



EDITION 18 - 2016

NEWS | PRODUCTS | TECHNICAL HIGHLIGHTS | SPONSORING

LUBEVISION®

The Kroon-Oil B.V. corporate magazine full of news and knowledge related to lubricants

- + TECHNICAL FORCE IN TRACTOR PULLING
- + ALKYLATE FUELS 2T & 4T
- + PRODUCT UPDATE
- + A VISIT TO KRAMP

+ Garage Supportplan

WELL-OILED WITH KROON-OIL. NOW
MORE APPEALING THAN EVER BEFORE.

LUBEVISION®

EDITION 18 - 2016

Lubevision® is the Kroon-Oil B.V. corporate magazine that focuses on sharing technical information related to lubricants and publishing news about products and services. Lubevision is published in Dutch, English and French. Nothing from this issue may be copied in any way whatsoever without written permission from Kroon-Oil B.V.

ALKYLATE FUEL 2T & 4T

Protection for the environment, health and machinery

4

TECHNICAL FORCE IN TRACTOR PULLING

Team Simply Green

6

KROON-OIL PARTNER PROGRAMME

'Well-oiled' with Kroon-Oil. Now more appealing than ever before.

8

PRODUCT UPDATE

Coolant Non-Toxic -45 | Agrifluid NHC | Drauliquid Racing | ...

10

KRAMP & KROON-OIL

Partners for almost 30 years

14

THE CHALLENGE OF EXPORT

Export requires tailoring

16

HIGH OIL CONSUMPTION

Find the culprit...

18

DETERMINING THE CORRECT OIL VARIETY

What is sensible for bulk and stock

20

YOUR OWN PROFESSIONAL WEBSITE

Exude quality & professionalism

22

NEW LOOK, STILL 'KROON-OIL'

Our new corporate identity paper

23

ALKYLATE PETROL 2T & 4T

The use of environmentally-friendly products is a current theme in our sector too. Ecological products not only benefit people and the environment...

4



KROON-OIL PARTNER PROGRAMME

A free Rivaux watch (with a value of €499) and up to €2,000 of support for your garage business. Those are not empty words, but cast-iron promises...

6



BULK AND STOCK. WHAT TO DO?

Oil specifications are accurately modified to suit the engine requirements. 'After all,' say car manufacturers, 'oil is a structural element...'

18





Carlo van de Wijer (TU Eindhoven) recently presented an interesting session on 'future mobility'. A magnificent, humorous presentation on developments in mobility. Developments of the past few decades and an outlook on developments in the (near) future.

A brief historical retrospective; 'the mobile being' wants mobility. Studies show that every individual wants to be mobile for exactly 1 hour and 6 minutes per day; this has been the case for thousands of years. It's a fact that does not change.

But what does change very quickly is the form of mobility. Technology develops exponentially. But us humans have a linear approach; we can hardly comprehend and assess the rate at which technology is developing. There are many examples in the past of organisations that have fallen victim to exactly that incorrect assessment. One striking example is Kodak (the Kodak syndrome). This successful organisation was overtaken by technology and lost its *raison d'être*.

It's an undisputed fact that electric mobility is developing extremely quickly. Cars are constantly becoming safer and cleaner. Car manufacturers claim that there will no longer be traffic deaths in the near future and that the output generated by the cleanest engines is cleaner than the input. The cost of electricity and associated electric driving will constantly decrease in the future. The battle for the Big Data generated

by cars has commenced with great intensity. It's not for nothing that Google and Android have by now joined the mobility battle. Many developments still have their outcome shrouded in mist, but the contours are gradually becoming clearer.

In view of the developments, the mindset, building blocks and culture require that an organisation is fast and flexible. That is crucially important. We are ready for it. We regularly organise sessions that focus on developments. Innovation is in our genes. As long as mobility exists, lubricants will be required. However, the form and product mix are highly influenced by the effects of developments.

In this Lubevision you can read about the introduction of Optimix and Optimum, alkylate fuels that are less harmful to people and the environment. Additionally, we recently launched a major campaign for garage businesses. You can find everything about this partner programme on page 8. In the technical field, you will find an interesting article on tractor pulling, a sporting discipline that demands a lot from technology and lubricants, lots of product news and practical questions.

I hope you enjoy reading this Lubevision!

Leon ten Hove
Manager Marketing & Communication

COLOPHON

Editorial team

Rosalie Altena
Leon ten Hove
Tom Bruggeman
Jacco Nijhuis

Design and lay-out

Lieke Verspaget

LUBEVISION® is a publication of:

Kroon-Oil B.V.
P.O. Box 149
7600 AC ALMELO
The Netherlands

Tel.: +31 (0)546 818165

info@kroon-oil.com
www.kroon-oil.com





PROTECTION OF THE ENVIRONMENT, HEALTH AND MACHINERY

The use of environmentally-friendly products is a current theme in our sector too. These products not only benefit people and the environment, they also offer major practical and economic benefits. Our new premium fuels protect people and the environment, and preserve your machines, regardless of whether they have 2-stroke or 4-stroke engines.

Their special composition ensures that Fuel Optimix 2T and Fuel Optimum 4T are almost completely free of harmful substances, such as lead, benzene, sulphur and aromatics. This guarantees cleaner combustion, prevents deposits in the engine and extends the service life of the machine. More than 35% of standard petrol consists of strong solvents that can damage rubber seals and are harmful to the environment. They also contain ethanol, a 'poison' for small equipment. Ethanol attracts moisture, which causes corrosion. The Kroon-Oil fuels contain no solvents or ethanol. The highest quality and optimum environmental friendliness meet in Fuel Optimix 2T and Fuel Optimum 4T.

Fuel Optimix 2T is specially developed for 2-stroke engines. It is a fuel-oil mix based on premium, fully synthetic 2-stroke motor oil and alkylate petrol in a mixing ratio of 1:50. Even if you have not used the equipment for a prolonged period of time, the engine will start without trouble.

Fuel Optimum 4T is a premium alkylate petrol for 4-stroke engines. It guarantees reliable and environmentally-friendly operation of your machine. The odourless and smoke-free combustion also makes the product highly suitable for indoor applications.



PRODUCT BENEFITS AT A GLANCE

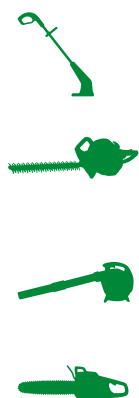
- Less harmful to health
- No soot or smoke is produced on combustion
- Prevents deposits forming inside the engine
- The high octane rating reduces the risk of the engine pinging
- Improves the service life of the machine. Reduced wear of the engine
- Lower consumption
- Good cold start properties
- The product can remain inside the machine
- Chemically stable. Can be stored for a long period of time, also after opening. (container does need to be sealed!)
- Almost completely free of benzene and other carcinogenic substances

Applications of Kroon-Oil alkylate petrol

- Forestry
- Agriculture and horticulture
- Subcontracting and groundwork
- Gardens and parks
- Rail, infrastructure and construction
- Fire brigade
- Indoor karting
- Water sports
- Classic cars

Fuel Optimix 2T is unsuitable for 2-stroke outboard engines. For optimum lubrication of your outboard engine, use Fuel Optimum 4T in combination with Kroon-Oil Atlantic 2T Outboard.

FUEL OPTIMIX 2T



FUEL OPTIMUM 4T



5 Lt can **Kroon-Oil Fuel Optimix 2T**

Part.nr. 32289

5 Lt can **Kroon-Oil Fuel Optimum 4T**

Part.nr. 32290



TRACTOR PULLING TEAM SIMPLY GREEN

"THE GREEN MACHINE FROM MOLE- NAARSGRAAF"

Laurens den Boer and Marien den Besten bought their John Deere 4020 in 2006. At the time they had no idea about the success they would have with this green powerhouse. Between 2010 and 2015 the team won the competition 5 times in a row. They also won the Dutch and European championships in 2015. What is Team Simply Green's secret?

Simply Green competes in the 4.5 tonnes SuperSport Farm Stock class. In this elite class, the machines look like the machines that are used every day in farming. The challenge in this sporting discipline, and especially in this class, is the high level of freedom in technical development. There are a number of restrictions:

- The casting work of the block must be original (9 litres)
- The engine speed is limited to 2700 rpm
- No more than 1 turbo
- No more than 4.5 T

Laurens den Boer: 'Tractor pulling is a highly technical sport. Apart from the qualities you require as a driver, the trick is to

maximise the horsepower and torque you squeeze out of the machine. We are constantly looking for boundaries and limits. And sometimes we overstep them. Lubricants play a crucial role in this performance. For 5 years we have been using premium products from the Kroon-Oil Racing line.'

UNIQUE POWER BENCH

To get everything we can out of the engine, the team not only requires a lot of knowledge, but also the correct materials. Many of these materials come from the USA, where Tractor Pulling is hugely popular. To push the boundaries year on year, the team has built a unique power bench. The bench can withstand an unbelievable amount of horsepower and torque, which is unique.

The power bench was developed and built by the team itself. Its core consists of a water brake specially developed for the sport. It operates based on a torque converter with blades and a huge water pressure to control the power. A computer controls all the variables of the bench and provides the right amount of braking power for measuring. The engines have difficulty starting due to the high compression ratio, making their starting power low. The bench can withstand 6000 rpm at a maximum torque of 5500 Nm (!). In order to start properly, the coolant is heated up first, then cooled down again as the engine heats up.



The core of the power bench consists of a water brake specially developed for the sport.

SECRET TO SUCCESS

The response to the question of exactly how much power the Simply Green engine generates on the bench is vague. That's the secret to their success. And how much approximately? Its power is about 1500 bhp with an impressive torque that exceeds 4500 Nm. The turbo pressure is no less than 6 bar and the compression ratio is about 15:1 for optimum

performance in the top range. The engine is connected to a self-developed gearbox with three gears. The ratio between the gears is 8%. In this sport, choosing the correct gear on the right surface is essential.

The bench is primarily used for further development of the team's own engine and for testing. In addition, the team rents out the bench to other pulling teams, but 'regular' engines can also be tested without trouble.

LUBRICATION

The Simply Green engine is lubricated with Emperol Racing 10W-60 and the gearbox performs optimally thanks to Racing Gearlube 75W-140. Due to the high level of fuel dilution, the oil is regularly checked and changed. Stability is a very important factor for success; engine damage and failure directly affect the chances of final victory. The list of victories in recent years proves that the team has found a good balance between increasing the power further and the reliability of the engineering. Checks are regularly performed and the machine is modified where required. In recent years, there has been no damage as a result of the lubricants. In 2016, Simply Green will once again be competing for top spot with Kroon-Oil. The collaboration is perfect; together we consider the optimum use of lubricants. For example, we are currently working on a lubricant that is suitable for lubricating a new turbo. The result is a product based on PAO with polyglycols, which is highly suitable for high-end racing conditions. For cold climates, Kroon-Oil already has a similar product marketed under the Polytech name. This product is available as 10W-40 and 5W-30.



TECHNICAL SPECIFICATIONS

Make • John Deere
 Type • 4020
 Cubic capacity • 8.9 litres
 Turbo • Holset HX80
 Gearbox • Self-built, 3 gears
 Clutch • 5-plate Molinari Racing
 Tyres • Michelin 650-65R42
 Weight • 4500 kg
 Estimated power • 1500 bhp
 Fuel pump • Sigma Diesel
 Intercooler • Self-built water/air
 Data logger • Racepak Data Systems
 Class • 4.5 SuperSport



'WELL-OILED' WITH KROON-OIL. NOW MORE APPEALING THAN EVER BEFORE.

KROON-OIL PARTNER PROGRAMME

A free Rivaux watch (with a value of €499) and up to €2,000 of support for your garage business. Those are not empty words, but cast-iron promises. If you purchase Kroon-Oil lubricants for three years, we will invest €2,000 in your garage business. After your first order and an appointment with a Kroon-Oil account manager, you will receive a beautiful Rivaux watch straight away.

A partnership with Kroon-Oil offers many benefits. Lubricants of excellent, certified quality, sound advice and technical and marketing support. And now also a financial investment. Depending on the programme that suits your company, you will receive a credit of up to €2,000.

SUPPORT À LA CARTE

You can decide for yourself how to spend that credit. To make things easy, we have compiled a menu of the support programme. You can choose whatever fits your garage business best, from equipment to workshop furnishings and from your own website to company clothing. Whether you focus on growth opportunities, presentation, better contact with your customers or a combination of these, you determine for yourself how to allocate the financial support.

YOUR OWN NEW GARAGE WEBSITE OR THE GARAGE APP

If you want to improve your online presence and have a website with a professional layout, you should choose a (new) website. In collaboration with Autosoft, Kroon-Oil has developed a professional garage website at an affordable price. If you

use (part of) the support package as a down payment, the website will basically be free. Hosting and support will only cost €19.95 per month. You can also choose an investment of €39.95 per month for the website and hosting. You can then spend your support budget on something else,

e.g. on the Garage App. This is a module suitable for all smartphones and tablets. The app is the link between the garage and the customer. Customers can receive help in the event of a fault, initiate a chat, view the used car range or make an appointment for servicing. You're in control all the time. Additionally, you can send reminders to the customer for MOT tests, tyre replacements or oil changes. The Garage App gives you an insight into the details of your customers and their cars.

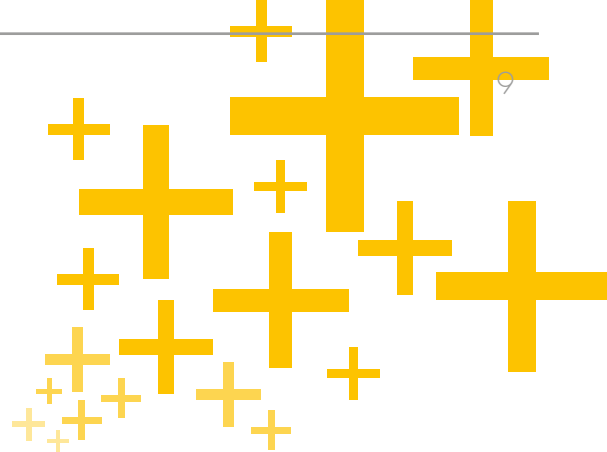
Page 22 contains extensive information about the garage website.

KROON-OIL SPECIALIST

You can also become a Kroon-Oil Specialist. As a Specialist, you will be mentioned on the Kroon-Oil website. In this way, private individuals will also be able to find your garage business. As a Kroon-Oil Specialist, you will be the point of support for consumers in your own region. To become a Kroon-Oil Specialist, you only have to meet two conditions. You must have a PowerFlush® machine and purchase Kroon-Oil lubricants for the garage, plus a range of small packages.

THE EXPERT IN YOUR REGION

Being recognisable as an ambassador for Kroon-Oil requires a suitable image. Wall advertising, illuminated signs and company clothing: all of these can be selected from the menu. Kroon-Oil will also provide technical training, advise you on the use of lubricants and can even analyse oil samples for you in their own laboratory. Being a Kroon-Oil Specialist makes you stand out from your colleagues in your region.



PRODUCT UPDATE

Our product range is always changing. Questions from the market, technical developments, but also customer requests ensure that we are and remain flexible. A few things have recently changed in our product range.

NON-TOXIC COOLANT FOR RECREATIONAL PURPOSES

During winter, pleasure boats and holiday homes require reliable frost protection that is safe for the drinking water and heating systems.

With Coolant Non-Toxic -45 Burst, you have a reliable product. It is an environmentally-friendly, non-toxic coolant based on monopropylene glycol. The ready-to-use product offers burst protection up to -45°C. Apart from winter protection for drinking water and heating systems, it also offers excellent frost protection for water-cooled cooling systems of ship engines.



NEW AGRI TRANSMISSION OIL

Rapidly changing technological developments in agriculture and earth-moving machinery mean that the lubricants are subject to strict requirements. When developing new technology, the introduction of new lubricants cannot be avoided.

Agrifluid NHC is new in our product range. It is a next-generation, universal, hydraulic transmission oil. It is specially developed for hydraulic and transmission systems subject to heavy loads with or without wet brakes. The properties of Agrifluid NHC include a high and stable viscosity index, an extremely low pour point and good oxidation stability. The product can also be used in certain continuously variable transmissions (CVT) in agricultural and earth-moving transmissions. You can find all the applications of this product in our advice database at www.kroon-oil.com.

EVEN HIGHER BOILING POINT FOR DRAULIQUID RACING

Due to its new formula, Drauliquid Racing now has an even higher dry boiling point of 328°C.

Partly due to experience and testing by teams such as MP Motorsport and Kobus Tuning, we were able to optimise the formula of Drauliquid Racing. The result is a brake fluid that functions even better at very high temperatures and under heavy loads, increasing safety levels even more.



SP MATIC

Recent technical developments in additive systems make it possible to lubricate a wider range of automatic transmissions with fewer products. We have therefore expanded our range of SP products with three premium Multi ATFs.

The introduction of these three new multi automatic transmission fluids allows us to lubricate more applications with fewer SP products. Because of this, we have reassessed our SP Matic line and have removed any products that are no longer needed. But our coverage is still intact.

The renewed SP Matic line consists of seven products: four Automatic Transmission Fluids and three Multi Automatic Transmission Fluids.

AUTOMATIC TRANSMISSION FLUIDS

SP Matic 2032
SP Matic 2034
SP Matic 2072
SP Matic 2094

MULTI AUTOMATIC TRANSMISSION FLUIDS

SP Matic 4016
SP Matic 4026
SP Matic 4036



FIELD SPRAYER READY FOR WINTER WITH BIO FIELD SPRAYER PROTECT

A fast and problem-free start to using your field sprayer in the new season. It's no problem at all for the **Bio Field Sprayer Protect**. This special, biodegradable antifreeze protects the field sprayer during winter storage. The use of environmentally-friendly raw materials and special additives gives the product the following properties:

- Superb protection against freezing
- Excellent corrosion protection for all metal components
- Removes remaining plant residues from the system
- Cleans the sprayer nozzles, maintaining an effective spray pattern
- Prevents deterioration and drying out of seals and hoses
- Environmentally friendly





**20L RACK
EQUIPMENT**

**POWERFLUSH®
EQUIPMENT**



**WORKWEAR & FASHION
WORKSHOP IMAGE**



**KROON
TECHNIC**





ILLUMINATED SIGN
WORKSHOP IMAGE

KROON-OIL WEBSITE
TECHNICAL SUPPORT

ENVIRONMENTAL DRUMS PALLET
EQUIPMENT



DRUM DOLLY
EQUIPMENT

www.kroon-oil.com
THE EXPERTS' CHOICE



KRAMP AND KROON-OIL

PARTNERS FOR ALMOST 30 YEARS

The Kramp and Kroon-Oil brands share more than just the first two letters of their company names. The parallels are obvious to anyone familiar with the companies. No wonder that next year our companies will have been partners for 30 years. Time for a closer look at Kramp/Grene.

Johan Kramp started out small in 1951. But what started as a small and local company in Varsseveld has now grown into a European company. It operates in 22 European countries with 24 sales offices and 9 distribution centres. Total turnover: 700 million euros in 2015. The business once traded in parts for mowing machines; now it's Europe's largest technical wholesaler for parts and accessories for the agricultural sector, gardens and parks, and earth-moving. Everyone in the sector is also familiar with the characteristic red boxes that Kramp uses to supply the parts to its customers.

Over the past 10-15 years, Kramp has transformed into a strong company focused on e-business. They are the market leader in the Netherlands, Belgium and Germany, and have a leading position in other European countries. 2013 saw the merger with its rival Grene. Originally a Danish company,

Grene uses the same business model and is the market leader in Scandinavia, the Baltic countries and Poland. The Kramp Group operates under the names Kramp and Grene.

'We operate in a fragmented market,' says Eddie Perdok, CEO of Kramp. 'We have built up a lead in that market, not just in terms of scale, but also particularly in terms of service, online sales (e-business), technical support and overnight distribution. Technical wholesalers have always been located close to their customers. Sales and service are regionally organised in the language and style of the country. The change is that the customer can choose from a larger range of parts and accessories in each of these countries. This makes the product range and the delivery performance highly important.'

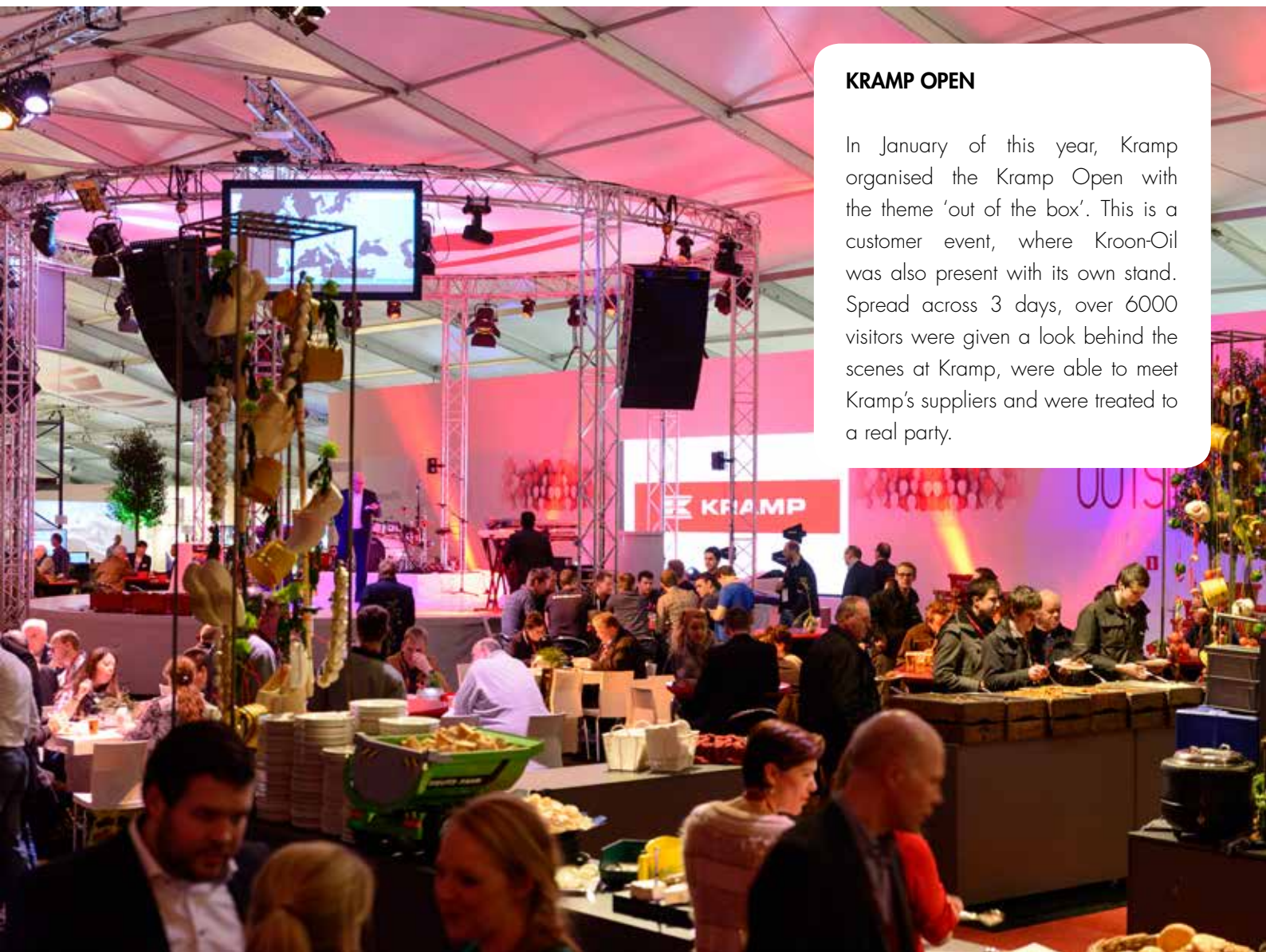
The strength of the Kramp Group mainly lies in its product range, in the selection of more than 700,000 products and fast overnight deliveries. But it also lies in the sharing of knowledge, being close to the customer and offering added value. Those are the core values of Kramp. Our customers will also recognise these core values in Kroon-Oil. Having an extensive product range, sharing knowledge and putting the customer first are also highly important to us.

We don't just share the same core values; just like Kramp, Kroon-Oil also has its roots in the agricultural sector and we have now grown into an internationally active business.

[You can read more about this from page 16.]

THE ADVANTAGE OF PARTNERSHIP

A partnership is two-way traffic; partners strengthen each other. Last year we provided training at the Headquarters in Varsseveld, in Leek and Lummen (Belgium), and participated in the Kramp Open. Because of Kramp's excellent logistics, Kroon-Oil products are widely available to the agricultural sector. In turn, Kroon-Oil.com helps Kramp's staff and customers to make the right choice of lubricant. This means that we implement Kramp's motto, 'It's that easy!', in our own way. Kramp's one-stop-shop now has a selection of over 200 oils, maintenance sprays and greases from Kroon-Oil.



KRAMP OPEN

In January of this year, Kramp organised the Kramp Open with the theme 'out of the box'. This is a customer event, where Kroon-Oil was also present with its own stand. Spread across 3 days, over 6000 visitors were given a look behind the scenes at Kramp, were able to meet Kramp's suppliers and were treated to a real party.



THE CHALLENGE OF EXPORT

Export is a challenging field of expertise and often requires long-term planning. Building up a relationship and gaining trust are important and often take a little bit longer than people are used to in a pragmatic country like the Netherlands. In addition, there are many uncertain factors that you may have to deal with as an exporter. Examples are exchange rate fluctuations, changing laws and regulations, and social unrest. Building up a brand and fighting for a market share are also things that can take years before business can really take off.

Furthermore, every country and every market is unique, and they have their own needs. This means that export requires tailoring and therefore also requires a high level of flexibility. Fortunately, Kroon-Oil is not a multinational, so we can quickly respond to individual customer requirements. By way of example, we developed PolyTech especially for the Russian market which is highly focused on high-tech. This is a revolutionary product with oil-soluble polyalkylene glycols added to it. This gives the product outstanding lubricating properties and allows us to guarantee optimum performance in the most extreme conditions.

GROWTH | GOING GLOBAL

In recent years, a large number of new international distributors have been appointed. When selecting partners, our experienced export department initially considers stock-keeping distributors with national coverage. We recently started with new partners in Ireland, China, Malaysia, Morocco, Georgia, Russia and even in Tahiti, which is over 15,000 km away. Furthermore, we are negotiating with several parties, both inside and outside of Europe. Despite the challenging economic developments in some regions, our expectations for Export of Kroon-Oil remain high.

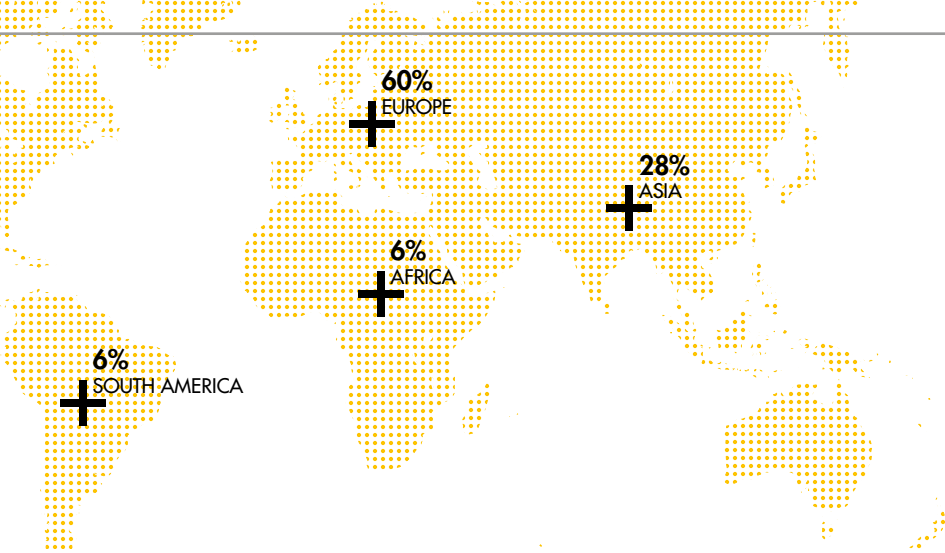
Our export department has been strengthened and we are now participating in various international trade fairs. Examples are the well-known Automechanika Frankfurt, but also the

first edition in Birmingham. Last year we were also present at Automechanika Dubai and in Paris during Equip'Auto. It is interesting to see that Kroon-Oil is also viewed as a partner by the establishment in the car materials distribution landscape. International purchasing groups such as ATR, ADI, TEMOT, GAU and Nexus are quite big names in that regard.

WHY CHOOSE KROON-OIL?

Whereas Kroon-Oil is a well-known name in the Netherlands, our brand often cannot or can hardly boast of any brand awareness or history abroad. You would think that unknown means unloved. Why then do international partners still choose Kroon-Oil? The reason is the same as for Dutch customers: they choose quality, reliability and support.

The most striking example of the above three core values is the advice database on our website. Internationally praised and used. The smart search is universal for every user. This function makes finding the right product for a vehicle accessible to everybody. One thing we often don't consider in the Netherlands is that climatic conditions also play a key role in product advice. Our website is supported by climate choice. As a result, our distributors in both Morocco and Russia can always find the right, customised product advice. Kroon-oil.com is currently available in 10 languages, including Chinese. The advice database is used over 2 million times a year!



"IN LUBEVISION 15 OF 2013, WE ALREADY COVERED EXPORT AS A KEY LIFELINE FOR KROON-OIL. SINCE THEN, THE SHARE OF EXPORT WITHIN KROON-OIL HAS ONLY INCREASED."

THE EXPERTS' CHOICE

We recently took the step of integrating Kroon-Oil in TecDoc. This means that our programme is now compatible with most electronic catalogues of our European customers. The broad range of service products, such as maintenance sprays, coolants, grease containers and of course the extensive transmission oil line also allows wholesalers to implement a rationalisation plan and reduce the number of required suppliers. Expertise, product range and convenience are where we score well in the export market. That is also why we chose our new pay-off 'The Experts' Choice'.



HIGH OIL CONSUMPTION

SEARCH AND FIND THE CULPRIT...

We regularly receive questions about oil consumption. In many cases, complaints relating to oil consumption are wrongfully attributed to the quality of the oil. However, the actual cause of consumption can often be found in the technical condition of the engine and/or the use of the vehicle. This recent practical case is a good example of this.

Hello Kroon-Oil,

We use two Volkswagen Transporters T5 2.0 TDI Bi-Turbo at our company. Both are serviced at our workshop using Helar SP 5W-30 LL-03. We have noticed that, for these two Transporters, the oil level drops from high to low after only about 7000 km, even though it's a Long-Life oil. This oil consumption causes issues with the EGR valves due to excessive carbon deposits. I would like to hear your response to this issue.

Alex

Dear Alex,

It is not certain that the issues you describe are caused by the oil. If the fuel system is not in good working order, e.g. because the injectors are contaminated, this may lead to a problematic spray pattern. This results in incomplete combustion. The incomplete combustion will cause a lot of contamination due to soot and fuel dilution. Soot blackens the oil and results in deposits on critical engine parts. The fuel dilution also causes the viscosity of the lubricant to severely deteriorate and increases consumption. Incomplete combustion also leads to a lot of soot in the exhaust gases. If the exhaust gases are returned through the EGR valve (which, incidentally, is not connected to the motor oil circuit and is therefore not lubricated by the motor oil) via the intake manifold, the soot in the exhaust gases will result in deposits and eventually malfunctioning of the EGR valve. To find out the exact problem, it is important for us to receive a sample of the lubricant used (250 ml). The sample will be analysed in our laboratory. We would also like to receive a fully completed lab form with it; it is also important to write down the oil's period of use in km.

Yours sincerely,

Ing. Tom Bruggeman
Technical Support Manager Kroon-Oil B.V.



SAMPLE ANALYSIS

150010
06-04-2016

Motor Oil Helar SP 5W-30 LL-03

For testing

Taken from		VW Transporter T5 2.0 TDI engine	
Use		16,256 km	
Use (total)		148,875 km	
Appearance		Very black	
Water	IR	0.37	%
Soot	IR	2.54	%
Antifreeze	IR	Zero	%
Viscosity 100°C	ASTM D7279	8.52	mm ² /s
Flashpoint PM	ASTM D93	169	°C
Fuel (derived)		approx. 3	%
Total Base Number	ASTM D2896	5.9	mgKOH/g
Ag - Silver	ASTM D5185	2	mg/kg
Al - Aluminium	ASTM D5185	10	mg/kg
Ba - Barium	ASTM D5185	<1	mg/kg
Cd - Cadmium	ICP	<1	mg/kg
Cr - Chromium	ASTM D5185	2	mg/kg
Cu - Copper	ASTM D5185	12	mg/kg
Fe - Iron	ASTM D5185	53	mg/kg
Mn - Manganese	ASTM D5185	2	mg/kg
Na - Sodium	ASTM D5185	<1	mg/kg
Ni - Nickel	ASTM D5185	1	mg/kg
Pb - Lead	ASTM D5185	16	mg/kg
Si - Silicon	ASTM D5185	10	mg/kg
Sn - Tin	ASTM D5185	2	mg/kg
Ti - Titanium	ASTM D5185	<1	mg/kg
V - Vanadium	ASTM D5185	<1	mg/kg

The sample analysis reveals that the motor oil contains approx. 3% diesel fuel. As a result, the viscosity has decreased by about 30% compared to fresh motor oil. As the sample also contains a lot of water, the viscosity will decrease even more. The soot content and the various wear metals are also very high. The presence of diesel fuel and a lot of soot usually indicates an improperly functioning fuel system (pump and/or spray nozzles). This also often happens because the regeneration system, which burns the particulate filter clean, cannot fully complete its cycle because short journeys are made too often. Due to the combination of an increased water content and an increased fuel content, we suspect that this vehicle is indeed mainly used for short distances.

The measured TBN (Total Base Number, the capacity to neutralise acidic combustion residues) of 5.9 is only about 10% below the 'original value' of 6.7. This means that the motor oil basically has more than enough buffer left for further use. However, because of the fuel mixing and the reduced viscosity, we urgently recommend changing it. In almost all cases, high oil consumption has a structural cause. Helar SP 5W-30 LL-03 is the right motor oil for this vehicle. The alleged higher oil consumption is not caused by the motor oil, but by the unfavourable usage conditions and/or premature mechanical wear.



DETERMINING THE CORRECT OIL VARIETY

WHAT IS SENSIBLE FOR BULK AND STOCK

Oil specifications are accurately modified to suit the engine requirements. 'After all,' car manufacturers say, 'oil is a construction element.' We fully agree with this statement. The result of this, however, is an increasingly broad range of lubricants. It benefits the consumption, service life and performance of the engine. But what does it mean in practice? Is oil in bulk still realistic, for example? How do you determine which products to keep in stock?

The decision to keep oil in bulk or not is largely determined by the vehicle fleet. How diverse are the makes and years of manufacture that you service at your company? Companies often specialise. In that case, one specific oil will often cover a significant part. It also depends on the collaboration with your wholesaler. How fast, for example, will a specific lubricant be delivered to you?

STRESS WHEN CHOOSING?

Not necessary. We help our customers to select their stock products. Based on the average vehicle fleet serviced by you, we will recommend a product range. For this we will consider products for which it is sensible to order larger quantities in most situations. We will also often recommend ordering one or more products in 60 or 208 litres to cover specific needs. Garage managers regularly also order specific quantities of special products from the wholesaler. This is a practical solution in special situations.

In addition, it is highly important to keep track of developments in the field of lubricants. Shifts occur with great regularity. This broadens the application of certain products, or makes it more logical to use an alternative. Our specialists are always available to answer questions.

NOT KEEPING ANY STOCK

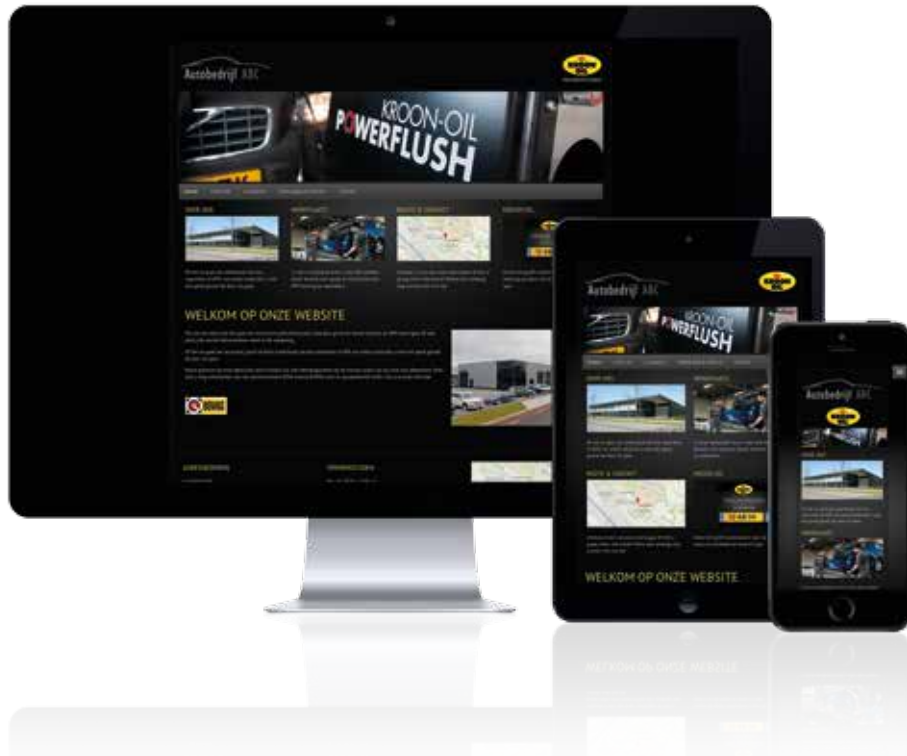
It seems like a good idea, not keeping any stock. Due to diversification, we also see that large quantities of product are kept in stock less and less often. This development continues to gain popularity. The fast supply service of wholesalers also makes that policy possible. Ordering small quantities based on requirements is no problem at all. That is highly practical for special/specialised applications in particular. However, we would advise against not keeping any stock at all. Flexibility is and remains important; there are always customers who drop by unannounced for an oil refill.

OTHER THAN PRESCRIBED

People sometimes tell us: 'I sometimes use 5W-40 instead of 5W-30. It doesn't matter for cold lubrication, but W30 is very thin at the operating temperature.' Another person regularly uses 10W-40 where 5W-40 is prescribed. The key question is: are there conditions in which you can safely deviate from the prescribed oil?

The answer is: No, there aren't any. Our advice is always: stick to the constructor's prescriptions. Manufacturers sometimes also prescribe different viscosities, depending on the temperature ranges within which an engine should perform. You can then choose for yourself which one of these you will be using, for example, SAE 5W-30 or SAE 5W-40. In principle, there are no conditions in which it is safe to deviate from the prescribed oil; the constructor's prescription has been determined through extensive testing. It is therefore important to stick to it. If the oil you are using is too thin, it may cause additional wear in the engine at high temperatures.





EXUDE QUALITY & PROFESSIONALISM

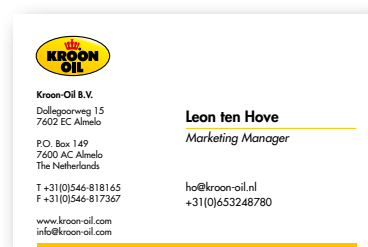
YOUR OWN PROFESSIONAL WEBSITE

Your customers search for you online. And when they find you, you want to make a good impression. For existing and future customers. With the special Kroon-Oil garage website, you will make a lasting professional impression. The website has been developed in collaboration with Autosoft and is a very complete tool for Kroon-Oil garage managers. Maintenance of the website is very easy and everything can be expanded based on your own wishes.

- Own URL
- Choice of 3 modern templates
- Suited to your corporate identity and logos
- No additional costs, fully ready to use
- Including hosting and email addresses
- Including option to make a workshop appointment
- Social media integration
- Especially for garage businesses
- Including a very user-friendly administration environment
- and special administration app
- Optimised for generating hits in search engines
- Including Kroon-Oil product advice banner
- Comes with free e-commerce module for 5 used cars (can be expanded as an option)
- Fully responsive, suitable for desktop, tablet and mobile devices



NEW LOOK, STILL 'KROON-OIL' OUR NEW CORPORATE IDENTITY PAPER!



Printed with respect for the environment



Printed with respect for the environment.

You may already have received one of our brand-new Kroon-Oil envelopes and the matching stationery. Our new corporate identity paper since 1 June 2016.

It was time for a new look. Fresh and modern, but very recognisable as Kroon-Oil due to the yellow colour.

The environment was a key aspect in the development of the new corporate identity paper. Only FSC-certified paper is used and the Bio-ink used contributes significantly to more environmentally-friendly printed matter.



WINNER OF NBSA SUCCESS AWARD 2016

LUBRICANTS SECTOR

Kroon-Oil recently received the NBSA award for the most successful lubricants producer.

The fact that an independent institute indicates that you are the most successful and striking of all lubricant companies in the Netherlands is a huge compliment to all the people who contributed to that! We would therefore like to thank you for placing your trust in our company.

By winning the Branch Award, Kroon-Oil will also be competing for the Business Success Award 2016 for the best overall company. You can download the jury report from our website.



Visiting the number one lubricant specialist in the Netherlands