fling off the chain. It provides outstanding anti-wear and anti-corrosion properties whilst lowering friction between the chain and sprockets.



IO Tenth's Chain Lube Race

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

MCRCL0005 500 Millilitres 6

Base Oil: Full Synthetic

Penrite 10 Tenth's Chain Lube Race is a 100% full synthetic, spray on ultra-high performance chain lubricant engineered for competition and off road machines. Designed not to fling off in racing applications or attract excessive amounts of mud in off road machines, it provides exceptional anti-wear and anti-corrosion properties whilst maximising drive efficiency by lowering friction between the chain and sprockets.



IO Tenth's Chain Cleaner

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

MCACC0004 400 Millilitres 6

Colour: Clear

Penrite 10 Tenth's Chain Cleaner is a professional strength, solvent based motorcycle chain cleaner that rapidly dissolves chain lubricants such as grease, waxes, oil, silicone and other lubricating solids and fluids used on motorcycle drive chains. Its non chlorinated, non corrosive and non staining formulation is fast, effective, convenient and easier to use than conventional solvents.



IO Tenth's Foam Filter Oil **NEW**

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

MCFOAM0004 400 Millilitres 6
MCFOAM001 1 Litres 6

Colour: Blue

Penrite 10 Tenth's Foam Filter Oil is a blue coloured, solvent based, super tacky foam filter treatment which effectively stops the ingress of sand, dirt and dust into the engine. It is ideal for use in competition applications, (on and off road) including severe racing conditions where large volumes of air flows through the engine intake system. May be used in all types of vehicles including passenger, 4WDs, racing and rally cars, motocross and on-road bikes, ATVs etc, both in competition and every day service. It is available as a liquid and aerosol spray. It is dyed blue for easy identification of coverage during application.



IO Tenth's Foam Filter Cleaner

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

MCFFC001 1 Litre 6

Colour: White

Penrite 10 Tenth's Foam Filter Cleaner is a specially formulated product, for cleaning motorcycle foam filters. It is a ready to use, non caustic and water soluble cleaner that effectively removes trapped dirt, tacky filter oil, grease and other contaminants from foam filters and washes away thoroughly. Its advanced formulation cleans effectively and prevents deterioration of the foam ensuring longer filter life. It does not leave harmful deposits or residue that could rust or corrode engine parts or damage the engine via inhalation.



See pages 124 - 125 for a complete range of Brake Fluids

See page 120 for Multi-Purpose Wash

See page 84 for 10 Tenths Race Coolant



| PENRITE PRODUCT | Millilitres | | Litres | | | | |
|---|-------------|-----|--------|-----|---|----|-----|
| | 400 | 500 | 1 | 2.5 | 4 | 20 | 205 |
| MC-4ST 5W-40 (100% PAO & Ester) | - | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| MC-4ST 10W-40 (100% PAO & Ester) | - | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| MC-4ST 10W-60 (100% PAO & Ester) | - | - | - | - | ⊙ | - | - |
| MC-4ST 15W-50 (100% PAO & Ester) | - | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| MC-4ST V-TWIN 20W-50 (100% PAO & Ester) | - | - | - | - | ⊙ | - | - |
| MC-4ST Full Synthetic 10W-40 | - | - | - | - | ⊙ | ⊙ | ⊙ |
| MC-4ST Semi Synthetic 10W-30 | - | - | ⊙ | ⊙ | ⊙ | - | - |
| 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 25W-70 (Classic Range) | - | - | - | - | ⊙ | ⊙ | - |
| HD Oil 50-70 (Classic Range) | - | - | - | - | ⊙ | - | - |
| MC-2ST Full Synthetic | - | - | ⊙ | - | ⊙ | ⊙ | - |
| MC-2ST Semi Synthetic | - | - | ⊙ | - | - | - | - |
| Race Castor Oil | - | - | ⊙ | - | - | - | - |
| Motorcycle Gear Oil (MC GO) | - | - | ⊙ | - | - | - | - |
| MC Fork Oil 5 | - | - | ⊙ | - | - | ⊙ | - |
| MC Fork Oil 10 | - | - | ⊙ | - | - | ⊙ | - |
| MC Fork Oil 15 | - | - | ⊙ | - | - | - | - |
| Chain Lube Road | ⊙ | - | - | - | - | - | - |
| 10 Tenths Chain Lube Race | - | ⊙ | - | - | - | - | - |
| 10 Tenths Chain Cleaner | ⊙ | - | - | - | - | - | - |
| 10 Tenths Foam Filter Oil | ⊙ | - | ⊙ | - | - | - | - |
| 10 Tenths Foam Filter Cleaner | - | - | ⊙ | - | - | - | - |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Motorcycle range:

- > Range of 2 and 4 Stroke engine oils.
- > Available in Full Synthetic, Semi Synthetic and Premium Mineral.
- > Comprehensive range of ancillary products.
- > Full Zinc to minimise engine wear.
- > Full PAO & Ester Racing products.
- > Early American and European product range.
- > Latest JASO and ISO Industry specifications.
- > Non-Friction modified to prevent clutch slippage.
- > 2 Stroke available in 1L chamber pack.

Expert Tip: Penrite manufacture a full range of engine oils as well as other lubricants such as fork oils, foam filter oils, gear box oil and ancillary products for all types of motorcycles. All engine oils are suitable for wet clutch use.



Visit our website at www.penriteoil.com



MARINE

Penrite's marine range has the right product for the right application whether you fish the estuaries or roam the open ocean, our new range of marine oils and lubricants, have you covered.

All of our two and four stroke oils have NMMA (National Marine Manufacturers Association) TC-W3 (Two Stroke) or FC-W (Four Stroke) approvals so you are guaranteed that they meet the specifications and requirements of the engine manufacturers.

TC-W3®



Biomarine Outboard 2 Stroke

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Stroke: 2 | Colour: Blue |
|--------------|------------|------------|--|--------------|
| BIOOUTBTS001 | 1 Litre | 6 | OEM Approvals: NMMA TC-W3® Registration Number RL-90041R Industry & Manufacturer's Specifications: API TC | |
| BIOOUTBTS005 | 5 Litres | 1 | | |
| BIOOUTBTS205 | 205 Litres | 1 | | |

Penrite Biomarine Outboard 2 Stroke is a full synthetic NMMA TC-W3®, fully licensed and registered two stroke engine oil. It is a highly biodegradable, low smoke, clean burning oil offering less environmental impact than conventional two stroke motor oils. It is ashless, meaning soot and other combustion chamber deposits are minimised. Recommended for all types of outboard motors and Jet Skis and can be used in direct injection engines as well as premix systems at mixing ratios as specified by manufacturer requirements. For Sea-Doo jet skis, we recommend the use of MC-2ST Full Synthetic.



TC-W³

Marine Outboard 2 Stroke

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Stroke: 2 | Colour: Blue/Green |
|--------------|------------|------------|---|--------------------|
| OUTB001 | 1 Litre | 6 | OEM Approvals: NMMA TC-W3® Registration Number RL-00419J Industry & Manufacturer's Specifications: NMMA TC-WII®, JASO TB, API TC, ISO EG-B | |
| OUTB0025 | 2.5 Litres | 4 | | |
| OUTB005 | 5 Litres | 4 | | |
| OUTB020 | 20 Litres | 1 | | |
| OUTB205 | 205 Litres | 1 | | |

Penrite Marine Outboard 2 Stroke is a premium mineral, NMMA TC-W3®, fully licensed and registered two stroke engine oil. It is a low smoke oil manufactured from selected hydro-treated base oils and an ashless additive system for engine cleanliness and minimization of combustion chamber deposits. It is specially designed to facilitate easy mixing with fuel. For use in all water cooled two stroke outboard engines including oil injected and premix systems at mixing ratios as specified by manufacturer requirements. For Sea-Doo jet skis, we recommend the use of MC-2ST Semi Synthetic.



TC-W³

Marine Outboard 4 Stroke 10W-30

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Stroke: 4 | Viscosity: 10W-30 Colour: Amber |
|--------------|------------|------------|---|------------------------------------|
| MAR10W30005 | 5 Litres | 4 | OEM Approvals: NMMA FC-W® (CAT) Registration Number FC-00811M Industry & Manufacturer's Specifications: API SM, ILSAC GF-4 | |
| MAR10W30020 | 20 Litres | 1 | | |
| MAR10W30205 | 205 Litres | 1 | | |

Penrite Marine Outboard 4 Stroke 10W-30 is a premium mineral NMMA FC-W® Catalyst Compatible fully licensed and registered petrol engine oil. It contains advanced low ash anti-wear additives combined with specialised rust inhibitors to provide optimum engine protection in marine and salt water environments. It is suitable for use in four stroke outboard, inboard and stern drive marine engines that specify the use of a SAE 10W-30 engine oil. Designed for use in all types of petrol four stroke outboard engines that require this viscosity grade.



Marine Outboard 4 Stroke 10W-40

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MAR10W400025 | 2.5 Litres | 4 |
| MAR10W40005 | 5 Litres | 4 |
| MAR10W40020 | 20 Litres | 1 |
| MAR10W40205 | 205 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 10W-40
Stroke: 4 **Replacement Viscosities:** 15W-40 **Colour:** Amber

OEM Approvals: NMMA FC-W® Registration Number FB-00200P
Industry & Manufacturer's Specifications: API SL, JASO MA

Penrite Marine Outboard 4 Stroke 10W-40 is a premium, semi synthetic, NMMA FC-W®, fully licensed and registered petrol engine oil. It contains a Full Zinc anti-wear additive package combined with specialised rust inhibitors to provide optimum engine protection in marine and salt water environments. It is designed for use in all types of petrol four stroke outboard engines where SAE 10W-40 and SAE 15W-40 are specified. Ideal for use personal water craft/inboard and stern drive petrol engines that require this viscosity grade.



Marine Inboard 4 Stroke 25W-40

| Product Code | Pack Size | Carton Qty |
|--------------|------------|------------|
| MAR25W400025 | 2.5 Litres | 4 |
| MAR25W40005 | 5 Litres | 4 |
| MAR25W40020 | 20 Litres | 1 |
| MAR25W40205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 25W-40
Stroke: 4 **Replacement Viscosities:** SAE 30 **Colour:** Amber

OEM Approvals: NMMA FC-W® Registration Number FB-80510R
Industry & Manufacturer's Specifications: API SL, JASO MA

Penrite Marine Inboard 4 Stroke 25W-40 is a premium mineral, NMMA FC-W®, fully licensed and registered petrol engine oil. It contains a FULL ZINC anti-wear additive package combined with specialised rust inhibitors to provide optimum engine protection in marine and salt water environments. Designed for use in inboard/outboards and stern drive petrol engines. It may be used in some modern petrol engine cars that require API SL oils. It is also suitable for four stroke motorcycles with a wet clutch.



Marine Diesel 15W-40

| Product Code | Pack Size | Carton Qty |
|------------------|-------------|------------|
| MARD15W40005 | 5 Litres | 4 |
| MARD15W40020 | 20 Litres | 1 |
| MARD15W40205 | 205 Litres | 1 |
| MARD15W401000LTR | 1000 Litres | 1 |

Base Oil: Semi Synthetic **Viscosity:** 15W-40
Stroke: 4 **Colour:** Amber

Industry & Manufacturer's Specifications: API CI-4, ACEA E4/E7, Cummins CES 20078, Detroit DDC, JASO DH-1, Mack EO-M Plus, MAN M3277, Mercedes-Benz MB 228.5 (level), Caterpillar ECF-1-a, MTU Type 3, Allison C4, Volvo VDS-3, Renault RXD/RLD-2

Penrite Marine Diesel 15W-40 is a semi synthetic, mid ash, marine diesel engine oil formulated with a carefully selected blend of high performance additives and a mix of mineral and synthetic base oils to provide complete protection for marine engines. It meets many marine engine manufacturers' performance specifications, including long oil drain requirements. Designed for use in moderate to severe service, high speed and some medium speed four stroke European, U.S. and Japanese marine diesel engines, where a 15W-40 engine oil is required. It can be used in both turbocharged and naturally aspirated engines running either low or high sulphur diesel fuel.



Marine Gear Oil 75W-90

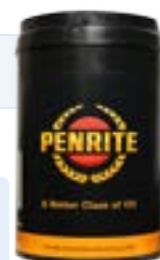
| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: 80W-90, SAE 90 | Viscosity: 75W-90 Colour: Blue |
|--------------|-----------------|------------|--|-----------------------------------|
| MAR75900005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: API GL-5 Penrite Marine Gear Oil 75W-90 is a full synthetic, BLUE coloured, SAE 75W-90 gear oil formulated to meet the requirements of outboard gear cases and stern drive units. It provides outstanding protection from cold start to operating temperatures, making gear selection and engagement smoother and easier. It is designed to be used in outboard and stern drive gear cases where the manufacturer recommends a SAE 75W-90 gear case oil. | |
| MAR7590020 | 20 Litres | 1 | | |



MARINE

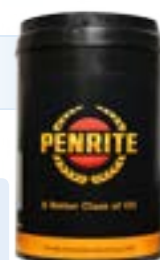
Marine Gear Oil SS150

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic Replacement Viscosities: 80W-90 | Viscosity: ISO 150 |
|--------------|------------|------------|--|--------------------|
| MGOSS150020 | 20 Litres | 1 | Industry & Manufacturer's Specifications: API GL-4, MAN 341SL (level), ZFN 13010 (level) Penrite Marine Gear Oil SS150 is a special purpose, semi synthetic marine gear oil made with hydrocracked base oils and a non-sulphur phosphorus extreme pressure additive package. It contains an advanced vapour phase corrosion inhibitor to provide outstanding control of rust, even in salt water environments. It is designed for marine gearboxes where heavy loads and high levels of airborne water contamination are prevalent. May also be used in automotive applications where API GL-4, SAE 80W-90 oils are recommended, where it will provide a superior shift to conventional products. | |
| MGOSS150205 | 205 Litres | 1 | | |



Marine Gear Oil SS300

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic Replacement Viscosities: 85W-140 | Viscosity: ISO 300 |
|-----------------|-------------|------------|--|--------------------|
| MGOSS300020 | 20 Litres | 1 | Industry & Manufacturer's Specifications: API GL-4, MAN 341SL (level), ZFN 13010 (level) Penrite Marine Gear Oil SS300 is a special purpose, semi synthetic marine gear oil made with hydrocracked base oils and a non-sulphur phosphorus extreme pressure additive package. It contains an advanced vapour phase corrosion inhibitor to provide outstanding control of rust, even in salt water environments. It is designed for marine gearboxes where heavy loads and high levels of airborne water contamination are prevalent. It is suitable for use in marine and industrial gear boxes and also in differentials where API GL-4, SAE 85W-140 oils are required. | |
| MGOSS3001000LTR | 1000 Litres | 1 | | |



Marine Grease

| Product Code | Pack Size | Carton Qty | Colour: Green Recommended Operating Temperature Range: -15°C to 170°C |
|--------------|---------------|------------|---|
| MARGR00045 | 450 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 2, DIN 51502, ISO 6743 Penrite Marine Grease is an NLGI 2, tacky, high temperature |
| MARGR0005 | 500 Grams | 6 | |
| MARGR0025 | 2.5 Kilograms | 6 | |



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| PENRITE PRODUCT | Grams | | Kilograms | Millilitres | Litres | | | | | |
|---------------------------------|-------|-----|-----------|-------------|--------|-----|---|----|-----|------|
| | 450 | 500 | 2.5 | 500 | 1 | 2.5 | 5 | 20 | 205 | 1000 |
| Biomarine Outboard 2 Stroke | - | - | - | - | ○ | - | ○ | - | ○ | - |
| Marine Outboard 2 Stroke | - | - | - | - | ○ | ○ | ○ | ○ | ○ | - |
| Marine Outboard 4 Stroke 10W-30 | - | - | - | - | - | - | ○ | ○ | ○ | - |
| Marine Outboard 4 Stroke 10W-40 | - | - | - | - | - | ○ | ○ | ○ | ○ | - |
| Marine Inboard 4 Stroke 25W-40 | - | - | - | - | - | ○ | ○ | ○ | ○ | - |
| Marine Diesel 15W-40 | - | - | - | - | - | - | ○ | ○ | ○ | ○ |
| Marine Gear Oil 75W-90 | - | - | - | ○ | - | - | - | ○ | - | - |
| Marine Gear Oil SS150 | - | - | - | - | - | - | - | ○ | ○ | - |
| Marine Gear Oil SS300 | - | - | - | - | - | - | - | ○ | - | ○ |
| Marine Grease | ○ | ○ | ○ | - | - | - | - | - | - | - |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Marine range:

- > NMMA Approved products.
- > Protects against rust even in marine salt water environment.
- > Longer engine life by protecting against wear.
- > 2 stroke and 4 stroke products available.

Expert Tip: NMMA TC-W3®: 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 two-stroke marine engine manufacturers.

TC-W3®

Expert Tip: The National Marine Manufacturers Association (NMMA) is the nation's leading trade association representing boat, marine engine and accessory manufacturers.

Expert Tip: NMMA FC-W®:

FC-W® lubricants have demonstrated the necessary performance and quality needed in today's high performance four-stroke marine engines. The next time you are purchasing four-stroke oil for your marine engine, look for the FC-W® trademark.





SMALL ENGINE

Small internal combustion engines require just as much care as larger capacity engines. Smaller engines also come in different variations such as two stroke, four stroke, industrial, general purpose, marine, motorcycle and stationary. Small capacity engines are also not designed to run on late specification, friction modified engine oils as used in many modern passenger vehicles.

***Professional's
Choice***



Visit our website at www.penriteoil.com

Small Engine 4 Stroke 10W-30

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic Stroke: 4 | Viscosity: 10W-30 Colour: Amber |
|--------------|------------|------------|--|------------------------------------|
| SEFS1030001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SL/CF, ACEA A3/B3 Penrite Small Engine Four Stroke Multigrade 10W-30 is a non-friction modified, semi synthetic engine oil, formulated with modern additives for use in small four stroke engines. It provides complete protection against wear and corrosion and is designed to meet the lubrication needs of small four stroke engines. Suitable for use in lawnmowers, generator sets and pumps, four stroke outboards/inboards, four stroke brushcutters and in other gardening equipment that specify this viscosity grade. It can also be used in motorcycles with wet clutches. | |
| SEFS10300025 | 2.5 Litres | 4 | | |
| SEFS1030005 | 5 Litres | 4 | | |
| SEFS1030020 | 20 Litres | 1 | | |
| SEFS10300205 | 205 Litres | 1 | | |



Small Engine 4 Stroke 20W-50

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Stroke: 4 | Viscosity: 20W-50 Colour: Red |
|---------------|------------|------------|--|----------------------------------|
| SEFS20W50001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SG/CF, JASO MA Penrite Small Engine Four Stroke Multigrade 20W-50 is a non-friction modified, premium mineral, engine oil, formulated with modern additives for use in small four stroke engines. It provides complete protection against wear and corrosion and is designed to meet the lubrication needs of small four stroke engines. Suitable for use in lawnmowers, generator sets and pumps, four stroke outboards/inboards, four stroke brushcutters and in other gardening equipment that specify this viscosity grade. It can also be used in motorcycles with wet clutches and in engines that specify SAE 30 oils that are using excessive oil. | |
| SEFS20W500025 | 2.5 Litres | 4 | | |
| SEFS20W50205 | 205 Litres | 1 | | |



Small Engine 4 Stroke SAE 30

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Stroke: 4 | Viscosity: SAE 30 Colour: Red |
|--------------|------------|------------|---|----------------------------------|
| SEFS30001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API SG/CD, MIL-L-2104B Penrite Small Engine Four Stroke Mono SAE 30 is a non-friction modified, premium mineral, engine oil, formulated with modern additives for use in small four stroke engines. It provides complete protection against wear and corrosion and is designed to meet the lubrication needs of small four stroke engines. Suitable for use in lawnmowers, generator sets and pumps, four stroke outboards/inboards, four stroke brushcutters and in other gardening equipment that specify this viscosity grade. It can also be used in motorcycles with wet clutches. | |
| SEFS300025 | 2.5 Litres | 4 | | |
| SEFS30005 | 5 Litres | 4 | | |
| SEFS30020 | 20 Litres | 1 | | |
| SEFS30205 | 205 Litres | 1 | | |



Small Engine Greenkeepers 2 Stroke

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Stroke: 2 | Colour: Green |
|--------------|-----------------|------------|--|---------------|
| SEGNKTS0002 | 200 Millilitres | 12 | Industry & Manufacturer's Specifications: JASO FB, API TC Penrite Small Engine Greenkeepers 2 Stroke is a high quality, general purpose, two stroke engine oil manufactured from the latest generation low ash additives and premium mineral base oils to provide complete engine protection under all operating conditions. It is suitable for use in two-stroke engines in lawnmowers, brushcutters, chain saws and other gardening equipment. Also suitable for stationary engines and industrial power units. Mixes readily with petrol. | |
| SEGNKTS001 | 1 Litre CP | 6 | | |
| SEGNKTS0025 | 2.5 Litres | 4 | | |
| SEGNKTS020 | 20 Litres | 1 | | |
| SEGNKTS205 | 205 Litres | 1 | | |



Small Engine Hi-Per 2 Stroke

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic Stroke: 2 | Colour: Red/Orange |
|--------------|------------|------------|---|--------------------|
| SEHPTS001 | 1 Litre CP | 6 | Industry & Manufacturer's Specifications: API TC, JASO FC, ISO EG-C Karting Australia Approved Lubricant | |
| SEHPTS0025 | 2.5 Litres | 4 | | |
| SEHPTS020 | 20 Litres | 1 | | |
| SEHPTS205 | 205 Litres | 1 | | |

Penrite Small Engine Hi-Per 2 Stroke is a high performance, semi synthetic, low smoke, low ash, two stroke engine oil made from the latest generation additive technology and premium base oils. It is suitable for use in all types of two stroke engines including motorcycles, mopeds and scooters that use either a premix or oil injection system. Also suitable for use in two stroke chain saws, brush cutters, lawn mowers and other gardening equipment in domestic and industrial use as well as for stationary engines and industrial power units. Mixes readily with petrol. It has been Approved by Karting Australia for use as an engine oil in Go-Karts.



See page 91 for MC-2ST Full Synthetic

Chain Saw Bar Oil

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Dark Blue |
|--------------|------------|------------|---|-------------------|
| CSB001 | 1 Litre | 6 | Penrite Chain Saw Bar Oil is a specially formulated, tacky lubricant designed to protect the chain and bar of all types of chain saws against wear, rust and corrosion. It is designed for all petrol and electric type chain saws. Its advanced formula and special additive pack reduces wear on the bar, chain and sprockets. It also flushes away dust, chips and sap from the working surfaces ensuring smooth and consistent cutting. Its superior formulation lubricates chains and sockets and provides a barrier against corrosion, moisture and premature wear on the working surfaces. | |
| CSB005 | 5 Litres | 4 | | |
| CSB020 | 20 Litres | 1 | | |
| CSB205 | 205 Litres | 1 | | |



| PENRITE PRODUCT | Millilitres | Litres | | | | |
|------------------------------------|-------------|--------|-----|---|----|-----|
| | 200 | 1 | 2.5 | 5 | 20 | 205 |
| Small Engine 4 Stroke 10W-30 | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| Small Engine 4 Stroke 20W-50 | - | ⊙ | ⊙ | - | - | ⊙ |
| Small Engine 4 Stroke SAE 30 | - | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| Small Engine Greenkeepers 2 Stroke | ⊙ | ⊙ | ⊙ | - | ⊙ | ⊙ |
| Small Engine Hi-Per 2 Stroke | - | ⊙ | ⊙ | - | ⊙ | ⊙ |
| Chain Saw Bar Oil | - | ⊙ | - | ⊙ | ⊙ | ⊙ |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Small Engine range:

- Range of two stroke and four stroke oils.
- Available in range of sizes for the home handy man or professional landscape gardener.
- Two 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.

Expert Tip: To ensure the correct mix of oil to petrol in your two stroke engine refer to your owner's handbook. The correct ratio is paramount to ensuring longevity of your two stroke engine.

TWO 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 |
|----------------|-------------------|-------------------|--------------------|--------------------|
| 10:1 | 100 | 500 | 1000 | 2000 |
| 20:1 | 50 | 250 | 500 | 1000 |
| 25:1 | 40 | 200 | 400 | 800 |
| 50:1 | 20 | 100 | 200 | 400 |
| 100:1 | 10 | 50 | 100 | 200 |

For Example: If your brush cutter requires a 25:1 Fuel to Oil ratio and you have a 5L fuel container, you would add 200mL of two stroke oil to your fuel container prior to re-fueling.

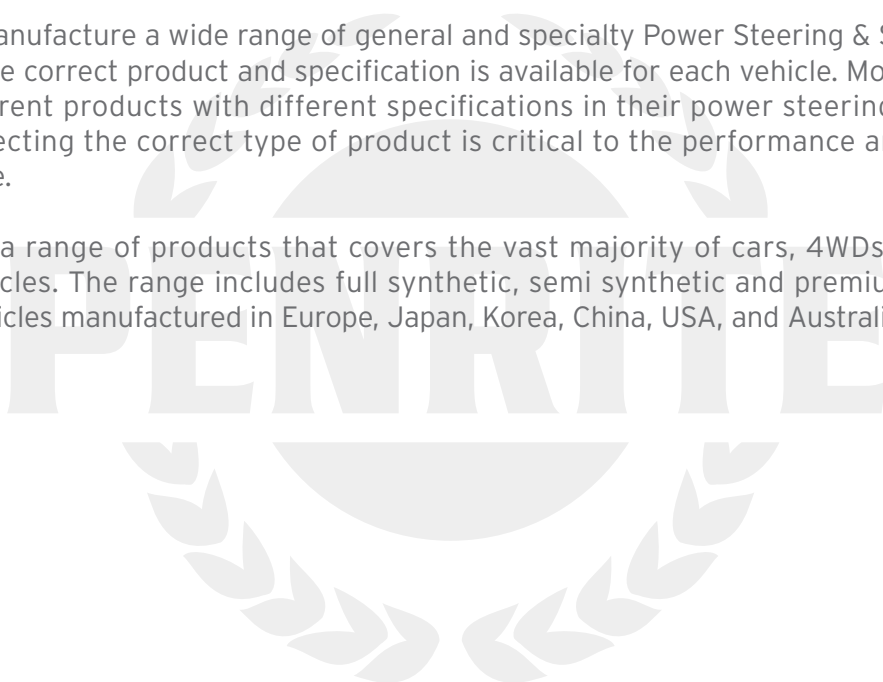




POWER STEERING & SUSPENSION FLUIDS

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 provide a range of products that covers 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.



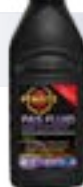
Power Steering Fluid

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Amber | |
|--------------|-----------------|------------|--|---------------|---|
| PSF0005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: GM 9985010, PS 11872, Chrysler MS-1872, Ford M2C134-C/D (not for use in tractors) | |  |
| PSF001 | 1 Litre | 6 | | | |
| PSF020 | 20 Litres | 1 | | | |

NOW WITH STOP LEAK!


Penrite Power Steering Fluid is a premium mineral based, multipurpose power steering fluid designed for use in power steering systems that specify conventional type Automatic Transmission Fluids (ATF's) i.e. DEXRON®-II & III. Also suitable for Ford EL-FG series vehicles where Ford M2C134-C/D is specified. It contains special anti-shudder (chatter/noise reduction) additives, not found in ATFs, that are designed to provide enhanced wear protection, longer service life and reduce noise in all conditions. It is also formulated with stop-leak additive technology to minimise leaks due to deteriorated or worn seals and gaskets. It is designed for use in Australian, US, Japanese, European and Korean manufactured power steering units in cars and trucks that originally use an automatic transmission fluid. It is not suitable for use as an automatic transmission fluid.

PAS Fluid (Power Assisted Steering Fluid)

| Product Code | Pack Size | Carton Qty | Base Oil: Semi Synthetic | Colour: Green | |
|--------------|-----------|------------|--|---------------|---|
| PAS001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: Land Rover STC 50717 (ACE), ZF TE ML-09B, GM 9985835/9985819, Chrysler MS-5931/MS-9462, VW TL VW 570.26, PAS 14315, Esso EZL 998 (Jaguar S), AM4124, MB 236.3/341, Opel 90 513486, Ford M2C128-C/D, Ford M2C195-A (Power steering only) | |  |
| | | | | | |

Penrite PAS Fluid is a premium, semi synthetic oil specially designed for use in some Australian, European, US and Korean power steering and suspension systems as well as fully meeting the requirements of Land Rover PAS 14315. It contains a special Anti-Shudder (chatter/noise reduction) additive. May also be used to replace DEXRON® VI fluid in power steering systems, but do not mix together. Must not be used in transmissions. It is recommended for use in the power steering and Active Cornering Enhancement (ACE) system of Land Rover vehicles such as the Discovery and Defender.


HPSO (Honda Power Steering Oil)

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic Replacement Viscosities: SAE 20 | Colour: Amber |  |
|--|-----------|------------|---|---------------|---|
| HPSO001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: Honda PSF-II/PSF-S/PSF-V, Ford M2C134-D (not for use in tractors) | | |
| Penrite HPSO is a premium, full synthetic oil specially designed for use in power steering and suspension units. It contains a unique combination of anti-shudder additives, dispersants and seal swell additives along with a specialised synthetic base oil to offer maximum wear protection, long service life and minimisation of viscosity loss. Primarily designed for power steering units of all Honda vehicles, some Rovers and in high performance applications in Fords where an M2C134-D fluid is specified. It may also suitable for use in motorcycle forks where a SAE Grade 20 oil is specified by the manufacturer. | | | | | |



LDAS

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Green | |
|--------------|-----------|------------|--|---------------|--|
| LDAS001 | 1 Litre | 6 | <p>Industry & Manufacturer's Specifications: MB 345.0, Ford M2C204-A, Opel B 040 0070, VW 521-46 (G2000/G4000 M2), ISO 7308, Volvo 1273.36, ZF TE ML 02K, PSA S 71 2710, DIN 51524-T2</p> <p>Penrite LDAS is a full synthetic hydraulic fluid, especially developed for power steering, brake, leveling systems and hydraulic suspension systems. It can also be used in shock absorber, hydro-pneumatic suspension, traction and stability control applications. It is recommended for the service re-fill or top-up of the power steering and suspension systems in many late model European manufactured prestige vehicles. Suitable as a replacement for Pentosin CHF11S & CHF 202 requirements as well as for Penrite LHM Plus. It may also be used in the brake systems of certain vehicles - please check the vehicle handbook before use.</p> | | |



LHM Plus

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Green |  |
|--------------|-----------|------------|---|---------------|---|
| LHMP001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: Renault PSA B71 2710, Ford ESN M6C59-A, ISO 7308, Massey Ferguson MF 1151, VW 2000 Penrite LHM Plus is a premium mineral oil specifically designed for use in power steering, suspension, hydraulic and braking systems, where a mineral LHM fluid is required. It is suitable for some vehicle suspension systems and in vehicles requiring mineral brake fluid such as Jaguar (HSMO), Rolls Royce and in some tractors. It can also be used as a fork oil for motorcycles requiring an oil grade between SAE 5 & 10 as well as a light hydraulic oil. | | |
| LHMP020 | 20 Litres | 1 | | | |





See page 113 for Power Steering Stop Leak

See page 113 for Penrite 4297 (Transmission Additive)


MB15 Suspension Fluid

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Amber |
|--------------|-----------|------------|--|---------------|
| MB15001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: MB 343.0, ISO 15 | |
| | | | Penrite MB15 Suspension Fluid is a light, high viscosity index, zinc free, premium mineral oil designed for suspension components and hydraulic self-levelling suspension units that specify MB 343.0 for Mercedes Benz vehicles. Also suitable for use as a hydraulic oil where an ISO 15 grade is required. Ideal for Öhlins shock absorbers. It may also be used as a light industrial hydraulic oil in air-line lubricators and other applications that require very light oils. | |



Power Steering Trade Pack **NEW**

| Product Code | Pack Size | Carton Qty | Special Offer |
|--|-----------|------------|--|
| PSFTP | 6 Litre | 6 | Penrite Power Steering Trade Pack is designed for trade based outlets, service centres and workshops as a convenience pack that contain a mixture of power steering and suspension fluids. |
| PACK CONTAINS THE FOLLOWING PRODUCTS: 2 x 1L Power Steering Fluid (PSF001) 1 x 1L PAS Fluid (PAS001) 1 x 1L HPSO (HPS0001) 1 x 1L LDAS (LDAS001) 1 x 1L LHM Plus (LHMP001) | | | |



x1

x1

x2

x1

x1



| PENRITE PRODUCT | Millilitres | Litres | | | |
|---|-------------|--------|---|----|--|
| | 500 | 1 | 6 | 20 | |
| Power Steering Fluid | ○ | ○ | - | ○ | |
| PAS Fluid (Power Assisted Steering Fluid) | - | ○ | - | - | |
| HPSO (Honda Power Steering Oil) | - | ○ | - | - | |
| LDAS | - | ○ | - | - | |
| LHM Plus | - | ○ | - | ○ | |
| MB15 Suspension Fluid | - | ○ | - | - | |
| Power Steering Trade Pack | - | - | ○ | - | |

(All products are available in 1000L Pods, on request)



Expert Tip: 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.



Visit our website at www.penriteoil.com



ADDITIVES & FUEL TREATMENTS

Penrite, in conjunction with its international technology partners, have developed and manufactured a new range of additive products. Penrite's new 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 new additive range offers real benefits and improved performance from industry firsts that are unique in the market place.

PENRITE

ENGINE & RADIATOR

Engine Flush

| Product Code | Pack Size | Carton Qty |
|--------------|-----------------|------------|
| ADEF375 | 375 Millilitres | 6 |
| ADEF020 | 20 litres | 1 |

Colour: Amber

Treat Rate: 375ml treats up to 7.5 litres

Penrite Engine Flush is a fast acting, solvent free, engine cleaning formulation that removes engine deposits, sludge and contaminants with the oil service drain. It contains added zinc for engine wear protection and its fast acting formulation works in 10 minutes. Being solvent free, it protects gaskets and seals from damage during the cleaning process.



Engine Stop Leak

| Product Code | Pack Size | Carton Qty |
|--------------|-----------------|------------|
| ADESL375 | 375 Millilitres | 6 |

Colour: Amber

Treat Rate: 375ml treats up to 6 litres

Penrite Engine Stop Leak has been specifically formulated to control engine oil leaks due to deteriorated or worn seals and gaskets including the rear main seal. It provides a temporary seal to prevent loss of lubricating fluid and possible engine seizure or failure resulting in costly repairs.



Radiator Flush

| Product Code | Pack Size | Carton Qty |
|--------------|-----------------|------------|
| ADRF375 | 375 Millilitres | 6 |
| ADRF020 | 20 Litres | 1 |

Colour: Blue

Treat Rate: 375ml treats up to 15 litres

Penrite Radiator Flush is a fast acting (7 minute), alkaline cooling system cleaner designed to remove rust, scale and other deposits from automotive cooling systems that could block or foul circulation of coolant through the radiator or engine.



Radiator Stop Leak

| Product Code | Pack Size | Carton Qty |
|--------------|-----------------|------------|
| ADRSL375 | 375 Millilitres | 6 |

Colour: Blue/Green

Treat Rate: 375ml treats up to 12 litres

Penrite Radiator Stop Leak is a high quality, water based sealant designed for temporarily fixing leaking cooling systems. Its fast acting formulation effectively seals radiators, heater cores, weeping head gaskets, hose joints and welsh plugs in automotive engines preventing major damage from loss of coolant and engine overheating.



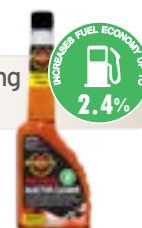
| ENGINE MAINTENANCE OR RADIATOR PROBLEMS | ENGINE FLUSH | ENGINE STOP LEAK | RADIATOR FLUSH | RADIATOR STOP LEAK |
|---|--------------|------------------|----------------|--------------------|
| Removes sludge | ✓ | | | |
| Cleans oil galleries | ✓ | | | |
| Improves oil pressure | ✓ | ✓ | | |
| Stops leaks and loss of fluid | | ✓ | | |
| Creates a temporary repair | | ✓ | | |
| Works with all oil types | ✓ | ✓ | | |
| Removes harmful deposits | ✓ | | | |
| For petrol and diesel engines | ✓ | ✓ | | |
| For competition and performance | ✓ | ✓ | | |
| Recommended service maintenance | ✓ | | | |
| Engine overheating | | | ✓ | |
| Changing coolant | | | ✓ | |
| Rust and scale build up | | | ✓ | |
| Dirty or blocked system | | | ✓ | |
| System leaking coolant | | | | ✓ |
| Compatible for all AFABs | | | ✓ | ✓ |

PETROL FUEL

Petrol Injector Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Red/Orange Fuel Types: Petrol/E10, LPG/Dual Fuel, Racing Treat Rate: 375ml treats 60 litres, every 3000km |
|--------------|-----------------|------------|--|
| ADPIC375 | 375 Millilitres | 6 | |
| ADPIC020 | 20 Litres | 1 | |

Penrite Petrol Injector Cleaner is a multi-purpose petrol fuel treatment that is designed to clean fuel injectors and carburettors in one tank of fuel whilst protecting fuel system components. Its unique formulation improves fuel economy by up to 2.4% on unleaded and E10 fuel and provides for engine power increases of up to 2.6%.



Petrol Fuel Stabiliser

| Product Code | Pack Size | Carton Qty | Colour: Red/Brown Treat Rate: 250ml treats 200 litres |
|--------------|-----------------|------------|---|
| ADPFS250 | 250 Millilitres | 6 | Industry & Manufacturer's Specifications: MIL-DTL-83133F/5624U, MIL-PRF-25017, DEF-STAN 91/91 Issue 6 |

Penrite Petrol Fuel Stabiliser is a fuel additive designed to stabilise the performance of petrol when in storage and prevent loss of engine performance due to old and stale fuel. It meets military and defence grade specifications for optimum reliability and performance.



Petrol Total System Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Amber Treat Rate: 375ml treats 75 litres, every 10,000km |
|--------------|-----------------|------------|---|
| ADPTSC375 | 375 Millilitres | 6 | Industry & Manufacturer's Specifications: ASTM D-5500-98(2014), ASTM D-6201, ASTM D-5598-01(2012) |

Penrite Petrol Total System Cleaner is 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 from forming.





Octane Booster

| Product Code | Pack Size | Carton Qty | Colour: Orange Treat Rate: 375ml treats 50 litres |
|--------------|-----------------|------------|--|
| ADOCTB375 | 375 Millilitres | 6 | |

Penrite Octane Booster is a fuel treatment designed to enhance the octane rating of regular 91 octane (RON) octane unleaded petrol. It is formulated to increase the octane rating by up to 2.5 when used at a ratio of 375ml per 50 litres of petrol. Its unique formulation improves power and acceleration, enhances fuel economy, prevents engine detonation damage, reduces "pinging" with low octane fuel and provides protection against valve seat recession. It will also keep injectors clean for optimum performance and economy.



Valve Shield

| Product Code | Pack Size | Carton Qty | Colour: Red Treat Rate: 50ml treats 50 litres |
|--------------|-----------------|------------|--|
| ADVS250 | 250 Millilitres | 6 | |
| ADVS001 | 1 Litre | 6 | |

Valve Shield REPLACES
Upper Cylinder & LPG Lubricant

Penrite Valve Shield is a dual purpose additive formulated for vehicles that were originally designed to run on leaded fuel, as a lead replacement additive, where it protects engines against valve seat recession (VSR) whilst also protecting them from intake deposit build up. It is also suitable as an upper cylinder lubricant in LPG or dual fuel systems fitted with LPG dripper systems.



| PETROL FUEL PROBLEMS | PETROL INJECTOR CLEANER | PETROL FUEL STABILISER | PETROL TOTAL SYSTEM CLEANER | OCTANE BOOSTER | VALVE SHIELD |
|---|-------------------------|------------------------|-----------------------------|----------------|--------------|
| Dirty or blocked Injectors | ✓ | | ✓ | ✓ | |
| Preventing valve seat recession | | | | | ✓ |
| For use in LPG / gas drip system | | | | | ✓ |
| Hard starting | ✓ | | ✓ | ✓ | |
| Poor performance | ✓ | | ✓ | ✓ | ✓ |
| Low octane fuel | | | | ✓ | |
| Pinging or engine knocking | | | | ✓ | |
| Dirty or carbon build up on valves | ✓ | | ✓ | | ✓ |
| Keeps fuel system clean | ✓ | ✓ | ✓ | ✓ | ✓ |
| Worn valve guides | | | | | ✓ |
| Use with E10 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Suitable for carburettor engine | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mixes directly with fuel | ✓ | ✓ | ✓ | ✓ | ✓ |
| Prolongs fuel life for up to 12 months | | ✓ | | | |
| Prevents gum, sediments, polymer formations and metal oxidation | | ✓ | | | |
| Prolongs the life of fuel injectors, pumps and catalysts | ✓ | ✓ | ✓ | | |



DIESEL FUEL

Diesel Injector Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Greenish Blue Fuel Types: Diesel, Diesel with DPF Treat Rate: 375ml treats 200 litres, every 2500km |
|--------------|-----------|------------|--|
|--------------|-----------|------------|--|

| | | |
|----------|-----------------|---|
| ADDIC375 | 375 Millilitres | 6 |
| ADDIC020 | 20 Litres | 1 |

Penrite Diesel Injector Cleaner is a multi-purpose diesel fuel treatment that combines an advanced set of additives to clean, protect and extend the life of diesel fuel system components. It effectively cleans the whole fuel delivery system including injectors and fuel pumps. It provides improved fuel economy, increases power, lowers emissions, makes starting easier, provides smoother idling and prevents against detonation damage. It can improve fuel economy by up to 2.5%.



Diesel Fuel Stabiliser

| Product Code | Pack Size | Carton Qty | Colour: Green Treat Rate: 250ml treats 200 litres |
|--------------|-----------|------------|--|
|--------------|-----------|------------|--|

| | | |
|----------|-----------------|---|
| ADDF5250 | 250 Millilitres | 6 |
|----------|-----------------|---|

Industry & Manufacturer's Specifications: MIL-DTL-83133F/5624U, MIL-PRF-25017, DEF-STAN 91/91 Issue 6

Penrite Diesel Fuel Stabiliser is a fuel additive designed to stabilise the performance of diesel fuel when in storage and prevent loss of engine performance due to old and stale fuel. It meets military and defence grade specifications for optimum reliability and performance.



Diesel Total System Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Amber Treat Rate: 375ml treats 75 litres, every 10,000km |
|--------------|-----------|------------|---|
|--------------|-----------|------------|---|

| | | |
|-----------|-----------------|---|
| ADDTSC375 | 375 Millilitres | 6 |
|-----------|-----------------|---|

Penrite Diesel Total System Cleaner is 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 from forming.



Enviro+ DPF Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Amber Treat Rate: 375ml treats 60 litres (or 30 litres: 1st stage blockage) |
|--------------|-----------|------------|--|
|--------------|-----------|------------|--|

| | | |
|-----------|-----------------|---|
| ADDPFC375 | 375 Millilitres | 6 |
| ADDPFC020 | 20 Litres | 1 |

Industry & Manufacturer's Specifications: MSHA-accepted, European and EPA registered, VERT-approved with DPF

Penrite Enviro+ DPF Cleaner is a patented, liquid bimetallic platinum and cerium catalyst, diesel fuel additive specifically formulated to assist regeneration of 1st stage filter blockage of DPFs (Diesel Particulate Filters) as well as improve their operation and reduce maintenance of the DPF and emissions control systems. Improves engine efficiency and fuel economy (up to 8%). It is also NOT suitable for use in Peugeot and Citroen vehicles as a replacement for the fluid used in their electronically controlled fuel additive dosing systems.



Diesel Biocide Fuel Treatment

| Product Code | Pack Size | Carton Qty | Colour: Amber |
|--------------|-----------|------------|---------------|
|--------------|-----------|------------|---------------|

| | | |
|----------------|------------|---|
| ADDSLTTREAT001 | 1 Litre | 6 |
| ADDSLTTREAT020 | 20 Litres | 1 |
| ADDSLTTREAT200 | 200 Litres | 1 |

Penrite Diesel Biocide Fuel Treatment is a diesel fuel additive containing a combination of effective ingredients to clean, lubricate and protect fuel system components and improve fuel economy. It provides effective anti-corrosion properties and contains a demulsifier to separate water. It also contains a BIOCID to kill microorganisms in diesel fuel and prevent their growth.



Penblue (AdBlue®)

| Product Code | Pack Size | Carton Qty |
|----------------|-------------|------------|
| PENBLUE010 | 10 Litres | 1 |
| PENBLUE210 | 210 Litres | 1 |
| PENBLUE1000LTR | 1000 Litres | 1 |

Colour: Clear

Industry & Manufacturer's Specifications: DIN 70070, AUS 32, ISO 22241

Penrite Penblue (Adblue®), is a fully VDA licensed and registered AdBlue® aqueous urea solution, 32.5% (AUS 32), mixed with demineralised water for use in selected catalyst reduction systems. It is a clear solution that is non toxic, safe to handle and is a reduction agent for oxides of nitrogen (NOx), required by SCR (Selective Catalytic Reduction) technology in many diesel vehicles.



| DIESEL FUEL PROBLEMS | DIESEL INJECTOR CLEANER | DIESEL FUEL STABILISER | DIESEL TOTAL SYSTEM CLEANER | ENVIRO+ DPF CLEANER | DIESEL BIOCIDES FUEL TREATMENT | PENBLUE (ADBLUE®) |
|---|-------------------------|------------------------|-----------------------------|---------------------|--------------------------------|-------------------|
| Cleans dirty or blocked Injectors | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Restores lost power | ✓ | | ✓ | ✓ | ✓ | |
| Improves fuel economy | ✓ | | ✓ | ✓ | ✓ | |
| Improves hard starting | ✓ | | ✓ | ✓ | ✓ | |
| Clears and prevents DPF blockages | | | | ✓ | | |
| Kills diesel fuel bugs | | | | | ✓ | |
| Improves lubricity of the diesel | ✓ | ✓ | ✓ | | ✓ | |
| Keeps fuel system clean | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Safe for common rail diesels | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Use with bio diesel B10 | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Use with bio diesel B20 | | ✓ | | ✓ | | |
| Mixes directly with fuel | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Safe for use with DPFs | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Patented Technology | | ✓ | | ✓ | | |
| Helps keep EGRs clean | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Prolongs fuel life for up to 12 months | | ✓ | | | | |
| Prevents gum, sediments, polymer formations and metal oxidation | | ✓ | | | | |
| Prolongs the life of fuel injectors, pumps and catalysts | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Reduces NOx emissions | | | | | | ✓ |
| Non toxic and safe to handle | | | | | | ✓ |



Visit our website at www.penriteoil.com

TRANSMISSION, GEAR & POWER STEERING

Auto Trans Stop Leak

| Product Code | Pack Size | Carton Qty | Colour: Amber Treat Rate: 375ml treats up to 10 litres |
|--------------|-----------------|------------|---|
| ADTSL375 | 375 Millilitres | 6 | |

Penrite Auto Trans Stop Leak has been specifically formulated to control leaks in automatic transmission systems due to deteriorating or worn seals and gaskets. It has been designed for use in conventional automatic transmission units. Not suitable for use in DCT or CVT systems.



Power Steering Stop Leak

| Product Code | Pack Size | Carton Qty | Colour: Amber Treat Rate: 375ml treats up to 1 litre |
|--------------|-----------------|------------|---|
| ADPSL375 | 375 Millilitres | 6 | |

Penrite Power Steering Stop Leak has been formulated to control leaks in power steering systems due to deteriorated or worn seals and gaskets. It has been designed for use in power steering systems that utilise Automatic Transmission Fluids (ATFs) as the power steering fluid.



Penrite 4297 (Transmission Additive)

| Product Code | Pack Size | Carton Qty | Colour: Dark Brown |
|-----------------|-----------------|------------|--------------------|
| PEN4297000150ML | 150 Millilitres | 6 | |

Penrite 4297 REPLACES
LZ 7906

Penrite 4297 is a treatment additive formulated to alleviate shift problems in automatic transmission systems that require DEXRON®II automatic transmission fluids (ATFs). It is also suitable for manual transmissions that utilise an ATF as their lubricant. It can also be used to reduce noise and wear in power steering systems of passenger vehicles. It contains a balanced mix of additives including oxidation inhibitors and friction modifiers to alter the shift feel of many transmissions while providing for an improved margin of protection in others. Not suitable for use in DCT or CVT systems.



Limslip Additive

| Product Code | Pack Size | Carton Qty | Colour: Purple |
|--------------|-----------------|------------|----------------|
| LSADD000150 | 150 Millilitres | 6 | |

Industry & Manufacturer's Specifications: GM Part Number 1052358, Ford M2C118-A, Ford Motorsport 7098, Dana 40819, Daimler Chrysler MS 5630

Penrite Limslip Additive is an additive designed specifically for use in limited slip differentials to overcome problems with squeal, squawk or chatter. It can also be added to both mineral and synthetic hypoid gear oils to change their frictional properties to give them the ability to be used in limited slip differentials. Penrite Pro Gear 75W-90 & 80W-140 do not require any further addition of Limslip Additive.



| TRANSMISSION, GEAR OR POWER STEERING PROBLEMS | AUTO TRANS STOP LEAK | POWER STEERING STOP LEAK | PENRITE 4297 | LIMSLIP ADDITIVE |
|---|----------------------|--------------------------|--------------|------------------|
| Leaking transmission | ✓ | | | |
| Leaking Power Steering | | ✓ | | |
| Harsh auto gear changes | | | ✓ | |
| Reduces squeal, squawk and chatter | | | ✓ | ✓ |
| Leaking seals | ✓ | ✓ | | |
| Hard manual gearbox changes | | | ✓ | |
| Mixable with mineral or synthetic oil | ✓ | ✓ | | ✓ |

| PENRITE PRODUCT | Millilitres | | | Litres | | | | | |
|--------------------------------------|-------------|-----|-----|--------|----|----|-----|-----|------|
| | 150 | 250 | 375 | 1 | 10 | 20 | 200 | 210 | 1000 |
| Petrol Injector Cleaner | - | - | ○ | - | - | ○ | - | - | - |
| Petrol Fuel Stabiliser | - | ○ | - | - | - | - | - | - | - |
| Petrol Total System Cleaner | - | - | ○ | - | - | - | - | - | - |
| Octane Booster | - | - | ○ | - | - | - | - | - | - |
| Valve Shield | - | ○ | - | ○ | - | - | - | - | - |
| Diesel Injector Cleaner | - | - | ○ | - | - | ○ | - | - | - |
| Diesel Fuel Stabiliser | - | ○ | - | - | - | - | - | - | - |
| Diesel Total System Cleaner | - | - | ○ | - | - | - | - | - | - |
| Enviro+ DPF Cleaner | - | - | ○ | - | - | ○ | - | - | - |
| Diesel Biocide Fuel Treatment | - | - | - | ○ | - | ○ | ○ | - | - |
| Penblue (AdBlue®) | - | - | - | - | ○ | - | - | ○ | ○ |
| Engine Flush | - | - | ○ | - | - | ○ | - | - | - |
| Engine Stop Leak | - | - | ○ | - | - | - | - | - | - |
| Radiator Flush | - | - | ○ | - | - | ○ | - | - | - |
| Radiator Stop Leak | - | - | ○ | - | - | - | - | - | - |
| Auto Trans Stop Leak | - | - | ○ | - | - | - | - | - | - |
| Power Steering Stop Leak | - | - | ○ | - | - | - | - | - | - |
| Penrite 4297 (Transmission Additive) | ○ | - | - | - | - | - | - | - | - |
| Limslip Additive | ○ | - | - | - | - | - | - | - | - |

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Additives & Fuel Treatments range:

- › Meet engine emission requirements.
 - › Superior protection of older vehicles.
 - › Designed to protect 'dry' fuel systems.
- (Refer specific Product Information Sheet).

Expert Tip: Did you know that dye is sometimes added to oils for easy identification? Base oils and additives have natural variations in colour (i.e browns and pale gold) but dyes have no bearing on the performance of the oil.



Visit our website at www.penriteoil.com



CAR CARE & MAINTENANCE


Penrite manufacture a range of car care cleaning and maintenance solutions for workshops that like to provide a better class of service for 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.

PENRITE

P26 Multi-Purpose MoS2 Lubricant

| Product Code | Pack Size | Carton Qty | Colour: Brown/Grey |
|--------------|-----------------|------------|--------------------|
| P26MPL0004 | 400 Millilitres | 6 | |


Penrite P26 Multi-Purpose MoS2 Lubricant is an advanced formula, professional and universal automotive maintenance oil that infiltrates, penetrates, dispels water, lubricates moving parts, acts as a contact agent (electrical), cures squeaks and creaks and protects metal against corrosion. It contains molybdenum disulphide and a solvent carrier that evaporates from the treated components whilst leaving a thin film of corrosion protecting oil. It is suitable for use in all automotive, marine, industrial and domestic applications.



P26 Multi-Purpose Degreaser

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------|-----------------|------------|---------------|
| P26MPD0004 | 400 Millilitres | 6 | |


Penrite P26 Multi-Purpose Degreaser is a professional strength, solvent based degreaser that rapidly dissolves oil, grease, brake dust, silicone and other contaminants. Its non-chlorinated, non-corrosive and non-staining formulation rapidly breaks down oil, grease and sludge, enabling easy cleaning of surfaces from grease and grime. It is suitable for cleaning engine parts, motorcycle chains, wheel hubs, lawn and gardening equipment, marine, agricultural equipment, concrete and even on work clothes to break down oil and grease stains.



P26 Throttle Body & Carb Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------|-----------------|------------|---------------|
| P26TBCC0004 | 400 Millilitres | 6 | |


Penrite P26 Throttle Body & Carb Cleaner is a professional strength cleaner for fuel and air intake and delivery systems, designed to instantly dissolve varnish, grease, dirt, sludge, gummy residues and fuel sediments that impede engine performance, economy and smoothness. It improves economy, restores lost power, provides smoother running and lowers emissions when properly used to remove contaminants. It is suitable for the cleaning of throttle bodies, carburettors, automatic chokes, PCV and EGR valves.



P26 Brake & Parts Cleaner and Brake & Parts Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------------------------------|-----------------|------------|---------------|
| P26 Brake & Parts Cleaner | | | |
| P26BAPC0004 | 400 Millilitres | 6 | |
| Brake & Parts Cleaner | | | |
| MABAPC020 | 20 Litres | 1 | |
| MABAPC200 | 200 Litres | 1 | |

Penrite P26 Brake & Parts Cleaner and Brake & Parts Cleaner are a professional strength, residue-free cleaner that 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. They are available in liquid and aerosol. They're especially suitable for all maintenance and repair work on brakes, clutch and engine parts but also for the thorough cleaning of machine parts, tools and all types of equipment.




Clear Screen

| Product Code | Pack Size | Carton Qty |
|---------------|-----------------|------------|
| ADCS025SINGLE | 25 Millilitres | 25 |
| ADCS250 | 250 Millilitres | 6 |
| ADCS020 | 20 Litres | 1 |

Colour: Orange

Penrite Clear Screen concentrate is a highly concentrated cleaning additive for the windscreen washer unit. It rapidly removes dirt, mineral dust, exhaust gas residues and rainwater deposits from windscreens. Oil soot, insects, silicone, grime and traffic film are removed in seconds and wiper blade action is smoothed. Tolerant to paintwork, rubber and plastics.



| MAINTENANCE PROBLEMS | P26 THROTTLE BODY & CARB CLEANER | P26 BRAKE & PARTS CLEANER | P26 MULTI-PURPOSE DEGREASER | P26 MULTI-PURPOSE MoS2 LUBRICANT | CLEAR SCREEN |
|--|----------------------------------|---------------------------|-----------------------------|----------------------------------|--------------|
| Dirty windscreen | | | | | ✓ |
| Wiper action rough and uneven | | | | | ✓ |
| Water "webbing" on windscreen | | | | | ✓ |
| Squeaks and rattles | | | | ✓ | |
| Rusted and seized components | | | | ✓ | |
| Wet electrical components | | | | ✓ | |
| Dirty engine | | | ✓ | | |
| Oil or grease spill | | | ✓ | | |
| Rough idling | ✓ | | | | |
| Hard starting | ✓ | | | | |
| Poor performance | ✓ | | | | |
| Brake service | | ✓ | | | |
| Cleaning brake callipers and sliders | | ✓ | | | |
| Dirty or greasy tools | | ✓ | ✓ | | |
| Remove oil coating on new brake discs or drums | | ✓ | | | |

Wheel Rim Cleaner

| Product Code | Pack Size | Carton Qty |
|--------------|-----------------|------------|
| CCWC0005 | 500 Millilitres | 6 |
| CCWC005 | 5 Litres | 4 |

Colour: Opaque

Penrite Wheel Rim Cleaner is a special cleaner for stubborn dirt such as burned-in brake dust, oil and rubber residue and other road dirt on steel and alloy wheel rims and hubcaps. It rapidly and effectively removes brake dust, road grime, dirt and rust from all types of metal wheel rims. The gentle acid free formula does not affect rims, wheel nuts and bolts. It is ideal for the perfect finish on all wheel types.



Instant Insect Remover **NEW**

| Product Code | Pack Size | Carton Qty |
|--------------|-----------------|------------|
| CCIIR0005 | 500 Millilitres | 6 |
| CCIIR020 | 20 Litres | 1 |

Colour: Clear

Penrite Instant Insect Remover is an advanced formula, professional automotive cleaner that quickly and effortlessly removes insects from glass, paintwork, chrome and plastics. It has outstanding infiltration abilities where the special cleaner softens up even dried on insect deposits, without attacking the surfaces. Suitable for use in all automotive applications. It is safe to use on all painted surfaces and is solvent free. It removes insect residues quickly and gently. It is ready to use directly from the container.



Instant Car Wash **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Blue |
|--------------|-----------------|------------|--------------|
| CCICW0005 | 500 Millilitres | 6 | |

Penrite Instant Car Wash is a highly economical and effective, super concentrated car washing detergent with a new combination of active ingredients to remove dirt and road grime quickly and thoroughly. Gentle on surfaces through its active ingredients, it is phosphate free and has a pleasant fragrance. Can be used to wash passenger cars, 4WDs, light and heavy duty commercial vehicles, veteran and vintage vehicles, boats, jet skis, motorcycles and many other types of equipment. Suitable for cleaning paintwork surfaces, convertible fabric tops, metal, glass, plastics, rubber, tiles, porcelain and enamelled surfaces.



Instant Tyre Shine **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Yellow |
|--------------|-----------------|------------|----------------|
| CCITS0004 | 400 Millilitres | 6 | |

Penrite Instant Tyre Shine is a tyre gloss and maintenance product for all tyre types. It restores rich colours to weathered tyres and provides a perfect shine whilst maintaining the rubber and keeping it supple. It is extremely easy to apply and lasts for several weeks. It can be used on the tyres of passenger cars, 4WDs, light and heavy duty commercial vehicles, trailers, veteran and vintage vehicles. It is also suitable for plastic bumpers and mud flaps. Protects tyres from UV sun damage and premature browning.



Instant Shine Detailer **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Blue |
|--------------|-----------------|------------|--------------|
| CCISD000750 | 750 Millilitres | 6 | |

Penrite Instant Shine Detailer is a detailing spray for quick, interim paintwork care. Ideal for quickly cleaning dust covered paintwork and for freshening up previous wax treatments. It enhances the colour depth and leaves the paintwork surface smooth and sleek. It can be used on passenger cars, 4WDs, light and heavy duty commercial vehicles, veteran and vintage vehicles, boats, jet skis, motorcycles and wherever paint or bright work needs cleaning and shining.



Instant Odour Eliminator **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------|-----------------|------------|---------------|
| CCIOE0005 | 500 Millilitres | 6 | |

Penrite Instant Odour Eliminator is a professional strength automotive deodorant that removes unpleasant smells such as cigarette smoke, animal smells and other unpleasant odours from all automotive interiors. It does not cover-up these smells, but neutralises them and leaves a pleasant fresh fragrance. It can be used in cars, light and heavy commercial vehicles, buses, trains and trams. Designed for use with all types of automotive interiors.



Instant Dash Protectant **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------|-----------|------------|---------------|
|--------------|-----------|------------|---------------|

CCIDP300 300 Millilitres 6

Penrite Instant Dash Protectant is a silicone and solvent free cleaner, designed for the cleaning and care of all plastic and vinyl parts within the vehicles interior. It has a matt, original look finish and reduces electrostatic charges to repel dust whilst leaving a pleasant fragrance. Designed for use in all internal cabins of all automotive, marine, industrial, mining and agricultural machines that have plastic fascia, door cards, hard plastic, dashboards and consoles.



| CAR CARE PROBLEMS | WHEEL RIM CLEANER | INSTANT INSECT REMOVER | INSTANT CAR WASH | INSTANT TYRE SHINE | INSTANT SHINE DETAILER | INSTANT ODOUR ELIMINATOR | INSTANT DASH PROTECTANT |
|--------------------------------|-------------------|------------------------|------------------|--------------------|------------------------|--------------------------|-------------------------|
| Dirty car | | | ✓ | | ✓ | | |
| Droppings or bug splatters | | ✓ | ✓ | | | | |
| Brake dust and wheel grime | ✓ | | ✓ | | | | |
| No water cleaner | | | | | ✓ | | |
| Interior vinyl and trim | | | | | | | ✓ |
| Perished or sun-bleached tyres | | | | ✓ | | | |
| In ground wheel dirt and grime | ✓ | | | | | | |
| Pet or animal smell in vehicle | | | | | | ✓ | |
| Stale cigarette smoke odour | | | | | | ✓ | |
| Damp musty smells | | | | | | ✓ | |
| Dirty and dull plastic trim | | | ✓ | | ✓ | | |
| Car needs a polish | | | | | ✓ | | |

Solvent Degreaser **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------|-----------|------------|---------------|
|--------------|-----------|------------|---------------|

MASD020 20 Litres 1
MASD205 205 Litres 1

Penrite Solvent Degreaser is 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. It is suitable for the cleaning of oil and grease from surfaces such as engine parts and other surfaces where removal of grease, oil, sludge and grime is required.



Tyre Shine

| Product Code | Pack Size | Carton Qty | Colour: Blue |
|--------------|-----------|------------|--------------|
|--------------|-----------|------------|--------------|

CCTS020 20 Litres 1

Penrite Tyre Shine is a long lasting, rich, deep shine, "Wet Look" spray for tyres. It simultaneously improves the appearance of 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. It is easy to use and takes little downtime to improve the overall appearance of the vehicle.



Bio Clean

| Product Code | Pack Size | Carton Qty | Colour: Yellow |
|--------------|-----------|------------|---|
| BIOCLEAN020 | 20 Litres | 1 | <p>Penrite Bio Clean is 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.</p> |



Hand Cleaner **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Yellow |
|--------------|------------|------------|--|
| MAHC0025 | 2.5 Litres | 4 | <p>Penrite Hand Cleaner is perfect for automotive workshops and service centres, marine, industrial, agriculture, mining and forestry industries. It removes dirt, oil, grease and other industrial soils quickly and completely. It contains carefully selected poly beads to help remove ingrained and aged dirt and grime. The poly beads float in water and are far less likely to block drains than other abrasives used in hand cleaners. It contains no petroleum solvents or harsh alkalis so it will not dry or crack the user's skin or leave unpleasant solvent odours.</p> |
| MAHC020 | 20 Litres | 1 | |



Glass Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Green |
|--------------|-----------|------------|---|
| CCGC020 | 20 Litres | 1 | <p>Penrite Glass Cleaner is an advanced formula, glass, window and mirror cleaner that easily removes road grime, oil, insects, silicone, film smear and the residues of nicotine and smoke from windscreens, head lights and mirrors to improve vision and vehicle safety.</p> |



Interior Cleaner

| Product Code | Pack Size | Carton Qty | Colour: Clear |
|--------------|-----------|------------|---|
| CCIC020 | 20 Litres | 1 | <p>Penrite Interior Cleaner is an advanced formula, professional automotive interior cleaner designed to clean vinyl, leatherette, cloth, suede, plastic and other composite surfaces. It thoroughly and gently removes even stubborn dirt from car interior trims, upholstered seats, textile covers, carpets, plastic roof linings and vinyl roofs. It deodorises as it cleans and leaves a fresh fragrance in the car.</p> |



Multi-Purpose Wash

| Product Code | Pack Size | Carton Qty | Colour: Blue |
|---------------|-------------|------------|---|
| DETCTW020 | 20 Litres | 1 | <p>Penrite Multi-Purpose Wash is a heavy duty, multi-purpose, biodegradable detergent cleaner, capable of cleaning the most heavily soiled cars, motorbikes, 4WDs, trucks, tractors, boats, caravans and other 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 fiberglass.</p> |
| DETCTW200 | 200 Litres | 1 | |
| DETCTW1000LTR | 1000 Litres | 1 | |



| CAR CARE PROBLEMS | SOLVENT DEGREASER | TYRE SHINE | BIO CLEAN | HAND CLEANER | GLASS CLEANER | INTERIOR CLEANER | MULTI- PURPOSE WASH |
|----------------------------------|----------------------|---------------|--------------|-----------------|------------------|---------------------|---------------------------|
| Droppings or bug splatters | | | ✓ | | ✓ | | ✓ |
| Degreasing | ✓ | | ✓ | | | | |
| Treating tyres | | ✓ | | | | | |
| Hard surface cleaning | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| Oil and grease spills | ✓ | | ✓ | | | | |
| Cleaning engine parts and tools | ✓ | | | | | | |
| Interior vinyl and trim | | | | | | ✓ | |
| Glass and chrome | | | | | ✓ | | |
| Carpets and cloth | | | | | | ✓ | |
| Truck or heavy equipment washing | | | ✓ | | | | ✓ |
| Dirty hands | | | | ✓ | | | |
| Pressure washers | | | ✓ | | | | |
| Parts washer machines | ✓ | | | | | | |



| PENRITE PRODUCT | Millilitres | | | | | | Litres | | | | | |
|----------------------------------|-------------|-----|-----|-----|-----|-----|--------|---|----|-----|-----|------|
| | 25 | 250 | 300 | 400 | 500 | 750 | 2.5 | 5 | 20 | 200 | 205 | 1000 |
| P26 Multi-Purpose MoS2 Lubricant | - | - | - | ○ | - | - | - | - | - | - | - | - |
| P26 Multi-Purpose Degreaser | - | - | - | ○ | - | - | - | - | - | - | - | - |
| P26 Throttle Body & Carb Cleaner | - | - | - | ○ | - | - | - | - | - | - | - | - |
| P26 Brake & Parts Cleaner | - | - | - | ○ | - | - | - | - | - | - | - | - |
| Brake & Parts Cleaner | - | - | - | - | - | - | - | - | ○ | ○ | - | - |
| Clear Screen | ○ | ○ | - | - | - | - | - | - | ○ | - | - | - |
| Wheel Rim Cleaner | - | - | - | - | ○ | - | - | ○ | - | - | - | - |
| Instant Insect Remover | - | - | - | - | - | - | - | - | ○ | - | - | - |
| Instant Car Wash | - | - | - | - | ○ | - | - | - | - | - | - | - |
| Instant Tyre Shine | - | - | - | ○ | - | - | - | - | - | - | - | - |
| Instant Shine Detailer | - | - | - | - | - | ○ | - | - | - | - | - | - |
| Instant Odour Eliminator | - | - | - | - | ○ | - | - | - | - | - | - | - |
| Instant Dash Protectant | - | - | ○ | - | - | - | - | - | - | - | - | - |
| Solvent Degreaser | - | - | - | - | - | - | - | - | ○ | - | ○ | - |
| Tyre Shine | - | - | - | - | - | - | - | - | ○ | - | - | - |
| Bio Clean | - | - | - | - | - | - | - | - | ○ | - | - | - |
| Hand Cleaner | - | - | - | - | - | - | ○ | - | ○ | - | - | - |
| Glass Cleaner | - | - | - | - | - | - | - | - | ○ | - | - | - |
| Interior Cleaner | - | - | - | - | - | - | - | - | ○ | - | - | - |
| Multi-Purpose Wash | - | - | - | - | - | - | - | - | ○ | ○ | - | ○ |

(All products are available in 1000L Pods, on request)

UNDERSTANDING BRAKE FLUIDS

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 current 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. 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 VALUE

Value to show acidity/basicity of a solution. If the pH value is lower than 7.0 (acidic), the fluid can accelerate corrosion of other brake components.

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.

WHY IS A LOW BOILING POINT TEMPERATURE NOT ACCEPTABLE?

When driving a vehicle, brake pads can reach extremely high temperatures (up to 300°C). This heat is passed onto the brake fluid through the brake calipers, which can raise the fluid temperature to over 200°C. If the brake fluid is repeatedly heated past its boiling point, some of the fluid vaporizes and creates air bubbles within the brake lines. This can lead to a very dangerous situation where the brake lines are carrying air instead of brake fluid. Air can be compressed which is why it must bleed out of brake systems so that the brake fluid can properly compress the pistons inside the brake caliper, thereby applying the brakes.

WHAT IS PERCENT WATER BY VOLUME?

The most common ingredient of brake fluid is glycol-ether. This fluid is hygroscopic which mean it absorbs moisture from the atmosphere. The 'percent by volume' is a measure of the water content in the brake fluid. It should be very low for optimum brake performance.

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, 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.

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.






BRAKE FLUIDS

Penrite market a complete range of brake fluids designed for most applications. Our products meet and exceed industry specifications and include non-petroleum based, 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 products, new DOT 5.1 & DOT 4 ESP for colder temperatures and micro-valved ABS systems as well as ultra high boiling point Racing Brake Fluid and a new DOT 5 Silicone Brake Fluid.



DOT 3 Brake Fluid


| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Amber |
|--------------|-----------------|------------|---|---|
| DOT30005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: AS 1960-2005 Grade 1, ISO 4925 Class 3, US FMVSS No 116 DOT 3, SAE J1703 Penrite DOT 3 Brake Fluid is a premium quality, non-silicone, non-mineral/petroleum based, full synthetic brake fluid designed for use in a wide range of brake and clutch applications, where a DOT 3 fluid is specified. DERBP: 240° C / 465° F. |  |
| DOT3004 | 4 Litres | 4 | | |
| DOT3020 | 20 Litres | 1 | | |


DOT 4 ESP Brake Fluid

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Amber |
|---------------|-----------------|------------|--|---------------|
| BFDOT4ESP0005 | 500 Millilitres | 6 | <p>Industry & Manufacturer's Specifications: FMVSS 116 DOT 4, SAE J1704, ISO 4925 (3, 4 & 6)</p> <p>Penrite DOT 4 ESP Brake Fluid is a premium quality, non-silicone, non-mineral/petroleum based, full synthetic low viscosity brake fluid optimised for use in vehicles with ABS and ESP systems as well as standard brake and clutch applications.</p> <p>It is recommended for re-fill or top-up of brake and clutch systems in passenger cars, 4WDs, motorcycles, light and heavy duty commercial vehicles, mining, construction and agricultural equipment that require a non petroleum based DOT 3, DOT 4 or Super DOT 4 brake and clutch hydraulic fluid.</p> <p>DOT 4 ESP Brake Fluid is especially suited for vehicles fitted with ESP, ABS and AEB vehicle control systems and is designed to operate in lower ambient temperatures and to provide faster response times than standard DOT 3 or DOT 4 Brake Fluids. It should be changed according to the manufacturer's specifications. Suitable for use in many European applications. DERBP: 260° C / 525° F.</p> | |



Super DOT 4 Brake Fluid

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Amber |
|--------------|-----------------|------------|--|---|
| BF0005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: AS 1960.1-1995, ISO 4925, Ford M6C55-A, Holden HN 1796 (suitable for use), JIS K2233 (Japan), SAE J1703/J1704, US FMVSS No 116 Super DOT 4 |  |
| BF004 | 4 Litres | 4 | | |
| BF020 | 20 Litres | 1 | | |



Penrite Super DOT 4 Brake Fluid is a premium quality, non-silicone, non-mineral/petroleum based, full synthetic brake fluid designed for use in a wide range of brake and clutch applications including ABS.

It is recommended for re-fill or top-up of brake and clutch systems in passenger cars, 4WDs, motorcycles, light and heavy duty commercial vehicles, mining, construction and agricultural equipment that require a non petroleum based DOT 3, DOT 4 or Super DOT 4 brake and clutch hydraulic fluid.

Super DOT 4 Brake Fluid can be used for first fill or refilling a brake or clutch system. For best results, the system should always be flushed with Penrite Brake Fluid Super DOT 4 prior to first fill or before refilling the system. It should be changed according to the manufacturer's specifications. DERBP: 275° C / 525° F.



DOT 5.1 Brake Fluid

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Amber |
|--------------|-----------|------------|--------------------------|---------------|
|--------------|-----------|------------|--------------------------|---------------|

DOT510005 500 Millilitres 6

Industry & Manufacturer's Specifications: FMVSS 116 DOT 5.1, DOT 4 and DOT 3, SAE J1703/J1704, ISO 4925 (5.1, 4 & 3)

Penrite DOT 5.1 Brake Fluid is a premium quality, full synthetic, non-silicone, non-mineral/petroleum based brake fluid designed where DOT 5.1 specification fluids are required in colder climatic conditions or in systems requiring faster circulation fluid to perform correctly. Compatible with DOT 3, DOT 4 & Super DOT 4 fluids. DERBP: 269° C / 515° F.



10 Tenths Racing Brake Fluid

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Amber |
|--------------|-----------|------------|--------------------------|---------------|
|--------------|-----------|------------|--------------------------|---------------|

RBF0005 500 Millilitres 6

Industry & Manufacturer's Specifications: AS 1960.1-2005, SAE J1704, US FMVSS No 116 Super DOT 4

Penrite 10 Tenths Racing Brake Fluid is a premium full synthetic polyalkylene glycol ether ester, non-silicone, non-mineral/petroleum based brake fluid for long life and maximum performance in severe braking conditions. Not compatible with DOT 3 or silicone based DOT 5 fluids. Compatible with DOT 5.1 and other DOT 4 fluids. DERBP: 316° C / 600° F.



Silicone Brake Fluid **NEW**

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Colour: Purple |
|--------------|-----------|------------|--------------------------|----------------|
|--------------|-----------|------------|--------------------------|----------------|

BFSIL0005 500 Millilitres 6

Industry & Manufacturer's Specifications: US FMVSS 116 DOT 5

Penrite Silicone Brake Fluid is a premium quality, full synthetic silicone brake fluid designed for use where DOT 5 silicone brake fluids are required. It fully meets the requirements of the US FMVSS 116 DOT 5 specification. It is recommended for re-fill or top-up of brake and clutch systems in all vehicles and equipment that specify a DOT 5 silicone fluid. It can be used for first fill or refilling system that already contains DOT 5 fluid. It is NOT mixable with DOT 3, DOT 4, Super DOT 4 or DOT 5.1 fluids. DERBP: 300° C / 572° F.



LHM Plus

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Green |
|--------------|-----------|------------|---------------------------|---------------|
|--------------|-----------|------------|---------------------------|---------------|

LHMP001 1 Litre 6
LHMP020 20 Litres 1

Industry & Manufacturer's Specifications: Renault PSA B71 2710, Ford M6C59-A, ISO 7308, Massey Ferguson MF 1151, VW 2000

Penrite LHM Plus is a premium mineral oil specifically designed for use in power steering, suspension, hydraulic and braking systems, where a mineral LHM fluid is required.



Key Features & Benefits of the Brake Fluids range:

- > 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.

Expert Tip: All brake fluids apart from DOT 5 silicone brake fluids are hygroscopic and will absorb water over time. Therefore, they all have a limited life span and must be changed regularly.

| PENRITE PRODUCT | Millilitres | Litres | | | |
|------------------------------|-------------|--------|---|----|--|
| | 500 | 1 | 4 | 20 | |
| DOT 3 Brake Fluid | ⊙ | - | ⊙ | ⊙ | |
| DOT 4 ESP Brake Fluid | ⊙ | - | - | - | |
| Super DOT 4 Brake Fluid | ⊙ | - | ⊙ | ⊙ | |
| DOT 5.1 Brake Fluid | ⊙ | - | - | - | |
| 10 Tenths Racing Brake Fluid | ⊙ | - | - | - | |
| Silicone Brake Fluid | ⊙ | - | - | - | |
| LHM Plus | - | ⊙ | - | ⊙ | |

(All products are available in 1000L Pods, on request)



UNDERSTANDING INDUSTRIAL OILS

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 manufactures may specify a zinc free oil.

Hydraulic oils may also be of a high viscosity index. 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 (see page 16).

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).

TRANSFORMER OILS:

Highly specialised fluids used in electrical transformers. They are characterised by extremely low water content and good oxidation stability. Usually made from a naphthenic base oil type.

WHITE OILS:

Ever wondered what baby oil is? Highly refined mineral oil, 100% paraffinic and approved by health and food authorities. Used by the food and cosmetic industry as a lubricant or carrier fluid.

PROCESS OILS:

Straight oils with no additives used in various industrial processes such as in rubber or as flushing fluids. Large quantities of these are used by heavy industry.

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.

SHELF LIFE OF LUBRICATING OILS

The performance properties of oils will remain intact for many years, provided they have been in protected storage and not exposed to severe high/low temperature cycles. Generally, the simpler the oil formulation, the longer the oil will remain satisfactory. The old 'cool, dry place' phase certainly applies when storing oil products.

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.

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.

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.





INDUSTRIAL

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.

Indus Pro Hydraulic ISO 10, 22, 32, 46 & 68

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Colour: Amber | Viscosity: ISO 10, 22, 32, 46 & 68 |
|--|-------------|------------|---|------------------------------------|
| Indus Pro Hydraulic ISO 10 PROHYD10205 | 205 Litres | 1 | <p>Industry & Manufacturer's Specifications: Denison HF0/HF1/HF2, US Steel 126/127, Vickers I-286-S/M-2950-S, DIN 51524 Part 2 (HLP Type), Cincinatti Milacron P-68 (32), P-69 (68), P-70 (46) (HM)</p> <p>Penrite Indus Pro Hydraulic ISO 10, 22, 32, 46 & 68 are premium mineral, high quality, zinc free (ISO 10 & 22 only) and low zinc hydraulic oils made from selected base stocks and advanced anti-wear additives. They are recommended for use in all types of hydraulic systems using vane, piston or gear pumps, airline lubricators, vacuum pumps, lightly loaded gear sets and bearings (such as headstocks and windmill gears) as well as hydraulic hoists and jacks, and are safe for all hydraulic hoses and seal types. They also provide outstanding protection against wear and corrosion.</p> | |
| Indus Pro Hydraulic ISO 22 PROHYD22205 | 205 Litres | 1 | | |
| Indus Pro Hydraulic ISO 32 PROHYD32005 | 5 Litres | 4 | | |
| PROHYD32020 | 20 Litres | 1 | | |
| PROHYD32205 | 205 Litres | 1 | | |
| Indus Pro Hydraulic ISO 46 PROHYD46005 | 5 Litres | 4 | | |
| PROHYD46020 | 20 Litres | 1 | | |
| PROHYD46205 | 205 Litres | 1 | | |
| PROHYD461000LTR | 1000 Litres | 1 | | |
| Indus Pro Hydraulic ISO 68 HYD68001 | 1 Litre | 6 | | |
| PROHYD68005 | 5 Litres | 4 | | |
| PROHYD68020 | 20 Litres | 1 | | |
| PROHYD68205 | 205 Litres | 1 | | |
| PROHYD681000LTR | 1000 Litres | 1 | | |



Indus HV 15, 32, 46, 68 & 100 (Hydraulic Oil)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Colour: Green | Viscosity: ISO 15, 32, 46, 68 & 100 |
|--------------------------------------|-------------|------------|--|-------------------------------------|
| Indus HV 15 INDUSHV15205 | 205 Litres | 1 | <p>Industry & Manufacturer's Specifications: Vickers I-286-S3/M-2952-S, Denison HF-2, DIN 51524 Part 3 (HLP/HVLP), US Steel 126/127, Hagglunds AC-4.8, AAMA 524 Part 3, German Steel SEB 181 222, SAE MS1004 Type HV, Cincinatti Milacron P-68 (32)/P-69 (68)/P-70 (46), AFNOR NFE 48-603/48-690, ISO 6743 Part 4 Type HV</p> <p>Penrite Indus HV 15, 32, 46, 68 & 100 are premium quality, high viscosity index, zinc free, ashless hydraulic oils made from selected hydro-treated base stocks, a highly shear stable viscosity modifier and an advanced anti-wear additive. In addition, they contain a fluorescent dye to allow for easy identification in daytime or under UV light in dark conditions. They are designed for use in hydraulic systems subjected to wide range of ambient temperatures such as in marine environments, construction, forestry, mining and agricultural equipment. Penrite Indus HV oils are recommended for use in all types of hydraulic systems using vane, piston or gear pumps, air line lubricators, vacuum pumps, lightly loaded gear sets and bearings (such as headstocks, windmill gears), hydraulic hoists and jacks. They are suitable for use with silver components due to their formulation.</p> | |
| Indus HV 32 INDUSHV32005 | 5 Litres | 4 | | |
| Indus HV 46 INDUSHV46020 | 20 Litres | 1 | | |
| INDUSHV46205 | 205 Litres | 1 | | |
| Indus HV 68 INDUSHV68005 | 5 Litres | 4 | | |
| INDUSHV68020 | 20 Litres | 1 | | |
| INDUSHV68205 | 205 Litres | 1 | | |
| Indus HV 100 INDUSHV100020 | 20 Litres | 1 | | |
| INDUSHV100205 | 205 Litres | 1 | | |
| INDUSHV1001000LTR | 1000 Litres | 1 | | |



Indus MR 68 (Hydraulic Oil)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Colour: Orange | Viscosity: ISO 68 |
|----------------|-------------|------------|--|-------------------|
| INDMR68020 | 20 Litres | 1 | <p>Industry & Manufacturer's Specifications: Vickers I-286-S3/M-2952-S, DIN 51524 Part 2, US Steel 126/127, Hagglunds AC-4.8, AAMA 524 Part 2, Denison HF-2/HF-O, Bosch Rexroth RE90 220, ISO 6743 Part 4, German Steel SEB 181 222, Cincinatti Milacron P-69</p> <p>Penrite Indus MR 68 Hydraulic Oil is a high quality, zinc free hydraulic oil made from selected base stocks, shear stable viscosity modifier and an anti-wear additive. It is designed for use in hydraulic systems subjected to wide range of ambient temperatures and service environments such as in marine, mining, construction, agricultural equipment and forestry.</p> | |
| INDMR68205 | 205 Litres | 1 | | |
| INDMR681000LTR | 1000 Litres | 1 | | |



Harvester Hydraulic Oil **NEW**

| Product Code | Pack Size | Carton Qty |
|------------------|-------------|------------|
| HARVESTER020 | 20 Litres | 1 |
| HARVESTER205 | 205 Litres | 1 |
| HARVESTER1000LTR | 1000 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** ISO 68
Colour: Orange

Industry & Manufacturer's Specifications: AAMA 524 Part 2, Bosch Rexroth RE90 220, Cincinatti Milacron P-69, DIN 51524 Part 2, Denison HF-2/HF-O, German Steel SEB 181 222, Hagglands AC-4.8, US Steel 126/127, ISO 6743 Part 4/Type HM, Vickers I-286-S3/M-2952-S

Penrite Harvester Hydraulic Oil is a premium mineral, high quality, zinc/chlorine free hydraulic oil made from selected base stocks, highly shear stable viscosity modifier and anti-wear additives, providing maximum performance and protection for equipment, especially in cane harvesters. It is designed for use in sugar cane harvester hydraulic systems, subjected to wide range of ambient temperatures and severe operating conditions, where an ISO VG 68 hydraulic oil is required.



Universal Farm Oil (STOU)

| Product Code | Pack Size | Carton Qty |
|--------------|-------------|------------|
| UFO020 | 20 Litres | 1 |
| UFO205 | 205 Litres | 1 |
| UFO1000LTR | 1000 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 15W-40
Replacement Viscosities: 15W-30, 20W-40, SAE 80W, SAE 90

Industry & Manufacturer's Specifications: API GL-4, API CG-4/SF, ACEA E3, MB 227.1, MAN 271, John Deere JDM J27/JD20A/JD20C, Massey Ferguson MF 1135/1139/1141/1143/1144/1145, Ford M2C159-B/C, New Holland 420A

Penrite Universal Farm Oil is a premium mineral, Super Tractor Universal Oil (STOU), manufactured from highly refined base oils and advanced multi-functional additives. It is a multi purpose product for use in a wide range of machines and covers multiple applications. It is designed for use in four stroke, naturally aspirated and turbo charged diesel and petrol engines, transmissions, front and rear axles, differentials, wet brakes, hydraulics, Power Take Off (PTO) clutches and some final drives of farm tractors and construction equipment, where an STOU type oil is recommended.



Tractor Transmission & Hydraulic Oil

| Product Code | Pack Size | Carton Qty |
|--------------|-------------|------------|
| TTH010 | 10 Litres | 1 |
| TTH020 | 20 Litres | 1 |
| TTH205 | 205 Litres | 1 |
| TTH1000LTR | 1000 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** 10W-30/75W-80
Replacement Viscosities: ISO 68

Industry & Manufacturer's Specifications: API GL-4, Komatsu, Allison C-4/C-3/C-2, Ford M2C134-C/D, Caterpillar TO-2/MTO Fluid, Clark TA12/TA18/HR500/HR600, Case NH MAT 3505/3525/3526, Case Hytrans Plus, John Deere JD20 A/B/C/D Hygard

Penrite Tractor Transmission & Hydraulic Oil is a multipurpose, SAE 10W-30/75W-80 UTTO (Universal Tractor & Transmission Oil) tractor transmission and hydraulic fluid manufactured using highly refined base oils and the latest technology additive package. It is designed for use in a wide range of transmissions, hydraulics, PTOs, hydraulic bearings and some final drives of farm tractors and construction equipment, especially those utilising wet brake systems. Also suitable for use in some hydraulic applications requiring an ISO 68 grade oil.



FD-OI Fluid (Final Drive (CAT) SAE 60)

| Product Code | Pack Size | Carton Qty |
|--------------|-------------|------------|
| FDO11000LTR | 1000 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** SAE 60

Industry & Manufacturer's Specifications: Caterpillar FD-1

Penrite FD-OI Fluid is a premium mineral, heavy duty, SAE 60 gear oil specifically designed for use in final drives and axles of Caterpillar off-road equipment operating in all types of service conditions where fluids meeting Cat FD-1 are recommended. Not recommended for use in axles containing friction materials and/or wet brakes.





Synfleet 50

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Viscosity: SAE 50 |
|--------------|------------|------------|--|-------------------|
| SYNF50020 | 20 Litres | 1 | OEM Approvals: Eaton PS-164 Rev 7, Mack TO-A Plus Industry & Manufacturer's Specifications: API CD/MT-1, Eaton PS-081, ZF Freedomline/Eurotronic 2, Meritor/Rockwell O-81 (Synthetic) | |
| SYNF50205 | 205 Litres | 1 | | |

Penrite Synfleet 50 is a premium full synthetic, warranty approved, heavy duty gear oil for transmissions in severe duty applications. It is manufactured using an advanced additive system and a combination of synthetic base fluids to provide extended drain life and improve equipment life. It is designed for use in heavy duty transmissions in on and off highway applications. It is particular suited for use in 18 speed Eaton Roadranger truck gearboxes.



Indus Compressor Oil 2KH ISO 68 & 100

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: ISO 68 & 100 |
|---|------------|------------|---|-------------------------|
| Indus Compressor Oil 2KH ISO 68 | | | Industry & Manufacturer's Specifications: DIN 51506 VDL, DIN 51524 Part 1, Hagglunds Denison HF-1, Cincinnati Milacron Penrite Indus Compressor Oil 2KH (2,000 Hours) 68 & 100 are a range of mineral based air compressor oils made from pure hydrocracked base oils and an effective ashless additive system. This formulation provides enhanced protection against wear, rust and oxidation. They are designed for use in rotary screw, reciprocating and rotary vane compressors, providing up to 2,000 hour oil drain periods. | |
| CO2KH68020 | 20 Litres | 1 | | |
| CO2KH68205 | 205 Litres | 1 | | |
| Indus Compressor Oil 2KH ISO 100 | | | | |
| CO2KH100020 | 20 Litres | 1 | | |



Indus Compressor Oil 4KH ISO 46 & 68

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Viscosity: ISO 46 & 68 |
|--|------------|------------|---|------------------------|
| Indus Compressor Oil 4KH ISO 46 | | | Industry & Manufacturer's Specifications: SAE M 1003-2 Penrite Indus Compressor Oil 4KH (4,000 Hours) 46 & 68 are full synthetic, ashless air compressor oils, designed to provide extended oil drains in both oil injected and oil flooded rotary screw compressors. They use the latest advances in compressor additive technology, providing exceptional wear protection and reduce varnish build up. They also contain a special shear stable synthetic base oil to help reduce deposit formation and providing up to 4,000 hour oil drain periods. | |
| CO4KH46020 | 20 Litres | 1 | | |
| CO4KH46205 | 205 Litres | 1 | | |
| Indus Compressor Oil 4KH ISO 68 | | | | |
| CO4KH68005 | 5 Litres | 4 | | |
| CO4KH68205 | 205 Litres | 1 | | |





Rockslide ISO 68, ISO 150 & 320

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|-------------------------|-----------|---|
| Rockslide ISO 68 | | |
| RS68020 | 20 Litres | 1 |

| | | |
|--------------------------|------------|---|
| Rockslide ISO 150 | | |
| RS150205 | 205 Litres | 1 |

| | | |
|--------------------------|------------|---|
| Rockslide ISO 320 | | |
| RS320020 | 20 Litres | 1 |
| RS320205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** ISO 68, 150 & 320

Industry & Manufacturer's Specifications: API GL-3, AGMA 250.04, Cincinnati Machine Slideway P-47 (ISO 68) / P-50 (ISO 150 & 320), Cincinnati Machine Gear P-63 (ISO 68) / P-77 (ISO 150) / P-59 (ISO 320), DIN 51502 CGLP68 (ISO 68) / CGLP150 (ISO 150) / CGLP320 (ISO 320), Muller Weingarten, US Steel 224

Penrite Rockslide ISO 68, 150 & 320 oils are made from highly refined base oils and carefully selected additives, including friction modifiers, tackifiers and anti-misting agents, to provide excellent lubrication performance in industrial air tools (rock drill) and for slideway lubrication. They are designed for use on slideways, tables, carriages, guides and as a tacky gear oil for industrial machine centre applications such as in lathes.



Indus TM 46 (Turbine Oil)

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|--------------|-----------|---|
| INDUSTM46020 | 20 Litres | 1 |
|--------------|-----------|---|

Base Oil: Premium Mineral **Viscosity:** ISO 46

Industry & Manufacturer's Specifications: ISO 6743-5 L TSA/TSE/ TGA/TGB/TGE, DIN 51515 Part 1 (L-TD), ASTM D 4304 (Tipo I), Solar Class, Alstom NBA-P-50001-A, Siemens TLV 901304, General Electric GEK 28143A/32568F

Penrite Indus TM 46 is an ISO 46, mineral turbine oil formulated with highly-refined hydro treated paraffinic base stocks and selected additives that provide it with excellent properties for multiple applications. It is specially recommended for steam, gas or water turbines that require an oil with high oxidation stability, good water demulsibility and excellent foam resistance. Can be used in turbine associated gearing systems where a common lubricant is required.



HTO 32, 68 Plus & 100 (Heat Transfer Oil)

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|---------------|-------------|---|
| HTO 32 | | |
| HTO32205 | 205 Litres | 1 |
| HTO321000LTR | 1000 Litres | 1 |

| | | |
|--------------------|-------------|---|
| HTO 68 Plus | | |
| HTO68205 | 205 Litres | 1 |
| HTO681000LTR | 1000 Litres | 1 |

| | | |
|----------------|------------|---|
| HTO 100 | | |
| HTO100205 | 205 Litres | 1 |

Base Oil: Premium Mineral **Viscosity:** ISO 32, 68 & 100

Penrite HTO 32, 68 Plus & 100 are highly refined, thermally stable, mineral oil heat transfer fluids, formulated with premium hydrocracked base oils. They are used as heat transfer fluids in both closed and open heat transfer systems with forced circulation, where a mineral heat transfer fluid is required. Maximum bulk oil temperature: 288°C



Fleet-Gear 10, 30 & 50

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Colour: Amber | Viscosity: SAE 10, 30 & 50 |
|----------------------|-------------|------------|--|----------------------------|
| Fleet-Gear 10 | | | Industry & Manufacturer's Specifications: API CF (where specified for transmissions only), API GL-3, Caterpillar TO-4, Komatsu, Vickers M-2950-S (Fleet-Gear 10), Allison C4 (Fleet-Gear 10 & 30), ZF TE-ML03 (Fleet-Gear 10 & 30), ZF TE-ML01 (Fleet-Gear 30 & 50), Rockwell O-81 (Fleet-Gear 50), Volvo 97305-90/1273.13 (Fleet-Gear 50) | |
| FG10020 | 20 Litres | 1 | | |
| FG10205 | 205 Litres | 1 | | |
| FG101000LTR | 1000 Litres | 1 | | |
| Fleet-Gear 30 | | | Penrite Fleet-Gear 10, 30 & 50 are multipurpose transmission, hydraulic and final drive oils manufactured from highly refined mineral oils and selected additives to provide excellent performance in a wide range of heavy duty equipment in both on and off highway service. They all meet Caterpillar TO-4 specification, making them suitable for use in final drives with friction material and/or wet brakes in earthmoving equipment. Fleet-Gear 50 is specified for a wide range of manual transmissions that require SAE 50 engine oils, such as in Dana Spicer, Eaton and Roadranger. | |
| FG30020 | 20 Litres | 1 | | |
| FG30205 | 205 Litres | 1 | | |
| FG301000LTR | 1000 Litres | 1 | | |
| Fleet-Gear 50 | | | | |
| FG50020 | 20 Litres | 1 | | |
| FG50060 | 60 Litres | 1 | | |
| FG50205 | 205 Litres | 1 | | |
| FG501000LTR | 1000 Litres | 1 | | |



INDUSTRIAL

Indus Gear EP 150, 220, 320 & 460

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: ISO 150, 220, 320 & 460 |
|--------------------------|------------|------------|--|------------------------------------|
| Indus Gear EP 150 | | | Key Specifications: API GL-3, AGMA 250.04/2005-D94, US Steel 224, Clean Panel Coker and S-200 Oxidation Tubes, Cincinnati Milacron | |
| GO150020 | 20 Litres | 1 | | |
| GO150205 | 205 Litres | 1 | | |
| Indus Gear EP 220 | | | <div>Penrite Indus Gear EP 150, 220, 320 & 460 oils are premium mineral, extreme pressure industrial gear oils, manufactured from highly refined base oils and selected sulphur-phosphorus extreme pressure and anti-wear additives. They are designed for use in industrial gearboxes including in crushers, hoists, conveyors, winches, machine tools and lathes. They can also be used in chain drives, sprockets, plain and anti-friction bearings and slide guides. They contain good oxidation and thermal stability for long life as well as protection against rust and corrosion.</div> | |
| GO220020 | 20 Litres | 1 | | |
| GO220205 | 205 Litres | 1 | | |
| Indus Gear EP 320 | | | | |
| GO320020 | 20 Litres | 1 | | |
| GO320205 | 205 Litres | 1 | | |
| Indus Gear EP 460 | | | | |
| GO460020 | 20 Litres | 1 | | |
| GO460205 | 205 Litres | 1 | | |



Indus Indgear B220, B320 & B460

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: ISO 220, 320 & 460 |
|---------------------------|------------|------------|--|-------------------------------|
| Indus Indgear B220 | | | Industry & Manufacturer's Specifications: API GL-5, AIST (US Steel) 224, AGMA 9005 E02-EP | |
| IGB220205 | 205 Litres | 1 | | |
| Indus Indgear B320 | | | Penrite Indus Indgear B220, B320 & B460 oils are the ultimate premium performance, borated mineral gear oils with synthetic-like heat resistance, formulated with a special, highly effective extreme pressure additive system. They provide outstanding protection against heat and reduce friction. They are specially suitable for high temperature applications where conventional gear oils are unable to handle heat stresses. The high load carrying ability of the additive system allows the use of one ISO grade lighter than would normally be recommended. | |
| IGB320205 | 205 Litres | 1 | | |
| Indus Indgear B460 | | | | |
| IGB460205 | 205 Litres | 1 | | |



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Indus Gear Syn 220

| Product Code | Pack Size | Carton Qty | Base Oil: Full Synthetic | Viscosity: ISO 220 |
|--------------|-----------|------------|--|--------------------|
| GOSYN220020 | 20 Litres | 1 | Industry & Manufacturer's Specifications: API GL-3, AGMA 250.04, AGMA 2005-D94, Cincinnati Milacron, US Steel 224 Penrite Indus Gear Syn 220 is a high performance, full synthetic, extreme pressure, industrial gear oil, manufactured using carefully selected extreme pressure and anti-wear additives. It is designed for use in industrial gearboxes in severe working conditions including those used in applications such as in crushers, hoists, conveyors, winches, machine tools and lathes, where an ISO 220 gear oil is specified. Indus Gear Syn 220 is especially suitable in high temperature environments where a conventional oil will break down sooner. | |



Indus Indgear MP90

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 90 / ISO 150 |
|--------------------------|-------------------------|------------|--|-----------------------------|
| INDMP90020 INDMP90205 | 20 Litres 205 Litres | 1 1 | Industry & Manufacturer's Specifications: API GL-4 Plus, AIST (US Steel) 224, AGMA 9005 E02-EP, DIN 51517-3 (CLP) Penrite Indus Indgear MP90 is an SAE 90 mineral oil designed for use in a wide range of heavily loaded applications comprising varied gear sets, such as spur, helical and worm gears, as found in many types of industrial equipment. It is recommended for all types of slow or high-speed, industrial systems where complex gear arrangements are in use. Also suitable for use where an ISO 150 gear oil, meeting API GL-4, is required. | |



See pages 72 - 75 for a complete range of Gear Oils

Hydraulic Jack Oil

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: ISO 46 |
|--------------|-----------------|------------|---|-------------------|
| HJO0005 | 500 Millilitres | 1 | Industry & Manufacturer's Specifications: Vickers I-286-S/ M-2950-S, US Steel 136/127, Cincinnati Milacron P-69 (HM), DIN 51524 Part 2 (HLP Type), Denison HFO/HF1/HF2 | |

Penrite Hydraulic Jack Oil is a low zinc, premium quality, ISO 46 hydraulic oil made from selected base stocks and an advanced anti-wear additive. It is recommended for use in all types of hydraulic jacks and hoists. Hydraulic Jack Oil is also suitable for use in systems that use vane, piston or gear pumps, airline lubricators, vacuum pumps, lightly loaded gear sets and bearings (such as headstocks, windmill gears) and hydraulic hoists and jacks.



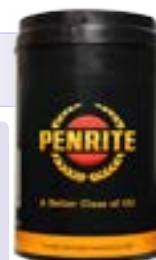
Soluble Oil

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Amber |
|--------------|-----------|------------|---|---------------|
| SOL005 | 5 Litres | 1 | Penrite Soluble Oil is a general-purpose, low odour soluble cutting oil designed as a coolant and lubricant during metalworking operations. It is made from hydrotreated base oils and a special blend of inhibitors, lubricity additives and emulsifiers. It forms a white emulsion and contains a bactericide. Soluble Oil is suitable for general purpose cutting operations on low and medium tensile steels, free machining of brass bronze and cast iron. Not suitable for use with stainless steel. | |
| SOL020 | 20 Litres | 1 | | |



Honing Oil

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral |
|--------------|------------|------------|--|
| HON020 | 20 Litres | 1 | Penrite Honing Oil is a special purpose, low viscosity, extreme pressure straight cutting fluid manufactured from pure hydrocracked base oils and carefully selected extreme pressure and lubricity additives. It is designed to fulfil stringent manufacturers' requirements in the Australian market for machining and honing cast iron and steel. Not suitable for use with copper. |
| HON205 | 205 Litres | 1 | |



Cyl Oil Mineral 900

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral |
|--------------|------------|------------|---------------------------|
| CYL900205 | 205 Litres | 1 | |





| PENRITE PRODUCT | Millilitres | Litres | | | | | | |
|--|-------------|--------|---|----|----|----|-----|------|
| | 500 | 1 | 5 | 10 | 20 | 60 | 205 | 1000 |
| Indus Pro Hydraulic ISO 10 | - | - | - | - | - | - | ⊙ | - |
| Indus Pro Hydraulic ISO 22 | - | - | - | - | - | - | ⊙ | - |
| Indus Pro Hydraulic ISO 32 | - | - | ⊙ | - | ⊙ | - | ⊙ | - |
| Indus Pro Hydraulic ISO 46 | - | - | ⊙ | - | ⊙ | - | ⊙ | ⊙ |
| Indus Pro Hydraulic ISO 68 | - | ⊙ | ⊙ | - | ⊙ | - | ⊙ | ⊙ |
| Indus HV 15 (Hydraulic Oil) | - | - | - | - | - | - | ⊙ | - |
| Indus HV 32 (Hydraulic Oil) | - | - | ⊙ | - | - | - | - | - |
| Indus HV 46 (Hydraulic Oil) | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus HV 68 (Hydraulic Oil) | - | - | ⊙ | - | ⊙ | - | ⊙ | - |
| Indus HV 100 (Hydraulic Oil) | - | - | - | - | ⊙ | - | ⊙ | ⊙ |
| Indus MR 68 (Hydraulic Oil) | - | - | - | - | ⊙ | - | ⊙ | ⊙ |
| Harvester Hydraulic Oil | - | - | - | - | ⊙ | - | ⊙ | ⊙ |
| Universal Farm Oil (STOU) | - | - | - | - | ⊙ | - | ⊙ | ⊙ |
| Tractor Transmission & Hydraulic Oil | - | - | - | ⊙ | ⊙ | - | ⊙ | ⊙ |
| FD-01 Fluid (Final Drive (CAT) SAE 60) | - | - | - | - | - | - | - | ⊙ |
| Synfleet 50 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Compressor Oil 2KH ISO 68 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Compressor Oil 2KH ISO 100 | - | - | - | - | ⊙ | - | - | - |
| Indus Compressor Oil 4KH ISO 46 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Compressor Oil 4KH ISO 68 | - | - | ⊙ | - | - | - | ⊙ | - |
| Rockslide ISO 68 | - | - | - | - | ⊙ | - | - | - |
| Rockslide ISO 150 | - | - | - | - | - | - | ⊙ | - |
| Rockslide ISO 320 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus TM 46 (Turbine Oil) | - | - | - | - | ⊙ | - | - | - |
| HTO 32 (Heat Transfer Oil) | - | - | - | - | - | - | ⊙ | ⊙ |
| HTO 68 Plus (Heat Transfer Oil) | - | - | - | - | - | - | ⊙ | ⊙ |
| HTO 100 (Heat Transfer Oil) | - | - | - | - | - | - | ⊙ | - |
| Fleet-Gear 10 | - | - | - | - | ⊙ | - | ⊙ | ⊙ |
| Fleet-Gear 30 | - | - | - | - | ⊙ | - | ⊙ | ⊙ |
| Fleet-Gear 50 | - | - | - | - | ⊙ | ⊙ | ⊙ | ⊙ |
| Indus Gear EP 150 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Gear EP 220 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Gear EP 320 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Gear EP 460 | - | - | - | - | ⊙ | - | ⊙ | - |
| Indus Indgear B220 | - | - | - | - | - | - | ⊙ | - |
| Indus Indgear B320 | - | - | - | - | - | - | ⊙ | - |
| Indus Indgear B460 | - | - | - | - | - | - | ⊙ | - |
| Indus Gear Syn 220 | - | - | - | - | ⊙ | - | - | - |
| Indus Indgear MP90 | - | - | - | - | ⊙ | - | ⊙ | - |
| Hydraulic Jack Oil | ⊙ | - | - | - | - | - | - | - |
| Soluble Oil | - | - | ⊙ | - | ⊙ | - | - | - |
| Honing Oil | - | - | - | - | ⊙ | - | ⊙ | - |
| Cyl Oil Mineral 900 | - | - | - | - | - | - | ⊙ | - |

(All products are available in 1000L Pods, on request)

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UNDERSTANDING GREASES

GREASE CHARACTERISTICS

What is grease?

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 absorb lubricants and additives like a sponge and release them when under pressure. The lubricants prevent friction and create a barrier or film between moving parts.

What is a 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 washout 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.



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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 | NA | 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, trucks and other vehicles.

Consistency - Is 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 thin) to 1500 (extremely thick), and can have an effect on consistency.

NLGI Grade Penetration - NLGI is measured 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 lower 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 1770 rpm, 25°C and 10 seconds duration. Testing steps continue with new balls and an increased 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, Steering Box Lubricant and Semi Fluid Grease only have 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"

LOAD • ENVIRONMENT • TEMPERATURE • SPEED

LOAD

| Load | ISO | NLGI | Additives/Base | Recommended Penrite Grease |
|------|-----|------|--|---------------------------------------|
| High | 220 | 1-2 | High Base Oil Viscosity EP & AW Additives | Extreme Pressure Grease |
| | 460 | | | ACT Grease XEP2 |
| | 680 | | | High Temperature Wheel Bearing Grease |
| Low | 100 | 2-3 | Low Base Oil Viscosity Firm Consistency | Indgrease Lith R3 |
| | 150 | | | Indgrease 100 LXEP2 |
| | 220 | | | |

ENVIRONMENT

| Environment | Protection Type | Additives/Base | Recommended Penrite Grease |
|-----------------------|--------------------------------------|-----------------------------|--|
| Water | Rust Protection | Corrosion Preventative | Marine Grease |
| | Water Resistance | Adhesiveness Tackiness | Indgrease 1615 WR Indgrease CXOG-05 |
| Acid / Alkali | Acid Protection Alkali Protection | Inert Thickener & Additives | Indgrease BM3 |
| Long Dispensing Lines | Good Pumpability Soft Consistency | | Indgrease Lith EP 0 Indgrease 100 LXEP2 |

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 QCA Grease MX9 |
| Low | Down to -20°C | Lithium & Complex Greases | Extreme Pressure Grease Molygrease EP 3% Indgrease 100 LXEP2 ACT Grease XEP2 QCA Grease MX9 |

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 | QCA Grease MX9 |






GREASES

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.



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APPLICATION CHART

| <div></div> | | 10 TENTHS POWER SPORTS GREASE | MARINE GREASE | HIGH TEMPERATURE WHEEL BEARING GREASE | HEAVY DUTY BEARING GREASE | ACT GREASE XEP2 | INDGREASE 100LX EP2 | INDGREASE MOLY HT | CV JOINT GREASE | EXTREME PRESSURE GREASE | MOLYGREASE EP 3% | SEMI FLUID GREASE | INDGREASE LITH EP 0 | INDGREASE LITH EP2 | INDGREASE LITH R3 | CAM ASSEMBLY LUBE | INDGREASE 1615 WR | INDGREASE CX 152WR | GRAPHITE GREASE | WATER PUMP GREASE | QCA GREASE MX9 | INDGREASE CXOG-05 | COPPER EZE | RUBBER GREASE | INDGREASE BM3 |
|--|---|-------------------------------|----------------------|---------------------------------------|---------------------------|----------------------|----------------------|-------------------|-----------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------|----------------------|----------------------|-----------------|------------------------|----------------------|----------------------|----------------|--------------------|----------------------|
| | | LITHIUM COMPLEX | | | | | | | | LITHIUM | | | | | | | CALCIUM COMPLEX | CALCIUM | MIXED COMPLEX | CLAY (BENTONITE) BASED | | | | | |
| SPECIFICATIONS | NLGI GRADE | 2 | 2 | 2 | 2 | 2 | 2 | 1.5 | 1.5 | 2 | 2 | 00 | 0 | 2 | 3 | Paste | 1.5 | 2 | 3 | 4 | 2 | 0.5 | 1.5 | 2 | 3 |
| | COLOUR | Green | Green | Blue | Purple | Red/Orange | Brown | Grey/Black | Grey/Black | Red | Grey/Black | Light Brown | Light Brown | Amber | Amber | Grey/Black | Brown | Beige | Grey/Black | Amber | Grey/Black | Dark Brown | Copper | Red | Grey/Black |
| | EXTREME PRESSURE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | No | Yes | Yes | No | No | Yes | Yes | No | No | No |
| | SOLIDS AND % | No | No | No | No | No | No | 5 | 5 | No | 3 | No | No | No | No | Yes | No | No | 15 | No | 9 | No | 20 | No | 3 |
| | "ISO" BASE OIL VISCOSITY | 220 | 220 | 220 | 220 | 560 | 100 | 460 | 460 | 320 | 220 | 150 | 150 | 180-210 | 100 | NA | 460 | 200 | 100 | NA | 680 | 800 | 460 | 320 | 100 |
| | BASE OIL TYPE | Min | Min | Min | Min | Semi Syn | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Min | Castor | Min |
| | DROP POINT, °C | 275 | 275 | 290 | 275 | >270 | 275 | 300 | 300 | 190 | 190 | 170 | 195 | 195 | 195 | NA | >260 | >280 | 80 | 90 | >250 | >260 | Non Melt | 275 | Non Melt |
| | RECOMMENDED OPERATING TEMPERATURE RANGE, °C | Minus 15 to plus 170 | Minus 15 to plus 170 | Minus 10 to plus 170 | Minus 10 to plus 170 | Minus 20 to plus 140 | Minus 20 to plus 160 | 0 to plus 160 | 0 to plus 160 | Minus 20 to plus 130 | Minus 20 to plus 130 | Minus 20 to plus 130 | Minus 20 to plus 130 | Minus 20 to plus 130 | Minus 20 to plus 130 | NA | Minus 20 to plus 150 | Minus 20 to plus 150 | Max 60 | 0 to plus 75 | Minus 20 to plus 140 | Minus 20 to plus 140 | 0 to plus 1093 | Minus 9 to plus 80 | Minus 20 to plus 200 |
| | FOUR BALL WELD LOAD, KG | 315 | 315 | 315 | 620 | 350 | 315 | 500 | 500 | 400 | 315 | 250 | 250 | 250 | NA | NA | >660 | >765 | NA | NA | >800 | 765 | NA | NA | NA |
| CONTAINS TACKY ADDITIVE | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | No | No | No | No | Yes | Yes | No | No | No | Yes | Yes | No | No | No | |
| AUTOMOTIVE | VINTAGE WATER PUMPS | | | | | | | | | | | | | | | | | | | R | | | | | |
| | WHEEL BEARINGS | R | R | R | R | | S | | | | | | | | | | | R | | | | | | | |
| | ENGINE ASSEMBLY | | | | | | | | | | | | | | | R | | | | | | | | | |
| | CHASSIS | S | S | R | R | S | S | R | S | R | R | | | S | S | | S | R | S | | S | S | | | S |
| | GENERAL PURPOSE | S | S | R | R | S | S | | | R | R | | | S | | | | S | | | | | | | |
| | CV JOINTS | | | | | | | S | R | | S | | | | | | | | | | S | | | | |
| | PETROL RESISTANT | | | | | | | | | | | | | | | | | | | | | | | R | |
| | TYRE MOUNTING | | | | | | | | | | | | | | | | | | | | | | | R | |
| | UNIVERSAL JOINTS | S | S | S | S | | | R | R | | R | | | | | | | S | | | R | | | | |
| | STEERING BOXES | | | | | | | | | | | S | | | | | | | | | | | | | |
| TRUCK & BUS | WHEEL BEARINGS | S | S | S | S | R | | | | | | | | | | | | S | | | | | | | |
| | CHASSIS | S | S | S | S | S | S | R | S | S | R | | S | S | | | S | R | S | | S | S | | | S |
| | GENERAL PURPOSE | S | S | S | S | S | S | | | S | S | | | S | | | | R | | | | | | | |
| | TRAILER COUPLINGS | | | | | | | R | R | | R | | | | | | | R | | | | R | | | R |
| | UNIVERSAL JOINTS | | | | | R | | R | R | | | | | | | | | S | | | R | | | | |
| | FIFTH WHEEL | | | | | | | S | S | | S | S | | | | | | | S | | S | R | | | S |
| INDUSTRIAL | TRUCK MOUNTED AUTOMATED GREASING SYSTEMS | | | | | | | | | | | | S | | | | | | | | | | | | |
| | HIGH SPEED | R | R | R | R | | R | | | | | | | | S | | | R | | | | | | | |
| | LOW SPEED | | | S | S | S | | R | R | S | S | | | S | | | R | | S | | R | R | | | S |
| | ELECTRIC MOTORS/FANS | | | | | | R | | | | | | | | R | | | | | | | | | | |
| | HIGH TEMPERATURE | R | R | R | R | R | R | R | R | | | | | | | | R | R | | | R | R | R | | R |
| | HIGH LOAD | S | S | S | S | R | | R | R | S | R | | | R | | | R | R | | | R | R | | | S |
| | CENTRAL SYSTEMS | | | | | | S | S | S | S | | S | R | S | | | | | | | | S | | | |
| | LONG LIFE | | | | | R | R | S | S | | | | | | S | | R | R | | | R | S | | | |
| | SHOCK LOADS | S | S | S | S | S | R | R | R | S | R | | | S | | | R | R | | | R | R | | | R |
| | ANTI SEIZE | | | | | | | | | | | | | | | | | | | | | | R | | |
| AGRI | SLIDING SURFACES/SPLINES | | | | | | | | | | R | | | | | | | | | | | | | | |
| | WET ENVIRONMENTS | R | R | S | S | S | S | S | S | | R | | | | | | R | R | S | | S | S | S | | R |
| | GENERAL PURPOSE | | | R | R | S | S | S | S | S | S | | | S | | | S | S | | | | S | | | |
| | SLASHER GEARBOXES | | | | | | | | | | | R | | | | | | | | | | | | | |
| | SUGAR MILLS | | | | | | | | | | | | | | | | S | | | | | S | | | |
| | VINTAGE WATER PUMPS | | | | | | | | | | | | | | | | | | | R | | | | | |
| | WHEEL BEARINGS | S | S | S | S | R | | | | | | | | | | | | S | | | | | | | |
| | KING PINS/SHACKLES | | | | | S | | R | R | | S | | | | | | | S | S | S | | R | S | | R |
| | GEARBOXES | | | | | | | | | | | S | | | | | | | | | | | | | |
| | OPEN GEARS | | | | | | | | | | | | | | | | | | | | | | R | | |
| MINING & CONSTRUCTION | ANTI SEIZE | | | | | | | | | | | | | | | | | | | | | | R | | |
| | WIRE ROPES | | | | | | | | | | | | | | | | | S | S | | | | | | |
| | VIBRATING CONDITIONS | | | | | R | | R | R | | S | | | | | | | | | | | S | | | S |
| | HIGH TEMPERATURES | R | R | R | R | R | R | R | R | | | | | | | | | R | R | | | R | R | | R |
| | WET ENVIRONMENTS | R | R | R | R | R | R | R | R | | S | | | | | | | R | R | S | | R | R | | R |
| | CENTRAL SYSTEMS | | | | | | S | | | | | S | R | | | | | | | | | | | | |
| MARINE | BOAT TRAILER BEARINGS | R | R | R | R | | S | | | | | | | | | | | R | | | | | | | |
| | DECK EQUIPMENT | R | R | S | S | S | S | S | S | | S | | | S | | | | R | R | R | | S | | | S |
| | ANTI SEIZE | | | | | | | | | | | | | | | | | | | | | | R | | |
| | WIRE ROPES & CABLES | | | | | | | | | | | | | | | | | S | S | | | S | | | |
| S = SUITABLE • R = RECOMMENDED *May be used in this application only if a clay/bentone grease has been used prior. Contact Penrite Lubricants Help Line for further details. Phone 1300 PENRITE (736 748) | | | | | | | | | | | | | | | | | | | | | | | | | |

S = SUITABLE • R = RECOMMENDED *May be used in this application only if a clay/bentone grease has been used prior.
Contact Penrite Lubricants Help Line for further details. Phone **1300 PENRITE (736 748)**



LITHIUM COMPLEX GREASES

High Temperature Wheel Bearing Grease

| Product Code | Pack Size | Carton Qty | Colour: Blue Recommended Operating Temperature Range: -10°C to 170°C |
|--------------|---------------|------------|---|
| HTGR00045 | 450 Grams | 6 | <p>Industry & Manufacturer's Specifications: NLGI 2, DIN 51502: KP2N-30, ISO 6743: ISO-L-XCDIB2, Volvo 97720 (level)</p> <p>Penrite High Temperature Wheel Bearing Grease is an NLGI 2, high temperature all-purpose, extreme pressure (EP) grease manufactured from high quality base oils and a lithium complex soap thickener. It is formulated with state of the art additives that provide tackiness, excellent load carrying ability, outstanding resistance to water washout as well as effective EP performance and anti-wear protection.</p> <p>It is suitable for use in all general chassis grease applications in automotive and industrial service including in cars, 4WDs, trucks and buses. High Temperature Wheel Bearing Grease is also particularly suitable for use in wheel bearings of vehicles fitted with disc brakes, as well as drum brakes, boat trailer wheel bearings and other marine applications.</p> <p>It can be used in industrial applications such as rolling element bearings, plain bearings, medium speed anti-friction bearings, steel mills, mining and ore crushing plants, general plant lubrication and in agricultural and construction equipment.</p> |
| HTGR0005 | 500 Grams | 6 | |
| HTGR0025 | 2.5 Kilograms | 6 | |
| HTGR020 | 20 Kilograms | 1 | |
| HTGR055 | 55 Kilograms | 1 | |
| HTGR180 | 180 Kilograms | 1 | |



10 Tenths Power Sports Grease

| Product Code | Pack Size | Carton Qty | Colour: Green Recommended Operating Temperature Range: -15°C to 170°C |
|--------------|-----------|------------|--|
| PSGR0001 | 100 Grams | 6 | <p>Industry & Manufacturer's Specifications: NLGI 2, DIN 51502: KP2N-30, ISO 6743: ISO-L-XCDIB2</p> <p>Penrite 10 Tenths Power Sports Grease is a water resistant, high temperature, multi-purpose grease that contains a special anti-rust additive for enhanced protection against rust and corrosion. It also contains a tackiness agent to provide increased protection during severe performance conditions allowing for exceptional water wash out resistance and spray off resilience. It has been formulated to provide outstanding lubrication and protection in all outdoor conditions such as motorcycling, marine, automotive and other outdoor activities where a water-resistant type grease is required. It has excellent resistance to water, snow, ice and mud, and provides outstanding film strength.</p> |



Marine Grease

| Product Code | Pack Size | Carton Qty | Colour: Green Recommended Operating Temperature Range: -15°C to 170°C |
|--------------|---------------|------------|--|
| MARGR00045 | 450 Grams | 6 | <p>Industry & Manufacturer's Specifications: NLGI 2, DIN 51502: KP2N-30, ISO 6743: ISO-L-XCDIB2</p> <p>Penrite Marine Grease is an NLGI 2, tacky, high temperature multi-purpose lithium complex grease. It contains a special anti-rust additive for enhanced protection against rust and corrosion in marine and salt water environments. It has been formulated to provide outstanding lubrication and protection in marine applications. It is suitable for leisure craft through to industrial marine fleets. Its applications include winch gears, stern drives, prop shaft splines, steering tubes and cables, throttle lines and linkages, dog seals, trunnion steering mounts, shaft support bearings and most other general on-board greasing points. Also suitable for automotive wheel bearings.</p> |
| MARGR0005 | 500 Grams | 6 | |
| MARGR0025 | 2.5 Kilograms | 6 | |



Heavy Duty Bearing Grease

| Product Code | Pack Size | Carton Qty |
|--------------|---------------|------------|
| HDBG00045 | 450 Grams | 6 |
| HDBG020 | 20 Kilograms | 1 |
| HDBG180 | 180 Kilograms | 1 |

Colour: Purple
Recommended Operating Temperature Range: -10°C to 170°C

Industry & Manufacturer's Specifications: NLGI 2, DIN 51502: KP2N-30, ISO 6743: ISO-L-XCDIB2, Volvo 97720 (level)

Penrite Heavy Duty Bearing Grease is an NLGI 2, high temperature all-purpose, extreme pressure (EP) grease manufactured from high quality base oils and a lithium complex soap. Suitable for use in all general chassis grease applications in heavy duty vehicles, including trucks and buses, agricultural, construction equipment and for industrial service. It is also particularly suitable for use in wheel bearings of heavy duty vehicles fitted with disc brakes, as well as drum brakes.



ACT Grease XEP2

| Product Code | Pack Size | Carton Qty |
|--------------|---------------|------------|
| ACTXEP200045 | 450 Grams | 6 |
| ACTXEP2180 | 180 Kilograms | 1 |

Colour: Red/Orange
Recommended Operating Temperature Range: -20°C to 140°C

Industry & Manufacturer's Specifications: NLGI 2, DIN 51502: KP2N-20, ISO 6743: ISO-L-XBDIB2

Penrite ACT Grease XEP2 is a tenacious, highly specialised semi synthetic, NLGI 2, lithium complex grease designed for use in agricultural and construction equipment as well as on highway trucks. It is manufactured from a bismuth EP/AW additive technology and utilises carefully blended polymers, to help provide excellent stay in place properties and to adhere to critical parts where it can better lubricate metal surfaces.



Indgrease 100LX EP2

| Product Code | Pack Size | Carton Qty |
|--------------------|-----------|------------|
| INDGR100LXEP200045 | 450 Grams | 6 |

Colour: Brown
Recommended Operating Temperature Range: -20°C to 160°C

Industry & Manufacturer's Specifications: NLGI 2, DIN 51502: KP2N-20, ISO 6743: ISO-L-XCDIB2

Penrite Indgrease 100LX EP2 is a premium, high melting point, NLGI 2, lithium complex grease. It is a high temperature grease designed to meet the most demanding grease applications especially where a low base oil viscosity and long life is required. It is formulated to provide extreme pressure (EP) and anti-wear (AW) protection plus water resistance properties. Indgrease 100 LXEP 2 is also formulated to give a high level of oxidation, rust and corrosion protection.



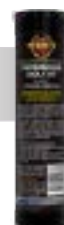
Indgrease Moly HT

| Product Code | Pack Size | Carton Qty |
|-------------------|---------------|------------|
| INDGRSMOLYHT00045 | 450 Grams | 6 |
| INDGRSMOLYHT020 | 20 Kilograms | 1 |
| INDGRSMOLYHT180 | 180 Kilograms | 1 |

Colour: Grey/Black
Recommended Operating Temperature Range: 0°C to 160°C

Industry & Manufacturer's Specifications: NLGI 1.5

Penrite Indgrease Moly HT is a premium heavy duty, NLGI 1.5 grease designed for the mining and construction industries. It is a smooth grease based on a lithium complex thickener and is formulated with high quality base stocks combined with extreme pressure additives for maximum loading applications and anti-wear protection. Indgrease Moly HT contains molybdenum disulphide and graphite for boundary protection against the heaviest sliding, shock or impact loading conditions as well as containing effective rust, oxidation and corrosion inhibitors.



CV Joint Grease **NEW**

| Product Code | Pack Size | Carton Qty | Colour: Grey/Black Recommended Operating Temperature Range: 0°C to 160°C |
|--------------|-----------|------------|---|
| CVJGR0001 | 100 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 1.5 |

Penrite CV Joint Grease is an NLGI 1.5, premium heavy duty, lithium complex, grease containing molybdenum disulphide and graphite for boundary protection against the heaviest sliding, shock or impact loading conditions. It is formulated with extreme pressure additives for maximum loading applications, anti-wear protection and water washout resistance. It is ideal for Constant Velocity (CV) and Universal Joints in automotive applications where a heavy duty, high load carrying grease is required. It is perfect for ball joints, king pins and general chassis lubrication.



LITHIUM GREASES

Extreme Pressure Grease

| Product Code | Pack Size | Carton Qty | Colour: Red Recommended Operating Temperature Range: -20°C to 130°C |
|--------------|---------------|------------|--|
| EPGR00045 | 450 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 2, ISO 6743, DIN 51502: KP2K-30 |
| EPGR0005 | 500 Grams | 6 | |
| EPGR0025 | 2.5 Kilograms | 6 | |
| EPGR020 | 20 Kilograms | 1 | |
| EPGR055 | 55 Kilograms | 1 | |
| EPGR180 | 180 Kilograms | 1 | |

Penrite Extreme Pressure Grease is an NLGI 2, general purpose grease manufactured from high quality base oils and uses a lithium soap base. It is suitable for use in all general grease applications in automotive and industrial service. This includes plain bearings, slow speed wheel and anti-friction bearings, chassis grease, general plant lubrication and agricultural and construction equipment lubrication. Not suitable for use as a wheel bearing grease.



Molygrease EP 3%

| Product Code | Pack Size | Carton Qty | Colour: Grey/Black Recommended Operating Temperature Range: -20°C to 130°C |
|--------------|---------------|------------|---|
| MOLY00045 | 450 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 2 |
| MOLY0005 | 500 Grams | 6 | |
| MOLY0025 | 2.5 Kilograms | 6 | |
| MOLY020 | 20 Kilograms | 1 | |
| MOLY180 | 180 Kilograms | 1 | |

Penrite Molygrease EP 3% is an all purpose, NLGI 2, high temperature grease. It features a lithium soap base with premium quality base oils and molybdenum disulphide (moly) for added protection. It is suitable for use where the grease is likely to be exposed to weather and/or squeezed out. In these applications, a thin film of moly will provide some measure of protection until the component can be re-greased.



Semi Fluid Grease

| Product Code | Pack Size | Carton Qty | Colour: Light Brown Recommended Operating Temperature Range: -20°C to 130°C |
|--------------|----------------------|------------|--|
| SEMI00045 | 450 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 00 |
| SEMI0005 | 500 Millilitres (UK) | 6 | |
| SEMI020 | 20 Kilograms | 1 | |

Penrite Semi Fluid Grease is an extreme pressure, NLGI 00, lithium soap thickened grease, blended using extreme pressure additives, anti-wear, rust and oxidation inhibitors. It extends bearing and gear life by minimising wear and shock loads as well as resisting leakage even under heavily loaded conditions. It is suitable for use in trailer bearing hubs where heavy oils are specified and leakage is a problem, chain cases, slow speed industrial gearboxes where AGMA 7EP (ISO 460 and above) industrial gear oils are specified, leaky gearboxes, reduction gearboxes in slasher mowers, track rollers in earthmoving equipment, centralised lubrication systems that require fluid (or "liquid") type greases and in Burman motorcycle gearboxes.



Indgrease Lith EPO

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|---------------|---------------|---|
| IGRLITHEP0020 | 20 Kilograms | 1 |
| IGRLITHEP0180 | 180 Kilograms | 1 |

Colour: Light Brown
Recommended Operating Temperature Range: -20°C to 130°C

Industry & Manufacturer's Specifications: NLGI 0,
 DIN 51502: KPOK-20, ISO 6743: ISO-L-XCCFBO

Penrite Indgrease Lith EPO is an NLGI 0, lithium based, mineral lubricating grease. It is made with a combination of antioxidants, corrosion inhibitors and extreme pressure (EP) and anti-wear (AW) additives. Indgrease Lith EPO is a high quality multi-purpose, semi-fluid type grease for use in many types of automotive and industrial applications including heavy duty service where high loads are encountered. It is suitable for rolling element bearings, plain bearings, gears and couplings, where an NLGI 0 grease is required.



Indgrease Lith EP2

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|-----------------|--------------|----|
| IGRLITHEP200045 | 450 Grams | 20 |
| IGRLITHEP2020 | 20 Kilograms | 1 |

Colour: Amber
Recommended Operating Temperature Range: -20°C to 130°C

Industry & Manufacturer's Specifications: NLGI 2,
 DIN 51502: KP2N-20, ISO 6743: ISO-L-XBCEB 2

Penrite Indgrease Lith EP2 is an NLGI 2, lithium based, industrial mineral lubricating grease. It is made with a combination of antioxidants, corrosion inhibitors and extreme pressure (EP) and anti-wear (AW) additives. Indgrease Lith EP2 is high quality multi-purpose grease for use in many types of industrial applications where medium to high loads are encountered. It is suitable for use in general purpose bearing applications such as rolling element bearings and plain bearings, where a more pumpable NLGI 2 grease is required.



Indgrease Lith R3

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|-------------|-----------|----|
| IGRLR300045 | 450 Grams | 12 |
|-------------|-----------|----|

Colour: Amber
Recommended Operating Temperature Range: -20°C to 130°C

Industry & Manufacturer's Specifications: NLGI 3, DIN 51502: KP3K-20,
 ISO 6743: ISO-L-XCCFA3

Penrite Indgrease Lith R3 is a high quality NLGI 3, lithium soap thickened grease. It is made using highly refined base oils and features include a high level of oxidation, rust and water washout protection. It is a multi-purpose rust and oxidation (R&O) type grease designed as a multi-service grease for industrial applications, particularly high speed, low load bearing applications. Recommended for use in most types of industrial applications operating under high speed, low load conditions, where an NLGI 3 grease is required.



Cam Assembly Lube

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|---------|-----------|---|
| CAM0001 | 100 Grams | 6 |
|---------|-----------|---|

Colour: Grey/Black
Recommended Operating Temperature Range: N/A

Industry & Manufacturer's Specifications: NLGI 2

Penrite Cam Assembly Lube is a special purpose sticky paste formulated with a lithium grease, designed for the initial lubrication of engine parts during the engine assembly process. It contains rust inhibitors, oxidation inhibitors, tackiness additives, zinc and graphite anti-wear agents to provide outstanding engine lubrication protection prior to and during first starting of new or rebuilt engines. Can be used on camshaft lobes, followers, journals, camshaft and crankshaft bearings, pushrod tips, rockers, bushes, gears, thrust bearings and timing chains.



CALCIUM COMPLEX GREASES

Indgrease 1615WR

| Product Code | Pack Size | Carton Qty | Colour: Brown Recommended Operating Temperature Range: -20°C to 150°C |
|--------------|-----------|------------|--|
|--------------|-----------|------------|--|

| | | |
|----------------|---------------|---|
| INDGR1615WR020 | 20 Kilograms | 1 |
| INDGR1615WR180 | 180 Kilograms | 1 |

Industry & Manufacturer's Specifications: NLGI 1.5,
DIN 51502: KP1.5N-20, ISO 6743: ISO-L-XBDFB1.5

Penrite Indgrease 1615WR is an NLGI 1.5, calcium sulphonate complex thickened, extreme pressure lubricating grease. The grease contains a mineral oil base with antioxidants and corrosion inhibitors. It does not contain conventional EP and anti-wear additives as they are built in as an integral part of the soap structure. It is a modern high performance product especially suitable for industrial applications where wet and corrosive environments are encountered.



Indgrease CX 152WR

| Product Code | Pack Size | Carton Qty | Colour: Beige Recommended Operating Temperature Range: -20°C to 150°C |
|--------------|-----------|------------|--|
|--------------|-----------|------------|--|

| | | |
|-------------------|--------------|---|
| INDGRCX152WR00045 | 450 Grams | 6 |
| INDGRCX152WR020 | 20 Kilograms | 1 |

Industry & Manufacturer's Specifications: NLGI 2,
DIN 51502: KP2N-20, ISO 6743: ISO L-XB(F)DIB 2

Penrite Indgrease CX 152WR is an NLGI 2, calcium sulphonate complex thickened, extreme pressure lubricating grease based on mineral oil. It is formulated with antioxidants and corrosion inhibitors and does not contain conventional extreme pressure (EP) and anti-wear additives since they are built in as an integral part of the soap structure. It is an advanced, high performance grease especially suitable for marine and industrial applications or where wet and corrosive conditions are encountered.



CALCIUM GREASES

Graphite Grease

| Product Code | Pack Size | Carton Qty | Colour: Grey/Black Recommended Operating Temperature Range: Max 60°C |
|--------------|-----------|------------|---|
|--------------|-----------|------------|---|

| | | |
|----------|----------------|---|
| GRGR0004 | 400 Grams (UK) | 6 |
| GRGR0005 | 500 Grams | 6 |

Industry & Manufacturer's Specifications: NLGI 3

Penrite Graphite Grease is an NLGI 3, graphite impregnated calcium based grease. It is designed for the lubrication of spring leaves, handbrake cables, flexible drives and exposed chains. Graphite Grease is suitable for use in slow speed plain bearings and slides where a heavy grease with solid lubricants is required. It can also be used in plain bearing locks, latches and fasteners, cables and springs and even as a fifth wheel lubricant.



Water Pump Grease

| Product Code | Pack Size | Carton Qty | Colour: Amber Recommended Operating Temperature Range: 0°C to 75°C |
|--------------|-----------|------------|---|
|--------------|-----------|------------|---|

| | | |
|-----------|----------|---|
| WPGR00005 | 50 Grams | 6 |
|-----------|----------|---|

Industry & Manufacturer's Specifications: NLGI 4

Penrite Water Pump Grease is an NLGI 4, moderate duty, very firm grease manufactured from high quality base oils and a calcium soap. It is recommended for the lubrication of water pumps in older vehicles or in fire fighting and irrigation equipment requiring a stiff grease. Water Pump Grease can be used in spring loaded greasing units, via a grease gun to pump shafts or in screw applied greasers.



MIXED COMPLEX GREASES

QCA Grease MX9

| Product Code | Pack Size | Carton Qty |
|--------------|---------------|------------|
| QCAG00045 | 450 Grams | 6 |
| QCAG020 | 20 Kilograms | 1 |
| QCAG180 | 180 Kilograms | 1 |

Colour: Grey/Black

Recommended Operating Temperature Range: -20°C to 140°C

Industry & Manufacturer's Specifications: NLGI 2, Caterpillar MPM

Penrite QCA Grease MX9 is an advanced technology, NLGI 2, mixed-complex grease, containing 9% solids that provide additional lubrication in high load applications in industries such as quarries, construction and agriculture. It is made using a lithium-calcium complex soap with "built-in" extreme pressure and anti-wear properties. These are further enhanced by the addition of anti-oxidant and corrosion inhibitors. It also uses special tackifiers to help the product stay in place and adhere to critical metal surfaces.



Indgrease CXOG-05

| Product Code | Pack Size | Carton Qty |
|---------------|-----------------|------------|
| INDGRCXOG5400 | 400 Millilitres | 12 |
| INDGRCXOG5018 | 18 Kilograms | 1 |
| INDGRCXOG5180 | 180 Kilograms | 1 |

Colour: Dark Brown

Recommended Operating Temperature Range: -20°C to 140°C

Industry & Manufacturer's Specifications: NLGI 0.5, DIN 51502: KP GOG0.5N-30, ISO 6743: ISO-L-XCDB0.5

Penrite Indgrease CXOG-05 is an NLGI 0.5, advanced technology lithium-calcium complex grease with built-in extreme pressure and anti-wear properties. These are further enhanced by the addition of anti-oxidant and corrosion inhibitors. It also uses special tackifiers to help the product stay in place and adhere to critical surfaces where it can better lubricate metal surfaces. Indgrease CXOG-05 is recommended for use in severe heavy duty applications where high shock loads are common including those in corrosive environments. It is especially suited to open gear applications where greases containing solids are normally used. Also available in a convenient 400mL aerosol dispenser.



CLAY (BENTONE) BASED GREASES

Copper Eze

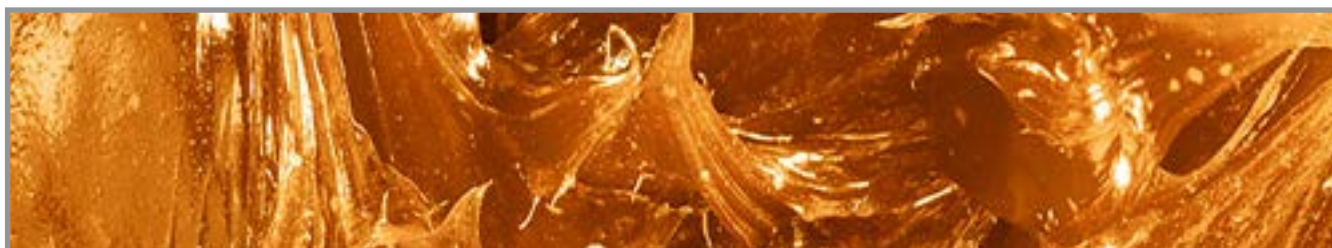
| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| CEZE0001 | 100 Grams | 6 |
| CEZE0005 | 500 Grams | 6 |

Colour: Copper

Recommended Operating Temperature Range: 0°C to 1093°C

Industry & Manufacturer's Specifications: NLGI 1.5

Penrite Copper Eze is a bentone based anti-seize grease containing micro-size copper, zinc oxide and additional synthetic base oil that will resist temperatures of up to 1093°C. It is used to coat flanges, threads, nuts, bolts that are subject to corrosion or seizure. Copper Eze is also ideal for exhaust manifold studs, exhaust clamps, turbocharger connections, spark plug threads and brake assemblies. Ideal for boat trailer wheel studs, external hinges, flanges, screws, nuts and bolts to prevent seizure and corrosion in automotive, marine, industrial, agricultural and general domestic environments.



Rubber Grease

| Product Code | Pack Size | Carton Qty | Colour: Red Recommended Operating Temperature Range: -9°C to 80°C |
|--------------|-----------|------------|--|
| RUBGR0001 | 100 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 2 |
| RUBGR0005 | 500 Grams | 6 | |

Penrite Rubber Grease is a premium quality clay based grease containing castor oil for use when contact with natural and/or synthetic rubber is likely to occur. It can be used as a general purpose, non-harmful grease for industrial, automotive and consumer rubber parts such as hydraulic dust covers, braking system components, seals and washers. It is specially designed for use on rubber components in hydraulic systems where compatibility with the rubber seals is essential.



Indgrease BM3

| Product Code | Pack Size | Carton Qty | Colour: Grey/Black Recommended Operating Temperature Range: -20°C to 200°C |
|--------------|-----------|------------|---|
| IGRBM300045 | 450 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 3 |
| | | | |

Penrite Indgrease BM3 is a highly specialised, NLGI 3, bentone (clay) no-melt type grease, manufactured with highly refined base oils and molybdenum disulphide. It can be used on equipment exposed to severe weather conditions such as cranes, conveyor chains, ore crushers, rolling mills and other exposed drives that can use this grade. General applications include shackle bolts, king pins and torsion bar bushings. Indgrease BM3 is suitable for use on trucks and buses on chassis points and fifth wheel areas. It is ideal for use in marine applications such as in deck equipment, cargo and warping winches, lifeboat davits, hatch covers and ships' stabilisers.



| PENRITE PRODUCT | Grams | | | | | Kilograms | | | | | Millilitres | |
|---------------------------------------|-------|-----|-----------|-----|---------------|-----------|----|----|----|-----|-------------|--------|
| | Tub | | Cartridge | | Tub Container | Drum | | | | | Aerosol | Bottle |
| | 50 | 100 | 400 | 450 | | 2.5 | 18 | 20 | 55 | 180 | 400 | 500 |
| High Temperature Wheel Bearing Grease | - | - | - | ○ | ○ | ○ | - | ○ | ○ | ○ | - | - |
| 10 Tenths Power Sports Grease | - | ○ | - | - | - | - | - | - | - | - | - | - |
| Marine Grease | - | - | - | ○ | ○ | ○ | - | - | - | - | - | - |
| Heavy Duty Bearing Grease | - | - | - | ○ | - | - | - | ○ | - | ○ | - | - |
| ACT Grease XEP2 | - | - | - | ○ | - | - | - | - | - | ○ | - | - |
| Indgrease 100LX EP2 | - | - | - | ○ | - | - | - | - | - | - | - | - |
| Indgrease Moly HT | - | - | - | ○ | - | - | - | - | - | ○ | - | - |
| CV Joint Grease | - | ○ | - | - | - | - | - | - | - | - | - | - |
| Extreme Pressure Grease | - | - | - | ○ | ○ | ○ | - | ○ | ○ | ○ | - | - |
| Molygrease EP 3% | - | - | - | ○ | ○ | ○ | - | ○ | - | ○ | - | - |
| Semi Fluid Grease | - | - | - | ○ | - | - | - | ○ | - | - | - | ○ |
| Indgrease Lith EP0 | - | - | - | - | - | - | - | ○ | - | ○ | - | - |
| Indgrease Lith EP2 | - | - | - | ○ | - | - | - | ○ | - | - | - | - |
| Indgrease Lith R3 | - | - | - | ○ | - | - | - | - | - | - | - | - |
| Cam Assembly Lube | - | ○ | - | - | - | - | - | - | - | - | - | - |
| Indgrease 1615WR | - | - | - | - | - | - | - | ○ | - | ○ | - | - |
| Indgrease CX 152WR | - | - | - | ○ | - | - | - | ○ | - | - | - | - |
| Graphite Grease | - | - | ○ | - | ○ | - | - | - | - | - | - | - |
| Water Pump Grease | ○ | - | - | - | - | - | - | - | - | - | - | - |
| QCA Grease MX9 | - | - | - | ○ | - | - | - | ○ | - | ○ | - | - |
| Indgrease CXOG-05 | - | - | - | - | - | - | ○ | - | - | ○ | ○ | - |
| Copper Eze | - | ○ | - | - | ○ | - | - | - | - | - | - | - |
| Rubber Grease | - | ○ | - | - | ○ | - | - | - | - | - | - | - |
| Indgrease BM3 | - | - | - | ○ | - | - | - | - | - | - | - | - |

Expert Tip: The thickness of a grease is identified by an NLGI number that ranges from 000 to 6. NLGI 000 is pourable grease and NLGI 6 grease is solid.



UNDERSTANDING VETERAN, VINTAGE & CLASSIC OILS

Frequently Asked Questions (FAQs)

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 latest 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 larger 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 polyacrylate 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 leakproof 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 of 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 range 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 0W-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 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 two most common grades being Shelsley Medium and Shelsley Heavy. Being of a heavy viscosity when hot, these oils will go towards both sealing sleeves and reducing consumption and at the same time maintain excellent oil pressure.



Visit our website at www.penriteoil.com



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 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 multigrade 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 Valveshield 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 Valveshield is sold in a 250mL bottle which incorporates a 25mL measuring chamber - enough product to treat 25 litres of fuel.

GEAR OILS

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 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.

STEERING

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 the lubrication of the working surfaces

of the gears. Penrite Steering Box Lube is a high viscosity semi fluid 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 that because of leakage, people tend to use a semi fluid grease, or even Penrite Steering Box Lube. 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.

COOLANT

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, Penrite 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.

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 of 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 Stromburg 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.



VETERAN, VINTAGE & CLASSIC

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 utilizing 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.

Whatever your passion, cars, trucks, motorbikes, steam engines or even stationary engines, Penrite has the right products for Veteran, Vintage & Classic applications.



Visit our website at www.penriteoil.com

Classic Light

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 20W-60 |
|--------------|-----------|------------|---|-------------------|
| CLASL005 | 5 Litres | 4 | Replacement Viscosities: SAE 30, 20W-50, 25W-60 | |

Industry & Manufacturer's Specifications: API SG/CD
Fuel Types: Petrol, LPG, Diesel, Racing Features: High Zinc

Penrite Classic Light is a premium mineral, SAE 20W-60, HIGH ZINC, low detergent engine oil designed specifically for petrol and diesel fuelled vehicles manufactured between 1950 & 1989. It features a double layer of engine wear protection with HIGH ZINC and increased operating temperature viscosity over older style multigrade oils or where SAE 30 monograde oil was specified by the manufacturer. It controls oil consumption and maintains oil pressure in older engines. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces.



Classic Medium

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 25W-70 |
|--------------|-----------|------------|---------------------------------|-------------------|
| CLASM005 | 5 Litres | 4 | Replacement Viscosities: SAE 40 | |

Industry & Manufacturer's Specifications: API SG/CD
Fuel Types: Petrol, LPG, Diesel, Racing Features: High Zinc

Penrite Classic Medium is a premium mineral, SAE 25W-70, HIGH ZINC, low detergent engine oil designed specifically for petrol and diesel fuelled vehicles manufactured between 1950 & 1989. It features a double layer of engine wear protection with HIGH ZINC and increased operating temperature viscosity over older style multigrade oils or where SAE 40 monograde oil was specified by the manufacturer. It controls oil consumption and maintains oil pressure in older engines. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces.



Classic Heavy

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 40-70 |
|--------------|--------------|------------|---------------------------------|------------------|
| CLASH001 | 1 Litre (UK) | 1 | Replacement Viscosities: SAE 50 | |
| CLASH005 | 5 Litres | 4 | | |

Industry & Manufacturer's Specifications: API SG/CD
Fuel Types: Petrol, LPG, Diesel, Racing Features: High Zinc

Penrite Classic Heavy is a premium mineral 40-70, HIGH ZINC, low detergent engine oil designed specifically for petrol and diesel fuelled vehicles manufactured between 1950 & 1989. It features a double layer of engine wear protection with HIGH ZINC and increased operating temperature viscosity over older style multigrade oils or where SAE 50 monograde oil was specified by the manufacturer. It controls oil consumption and maintains oil pressure in older engines. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces.



Classic V-Dub **NEW**

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: 20W-60 |
|--------------|-----------|------------|---|-------------------|
| CLASV005 | 5 Litres | 4 | Replacement Viscosities: 20W-50, 20W-40, SAE 30 | |

Industry & Manufacturer's Specifications: API SJ/CG-4, ACEA E2, CCMC PD1/G1/D4
Fuel Types: Petrol/E10, Diesel Features: High Zinc

Penrite Classic V-Dub is a premium mineral, multi-grade SAE 20W-60 engine oil, designed to provide outstanding protection for both horizontally opposed, flat four/six (Boxer) and in line, air or water cooled petrol and diesel engines in classic VW model cars. It features a double layer of engine wear protection with a HIGH ZINC anti-wear formulation and increased operating temperature viscosity over standard SAE grade oils. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces.



Classic Mini

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Replacement Viscosities: SAE 30, 20W-40 | Viscosity: 20W-50 |
|--------------|--------------|------------|---|-------------------|
| CLASMINI001 | 1 Litre (UK) | 6 | Industry & Manufacturer's Specifications: API SJ/CE, CCMC G2, API GL-4, MB 227.1, MIL-L-2104D Fuel Types: Petrol, Diesel, Racing Features: High Zinc Penrite Classic Mini is a premium mineral, HIGH ZINC, SAE 20W-50 viscosity, API SJ/CE, GL-4 engine oil, designed in conjunction with International Mini Clubs and owners in the UK and Australia specifically for all classic Minis (Austin, BMC and Leyland). It has been developed for use in classic Minis from 1959 to 2000 as well as other derivatives where a combined engine and gearbox utilises the same oil, providing an excellent combination of engine protection and smooth gear shifts. Classic Mini contains a HIGH ZINC anti-wear package exceeding 1600+ ppm for ultimate engine wear protection. | |
| CLASMINI005 | 5 Litres | 4 | | |



Shelsley Light

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Replacement Viscosities: SAE 30, 20W-40, 20W-50, 25W-60 | Viscosity: 20W-60 |
|--------------|-----------|------------|---|-------------------|
| SHELL005 | 5 Litres | 4 | Industry & Manufacturer's Specifications: API SC/CC Fuel Types: Petrol, Diesel, Kerosene Features: High Zinc Penrite Shelsley Light is a premium mineral, SAE 20W-60, HIGH ZINC, very low detergent engine oil designed specifically for petrol, kerosene and diesel fuelled vintage, pre-war and post war vehicles manufactured up to 1950. It features a double layer of engine wear protection with HIGH ZINC and increased operating temperature viscosity over monograde oils. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces. | |
| | | | | |



Shelsley Medium

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Replacement Viscosities: SAE 40, 25W-50, 25W-60 | Viscosity: 25W-70 |
|--------------|-----------|------------|--|-------------------|
| SHELM005 | 5 Litres | 4 | Industry & Manufacturer's Specifications: API SC/CC Fuel Types: Petrol, Diesel, Kerosene Features: High Zinc Penrite Shelsley Medium is a premium mineral, SAE 25W-70, HIGH ZINC, very low detergent engine oil designed specifically for petrol, kerosene and diesel fuelled vintage, pre-war and post war vehicles manufactured up to 1950. It features a double layer of engine wear protection with HIGH ZINC and increased operating temperature viscosity over monograde oils. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces. | |
| SHELM020 | 20 Litres | 1 | | |



Shelsley Heavy

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral Replacement Viscosities: SAE 50, SAE 60 | Viscosity: 40-70 |
|--------------|-----------|------------|--|------------------|
| SHELH005 | 5 Litres | 4 | Industry & Manufacturer's Specifications: API SC/CC Fuel Types: Petrol, Diesel, Kerosene Features: High Zinc Penrite Shelsley Heavy is a premium mineral, 40-70, HIGH ZINC, very low detergent engine oil designed specifically for petrol, kerosene and diesel fuelled vintage, pre-war and post war vehicles manufactured up to 1950. It features a double layer of engine wear protection with HIGH ZINC and increased operating temperature viscosity over monograde oils. It contains a "Tacky Additive" so that when vehicles are laid up, the oil does not run off internal surfaces. | |
| | | | | |



Heritage LTM

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 30 |
|--------------|-----------|------------|---|-------------------------|
| HERLTM005 | 5 Litres | 4 | Fuel Types: Petrol, Diesel, Kerosene (Paraffin) | Features: Non-Detergent |

Penrite Heritage LTM is a premium mineral, SAE 30 monograde, non-detergent engine oil developed specifically for Vintage and Edwardian vehicles manufactured prior to 1920. It is designed for use in many vehicles of pre WWI design which were fitted with rather primitive oiling systems such as drip feed lubricator systems, wick feed and hand operated pumps. It uses premium quality base oils combined with a specialised additive package to suit these very old machines. It contains a tacky additive for increased storage protection.



Heritage MTH

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 50 |
|--------------|-----------|------------|---|-------------------------|
| HERMTH005 | 5 Litres | 4 | Fuel Types: Petrol, Diesel, Kerosene (Paraffin) | Features: Non-Detergent |

Penrite Heritage MTH is a premium mineral, SAE 50 monograde, non-detergent engine oil developed specifically for Vintage and Edwardian vehicles manufactured prior to 1920. It is designed for use in many vehicles of pre WWI design which were fitted with rather primitive oiling systems such as drip feed lubricator systems, wick feed and hand operated pumps. It uses premium quality base oils combined with a specialised additive package to suit these very old machines. It contains a tacky additive for increased storage protection.



See page 42 for HPR 30, 40 & 50 Engine Oils

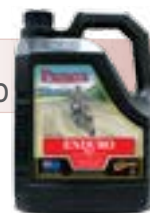
See page 50 for Running-In Oil

Enduro 25W-70 (Motorcycle)

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Stroke: 4 |
|--------------|-----------|------------|--|--|
| END004 | 4 Litres | 4 | Viscosity: 25W-70 | Replacement Viscosities: 25W-60, SAE 40/50 |
| END020 | 20 Litres | 1 | Industry & Manufacturer's Specifications: API SG | Fuel Types: Petrol, Racing |

Features: High Zinc, Extends Engine Life, Competition Proven

Penrite Enduro is a premium, high performance mineral, 25W-70, non friction modified, four stroke engine oil. It contains a superior anti wear package of HIGH ZINC (exceeding 1750+ ppm levels) for ultimate engine, gearbox and clutch protection and a multi-grade viscosity designed to maintain oil pressure and consumption control for older and classic motorcycles. It has optimum clutch slip prevention for wet clutch systems.



HD Oil 50-70 (Motorcycle)

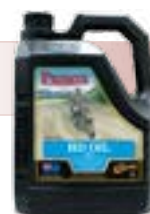
| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Stroke: 4 |
|--------------|-----------|------------|---------------------------|------------------------------------|
| HD004 | 4 Litres | 4 | Viscosity: 50-70 | Replacement Viscosities: SAE 50/60 |

Industry & Manufacturer's Specifications: API SF

Fuel Types: Petrol, Racing


Features: High Zinc, Extends Engine Life, Competition Proven

Penrite HD Oil is a premium, heavy duty, high performance mineral, 50-70, non friction modified, four stroke engine oil. It contains a superior anti wear package of HIGH ZINC (exceeding 1750+ ppm levels) for ultimate engine, gearbox and clutch protection and a multi-grade viscosity designed to maintain oil pressure and consumption control for older and classic motorcycles. It has optimum clutch slip prevention for wet clutch systems.



Classic ATF


| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Red | |
|--|-----------|------------|--|-------------|--|
| CLASATF005 | 5 Litre | 4 | Industry & Manufacturer's Specifications: DEXRON®-IID, MERCON®-IV, Allison C-4, MB 236.6/7, ZF TE-ML11/TE-ML 14, Ford ESR-M2C163-A, Ford M2C166-H, Ford M2C138-CJ, Vickers 35VQ25, Voith Diwa, Denison T5D/P-46/HF-2, Toyota T-II/D2, Sundstrand 22-213L, Mitsubishi SP/SP2, BTR 5M-52, BTR 81LE/91LE | | |
| Penrite Classic ATF is premium mineral, multi vehicle, DEXRON®-IID automatic transmission fluid for classic and older transmissions that required Type A/Suffix A or GM DEXRON®/DEXRON®-II fluids. It is manufactured with modern additive technology and premium base oils to provide better shift performance and protection than original type automatic transmission fluids. | | | | | |





VETERAN, VINTAGE & CLASSIC

Shocker Oil No.1

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Green |  | |
|--------------|-----------------|------------|---|---------------|---|--|
| SHOK10005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: ISO 46 (No.1) | | | |
| | | | Penrite Shocker Oil No.1 is a suspension oils specifically designed for lever arm and vane type shock absorbers fitted to cars covering the vintage and classic period. It contains anti-corrosion and anti-wear additives for enhanced protection. | | | |



Shocker Oil No.2

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Colour: Green |  |
|---|-----------------|------------|---|---------------|--|
| SHOK20005 | 500 Millilitres | 6 | Industry & Manufacturer's Specifications: ISO 68 (No.2) | | |
| Penrite Shocker Oil No.2 is a suspension oils specifically designed for lever arm and vane type shock absorbers fitted to cars covering the vintage and classic period. It contains anti-corrosion and anti-wear additives for enhanced protection. | | | | | |



Visit our website at www.penriteoil.com

SU Dashpot Oil

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

SUDASH000150 150 Millilitres 12

Base Oil: Premium Mineral **Colour:** Amber

Industry & Manufacturer's Specifications: ISO 15

Penrite SU Dashpot Oil is a mineral based oil containing anti-corrosion and anti-wear additives for the lubrication of pistons and dampers in SU and Stromberg carburettors. It is suitable for use in pre 1940 SU carburettors, which do not incorporate a damper in the dashpot assembly. Removing the dashpot cap can readily identify this type of carburettor, as there is no damper rod on the underside.



SU Damper Oil

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

SUDAMP000150 150 Millilitres 12

Base Oil: Premium Mineral **Colour:** Green

Industry & Manufacturer's Specifications: ISO 68

Penrite SU Damper Oil is a mineral based oil containing anti-corrosion and anti-wear additives for the lubrication of pistons and dampers in SU and Stromberg carburettors. It is suitable for post 1940 vehicles using SU and Stromberg carburettors incorporating a damper in the dashpot assembly. The damper assembly is attached to the cap and can be seen when the cap is removed.



Gear Box Oil 30

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

GB30001 1 Litre 6
GB30005 5 Litres (UK) 4

Base Oil: Premium Mineral **Viscosity:** 20W-60
Replacement Viscosities: SAE 30

Industry & Manufacturer's Specifications: API GL-1

Penrite Gear Box Oil 30 is multigrade gearbox oil designed specifically for use in vehicles that originally used the same oil in the gearbox as was recommended and used in the engine. Many vehicles manufactured in the fifties and sixties specified engine oil for use in the gearbox. Whilst this was convenient, a proper gear oil was a better alternative. It can be used in veteran, vintage and classic gearboxes including those fitted with straight, synchro and epicyclic gears, overdrives and those vehicles fitted with pre-selector gearboxes. Gear Box Oil 30 meets the requirements of API GL-1.



Gear Box Oil 40

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
|--------------|-----------|------------|

GB40001 1 Litre 6
GB40005 5 Litres (UK) 4

Base Oil: Premium Mineral **Viscosity:** 25W-70
Replacement Viscosities: SAE 40, SAE 50

Industry & Manufacturer's Specifications: API GL-1

Penrite Gear Box Oil 40 is multigrade gearbox oil designed specifically for use in vehicles that originally used the same oil in the gearbox as was recommended and used in the engine. Many vehicles manufactured in the fifties and sixties specified engine oil for use in the gearbox. Whilst this was convenient, a proper gear oil was a better alternative. It can be used in veteran, vintage and classic gearboxes including those fitted with straight, synchro and epicyclic gears, overdrives and those vehicles fitted with pre-selector gearboxes. Gear Box Oil 40 meets the requirements of API GL-1.



Transoil 90

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 90 |
|--------------|---------------|------------|--|-------------------|
| T90001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API GL-1 | |
| T90005 | 5 Litres (UK) | 4 | | |

Penrite Transoil 90 is a premium, non EP, API GL-1 gear oil designed specifically for use in veteran, vintage and Edwardian gearbox, transaxles and selected spur and bevel type rear axles. It does not contain any aggressive load carrying additives that may cause damage to ferrous and non ferrous metal types used in these types of vehicles. It is also compatible with leather and synthetic rubber seals.



Transoil 140

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 140 |
|--------------|---------------|------------|--|--------------------|
| T140001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API GL-1 | |
| T140005 | 5 Litres (UK) | 4 | | |

Penrite Transoil 140 is a premium, non EP, API GL-1 gear oil designed specifically for use in veteran, vintage and Edwardian gearbox, transaxles and selected spur and bevel type rear axles. It does not contain any aggressive load carrying additives that may cause damage to ferrous and non ferrous metal types used in these types of vehicles. It is also compatible with leather and synthetic rubber seals.



Transoil 250

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 250 |
|--------------|---------------|------------|--|--------------------|
| T250001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API GL-1 | |
| T250005 | 5 Litres (UK) | 4 | | |

Penrite Transoil 250 is a premium, non EP, API GL-1 gear oil designed specifically for use in veteran, vintage and Edwardian gearbox, transaxles and selected spur and bevel type rear axles. It does not contain any aggressive load carrying additives that may cause damage to ferrous and non ferrous metal types used in these types of vehicles. It is also compatible with leather and synthetic rubber seals.



Mild EP Gear Oil

| Product Code | Pack Size | Carton Qty | Base Oil: Premium Mineral | Viscosity: SAE 110 |
|--------------|-----------|------------|---|--------------------|
| MILD001 | 1 Litre | 6 | Industry & Manufacturer's Specifications: API GL-4 Penrite Mild EP Gear Oil is an SAE 110, extreme pressure, automotive gear oil meeting the requirements of API GL-4 for moderate to high load applications. It is designed for use in all steel gear sets in vintage and classic cars and trucks as well as rack and pinion steering systems of 1950's & 1960's vehicles. It is suitable for use in spiral bevel, worm and pre 1960 hypoid axles. | |



Classic Car Coolant Concentrate

| Product Code | Pack Size | Carton Qty | Technology: Type B | Colour: Clear |
|--------------|-----------|------------|---|---------------|
| VC1001 | 1 Litre | 6 | Treat Rate: 1 litre makes up to 15 litres Industry & Manufacturer's Specifications: AS 2108-2004 Type B Penrite Classic Car Coolant is a Type B colourless, hybrid-organic, non-glycol based corrosion inhibitor designed specifically for use in Edwardian, vintage, veteran & classic car cooling systems that protects against corrosion, cavitation, scaling and oxidation. It is an effective engine coolant that uses a hybrid of organic mono/diacid technology and a conventional inhibitor to provide maximum protection against corrosion whilst providing superior heat transfer to significantly reduce engine operating temperature. | |



See page 84 for IO Tenths Race Coolant

See page 110 for Valve Shield

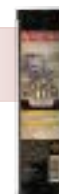
| PENRITE PRODUCT | Millilitres | | Litres | | | |
|---------------------------------|-------------|-----|--------|---|---|----|
| | 150 | 500 | 1 | 4 | 5 | 20 |
| Classic Light | - | - | - | - | ⊙ | |
| Classic Medium | - | - | - | - | ⊙ | - |
| Classic Heavy | - | - | ⊙ | - | ⊙ | - |
| Classic V-Dub | - | - | - | - | ⊙ | - |
| Classic Mini | - | - | ⊙ | - | ⊙ | - |
| Shelsley Light | - | - | - | - | ⊙ | - |
| Shelsley Medium | - | - | - | - | ⊙ | ⊙ |
| Shelsley Heavy | - | - | - | - | ⊙ | - |
| Heritage LTM | - | - | - | - | ⊙ | - |
| Heritage MTH | - | - | - | - | ⊙ | - |
| Enduro 25W-70 (Motorcycle) | - | - | - | ⊙ | - | ⊙ |
| HD Oil 50-70 (Motorcycle) | - | - | - | ⊙ | - | - |
| Classic ATF | - | - | - | - | ⊙ | - |
| Shocker Oil No.1 | - | ⊙ | - | - | - | - |
| Shocker Oil No.2 | - | ⊙ | - | - | - | - |
| SU Dashpot Oil | ⊙ | - | - | - | - | - |
| SU Damper Oil | ⊙ | - | - | - | - | - |
| Gear Box Oil 30 | - | - | ⊙ | - | ⊙ | - |
| Gear Box Oil 40 | - | - | ⊙ | - | ⊙ | - |
| Transoil 90 | - | - | ⊙ | - | ⊙ | ⊙ |
| Transoil 140 | - | - | ⊙ | - | ⊙ | ⊙ |
| Transoil 250 | - | - | ⊙ | - | ⊙ | ⊙ |
| Mild EP Gear Oil | - | - | ⊙ | - | - | - |
| Classic Car Coolant Concentrate | - | - | ⊙ | - | - | - |

(All products are available in 1000L Pods, on request)

Expert Tip: Penrite are 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.

Steering Box Lube

| Product Code | Pack Size | Carton Qty | Colour: Light Brown Recommended Operating Temperature Range: N/A |
|--------------|----------------------|------------|---|
| SBL00045 | 450 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 00 Penrite Steering Box Lube is an extreme pressure, NLGI 00, lithium based grease, blended with effective anti-wear, rust and oxidation inhibitors. It is a high viscosity, self-levelling or semi fluid grease that features non-corrosive extreme pressure (EP) additives to provide enhanced film strength protection. It is suitable for veteran/vintage and some classic car steering boxes. It can also be used in some classic car and motorcycle gearboxes; such as Burman, that require high viscosity lubrication or a self leveling grease. |
| SBL0005 | 500 Millilitres (UK) | 6 | |



Cam Assembly Lube

| Product Code | Pack Size | Carton Qty | Colour: Grey/Black Recommended Operating Temperature Range: N/A |
|--------------|-----------|------------|---|
| CAM0001 | 100 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 2 Penrite Cam Assembly Lube is a special purpose sticky paste formulated with a lithium grease, designed for the initial lubrication of engine parts during the engine assembly process. It contains rust inhibitors, oxidation inhibitors, tackiness additives, zinc and graphite anti-wear agents to provide outstanding engine lubrication protection prior to and during first starting of new or rebuilt engines. Can be used on camshaft lobes, followers, journals, camshaft and crankshaft bearings, pushrod tips, rockers, bushes, gears, thrust bearings and timing chains. |



Graphite Grease

| Product Code | Pack Size | Carton Qty | Colour: Grey/Black Recommended Operating Temperature Range: Max 60°C |
|--------------|----------------|------------|--|
| GRGR0004 | 400 Grams (UK) | 6 | Industry & Manufacturer's Specifications: NLGI 3 Penrite Graphite Grease is an NLGI 3, graphite impregnated calcium based grease. It is designed for the lubrication of spring leaves, handbrake cables, flexible drives and exposed chains. Graphite Grease is suitable for use in slow speed plain bearings and slides where a heavy grease with solid lubricants is required. It can also be used in plain bearing locks, latches and fasteners, cables and springs and even as a fifth wheel lubricant. |
| GRGR0005 | 500 Grams | 6 | |



Rubber Grease

| Product Code | Pack Size | Carton Qty | Colour: Red Recommended Operating Temperature Range: -9°C to 80°C |
|--------------|-----------|------------|---|
| RUBGR0001 | 100 Grams | 6 | Industry & Manufacturer's Specifications: NLGI 2 Penrite Rubber Grease is a premium quality clay based grease containing castor oil for use when contact with natural and/or synthetic rubber is likely to occur. It can be used as a general purpose, non-harmful grease for industrial, automotive and consumer rubber parts such as hydraulic dust covers, braking system components, seals and washers. It is specially designed for use on rubber components in hydraulic systems where compatibility with the rubber seals is essential. |
| RUBGR0005 | 500 Grams | 6 | |





Copper Eze

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| CEZE0001 | 100 Grams | 6 |
| CEZE0005 | 500 Grams | 6 |

Colour: Copper

Recommended Operating Temperature Range: 0°C to 1093°C

Industry & Manufacturer's Specifications: NLGI 1.5

Penrite Copper Eze is a bentone based anti-seize grease containing micro-size copper, zinc oxide and additional synthetic base oil that will resist temperatures of up to 1093°C. It is used to coat flanges, threads, nuts, bolts that are subject to corrosion or seizure. Copper Eze is also ideal for exhaust manifold studs, exhaust clamps, turbocharger connections, spark plug threads and brake assemblies. Ideal for boat trailer wheel studs, external hinges, flanges, screws, nuts and bolts to prevent seizure and corrosion in automotive, marine, industrial, agricultural and general domestic environments.



Water Pump Grease

| Product Code | Pack Size | Carton Qty |
|--------------|-----------|------------|
| WPGR00005 | 50 Grams | 6 |

Colour: Amber

Recommended Operating Temperature Range: 0°C to 75°C

Industry & Manufacturer's Specifications: NLGI 4

Penrite Water Pump Grease is an NLGI 4, moderate duty, very firm grease manufactured from high quality base oils and a calcium soap. It is recommended for the lubrication of water pumps in older vehicles or in fire fighting and irrigation equipment requiring a stiff grease. Water Pump Grease can be used in spring loaded greasing units, via a grease gun to pump shafts or in screw applied greasers.



See pages 140 - 146 for a full range of Greases

| PENRITE PRODUCT | Grams | | | | | Millilitres |
|-------------------|-------|-----|-----|-----|-----|-------------|
| | 50 | 100 | 400 | 450 | 500 | 500 |
| Steering Box Lube | - | - | - | ⊙ | - | ⊙ |
| Cam Assembly Lube | - | ⊙ | - | - | - | - |
| Graphite Grease | - | - | ⊙ | - | ⊙ | - |
| Rubber Grease | - | ⊙ | - | - | ⊙ | - |
| Copper Eze | - | ⊙ | - | - | ⊙ | - |
| Water Pump Grease | ⊙ | - | - | - | - | - |

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Saturday - Sunday: 8:00 am to 5:00pm (AET)
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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: 39-41 Collie Street,
Fyshwick ACT 2609

Tasmania: 14-18 Linear Court,
Derwent Park TAS 7009



Celebrating
90
Years





APPLICATION FOR CREDIT ACCOUNT

PENRITE OIL CO PTY LTD ACN 005 001 525

www.penriteoil.com.au

(ALL INFORMATION ON THIS APPLICATION WILL BE TREATED AS CONFIDENTIAL)

APPLICATION DETAILS

Australian Business Number (ABN)

(Acceptable ABNs are Company, Sole trader or Partnership. Trust ABN cannot be accepted)

Trading Name: Contact Name:

Delivery address:

Suburb: Postcode: Phone No:

Postal address:

Suburb: Postcode: Fax No:

Mobile No.: Email address: Website address:

IF A PARTNERSHIP OR SOLE TRADER

Reg. Bus. Name: Number: State:

IF A COMPANY OR CORPORATION

Company or Corporation name: Date of Incorporation:

Australian Company Number

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DETAILS OF SOLE TRADERS, PARTNERS OR DIRECTORS

Full names (not initials) and residential addresses of Partners or Directors

(a) Name: Licence No: DOB:

Address:

(b) Name: Licence No: DOB:

Address:

ACCOUNT CONTACTS (within your business)

Sales

Name: Phone: Email:

Finance

Name: Phone: Email:

APPLICANT'S ACKNOWLEDGEMENT & GUARANTEE

To Penrite Oil Co Pty Ltd ("the Company"):

I/We the undersigned Applicant(s) acknowledge that all the above customer details are true and correct, I/we have read and understood and accept the requirements of the Privacy Act 1988 and Terms and Conditions of Sale set out below, In consideration of you having at my/our request agreed to supply goods and/or services and/or grant

credit from time to time to ("the Customer")

I/We the undersigned ("**Guarantors**"), jointly and severally, irrevocably and unconditionally guarantee to the Company payment on demand of all money now due to the Company by the Customer or which may become payable at any time in the future to the Company by the Customer (**Guarantee**).

Signature: (Please print name:)

Residential Address:

Date: / /

Signature: (Please print name:)

Residential Address:

Date: / /

TERMS AND CONDITIONS

FREIGHT: Goods are delivered FIS (free into store) when the invoice value is \$400 or more excluding GST. Freight charges may apply to orders less than \$400.

PAYMENT TERMS: Payment for all goods and charges is due and payable 30 days following the month of delivery 30 days EOM.

PRICE: Prices for goods are charged in accordance with the Penrite's prices prevailing at the place and time of order. Errors appearing on any invoice or delivery note shall not be binding on Penrite. Penrite shall be at liberty to correct same by an additional or amended invoice or statement.

RETURNS: Penrite will not accept the return of any goods unless prior approval for return has been provided by Penrite. Penrite will only credit returned goods in a saleable condition. A restocking fee of up to 20% of the price of the returned goods may be charged.

CLAIMS: All claims must be made in writing within seven (7) days of the date of the invoice.

RISK AND TITLE: The risk in all goods supplied by Penrite passes to the Customer on delivery. The property in the goods supplied (title) passes to the Customer when all monies owing have been paid in full.

Penrite's standard full terms and conditions are available from our website at www.penriteoil.com/terms or Application For Credit Account.



DAVE REYNOLDS



V8 SUPERCAR DRIVER #9 HOLDEN VF COMMODORE

**"Erebus Motorsport relies on Penrite
for 100% protection and performance"**

10 TENTHS

100% PERFORMANCE



PENRITE



Celebrating 90 Years

PENRITE

Super Quality

**MOTOR
OIL**

The Oil with a Guarantee!
‘100% Pure Lubricant’